Alaris Labs

Telecom Software Products
Carrier-Neutral, Protocol-Agnostic

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Alaris SMS Platform

User's Guide

version 3.8.0

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1 Terms and Acronyms

Term	Definition
Client	Carrier from which the System owner receives traffic
System owner	System owner – a specialized carrier record used to create parent products and user accounts with access to the System's admin interface
Vendor	Carrier to which the System owner sends traffic
API	Application Programming Interface
ASR	Answer Seizure Ratio, calculated as the percentage of messages successfully received by the carrier with respect to the total number of message send attempts. For example, if the total number of send attempts is 100 and 50 of them are received by the carrier, the ASR will be 50%
DLR	Delivery Receipt, a report sent by the carrier to the original sender containing the message delivery status.
DLR(t)	DLR(total), the percentage of SMS delivered to the end user with respect to the total number of message send attempts. For example, if the total number of send attempts is 100 and 25 messages are delivered to the end user, the DLR(t) will be 25%
DLR(s)	DLR(successful), the percentage of SMS successfully received by the end user with respect to the number of messages received by the carrier. For example, if the carrier received 50 SMS and 25 of them are successfully received by the end user, the DLR(s) will be 50%
DNIS	Dialed Number Identification Service
EDR	Event Detail Record
EMA	Exponential Moving Average
ESME	External Short Message Entity (external sources and sinks of short messages)
ERMES	Enhanced Roaming Messaging System

Term	Definition
GUID	Globally Unique Identifier
ISDN	Integrated Services Digital Network
HLR	Home Location Register, a database that provides details relating to a mobile number connected to the GSM network
LOT	Level of Trust
MCC	Mobile Country Code
MNC	Mobile Network Code
MNP	Mobile Number Portability, a service that allows changing a mobile operator/network while keeping the same phone number
MS Excel	MS Excel or any other spreadsheet editor
NANP	North American Numbering Plan
NPI	Numbering Plan Indicator
OLAP	Online Analytical Processing
POI	Point of Interconnection
RCS	Rich Communication Services, protocol for short messages and multimedia termination
RBM	RCS Business Messages
RCS session	A completed sequence of message exchange between the bot and the subscriber. The session starts when the bot sends a message and ends when it receives a response from the subscriber within a specified time (Time to live, TTL).
SLA	Service Level Agreement
SMSC	Short Message Service Center

Term	Definition
SMPP	Short Message Peer-to-Peer Protocol
SSU	Soft Switch Unit
TON	Type of Number

2 System overview

Alaris SMS Platform (further on referred to as “the System”) is a complete solution intended for carriers working in the SMS interconnect industry. The general idea of the System is to provide a carrier with a single easy-to-use point of control of all tasks related to SMS traffic management:

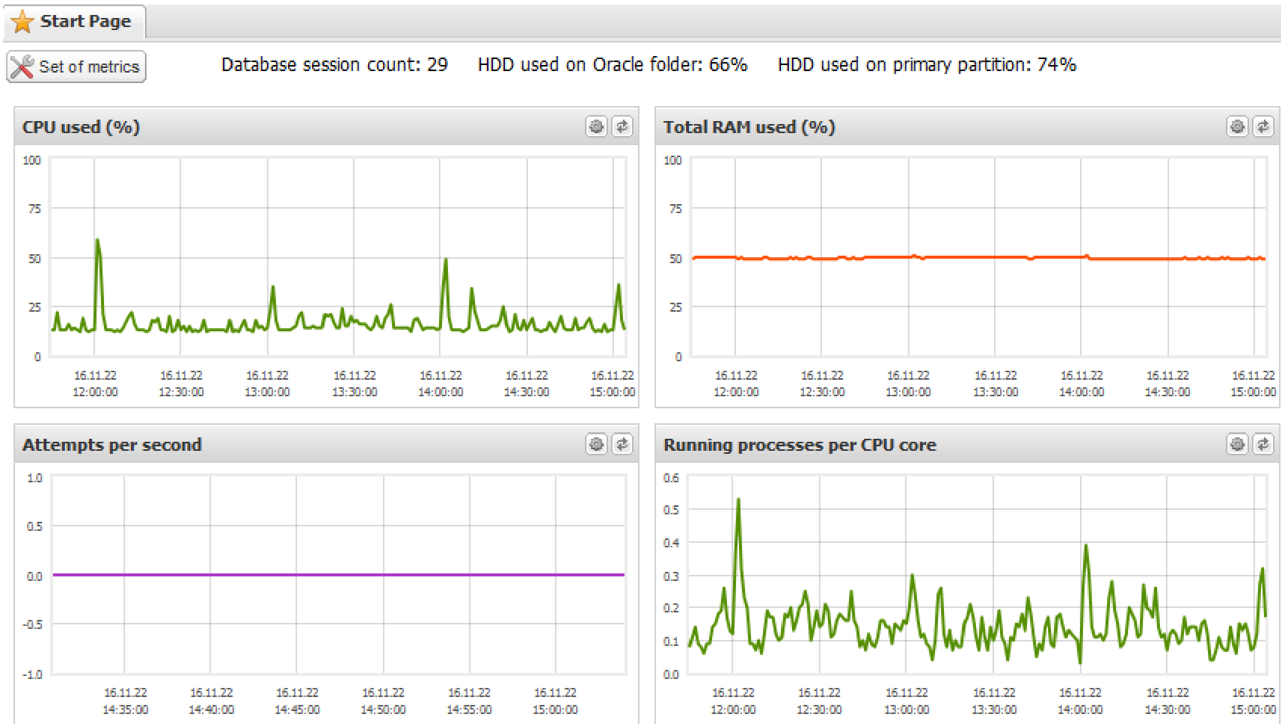
- Switching of SMS traffic over HTTP or SMPP
- Real-time provision of routing instructions to the switch based on user-defined static or dynamic rules
- Authorizing events and user registration attempts. To provide for prepaid balance control, the SMS Platform authorizes every SMS in the network. As soon as the routing System detects that a user has exhausted the balance/credit, it starts to reject all new message attempts from that user
- Clients’ billing and invoice distribution. The System provides for client account charging and invoice generation. Invoices can be automatically delivered to customers by email. The System owner can also track client payments and match these payments with the issued invoices
- Monitoring statistical parameters related to traffic behavior and System health. Detailed traffic statistics are calculated immediately after the EDR data gets into the System. Thus, all statistical layers (any combination of any customer, vendor, etc. split by any period) are preliminarily calculated in the background. This allows for instant view of any statistical layout – irrespective of the amount of requested data

Along with the SMS Platform, the company offers Alaris inVoice, a BSS solution for voice traffic management. For more details on Alaris inVoice, refer to www.alarislabs.com.

3 Interface structure

Check out the video tutorial on the interface structure at the [Alaris YouTube channel](#).

The System provides a carrier with a set of tools that help employees in everyday activity. The user interface is web-based; no other software installation is required. The interface is designed to work with recent versions of Mozilla Firefox and Google Chrome; other browsers may not provide access to all System functions correctly.

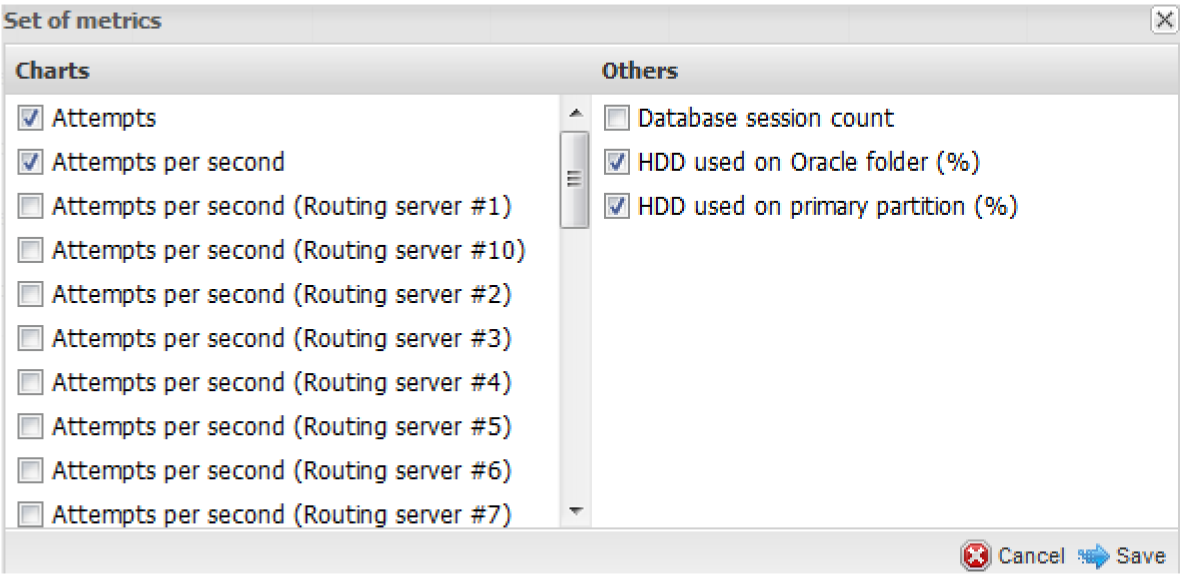


Start page

The *Start* page provides a set of auto-refreshing charts offering an overview of the traffic, database and hardware performance.

Each chart can be customized in terms of grouping the data by the period (minutes/hours/days, no grouping by default), by the number of recent values to display (100, 200, 300 or 500) and by the refresh period (1, 2, 5, 10 or 30 minutes). Use the button in the top right corner of each chart to configure the required parameters and the button to refresh the chart.

The list of parameters to track is configured in the *Set of metrics* view opened with the Set of metrics button, located in the top left corner of the *Start* page. Select the appropriate checkboxes and click Save.



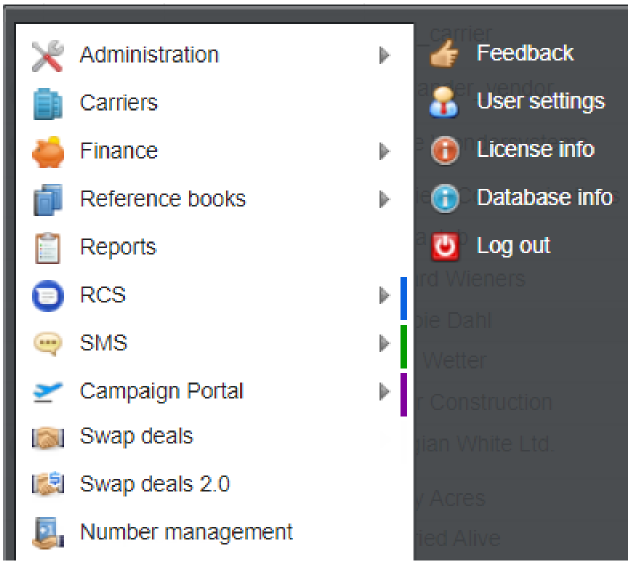
Set of metrics

NOTE: By default the server metrics shown on the *Start* page are collected only from the server with an installed active database. By request, the metrics for all servers configured in the System can be displayed. To enable the feature, contact the Alaris technical support team and communicate the code BZ12388.

The **Start** button that opens the main System menu and provides access to all System features is located in the bottom left corner of the page. Some of the menu items may be unavailable to certain users depending on their access rights. The access rights are configured on the Administration\Users 158 page.

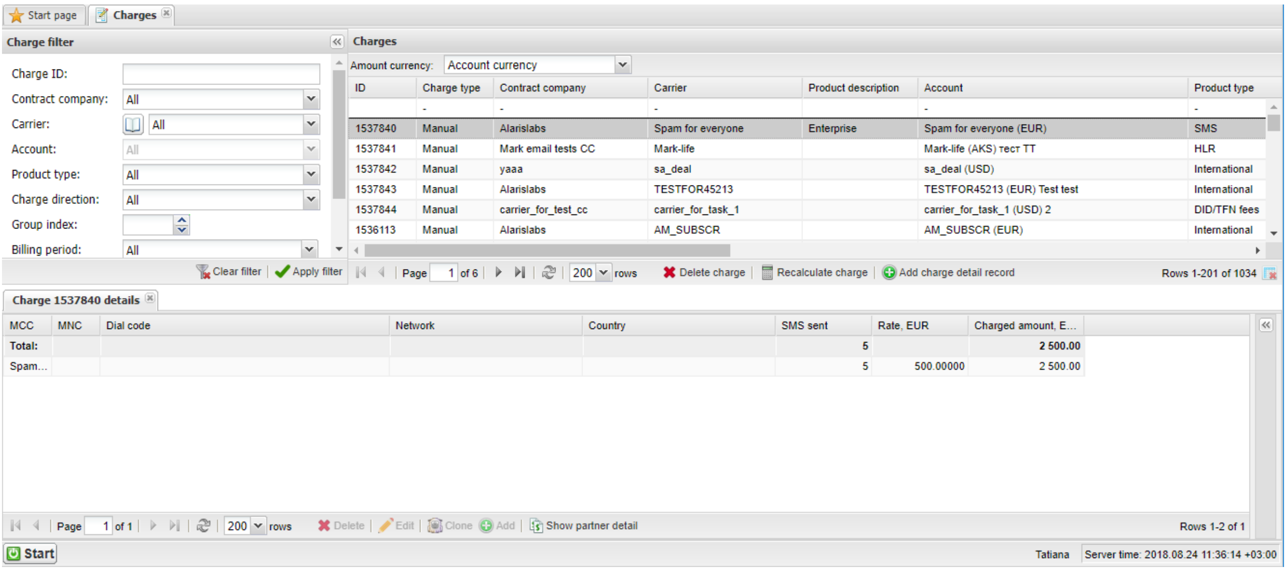
The menu includes the following items:

- Administration
- Carriers
- Finance
- Reference books
- Reports
- SMS
- Campaign Portal
- Number management



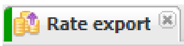
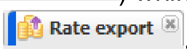
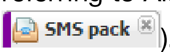
Start menu

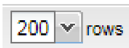
A typical page is illustrated below.



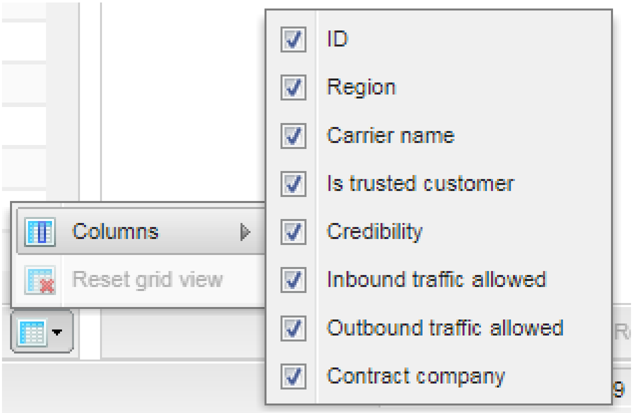
A typical page view (Finance\Charges)

Opened menu items appear as tabs at the top of the page. Drag and drop the tabs to rearrange them as convenient.

As some companies use both the Alaris SMS Platform and Alaris inVoice, for their convenience tabs that refer to the Alaris SMS Platform are marked with a green ribbon (for example ) while those referring to Alaris inVoice (voice traffic) are marked with a blue ribbon, for example . Tabs referring to Alaris Campaign Portal (SMS Platform) are marked with a purple ribbon (for example, ). Additionally, a pop-up tip with the System type (inVoice, SMS Platform or Campaign Portal) appears when pointing the mouse to the tab. Find out more in the Alaris YouTube video.

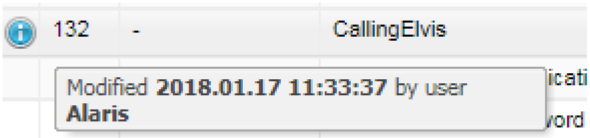
The user can modify the number of rows per page (the  control) and the column order. These settings are saved automatically in the browser's local storage. The bottom right corner of the page shows the user name and server time.

Most pages that show tables (for example, Carriers 163, SMS\Routing\Routing features 456 and many others) contain the button that serves to export the table to MS Excel format. Note that such export is limited by 20000 rows (a hard-coded value). Most tables also contain the button that serves to customize the current view by selecting columns to be displayed. The figure below illustrates selection of columns for the Carriers\Carriers 163 page.



Defining the columns to be displayed

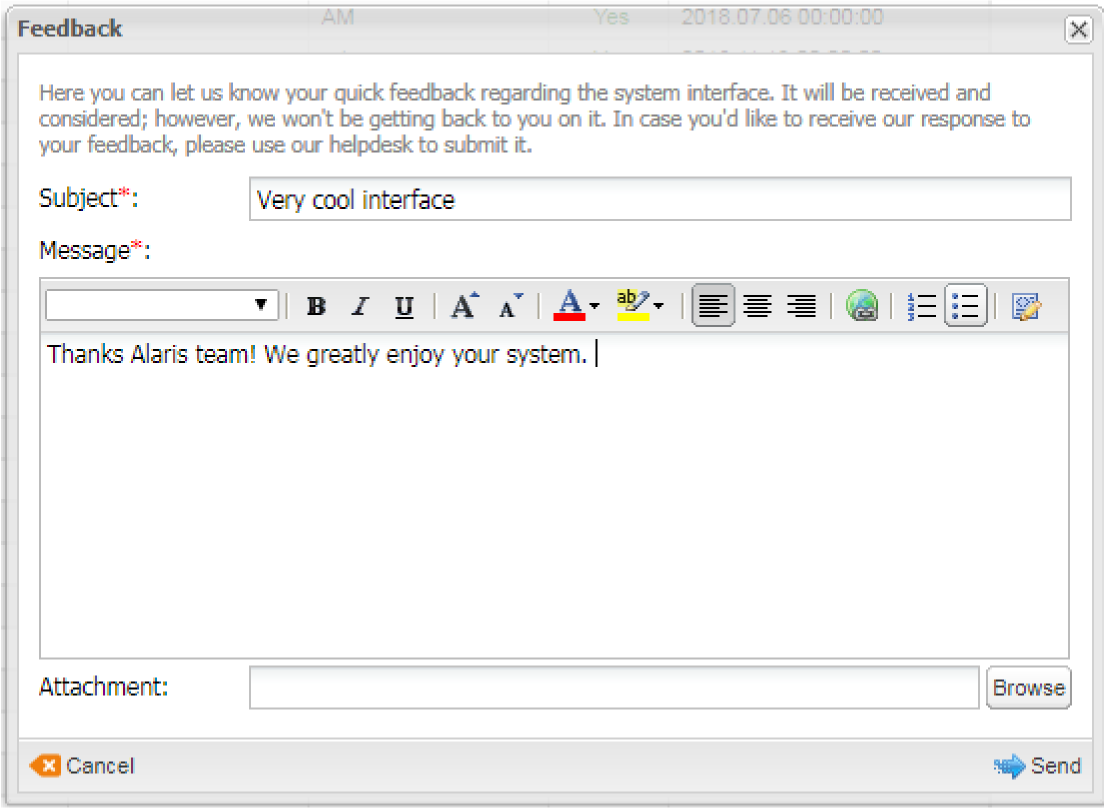
Table records in the Carriers 163 and SMS\Routing\Routing rules 462 sections contain the icon. Point the mouse to the icon to view a pop-up window that shows the author and date of the latest modification. Objects that were not modified since creation have the grey icon .



Object modification history

The *Feedback* Feedback menu opens the dialog that allows sending feedback regarding the interface. Use this form to tell us how we can improve the System.

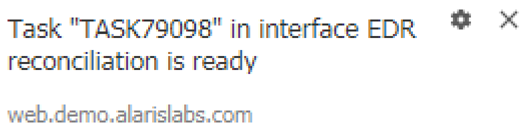
NOTE: This message will not create a ticket on the helpdesk. To receive feedback from the Alaris technical support team, create a ticket.



Feedback

The System issues pop-up notifications when a task created by the user is completed and the respective page is either minimized or another page is open on top of it.

NOTE: Notifications are browser-controlled. To enable them, allow notifications for this website in your browser.



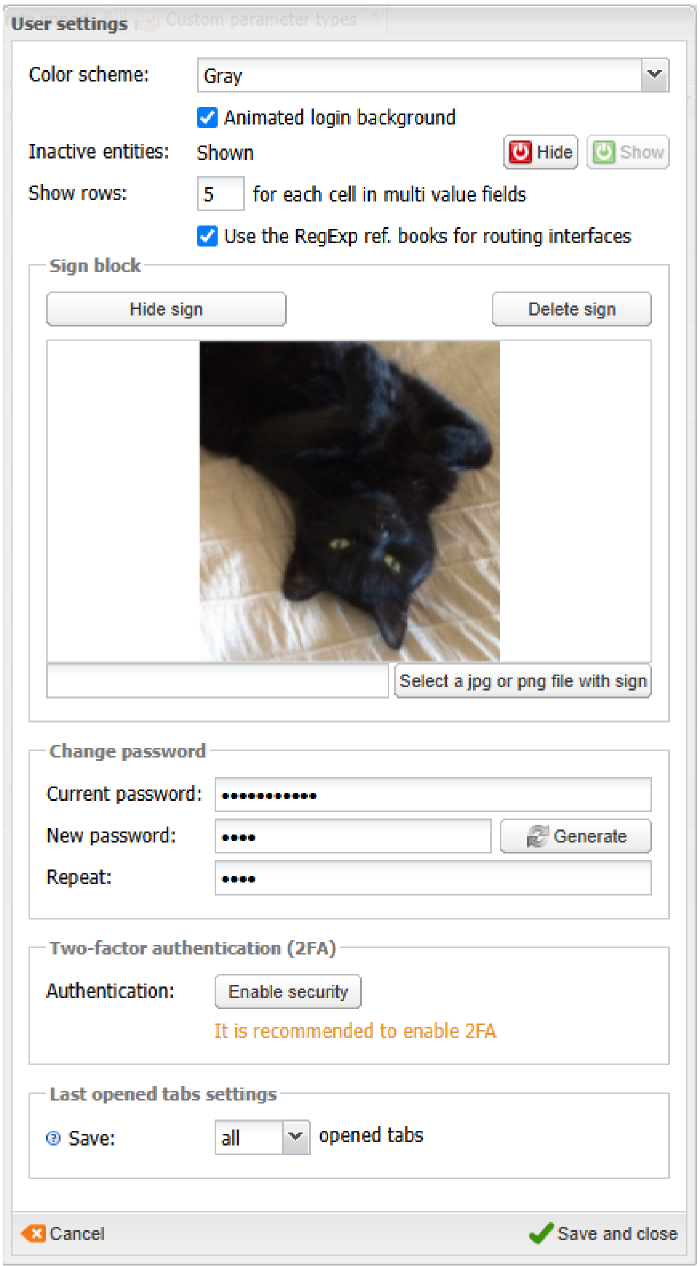
Pop-up notification

The System verifies that the parameters of the created task do not coincide with previously created tasks. If they do, an error will be displayed if the verification interval is not passed (default: 1 minute). Additionally, a verification is performed to make sure that a task with the same parameters is not among the unfinished tasks (interval between task creation: 6 hours). To change the intervals, contact the Alaris technical support team and report the code BZ71656. Note that the verification does not apply to the Simulation 485 interface.

NOTE: In order to keep this Manual concise and convenient for use, self-explanatory interface items such as menu parameters and table columns are not detailed in text but are illustrated in screenshots.

4 User settings

The *User settings* User settings menu allows changing the user password, hiding inactive entities, changing the color scheme of the interface and enabling two-factor authenication.



User settings

Animated login background: select to display a video background in the authorization form. It can be enabled by this checkbox only if it is enabled on the System-wide level (by default it is enabled). To disable\enable it on the System level, contact the Technical support team and specify the code BZ71894.

Inactive entities: when the *Hide* Hide mode is activated, inactive carriers and all related entities (such as products and POIs and SMS channels) will be hidden in the following interfaces: *Carriers*, *Routing Rules*, *Rate editor* and *Simulation*. Tasks for such entities (for example, in *Simulation* and *Rate import*) will be displayed, but the entity's name will be replaced with its ID. Also, inactive networks will be hidden from the filters of the *Rate Editor* (SMS and RCS), *EDR reconciliation*, and *e.212/e.164 reference book editor* interfaces.

Click Show to display inactive entities. See also the Alaris YouTube video.

The field *Show rows:__ for each cell in multi value fields* allows limiting the number of rows within a single cell in the following interfaces:

- SMS\EDR management\EDR rerating 384
- SMS\Routing\Translation rules 503

Use the RegExp ref. books for routing interfaces (applicable for Alaris inVoice only): when selected, fields that may contain regular expressions in the translation rules and routing rules interfaces show drop-down lists with values from the Reference books\Regular expressions 277 interface. When deselected, the fields are shown as regular text fields. The setting also operates on the browser level. That is, if the user changes the parameter value in Google Chrome, the change will NOT be applied when accessing the System through a different browser - for example, Mozilla Firefox.

The *Sign block* allows the user to download a personalized signature in jpg/png formats that can be used in invoice cover letter and invoice detail file templates. For this purpose, the [BillingManagerSignature] marker is used in the templates (for more details on templates and markers, refer to Administration\Template manager 104).

Use the Generate button to generate a password or type it in manually. The password is displayed as you type it. As you move the cursor to another position, the *New password* field shows bullets.

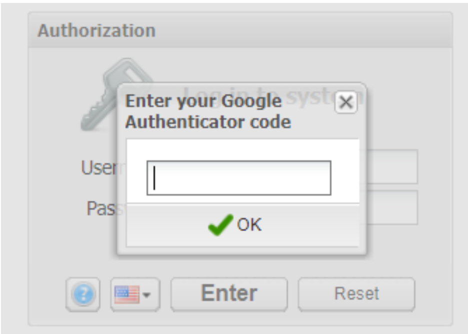
The section *Last opened tabs settings* serves to control the number of tabs that will be restored as the user relogins. In the *Save* field select *all* to restore all tabs (maximum number: 15), *first* or *last* and specify the number of first or last opened tabs that will be restored (maximum number: 5).

Two factor authentication (2FA): the section allows enabling two-factor authentication. Proceed as follows:

1. Download the Google Authenticator app on your mobile device and open it.
2. Click the *Enable two factor authentication* button as illustrated above.
3. Scan the QR that appears with the Google Authenticator app. The app will generate and an additional numeric password that will be used for access to the interface. Enter it in the Code from application field (see figure below). Click *Enable*.

Enable two-factor authentication

4. Relogin to the interface. After entering the login and password, the System will prompt you to provide the additional password from Google Authenticator.



Google Authenticator code entry window

NOTE: After the *Enable two factor authentication* checkbox is selected (or deselected), its value is saved in the System, even if you do not click the *Save and close* button. If you select it and do not scan the QR and save the code in Google Authenticator, you will not be able to access the System. In this case, a System owner user with the Security policy control permission can disable the two-factor authentication for your account in Administration\Users 158.

NOTE: The enabled checkbox is not saved on the user level for System users such as *Alaris*, *Monitoring*, *monitoring*, and *invoice_mon*. The maximum number of entry attempts (including login and password entry with no TOTP) is 5 within one minute; the interval between attempts must be 3 seconds.

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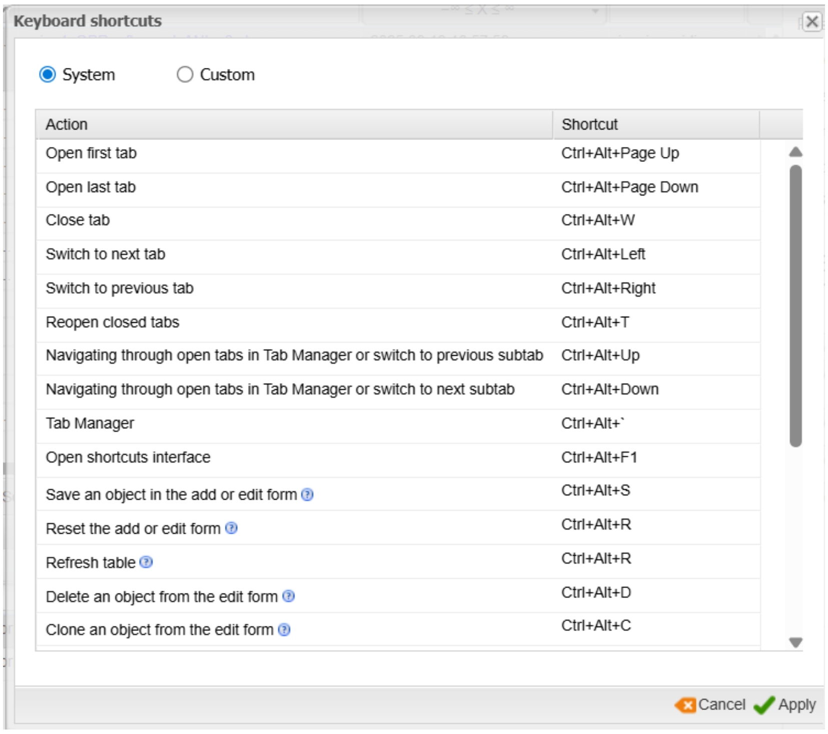
5 User shortcuts

The *User shortcuts* menu allows assiging hotkeys that allow users to quickly navigate through the interface. The menu can be also called by Ctrl+Alt+Fn+F1 or Ctrl+Alt+F1. Use the *System\Custom* toggle switch to switch between the System and user-assigned hotkeys.



Action	Shortcut
Open first tab	Ctrl+Alt+Page Up
Open last tab	Ctrl+Alt+Page Down
Close tab	Ctrl+Alt+W
Switch to next tab	Ctrl+Alt+Left
Switch to previous tab	Ctrl+Alt+Right
Reopen closed tabs	Ctrl+Alt+T
Navigating through open tabs in Tab Manager or switch to previous subtab	Ctrl+Alt+Up
Navigating through open tabs in Tab Manager or switch to next subtab	Ctrl+Alt+Down
Tab Manager	Ctrl+Alt+`
Open shortcuts interface	Ctrl+Alt+F1
Save an object in the add or edit form	Ctrl+Alt+S
Reset the add or edit form	Ctrl+Alt+R
Refresh table	Ctrl+Alt+R
Delete an object from the edit form	Ctrl+Alt+D
Clone an object from the edit form	Ctrl+Alt+C

System shortcuts

Below are the most popular System shortcuts. The full list is available in the menu:

a. The Ctrl+Alt+R key combination updates tables of the open interface (when the mouse cursor hovers over a table).

b. The Ctrl+Alt+T key combination restores the previously closed tabs of the System.

c. The Ctrl+Alt+` combination works similarly to Ctrl+Alt (in Windows): it opens a window containing lists of open interfaces for quick navigation.

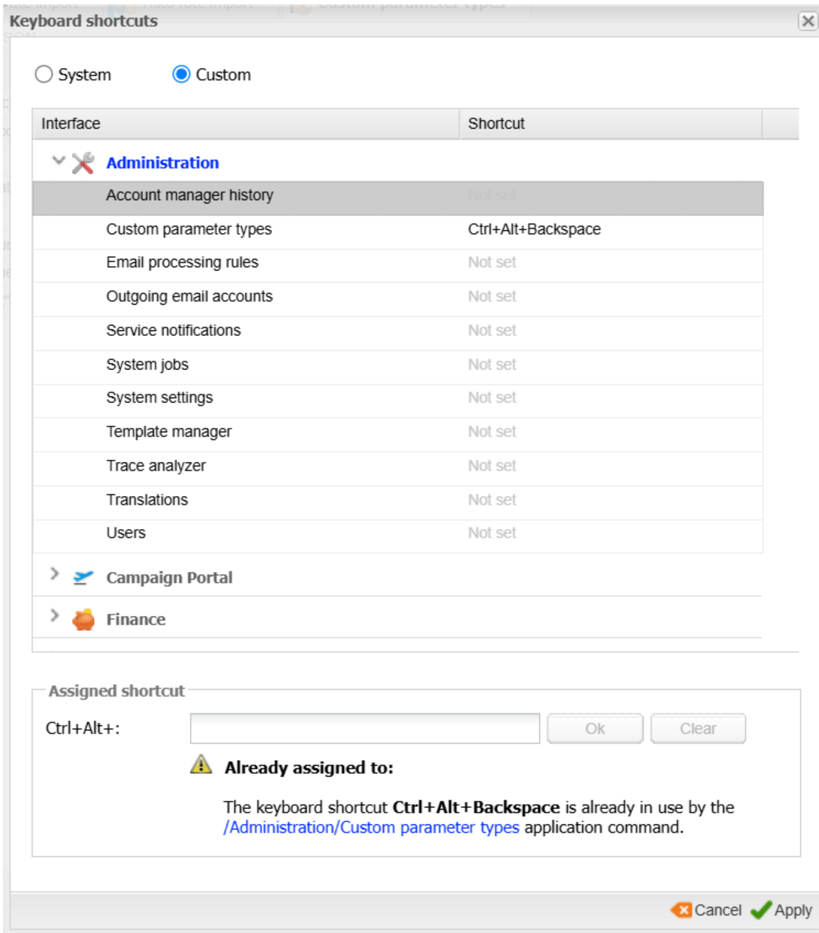
d. Ctrl+Alt+Q: opens a quick menu in the lower panel of the System with the possibility to enter or manually select an interface to open. A corresponding keyboard shortcut is added next to the *Start* menu. For interfaces that have the same name in Alaris inVoice and Alaris SMS Platform (for example, *Limitation rules*), a color tip has been added on the right side, corresponding to the colors of the interfaces (blue for Alaris inVoice, green for Alaris SMS Platform).

e. If the cursor is placed in a field on the *Add/Edit* panel, the *Delete*, *Clone*, *Reset*, *Submit* buttons can be invoked using hotkeys when Ctrl+Alt is pressed. The list of keys is also available when Ctrl+Alt is pressed: D for Delete, C for Clone, R for Reset, S for Submit.

f. When Ctrl+Alt is pressed, the icons/names of open interfaces are changed to sequential numbers - pressing the required number (e.g. 2) while Ctrl+Alt is pressed switches to the specified interface.

g. The hotkeys Ctrl+Alt+Page Up are used to open the first tab and Ctrl+Alt+Page Down to open the last tab. Additionally, you can use arrows (also in combination with Ctrl+Alt) to move between open and second-level interfaces and subtabs (for example, in the *Carriers* interface).

The Custom shortcuts view allows assigning shortcuts for quick access to interface tabs.



Custom shortcuts

Custom settings are saved at the browser level. It means that you cannot assign a combination that is already used by the System - in this case, a warning will appear as illustrated in the figure above.

The changes take effect after restarting the web interface of the System.

6 Administration

6.1 Account manager history

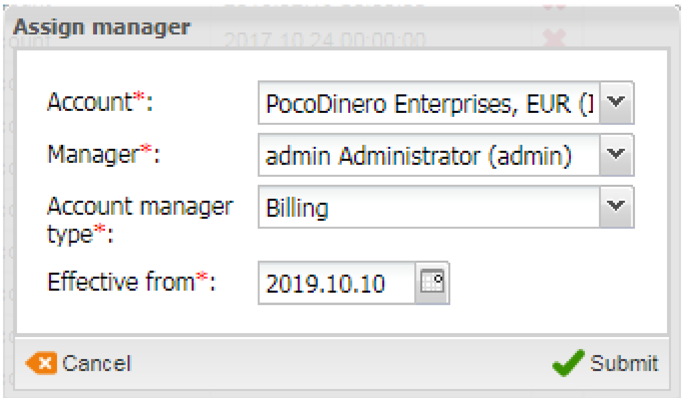
Check out the video tutorial on account manager history at the Alaris YouTube channel.

The *Administration/Account manager history* page serves to view and add the information about account managers. Account managers receive the same alerts and notifications as the carriers they control. Besides, the System owner can configure access rights so that each account manager can see only its own carriers. The page also comes handy in calculating manager bonuses when an account is transferred to another manager. The *Effective from* field shows the date on which the account was assigned to the manager.

Carrier	Account	Manager	Account manager type	Effective from
All	All	Support Alaris (Alaris)	All	-∞ ≤ X ≤ ∞
Demo carrier	USD (ID: 11541)	Support Alaris (Alaris)	Account	2015.08.28 00:00:00
Ilya	RUR (ID: 30111), Ilya...	Support Alaris (Alaris)	Account	2019.05.23 00:00:00
Cliente A	USD (ID: 11543)	Support Alaris (Alaris)	Account	2015.09.07 00:00:00
Cliente B	EUR (ID: 11545)	Support Alaris (Alaris)	Account	2015.09.07 00:00:00
Provider 1	USD (ID: 11547)	Support Alaris (Alaris)	Account	2015.09.07 00:00:00
Provider 2	USD (ID: 11548)	Support Alaris (Alaris)	Account	2015.09.07 00:00:00

Account manager history

Use the *Delete* button in the rightmost column if you wish to delete the record from the table. Use the button on the bottom toolbar to refresh the table. The Assign manager button opens the same-name window that enables assigning a manager to a partner carrier:



Assign manager

Configure the required parameters. The field *Account manager type* (possible values - *Account* and *Billing*) allows assigning two types of managers to a single account to handle two different processes. For example, the account manager responsible for controlling and monitoring the credit limits and the billing manager that handles payments and invoices.

Click Submit to confirm or Cancel to discard the settings.

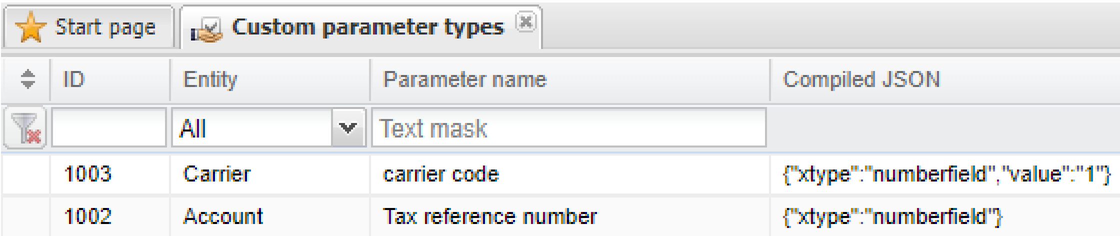
NOTE: Users that are assigned as account managers receive browser notifications as well as emails when their clients hit balance or credit limit thresholds. When clicking on such an alert, the Carriers\Accounts page is opened filtered by the respective account ID.

6.2 Custom parameter types

Check out the video tutorial on custom parameter types at the Alaris YouTube channel.

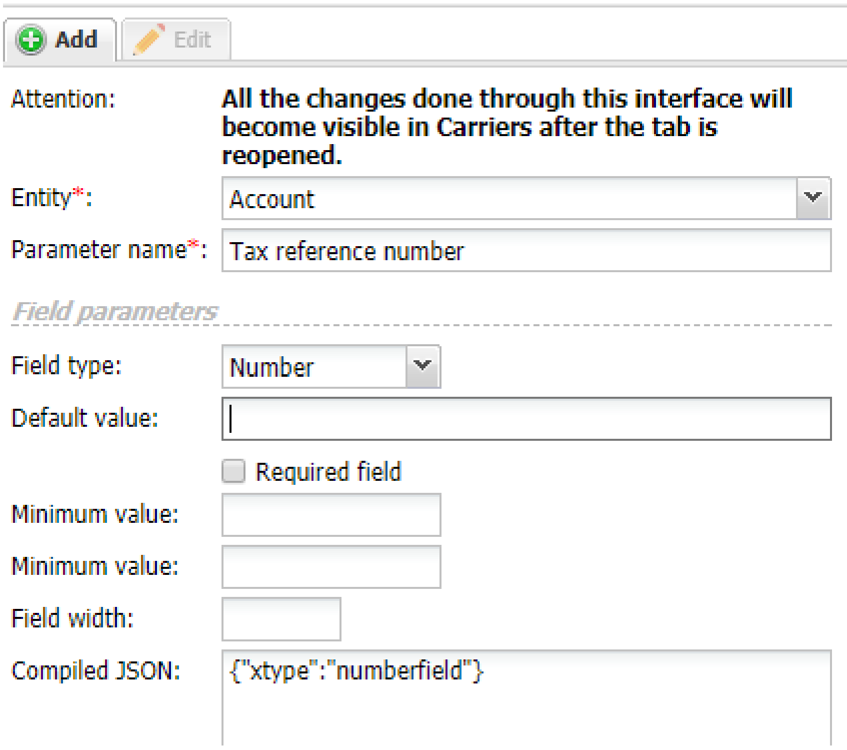
The *Administration\Custom parameter types* page allows creating custom parameters for the tab sheets of carrier-related entities.

The page has two panels. The left panel is a table of configured custom parameters; the right panel contains the *Add* and *Edit* tabs.



Custom parameter types

Drag and drop entries to arrange them. The custom parameters will be displayed in the same order in respective interfaces. Changes made by one user will be shown to other users.



Add tab

To create a parameter, enter the appropriate parameters in the fields detailed below. Fields marked with an asterisk (*) are required.

- *Entity*: select the tab sheet in which the parameter will appear: *Carrier*, *User*, *Account*, *Agreement*, *Product*, , *SMS Channel*, *SMS POI,*
- *Parameter name*
- *Field type.* Possible values include:

- *Text*
- *Number*
- *Boolean*
- *Big text*: field for entering multiple lines of text
- *List of values.* The syntax is as follows:

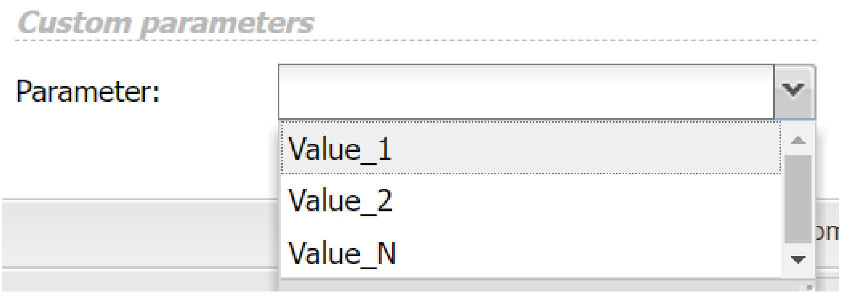
1|Value_1

2|Value_2

...

N|Value_N

where 1,2,...,N is the value key (stored in the DB; it is recommended to set a key=value), and Value_1,Value_2,...,Value_N are fields available for parameter selection as illustrated in the figure below:



List of values field type

- *Date*
- *Date & Time*

- *Default value*: specify the parameter's default value
- *Required field*: select the checkbox to make the field required
- *Unique Field* (available if *Field type=Number* or *Text*): parameters containing the flag must have unique values when creating or editing the corresponding entity. For example, if this entry is specified for the parameter named *Super email* which was created for the *Account* entity, then the *Super email* field for each of the accounts must have a unique value, otherwise the error "The parameter must be unique" appears.
- *Validating regular expression*: the field appears if the Field type value is Text or Big text. Values entered by the user that do not match the regular expression are rejected
- *Field width*:
- *Compiled JSON*: code in the JSON format (is entered automatically, maximum allowed length is 4,000 symbols)

Click Submit to save the changes. The entry will appear in the *Custom parameter types* table.

The new field will appear in the *Add/Edit* panel and the tables of the *Carriers* section or the *Users* interface once the section is reopened.

6.3 Email processing rules

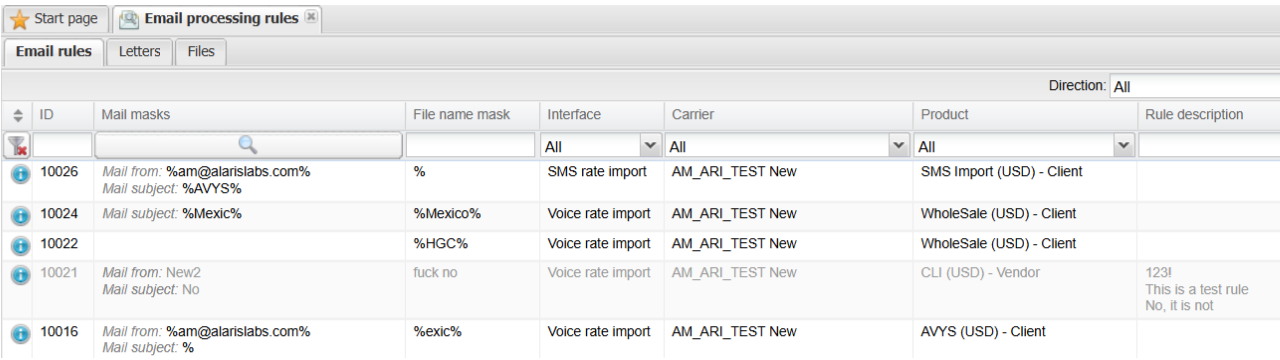
Check out the video tutorial on email processing rules at the Alaris YouTube channel.

The *Administration\Email processing rules* page serves to configure rules for recognition of incoming emails that contain rate sheet files. The System analyzes the email parameters (address, subject, text, attachment name etc.), identifies it as containing rate sheets and automatically imports the rate sheet file (based on auto rate import rules configured at SMS\Rates\Auto rate import 394).

NOTE: The System can process attached ZIP archives, including those containing subfolders. Additionally muitiple non-archived attachments can be processed: a separate record will be created for each file (that is, a file will be uploaded to the product given that it is suitable for the *File name mask* parameter).

NOTE: Data in this section is displayed only if the user has the appropriate permissions (*View own accounts only*, *View own contract companies* etc.) Permissions are configured in Administration\Users 158. Find out more about the feature in the Alaris YouTube video.

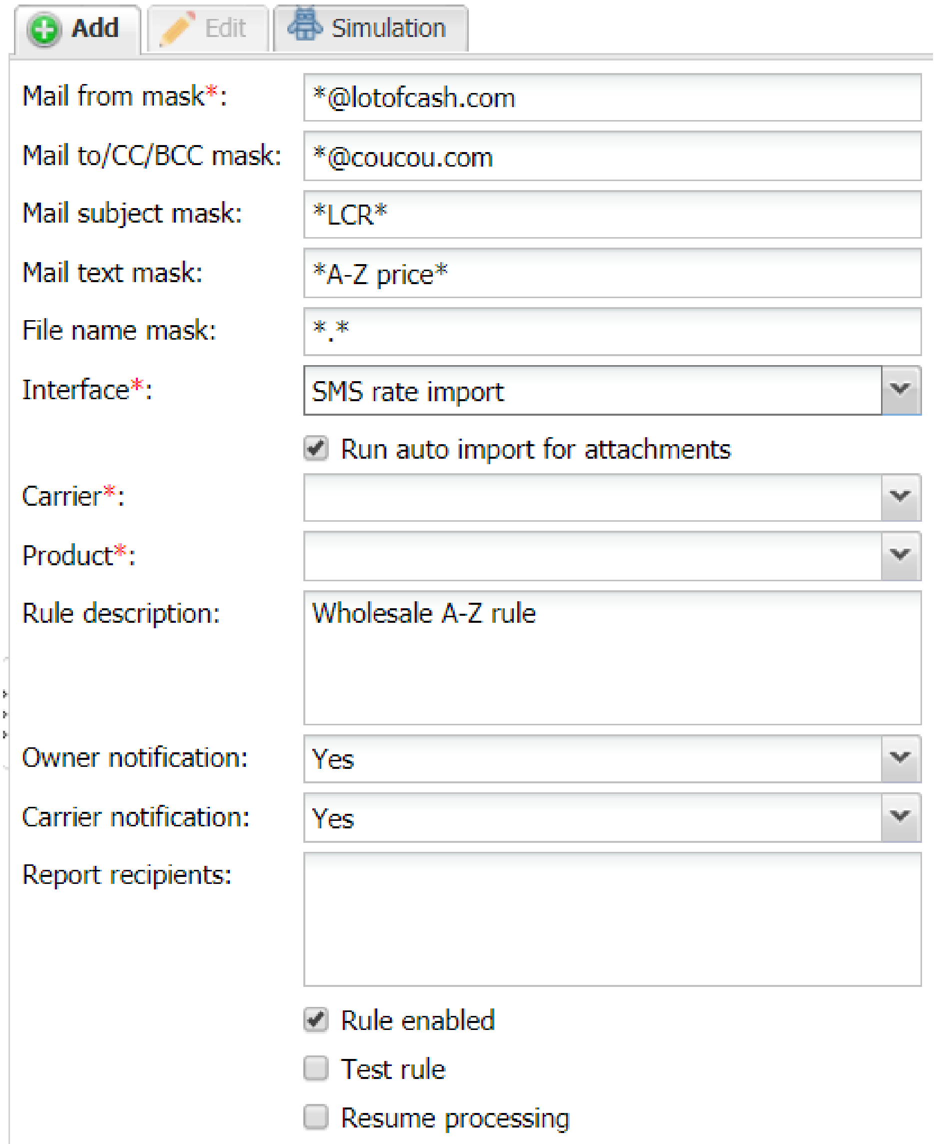
The page has three tabs: *Email rules, Letters* and *Files*. The *Email rules* tab has two panels: the list of rules on the left and the *Add*, *Edit* and *Simulation* tabs on the right. The bottom of the *Email rules* tab contains the button at the bottom that serves to export the rules table to an MS Excel file. The icon shows the date and time of the rule creation and last editing.



ID	Mail masks	File name mask	Interface	Carrier	Product	Rule description
			All	All	All	
10026	*Mail from:* %am@alarislabs.com% *Mail subject:* %AVYS%	%	SMS rate import	AM_ARI_TEST New	SMS Import (USD) - Client	
10024	*Mail subject:* %Mexic%	%Mexico%	Voice rate import	AM_ARI_TEST New	WholeSale (USD) - Client	
10022		%HGC%	Voice rate import	AM_ARI_TEST New	WholeSale (USD) - Client	
10021	*Mail from:* New2 *Mail subject:* No	fuck no	Voice rate import	AM_ARI_TEST New	CLI (USD) - Vendor	123! This is a test rule No, it is not
10016	*Mail from:* %am@alarislabs.com% *Mail subject:* %	%exic%	Voice rate import	AM_ARI_TEST New	AVYS (USD) - Client	

Email rules

The *Add* tab is illustrated below.



Add tab

To create a rule, enter the appropriate parameters in the fields detailed below. Fields marked with an asterisk (*) are required.

- *Mail from mask, Mail to/CC/BCC mask, Mail subject mask, Mail text mask, File name mask*: define a mask (use an asterisk * or the percent symbol % as a wildcard) – at least one of the mask fields must be configured

NOTE: Comma (,) is treated as a separator for masks. For example, if the *File name mask* field is specified as %file1%,%file2%, the System interprets it as 2 separate masks.

NOTE: It is possible to use the underscore symbol "_" in the file name if it is preceded by the backslash symbol "\" (that is, the mask with the underscore symbol must contain the combination "_").

NOTE: It is recommended to use a mask rather than specific addresses in the *Mail to/CC/BCC mask* field (for example, %alaris.test@gmail.com%) as the email addresses from the CC/BCC fields are also taken into account when the field is verified, and a mask ensures that no field is accidentally missed.

NOTE: Case register is ignored when verifying the *Mail text* mask field.

- *Interface*: select *SMS rate import* or *Payments* (for auto import of payments)

- *Run auto import for attachment*: select to auto import attached files
- *Carrier*
- *Product*
- *Rule description*: arbitrary comments
- *Owner notification, Carrier notification*: select *Yes* if a copy of the message must be sent to the System owner (account manager)/carrier respectively

NOTE: The email address for the Owner notification is the carrier's account manager email address. The email addresses for the Carrier notification are taken from the agreement's parameter *Default rate change emails* and the carriers' users email addresses (with the selected *Send rate changes* checkbox).

The format of email body is hardcoded and is as follows:

From: %email address from which the file has been received%

File name: %filename%

Applied rule ID: %rule ID selected for email processing%

Defined carrier: %carrier and product names%

with the following subject: "%System name%: New file has been received for %carrier and product names%"

- *Report recipients*: supply comma- or semicolon-separated email addresses to which rate sheet import reports will be sent
- *Rule enabled*: select when the tests are complete to activate the rule
- *Test rule*: select when testing the rule to prevent submitting it prematurely. The rule will only operate in the simulation mode

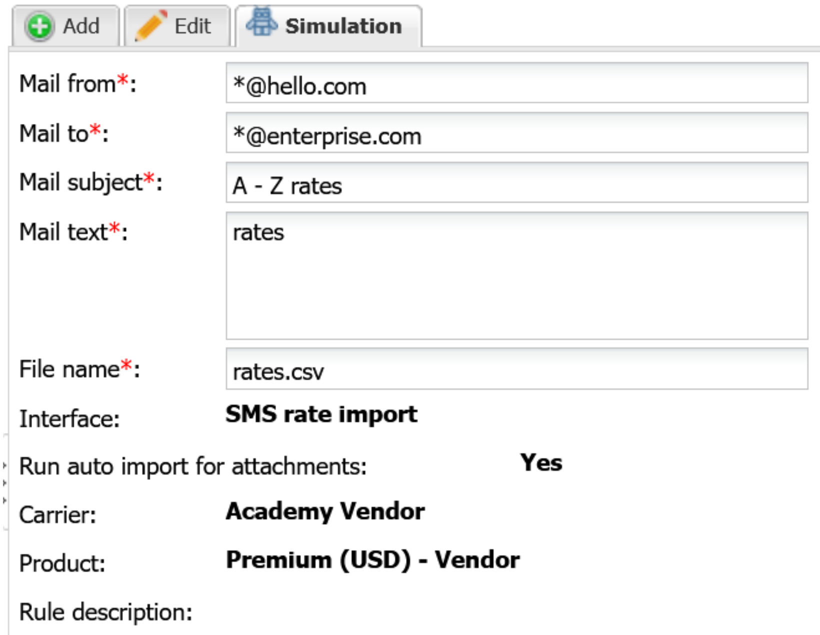
NOTE: Both *Rule enabled* and *Test rule must be selected to enable simulation.*

- *Resume processing*: select to process a single file multiple times and import the same file into several products. If disabled, the System will select all rules that fit the email values and choose the rule with the highest priority to perform auto rate import. If enabled, the next rule that fits will also be used – in this way, auto rate import may be performed multiple times for one email

NOTE: The rule located higher in the list is considered to have higher priority (you can drag and drop rules in the table to adjust rule priorities).

Click Submit to save the changes. The entry will appear in the *Email rules* table.

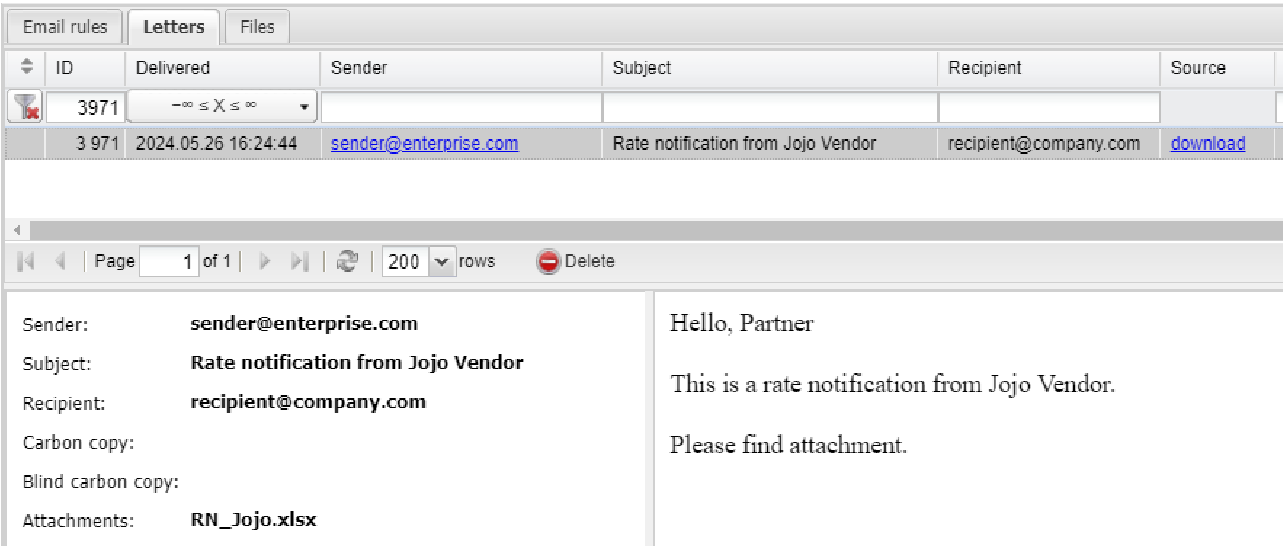
To test the rule, select it in the table and open the *Simulation* tab.



Simulation

Enter the appropriate parameters and click Run *Run*. The rule details will appear on the *Simulation* panel (highlighted in bold in the figure above) and the rule will appear in the *Email rules* table. Once the tests are completed, go to the *Edit* tab and deselect the *Test rule* checkbox to activate the rule.

The *Letters* tab displays emails received by the System (the *Recipient* email address is configured by the Alaris team during System installation).



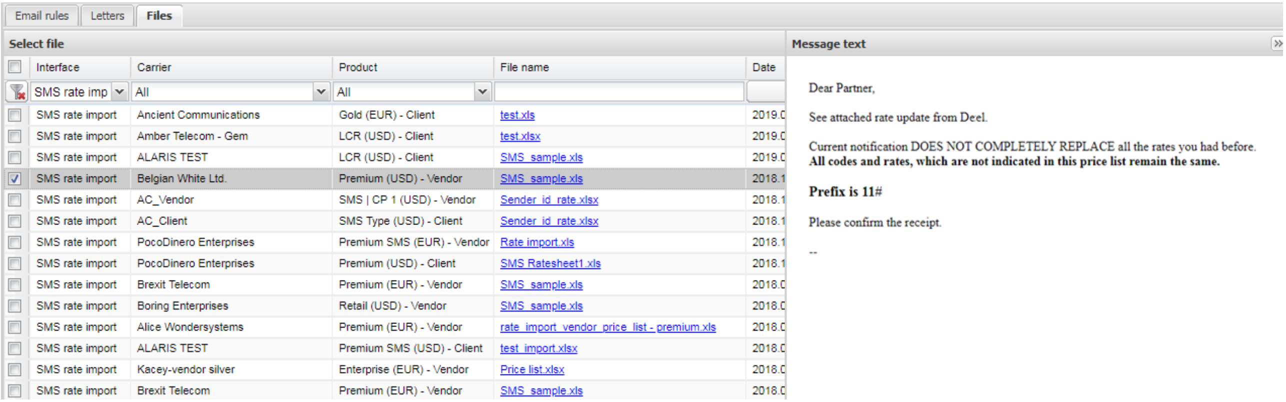
Letters tab

The top part of the tab is a table of emails. Values in the *Sender* column are links. A click on the link opens an email client, which allows easily sending a reply. The *Source* column contains a link that serves to download the email.

The bottom area is divided into two sections - the left section shows the email properties and the right displays the email text.

NOTE: The maximum length of the *Carbon copy* and *Blind carbon copy* fields is 4,000 symbols. If the fields are longer than allowed, during email import they will be trimmed to the last complete address.

The *Files* tab shows all imported rate sheet files (for both automatic and manual import).



Interface	Carrier	Product	File name	Date
SMS rate imp	All	All		
SMS rate import	Ancient Communications	Gold (EUR) - Client	test.xls	2019.0
SMS rate import	Amber Telecom - Gem	LCR (USD) - Client	test.xlsx	2019.0
SMS rate import	ALARIS TEST	LCR (USD) - Client	SMS_sample.xls	2019.0
SMS rate import	Belgian White Ltd.	Premium (USD) - Vendor	SMS_sample.xls	2018.1
SMS rate import	AC_Vendor	SMS | CP 1 (USD) - Vendor	Sender_id_rate.xlsx	2018.1
SMS rate import	AC_Client	SMS Type (USD) - Client	Sender_id_rate.xlsx	2018.1
SMS rate import	PocoDinero Enterprises	Premium SMS (EUR) - Vendor	Rate import.xls	2018.1
SMS rate import	PocoDinero Enterprises	Premium (USD) - Client	SMS Ratesheet1.xls	2018.1
SMS rate import	Brexit Telecom	Premium (EUR) - Vendor	SMS_sample.xls	2018.0
SMS rate import	Boring Enterprises	Retail (USD) - Vendor	SMS_sample.xls	2018.0
SMS rate import	Alice Wondersystems	Premium (EUR) - Vendor	rate_import_vendor_price_list - premium.xls	2018.0
SMS rate import	ALARIS TEST	Premium SMS (USD) - Client	test_import.xlsx	2018.0
SMS rate import	Kacey-vendor silver	Enterprise (EUR) - Vendor	Price list.xlsx	2018.0
SMS rate import	Brexit Telecom	Premium (EUR) - Vendor	SMS_sample.xls	2018.0

Files page

The tab is divided into two panels. The left panel is the list of files. Click on the link in the *File name* column to open the rate sheet file. The *User name* column shows the name of the System owner's user who performed manual file import. The right panel shows the text of the email for the selected record (can be toggled by clicking the » button at the top right). The bottom of the tab contains the following controls:

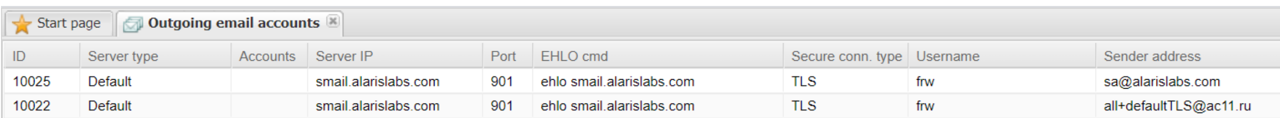
- Delete - removes the selected file from the *Files* tab and the interface to which it was imported. Additionally, if the file was imported automatically, it is removed from the *Letters* tab as well.
- *Send to* - serves to select the interface to which the file belongs. When the user changes the interface, the file is removed from the previously selected interface and appears in the newly selected one (for example, when changing *SMS rate import* to *No interface*, the file is removed from the *SMS rate import* interface. Similarly, when changing the value from *No interface* to *SMS rate import*, the file appears in the *SMS rate import* interface.
- Find processing rule (available only for files that were received by email) - serves to find suitable email processing rule. If no rule is found, an error message appears. If a rule is found, its description/ID is displayed and the user is prompted to apply it. When applied, the file is processed as if it was received by email based on an email processing rule (the interface, partner and product are defined)

6.4 Outgoing email accounts

Check out the video tutorial on outgoing email accounts at the Alaris YouTube channel.

The *Administration\Outgoing Email accounts* page serves to configure accounts on behalf of which the System owner sends emails to its partners. For example, it is possible to configure sending technical and commercial emails from separate accounts.

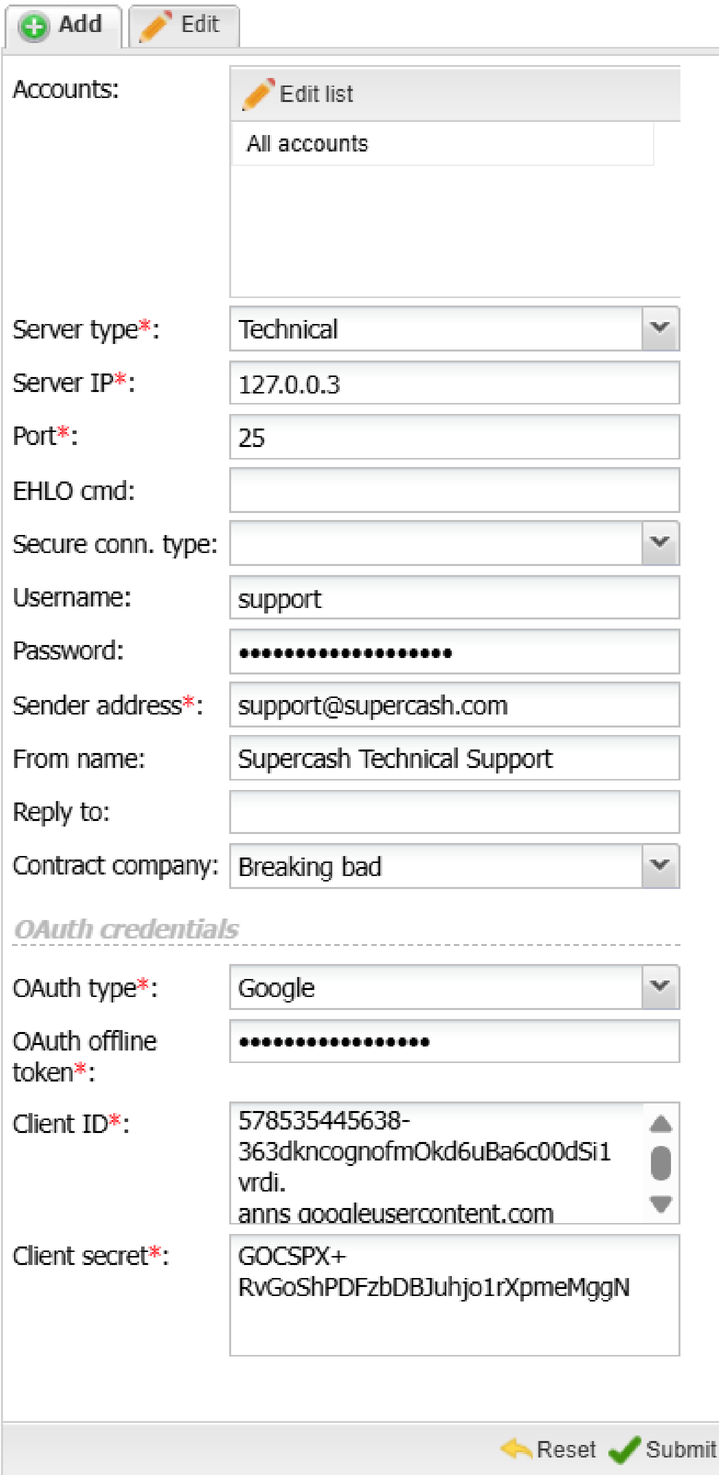
The page has two panels. The left panel is a table of configured accounts; the right panel contains the *Add* and *Edit* tabs.



ID	Server type	Accounts	Server IP	Port	EHLO cmd	Secure conn. type	Username	Sender address
10025	Default		smail.alarislabs.com	901	ehlo smail.alarislabs.com	TLS	frw	sa@alarislabs.com
10022	Default		smail.alarislabs.com	901	ehlo smail.alarislabs.com	TLS	frw	all+defaultTLS@ac11.ru

Outgoing email accounts table

The *Add* tab is illustrated below.



Add tab

To create an email account, enter the appropriate parameters in the fields detailed below. Fields marked with an asterisk (*) are required.

- *Accounts*: click *Edit list* Edit list to add partners that will receive emails from this account
- *Server type*: select the type of messages that will be sent from this address:

- *Default*: all kinds of e-mails
- *Billing*: invoices, balance and credit alarms
- *Rates*: rate updates and notifications on auto import and file receipt
- *Technical*: technical alerts (generated at Administration\Service notifications 40)
- *Reports*: reports generated by the *Report builder*
- *Partner Portal*: messages related to the Alaris Campaign Portal 583 and Partner portal 632
- *Service notifications*: sending service notifications (find out more in Alaris YouTube video)

- *Server IP*, *Port*: mail server parameters
- *EHLO cmd*: EHLO value (see SMTP standard description rfc 5321*)*
- *Secure conn type*: select the encryption type (*No encryption*, *TLS*, *SSL*)
- *Username*, *Password*, *Sender address*, *From name*: specify the mail account details
- *Reply to*:
- *Contract company*

OAuth credentials: serves to send emails using OAuth. The following fields are available:

- *OAuth type*: select the service:
  - *Disabled*: do not use OAuth
  - *Google*: use the Google server for OAuth
  - *Microsoft*: use the Microsoft server for OAuth

  When *Google* or *Microsoft* are selected, the following fields become available:
  - *OAuth offline token*: the token obtained using the instructions below
  - *Client ID, Client secret, Tenant ID*: details configured on the Google/Microsoft side.

NOTE: For instructions on obtaining the accesses (*OAuth offline token, Client ID, Client Secret*) refer to Obtaining accesses for Google OAuth mail sending 38 and Obtaining accesses for Microsoft OAuth mail sending 39.

Click Submit *Submit* to save the changes. The entry will appear in the *Outgoing email accounts* table.

To check if the account configurations are correct, click Test mail server *Test mail server* at the bottom of the page. The System will try to connect to the mail server. The result will appear in a dialog box.

6.4.1 Obtaining accesses for Google OAuth mail sending

The following steps will be required to obtain the accesses for Google (token, ID, secret):

1. Create a project or use an existing one: https://console.cloud.google.com/projectselector2/apis/dashboard?supportedpurview=project
2. Go to *Enable APIs & services* and enable 'Gmail API' with ENABLE APIS AND SERVICES
3. On the *OAuth consent screen* tab create an entry (*Create button*).

4. On the *Credentials* tab select CREATE CREDENTIALS -> OAuth client ID and specify *Application type* as 'Desktop app', save *Client ID* and *Client secret.*

5. Follow the link: https://accounts.google.com/o/oauth2/v2/auth?scope=https://mail.google.com/&access_type=offline&include_granted_scopes=true&response_type=code&state=state_parameter_passthrough_value&redirect_uri=http://localhost&client_id=CLIENT_ID

   where CLIENT_ID should be replaced by a specific Client ID value. In response, a link will be received from which the value of the code field should be taken.

6. To get offline_refresh token, send a POST request to: https://oauth2.googleapis.com/token?code=CODE&client_id=ID&client_secret=SECRET&redirect_uri=http://localhost&grant_type=authorization_code

   where CODE must be replaced with the code value from the previous step

   ID - Client ID

   SECRET - Client secret

   The refresh_token value should be saved from the response.

7. *Refresh (offline) token*, *Client ID*, *Client secre*t values should be specified for the mail server in the System. The password should be left blank.

   The following articles also describe the process of obtaining a token: https://support.google.com/cloud/answer/6158849

   https://learn.microsoft.com/en-us/power-platform/admin/connect-gmail-oauth2

   If you have any questions, create a Helpdesk ticket with the code BZ66851.

6.4.2 Obtaining accesses for Microsoft OAuth mail sending

The following article may be helpful when making the configurations: https://learn.microsoft.com/en-us/exchange/client-developer/legacy-protocols/how-to-authenticate-an-imap-pop-smtp-application-by-using-oauth.

The following steps must be completed to obtain an offline token:

1. Invoke the following link with the values substituted:

   https://login.microsoftonline.com/{TENANT_ID}/oauth2/v2.0/authorize?client_id={CLIENT_ID}&response_type=code&redirect_uri=http://localhost&scope=SMTP.Send%20offline_access

2. Login with the account credentials and allow the requested access.

3. Once redirected to localhost, copy the code. Below is an example of a link to which the redirection must be performed:

   http://localhost?code=AwABAAAAvPM1KaPlrEqdFSBzjqfTGBCmLdgfSTLEMPGYuNHSUYBr&state=12345

   The code for this example is AwABAAAAAAvPM1KaPlrEqdFSBzjqfTGBCmLdgfSTLEMPGPGYuNHSUYBr.

4. Make a POST request to https://login.microsoftonline.com/{TENANT_ID}/oauth2/v2.0/token

   headers: Content-Type: x-www-form-urlencoded

   the request body must contain:

client_id - Client ID value

scope - SMTP.Send offline_access

code - code received at step 3

redirect_uri - http://localhost

grant_type - authorization_code

client_secret - secret value from the settings

5. Copy the refresh_token from the response, which should be used as *OAuth offline token.*

6.5 Service notifications

The *Administration\Service notifications* page serves to generate and schedule emails to partners about maintenance operations. The emails are sent to the addresses specified in accordance with the *Mail list type* parameter. Note that the emails will be sent out only if the *Include in service notifications* flag is enabled on the agreement level if the *Technical* value is selected.

The page has two panels. The left panel is a table of scheduled notifications; the right panel contains the *Add* and *Edit* tabs.

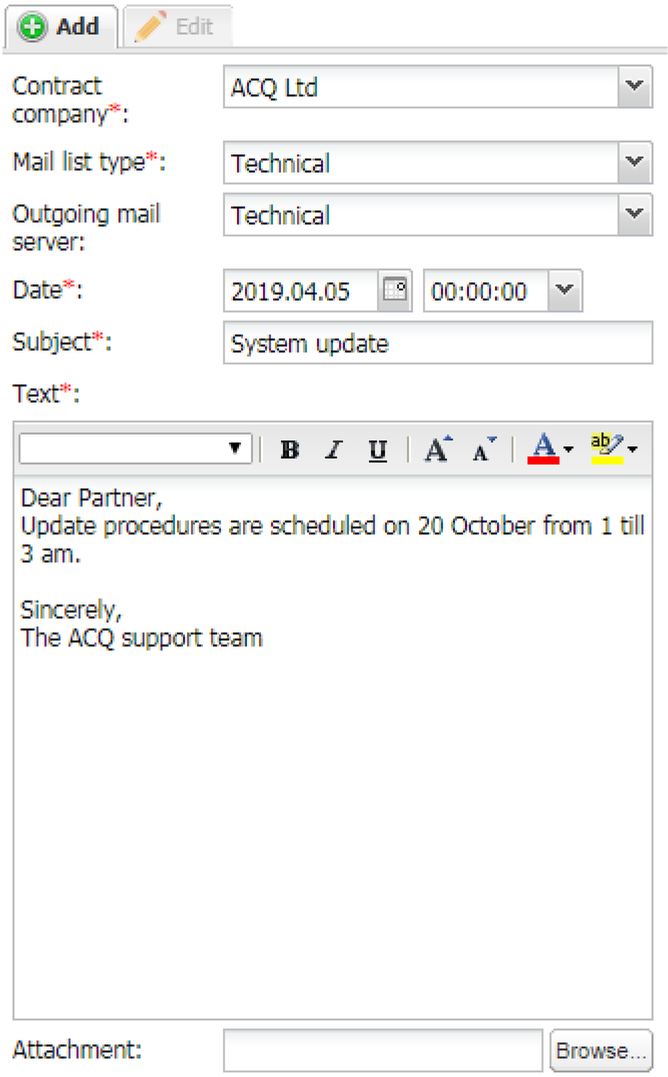
Start page | Service notifications

Contract company	Mail list type	Date	Status	Subject
All	All	−∞ ≤ X ≤ ∞	All	Text mask
All	Technical	2016.03.12 16:15:00	Failed	alarmobot wow
All	Technical	2016.03.13 15:00:00	Successful	hello yes this is alarim
All	Technical	2016.03.12 01:00:00	Expired	late alarm
All	Technical	2016.03.12 16:26:00	Successful	AK, stahp it!
All	Invoice email	2017.08.25 09:40:00	Successful	INVOICEICN
All	Technical	2017.08.25 09:40:00	Successful	TechAlarm
All	Account alert	2017.08.25 09:40:00	Successful	Account alert please check

Service notifications table

The table of notifications shows the statuses of tasks in the *Status* column. Possible values include: *Scheduled* (an initial status for a pending task), *Successful* (service notifications were successfully sent out), *Failed* (sending failed), *Expired* (refer to the description of the *Automatic notification expiry period (hours)* System parameter; the status is also assigned if no email address was found suitable for mail sending).

The *Add* tab is illustrated below.



Add tab

The *Add* tab contains the following parameters:

- *Contract company*
- *Mail list type*: type of communication. The following values are available:
    - *Technical*: the list of addresses to send out a service notification is defined by the agreement's parameter *Default technical emails*
    - *Account alert*: the list of addresses to send out a service notification is defined by the agreement's parameter *Account alert emails*
    - *Rate change notification*: the list of addresses to send out a service notification is defined by the agreement's parameter *Default rate change emails*
    - *Invoice email*: the list of addresses to send out a service notification is defined by the agreement's parameter *Default invoice emails*
- *Outgoing mail server*: mail server configured in Administration\Outgoing email accounts 36 that will be used for mail sending
- *Date*: the date and time of the email dispatch to partners

- *Subject*, *Text*: the subject and text of the message
- *Attachment*: click Browse... to upload a file

Click to Submit to save the changes.

6.6 System jobs

The *Administration\System jobs* page contains general information about standard processes running in the database. The page is intended for the Alaris support team.

Start page | System jobs

Job name	Comments	Repeat interval	State	Last start date	Last run duration	Next run date
BAS_APPLY_PENDING_DC_JOB	This job applies pending dial codes	freq=hourly;byminute=0;bysecond=1	SCHEDULED	2025.01.17 14:00:0...	+000000000 00:00:00.057256	2025.01.17 15:00:0...
BAS_CHECK_EXPIRE_PASSWORD	This job checks expired passwords for user accounts	freq=daily;byhour=0;byminute=10	SCHEDULED	2025.01.17 00:10:4...	+000000000 00:00:00.014156	2025.01.18 00:10:4...
BAS_CUR_UPDATE	This job updates currency rates	freq=hourly;byminute=1;bysecond=0	SCHEDULED	2025.01.17 13:01:0...	+000000000 00:00:01.614417	2025.01.17 14:01:0...
BAS_ETC_REF_SCO_CARR	This job refreshes the credibility of partners	freq=hourly;byminute=1;bysecond=0	SCHEDULED	2025.01.17 13:01:0...	+000000000 00:00:00.285029	2025.01.17 14:01:0...
BAS_IMP_DISP	Auto import job dispatcher	freq=minutely;bysecond=50	SCHEDULED	2025.01.17 13:59:5...	+000000000 00:00:00.070064	2025.01.17 14:00:5...
BAS_SEND_NOTIFICATIONS	This job sends out scheduled service notifications	freq=hourly;byminute=0,10,20,30,40...	SCHEDULED	2025.01.17 13:50:4...	+000000000 00:00:00.028976	2025.01.17 14:00:4...
BAS_WIPE_PERSONAL_DATA	This job erases personal data in accordance with the System config...	freq=daily;byhour=2;byminute=30	SCHEDULED	2025.01.17 02:30:4...	+000000000 00:00:00.161022	2025.01.18 02:30:4...
CLP_CDR_EDR_EXPORT_JOB	This job executes tasks of CDR and EDR export scheduled via RES...	freq=secondly;interval=10	SCHEDULED	2025.01.17 14:00:0...	+000000000 00:00:00.078487	2025.01.17 14:00:0...
DID_CREATE_MRC_CHARGES	This job creates DID MRC charges	freq=hourly;byminute=45;bysecond=0	SCHEDULED	2025.01.17 13:45:0...	+000000000 00:00:05.187543	2025.01.17 14:45:0...
DOC_SEND_MESSAGES	This job resends emails to users if partner has not opened the link w...	freq=hourly;byminute=1;bysecond=20	SCHEDULED	2025.01.17 13:01:2...	+000000000 00:00:00.025065	2025.01.17 14:01:2...
EDR_MASK_DISPATCHER	This job manages masking rules	freq=minutely;	SCHEDULED	2025.01.17 13:59:3...	+000000000 00:00:00.043389	2025.01.17 14:00:2...
FIN_CHECK_CREDIT_USAGE	This job checks credit limit usage and sends out corresponding alert...	freq=hourly;byminute=1,6,11,16,21,2...	SCHEDULED	2025.01.17 13:56:0...	+000000000 00:00:00.069043	2025.01.17 14:01:0...
FIN_HOURLY_ROUTINES	This job performs financial hourly routines	freq=hourly;byminute=25;bysecond=0	SCHEDULED	2025.01.17 13:25:0...	+000000000 00:00:07.022635	2025.01.17 14:25:0...

System jobs

Below is a description of available System jobs.

BAS_APPLY_PENDING_DC_JOB

Applicable to Alaris inVoice only

BAS_CHECK_EXPIRE_PASSWORD

The procedure checks expired passwords for user accounts. When launched, notifications in this regard are sent to the users with the *Expiry date coming in N days* (where N is the number of days set in the System parameter *Password expiry reminder (days)*). A user with an expired password will be able to login to the System M times where M is the value set in the System parameter *Allowed login attempts after password expiry*.

BAS_CUR_UPDATE

Currency exchange rates (Reference books\Currency exchange rates 270) are fetched from the external source set in the System parameter *Currency update source* when the job runs.

BAS_ETC_REF_SCO_CARR

The procedure refreshes the Credibility of partners. It is calculated based on the partner's payment stability, subjective estimation, credit limit and traffic volume stability.

BAS_IMP_DISP

Rate and payment auto import job dispatcher. When launched, the payments from Administration\Email processing rules\Files 32 with the *Interface* set to *Payments* are added to the Finance\Payments 228 interface. The rate files that have been automatically added to the *Rate import* interface are imported to the products as well. Note that files are fetched automatically from the pre-configured mail box to the System every 10 minutes in accordance with the server fetching module configuration.

The number of concurrent import tasks is defined by the System parameter *Auto rate import parallel sessions*. When disabled, processing of already auto imported files are cancelled for *SMS rate import*

BAS_SEND_NOTIFICATIONS

The job is intended to generate scheduled service notifications in accordance with their schedules (Administration\Service notifications40). Note that for an agreement to be included in the list of sending, the flag *Include in service notifications* must be selected. Emails are sent out with the help of the PRV_MAIL_JOB System job.

BAS_WIPE_PERSONAL_DATA

The job wipes personal data in accordance with the System configuration. The data to be removed is defined by the System parameters *Wipe SMS contents after, days* and *Wipe personal data after, days of inactivity*.

CLP_CDR_EDR_EXPORT_JOB

This procedure executes tasks of CDR and EDR export scheduled through REST API using the schedule_edr_export method.

DID_CREATE_MRC_CHARGES

The job generates charges and invoices for the MRCs (monthly recurring charges) in accordance with the billing scheme assigned to a number in Number management575.

DOC_SEND_MESSAGES

When run, email messages that need to be resent are processed (for example, if the Ratesheet delivery options is set to 2 and the partner has not opened the link in the rate email). Emails are sent out with the help of the PRV_MAIL_JOB System job.

EDR_MASK_DISPATCHER

The job is responsible for launching masking tasks in accordance with rules created on *SMS\EDR management\EDR masking*

FIN_CHECK_CREDIT_USAGE

The procedure checks credit limit usage and sends out corresponding alerts if the usage has been exceeded (in accordance with the account credit thresholds or the System thresholds).

FIN_HOURLY_ROUTINES

This job performs financial hourly routines: for example, checks if draft payments have expired; performs auto-sending of invoices and generation of credit notes.

FIN_UPDATE_BALANCE

This job updates account balances based on latest EDR files inserted to the System that are considered billable for partners.

MON_COMPONENT_MONITOR

The procedure gathers component monitoring data. This is to verify that the Campaign Portal EDR files are written to the System, and financial data and analytical cubes are calculated properly.

MON_UPDATE_METRICS_VALUE

The procedure gathers metrics values based on which the Start page graphs (RAM available, CPU Total Utilization) are displayed.

PRV_ADM_CHECK_ALL_JOB

This job adds Oracle datafiles to tablespace.

PRV_CLEANUP_SCHEME

The procedure processes daily schema cleaning, such as:

- moving EDRs from the active table to the archive one in accordance with the System parameter *Active EDR day count*. The number of EDRs to be moved within a single session is defined by the System parameter *Automatic EDR archiving limit (days to archive at a time)*
- removing buffered EDRs older than N days, where N is the period set in the System parameter *Buffered EDR storage period, days*
- removing non-relevant data from internal DB tables sta_raw_error_log and sta_exp_data
- removing cached user passwords older than N days, where N is the number of days specified in the System parameter *Password history period, days*

PRV_MAIL_JOB

The procedure sends out email messages that were put to a queue (internal DB table PRV_MAIL_QUEUE) such as rate exports, invoice documents, user registration, password reset etc. Note that the speed of sending is limited by the System parameter *Email limit per minute*.

PRV_QUEUE_JOB

This procedure processes advanced queue messages such as sending updates from the DB to the web interface (for example, when a new entity has been created), sending updates to the Redis DB (for example, if a new assignment of MCCMNC for a dial code has been added) or VPD (virtual private database) updates (to update the list of objects accessible to users).

PRV_REFRESH_LOG_BOOKMARK_JOB

This procedure updates log bookmarks (the maximum log IDs of change logs) in order for the System modules (for example, routing modules) to obtain the recent changes.

PRV_THREAD_JOB

This job enables the internal backend logic to handle System threads: tasks that can be processed by the System simultaneously. With its help excessive threads can be removed from the thread's queue as well as new threads can be created in accordance with the System load. The job has an effect on such interfaces as *Reports* (creating tasks from the web interface or scheduled report sending), *SMS Rate export, EDR masking*.

RAT_ANA_CLEANUP

Applicable to Alaris inVoice only

RAT_ANA_REFRESH_DCODE

Applicable to Alaris inVoice only

RAT_MANAGE_PARTITIONS

Applicable to Alaris inVoice only

RAT_RATE_LOG_JOB

Applicable to Alaris inVoice only

RCS_CLEANUP_SCHEME

This procedure process daily RCS schema cleaning, such as:

- Moving RCS EDRs from the active table to the archive one in accordance with the System parameter *RCS\Active EDR day count*. The number of EDRs to be moved within a single session is defined by the System parameter *RCS\Automatic EDR archiving limit*

RCS_LOAD_EDRS

This procedure is used to import RCS EDR files provided by the RCS module into the database.

RCS_RECALC_CUBE

This procedure recalculates RCS analytical cubes

RCS_UPDATE_EDR_STATUS_JOB

This procedure updates the RCS EDR status

RPT2_DISPATCHER_JOB

The dispatcher job for the new version of the report module in order to put scheduled reports to a queue for further sending. Tasks are launched so as not to exceed the value from the System parameter *Running processes per CPU threshold*.

RPT2_EXEC_PRESET

The procedure launches report scheduled presets for the new version of the report module.

RPT2_SHRINK_DATA_JOB

The job shrinks large blocks of report data that are out of use. It is applied to the new version of the report module.

RUT_BLACKLIST_UPDATE_JOB

Applicable to Alaris inVoice only

RUT_LIM_DISPATCHER

Applicable to Alaris inVoice only

SANSAY_DWNLD_SWITCH_DATA_JOB

Applicable to Alaris inVoice only

SANSAY_QUERY_SWITCH_DATA_JOB

Applicable to Alaris inVoice only

SE_LOG_FILES_CLEANUP

Internal job that deletes obsolete log table files (which are older than the value set in the hidden System parameter PARAM-SE_FILE_LOG_RETENTION) on Oracle SE installations.

SMS_AUTO_FEATURES

The job updates routing features values in accordance with test tasks from SMS\Test System 522. The logic behind applied changes is described for the System parameter *Number of tests to consider for feature generation*.

SMS_AUTO_RATE_SEND

The job gathers SMS rate changes for further auto send in the hour(s) defined in the System parameter *Rate changes auto send hours*. The logic is also described in the SMS\Rates\Auto rate export 415 section of the manual.

SMS_CHANNEL_RESOLVE_DOMAIN

The job is intended to resolve domain names set in channels of the vendor direction to IP addresses.

SMS_EXPORT_REFBOOK

The job exports the System reference book to the /u01/app/oracle/invoice.files directory. This allows using the refbook source for HLR configuration.

SMS_INIT_RERATE_TASKS

The job creates SMS auto rerating tasks based on the applied rate changes except for the changes based on SMS volume-based deals. The tasks will be launched at the hour specified in the System parameter *EDR rerating hour*.

The period for autorerating depends on the period the rate change affected - for example, if the rate start date was extended to the past, the rerated period will be from the new rate start date to the old one.

Past rate changes are also limited for rerating by the System parameter *Max rerating interval* - that is, an auto rerating task's start date cannot be earlier than N days ago (where N is the parameter's value).

SMS_INIT_VBD_RERATE_TASKS

The job creates SMS auto rerating tasks for rate changes in accordance with SMS *Volume-based deals 2.0.* The period to be auto rerated is limited by 30 days and the deal's period.

SMS_LOAD_CDRS

This procedure is used to import SMS and HLR EDR files provided by the SMS switch into the database.

SMS_PROCESS_LIMITS

The job checks the limits set on the product level. The limits are calculated based on hour analytical cubes.

SMS_PROCESS_TEST_BILLINGS

The job processes SMS test deals created from the backend to issue invoices for test Systems based on the tasks (SMS\Test System 522). Contact the Alaris technical support team to configure SMS test deals.

SMS_PROCESS_TEST_TASKS

The job sends SMS test messages scheduled on SMS\Test System 522 and updates parameters of third-party test systems (such as a list of available networks and the balance).

SMS_RATE_LOG_JOB

The procedure gathers updates of SMS rates (for example, to use them for SMS routing).

SMS_RECALC_CUBE

The procedure recalculates SMS and HLR analytical and financial cubes based on new EDR files. Cubes are recalculated based on the threshold or the delay configured in the System parameters *Stats calculation delay, minutes* and *Stats calculation threshold* respectively.

SMS_RTL_DISPATCHER

The job updates the status of an SMS campaign. If no schedule is set for the job, it launches automatically when the campaign status is changed (a campaign is launched, canceled).

SMS_RTL_LOAD

The job inserts Campaign Portal data (EDRs) to the internal table SMS_RTL_EDR.

SMS_RTL_MO_TEXT

The job applies campaign portal data (delivery reports and MO callbacks) to the internal table SMS_RTL_EDR.

SMS_RTL_UNLOCK

The job removes locks of funds for IM channels based on the message statuses (in case of rerouting to another IM channel or SMS fallback after TTL).

SMS_RUT_LIM_DISPATCHER

The job updates the current values of SMS limitation rules, unlocks destinations if the lock must be removed and notifies users in accordance with the rule settings or notifies them and locks specific products and destinations if the thresholds have been reached.

SMS_STATS_CHANGE

The procedure analyzes statistics changes (ASR, DLR, rates, number of billed messages) based on SMS daily analytical cubes and stores them to the internal DB table SMS_CUBE_DAY_CHANGE. The same result can be found in the *Statistics Change (Statistics)* report.

SMS_SYNC2REDIS

The job verifies that the data stored in the in-memory DB Redis coincides with the System one. If discrepancies are found, the data is synchronized.

Redis serves to store data such as Campaign Portal data (pack and rate plan subscriptions), MCCMNC assignment for dial codes that can be accessed in a more prompt way.

SMS_UPDATE_CDR_STATUS_JOB

The job searches for new delivery reports to apply them to EDRs. Additionally, the job updates the is_last flag in EDRs if delivery-based rerouting was applied.

SMS_UPDATE_DELIVERY_EMA

The job updates the EMA statistics for SMS routing which includes client and vendor ASR, DLR, ADD (metrics CLPoiASR, CLPoiDLR, CLPoiADD, VLPoiASR, VLPoiDLR, VLPoiADD).

SMS_UPDATE_RULE_EMA

The job updates the EMA statistics for SMS routing calculated based on routing rules (metrics such as RuleAttCNT, RuleSucCNT, RuleDlvCNT).

SMS_VBD2_DISP

The job processes the current volumes and thresholds of SMS\Volume-based deals 2.0 556. Note that auto rerating tasks (in case of rate changes) are created when the SMS_INIT_VBD_RERATE_TASKS job runs.

STA_CUBE_JOB

Applicable to Alaris inVoice only.

STA_INIT_RERATE_TASKS

Applicable to Alaris inVoice only.

STA_LOAD_CDRS_JOB

Applicable to Alaris inVoice only.

STA_RECALC_FIN_CUBE

Applicable to Alaris inVoice only.

SWAP_DEAL2_DISP

The procedure updates statistics of the swap deals 2.0.

TRD_BLEND_SELECT_VENDOR_JOB

Applicable to Alaris inVoice only.

TRD_BLEND_UPDATE_RULE_JOB

Applicable to Alaris inVoice only.

TRD_SWAP_UPDATE_JOB

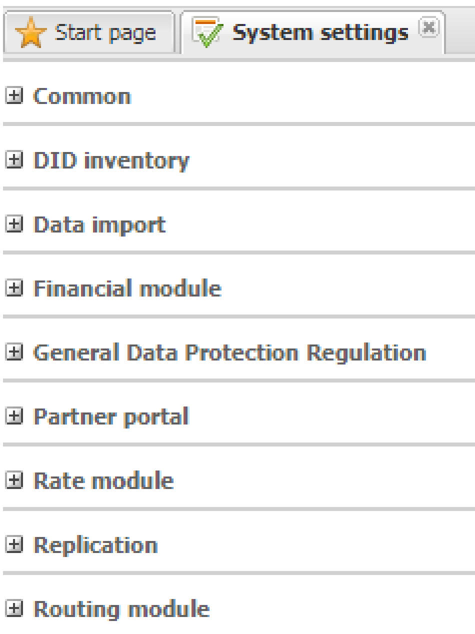
The procedure updates statistics of the swap deals for which the *Is active* flag is enabled.

VBD_DIAL_REFRESH_STATS

Applicable to Alaris inVoice only.

6.7 System settings

The *Administration\System settings* menu allows administration of all the main System parameters. Most of them can only be configured by the Alaris support team and must not be edited by the user to prevent the System breakdown. The sections below describe the parameters that can be configured by the System owner.



System settings

The bottom of the page contains the filter that allows searching for any parameter in the *System settings*.

Filter

6.7.1 Common

Common

Add contract company name to carrier name	1
Add report info to file header (0 - no, 1 - yes). By default - 1	1
Allowed ORA error codes for report execution	ORA-08103,ORA-20000,ORA-06512
Allowed time-zone fraction types (times 15, 30 or 60 minu…	60
Automatic CDR and EDR export (0 - no, 1 - yes)	0

Common settings

- *Add contract company name to carrier name.* Possible values are *0* - do not add, and *1* - add. When enabled, carrier names will be shown with the contract company name. For example, if the carrier's name is TEST and its contract company is COMPANY, with the enabled parameter its name will be displayed as TEST (COMPANY)
- *Add report info to file header (0 - no, 1 - yes). By default - 1*: if set to 0, export results (in any format) will not contain the report header (report name + parameters with which the report was launched)
- *Allowed ORA error codes for report execution*: serves to indicate a list of errors that trigger the System to resend a report. For example, ORA-*08103,ORA-01722.* If set to *ORA*, all ORA errors will result in report resending. If generation of a scheduled report is interrupted with an error set in this parameter for N times in a row (N is defined by the System setting *Number of report execution attempts in case of ORA errors*), the *Enable schedule* checkbox remains enabled. Provided the error occurs for N+1 time, the error message is sent out to the email address specified in the System parameter *Support email*. The interval in which a report is be re-run is set in the parameter *Period between report execution attempts in case of ORA errors (in min.)*. Note that reports saved under the *Default* preset will not be re-sent even if the respective error is specified in the parameter. The following ORA errors are not taken into account for report resending: *ORA-06512*, *ORA-20000*, *ORA-00904*, *ORA-20004*. As *ORA-20004* is a common error, it's recommended to specify a more detailed error in the System parameter. Suppose, the error is *ORA-20004: Error at line 1, column 66, identifier: 1; ORA-01476: divisor is equal to zero*. Specify *ORA-01476* in the parameter to resend a report if the error appears. If an error is not included to the *Allowed ORA error codes for report execution* list, the *Enable schedule* checkbox is disabled when the error occurs.
- *Allowed time-zone fraction types (times 15, 30 or 60 minutes)*: used in cases when partners have time zones with irregular time offsets. For example, to include the Iran timezone (UTC + 3.5) set this parameter to 30, so that the statistics and invoicing are calculated correctly. Note that the parameter change will affect only new data - to apply it to the old data recalculation of financial cubes is required (performed by the Alaris technical support team).

NOTE: The parameter only impacts statistics used for invoice generation and the invoice timezone.

- *Automatic notification expiry period (hours)*: fractional values are allowed; in case tasks created in service notifications interface have date of schedule earlier than current time - the parameter value, they will be considered expired and will not be sent. For example, if the current date and time is 01/01/2019 10:40 and the parameter is set to 3.5, all notifications created with date earlier than 01/01/2019 07:10 will have status: *expired* (once the System job bas_send_notifications is executed), otherwise the status will be *scheduled*

- *Balance notifier url pattern*: the link the System uses to send balance check notifications, for example: https://some_url?acc_id=%acc_id%&dcheck=%dcheck%&amount=%amount%, where:
  - *some_url* is a URL to the external service
  - *acc_id* - account ID
  - *dcheck* - time of balance change
  - *amount* - balance amount
- *Block traffic exceeding license (1 - yes, 0 - no)*: if the value is *1*, the System blocks traffic when the monthly licensed volume is exceeded. The parameter can be changed only by the Alaris technical support team
- *Build number*: the current version number with the software revision number
- *Critical threshold for running processes per core*: number of processes per core which is considered critical for System operation. The default value is 2. If the user tries to launch a new task while the current load is greater than the parameter value, a warning appears (*System overload detected. Running resource-consuming tasks is prohibited until the load average is lower*), and the task is canceled. Note that only tasks created by users are taken into account (EDR recalculation, export of EDRs - from the partner portal, Analytics and EDR export interfaces, export of rates and their generation, report sending and export)
- *Currency update source (1 - BNR, 2 - ECB, 3 - CBR, 4 - ECBf, 5 - NBU, 6 - LCB, 7 - NBRB, 8 - MAS, null - disabled)* - the bank that provides the currency update. The default value is 2 (*ECB*). Possible values are:
  - *1* - National Bank of Romania (BNR)
  - *2* - European Central Bank (ECB)
  - *3* - Central Bank of Russia (CBR)
  - *4* - same as ECB with fetching data from a file (ECBf). For additional configuration, contact the Alaris technical support team and communicate the code BZ25976
  - *5* - National Bank of Ukraine (NBU)
  - *6* - Lithuania Central Bank (LCB)
  - *7* - National Bank of the Republic of Belarus (NBRB) (to have it installed additionally, contact the Alaris technical support team and share the code BZ53370)
  - *8* - https://www.mas.gov.sg/ (MAS)

NOTE: Only one bank can be specified system-wide for auto-fetching of rates. To specify a different source for a particular currency, indicate it in the Currency exchange rates 270. Every hour in accordance with the System job BAS_CUR_UPDATE exchange rates are checked in the bank service (note that usually banks release the rates once a day).

- *Current DB version*: current version of the database software
- *Current user ID*: ID of the user logged in the System

- *Current user ID:* ID of the user logged in the System
- *Current user login name*: login of the user logged in the System
- *Database connection TNS alias (for dgmgrl)*: TNS alias for dgmgrl (Oracle Dataguard manager) in order to show the database info in *Start\Database info*
- *Default CSV delimiter*: allows setting a System-wide delimiter used in CSV files. Possible values are: semicolon, comma, comma with a space after it, pipe (';', ',', '|'). Applicable to the Partner Portal as well. Applicable to export tasks: when a file is imported to the System, the System defines the delimiter automatically. (Learn more in the Alaris YouTube video)
- *Default document handler* (supported values: *embedded_apach_poi*, *docprocessor*): type of MS Excel exporter. Normally, *embedded_apach_poi* is used (the export result will have an extension specified in the *Default spreadsheet extension* parameter). In case of any problems with export, use *docprocessor*

NOTE: The setting is applied only to export operations for which no regular template can be assigned (Administration\Template manager 104) - for example, reports and EDR export.

- *Default format: date*: default Oracle date format used for replacement of invoice date markers (for example [InvoicePeriod], [InvoiceSysPeriod]) and other date markers (where no time is specified) in template letters - for example, [ExpireDate] for *Password expire letter*
- *Default format: date (document export, Java)*: default Java date format to be used in export results in MS Excel format (for example, dates in SMS\EDR management\EDR export tool 371, SMS\Rates\Rate export 407)
- *Default format: date (period)*: default date format (without specific time) for periods used in the financial module (for example, for specification of invoice start/end dates)
- *Default format: date (period) in words*: default date format (Oracle syntax) for periods used in the financial module (for example, for markers [InvoicePeriodInWords], *[InvoiceSysPeriodInWords] etc*). Example: *Month, DD, Day, YYYY*
- *Default format: date NLS*: default date NLS (national support language) format
- *Default format: date in words*: default date format for periods used in the financial module (for example, for markers [InvoiceDueDateInWords], [InvoiceRegDateInWords] etc)
- *Default format: datetime*: default Oracle date time format used for replacing markers (for example, [IssueDate] for SMS rate export or [CurrentDate] for balance/credit alarms)
- *Default format: datetime (document export, Java)*: default Java date time format to be used in export results in MS Excel format (for example, dates in SMS\EDR management\EDR export tool 371, SMS\Rates\Rate export 407)
- *Default format: datetime (period)*: default date format (with time) for periods used in the financial module (for example, for specification of invoice start/end dates)
- *Default format: datetime (period) in words*: default date format (with time) for periods used in the financial module (for example, for markers [InvoicePeriodInWords], [InvoiceSysPeriodInWords] etc)
- *Default format: datetime in words*: default date format (with time) for periods used in the financial module (for example, for markers [InvoiceDueDateInWords], [InvoiceRegDateInWords] *etc*

- *Default format: numeric (fractional)*: default format for fractional numbers to show traffic volume (in minutes) in invoice files
- *Default format: numeric (integer)*: default format for integer numbers to show the number of messages in invoice files
- *Default format: numeric (monetary)*: default monetary format to show the invoice amount in invoice files. The default value is fm999G999G999G999G990D00 which implies having rounding to 2 decimal places.
- *Default format: numeric (NLS)*: default numeric NLS format which is used for invoice markers to show the invoice amount/balance
- *Default parallelism degree for heavy queries*: level of parallelism (integer number of simultaneously executed tasks) for EDR export (including EDR exports from the Partner portal). In case of low server capacity the recommended value is 1. The parameter also regulates performance of the Number *management* interface load and can come handy when the interface contains a lot of data
- *Default spreadsheet extension* (supported values: *xls*, *xlsx*): the default format of exported spreadsheets that are not generated by templates (for example, applicable to reports or EDR export)
- *Default System language:* default System language for new users (can be changed in the login window next to the *Enter* button).
- *Email limit per minute (null - unlimited)*: number of emails that can be sent within a minute. The parameter is intended to limit the email flow in order not to overload the mail server. Note that the threshold value is not global and the transaction speed is calculated for each mail server separately
- *Enable NANP jurisdiction features (0 - no, 1 - yes)*: toggles on/off the NANP (North American Numbering Plan) jurisdiction layers in the *Analytics* interface (once the setting is changed, relogin is required)
- *Enable RCS billing/routing (0 - no, 1 - yes)*: possible values are 0 (disabled) and 1 (enabled). Once the parameter is turned on, the *RCS* menu and the *RCS* section of System parameters become available. To change the parameter's value, an AlarisLabs account manager approval is required. For more details, contact the Alaris technical support team
- *Enable extra secure mode (1 - enable, 0 - disable)*: serves to enhance the security policy when resetting the user password in the following interfaces:
    - Main System interface when clicking the *Forgot password*? button
    - Alaris Campaign Portal interface when clicking the *Forgot password?* button
    - Partner portal interface when clicking the *Forgot password?* button
    - REST API method used to reset the password

  If the parameter is disabled, and the System fails to find the user by its name or email, the following error message will appear: "User with such email or name not found". If the parameter is enabled, the user will not be able to see full details of an error (of the type "ORA-"). Instead, a general error will be displayed, with the following description: "Internal error. Please contact the System administrator."

  Additionally, when the parameter is enabled, the menu item *Start\Database info* is hidden, and escaping of special characters is performed (for example, of the symbol "-" for negative figures) to prevent CSV injections during data export.

- *Enable full trace for REST API requests (0 - no, 1 - yes)*: if set to 1, tracing for REST API requests is enabled. The requests are written to /var/log/invoice/restman.log that is located on the web file server. Note that enabling of the setting may lead to increased disk space consumption

- *Enable full trace for REST API responses (0 - no, 1 - yes)*: if set to 1, tracing for REST API responses is enabled. The responses are written to /var/log/invoice/restman.log which is located on the web file server. Note that enabling of the setting may lead to increased disk space consumption

- *Enable overall email delivery in the System (1 - enable, 0 - disable)*: defines whether the System will send emails (such as invoices, notifications, alarms etc.). Once enabled, restart of the Campaign Portal module is required, otherwise Campaign Portal related emails will not be sent out. Contact the Alaris support team and communicate BZ45144 code in this regard.

- *Enable SS7 billing* (applicable to Alaris SMS Platform only): possible values are 0 (disabled) and 1 (enabled). Once the parameter is turned on, the *SS7 identifiers* interface becomes visible on the *Carriers* page. The interface serves the configuration of SS7 entities (global titles) to charge SS7 traffic. To change the parameter's value, an AlarisLabs account manager approval is required. For more details, contact the Alaris technical support team

- *Enable synchronization to redis DB (1 - enable, 0 - disable)*: defines whether Alaris Campaign Portal module is synchronized with the database. The recommended value is 1. If set to 0, the module will not receive updates - for example, if a client buys a pack, it will not be possible to send messages using it

- *Excel column width settings*: the width of columns in spreadsheets exported to MS Excel. Possible values are: *WT* - width from template (Administration\Template manager 104), *E* – external - width as set in the column settings of the original table in the System, *I* – internal – use the intrinsic width limit (present in invoices and traffic details)

- *First day of the week (0 - Sunday, 1 - Monday)*: defines the day on which the week starts. This parameter works only for the calendar and does not affect invoices

- *Font applied to excel files (0 - internal default, 1 - default file formatting)*: defines what font to use in MS Excel files generated by the System. Select 0 to use the default System font or 1 to use the font configured in appropriate templates (the System takes the font of the top first cell of the document)

- *Inactivity logout timeout, min*: the parameter allows setting values from 1 to 60 (in minutes) for the automatic logout timeout in case of user inactivity (the default value is 15). It is also possible to set the parameter as *null* to disable automatic logout. User activity is defined by the cursor movement on System tabs. The timeout counting starts as soon as the user switches to another tab or minimizes the browser window. Note that the setting does not affect users with the enabled *Ignore inactivity logout timeout* permission

- *Invoice detail Excel password (not used if empty):* if any value is set, MS Excel files with invoice details will be password-protected and can be edited only when the password set in the field is provided. If the parameter is left empty (null), invoice detail files will remain editable. See also the Alaris YouTube video

- *Key ID for MAS (Monetary Authority of Singapore)*: key ID to access MAS (applicable if the System parameter *Currency update source (1 - BNR, 2 - ECB, 3 - CBR, 4 - ECBf, 5 - NBU, 6 - LCB, 7 - NBRB, 8 - MAS, null - disabled)* is set to *MAS*).

- *Left authorization attempts count*: the maximum number of authorization attempts with a temporary password (also see the parameter *Temporary password logins allowed* below)

- *License expiry date*: date and time when the license becomes obsolete (the main web interface will not be accessible). To prolong it, contact the account manager
- License expiry date (System): the date of the last check of the license validity
- *Licensed number of sms messages per month*: allowed number of messages within one month. If the value is reached, an alert is sent to the account manager
- *Licensed number of swap deals*: allowed number of swap deals. Once exceeded, swap deals cannot be created. To increase the value, contact the account manager
- *Log store period, days*: the period to store the logs of different components (*Carriers*, *Products,* routing rules etc.). The default value is 90. Additionally, the parameter regulates for how many days EDR autorerating tasks are stored.Note that only the last 10,000 records are stored even if the period has not been reached. The setting also defines how many days other tasks (EDR export/Rate export) along with SMS channel status changes (DB table sms_channel_status_change) and EDR file statuses are stored in the System.

NOTE: The logs contain details of every change in System tables as well as the author of the changes. This allows investigating any incident (System breakdown, errors, malicious attacks etc.) However, logs take disk space and impact the DB size. Therefore, prior to modifying this parameter consult the Alaris technical support team.

- *Login link*: link to login to the main web interface
- *Logins of users to be protected*: list of user logins (comma-separated) which cannot be modified or deleted from the System. In case of attempt of change\removal such users, a warning appears. Note that if someone tries to delete a carrier under which the protected user has been created with the help of the *Delete this carrier and all child components* button (*Carriers* interface), the warning message will be shown as well
- *Max Java heap size (mb)*: the maximum (default: 512Mb) size to generate an Excel file by the internal Java module. Once exceeded, the OutOfMemoryError error appears. To increase it, consult the Alaris technical support team
- *Max file for recurrent reports (mb)*: if the report result exceeds the value (default: 100Mb), the mail with the report result is not sent out and the *Details* column of the Reports 49 interface for the corresponding report task will contain the following record: "Mail not sent, attachment file size is more than X Mb". The limitation is applied so as not to consume much server space
- *Max number of rows to export in CSV/Excel (null - without limit)*: number of rows exported into a file. When the limit is met, export is halted with a respective error. The default value is 1000000
- *Max number of user sessions in mobile app*: the maximum number of simultaneous sessions in the Alaris Labs mobile application. The default value is 10
- *Max unzipped file for recurrent reports (mb)*: maximum file size (in megabytes) of a recurrent report. Once the value is reached, the report is archived (in zip format)
- *Maximum allowed System job duration, hours*: maximum allowed System job duration in hours. If a task is being executed longer than specified, it will be aborted. The default value is 24
- *Maximum record count in REST API responses*: maximum record count (integer) which can be returned in REST API responses (note that the limit for EDR export from the Partner portal and Alaris Campaign Portal can be set in the *EDR export record count limit* parameter). The default value is 10000. Note that an increase of the value may affect the System performance since generated files take space on the server

- *Maximum search time for regexp in string*: maximum time in seconds which is spent to compile the inserted regular expression in the *Translation rules* interface (SMS\Routing\Translation rules 503) in the following fields: *Sender ID pattern*, *Dest. number pattern*, *Text pattern*. The parameter is intended to find out whether the regular expression may affect operation of the routing module. If the time is exceeded, a warning will be given to the user. The default value is 20 seconds. To change the value, contact the Alaris technical support team

- *Min percent of free space in tablespaces*: the minimum percent of free space in tablespaces. Once reached, new datafiles are added to tablespaces automatically.

NOTE: The threshold set in the System parameter *Minimum amount of free space in tablespace, megabytes* must be met as well for the file to be added.

- *Minimum amount of free space in tablespace, megabytes*: the minimum number of megabytes of free space in tablespaces. Once reached, new datafiles are added to tablespaces automatically. Note that the threshold set in the System parameter *Min percent of free space in tablespaces* must be met as well for the file to be added

- *Number of report execution attempts in case of ORA errors*: an integer number (4 by default) to define the number of times to re-launch a report if an error from the *Allowed ORA error codes for report execution list* occurs. Once the number is reached, an email with the error is generated to the email address specified in the *Support email* system parameter

- *Password expiry date*: password expiry date of the current user (can be also checked in Administration\Users 158 >> Expiry date)

- *Period between report execution attempts in case of ORA errors (in min.)*: serves to set the timeout between report run and send attempts after receiving an error specified in the parameter *Allowed ORA error codes for report execution.* Note that the time is increased exponentially - for example, if set to *3*, an attempt to resend the report will occur in 3 (3^1), 9 (3^2), 27 (3^3) minutes (in case every previous attempt fails)

- *Prohibit uploading Excel files with formulas (0 - no, 1 - yes)*: the default value is 0. When set to 1, verification is enabled that templates imported in the Administration\Template manager 104 interface do not contain formulas

- *Rate change log, days*: storage period for rate change logs in the System. The default value is 90

- *Rate import analysis keep period, days*: number of days (integer) during which the results of analysis (rate import tasks launched in *Mode: Choice or Auto*) are stored in the System (available tasks can be checked on the bottom grid of the *Rate import* interface by clicking on the *view* hyperlink). The default value is 7. Tasks created older than 7 days from the current date cannot be reviewed. If the parameter is set to 0, it will be possible to check only one last task (once a new one is created all other tasks will become unavailable)

- *Rate import analysis user decision timeout, minutes*: timeout in minutes, the default value is 60. In case a user imported rates in the *Choice* mode and has not confirmed the changes, the task will be in the *waiting* state within the set value. Once the value is reached, the task will be canceled automatically

- *Rate import files retention period, days*: number of days (integer) during which rate import tasks (*Rate import* interface) and files of auto rate import (Administration\Email processing rules 32 >> *Files*) are stored to be shown in the System. Note that the storage period of files is also defined by the cron task located on the server (default: 30 days). To verify the internal value, contact the Alaris technical support team. The period to store files is defined by the minimum of the cron value and the System parameter's value

- *Rate snippet max number of rows*: controls the number of rows that can be displayed in the [RateSnippet] marker (which serves to list the rates in the rate export email body). See also the Alaris YouTube video

- *Ratesheet delivery options (1 - attachment, 2 - link, 3 - attachment and link)*: defines how rate sheet files will be delivered when sent by email. If set to 2 or 3, the rate sheet will be sent twice unless the partner opens the link (the [Link] marker). To include the link in the email body set the [Link] marker in the appropriate template. Note that the template used for the initial sending will be used for repeated sendings, even if the initial one was changed.

- *Report task result storage period, seconds*: the period to store report results to be shown in the web interface (available through the *view* hyperlink in Reports 49). The default value is 172800; it can be overridden on the report level. The minimum value is 60

- *Report task results rows*: the maximum number of rows to be shown in the web interface (available through the *view* hyperlink in Reports 49). The limitation does not affect report exports to Excel/CSV. The default value is 30000; it can be overridden on the report level. The minimum value is 100. Note that it is not possible to set the restriction as 'unlimited'

- *Report task storage period (days to store tasks)*: the number of days to store tasks created in Reports 49. The parameter functions along with the *Report tasks count to store* parameter. The default value is 30. When the value is decreased, the excessive tasks are removed as soon as the system job PRV_CLEANUP_SCHEME runs. The minimum value is 1

- *Report tasks count to sto*re: the number of report tasks created in Reports 49 to be stored. The parameter functions along with the *Report task storage period (days to store tasks)* parameter. The default value is 10000. When the value is decreased, the excessive tasks are removed as soon as the system job PRV_CLEANUP_SCHEME runs. The minimum value is 100

- *Report tasks count to store(per single report)*: the number of tasks within the same report to be stored in Reports 49. The default (and minimum) value is 100. When the value is decreased from a greater value to a lower one, the excessive tasks are removed as soon as the system job PRV_CLEANUP_SCHEME runs

- *Request explicit confirmation when changing routing-related entities (0 - no, 1 - yes)*: when enabled, an extra "Are you sure?" confirmation will be shown whenever the user modifies rules in any of these interfaces: *Buffering rules*, *Routing rules*, *Limitation rules*, *Traffic priority rules*, *Translation rules*

- *Running processes per CPU threshold*: maximum number of processes per core. Used for internal calculation of the possibility to launch simultaneous processes (for example, analytical cube calculation). Fractional values are allowed. The number of concurrent tasks is calculated as *the parameter value*number of cores* on the active database

- *SMS license exceeded*: if set to 1, SMS traffic will be rejected in case of exceeding the allowed monthly volume and in case the System setting *Block traffic exceeding license* is set to 1 as well. The parameter can be modified only by the Alaris technical support team

- *SMS module enabled (1 - enabled, 0 - disabled)*: flag showing if SMS interfaces are available for use. The parameter can be modified by the Alaris technical support team

- *Send rate change notifications as (0 - CC, 1 - BCC, 2 - To)*: allowed values are 0 (send notifications as CC), 1 (send notifications as BCC) and 2 (send them in the *To* field). If set to 0, rate change notifications will be sent to addresses as specified in *Default rate change emails* (Carriers\Agreements 171 interface) as CC. If the *send to partner emails* checkbox is selected for rate export tasks, rate changes are sent to the account manager's email address (in the *CC*, *BCC* or *To* field depending on the setting)

- *Server time offset from GMT*: self-updating parameter that shows the offset of the server timezone from the GMT timezone. For example, if the server timezone is GMT+1, the parameter will be shown as 1. The value is automatically changed for daylight saving timezones
- *Server timezone name*: name of the main platform timezone (for example, Etc/UTC). It also serves as the default value in some interfaces - for example, *In/Out time zone* parameters (Carriers\Agreements 171 interface) while creating an agreement or the *Timezone* field while importing the rates (*Rate import* interface)
- *Show start page watermark*: possible values are 0 (do not show the watermark) and 1 (show the watermark) on the *Start* page. To change the parameter, contact your account manager
- *Support email*: email address of the Alaris support team that some System notification and alarms are sent to (such as errors occurred for recurrent reports)
- *Support end date*: serves for notification about the upcoming support end date. This information is also available at the *Start\License info* page
- *Swap deal expiry date*: license expiration date on the swap management module (see Swap Deals 238)
- *System currency code*: code of the System currency, also shown in Reference books\Currency exchange rates 270. The value can be changed by the Alaris technical support team. Note that restart of the routing module is required to apply the change correctly. Also, exchange rates between the new System currency and the account currencies must be added in Reference books\Currency exchange rates 270
- *System date format*: information field to show which date format (without time) will be used in the System (the format affects dates in exported files except for rate export or financial data; additionally the format is applied to graphics on the *Start* page). Cannot be changed
- *System date/time format*: information field to show which date format (with time) will be used in the System. It must not be changed.
- *System debug mode (true or false)*: specifies whether the debug mode is enabled in the System (*true*) or not (*false*). If set to *true*, additional information will be shown in the *System log (Administration)* report. The parameter is intended for troubleshooting purposes
- *System name*: the System name that is used in header of the web browser. Note that the header is compiled from values specified in the *System owner name* and *System name* parameters
- *Temporary password logins allowed*: the number of allowed login attempts with a temporary password

NOTE: A temporary password is assigned to the user if the regular password was not changed in due time and expired. The user can log in the System with the temporary password and change it to a regular one. If the user fails to create a new regular password and uses up the number of logins specified in this parameter, the access to the System is blocked. The password can be changed at Start\User settings

- *Temporary password valid period (days)*: defines the period of the temporary password expiration. If the period has expired or the number of allowed logins is reached (see above), the password becomes invalid

- *Time full format*: information field to show which full time format (default one) will be used in the System. Must not be changed
- *Time short format*: information field to show which short time format will be used in the System (in case the control structure |*SD* is added - for example, to a rate export column: *Effective till*|*SD*). Must not be changed
- *Truncate non-ASCII characters and spaces for tags*: the default value is 0. When set to 1, the System will truncate blank spaces from the beginning and end of a tag value, non-ASCII symbols (in code range 32-127) and non-printable symbols (such as * * or *{*) while adding a tag. When set to 0, blank spaces and non-ASCII/non-printable characters will not be removed when adding a tag in the *Tags* interface. Note that the option affects the default value of the *Truncate non-ASCII characters and spaces* parameter set during tag import.
- If set to 1 (truncate blank spaces from the beginning and end of a tag value), non-ASCII symbols will be truncated completely when tags are added manually, as will be non-printable symbols and blank spaces (for example, " test", "{test", " test" will be translated into "test"). When set to 0, such symbols will not be removed when adding a tag in the Reference books\Tags 255 interface
- *UI dispatcher IP*: IP address of a server where the web module is installed in order to send update events from database. If the database and web interface are installed on the same server, the parameter must be set to 127.0.0.1. Several IP addresses (comma-separated) are allowed
- *UI dispatcher port*: port through which update events are sent from the database to the web interface. Several ports (comma-separated) are allowed. The default value is 5000
- *User activation period*: the number of days after which the users that have not confirmed their registration on the Partner or Campaign Portal will be removed from the internal DB table and the email address used for registration can be re-used. The default value is 3.
- *Warning threshold for running processes per core*: allowed number of processes per core. The default value is 1.5. In case the current load is greater than the value but lower than *Critical threshold for running processes per core*, a corresponding message will appear once the user launches a task (*Current average load is higher than the threshold and proceeding with the action may overload the System as well as the task will take more time than usual*). Note that only tasks *(EDR recalculation, export of EDR - from the Partner portal, Analytics and EDR export interfaces, export of rates and their generation, report sending and export*) created by users are taken into account
- *Web-server hostname/IP*: web server on which the web interface is installed. Must not be changed by the user
- *Campaign Portal module enabled (1 - enabled, 0 - disabled)*: the parameter serves for enabling Alaris Campaign Portal functionality in the System. Can be modified by the Alaris technical support team

6.7.2 DID inventory

DID inventory

Batch format	YYYY-MM-DD | HH24:MI
Default aging period (days)	0
Last DID checkpoint	2020.08.01 00:27:09
List of TFN prefixes	1800,1888,1877,1866,1855,1844,1833,18...
List of products to check margin in the routing	17709
Use DID/TFN management	1

DID inventory

- *Batch format*: serves to generate the name of the batch (group of DID/TFN numbers) automatically if the *Batch* field is not specified during creation of a record (Number management 575). Markers can be used as well - for example, *YYYY-MM-DD HH24:MI:SS*

- *Default aging period (days)*: the number of days that must pass before the status of the number is set from *Aging* to *Available*. Integer values are allowed. If set to 0 when a record is deassigned, it immediately becomes *Available*. If set to *null* the default value (30 days) is used. Value changes affect the existing aging records - depending on the increase or decrease of the parameter, the aging period is extended or shortened

- *Enable DID financial cubes calculation (0 - disable, 1 - enable)*: allows calculation of SMS DID-based statistics. To enable it, additionally the System parameter *Use DID/TFN management* must be turned on

- *Excluded product names for non-DID markers* (applicable to Alaris SMS Platform only): the parameter serves to specify a list of product name masks (comma-separated, no space, for example, *%2way%,Wholesale*). The parameter is case-sensitive. Products whose names match the mask will be excluded from data calculation in the following markers:

  NoDIDChargeDetNo, NoDIDChargeDetColumn1, NoDIDChargeDetColumn2,

  NoDIDChargeDetColumn3, NoDIDChargeDetColumn4, NoDIDChargeDetColumn5,

  NoDIDChargeDetColumn6, NoDIDChargeDetColumn7, NoDIDChargeDetVolume,

  NoDIDChargeDetRate, NoDIDChargeDetEvent, NoDIDChargeDetAmount,

  NoDIDChargeDetAmountRaw, NoDIDChargeDetVolumeRevSign, NoDIDChargeDetEventRevSign,

  NoDIDChargeDetAmountRevSign, NoDIDChargeDetMCCMNC, NoDIDChargeDetProductDescr,

  NoDIDChargeDetTaxRate, NoDIDChargeDetMonth.

  The feature is useful in cases when a single invoice includes SMS products traffic and MO traffic which is bound to a separate product and it is required to separate the information on these two types of traffic.

- *Last DID checkpoint*: date of the last DID checkpoint (serves for generation of charges)

- *List of TFN prefixes*: the parameter sets the list of toll-free number (TFN) prefixes. Numbers with these prefixes are considered toll-free numbers.

- *List of products to check margin in the routing*: list of products for which margin will be checked during routing. If set to *null*, the margin for termination of DID/TFN SMS will not be calculated. If a vendor product ID is set, the margin will be checked for SMS termination to the vendor product (for both cases DID and TFN margin is calculated as *vendor rate - client rate*). If the margin is negative, the SMS will be blocked

- *Use DID/TFN management*: consider DID/TFN numbers in routing (possible values are 0 - disabled and 1 - enabled). If the functionality is enabled, the routing module performs the following steps:
  - client authorization
  - check if the B-number is in the list of assigned numbers (Number management 575 interface)
  - if the number is in the list and its type is *DID*, the rate search logic is B-number longest match
  - if the number is in the list and its type is *TFN (voice)*, the rate search logic is A-number longest match
  - if the vendor product (to which the number is assigned) is in the *List of products to check margin in the routing,* the margin is calculated. If it is positive or the product is not in the list, the SMS is terminated to the vendor without any further search of vendor products. If the product is in the list and the margin is negative, the SMS is blocked
  - if the number is not in the list, the routing takes place as usual (search of vendor rates, search of suitable vendors in accordance with routing rules etc)

  The parameter must be enabled so that SMS DID financial cubes could be generated (along with the *Enable DID financial cubes calculation (0 - disable, 1 - enable)* parameter).

6.7.3 Data import

⊟ Data import

Auto rate import parallel sessions	2
Auto rate import script config file	null
Default interface for email fetched files (0 - voice, 1 - sms,...	2
Email for auto rate import and mail client alerts	null
Ignore emails older than N hours	0

Data import

- *Auto rate import parallel sessions*: serves to limit the number of simultaneous auto import tasks. The parameter is intended to prevent the System load in case a large amount of emails have been received. Files are processed in the order of their arrival; auto import tasks for the same product will not be launched in parallel. If the parameter is left blank, the allowed number of simultaneous tasks is calculated automatically. See also the Alaris YouTube video
- *Default interface for email fetched files (payments,voice,sms,undefined,no interface)*: the System interface (SMS\Rates\Rate import 420 or Finance\Payments 228) to which the System sends files received for rate import/payments if no rules are found for the email in Administration\Email processing rules 32. If set to *no interface*, the received files without any suitable rules are shown in the *Files* tab of *Email processing rules* only
- *Email for auto rate import and mail client alerts*: email addresses (comma-separated) to send notifications in regard to auto rate import tasks (for example, if an email processing rule was not found or critical errors are found in the file). If set to *null*, alerts are not sent (additionally the list of recipients can be set in Administration\Email processing rules 32 and SMS\Rates\Auto rate import 394 interfaces)

- *Ignore emails older than N hours*: defines how far in the past the fetchmail service will look for unprocessed emails when getting new ones imported. This parameter allows the System to ignore cases when an old email is put into the “unread” folder (for IMAP protocol) or when the email server itself has a problem and does not mark older emails as processed (for POP3 protocol). Fractions of an hour can be used (for example, 0.5 will allow importing mail that is less than 30 minutes old). If set to 0 or null, all emails are processed

6.7.4 Financial module

Financial module

Add taxes to manual charges (0 - no, 1 - yes)	0
Balance alarm threshold #1	100
Balance alarm threshold #2	50
Balance alarm threshold #3	20
Balance alarm threshold #4	0
Balance alarm threshold #5	null
Balance status reset threshold	10
Calculate charge detail amount as volume * rate (0 - no, 1...	0
Charge detail rounding digits (client leg)	2
Charge detail rounding digits (vendor leg)	2
Charge detail rounding function (client leg): 0 - floor, 1 - ro...	1
Charge detail rounding function (vendor leg): 0 - floor, 1 - ...	1
Credit alarm threshold #1, %	70
Credit alarm threshold #2, %	80
Credit alarm threshold #3, %	90
Credit alarm threshold #4, %	100
Credit alarm threshold #5, %	null
Credit and balance alarms default email (null - do not use it)	null

Financial module

- *Add taxes to manual charges (0 - no, 1 - yes)*: when enabled, the tax rate set in Carriers\Agreements 171 is added to manually created charges. The taxes will still be added to invoices and charges that are based on traffic

- *Balance alarm threshold*: defines the minimum amounts (fractional values are allowed) of the client account balance (in the account currency) to trigger an alarm (five thresholds are available; just one threshold may be specified but in this case it must be *Balance alarm threshold #1*). Balance alarms are sent in case of prepaid clients (the *In credit* option is set to 0 in the agreement). Additionally, the account’s option *Send balance alerts* must be enabled. For clients with non-zero credit limit the System setting *Send balance alerts to clients with non zero credit limit (0 - no, 1 - yes)* must also be enabled to receive balance alerts. To enable the same for the vendor side, the System setting *Send balance alerts to vendors with non zero credit limit (0 - no, 1 - yes)* must be enabled. The setting is

System-wide; it is also possible to set the thresholds on the account level. Alerts are sent to the user's email address (if the option *Send alarms* is enabled) specified in the *Account alert emails* field in Carriers\Agreements 171. If the parameters are set to *null*, balance alerts will be sent only in case the thresholds are configured on the account level

- *Balance status reset threshold*: integer value (balance amount, in account currency) that defines a window when balance alerts are not sent. It can be handy when the client's balance is changed constantly. For example, the current balance is 1,000, the reset threshold is set to 20 and the balance threshold is set to 950. Once the balance is lower than 950, the alert will be sent out. In case the balance fluctuates (for example, becomes 960 and then again becomes lower than 950), the alerts will not be sent - they will be sent out again when the reset threshold is reached (for this example the reset threshold is 970 (950+20) - so once the balance reaches 970 and is lower than 950 again, the alert is sent out)
- *Calculate invoice amount as sum of rounded charges (0 - no, 1 - yes)*: the parameter defines the sequence of actions to calculate the invoice amount. If the value is 0 (default value), the values of the charges are first added up and then rounded. For example, suppose the invoice contains the following cost values by country:
  - 74.77739
  - 10.29628
  - 191.39846
  - 78.60825

  Then the total invoice amount (355.08038) will be rounded up to 355.08.

  If the parameter is set to 1, the values are first rounded to two digits (for example, 74.77739 is rounded to 74.78 and 78.60825 is rounded to 78.61) and then the values are added up. The final invoice amount will be 355.09.
- *Charge detail rounding digits (client/vendor leg)*: number of decimal places (integer value) in charge detail amount and invoice amounts (*Estimated amount, Due amount, Tax amount*) for client/vendor side correspondingly. The rounding logic is defined by the *Charge detail rounding function* setting. The default value is 5
- *Charge detail rounding function (client/vendor leg)*: defines the rounding method of the charge amount and invoice amounts (*Estimated amount*, *Due amount*, *Tax amount*) – downward (*floor*), mathematical rounding (*round*) or upward (*ceil*) for the client/vendor side correspondingly. Note that in the invoice PDF document (when using the corresponding markers) the values are rounded according to the System parameter *Default format: numeric (monetary)*
- *Credit alarm threshold #1-#5, %*: defines the minimum amount of the credit provided to a partner (configured in the *In/Out credit* field on the Carriers\Agreements 171) to trigger an alarm (five thresholds are available; just one threshold may be specified but in this case it must be *Credit alarm threshold #1*). If the parameters are set to *null*, the credit alerts will be sent only in case the thresholds are configured on the account level. Alerts for the client side are sent to the user's email address (in case the option *Send alarms* is enabled), *Account alert emails* specified in the agreement, email addresses set in the *Credit and balance alarms default email*, and the email address of the account manager (if the System parameter *Send credit and balance alarms to account manager* is set to 1). Alerts for the vendor side are sent only to the account manager's email and to the *Credit and balance alarms default email* if specified.
- *Credit status reset threshold, %*: defines the minimum amount of balance for credit alarms to be triggered again (it is done to prevent numerous alarms when the client balance is fluctuating

around the limit because of bilateral traffic, increasing a bit above the disconnection point and then dropping below the limit again). Example: suppose the *Credit alarm threshold* is set to 70%, the *Credit status reset threshold* is 5%, and the credit usage fluctuates between 69% and 71%. For the alert to be sent again, the credit usage must first drop to at least 65 percent and then rise to 70 percent.

- *Credit and balance alarms default email (null - do not use it)*: list of email addresses (comma-separated) that receive balance and credit alerts for all accounts that have the *Send balance alerts* flag checked
- *Cross-monthly invoice splitting (0 - no, 1 - yes)*: defines whether invoices with the billing period covering the joint between two months must be split in two separate invoices (for example, when a partner's billing period is set to *Weekly*). Additional configuration can be done on the agreement level. If the agreement's option *Cross-monthly invoice splitting* is set to *Default*, the value from the System settings is used
- *Current invoice number*: defines the index number of the next automatically generated invoice (increases automatically with every invoice generated by the System, i.e. does not count manually created documents). This parameter is used in generation of the invoice reference number. The parameter's value is editable (for example, to start invoice enumeration from the beginning set the parameter to *1*)
- *Default charge grouping mode (1 - separate invoices for client and vendor side; 2 - separate invoices for each product; 3 - separate charges within 1 invoice)*: defines how invoices are grouped if the *Autovalue* flag is checked in the Carriers\Products 180 *Add* or *Edit* tab. Possible values include:
  - *1 - separate invoices for client and vendor side*: traffic details for all products are grouped in one invoice for each traffic direction (client or vendor)
  - *2 – separate invoices for each product*: a separate charge and a separate invoice are issued for each product
  - 3 – *separate charges within one invoice*: a single invoice contains several traffic detail files, one for each charge. For client products the index will be generated in the 0.01-0.99 range, and for vendors in the 1.01-1.99 range. The logic of selecting the next value is as follows: free values from the available range will be used for index generation, starting from the lowest available one. Existing products of the same account and same type whose index is outside the allowed range will not be considered in index generation
- *Default detail comparison match percentage*: default value (in percent) which defines the similarity coefficient between System charges and partner charges. The value will be set automatically to the *Similarity* field (Finance\Charges 211 >> *Show partner details* >> *Compare*) and can be changed every time
- *Dismiss previous years vendor invoices automatically (0 - no, 1 - yes)*: the parameter allows enabling automatic assignment of the *Dismissed* status to draft vendor invoices in order for the invoices to have no effect on account balances. It is disabled by default. When enabled, the status will be automatically assigned for the invoices with the start date before the date specified in the System parameter *The date after which the billing period is considered closed* as soon as the System job FIN_HOURLY_ROUTINES runs
- *Email address list to CC finance-related emails*: defines the additional email addresses for invoice delivery; several comma separated addresses can be specified. The same setting (as well as *Email address list to BCC finance-related emails*) can be specified in Reference books\Contract companies 261 for each contract company individually

- *Finance first (second, third) currency*: text string that defines additional currencies in which invoices and charges can be calculated (normally they are displayed in the account currency). Examples: USD, EUR etc. The parameters are used for calculation of financial cubes in different currencies with the use of invoice markers (for example, [EstimatedAmountIn<currency_code>]). Note that the conversion will take place as of the date specified in the System parameter *Invoice currency rate date* in case the System parameter *Invoice estimated account currency conversion method* is set to *2* (otherwise it will be calculated on a daily basis). The default value for the first currency is the System currency (cannot be changed from the web interface and cannot be set to null). The default value for the second/third currency is null.

NOTE: After you configure the currencies in *Finance first (second, third) currency*, perform EDR rerating (see SMS\EDR management\EDR Rerating 384) and invoice recalculation (see Finance\Invoices\Editing invoices 223) for the appropriate period, otherwise all amounts in the *Charges* table will be zero. Before invoice recalculation, check that the respective financial cubes have been updated (refer to Reports\SMS Analytical cube status 321 for the information).

- *Force generate invoices after, hours*: integer value that specifies the timeout after which invoices will be generated at the end of the billing period. The parameter serves to generate invoices even if corresponding cubes have not been calculated yet

- *Generate reference code for outbound invoices (0 - no, 1 - yes)*: specifies if the reference number of invoices and credit notes should be generated for the vendor side. The default value is 0 (do not generate). In case the option is set to 1 (enabled), the number for invoices will be generated based on *Invoice reference number format (outbound)* of the corresponding contract company (Reference books\Contract companies 261). If the parameter is not set, the format is taken from the *Invoice reference number format (inbound)* parameter (of the same contract company as well). If none of the parameters are specified, the value is taken from the System parameter *Invoice reference number format*. The format for credit notes is generated based on *Credit-note reference number format (outbound)* (Reference books\Contract companies 261) of the carrier's contract company if specified, otherwise - from *Invoice reference number format (outbound)* of the same contract company as well. If both parameters are not set, *Invoice reference number format (inbound)* of the same contract company is used. If none of the parameters are set, the System setting *Invoice reference number format* is used for the number generation

- *Global minimum vendor invoice amount, Global minimum client invoice amount*: the parameters set the invoice amount threshold (in account currency) for client/vendor directions correspondingly (fractional values are allowed). If the charge for a billing period (in absolute values - that is, *-1* is treated as *1* for comparison) is lower than the value, no invoice will be generated. The amount still affects the balance and is shown in the *Transaction history* reports in the Reports 282 interface. If set to *null*, no threshold is applied (except for *In/Out minimum invoice amount* on the agreement level). If set to 0, financial documents with zero amount can be generated

- *Invoice auto-dispatch delay, hours (null - auto confirmation and dispatch is off)*: when the value is a positive integer, all invoices are confirmed and sent to client side automatically with the delay specified in the parameter. Note that the dispatch is launched according to the System job FIN_HOURLY_ROUTINES. When the value is *null*, all created invoices must be confirmed and dispatched manually

- *Invoice currency rate date (1 - issue date, 2 - period end date, 3 - period start date)*: the parameter defines the date as of which the currency exchange rate (Reference books\Currency exchange rates 270) must be taken to replace markers that show amounts in a currency different from the account currency (for example, [EstimatedAmountIn<currency_code>])

- *Invoice delivery options (1 - attachment, 2 - link, 3 - separate emails, 4 - attachment + links, 0 - do not send)*: defines the way invoices and the traffic details summary are sent. Links are replaced with the markers [DocumentLink] and [DetailsLink] (can be set in Administration\Template manager 104 >> *Invoice letter* template).

NOTE: If the value 2 (link) is selected, the email will be resent twice every three days (or until the recipient clicks on the link - in which case the invoice status will change to *Delivered*). The template used for the initial sending will be used for repeated sendings, even if the initial one was changed.

- *Invoice details filename pattern*: defines the file name format of the file with the traffic details summary (for example, [CompanyName]_[InvoiceDate]_[Details].pdf). The parameter also supports other markers. A different format can be set on the contract company level (Reference books\Contract companies 261 >> *Invoice details filename pattern*)

- *Invoice due date based on (0 - issue date, 1 - registration date)*: the parameter defines the date based on which the invoice due date is calculated. The default it is the issue date (0). If the parameter is set to 1, the calculation is based on the registration date

- *Invoice estimated amount currency conversion method (1 - floating rate, 2 - single rate according to parameter)*: defines the method of invoice amount calculation in case the currency exchange rate must be applied (when a marker for invoice amount in a currency other than the account currency is used - for example, [EstimatedAmountIn<currency_code>]). If set to 1, the exchange rate is taken on daily basis to calculate corresponding financial cubes. If set to 2, the currency exchange rate is static and taken as of the date defined in *Invoice currency rate date*
- *Invoice filename pattern*: defines the format of the invoice file name (for example, [CompanyName]_[InvoiceDate].pdf). The parameter supports markers. Additional configuration can be performed on the contract company level (Reference books\Contract companies 261 >> *Invoice filename pattern*)

- *Invoice generation delay, hours*: period to delay invoice generation after the invoicing period ends – this is done to make sure that all the late EDRs for that period successfully hit the System before the invoice is generated. The default value is 3. Note that the delay is applied to the date of the last change of the usage (a usage is an internal entity on which financial data for charges are based). Integer values are allowed. If set to *null*, invoices will be generated without any delay once the cubes are ready (can be checked in the report *SMS analytical cube status (Administration))*

- *Invoice issue date option (1 - last day of current billing period, 2 – first day of next billing period)*: defines the date of invoice issue

- *Invoice presented amount includes tax (1 - yes, 0 - no)*: defines whether the amount due according to partner estimation includes tax. If set to 0 and the *Amount source* of an invoice is *Amount presented by partner*, *Due amount* is calculated as *Presented amount+taxes*. If set to 1 and the *Amount source* of an invoice is *Amount presented by partner*, *Presented amount* will be used as it is

- *Invoice reference number format*: defines the format of the invoice reference number. The parameter supports all alphabetical and numeric values. The following markers can also be used here:

  - [XXXX] (the number of X's can vary) – placeholder for the value from the *Current invoice number* parameter. The number of X's stands for the amount of digits to display. For example, if the *Current invoice number* is set to *123* and the *Invoice reference number format* parameter is set to [XXXXX] (five X's) - the reference number of the next generated invoice will be *00123*

  - [CAR_ID] – ID of the partner Carrier record

- [AGR_CODE] – code of the partner's agreement (defined by the mandatory field *Agreement code* of *Carriers\Agreements* 171)
- [YYYYMMDD] or [YYMMDD] – the invoice generation date (displayed in the *Created* column of the *Finance\Invoices* 217 page)
- [PARAMX] - where X is the ID of a custom parameter defined in Administration\Custom parameter types 30

Additional configuration can be done on the contract company level (Reference books\Contract companies 261 >> *Invoice reference number format*)

- *Limit mapping to the specific documents of the same billing period (0 - no, 1 - all, 2 - map to invoices, exclude payments)*: when the value is 1, automatic mapping is performed only for documents belonging to the same billing period; automatic mapping for payments takes place irrespective of the period. When the value is 2, payments are excluded from automatic mapping operations but can be mapped manually; only invoices of the same billing period are mapped
- *Min absolute mismatch to invoke a dispute:* the minimum absolute difference between the System owner's and partner's invoice amounts to start a dispute (*Presented amount* and *Due amount*). Note that both of these thresholds must be exceeded to change the invoice status to *Disputed*. In case one of the parameters is set to *null*, only the other one will be taken into account for assignment of the *Disputed* status. In case both parameters are null, the invoice status can be set to *Disputed* only manually. It is also possible to set the thresholds on the agreement level
- *Min percent mismatch to invoke a dispute*: same as above, but checking the relative difference (in per cent). Both of these parameters should be surpassed to change the invoice status to *Disputed*
- *Notification period of deferred payments coming due, days*: the number of days for notifying a partner about the expiry of a draft payment - one that is created with the disabled *Confirmed payment* checkbox (see Finance\Payments\Payments table 228 for more details on draft payments). The email addresses are set in Carriers\Agreements 171 (*Default invoice emails* field)
- *Open financial period, days*: defines the period in days within which financial data can be changed in the past (starting from the current date). For example, if the parameter is set to 30 and EDR rerating is performed for a period later than a month ago, it will have no effect on financial data (balance, existing invoices, etc.)
- *Request delivery receipt for invoices (0 - no, 1 - yes)*: when enabled, emails with invoices will require confirmation of receipt. Note that the *Disposition-Notification-To* header is used for confirmation sending (supported by MS Outlook). The confirmations are sent to the email address from which the invoice was received. See also the Alaris YouTube video
- *Scoring (Credibility), Scoring (Payment stability), Scoring (Subjective estimation), Scoring (Traffic volume stability)*: defines the weight of partner's estimation index – a bigger value in the field means more weight of this parameter among others. Credibility is an index of the partner's due diligence, automatically calculated based on the partner's payment stability, subjective estimation, credit limit (Carriers\Agreements 171) and traffic volume stability
- *Send balance alerts to clients with non-zero credit limit (0 - no, 1 - yes)*: defines whether balance alerts must be sent to client accounts having a credit limit (Carriers\Agreements 171 >> *In credit limit*). The thresholds for balance alert sending must be configured either in the System settings parameter *Balance alarm threshold #1-#5* or in the similar parameter on the Carriers\Accounts 168 page
- *Send balance alerts to vendors with non zero credit limit (0 - no, 1 - yes)*: defines whether balance alerts must be sent to vendor accounts having a credit limit (Carriers\Agreements 171,

Out credit limit). The thresholds for balance alert sending must be configured either in the System parameter *Balance alarm threshold* #1-#5 or in the similar parameter in Carriers\Accounts 168

- *Send credit and balance alarms to account manager (0 - no, 1 - yes):* defines whether credit/balance alarms are sent to the client account manager on the System owner's side (to the address indicated in the *Email* field in the account manager's user record on the Administration\Users 158 page)
- *Send credit and balance alarms to customer (0 - no, 1 - yes)*: defines whether credit/balance alarms are to be sent to the partners (to the addresses indicated in the *Account alert emails* field in the Carriers\Agreements 171. Note that the System parameter has priority over *Send balance alerts* on the account level - even if the account setting is enabled, but the System setting is disabled (set to 0), the alerts will not be sent to clients
- *Send disputed letter*: possible values include 0 (logic is disabled, default value) and 1 (enabled). When enabled, emails are sent out in the format according to the *Disputed letter* template, given that the vendor invoice (*Direction: From partner*) has been registered and has the *Disputed* or *Disputed (manual)* status
- *Send notifications of deferred payments coming due to client (1 – yes, 0 - no)*: defines whether to notify partners about the expiry of draft (non-confirmed) payments (see Finance\Payments\Payments table 228 for more details on draft payments). The email addresses are set in Carriers\Agreements 171 (*Default invoice emails* field). If the option is enabled, the notification sending period is defined in the parameter *Notification period of deferred payments coming due, days*. If set to 0, the notifications are sent to the account managers' emails (if any)
- *Send payment confirmation to partner (0 - do not send, 1 - send to account alert emails, 2 - send to default invoice emails)*: specify to which recipients payment confirmation must be sent. The *account alert* and *default invoice* email addresses are configured in respective fields in Carriers\Agreements 171. If the option is enabled, the notification sending period is defined in the parameter *Notification period of deferred payments coming due, days*
- *Skip checking rerating tasks before invoice generation (1 - skip, 0 - do not skip)*: specifies whether EDR rerating tasks must be ignored for invoice generation. If set to 0 and there are rerating tasks that affect the invoice billing period, the invoice will not be generated until the tasks are complete
- *Suggest making documents mapping by default (1 – yes, 0 - no)*: when the parameter is set to 1, the *Make auto mapping flag* in the *Edit invoice form* is checked by default
- *System owner name*: name of the System owner. The name affects the value of the marker [SystemOwnerName]. Additionally, the name is shown as the header of tabs opened in the browser (the main web interface) and as the name for REST API (for example, Alaris REST API)
- *The date after which the billing period is considered closed*: a date after which the period is considered closed and financial data for the period cannot be modified. The format must coincide with the date format (for example: 01.01.2020 or 2020.01.01). The following procedures are affected by the no-modification functionality:
    - EDR recalculation
    - editing/removal of charges and payments for closed periods
    - registration of payments for a closed period
    - editing of invoices except for draft invoices (there is a possibility to change the status to *Confirmed/Registered/Sent* or *Dismissed/Forgotten)* and dismissed/disputed invoices (any

parameter can be modified given that the registration date is set in an open period). The date is defined based on the *Start date* parameter

- mapping if both documents are in a closed period (if one of them is in an open period and the other in a closed one, mapping is allowed)
- adding of charges unless they are corrections to invoices (that is, the *Start date* of the correction is set to a date in an open period)

- *Unconditional invoice dispute threshold*: the minimum absolute difference between the System owner's and partner's invoice amounts to start a dispute, regardless of the parameter *Min absolute mismatch to invoke a dispute*. If set to *null*, the parameter is not used. Additionally the threshold can be set on the agreement level
- *Zip traffic details when sent to e-mail (0 - no, 1 - yes)*: defines whether the traffic detail files attached to the e-mails sent by the System are archived. Note if several traffic detail files are formed, they are archived regardless the parameter value

6.7.5 General data protection regulation

⊟ General Data Protection Regulation

Ignore message texts for customer channels (comma sep...	null
Wipe SMS contents after, days	50
Wipe personal data after, days of inactivity	30

General data protection regulation

- *Ignore message texts for customer channels (comma separated ID list)*: the parameter serves to specify the list of client channels for which no text EDRs will be written. It means that the text of messages received from these channels will not be saved to the System. Applicable to both MO and MT traffic types. If a vendor channel ID is set (as well as any dummy IDs or non-valid values), it will be ignored by the SMS switch. Up to 2000 bytes can be specified. The allowed format is space-separated, comma-separated or space+comma-separated, for example: 23317 25370 23897 or 23317, 25370, 23897
- *Wipe SMS contents after, days:* number of days (positive integer) after which SMS texts will be wiped. The default value is 0 (the functionality is disabled). In case the functionality is enabled, the System job will be launched every day and texts of messages with timestamps older than the specified value will be removed
- *Wipe personal data after, days of inactivity*: number of days (positive integer) after which all personal user data will be wiped. The default value is 0 (the functionality is disabled). In case of enabled functionality, the data is wiped based on a job which is launched once a day. Suppose the parameter is set to 50 days. Once the job is launched, the following data will be replaced by the *Info wiped by EU GDPR law* record:
  - contact emails (*Default invoice emails*, *Default rate change emails*, *Default technical emails, Account alert emails*) from Carriers\Agreements 171 for all agreements that were closed more than 50 days ago (*End date* field)
  - *First name*, *Last name*, *Email* fields from the *Contacts* section (except for *Zip code*) from Administration\Users 158 in case the user’s carrier has no active agreements and all past agreements were closed more than 50 days ago. See also the Alaris YouTube video

6.7.6 HLR analytics

HLR analytics

Analytics first currency	EUR
Day cube partition count	200
HLR statistics telescopic mode	0
Hour cube partition count	300
List of products which margin is set to 0 in analytics	null
Minute cube partition count	180
Month cube partition count	24
Recalculate current day stats at, hours (0-23, 1-fold)	null
Recalculate current hour stats at, mins (0-50, 10-fold)	null
Stats calculation delay, minutes (day)	45
Stats calculation delay, minutes (hour minor)	90
Stats calculation delay, minutes (hour)	3
Stats calculation delay, minutes (min)	2
Stats calculation delay, minutes (month)	1300
Stats calculation delay, minutes (week)	300

HLR analytics

- *Analytics first currency*: currency used in MNP server\MNP analytics 568 (can be different from the System currency) for columns like *Margin*, *Revenue*, *Vendor cost*. The parameter can be changed by the Alaris technical support team. Note that cube recalculation is required to apply the change. The exchange rate must be defined in the Reference books\Currency exchange rates 270 interface
- *Day cube partition count*: number of daily cubes stored in the System; in other words, a period of time (in days) during which the System retains aggregated statistics arranged by daily cubes. Since increasing the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 200
- *HLR statistics telescopic mode*: when enabled (the value is 1), the interface shows:
  - the past two hours (current and previous) calculated using minute cubes
  - the current day calculated using hour cubes plus the past two hours calculated using minute cubes on the fly
  - the current month calculated using daily cubes; the current day of the month is calculated using hour cubes
  - the current year is calculated based on the underlying cubes: full month cubes, full daily cubes, full hour cubes. The rest of the data is gathered from minute cubes. For example, today is 03.10.2022 05:30 and the year layer is selected. The calculation logic will use:
    - full monthly cubes (01.01.2022, 02.01.2022)
    - full daily cubes (from 03.01.2022 00:00 till 03.10.2022 00:00)
    - full hour cubes for the current day (03.10.2022 00:00-03.10.2022 05:00)
    - minute cubes (03.10.2022 05:00-03.10.2022 05:30)

- *Hour cube partition count*: number of hourly cubes stored in the System; in other words, a period of time (in hours) during which the System retains aggregated statistics arranged by hourly cubes. Since increasing the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 1512
- *List of products which margin is set to 0 in analytics*: ID of HLR products (comma-separated – 2,000 symbols are allowed) that must be excluded from margin analysis (their margin is displayed as 0 in MNP server\MNP analytics 568). This parameter is used when the rates must be ignored in analytics. In order to apply the changed parameter to processed traffic, analytical cubes must be recalculated
- *Minute cube partition count*: number of minute cubes stored in the System; in other words, a period of time (in minutes) during which the System retains aggregated statistics arranged by minute cubes. Since increasing the parameter requires additional server space (in databases), it can be modified only by the Alaris technical support team. The default value is 300
- *Month cube partition count*: number of monthly cubes stored in the System; in other words, a period of time (in months) during which the System retains aggregated statistics arranged by monthly cubes. Since increasing the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 24
- *Recalculate current day stats at, hours (0-23, 1-fold)*: forced recalculation of day statistics at the specified hour (valid values are integers from 0 to 23). Several values can be specified (comma-separated), e.g.: 1,15,22 (daily cubes will be recalculated every day at 01:00, 15:00, 22:00 irrespective of the calculation threshold). In case null is specified, cube recalculation will happen every time when the Stats calculation threshold (EDR/day) is reached
- *Recalculate current hour stats at, mins (0-50, 10-fold)*: forced recalculation of hour statistics at the specified minute of the hour (valid values are 0, 10, 20, 30, 40 or 50). Several values can be specified (comma-separated), e.g.: 10,50 (hourly cubes will be recalculated every hour on 10th and 50th minutes irrespective of the calculation threshold). In case null is specified, cube recalculation will happen once the Stats calculation threshold (EDR/hour) is reached
- *Stats calculation delay, minutes (day/hour/min/month/week/year)*: the delays configured for each time increment (minute, hour, day, week, month and year) to allow statistics calculation even if the thresholds configured in *Stats calculation threshold* settings for corresponding type of cubes have not been reached. For example, the value 45 in the parameter *Stats calculation delay, minutes (day)* means that the statistics for a daily cube will be calculated in 45 minutes after HLR EDR import for the day takes place even if the value of *Stats calculation threshold (EDR/day)* is not reached. Note that it is not recommended to decrease the values without consulting the Alaris technical support team first since it leads to almost constant recalculation of the same data (in case of increase, the cubes may be calculated too slowly and the data will not be shown in the MNP server\MNP analytics 568 interface). Additionally please note that all values are calculated automatically based on daily traffic volume (if the setting *Auto threshold calculation* is set to 1)
- *Stats calculation threshold (EDR/day; EDR/hour; EDR/min; EDR/month; EDR/week;EDR/year)*: number of HLR EDRs per day/hour/minute/month/year necessary to launch the next cube recalculation. For example, if the parameter *Stats calculation threshold (EDR/day)* is set to 100, the corresponding daily cube will be recalculated as soon as more than 100 new HLR EDRs are imported for this day
- *Stats calculation delay, minutes (hour minor)* and *Stats calculation minor threshold (EDR/hour)* are intended to decrease the number of hour cube recalculations (for example caused by late delivery reports). An hour cube will be placed to queue for recalculation:

a. after the period set in the parameter *Stats calculation delay, minutes (hour minor)* if the number of newly inserted HLR EDRs is less than *Stats calculation minor threshold (EDR/hour)*

b. after the period set in *Stats calculation delay, minutes (hour)* if the number of newly inserted HLR EDRs is greater than *Stats calculation minor threshold (EDR/hour)* but less than *Stats calculation threshold (EDR/hour)*

c. immediately if the number of newly inserted HLR EDRs is greater than *Stats calculation threshold (EDR/hour)*

If *Auto threshold calculation* is set to 1, *Stats calculation minor threshold (EDR/hour)* is calculated as *Stats calculation threshold (EDR/hour)* / 50.

- *Week cube partition count*: number of weekly cubes stored in the System; in other words, a period (in weeks) during which the System retains aggregated statistics arranged by weekly cubes. Since increasing the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 40

- *Year cube partition count*: number of years for storage of year cubes; the default value is 10

6.7.7 Portals

⊟ Portals

Allow Partner Portal users to edit POI (1 - yes, 0 - no)	1
Allow portals user self-registration (0 - no, 1 - yes)	1
Auto generate non-expiring token on user registration (0 - ...	1
Available currencies (null - All)	null
Available product IDs (null - All)	null
CDR download file column set (1 - system default, 2 - San...	1
Campaign Portal URL	https://retailcl.test35-de.int.alarislabs.com/
Campaign Portal carrier name prefix (used if company na...	Retail client

Portals

- *Allow portals user self-registration (0 - no, 1 - yes)*: defines whether Partner Portal or Campaign Portal users can create their accounts themselves or new user registration is only performed by the System Owner. Note that the registration button is available for the Partner Portal in case the System setting *Partner Portal access mode (1 - read/write, 2 - read only)* is set to 1

- *Allow Partner Portal users to edit POI (1 - yes, 0 - no)*: defines whether Partner Portal users can create and edit their POIs

- *Auto generate non-expiring token on user registration (0 - no, 1 - yes)*: if set to 1, a token with infinite lifetime (expiry date is set to 2100) is generated for a user, once the user confirms the registration through the link. The same token value will be applied when a user is created with the help of the *Create Campaign Portal client* button of the main web interface. The default token value is 2 hours and can be changed in the *API connections\Tokens* section of the Campaign Portal

- *Available currencies (null – All)*: comma-separated list of currency codes defined in the System, which will be available in the Partner Portals (including Alaris Campaign Portal) for new partner account creation. Note that the currency codes can be found in Reference books\Currency exchange rates 270. If set to *null*, all currencies are available

- *Available product IDs (null – All)*: comma-separated list of client products belonging to the System owner that will be available as parent products in the Partner Portal for new partner product creation and in the Alaris Campaign Portal as available rate plans (applicable to assignment of a rate plan from the System as well). If set to *null*, all possible products are available. If the parameter contains a non-existing product ID, no product will be available for product creation/rate plan assignment in the Portals correspondingly

- *Campaign status change notification emails*: list of email addresses (comma-separated) where notifications of campaign status change (*Paused*, *Canceled*, *Completed* or *Failed*) will be sent. The texts of the notifications are defined in the following templates (Administration\Template manager 104): *SMS campaign fail threshold letter*, *SMS campaign failed messages resend notification*, *SMS campaign resuming notification*, *SMS campaign start letter*, *SMS campaign status change letter*

- *Partner and Campaign Portal default in billing period*: the billing period for a client registered at the Campaign or Partner Portal. The default value is *Weekly*; possible values are: *Daily*, *Every 3 days*, *Twice a week (Mon & Thu)*, *Weekly*, *Weekly (non-calendar)*, *Every 10 days*, *Twice a month (1st & 16th)*, *Monthly*, *Every 2 months*, *Every 3 months*, *Every 4 months*

- *Credit limit for new Campaign Portal clients*: the parameter allows configuring the predefined credit limit (Carriers\Agreements 171 >> *In credit limit*) for Alaris Campaign Portal users (integer values are allowed). Note that it is also possible to specify the credit limit on the contract company level (which has priority over the System setting) in Reference Books\Contract companies 261. Decimal values are allowed in the interface. Note that the value is rounded down to 2 decimal places if more than 2 places are specified

- *Default SMS channel NPI*, *Default SMS channel TON*, *Default SMS channel address range*, *Default SMS channel port*, *Default SMS channel system type*: parameters for SMS channel creation using the Partner Portal. Values entered in these fields will be default settings for the newly created channels. The *null* value means that no default value is specified. Note that if an incorrect value is specified, the SMS channel may be created with incorrect parameters which may lead to traffic rejection

- *Default SMS rate plan (Product ID) for new Campaign Portal clients (null - do not add rate plan). Several IDs for different currencies can be set separated by comma*: the parameter defines the rate plans (parent product IDs in different currencies) which will be assigned to partners in Alaris Campaign Portal when their registration is completed. Note that a product ID specified here must be specified in the *Available product IDs (null - All)* parameter (if set to a value other than null)

- *Default account manager user ID*: ID of the user belonging to the System owner that will be appointed as the account manager for all new self-subscribed clients at the Partner Portals. If set to *null*, no account manager is assigned

- *Default long message split mode. Allowed values: split, split_sar, payload, cut*: defines how long messages are treated by default when they are sent from Alaris Campaign Portal. Possible values are: *split* - split message into several messages with UDH, *split_sar* - split the message using SAR TLV fields; *payload* - send long texts in a dedicated optional field (message_payload) that can contain up to 64kb (some vendors may not support it); *cut* - trim the message to 140 bytes. Note that the default value can be changed during message sending (*Dashboard* page in Alaris Campaign Portal)

- *Display data in the timezone from the agreement (0 - System timezone, 1 - Partner timezone)*: allows displaying data in the Partner Portal in the partner or System timezone, respectively. Also, if set to 1, the statistics will be built on hourly analytical cubes, otherwise - on daily cubes. The parameter affects the display of rates and statistics, including EDRs. Please note that invoices are always displayed in the partner's time zone, and payments are always displayed in the System time zone.

- *Duplicate dest.number import merge type (1 - ignore duplicates, 2 - update number tags only, 3 - update tags and contact data, 4 - add duplicates separately)*: defines the behavior for import of contacts in Alaris Campaign Portal when processing duplicate DNIS entries. Possible values are:
  - 1 – ignore duplicates without uploading them
  - 2 – update number tags only (new tags will be added to an existing contact entity keeping old data field values like *First/Last name*, *Comments*, etc.)
  - 3 – update tags and contact data (new tags will be added to an existing contact entity overriding old data field values)
  - 4 – add duplicates as separate records
- *E.164 number pattern (POSIX format)*: a regular expression that affects contact import operations in the Alaris Campaign Portal: records containing non-matching destination addresses will be treated as incorrect and rejected. For example, the record ^[0-9]*$ allows only numeric destination addresses, the pattern ^[0-9]{5,11}$ allows only numeric numbers with length of 5 to 11 digits, and the pattern ^\d+(,\d+)*$ allows comma-separated numbers. Additionally it serves to verify numbers inserted to the *Recipient* field of Alaris Campaign Portal - if the verification is successful, the field will be highlighted in green. The setting is intended to verify destination numbers from the web interface side.
- *E.164 number pattern (java format)*: a regular expression (java format) that specifies a pattern of destination addresses allowed during message sending. For example, the expression \p{Digit}{5,11} will result in accepting only numeric values with the length of 5 to 11 digits. The default value is .* which accepts all destination addresses. The setting is intended to verify destination numbers from the Campaign Portal module (Restman) side.
- *EDR export record count limit*: maximum number of EDRs that can be exported in a single session. The default value is 10000. Note that an increase of the parameter may slow down operation of the System
- *Emails to send errors of payment registration*: the email for sending any payment confirmation error notifications (for Authorize.net, PayPal etc.). If set to *null*, no emails are sent
- *Enable 2FA for portals (0 - no, 1 - yes)*: allows two-factor authentication (2FA) for the Campaign Portal and Partner Portal. When enabled:
  - Self-registered users are created with the *Enable two factor authentication* flag activated
  - Users created by the System owner will receive an email using the new template *2FA enabled for Partner\Campaign portal account*

NOTE: 2FA can be disabled at the user level even when the System setting is enabled.

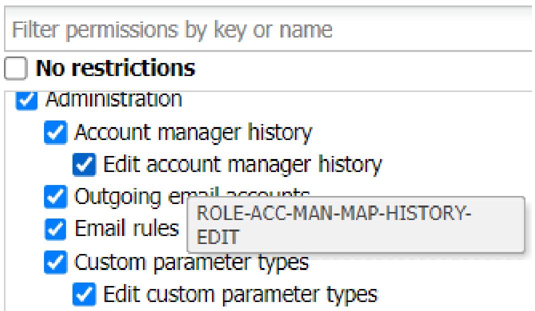
- *Hide successful columns in SMS statistics* (applicable to Partner Portal only): controls the display of successful message columns (on the *SMS statistics* tab: *Successful*, *Successful segments*, *Others*). Possible values 0 (do not hide) and 1 (hide)
- *Infrastructure POI IPs (comma separated)*: IP addresses of the System owner’s internal network. The parameter is intended for creation of additional POIs with the specified IPs. Once a POI is created in the client portal, additional POIs are created with the same parameters except for the IP address
- *Initial payment for new Campaign Portal clients*: the amount that is automatically added to the balance of a newly registered user (decimal places can be used). Note that the same parameter on

the contract company level (Reference books\Contract companies 261) has priority over the System parameter

- *Invalid sender ID error message*: an error message that appears in Alaris Campaign Portal if the Sender ID value does not match the regular expression set in the parameter *Sender ID pattern.* JSON format can be used, for example: *{"en":"Invalid Sender ID", "es":"ID de remitente no válido"}*

- *Limit CDR/EDR export, days*: the maximum period (in days) for which EDRs can be exported from the Partner Portal. The default value is 7 days. The same number of days will be selected by default while creating an export task. If the range is extended, the following warning will be shown: "Please select period no longer than n days where n is the setting's value"

- *List of roles for newly registered users*: list of roles (comma-separated) for self-registered Alaris Campaign Portal and Partner Portal users. The parameter contains internal codes as values (database names and not web interface names) which can be found hovering over the name of the permission as illustrated below. In case of any issue, contact the Alaris technical support team to change the parameter's value



Database permission names

- *MO matching window frame, min*: serves to define a timeout for matching user response (MO) to an MT message sent from Alaris Campaign Portal (single message or campaign). The default value is 5 (minutes) which means that if an MO message is sent within 5 minutes, the MT and MO messages are matched and the user response is shown in the Alaris Campaign Portal statistics tab. The match also takes place based on the sender ID and destination address (the MO message destination address must be the same as the MT message sender ID; the MO message sender ID must be equal to the MT message destination address). Decimal values are allowed. See also the Alaris YouTube video

- *Mandatory Partner Portal user positions (comma separated)*: the parameter is intended to specify obligatory user positions that must be configured in the Partner Portal. For example, if the parameter contains *Rates,Billing,NOC* - these roles will be required for setting in the Partner Portal. This parameter comes instrumental in distributing tasks – as users in these positions will receive notifications on respective System events such as sending of rates, invoices etc.

- *Max client products per carrier (null - unlimited)*: maximum allowed number of products configured in the Partner Portal and Alaris Campaign Portal. If set to null, the number is not limited

- *Maximum number of DB sessions for Partner Portal*: an integer value that defines how many simultaneous requests can be sent to the database from the web interface of the Partner Portal

- *Message limit for Campaign Portal campaigns*: average number of messages per second that are sent within a campaign. The limit is intended to prevent clients from any negative effect when another client is sending a large campaign. The default value is 300

- *Number of parallel threads for EDR export tasks in Campaign Portal*: the maximum number (integer) of simultaneous threads per one EDR export task launched from Alaris Campaign Portal

- *Number of parallel threads for REST API CDR\EDR export tasks*: the number of intervals to break down large EDR export tasks to subtasks. The parameter is intended to optimize export tasks from Alaris Campaign Portal, the Partner Portal and REST API as well, given that the tasks are created for more than a day. The default value is 10. The optimization is applied together with the *REST API CDR\EDR export process count* parameter

- *Number of parallel threads for sms dispatch in Campaign Portal*: integer number of simultaneous threads that can be created during campaign sending from Alaris Campaign Portal. The value is recommended to be set from N to N*2, where N is the number of processor cores. It is suggested that the parameter has a greater value if a small amount of simultaneous campaigns is run but the volume of messages is high. If there are a lot of simultaneous campaigns, the parameter is recommended to be set to a lower value. Note that a batch of 100 messages is processed by a single thread

- *Poi IP mask to hide in Partner Portal (null - show all)*: subnet of IP addresses that should not be displayed at the Partner Portal. For example, the setting can be specified as 1.2.3.*|12.34.56.67|3.2.* The POI with the IP address 12.34.56.67 will not be shown in the portal as well as any POI which address starting either with 1.2.3 or with 3.2. If set to null, POIs with any IP addresses are shown

- *REST API CDR\EDR export process count*: the number of EDR export tasks that can be processed simultaneously. The default value is 0 (tasks are processed consecutively). The parameter works with the *Number of parallel threads for REST API CDR\EDR export tasks* parameter

- *Register external payments as drafts* - when enabled, new payments made in the Wholesale Portal/623Partner Portal632 and Alaris Campaign Portal583 through payment systems are registered as drafts. In this way, the new payment does not affect the client balance (*Expiry date* is set as the next day), and can be confirmed by the user of the main System interface before it affects the balance. If the option is disabled (0 - default behavior), payments are created with the *Confirmed* status. See also the Alaris YouTube video

- *Segment billing mode for new Campaign Portal clients (1-5)*: serves to set the SMS billing mode for all contract companies. See also the Alaris YouTube video.   Possible values include:

  - *1 - Bill by messages, exclude vendors with segment billing*
  - *2 - Bill by messages, include vendors with segment billing*
  - *3 - Bill by segments, calculate routing rate by message*
  - *4 - Bill and calculate routing rates by segments*
  - *5 - Bill by messages/segments depending on vendor mode*

NOTE: Additionally the billing mode can be set on the contract company level (Reference books\Contract companies261), which has a priority over the System setting. This parameter is used only in case the Campaign Portal user subscribes to an SMS pack. When the user subscribes to a specific rate plan, the billing mode is inherited from the respective parent product. See also the Alaris YouTube video.

- *Send portals notifications to (null - don't send)*: email address to send email notifications when a new user or partner POI is created, or a payment is made through the Partner Portal or Alaris Campaign Portal. If set to *null*, notifications are not sent

- *Sender ID pattern*: a regular expression that defines the format of the *Sender ID* field in Alaris Campaign Portal. For example, if the parameter is set to *^[a-zA-Z0-9]{10}$*, 10-symbol alphanumeric senders will be allowed (for message sending use *Dashboard* page, for campaign sending use the *Campaigns* page, for template creation use the *Templates* page).

NOTE: The user can configure the error message shown if the *Sender ID* value does not match the preset regular expression. For that purpose, use the parameter *Invalid sender ID error message*.

- *Show fully paid invoices (0 – no; 1 – yes)*: defines whether the invoices settled by a partner should be displayed in the portals (not shown by default). Unsettled (not paid in full) invoices are always displayed
- *Show vendor product in the Partner Portal (0 - no, 1 - yes)*: the parameter controls the display of vendor products in the Partner Portal. The option is enabled by default
- *Spare database connection waiting timeout*: defines the keep alive time for the requests from the Partner Portal GUI to the database if the *Maximum number of simultaneous connections to database* is exceeded. The default value is 15
- *Use temporary files for CDR-export to reduce REDO-generation*: possible values are 0 (do not use - default behavior) and 1 (optimized memory usage for portal exports). When disabled, the exported period is broken down into several parts and a data table is created for each part. This can take up a lot of space in case of frequent export of large data amounts. To optimize the consumption and create temporary tables for such exports, the parameter must be set to 1
- *Partner Portal URL*: web address of the Partner 632 or Wholesale Portal 623
- *Partner Portal access mode (1 - read/write, 2 - read only)*: defines access permissions to the Wholesale 623 and Partner Portals 632. The *Write* permission allows users to edit data from the portal - for example, to delete a POI. Note that if the parameter is set to 2, registration at the portal is not allowed
- *Campaign Portal URL*: URL of the Alaris Campaign Portal 583 (for SMS campaigns)
- *Campaign Portal carrier name prefix (used if company name is not set)*: the System uses its value as the company name if the *Company* field is left empty during registration in the Campaign Portal. The default value is *Retail client* - which means that a carrier with the name *Retail client (%user's email address%)* will be created (if the user has not specified the *Company* field). If set to *null*, the user's email address is used as a carrier name. If set to any other value, the value (without the user's email address) will be used. See also the Alaris YouTube video
- *Campaign Portal dispatcher IP*: IP address of a server where web module is installed in order to send update events from database. In case the database and web interface are installed on the same server, the parameter must be set to 127.0.0.1. The parameter must not be changed by the user

6.7.8 RCS

RCS	
Active EDR day count	60
Analytics calculation process count	0
Analytics currency	USD
Archive EDR day count	40
Auto threshold calculation (0 - no, 1 - yes)	1
Automatic EDR archiving limit	10
Calculate analytics total depending on VPD	1

RCS

- *Active EDR day count*: period during which EDRs can be accessed for various operations (such as rerating, invoice generation etc.) After this EDRs are moved to an archive and are no longer available from the main web interface. If the default value is decreased, the data is moved to the archive partition iteratively (run by the System job RCS_CLEANUP_SCHEME). Any increase of the value must be approved with the Alaris technical support team as the operation may require additional disk space

- *Analytics calculation process count*: defines how many processes will be used for analytics calculation (concurrent threads). If the setting is empty or 0, the number of sessions is calculated based on the current System load. Any positive integer value is allowed for specification (as well as 0) - note that the value depends on the number of cores. For instance, if the System is running on 4 cores, the maximum value is 4.
- *Analytics currency*: currency used in RCS\Analytics 333 (can be different from the System currency) for columns like *Margin*, *Revenue*, *Vendor cost*. The parameter can be changed by the Alaris technical support team. Note that cube recalculation is required to apply the change. The exchange rate must be defined in the Reference books\Currency exchange rates 270 interface
- *Archive EDR day count*: RCS EDR storage period in an archive. After this RCS EDRs are deleted. If the default value is decreased, the data is removed iteratively (run by the System job RCS_CLEANUP_SCHEME). Any increase of the value must be approved with the Alaris technical support team as the operation may require additional disk space
- *Auto threshold calculation (0 - no, 1 - yes)*: when the value is 1, the cube update thresholds (the System settings *Stats calculation threshold (EDR/day; EDR/hour; EDR/min; EDR/month; EDR/week*) of the *RCS* section are calculated automatically once the current day cube has been successfully updated
- *Automatic EDR archiving limit*: the period (in days) for which RCS EDR records will be archived within a single iteration. The default value is 3. The minimum value is 1
- *Calculate analytics total depending on VPD*: possible values are 0 (disabled) and 1 (enabled). In case of 1, the analytics *Total row* will be calculated and shown in accordance with permissions configured for a user on the Administration\Users 158 tab. If set to 0, the *Total* row will show all traffic.
- *Day cube partition count*: number of RCS daily cubes stored in the System; in other words, a period of time (in days) during which the System retains aggregated statistics arranged by daily cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 465
- *Defragment RCS rates (1 - yes, 0 - no)*: possible values are 0 and 1 (0 - disable rate defragmentation, 1 - enable, default value is 1). Defragmentation means merging rates with the same price in case the *End date* of one rate is equal to the *Start date* of another. The logic is as follows (if the setting is 1). Suppose there is a rate 0.1 for MCCMNC 214001 with the period 2019.01.01 00:00:00 - 2019.01.10 00:00:00. If the rate 0.1 for 214001 is added (*Add rate* button) with the period 2019.01.10 00:00:00 - 2100.01.01 00:00:00, a single unified rate 0.1 will be created as a result for 2019.01.01 00:00:00 - 2100.01.01 00:00:00. If the value is 0, two rates with periods 2019.01.01 00:00:00 - 2019.01.10 00:00:00 and 2019.01.01 00:00:00 - 2019.01.10 00:00:00 will be present. If rates contain different rate notes, two rates will be created irrespective of the parameter value
- *EDR loader process count*: defines the guaranteed number of loading processes of EDRs which will be launched irrespective of the System load. The recommended value is 0 which means that the number of the processes will be defined by the System performance and its current load
- *EDR rerating step (in minutes)*: default value is 30 minutes which means that during rerating of EDRs for the defined period they will be rerated by portions of 30 minutes

- *Effective from date for change type 'same' (0 - actual, 1 - export date)*: when the value is 1, the *Effective from* date is replaced with the task *Start date* for rates that were not changed during rate export, if the *Export type* parameter has the value *changes pending at* or *rates effective at*

- *Hour cube partition count*: number of RCS hourly cubes stored in the System; in other words, a period of time (in hours) during which the System retains aggregated statistics arranged by hourly cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 1512

- *Last RCS MRC checkpoint*: date of the last RCS MRC (RCS\Bots 357) checkpoint (serves for generation of charges)

- *List of MCCs with 3-digit MNCs*: list of MCCs for countries that always use 3-digit MNCs. The list is used to generate the MCCMNC5 column during rate export. MCCs that are not in the list are translated into 5-digit codes if the MNC starts with 0

- *MCC "Rest of the world"*: the default value is 777. This record is considered if the price for the full MCCMNC or its MCC cannot be found. For example, when an attempt is sent to a number belonging to the network with MCCMNC 214001 but the product does not contain rates for either 214001 or 214, the price for code 777 (if it is both present and active) will be selected.

- *Minute cube partition count*: number of RCS minute cubes stored in the System; in other words, a period of time (in minutes) during which the System retains aggregated statistics arranged by minute cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 300

- *Month cube partition count*: number of RCS monthly cubes stored in the System; in other words, a period of time (in months) during which the System retains aggregated statistics arranged by monthly cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 24

- *Non-match DLR storage period, min*: storage period of RCS statuses with no matching EDR submit packets. The parameter is intended to match statuses which for some reason were inserted to the database before the EDR with the corresponding submit packet

- *RCS statistics telescopic mode*: when enabled, the interface shows:
  - the past two hours (current and previous) calculated using minute cubes on the fly
  - the current day calculated using hour cubes plus the past two hours calculated using minute cubes on the fly
  - the current month calculated using daily cubes; the current day of the month is calculated using hour cubes

  When disabled (0), click *Telescopic view* in the RCS\Analytics 333 interface (available only if the user has the *Telescopic mode* permission granted) to apply the same logic. To disable the *Telescopic view*, click on the control again

- *Rate inheritance mode (0 - longest match at child, 1 - global longest match)*: flag that controls rate search logic. When set to 1, the System searches for the most detailed rate in the parent and child product and uses the most detailed one to charge the client. When set to 0, the System first searches for the child product and if there is no suitable rate (for either MCC or MCCMNC), it searches it in the parent product. The default value is 1. The same setting is available on the product level (which overrides the System parameter)

- *Session tarification type: [0-not change\1-change] type depend on billing scheme.* When set to 0, a session event is created and the *Default* rate from the billing scheme is used if there is no separate session rate in the billing scheme. When set to 1, no session event is created and messages are billed according to the value *Event: Message* if there is no rate for the session in the billing scheme.

- *Stats calculation delay, minutes (day/hour/min/month)*: the delays configured for each time increment (minute, hour, day, week, month) to allow statistics calculation even if the thresholds configured in *Stats calculation threshold* settings for corresponding type of cubes have not been reached. For example, the value 45 in the parameter *Stats calculation delay, minutes (day)* means that the statistics for a daily cube will be calculated in 45 minutes after EDR import for the day takes place even if the value of *Stats calculation threshold (EDR/day)* is not reached. Note that it is NOT recommended to decrease the values without consulting the Alaris technical support team first since it leads to almost constant recalculation of the same data (in case of increase, the cubes may be calculated too slowly and the data will not be shown in the Analytics interface). Additionally please note that all values are calculated automatically based on daily traffic volume (if the setting *Auto threshold calculation* is set to 1). The minimum value is 1.

- *Stats calculation delay, minutes (hour minor)* and *Stats calculation minor threshold (EDR/hour)* are intended to decrease the number of hour cube recalculations (for example caused by late delivery reports). An hour cube will be placed to queue for recalculation:

  - the period set in the parameter *Stats calculation delay, minutes (hour minor)* if the number of newly inserted RCS EDRs is less than *Stats calculation minor threshold (EDR/hour)*

  - the period set in *Stats calculation delay, minutes (hour)* if the number of newly inserted EDRs is greater than *Stats calculation minor threshold (EDR/hour)* but less than *Stats calculation threshold (EDR/hour)*

  - if the number of newly inserted RCS EDRs is greater than *Stats calculation threshold (EDR/hour)*

  If *Auto threshold calculation* is set to 1, *Stats calculation minor threshold (EDR/hour)* is calculated as Stats calculation threshold (EDR/hour) / 50

- *Stats calculation threshold (EDR/day, EDR/hour, EDR/min, EDR/month, EDR/week)*: number of RCS EDRs per day/hour/minute/month necessary to launch next cube recalculation. For example, if *Stats calculation threshold (EDR/day)* is set to 100, the corresponding daily cube will be recalculated as soon as more than 100 new EDRs are imported for this day

- *Traffic details days count*: number of days to store the RCS financial statistics in the System. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team

- *Week cube partition count*: number of RCS weekly cubes stored in the System; in other words, a period (in weeks) during which the System retains aggregated statistics arranged by weekly cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team

6.7.9 Replication

⊟ Replication	
Enable sync from master server (0 - no, 1 - yes)	0
Replication server IP address	192.168.18.234
Replication server database SID	invoice
Replication server password for main DB scheme	*****
Replication server port	1521

Replication

- *Enable sync from master server (0 - no, 1 - yes)*: defines whether synchronization must be enabled. The parameter is intended for enabling synchronization between active databases of different Systems - it is handy when you have two Alaris Systems installed. When synchronization is enabled, the data of pre-defined tables (specified in the internal database table invoice.rep_table) will be synchronized between the Systems. The parameter must be changed by the Alaris technical support team only. Synchronization can be launched with the help of the internal procedure (BZ59403).
- *Replication server IP address*: IP address of the active database whose data must be synchronized with the current System. If the database is switched to the standby mode, the data will not be synchronized, and corresponding error messages will appear in the report System log (Administration) 296. The parameter must be changed by the Alaris technical support team only
- *Replication server database SID*: SID of the active database where data will be synchronized from with the current System. The parameter must be changed by the Alaris technical support team only
- *Replication server password for main DB scheme*: password to access the active database for synchronization (under the *invoice* user). The parameter must be changed by the Alaris technical support team only
- *Replication server port*: port of the active database. The parameter must be changed by the Alaris technical support team only

6.7.10 SMS

SMS

Active EDR day count	30
Apply postponed DLRs in, days	0.02
Archive EDR day count	180
Auto rerate current month only (0 - no, 1 yes)	0
Automatic EDR archiving limit (days to archive at a time)	3
Buffered EDR storage period, days	5
Campaign Portal trusted IP list (separated by comma)	10.200.0.25,127.0.0.1,10.200.0.26,10.146..
Delivery timestamp delta (sec)	0
EDR Export tasks store period (days)	30
EDR loader process count	16
EDR mediation reject limit (null - unlimited)	null
EDR rerating hour	13
EDR rerating step (in minutes)	30
EMA frame	100
EMA stats delay, min	5
EMA stats last date	2021.06.25 09:25:33
EMA valid period, days	2
Enable system-wide stateful concatenated messages pro…	1

SMS

- *Active EDR day count*: period during which EDRs can be accessed for various operations (such as rerating, invoice generation etc.) After this EDRs are moved to an archive and are no longer available from the main web interface. If the default value is decreased, the data is moved to the archive partition iteratively (run by the System job PRV_CLEANUP_SCHEME). Any increase of the value must be approved with the Alaris technical support team as the operation may require additional disk space

- *Apply postponed DLRs in, days*: delay period for applying DLRs generated before the date specified in the parameter *Postpone applying DLRs for SMS received before.* If set to *null*, delivery reports will be applied immediately

- *Archive EDR day count*: EDR storage period in an archive. After this EDRs are deleted. If the default value is decreased, the data is removed iteratively (run by the System job PRV_CLEANUP_SCHEME). Any increase of the value must be approved with the Alaris technical support team as the operation may require additional disk space. The period is calculated from the period specified in the *Active EDR day count* parameter

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NOTE: The parameters *Active EDR day count* and *Archive EDR day count* are involved in storage of MNP server-related EDRs in Oracle Enterprise Edition. Data older than N days is deleted. N is determined by the sum of the number of days from the System parameters *Active EDR day count* and *Archive EDR day count*.

- *Auto rerate current month only (0 - no, 1 yes)*: if set to 1, even if the rate change is within the maximum timeframe limits (defined by the *Max rerating interval* System parameter), the auto rerate task start date will be limited by the start of the current month. The default value is 0. If enabled and the *Max rerating interval* has been reached (for example, it is set to 2), the past 2 days will be re-rated (given that they both fit into the current month)

- *Automatic EDR archiving limit (days to archive at a time)*: the period (in days) for which EDR records (including HLR EDRs) will be archived within a single iteration. The default value is 3. The minimum value is 1

- *Block expired messages (0 - no, 1 - yes)*: the default value is 0. If a message with an expired validity period is received, it is rejected with the VALIDITY PERIOD IS EXPIRED internal status. The same name setting can be configured in Carriers\SMS channels 188. All channels that have the *Block expired messages* control set to *System default* inherit the System parameter value. The channel value has a priority over the System parameter value

- *Buffered EDR storage period, days*: the default value is 30. It specifies how many days buffered EDRs can be stored in the active partition (for example, with statuses *BUFFERED_CLB, BUFFERED_HB, BUFFERED_VLB, BUFFERED_VSLB, BUFFERED_SEGMENT*). Once the value is reached, the EDRs are deleted

- *Campaign Portal trusted IP list (separated by comma)*: list of all IP addresses (local - or if not available, public) of the server scheme. The parameter is set by the Alaris technical support team and must not be changed by users

- *Channel expiry period, minutes*: the period after which the channel status update details are deleted (10 minutes by default)

- *Delivery timestamp delta (sec)*: the parameter is intended to specify the timestamp shift of delivery reports for concatenated messages - the default switch logic is to shift '*Event time*' of concatenated message parts (since uniqueness of EDRs is based on the event time+message ID. In case a vendor returns the same message ID for all parts, duplicates will not be written to the database). The parameter is applied in order to match such submits (with shifted timestamps) with delivery reports

- *EDR Export tasks store period (days)*: storage period for export tasks (SMS\EDR management\EDR export tool 371). The minimum value is 1, whereby tasks are stored for the current day and the previous day

- *EDR loader process count*: defines the guaranteed number of loading processes of EDRs which will be launched irrespective of the System load. The recommended value is 0 which means that the number of the processes will be defined by the System performance and its current load

- *EDR mediation reject limit (null - unlimited)*: maximum amount of invalid rows in the HLR EDR file required to reject it. The default value is null. Note that HLR EDR are not generated by default and can be generated only for HLR reselling. The parameter additionally affects SMS EDR file import (EDRs and EDRd)

- *EDR rerating hour*: the hour when the daily auto-rerating procedure runs

- *EDR rerating step (in minutes)*: default value is 30 minutes which means that during rerating of EDRs for the defined period they will be rerated by portions of 30 minutes

- *EMA frame*: window (number of attempts) for calculation of statistics for routing - for example, for routing metrics such as *CLPoiDLR* or *RuleDlvCNT*. The default value is 100, meaning that if the number of attempts arrived within last minute is less than 100, the statistics will be calculated by EMA (*Exponential Moving Average*) algorithm. The operating logic of the metrics is detailed in Appendix 4. Formulas and conditions in routing\Routing metrics 691

- *EMA stats delay, min*: the statistics calculation delay in minutes. The statistics are applicable to DLR metrics and metrics based on the routing rules usage counters - such as *VPoiDLR, RuleAttCNT, RuleSucCNT, etc*. It is calculated every time System jobs SMS_UPDATE_DELIVERY_EMA (for DLRs stats) and SMS_UPDATE_RULE_EMA (for routing rules stats) are launched (every 5 minutes by default). The statistics are checked for the period between the last check date and the current date, where the date of the last check can be seen in *EMA stats last date,* and the value specified in *EMA stats delay, min* is subtracted from the current date. For example, if the job is launched at 15:05:00, the interval for calculation will be 14:55-15:00. The operating logic of the metrics is detailed in Appendix 4. Formulas and conditions in routing\Routing metrics 691

NOTE: In terms of routing statistics, the EMA tool serves to secure prevalence of recent EDRs over earlier ones; the System's routing module receives all SMS statistical data from the database, where EMA is calculated retrospectively with the specified delay, i.e. data on messages arriving within or after this delay period is not taken into account since it can seriously damage the overall analytical picture, for example, because of the absence of delivery reports that are most likely to arrive shortly afterwards.

- *EMA stats last date*: date and time of the latest update of statistics. When statistics (for DLRs and routing rules) has been calculated, the date is set to current date minus *EMA stats delay, min*

- *EMA valid period, days*: stats validity period in days for stats validity for items used in the routing rules (for example, client MCC MNC code). If on expiration of the specified period no traffic is processed for the item, the routing module will assume statistics for this item as null; if even one SMS arrives within this period the stats will be considered valid

- *Enable system-wide stateful concatenated messages processing*: the parameter serves to control the list of channels that are used for sending all segments of an SMS through a single vendor. When set to 1, all client channels expect to receive all parts of a long message before sending a single routing request and thus receive the same routing list for all the parts and send all the parts through the same vendors.

NOTE: To create a custom list of channels, use the parameter *Stateful concatenated messages processing* in Carriers\SMS channels 188 (available only when *Partner direction = Client*). This means you can choose the necessary list of channels and activate the option for each of them. Find out more in the Alaris YouTube video.

- *Highlight swap deals in stats (0 - no, 1 - yes)*: if set to 1, traffic passed in accordance with swap deals (Swap deals 238 interface) is marked with the icon (⇔) in SMS\Analytics 363
- *List of client products to apply activation reports to*: list of client product IDs (comma-separated) for which the Viber conversion/activation report will be applied. Starting from version 3.5.13 the System allows receiving device activation status notifications from Viber. These notifications confirm that the SMS has been delivered to the end user device. The System receives the notifications and registers them in the EDR, changing the delivery status to ACTIVATED. To enable the activation feature in the System, contact the Alaris technical support team and communicate the code BZ21305
- *List of clients to clear EDR, ID list separated by a comma*: a list of account IDs (not indicated by default) separated by comma to delete Campaign Portal EDRs. If the value of the setting is less than the value of *Retail EDR storage, days* then Campaign Portal EDRs and campaigns are deleted for the specified period for the list of clients specified in this parameter
- *List of cut prefixes, separated by a comma*: the parameter (net set by default) serves to specify a list of characters separated by a comma that will be cut from the recipient number when sending single Campaign Portal messages or campaigns. For example, if the list is specified as 00,+ then the number 0012036007000 will be shortened to 12036007000 to search for rates and then send the message
- *Max rerating interval*: defines the maximum period (in days) affected by the daily auto-rerating procedure. The value cannot be set greater than *Active EDR day count*. Suppose the parameter is set to 30 days and there is a rate for the period 01/01/2018 00:00:00 - 01/01/2019 00:00:00 (today is 01/01/2019). Suppose the price was changed during the day. When auto rerating starts (defined by *EDR rerating hour*) the period 02/12/2018 00:00:00 - 01/01/2019 00:00:00 (last 30 days) will be recalculated for the rate. Note that the period for autorerating tasks created in accordance with a volume-based deal is limited to 30 days irrespective of the System parameter’s value. It cannot be modified
- *Maximum rerating job count*: the maximum number of simultaneously processed manual and auto EDR rerating subtasks. 0 by default, that is, the optimization is disabled. When set to a positive value, the hidden SMS-RERATING-SPLIT-INTERVAL System parameter must be modified as well. To configure it, contact the technical Alaris support team and communicate the code BZ52841. The logic of parallelism as follows: suppose, SMS-RERATING-SPLIT-INTERVAL is set to 6 (hours), *Maximum rerating job count* is equal to 5. When a task for a 2-day period (48 hours) is created, it is split to subtasks by 6 hours. It implies that 8 subtasks (intervals) are created. Only 5 of them can be processed simultaneously
- *Non-match DLR storage period, min*: storage period of DLRs with no matching EDR submit_sm packets. The parameter is intended to match delivery reports which for some reason were inserted to the database before the EDR with the corresponding submit_sm packet. Additionally, the parameter indicates the storage period for monitoring messages
- *Number of days to store EDR in Campaign Portal by client list, days*: the storage time of Campaign Portal EDRs and campaigns (365 days by default) for the client accounts listed in the *List of clients to clear EDR, ID list separated by a comma* System setting
- *Postpone applying DLRs for SMS received before*: postpone applying DLRs for messages received before the specified date. The parameter serves to prevent backdate update of statistics during invoice generation. The postponed DLRs will be applied after the delay configured in the parameter *Apply postponed DLRs in, days.* The parameter must be specified as

a date, for example: 2016.06.19 12:30:00. If set to *null*, delivery reports are applied with immediate effect

- *Rerating alert recipients*: email addresses (comma-separated) for the results of rerating tasks (both manual and automatic), given that the number of rerated records is greater than 0. Not specified by default (no email is sent). The format of the emails is defined by the *EDR Recalculating results letter* template
- *Retail EDR storage, days*: the number of days within which Campaign portal EDRs are stored. 365 by default
- *Retail minute stats storage, day*: the number of days within which Campaign portal statistics (that serves to generate charts on the Dashboard page) is stored. 365 by default
- *Resolve domain names for SMS channels every X minutes*: serves to specify how often the System needs to check the domain name of SMS channels. For example if the value is 2, the System will resolve all domains specified in the SMS channels every 2 minutes. Note that domain names can be specified only for the vendor direction. Additional info in regard to the resolved names will be posted to the System log (Administration) 296 report if the System parameter *System debug mode (true or false)* is set to *true* (can be changed with the help of the Alaris technical support team)
- *Rule count stats clear policy (0 - hourly, 1 - daily, 2 - weekly, 3 – monthly)*: defines how often the System must reset the values of the rule attempt counters RuleAttCNT (total attempts), RuleSucCNT (successful attempts) and RuleDlvCNT (delivered attempts) - see SMS\Routing\Routing rules\Rules page 464. For example, if set to 1, every day at 00:00 (by server time) statistics will be removed; if the value is 2, the reset will happen every Monday at 00:00; if set to 3, the metrics will be set to 0 on the 1st day of every month (at 00:00 as well)
- *SMS status request periods*: serves to set the number and periods of requests (the periods are set as numbers separated by either comma or blank space). The default value is *5,15,60*. Up to 4000 symbols can be inserted. Positive integer values are allowed, negative values will trigger an immediate request sent to a vendor. For example, if the user specifies *5 5 5* in the *SMS status request periods* parameter, the SMS switch will request the status from the vendor three times every 5 seconds (or less than three times if an expected status is received earlier). The same parameter can be set in an HTTP vendor channel, which has priority over the System setting. If both the channel and System settings are left empty (*null*), no request will be sent to the vendor. See also the Alaris YouTube video
- *Set 'Dip HLR' as enabled by default (0 - no, 1 - yes)*: when the value is 1, the *Dip HLR* checkbox is selected by default in the *Add* panel of the Carriers\Products 180 page for SMS products. The parameter has an effect on the Campaign portal client products as well (created automatically)
- *Simulation test password*: password of the channel used for sending test messages (from the SMS\Routing\Simulation\Send SMS 492 tab). For correct operation at least one channel with the *Auto* type must have a username and password matched with the parameters *Simulation test password* and *Simulation test user name*
- *Simulation test user name*: username of the channel used for sending test messages (from the SMS\Routing\Simulation\Send SMS 492 tab). For correct operation at least one channel with the *Auto* type must have a username and password matched with the parameters *Simulation test password* and *Simulation test user name*
- *Switch IP list for test message sending*: IP addresses of switches used when sending a test SMS in SMS\Routing\Simulation\Send SMS 492 (in case of several switches). If set to *null*, the *Switch IP* cannot be chosen in the *Send SMS* tab

- *Switch URL template for SMS test send*: URL of the switch used for test SMS generation in SMS\Routing\Simulation\Send SMS 492. Test messages may be generated directly from the switch or from the billing interface by creating a channel, linking it to POI and a certain product, and can be terminated if the System manages to find possible termination. The parameter is set by Alaris engineers and must not be changed by a user

- *Switch URL template for Campaign Portal*: URL of the switch used for message sending from Alaris Campaign Portal .The parameter is set by the Alaris technical support team and must not be changed by users

6.7.11 SMS Test

SMS Test	
CSG API login	null
CSG API password	*****
CSG SMSRoute ID	null
CSG URL	null
CSG test result (1 - system calculated, 2 - taken from CSG)	1
Manual SMS send URL	http://host:port/api?command=submit&us...
Number of tests to consider for feature generation	10
Period of tests to consider for feature generation	30

SMS Test

NOTE: The parameters of specific test systems are applicable only if the System parameter *SMS Test System service enabled* is set to 0. Otherwise test systems are configured in the Test system editor 533 tab of the *SMS test system* interface.

- *CSG API login, CSG API password, CSG SMSRoute ID, CSG URL*: parameters that serve to configure the CSG Assure service for SMS testing (for detailed configuration refer to SMS\Test system\Using CSG Assure service to test SMS delivery 542)

- *CSG test result*: when set to 2, the test result is taken from the CSG platform. When set to 1, the test result is calculated based on the System logic (the test result is *FAIL* if the *Sender ID* was changed or the *UITestStatusID* field value is other than 100)

- *Manual SMS send URL*: link for sending test messages through the Manual test platform, configured by the Alaris technical support team

- *Number of tests to consider for feature generation*: number of tests sufficient for automatic generation of routing features in SMS\Routing\Routing features 456 (the following routing features are generated: *FalseDLR*, *OrigNotKept*, *TextIntegrity*)

  The default value of the *FalseDLR* feature will be changed to *Yes* if at least one of the checked tests is not in the *DELIVRD* status (the *Delivery status* column) - in case the *Manual* test System is used. The *FalseDLR* of other systems will be changed to *Yes* if the delivery report received from the vendor and the delivery returned from the test System are different (for example, the vendor returned *DELIVRD* while the test System returned *UNDELIV)*:

  - The default value of *OrigNotKept* will be *No* if sender IDs were not modified in all tests (*Sender ID status* column)

  - The default value of *TextIntegrity* will be set as *No* if test texts were modified (*Text diff* column - applicable to any test platform). The tasks to be verified to obtain the feature value must comply with the following conditions:

- task status: completed or failed
- delivery status: DELIVRD or OK
- Test ref ID: must be other than '-'

The parameter works along with the setting *Period of tests to consider for feature generation* (see below) - for example, if *Number of tests to consider for feature generation* is 10 and *Period of tests to consider for feature generation* is 1 day, then only the first 10 tests for the past 24 hours will be taken into account. If there are only 5 tests for the period, the result will be based on them. Note that the System job SMS_AUTO_FEATURES must be enabled *(System jobs* interface). It is disabled by default

- *Period of tests to consider for feature generation*: period (in days) of tests sufficient for automatic generation of routing features in the SMS\Routing\Routing features 456 interface (the following routing features are generated: FalseDLR, OrigNotKept, TextIntegrity). The parameter works together with the setting *Number of tests to consider for feature generation* (see above) - for example, if *Number of tests to consider for feature generation* is 10 and *Period of tests to consider for feature generation* is 1 day, then only the first 10 tests for the past 24 hours will be taken into account - if there are only 5 tests for the period, the result will be based on them
- *Prefix-based route testing channel ID*: serves to specify the channel ID. Once a message is received from this channel, the destination number will be searched for the # symbol, and the digits preceding it will be used as the POI ID to which the message must be sent. No routing will be performed for the message. See also the Alaris YouTube video
- *Remote365 SMS send URL, Remote365 control URL, Remote365 password, Remote365 user name*: parameters that serve to configure the remote365 service for SMS testing (for detailed configuration refer to SMS\Test system\Using remote365 to test SMS delivery 539). The parameters are configured by the Alaris technical support team
- *Route testing client*: ID of the carrier that has channels configured for the test systems (*SMS\Test system* 522). Change of the parameter require either switch restart or change of the test channel (usually the configuration is made by the Alaris technical support team)
- *SMS Test System service enabled* (disabled by default): when set to 1, the parameters of the test platforms are set in the Test system editor 533. When set to 0, the parameters are set in System settings. To change the value, contact the Alaris technical support and communicate the code CS-349.
- *SMS Test System service host*: URL of the java service containing the service IP address and port (configured by the Alaris technical support team; do not change the parameter unless you know what you are doing).
- *SMS test max attempts count*: number (integer) of attempts to send the test message (attempts are made until the number is reached or delivery status is received from the test platform). Note that the first attempt is resent in a minute, the second - in 2 minutes, the 3rd - in 4 minutes, etc (the delay is increased exponentially). If set to null, it is considered as 10 maximum attempts
- *SmsYoga SMS send URL:* the URL for sending messages to the test system over the SMS switch (matches the value specified in the System setting *Manual SMS send URL*)
- *SmsYoga control URL:* the direct URL for accessing the service (typically https://sms.yoga/api/v1/)
- *SmsYoga password:* the password for the service (client secret)

- *SmsYoga user name*: the username for the service (client ID)
- *TelQ App ID, TelQ App key*: parameters that serve to configure the TelQ service for SMS testing (for detailed configuration refer to SMS\Test system\Using TelQ to test SMS delivery 541)
- *TelQ test result timeout, min.*: timeout to wait for the response of the TelQ test platform about the test status. Note that the check is made together with *SMS test max attempts count.* For example, if the count is 5 and the timeout is 60 minutes, test rejection will occur on the 15th minute - and since the timeout value is not reached, the test will be considered failed. However if the count is 7, the rejection will happen on the 63rd minute (in case all attempts are unsuccessful) and the timeout is reached
- *Test client products*: list of product IDs that are considered test products (*Traffic type* will be displayed as *Test* in SMS\Analytics 363) for these products
- *TestMySMS URL*: links for sending test messages through the *TestMySMS* test platform, configured by the Alaris technical support team. To apply a new link in order to send tests through it from the Test system, a re-login is required
- *TestMySMS password* and *TestMySMS user name*: login and password used to access the TestMySMS platform
- TestMySMS vendor: the name of the vendor as specified in the TestMySMS platform (for detailed configuration refer to SMS\Test system\Using TestMySMS to test SMS delivery 535)
- *Testelium URL*: URL to the Testelium service, normally set to https://api.testelium.com
- *Testelium channel ID*: client channel ID created for the Testelium platform under the *Route testing client*
- *Testelium token*: the token of the Testeliem account
- *Texter URL*: URL for access to Texter (https://api.cmtelecom.com/texter/v1/)
- *Texter app id*: the account ID on the Texter side
- *Texter app key*: API key for access to the testing platform
- *iTest URL API*: URL API of iTest, normally set to https://api.i-test.net/
- *iTest login*: iTest login (email address).
- *iTest password*: iTest password
- *iTest profile name*: profile name from the respective iTest setting

6.7.12 SMS analytics

SMS analytics

Allow list of rates to be calculated in analytics (0 - no, 1 - r...	2
Analytics calculation process count	4
Analytics first currency	EUR
Analytics second currency	USD
Analytics third currency	RUB
Auto threshold calculation (0 - no, 1 - yes)	0
Calculate analytics total depending on VPD	0
Day cube partition count	61
Default Analytics view	SRC_CARRIER
Delivery interval ranges (comma-separated, seconds)	5,15,60,300
Hour cube partition count	300
List of SMS products which margin is set to 0 in analytics	null

SMS analytics

- *Allow list of rates to be calculated in analytics (0 - no, 1 - rate lists, 2 - rate and tax rate lists)*: the parameter serves to disable calculation of specific data when opening the *Analytics* interface, which allows speeding up the interface operation in case of large traffic volumes. The default value is 2 (the original logic). If changed, cube recalculation can be required to reflect new data in the *Analytics*. Contact the Alaris technical support team and communicate the code BZ59404
- *Analytics calculation process count*: defines how many processes will be used for analytics calculation (concurrent threads). If the setting is empty or 0, the number of sessions is calculated based on the current System load. Any positive integer value is allowed for specification (as well as 0) - note that the value depends on the number of cores. For instance, if the System is running on 4 cores, the maximum value is 4.
- *Analytics first currency*: currency used in SMS\Analytics 363 (can be different from the System currency) for columns like *Margin, Revenue, Cost, HLR cost*. The parameter can be changed by the Alaris technical support team. Note that cube recalculation is required to apply the change. The exchange rate must be defined in the Reference books\Currency exchange rates 270 interface
- *Analytics second currency*: currency used in SMS\Analytics 363 (can be different from the System currency). Note that cube recalculation is required to apply the change. Can be null (no additional columns will be added to *Analytics* in this case). The exchange rate must be defined in the Reference books\Currency exchange rates 270 interface
- *Analytics third currency*: currency used in *Analytics* (can be different from the System currency). Note that cube recalculation is required to apply the change. Can be null (no additional columns will be added to *Analytics* in this case). The exchange rate must be defined in the Reference books\Currency exchange rates 270 interface
- *Auto threshold calculation (0 - no, 1 - yes)*: when the value is 1, the cube update thresholds (System settings *Stats calculation threshold (EDR/day; EDR/hour; EDR/min; EDR/month; EDR/week*) are calculated automatically once the current day cube has been successfully updated. The thresholds are calculated on the following conditions:

- Min threshold: 150% of the average EDR volume per minute
- Hour threshold: 30% of the average EDR volume per hour
- Day threshold: EDR volume for the first eight hours of the day
- Week threshold: 10% of the average EDR volume per week
- Month threshold: 10% of the average EDR volume per month

- *Calculate analytics total depending on VPD*: possible values are 0 (disabled) and 1 (enabled). In case of 1, analytics *Total* row will be calculated and shown in accordance with permissions configured for a user on the Administration\Users 158 tab. If set as 0, the *Total* row will reflect all traffic. In both cases traffic from or to a restricted partner will be hidden by the *Restricted partner* record in the main panel.
- *Day cube partition count*: number of daily cubes stored in the System; in other words, a period of time (in days) during which the System retains aggregated statistics arranged by daily cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 465
- *Default Analytics view*: serves to configure the statistics layer that is opened by default in the SMS\Analytics 363 interface. The default value is SRC_CARRIER (*Client* layer). For example, the value CALLED_COUNTRY allows checking the data starting from *Country*
- *Delivery interval ranges (comma-separated, seconds)*: serves to set up to 5 time intervals (in seconds). Delivery reports are distributed between the intervals for more precise calculation of average delivery delay (ADD). Messages will be shown in the columns *Delivered within interval 1...5* in SMS\Analytics 363. To edit the parameter, contact the Alaris technical support team and communicate the code BZ22968. Note that recalculation of analytical cubes is required to apply the change. For example, if the value is 5,15,60,180, the analytics columns will show:
  - *Delivered within interval 1* - number of delivery reports that were received within the interval 0-5 seconds after message sending to the vendor side (the right boundary is not included)
  - *Delivered within interval 2* – the interval is 5-15 seconds
  - *Delivered within interval 3* – the interval is 15-60 seconds
  - *Delivered within interval 4* – the interval is 60-180 seconds
  - *Delivered within interval 5* – the number of delivery reports that were received in 3 minutes and later
- *Hour cube partition count*: number of hourly cubes stored in the System; in other words, a period of time (in hours) during which the System retains aggregated statistics arranged by hourly cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 1512
- *List of SMS products which margin is set to 0 in analytics*: SMS ID of SMS products (comma-separated – 2,000 symbols are allowed) that must be excluded from margin analysis (their margin is displayed as 0 in SMS\Analytics 363). This parameter is used when the rates must be ignored in analytics – for example, when the System owner uses internal equipment for processing SMS messages, which makes rates and margin data irrelevant. In order to apply the changed parameter to processed traffic, analytical cubes must be recalculated
- *Minute cube partition count*: number of minute cubes stored in the System; in other words, a period of time (in minutes) during which the System retains aggregated statistics arranged by

minute cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 300

- *Month cube partition count*: number of monthly cubes stored in the System; in other words, a period of time (in months) during which the System retains aggregated statistics arranged by monthly cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 24
- *Recalculate current day stats at, hours (0-23, 1-fold)*: forced recalculation of day statistics at the specified hour (valid values are integers from 0 to 23). Several values can be specified (comma-separated), for example: 1,15,22 (daily cubes will be recalculated every day at 01:00, 15:00, 22:00 irrespective of the calculation threshold). In case *null* is specified, cube recalculation will happen every time when the *Stats calculation threshold (EDR/day)* is reached
- *Recalculate current hour stats at, mins (0-50, 10-fold)*: forced recalculation of hour statistics at the specified minute of the hour (valid values are 0, 10, 20, 30, 40 or 50). Several values can be specified (comma-separated), for example: 10,50 (hourly cubes will be recalculated every hour on 10th and 50th minutes irrespective of the calculation threshold). In case *null* is specified, cube recalculation will happen once the *Stats calculation threshold (EDR/hour*) is reached
- *SMS statistics telescopic mode*: when enabled, the interface shows:
  - the past two hours (current and previous) calculated using minute cubes on the fly
  - the current day calculated using hour cubes plus the past two hours calculated using minute cubes on the fly
  - the current month calculated using daily cubes; the current day of the month is calculated using hour cubes
  - the current year is calculated based on the underlying cubes: full month cubes, full daily cubes, full hour cubes. The rest of the data is gathered from minute cubes. For example, today is 03.10.2022 05:30 and the year layer is selected. The calculation logic will use:
    - full monthly cubes (01.01.2022, 02.01.2022)
    - full daily cubes (from 03.01.2022 00:00 till 03.10.2022 00:00)
    - full hour cubes for the current day (03.10.2022 00:00-03.10.2022 05:00)
    - minute cubes (03.10.2022 05:00-03.10.2022 05:30)

  When disabled (0), click *Telescopic view* in the SMS\Analytics 363 interface (available only if the user has the *Telescopic mode* permission granted) to apply the same logic. To disable the Telescopic view, click on the control again
- *Show aver. delivery delay in seconds (0 - no, 1 - yes)*: when the value is 1, the average delivery delay is shown in seconds (by default it is displayed in minutes)
- *Stats calculation delay, minutes (day/hour/min/month/year)*: the delays configured for each time increment (minute, hour, day, week, month and year) to allow statistics calculation even if the thresholds configured in *Stats calculation threshold* settings for corresponding type of cubes have not been reached. For example, the value 45 in the parameter *Stats calculation delay, minutes (day)* means that the statistics for a daily cube will be calculated in 45 minutes after EDR import for the day takes place even if the value of *Stats calculation threshold (EDR/day)* is not reached. Note that it is not recommended to decrease the values without consulting the Alaris technical support team first since it leads to almost constant recalculation of the same data (in case of increase, the cubes may

be calculated too slowly and the data will not be shown in the *Analytics* interface). Additionally please note that all values are calculated automatically based on daily traffic volume (if the setting *Auto threshold calculation* is set to 1). The default value for *Stats calculation delay, minutes (year)* is 1300. The minimum value is 1.

- *Stats calculation threshold (EDR/day, EDR/hour, EDR/min, EDR/month, EDR/week, EDR/year)*: number of EDRs per day/hour/minute/month/year necessary to launch next cube recalculation. For example, if *Stats calculation threshold (EDR/day)* is set to 100, the corresponding daily cube will be recalculated as soon as more than 100 new EDRs are imported for this day. For *Stats calculation threshold (EDR/year),* the default value is 48000
- *Stats calculation delay, minutes (hour minor)* and *Stats calculation minor threshold (EDR/hour)* are intended to decrease the number of hour cube recalculations (for example caused by late delivery reports). An hour cube will be placed to queue for recalculation:
  - after the period set in the parameter *Stats calculation delay, minutes (hour minor)* if the number of newly inserted EDRs is less than *Stats calculation minor threshold (EDR/hour)*
  - after the period set in *Stats calculation delay, minutes (hour)* if the number of newly inserted EDRs is greater than *Stats calculation minor threshold (EDR/hour)* but less than *Stats calculation threshold (EDR/hour)*
  - immediately if the number of newly inserted EDRs is greater than *Stats calculation threshold (EDR/hour)*

  If *Auto threshold calculation* is set to 1, *Stats calculation minor threshold (EDR/hour)* is calculated as *Stats calculation threshold (EDR/hour)* / 50
- *Traffic details days count*: number of days to store the financial statistics in the System. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team
- *Week cube partition count*: number of weekly cubes stored in the System; in other words, a period (in weeks) during which the System retains aggregated statistics arranged by weekly cubes. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team. The default value is 40
- *Year cube partition count*: number of years for storage of year cubes; the default value is 10

6.7.13 SMS rates

SMS rates

Blocked networks markers (comma separated)	Blocked
Closed networks markers (comma separated)	AP
Default Auto rate export mode	1
Default close type	Full country
Default network markers (client)	-1, ,-,0,999,9999,---
Default network markers (vendor)	-1, ,-,0,999,9999
Default rate export mode	2
Defragment SMS rates	1
Effective from date for change type 'same' (0 - actual, 1 - …	0
Fragmented rates import effect (0 - remove further rates, 1…	1
Ignore rates closed N days ago	7
List of MCCMNCs to be excluded from export	100
List of MCCs with 3-digit MNCs	262,302,310,312,316,330,334,338,342,34…
List of net names to ignore MNC	All networks,default
List of recipients for SMS rate import log	null
MCCs from the price lists to be imported	null
Maximum rate analysis depth (days)	600
Period for show closest changes export option, days	30
Period for show latest changes export option, days	30
Period to consider effective date as being too far in the past	36500

SMS rates

- *Blocked networks markers (comma separated)*: a list of keywords (case-insensitive) used as markers of blocked networks in import of rate sheet files. If no value is specified, it is considered as "*No,False,Blocked,0,Block*". If the rate sheet file has the *Net status* column and one of the keywords is found in the file for any rate, the *Rate note* field for this rate will have the *BLOCKED* value. A vendor product with a blocked rate for the MCCMNC will not take part in routing. If the message is received from a client product and a blocked rate is selected, the message will be rejected. If the price contains both the *Net status* and *Rate note* columns, *Net status* takes priority over the *Rate note* column

- *Closed networks markers (comma separated)*: a list of keywords (case-insensitive) used as markers of closed networks in import of rate sheet files. The default value *Delete,Deleted,Close,Closed*. If during Rate import the keyword (marker) is encountered in the *Net status* (prioritized column) or *Rate note* column, the rate will be closed. If the parameter value is empty (null), the values *Delete,Deleted,Close,Closed* will be used for closing

- *Default Auto rate export mode*: export mode to be used for an auto rate export task. Possible values: 0, 1 or 2, where 0 is the standard logic of changes pending at mode (default value), 1 - show closest changes, 2 - show latest changes

- *Default close type*: defines the default rate close type when importing rates manually. Possible values are: *Code*, which means *Update only rates for fully matching dial codes* (the default value)*; Non-match,* which means *Close non-matching dial codes*, and *Full country,* which means *Full country*.

- *Default network markers (client/vendor)*: a comma-separated list of characters that should be ignored when parsing the MNC and/or e.212 column. The parameter is set separately for the client and vendor. It is helpful with price lists that contain placeholders (for example, space, dash or 9999) instead of empty value in the MNC/e.212 field when offering a flat country rate. The default value is "-1, ,-" - space is included. If the value contains 0, values like 000 will be removed during rate import. Learn more about this feature in Alaris YouTube video

- *Default rate export mode (0 - standard, 1 - show closest, 2 - show latest)*: the export mode to be used when a rate export task is created with the *Changes type*: *System default* (available for *Export type*:*changes pending at*). Possible values: 0, 1 or 2, where 0 (default value) is the standard logic of changes pending at mode (take the agreements' notification periods into account), 1 - show closest changes, 2 - show latest changes

- *Defragment SMS rates*: possible values are 0 and 1 *(0 - disable rate defragmentation, 1 - enable, default value is 1)*. Defragmentation means merging rates with the same price in case the *End date* of one rate is equal to the *Start date* of another. The logic is as follows (if the setting is 1). Suppose there is a rate 0.1 for MCCMNC 214001 with the period 2019.01.01 00:00:00 - 2019.01.10 00:00:00. If the rate 0.1 for 214001 is added (*Add rate* button) with the period 2019.01.10 00:00:00 - 2100.01.01 00:00:00, a single unified rate 0.1 will be created as a result for 2019.01.01 00:00:00 - 2100.01.01 00:00:00. If the setting is 0, two rates with periods 2019.01.01 00:00:00 - 2019.01.10 00:00:00 and 2019.01.01 00:00:00 - 2019.01.10 00:00:00 will be present. If rates contain different rate notes, two rates will be created irrespective of the parameter value

- *Effective from date for change type 'same' (0 - actual, 1 - export date)*: when the value is 1, the *Effective from* date is replaced with the task *Start date* for rates that were not changed during rate export, if the *Export type* parameter has the value *changes pending at* or *rates effective at*

- *Fragmented rates import effect (0 - remove further rates, 1 - cut into existing rates)*: by default the value is 0. When set to 1, the following logic will be applied. Suppose there is a rate with the period 2019.01.01 00:00:00 - 2100.01.10 00:00:00. Once a rate for the same MCCMNC and the price is imported (period of the new rate is 2019.01.10 00:00:00 - 2019.02.01 00:00:00), there will be two periods for the rate: 2019.01.01 00:00:00 - 2019.02.01 00:00:00 and 2019.02.01 00:00:00 - 2100.01.10 00:00:00. The default behavior is to close the period by the end date of the new rate (for this example in case of default behavior the period will be 2019.01.01 00:00:00 - 2019.02.01 00:00:00)

- *Ignore rates closed N days ago*: the setting is intended for optimization of checks performed by routing module(s) while searching for vendor rates. The default value is 7 which means that the routing module will not receive rates with a close date older than 7 days from the database after the module is restarted

- *List of MCCMNCs to be excluded from export*: MCCMNC codes entered in this field will be excluded from any export task. The default value is 999. The *null* value means that all MCC/MCCMNCs will be exported

- *List of MCCs with 3-digit MNCs*: list of MCCs for countries that always use 3-digit MNCs. The list is used to generate the MCCMNC5 column during rate export. MCCs that are not in the list are translated into 5-digit codes if the MNC starts with 0

- *List of net names to ignore MNC*: ignore the MNC part during rate import (SMS\Rates\Rate import\Rate sheet parsing 424) in case the *Net name* column of the imported file contains one of the values specified in this parameter (comma-separated, case insensitive). The default value is *All networks,default*

- *List of recipients for SMS rate import log*: serves to specify email addresses (comma-separated) for rate import alerts. Alerts are configured in the SMS auto rate import owner notification (full report) 106 template

- *MCCs from the price lists to be imported*: allows ignoring rates for specific MCC codes from imported rate sheet files. Rates for MCCs that are not specified in the parameter (exact match is used) are not imported. The parameter may come handy if the System owner does not want to use specific MCC rates received from a partner. The default value is *null* (which means that all MCCs will be imported). Find out more about the feature in the Alaris YouTube video

- *Maximum rate analysis depth (days)*: the default value is 60 (days) which means that during rate import in the *Choice* mode, all rates that were active for the last 60 days for MCCs/MCCMNCs from the sheet will be shown. Suppose there is a rate for MCC 214 in the file with the period 2019.01.01-2100.01.01. If there is another rate in the product for MCC 214 with the close date less than the current date - 60 days, two rows will be shown in the analysis result - the new rate and the past one)

- *Period for show closest changes export option, days*: serves to set the period for which changes will be analyzed if the *Changes type*: *Show closest* has been selected for an export task in SMS\Rates\Rate export 407. For example, if set to 30, the System will only analyze rate changes for the next 30 days

- *Period for show latest changes export option, days*: serves to set the period for which changes will be analyzed if the *Changes type*: *Show latest* has been selected for an export task in SMS\Rates\Rate export 407. For example, if set to 30, the System will only analyze rate changes for the next 30 days

- *Period to consider effective date as being too far in the past*: the default value is 365 (days). Rates with the effective date older than the value specified in the parameter will be ignored during rate import

- *Price values to be considered as blocked* (comma-separated): when the *Rate* column contains a value (case-insensitive) specified here, a rate with *Rate note: BLOCKED* is created. Vendor products with a *BLOCKED* rate for the MCCMNC will not take part in routing. If a message is received from a client product and a blocked rate is selected, the message will be rejected. Values should be separated by comma, the default value is -

- *Price values to be considered as closed*: when the *Rate* column contains a value (case-insensitive) specified here, a rate will be closed. Values should be separated by comma, the default value is -

- *Rate change limit, percentage*: the parameter serves to define the threshold for displaying the "Rate increased by more than" error during automatic and manual rate import. The default value is 50

- *Rate changes auto send hours (comma separated)*: sets the hour(s) of the day when the rate changes are sent (configured by the parameter *Send rate change notifications automatically* in Carriers\Products 180). Possible values are from 0 to 23. Several comma-separated values can be entered (in this case auto rate export will be triggered several times during the day)

- *Rate country names to ignore for import (comma separated)*: the list of country names (case-sensitive, empty by default) whose rates will not be loaded during automatic and manual import. When the name is met during import in the *Country name* column, the error *Country blacklist* is raised. Note that for auto rate import the error is not marked as critical by default

- *Rate export routing feature inheritance (0 - no, 1 - yes)*: if the option is set to 1, routing features of the parent product will be exported when an export task is created for a child product (if the *Column settings* contain the FEATURE column). Export uses the same logic with parent/child features as for rates: in case there is a feature value for the client product, it will override the parent's value. The default value is 0

- *Rate inheritance mode (0 - longest match at child, 1 - global longest match)*: flag that controls rate search logic. When set to 1, the System searches for the most detailed rate (in terms of both MCCMNC/dial code/sender MCCMNC) in the parent and child product and uses the most detailed one to charge the client. When set to 0, the System first searches for the child product and if there is no suitable rate (for either MCC or MCCMNC), it searches it in the parent product. The default value is 1. The same setting is available on the product level (which overrides the System parameter)
- *Rate network names to ignore for import (comma separated)*: the list of net names (case-sensitive, empty by default) whose rates will not be loaded during automatic and manual import. When the name is met during import in the *Net name* column, the error *Network blacklist* is raised. Note that for auto rate import the error is not marked as critical by default
- *Rate rounding precision (displaying)*: number of decimal places for displayed rates. Up to 10 places are allowed. The parameter also affects rounding values of the *Aver. rate (C), Aver. rate (V), Aver. HLR rate, Rate (C), and Rate (V)* analytical columns
- *Rate rounding precision (storing)*: number of decimal places for rates stored in the System. Up to 10 places are allowed
- *Send changes to child products if the parent products are changed*: possible values are 0 (do not send) and 1 (send). If set to 1, an auto rate export task is created for a child product (on condition that the auto rate export functionality has been configured for it) if the parent product's rates have been changed. Note that the *Send rate change notifications automatically* option of the parent product has no effect on a task created for the child product(s)
- *Symbols ignored in rate field*: all characters contained in the field will be ignored when parsing the *Rate* column during an import operation. This allows filtering out currency symbols as well as blanks (the default value is ' $€'). Regular expressions are also supported *(for example, 'a-zA-Z')*
- *Update rate notes for existing rates (0 - no, 1 - yes)*: defines whether the imported rates must be updated if the rate record has the same price but a new rate note. The default value is 0. Rates with *same* type will not be updated even if they contain rate notes with values different from the existing ones

6.7.14 SMS routing

SMS routing

"Pure" sender ID tag search country list (Comma separate…	null
Deduct HLR rate from margin (0 - no, 1 - yes)	0
Delay between simulations in multi mode (seconds)	0.5
Filter HTTP vendors based on data coding (0 - no, 1 - yes)	0
MCC "Rest of the world"	777
MPS low balance account threshold	null
Override "ported" flag based on reference book comparis…	0
Routes to send	10
SMS simulation router list	127.0.0.1:1750
SMS simulation username	invoice
SMS vendor credit control enabled (1 - yes, 0 - no)	1
Use choice and rule ID dependent sorting of routes (0 - di…	0

SMS routing

- *"Pure" sender ID tag search country list (Comma separated list of destination country MCC, MCC% or MCCMNC)*: the default value is null (disabled). Once a list is specified, the routing verification of Sender ID in tags is enhanced as follows:
  - The Sender ID is translated into the new format by removing non-alpha symbols (for example, special characters and blank spaces). Also, the Sender ID is translated into upper case
  - The translated Sender ID is used in search of translation rules within the Post-routing stage (except Sender ID translations - the original Sender ID is used in the case); the routing rules are applied

NOTE: The vendor rate is searched for by the original Sender ID. Also, the vendor receives the original Sender ID. The feature allows blocking or passing messages to specific routes that have Sender IDs with special characters: for example, the carrier needs to block messages from 'Facebook', whereas the client sends the Sender ID ' Facebook '.

- *Deduct HLR rate from margin (0 - no, 1 - yes)*: when enabled, the HLR rate is deducted from the client rate (affects margin calculation for both analytics and routing). For concatenated messages (processed through the *Stateful concatenation* mode) the HLR rate is deducted only once
- *Delay between simulations in multi mode (seconds)*: defines the delay between simulation tasks if the *Mode* value is *multi* (SMS\Routing\Simulation 485). The default value is 0.5
- *Enable traffic exchange between the same carrier products*: the setting allows configuration of traffic routing within the same carrier. Possible values include 0 (default value, traffic exchange between the same carrier products is prohibited), 1 (traffic exchange is allowed with no additional limitation) and 2 (traffic exchange is allowed, given that product names are different)
- *Filter HTTP vendors based on data coding (0 - no, 1 - yes)*: 0 by default. When enabled, the message data coding is verified. If the message data coding is not in the *Allowed data coding list* of the HTTP vendor channel, the vendor channel is filtered from the routing results. Note that the message data coding is considered 0 if all message symbols are in the GSM7bit table (see Appendix 10. Data coding schemes\DCS tables\GSM 7-bit 868), otherwise it is 8
- *MCC "Rest of the world"*: the default value is 777; the respective record is made in the reference book. This record is considered if the price for the full MCCMNC or its MCC cannot be found. For example, when an attempt is sent to a number belonging to the network with MCCMNC 214001 but the product does not contain rates for either 214001 or 214, the price for code 777 (if it is both present and active) will be selected. The parameter is applicable throughout the System, including Alaris Campaign Portal and MO messages. If it is impossible to find a record for an MCC available in the SMS\Reference books\MO routing editor 519, the routing module will try to find a record for the MCC defined in the parameter

NOTE: When the user modifies the System parameter *MCC "Rest of the world"*, a new MCC is added to the e.212/e.164 reference book if no active MCC with this value was available.

- *MPS low balance account threshold*: integer, amount in the account's currency - once reached, the client MPS will be limited by the value calculated as the account balance/*Low balance account MPS modifier*. The default value is null - the functionality is disabled. Note that the account balance is calculated taking into consideration the *In credit* agreement parameter, that is, as follows: the balance+credit limit. For example, if the *MPS low balance account threshold* is 500, the actual balance is 450, *In credit* is 50 and the *Low balance account MPS modifier* is 100, the MPS is calculated as (450+50)/100 = 5 MPS. This logic will help prevent situations when a partner can send more traffic than its balance allows. If MPS is exceeded, messages will be rejected. Note that the functionality is not applicable to trusted clients (for which there is at least one account and agreement with an empty client credit limit)

- *Override "ported" flag based on reference book comparison (0 - no, 1 - yes)*: the parameter serves to set the *ported* flag when working with HLR providers, based on the returned MCCMNC and the MCCMNC from the System's reference book. If the parameter is set to 1 and the HLR MCCMNC does not coincide with the reference book MCCMNC, the *ported* flag will equal 1, even if the provider returned a different value

- *Routes to send*: maximum number of routes that the System can provide for terminating an SMS (applies to the SMS\Routing\Simulation 485 interface as well). The default value is 3

- *SMS simulation router list*: list of routers available for selection in the *Router* drop-down list in SMS\Routing\Simulation 485. Routers are added in the format IP address:Port, and must be comma-separated, for example: 66.210.56.183:1750,61.610.58.192:1751. In most cases the setting is changed by the Alaris technical support team

- *SMS simulation username*: the OS username for connection to the routing server to copy the simulation log. The setting is modified when necessary by the Alaris technical support team

- *SMS vendor credit control enabled (1 - yes, 0 - no)*: when the value is *1* (default), vendors are blocked after their credit limit is reached. Suppose the agreement parameter *Out credit* is set to 200 which means that the vendor can receive traffic until the vendor balance is greater than 200 (in the account currency). If the System setting is 1, messages will not be sent to the vendor once the credit limit reached. If the setting is 0, messages will be sent to the vendor (if there is no other restriction)

- *Use choice and rule ID dependent sorting of routes (0 - disable, 1 - enable):* when enabled, the parameter changes the default logic of route sorting (context -> priority -> weight) to rule ID/choice order dependent (context -> priority -> rule ID -> choice order -> weight). If several rules have the same context and same priority, the rule with a higher ID will be processed first. Static choices go first (since they have the greatest weight). The weight of vendor products of dynamic choices are calculated using *Formula* (in case the formula is not specified, it is a random value)

6.7.15 SMS switch

⊟ SMS switch

Allow decreasing number of segments after text translatio...	1
Allow increasing number of segments after text translation...	1
Concatenated messages: All segments submit timeout, sec.	120
Concatenated messages: Delivery waiting period for statef...	120
Concatenated messages: Fast response for every segme...	0
Concatenated messages: Reject incomplete messages (0 ...	0
Concatenated messages: Shift submit time exponentially (...	1
Default callback timeout, sec	20
Default vendor overflow buffer size	200000
Default vendor window size	100
Delivery waiting period, sec	3600
Ignore registered_delivery for client	0
Low balance account MPS modifier	0
Track MO responses to MT max waiting period, minutes	180

SMS switch

- *Allow decreasing number of segments after text translation (0 - no, 1 - yes)*: the default value is 0. When set to 1 (given that the concatenated message translation has been enabled previously by the Alaris technical support team), the System allows applying of translation rules to concatenated messages received over SMPP when the resulting number of parts decreases in the initial one. Note that the message parts must be processed with the Stateful concatenation logic of the SMS switch. For more details, communicate the BZ44623 code to the Alaris technical support team. Note that as many submit responses and delivery reports will be sent to the client as many segments were received initially. If one of the delivery reports obtained from the vendor is unsuccessful (other than DELIVRD; for example: UNDELIV), all delivery reports sent to the client will have the same status (UNDELIV for this example)

- *Allow increasing number of segments after text translation (0 - no, 1 - yes)*: the default value is 0. Once set to 1 (given that the concatenated message translation has been enabled previously by the Alaris technical support team), the System allows applying translation rules to concatenated messages received over SMPP when the resulting number of parts increases in the initial one. Note that as many submit responses and delivery reports will be sent to the client as many segments were received initially. Note that the message parts must be processed with the Stateful concatenation logic of the SMS switch

- *Concatenated messages: All segments submit timeout, sec.*: defines the period in seconds for all the segments of a concatenated message to be received by the switch and processed as single SMS, otherwise the switch processes them like separate submits. The same parameter can be applied on the channel level (in Carriers\SMS channels 188) - in which case it has priority over the System setting. The default value is 10. Note that the parameter is applied in case stateful concatenated message processing is enabled (in the System settings or on the channel level). It is recommended to set a lower value for the timeout as an additional delay of 2-3 seconds can appear. The delay is contributed by the redundancy scheme in order to ensure that all submit packets will be delivered if they are processed by different instances of the SMS switch.

- *Concatenated messages: Delivery waiting period for stateful processing, sec.*: time (in seconds) to wait for delivery reports for segments of the same message. The default value is 86400 seconds. If no DLRs were received, the SMS remains in the SENT status. By default a delivery report for each part is processed and sent to a client separately. To change the System logic, contact the technical support team and communicate code BZ33220. The logic will be as follows:

  - if DLRs were received for some segments and not received for others, the EXPIRED status is sent to the client for the entire message (after 24 hours from the receipt of the source message)

  - if different reports were received for different segments (for example, DELIVRD for some and UNDELIV for other), the UNDELIV status is returned to the client

  - if the DELIVRD reports were received for all the segments, the DELIVRD status is returned to the client

  If the parameter is applied if the System setting *Enable system-wide stateful concatenated messages processing (0 - no, 1 - yes)* is set to 1 or the channel setting *Stateful concatenated messages processing* is enabled. Note that the feature cannot be enabled if the System parameter *Allow decreasing number of parts after text translation* is set to 1.

NOTE: Important! The SMS switch checks if the EXPIRED status must be generated every minute, that is, on the 60th second, the 120th second, the 180th second etc. Therefore if a vendor sends a delivery report within the interval, the vendor's report - and not the EXPIRED status - will be sent to the client. For example, if the parameter is set to 70, delivery reports (with the DELIVRD status) are received on the 75th second, and the DELIVRD status will be sent to the client since the check-up will be carried out only on the 120th second.

- *Concatenated messages: Fast response for every segment (0 - no, 1 - yes)*: specifies if successful submit responses (for each segment) should be sent to the client before routing takes place. Note that in case no routes are found, UNDELIV reports will be sent out. Allowed values are 0 (disabled, which is default behavior) and 1 (enabled). The same parameter can be applied on the channel level (in Carriers\SMS channels 188) - in which case it has priority over the System setting. Note that the parameter is applied if the System setting *Enable system-wide stateful concatenated messages processing (0 - no, 1 - yes)* is set to 1 or the channel setting *Stateful concatenated messages processing* is enabled

- *Concatenated messages: Reject incomplete messages (0 - no, 1 - yes)*: when enabled, the System sends failed submit responses if some segments are not received until the timeout set in *Concatenated messages: All segments submit timeout, sec*. The allowed values are 0 (the SMS switch processes an incomplete set of segmented SMS messages as separate ones) or 1 (the SMS switch sends a failed response (ESME_RSUBMITFAIL) to the client and does not process these submits further). The same parameter can be applied on the channel level (in Carriers\SMS channels 188) - in which case it has priority over the System setting. The default value is 0. Note that the parameter is applied in case stateful concatenated message processing is enabled (in System settings or on the channel level).

- *Concatenated messages: Shift submit time exponentially (0 - no, 1 - yes)*: when enabled, the System adds *2*segmentNum* seconds to the send time in submit EDR (where *segmentNum* is the number of segments of a concatenated message). The parameter solves the message ID+message sent time unique problem if the vendor returns the same message ID for different segments of the message. If set to 0, the message sent time will not be modified in the EDR. By default the parameter is enabled - meaning that a few seconds will be added to the timestamp. Note that the parameter is applied in case stateful concatenated message processing is enabled (in System settings or on the channel level).

- *Default callback timeout, sec*: the timeout in seconds which will be used for the SMS channels with empty or zero value for the channel's parameter *Callback timeout, sec*. Once reached, a FIN signal is sent to the client

- *Default vendor overflow buffer size*: the default allowed number of SMS in the storage buffer. The parameter is used if the *Vendor overflow buffer size* parameter is not set in Carriers\SMS channels 188. The default value is 50000 (messages). In case the parameter is not set (the same as *null* value)or set to 0 while *Vendor capacity (sms/sec)* is not empty, when the capacity is reached, messages will be rejected with EDR status SMS OUT BUF OVL. Once the buffer threshold (in case of a positive value) is reached, messages will be rejected with the same status. The maximum value can be calculated based on server specifications (200,000 messages in the buffer require approximately 1 GB of RAM

- *Default vendor window size*: the default allowed number of pending messages awaiting the vendor's response (submit_sm packets without submit_sm_resp received). The parameter is used if the *Vendor window size* parameter is not set in Carriers\SMS channels 188. For example, *Window size* set to 10 means that 10 pending messages are possible for the vendor (10 messages without a response from the vendor side to our submit requests). The 11th SMS will be rejected if the vendor does not respond to it within the submit timeout (30 seconds by default) or the vendor does not respond at least to one of the pending messages, and also if the *Default vendor overflow buffer size* is set to 0. Otherwise the message will be placed in buffer. The default value is 100, the maximum value is 1000

- *Delivery waiting period, sec*: the period during which delivery reports are expected from the vendor; after that, the reports will be ignored. Note that the parameter does not invoke generation of EXPIRED delivery status once the period is expired. The default value is 172800 seconds (2 days). The maximum value can be defined based on the server parameters (available RAM)

- *Ignore registered_delivery for client*: ignore the value of the registered_delivery flag for the client. If the value is *0* (2 lower bits are set to 0) and the client sends registered_delivery = 0, the client will not receive a delivery report even if the System has received it. If the value is *1*, the client will receive the delivery report irrespective of whether the client requested it or not. Additionally, the *Registered delivery* column of the EDR will contain value 1 as an initial value despite the value sent by the client - however, the original value is proxied to the vendor given that no translation rule was applied

- *Low balance account MPS modifier*: the parameter serves to automatically limit the capacity of a carrier based on its account balance. When the *MPS low balance account threshold* is reached, the client MPS will be limited by the value calculated as the actual balance/*Low balance account MPS modifier*. The default value is 1. Note that the account balance is calculated taking into consideration the *In credit* agreement parameter, that is, as follows: the balance+credit limit. For example, if the *MPS low balance account threshold* is 500, the actual balance is 450, the *In credit* parameter is 50 and the *Low balance account MPS modifier* is 100, the MPS is calculated as (450+50)/100 = 5 MPS. This logic will help prevent situations when a partner can send more traffic than its balance allows. If MPS is exceeded, messages will be rejected. Note that the functionality is not applicable to trusted clients (for which there is at least one account and agreement with an empty client credit limit)

- *Track MO responses to MT max waiting period, minutes*: serves to set the delivery waiting period for MO responses. The default value is 1440 (applicable only to MT traffic for client SMS channels with the enabled checkbox *Track MO responses to MTs*)

6.7.16 Security

⊟ Security	
Allow password re-use	0
Allowed login attempts after password expiry	0
Forbidden character sequences	0
Link expiration period in password reset email, days	3
Minimum digit count in password	0
Minimum letter count in password	0
Minimum mixed case letter count in password	0
Minimum non-alphanumeric symbol count in password	0
Minimum password length	4
Non-alphanumeric password symbols	!@#$%^&*()-+=.,;
Password expiry period, days	3
Password expiry reminder (days)	3
Password history period, days	90
Rule 3 of 4	0

Security

The *Administration\System settings\Security* section serves to control the password generation and storing policies using the following settings:

- *Allow password re-use*: if set to 0, users are not allowed to use previous passwords when changing a password (Administration\Users 158 >> *User password change*)

- *Allowed login attempts after password expiry*: once the password expiration date has come, the user will still be able to login N times before changing the password, where N is defined by this parameter

- *Forbidden character sequences*: if set to 1 (default value), during a password change or assignment, the following verifications are performed:

  1) the password does not contain the user's login name

  2) the password is not included in the black list, which is set by default and contains the most compromised passwords (for example, *qwerty*). To add new values to the list, contact the Alaris technical support service and provide the code BZ49367

  Set to 0 to disable the logic.

- *Link expiration period in password reset email, days*: the number of days (3 by default) during which the password reset link sent over an email is valid. Possible values vary from 1 to 30.

- *Minimum digit count in password/Minimum letter count in password/Minimum mixed case letter count in password/Minimum non-alphanumeric symbol count in password*: minimum number of digits/letters/mixed-case letters/non-alphanumeric symbols to be used in the new password correspondingly. Integer values are allowed. If set to *null*, the default value will be used (3 digits/0 letters/2 mixed case letters/2 non-alphanumeric symbols correspondingly). If, during password change, the user inserts fewer symbols than is specified in the parameter, the following warning will appear:

Password does not comply with security policy or was already used. The password must contain:
at least 3 character(s)
at least 3 digit(s)
at least 0 letter(s)
at least 0 mixed case letter(s)
at least 0 symbol(s) from !@#$%^&()-+=.,;*

NOTE: The parameter applies to the main web interface and the Partner and Campaign Portals. The list of non-alphanumeric symbols are defined in the System parameter *Non-alphanumeric password symbols*.

- *Minimum password length*: minimum password length. Integer values are allowed (maximum is 60). If set to *null*, the default value will be used (8 symbols). The parameter applies to the main web interface and the Partner and Campaign Portals

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NOTE: The same mechanism of password generation applies to SMS channel passwords (*Generate* button in the Carriers\SMS channels 188 interface). SMPP specification 3.4 allows no more than 9 symbols for a password. Therefore, if the setting is greater than 9 and the user generates a password for an SMS channel (Carriers\SMS channels 188 >> *Password* >> *Generate*), the password length will be 9 symbols. Additionally, the generation algorithm will try to fulfill the requirements of the minimum number of letters/digits/non-alphanumeric symbols

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- *Non-alphanumeric password symbols*: list of symbols allowed for use in the password other than digits and letters. Integer values are allowed. If set to *null*, the default value will be used (2 symbols). Note that the parameter applies to the main web interface and the Partner and Campaign Portals

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NOTE: The exact length for the password is calculated as follows:

1. the value of the *Minimum digit count in password*
2. the value of the *Minimum non-alphanumeric symbol count in password*
3. the value of the *Minimum mixed case letter count in password*
4. the greatest value amongst the following:

- the value of the *Minimum mixed case letter count in password*
- (*Minimum letter count in password - Minimum mixed case letter count in password*)
- (*Minimum password length - Minimum mixed case letter count in password - Minimum digit count in password - Minimum non-alphanumeric symbol count in password*)

Suppose the settings are as follows:

Minimum mixed case letter count in password: 1

Minimum letter count in password: 5

Minimum password length: 8

Minimum digit count in password: 7

Minimum non-alphanumeric symbol count in password: 1

In accordance with steps 1-3, the length will be 7+1+1=9

The next part - which is added according to step 4 - will be 4:

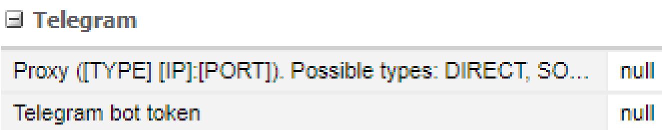
- the *Minimum mixed case letter count in password* is 1
- the difference between the *Minimum password length and Minimum mixed case letter count in password* is 4
- (*Minimum password length - Minimum mixed case letter count in password - Minimum digit count in password - Minimum non-alphanumeric symbol count in password*) = -1

The overall pass length to generate the user's password is 13 symbols. Note that the same will be trimmed to 9 symbols while the channel password is being generated.

- *Password expiry period, days*: default number of days after which the password expires. By default the *Expiry date* (Administration\Users 158) is set to the current date + *Password expiry period, days.* The minimum value is 1, the maximum is 10000. If the user tries to login to the web interface / Alaris Campaign Portal / Partner portal with an expired password, a warning appears
- *Password expiry reminder (days)*: number of days until the user starts receiving warning letters about password expiration. Note that the System job *BAS_CHECK_EXPIRE_PASSWORD* must be enabled
- *Password history period, days*: number of days during which the passwords used earlier are stored. For example, if *Allow password re-use* is set to 0 and the user tries to change the password to the same value that is stored in the history (suppose that the old password was used earlier than *N* days ago, where *N* is *Password history period, days),* a warning appear

6.7.17 Telegram

The System allows sending report results to Telegram. This section serves to configure interaction with the Telegram service and contains the following parameters:



Telegram

- *Proxy ([TYPE] [IP]:[PORT]). Possible types: DIRECT, SOCKS, HTTP*: proxy type in order to send reports from the *Reports* interface to Telegram. Default value (null) means that no proxy is used for sending. Example: SOCKS 212.83.147.101:12850

- *Telegram bot token*: bot token for sending reports (from the Reports 102 interface) to Telegram. To enable this, a bot must be registered (for example, SendAlertsBot) at https://telegram.me/BotFather - once the registration is completed, a token will be issued. The token must be inserted in the *Telegram bot token* parameter and a chat with the bot (@SendAlertsBot) must be created. The chat will serve to receive automatic messages. The default value is null (the functionality is disabled). The detailed step-by-step description is listed in Appendix 7. Frequently asked questions 734

To configure interaction with the Telegram service, proceed as follows:

0. Set the appropriate values in the System parameters detailed above

1. Register a bot (service on behalf of which notifications will be sent) at https://telegram.me/BotFather. For example, SendAlertsBot

2. Remember the bot ID

3. Create a chat with the bot (@SendAlertsBot). The chat will be used for receipt of automatic messages

4. The ID of the chat (which can be checked at https://telegram.me/get_id_bot) can be used in reports marked as *Periodic*

As Telegram does not support display of tables, only the content of the dedicated field of a preset will be sent to the messenger. The full report content can be emailed to predefined email addresses.

6.7.18 Trading tools

The section contains parameters related to Swap deals 238.

⊟ Trading tools

Percentage of cubes allowed to be invalidated for swap d...	80
Repeated alerts buffering interval, min	60
Swap deals stats currency	EUR
The list of excluded vendors	null

Trading tools

- *Percentage of cubes allowed to be invalidated for swap deals*: the maximum percent of analytical cubes for the period covered by a swap deal which may be under recalculation. When the threshold is reached, the swap deals stats are not updated. For example, if the option is set to 10, this means that for a deal 10% of cubes can be in the invalid state (can be recalculated). If the percentage is greater, the notification '*Swap stats cannot be updated at the moment: percentage of invalidated cubes is higher than the* System *threshold*' will appear. Note that the statistics are based on hour cubes for the current day (24) + daily cubes for other days (which are included to the period of a deal). For example, if a deal is for a month (January) and the current date and time is 16/01 15:01, 40 cubes in total (16 daily cubes + 24 hour cubes) are taken into account (so 10% is 4 cubes in *Must be recalculated* state is the maximum number for the deal to show 'actual' stats)

- *Repeated alerts buffering interval, min (applicable to the voice System Alaris inVoice only)*

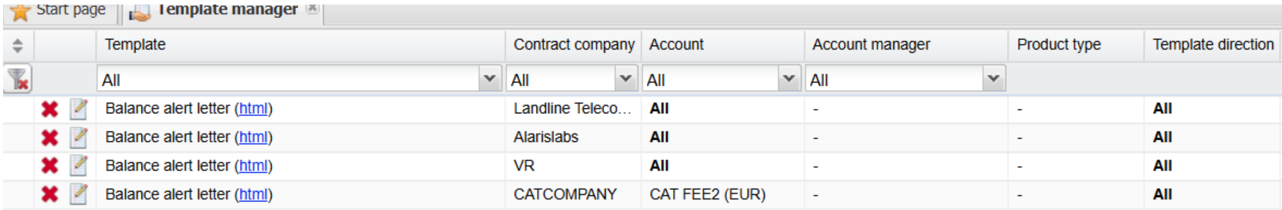
- *Swap deals stats currency*: serves to configure the currency in which swap deals statistics must be calculated. If set to *null*, the System currency will be used.

- *The list of excluded vendors (applicable to the voice System Alaris inVoice only)*

6.8 Template manager

The *Administration\Template manager* page allows creating templates for various document types generated by the System – invoices, rate export files, invoice letters etc.

The page is divided in two panels. The left panel is a table of templates. The table contains the following information:



Template	Contract company	Account	Account manager	Product type	Template direction
All	All	All	All		
Balance alert letter (html)	Landline Teleco...	All	-	-	All
Balance alert letter (html)	Alarislabs	All	-	-	All
Balance alert letter (html)	VR	All	-	-	All
Balance alert letter (html)	CATCOMPANY	CAT FEE2 (EUR)	-	-	All

Template manager

- *Template*: description of the template and link for downloading the document in XLS, PDF or HTML format

- *Contract company*: the legal entity of the System owner on behalf of which it works with a partner

- *Account*: carrier account(s) the selected template is used for (if *Default* – the template is used for all carriers except for those who have separate templates; *Default* templates cannot be deleted)

- *Account manager*

- *Product type*

- *Comments*: arbitrary notes

- *Last updated*: the date of the template latest update

The button in the first column activates the *Change template* view on the right. The button deletes the record. Configure the parameters as detailed below (some templates may contain other parameters which are usually self-explanatory):

- *Template type*: type of the template (select from the drop-down list)

- *Contract company*

- *Accounts*: select carrier account(s) the template is used for

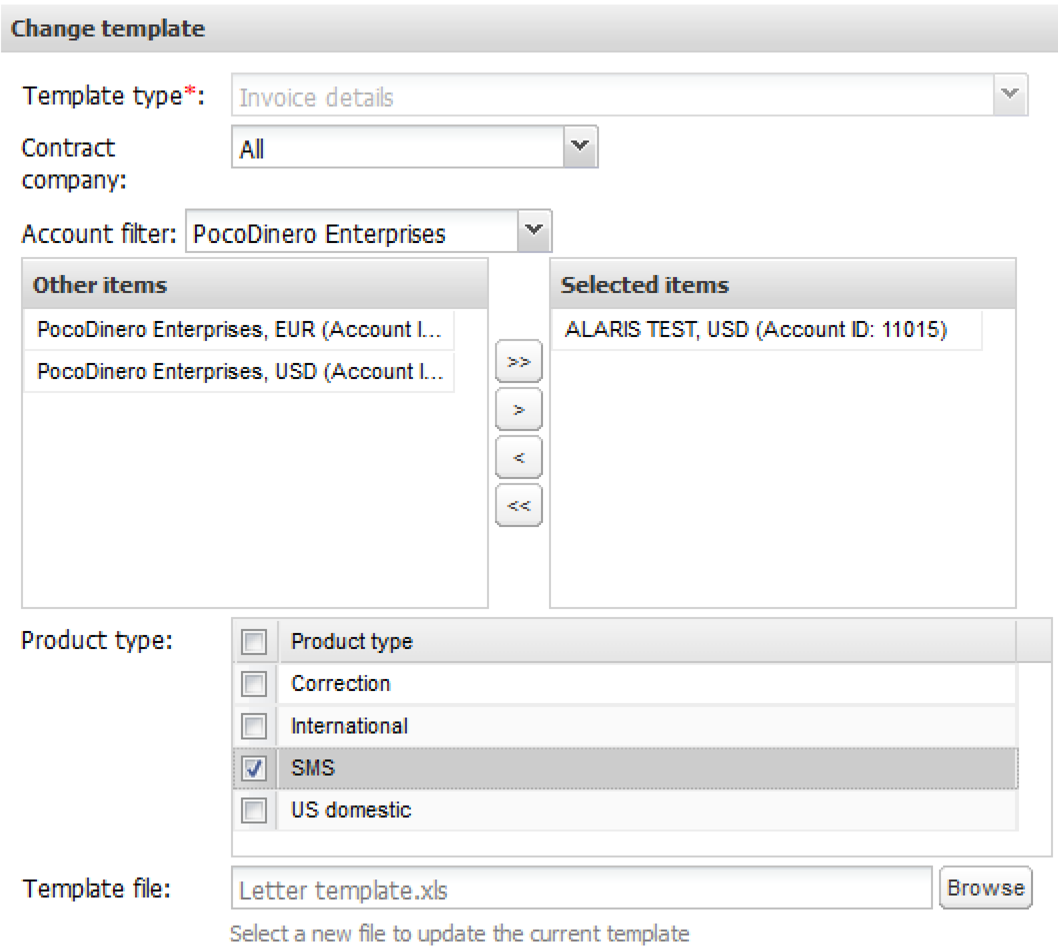
- *Template direction,* available for template types *Invoice*, *Invoice details*, *Invoice letter*, and *Invoice letter (separate letter for usage stats option)*. Possible values include:

  - *All*
  - *Client*
  - *Vendor*

Find out more about the feature in the Alaris YouTube video.

NOTE: When the System selects the template for generation of a document, the fields have the following priority from top to bottom: *Products*, *Template direction* (*Client/Vendor*), *Product type*, *Accounts*, *Contract company*. In this way, the *Template direction* field has priority over the fields *Account* and *Contract company*. Suppose two templates of the type *Invoice* exist in the System, #1 with *Account* = All, *Template direction* = Client, and #2 with *Account* = "Specific account", *Template direction* = All. The System will select template #1. However, if template #2 has the *Template direction* = Client (or Vendor, as appropriate), the System will select template #2.

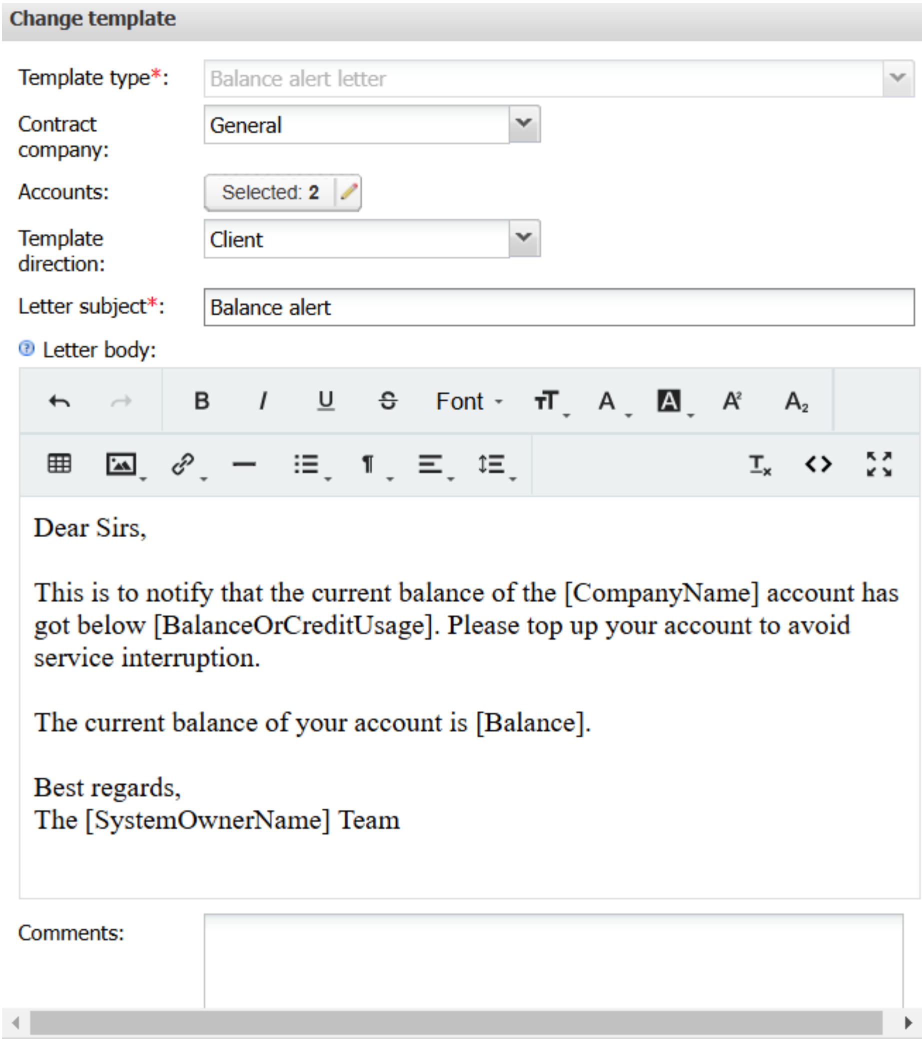
- *Products*: multipicker that allows assigning the templates to several products (available for the following template types: *SMS rate export, SMS rate update letter*)
- *File name mask*
- *Letter subject*: active only for letter templates. The parameter defines the email subject. It is possible to use markers here
- *Letter body*: active only for the letter templates. The parameter defines the email text. It is possible to use markers here
- *Product type*: a product type (configured in Reference books\Product types 273)
- *Template file*: select a file to upload



Change template

When through with defining the parameters, click Save to confirm or Cancel to discard the settings.

To add a new template to the System click Add template and open the *Add new template* view. The configurable parameters are the same as in the *Change template* view.



Add template view

Below is a list of available markers for the templates.

6.8.1 Templates and markers

Markers are alphanumeric strings in square brackets that are used in document templates as placeholders of information. Below is a list of document templates supported by the System and markers used in them.

NOTE: All amounts can be shown with a reversed sign with the help of the *RevSign* suffix (negative amounts shown as positive and vice versa). For example, when the invoice amount is -100, the marker [EstimatedAmount] is replaced with -100 while [EstimatedAmountRevSign] is replaced with 100.

NOTE: all URL-encoded markers (the ones that have the UE postfix, for example, [CompanyNameUE]) follow the Java logic. That is, space sign is encoded as +

2FA enabled for your account

The notification is sent out to the user's email address once the 2FA enabled flag is checked for the user in Administration\Users 158. Available markers for the template:

Marker	Description
[SystemOwnerName]	the System owner name (the *System owner name* System parameter)
[UserLoginName]	user's login
[UILink]	the link to the admin web interface (the *Login link* System parameter)
[QRCode]	QR code to read the TOTP

2FA enabled for Partner\Campaign portal account

The notification is sent out to the email address of Partner\Campaign Portal users created by the System owner. Available markers for the template are the same as for the template *2FA enabled for your account.*

Balance alert letter

Notifications are sent out when balance thresholds (if any) are reached for the accounts with non-empty credit limits (Carriers\Agreements 171). The thresholds are set in the account level (*Account balance threshold* #1-#5) as well as in System settings (*Balance alarm threshold* #1-#5). Note that the account flag *Send balance alerts* must be selected in order for the alerts to be dispatched.

To send out such alerts for the accounts with non-zero credit limit in accordance with the balance thresholds, the System parameters *Send balance alerts to clients with non zero credit limit (0 - no, 1 - yes)* and/or *Send balance alerts to vendors with non zero credit limit (0 - no, 1 - yes)* must be set to 1.

The addresses for the notifications are configured as follows:
Administration\System settings\Financial module 61, *Credit and balance alarms default email* - the *To* field.

Carriers\Agreements\Account alert emails 171 and Administration\Users 158, *Email* (given that the *Send alarms* flag is selected on the same page and the System parameter *Send credit and balance alarms to customer (0 - no, 1 - yes) is set to 1)* - the *To* field. Balance alerts are sent to partner emails for the client direction only.

Administration\Users 158, *Email of the account manager* (given that the System setting *Send credit alarm to account manager* is set to 1): the *BCC* field if an alert is generated for the client direction and the *To* field in case of the vendor direction.

Reference books\Contract companies 261, *Email address list* (given that the *Receive balance/credit alerts* value is other than *Do not receive*): the *BCC* field

Available markers for the template:

Marker	Description
[AccountManager]	account manager login

Marker	Description
[AccountManagerFull]	account manager’s first and last names
[SystemOwnerName]	the contract company name
[CurrentDate]	the current time (in the System timezone)
[CompanyName]	the carrier name
[BalanceOrCreditUsage]	the current usage calculated as “account balance*100 / account credit”
[Balance]	the account balance with the currency code
[Credit]	the credit limit with the currency code
[PrevDayConsumption]	balance consumption for the previous day
[EstimUntilLimitReached]	estimated number of days until credit limit is reached if the traffic consumption remains similar to the previous day
[BillingManager]	billing manager's first name and last name (assigned in Administration\Account manager history 29) first name and last name (Administration\Users 158)
[BillingManagerMobilePhone]	billing manager mobile phone number (Administration\Users 158)
[BillingManagerOfficePhone]	billing manager office phone number (Administration\Users 158)
[BillingManagerEmail]	billing manager email address (Administration\Users 158)
[Remainder]	the balance remaining before exceeding the credit limit (calculated as: balance+credit limit)
[CompanyRegisteredName]	the agreement’s Company registered name (Carriers\Agreements 171)

Credit alert letter

Notifications are sent out when the credit thresholds (if any) are reached for accounts with non-empty and non-zero credit limits (Carriers\Agreements 171). The thresholds are set in the account level (*Account credit threshold* #1-#5) as well as in System settings (*Credit alarm threshold* #1-#5).

Addresses for the notifications are configured as follows:

Administration\System settings\Financial module 61, *Credit and balance alarms default email* - the *To* field;

Carriers\Agreements\Account alert emails 171 and Administration\Users 158, *Email* (given that the *Send alarms* flag is selected on the same page and the System parameter *Send credit alarm to customer* is set to 1) - the *To* field. Credit alerts are sent to partner's emails for the client direction only.

Administration\Users 158, *Email of the account manager* (given that the System setting *Send credit alarm to account manager* is set to 1): the *BCC* field if an alert is generated for the client direction and the *To* field in case of the vendor direction.

Available markers for the template:

Marker	Description
[AccountManager]	account manager login
[AccountManagerFull]	account manager's first and last names
[SystemOwnerName]	the contract company name
[CurrentDate]	the current time (in the System timezone)
[CompanyName]	the carrier name
[BalanceOrCreditUsage]	the current usage calculated as "account balance*100 / account credit"
[Balance]	the account balance with the currency code
[Credit]	the credit limit with the currency code
[PrevDayConsumption]	balance consumption for the previous day
[EstimUntilLimitReached]	estimated number of days until credit limit is reached if the traffic consumption remains similar to the previous day
[BillingManager]	billing manager's first name and last name (assigned in Administration\Account manager history 29) first name and last name (Administration\Users 158)

Marker	Description
[BillingManagerMobilePhone]	billing manager mobile phone number (Administration\Users 158)
[BillingManagerOfficePhone]	billing manager office phone number (Administration\Users 158)
[BillingManagerEmail]	billing manager email address (Administration\Users 158)
[Remainder]	the balance remaining before exceeding the credit limit (calculated as: balance+credit limit)
[CompanyRegisteredName]	the agreement's Company registered name (Carriers\Agreements 171)

Credit note

The file is a template to generate credit note cover letters in PDF format.

Financial information is sent to the partner's email addresses set in the *Default invoice emails* field of the agreement (provided that the option *Invoice delivery option* is set to a value other than *Do not send*) and to the users' email addresses for which the *Send invoices* flag is selected.

The carbon copy of such emails can be set on the contract company level or in the System setting (*Email address list to CC finance-related emails*). The *BCC* field is filled in with the addresses specified in the contract company setting Email *address list to BCC finance-related emails* as well as with the account manager's email address.

Available markers are listed below. Note that for proper work of markers that contain timestamps, the *Default format* parameters (Administration\System settings\Common 49) must be filled in. Possible formats can be found here.

Marker	Description
[AccountManager]	the carrier's account manager
[AgrCode] or [AGR_CODE]	the agreement code (Carriers\Agreements 171)
[AgrBankInfo]	the agreement bank info
[AgrLegalAddress]	the agreement legal address(Carriers\Agreements 171)

Marker	Description
[BankName]	bank name (Reference books\Bank accounts 255) of the bank set in Carriers\Agreements 171 (*Default bank account*)
[BankRecipientName]	recipient name (Reference books\Bank accounts 255)
[BankAccount]	the *Account number* value (Reference books\Bank accounts 255)
[BankSwiftCode]	SWIFT code (Reference books\Bank accounts 255)
[BankCorrAccounts]	the *Corr. account(s)* field value of the corresponding bank (Reference books\Bank accounts 255)
[BankComments]	the bank's *Comments* field value (Reference books\Bank accounts 255)
[BankAddress]	the bank's address (Reference books\Bank accounts 255)
[BillingManagerSignature]	signature of the billing manager. The signature can be added in *Start\User settings* (jpg or png format)
[CAR_ID]	the carrier ID (Carriers\Carriers 163)
[CAR_NAME]	the carrier name (Carriers\Carriers 163)
[CompanyName]	the carrier name (Carriers\Carriers 163)
[CompanyId]	the carrier ID (Carriers\Carriers 163)
[CompanyAddress]	the carrier address
[PARAM<PARAM_ID>]	value of the custom parameter created on Administration\Custom parameter types 30 (<PARAM_ID>: the ID of the custom parameter)

Marker	Description
[CompanyVAT]	the agreement VAT (Carriers\Agreements 171)
[CompanyRegisteredName]	the agreement registered name (Carriers\Agreements 171)
[ContractCompanyName]	the name of the contract company
[CurrencyCode]	the account currency code
[CurrencyCode1]	the first finance currency code (Administration\System settings 48)
[CurrencyCode2]	the second finance currency code (Administration\System settings 48)
[CurrencyCode3]	the third finance currency code (Administration\System settings 48)
[CurrencyName]	the currency display name from Reference books\Currency exchange rates 270
[CurrencyRateAverage]	average exchange rate of the account currency to System currency for the invoice period
[CurrencyRateAverageReverse]	reverse average exchange rate of the account currency to System currency for the invoice period
[CurrencySymbol]	symbol of the currency in which the invoice is generated. By default only the USD symbol is supported. To include other symbols, contact the Alaris technical support team and communicate the code BZ29982
[PrevPeriodEndDate]	invoice period start date minus 1 day
[InvoiceDate]	urlencoded invoice issue date
[YYYYMMDD]	invoice issue date timestamp in the format 'YYYYMMDD'

Marker	Description
[YYMMDD]	invoice issue date timestamp in the format 'YYMMDD'
[Year]	year of the invoice issue date
[Month]	month of the invoice issue date
[Day]	day of the invoice issue date
[InvoiceDateInWords]	Invoice issue date with month in words. Note that for *InWords* placeholders to be replaced properly, the System settings *Default format: date (period) in words* and *Default format: datetime (period) in words* must be filled in in accordance with the Oracle datetime format.
[InvoiceDueDate]	invoice due date
[InvoiceDueDateInWords]	invoice due date with month in words
[InvoiceRegDate]	invoice confirmation date
[InvoiceRegDateInWords]	invoice confirmation date with month in words
[InvDueDays]	the *In payment period, days/Out payment period, days* value from the agreement (for the client/vendor direction respectively)
[InvNotes]	invoice notes
[InvoiceId]	invoice System (internal) ID
[InvoicePeriod]	invoice period in the partner timezone
[InvoicePeriodInWords]	invoice period with month in words
[InvoicePeriodLong]	invoice period in the partner timezone with hours, minutes and seconds specified
[InvoicePeriodLongInWords]	invoice period in the long format with month in words

Marker	Description
[InvoiceSysPeriod]	invoice period in the System owner timezone
[InvoiceSysPeriodInWords]	invoice period in the System timezone with month in words
[InvoiceStartDate]	the invoice start date
[InvoiceEndDate]	the invoice end date
[InvoiceTimezone]	invoice timezone name (Carriers\Agreements 171)
[InvoicePeriodInWordsIn<LANGUAGE>]	invoice period with month in words in <LANGUAGE> where <LANGUAGE> must be replaced by the language itself (for example, [InvoicePeriodInWordsInEnglish])
[InvoicePeriodLongInWordsIn<LANGUAGE>]	invoice period in long format with month in words in <LANGUAGE>
[InvoiceSysPeriodInWordsIn<LANGUAGE>]	invoice period in the System timezone with month in words in <LANGUAGE>
[InvoiceDateInWordsIn<LANGUAGE>]	invoice issue date with month in words in <LANGUAGE>
[InvoiceDueDateInWordsIn<LANGUAGE>]	invoice due date with month in words in <LANGUAGE>
[InvoiceRegDateInWordsIn<LANGUAGE>]	invoice confirmation date with month in words in <LANGUAGE>
[InvoiceCurrentOffset]	invoice timezone offset to GMT. Format: +/-HH:MI
[OwnerName]	System owner name (Administration\System settings 48 - the *System owner name* parameter)
[PreviousBalanceNum]	prepayment amount (without currency code), calculated as:

Marker	Description
	least([EstimatedAmount], greatest([PreviousBalanceNum], 0)
[PreviousBalanceNumRevSign]	the same as [PreviousBalanceNum] but with the reverse sign (i.e., amount 100 will be reflected as -100)
[PreviousBalance]	account balance before the start of the Invoice period with currency code
[PreviousBalanceWOexpired]	similar to the marker [PreviousBalance] with no account for payments with the enabled Expiry date value
[PreviousBalanceWOexpiredRevSign]	similar to the marker [PreviousBalanceWOexpired] with the reversed sign
[PreviousBalanceWOexpiredNum]	similar to the marker [PreviousBalanceWOexpired], but with no currency code
[PreviousBalanceWOexpiredNumRevSign]	similar to the marker [PreviousBalanceWOexpiredRevSign], but with no currency code
[EstimatedAmountNum]	estimated amount without currency code
[EstimatedAmountNum1]	estimated amount in the first financial currency
[EstimatedAmountNum2]	estimated amount in the second financial currency
[EstimatedAmountNum3]	estimated amount in the third financial currency
[EstimatedAmount]	estimated amount with currency code
[EstimatedAmount1]	estimated amount in the first financial currency (with the currency code)
[EstimatedAmount2]	estimated amount in the second financial currency (with the currency code)

Marker	Description
[EstimatedAmount3]	estimated amount in the third financial currency (with the currency code)
[TotalAmountNum]	amount to pay with consideration of previous balance, without currency code
[TotalAmount]	amount to pay with consideration of previous balance, with currency code
[PrepaymentAmountNum]	prepayment amount (without currency code), calculated as: least([EstimatedAmount], greatest([PreviousBalanceNum], 0)
[PrepaymentAmount]	same as [PrepaymentAmountNum], with currency code
[AmountInWord]	invoice amount in words (based on [TotalAmount])
[EstAmountInWord]	invoice estimated amount in words
[EstimatedAmountRevSignNum]	(-1 * estimated amount without currency code)
[EstimatedAmountRevSignNum1]	(-1 * estimated amount without currency code in the first financial currency)
[EstimatedAmountRevSignNum2]	(-1 * estimated amount without currency code in the second financial currency)
[EstimatedAmountRevSignNum3]	(-1 * estimated amount without currency code in the third financial currency)
[EstimatedAmountRevSign]	(-1 * estimated amount with currency code)
[EstimatedAmountRevSign1]	(-1 * estimated amount with currency code in the first financial currency)
[EstimatedAmountRevSign2]	(-1 * estimated amount with currency code in the second financial currency)

Marker	Description
[EstimatedAmountRevSign3]	(-1 * estimated amount without currency code in the third financial currency)
[TotalAmountRevSignNum]	(-1 * amount to pay with consideration of previous balance), no currency code
[TotalAmountRevSign]	(-1 * amount to pay with consideration of previous balance, with currency code)
[PrepaymentAmountRevSignNum]	(-1 * amount to pay with consideration of previous balance, without currency code)
[PrepaymentAmountRevSign]	(-1 * amount to pay with consideration of previous balance, with currency code)
[AmountInWordRevSign]	(-1 * invoice amount in words)
[EstAmountInWordRevSign]	(-1 * invoice estimated amount in words)
[TaxRate]	tax rate (%) (Carriers\Agreements 171). If country-based taxes are used, the marker is replaced by the default agreement tax
[TaxRatesByCountry]	tax rates (with reference to the country) that are different from a rate set in the agreement. For example: 35% - Spain. Applied for SMS when the country-based taxes are used.
[EstimatedAmountWithoutTaxNum]	estimated amount without tax and currency code
[EstimatedAmountWithoutTaxNum1]	estimated amount (in the first currency) without tax and currency code
[EstimatedAmountWithoutTaxNum2]	estimated amount (in the second currency) without tax and currency code
[EstimatedAmountWithoutTaxNum3]	estimated amount (in the third currency) without tax and currency code
[EstimatedAmountPlusTaxNum]	estimated amount plus tax without currency code

Marker	Description
[EstimatedAmountPlusTaxNum1]	estimated amount (in the first currency) plus tax without currency code
[EstimatedAmountPlusTaxNum2]	estimated amount (in the second currency) plus tax without currency code
[EstimatedAmountPlusTaxNum3]	estimated amount (in the third currency) plus tax without currency code
[TaxAmountNum]	tax amount without currency code
[TaxAmountNum1]	tax amount in the first financial currency without currency code
[TaxAmountNum2]	tax amount in the second financial currency without currency code
[TaxAmountNum3]	tax amount in the third financial currency without currency code
[TaxAmountNumRounded]	rounded tax amount without currency code
[TaxAmountNumRounded1]	rounded tax amount in the first financial currency without currency code
[TaxAmountNumRounded2]	rounded tax amount in the second financial currency without currency code
[TaxAmountNumRounded3]	rounded tax amount in the third financial currency without currency code
[TaxAmount]	tax amount with currency code
[TaxAmount1]	tax amount in the first financial currency with currency code
[TaxAmount2]	tax amount in the second financial currency with currency code
[TaxAmount3]	tax amount in the third financial currency with currency code

Marker	Description
[TaxAmountRounded]	rounded tax amount with currency code
[TaxAmountRounded1]	rounded tax amount in the first financial currency with currency code
[TaxAmountRounded2]	rounded tax amount in the second financial currency with currency code
[TaxAmountRounded3]	rounded tax amount in the third financial currency with currency code
[EstimatedAmountWithoutTaxRevSignNum]	(-1*Estimated Amount) with tax excluded without currency code
[EstimatedAmountWithoutTaxRevSignNum1]	(-1*Estimated Amount) with tax excluded without currency code in the 1st financial currency
[EstimatedAmountWithoutTaxRevSignNum2]	(-1*Estimated Amount) with tax excluded without currency code in the 2nd financial currency
[EstimatedAmountWithoutTaxRevSignNum3]	(-1*Estimated Amount) with tax excluded without currency code in the 3rd financial currency
[EstimatedAmountWithoutTaxRevSign]	(-1*Estimated Amount) with tax excluded with currency code
[EstimatedAmountWithoutTaxRevSign1]	(-1*Estimated Amount) with tax excluded with currency code in the 1st financial currency
[EstimatedAmountWithoutTaxRevSign2]	(-1*Estimated Amount) with tax excluded with currency code in the 2nd financial currency
[EstimatedAmountWithoutTaxRevSign3]	(-1*Estimated Amount) with tax excluded with currency code in the 3rd financial currency
[EstimatedAmountPlusTaxRevSignNum]	(-1*Estimated Amount) with tax without currency code

Marker	Description
[EstimatedAmountPlusTaxRevSignNum1]	(-1*Estimated Amount) with tax excluded without currency code in the 1st financial currency
[EstimatedAmountPlusTaxRevSignNum2]	(-1*Estimated Amount) with tax excluded without currency code in the 2nd financial currency
[EstimatedAmountPlusTaxRevSignNum3]	(-1*Estimated Amount) with tax excluded without currency code in the 3rd financial currency
[EstimatedAmountPlusTaxRevSign]	(-1*Estimated Amount) with tax with currency code
[EstimatedAmountPlusTaxRevSignRounded]	(-1 * Rounded estimated amount) with tax with currency code
[EstimatedAmountPlusTaxRevSign1]	(-1*Estimated Amount) with tax with currency code in the 1st financial currency
[EstimatedAmountPlusTaxRevSign2]	(-1*Estimated Amount) with tax with currency code in the 2nd financial currency
[EstimatedAmountPlusTaxRevSign3]	(-1*Estimated Amount) with tax with currency code in the 3rd financial currency
[TaxAmountRevSignNum]	(-1 * Tax Amount) without currency code
[TaxAmountRevSignNum1]	(-1 * Tax Amount) without currency code in the 1st financial currency
[TaxAmountRevSignNum2]	(-1 * Tax Amount) without currency code in the 2nd financial currency
[TaxAmountRevSignNum3]	(-1 * Tax Amount) without currency code in the 3rd financial currency
[TaxAmountRevSignNumRounded]	(-1 * rounded Tax Amount) without currency code
[TaxAmountRevSignNumRounded1]	(-1 * rounded Tax Amount) without currency code in the 1st financial currency

Marker	Description
[TaxAmountRevSignNumRounded2]	(-1 * rounded Tax Amount) without currency code in the 2nd financial currency
[TaxAmountRevSignNumRounded3]	(-1 * rounded Tax Amount) without currency code in the 3rd financial currency
[TaxAmountRevSign]	(-1 * Tax Amount) with currency code
[TaxAmountRevSign1]	(-1 * Tax Amount) with currency code in the 1st financial currency
[TaxAmountRevSign2]	(-1 * Tax Amount) with currency code in the 2nd financial currency
[TaxAmountRevSign3]	(-1 * Tax Amount) with currency code in the 3rd financial currency
[TaxAmountRevSignRounded]	(-1 * Rounded Tax Amount) with currency code
[TaxAmountRevSignRounded1]	(-1 * Rounded Tax Amount) with currency code in the 1st financial currency
[TaxAmountRevSignRounded2]	(-1 * Rounded Tax Amount) with currency code in the 2nd financial currency
[TaxAmountRevSignRounded3]	(-1 * Rounded Tax Amount) with currency code in the 3rd financial currency
[EstAmntPlsTaxRoundedInWordMkd]	estimated amount with tax included in words in the Macedonian language
[InInvoiceCurrency]	cost of 1 unit in the System currency
[InvoiceCurrencyIn<Currency Code>]	cost in <Currency Code>
[EstimatedAmountWithoutTaxIn<Currency Code>]	estimated amount without tax in <Currency Code>

Marker	Description
[EstimatedAmountPlusTaxIn<Currency Code>]	estimated amount with Tax with Currency Code in <Currency Code>
[EstimatedAmountIn<Currency Code>]	estimated amount in <Currency Code>
[TaxAmountIn<CurrencyCode>]	same as [TaxAmountNumIn<CurrencyCode>] with currency code
[TaxAmountNumIn<Currency Code>]	Tax amount in <Currency Code>
[EstimatedAmountWithoutTaxRevSignIn<Currency Code>]	(-1 * Estimated Amount) with Tax excluded with Currency Code in <Currency Code>
[EstimatedAmountPlusTaxRevSignIn<Currency Code>]	(-1 * Estimated Amount) with Tax included with Currency Code in <Currency Code>
[EstimatedAmountRevSignIn<Currency Code>]	(-1 * Estimated Amount) with currency code in <Currency Code>
[TaxAmountRevSignIn<Currency Code>]	(-1 * Tax Amount) with currency code in <Currency Code>
[TaxAmountRevSignNumIn]	(-1 * Tax Amount) without currency code in <Currency Code>
[POIPrefixes]	list of all POI prefixes, comma-separated
[ProductDescr]	list of products description of the account in a single line
[SingleProductDescr]	list of products description of the account grouped by the Invoice index
[CompanyNameUE]	the same as [CompanyName], urlencoded
[CurrencyCodeUE]	the currency code (urlencoded)
[InvoiceDateUE]	the same as [InvoiceDate], urlencoded
[InvoiceDate]	invoice issue date

Marker	Description
[InvoiceRefNumber]	invoice reference number; the format is defined in Reference books\Contract companies 261 or Administration\System settings 48 - the *Invoice reference number format* field
[InvoiceRefNumberUE]	same as [InvoiceRefNumber]
[CorrSourceRefCode]	the code specified in the *Correction to invoice ref code invoice* field
[SumPeriodPayments]	amount (total sum) of payments received during the invoice's billing period
[VoiceDailyDate]	invoice statistics date; applicable to Alaris inVoice only
[VoiceDailyCharge]	charge in account currency; applicable to Alaris inVoice only
[VoiceDailyVolume]	duration in minutes; applicable to Alaris inVoice only
[SmsDailyDate]	invoice statistics date
[SmsDailyCharge]	charge in account currency
[SmsDailyVolume]	volume in SMS
[BillingManager]	billing manager's (assigned in Administration\Account manager history 29) first name and last name (Administration\Users 158)
[BillingManagerMobilePhone]	billing manager mobile phone number (Administration\Users 158)
[BillingManagerOfficePhone]	billing manager office phone number (Administration\Users 158)
[BillingManagerEmail]	billing manager email address (Administration\Users 158)

Marker	Description
[ChargeDetProductDescr]	product name, similar to [ChargeProductDescr]
[ChargeDetailsDescr]	info from [ChargeProductDescr] plus the *Details* value of the recurring fee
[ChargeProductUnique]	grouped description of products (unique descriptions that contain the rate description and the product type)
[ChargeDetMonth]	the invoice month in the format: YYYYMM
[ChargeDirection]	direction
[ChargeProductDescr]	list of products that share the group index pertaining to the charge
[ChargeAmountRevSign]	(-1 * Charge Amount) with currency code
[ChargeAmountRevSign1]	(-1 * Charge Amount) with currency code in 1st financial currency with currency code
[ChargeAmountRevSign2]	(-1 * Charge Amount) with currency code in the 2nd financial currency with currency code
[ChargeAmountRevSign3]	(-1 * Charge Amount) with currency code in 3rd financial currency with currency code
[ChargeVolumeRevSign]	(-1 * Charge Volume)
[ChargeCallCnt]	Charge SMS or service count
[ChargeCallCntRevSign]	(-1 * Charge Count)
[ChargeAmountRevSignNum]	(-1 * Charge Amount) without currency code
[ChargePeriod]	charge period
[ChargeSysPeriod]	charge period in the System timezone

Marker	Description
[ChargeDetVolumeRevSign]	(-1 * [ChargeDetVolume])
[ChargeDetEventRevSign]	(-1 * [ChargeDetEvent])
[ChargeDetAmountRevSign]	charge detail record amount rounded up to 2 digits with reversed sign
[ChargeDetMCCMNC]	6-digit MCCMNC
[ChargeDetTaxRate]	column in the charge detail record that shows the tax rate applied for a specific row
[ChargeAggrCurrencyCode]	account currency code
[ChargeAggrUnit]	units of the charge (SMS, minute, service etc.)
[ChargeAggrVolume]	total volume of charges (sum of [ChargeVolume])
[ChargeAggrSmsCount]	total amount of billed messages
[ChargeAggrCallCnt]	total call count; applicable to Alaris inVoice only
[CorrSourceRefCode]	the reference number of the invoice which the credit note is designed to correct. In case of multiple invoices, their reference numbers are comma-separated
[FileName]	the generated file name of the cover letter. The format is defined in Reference books\Contract companies 261 or Administration\System settings 48 - the *Invoice filename pattern* field. It is recommended to merge several cells in a template, otherwise the name may not fit in fully
[DetailsFileName]	the generated file name of the traffic details. The format is defined in Reference books\Contract companies 261 or Administration\System settings 48 - the

Marker	Description
	Invoice details filename pattern field. It is recommended to merge several cells in a template, otherwise the name may not fit in fully

The following markers can be used to specify details for assigned DID (SMS) numbers (applicable to Alaris SMS Platform only). Note that they are replaced in the invoices that have been generated after enabling of the *Enable DID financial cubes calculation (0 - disable, 1 - enable)* System parameter. The *Use DID/TFN management* parameter must be enabled as well.

Marker	Description
[DidRecNo]	the row number for DID traffic details
[DidTrafficAmount]	the total traffic cost for all numbers
[DidTrafficCnt]	the count of MT messages for the DID SMS number
[DidTrafficCountry]	the country of the DID SMS number
[DidTrafficCost]	MT traffic cost for the number. The cost is rounded in accordance with the System parameter *Default format: numeric (monetary)*
[DidTrafficCostMO]	MO traffic cost for the number. The cost is rounded in accordance with the System parameter *Default format: numeric (monetary)*
[DidTrafficCntMO]	the count of MO messages for the DID SMS number
[DidTrafficMRC]	the number's MRC
[DidTrafficNRC]	the number's NRC (is set only for the month on which the nymber was assigned, and for other months it is equal to 0)
[DidTrafficNumber]	DID number
[DidTrafficProduct]	name of the product to which the number is assigned

Marker	Description
[DidTrafficRate]	rate for MT traffic
[DidTrafficRateMO]	rate for MO traffic
[DidTrafficTotalAmount]	the total traffic cost for all numbers plus NRC and MRC (for all numbers)
[NoDIDChargeDetNo], [NoDIDChargeDetColumn1], [NoDIDChargeDetColumn2], [NoDIDChargeDetColumn3], [NoDIDChargeDetColumn4], [NoDIDChargeDetColumn5], [NoDIDChargeDetColumn6], [NoDIDChargeDetColumn7], [NoDIDChargeDetVolume], [NoDIDChargeDetRate], [NoDIDChargeDetEvent], [NoDIDChargeDetAmount], [NoDIDChargeDetAmountRaw], [NoDIDChargeDetVolumeRevSign], [NoDIDChargeDetEventRevSign], [NoDIDChargeDetAmountRevSign], [NoDIDChargeDetMCCMNC], [NoDIDChargeDetProductDescr], [NoDIDChargeDetTaxRate], [NoDIDChargeDetMonth]	a group of markers similar to the existing markers without the NoDID prefix, applicable to non-DID/TFN fee charge types when the System parameter *Excluded product names for non-DID markers* is populated

Credit note details

The file is a template to generate credit note details in MS Excel format. The list of addresses for sending is the same as for the Credit note template.

Available markers are the same as for the Credit note template. Additionally ***the following markers can be used***:

Marker	Description
[ChargeAmount]	charge amount in the account currency with currency code

Marker	Description
[ChargeAmount1]	charge amount in 1st financial currency with currency code
[ChargeAmount2]	charge amount in 2nd financial currency with currency code
[ChargeAmount3]	charge amount in 3rd financial currency with currency code
[ChargeAmountAvgRate]	invoice amount converted to System currency at the average exchange rate
[ChargeAmountNum]	charge amount without currency code
[ChargeAggrAmount]	total amount in the account currency
[ChargeAggrAmountNum]	aggregated amount of invoice charges
[ChargeAggrAmount1]	total amount in the 1st financial currency
[ChargeAggrAmount2]	total amount in the 2nd financial currency
[ChargeAggrAmount3]	total amount in the 3rd financial currency
[ChargeAggrProductDescr]	list of product descriptions (obtained from the *Product name* column of Carriers\Products 180) separated by comma
[ChargeAggrDidFeeAmount]	amount in the System currency for all the charges generated for DID NRC/MRC
[ChargeAggrTotalFeeAmount]	amount in the System currency for all the charges generated as fees (DID/Recurring fees/User-generated charges)
[ChargeAggrTrafficAmount]	amount in the System currency for all the charges generated based on traffic (voice/SMS/HLR/DID)
[CurrencyRateAverage]	average exchange rate of the account currency to System currency for the invoice period

Marker	Description
[CurrencyRateAverageReverse]	reverse average exchange rate of the account currency to System currency for the invoice period
[DetColumn1]	MCC
[DetColumn2]	MNC
[DetColumn3]	network
[DetColumn4]	country
[DetColumn5]	rate dial code for SMS charges
[DetColumn6]	rate sender ID or sender MCCMNC for SMS charges
[DetColumn7]	rate sender country for SMS charges
[DetEventCount]	number of sent messages or service count
[DetRate]	rate
[DetAmount]	charged amount
[DetVolume]	volume (of calls, SMS or other services)
[DetCurrencyCode]	product’s currency code
[DetProductDescr]	product name, similar to [ChargeProductDescr]
[DetMCCMNC]	6-digit MCCMNC
[DetTaxRate]	column in the charge detail record that shows the tax rate applied for a specific row
[DetTotalEventCount]	total event count
[DetTotalAmount]	total amount

Marker	Description
[ProductNotes]	comma-separated list of product notes. The max allowed value: up to 100 notes or 4000 bytes
[SmsPackName]	SMS pack name (applicable to Alaris SMS Platform only)
[SmsPackDescription]	SMS pack description (applicable to Alaris SMS Platform only)
[SmsPackCostGross]	cost of SMS package including tax (applicable to Alaris SMS Platform only)
[SmsPackCostNet]	cost of SMS package without tax included (applicable to Alaris SMS Platform only)
[SmsPackTax]	SMS package tax (applicable to Alaris SMS Platform only)
[SmsPackTaxRate]	SMS package tax rate (in per cent) (applicable to Alaris SMS Platform only)
[SmsPackCount]	number of purchased SMS packs included into the invoice (applicable to Alaris SMS Platform only)
[SmsPackAmountGross]	the sum of purchases (SMS package price multiplied by the number of purchased packages, plus tax multiplied by the number of purchases) for the SMS package including tax (applicable to Alaris SMS Platform only)
[SmsPackAmountNet]	the sum of purchases for SMS package without taking tax included (applicable to Alaris SMS Platform only)
[SmsPackTaxAmount]	sum of taxes on SMS package purchases (applicable to Alaris SMS Platform only)
[SmsSumPackAmountNet]	total cost of SMS packs without tax included (applicable to Alaris SMS Platform only)
[SmsSumPackAmountGross]	total cost of SMS packages with tax included (applicable to Alaris SMS Platform only)

Marker	Description
[SmsSumPackTaxAmount]	total amount of taxes of SMS packs (applicable to Alaris SMS Platform only)
[SumChargeVolume]	total volume of minutes; applicable to Alaris inVoice only
[SumChargeSmsCount]	total volume of SMS
[SumChargeCallCnt]	total count of calls or messages. The value is obtained from the *Service count* field of Finance\Charges 211.
[SystemIDs]	displays a list of logins of active SMS channels associated with the product
[DetSystemIDs]	displays a list of logins of active SMS channels associated with the product and provides a list of logins per traffic details row

Credit note letter

The template is to configure the text of an email letter that will be sent out alongside the credit note covering letter and traffic details.

The list of addresses for sending and available markers are the same as for the Credit note template.

Available markers are the same as for the Credit note template. Additionally ***the following markers can be used***:

Marker	Description
[DocumentLink]	cover letter file link
[DetailsLink]	traffic details file link
[UILink]	URL link to the main System web-interface
[PortalLink]	URL link to Partner Portal
[ChargeDescription]	charge description
[ChargeUnit]	units

Marker	Description
[ChargeProduct]	charge description (traffic type)
[ChargeCurrencyCode]	charge currency code
[ChargeVolume]	charge volume (for example: number of messages for Alaris SMS Platform, number of minutes for Alaris inVoice). The placeholder will be replaced by the *Service count* value if the *Use volume for charges* checkbox is selected for the *Product type* in Reference books\Product types 273
[ChargeDetColumn1]	name of the SMS pack purchased in Alaris Campaign Portal
[ChargeDetColumn2]	the pack volume (the number of messages in the pack). For recurring fee details the marker will be replaced with a blank space
[ChargeDetColumn3]	network
[ChargeDetColumn4]	country
[ChargeDetColumn5]	rate dial code for SMS charges
[ChargeDetColumn6]	rate sender ID or sender MCCMNC for SMS charges
[ChargeDetColumn7]	rate sender country for SMS charges
[ChargeDetVolume]	volume (of calls, SMS or other services)
[ChargeDetRate]	rate
[ChargeDetEvent]	number of messages
[ChargeDetAmount]	charged amount

Disputed letter

The template serves to inform vendors about dispute initiation. Emails are sent if the System parameter *Send disputed letter* is enabled (by default - disabled) and the invoice was registered with the *Disputed/Disputed (manual)* property or if the invoice was already in the disputed status and was confirmed using the *Confirm without sending* button.

Available markers for the template:

Marker	Description
[PresentedAmount]	the presented amount
[DisputedAmount]	the amount of the dispute
[ChargeAmount]	charge amount
[CompanyRegisteredName]	the company registered name (Carriers\Agreements 171)
[InvoiceRefNumber]	invoice reference number
[InvoicePeriod]	invoice period in the partner timezone
[InvoiceRegDate]	invoice confirmation date
[InvoiceTimezone]	invoice timezone name (Carriers\Agreements 171)

EDR Recalculating results letter

The template contains the text that will be sent out if auto or manual rerating has affected more than 0 records. Emails are sent to the addresses set in the System parameter *Rerating alert recipients*.

Available markers for the template:

Marker	Description
[SystemOwnerName]	the name from the System parameter *System owner name*
[CurrentDate]	the current time in the System timezone
[EDRRerated]	total number of EDRs that fall into the rerated period
[BreakoutsAffected]	the number of rerated records
[PeriodRerated]	the rerated period
[TimeElapsed]	the time spent on recalculation (the difference between the current time and the task start time)

EDR export letter

Template for EDR exports done from SMS\EDR management\EDR export tool371 with the *Export target*: *Send EDRs by email*.

Emails are sent to the addresses set in the fields *Send EDRs to* (the *To* field) and *CC exported file to* (the *CC* field).

Available markers for the template:

Marker	Description
[SystemOwnerName]	the name from the *System owner name* System parameter
[Link]	the link to upload the generated file
[Task]	task ID from the EDR export tool interface

Failed payment notification letter

The template contains the text that will be sent out in case of a failure of payment registration (made through the Partner or Campaign Portal). The list of email addresses is defined by the System parameter *Emails to send errors of payment registration*.

Available markers are as follows:

Marker	Description
[CompanyName]	the carrier name
[ErrorDescr]	the description of the error
[ErrorDetails]	the payment parameters

Invoice

The file is a template to generate invoice cover letters in PDF format. The list of addresses for sending and available markers are the same as for the Credit note template.

Invoice details

The file is a template to generate traffic details in MS Excel format. The list of addresses for sending is the same as for the Credit note template.

Available markers are the same as for the Credit note details template.

Invoice details (multiple charges)

The same as the Invoice details template but used when the *Generate 1 invoice details file per product type (vendor)* is selected for the agreement. The list of addresses for sending is the same as for the Credit note template.

Available markers are the same as for the Credit note details template.

Invoice letter

The template serves to configure the text of an email letter that will be sent out alongside the invoice cover letter and traffic details. The list of addresses for sending is the same as for the Credit note template.

Available markers are the same as for the Credit note letter template.

Invoice letter (separate letter for the usage stats option)

The same as the Invoice letter template but used when the Invoice delivery option is set to *Separate emails*. The list of addresses for sending is the same as for the Credit note template.

New carrier notification letter

The template is to notify the System owner in regard to a new Partner Portal carrier.

Notifications are sent out to the email addresses (in the *To* field) specified in the System parameter *Send portals notifications to (null - don't send)* (if the parameter is set to null, no notification is sent out).

The following markers can be specified in the template:

Marker	Description
[SystemOwnerName]	the System owner's name
[CompanyName]	the carrier's name
[CompanyAddress]	the carrier’s address
[CAR_ID]	the carrier ID (Carriers\Carriers 163)
[UserFirstLastName]	the user's first name (Administration\Users 158)
[UserLoginName]	the user's last name (Administration\Users 158)
[UserPhoneNumber]	the phone number specified during user’s registration on the Partner or Campaign Portal

New payment notification letter

The template is to configure a notification in regard to a payment made through the Partner or Campaign Portal. Notifications are sent out to the email addresses (in the *To* field) specified in the System parameter *Send portals notifications to (null - don't send)* (if the parameter is set to null, no notification is sent out).

Available markers are as follows:

Marker	Description
[CompanyName]	the carrier name
[CompanyId]	the carrier ID (Carriers\Carriers 163)
[AccountId]	the account ID
[PaymentSystem]	the payment System name (PayPal, Authorize - if any other is used, the name will not be shown) along with the number reference code
[PaymentCurrencyCode]	the currency code
[TotalAmount]	the payment amount
[CurrencyName]	the currency name (the same as [PaymentCurrencyCode])

Partner Portal greeting letter

The notifications are sent out as soon as the user activates their account with the *Partner Portal register new user letter* (in case of self-registration) or when a partner is created directly from the main web interface with the help of the *Create Campaign Portal client* button. The mail is sent to the user's email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[Link]	the link to the portal (Partner or Campaign Portal, depending on the source of registration)
[UserLoginName]	user's login
[Token]	the token generated for user authentication

Partner Portal password change error letter

The template is to configure notifications in case of a failed attempt to reset the password for a portal user. The mail is sent to the user's email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[UserFirstLastName]	the user's first and last names
[UserLoginName]	the user's login

Partner Portal password change letter

The template is to configure notifications in regard to the password change of a portal user. Such emails are sent to the user's email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[UserFirstLastName]	the user's first and last names
[UserLoginName]	the user's login
[PasswordExpireDate]	the user's expiry date
[Link]	the link to the portal (Partner or Campaign Portal, depending on the source of registration)
[PortalLink]	if the user is registered through the Partner Portal, the marker is replaced with the URL set either on the carrier's contract company or the System parameter *Partner Portal URL*
[SelfcareLink]	if the user is registered through the Campaign Portal, the marker is replaced with the URL set either on the carrier's contract company or the System parameter *Campaign Portal URL*

Partner Portal password reset letter

The template is to configure notifications in regard to the password change of a portal user. Such notifications are sent to the user's email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[UserFirstLastName]	the user's first and last names
[UserLoginName]	the user's login
[Link]	the link to the portal (Partner or Campaign Portal, depending on the source of registration)
[PortalLink]	if the user is registered through the Partner Portal, the marker is replaced with the URL set either on the carrier's contract company or the System parameter *Partner Portal URL*
[SelfcareLink]	if the user is registered through the Campaign portal, the marker is replaced with the URL set either on the carrier's contract company or the System parameter *Campaign Portal URL*

Partner Portal register new user letter

The template is for sending emails with a link to activate a user registered in the Partner or Campaign Portal. The notification is sent to the user's email address. As soon as the user activates the account, a greeting letter will be sent. If the user is created from the main web interface, only the greeting letter is sent out.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[Link]	the link to the portal (Partner or Campaign Portal, depending on the source of registration)

Password change error letter

The template is to configure notifications in case of a failed attempt to reset the password for a System owner user. The notification is sent to the user's email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[UserFirstLastName]	the user’s first and last names
[UserLoginName]	the user’s login

Password change letter

The template is to configure notifications in regard to the password change of a System owner user. Such notifications are sent to the user’s email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[UserFirstLastName]	the user’s first and last names
[UserLoginName]	the user’s login
[PasswordExpireDate]	the user’s expiry date
[Link]	the link to the main web interface set in the System parameter *Login link*
[UILink]	the same as [Link]

Password expire letter

The template is to notify an active user in regard to the expired password in advance in accordance with the System parameter *Password expiry reminder (days)*. The notification is sent to the user’s email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the carrier's name
[ExpireDate]	the user’s expiry date

Marker	Description
[UserFirstLastName]	the user’s first and last names
[Link]	replaced with a link in accordance with the following logic: • If the user is registered under the System owner carrier, the marker is replaced with the value of the System parameter Login link • If the user is registered under a System owner's partner, and has the *Campaign Portal* permission, the value will be taken from the *Campaign Portal URL* parameter • If the above is not applicable, the marker will be replaced with the *Partner Portal URL* parameter The *Campaign Portal URL* and *Partner Portal URL* parameters are obtained from the contract company’s settings, if not set - from the System settings
[UILink]	replaced by the Login link if sent to a System owner user (not applicable to portal users)
[PortalLink]	replaced by the Partner Portal URL if sent to a portal user (not applicable to System owner users)
[GraceLoginAttempts]	the number of remaining login attempts

Password reset letter

The template is to configure notifications in regard to the password change of a System owner user. Such notifications are sent to the user’s email address.

Available markers for the template are as follows:

Marker	Description
[SystemOwnerName]	the System owner name set in the System parameter *System owner name*
[UserFirstLastName]	the user’s first and last names

Marker	Description
[UserLoginName]	the user's login
[Link]	the link to the main web interface set in the System parameter *Login link*
[UILink]	the same as [Link]
[ResetLinkLifeTime]	lifetime of the password reset link. The lifetime is defined by the System parameter *Link expiration period in password reset email, days*
[ResetLink]	password reset link

Payment registration notification (inbound)

The template is to configure notifications in case of an inbound payment confirmation.

The *To* field of the email is defined by the agreement's parameter *Payment alert*. If set to *System default*, the list of recipients is defined by the System parameter *Send payment confirmation to partner (0 - do not send, 1 - send to account alert emails, 2 - send to default invoice emails)*. A carbon copy is set to the account manager's email address.

Note that no notification is sent out if a payment is added with the help of the *Synchronize balances* function. ***The list of markers to be used as follows***:

Marker	Description
[CompanyName]	the carrier name
[SystemOwnerName]	the contract company name
[Balance]	the account balance
[PaymentSystem]	the payment comments (contains the payment System name; if no comment is specified, the marker is replaced by *Manual*)
[BankStatementAmount]	the payment bank statement amount
[BankFee]	the payment fee
[CurrencyName]	the account currency

Marker	Description
[PaymentAmount]	the amount (rounded to 2 decimals) debited to the account
[CompanyRegisteredName]	the agreement's registered name

Payment registration notification (outbound)

The same as the Payment registration notification (inbound) template but for the payments of the outbound direction.

RCS EDR export letter

Template for RCS EDR exports done from RCS\EDR export tool 342 with the *Export target: Send EDRs by email*. Emails are sent to the addresses set in the *Send EDRs to* (the *To* field) and *CC exported file to* (the *CC* field).

Available markers for the template:

Marker	Description
[SystemOwnerName]	the name from the System owner name system parameter
[Task]	task ID from the EDR export tool interface

RCS rate export

The file template to define the format of files for RCS rate export with the *Export target: Send via email*.

Such emails are sent in the *To* field to the addresses specified in the *Send exported file to* field alongside to the partner *Default rate change emails* given that the *send to partner emails* checkbox is selected during export. The carbon copy contains the email addresses from the contract company's parameter *Email address to CC rates updating*. The *BCC* field is filled in by the values of the *Email address to BCC rates updating* parameter.

Available markers are as follows:

Marker	Description
[AgreementTimezone]	The agreement timezone name. It is replaced with the system timezone name if the *Use agreement timezone* flag is not selected for the export task
[BillSchemeName]	the *Billing scheme* configured in Carriers\Products 180
[CompanyName]	the carrier name

Marker	Description
[CompanyRegisteredName]	the company registered name (Carriers\Agreements 171)
[CompanyAddress]	company address (Carriers\Carriers 163)
[ContractCompanyName]	the name of the contract company
[Comments]	the comments for the export task
[Currency]	currency of the partner's account
[ProductName]	the product name
[OwnerName]	the System owner name (Administration\System settings 48 - the *System owner name* parameter)
[IssueDate]	rate notification issue date
[IssueDay]	rate notification issue day without hours
[TimeZone]	the System timezone or partner's timezone from the agreement (if the Use *agreement timezone* flag is enabled for the export task)
[TimezoneOffset]	if the *Use agreement timezone* flag is enabled for the export task, the marker reflects +00:00 offset. If the flag is not selected, the difference (offset) between the System timezone and the agreement timezone is shown (for example, -07:00)
[YYYYMMDD]	the date in the format YYYYMMDD

RCS rate update letter

The text that is sent during RCS rate export with the *Export target: Send via email*. The list of recipients and the list of available markers are the same as for the *RCS rate export* template.

For the *Letter subject* of the template can be used the same markers as for the *RCS rate export* template. For the *Letter body* of the template the following markers are available:

Marker	Description
[Link]	link to download export results (applicable given that the System parameter *Ratesheet delivery options (1 - attachment, 2 - link, 3 - attachment and link)* is set to 2 or 3). The URL is taken from the System parameter *Login link*
[RateSnippet]	table with the rate changes (records with *Same* type are excluded). The maximum number of rows to be included in the table is defined by the system parameter *Rate snippet max number of rows*

Report telegram notification

The template is to define the message text that will be sent to Telegram if corresponding settings have been applied to a report and it has been triggered. The notifications are sent to the Telegram chat (configured at Administration\System settings\Telegram 102).

Available markers are as follows:

Marker	Description
[ReportName]	the report name
[ReportExecutionDate]	the report execution date
[ReportMessage]	the Telegram message set during configuration of the report

Reverse payment notification letter

If a payment is withdrawn, a notification is sent to the emails set in the System parameter *Send portals notifications to (null - don't send)* (the *To* field). The payment is deleted from the System (in case it has been already registered). The operation is supported by PayPal.

Available markers are as follows:

Marker	Description
[CompanyName]	the carrier name
[CompanyId]	the carrier ID
[AccountId]	the account ID

Marker	Description
[PaymentSystem]	the payment reference number
[PaymentCurrencyCode]	the account currency
[TotalAmount]	Bank statement amount
[CurrencyName]	same as PaymentCurrencyCode

SMS auto rate import owner notification (full report)

SMS auto rate import owner notification (short report)

SMS auto rate import carrier notification (full report)

SMS auto rate import carrier notification (short report)

The templates serve to send full and short reports to the System owner and carrier respectively, during auto rate import. The list of emails is configured in auto rate import rules.

Short reports contain a summary of new, closed and extended rates. Full reports additionally contain attachments (xlsx files with a list of errors and rate preview). The following markers can be used in the templates:

Marker	Description
[CompanyName]	contract company name
[CarName]	Carrier name for *SMS auto rate import carrier notification (short report)* and *SMS auto rate import owner notification (short report)* templates
[OwnerName]	System owner name
[AutoRateImportStatus]	import status (0 - not imported; 1 - imported)
[RateImportStartDate]	import start date and time in the format YYYY-MM-DD HH24:MI:SS
[RateImportEndDate]	import end date and time in the format YYYY-MM-DD HH24:MI:SS
[Product]	product ID

Marker	Description
[ProductDescr]	Product description for *SMS auto rate import carrier notification (short report)* and *SMS auto rate import owner notification (short report)* templates
[ClosedRatesNum]	number of closed rates. It is replaced with 0 if *AutoRateImportStatus* is 0
[ValidRatesNum]	number of valid rates. It is replaced with 0 if *AutoRateImportStatus* is 0
[NewRatesNum]	the number of new rates. It is replaced with 0 if *AutoRateImportStatus* is 0
[ExistRatesExpndOrClosedNum]	the number of closed or expanded existing rates. It is replaced with 0 if *AutoRateImportStatus* is 0
[DeletedRatesNum]	the number of removed rates
[CriticalErrors]	list of errors (error group names) detected during import, and their count. The maximum number of displayed errors is 3
[PleaseSeeAttached]	the marker is replaced by the entry "Please find the full list of warnings attached." if an attachment is present; otherwise it returns an empty result
[RateImportPresetName]	name of preset used for rate import
[AutoRateImportRuleID]	auto rate import rule used for rate import
[EffectiveFrom]	rate effective from date and time
[EffectiveTill]	rate effective till date and time
[CloseType]	rate close type
[Link]	link to a file with updated rates

SMS campaign fail threshold letter

The notifications are sent out when the *Minimum percentage of failed messages* (set during configuration of a campaign) is reached. The *To* address for sending is specified during campaign configuration (the *Notification emails* parameter), the addresses for the CC field are specified in the System parameter *Campaign status change notification emails*.

Available markers for the letter:

Marker	Description
[Campaign]	the campaign description. If not specified, the campaign ID is used
[Sender]	the campaign sender name
[TemplateContent]	the campaign text template
[StartTime]	the time in the System timezone
[FailCount]	the number of failed messages

SMS campaign failed messages resend notification

The template is to configure notifications when failed messages of an already launched campaign are being resent (with the help of the *Resend failed messages* button on the *Campaigns* tab). The email addresses for the notification are set in the *Notification emails specified during the campaign configuration* (as the *To* field) and in the System parameter *Campaign status change notification emails* (as the *CC* field).

Available markers for the letter:

Marker	Description
[Campaign]	the campaign description. If not specified, the campaign ID is used
[StartTime]	the resend start time in the System timezone
[RejectedCnt]	the number of failed messages to be resent

SMS campaign resuming notification

The template is to configure notifications when a paused campaign has been resumed. The email addresses for the notification are set in the *Notification emails specified during the campaign configuration* (as the *To* field) and in the System parameter *Campaign status change notification emails* (as the *CC* field).

Available markers for the letter:

Marker	Description
[Campaign]	the campaign description. If not specified, the campaign ID is used
[StartTime]	the resuming start time in the System timezone

SMS campaign start letter

The template is to configure notifications when a new campaign has been started. The email addresses for the notification are set in the *Notification emails specified during the campaign configuration* (as the *To* field) and in the *System parameter Campaign status change notification* emails (as the *CC* field).

Available markers for the letter:

Marker	Description
[Campaign]	the campaign description. If not specified, the campaign ID is used
[Sender]	the campaign sender name
[TemplateContent]	the campaign template
[StartTime]	the campaign start time in the System timezone

SMS campaign status change letter

The template is to configure notifications when the campaign status has been changed (due to its successful or unsuccessful completion, canceling or pausing a campaign). The email addresses for the notification are set in the *Notification emails specified during the campaign configuration* (as the *To* field) and in the System parameter *Campaign status change notification emails* (as the *CC* field).

Available markers for the letter:

Marker	Description
[Campaign]	the campaign description. If not specified, the campaign ID is used
[Status]	the current campaign status (paused, cancelled, completed, failed)
[StartTime]	the campaign status change time in the System timezone

SMS limitation rule letter

The template is to configure a letter which is sent out when an SMS limitation rule threshold is reached. Alerts are sent to the list of recipients set in the rule (the *To* field) and to the account manager given that the *Send alerts to account manager* flag is enabled (the *CC* field).

The following markers can be used:

Marker	Description
[Products]	the carrier name, product name and direction
[PeriodType]	the type of the rule period (hour, day, week, month)
[Destinations]	list of MCCMNCs for which the threshold was reached
[Country]	country name
[Network]	network name
[MetricName]	metric name
[Threshold]	threshold exceeded
[Limit]	value of the limit
[SystemOwnerName]	the contract company name (Reference books\Contract companies 261)
[LimitRuleID]	rule ID
[CurrentValue]	the current value of the metric for a specific destination, for which the alert was generated
[RuleType]	rule type (block or alert)
[PeriodLength]	period for which the statistics are gathered
[BlockLength]	period for which the traffic is blocked (for block rules)

SMS rate export

The file template to define the format of files for SMS rate export with the *Export target*: *Send via email*.

Such emails are sent in the *To* field to the addresses specified in the *Send exported file to* field alongside the partner *Default rate change emails* if the *send to partner emails* checkbox is selected during export and the users are active. The carbon copy contains the email addresses from the contract company's parameter *Email address to CC rates updating*. The *BCC* field is filled in by the values of the *Email address to BCC rates updating* parameter as well as by the account manager's email address given that the user is active and has *Send rate changes* flag enabled.

Available markers are as follows:

Marker	Description
[AgrCode]	the code of the agreement active at the time of the rate export task (current date and time)
[AgreementTimezone]	the agreement timezone name. Replaced with the System timezone name if the *Use agreement timezone* checkbox is not selected for the export task
[BillingManager]	the billing manager's first and last names (the manager active for the account at the time of rate export)
[BillingManagerEmail]	the billing manager's email address (the manager active for the account at the time of rate export)
[BillingManagerMobilePhone]	the billing manager's mobile phone (the manager active for the account at the time of rate export)
[BillingManagerOfficePhone]	the billing manager's office phone (the manager active for the account at the time of rate export)
[TimezoneOffset]	if the *Use agreement timezone* checkbox is enabled for the export task, the marker reflects +00:00 offset. If the checkbox is not selected, the difference (offset) between the System timezone and the agreement timezone is shown (for example, -07:00)
[CompanyName]	the carrier name
[CompanyRegisteredName]	the company registered namefrom the agreement (Carriers\Agreements 171) active as of the current time

Marker	Description
[CompanyAddress]	company address (Carriers\Carriers 163)
[Currency]	currency of the partner’s account
[ProductName]	the product name
[OwnerName]	the System owner name (Administration\System settings 48 - the *System owner name* parameter)
[IssueDate]	rate notification issue date (task’s timestamp)
[IssueDay]	rate notification issue day without hours
[TimeZone]	the System timezone or partner's timezone from agreement (if the *Use agreement timezone* flag is enabled for the export task)
[BilledBy]	replaced with *'Sent'/'Delivered'* depending on billing type defined in product billing mode (*Bill by submitted/Bill by delivered*)
[BillingPreset]	the name of the SMS billing option selected for the product
[Comments]	the comments for the export task
[SystemIDs]	comma-delimited list of channel System IDs (usernames) pertaining to the exported product. Only active channels are taken into account (the ones that are enabled and whose POIs’ are active as well). The POI’s effective dates must coincide with the rate export dates (the POI must be active during the period for which rates are exported)
[ContractCompanyName]	the name of the contract company
[YYYYMMDD]	the date in the format YYYYMMDD

SMS rate update letter

The text that is sent during SMS rate export with the *Export target*: *Send via email*. The list of recipients and the list of available markers are the same as for the *SMS rate export* template.

For the *Letter* subject of the template can be used the same markers as for the *SMS rate export* template. For the *Letter body* of the template also ***the following markers are available*:**

Marker	Description
[BillingManagerSignature]	the billing manager's signature (the manager active for the account at the time of rate export)
[Link]	link to download export results (applicable given that the System parameter *Ratesheet delivery options (1 - attachment, 2 - link, 3 - attachment and link)* is set to 2 or 3). The URL is taken from the System parameter *Login link*
[RateSnippet]	table with the rate changes (records with *Same* type are excluded). The maximum number of rows to be included in the table is defined by the System parameter *Rate snippet max number of rows*.

Swap deal mismatch letter

The notification to be sent out in case of a mismatch between the client's revenue and the vendor's cost within one swap deal 2.0. The percentage of the mismatch as well as the list of email addresses are set for each deal separately. The notifications are sent to the carrier's manager as well (specified in the deal).

Available markers are as follows:

Marker	Description
[SwapId]	swap deal 2.0 ID
[LossPercent]	the percentage of the mismatch between the client's revenue and the vendor's cost
[StartDate]	swap deal 2.0 start date
[EndDate]	swap deal 2.0 end date
[Blocked]	a notification ("Deal traffic was blocked") that traffic to the deal's destinations will be blocked since corresponding rate notes are set to BLOCKED due to the mismatch

Swap threshold alert letter (Rate change)

The notification to be sent out when the swap deal 2.0 thresholds are reached. It serves the purpose to notify the System owner that a rate value has been changed.

Available markers are as follows:

Marker	Description
[NextThreshold]	the next threshold to trigger a rate change
[PreviousThreshold]	the previous (reached) threshold that triggered a rate change
[SWAPDealID]	swap deal 2.0 ID
[GroupName]	destination group name
[CompanyName]	the carrier name of swap deal 2.0
[NextRate]	new rate value that has become active
[PreviousRate]	previous rate value
[Currency]	currency (indicated in the *Swap deals stats currency* System setting)
[SystemOwnerName]	the System owner name (indicated in the *System owner name* System setting)
[CurrentDate]	the current date

Swap threshold alert letter (Suspended traffic)

The notification is to be sent out when the last threshold of a swap deal 2.0 is reached, and the Suspend traffic on reaching the last threshold option is selected.

Available markers are as follows:

Marker	Description
[LastThreshold]	the last threshold that has triggered traffic suspension
[SWAPDealID]	swap deal 2.0 ID
[GroupName]	destination group name
[CompanyName]	the carrier name of swap deal 2.0

Marker	Description
[SystemOwnerName]	the System owner name (indicated in the *System owner name System* setting)
[CurrentDate]	the current date

Partner Portal EDR export failed letter

The notification is generated in case of a failed EDR export task (for example, due to export for a long period). Notifications are sent to the user's email address.

The following markers can be used:

Marker	Description
[CarrierName]	the carrier name
[StartDate]	the export start date in the System timezone
[EndDate]	the export end date in the System timezone
[Reason]	the reason of the failure
[SystemOwnerName]	the contract company name

Partner Portal EDR export letter

The template serves to define notifications that will be sent out for EDR Partner Portal exports. Email messages are sent to the user's email address. The user can configure EDR columns that will be exported using the *Set custom columns* button in the *Add new template/Change template* form (applicable for the Partner Portal only).

The following markers can be used:

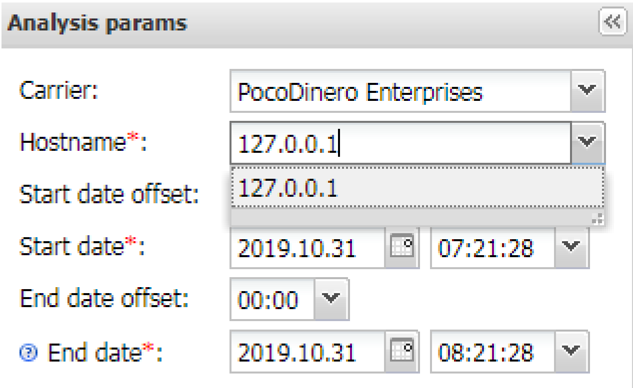
Marker	Description
[CarrierName]	the carrier name
[StartDate]	the export start date in the System timezone
[EndDate]	the export end date in the System timezone
[Link]	the link to download a file
[SystemOwnerName]	the contract company name

6.9 Trace analyzer

The *Administration\Trace analyzer* page provides a convenient web interface for capturing network traces in the PCAP format. This comes instrumental in low-level troubleshooting of partner channels.

The System captures network traces on a non-stop basis and by default stores them for three days. The *Trace analyzer* page allows filtering the required file. Filtering tasks can be created for a past period not exceeding three days (the storage period can be changed by request - contact the Alaris technical support team).

The page consists of two sections - the *Analysis params* section that is a filter that serves to locate the required PCAP file, and the table of tasks.



Analysis parameters (filter)

The *Analysis params* section contains the following fields:

- *Carrier*
- *Hostname*: carrier's IP address or a domain name; masks and multiple comma-separated IP addresses are supported

NOTE: To capture a trace file for any IP address for a specific period, set the *Host name* field to 0.0.0.0/0. It is recommended to set a short time period.

NOTE: Domain names are resolved by the current IP address. In other words, if traffic was sent through the domain name *my.example.com* that was previously resolved as *1.1.1.1* and is currently resolved as *2.2.2.2*, the Trace analyzer will not show any data for the hostname *another.example.com* and the task will be empty. To see the information specify the IP address instead of the domain name, - in this example, *1.1.1.1*.

- *Start date offset*: serves to set offset in regard to the *Start date* to ensure better usability. Note that if the *Start date* is set in the future, and the offset will be applied to the current time
- *Start date*
- *End date offset*
- *End date*

To download the file, click on the link in the *Details* column of the table of tasks.

Task ID	Task created	Task status	Carrier	Hostname	Start date	End date	Details	User name
TASK301124	2019.08.20 22:52:13	ready	-	62.210.57.182	2019.08.20 21:52:12	2019.08.20 22:52:12	downl...	Alaris
TASK257396	2019.04.10 12:37:27	ready	-	50.7.93.130	2019.04.10 10:58:00	2019.04.10 11:00:00	downl...	Alaris
TASK257024	2019.04.10 11:02:01	ready	-	50.7.93.130	2019.04.10 10:45:00	2019.04.10 11:00:00	downl...	Alaris
TASK252148	2019.03.26 09:21:48	ready	-	192.168.18.234	2019.03.26 08:21:48	2019.03.26 09:21:48	downl...	Alaris
TASK211782	2018.11.14 08:05:08	ready	ALARIS TEST	209.208.212.224	2018.11.14 00:00:00	2018.11.14 00:15:00	downl...	Alaris
TASK203086	2018.10.17 14:29:16	ready	ALARIS TEST	209.208.212.224	2018.10.05 00:00:00	2018.10.17 00:00:00	downl...	Alaris
TASK198952	2018.10.05 13:29:37	ready	ALARIS TEST	209.208.212.224	2018.10.05 00:00:00	2018.10.05 00:15:00	downl...	Alaris
TASK198950	2018.10.05 13:27:33	aborted	ALARIS TEST	127.0.0.1	2018.10.05 00:00:00	2018.10.05 00:15:00		Alaris
TASK198948	2018.10.05 13:27:20	aborted	ALARIS TEST	127.0.0.1	2018.10.05 00:00:00	2018.10.05 00:15:00		Alaris
TASK198946	2018.10.05 13:26:56	aborted	ID: 1598	89.31.240.234	2018.10.05 00:00:00	2018.10.05 00:00:00		Alaris

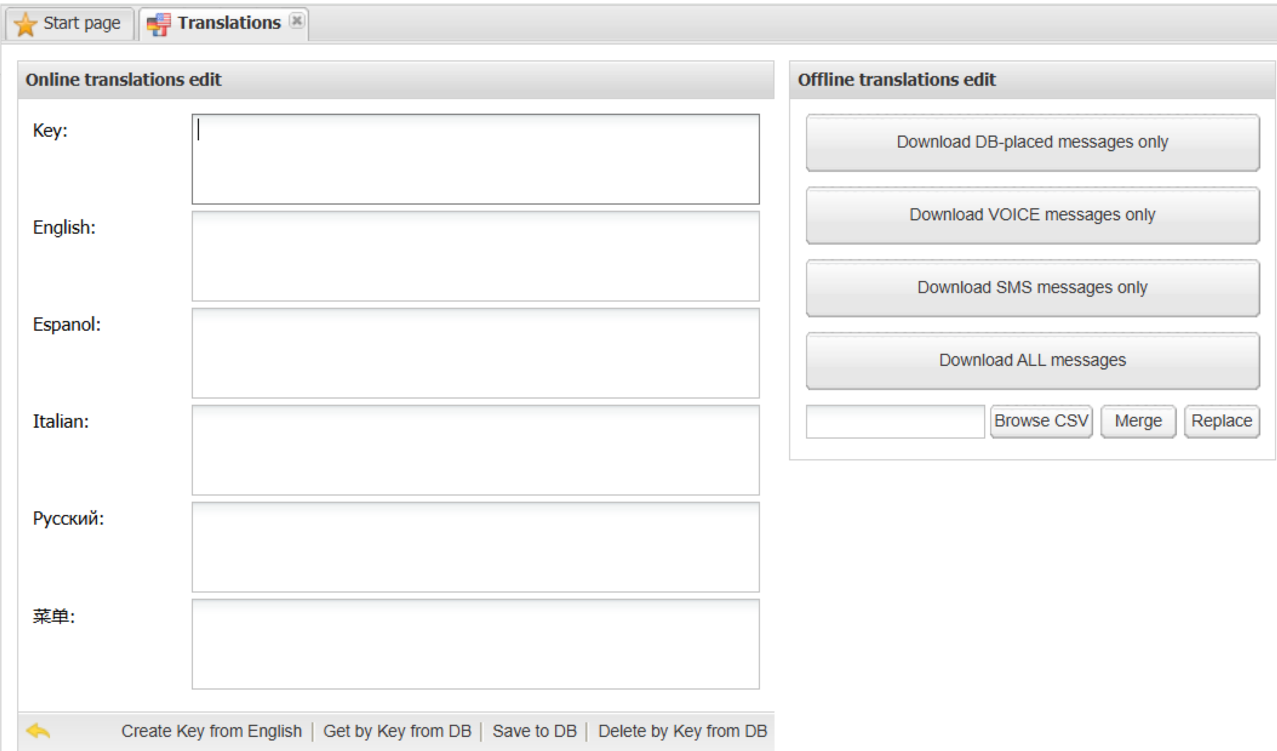
Table of tasks

NOTE: By default traces are stored in the System for three days.

NOTE: When a trace file is opened in an external program, for instance, Wireshark, it is possible to apply a number of filters to find specific records. Examples can be reviewed at https://wiki.wireshark.org/DisplayFilters. For example, in case of multiple SMS switches installed, it can come handy to use the following filter in order to find the packets sent or received from/on a specific SMS switch:
ip.src == xxx.xxx.xxx.xxx or ip.dst == xxx.xxx.xxx.xxx
(where xxx.xxx.xxx.xxx is replaced with the switch IP address)

6.10 Translations

The *Administration\Translations interface* serves to create, as well as download and upload interface translations of the System interface terms, System messages and error messages.

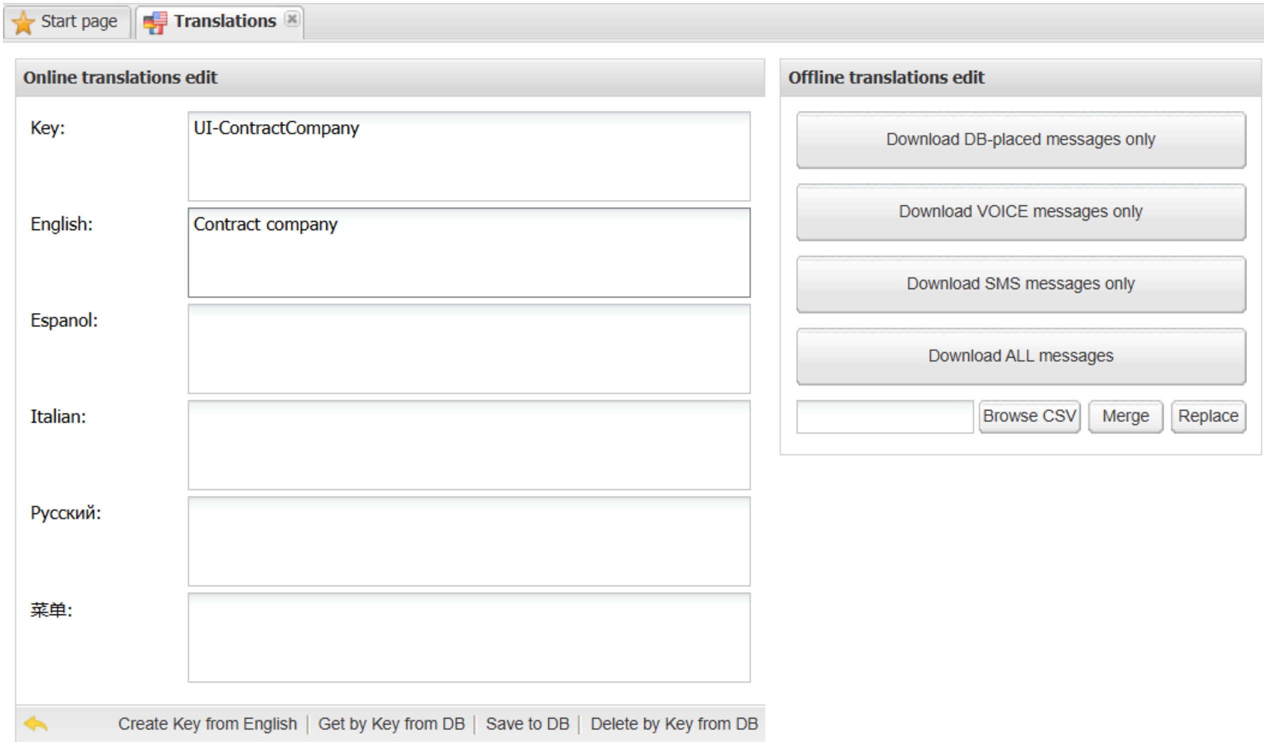


Translations

The page consists of two panels: *Online translations edit* and *Offline translations edit*.

Online translations edit allows setting translation values online and contains the following fields:

- *Key*: internal name of the translation key
- English: translation into English
- Español: translation into Spanish
- Italiano: translation into Italian
- Русский: translation into Russian
- 中文: translation into Chinese



Changing a translation

Example: To change the translation of a phrase, enter its value in the *English* field (for example, *Contract company*) and click *Create key from English*. The System key value will automatically appear in the *Key* field. To get translations from other languages, click *Get by Key from DB* (**Important**: the *Key* field must be filled). Change the translations as appropriate and click *Save to DB*. To remove a value, click *Delete by Key from DB*.

The *Offline translations edit* panel allows exporting a file with a multitude of available translations, editing it and upload it back to the System. It contains the following controls:

- *Download DB-placed messages only*: download translation values saved in the database (some translations are only available in the web interface and will not be downloaded)
- *Download VOICE messages only*: download translation values for Alaris inVoice only
- *Download SMS messages only*: download translation values for Alaris SMS Platform only
- *Download ALL messages*: download all translation values (from the web interface and database)

Once the file is downloaded, it can be edited (translations can be set as appropriate) and uploaded with the help of the *Browse CSV* button. To add new translation values, click *Merge*. To replace current values, click *Replace*.

6.11 Users

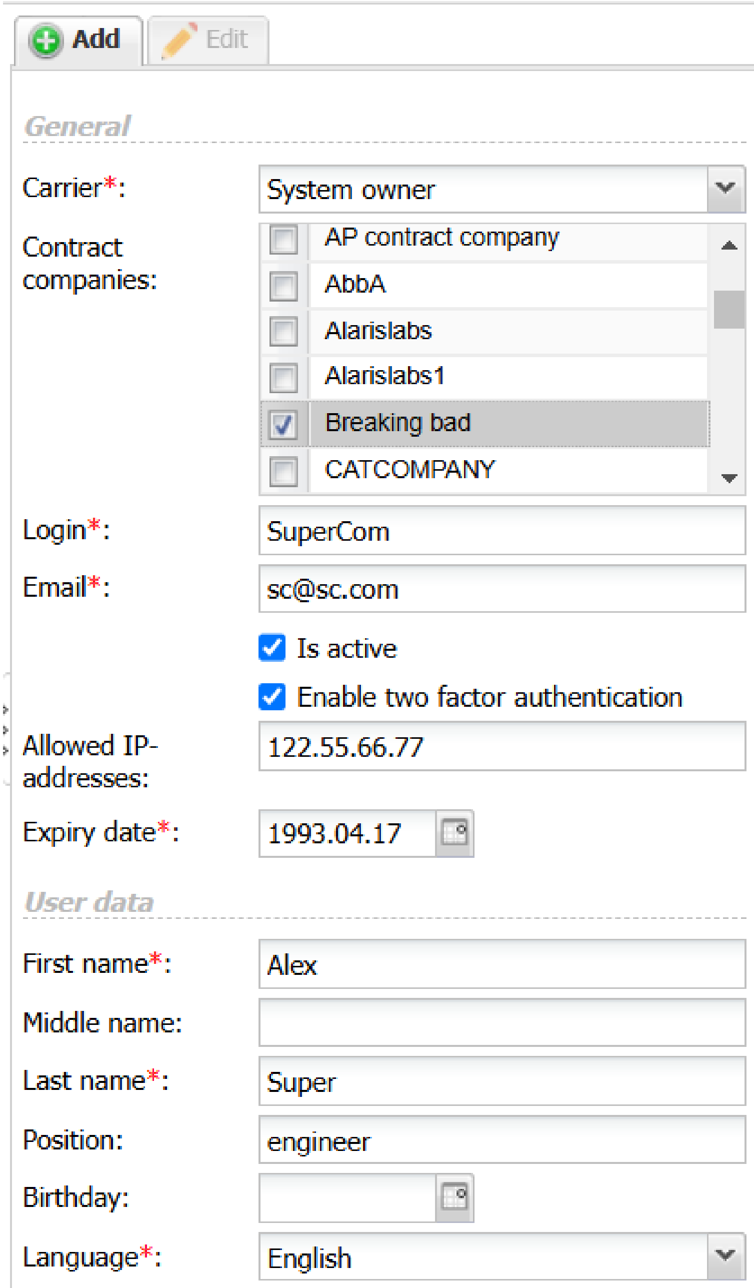
The *Administration\Users* page contains information on user accounts that allow logging in to the System. The access to the main System interface is granted only to the System owner users, while other carriers' users can log in only over the Wholesale 623/Partner portal 632 or Alaris Campaign Portal 583 interface.

Start page | Users

	ID	Carrier	Login	Is active	First name	Middle name	Last name
		All	Text mask	All	Text mask	Text mask	Text mask
	12164	PocoDinero Enterprises	poco	Yes	John		Smith
	12165	PocoDinero Enterprises	Poco Loco	Yes	Mary		Poppins
	12166	PocoDinero Enterprises	Chippolo	No	Chippo		Lino

Users

The right-hand panel contains the *Add* and *Edit* tabs.



Add tab, General and User data

The *Add* tab contains the following parameters:

General:

- *Carrier*: select the carrier from the drop-down list
- *Contract companies*: select the legal entities of the System owner on behalf of which it works with a partner

---

NOTE: The field is displayed only for users of the System owner carrier. For other users the field is hidden as its data is not used.

- *Login*: the user’s login
- *Email*: the user’s email (several comma-separated values can be used)

- *Is active*: defines whether the user will have access to the System interface (for users belonging to the System owner) or the Wholesale 623/Partner portal 632 or Alaris Campaign Portal 583 (for users belonging to any other carrier)

NOTE: If a user is inactive, invoices and rates will not be sent to the user's partner emails (even if the *Send invoices* and *send to partner emails* checkboxes are enabled, respectively).

- *Enable two factor authentication*: enables two-factor authentication for the user (through Google Authenticator app). It can also be enabled by the user itself in Start\User settings 23. The setting does not have an effect on requests sent via Enterprise API

NOTE: Self-registered Partner Portal and Campaign Portal users are created with the *Enable two factor authentication* flag activated if the *Enable 2FA for portals (0 - no, 1 - yes)* System parameter is turned on. To regenerate the email with the QR code, toggle the *Enable two factor authentication* flag off then on for the user, and save each change. 2FA can be disabled at the user level even when the System setting *Enable 2FA for portals (0 - no, 1 - yes)* is enabled.

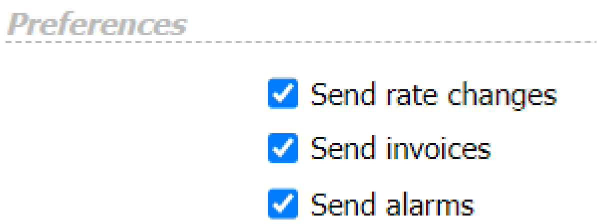
- *Allowed IP-addresses*: IP addresses allowed for logging in to the System. Several comma-separated IP addresses or a network mask can be entered. The parameter also affects access to REST API, Partner Portal and Campaign Portal. When attempting to access the System from an IP address that is not allowed, the user is shown the following error message: "Access from IP 10.146.2.226 denied for this user" (for the Portals) or "{"error_message":"Could not complete request due to error #-20104 please contact administrator for details"}" (for the API)

NOTE: If a list of allowed IP addresses is indicated, Enterprise API (EAPI) requests will not go through even from a specified IP address.

- *Expiry date*: specify the user password expiry date

User Data:

- *First name*, *Middle name* and *Last name* of the user
- *Position:* the user’s position in the company
- *Birthday*: the user’s birth date
- *Language*: web-interface language. English is the default language



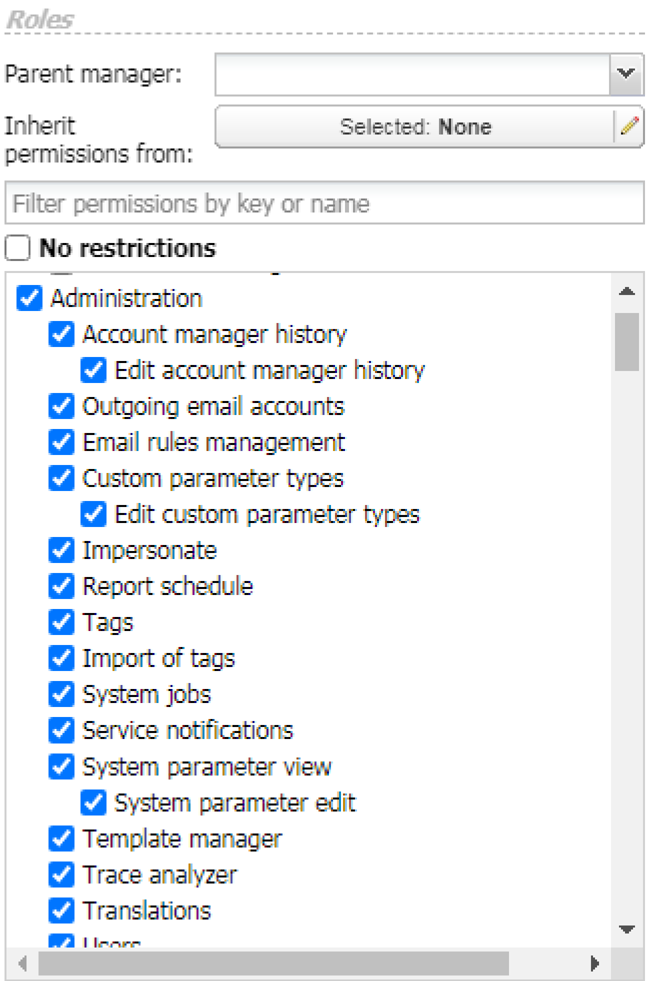
Add tab, Preferences

Preferences:

- *Send rate changes, Send invoices*: define whether the System will send this information to the user’s email address defined in the *Email* field
- *Send alarms*: select to send credit and balance alerts

Contacts:

- *Main contact phone number*, *Office phone*, *Mobile phone number*, *Skype*, *MSN*, *Other IMs*: the user’s contact information



Add tab, Permissions

Roles: permissions to access the interface components. User roles restrict the information within the System interface from being seen or edited by specific users - so, for example, a user from the technical department cannot see any financial details. Select the checkbox *No restrictions* to grant all possible permissions to the user.

NOTE: Users that do not have the *No restrictions* role cannot see the *Start -> License info* menu. Check out the feature in the Alaris YouTube video.

- *Parent manager*: this field allows flexible handling of user viewing permissions. The user will be able to see the parent manager’s carriers as their own.

NOTE: The user can only view the parent manager's carriers. In order to perform any data change for those carriers (for example, rate changes, invoicing) – the user must have the appropriate permissions defined.

- *Inherit permissions from*: allows selecting one or several users from which permissions will be inherited (Find out more in the Alaris YouTube video)

NOTE: Permissions can be inherited only from System owner users.

- *Filter permissions by key or name*: the field helps quickly find the appropriate permission. See also the Alaris YouTube video

Selection of permissions is based on the following principles (learn more about this in Alaris YouTube video):

- If a dependent permission is granted, all higher-level permissions are enabled automatically (for example, selection of the *Edit custom parameter types* automatically enables *Custom parameter types* and *Administration* as illustrated in the figure above)
- Granting permission of a higher level does not enable all the dependent permissions
- To grant both the higher-level permission and its dependent ones, use CTRL+click on the checkbox of a higher-level permission

For a full list of permissions, refer to Appendix 8. User permissions 787.

When through with defining the parameters, click Submit to confirm. The user will receive a password setup link to the email specified in the *Email* field.

NOTE: The *Edit* tab contains the Send password reset email button that sends a password reset link to the user's email, and the User password change button that allows setting the password directly in the interface. The latter is available if the user has the *User administration\Manual password change* right enabled.

Click Reset to discard the settings. Click Clone to create a duplicate of the configured record. This is helpful in configuring another user with similar parameters. Click Delete to delete the selected record.

7 Carriers

The *Carriers* section is one of the most essential components of the System. It allows managing information related to partners as it contains all the basic data about carriers the System owner works with.

The *Carriers* section includes the following pages: *Carriers, Accounts, Agreements, Products, SMS Channels and SMS POI*. The pages are interconnected and do not allow inadvertent deletion of any parent item if it has at least one child component. In case you are sure to delete a carrier or some of its parent components, use the *Delete this <item name> and all child components* button which permits deletion after confirmation.

Each tab sheet stores a full list of items indicated in the tab, so they can all be viewed in one place. This is useful when you need to find out, for example, to which carrier belongs a particular IP address. Each tab sheet allows filtering items according to objects they belong to or by their key parameters using text masks or drop-down lists under the column headers. To clear the configured filter click the *Clear filter* button located in the top left corner of each tab sheet.

The filters support regular expressions. The expression must start with ^ and end with $ (the symbols signify the start and end of the expression respectively). For example, to find all occurrences of the letter combination "super" use the following expression: ^.*super.*$. The following fields in the *Carriers* subsections support regular expressions:

- *Carriers: Carrier name*
- *Accounts: Description*
- *Agreements: Agreement code, Company registered name*
- *SMS channels: Channel name, Host name, Port*
- *SMS POI: Service type*

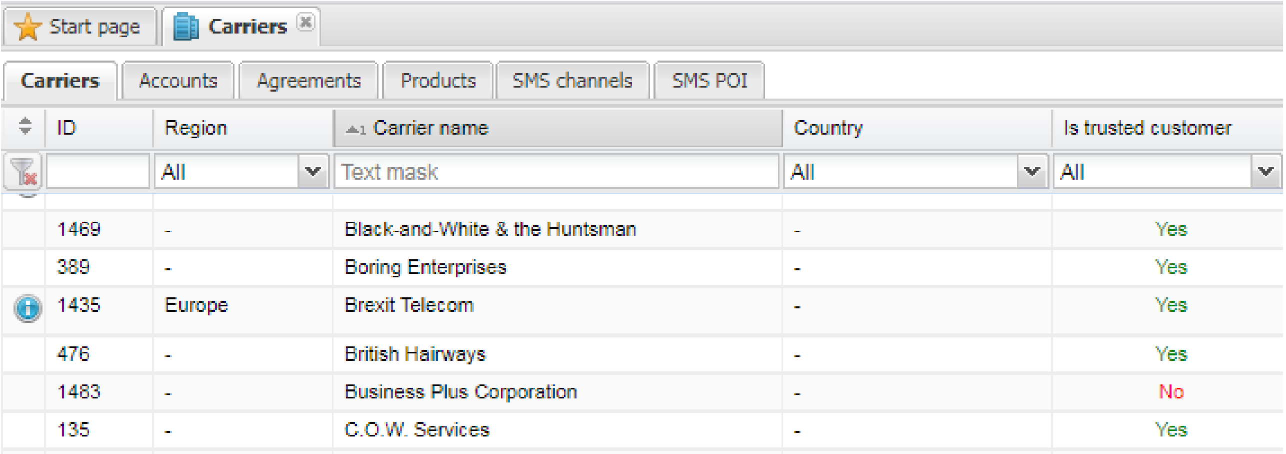
Learn more about the feature in the Alaris YouTube video.

Once you select a carrier by highlighting it in the first tab sheet, all other tab sheets display only objects belonging to that carrier. The information on each page of the *Carriers* section can also be filtered irrespective of the carrier selected in the first page.

Each page of the *Carriers* section is divided in two panels. The left panel contains the table with the items registered in the System. The right panel contains the *Add* and *Edit* tabs that allow adding new records or editing existing ones. To activate the *Edit* tab, click on the record in the table.

7.1 Carriers

The *Carriers* tab sheet contains general information about carriers. The page is divided in two sections. The left section displays a table of carrier records registered in the System.



Carriers

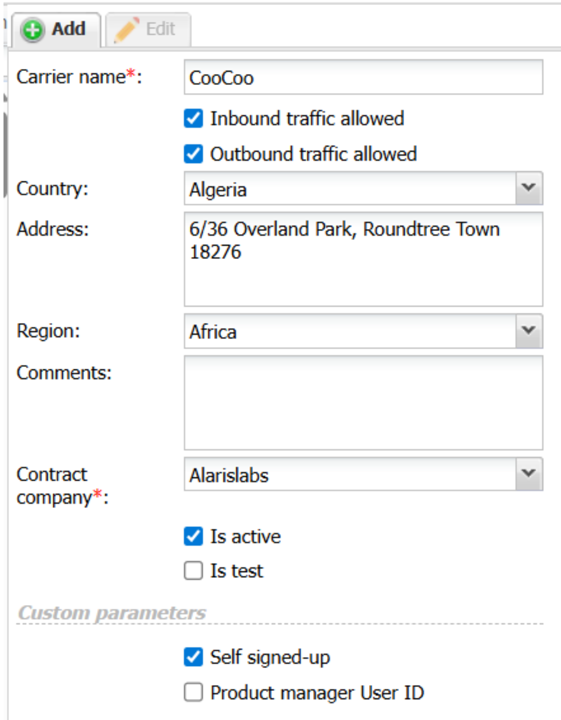
The table contains the following information:

- *ID*: internal identification number
- *Region*: region of the carrier (the regions are listed in the Reference books\Regions 274 section)
- *Carrier name*: full name of the carrier’s company
- *Country*: the carrier's country
- *Is trusted customer*: type of the credit control approach (if the *Is trusted customer* parameter is *Yes*, the carrier will not be disconnected irrespective of the account balance). The value depends on the *In credit* parameter in the Carriers\Agreements 171 page
- *Inbound/Outbound traffic allowed*
- *Contract company* (the top of the column contains a filter to easily locate the appropriate value)
- *Account manager*: value is displayed as -1 if the carrier's accounts have different managers assigned and it is not possible to define one specific manager

The bottom of the table contains the following controls:

- *hide inactive*: when selected, inactive records are hidden. The checkbox is only shown if the Inactive entities option is set to *Show* in Start\User settings 18

- *Show only [TEST]*: when selected, only test carriers (those with the [TEST] prefix) are shown in the table. Otherwise, they are displayed at the end of the carriers list
- *Create Campaign Portal client* (see details at the end of this chapter)



Add carrier tab

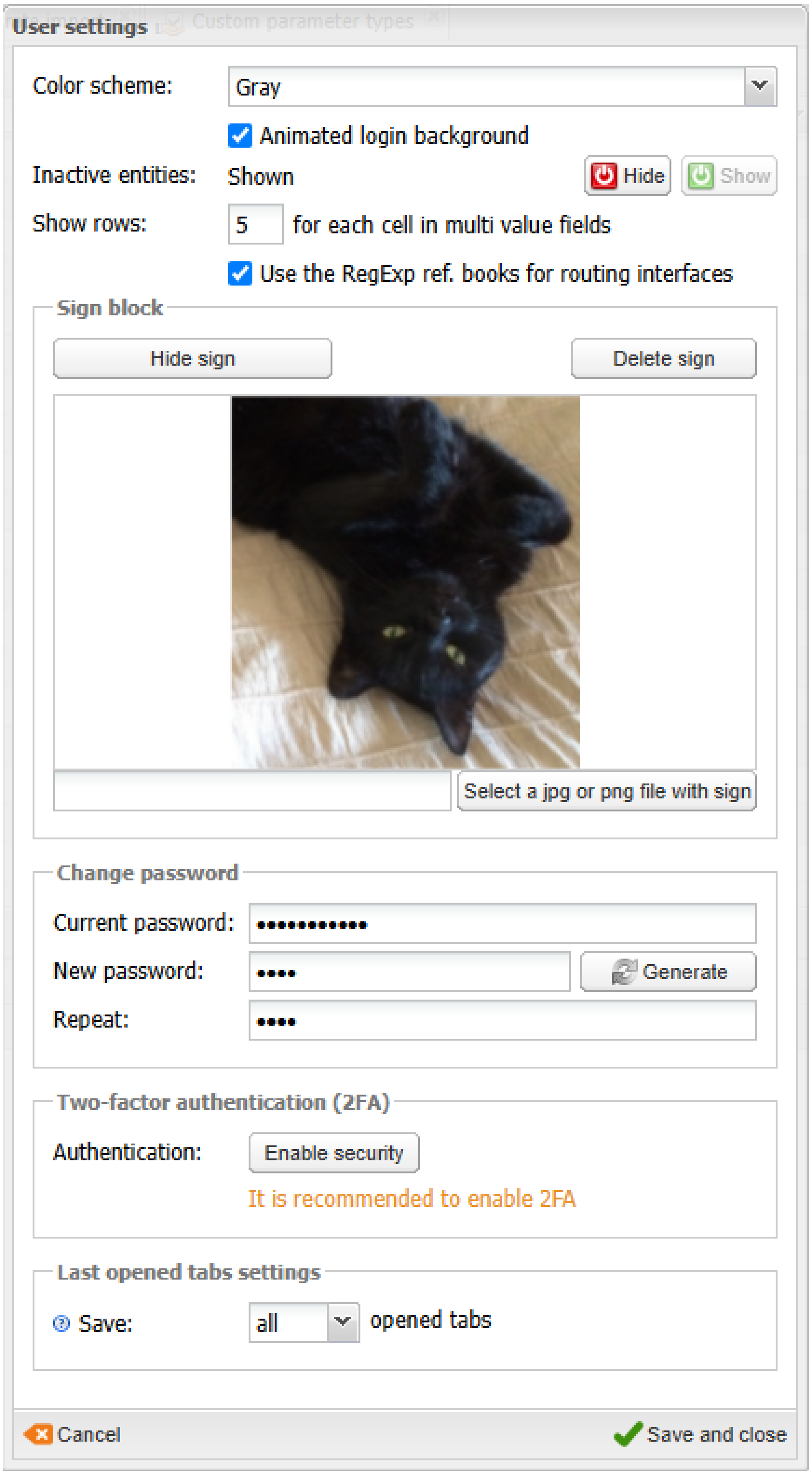
The right section contains the *Add* and *Edit* tabs. To add a new carrier, enter the appropriate parameters in the *Add* tab. Fields marked with an asterisk (*) are required.

- *Carrier name*: full name of the carrier’s company
- *Inbound traffic allowed / Outbound traffic allowed*
- *Country*: the carrier's country. It is filled in automatically for users that selected the country when registering in Alaris Campaign Portal
- *Address*: the carrier’s postal address
- *Region*: geographical region
- *Comments*: any relevant notes
- *Contract company*: the legal entity of the System owner on behalf of which it works with the carrier. The parameter comes handy when the System owner interacts with different partners on behalf of different legal entities (a filter can be used to easily locate the appropriate value)
- *Is test*: when the checkbox is selected, the carrier's record is displayed in orange font, and the *Carrier name* has the prefix [TEST]. Such labeling is intended to prevent using newly added carriers that are still being verified in production routing
- *Is active*: when deselected, the carrier records are grayed out in the table. Products and POIs of inactive carriers cannot be selected when configuring routing rules. To hide inactive carriers from the table and multipickers, go to *Start >> User settings* and click 
.

NOTE: When the *Is active* checkbox is disabled for a carrier, the respective checkbox is disabled for the carrier's SMS channels, which stops the traffic flow. When enabling a carrier, SMS channels are not activated by default. When the user selects or deselects the *Is active* checkbox, a message appears explaining this.

NOTE: When selecting an inactive carrier in the *Carriers* interface, the carrier will be automatically substituted as a filter in all the enclosed interfaces (*Accounts*, *Agreements* etc.). Editing entities of such a carrier is possible, however, when selecting the carrier in the *Add* tab, the following message will appear: "This control can't contain inactive values."

- *Self signed-up*: if the checkbox is displayed as selected in the *Edit* tab, it means that the user was created in the Alaris Campaign Portal (Retail) portal 583. Such records are highlighted in green in the SMS\Analytics 363 section

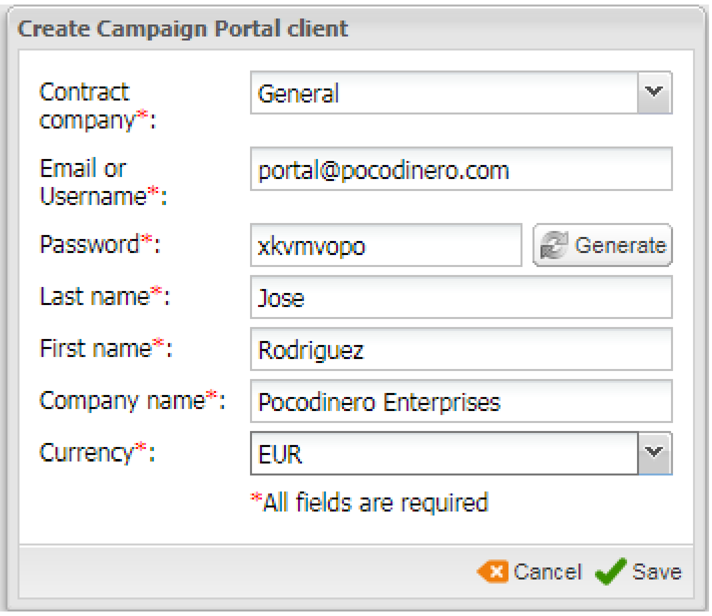


User settings

To make a carrier record operative, at least one account must be created (see Carriers\Accounts 168 for more details).

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. To delete a record, select it in the table and click *Delete this carrier and all child components* Delete this carrier and all child components in the *Edit* panel.

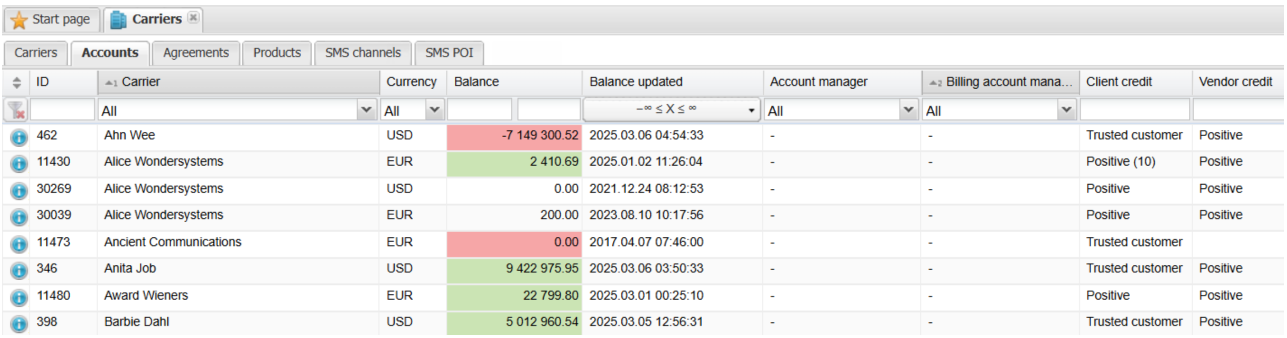
Users of the Alaris Campaign Portal can also be created in the *Carriers\Carriers* page. Click *Create Campaign Portal client* Create Campaign Portal client at the bottom of the carriers table. Complete the appropriate fields and click *Save* Save. The new record appears in the list of carriers. The *Company name* is displayed in the *Carrier name* column. See also the Alaris YouTube video.



Create Campaign Portal client

7.2 Accounts

The *Carriers\Accounts* page contains data on financial accounts associated with the carriers.



ID	Carrier	Currency	Balance	Balance updated	Account manager	Billing account mana...	Client credit	Vendor credit
	All	All		−∞ ≤ X ≤ ∞	All	All		
462	Ahn Wee	USD	-7 149 300.52	2025.03.06 04:54:33	-	-	Trusted customer	Positive
11430	Alice Wondersystems	EUR	2 410.69	2025.01.02 11:26:04	-	-	Positive (10)	Positive
30269	Alice Wondersystems	USD	0.00	2021.12.24 08:12:53	-	-	Positive	Positive
30039	Alice Wondersystems	EUR	200.00	2023.08.10 10:17:56	-	-	Positive	Positive
11473	Ancient Communications	EUR	0.00	2017.04.07 07:46:00	-	-	Trusted customer	
346	Anita Job	USD	9 422 975.95	2025.03.06 03:50:33	-	-	Trusted customer	Positive
11480	Award Wieners	EUR	22 799.80	2025.03.01 00:25:10	-	-	Positive	Positive
398	Barbie Dahl	USD	5 012 960.54	2025.03.05 12:56:31	-	-	Trusted customer	Positive

Accounts

Use text masks or drop-down lists under the column headers to filter the records in the table. The table contains the following information:

- *ID*: internal identification number
- *Carrier*

- *Currency*: currency of the account. The currencies and their exchange rates are configured in [Reference books\Currency exchange rates](270). In order to integrate real-time update of exchange rates, refer to the *Currency update source* System setting
- *Balance*: current balance of this account
- *Balance updated*: date and time of the latest balance update (is performed every minute)

NOTE: As the balance is not updated in real time, the credit limit may be exceeded. However, in case of frequent (every minute) update, the overlimit is normally insignificant.

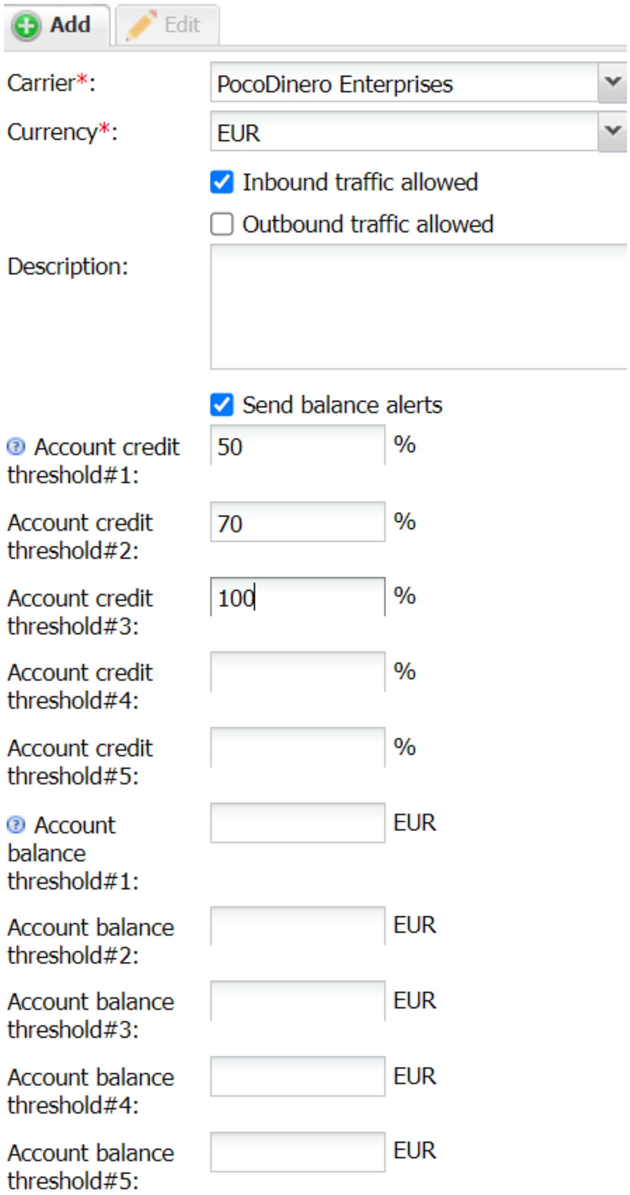
- *Manager*: manager responsible for this account on the side of the System owner. The manager is assigned in [Administration\Account manager history](29) once the account is created
- *Client credit*: credit status on the client's side. The figure in brackets is the credit limit configured in the [Carriers\Agreements](171) page. The value 0 means no credit available (prepaid services); no figure in brackets means the credit is unlimited (postpaid services)
- *Vendor credit*: credit status on the vendor's side. Similarly to *Client credit*, the figure in brackets is the credit limit
- *Description*: arbitrary description of the account

The bottom of the page contains the *Highlight balance* checkbox (enabled by default). It serves to highlight the values in the *Balance* column depending on the balance thresholds (configured at the *Accounts* or System level). The following highlight colors are available:

- green: the balance value does not exceed the first threshold
- light green: the balance value is between the first and the second threshold (excluding the second threshold value)
- yellow: the balance value is between the second and third thresholds (excluding the third threshold value)
- orange: the balance value is between the third and fourth thresholds (excluding the fourth threshold value)
- light red: the balance value is between the fourth and fifth thresholds (excluding the fifth threshold value)
- red: the balance value exceeds the fifth threshold (or is equal to the exact value of the fifth threshold)

NOTE: The highlighting only applies to accounts for which a client agreement is available.

The right panel contains the *Add* and *Edit* tabs.



Add tab

The *Add* tab contains the following parameters:

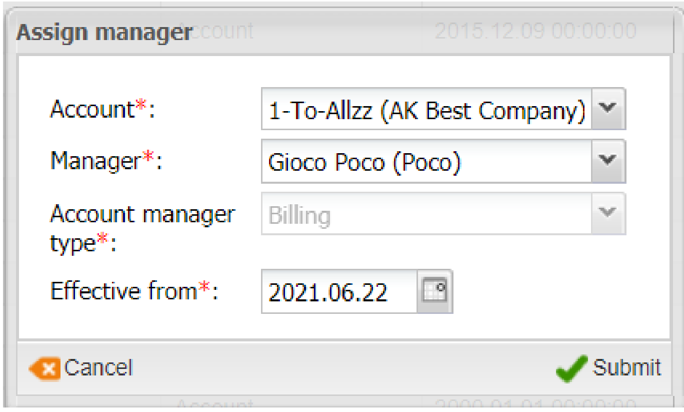
- *Carrier*
- *Currency*
- *Inbound traffic allowed* / *Outbound traffic allowed*: leave deselected to exclude carriers from routing on the account level
- *Description*
- *Send balance alerts*: select the flag to send the client automatic notifications on reaching the balance limit (with a CC to the account manager). A copy of the notification can also be sent to the System owner's email specified in the field *Credit and balance alarms default email* (Administration\System settings\Financial module 61). The selected *Send balance alerts* checkbox activates the fields below

- *Account credit threshold (#1-#5)*: notify the client when a certain percentage of the credit limit is reached (the credit limit must be non-zero and not void); supply the value as a percentage of the credit limit. Up to 5 notifications can be configured, for example, at 50 percent, 70 percent and 100 percent limit reached
- *Account balance threshold (#1-#5)*: notify the client when a certain account balance amount is reached (if the agreement is fully prepaid); supply the amount in the respective currency. Up to 5 notifications can be configured

NOTE: Credit and balance alerts are sent for vendor accounts as well - but only to the account manager and the email addresses set in the parameter *Credit and balance alarms default email (null- do not use it)* in Administration\System settings\Financial module 61. If the agreement with the carrier is bilateral (both the incoming and outgoing traffic is included), only credit limit thresholds are checked for the vendor. If the agreement with the vendor includes only the outgoing traffic direction, the System will also check balance thresholds. See also the Alaris YouTube video.

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete this account and all child components to delete the selected record.

The *Edit* tab additionally contains the buttons Set account manager and Set billing account manager that allow assigning an account and billing managers respectively. The button opens the *Assign manager* dialog of the Administration\Account manager history 29 page. The option is accessible to users having the *Edit account manager history* permission.

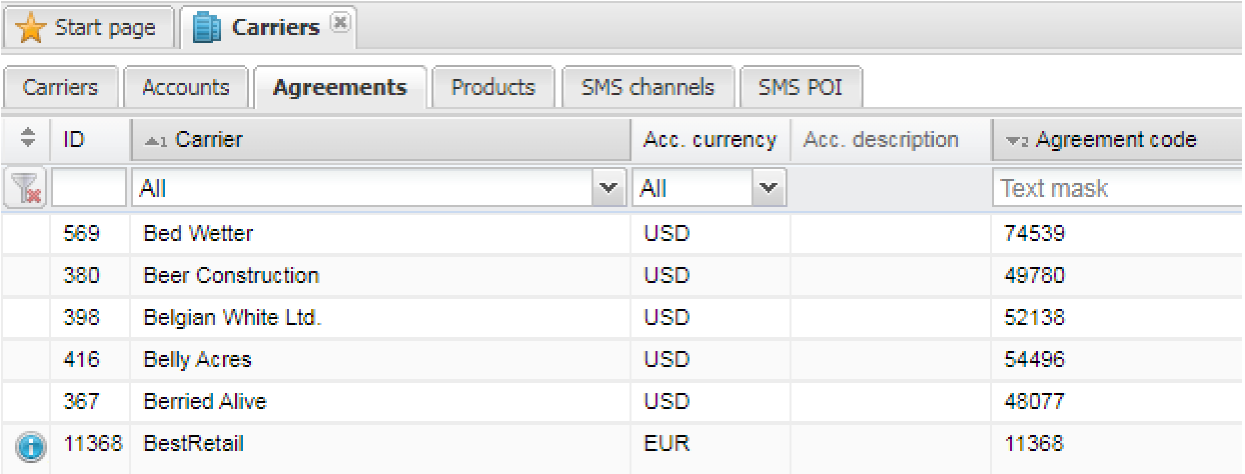


Assign manager

7.3 Agreements

The *Carriers\Agreements* page stores the most essential terms of the interconnect agreements with the carriers. Most parameters defined on this page are used by the System in its automatic operation, for example, in routing. At least one agreement must be entered in the System. Each agreement is linked to a specific account.

NOTE: If both incoming and outgoing traffic directions are allowed in the agreement, some parameters will be included twice - separately for each traffic direction, those intended for client traffic starting with *In*, while those belonging to the vendor agreement section starting with *Out*.

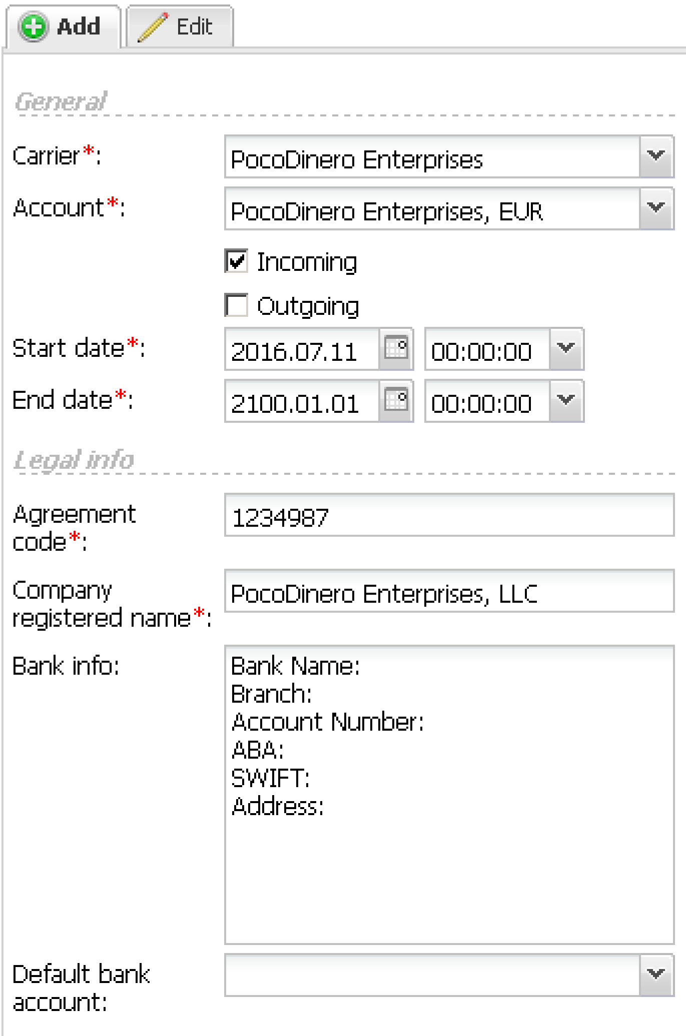


ID	Carrier	Acc. currency	Acc. description	Agreement code
	All	All		Text mask
569	Bed Wetter	USD		74539
380	Beer Construction	USD		49780
398	Belgian White Ltd.	USD		52138
416	Belly Acres	USD		54496
367	Berried Alive	USD		48077
11368	BestRetail	EUR		11368

Agreements

Use text masks or drop-down lists under the column headers to filter the records in the table.

The right panel contains the *Add* and *Edit* tabs.



Add tab, General and Legal info

The *Add* tab allows defining the following parameters (in the corresponding account currency):

General:

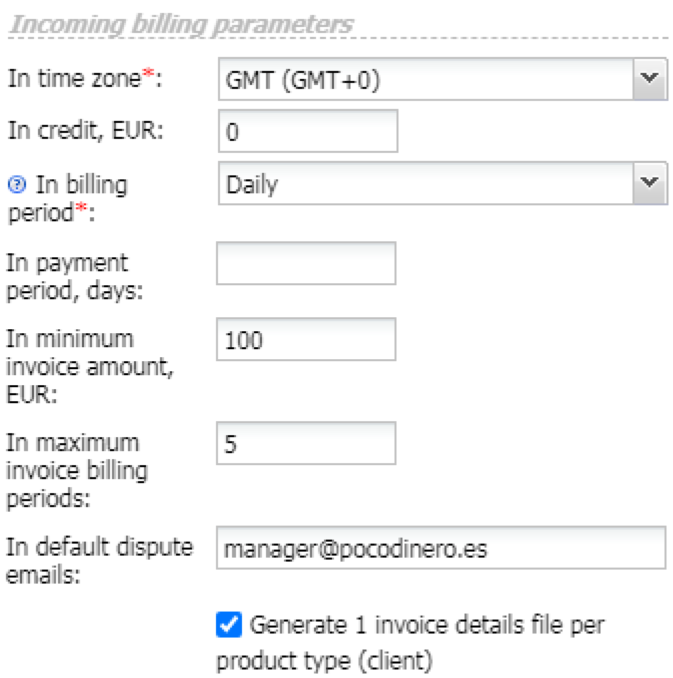
- *Carrier*: select a carrier from the drop-down list
- *Account*: select an account from the drop-down list
- *Incoming/Outgoing*: traffic direction (unilateral or bilateral).

NOTE: Only one agreement can be created for each direction. Two agreements with the same traffic direction can only be created if their validity periods do not overlap. Once the agreement is created, its original traffic direction cannot be removed; however, the other direction can be added.

- *Start date*: effective date of the agreement
- *End date*: expiry date of the agreement

Legal info: company details used for reference

- *Agreement code*: arbitrary reference code of the agreement
- *Company registered name*: legal name of the partner carrier's company
- *VAT identification number*
- *Legal address*
- *Bank info*: bank details of the partner
- *Default bank account*: a default bank account of the System owner used for partner settlements (configured in Reference books\Bank accounts 255)
- *Attachment link*: link to an external document - for example, agreement with the partner



Add tab, Incoming billing parameters

Incoming billing parameters, Outgoing billing parameters: identical sets of parameters for client traffic (start with *In)* and vendor traffic (start with *Out*):

- *In/Out time zones*: time zones for the incoming and outgoing traffic. The *In time zone* value is used when creating an invoice for the client (invoicing is always done in the client time zone), while the *Out time zone* value is important when vendor rates are imported into the System, so that the System can adjust the effective date/time according to the difference between the System and the partner time zones. Values for the *In time zone/Out time zone* parameters will be automatically substituted from the Reference books\Contract companies\Agreement defaults 266 interface. If the value is missing, the System time zone will be used.

NOTE: It is good practice to use the GMT time zone for invoicing in order to eliminate possible time zone discrepancies.

- *In/Out credit*: credit limits for the client and vendor sides (e.g. if the field is set to 1000, the balance of the respective account will be allowed to go down to -1000 of the account currency units before the traffic is blocked). This field value is displayed in the *Client credit* column of the Carriers\Accounts 168 table

NOTE: The default value of the *In Credit* parameter is zero, which means no credit offered to the client. If the field is empty, the *Is trusted customer* parameter is automatically set as *Yes* for that client and the automated credit control for it is disabled. The default value for the *Out credit* parameter is blank, which also turns off auto-disconnection of the vendor by the System credit control.

- *In/Out billing period*: period of the client/vendor invoice generation. Select a period ranging from 1 day to 4 months from the drop-down list

NOTE: If *Monthly* is selected, specify the start of the monthly period in the parameter *In/Out - First day of month*. The parameter *Weekly (non-calendar)* means that invoices will be generated for the following periods: 1st – 7th, 8th – 14th, 15th – 21st, 22nd – end of the month. Learn more about the feature in Alaris YouTube video.

- *In/Out payment period, days*: number of days for issued invoices to get paid. The number of days is calculated from the invoice's *Issue date*. This parameter is used for monitoring invoices which are not paid in due time. Such invoices are marked as *Overdue*

- *In/Out minimum invoice amount*: threshold of the total invoice amount below which the invoices are not created. Instead, the System will add the pending amount to the next invoice of the same customer (in this case the timeframe indicated in the new invoice will include the intervals of both invoices, and the traffic details will also be combined)

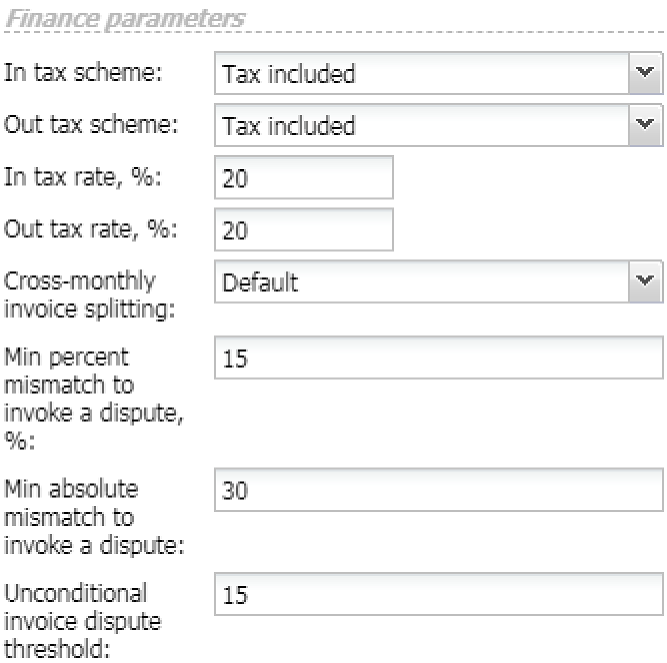
NOTE: For correct operation of the *In/Out minimum invoice amou*nt parameters, the respective *In/Out maximum invoice billing periods* parameters must be set to a positive value.

- *In/Out maximum invoice billing periods*: the number of billing periods after which the System issues an invoice irrespective of the *Minimum invoice amount* (detailed above). In other words, the parameter defines how many billing periods (with low traffic) can pass without having to generate an invoice. For example, if the parameter is set to 3, the invoice will be generated at the end of the fourth billing period, if all the four periods contain at least some traffic

NOTE: If there is no traffic at all during a billing period, no charge is created and the period is not included in the total count of *In/Out maximum invoice billing periods*. For example, if a parameter is set to 2 and there is some traffic in periods 1 and 2 (below the value set in *Minimum invoice amount*) and no traffic in period 3, no invoice will be created at the end of period 3. If there is any traffic at period 3, the invoice will be created at the end of period 3, otherwise the System will wait for a period with any traffic at all and generate the invoice at the end of it for all the preceding periods. In other words, the invoice will contain three periods with at least some traffic.

- *In/Out default dispute emails*: the client email address for sending invoice disputes. Conditions invoking a dispute are configured in Administration\System Settings\Financial module 61

- *Generate 1 invoice details file per product type (client/vendor)*: when selected, the traffic details for products of the same product type will be combined in a single file (even if one charge is *Manual* and another is *Auto*). Traffic details for products of different product types will result in separate files. The file template is configured using the template type *Invoice detail (multiple charges)* in Administration\Template manager 104



Add tab, Finance parameters

Finance parameters:

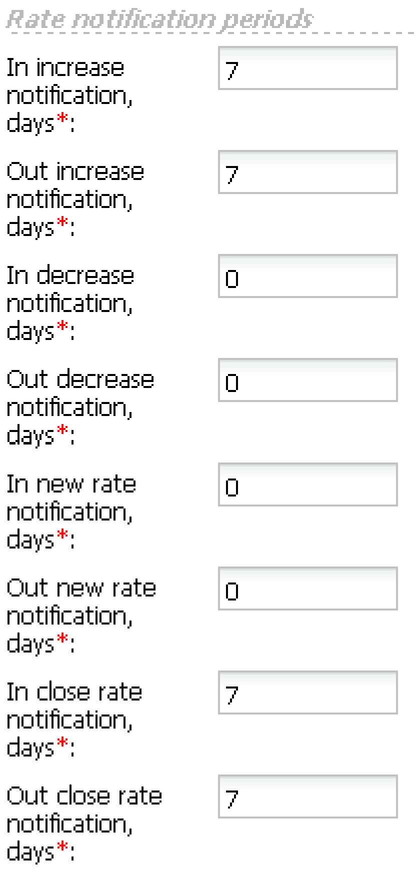
- *In/Out tax scheme*:
  - *Tax included:* if the tax is included into the rate, the invoice is calculated as derivative of (Rate)*(Volume)
  - *Add tax % to estimated amount*: if the tax is not included in the rate, the invoice is calculated as a sum of (Rate)*(Volume) + (Rate)*(Volume)*(tax)
  - *Document only tax inclusion*: the tax is included in the invoice but is not actually charged
  - *Add country based tax*: when selected, the value is taken from the *Tax, %* column of the Reference books\Countries and regions\Countries 275. When this option is selected, the field *In/Out default tax rate, %* field appears. Specify the tax rate that will be used if no tax is found for a specific country in the Reference book (and negative values from -100 to 100 can be used)

NOTE: If the value is changed in the middle of the billing period, perform EDR recalculation (see SMS\EDR management\EDR rerating 384) and apply the *Recalculate period* and *Recalculate* options to invoices for the respective period in the Finance\Invoices 217 interface.

- *In/Out tax rate, %*: if the invoice amount includes taxation, this parameter defines the percent of the tax (decimal numbers and negative values from -100 to 100 can be used)

- *Cross-monthly invoice splitting*: serves to configure the invoicing method based on partner preferences. Possible values are:
  - *Default*: as set in the same name parameter in [Administration\System settings\Financial module](61)
  - *Yes*
  - *No*. See also the [Alaris YouTube]() video
- *Min percent mismatch to invoke a dispute*: the minimum relative difference (in per cent) between the System owner's and partner's invoice amounts to start a dispute (*Presented amount* and *Due amount*). Both this parameter and the parameter *Min absolute mismatch to invoke a dispute* should be surpassed to change the invoice status to *Disputed*
- *Min absolute mismatch to invoke a dispute:* the minimum absolute difference between the System owner's and partner's invoice amounts to start a dispute (*Presented amount* and *Due amount*). Both this parameter and *Min percent mismatch to invoke a dispute* must be exceeded to change the invoice status to *Disputed*. In case one of the parameters is set to *null*, only the other one will be taken into account for assignment of the *Disputed* status. In case both parameters are null, the invoice status can be set to *Disputed* only manually
- *Unconditional invoice dispute threshold*: the minimum absolute difference between the System owner's and partner's invoice amounts to start a dispute, regardless of the parameter *Min absolute mismatch to invoke a dispute*. If set to *null*, the parameter is not used

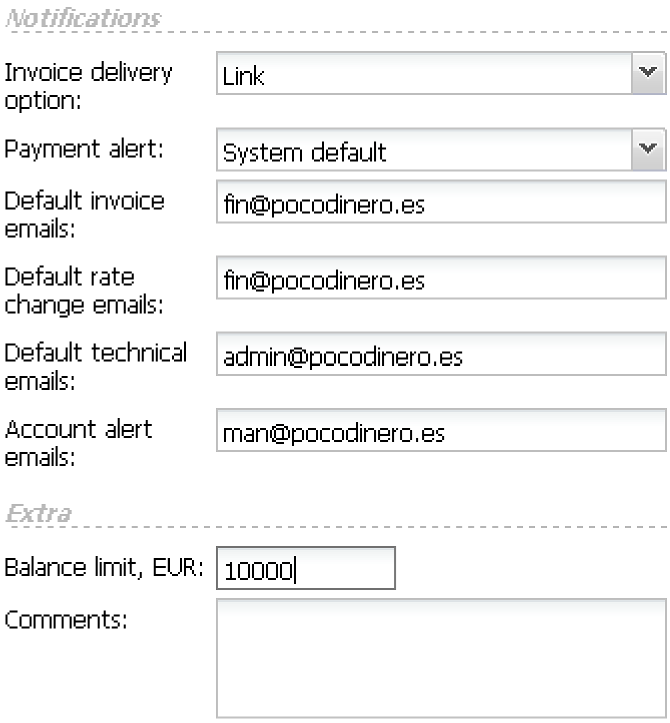
NOTE: If any of the above three fields is left empty, the respective values will be taken from System settings. Additionally, the null value can be set in the System settings, in which case no disputes will be invoked. See also the Alaris YouTube video.



Add tab, Rate notification periods

Rate notification periods: the minimum number of days of receiving a partner notification in regard to any upcoming changes (that is, applicable while importing rates to the System) and the period within which upcoming changes are verified to be sent out (that is, applicable to exporting rates):

- *In/Out increase notification, days:* number of days for an advance rate increase notice to be sent to the client/from the vendor
- *In/Out decrease notification, days*: number of days for an advance rate decrease notice to be sent to the client/from the vendor
- *In/Out new rate notification, days*: number of days for a notice about new rates
- *In/Out close rate notification, days*: number of days for a notice about closing rates



Add tab, Notifications and Extra

Notifications:

- *Invoice delivery option*: specify how the invoices must be delivered (a filter can be used to easily locate the appropriate value):
  - *System default:* deliver as configured in the *Invoice delivery options* parameter in Administration\System settings\Financial module 61
  - *Do not send*: no invoice is delivered
  - *Attachment*: the invoice is sent in an email with two attachments, one containing a cover letter in PDF format and the other an MS Excel file with traffic summary details
  - *Link*: the email contains links to the two invoice files (PDF cover letter and MS Excel traffic summary details). The files are stored on the System server; once the client clicks on the links the message status is changed to *delivered*.

NOTE: This is a reliable way to know that the invoice has been received by the partner.

  - *Attachment and link*: the invoice email contains both the attached files (PDF cover letter and MS Excel traffic summary details) and the links to download them. Once the client clicks on the links the invoice status is changed to *delivered*. Find out more about the feature in the Alaris YouTube video
  - *Separate emails*: the PDF cover letter and MS Excel traffic summary details are sent in two separate messages

- *Payment alert*: sending notification on received (confirmed) payment to the partner (*System default*, *Do not send, Send to account alert emails, Send to default invoice emails*). *System default* is defined by the *Send payment confirmation to partner* parameter in the Administration\System settings\Financial module 61. A filter can be used to easily locate the appropriate value.

NOTE: A copy of the alert is sent to the carrier's account manager even if the manager's email address is not specified as a payment alert recipient. Learn more in Alaris YouTube video.

- *Default invoice emails*: emails for sending invoices to. Several comma- or semicolon-separated addresses may be indicated. Invoices are additionally sent to the carrier's user email addresses, defined:
  - on the Administration\Users 158 page (only users with the checked *Send invoices* flag are considered)
  - in the *Email address list to CC finance-related emails* parameter defined in the Administration\System settings\Financial module 61
  - in the *Email address list to CC finance-related emails/Email address list to BCC finance-related emails* parameters defined in the Reference books\Contract companies 261 and the account manager email address
- *Default rate change/technical/account alert emails*: email addresses of the partners' financial, rate and technical departments, where rate increase/change, monitoring alerts, balance limit reached alerts and other notifications are sent:
  - *Default rate change emails*: the maximum field length is 1024 symbols. If a user attempts to enter more than 1024 symbols an error message will be displayed. If the field is empty, rate change notifications are sent to the carrier's user email defined on the Administration\Users 158 page (only users with the checked *Send rate updates* flag are considered)
  - The *Default technical emails* field contains email addresses to send notifications configured in the Administration\Service notifications 40 page. If the field is empty, partners will receive no notifications
  - If the *Account alert emails* field is empty, the alerts are sent to the email address of the primary System administrator and to the email indicated in the *Credit and balance alarms default email* parameter in the Administration\System settings\Financial module 61

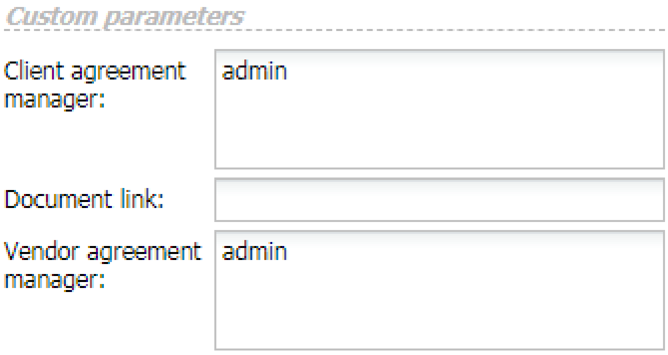
NOTE: The *Account alert emails* field can be automatically filled with the email address of a partner that has registered in Campaign or Partner Portal. This feature can be useful for notifying partners about maintenance work resulting in portal unavailability using service notifications. To enable the functionality, please contact the Alaris technical support and provide the code BZ62874.

- *Include in service notifications*: the checkbox serves to allow or disallow sending service notifications to the emails set in the *Default technical emails field*. When deselected, service notifications will not be sent to the mentioned emails. Find out more about the feature in the Alaris YouTube video

Extra:

- *Comments:* arbitrary comments

NOTE: If a user does not have one of the following permissions: *System owner: No restrictions / View all data / View and edit all data (except System owner parent rates)*, all agreements belonging to accounts of other managers will have their email data hidden.



Custom parameters

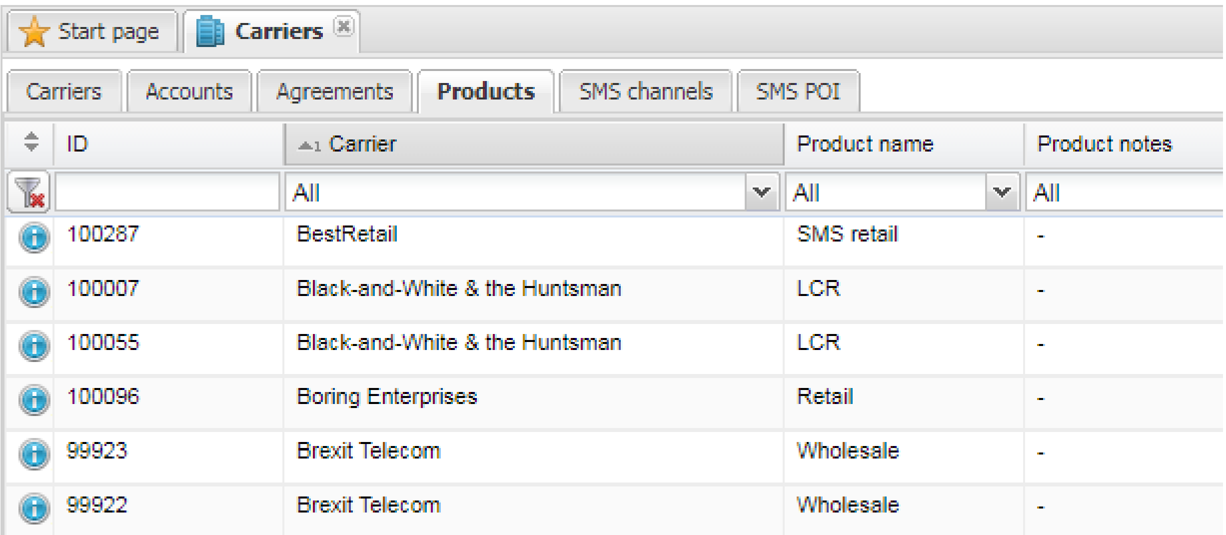
- *Client agreement manager, Vendor agreement manager*: serve to set the manager logins for each traffic direction. These fields can be used as layers in SMS\Analytics 363 allowing the user to view the data by *Analytics client manager* and *Analytics vendor manager*

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record.

7.4 Products

The *Carriers\Products* page contains information about products associated with carriers' accounts. A product is a rate plan, or, in other words, a type of service level agreement (SLA) offered to partners. Products allow grouping vendors and clients based on their SLA, and are then used for creation of routing rules for such groups.

Each product is linked to an account, so its currency is always the same as that of the account.

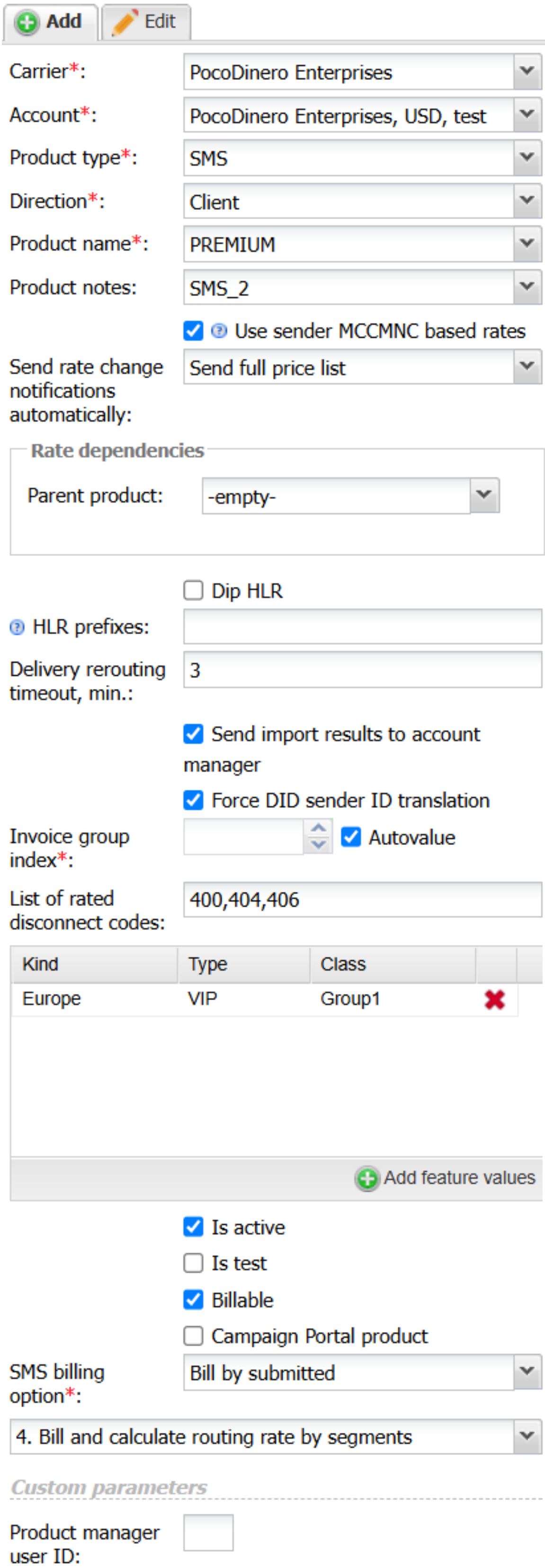


ID	Carrier	Product name	Product notes
	All	All	All
100287	BestRetail	SMS retail	-
100007	Black-and-White & the Huntsman	LCR	-
100055	Black-and-White & the Huntsman	LCR	-
100096	Boring Enterprises	Retail	-
99923	Brexit Telecom	Wholesale	-
99922	Brexit Telecom	Wholesale	-

Products

Use text masks or drop-down lists under the column headers to filter the records in the table. The bottom of the table contains the *hide inactive* checkbox. When selected, inactive records are hidden. The checkbox is only shown if the *Inactive entities* option is set to *Show* in Start\User settings 18.

The right panel contains the *Add* and *Edit* tabs.



Add tab

The *Add* tab allows defining of the following parameters:

- *Carrier*: select the carrier from the drop-down list

- *Account*: select the account from the drop-down list
- *Product type*: possible values include:
  - *SS7*: allows creating products for SS7 billing (applicable when the System parameter *Enable SS7 billing* is enabled)
  - *HLR*: select to calculate the rate for HLR dipping for this product (for vendor products only) and to issue invoices for external clients' HLR requests (HLR reselling). Rate editing, as well as rate import and export for HLR products is also available (SMS\Rates\Rate editor 399, SMS\Rates\Rate import 420 and SMS\Rates\Rate export 407)

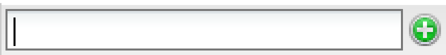
NOTE: Products of the *HLR* type can be created for any carrier (it is possible to create a dedicated partner for each of the employed HLR service providers or create all products under the System owner carrier). However, the product name must be unique: it must contain the name of the HLR provider in the lower case, for example, *infobip*. For a list of HLR providers refer to Appendix 2. Supported HLR providers 679. The System will also create invoices for HLR requests that will be managed according to the billing period defined in the respective agreement. Learn more about this feature in Alaris YouTube video.

NOTE: It is possible to create several products for one and the same HLR service provider. This may come handy when the HLR provider offers several SLA-based rate plans. Select *Product type* = *HLR*, in the *Product* field specify the source_name, and in the *Product notes* field specify the source_type. For the values of the source_name and source_type contact the Alaris technical support team and communicate the code BZ26773. The MCCMNC search for billing of vendor HLR products is verified as follows: 1) MCCMNC from the HLR service response is used. 2) If MCCMNC from the response could not be recognized, the MCCMNC is searched by the longest match based on the e.212/e.164 reference book . 3) If the MCCMNC could not be found in the reference book, the MCC "Rest of the world" is used.

NOTE: It is possible to bill all (intermediate and final) HLR providers (for example, in cases when the first supplier did not return MCCMNC and the dipping request was sent to the next provider). By default, only the last provider can be billed. To bill all providers, an internal parameter must be disabled. For this, contact the Alaris technical support team and communicate the code CS-479.

NOTE: The user can generate invoices based on HLR proxy EDRs for external client requests. The feature enables full-fledged reselling of the HLR service. EDRs are imported to the database every several minutes, and the invoices are generated based on agreement settings. A separate EDR will be written for each dipping. This allows billing HLR vendors even if no MCCMNC was received: the MCCMNC from the e.212/e.164 reference book will be written and used. Please note that the client side will be billed by the last attempt (EDR).To configure the feature, create an HLR product with *Direction: Client*, import the appropriate rates to the product and communicate the product ID and name of the user created for reselling (whose requests will be billed within the product) to the Alaris technical support team for internal configuration.

  - *SMS*: SMS traffic

- *Direction*: select the traffic direction (*Client* or *Vendor*) from the drop-down list
- *Product name*: select the product name from the drop-down list (a filter can be used to easily locate the appropriate value). To create a new product name, type it in the edit box  and click the  button
- *Product notes*: select the notes from the drop-down list or create a new note using the edit box similar to the *Product* field (a filter can be used to easily locate the appropriate value). The maximum field length is 64 symbols
- *Use sender MCCMNC based rates*: select to enable routing and billing of p2p traffic, that is, traffic based on the sender MCCMNC. When enabled, the System searches rates based on the

MCCMNCs found for both sender ID and destination number. It is also possible to add or import sender MCCMNC-based rates to the product (select the *Use sender MCCMNC based rates* checkbox and complete the *Sender MCCMNC* field in the *Add rate* dialog in SMS\Rates\Rate editor 402 or assign the *sender e.212 column* when parsing a rate sheet in SMS\Rates\Rate import 420). To deselect the flag, all rates (including inactive) must be removed from the product.To remove all rates from a product, you can open them in the *Rate editor* interface (the *Open product rates in Rate Editor* button in *Carriers\Products*), group them together into one group by unchecking all the checkboxes in the *Group by* filter, and edit the group as a whole via the *Edit* button. In the *Edit rate group* window that opens, set the *Active till* parameter to the same date as specified in the *Active from* parameter and click *Submit*. Thus, the rates will be closed at the moment of their opening, and therefore there will be no active periods left in the past

- *Send rate change notifications automatically* (available when *Direction* is *Client*): serves to configure automatic notification of rate changes and contains the following values:
  - *Do not send*: no rate changes are sent
  - *Send partial price list*: send only changes that were made recently
  - *Send full price list*: send a complete rate sheet. See also SMS\Rates\Auto rate export\How it works 416

NOTE: The hour at which notifications are dispatched is set by the parameter *Rate changes auto send hour* in Administration\System settings\SMS rates 92. If during the day the user changes rates in a product that has the parameter *Send rate change notifications automatically* set to option 2 or 3, a new rate export task will be generated at the predefined hour, and the user will be notified accordingly. The task is created with the *Export type = changes pending at (current date)*. This works for rates changed in SMS\Rates\Rate editor 399 and SMS\Rates\Rate import 420. However, if the changes made in the Rate editor are scheduled for the dates outside the period set in the agreement, such rates will not be exported. Find out more in the Alaris YouTube video.

- *Parent product* (available only for product types within which regular traffic can pass, for example, *SMS*): product from which the newly created product will inherit rates that will be used in billing and routing, based on the *Rate inheritance mode* parameter
- *Rate inheritance mode* (available when a product is selected in the *Parent product* field): rate searching logic for billing purposes. See also the Alaris YouTube video. Possible values are:
  - *System default*: the System uses the *Rate inheritance mode* parameter in Administration\System settings\SMS rates 92
  - *0 - longest match at child*: the System first searches for the child product and if there is no suitable rate (for either MCC or MCCMNC), it searches for the parent product
  - *1 - global longest match*: the System searches for the most detailed rate (in terms of both MCCMNC and dial code) in the parent and child product and uses it to charge the client
- *Dip HLR*: check the flag for real-time HLR query on the network the subscriber is currently connected to. Contact the Alaris support team to activate this function.

NOTE: An agreement with an HLR provider is required for the function to work.

- *HLR prefixes*: specify country codes (space separated) for which HLR dipping must be performed (this parameter helps minimize HLR dipping expenses by selecting only those countries where it is commercially reasonable).

NOTE: By default if this field is empty, the routing engine uses the internal list defined in the routing module configuration file which can be updated by the Alaris technical support team.

- *Delivery rerouting timeout, min.* (available for client SMS products): a period (integer, in minutes), after which the preset rerouting will not be performed and a delivery report will be sent to the client. If set to 0, the verification is considered disabled

- *Send import results to account manager* (available for product types *SMS* or *IM*): allows account managers to know what rates will be changed after rate import and when such changes come into effect. When selected, successful import of rates into a product will trigger a rate export task, and the export results will be sent to the manager of the account to which the product belongs

- *Force DID sender ID translation* (available if the *Product direction* is *Client* and *Product type* is *SMS* or *IM*): if selected and if an MT message is received from the client, the sender ID is translated to a random DID SMS number associated with the product from the DID reference book

- *Invoice group index*: define how you want your products to be invoiced. Products having the same index will be invoiced in a single file. To have each product invoiced separately, assign a unique index to each product. To include several products in a single invoice as separate charges, assign a common integer part for appropriate products and different fractional parts for each of them, for example, 0.1, 0.2, 0.3 etc.

NOTE: When the user changes the *Invoice group index* in Carriers\Products [180], this can affect the existing financial entities. For this reason, if you change the group index value to recalculate already existing invoices, then after the change use the option *Recalculate period* in the Finance\Invoices [217] interface.

- *Autovalue*: when the flag is checked, the grouping is performed as set in the parameter *Default charge grouping mode* (for possible values refer to Administration\System settings\Financial module [61])

- *Add classifier*: the table allows creating and assigning personalized tags to products, which may prove helpful for analytics. Click Add classifier to create a new product tag, and fill in the fields as appropriate. To assign a tag, select it in the table

- *Is active*: when deselected, the product records are grayed out in the table and drop-down lists. To display only active products, filter by the *Is active* column

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NOTE: The checkbox is only used for convenient display of records and does not affect the actual routing. To exclude a product from routing, deselect the *Enabled* checkbox in Carriers\SMS channels [188].

- *Is test*: when selected, the product record is displayed in orange font, and the *Product name* has the prefix [TEST]. Such labeling is intended to prevent using newly added records that are still being verified in production routing. Enabling the checkbox may have an influence on routing if it is built on product names

- *Billable*: select the checkbox if the product must be charged for. When deselected, newly inserted EDRs will not affect the account balance. Applicable to the products of *SMS* and *HLR* types

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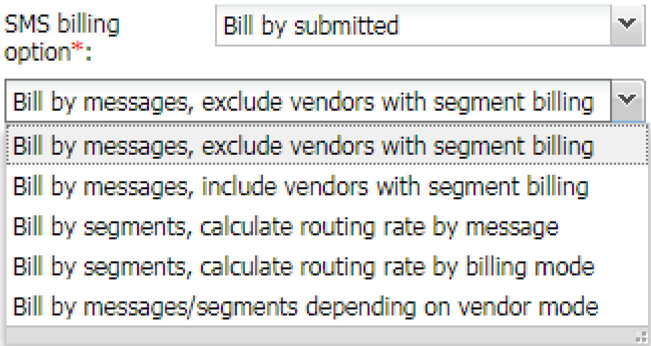
NOTE: To apply this option to existing invoices, financial cubes must be recalculated in the database. For this, contact the Alaris technical support team.

- *Campaign Portal product* (available for products with *Direction*:*Client* and *Product type*: *IM* or *SMS.* It serves to differentiate between products created for the Campaign Portal and wholesale products, and ensures correct message sending from the Campaign Portal (when enabled). Starting from version 3.5.23, the option is enabled for a) all products with the *SMS retail* name (created by the System to work with SMS/IM packs provided that no non-billable product without a parent product was created previously for the partner), and b) for child products whose names are identical to the parent product name. It is also enabled by default when the user subscribes to an SMS/IM pack or rate plan.

- *SMS billing option* (applicable to MO (2-way) messages as well): defines billable SMS based on their delivery status. Default options include:
    - *Bill by submitted*: messages with the Sent status are billed (the default value)
    - *Bill by delivered*: messages with the Delivered status are billed
    - *Bill by attempt*: all message send attempts are billed
    - *Bill by reported*: messages with any DLR are billed, irrespective of the delivery status

The user can create custom billing options in SMS\Reference books\Billing status presets447.



Billing option

The drop-down list below the *SMS billing option* field allows selecting a billing mode (by segments or complete messages). Possible values are illustrated in the figure above. If a mode is changed (for example, from *Bill by messages* to *Bill by segments*) and the corresponding invoices must be recreated, cube recalculation is mandatory. Contact the Alaris technical support team and communicate the code BZ61185.

NOTE: Different SMS billing option values for the vendor/client may result in additional profit/loss. For example, suppose the System owner receives 100 SMS messages from a client with *Bill by submitted* as the SMS billing option, forwards them to a vendor with *Bill by delivered* as the SMS billing option and gets only 50 DLR reports. In this case the System owner will receive payment for 100 SMS from the client and will only pay for 50 SMS sent to the vendor.

- *Product manager user ID*: this parameter serves to assign the product to a specific manager. It comes instrumental when there is a need to assign products within a single account to different managers. The parameter is then used in reports - for example, for calculation of bonuses.

When through with defining the parameters, click *Submit* 

to confirm or *Reset* 

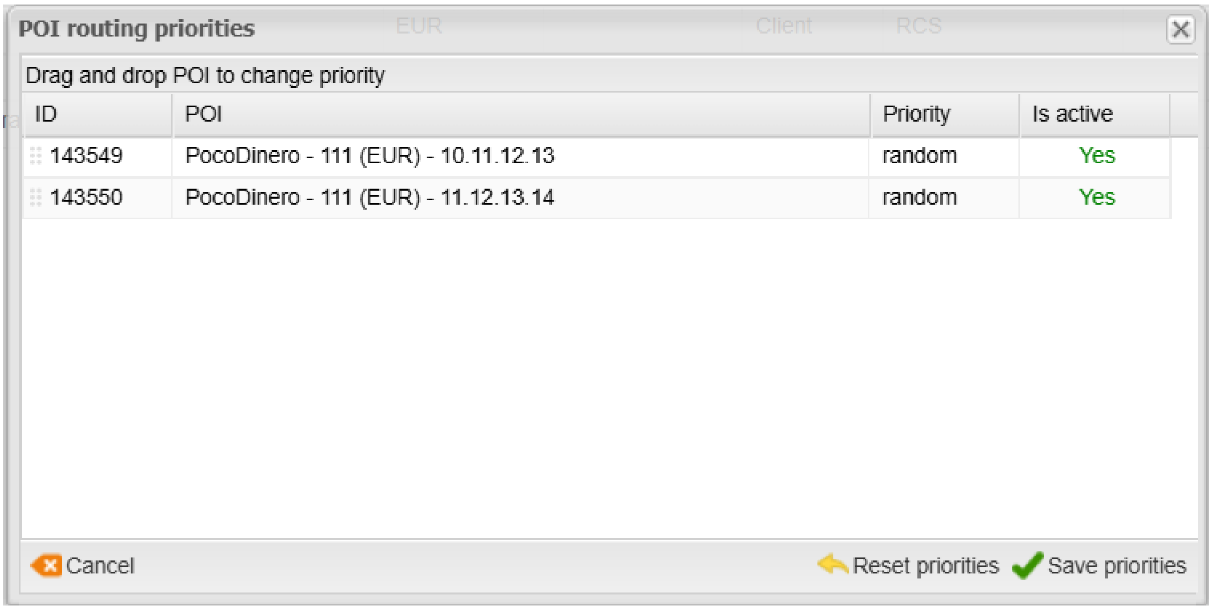
to discard the settings.

NOTE: Products can be created in advance for future traffic as the System does not require an active agreement to be in place before a product is created.

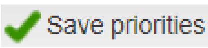
The *Edit* tab additionally contains the following controls:

- *Number of POIs*: sets the maximum number of POIs that can be used for the product (thus limiting the number of routes for the product in the final routing list. When set to a value other than *All*, POIs are selected randomly if no POI priorities have been specified
- The *Set POI routing priorities* 

button opens the POI routing priorities. Drag the POI records up and down the list to configure the termination sequence. The record on top of the list will be the first for termination. If the number of configured POIs exceeds the limit set in the *Number of POIs* field, the exceeding POI records will be greyed out. The *Priority* column shows the POI's priority. If not assigned, the *random* value is displayed. If some POIs have assigned priorities while others have priority set as *random*, first the defined order will be applied and after that the POIs with the *Priority* value not defined explicitly will be selected randomly



POI routing priorities

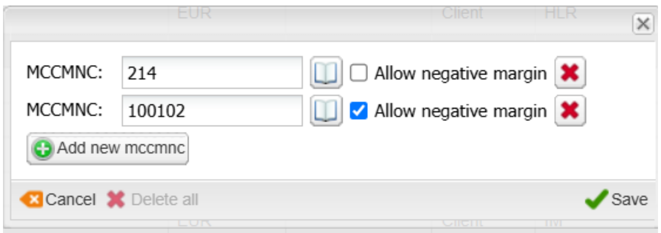
Click *Save priorities* 

to save the configured sequence. Click *Reset priorities* 

to clear the sequence and use POIs in a random order.

NOTE: If the POI priorities are not set and the *Number of POIs* is set to *All*, the order of POI selection for routing is not regulated. To balance traffic between two POIs of the same product, refer to question 12 of Appendix 7. Frequently asked questions\SMS routing 757.

- *Set MO reverse charge*: serves to configure reverse billing of carriers for MO messages. The button opens the window illustrated below that allows selection of MCCMNCs for reverse charge:

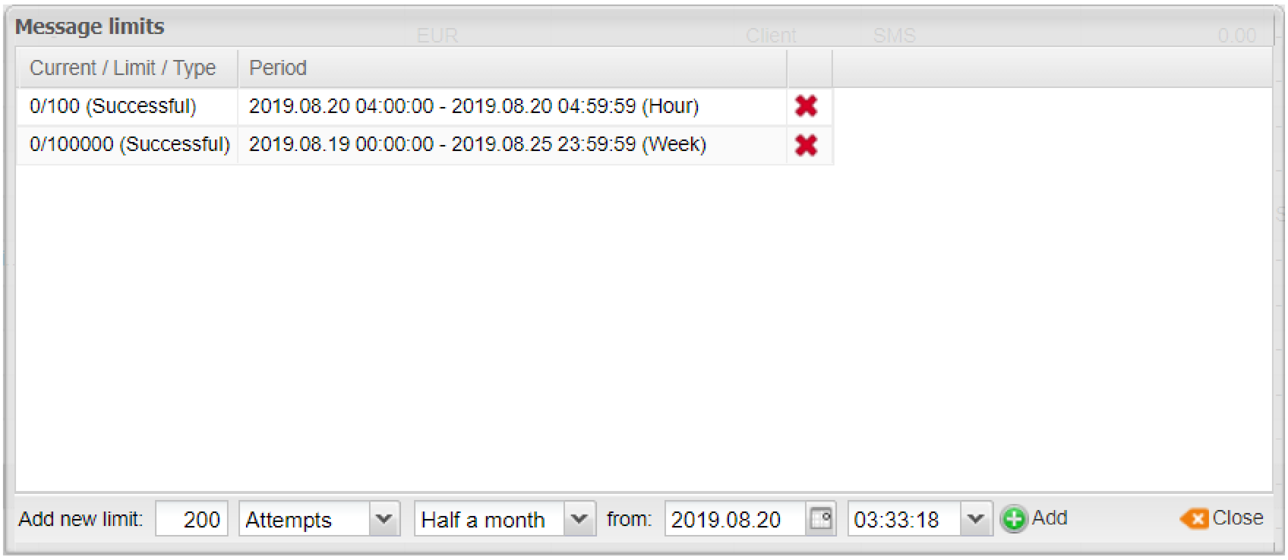


Set MO reverse charge

Add the MCCMNCs in the respective fields to enable reverse billing for the selected MCCMNCs (the MCCMNC search is performed by longest match). The balance will be increased for the client when receiving an MO SMS, and decreased for the vendor. Note that the checkbox can be enabled for one of the legs (client or vendor) and disabled for the other leg. Accordingly, the modified logic of balance calculation will be applied only to one party (for example, when receiving a message, the balances of the client and vendor will both increase). Also, the cost will be written to EDRs with the original rather than the opposite sign, but will be taken into account when searching for routes, calculating balances and generating analytics. Financial documents will be created with the opposite direction.

When searching routes for MO messages, margin calculation is calculated as the client rate minus the vendor rate. When the *Set MO reverse charge* feature is enabled (that is, at least one MCCMNC is selected), the corresponding rate is multiplied by -1. If the *Allow negative margin* checkbox is disabled for at least one of the products (client or vendor), it is additionally verified whether the margin received is negative - in this case the message is rejected with the REVERSE CHARGE NEGATIVE MARGIN internal EDR status. To apply the reverse logic to already processed traffic, you will need to recalculate the period (to update the financial data) and request recalculation of analytical cubes from the Alaris technical support team.

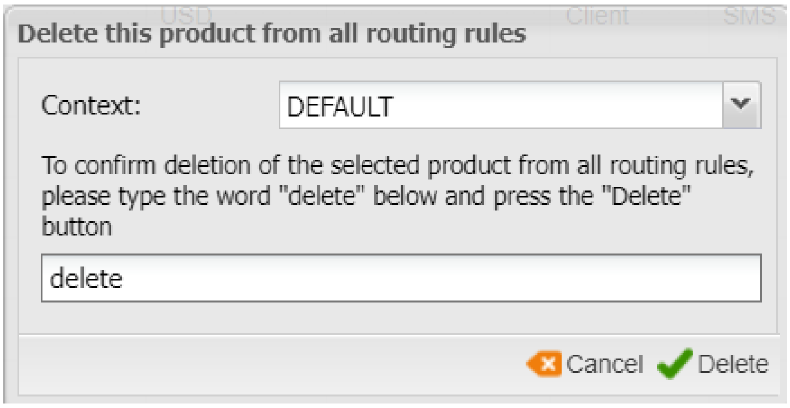
- *Edit message limit*: opens the *Message limits* table for defining the maximum number of MT SMS that can be sent through the product. Select the appropriate record. To create a new limit, in the *Add new limit* field illustrated below enter the maximum number of SMS, select the SMS status (*Successful* – the DLR status is *Sent*, *Attempts* – any message send attempts, *Delivered* – the DLR status is *Delivered*), select the time period and start date, and click Add. After the end of the period the System automatically creates the next period. Suppose you set a limit for the current day. When a new day starts, the System will create a new daily period with the same limit.



Message limits

- The Open product rates in Rate Editor button opens the SMS\Rates\Rate editor 399 page

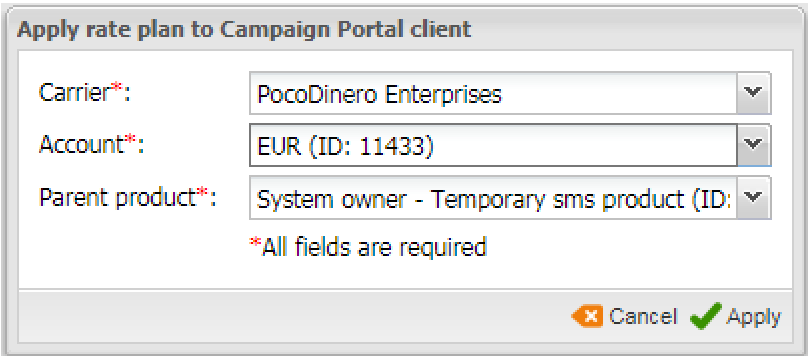
- The Delete this product from all routing rules button removes the product from all routing rules. If the product is used as a vendor in a set of static routes in a choice, its share is split equally between the other products of the choice. If it is the only client or vendor product set in the *Client product* filter or as the rule's choice, the routing scheme can be affected therefore it is recommended to verify the routing rule IDs returned in the warning (see image below)



Delete product from all routing rules: warning message

- The Delete this product and all child components button removes the product and all entities that cannot exist without the product such as SMS POI etc
- Delete serves to delete the selected record. When using this button, the following types of warning messages can appear:
  - "Cannot delete product: there are SMS POIs belonging to it in the database" - appears if the product has POIs assigned to it
  - Cannot delete this object as it is used in some routing rules: sms: 20759
  - Cannot delete product, as there are rates in the database (250,276,276555,289,289345,412,603) that depend on it

The bottom of the page contains the button Apply rate plan to Campaign Portal client. Click it to add a new rate plan to a retail client (user of the Alaris Campaign Portal 583). Complete the appropriate fields and click Apply

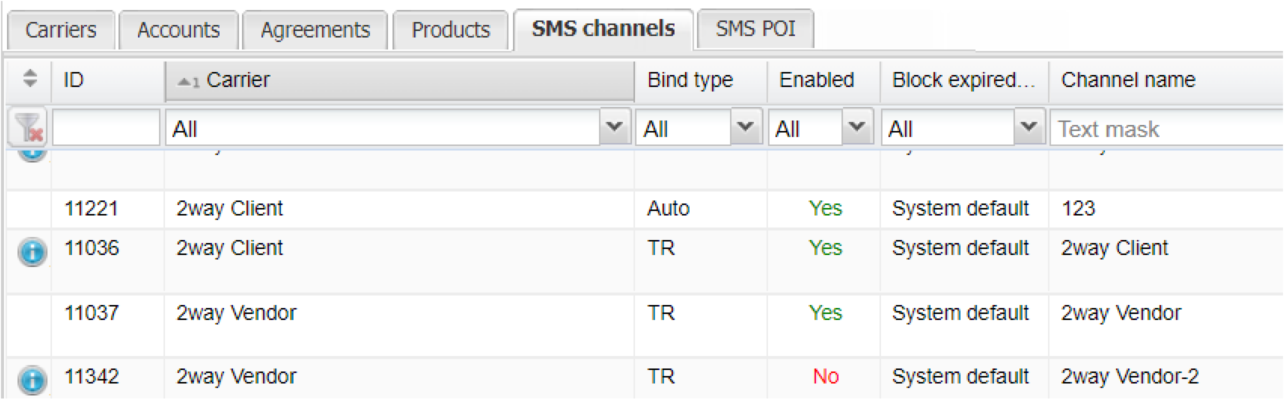


Apply rate plan to Campaign Portal client

7.5 SMS channels

SMS channels represent physical connections between carriers used for SMS transmission and receipt (analogue to “Bind” in SMPP). All created channels are automatically mirrored to the switch if all the necessary parameters are specified in the System Settings\SMS 80.

The SMS channels page contains information on the channels registered in the System.



	ID	Carrier	Bind type	Enabled	Block expired...	Channel name
		All	All	All	All	Text mask
	11221	2way Client	Auto	Yes	System default	123
	11036	2way Client	TR	Yes	System default	2way Client
	11037	2way Vendor	TR	Yes	System default	2way Vendor
	11342	2way Vendor	TR	No	System default	2way Vendor-2

SMS channels

Use text masks or drop-down lists under the column headers to filter the records in the table.

The table contains fields that are configured in the *Add* and *Edit* tabs below. Additionally, it displays the following columns:

- *Status*: the SMS channel status. Possible values include:
  - *bound:* a TCP and an SMPP sessions are established
  - *rebind needed*: a bind request has been rejected by the vendor (normally due to incorrect authorization data (System ID/login, password, System type)
  - *offline*: the client is offline; or the System has sent a *bind failed* response to the client due to incorrect authorization data (System ID/login, password, System type); or the vendor is not responding to the System's bind_sm packets
  - *connected*: a TCP session is established
  - *disabled*: the channel has been disabled by the user (the user has deselected the *Enabled* checkbox). In this case the channel status changes from *bound* to *disabled* to *offline*
  - *bind failed*: the client authorization failed and the channel remains *offline*

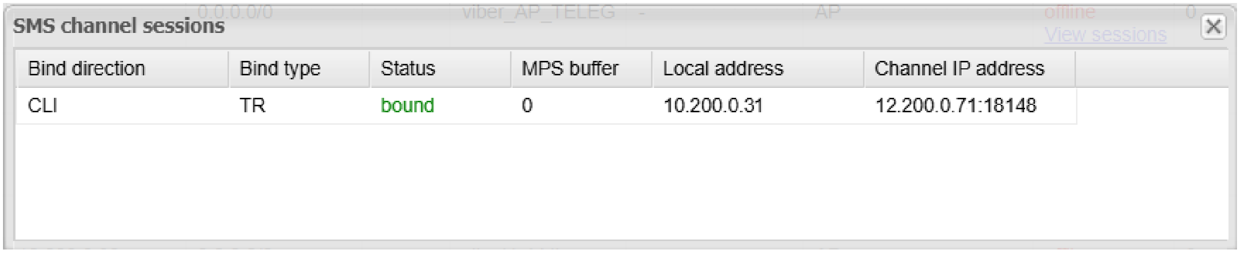
NOTE: The *disabled* and *bind failed* statuses are intermediary, they change very quickly and may not appear in the web interface as the SMS switch updates channel statuses every 10 seconds.

- *MPS buffer*: the number of messages in the MPS buffer (the limit after which messages are placed in the buffer is set by the *Client/vendor capacity (sms/sec)* parameter)

NOTE: Buffer overflow values for client SMS channels will be displayed only if the channel limit (*Client capacity (sms/sec)*) is set and the current number of messages in the buffer exceeds the channel limit by 3 times.

NOTE: The following logic is applied for processing buffered messages in cases when the corresponding SMS channel was disabled or deleted. If the vendor channel has been disabled/deleted, the message will be sent to the next route (if available), otherwise it will be discarded and a delivered_sm command with the REJECTED status will be sent to the client. If the client channel has been disabled/deleted, the message will be sent to the route found when the message was received.

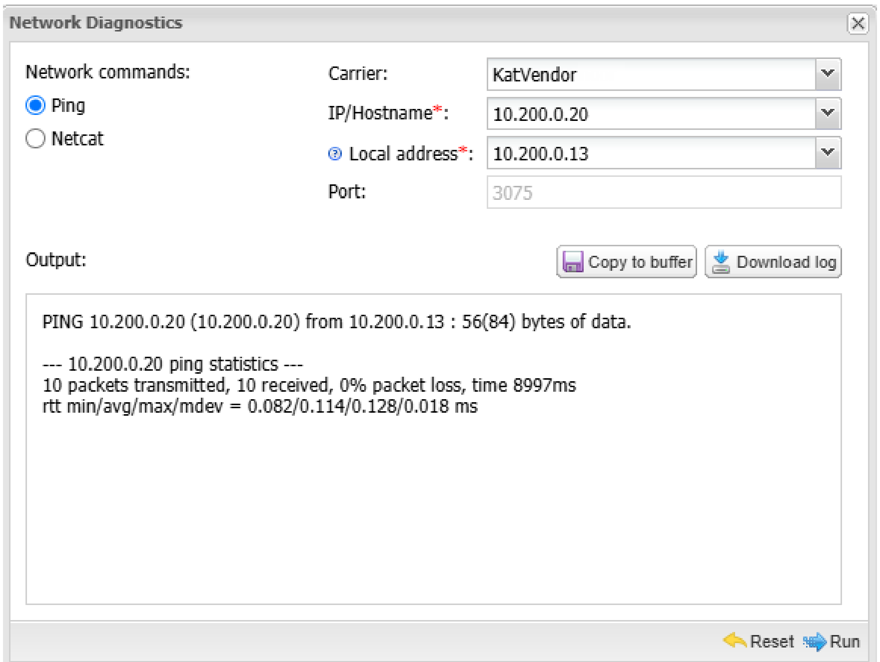
The *Status* column cells contain the *View session* link that opens the window with the available SMS channel sessions (if the channel has more than one connections, that is, if the *No. of connections* parameter value is over 1 and the channel has more than one associated POIs).



SMS channel sessions

The toolbox at the bottom of the table contains the following controls:

- *Hide inactive carriers SMS channels*: select to hide records pertaining to inactive carriers.
- *Network diagnostics*: serves for checking the availability of a partner at the network level. The functionality is only available to users with the *Network Diagnostics* permission enabled. A click on the control opens the *Network diagnostics* window that contains the following parameters.

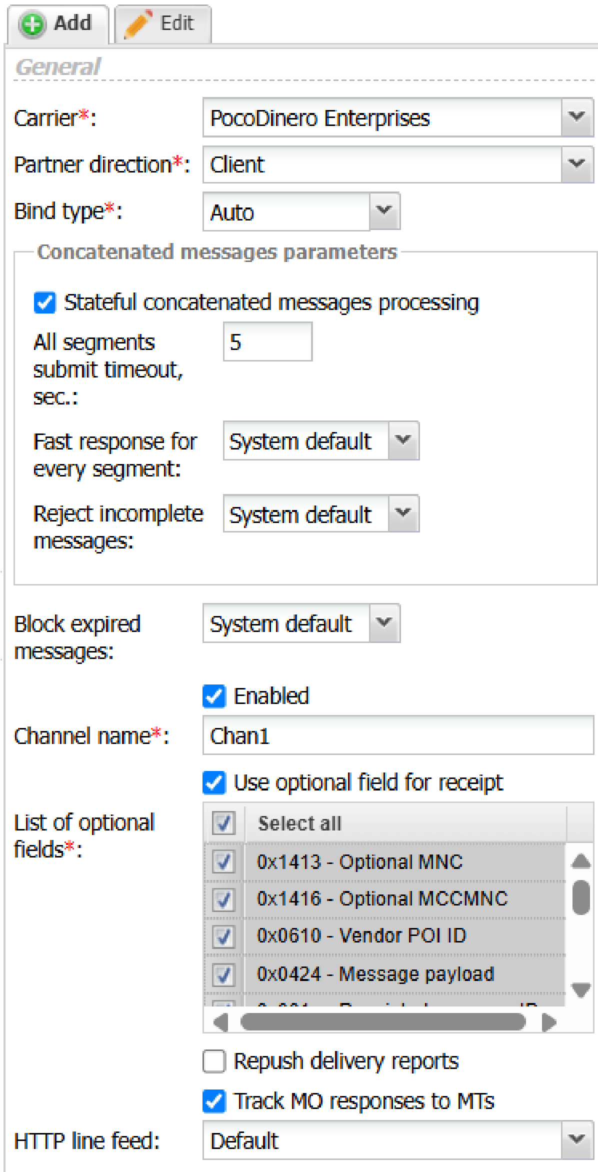


Network diagnostics

- *Network commands*: the command that will be performed - *Ping* to check if remote hosts are reachable or *Netcat* alternative to the telnet command to check if a port is reachable
- *Carrier*: the name of the partner; an optional informative field
- *IP/Hostname*: an IP address (IPv4 format) or domain name of the partner. If the *Carrier* field is filled in, the list will include IP addresses from the partner's channels. You can also specify the values manually
- *Local address*: the IP address of the SMS switch from which the checking should be performed, in case there are several SMS switches on different servers. If connection to the partner is established though VPN, the VPN IP address is required (usually it is an encryption domain)
- *Port*: partner port for the connection validation. Not available for *Ping*, since the port is not checked at this level

Please note that if a channel entry was previously selected in the *SMS channels* table, the fields will be filled in automatically. After filling in the data and clicking the *Run* button, the result of the command will appear in the *Output* window. The result can be copied using the *Copy to buffer* button or downloaded to file using the *Download log* button. When the *Network Diagnostics* screen is closed, the commands that were in progress will be canceled, and the result of the commands will not be saved.

The right panel contains the *Add* and *Edit* tabs that serve for channel creation and modification. For a description of the fields see Create a client channel 192 and Create a vendor channel 198.



Add tab, General

7.5.1 Create a client channel

General:

- *Carrier*: select a carrier to which a channel is associated from the drop-down list
- *Partner direction*: select *Client* if no traffic will be terminated to the partner as a vendor through the channel. Otherwise, select *Client/Vendor*

NOTE: The *Protocol* field is hidden for the *Client* direction as the SMS switch automatically defines over which protocol traffic is sent depending on the destination port.

- *Bind type*: possible values: *TX* (transmit), *RX* (receive), *TR* (transmit/receive – recommended for interconnection with vendors), *Auto* (as specified by the party establishing connection, recommended for interconnection with clients)
- *Stateful concatenated messages processing* (available only when *Bind type* = *auto*): when enabled, the channel is used to send all segments of an SMS through a single vendor. When enabled, the following three parameters are available:

NOTE: It is also possible to enable this as a System-wide option. For this purpose, activate the parameter *Enable system-wide stateful concatenated messages processing* in Administration\System settings\SMS 80.

  - *All segments submit timeout, sec.*: defines the period in seconds for all the segments of a concatenated message to be received by the switch and processed as single SMS, otherwise the switch processes them like separate submits. The same parameter can be applied on the System level (in Administration\System settings\SMS switch 97). The parameter on the channel level has priority over the System setting. The default value is 10
  - *Fast response for every segment (0 - no, 1 - yes)*: specifies if successful submit responses (for each segment) should be sent to the client before routing takes place. Note that in case no routes are found, UNDELIV reports will be sent out. Allowed values are 0 (disabled, which is default behavior) and 1 (enabled). The same parameter can be applied on the System level (in Administration\System settings\SMS switch 97). The parameter on the channel level has priority over the System setting
  - *Reject incomplete messages (0 - no, 1 - yes)*: when enabled, the System sends failed submit responses if some segments are not received until the timeout set in *Concatenated messages: All segments submit timeout*. The allowed values are 0 (the SMS switch processes an incomplete set of segmented SMS messages as separate ones) or 1 (the SMS switch sends a failed response (ESME_RSUBMITFAIL) to the client and does not process these submits further). The same parameter can be applied on the System level (in Administration\System settings\SMS switch 97). The parameter on the channel level has priority over the System setting

- *Send bind to client side* (active when *Bind type* is *RX*, *TX* or *TR* and *Direction* is *Client*): checkbox that allows sending a bind request to the client (may come instrumental for some types of equipment). Also, enquire_link packets will be sent to the client to keep the connection alive. Note that the client port must be specified to send packets to it.

NOTE: Select this checkbox only if requested by the partner.

- *Block expired messages*: serves to block messages received with an expired validity period. Possible values are: *Default*, *Yes*, *No*. The *Default* value means 'use the value from the respective System parameter'. Also, the parameter set in the *SMS channels* interface has priority over the System parameter. For example, if the parameter on the SMS channel level is set to *No* and the System parameter is set to *Yes*, an expired message from this channel will not be blocked.

after the translation is applied if the parameter is enabled on the System level or for the vendor or client SMS channel. If no route is found suitable because of the expired validity period, the EDR will have the VALIDITY PERIOD IS EXPIRED status. If the message was sent through multiple routes, one of which was rejected with the reason VALIDITY PERIOD IS EXPIRED while the other routes were successful, the VALIDITY PERIOD IS EXPIRED EDR will not be written as the verification is performed on the routing module level.

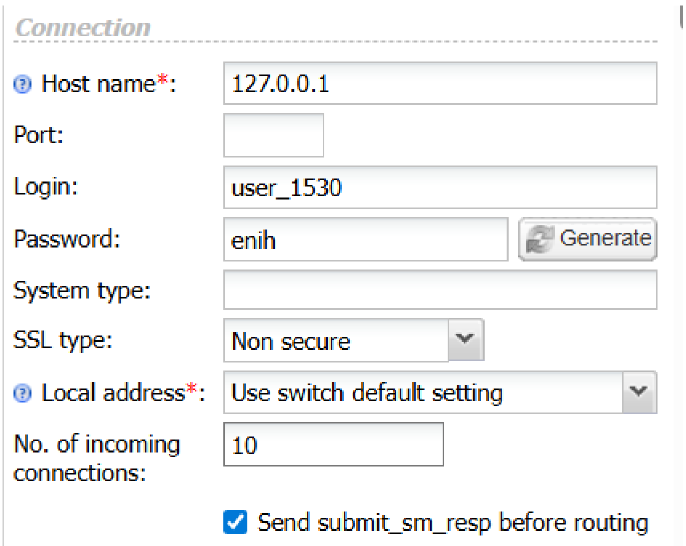
- *Enabled*: identifies channel activity. A channel can be temporarily disabled for a number of reasons, for example, for error correction purposes
- *Channel name*: arbitrary name defined by the user (this name is displayed in Reports 282 and SMS\Analytics 363)
- *Use optional field for receipt*: check to use the optional fields in the delivery report (the list of fields can be selected in the parameter *List of optional fields*)

- *List of optional fields* (available if the *Use optional field for receipt* checkbox is selected): serves to specify the fields that must be sent to the client in the delivery report, and exclude fields that are not required or supported. The following values are available:
  - *0x1413 - Optional MNC*: the HLR (if not available - the reference book) MNC for the destination address, applicable to delivery reports (MT messages) only. The field is generated by the SMS switch.
  - *0x1416 - Optional MCCMNC*: the HLR (if not available - the reference book) MCCMNC for the destination address, applicable to delivery reports (MT messages) only. The field is generated by the SMS switch.
  - *0x0610 - Vendor POI Id*: the vendor POI ID that processed the incoming message. Applicable to delivery reports (MT messages) only
  - *0x0424 - Message payload*: enable to send the MO message text in payload
  - *0x001e - Receipted message ID*: the client message ID generated by the SMS switch
  - *0x2153 - Response code*: the error_code field of the delivery report received from the vendor. If no code is received, the field is not sent to the client. Applicable to delivery reports (MT messages) only
  - *0x0202 - Source subaddress (for MO only)*: the reference book MCCMNC for the sender ID of the MO message. (0xA0) is added as a leading symbol to follow the SMPP 3.4 specification
  - *0x0427 - Message state*: the state received by the vendor. If it is missing from the vendor's delivery report, the field is generated by the SMS switch in accordance with the message status (provided that the delivery report was received from the vendor). + If the status is not included to the list of SMPP 3.4 specification delivery statuses, it is transferred as UNKNOWN
  - *0x0423 - Network error code*: the network_error_code received from the vendor. The field consists of *Error code* and *Network type.* In case the field is not received from the vendor side, *Network type* is filled with value 7, and *Error code* is filled with the error code from the delivery report sent to the client side. Note that only correct values (three-digit Error codes) can be sent, otherwise the TLV field will not be transmitted
  - *0x1412 - Optional MCC*: the HLR (if not available - the reference book) MCC for the destination address, applicable to delivery reports (MT messages) only. The field is generated by the SMS switch.
  - *0x2167 - Response code description*: description of the code in ASCII received from the vendor. If no description is received, the field is not sent to the client. Applicable to delivery reports (MT messages) only
- *Repush delivery reports*: select the checkbox to store delivery reports while the channel is offline and send them when it goes online. If the checkbox is deselected, delivery reports will not be sent if the channel is offline (not applicable to MO messages). For a detailed description of the logic, refer to Question 18 of Appendix 7. Frequently asked questions\SMS switch 746
- *Track MO responses to MTs*: select to save the sender/recipient number pairs that were successfully sent to the vendor. This feature allows setting identical number pairs to route MO messages to several clients simultaneously. When an MO message is received from any vendor, the System verifies that the numbers are saved in the memory. If the record exists, the received MO message will be sent to the client channel for which the saved pair of numbers is found. Note if several clients send MT messages with the same sender ID and destination number before any response (an MO message) is

received, only the last received record will be stored in the switch memory. Note that translation rules are not applied to such MO messages. If there is no record in the memory, the message is routed according to the *Number management* reference book or *MO routing editor* (see also Appendix 6. Two-way messaging setup 730). The delivery waiting period for MO responses is set in the System parameter *Track MO responses to MT max waiting period, minutes* (Administration\System settings\SMS switch 97)

- *HTTP line feed*: specify the type of linefeed forwarding sent in HTTP packets. Possible values are:
    - *Default*: the value is determined by the internal linefeed0D0A and linefeedChannel settings
    - *Windows*: line feed - \r\n
    - *Linux*: line feed - \n

Connection:



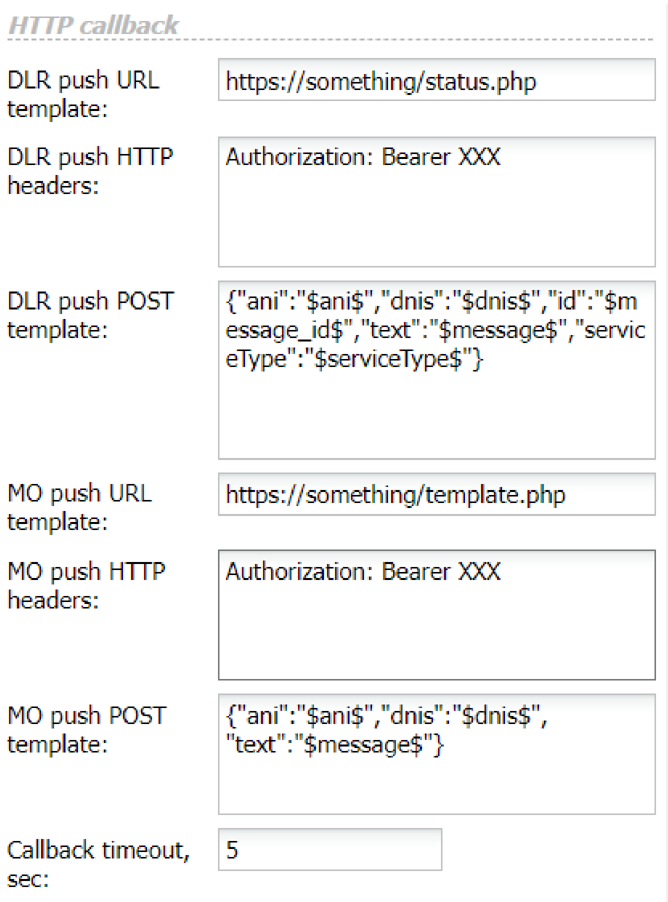
Add tab, Connection (Partner direction=Client)

- *Host name*: IP address for sending bind requests. Multiple IP addresses can be added (comma-separated, in IPv4 format). If a mask is specified for at least one of them, it will be interpreted as /32. A mask can be specified for a single IP address, for example: 15.33.100.3/24. The feature is enabled for packets received both over HTTP and SMPP. Multiple IP addresses are supported only by the new generation SMS switch. The maximum field length is 4,000 bytes

NOTE: When multiple IP addresses are used in the field, verification is performed that no address from the list is present in another channel with the same login (System ID) and password. Also, the delivery report will be sent to the IP address from which the original submit_sm was received. If the bind is not available, the System will attempt to send it to the next IP address from the list, until it finds one with an active bind.

- *Port* (available if the *Bind type* parameter is specified to a value other than *Auto*): the port must be specified if the *Send bind to client side* is selected so that the SMS switch could initiate a connection
- *Login* and *Password*: user name and password to be indicated in each bind request for authentication purposes (the *Password* field can contain up to 60 characters). Click Generate to generate a password

- *System type*: optional parameter used for authentication during binding. It categorizes the type of ESME that is binding to the SMSC; e.g. “VMS” (voice mail system) or “OTA” (over-the-air activation system)
- *SSL type*: the field is for reference only and does not affect the SSL connection for client channels
- *Local address*: enter the local IP address of the System’s switch that can receive the message. If the message was received to a different SMS switch it will be rejected. If the message must be received by any SMS switch, select *Use switch default setting*. It is the recommended default value. Change it ONLY if there is a need to receive messages by ONE specific SMS switch
- *No. of incoming connections* (available if the *Send bind to client side* flag is disabled): limits the number of established connections at the client channel level (unlimited by default). If a limitation is set and the number of sessions is exceeded, the SMS switch responds with the error ESME_RALYBND (status=5). The allowed values are from 1 to 100. The parameter is applicable to bidirectional channels (configured internally) as well
- *Send submit_sm_resp before routing*: when enabled, the SMPP or HTTP client will receive submit_sm_resp before a routing request is made, which will decrease the delay between the request and response. In case there are no available routes for a client submit, it will receive a deliver_sm with UNDELIV status with 0x01 code almost immediately after submit_sm_resp



Add tab, HTTP callback

HTTP callback: the section serves to configure sending of outgoing delivery reports or HTTP MO messages:

- *DLR push URL template, MO push URL template*: the parameters serve to set up deliver/MO callbacks respectively for client HTTP channels. The format is restricted. In order for callbacks to work, please use the markers and examples listed in [Appendix 1. HTTP API\Allowed marker names for outgoing HTTP callbacks] 666

NOTE: When cURL is set up for the template, command's special flags can be used. For instance, --*interface* to forcefully indicate the SMS switch IP address (applicable to cluster schemes, where the source IP address depends on the network routing), *--connection-timeout or --max-time* in order for the command to be canceled if the remote server does not respond within the configured timeout. Another possibility is to specify multiple commands (semicolon-separated). **Examples**:

MO push URL template: curl 'http://client.domain.com/api?send_mo...' --max-time 2; curl 'http://client2.domain.com/api?send_mo...' --connect-timeout 10

NOTE: It is possible to specify the _*noencode* suffix for markers. This allows, for example, transmitting text without URL encoding to the client, for example: curl 'http://1.1.1.1/api?message=$message_noencode$&to=$dnis$&from=ani&sms-id=$message_id$'.

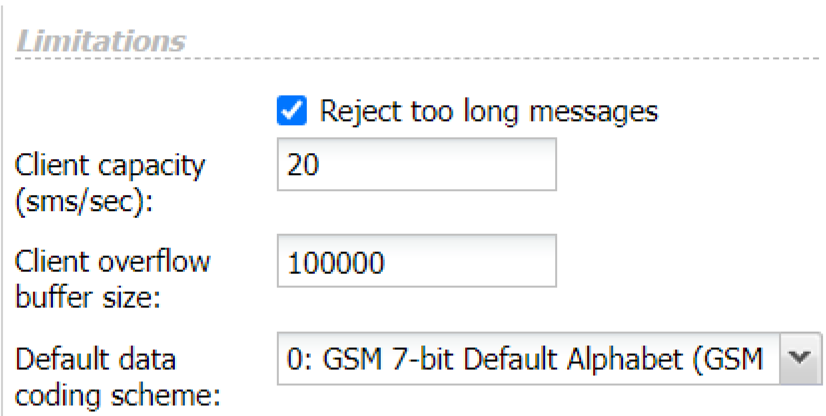
NOTE: The DLR push URL template must be specified for sending the delivery report if the original message was sent over HTTP (otherwise the report will not be sent even if an SMPP session is open).

- *DLR push HTTP headers*, *MO push HTTP headers*: HTTP request headers except *Content-type* (which is configured in the internal settings)
- *DLR push POST template, MO push POST template*: HTTP request body for the POST method. Supported markers are the same as for *DLR push URL template* and *MO push URL template* fields
- *Callback timeout, sec*: the client response timeout. If not set or set to 0, the value from the System parameter *Default callback timeout, sec* is taken (the default value is 30). When reached, a FIN packet is sent to the client

For examples of requests that can be used in these fields refer to sections Deliver 666 and MO SMS 669 of Appendix 1.

Bind parameters:

- *addrTON*: not applicable for client connections
- *addrNPI*: not applicable for client connections
- *addrRange*: not applicable for client connections



Add tab, Limitations

Limitations:

- *Reject too long messages*: select the checkbox to reject SMS whose length exceeds the preset limit (based on the GSM specification, the limit is 160 symbols for GSM 7bit, 140 symbols for GSM 8bit, and 70 symbols for GSM 16bit.) The limit can be configured in the internal switch settings
- *Client capacity (sms/sec)*: allowed number of SMS per second for client. When exceeded, and if the value of the parameter *Client overflow buffer size* is not set, SMS messages are rejected. If the buffer is not empty and new incoming messages are received, the System uses the FIFO (first in, first out) logic: if the buffer already contains messages, they will be sent out first (in incoming order) and only then new messages will be processed

NOTE: if the processing queue contains three times as many messages as set in the *Client capacity (SMS/sec)* field, the client receives a successful submit_sm_resp packet, and the message will be sent to the buffer. Otherwise, the message will be sent to the buffer and the response to the client will be sent as the message leaves the buffer and is routed.

- *Client overflow buffer size*: allowed number of SMS in the storage buffer. In case when the *Client capacity* is exceeded, all new incoming SMS are stored in a buffer. If the buffer is overflown, all the following SMS are rejected
- *Default data coding scheme*: serves to define the character set that the partner uses/expects when the data coding 0 is used. For client channels the parameter will make the switch decode the message sent with DC 0 using the encoding defined in this option. For example, if the *Default data coding scheme* is set to *Latin-1 (DC 3)* and the client sends a message with DC 0 then the vendor will receive the same message with DC 3. For vendor channels the parameter will make the switch send the message with DC 0 to the vendor in case the character set selected as the *Default data coding scheme* is not chosen in the *Allowed data coding list* while data coding 0 is selected. For example, if the vendor requested you to send all messages in Latin-1 (DC 3) with DC 0 then it is necessary to remove 3 from the list of available data codings and all such messages will be sent encoded in Latin-1 but with DC 0.

NOTE: The parameter is available when 1) the *Partner direction* is *Client/Vendor* or *Client* and *Bind type* is *TX* or *TR*; 2) the *Partner direction* is *Client* and *Bind type* is *Auto.*

NOTE: Resending logic based on the value of the *validity_period* field can be activated. When a client channel has this option enabled, in case all the vendors rejected a message, failed to respond within timeout or were offline during the process, the message will be put into a dedicated pool in case its validity period is yet to expire. It will be resent several times with various configurable delays. To enable this mode for specific client channels, contact the Alaris technical support team and communicate the setting names: rehandleChannelList/reprocessInterval.

Click the Clone button to create a duplicate of the configured channel. This is helpful in configuring another channel with similar parameters. When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record.

3.5.18 The uniqueness of a newly created channel is checked by a combination of the following fields: *IP address*, *Port*, *GUID*, *Connection type* and *Local address*.

7.5.2 Create a vendor channel

General:

- *Carrier*: select a carrier to which a channel is associated from the drop-down list
- *Partner direction*: select *Vendor*
- *Protocol:* SMPP or HTTP

- *Send text in payload* (available when *Protocol = SMPP*): when enabled, the SMS switch will always send the message text in the TLV field message_payload. Normally the text is contained in the short_message field of the SMPP packet, however, some vendors require that the text is sent in the message_payload field

NOTE: When enabled in a vendor channel, long messages received over SMPP from a client in a single packet, and/or those received over HTTP with longMessageMode=split_or_payload, will be sent in the *payload* field as a single submit_sm packet. Also, a single delivery report is expected for such a message, whereas the client will be sent as many reports as the number of received parts. Besides, a single EDR will be written, therefore, the *bill by segments* option must be set in the client product for correct billing of the client.

- *Bind type*: possible values: *TX* (transmit), *RX* (receive), *TR* (transmit/receive – recommended for interconnection with vendors)

- *Block expired messages*: serves to block messages received with an expired validity period. Possible values are: *Default*, *Yes*, *No*. The *Default* value means 'use the value from the respective System parameter'. Also, the parameter set in the *SMS channels* interface has priority over the System parameter. For example, if the parameter on the SMS channel level is set to *No* and the System parameter is set to *Yes*, an expired message from this channel will not be blocked

NOTE: The verification of the validity period expiration is performed after the translation of the *Entity=Validity period*. The verification is performed after the translation is applied if the parameter is enabled on the System level or for the vendor or client SMS channel. If no route is found suitable because of the expired validity period, the EDR will have the VALIDITY PERIOD IS EXPIRED status. If the message was sent through multiple routes, one of which was rejected with the reason VALIDITY PERIOD IS EXPIRED while the other routes were successful, the VALIDITY PERIOD IS EXPIRED EDR will not be written as the verification is performed on the routing module level.

- *Enabled*: identifies channel activity. A channel can be temporarily disabled for a number of reasons, for example, for error correction purposes

- *Channel name*: arbitrary name defined by the user (this name is displayed in Reports 282 and SMS\Analytics 363)

- *Routing stop codes*: a comma-separated list of response codes. When the switch receives a code specified in the field, it will not reroute the message to the next vendor route. Along with standard SMPP submit_sm_resp codes, the field supports internal codes, for example: 2147483656 which means 'submit_sm_resp timeout'. If no submit_sm_resp was received within the timeout (default or on the channel level), the switch will not send the message through other vendors. Other examples of internal codes are as follows:

  2147483649 - vendor channel is inactive (for example, the channel was removed during message sending)

  2147483651 - vendor's capacity or MPS buffer overflow

  2147483652 - encoding issue

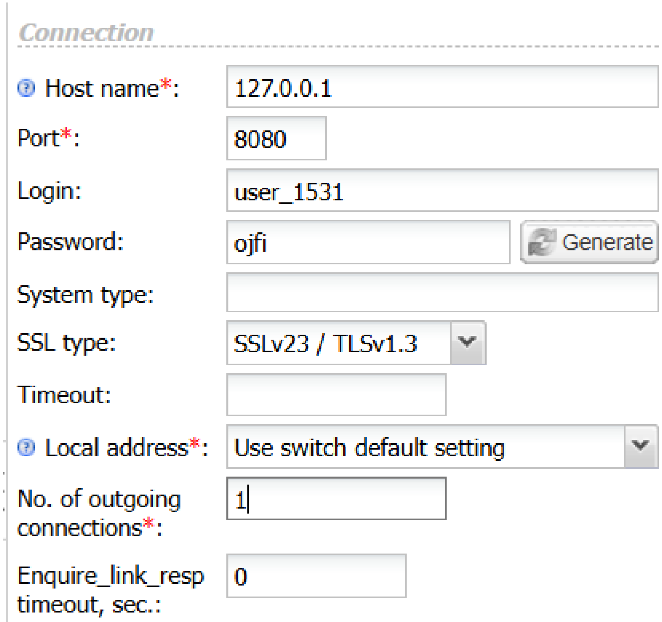
  2147483653 - vendor channel is unknown

  2147483654 - generic_nack signal is received instead of submit_sm_resp

- *Validity period type* (available when *Protocol* = *SMPP*): defines the format in which the *validity_period* field must be sent. Possible values are:
  - *Send as absolute timestamp in GMT+0*: the default value
  - *Send in the same format as received*

NOTE: If translation is configured for the *Validity period* entity and the *Send in the same format as received parameter* is enabled in the vendor channel, the translated message validity period will be transferred in the format of *Send as absolute timestamp in GMT+0*.

  - *Send as relative timestamp*
  - *Send as absolute timestamp in server zone*
- *HTTP line feed* (available when *Protocol* = *HTTP*): specify the type of linefeed forwarding sent in HTTP packets. Possible values are:
  - *Default*: the value is determined by the internal linefeed0D0A and linefeedChannel settings
  - *Windows*: line feed - \r\n
  - *Linux*: line feed - \n



Add tab, Connection (Partner direction=Vendor, Protocol=SMPP)

Connection:

- If *SMPP* is selected in the *Protocol* field, the following fields are active:
  - *Host name*: domain name or IP address for sending bind requests. The use of multiple IP addresses and masks in a single vendor channel is not supported. Multiple IP addresses can be added for the client channel (comma-separated, in IPv4 format). If a mask is specified for at least one of them, it will be interpreted as /32. The feature is enabled for packets received both over HTTP and SMPP. It is available only for the new generation SMS switch. The maximum field length is 4,000 bytes

NOTE: If the domain name specified in the Host name field cannot be resolved, the following error appears: "Domain is not resolved or host is unreachable".

- *Port*: port for sending bind requests to
- *Login* and *Password*: user name and password to be indicated in each bind request for authentication purposes (the *Password* field can contain up to 60 characters). Click  to generate a password
- *System type*: optional parameter used for authentication during binding. It categorizes the type of ESME that is binding to the SMSC; e.g. “VMS” (voice mail system) or “OTA” (over-the-air activation system)

NOTE: The System supports the CMPP protocol (versions 2.0 and 3.0). To indicate that the channel supports CMPP, specify cmpp in the *System type* field. Please note that the protocol can be used only for the new generation SMS switch. Prior to making the configurations, you will need to enable the feature. For this, contact the Alaris technical support team and communicate the code BZ47037.

- *SSL type*: select the version of the SSL protocol to establish a secure connection. The following values are available:
  - *Non secure*: plain connection (without SSL/TLS)
  - *SSLv23 / TLSv1.3*: select to set up connections with TLS1.2; TLS1.3 is supported only on Systems with Oracle Linux 8. To set up connections with TLS1.3 on Oracle Linux 6 contact the Alaris technical support service and provide the code BZ58974
  - TLSv1: select to set up connections with TLS1.0
- *Timeout*: submit_sm response timeout. When the timeout expires, the SMS is switched to the next route. If left blank, the default value (30 seconds) is used (set in the switch configuration)
- *Local address*: enter the local IP address of the System’s switch that will be used to connect to the vendor (in case several network interfaces on the switch server are employed)
- *No. of outgoing connections*: the number of binds established with vendors using the same credentials (login, password, IP address and port). This parameter comes instrumental when connecting to vendors that have limited throughput capacity per bind. The load is distributed between the binds in a round-robin pattern. The allowed values are from 1 to 100
- *Enquire_link_resp timeout, sec.*: This parameter controls the response timeout to the enquire_link as well as the timeout for sending the enquire_link to vendors. The default value is 30 seconds. If the vendor failed to respond twice in a row, the connection with the channel is interrupted and further re-established. If the field value is equal to 0, it implies that the default value is applied

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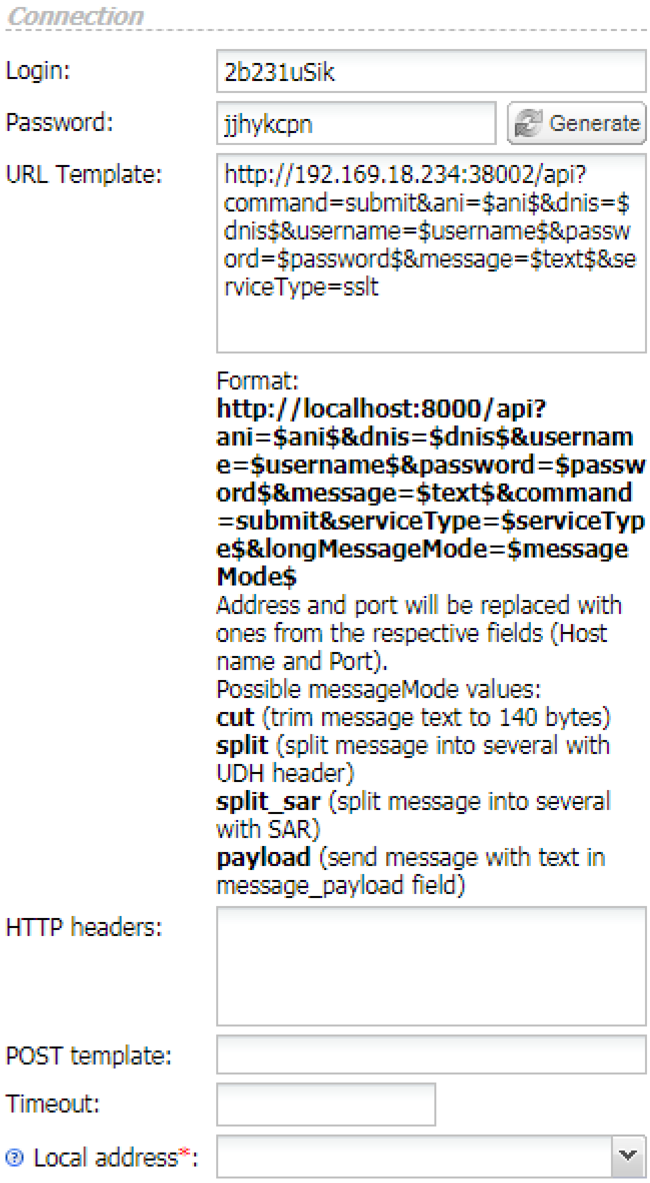
NOTE: For the new generation SMS switch the parameter must be set a little lower than required. For example, if the enquire_link packets must be sent every 25 seconds, the parameter must be set to a value between 21 and 23 (included).



Add tab, Connection (Partner direction=Vendor, Protocol=HTTP)

- If *HTTP* is selected, the following fields are active:

  - *Login* and *Password*: user name and password to be indicated in each bind request for authentication purposes (the *Password* field can contain up to 60 characters). Click 

 to generate a password

  - *URL template*: the vendor's URL template. Specify the IP address and port instead of the <localhost:8000> in the template string

NOTE: Along with other markers, the marker $hexText$ can be used in the URL template. It is replaced by text in the hex format.

  - *HTTP headers:* headers added to an HTTP request (while sending a message or requesting a message status over HTTP). Example:

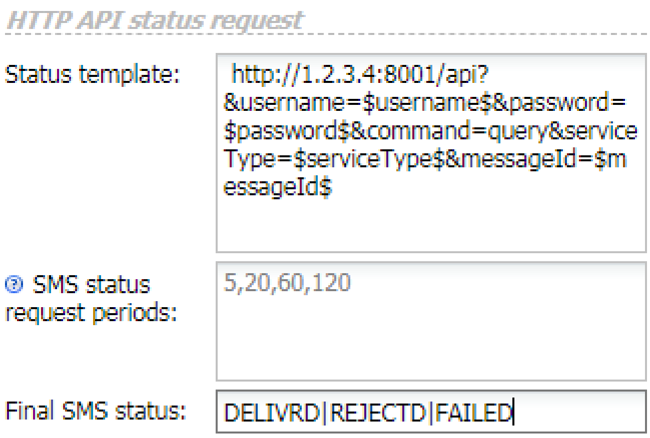
    Accept-Encoding: gzip, deflate

    Authorization: Basic QWxhcmlzOmJlc3Q=

Cache-Control: no-cache

NOTE: The Content-type header must be configured internally. Communicate the code BZ23393 to the Alaris technical support team and specify the vendor channel and the necessary value of the header.

- *POST template*: when used, verification of the URL template (usage of all the required markers) is disabled. When making an HTTP POST request, the URL from the URL template field will still be used while the POST template data will be placed into the body. The POST template must be provided by the vendor and may look like this: $dnis$$ani$
- *Timeout*: submit_sm response timeout. When the timeout expires, the SMS is switched to the next route. If left blank, the default value (30 seconds) is used (set in the switch configuration)
- *Local address*: enter the local IP address of the System's switch that will be used to connect to the vendor (in case several network interfaces on the switch server are employed)



Add tab, HTTP API status request

HTTP API status request: the section defines the status request parameters of HTTP SMS to the vendor:

- *Status template*: URL used for getting the SMS status (for outgoing channels only; must be provided by the vendor). Example: if a vendor asks to send the request in the following format:

  POST http://1.1.1.1:8080/sms/v2/pull-report {"account": "111", "transactionId":"xxx","password":"8d6bc40a0f9f0130e1eaf24392b67e1f", "count": 1}

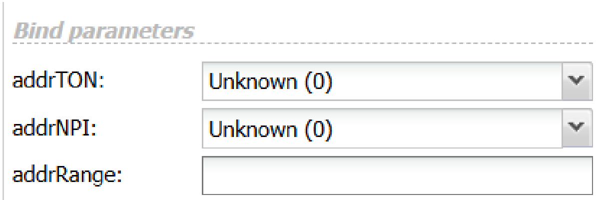
  ...the *Status template* field must be filled in as shown below (the request body follows the ? sign):

  POST http://1.1.1.1:8080/sms/v2/pull-report?account=111&transactionId=$messageId$&password=$password$&count=1

- *SMS status request periods*: serves to set the number and periods of requests (the periods are set as numbers separated by either comma or blank space). The default value is *5,15,60*. Up to 4000 symbols can be inserted. Positive integer values are allowed, negative values will trigger an immediate request sent to a vendor. If the field is left empty, standard periodicity settings will be applied to the SMS that are configured in the System parameter *SMS status request periods* (also separated by either comma or blank space, see Administration\System settings\SMS 80). For example, if the user specifies *5 15 60* in the *SMS status request periods* parameter, the SMS switch will request the status from the vendor three times (or less than three times if an expected status is received earlier) at the following timestamps: 5 seconds after a successful submit response was received; 15 seconds after the first query was sent; 60 seconds after the previous query was sent. If both the channel and System settings are left empty (*null*), no request will be sent to the vendor

- *Final SMS status*: SMS status the receipt of which will stop further status requests. Several |-separated vendor-specific statuses can be indicated.

NOTE: It is recommended to convert vendor-custom statuses to the ones supported by the SMPP 3.4 specification with the help of SMS\Routing\Translation rules\Error and status codes 513.



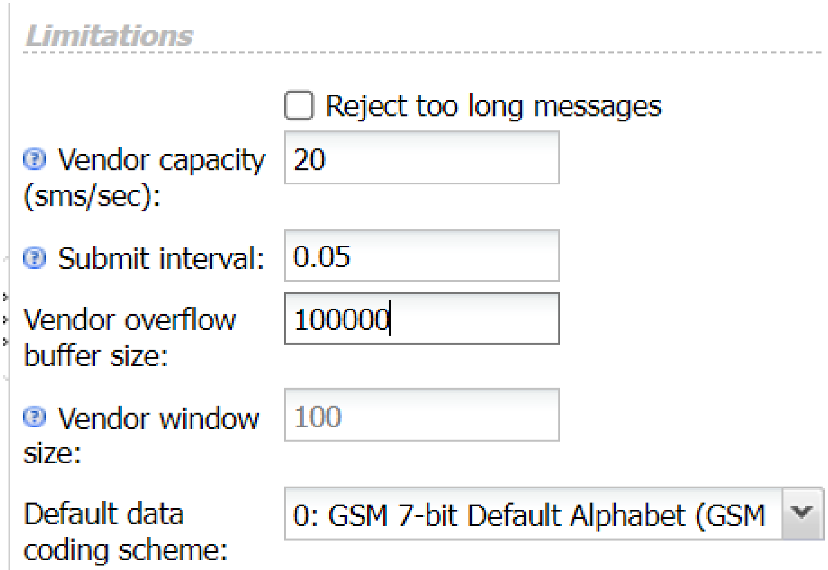
Add tab, Bind parameters

Bind parameters (applicable only to SMPP vendor channels):

- *addrTON*: the type of sender ID. Select Alphanumeric (5) if planning to transfer messages from alpha senders; select Unknown (0) if only messages from numeric senders will be transmitted

- *addrNPI*: defines the Numeric Plan Indicator (NPI) to be used in the SMS address parameters. Possible values: Unknown, ISDN (E163/E164), Data (X.121), Telex (F.69), Land Mobile (E.212), National, Private, ERMES, Internet (IP), WAP Client ID. The default value is Unknown and normally there is no need to change it

- *addrRange*: optional parameter used to specify a set of SME addresses serviced by the ESME client. A single SME address may also be specified. UNIX Regular Expression notation should be used to specify a range of addresses. Messages addressed to any destination in this range shall be routed to the ESME



Add tab, Limitations (part 1)

Limitations:

- *Reject too long messages*: select the checkbox to reject SMS whose length exceeds the preset limit (based on the GSM specification, the limit is 160 symbols for GSM 7bit, 140 symbols for GSM 8bit, and 70 symbols for GSM 16bit.) The limit can be configured in the internal switch settings

- *Vendor capacity (sms/sec)*: allowed number of SMS per second for vendor. SMS are rejected if the vendor capacity is exceeded AND the default buffer is overflown (set by the parameter *Default vendor overflow buffer size* in Administration\System settings\SMS switch 97.If the buffer is not empty and new incoming messages are received, the System uses the FIFO (first in, first out) logic: if the buffer already contains messages, they will be sent out first (in incoming order) and only then new messages will be processed

- *Submit interval* (in seconds): this parameter is related to *Vendor capacity (sms/sec)* and limits how often a message can be sent through the channel

NOTE: It is recommended to set non-zero values in both *Vendor capacity (sms/sec)* and *Submit interval* to prevent rejecting messages that are sent to the route when multiple messages are processed with a small delay.

- *Vendor overflow buffer size*: allowed number of SMS in the storage buffer. In case the Vendor capacity is exceeded, all new outgoing SMS are stored in a buffer, to be sent when the load on the vendor channel is back to normal. If the buffer is overflown, all the following SMS are routed to the next-in-line vendor. If the buffer is not set or is set to 0, the System parameter *Default vendor overflow buffer size* is used (Administration\System settings\SMS switch 97)

- *Vendor window size*: allowed number of pending messages awaiting the vendor’s response (submit_sm packets without submit_sm_resp received). If, for example, the value of Vendor window size is 10, the System will not send the eleventh message, pending receipt of at least one submit_sm_response message from vendor side. If no value is set, the default value will be specified (taken from the System parameter *Default vendor window size,* Administration\System settings\SMS switch 97). It is recommended to set the parameter's value 3-4 times greater than the *Vendor capacity* value

NOTE: If the vendor has a large number of pending messages awaiting response, sending traffic to the vendor is unreasonable. Once the *Vendor window size* is reached, the System stops sending traffic to the vendor until the number of pending messages decreases.

- *Default data coding scheme*: serves to define the character set that the partner uses/expects when the data coding 0 is used. For client channels the parameter will make the switch decode the message sent with DC 0 using the encoding defined in this option. For example, if the *Default data coding scheme* is set to *Latin-1 (DC 3)* and the client sends a message with DC 0 then the vendor will receive the same message with DC 3. For vendor channels the parameter will make the switch send the message with DC 0 to the vendor in case the character set selected as the *Default data coding scheme* is not chosen in the *Allowed data coding list* while data coding 0 is selected. For example, if the vendor requested you to send all messages in Latin-1 (DC 3) with DC 0 then it is necessary to remove 3 from the list of available data codings and all such messages will be sent encoded in Latin-1 but with DC 0. Learn more about this feature in the Alaris YouTube video.

NOTE: The parameter is applicable to SMPP vendor channels

- *Allowed data coding list* (applicable only to messages sent over SMPP): the parameter serves to limit the data codings that will be sent through the channel. If the message is encoded in the data coding that is not allowed in the list, it will be rejected with the status INCOMPATIBLE DATA CODING

- *Transcode messages in unsupported encodings* (available when the *Partner direction* is *Client/Vendor* and *Bind type* is *TX or TR;* applicable only to messages sent over SMPP): the following values are possible:

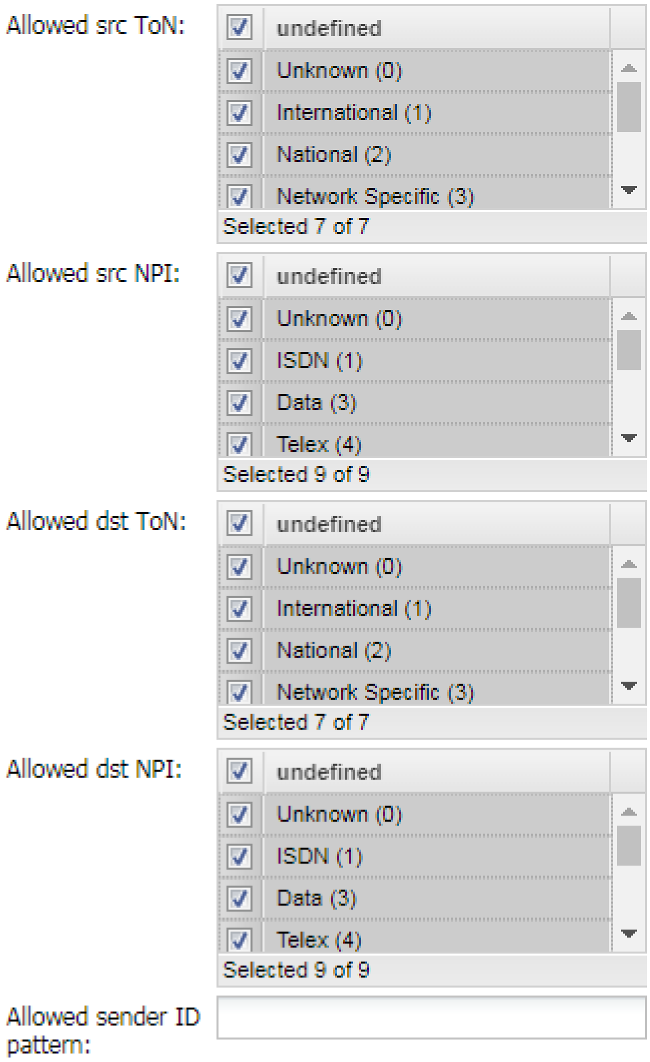
  - *No transcoding*: the text is not changed; the message is passed using this channel in case the data coding of this message is selected in the *Allowed data coding list*

  - *Only lossless transcoding to*: allows transcoding the message whose data coding is not included in the *Allowed data coding list*. Select the transcoding in the drop-down list that appears. Furthermore, the SMS switch has an internal configuration file that contains translation rules for the symbols not available in the target encoding

NOTE: To configure symbol-based translation for specific channels and character sets, contact the Alaris technical support team.

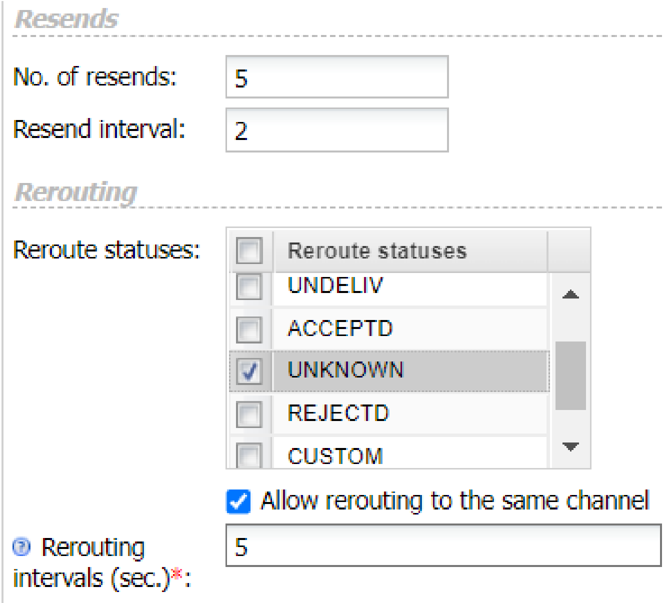
  - *Force transcoding to*: same as *Only lossless transcoding to*, except that symbols not found in the target encoding are replaced with question marks

  for more details on the parameter logic, refer to Appendix 10. Data coding schemes\The System configuration 863.



Add tab, Limitations (part 2)

- *Allowed src/dst ToN/NPI*: deselect the ToN/NPI not supported by the partner's equipment (traffic containing the deselected values will not be routed through the channel)
- *Allowed sender ID pattern*: specify a regular expression to be matched by origination address in order for the traffic to be sent through the channel



Add tab, Resends and Rerouting

Resends: this group of parameters defines how to resend SMS if the vendor bind is down, or if the bind responds with a code suitable for rerouting. The codes are set in the internal configuration of the SMS switch and can be changed by the Alaris support team if necessary:

- *No. of resends*: the number of resend attempts. Once the number of attempts is reached, the System will go to the next-in-line vendor
- *Resend interval*: the interval between resend attempts in seconds

Rerouting:

- *Reroute statuses*: select delivery statuses for rerouting of SMS. If the vendor returns one of the selected statuses, the System will send the SMS through the next-in-line vendor. It is possible to configure rerouting by the SENT status. To enable the feature, contact the Alaris technical support team and communicate the code BZ29102 or BZ63554
- *Allow rerouting to the same channel*: enables rerouting a message by delivery status through the same vendor channel. If a delivery status specified in the *Reroute statuses list* is received, and the checkbox is selected, the message will be resent through the same channel at the interval specified in the field *Rerouting intervals (sec.)*
- *Rerouting intervals (sec.)* (available if the checkbox *Allow rerouting to the same channel* is selected): specify the interval at which the message will be resent through the same channel. Multiple comma-separated intervals for rerouting can be set

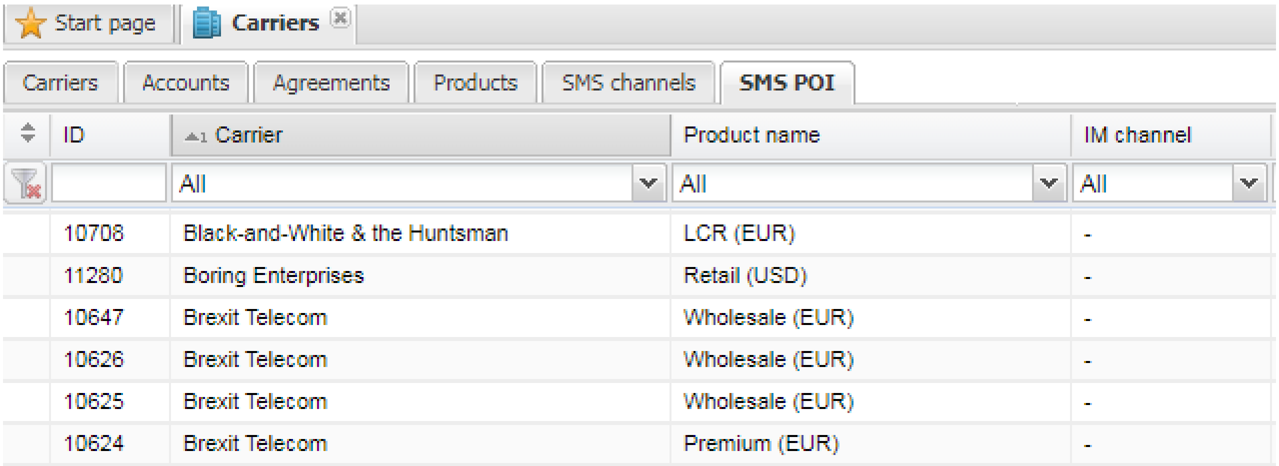
Click the Clone button to create a duplicate of the configured channel. This is helpful in configuring another channel with similar parameters. When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record.

3.5.18 The uniqueness of a newly created channel is checked by a combination of the following fields: *IP address*, *Port*, *GUID*, *Connection type* and *Local address*.

7.6 SMS POI

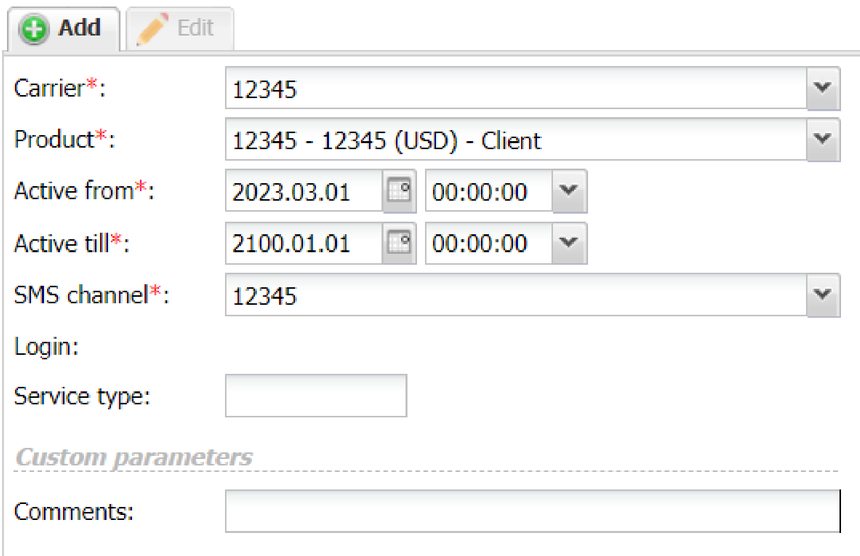
An SMS POI (point of interconnection) is a logical entity that links a channel to a product. It allows differentiation between service quality levels for billing purposes - for example, when a single channel is used to send traffic for two products with different SLA. One channel may be linked to a number of different POIs with varying *Service type* parameter, which is an alphanumeric value set by the user similar to the technical prefix used for the same purposes in voice billing.

The *SMS POI* page contains all the information on the POIs registered in the System.



SMS POI

Use text masks or drop-down lists under the column headers to filter the records in the table.



Add tab

The right panel contains the *Add* and *Edit* tabs that allow adding new records or editing existing ones. To activate the *Edit* tab, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required. The *Add* tab contains the following parameters:

- *Carrier*: carrier to which a POI is associated
- *Product*: product to which a POI is associated

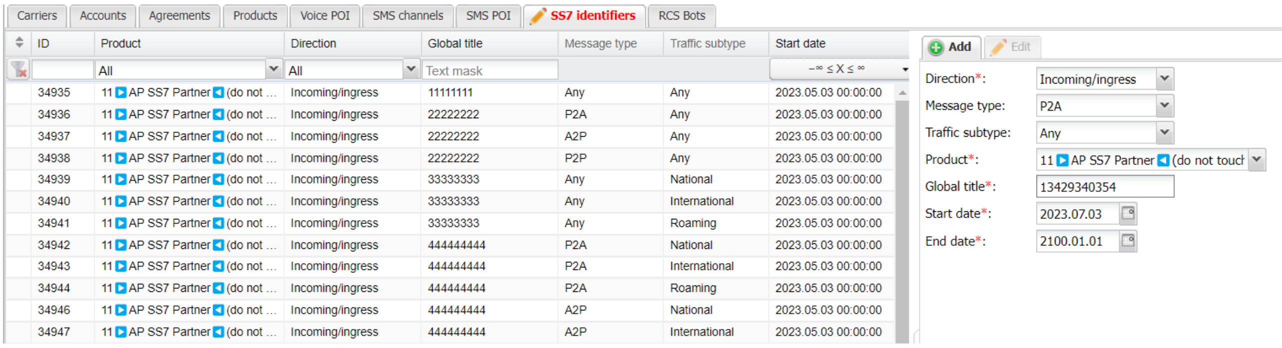
- *Active from / Active till*: date and time of POI activation/deactivation
- *SMS channel*: channel the POI is linked to
- *Login*: shows the value from the *Username* field of the Carriers\SMS channels 188 interface
- *Service type*: reference to the service quality level, which is an arbitrary parameter defined by the user (can contain up to 9 symbols). Normally, this field is left blank

NOTE: It is possible to configure the receipt of all messages from a specific client SMS channel with any value in the serviceType field. To enable this, specify * (asterisk) as the value in the *Service type* field. Note that if you specify *, only one SMS POI can be created per SMS channel. If there are any other SMS POIs for the channel, remove them before creating the SMS POI with *Service type* = *.

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record.

7.7 SS7 identifiers

The *Carriers\SS7 identifiers* tab becomes available once the System parameter *Enable SS7 billing* is enabled. The interface serves to configure SS7 entities (global titles) to charge SS7 traffic (which is not processed by the SMS switch and processed only by the SMS Hub) and display it in the *Analytics* interface based on SS7 EDR files. To configure import of SS7 EDR files, communicate the code BZ61307 to the Alaris technical support team. Note that only files in the Alaris SMS Hub format is supported.



SS7 identifiers

The page contains a table of SS7 identifiers and a standard *Add/Edit* panel. To add a new record, enter the appropriate parameters in the *Add* tab. Fields marked with an asterisk (*) are required.

- *Direction*: select *Incoming/ingress* for the client direction or *Outgoing/egress* for the vendor direction
- *Product*: product of the corresponding direction. Only products of the *SS7* type are available in the drop-down list
- *Global title*: global title (reserved telephone number), maximum length is 16 digits. The % symbol can be used as a wildcard at the end of the value if necessary
- *Start date/End date*: date and time of record activation/deactivation

To modify the dates of assignment of an existing record, select the record and specify new dates in the *Edit* tab.

8 Finance

All financial aspects associated with the carrier business are covered within the *Finance* section accessible from the *Start* menu. The System offers differentiated access to all financial data providing the System owner with a balanced coverage of financial status for each separate partner, account or product. The *Finance* section contains the following pages: *Charges, Invoices, Payments and Recurring fees.*

8.1 Charges

A charge is the amount charged by the System for a specific partner product for a single billing period. Charges serve as the basis for generating invoices. The *Finance\Charges* page contains information on charges generated by the System.

It has three panels: the *Charge filter*, the *Charges* table and the *Charge details*.

Amount currency: Account currency

ID	Charge type	Contract company	Carrier	Product	Account
62662	Auto	General	MoreThanWords SMS	WholeSale Premium	MoreThanWords SMS (USD)
62663	Auto	General	Narnia Telecom	WholeSale	Narnia Telecom (USD)
62664	Auto	General	MummyDoll Telecom	WholeSale Premium	MummyDoll Telecom (USD)
62894	Auto	General	OBR Telecom	A + B number billing	OBR Telecom (USD)
62895	Auto	General	OBR Telecom	A + B number billing	OBR Telecom (USD)
62900	Auto	Anton_comp	PocoDinero Enterprises		PocoDinero Enterprises (USD)
62858	Auto	General	Sofa So Good	Premium WholeSale	Sofa So Good (USD)

Charges table

The *Charges* table displays the following information:

- *ID*: internal identification number
- *Charge type*: generated automatically or manually
- *Contract company*: the legal entity of the System owner on behalf of which it works with the carrier
- *Carrier*
- *Product*: a list of products that share the group index pertaining to the charge
- *Account*: account for which the charge is generated
- *Product type*: as configured on the Reference books\Product types 273 page (here: SMS)
- *Charge direction*: *Payable* or *Receivable*
- *Confirmed*: shows whether the charge is confirmed on the Finance\Invoices 217 page (*Yes* or *No*)
- *Group index*: the value of the *Group index* parameter in the Carriers\Products 180 page. Products having the same index will be invoiced in a single file. Invoices generated for products of the same account having the same integral part of the group index and different fractional parts, will have a single cover letter but separate traffic details files
- *Volume*: volume of the provided services

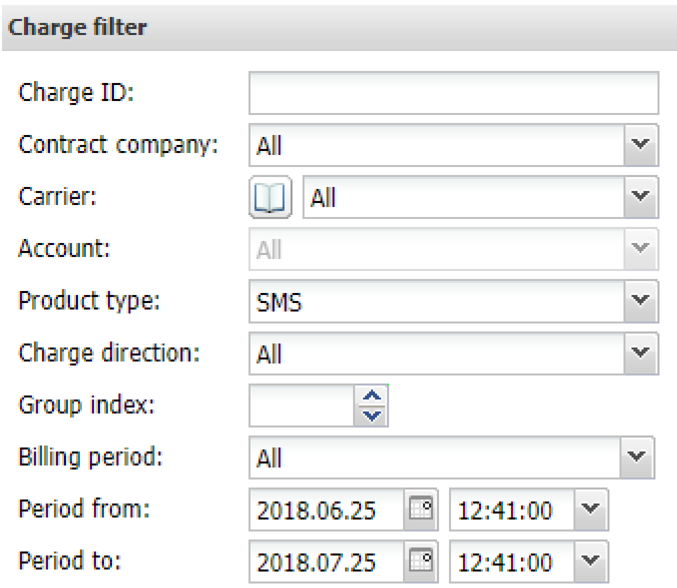
- *Units*: measurement units (here: SMS)
- *Service count*: number of service units (messages)
- *Amount*: the charge amount. Click on the link to open the *Charge details* table at the bottom of the page
- *System period*: charged period, displayed in the System owner's time zone
- *Partner period*: charged period, displayed in the partner's time zone
- *Correction ID*: identifier of the charge, for which this one is correctional (if this charge corrects a previous one)
- *Version*: version of the correction
- *Last update*: date and time of the latest calculation

The *Amount currency* drop-down list at the top of the table opens the list of currencies in which the charge can be displayed. By default the data is shown in the account currency. Other currencies are configured in the parameters *Finance first (second, third) currency* in Administration\System settings\Financial module 61. When all these parameters are empty, the *Amount currency* drop-down list is not displayed.

NOTE: The invoice and charge data is stored in financial cubes (for more details on cubes, see Reports\SMS Analytical cube status (Administration) 321). After you configure the currencies in Finance first (second, third) currency, perform EDR rerating (see SMS\EDR management\EDR Rerating 384) and invoice recalculation (see Finance\Invoices\Editing invoices 223) for the appropriate period, otherwise all amounts in the *Charges* table will be zero.

The amounts are calculated at the exchange rate as of the date of each charge. For example, the charge dated October, 12 will be calculated at the exchange rate as of October, 12. The exchange rates are taken from the Reference books\Currency exchange rates 270.

The button in the upper left corner of the page toggles the *Charge filter* view.



Charge filter

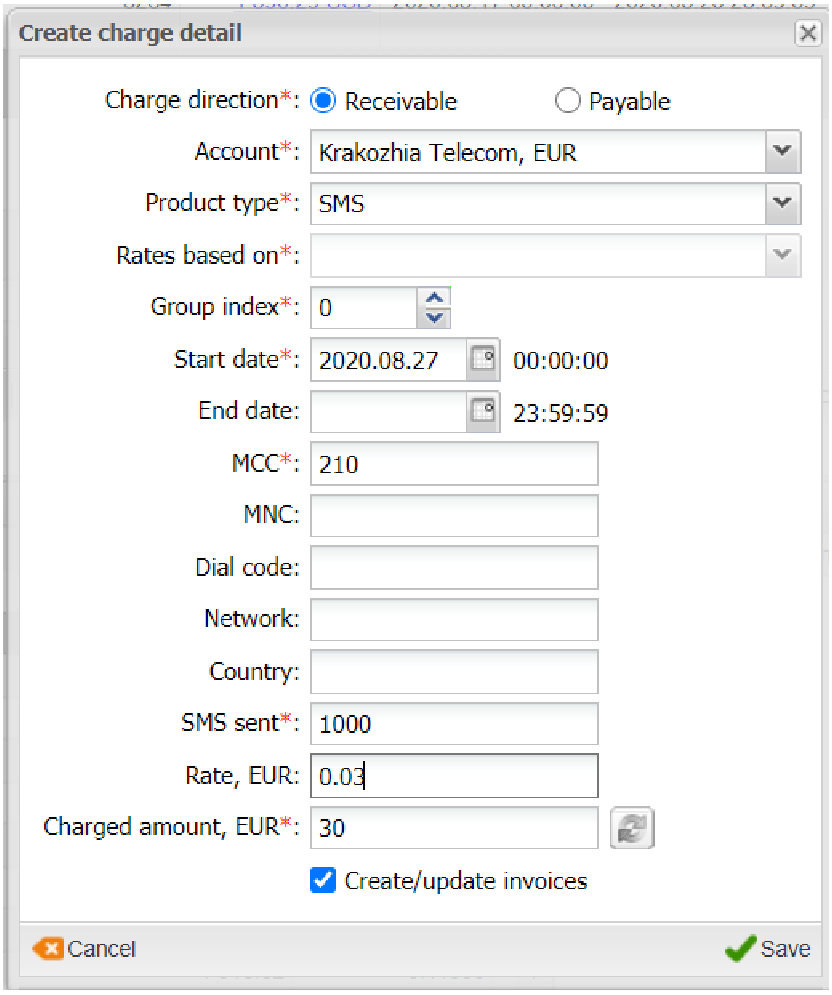
Enter the appropriate parameters and click Apply filter to filter the records in the *Charges* table. The button opens the list of carriers that can be filtered by carrier name and region.

NOTE: The *Account* field is unavailable if the *Carrier* field is not set.

Click the button on the lower tool bar of the *Charges* table to refresh the table.

Select a record in the *Charges* table and click the Recalculate charge button for recalculation of the selected charge. Click Delete charge if you wish to delete the selected charge.

The Add charge detail record button opens the *Create charge detail* window for adding a new charge manually. This form comes instrumental in manual creation of a new credit note or additional invoice – for example, when settling a dispute. for more details on credit notes, see Finance\Invoices\How it works 217.



Create charge detail

If the charge for this account with the same direction, product type and group index already exists, a newly created charge is added to the existing one. The *Create charge detail* form contains the following parameters:

- *Charge direction*: *Payable* or *Receivable*
- *Account*: account for which the charge is generated

- *Product type*
- *Group index*: index of the charge grouping
- *Start date*, *End date*: charged period

NOTE: The charged period is set in full days.

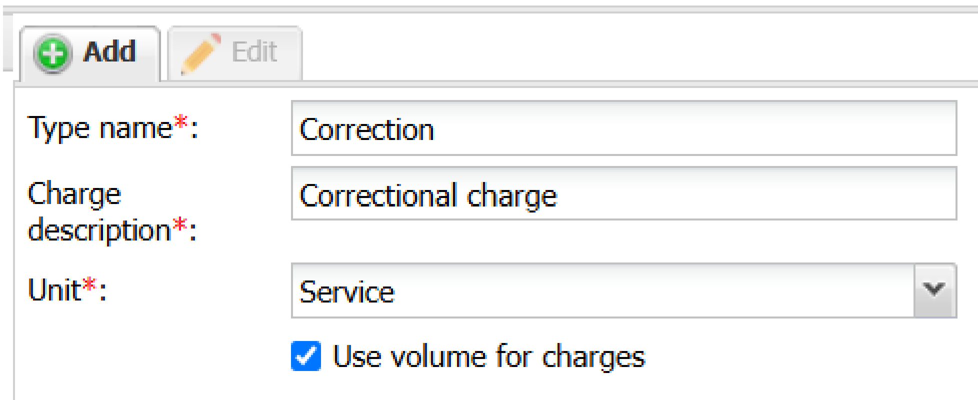
- *MCC*: Mobile Country Code

NOTE: If the MCCMNC used by the routing and billing is absent from the e.212/e.164 reference book, the interface and financial module will use the country name from the MCC record.

- *MNC*: Mobile Network Code
- *Network*: name of a destination, for example *Vodafone mobile*
- *Country*: name of the country
- *SMS sent*: number of sent SMS
- *Rate*: rate in the account currency
- *Charged amount*: total amount of the charge (in the account currency) is calculated automatically as a derivative of (SMS sent) * (*Rate*). Click to recalculate the amount if *SMS sent* or *Rate* is changed. The field also allows entering the amount manually
- *Create/update invoices*: if this checkbox is selected, the System creates an invoice for the charge or updates the invoice if it already exists. If the checkbox is deselected, the invoice amount will remain the same even if the charge for it is updated

Click Save to confirm or Cancel to discard the settings.

NOTE: For easier handling of correctional charges – that is, charges created to correct the partner balance - it is recommended to use a dedicated value in the *Product type* field. Go to Reference books\Product types273, create a product type *Correction*, and in the *Unit* field select *Service*. When adding a correctional charge in the *Create charge detail* form, select *Service* in the *Product* type field. In this case, the *MCCMNC*, *Network* and *Country* fields will be hidden.



Add tab in Reference books/Product types

Clink on the link in the *Amount* column to open the *Charge details* table at the bottom of the page.

Charge 19695 details

MCC	MNC	Network	Country	SMS sent	Rate, EUR	Charged amount, EUR
Total:				24023		185.47
202	05	Vodafone Gre...	Greece	2	0.00840	0.02
206	01	EastLink	Belgium	17	0.02490	0.42
206	05	Telenet	Belgium	1	0.00670	0.01
206	05	Telenet	Belgium	6	0.00770	0.05
206	05	Telenet	Belgium	6	0.01100	0.07
206	10	Mobistar S.A.	Belgium	5	0.01270	0.06
206	10	Mobistar S.A.	Belgium	22	0.01280	0.28
206	10	Mobistar S.A.	Belgium	1	0.03310	0.03
206	20	BASE	Belgium	5	0.01070	0.05

Charge details

The table displays details of the selected charge: MCC and MNC codes, network name, country, number of sent messages, rate and charged amount.

NOTE: Charge details for the *Product type = SMS pack* have the following columns: *Name*, *SMS included*, *Description*, *Volume*, *Rate* and *Charged amount*.

The bottom of the *Charge details* tab contains the following controls:

Add - create a record for the charge detail

Edit - edit the record

Clone - a duplicate of the record. This is helpful in configuring another charge detail record with similar parameters

Delete - delete the selected record

Show partner detail - toggle the *Charge partner details* view that allows comparing the System owner's charge details with the partner data.

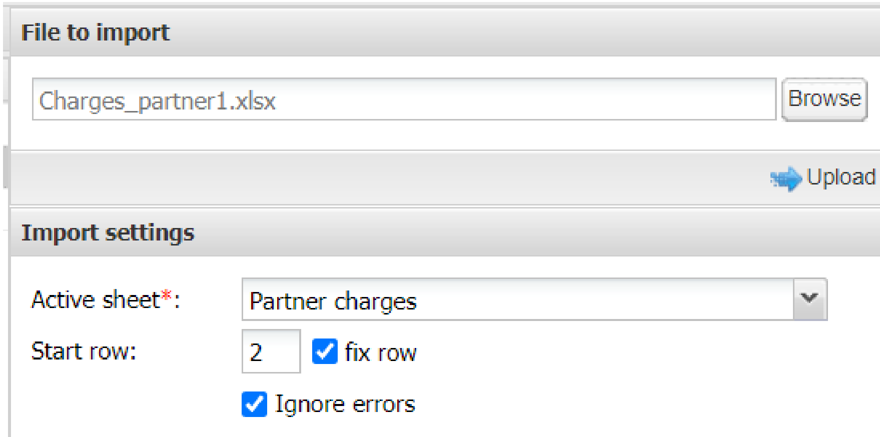
Charge partner details

Destination	Dial code	Calls count	Duration	Rate, EUR	Charged amoun...
Total:					**80**
Greece				0.03	50
Russia				0.05	30

Page 1 of 1 | 200 rows | Clear | Import | Compare

Charge partner details

To import charge details, click Import *Import* and open the file parsing view.



Import settings

In the *File to import* panel upload a file with partner charge details in the XLS, XLSX or CSV format.

In the *Import settings* view select the active sheet and specify the start row. Select *Ignore errors* to ignore errors during parsing.

Partner charges

	MCC	MNC	Country	Network	Dial code
1	MCC	MNC	Country	Network	Dial code
[2]	202	211	Greece	Greece	30
3	202	212	Greece	Greece	200
4	204	6	Netherlands	Barablu Mobile	316590

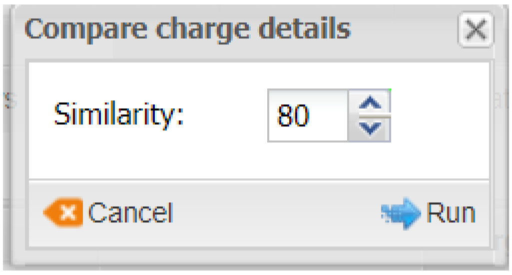
File preview

In the file preview tab assign the appropriate columns (the required columns are *MCC, MNC, Country, Network, Dial code* for SMS and *SMS included, Volume, Description* for SMS packs). Click Import to import the file. Its data will appear in the *Charge partner details* view as shown in the same-name figure above.

To compare the System owner's charge details with the partner's data, click Compare. In the *Similarity* field specify the allowed percentage of similarity between the System owner's and partner's data (the default value is taken from the System parameter *Default detail comparison match percentage* in Administration\System settings\Financial module 61). If the similarity of the owner's and partner's data is less than the field value, records are considered as different; otherwise they are considered as "same".

NOTE: The similarity is analyzed by the *MCC* field for products of the *SMS* type, by the *Name* field for products of the *SMS pack* type and by the *Service description* field for custom product types.

Click Run.



Compare charge details

An MS Excel file with a comparison will open. If records are interpreted as different they will be listed as separate entries; otherwise they will be shown as a single record marked as 'same'.

8.2 Invoices

The *Finance/Invoices* page is a toolkit for reviewing and sending invoices to clients as well as generating vendor associated invoices for verification purposes.

Invoice generation is fully automated. The System collects billing data from incoming EDRs into a dedicated data pool. The pool is continuously updated at the rate of EDR arrival. This data pool constitutes the backbone of all further analytical processes carried out by the System and forms the basis for billing procedures. When the current billing period (defined by the partner agreement) is over, the System has access to all the processed statistics necessary for generating a new invoice. At this point it only needs a few seconds to create the invoice file, which then can be reviewed by the user before sending.

8.2.1 How it works

By default all invoices, created automatically or manually (in the Finance\Charges 211 page), have the *Draft* status and are never auto-sent to clients. Each invoice can be reviewed and edited if needed and is dispatched only after confirmation (Confirm and send button on the tool bar at the bottom of the *Invoices* table). It is possible to configure automatic dispatch of invoices – by the parameter *Invoice auto-dispatch delay, hours* in Administration\System settings\Financial module 61.

All invoices automatically generated by the System are created a few hours after the end of each billing period (the billing period is defined in Carriers\Agreements 171).

NOTE: The delay for invoice creation is configured by the parameter *Invoice generation delay, hours* in Administration\System settings\Financial module 61.

The billing period and delays are configured in the partner time zone (defined in Carriers\Agreements 171). To avoid confusion, it is recommended to use GMT both as the System owner and partner time zones.

Apart from invoices, a user can issue another type of financial document - a credit note. A credit note is a type of invoice that is used to correct the partner balance and can be instrumental in case of disputes. When amount correction in the client's favor is needed after the invoice has been received, a credit note can cover the required amount by increasing the client's balance. In a vendor-associated case, a credit note stands for the amount to be compensated to the System owner by reducing the vendor's balance. To issue a credit note, create a charge with a negative amount, and the credit note will be generated automatically (if the *Create/update invoices* checkbox is selected in the *Create charge detail* dialog of the Finance\Charges 211 page).

Confirmed invoices are delivered to the preset email addresses. The default address is set in Carriers\Agreements 171 (optional parameter *Default invoice emails*). Invoice copies can also be sent to other recipients defined in Administration\System settings\Financial module 61 (parameter *Email address list to CC finance-related emails*) or to specified System users if the *Send invoices* flag is set Administration\Users 158 (*Edit* tab).

An invoice comprises two separate files: a PDF file containing general invoice information (cover letter) and an MS Excel file with traffic details (the MS Excel file is password-protected against editing, the password is set in the parameter *Invoice detail Excel password (not used if empty)* set in Administration\System settings\Common 49. Find out more in the Alaris YouTube video). Both files can be sent out as attachments to a single email, or as two separate emails. The type of delivery is set in Carriers\Agreements 171 (parameter *Invoice delivery options*). A convenient option is *link*: the client receives an email with a link to the invoice. The System owner will know exactly if the invoice has actually been received (opened) by the client. This is the only case when the invoice status is changed to *Delivered*. Some other general billing parameters associated with invoice generation, dispatch and payment balances are set in Administration\System settings\Financial module 61 and Carriers 163 sections.

Traffic detail files can be generated for DID numbers as well (only for numbers having the *Assigned* status). To enable generation of traffic detail files for DID numbers, set the following System parameters to 1:

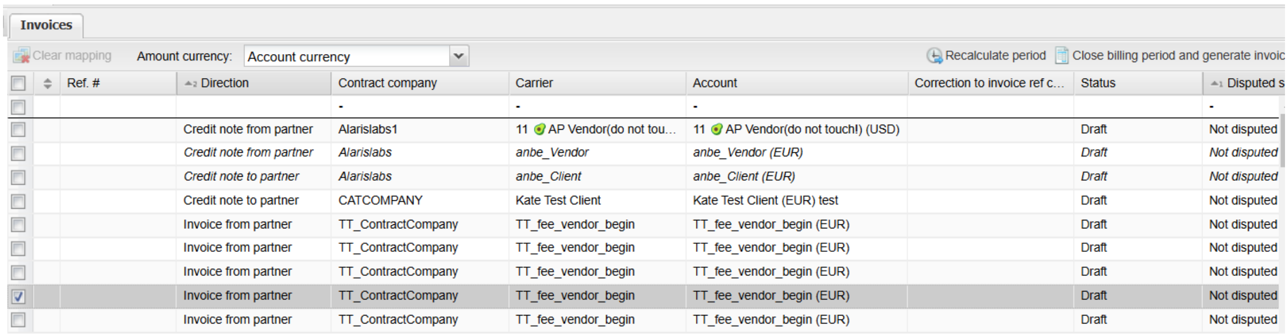
- *Use DID/TFN management*
- *Enable DID financial cubes calculation (0 - disable, 1 - enable)*

Numbers for which the *Assigned* status must be verified are defined by the client sender ID (clients) and vendor sender ID (vendors) for MT messages and by the destination address for MO messages. The logic for calculation and storage period of such cubes is the same as for regular financial cubes. DID cubes contain the following information:

1. Period for which the traffic has passed (depends on the System parameter *Allowed time-zone fraction types*, the default value is *hour*)
2. Product ID
3. Traffic type (MO or MT)
4. DID number
5. Number of billed SMS
6. Rate
7. Cost (rate * number of billed SMS)
8. Date when the number was assigned to the product

9. Date when the assigning expires
10. NRC of the billing scheme that is used in the number-to-product tie
11. MRC of the billing scheme that is used in the number-to-product tie

8.2.2 Invoices table



Ref. #	Direction	Contract company	Carrier	Account	Correction to invoice ref c...	Status	Disputed s
		-	-	-			-
	Credit note from partner	Alarislabs1	11 AP Vendor(do not tou...	11 AP Vendor(do not touch!) (USD)		Draft	Not disputed
	Credit note from partner	*Alarislabs*	*anbe_Vendor*	*anbe_Vendor (EUR)*		*Draft*	*Not disputed*
	Credit note to partner	*Alarislabs*	*anbe_Client*	*anbe_Client (EUR)*		*Draft*	*Not disputed*
	Credit note to partner	CATCOMPANY	Kate Test Client	Kate Test Client (EUR) test		Draft	Not disputed
	Invoice from partner	TT_ContractCompany	TT_fee_vendor_begin	TT_fee_vendor_begin (EUR)		Draft	Not disputed
	Invoice from partner	TT_ContractCompany	TT_fee_vendor_begin	TT_fee_vendor_begin (EUR)		Draft	Not disputed
	Invoice from partner	TT_ContractCompany	TT_fee_vendor_begin	TT_fee_vendor_begin (EUR)		Draft	Not disputed
	Invoice from partner	TT_ContractCompany	TT_fee_vendor_begin	TT_fee_vendor_begin (EUR)		Draft	Not disputed
	Invoice from partner	TT_ContractCompany	TT_fee_vendor_begin	TT_fee_vendor_begin (EUR)		Draft	Not disputed

Invoices table

The *Invoices* table contains information on invoices registered in the System. Drop-down lists in the column headers allow ascending/descending sorting of the records. The *Columns* list allows hiding/unhiding columns. Invoices for which correctional charges are available, are highlighted in cursive font. Invoices that belong to a closed period (according to the System parameter *The date after which the billing period is considered closed* or a similar parameter at a contract company level) are grayed out.

The Clear mapping button in the top left corner cancels the mapping of the selected invoices. It is available for invoices with the *Payment status*: *Partially paid* or *Paid in full.*

The *Amount currency* field at the top of the page allows selecting the currency in which the amounts in the table will be displayed (in the fields *Due amount*, *Presented amount* and *Tax amount*). If a value other than the account currency is selected, the fields are highlighted in green. The list contains currencies set in the System parameters *Finance first currency, Finance second currency* and *Finance third currency* (Administration\System settings\Financial module 61).

The table contains information on the following parameters:

- *Ref. #*: actual invoice number, automatically assigned to an invoice after its draft is confirmed and the invoice is sent out or configured manually; the initial number can be set in Administration\System settings\Financial module 61 (parameter *Current invoice number*). The number format can be set in Reference books\Contract companies 261 (the parameters *Invoice reference number format (inbound)* and *Invoice reference number format (outbound)*)
- *Direction*: *Invoice to/from partner* (*to partner* means to the client; *from partner* - from the vendor); *Credit note to/from partner* (a credit note is an invoice with a negative amount that serves for balance correction in case of backdate changes of data)
- *Contract company*: the legal entity of the System owner on behalf of which it works with the carrier
- *Carrier*: client/vendor name, as per data in the Carriers 163 section
- *Account*: account for which the invoice is generated
- *Correction to invoice ref code*: invoice number to which this correction (credit note) has been made
- *Status*:

- *Draft* - status assigned to all generated non-confirmed invoices
- *Confirmed* - status assigned to an invoice after it is confirmed without sending to the client (the Confirm without sending button)
- *Sent* - status assigned to an invoice after its confirmation and dispatch (Confirm and send button)
- *Delivered* - status assigned to an inbound traffic invoice after it is received by the client, in case of link-assisted delivery
- *Bad debt* - the status is set to write off debts for *direction*: *Invoice to partner*
- *Registered* - status assigned to a vendor invoice (*Direction: Invoice from partner*) after it is confirmed with the help of the Confirm without sending button
- *Insignificant* - status assigned to an invoice with an estimated amount lower than defined in Carriers\Agreements 171 (parameter *Min invoice amount*). Such invoices are not sent out for the current billing period, but are supplemented to the following period invoice, which in this case comprises two separate charges for two successive periods
- *Dismissed* - when selected, the invoice no longer affects the balance. Please note that this status can only be assigned for invoices with the *Draft* status. Also, the vendor invoice in the *Dismissed* status can be confirmed, after which it will affect the balance again
- *Needs to be resent* - is assigned to sent invoices (with the statuses *Sent/Delivered*) if they are modified (for example, of the *Presented amount* is changed or new charges are added to the invoice)
- *Pending* - an intermediate status assigned to invoices that are being sent
- *Dispatch failed* - status assigned to an invoice if the invoice could not be sent due to one of the following reasons (displayed when hovering over the status):
  - The template of the invoice cover letter or traffic detail file is incorrect or not available
  - The mail server is configured incorrectly or is unavailable
  - No emails for sending invoices are configured
  - Running or scheduled EDR recalculation tasks for the invoice period for the product whose traffic is included in the invoice
  - Internal System error
- *Forgotten* - the status is set to write off debts for *direction*: *Invoice from partner*

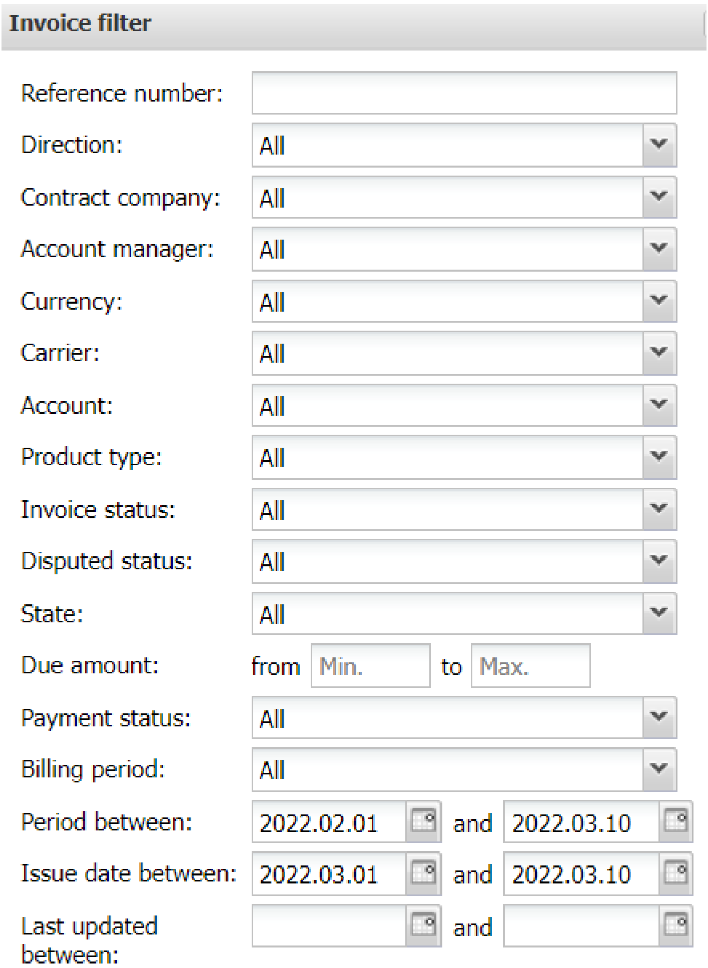
NOTE: For automatic assigning of the *Dismissed* status set the System parameter *Dismiss previous years vendor invoices automatically (0 - no, 1 - yes)* to 1 (Administration\System settings\Financial module 61). In this case, the new System parameter *The date after which the billing period is considered closed* will be taken into account: all draft vendor invoices before the specified date will get the *Dismissed* status.

- *Disputed status*: the *Disputed* status is assigned to an invoice challenged by the partner, provided that either the *Unconditional invoice dispute threshold* system parameter is reached, or both of the following system parameters are surpassed: *Min absolute mismatch to invoke a dispute* and *Min percent mismatch to invoke a dispute* defined in Administration\System settings\Financial module 61, given that the *Amount source* parameter is set as *System owner* *estimated amount + tax*. The mismatch is the difference between the *Presented amount* and *Estimated amount* (for client invoices the *Presented amount* must be lower than the *Estimated amount*, and vice versa for vendor invoices). The following values are available in the filter:

- *Default*: the value assigned to the invoice by the System. Possible options are *Disputed* or *Not disputed*. The *Disputed* value is automatically set to invoices in which the mismatch between the *Presented amount* and *Estimated amount* exceeds predefined thresholds. However, if earlier the property was set to *Disputed (manual)* or *Not disputed (manual)*, the *Disputed* value will not override either of them
- *Disputed (manual)*: the user can set this value from any other value of the *Disputed status* property
- *Not disputed (manual)*: the user can set this value from any other value of the *Disputed status* property

- *State*:
  - *Actual* - regular invoices generated according to currently valid billing data
  - *Outdated* - invoices are automatically marked as outdated if any relevant changes to underlying billing data are introduced into the System retrospectively, for example in case of EDR recalculation. Such outdated invoices are subject to recalculation
- *Due amount*: actual amount owed against the invoice. The displayed sum is equal either to *Estimated amount* (plus *Tax amount* if any) or *Presented amount*, depending on the *Amount source* value (see *Edit invoice* description below)
- *Paid amount*: a click on the value in this column opens the *Invoice mapping* 222 page displaying correlation between issued invoices and made payments or counter invoices. The value in this column is displayed as a link only for registered invoices
- *Unpaid amount*: the outstanding amount in the invoice, calculated as *Due amount - Paid amount - Cancelled debt amount*
- *Currency*: currency of the invoice
- *Payment status*: Payment expected, Paid in full, Partially paid, Not sent, Overdue
- *Estimated amount*: total amount due based on the System calculation. A click on the value opens charge details for each specific invoice. The same data constitutes a detailing XLS/XLSX file to be sent to a client, charge details can be exported to the XLS/XLSX format
- *Tax amount*: tax amount of the invoice. Depends on parameter *Tax scheme* in the Carriers\Agreements 17 settings:
  - *Tax included*: the tax is already added to the invoice amount. In this case *Due amount* is equal to *Estimated amount*
  - *Add tax % to estimated amount*: tax is calculated according to the invoice amount. In this case *Due amount = Estimated amount + Tax amount*
- *Presented amount*: total amount due according to partner estimation, if available; the value is introduced manually as *Presented amount* in the *Edit invoice* tab. A difference between *Estimated* and *Presented amount*, if any and if unfavorable for the System user, changes the invoice property *Disputed status* to *Disputed* provided it is greater than the value of either parameter - *Min absolute mismatch to invoke a dispute* or *Min percent mismatch to invoke a dispute*, whichever is stronger – see Administration\System settings\Financial module 61

- *Period from / Period to*: start/end date of the invoiced period
- *Issue date*: date of the invoice issue
- *Reg date*: date on which the invoice was confirmed
- *Due date*: the payment due date
- *Invoice last updated*: date and time of the latest update of the invoice
- *File*: a click on the download link opens the PDF file of the invoice (only the cover letter; the traffic details file can be downloaded by clicking on the toolbar at the bottom of the table)
- *Invoice last updated*: date and time of the latest update of the invoice



Invoice filter

The button in the upper left corner of the *Invoices* page toggles the *Invoice filter* view.

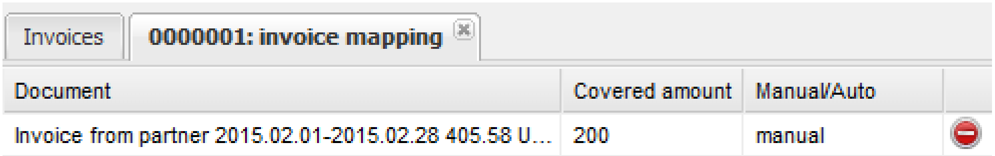
Enter the appropriate parameters and click Apply filter to filter the records in the *Invoices* table.

8.2.3 Invoice mapping

Invoice mapping is allocation of payments and invoices to one another (for example, payments to counter payments, payments to invoices, invoices to counter invoices etc.) It can be done automatically or manually. Automatic mapping is configured on the Finance/Payments 228 page (the *Make auto mapping* checkbox in the *Edit payment* form).

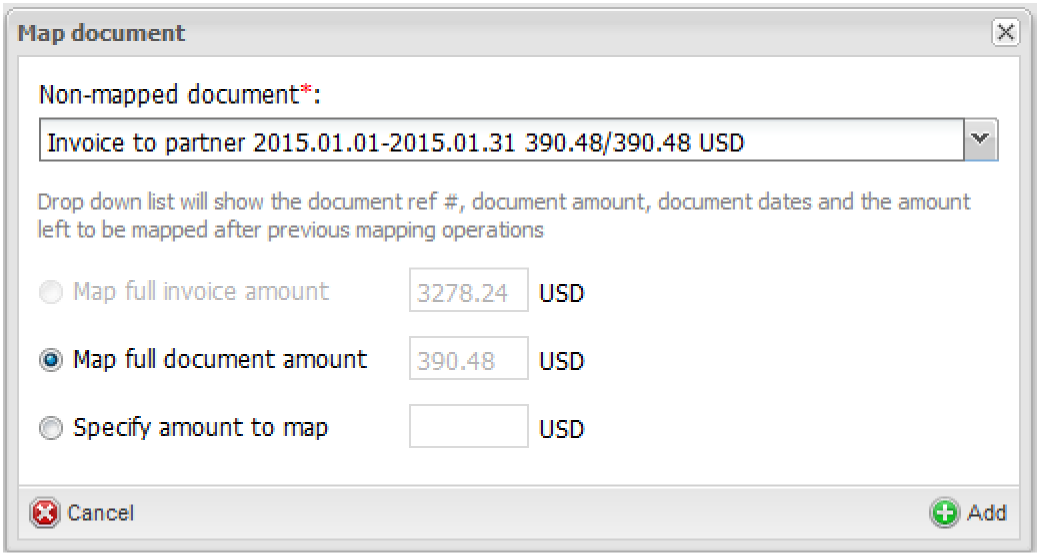
NOTE: When automapping is enabled, the System allocates the received payments to cover the oldest invoices first. For manual mapping, click on the link in the *Paid amount* column to open the *Invoice mapping* page.

NOTE: Only invoices in the *Confirmed/Sent/Delivered/Registered* status are available for mapping.



Invoice mapping page

The *Map document* Map document button on the tool bar at the bottom of the *Invoice mapping* page allows adding unmapped documents to the profile by specifying the document and choosing between listed amount options. Fields marked with an asterisk (*) are required.



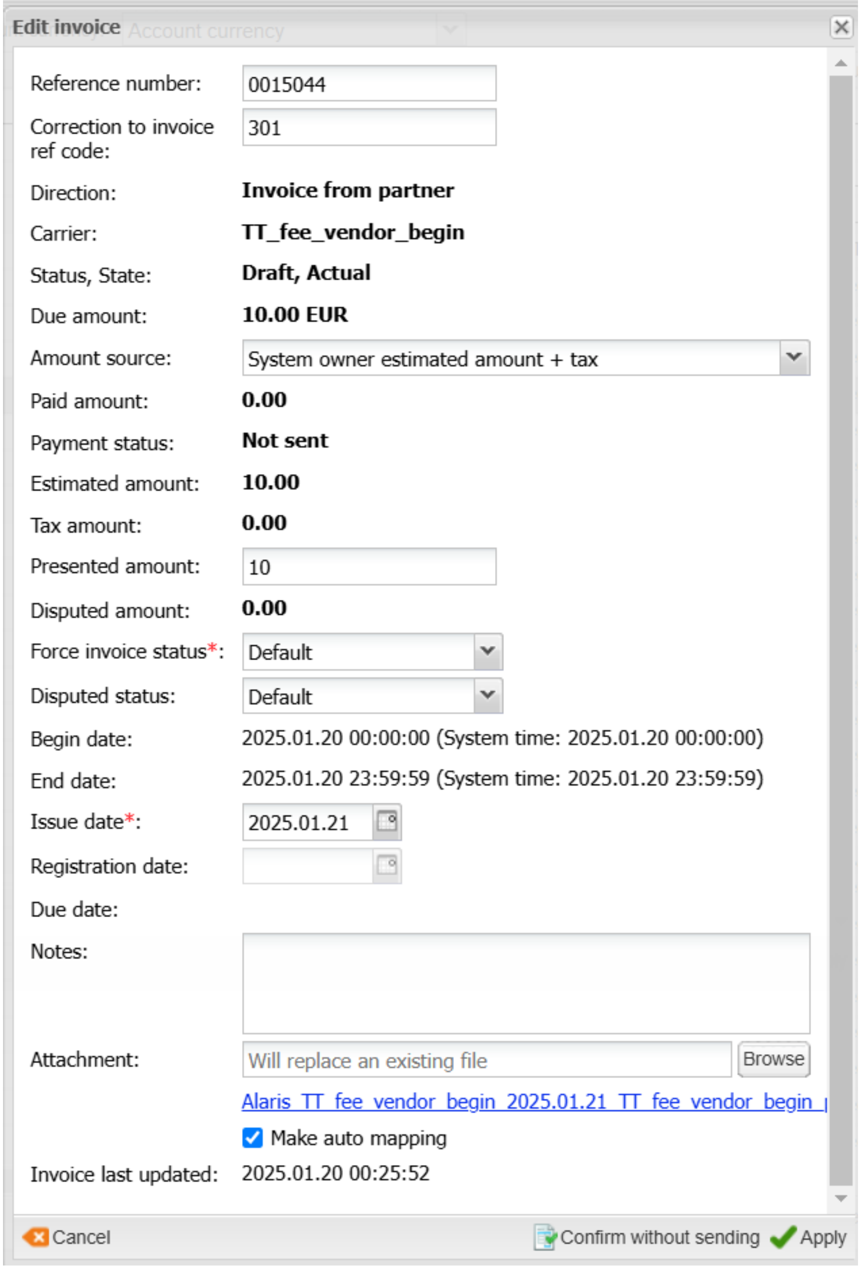
Map document

- *Non-mapped document*: drop-down list of available invoices. The list is formed automatically and displays the amount available for distribution for every charge or invoice (in case unallocated financial documents from a partner are registered in the System)
- *Map full invoice amount*: is active only if the invoice is totally covered by selected payment or by counter invoice
- *Map full document amount*: if the payment amount is less than the amount of the invoice, the payment can be used to partially cover the invoice
- *Specify amount to map*: manually specify the payment amount or counter invoice to cover the selected invoice

Click *Add* Add to apply the settings.

8.2.4 Editing invoices

Double-click on any value in the *Invoices* table (except the links) to open the *Edit invoice* window. The same window can be opened by the Edit invoice button on the tool bar at the bottom of the table.



Edit invoice window

The window contains the following parameters:

- *Reference number*
- *Correction to invoice ref code*: invoice number to which this correction (credit note) has been made
- *Amount source*: select *Amount presented by partner* or *System owner estimated amount + tax* to choose which amount is considered correct - *Estimated* (calculated by the System) or *Presented* (provided by the partner)
- *Disputed amount*: difference between Due amount and Presented amount. If *Amount source* is set as *Amount presented by partner*, then *Due amount* becomes equal to *Presented amount*, and the *Disputed amount* is null
- *Force invoice status*: the drop-down list allows changing the invoice status overriding the current one. Possible values include:

- *Default*: leave the current logic for setting the invoice status unchanged
- *Dismissed*: ignore vendor invoices (in this way, they do not affect the balance). Please note that this status can only be assigned for invoices with the *Draft* status. Also, a vendor invoice in the *Dismissed* status can be confirmed, after which it will affect the balance again
- *Forgotten* (for *direction*: *Invoice from partner*): write off debts
- *Bad debt* (for *direction*: *Invoice to partner*): write off debts

The *Forgotten* and *Bad debt* statuses can be set for invoices in the following statuses: *Confirmed*, *Registered*, *Sent* and *Delivered*. When a new status is assigned, the following fields become available:

- *Cancelled debt amount*: the amount that will not affect the balance; by default the *Estimated amount* is set. If the user specifies an amount, the *Make auto mapping* checkbox is deselected. If any mapping was performed earlier, it is removed, and the unmapped payment amount is distributed between the other non-mapped invoices (starting from the older ones), or, if no non-mapped invoices are available, will be distributed in the future
- *Cancelled debt date*: the date as of which the balance write-off will be effected. By default the current date is used

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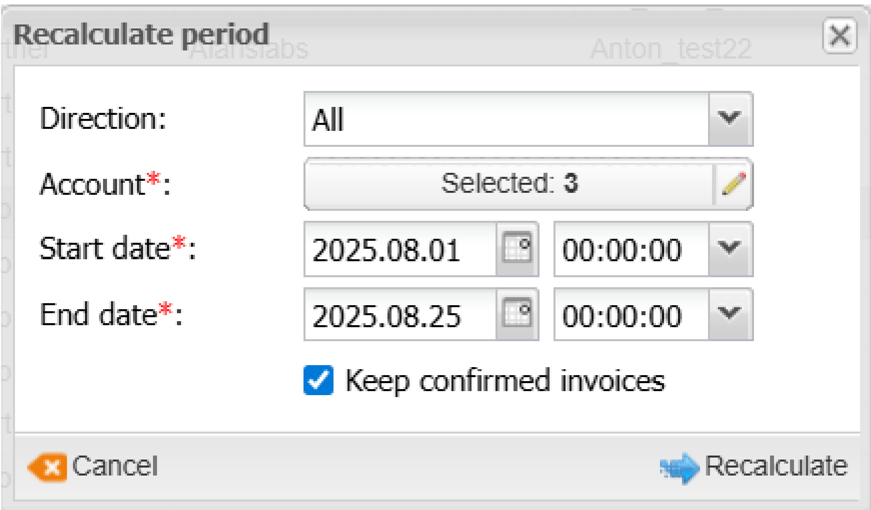
NOTE: For automatic assigning of the *Dismissed* status set the System parameter *Dismiss previous years vendor invoices automatically (0 - no, 1 - yes)* to 1 (Administration\System settings\Financial module 61). In this case, the new System parameter *The date after which the billing period is considered closed* will be taken into account: all draft vendor invoices before the specified date will get the *Dismissed* status.

- *Begin date* / *End date*: invoiced period
- *Due date*: payment due date
- *Notes*: arbitrary comments
- *Attachment:* a confirming document. The supported formats are: .pdf, .xls, .xlsx, .png, .jpg, jpeg, .zip, .rar
- *Make auto mapping*: enables automatic synchronization of a registered payment with the relevant carrier/account invoicing and payment profile. When the checkbox is selected, the System allocates the payments to cover the oldest invoices prior to recent ones

Enter the appropriate parameters and click Apply to apply the settings. Click the Confirm without sending button to confirm the invoice draft. The invoice status will change from *Draft* to *Registered*.

The Recalculate period button in the upper right corner of the *Invoices* page opens the *Recalculate period* window, which allows recalculation of all invoices for the specified period, for example in case of billing period readjustments, outdated invoices etc.

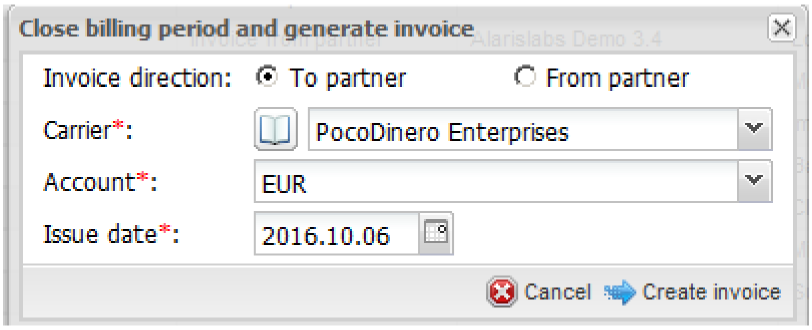
NOTE: Recalculation of invoices must be done after EDR rerating to bring the invoicing information up to date. Refer to SMS\EDR Management\EDR Rerating 384 for more details.



Recalculate period

Enter the appropriate parameters in the window and click Recalculate to recalculate the selected invoice:

- *Direction*: traffic direction (*Client*, *Vendor* or *All*)
- *Account*: select the accounts from the list. The button opens the list of accounts that can be filtered by account name or carrier region
- *Start date*: first date of the revised period
- *End date*: last date of the revised period
- *Keep confirmed invoices*: deselect the checkbox to re-create confirmed invoices (all invoices will be deleted and created again with the *Draft* status)



Close billing period and generate invoice

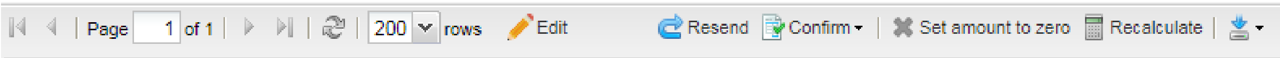
The button Close billing period and generate invoice in the upper right corner of the *Invoices* page serves to generate an invoice for a billing period that is still open. The invoice will be generated on the date specified in the *Issue date* parameter. The last day of the billing period that is closed will be the day before the one set in the *Issue date* field. For example, if *Issue date* is 08.09.2019, then *Period to* will be 07.08.2019 inclusively. The next auto-generated invoice will cover the remaining days of the preset billing period, its end date becoming the last day of the period.

NOTE: Do not use this button to generate invoices for a completed billing period, when such invoices have not yet been created automatically (this normally happens when rates are imported retrospectively).

Enter the appropriate parameters in the window:

- *Invoice direction*: to/from partner
- *Carrier*: select the carrier from the drop-down list. The button opens the list of carriers that can be filtered by ID, region or carrier name
- *Account*: select the account from the drop-down list
- *Issue date*: date of the invoice generation

Click Create invoice to generate the invoice. The invoice will appear in the table with the *Draft* status.



Bottom toolbar

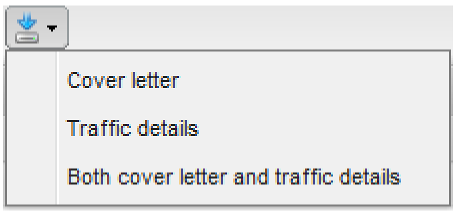
Click Confirm on the bottom tool bar and then select Confirm and send if you wish to confirm the selected invoice draft and send it to the partner (the invoice will be automatically sent to the e-mail defined in the Carriers\Agreements settings). Click Confirm and select Confirm without sending to confirm the invoice without sending (for example, in case of backdate corrections).

The button Set amount to zero sets the *Amount source* field of the selected invoice to *Amount presented by partner*, and the *Presented amount* field to *0*. It comes instrumental when the user wishes not to charge a specific invoice for some reason (for example, the amount is too small or was already charged elsewhere). The button affects the account balance only when the invoice is confirmed or registered. The button is available only if the user has the permissions *Confirm vendor invoice* and/or *Confirm client invoice*.

Click Resend to resend the invoice to the partner.

Click Recalculate to recalculate the selected invoice draft (for example, when a partner performed backdate changes in the billing data).

The button opens the invoice download menu that allows downloading the cover letter, traffic details or both.



Invoice download details

The download queue is displayed in the *Invoice files downloading list* that can also be opened by the button in the bottom right corner of the page.

Invoice files downloading list

Task ID	Document types	Task created	Task status	Details
		−∞ ≤ X ≤ ∞	All	
TASK284010	Cover letter	2019.07.04 14:10:01	ready	download
TASK281246	Cover letter, Traffic details	2019.06.25 08:43:17	ready	download
TASK279832	Cover letter, Traffic details	2019.06.20 16:27:38	ready	download
TASK275094	Cover letter, Traffic details	2019.06.06 02:20:38	ready	download

Invoice files downloading list

Click to export the *Invoices* table to an MS Excel file.

8.3 Payments

The *Finance\Payments* page serves to track incoming and outgoing payments. The Invoice/payment mapping feature allows automatic matching of registered payments against issued invoices. Payments are entered (registered) to the System manually.

8.3.1 Payments table

The *Payments* table displays information about all payments registered in the System.

Payments

Synchronize balances | Make auto mapping | Import payments | Clone payment | Create payment

Ref. #	Contract co...	B...	Carrier	Account	Payment date	Ex...	Registration d...
	-	-	-	-			
202211011130#10201	General	-	Brexit Telecom	Brexit Telecom (EUR)	2022.11.01 00:00:00		2022.11.01 11:...
202211071250#10202	General	-	Alaris YouTube	Alaris YouTube (USD)	2022.11.07 00:00:00		2022.11.07 12...
202211161353#10205	General	-	Alaris YouTube	Alaris YouTube (USD)	2022.11.16 00:00:00		2022.11.16 13...
202211091351#10203	General	-	BestRetail	BestRetail (EUR)	2022.11.09 00:00:00		2022.11.09 13...
202211110920#10204	General	-	Alaris YouTube	Alaris YouTube (USD)	2022.11.11 00:00:00		2022.11.11 09:...

Payments table

Click on the column headers for ascending/descending sorting of the records. Use the *Columns* list to hide/unhide columns. The table contains information on the following parameters:

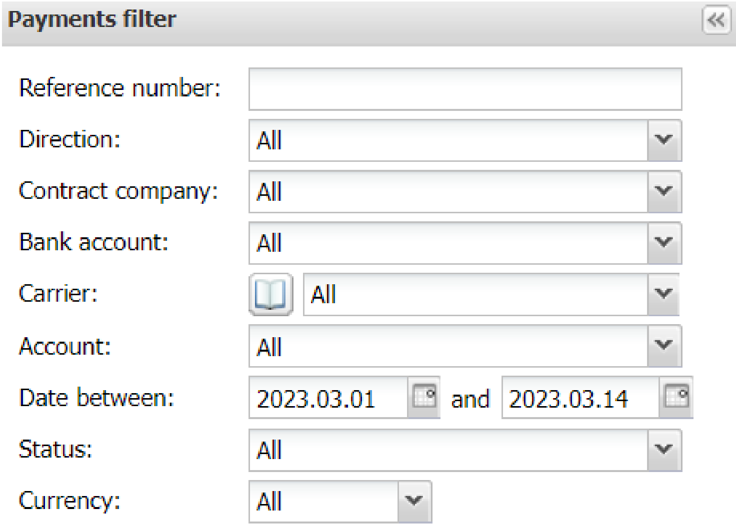
- *Ref. #*: internal System reference number of the payment record
- *Contract company*
- *Bank account*: the System owner's bank account number as configured in Reference books\Bank accounts 255
- *Carrier*: client/vendor name, as per data in the Carriers 163 section
- *Carrier's legal name*: the carrier's registered name taken from the *Company registered name* field of the Carriers\Agreements 171 interface (not displayed by default; click on the button next to any table column and enable the column for display using the *Columns* control)
- *Account*: the partner account name and currency

- *Payment date*: the actual payment date
- *Expiry date*: for payments in the *Draft* status. Upon registration of payments (including those in the *Draft* status) the balance is immediately updated. In case when a payment is not registered before the *Expiry date,* it becomes ignored. In other words, a *Draft* is considered a regular payment only until the *Expiry date*.

NOTE: This can happen when a partner informed the System owner that a payment has been made, but the actual money has not arrived yet. The partner can be notified in advance about the expiry of a draft payment. The notifications are set in the parameter *Send notifications of deferred payments coming due to client*; the period is set in *Notification period of deferred payments coming due, days* (Administration\System settings\Financial module 61). The email addresses are set in Carriers\Agreements 171 (*Default invoice emails* field).

- *Registration date*: date of the payment registration in the System
- *Direction*: *Inbound* or *Outbound*
- *Bank statement amount*: payment amount against the bank statement (the amount actually paid by the partner, before bank charges)
- *Amount debited*: the sum posted to the account (balance) after bank charges
- *Bank fee*: bank activity charges, calculated as difference in absolute value between *Bank statement* and *Amount debited*
- *Covered amount*: underlying invoice amount covered by the payment; may be partial or full. A click on the value opens payment mapping profile displaying correlation between payments made and invoices issued (see Finance\Payments\Payment mapping 230)
- *Status:* (*Draft, Confirmed*): a payment record may be saved in the System as a draft, for example if the actual payment from the client has not been received but the customer claims it has already been executed – such record acquires the *Confirmed* status only after additional confirmation and submission to the System. *Draft* payments have temporary impact on partner balance (until the *Expiry date*). *Confirmed* payments have a permanent impact on the partner balance while the payment remains in the System (that is, until it is deleted)
- *Document*: underlying document
- *Comment*: arbitrary comments

The button in the upper left corner of the *Payments* page toggles the *Payments filter* view.



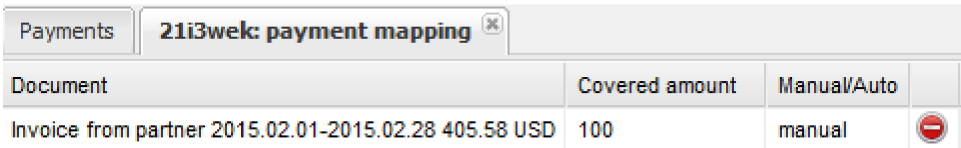
Payments filter

Enter the appropriate parameters and click Apply filter to filter the records in the *Payments* table. The button in the *Carrier* field opens the list of carriers that can be filtered by ID, region or carrier name.

8.3.2 Payment mapping

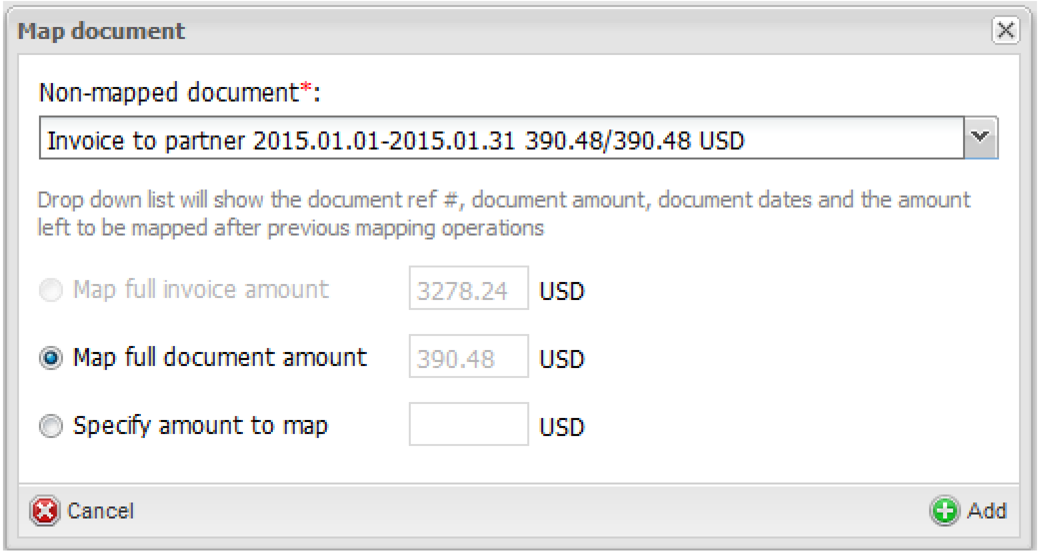
A click on the *Covered amount* column values opens the payment mapping page displaying correlation between payments made and invoices issued. The page is similar to the Finance\Invoices\Invoice mapping 222 page detailed above. Mapping can be done on either page.

NOTE: Only confirmed payments are available for mapping.



Payment mapping page

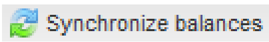
The *Map document* Map document button at the bottom of the *Payment mapping* page allows adding unmapped documents to the profile by specifying the document and choosing between listed amount options:



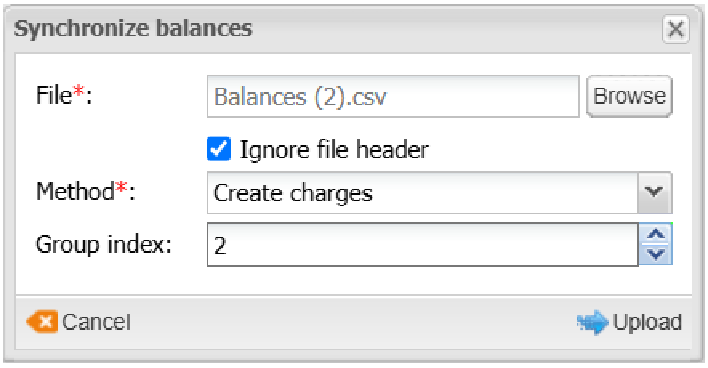
Payment mapping

8.3.3 Interface controls

The *Finance\Payments* page has the following controls.

The *Synchronize balances* 

button opens the same-name dialog:



Synchronize balances

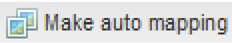
The dialog enables synchronization with external accounting systems through uploading data. It contains the following parameters:

- *File*: select a CSV file separated with semicolon (;) with the following fields (if the file contains headers, they will be disregarded):
  - Carrier name: string of 256 characters maximum (must coincide with the carrier name in the System)
  - Currency: string of 256 characters maximum, e.g. USD, EUR
  - Balance value: balance amount; decimal separator dot (.) can be used
  - Balance effective date: submitted in the format DD MM YYYY HH24 MI SS
- *Ignore file headers*: when selected, the first row in the file will be ignored
- *Method*: select the document that must be created to synchronize balances. Possible values are:

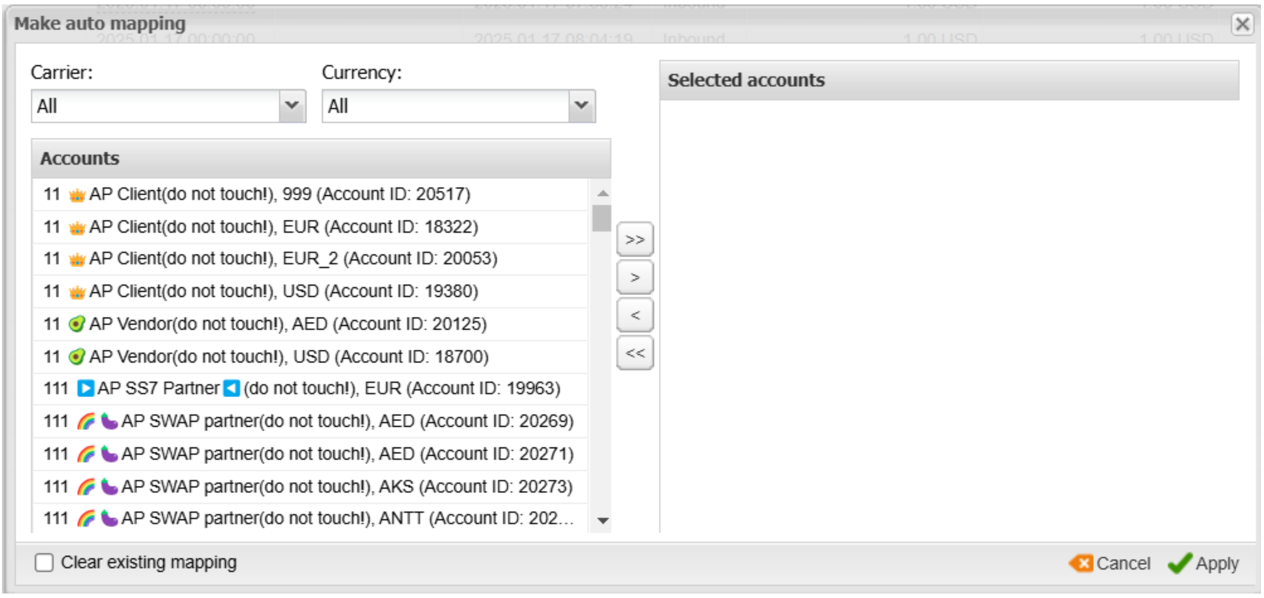
- *Create charges*
- *Create payments*

- *Group index*: select a group index (available only if *Create charges* is selected in the *Method* field)

NOTE: Charges of the current (non-closed) billing period are not taken into account when synchronizing balances. For example, a partner has the *Weekly* billing period. Suppose that today is 15 07 2022 (Friday) and the *Balance effective date* is set to 14 07 2022. As the last complete billing period ended on 10 07 2022 23:59:59 (Sunday), the procedure will apply synchronization to the balance value active at that time (July 10th 23:59:59).

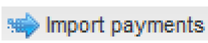
The 

button launches automatic allocation of payments to invoices for selected accounts:



Make auto mapping

- *Clear existing mapping*: when enabled, all previously made mappings are cleared before mapping of payments and invoices. This process is time-consuming, and deselecting the checkbox allows skipping this step and optimizing the mapping procedure. Please note that when confirming invoices with the *Make auto mapping* flag or when creating/editing a payment with the same setting, the previous mappings are not cleared.

The *Import payments* 

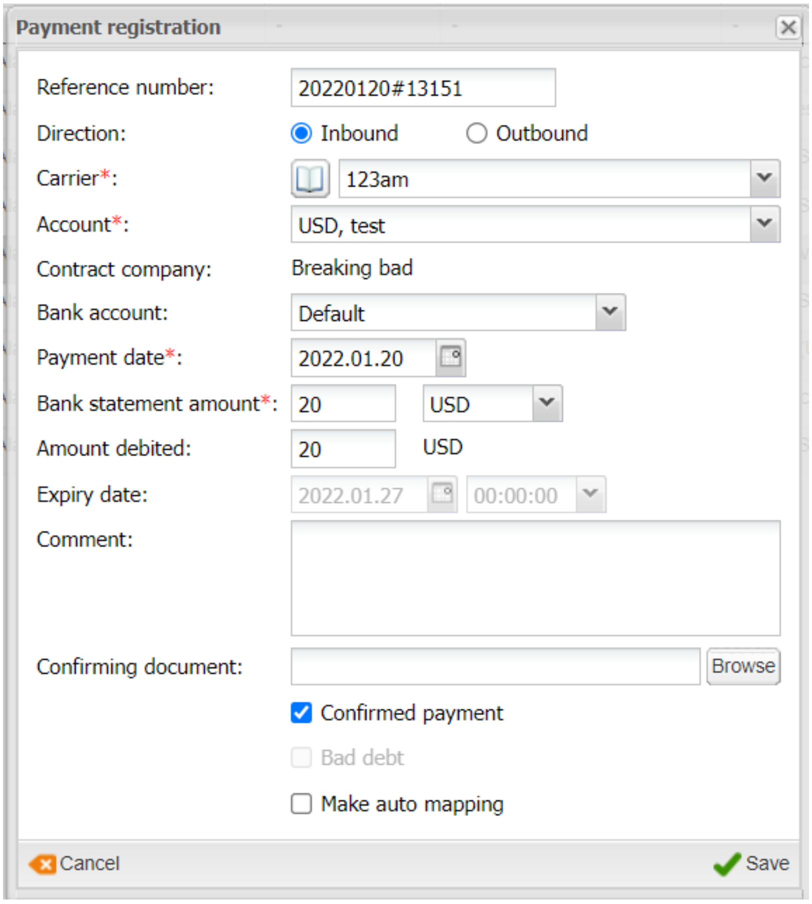
button opens the same-name window:

Import payments

The window allows import of external payment records; it requires CSV-format files separated with semicolon (;) with the following fields:

- *Carrier name*: string of 256 characters maximum (must fully coincide with the carrier's name in the System)
- *Payment direction*: ‘0’ or ‘inbound’ for payments from client; ‘1’ or ‘outbound’ for payments to vendor
- *Payment date*: submitted in format DD MM YYYY HH24 MI SS
- *Payment reference number*: string of 256 characters maximum
- *Payment amount*: payment amount, decimal separator “.” (dot) can be used
- *Payment currency*: currency code, e.g. USD or EUR
- *Payment comments*: string of 4000 characters maximum
- *Account ID*: the Account ID from the Carriers\Accounts 168 table (the field is required for partners having more than one account in the same currency)
- *Agreement code*: The System will use the column to define the appropriate account if the fields *Carrier name* or *Account ID* are empty

The Create payment button opens the *Payment registration* window:



Payment registration

The window allows manual creation of payment records by configuring the following parameters:

- *Reference number*: payment ID from the payment service provider

- *Payment direction*: *Inbound* (from partner) or *Outbound* (to partner)
- *Carrier*: relevant client/vendor, as per data in the Carriers 163 section. The button opens the list of carriers that can be filtered by ID, region or carrier name
- *Account*: relevant account, as per data in Carriers\Accounts 168
- *Contract company*
- *Bank account*: the bank account number from Reference books\Bank accounts 255
- *Payment date*: date of actual payment execution
- *Bank statement amount*: payment amount against the bank statement (the amount actually paid by the partner, before bank charges). Select currency in the drop-down list next to the field
- *Amount debited*: the sum posted to the account (balance) after bank charges
- *Expiry date*: the expiration date of payments with the *Draft* status. If the payment status is not changed to *Registered* by the date (that is, the actual payment is not received and acknowledged), the amount will be written off the partner's balance.

NOTE: This field only makes sense when the *Registered* checkbox is deselected.

- *Comment*: arbitrary comments to payment
- *Confirming document*: underlying document. The supported formats are: .pdf, .xls, .xlsx, .png, .jpg, jpeg, .zip, .rar
- *Confirmed payment*: if the checkbox is selected, the payment gets registered immediately. The selected checkbox shows that this payment is not a *Draft* and has no *Expiry date*
- *Bad debt*: the checkbox serves to write off debts and becomes available for confirmed payments in the *Edit payment* form (see below)
- *Make auto mapping*: enables automatic synchronization of a registered payment with the relevant carrier/account invoicing and payment profile. When the checkbox is selected, the System allocates the payments to cover the oldest invoices prior to recent ones

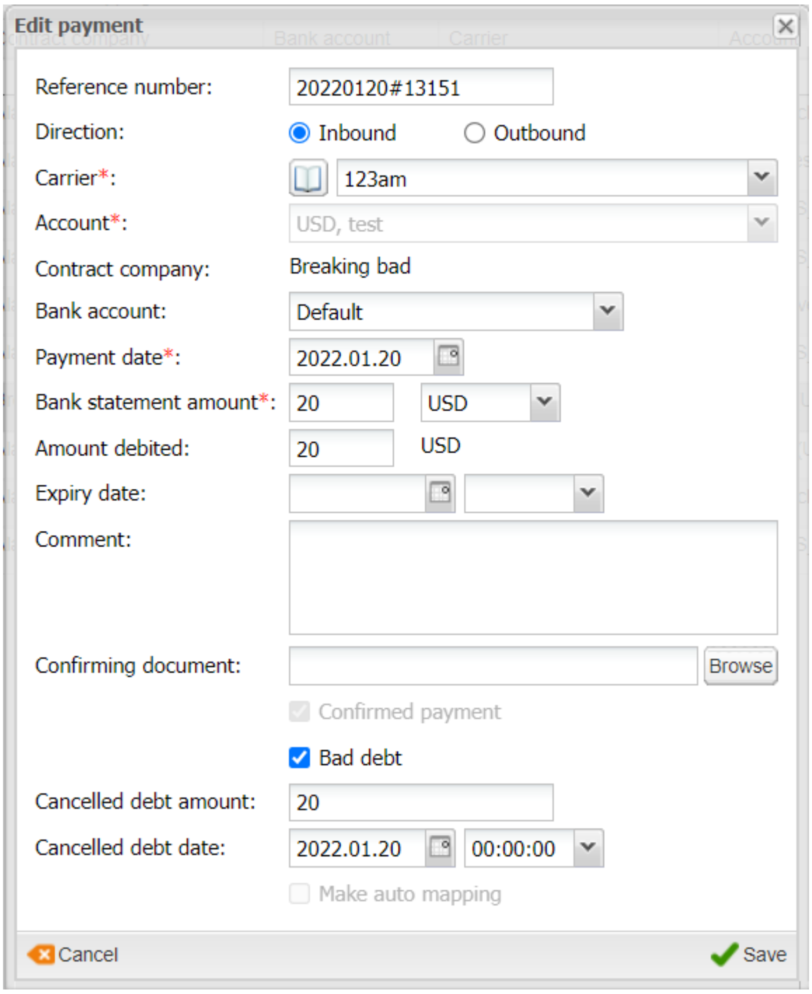
NOTE: The currency exchange rate is taken as of the payment date.

When through with defining the parameters, click Save to confirm or Cancel to discard the settings.

The Clone payment button creates a duplicate of the configured payment. This is helpful when configuring another payment with similar parameters.

Click to refresh the page.

A click on a record in the *Payments* table opens it for editing. The *Edit payment* window that appears is illustrated below:



Edit payment

It contains the same parameters as in the *Payment registration* form. Besides, the *Bad debt* checkbox becomes available for confirmed payments. When enabled, the *Cancelled debt amount* and *Cancelled debt date* fields appear. When a full write-off amount is specified, mapping is removed from the payment and the *Make auto mapping* option is disabled. If only part of the amount is specified, the amount that is not written off remains mapped to the invoices. The following permissions must be enabled to remove such payments:

- *Deleting customer payments with unaccounted amounts*
- *Deleting vendor payments with unaccounted amounts*

The button Confirm draft and submit payment(s) allows payment confirmation and registration in the System.

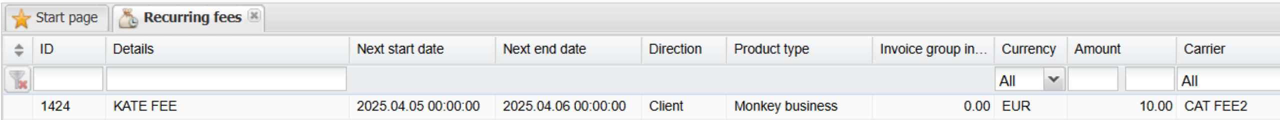
The button Delete payment(s) deletes the selected payment record.

NOTE: The balance will change by the payment amount (unless the deleted payment is an expired draft payment).

Any payment record can be exported either to an CSV or XLS-file using the buttons and respectively.

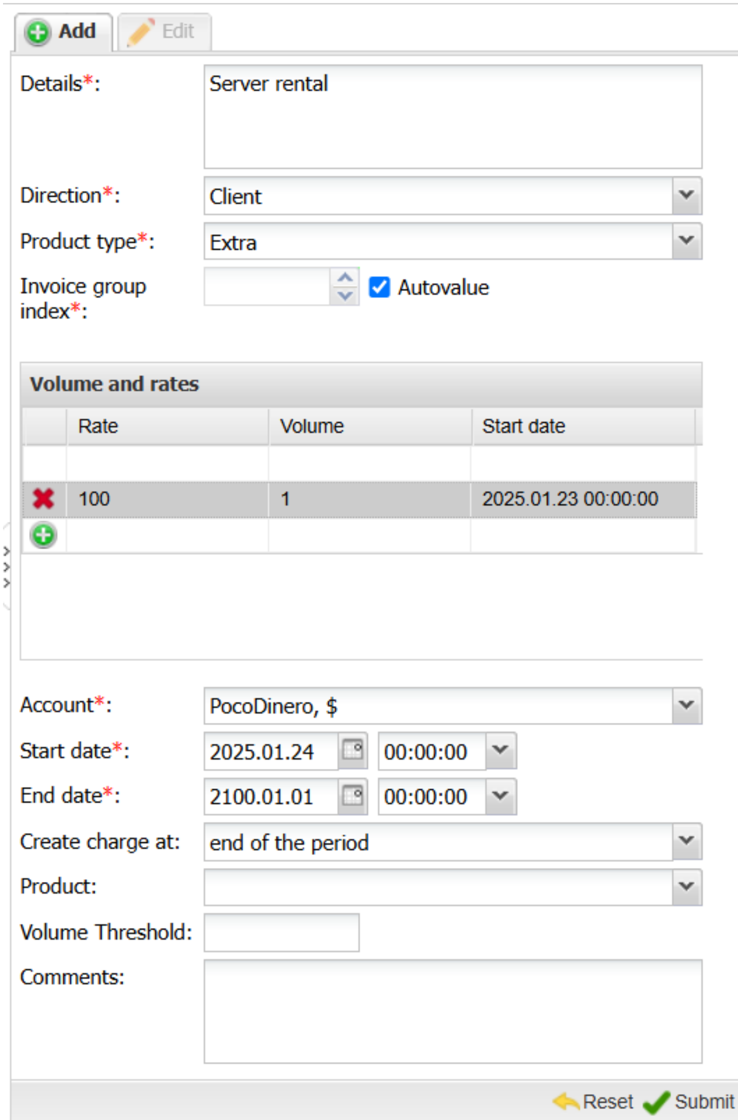
8.4 Recurring fees

The *Finance\Recurring fees* page serves to configure regular charges to partners for continuous services - not only traffic exchange, but also, for example, server or data channel rental. The page contains a table of recurring fees and the *Add* and *Edit* tabs.



Recurring fees table

NOTE: For easier handling of recurring payments it is recommended to create a dedicated product type. Go to Reference books\Product types 273, create a new product type (for example, *Server rental*), and in the *Unit* field select *Service*.



Add tab

The *Add* tab of the *Recurring fees* page contains the following parameters.

- *Details*: payment description

- *Direction*: *Vendor* or *Client*
- *Product type*: select a product type specifically created for this service
- *Invoice group index*: specify a unique value if you want this charge to be invoiced separately (decimal values are supported). To invoice this charge together with another product, select the index of that product. If *Autovalue* is checked, the grouping is performed as set in the parameter *Default charge grouping mode* (for possible values refer to Administration\System settings\Financial 61 module 236)
- *Volume and rates*: the table allows specifying multiple validity dates for a charge. Fill in the following details:
  - *Rate*: service price

NOTE: In the *Recurring fees* table the rate will be displayed with the rounding precision as set in the parameter *Rate rounding precision (displaying)* in Administration\System settings\SMS rates 92.

  - *Volume*: volume of the services (in units configured in Reference books\Product types 273)
  - *Start date*: start date of the service

NOTE: The user can perform backdate changes of volumes and/or rates in this table. Changes are applied after saving when the FIN_HOURLY_ROUTINES System task is started. If the charge end date is changed, rates active after the end date will be deleted. The charging logic is as follows: if the rate start date is in the middle of the billing period, the fee will be charged for the number of days remaining. Also, several rates may be valid within one billing period: the amount will be calculated with account of their validity dates.

- *Account*: partner account
- *Start date*, *End date*: billing period. For example, if the billing period is 1 month, the service will be charged for monthly. The next billing period is shown in the *Recurring fees* table in the *Next start date* and *Next end date* columns
- *Create charge at*: end of the period or beginning of the period. The proportional rating scheme is used. For example, suppose the billing period is one month and the fee period is 01.03.2021-01.01.2100. Close the fee as of the current day (by changing the end date to the current day), for example, 10/03/2021. If *Create charge at=end of billing period*, a charge will be created, but for 10 days only instead of the full month. Suppose the volume for the fee is 100. Then, the volume for 10 days will be 100/31*10 (where 31 is the number of days in the month)
- *Product, Volume threshold*: the fields allow charging a partner an extra fee when a certain amount of traffic is not reached. Suppose you agreed that a partner will send at least 1000 SMS every billing period. In case it sends less it will have to pay an extra amount. If the conditions are met, the client only pays for the traffic at a regular rate. In the *Product* field select the appropriate product and in the *Volume threshold* field specify the minimum amount of traffic that must be sent by the client. Learn more about the feature in Alaris YouTube video.

NOTE: the *Product* and *Volume threshold* fields are applicable to the product types within which actual traffic can be processed to calculate volume (for example, *SMS*)

- *Comments*

Click Submit to save the changes. Click Clone to create a copy of a record selected in the table. This is helpful in configuring another record with similar parameters.

The *Edit* panel contains the button *Delete this recurring fee and all existing charges* that serves to remove the record and all charges that were created for it (the button is available only to users with the *No restriction* permission).

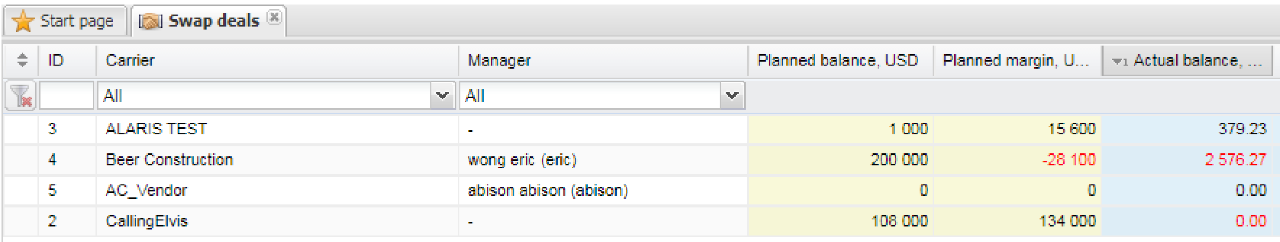
NOTE: Recurring fees have the *Charge type* = *Auto*. When a recurring fee is removed (provided that the invoice was confirmed or registered earlier), a correction charge is created. Please note that the account period must be recalculated in order for record removal to be applied.

8.5 Swap deals

The *Swap deals* page serves to monitor traffic exchange deals between the System owner and its partners.

The page consists of three sections: the top section is a list of partners, the middle section displays partner destinations, and the bottom section shows the traffic buy and sell rates.

NOTE: Negative values and values below planned targets are highlighted in red.



ID	Carrier	Manager	Planned balance, USD	Planned margin, U...	Actual balance, ...
	All	All			
3	ALARIS TEST	-	1 000	15 600	379.23
4	Beer Construction	wong eric (eric)	200 000	-28 100	2 576.27
5	AC_Vendor	abison abison (abison)	0	0	0.00
2	CallingElvis	-	108 000	134 000	0.00

Table of partners (top section)

The top section is a table of partners that contains the following columns:

- *ID*: record identification number
- *Carrier*
- *Manager*: System user assigned to manage the swap deal
- *Planned balance*: the balance planned by the System owner

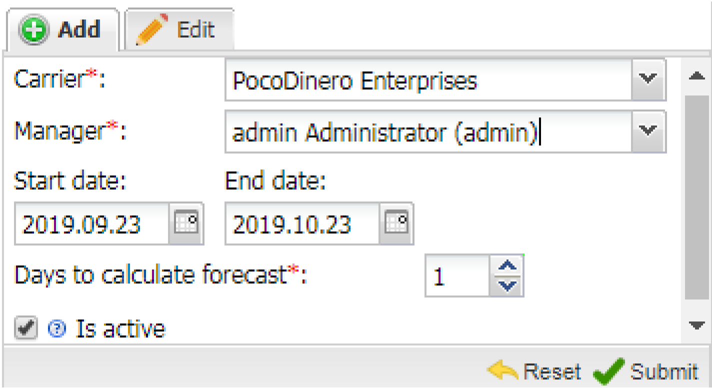
NOTE: The deal currency is set in the System parameter *Swap deals stats currency* (Administration\System settings\Trading tools 103). To change it, contact the Alaris technical support team.

- *Planned margin*: the margin planned by the System owner
- *Actual balance* (taken from SMS\Analytics 363)
- *Actual margin* (taken from SMS\Analytics 363)
- *Forecast balance*: estimated balance by the end of the swap deal
- *Forecast margin*: estimated margin by the end of the swap deal
- *Progress*: swap deal completion indicator
- *Days passed*
- *Days left*
- *Start date – End date*: swap deal period

- *Last modified*: time of the last update (manual or automatic) of the swap deal data
- *Is active*: when the value is *Yes*, the swap deal statistics are updated automatically every 24 hours; otherwise click Refresh statistics. To change the column value, use the *Is active* checkbox in the *Edit* tab

NOTE: Statistics for closed deals can also be updated. Partner destination groups that do not have statistics are marked with the icon ⚠ (find out more in the Alaris YouTube video).

Click Clone to create a copy of the deal (find out more in the Alaris YouTube video)



Add tab (table of partners, top section)

The top right section contains the *Add* and *Edit* tabs that serve to add and edit swap deals. The *Add* tab contains the following parameters:

- *Carrier*: name of the partner carrier
- *Manager*: System user assigned to manage the swap deal
- *Start date/End date*: swap deal period
- *Days to calculate forecast*: serves to set the number of days required to calculate the forecast. If the number of days exceeds the actual active days of the deal, then the actual days are used for the calculation
- *Is active*: select the checkbox to activate the deal. Statistics for an active deal is updated every 24 hours

Click Submit to confirm or Reset to discard the settings.

			Plan				Actual as of now						
Type	Destinations/MCCMNC	Direction	Volume	Daily vol.	Charge, USD	Margin, USD	Volume	Charge, USD	Margin, USD	Aver. sell rate, USD	Aver. buy rate, USD	Volume, %	Left vol.
	Total		**50**	**2**	**3**	**0**	**88 966**	**8 918.59**	**5 125.11**				
	EE	Sell	50	2	3	0	88 966	8 918.59	5 125.11	0.10025	0.03856	177 93...	-88 916
	Afghanistan, Farah, Proper	Sell					88 966	8 918.59	5 125.11	0.10025	0.03856	177 93...	
	Afghanistan, Farah, proper	Sell					0	0.00	0.00	0.00000	0.00000	0.00	
	Afghanistan, Proper	Sell					0	0.00	0.00	0.00000	0.00000	0.00	

Destinations for a selected partner (middle section)

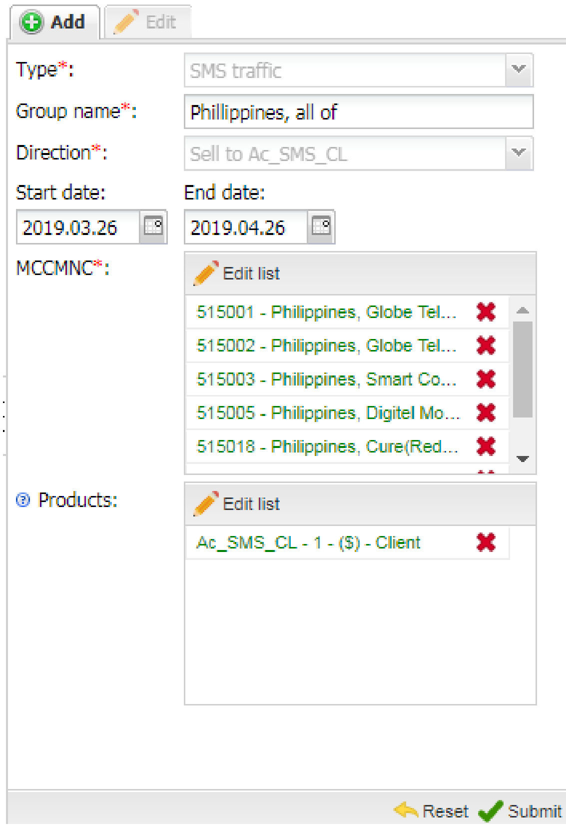
The middle section shows the destinations for a partner selected in the top table (calculated based on daily and hourly analytical cubes). It contains the following columns:

- *Type*: traffic type - for SMS.

- *MCCMNC*
- *Direction*: Sell or Buy (click on the column header to sort records by direction)
- *Plan*: section that displays the following target parameters:
  - *Volume*: the target volume (configured in the bottom right section)
  - *Daily vol.*: the estimated average volume for each day of the deal. See also the Alaris YouTube video
  - *Charge*: the total cost of traffic
  - *Margin*: the planned margin
- *Actual as of now*: section that shows the current state of the swap deal and contains the following parameters:
  - *Volume*: the actual volume of exchanged traffic
  - *Charge*: the current cost of traffic
  - *Margin*: the actual margin
  - *Aver.* sell rate
  - *Aver.* buy rate
  - *Volume, %*: share of exchanged traffic as compared to the target volume
  - *Left vol.*: the remaining volume
  - *Daily vol.*: the average daily volume
- *Forecast by the end of the swap deal*: section that shows the projections for the *End date* of the deal:
  - *Volume*: the traffic volume that will be left by the *End date*
  - *Charge*
  - *Margin*

NOTE: The forecast values are calculated based on the data of the previous day. Suppose the deal lasts 30 days, and today is day 16. The total traffic volume for 16 days is 50,000 SMS; the volume for the previous day is 5,000. The *Volume* parameter will be calculated as 50,000 + 5,000*15.

The *Total* row contains the aggregate swap deal statistics for the partner (the same figures are shown in the top table).



Add new destinations for partner (middle section)

The middle right section contains the *Add* and *Edit* tabs that serve to add and edit destinations. The *Add* tab contains the following parameters:

- *Type*: *Voice* or *SMS*

NOTE: If the carrier only has products of one type (Voice or SMS), the *Type* field will be filled in automatically and will be uneditable.

- *Group name:* name of the group of destinations (for example, a group can include all destinations for a country). A group can also contain a single destination
- *Direction*: Sell to System user (for client products); Buy from System user (for vendor products)

NOTE: If the carrier only has products of one direction (client / vendor), the *Direction* field will be filled in automatically and will be uneditable.

- *Start/End date*: the period of the deal
- *MCCMNC*: specify either the MCC (that includes all destinations, for example, 214 that includes 214001, 214003 etc.) or specific MCCMNCs (214001, 214003 etc., without the MCC)
- *Products*: products whose traffic will be used for stats calculation. If empty, the statistics will be calculated for all products

Click Submit to confirm or Reset to discard the settings.

Sell Bulgaria, proper to CallingElvis								
Start date	Currency	Rate to U...	Rate type	Up to #1	Rate #1	Cost #1	Up to #2	Rate #2
2016.03.01	USD	1.00000	Back to first minute	100 000	0.46000		200 000	0.40000

Table of rates (bottom section)

The bottom section serves to configure rates for buying and selling the destination groups selected in the middle table. The bottom left table has the following parameters:

- *Start date*: start date of the swap deal
- *Currency*
- *Rate to USD*: exchange rate of the selected currency to the US Dollar
- *Rate type*: contains the following values:
  - *Scale*: the rate changes after a preconfigured threshold is reached. The threshold is configured by the parameters *Up to #1 – Up to #5*. Example: suppose the first threshold is 300,000 SMS (set by the parameter *Up to #1*), at the rate (*Rate#1*) of 0.03 USD. *Rate #2* is 0.02 USD. The first 300,000 SMS will be charged at 0.03 USD. The 300,001 SMS will be charged at *Rate #2* (0.02 USD), same as all further SMS up to the next threshold (set by the parameter *Up to#2*)
  - *Back2first*: the rate changes after a preconfigured threshold is reached, and all traffic starting from the first minute is recalculated at the new rate. Example: suppose the first threshold is 300,000 SMS (set by the parameter *Up to #1*), at the rate (*Rate#1*) of 0.03 USD. *Rate #2* is 0.02 USD. The first 300,000 SMS will be charged at 0.03 USD. The 300,001 SMS will be charged at *Rate #2* (0.02 USD), and all the previous 300,000 SMS will be recharged at *Rate #2* (0.02 USD), same as all subsequent SMS up to the next threshold (set by the parameter *Up to#2*). When the second threshold is reached, the subsequent SMS are charged at *Rate #3*, and all previous traffic is recharged at Rate #3 as well, and so on up to the fifth threshold and *Rate #5*
- *Up to #1 – Up to #5*: traffic thresholds that trigger rate changes (set by the parameters *Rate #1 – Rate #5*)
- *Rate #1 – Rate #5*: rate values for 5 traffic thresholds (configured by the parameters *Up to #1 – Up to #5*)
- *Cost #1 – Cost #5*: the cost of the entire traffic within a single threshold

NOTE: To configure the traffic price, use either *Rate #*... or *Cost #*... (do not use both parameters at the same time). Normally a swap deal involves multiple carriers with different rates, therefore the rates and cost of traffic configured in this page are not actual figures but rather an estimate needed to calculate the expected sell and buy rates.

Values that have been edited and not saved have a red tag in the top left corner, for example 500 000.

Click Apply changes to save the changes; click Delete selected to delete the record. Click Add new to add a new destination.

Buy Bulgaria, proper for CallingElvis				
Start date	**Currency**	**Rate to USD**	**Volume**	**Rate**
2016.03.01	USD	1.00000	200 000	0.10000

Rates for source traffic (bottom section)

The bottom right table serves to configure the rates for traffic that the System user will buy from/sell to other partners for further exchange with the swap partner. The table contains the following parameters:

- *Comment field:* click to add a comment. Fields with comments are marked with the blue icon. Point the mouse to the icon to view the comment as a pop-up tip. Click it to edit the comment
- *Start date*
- *Currency*
- *Rate to USD*: exchange rate of the selected currency to the US Dollar
- *Volume*
- *Rate*

Click Apply changes to save the changes; click Delete selected to delete the record. Click Add new to add a new destination.

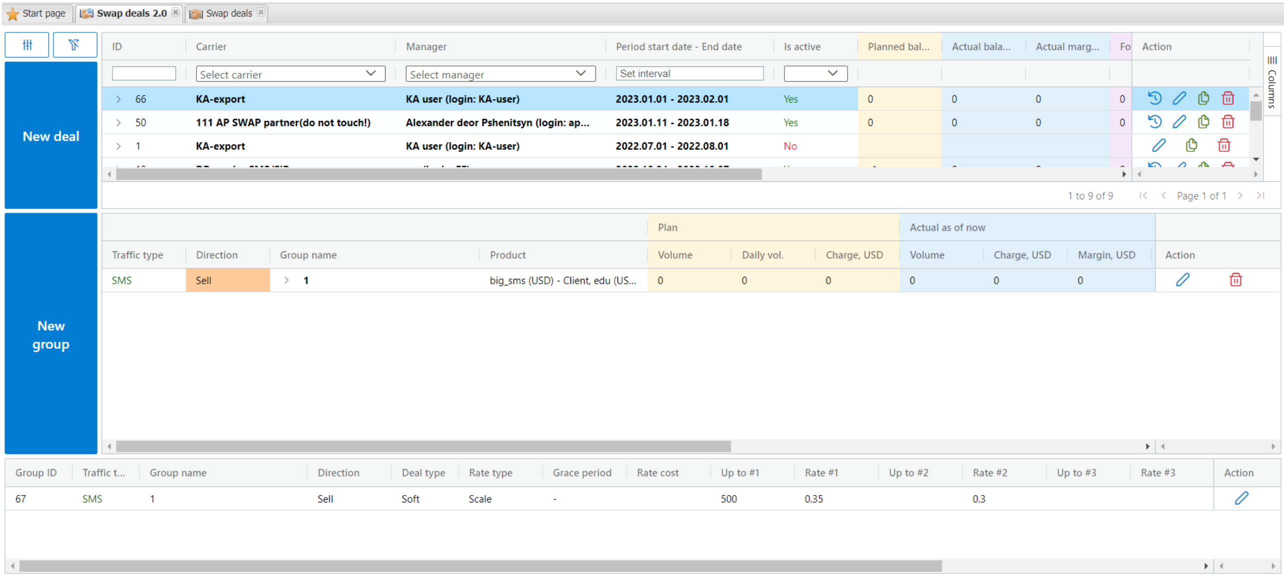
8.6 Swap deals 2.0

The *Swap deals 2.0* module combines the functionality of the SMS\Volume-based deals 2.0 556 and Swap deals 238 interfaces, that is, it allows creating flexible rating schemes for destinations based on the total volume of processed traffic that affect routing and billing, as well as traffic exchange deals between the System owner and its partners.

It is a paid-for module and is hidden by default along with the permissions that grant access to it: *View swap deals 2.0* and *Edit swap deals 2.0*. To purchase a license for the module, contact your Alaris Labs account manager.

The *Swap deals 2.0* structure is similar to the Swap deals 238 interface. It consists of the following sections: the top table is a list of partners and general settings, the middle table displays partner destinations (destination groups), and the bottom table shows the traffic buy and sell rates. The *New deal* and *New group* sections on the left side of the page open windows for creation a new deal and new destination group respectively.

NOTE: The volume and cost statistics to check deals' thresholds are calculated based on financial cubes. Statistics displayed in the interface is calculated based on analytical cubes in the currency set in the System parameter *Swap deals stats currency* (Administration\System settings\Trading tools 103). This currency must be enabled for analytics calculation (that is, configured in the System parameters *Analytics first/sesond/third currency* in Administration\System settings\SMS Analytics 88).



Swap deals 2.0

Click on the left of the row to expand the list of the deal's periods. Use the column filters to filter the column values. Click in the top left corner to clear the filters. Click next to it to customize the column display, refresh the table and clear the sorting.

The top table contains the following fields:

- *ID*
- *Carrier*: partner name
- *Manager*: System user assigned to manage the swap deal
- *Period start date - end date*: the current period of the deal (based on the deal's period duration - for example, 1 day, 1 month etc.). For active deals, the current period is displayed. For past deals, the last period of the deal is shown.
- *Is active*: shows whether the deal is active. To change the column value, click and in the *Deal editing* panel that opens select or deselect the *Is active* checkbox
- *Planned balance*: balance planned by the System owner

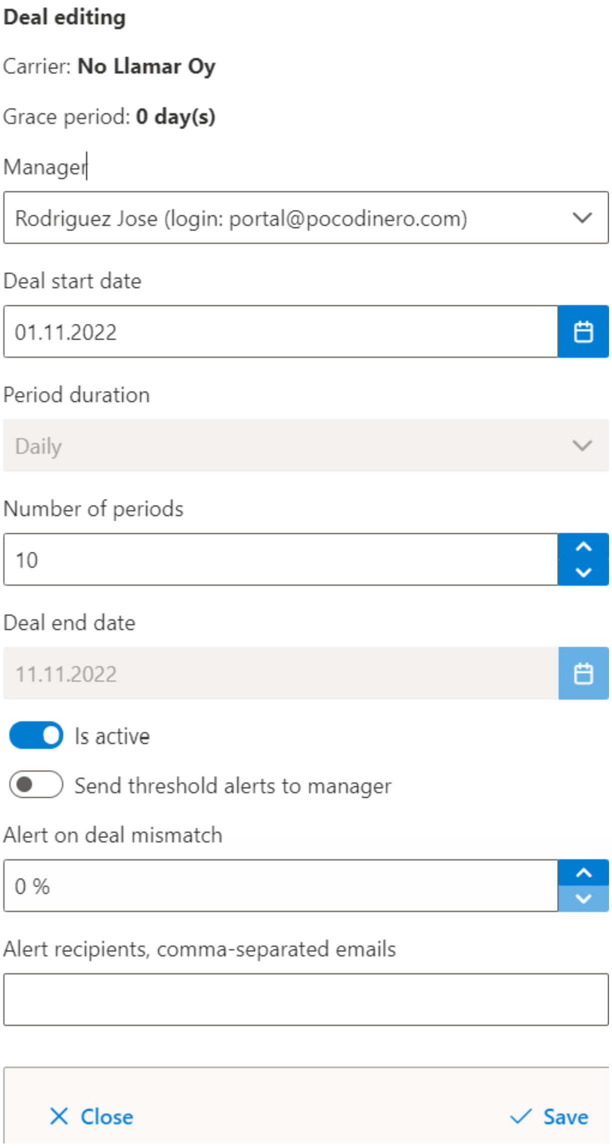
NOTE: The deal currency is set in the System parameter *Swap deals stats currency* (Administration\System settings\Trading tools 103). To change it, contact the Alaris technical support team.

- *Actual balance* (taken from SMS\Analytics 363)
- *Actual margin* (taken from SMS\Analytics 363)
- *Forecast balance*: estimated balance by the end of the deal
- *Forecast margin*: estimated margin by the end of the deal
- *Progress*: swap deal completion indicator
- *Days passed*

- *Days left*
- *Deal start date - End date*: the deal's period
- *Action*: contains the following controls:
  - - recalculate the deal

NOTE: Recalculation may be instrumental for deals the period of which exceeds the value of the System parameter *Max rerating interval*. Manual recalculation is available if EDRs and daily analytical cubes are available for the period to be recalculated.

  - - unblock the deal
  - - edit the deal (detailed below)
  - - clone the deal
  - - remove the deal



Deal editing

Click to open the deal editing form that appears on the right. The following parameters can be edited:

- *Manager*
- *Deal start date*
- *Number of periods*: number of periods in the deal
- *Is active*: when enabled, the deal is on
- *Send threshold alerts to manager*: when enabled, the manager receives a notification when a threshold is exceeded
- *Alert on deal mismatch*: set a percentage value. If the deal's total margin to cost ratio is below the value, a notification will be sent to the deal manager and emails specified in the field *Alert recipients, comma-separated emails.* If the checkbox *Auto block deal traffic* is selected, the deal's rates are blocked to stop the traffic processing

- *Auto block deal traffic*: when selected, traffic is blocked if the deal's total margin to cost ratio is below the value set in the field *Alert on deal mismatch*
- *Alert recipients, comma-separated emails*: set a list of recipients that will be alerted

Click *Save* to save the changes or *Close* to discard them.

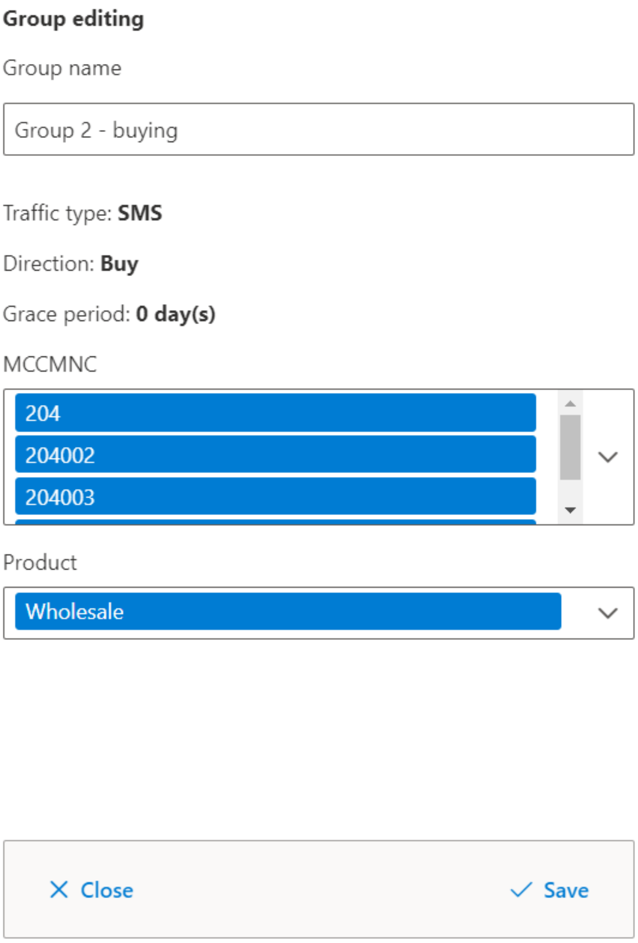
The middle section shows the destinations for a partner selected in the top table (the data is calculated based on analytical cubes). It contains the following columns:

- *Traffic type*: SMS
- *Direction*: *Sell* or *Buy*
- *Group name*: name of a group of destinations
- *Product*
- *Plan*: section that displays the following target parameters:
  - *Volume*: the target volume
  - *Daily vol.*: the estimated average volume for each day of the deal
  - *Charge*: the total cost of traffic
- *Actual as of now*: section that shows the current state of the swap deal and contains the following parameters:
  - *Volume*: the actual volume of exchanged traffic
  - *Charge*: the current cost of traffic
  - *Margin*: the actual margin
  - *Aver. sell rate*
  - *Aver. buy rate*
  - *Volume, %*: share of exchanged traffic as compared to the target volume
  - *Left vol.*: the remaining volume
  - *Daily vol.*: the average daily volume
- *Forecast by the end of the swap deal*: section that shows the projections for the *End date* of the deal:
  - *Volume*: the traffic volume that will be left by the *End date*
  - *Charge*
  - *Margin*

NOTE: The forecast values are calculated based on the data of the previous day. Suppose the deal lasts 30 days, and today is day 16. The total traffic volume for 16 days is 50,000 SMS; the volume for the previous day is 5,000. The *Volume* parameter will be calculated as 50,000 + 5,000*15.

- *Action*: contains the following controls:

- edit the destination group
- remove the destination group



Group editing

Click to open the group editing form that appears on the right. The following parameters can be edited:

- *Group name*
- *MCCMNC*
- *Product*

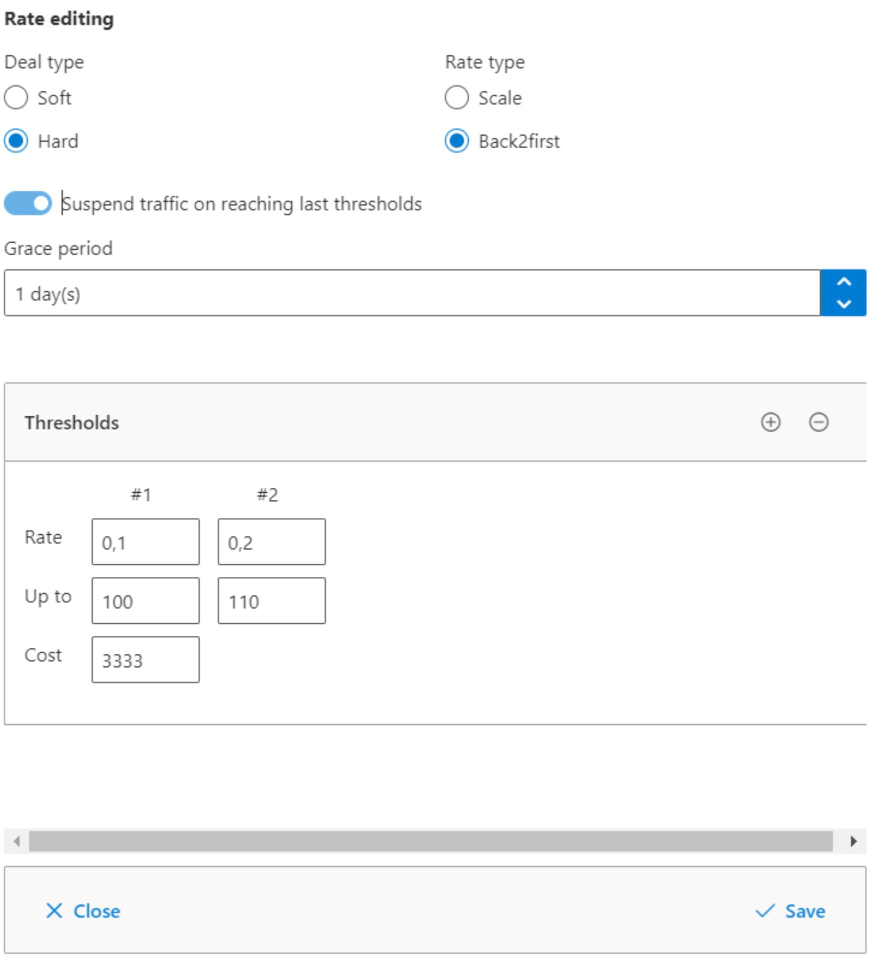
Click *Save* to save the changes or *Close* to discard them.

Group ID	Traffic t...	Group name	Direction	Deal type	Rate type	Grace period	Rate cost	Up to	Action
8	SMS	1	Buy	Hard	Back2first	0	1	1	

Rates

The bottom table serves to configure rates (in the account currency) for buying and selling the destination groups selected in the middle table. The table has the following parameters:

- *Group ID*
- *Traffic type*: SMS
- *Group name*: name of the destination group assigned by the user in the *New group* wizard (explained below)
- *Direction*: *Sell* or *Buy*
- *Deal type: Hard* or *Soft.* The *Soft* type is a regular volume-based deal (traffic cost is defined by the volume and traffic thresholds); the last threshold (volume) for such deal may be omitted - meaning that the last rate will be applied to the entire traffic exceeding the previous threshold. For the *Hard* deal type, cost is set for the first threshold - which is an obligation that the partner shall pay if the threshold is not exceeded. For *Hard* deals, traffic is automatically blocked after the last threshold is reached (and the last threshold is required)
- *Rate type*: contains one of the following values:
    - *Scale*: the rate changes after a preconfigured threshold is reached
    - *Back2first*: the rate changes after a preconfigured threshold is reached, and all traffic starting from the first minute is recalculated at the new rate
- *Grace period*: grace period that enables the partner to meet the deal conditions (first threshold). It is used in case the threshold is not met in the main period, and it can overlap the next period of the deal. If the checkbox is enabled, traffic is not taken into account in the deal period that overlaps the grace period. Example: suppose a monthly deal is created with a 5-day grace period. If the deal's conditions are not met during the month, the remaining volume to be met is moved to the first 5 days of the next month. Traffic for this (next) month will be calculated excluding these five days. Also, thresholds exceeded during the grace period do not affect the rate changes. The grace period is only applied to deals of the *Hard* type
- *Rate cost*: amount that the partner must pay if it does not fulfill its obligations in the deal (that is, if the partner does not reach the first threshold)
- *Up to #1 – Up to #5*: traffic thresholds that trigger rate changes
- *Rate #1 – Rate #5*: rate values for 5 traffic thresholds (configured in the account currency by the parameters *Up to #1 – Up to #5*). Rates are created in the product with the system *Volume-based deal* rate notes.
- *Cost #1 – Cost #5*: the cost of the entire traffic within a single threshold
- *Action*: contains the control that serves to edit the rates



Rate editing

Click to open the rate editing form that appears on the right. The following parameters can be edited (explained above):

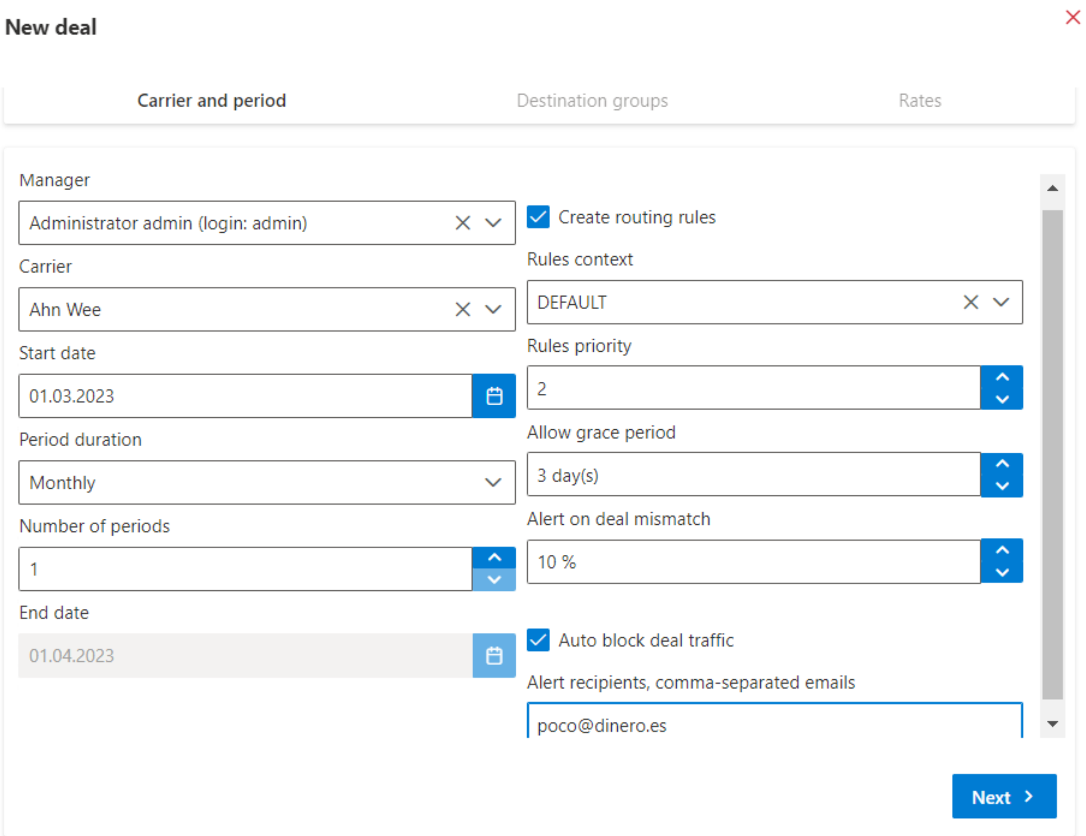
- *Deal type*: *Hard* or *Soft*
- *Rate type*: *Scale* or *Back2first*
- *Suspend traffic on reaching the last threshold*: allows stopping the deal once the last threshold is reached for *Soft* deals (enabled for *Hard* deals by default). If the *Create routing rules* checkbox is enabled for the deal (in Step 2 of the wizard), the rule changes its type to *Block* (vendor products are moved from the choice to the vendor products list of the routing rule).
- *Grace period*
- *Thresholds*: click to add a threshold or to remove one. The following threshold parameters are available:
  - *Rate*
  - *Up to*
  - *Cost*

Click *Save* to save the changes or *Close* to discard them.

8.6.1 Creating a new deal

To create a new deal, click *New deal* at the top left section of the page. Follow the *New deal* creation wizard as detailed below. The wizard contains three steps:

1. Carrier and period
2. Destination groups
3. Rates



New deal, step 1

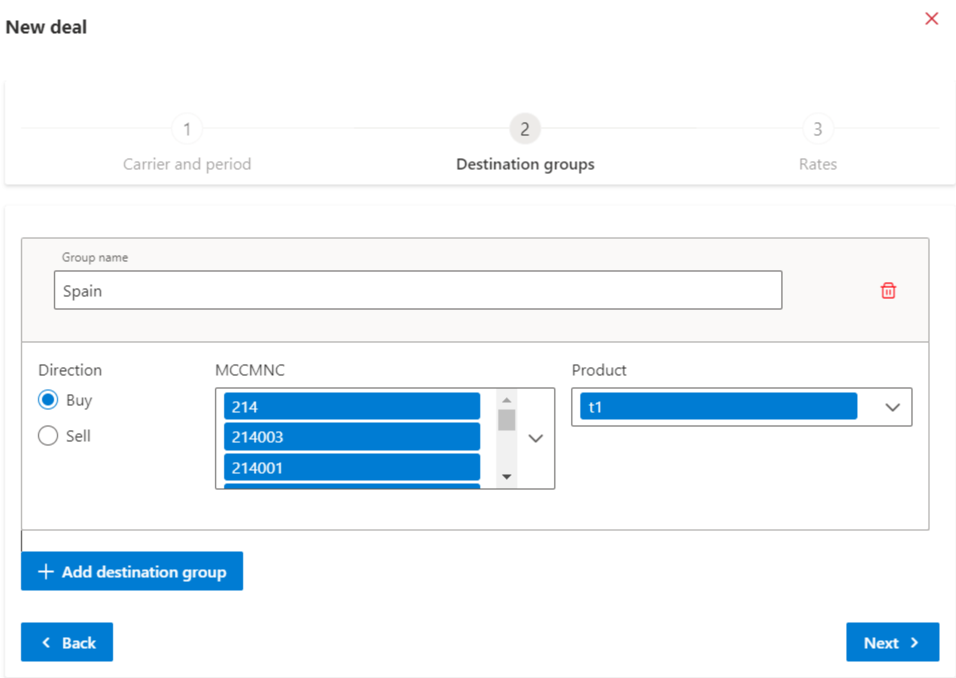
Configure the following fields:

- *Manager*: the deal's manager
- *Carrier*: the partner carrier
- *Start date / End date*: activity period of the deal. The *End date* is available only if the deal's *Period duration* is *Single deal*, otherwise the end date is calculated automatically from the deal start date, based on the selected number of periods
- *Period duration*: timeframe of the deal (*Daily*, *Weekly* etc.). If *Single deal* is selected, the deal is created for the entire period that can be arbitrary and does not have to be linked to the agreement's billing period
- *Number of periods* (available for all deal types except *Single deal*): the number of periods in a deal. Setting periods allows creating recurrent deals
- *Create routing rules*: select to create routing rules for destination groups included in the deal if the deal contains destinations with *direction = buy*. The vendor product selected for the deal group

is set as a static choice. If the vendor has several products, the choice will be dynamic with *Formula: MRG*. If the checkbox is selected, the following fields appear: *Rules context* and *Rules priority*. The rule name will be set automatically by the following template: <carrier name> (<deal ID>). The *Next* field is set to *Search within the same context*. Manual changes can be applied to these rules, but they will be overwritten by automatic changes. Please note that when the last threshold of the deal is reached, the rule type will be changed to *Block* if the setting *Suspend traffic on reaching last threshold* is enabled (set in *Step 3 - Rates*)

- *Rules context, Rules priority* (available if *Create routing rules checkbox* is selected): detailed in the bullet point above
- *Allow grace period* (0 days by default): grace period that enables the partner to meet the deal conditions (first threshold). It is used in case the threshold is not met in the main period, and it can overlap the next period of the deal. If a grace period is set, traffic is not taken into account in the deal period that overlaps the grace period. Example: suppose a monthly deal is created with a 5-day grace period. If the deal's conditions are not met during the month, the remaining volume to be met is moved to the first 5 days of the next month. Traffic for this (next) month will be calculated excluding these five days. Also, thresholds exceeded during the grace period do not affect the rate changes. The grace period is only applied to deals of the *Hard* type (set on *Step 3 - Rates*)
- *Alert on deal mismatch*: set a percentage value. If the deal's total margin to cost ratio is below the value, a notification will be sent to the deal manager and emails specified in the field *Alert recipients, comma-separated emails*
- *Auto block deal traffic*: when selected, traffic is blocked if the deal's total margin to cost ratio is below the value set in the field *Alert on deal mismatch*
- *Alert recipients, comma-separated emails*: set a list of recipients that will be alerted

Click *Next* to proceed to Step 2 of the wizard.

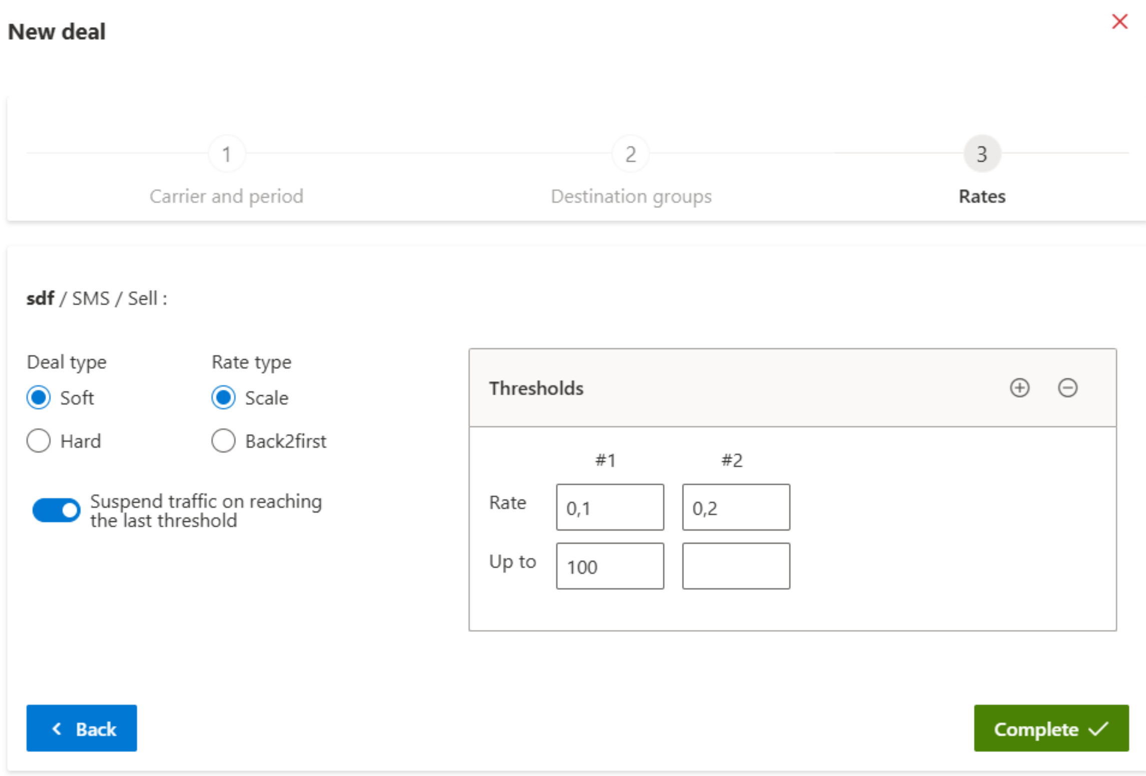


New deal, step 2

Step 2 allows creating destination groups and contains the following parameters:

- *Group name*
- *Direction (Buy or Sell)*
- *MCCMNC*
- *Product*

Click *Add destination group* to add a new group.



New deal, step 3

Click *Next* to proceed to Step 3 of the wizard. The following fields are available:

- *Deal type*: *Hard* or *Soft*. The *Soft* type is a regular volume-based deal (traffic cost is defined by the volume and traffic thresholds); the last threshold (volume) for such deal may be omitted - meaning that the last rate will be applied to the entire traffic exceeding the previous threshold. For the *Hard* deal type, cost is set for the first threshold - which is an obligation that the partner shall pay if the threshold is not exceeded. For *Hard* deals, traffic is automatically blocked after the last threshold is reached (and the last threshold is required)
- *Rate type*: contains one of the following values:
  - *Scale*: the rate changes after a preconfigured threshold is reached
  - *Back2first*: the rate changes after a preconfigured threshold is reached, and all traffic starting from the first minute is recalculated at the new rate
- *Suspend traffic on reaching the last threshold*: allows stopping the deal once the last threshold is reached for *Soft* deals (enabled for *Hard* deals by default). If the *Create routing rules* checkbox is enabled for the deal (in Step 1 of the wizard), the rule changes its type to *Block* (vendor products are moved from the choice to the vendor products list of the routing rule)

- *Thresholds*: click ⊕ to add a threshold or ⊖ to remove one. The following threshold parameters are available:
    - *Rate #1 – Rate #5*: rate values for 5 traffic thresholds
    - *Up to #1 – Up to #5*: traffic thresholds that trigger rate changes

Click *Complete* to save the changes and exit the wizard. The record will appear in the top table.

8.6.2 Creating a new destination group

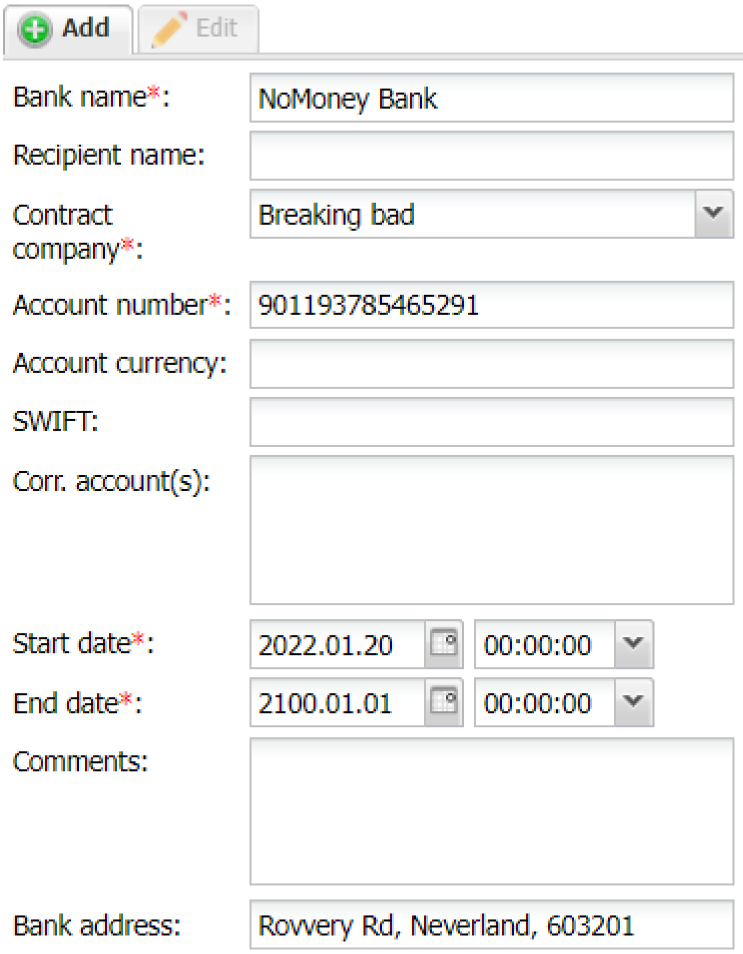
Click *New group* to create a new destination group for a record selected in the middle section. The *New group* wizard that appears is identical to Step 2 (Destination groups) and Step 3 (Rates) of the *New deal* wizard explained in section Swap deals 2.0\Creating a new deal 251.

9 Reference books

9.1 Bank accounts

The *Reference Books\Bank accounts* page contains information about the System owner's bank accounts that are used to create agreements with partners (see Carriers\Agreements 171) and payments (see Finance\Payments 228).

To create a new bank account record, use the *Add* tab as illustrated below.

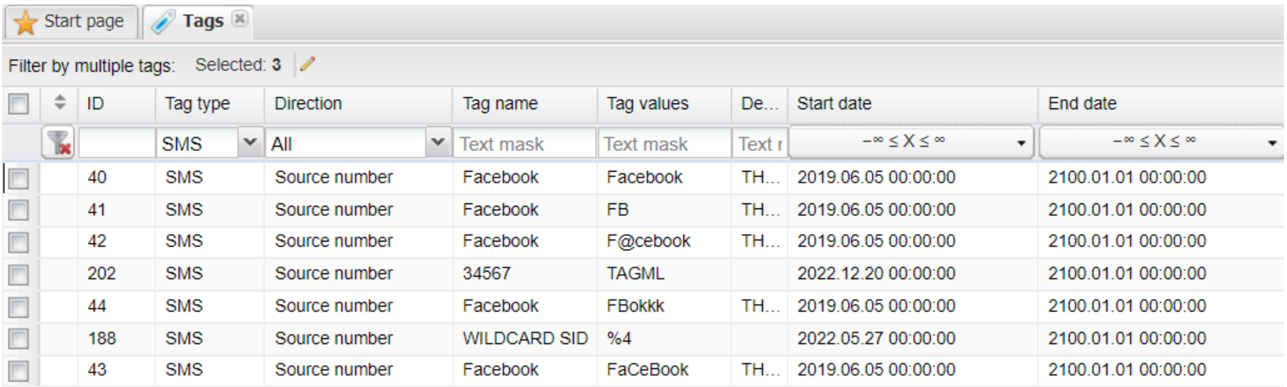


Add tab

9.2 Tags

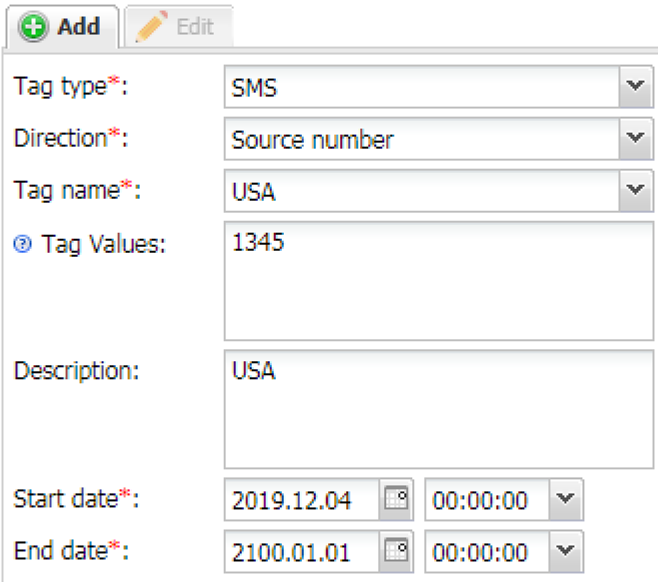
Tags are marks assigned to source/destination-numbers or their masks. Destination number tags can be used in creating routing rules and black lists. Using both numbers in routing rules, it is possible to filter traffic by a specific source and destination number combination.

The *Reference Books\Tags* page contains a table of tags and the *Add* and *Edit* tabs. Click the control next to *Filter by multiple tags* at the top of the page to filter by multiple records.



Tags table

To create a new tag, use the *Add* tab as illustrated below.



Add tab

The tab contains the following parameters:

- *Tag type*: the tag type
- *Direction*: *Source number* (for A-numbers) or *Destination number* (for B-numbers)
- *Tag name*: the tag name. To create a new tag name, expand the drop-down list, type the name in the edit field and click the button. To search for a name, type the value in the edit box
- *Tag values*: the dial code. The values can be separated by comma or line break. Extra blank spaces if any will be removed automatically (so a comma followed by a blank space can be used as a delimiter). The % symbol can be used as a wildcard at the end of the value if necessary
- *Description*: arbitrary comments
- *Start date, End date*: record validity date

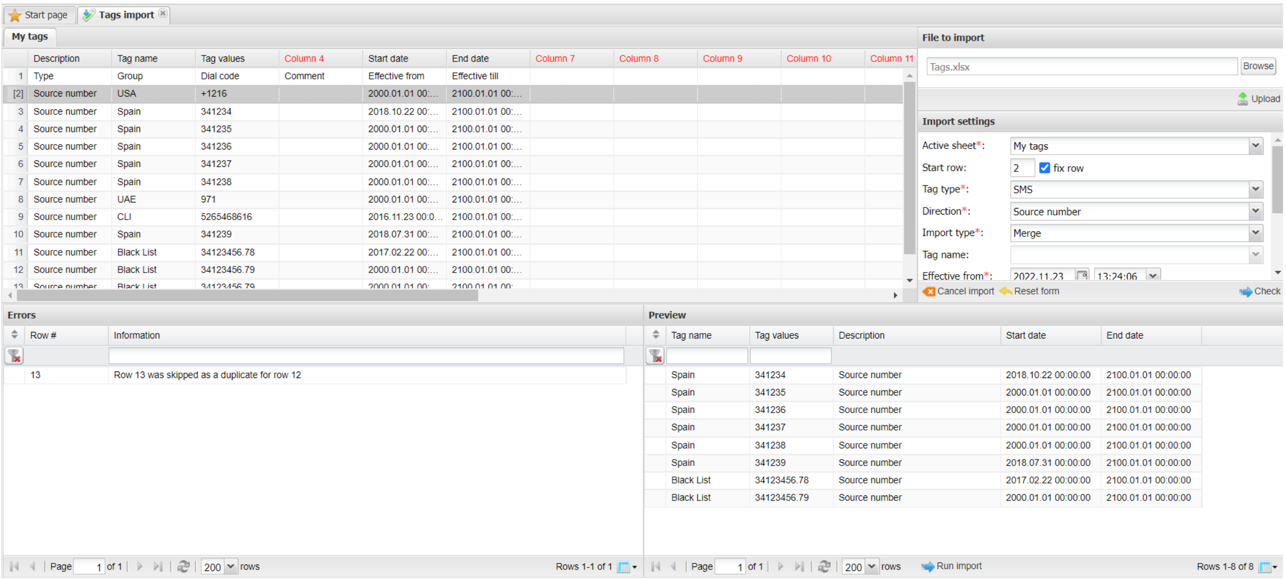
Click Submit to save the changes.

The *Edit* tab additionally contains the button **Delete tag and its contents** that serves to delete the tag and all of its values.

9.3 Tags import

The *Reference books\Tag import* section serves to import A-number and B-number tags to the System.

The page consists of the following panels: the *File to import* and *Import settings* panels at the top right; the file preview at the top left of the page; the *Errors* panel at the bottom left of the page that displays import errors and the *Preview* panel at the bottom right of the page that shows the records to be imported.



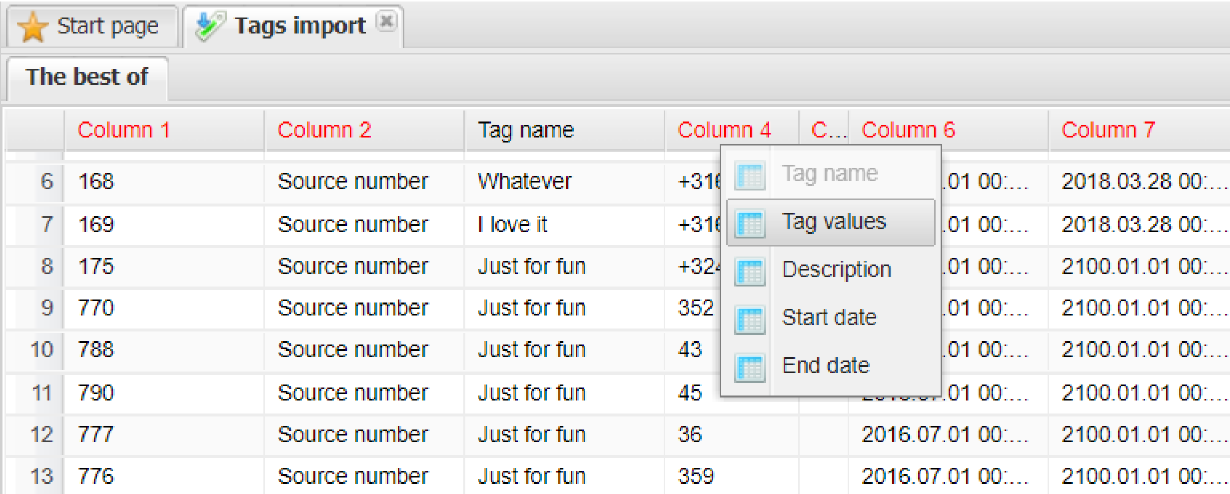
Tag import

To import a file with tags, proceed as follows:

1. In the *File to import* section at the top right corner of the page select the file with tags that need to be imported. The file must contain the following columns:
   - *Tag name*
   - *Tag values*
   - *Start date, End date*: validity period of the tag (optional)
   - *Description* (optional)

NOTE: Possible delimiters between items in the file are: comma, space, line breaks and linefeed. Excessive spaces are ignored by the System. Learn more about this in Alaris YouTube video.

2. Click **Upload**. The file preview will appear in the top left panel the way it looks in MS Excel. Everything is shown "as is" – all cell contents and the overall file structure (sequence and naming of columns and worksheets) is preserved at this stage. To prepare the file for parsing, define the column types by clicking on the headers of the table. The mandatory columns are *Tag name* and *Tag values*.



Source file preview

3. Configure the parameters at the *Import settings* panel:

- *Active sheet*: select the spreadsheet that will be parsed (in case the original MS Excel file contains several spreadsheets)
- *Start row*: define the first row with the tag data, so that the System ignores everything that is above the table in the file. Check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Tag type*: select *Voice* for Alaris inVoice or *SMS* for Alaris SMS Platform
- *Direction: Source number* (for A-numbers) or *Destination number* (for B-numbers)
- *Import type*: allows selection *of* the following import type values:
  - *Merge* (default value): new tags will be added after the file import; existing tags will be handled based on the *Close type* value
  - *Replace matching tags*: replace tag records existing in the System by those from the imported file (with the same tag name). The *Close type* and *Close date* parameters are unavailable for this option.

  Example. Suppose the following records exist in the System:

Spain	34945	2000.01.01	2020.01.01
Spain	34945	2020.01.01	2021.01.01
Spain	34946	2020.01.01	2021.01.01

  The imported file contains the following records:

Spain	34946	2020.01.01	2021.01.01
Spain	34945	2021.01.01	2100.01.01

  After import the following records will remain in the System:

Spain	34946	2020.01.01	2021.01.01
Spain	34945	2021.01.01	2100.01.01

- *Delete matching records*: remove records whose tag name and codes match the records in the file. The *Close type* and *Close date* parameters are unavailable for this option. The tag validity period that includes the *Start date* of the imported file is removed from the reference book. For example, if the *Spain* tag has two records:

  34% for the period 2000.01.01-2020.01.01

  34% for the period 2020.02.02-2020.03.03

  ...and the record in the file has the *Start date* parameter 2000.01.01, only the first record will be removed.

  Either the *Tag name* or *Tag values* column can be specified for closing matching records. The logic is as follows:

  1) If the *Tag name* field is set, the user can start import without specifying the *Tag values* column. In this case records with the same name that are active as of the *Effective from* date will be closed

  2) If the *Tag values* column is set, import can be started without the *Tag name* column. In this case records with the same tag values that are active as of the *Effective from* date will be closed

  3) If both the *Tag name* and *Tag values* columns are set, import works as earlier

  4) If neither the *Tag name* or *Tag values* column is set, import cannot be started (same as earlier)

- *Close matching records*: operates similarly to the *Delete matching records* type, only it closes matching records instead of removing them. The *Start date* and *Close date* columns can be specified during import in this mode

- *Tag name*: select the name from the drop-down list (alternatively, the tag name can be selected by assigning a column in the table). Please note that both options - assigning a column and selecting a tag name from the list - cannot be used together
- *Effective from/Effective till*: specify the validity period for the tags
- *Treat numeric tag values as masks*: when selected, the % symbol will be added to the dial codes from the file, and the System will treat them as masks. Suppose the dial code is 3451. With the option disabled, only numbers 3451 will be selected by the System. With the option enabled, the number will be treated as 3451% and all numbers having 3451 in them will be selected
- *Truncate non-ASCII characters and spaces*: when selected, non-ASCII symbols, non-printable symbols and blank spaces in the beginning or end of tags created or imported through the *Tags* or *Tags import* interfaces, get removed. The checkbox default value depends on the value of the System parameter *Truncate non-ASCII characters and spaces for tags*
- *Close type*: select how existing records must be treated if they contain the same tags as in the imported file:
  - *Only create new tag records*: add new tag records and leave all existing records as is
  - *Close all existing records*: close all existing records for the tags present in the file, and add new tag records
- *Close date* (active if *Close all existing records* is selected): the close date of existing records

Click Check to view the parsing results and errors. To clear the *Import settings* panel click Reset. To clear all panels, click Cancel import.

Errors

Row #	Information
101	Cannot add the record: it overlaps existing references for the same code 244, tag GP04 and type...
102	Cannot add the record: it overlaps existing references for the same code 994, tag GP04 and type...
103	Cannot add the record: it overlaps existing references for the same code 975, tag GP04 and type...
104	Cannot add the record: it overlaps existing references for the same code 856, tag GRPC and typ...
105	Cannot add the record: it overlaps existing references for the same code 87077, tag GRPD and t...
106	Cannot add the record: it overlaps existing references for the same code 882, tag GP04 and type...
107	Cannot add the record: it overlaps existing references for the same code 678, tag GP04 and type...
108	Cannot add the record: it overlaps existing references for the same code 1264, tag GP04 and typ...

Errors panel

The *Errors* panel displays the list of parsing errors.

Preview

Tag name	Tag values	Description	Start date	End date
Spain	341234	Source number	2018.10.22 00:00:00	2100.01.01 00:00:00
Spain	341235	Source number	2000.01.01 00:00:00	2100.01.01 00:00:00
Spain	341236	Source number	2000.01.01 00:00:00	2100.01.01 00:00:00
Spain	341237	Source number	2000.01.01 00:00:00	2100.01.01 00:00:00
Spain	341238	Source number	2000.01.01 00:00:00	2100.01.01 00:00:00
Spain	341239	Source number	2018.07.31 00:00:00	2100.01.01 00:00:00
Black List	34123456.78	Source number	2017.02.22 00:00:00	2100.01.01 00:00:00
Black List	34123456.79	Source number	2000.01.01 00:00:00	2100.01.01 00:00:00

Preview panel

The *Preview* panel shows the records that will be imported.

5. Review the errors and preview records and click Run import. Once the operation is complete, import summary will appear on the screen as shown below.

Summary

New tag(s) created: 10
New tag record(s) created: 70
Existing tag record(s) updated: 0
Existing tag record(s) closed: 9

OK

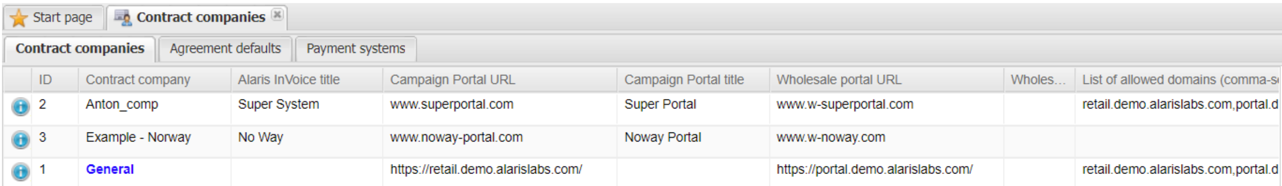
Import summary

9.4 Contract companies

The *Reference Books\Contract companies* page serves to configure the legal entities of the System owner, on behalf of which it works with its partners. A contract company encompasses a set of templates and properties used for doing business with a partner.

The page contains the *Contract companies, Agreement defaults* and *Payment systems* tab sheets. Each tab sheet has the *Add* and *Edit* tabs in the right section of the page.

9.4.1 Contract companies tab



Start page | Contract companies

Contract companies | Agreement defaults | Payment systems

ID	Contract company	Alaris InVoice title	Campaign Portal URL	Campaign Portal title	Wholesale portal URL	Wholes...	List of allowed domains (comma-s
2	Anton_comp	Super System	www.superportal.com	Super Portal	www.w-superportal.com		retail.demo.alarislabs.com,portal.d
3	Example - Norway	No Way	www.noway-portal.com	Noway Portal	www.w-noway.com		
1	General		https://retail.demo.alarislabs.com/		https://portal.demo.alarislabs.com/		retail.demo.alarislabs.com,portal.d

Table of contract companies

To create a new contract company, open the *Contract companies* tab sheet and use the *Add* tab as illustrated below.

Add | Edit

Contract company*:	Hornes and Hooves
Alaris InVoice title:	
Finance	
Invoice filename pattern:	[CompanyName]_[InvoiceDate].pdf
Invoice details filename pattern:	CLI_[XXXXXXX]_[AGR_CODE]
Invoice reference number format (inbound):	CLI_[XXXXXXX]_[AGR_CODE]
Invoice reference number format (outbound):	VEN_[XXXXXXX]_[AGR_CODE]
Current invoice number (inbound):	12 963
Current invoice number (outbound):	1 164
Credit-note reference number format (inbound):	CN_[XXXXX]_[CAR_ID]
Credit-note reference number format (outbound):	V_[XXXXX]_[CAR_ID]
Current credit-note number (inbound):	53
Current credit-note number (outbound):	23
Email address list to CC finance-related emails:	invoice@hoho.com
Email address list to BCC finance-related emails:	secret_service@hoho.com
The date after which the billing period is considered closed:	2025.08.25
Email address to CC rates updating:	rates@hoho.com
Email address to BCC rates updating:	secret_service_rates@hoho.com
Receive balance/credit alerts:	All carriers; Selected: All
Email address list*:	admin@hoho.com,secretary@hoho.com
List of allowed domains (comma-separated):	www.campaigns-hoho.com,www.haha.com,hoho.com
List of MCCs to be ignored during rate import:	101,102
	☑ Default for self-registered partners

Add tab

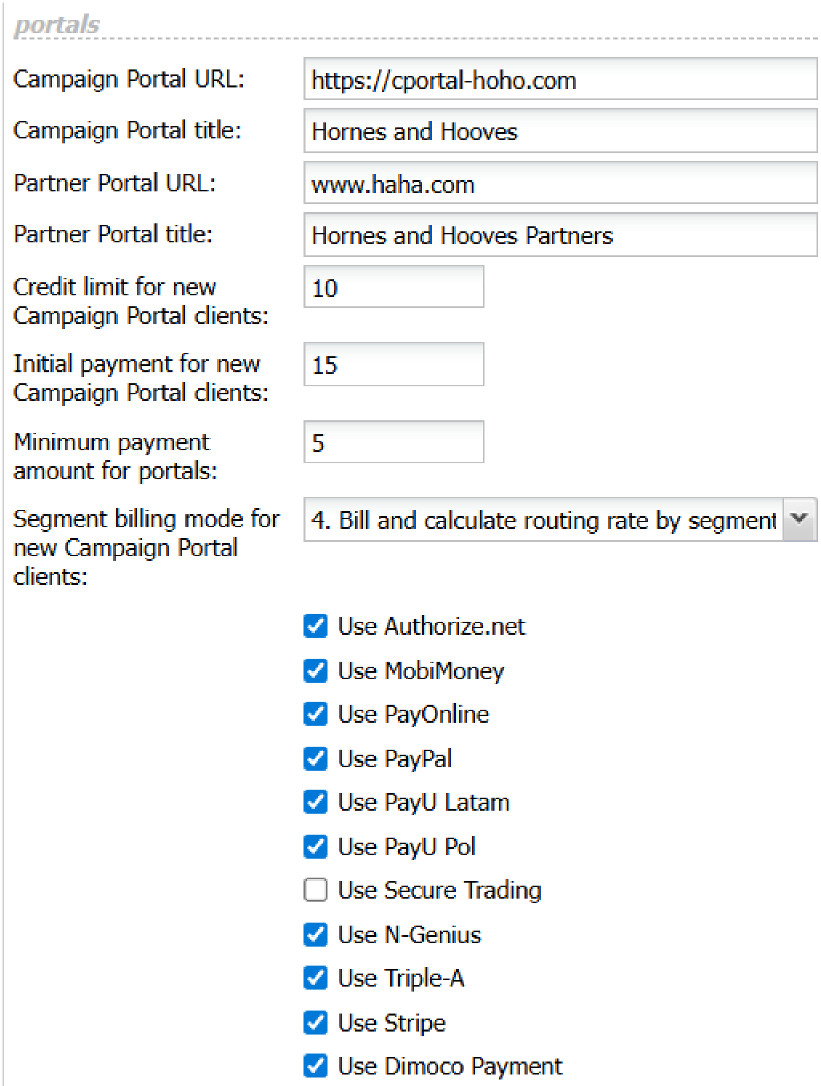
The tab contains the following parameters:

- *Contract company*: the name of the legal entity
- *Alaris Invoice title*: name of the System that can be used in emails about user registration, password change and the like
- *Invoice filename pattern*: the filename pattern of the invoice cover sheet
- *Invoice details filename pattern*: the filename pattern of the invoice traffic details file
- *Invoice reference number format (inbound/outbound):* if left empty, the value is obtained from the *Invoice reference number format* system parameter
- *Current invoice number (inbound/outbound):* if left empty, the value is obtained from the *Current invoice number* system parameter
- *Credit-note reference number format (inbound/outbound):* if left empty, the value is obtained from the *Invoice reference number format (inbound/outbound)* parameter on the contract company level. If both parameters are blank, the System parameter *Invoice reference number format* is used
- *Current credit-note number (inbound/outbound)*: if left empty, the value is obtained from the *Current invoice number (inbound/outbound)* parameter on the contract company level. If both parameters are blank, the value is obtained from the System parameter *Current invoice number*
- *Email address list to CC finance-related emails*: defines the additional email addresses for invoice delivery
- *Email address list to BCC finance-related emails*: defines the additional email addresses for invoice delivery
- *Email address to CC rates updating*: email address for sending a copy of rate updates
- *Email address to BCC rates updating*: comma-separated emails for sending a copy of exported rates
- *Receive balance/credit alerts.* The field is similar to the System parameter *Credit and balance alarms default email (null - do not use it)*. Possible values include:
    - *All carriers*: send balance and credit alarms on all partners of the contract company
    - *Inclusive list*: send notifications on specific partners belonging to the contract company
    - *Exclusive list*: send notifications on partners belonging to the contract company, except for the specified ones
    - *Do not receive*: do not send notifications on balances and credit limits for partners of this contract company

  If a value other than *Do not receive* is selected, the *Email address list* field becomes available for specifying the list of addresses (comma separated) to which notifications will be sent additionally (in the *BCC* field) (if the corresponding threshold has been exceeded).

  The field is independent of the *Send balance alerts* flag of the account. For example, if the flag is enabled for a partner, but this partner is in the exclusive list at the contract company level, notifications will not be sent to the list of addresses from the respective contract company.

- *List of allowed domains (comma-separated):* list of domains assigned to the contract company. It is possible to use one and the same domain for different contract companies. The value can be specified as a domain name (for example, great.mainweb.com) or mask (for example, *.alarislabs.com)
- *List of MCCs to be ignored during rate import*: specify comma-separated MCCs that will be ignored during rate import (both automatic and regular). The rate can be still added using SMS\Rates\Rate editor 399. Also see the Alaris YouTube video
- *Default for self-registered partners:* select to assign the contract company to all newly registered partners (it is recommended to select the checkbox if users are allowed to register through the portals). User registration through the Partner and Campaign portals are allowed by the parameter *Allow portals user self-registration (0 - no, 1 - yes)* in Administration\System settings\Portals 71.



Add tab, continued

- *Campaign Portal URL*: link to Alaris Campaign Portal 583
- *Campaign Portal title*: name of the Campaign Portal that can be used in emails about user registration, password change and the like
- *Partner Portal URL*

- *Partner Portal title*: name of the Partner portal that can be used in emails about user registration, password change and the like
- *Credit limit for new Campaign Portal clients*: the credit limit that is automatically assigned to a newly registered user of Alaris Campaign Portal
- *Initial payment for new Campaign Portal clients*: the amount that is automatically added to the balance of a newly registered user of Alaris Campaign Portal

NOTE: Decimal places can be used. If the parameter is left blank, the System takes the value from the same name parameter in Administration\System settings\Portals 71. If the value is set to *0*, no amount will be added to the balance during registration.

- *Minimum payment amount for portal*: minimum payment amount for Alaris Campaign Portal 583 or the Partner portal 632
- *Segment billing mode for new Campaign Portal clients*: serves to set the SMS billing option for a specific contract company. To set the billing mode for all contract companies, use the parameter *Segment billing mode for new Campaign Portal clients (1-5)* in Administration\System settings\Portals 71. Possible values include:
  - *1. Bill by messages, exclude vendors with segment billing*
  - *2. Bill by messages, include vendors with segment billing*
  - *3. Bill by segments, calculate routing rate by message*
  - *4. Bill and calculate routing rates by segments*
  - *5. Bill by messages/segments depending on vendor mode*

NOTE: This parameter is used only in case the Campaign Portal user subscribes to an SMS pack. When the user subscribes to a specific rate plan, the billing mode is inherited from the respective parent product. See also the Alaris YouTube video.

- *Use Authorize.net, Use Mobimoney, Use PayOnline, Use PayPal, Use PayU Latam, Use PayU Pol, Use Secure Trading, Use N-Genius, Use Triple-A, Use Stripe, Use Dimoco Payment*: select appropriate checkboxes to allow the respective payment systems in Alaris Campaign Portal 583 and the Wholesale 623/Partner portal 632

NOTE: As MobiMoney can only use Rubles, if Rubles are not configured as a currency in Reference books\Currency exchange rates 270, the System will not allow using the payment platform and will return an error.

NOTE: As Authorize.net supports only payments in USD, the payment system is available if the account is in USD.

NOTE: The Wholesale portal 623 supports the use of the following payment systems: Authorize.net, PayPal, Payonline, Stripe. The Partner Portal 632 supports the same payment systems along with N-Genius, Triple-A.

When necessary, use markers in the above parameters. Markers are alphanumeric strings in square brackets that serve as placeholders of information used in documents. For the list of markers supported by the System, see Administration\Template manager\Templates and markers 106.

NOTE: Prior to inserting markers in the *Add* tab fields, check that they are configured in System settings\Financial module 61 (*Invoice reference number format* parameter) and Administration\System settings\Template manager 104.

Click Submit to save the changes.

The *Edit* tab additionally contains the following controls:

- *Campaign Portal Terms & Conditions* and *Partner Portal Terms & Conditions* fields that allow adding the text of Terms and Conditions. The user is asked to agree with them when registering through the Alaris Campaign Portal 583 or the Partner portal 632 or resetting the password through the password reset link. Click Add text *Add text* to configure the text. The Terms and Conditions can be loaded directly on the Campaign Portal server. The System uses domains specified in the *List of allowed domains (comma-separated)* field to select the appropriate Terms and Conditions for a specific Contract company. First, the System checks whether the appropriate Terms and Conditions are located in the *Reference books\Contract companies* interface. If none are found, the System searches on the Portal server. If none are found there, no Terms and conditions are displayed to the user. Terms and conditions are downloaded to the Portal server by request. To do this, contact the Alaris technical support team. If the Terms and conditions have been modified, the user is asked to accept them upon the next login to the interface.

- *Partner Portal customization*: contains the *Set customization* button that allows adding a logo and favicon for Partner Portal 632. If no files are provided, the default Alaris Labs logo and favicon will be shown.

9.4.2 Agreement defaults tab

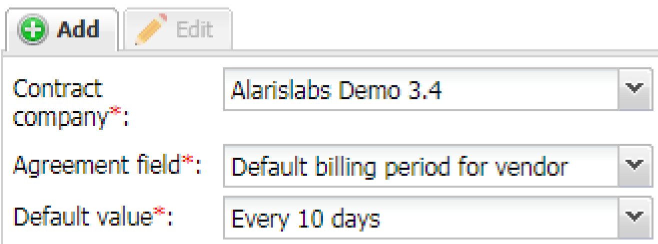
The *Agreement defaults* tab sheet allows setting default values for the Carriers\Agreements 171 page parameters (when an agreement is being created directly in the interface) such as credit limits, billing periods and email lists for each contract company.

Contract companies | **Agreement defaults** | Payment systems

ID	Agreement field	Default value	Contract company
			All
3	Default credit limit for client	35	Alarislabs
6	Default billing period for vendor	Weekly	Alarislabs
5	Default billing period for client	Monthly	Alarislabs
7	Default credit limit for vendor	888	Alarislabs

Agreement defaults

To add a new default value, use the *Add* tab as illustrated below.



Add agreement default

Select the appropriate values in the following drop-down lists:

- *Contract company*

- *Agreement field*: field in the Carriers\Agreements[171] page
- *Default value*

NOTE: Empty default values are allowed for the following fields: *Default credit limit for client*, *Default credit limit for vendor*, *Default DID credit limit for client* and *Default DID credit limit for vendor*.

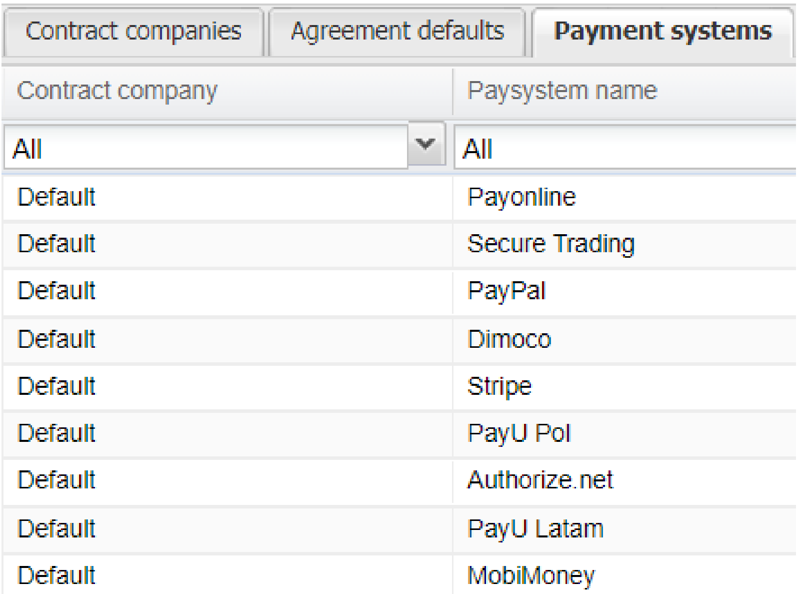
Click *Submit* Submit to save the changes.

9.4.3 Payment systems tab

The *Payment systems* tab sheet contains information about the supported payment systems. The Partner and Campaign Portals support the following payment systems: Authorize.net, PayPal, Payonline, Stripe. The following payment systems are available only for the Campaign Portal: MobiMoney, PayU Latam, PayU Pol, Secure Trading, Dimoco. The following payment systems are available only for Partner Portal: N-Genius, Triple-A.

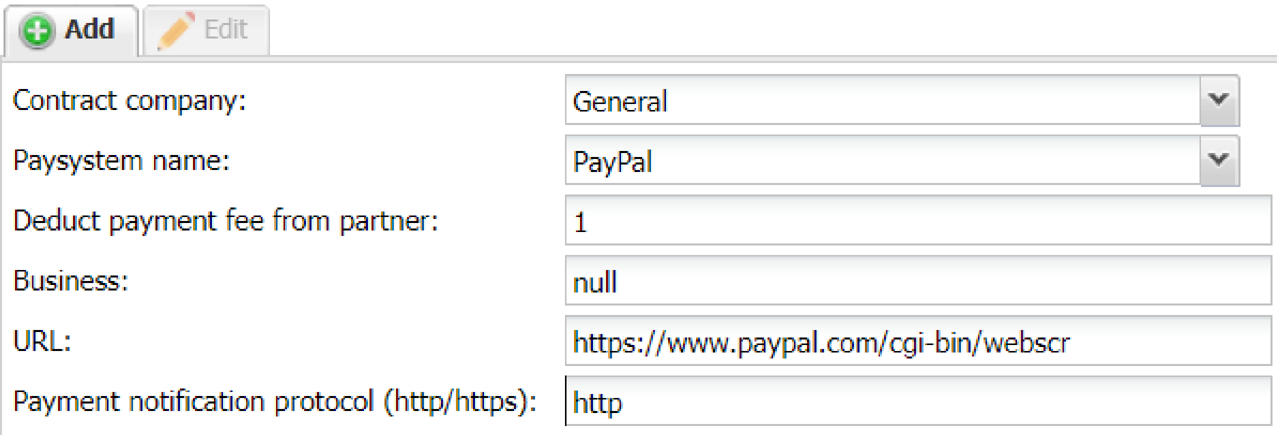
NOTE: Prior to configuring payment systems, an account must be registered at the respective payment system.

NOTE: Entries on the *Payment systems* tab will be grayed out if the values for the payment system are completely inherited from the Default contract company. If at least one value of the payment system has been overridden for a particular contract company, the entries will be in the usual (black) color.



Payment systems

Payment systems are configured for each contract company separately. To add a new payment system for a specific contract company, use the *Add* tab at the right as shown below.



Add payment system

Configure the following fields:

- *Contract company*: select the appropriate contract company
- *Paysystem name*: select the payment system. Based on the selected system, configure the fields that appear:
  - For Authorize.net: authorization parameters for the service:
    - *Billing address*: possible values are *true/false*. If set to true, when a Campaign Portal or Partner Portal user makes a payment through Authorize.net, the payment form will contain the additional *Billing address* field
    - *Transaction Key*
    - *API Login ID*
  - For Dimoco: authorization parameters for the service:
    - *Dimoco Gateway url*
    - *Username*
    - *Shared secret*
    - *Password*
    - *API key*
  - For MobiMoney: authorization parameters for the service:
    - *Login*
    - *Terminal ID*
    - *Password*
    - *Article ID*
    - *Use Orange data*: enable sending a request to generate a receipt by Orange data online pay-box
  - For N-Genius: authorization parameters for the service:
    - *Account ID*

    - *Outlet reference*
- For Paypal:
    - *Deduct payment fee from partner*: when set to 1, PayPal payments will be created with the full amount without the deducted fee. When set to 0, PayPal payments will include the deducted fee (default behavior)
    - *Business*: authorization parameter for the accounts belonging to Paypal (e-mail address)
    - *URL*: URL used for confirmation of Paypal payments
    - *Payment notification protocol (http/https)*: allows specifying the protocol (http or https) for receiving IPN notifications during payment registration. The default value is *http*

NOTE: It is now possible NOT to process payments from the PayPal payment system received with the *protection_eligibility=Ineligible attribute*. When receiving such payment the 200OK response will be returned, and the payment will not be registered. To enable the logic, contact the Alaris technical support team and report the code BZ43430.

- For PayU Latam: authorization parameters for the service:
    - *API key*
    - *Account ID*
    - *Merchant ID*
- For PayU Pol: authorization parameters for the service:
    - *SecretKey*
    - *MerchantPosID*
    - *SecondKey*
    - *ClientID*
- For PayOnline: authorization parameters for the service:
    - *MerchantId:*
    - *PrivateSecurityKey*
- For Secure Trading: authorization parameters for the service:
    - *Site reference*
    - *Merchant email*
    - *Password*

NOTE: To enable processing notifications from the payment system, contact Secure Trading to confirm the use of hash to protect payments and communicate its calculation procedure: currencyiso3a, mainamount, sitereference, version, stprofile, ruleidentifier, stdefaultprofile, merchantemail, allurlnotification, stextraurlnotifyfields, sitesecuritytimestamp, password.

- For Stripe: authorization parameters for the service:
    - *Publishable key*
    - *Secret key*

    - *Fee*: takes the values *true* or *false*. This field allows deducting the exchange rate from the credited amount if the user tops up the balance in a currency other than the user's account currency. For example, if the user has an account in SGD and adds 1 USD to the account, the logic with the *true* value is as follows: the System receives the exchange rate from Stripe (for example, 1.39015) and the fee in USD (for example, 0.55). It then performs reconversion (to calculate the fee in USD): $0.394. This fee will be deducted from the added amount. As a result, the user will add 0.606 USD to the balance

  - Triple-A: authorization parameters for the service:

    - *Client ID*

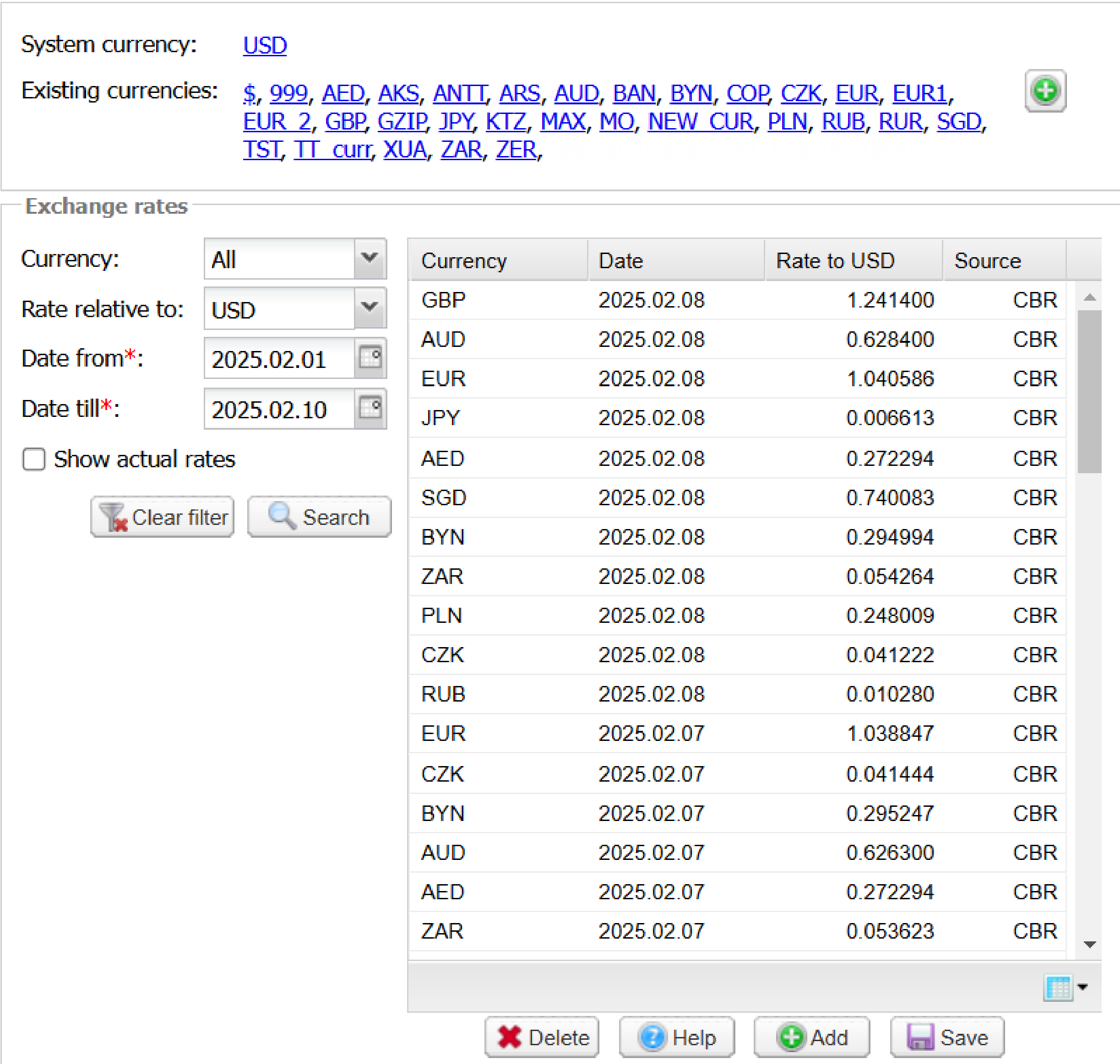
    - *Client Secret*

    - *Merchant key*

Click Submit to save the changes.

9.5 Currency exchange rates

The System supports multi-currency billing based on exchange rates to translate different currencies to the System currency. The *Reference Books\Currency exchange rates* page serves to manage the currencies used by the System owner's partners and keep their exchange rates up-to-date.

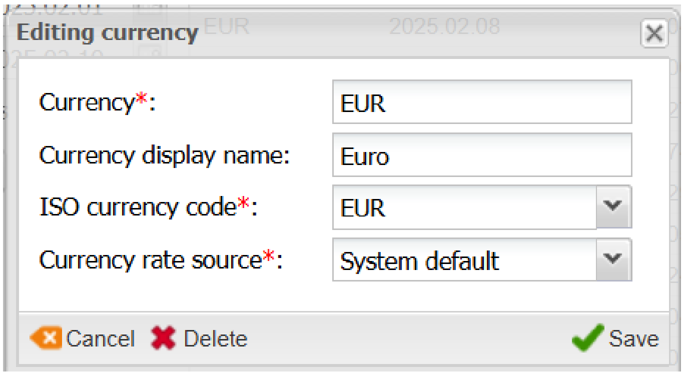


Currency exchange rates

The page contains the following information:

- *System currency*: the actual System currency (configured in Administration\System settings\Common\System currency code 49)
- *Existing currencies*: other currencies configured in the System

Click the link with the currency code to open the *Editing currency* window:



Editing currency

Enter the appropriate parameters in the corresponding fields:

Currency: the currency name (code) reflected in the System and used in financial templates. The name is also used to auto-fetch currency exchange rates

Currency display name: the currency name for financial templates (for example, to replace [CurrencyName])

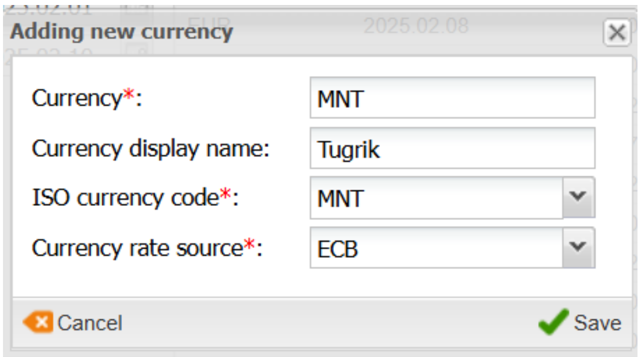
ISO currency code: the ISO code of the currency (used to handle payments via third-party payment systems, for example, *Stripe*)

The *Currency rate source* field serves to select the currency update source. Possible values are:

- *System default*: the value will be taken from the System parameter *Currency update source (1 - BNR, 2 - ECB, 3 - CBR, 4 - ECBf, 5 - NBU, 6 - LCB, 7 - NBRB, 8 - MAS, null - disabled)*
- *Manual*: the currency rate will not be updated automatically
- Other value (for example, *ECB*): the exchange rate will be updated from the specified bank

Click Save to confirm or Cancel to discard the settings. Click Delete to delete the currency.

The button opens the *Adding new currency* window:



Adding new currency

Enter the required parameters in the corresponding fields. Click Add currency to confirm or Cancel to discard the settings.

The bottom of the page contains exchange rates, which can be filtered by the currency name or validity period. Specify the values in the fields *Currency*, *Date from* and *Date till.* Select *Show actual rates* to display only exchange rates valid as of the current moment. Additionally, the field *Rate relative to* serves to select the currency relative to which other currencies will be displayed in the main table in the *Rate to* column. For example, if the currency is EUR and USD is in the *Rate to* column, value of 1.11 means "1 EUR contains 1.11 USD" (or a reverse rate: 1 USD = 0.901 EUR).

Click Search to filter the records.

Add or delete the exchange rates using the Add and Delete buttons respectively. Recently updated but not saved records are marked in red reminding to click the Save button before leaving the page. Exchange rates can be added, deleted and edited for the present, past and future periods. Exchange rate changes for past periods cause statistics recalculation, which is a time and resource consuming procedure, especially for huge traffic volumes.

The exchange rate values are defined as the cost of 1 currency unit in the System currency. For example, if the System currency is USD and 1 EUR = 1.4 USD, the exchange rate for EUR will be 1.4. This tip is opened by clicking the Help button at the bottom of the page.

Currency exchange rates can be downloaded automatically with the help of the System parameter *Currency update source* (Administration\System settings\Common[49]).

9.6 Product types

The *Reference Books\Product types* page contains information on the type of products registered in the System. Records highlighted in red are System product types and cannot be edited.

Product types can be used for the following purposes:

- In Carriers\Products[180] the user specifies the *Product type* when creating a new product; it is also possible to filter product records by the *Product type* column
- In Finance\Recurring fees[236] the user specifies the *Product type* field when creating regular charges to partners for continuous services such as server or data channel rental
- In Finance\Charges[211] the user specifies the *Product type* field when creating a new charge detail record; it is also possible to filter charge records by the *Product type* field
- In Finance\Invoices[217] the user can filter records by the *Product type* field
- The user can set the Product type properties *Unit* and *Description* in the markers [ChargeUnit] and [ChargeDescription] that are used in invoice templates (see more in Administration\Template manager[104])

The page is divided in two sections. The left section is a table of product types. The table contains the following information:

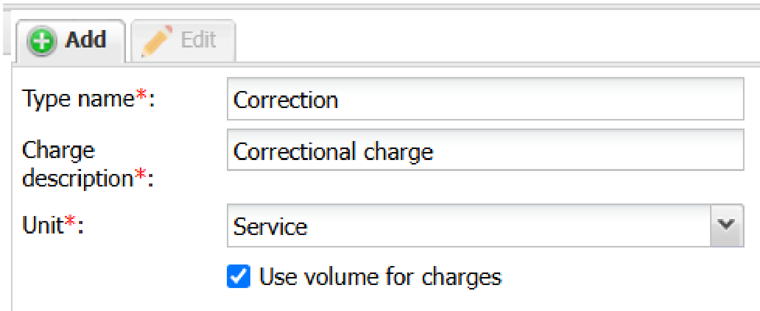
Start page | Product types

ID	Type name	Charge description	Unit	Finance only
5	Balance correction	Balance correction	Service	Yes
100	Correction	Correction charges	Service	No
6	DID	Voip traffic	Minute	No
8	DID/TFN fees	DID/TFN fees	Service	Yes
7	HLR	SMS	SMS	No
1	International	Voip traffic	Minute	No
102	Long number	Subscription fee for a number	Pcs	No

Product types

- *ID*: internal identification number
- *Type name:* name of the product type (the types highlighted in red are System types and are not editable)
- *Charge description*: description of the chargeable services
- *Unit*: measurement unit
- *Finance only*: product types with the value *Yes* in this column are not displayed in Carriers\Products 180 and cannot be used to create new products. They can only be used in Finance\Charges 211 for creating charges and in Finance\Invoices 217 when filtering invoices. Product types created by the user have *No* in the *Finance only* column. See also the Alaris YouTube video

The right panel contains the *Add* and *Edit* tabs.



Add tab

The tabs contain the *Use volume for charges.* If selected, the [ChargeVolume] marker used in financial templates (for example, *Invoice* and *Invoice details*) will be replaced by the *Service count* value (configured in Finance\Charges 211), which is filled in when creating a manual charge for this custom product type.

Enter the above listed parameters in the appropriate fields. When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record.

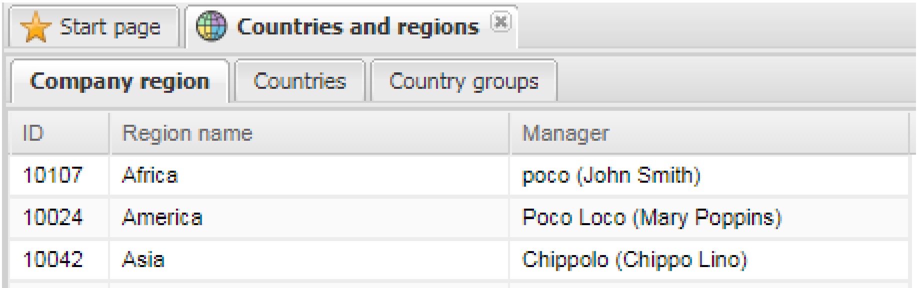
9.7 Countries and regions

The *Reference Books\Countries and regions* section serves to create lists of regional managers and region sets, which are used on the SMS\Analytics 363 page as a statistical layer component (*Client/Vendor Managers*, *Client/Vendor Region*).

9.7.1 Company region

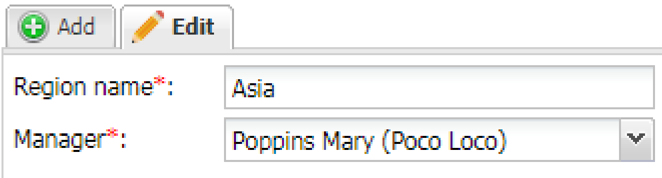
The *Company region* table contains the following information:

- *ID*: internal identification number
- *Region name*: name of the region
- *Manager*: name of the manager responsible for the region



Company region

The *Add* and *Edit* tabs in the upper right corner of the page allow assigning managers to regions. To activate the *Edit* tab, click on the record in the table. Enter the parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



Add and Edit tabs

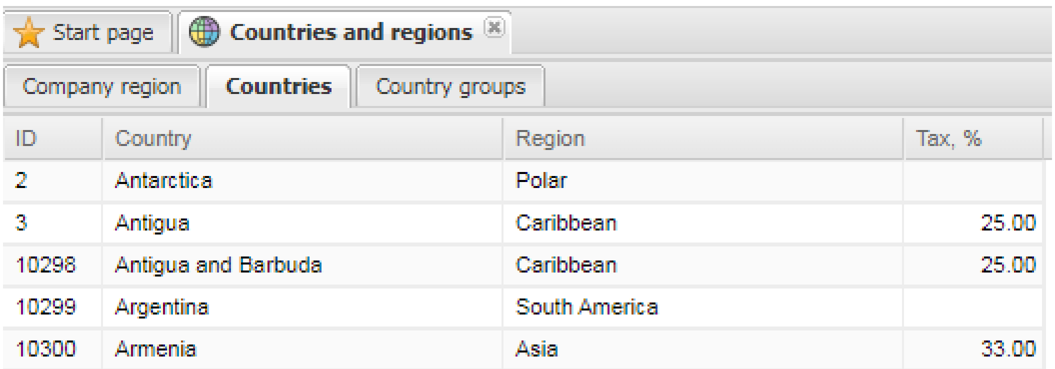
When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record.

9.7.2 Countries

The *Countries* page contains two tables: the top table shows information about the countries, and the bottom table serves to configure tax rates for the country selected in the top table (applicable to Alaris SMS Platform only).

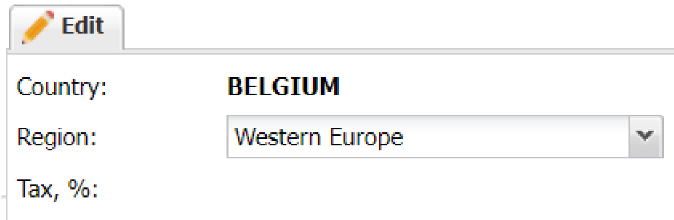
The top table shows the following information:

- *ID*: internal identification number
- *Country*: name of the country
- *Region*: name of the region
- *Tax, %*: the applicable country-specific tax rate



Countries

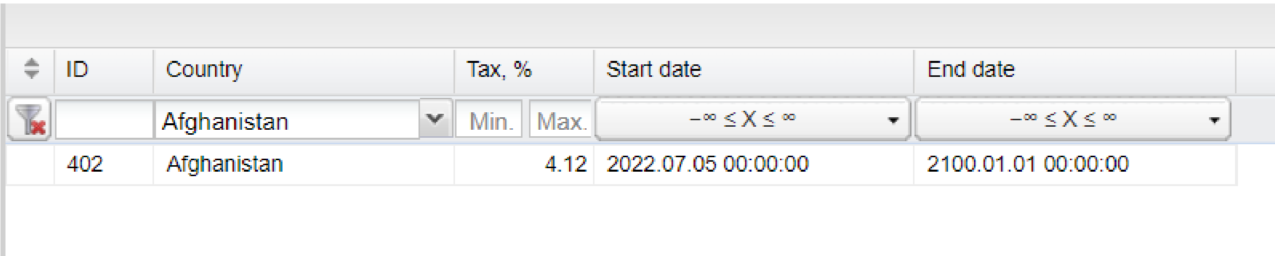
The *Edit* tab in the upper right corner allows assigning countries to regions. Also, the tab shows the tax rate (correct to the second decimal place) assigned for the country in the bottom table.



Edit tab, top section

Click *Submit* Submit to confirm or *Reset* Reset to discard the settings.

NOTE: If all records mentioning a country are removed from SMS\Reference books\e.212/e.164 reference book editor 439, the country is removed from the System.

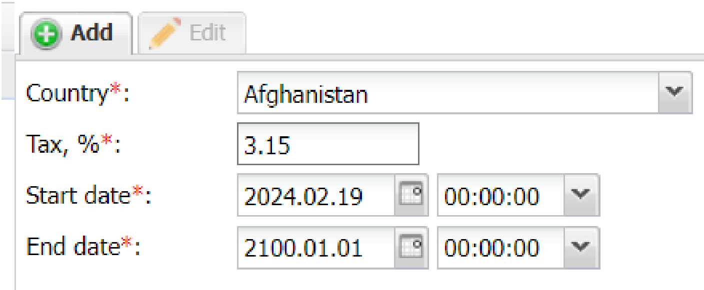


ID	Country	Tax, %	Start date	End date
	Afghanistan	Min. Max.	−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞
402	Afghanistan	4.12	2022.07.05 00:00:00	2100.01.01 00:00:00

Bottom table

The bottom table shows the following information:

- *ID*: internal identification number
- *Country*: name of the country
- *Tax, %*: the applicable country-specific tax rate
- *Start date*, *End date*: the tax rate validity date



Add/Edit tab, bottom section

The *Add/Edit* tab at the bottom right section allows assigning the country-specific tax rate and its validity period. It is used for country-based tax billing (configured in Carriers\Agreements 171, applicable to Alaris SMS Platform only).

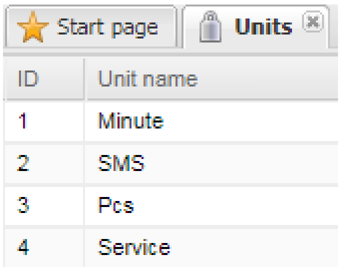
9.7.3 Country groups

The *Country groups* page allows grouping countries for configuration of the Alaris inVoice.

9.8 Units

The *Reference books\Units* page contains information on measurement units used in the System.

The page is divided in two sections: the table of units and the *Add/Edit* tabs. The table contains the following information:



Units

- *ID*: internal identification number
- *Unit name*: name of the unit

The *Add* and *Edit* tabs allow adding new records or editing existing ones. To activate the *Edit* tab, click on the record in the table. Enter the unit name in the corresponding field.

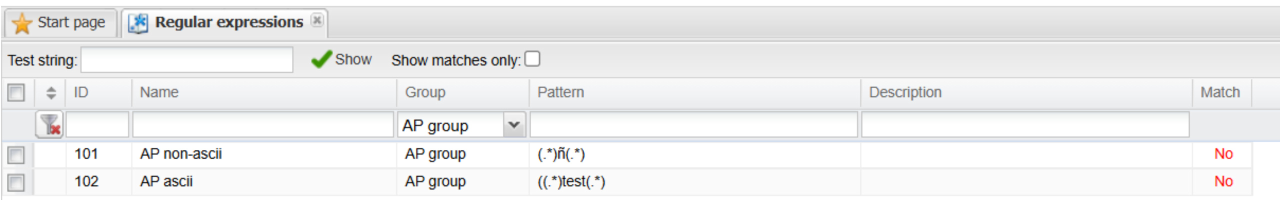
Add tab

When through with defining the parameters, click Submit to confirm or Cancel to discard the settings. Click Delete to delete the selected record.

9.9 Regular expressions

The *Reference books\Regular expressions* interface serves to create regular expression templates. This will speed up the routing rules creation process. Regular expressions are used in the following interfaces: SMS\Routing\Routing rules 462 and SMS\Routing\Translation rules 503.

The page is divided in two sections: the table of regular expression templates and the *Add/Edit* tabs. The table contains the following information:



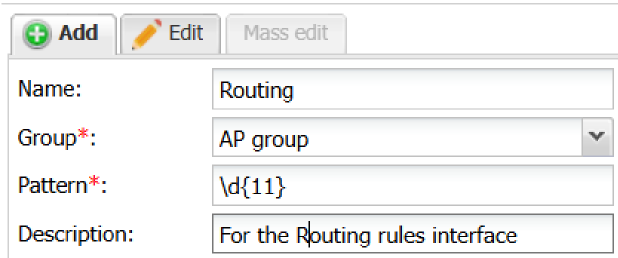
Regular expression templates

- *ID*: internal identification number
- *Name*
- *Group*: shows the group assigned to the regular expression. Groups can be specified when editing SMS routing and translation rules (in the fields *Sender ID pattern group*, *Content pattern*

group, *Dest. number pattern group)* - see SMS\Routing\Routing rules\Rules page[464] and SMS\Routing\Translation rules[503].

- *Pattern*: the expression pattern
- *Description*
- *Match*: possible values are *Yes* or *No*. The field serves to see if the pattern matches the string entered in the *Test string* field (see below for more details)

The *Add* and *Edit* tabs allow adding new records or editing existing ones. To activate the *Edit* tab, click on the record in the table. Enter the name, pattern and description. The *Mass edit* tab allows editing several records at once. It becomes active if multiple records are selected in the table.



Add tab

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Clone to create a copy of a record selected in the table. This is helpful in configuring another record with similar parameters. Click Delete to delete the selected record.

Additionally, the user can verify that the expression matches a supplied string. Enter the string in the *Test string* field at the top of the page and click *Show*. The *Match* column in the table will display *Yes* or *No*, marking records that match the test string and those that do not. To filter only matching records, select the *Show matches only* checkbox.

Example. Suppose the user creates a template with the following parameters:

Name: Verification

Pattern: Your verification code is \d*

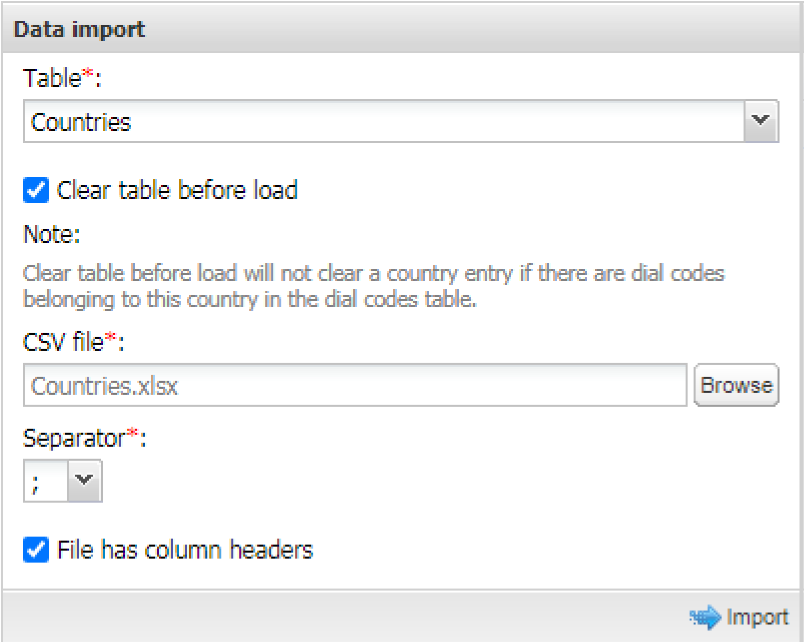
The user will be able to select *Verification* in the *Text pattern* drop-down list of the *Translation rules* interface. There will be no need to enter the regular expression.

9.10 Data import

Check out the video tutorial on data import at the Alaris YouTube channel.

The *Reference books\Data Import* page allows import of the following reference books:

- *LERG6* applicable to Alaris inVoice Systems only
- *Dial codes*: applicable to Alaris inVoice Systems only
- *Countries*: names of countries supported by the System
- *Destination types*: applicable to Alaris inVoice Systems only



Data import

To upload new data to the System:

1) Select the required book in the *Table* drop-down list.

2) Carefully read the *Note* that appears after the *Table* is selected and select the *Clear table before load* checkbox if necessary. This checkbox defines whether the data in the updated table is overwritten (checkbox selected) or merged with the fresh data from the file.

NOTE: The checkbox *Clear table before load* does not clear a country entry if there are dial codes belonging to this country in the dial codes table.

3) Select the csv file to upload using the Browse button.

4) Select the separator (“;”, “,”, “/” or “\”) from the drop-down list.

5) Select the *File has column headers* checkbox if necessary.

6) Click Import to import the requested data.

The import operation will appear in the table of tasks as shown below.

Tasks

Task ID	Task created	Table	Clear table befo...	Task status	Details	User name
	-∞ ≤ X ≤ ∞			All		All
TASK15339...	2021.02.08 11:54:24	Countries	Yes	ready	71 records succ...	Tatiana
TASK15339...	2021.02.08 11:54:17	Countries	Yes	ready	71 records succ...	Tatiana
TASK15339...	2021.02.08 11:54:14	Countries	Yes	ready	71 records succ...	Tatiana
TASK15339...	2021.02.08 11:54:11	Countries	Yes	ready	71 records succ...	Tatiana
TASK15339...	2021.02.08 11:53:56	Countries	Yes	ready	71 records succ...	Tatiana
TASK15339...	2021.02.08 11:53:32	Countries	Yes	ready	71 records succ...	Tatiana
TASK15339...	2021.02.08 11:53:27	Countries	Yes	ready	71 records succ...	Tatiana
TASK15275...	2021.02.01 13:40:31	Countries	No	ready	1 records succe...	kate
TASK14785...	2020.11.16 12:51:58	Countries	Yes	ready	Import failed. R...	KA
TASK14757...	2020.11.04 12:18:37	Countries	No	ready	0 records succe...	kate

Page 1 of 1 | 200 rows | Rows 1-107 of 107

Table of tasks

9.11 Datetime patterns

The *Datetime patterns* reference book allows creation of custom date and time patterns and their subsequent use in interfaces - for example, in the Rate import 420 and EDR reconciliation 380 interfaces. The patterns will be displayed in the *Date format* fields of the respective interfaces.

The page is divided in two sections: the table of datetime patterns and the *Add/Edit* tabs.

Start page | Datetime patterns

ID	Date format	Date type
		All
100	DD MON YYYY	DATE
101	DD.MM.YYYY	DATE
102	MM.DD.YY	DATE
103	MM.DD.YYYY	DATE
104	YYYY.MM.DD	DATE
105	YYYY/MM/DD	DATE
106	DD MON YYYY HH24:MI:SS	DATETIME

Table of datetime patterns

The *Add* and *Edit* tabs allow adding new records or editing existing ones. To activate the *Edit* tab, click on the record in the table. Enter the date format and date type (DATE or DATETIME).

Add | Edit

Date format*:	DD.MM.YYYY
Date type*:	DATE

Add tab

When through with defining the parameters, click *Submit* Submit to confirm or *Reset* Reset to discard the settings. Click *Delete* Delete to delete the selected record.

Some non-conventional date formats may include:

MON DD YYYY HH12:MI AM	MAY 01 2022 03:00 AM
YYYY-MM-DD"T"HH24:MI:SS	2022-05-01"T"15:00:00
YY-Mon-DD"T"HH24:MI:SS"+00:00"	22-May-01"T"15:00:00"+00:00"

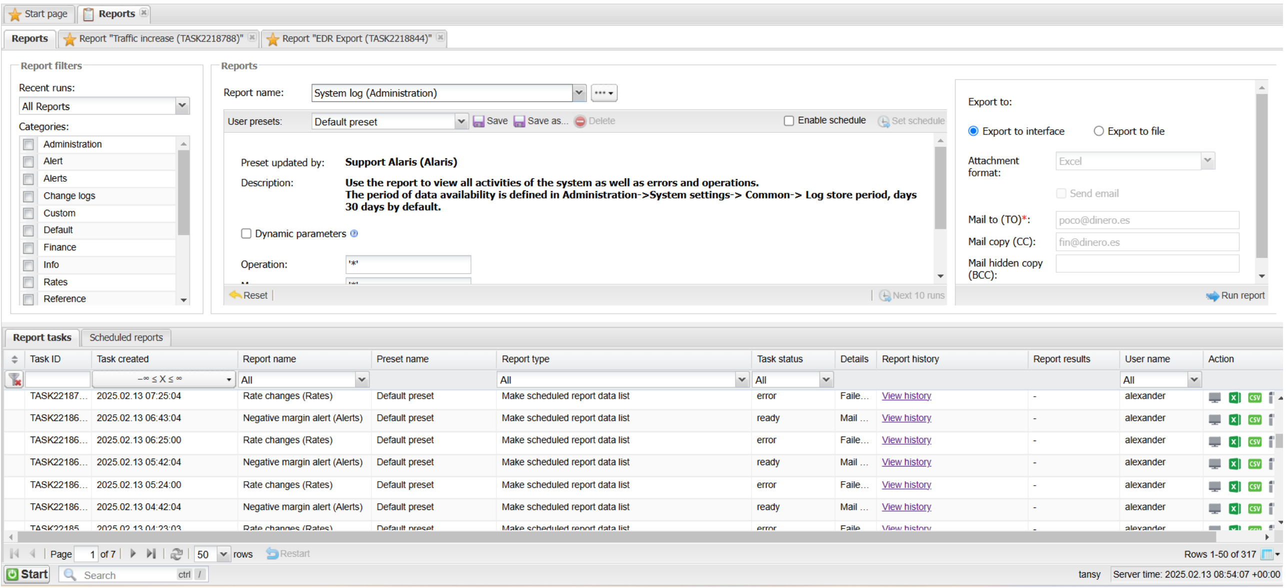
DD.MM.YY" at "HH24:MI" in GMT time zone: 0"

10 Reports

10.1 Reports page overview

The *Reports* page enables creating custom reports based on any table in the System database and provides the possibility to obtain System data and statistics directly in the web interface, in a file or by email sent to a multitude of recipients. The reports are based on one and the same template and schedule, but the report data is personalized for each recipient.

The System is delivered with a pack of report templates covering most typical needs of wholesale carriers. The reports are named according to a pattern: the last word in the report name describes the functional area the report pertains to (e.g. *Reference*, *Stats*, *Finance*, *Administration*, *SMS Alert*, *SMS Stats*, *SMS* etc.). The page contains the following tab sheets: *Reports* at the top, *Report tasks* and *Scheduled reports* at the bottom.



Reports page

Reports tab sheet

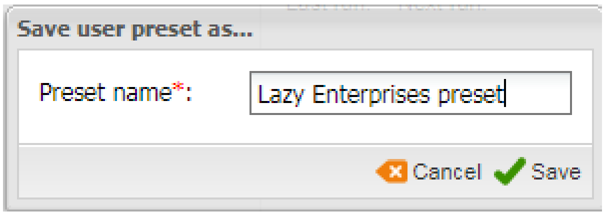
The *Reports* tab sheet allows generating reports based on an existing template. It contains the *Report filters*, *Reports* and *Export to* panels detailed below:

- The *Report filters* panel is located in the left-hand panel. It serves to pick a report category and specify the report's recent runs. The panel contains the following fields:
  - *Recent runs*: shows the reports generated for the past 24 hours, 3 days, a week, 2 weeks or a month. Use this drop-down list for easy access to frequently used reports. By default, all reports are shown
  - *Categories*: the report category. When several categories are selected, the *Report name* drop-down list shows all reports included at least in one of the groups. If no category is selected, reports of all categories are available in the drop-down list

NOTE: To assign a category when creating or editing a report in the Report builder 290, specify the category in the *Report name* field before the report name and the colon mark. For example, *Administration: System log* implies that the category is *Administration*.

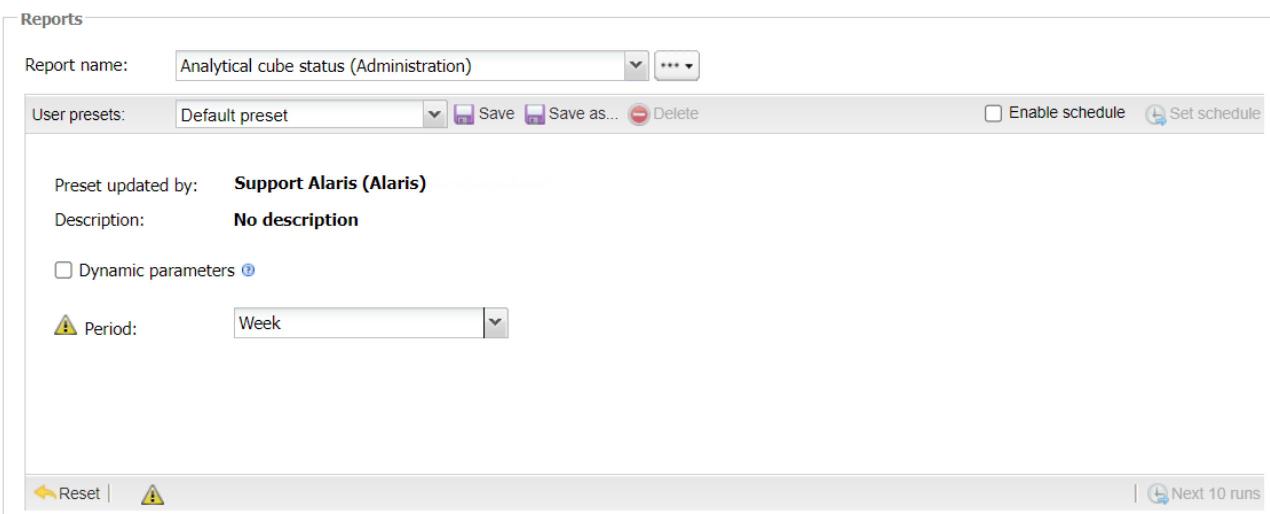
- *Reports*: the list containing reports that are included in at least one of the groups checked in the *Categories*. Select a report from the drop-down list. A submenu with the report parameters will open below. Fill in the appropriate parameters. The control is a drop-down list that contains the following items:
  - *New report*, *Edit report*: opens the Report builder 290 that allows creating a new report or editing the selected one, respectively
  - *Export SQL script*: serves to export the report's code to a file (may come in handy in installing the same report to different Systems)
  - *Delete report*: remove the selected report

Once a report is selected, the *User presets* panel becomes available. Presets allow quick access to preconfigured report settings. To open a preset, select it in the drop-down list. To add a new custom preset, configure the report filters, set up the schedule (for more details, see below in this section) and click Save as... *Save as*... In the dialog that appears enter the preset name and click Save *Save*.



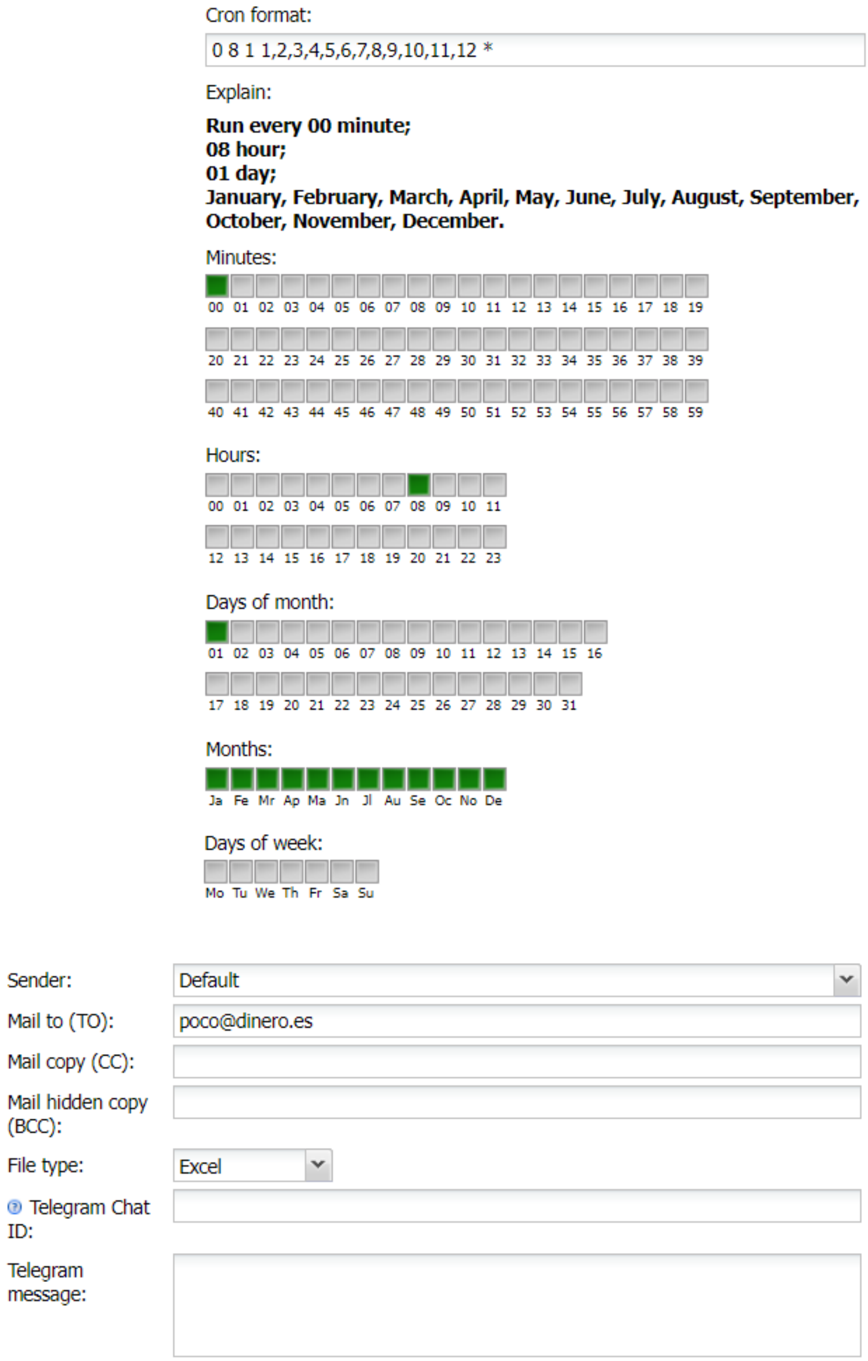
Save preset dialog

If a report parameter value is different from the one saved in the preset, the icon will appear next to the parameter (in the figure below it is the parameter *Period*). Click Reset *Reset* to clear the preset data in the *Reports* tab. If the report could not be emailed to its recipients due to error, the icon will be displayed at the bottom of the tab. Click it to read the error message.



Reports tab

If the report must be executed regularly, select the *Enable schedule* checkbox and click Set schedule *Set schedule*. Configure the time table as shown below.



Report schedule

Configure the schedule in the cron format or by clicking on the standard controls. For example, the figure above illustrates a report that is generated at 8:00 on the first day of every month. Enter the appropriate parameters in the fields detailed below.

- *Sender*: the contract company on behalf of which the reports will be sent (configured in Administration\Outgoing email accounts 36)
- *Mail to (TO)*, *Mail copy (CC)*, *Mail hidden copy (BCC)*: specify the email addresses to which all the reports will be sent (the maximum allowed field size is 4,000 bytes; addresses must be separated by comma or comma and blank space)

- *File type*: type of the attached file (Excel, CSV or HTML). If *Excel* is selected, the file extension (.xls or .xlsx) will be defined by the System parameter *Default spreadsheet extension (supported values: xls, xlsx)*

- *Telegram Chat ID*, *Telegram message*: the fields serve to configure sending report notifications to Telegram. To configure interaction with the Telegram service, proceed with the steps described in the Appendix 7. Frequently asked questions\Reports 779.

NOTE: The System only sends the results of recurrent reports to email addresses if they are not void. Results of recurrent reports are not sent to Telegram but only a notification that an alert has been triggered.

Click Save *Save*. Once the schedule is saved, the bottom panel of the *Reports* table will show the values for *Last run* and *Next run*. Click Next 10 runs *Next 10 runs* to view the schedule of the next 10 runs of the report.

NOTE: if a scheduled report is run manually at the time of automatic sending, no sending for the scheduled time happens; the *Next run* will be defined in accordance with the schedule.

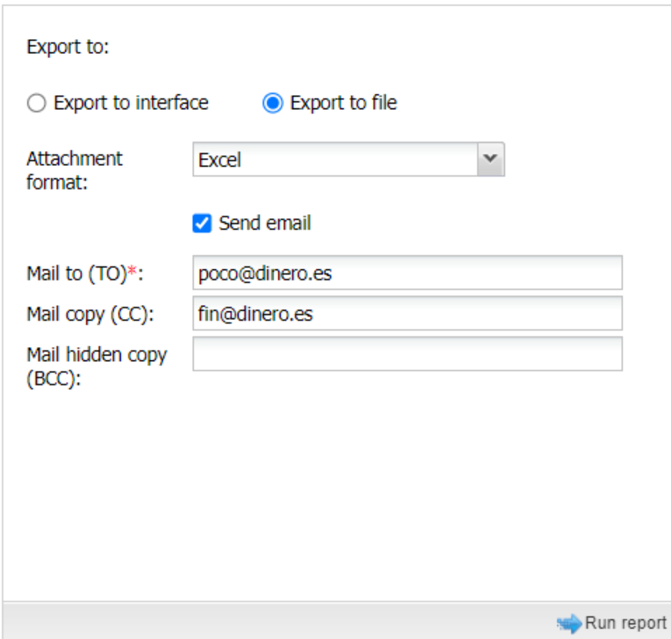
To configure a dynamic (personalized for multiple recipients) schedule, select the *Dynamic parameters* checkbox. The following fields become available:

- *SQL code*: SQL query that will return a table of the report parameters for each recipient, and/or recipient email addresses. Refer to Reports\Schedule configuration example 292 for an example of configuration.

- *Report fields*: the table shows the binds that are used in the report. This table serves as a reference that helps the user create SQL code.

To verify the SQL code as well as its consistency with the report, click Test SQL code *Test SQL code*.

NOTE: The query must contain all the binds used in the report (their bind names must be used as column names). Also, it may contain additional execution parameters such as mail addresses and export type. For assistance with the SQL code, contact the Alaris technical support team.



'Export to' panel

- *Export to* panel: contains the following options:
    - *Export to interface*: the default value that implies creating a task and opening it directly in the web interface. To proceed with export, click Run report *Run report*. For the *Export to interface* mode a new tab for the generated report will be opened automatically. Click on the tab to close the report. To cancel report generation, abort the task in the *Report tasks* tab sheet (see below for details). Click Export to Excel *Export to Excel* or Export to CSV *Export to CSV* to export the file to MS Excel or a CSV file respectively.

NOTE: The number of rows exported to the web interface as well as subsequent export to a file is limited by the System parameter *Report task results rows*. The same name parameter can be set on the report level in the *Edit report* panel. The user can select the number of rows displayed per page by using the pagination at the bottom of the report results page. The setting is saved in the browser's local storage and will be applied to all reports the user opens.

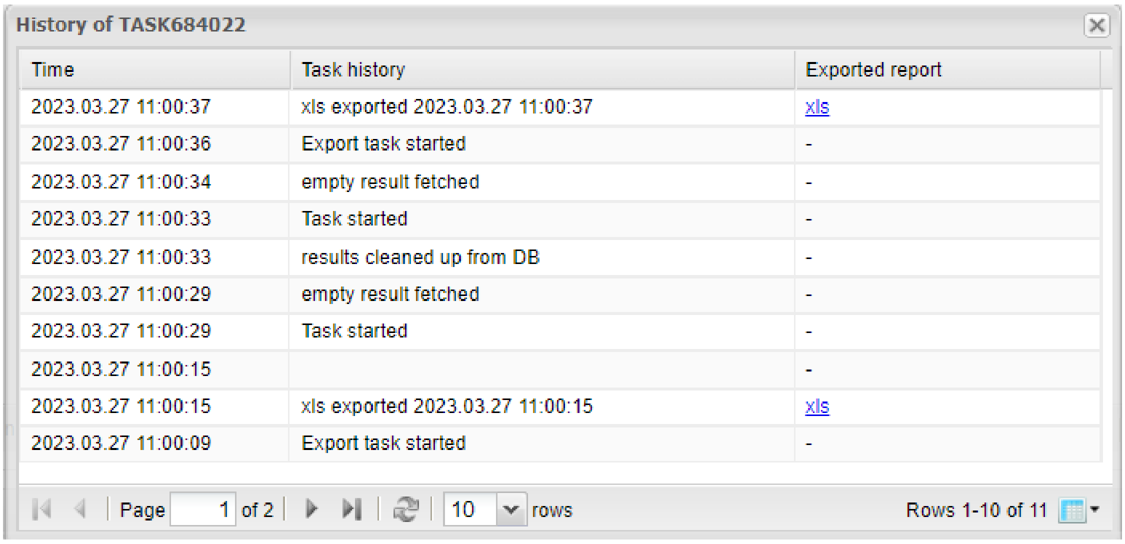
- *Export to file*: select to create a file for which the number of exported rows is limited by the System parameter *Max number of rows to export in CSV/Excel*. In the *Attachment format* field select *Excel* or *CSV*. To verify how an email with results would look like, select the *Send email* checkbox and fill in *Mail to (TO)*, *Mail copy (CC)*, *Mail hidden copy (BCC)* fields. To proceed with export, click Run report *Run report*. The report file will be available for download in the *Report tasks* tab sheet (see below for instructions)

Report tasks tab sheet

The *Report tasks* tab contains the tasks created for both *Export to interface* and *Export to file* modes and has the following columns:

- *Task ID*: unique identifier of the task
- *Task created*: the task creation date
- *Report name*: report name. Double-click on the cell to restore the parameters used at the moment of report generation
- *Preset name*: preset name. Double-click on the cell to restore the parameters used at the moment of report generation
- *Report type*: possible values are *Make report data list* (report was run manually) and *Make scheduled report data list* (task was created automatically in accordance with the report schedule)
- *Task status*: possible values are as follows:
    - *ready*: the report results are ready
    - *new*: the task has been created
    - *error*: the report results could not be sent out (for example, due to a mail server authentication error) or the report query could not be executed (for example, due to incorrect SQL code)
    - *aborted*: the report generation was aborted by a user
    - *scheduled*: obsolete status, not applicable
    - *pending*: the task has been put in a queue (for example, due to the System high load)
    - *waiting*: obsolete status, not applicable

  - *in process*: the task is being processed by the database
- *Details*: the details of report generation. Click to abort the execution (available for the tasks in the *new*, *in progress* and *pending* statuses). If an error occurred during report execution, the error message will be displayed. Possible values include:
  - *Started*: a temporary status that shows that the task has started
  - *Report was aborted by time out:* the report execution took longer than the predefined timeout (60 minutes by default)
  - *Mail sent[%list of email addresses, comma-separated%]*: an email was sent out to the listed recipients. Note that the BCC recipients are not included in the list
  - *Failed to send mail*: *%reason%:* an email could not be sent out due to a *%reason%* (for example, incorrect authorization data of the mail server)
  - *empty result fetched*: the task is complete but the report returned 0 rows
  - *result cached till %timestamp%*: the report results can be viewed in the web interface till *%timestamp%*, where *%timestamp%* is defined by the System or report parameter *Report task result storage period, seconds*
  - *xls exported %timestamp%/csv exported %timestamp%*: a file was generated at *%timestamp%* with the help of the *Export to Excel*/ *Export to CSV* button in the *Action* column
  - *no data stored/results cleaned up from DB*: report results have been removed due to the expired period defined by the System or report parameter *Report task result storage period, seconds*
  - *results truncated*: a notification which is added to other details (for instance, *"result cached till 2023.02.02 22:25:37(results truncated)"*) to indicate that the results contain partial data. The maximum number of available records is set in the System or report parameter *Report task results rows*
  - *queued due to high load/queued due to critical load*: the task has been placed in an internal queue and will be processed as soon as the System load decreases. To verify the load thresholds, contact the Alaris technical support team and communicate BZ51467 code
  - *queued due to the process number limit*: the default threshold for simultaneously run tasks has been reached. By default, it is set to 4. To change the threshold, contact the Alaris technical support team and communicate the code BZ51467
- *Report history*: click on the *View history* hyperlink to reflect the actions applied to the task. The history is not removed even if the report results are not available. An example of history is illustrated below:



History of TASK684022

Time	Task history	Exported report
2023.03.27 11:00:37	xls exported 2023.03.27 11:00:37	xls
2023.03.27 11:00:36	Export task started	-
2023.03.27 11:00:34	empty result fetched	-
2023.03.27 11:00:33	Task started	-
2023.03.27 11:00:33	results cleaned up from DB	-
2023.03.27 11:00:29	empty result fetched	-
2023.03.27 11:00:29	Task started	-
2023.03.27 11:00:15		-
2023.03.27 11:00:15	xls exported 2023.03.27 11:00:15	xls
2023.03.27 11:00:09	Export task started	-

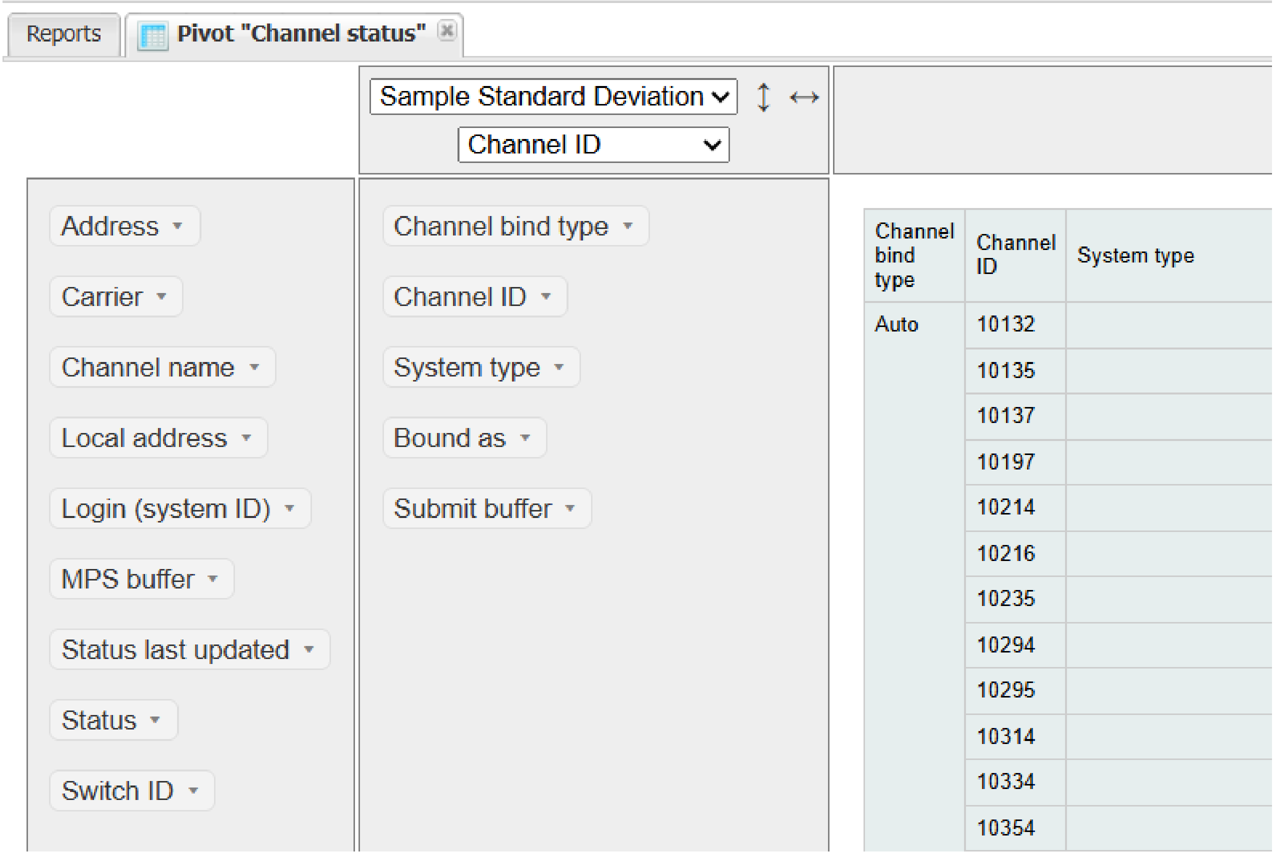
Page 1 of 2 | 10 rows | Rows 1-10 of 11

Report history

- *Report results*: possible values are as follows:
    - *view:* open report results in the web interface. The hyperlink is not available if the report results are empty or have been removed from the System
    - *xls/xlsx:* download an MS Excel file. The file extension depends on the System parameter *Default spreadsheet extension (supported values: xls, xlsx)*
    - *csv:* download a CSV file

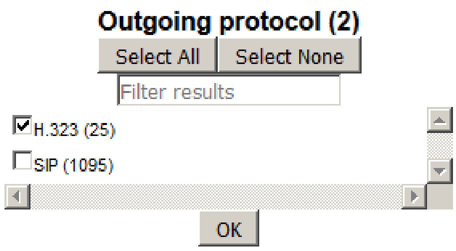
NOTE: Files are stored within a pre-defined server cron configuration (by default, 30 days). The period to store the results available in the web interface is defined by the System or report parameter *Report task result storage period, seconds*.

- *User name*: the username who created the task (for the *Make report data list* type) and the username who configured the schedule (for the *Make scheduled report data list* type)
- *Action*: possible actions that can be applied to the task are the following:
    - *Export to interface*: re-export data. The option comes handy when the data becomes unavailable (after the parameter *Report task result storage period, seconds* is reached)
    - *Export to Excel* (the download link is available in the *Report results* column)
    - *Export to CSV* (the download link is available in the *Report results* column)
    - *Open as pivot*: view the report in a configurable summary table. When the action is applied, an additional export to a CSV file is created



Pivot view of the Channel status (Reference) report

The left section of the page contains a list of report parameters. Drag and drop the parameter name from the left column to the right one. A column with the selected parameter will be added to the table in the right section of the page. You can also use the filter within each parameter to show specific value types. Click on the arrow next to the parameter name to open the selection dialog as shown in the figure below, and select value types to be displayed in the table.

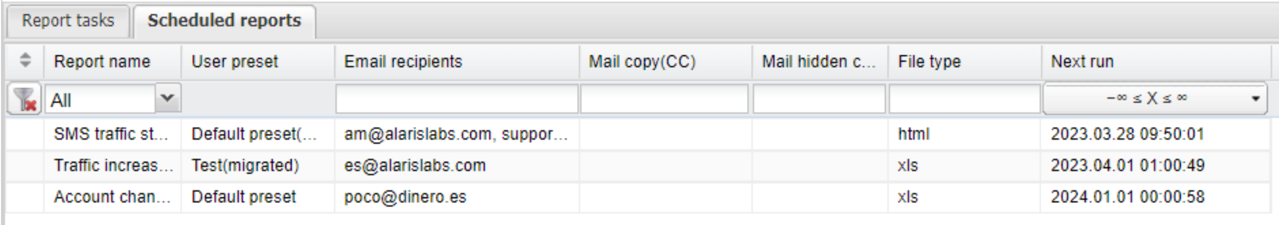


Selection dialog

Report tasks are stored in accordance with the values configured in the System parameters *Report task storage period (days to store tasks)*, *Report tasks count to store* and *Report tasks count to store (per single report)*. A user with restricted permissions can find only those tasks that match the following requirements:

- a report is available to the user
- the user has been granted with the *View and edit all data (except System owner parent rates)* or *View all data* permission. If none of the permissions has been allowed for the user, the user will be able to find only those tasks that have been created by the same user

Scheduled reports tab sheet



Report name	User preset	Email recipients	Mail copy(CC)	Mail hidden c...	File type	Next run
SMS traffic st...	Default preset(...	am@alarislabs.com, suppor...			html	2023.03.28 09:50:01
Traffic increas...	Test(migrated)	es@alarislabs.com			xls	2023.04.01 01:00:49
Account chan...	Default preset	poco@dinero.es			xls	2024.01.01 00:00:58

Scheduled reports

The *Scheduled reports* tab shows the next runs for the reports that will be launched in accordance with their schedules. The columns are a summary of the schedules: *Report name*, *User preset*, *Email recipients*, *Mail copy (CC)*, *Mail hidden copy (BCC)*, *File type*, *Next run*. Double-click on any of the column cells to restore the preset in order to verify its parameters and schedule.

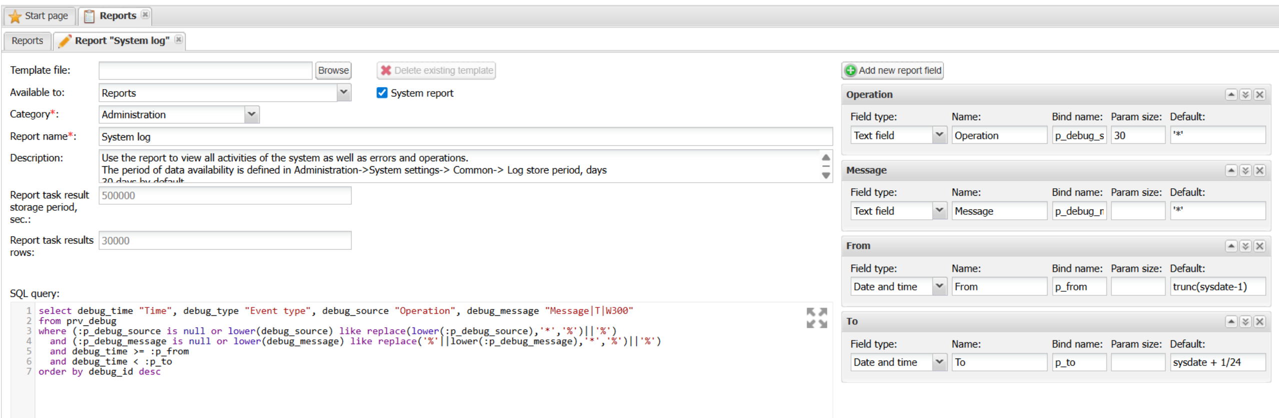
If access to specific data in the System DB is required for creating a report not available on the *Reports* page, refer to the *DB struct (Administration)* report. The most frequently used reports are described below.

10.2 Report builder: creating a customized report

The System allows creating customized reports, as well as editing the parameters of existing reports.

NOTE: To create or edit a report, the user must be able to understand and write Oracle SQL queries.

To create a new report, open the *Reports* section, click ••• and in the drop-down list select New report *New report*. To edit a report, select it in the *Report name* drop-down list, click ••• and select Edit report *Edit report*.



Editing a report

Complete the following fields:

- *Template file*: an empty MS Excel file that contains the desired formatting for the new report (fonts, text alignment etc.). Click Browse *Browse* to upload a template.

NOTE: The template file must not contain any data. Otherwise the data will be used as the header in the report. The desired formatting must be applied to as many columns as will be contained in the report. For example, if the report contains ten columns but the formatting is applied to five columns only, the five remaining columns will be present without customized formatting.

- *Available to*: select the appropriate permissions. Users that have those permissions can view the report. The permissions are set in Administration\Users 158.
- *Category*: the report category. It will be automatically added to the report name (in brackets)
- *Report name*
- *Description*: arbitrary report description
- *Report task result storage period, sec.*: enter a value in seconds (minimum: 60) to store report results (which can be reviewed in the web interface). If not set, the value is obtained from the System parameter *Report task result storage period, seconds*
- *Report task results rows*: enter a value in seconds (minimum: 100) to limit the number of rows available for web interface report results. If not set, the value is obtained from the System parameter *Report task results rows*
- *SQL query*: write the query that will be used to generate the report
- Configure the report fields. Click Add new report field *Add new report field*. Specify the following parameters:
  - *Field type* (required): select the data type in the field
  - *Name* (required): column name
  - *Bind name* (required): name of the variable (bind) used in the SQL query

NOTE: Variables whose names start with x_ are replaced with plain text values; all other variables are interpreted as regular binds.

  - *Param. size* (optional): size of the parameter (for example, number of symbols for a text field)
  - *Default (optional)*: default field value

Click Save changes *Save changes* to save the report. It will become available for selection in the *Reports* list in the *Reports* tab sheet. Click Save and close *Save and close* to save the changes and close the tab sheet. Click Reset *Reset* to clear the form.

To edit an existing report, proceed as follows:

1. Open the *Reports* section and select the report you wish to edit.

2. Click Edit report *Edit report*. Modify the report parameters. Select or deselect the checkbox *System report* as appropriate.

NOTE: System reports are those that exist in the System by default. If you change a System report, all your edits will be overwritten with the new System update. To avoid this, open a System report for editing, change its name, deselect the *System report* checkbox and click the Save as... *Save as...* button. If a custom report has the checkbox *System report* selected, its changes will not be overwritten with a System update. The checkbox enables a pop-up notification which appears when the *Edit report* option is applied to a report with the selected checkbox.

3. Once through with the edits, click Save changes *Save changes* or Save and close *Save and close* to save the changes and close the tab sheet.

The *Reports* tab sheet also contains the Export SQL script *Export SQL script* button that serves to export the SQL query from a selected report as a zip archive. The script can be used in other reports if necessary.

Click Delete report *Delete report* to remove a report from the System.

10.3 Schedule configuration example

Suppose the user needs to export currently active rates and send them to carriers at 8:00 on the 1st of every month, each carrier receiving rates pertaining to them. Proceed as follows:

- In the *Report* field, select *SMS rate export (Rates)*
- Select the *Dynamic parameters* checkbox
- In the *SQL code* field, enter the following code:

```
select
      p.product_id as "p_product_id|n",
      to_char(sysdate, 'yyyy.mm.dd hh24:mi:ss') as "p_act_date|d",
      "p$mailto"
    from bas_product_v p
    left join
    (
      select distinct
        a.acc_car_id,
        'not@alarislabs.com' /*agr_default_rate_change_email*/ as "p$mailto"
      from bas_agreement g
      inner join bas_account a on (g.agr_acc_id = a.acc_id)
      where g.agr_start_date <= sysdate
        and g.agr_end_date > sysdate
    )
    on (acc_car_id = car_id)
    where "p$mailto" is not null
      and product_type = 3
      and product_direction = 0 order by p.car_id
```

- Select the *Enable schedule* checkbox, click *Set schedule* Set schedule and set the schedule to 8:00 on the 1st of every month as illustrated above
- Configure the email fields as appropriate and save the changes
- Click *Run report* Run report to start the report

NOTE: During a manual run of the report with the selected *Send email* checkbox, an email will be sent out only to the list of addresses specified in the right hand panel.

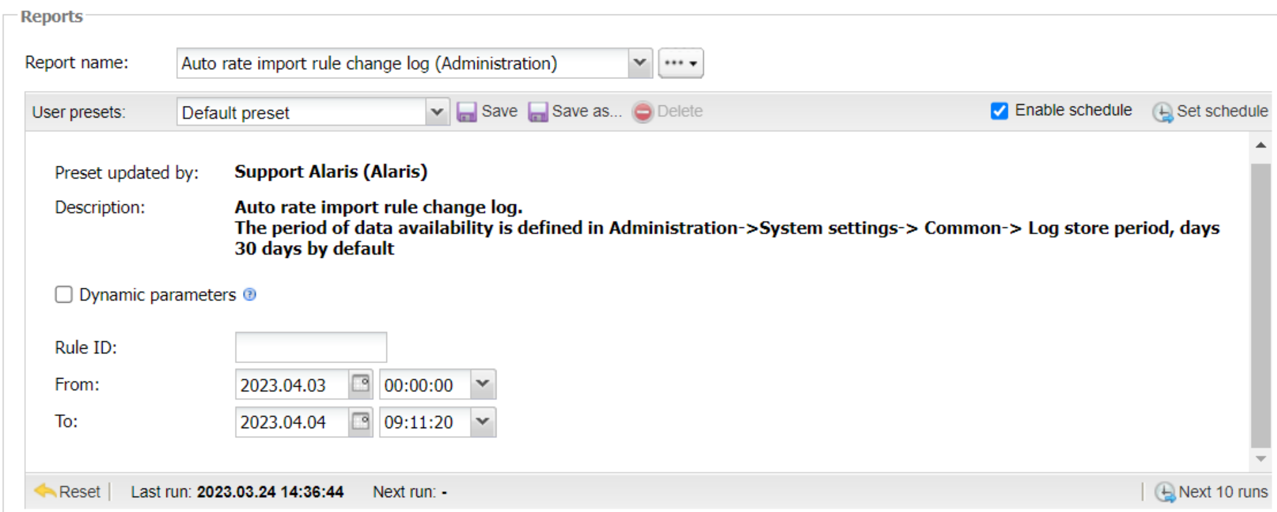
At 8:00 on the 1st day of the next month the SQL query will be executed and will return a table in the following format:

MAILTO	P_PRODUCT_ID	P_DIALCODE
info@abc.com	2311	*
info@ddde.net	2312	*

The report on active rates (*SMS rate export (Rates)*) will be then generated and emailed to all recipients in the MAILTO column, with the parameters set in the P_PRODUCT_ID and P_DIALCODE columns. A copy of all emails will be sent to the addresses specified in the fields *Mail to (TO)*, *Mail copy (CC)* and *Mail hidden copy (BCC)*.

10.4 Auto rate import rule change log (Change logs)

The *Auto rate import rule change log (Administration)* report shows changes of auto import rules.



Auto rate import rule change log (Administration) report settings

Configure the following parameters:

- *Rule ID*: ID of the auto import rule
- *From*/*To*: the period of changes

An example of the report is shown in the figure below.

Reports | Report "Auto rate import rule change log (Administration)"

Rule ID: **10006**; From: **2019.10.13 00:00:00**; To: **2019.10.14 09:30:00**

№	Author	LOG_ID	LOG_TIME	LOG_ACTION	SESSION_ID	EXEC_ID	RULE_ID	CAR_ID	PRODUCT_ID
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	Alaris (50.7.93....	95162747	2019.10.14 06:...	ud	134857369	505997617	10006	1412	99869
2	Alaris (50.7.93....	95162747	2019.10.14 06:...	ui	134857369	505997617	10006	1412	99869
3	Alaris (50.7.93....	95163003	2019.10.14 06:...	ud	134857369	505999095	10006	1412	99869
4	Alaris (50.7.93....	95163003	2019.10.14 06:...	ui	134857369	505999095	10006	1412	99869
5	Alaris (50.7.93....	95163005	2019.10.14 06:...	ud	134857369	505999126	10006	1412	99869
6	Alaris (50.7.93....	95163005	2019.10.14 06:...	ui	134857369	505999126	10006	1412	99869
7	Alaris (50.7.93....	95163027	2019.10.14 06:...	ud	134857369	505999550	10006	1412	99869
8	Alaris (50.7.93....	95163027	2019.10.14 06:...	ui	134857369	505999550	10006	1412	99869
9	Alaris (50.7.93....	95163029	2019.10.14 06:...	ud	134857369	505999594	10006	1412	99869
10	Alaris (50.7.93....	95163029	2019.10.14 06:...	ui	134857369	505999594	10006	1412	99869

Auto rate import rule change log (Administration) report

10.5 Change logs (Change logs)

Change logs keep track of all the changes made by users to System objects for the past 30 days (the period is configured by the parameter *Log store period, days* at Administration\System settings\Common 49). These logs allow identifying the user that made the changes (when fixing something that went wrong, for example).

The following log actions can be available:

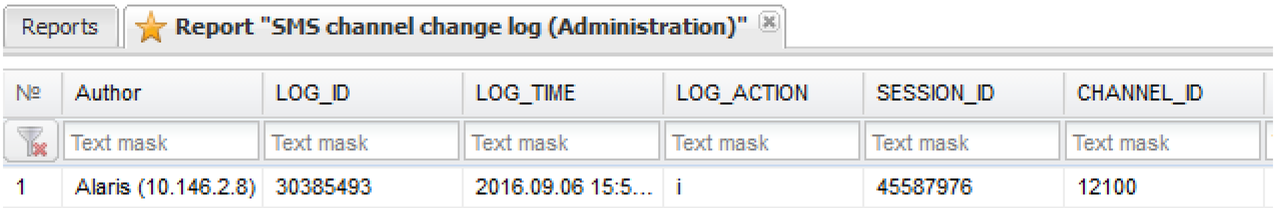
- i - insert: a new entity was created
- ui - update/insert: the new value of a modified entity. The action is paired with the "ud" action
- ud - update/delete: the old value of a modified entity
- d - delete: an existing entity was removed

The following change logs exist in the System (available in the *Administration* section):

- Account change log
- Agreement change log
- Balance change log
- Carrier change log
- Product change log
- Report change log (Administration): shows changes applied to reports
- SMS buffering rules change log
- SMS channel change log
- SMS limitation rule change log
- SMS loop detection change log
- SMS rate change log (when Author=invoice_uidisp/unknown it normally means that the changes are made through auto rate import/rate compilation)
- SMS POI change log

- SMS routing rule change log
- SMS traffic priority rule change log
- SMS translation rule change log (Administration): shows changes applied to SMS translation rules
- SMSC change log
- System settings change log
- *User change log*
- *User roles change log*

An example of the *SMS channel change log (Change logs)* is shown below.


Reports | Report "SMS channel change log (Administration)"

№	Author	LOG_ID	LOG_TIME	LOG_ACTION	SESSION_ID	CHANNEL_ID
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	Alaris (10.146.2.8)	30385493	2016.09.06 15:5...	i	45587976	12100

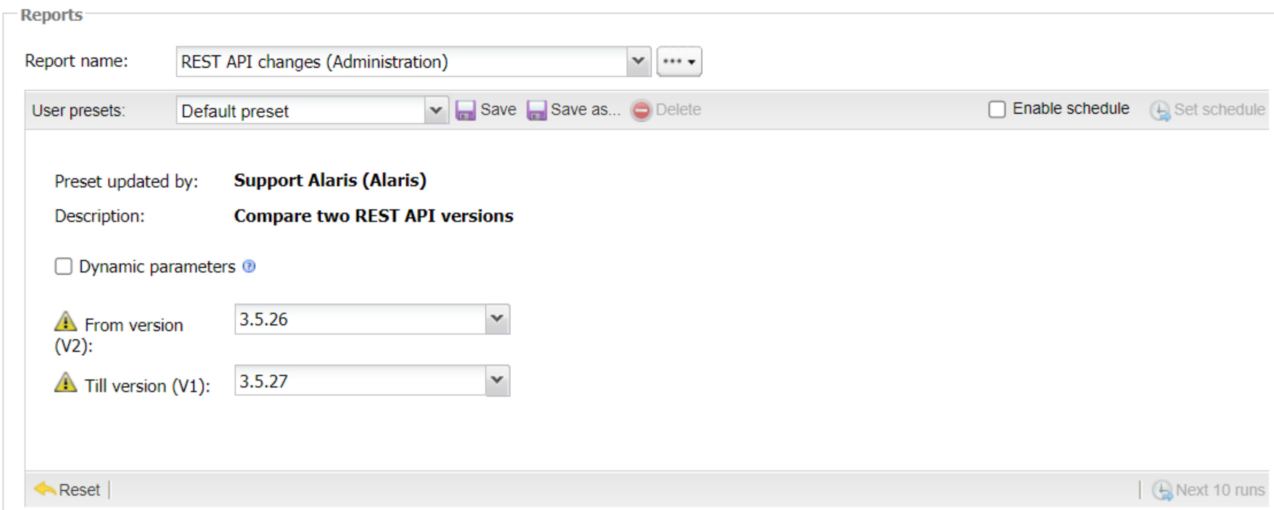
SMS channel change log (Change logs)

10.6 HLR Analytical cube status (Administration)

The *HLR Analytical cube status (Administration)* report is similar to the [SMS analytical cube status (Administration)](321) report. It provides information about the general status of the HLR reselling traffic cubes and the cube update schedule.

10.7 REST API changes (Reference)

The *REST API changes (Reference)* report serves to track changes in API methods between the versions.



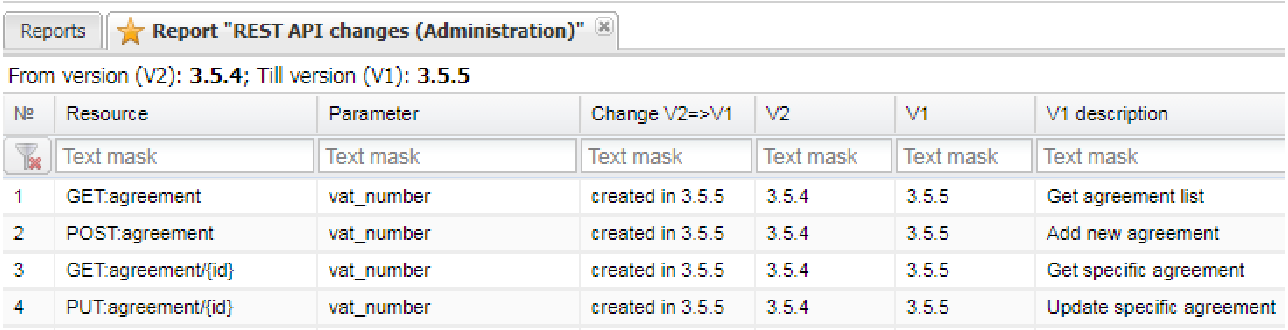
Parameters of REST API changes (Reference)

Specify the versions between which the comparison must be performed:

- *From version (V2)*: specify the starting version for the comparison (the version starting from which the comparison must be performed)

- *Till version (V1)*: specify the last version for the comparison (normally the current version)

An example of the report is shown in the figure below.



Reports | Report "REST API changes (Administration)"

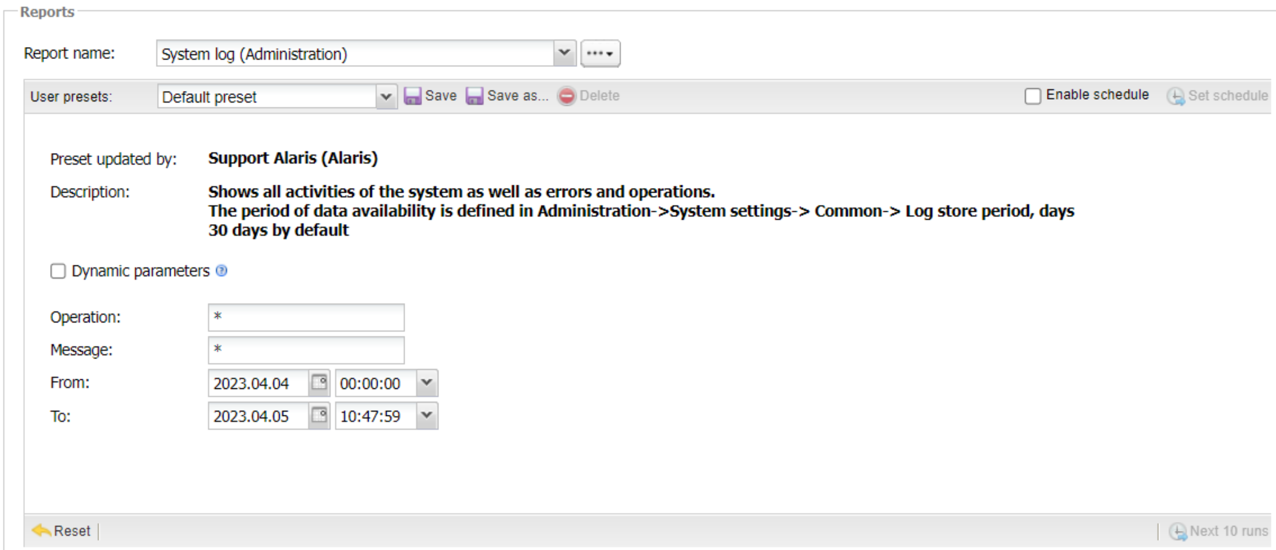
From version (V2): **3.5.4**; Till version (V1): **3.5.5**

№	Resource	Parameter	Change V2=>V1	V2	V1	V1 description
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	GET:agreement	vat_number	created in 3.5.5	3.5.4	3.5.5	Get agreement list
2	POST:agreement	vat_number	created in 3.5.5	3.5.4	3.5.5	Add new agreement
3	GET:agreement/{id}	vat_number	created in 3.5.5	3.5.4	3.5.5	Get specific agreement
4	PUT:agreement/{id}	vat_number	created in 3.5.5	3.5.4	3.5.5	Update specific agreement

REST API changes (Reference) report

10.8 System log (Administration)

The *System log (Administration)* stores information about all operations and processes in the database. It serves to monitor the database operability, check that the statistics are calculated correctly, detect critical database errors etc.

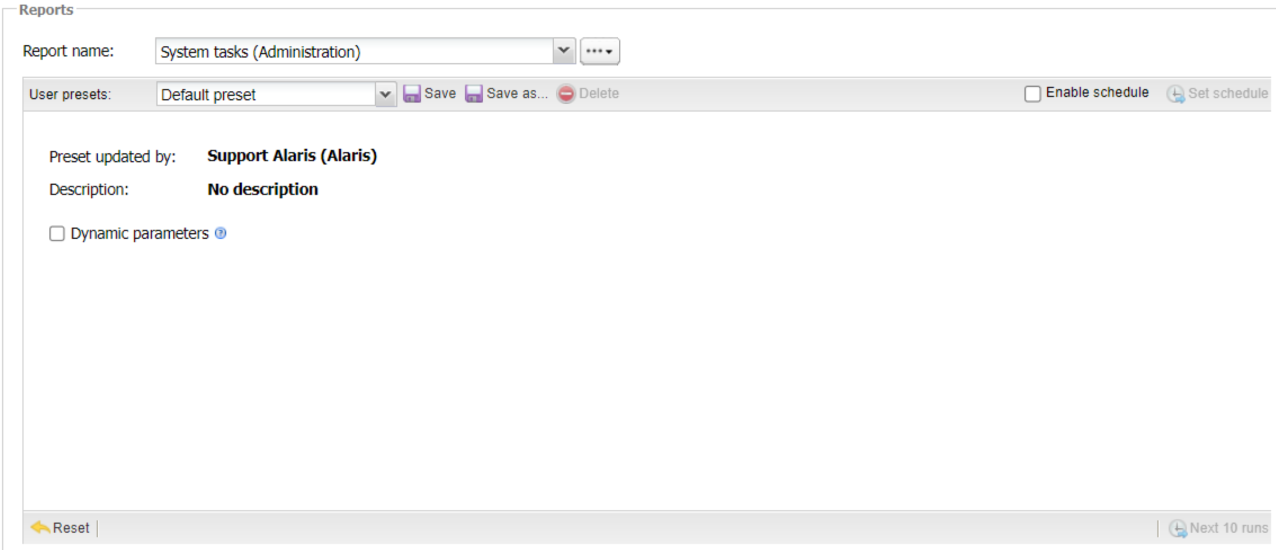


Parameters of System log (Administration)

In the *Operation* field specify the database operation; in the *Message* field enter the message text (use the * mask symbol if necessary). In the *From* and *To* fields specify the period for the report.

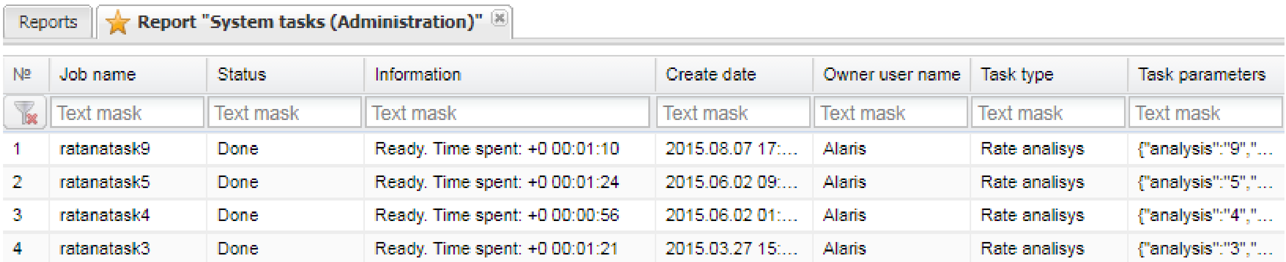
10.9 System tasks (Administration)

The *System tasks (Administration)* report contains details of scheduled tasks launched from all System interfaces.



System tasks (Administration) report settings

An example of the report is shown in the figure below.



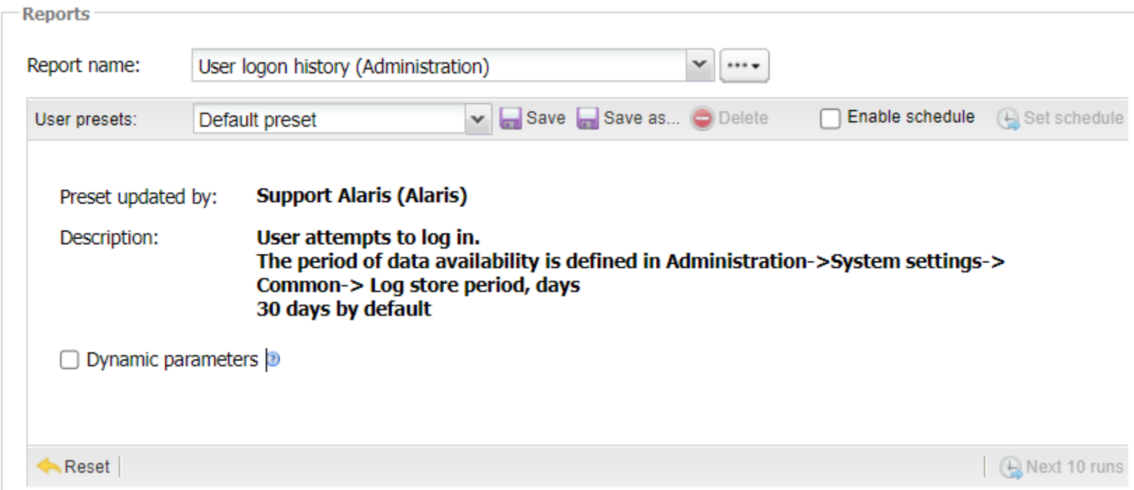
Reports | Report "System tasks (Administration)"

№	Job name	Status	Information	Create date	Owner user name	Task type	Task parameters
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	ratanatask9	Done	Ready. Time spent: +0 00:01:10	2015.08.07 17:...	Alaris	Rate analisys	{"analysis":"9","...
2	ratanatask5	Done	Ready. Time spent: +0 00:01:24	2015.06.02 09:...	Alaris	Rate analisys	{"analysis":"5","...
3	ratanatask4	Done	Ready. Time spent: +0 00:00:56	2015.06.02 01:...	Alaris	Rate analisys	{"analysis":"4","...
4	ratanatask3	Done	Ready. Time spent: +0 00:01:21	2015.03.27 15:...	Alaris	Rate analisys	{"analysis":"3","...

System tasks (Administration) report

10.10 User logon history (Administration)

The *User logon history (Administration)* report shows the history of access (login attempts) to the main System (not applicable to the Partner Portal and Alaris Campaign Portal).



User logon history (Administration) report settings

An example of the report is shown in the figure below.

Reports | Report "User logon history (Administration)"

№	Log ID	Session ID	Action time	User	User IP address	Session start time	Session end time	Session duratio...
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
2	2100962850	241259082	2022.08.10 10:...	KA	10.146.2.66	2022.08.10 10:...	2022.08.10 10:...	0
3	2100962323	241258188	2022.08.10 10:...	KA	10.146.2.66	2022.08.10 10:...	2022.08.10 10:...	0
4	2100962305	241258145	2022.08.10 10:...	KA	10.146.2.66	2022.08.10 10:...	2022.08.10 10:...	0
5	2100962295	241258141	2022.08.10 10:...	KA	10.146.2.66	2022.08.10 10:...	2022.08.10 10:...	0
6	2100962254	241258106	2022.08.10 10:...	KA	10.146.2.66	2022.08.10 10:...	2022.08.10 10:...	0
7	2100962199	241258028	2022.08.10 10:...	KA	10.146.2.66	2022.08.10 10:...	2022.08.10 10:...	0
8	2100959256	241256507	2022.08.10 09:...	KA	10.146.2.66	2022.08.10 09:...	2022.08.10 09:...	0
9	2100956907	241254177	2022.08.10 09:1...	KA	10.146.2.66	2022.08.10 09:1...	2022.08.10 09:1...	0
10	2100956902	241254171	2022.08.10 09:1...	KA	10.146.2.66	2022.08.10 09:1...	2022.08.10 09:1...	0
11	2100956897	241254164	2022.08.10 09:1...	KA	10.146.2.66	2022.08.10 09:1...	2022.08.10 09:1...	0

User logon history (Administration) report

The report contains the following columns:

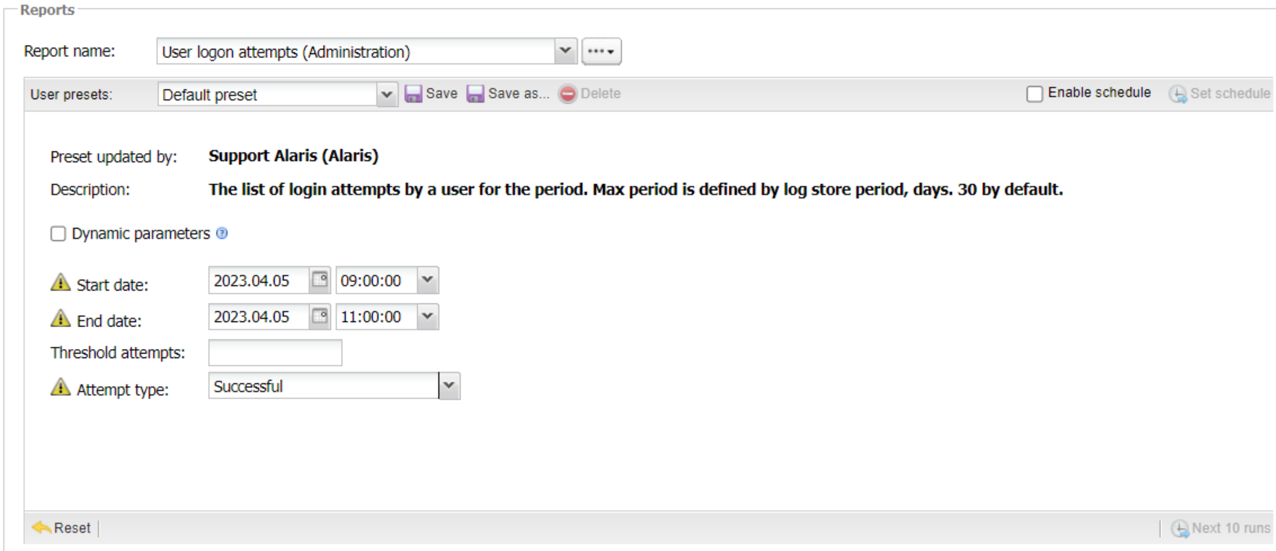
- *Log ID*
- *Session ID*
- *Action time*: login time
- *User*: user login
- *User IP address*
- *Session start time*: usually matches the *Action time* value
- *Session end time*: the time of logout. Please note that in case of a non-nominal logout from the System (for example, closing the browser), the session end time will be recorded with a slight delay, which will affect the session duration displayed in the report
- *Session duration* (in hours): the difference between the *Session start time* and the *Session end time*

NOTE: The duration is shown in hours. Therefore, if a user has been logged in for a short period of time (for example, 4 seconds), the duration will be reflected as 0.

NOTE: If the *Session end time* field does not contain any value, the record will not be added to the report. Such a situation may imply inactive user's sessions (cases when the interface is closed with no Internet connection or there are network issues).

10.11 User logon attempts (Administration)

The *User logon attempts (Administration)* report shows the list of login attempts by a user for a predefined period (not applicable to the Partner Portal and Alaris Campaign Portal).

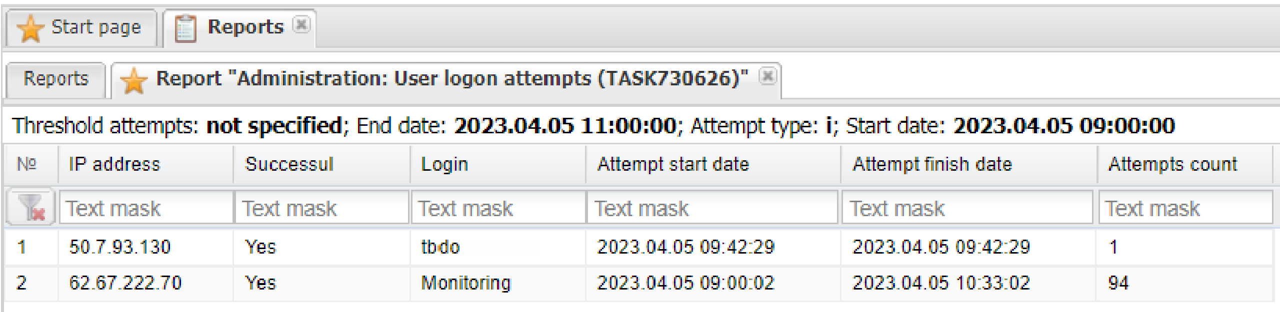


User logon attempts (Administration) report settings

Specify the following parameters:

- *Start date*, *End date*: period of the report
- *Threshold attempts*: the number of logon attempts from a user that must be exceeded to display a record in the report (for example, if *Threshold attempts* is set to 5, and the user only had 3 attempts, they will not be displayed in the report)
- *Attempt type*: *Successful*, *Unsuccessful* or *All*

An example of the report is shown in the figure below.



№	IP address	Successul	Login	Attempt start date	Attempt finish date	Attempts count
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	50.7.93.130	Yes	tbdo	2023.04.05 09:42:29	2023.04.05 09:42:29	1
2	62.67.222.70	Yes	Monitoring	2023.04.05 09:00:02	2023.04.05 10:33:02	94

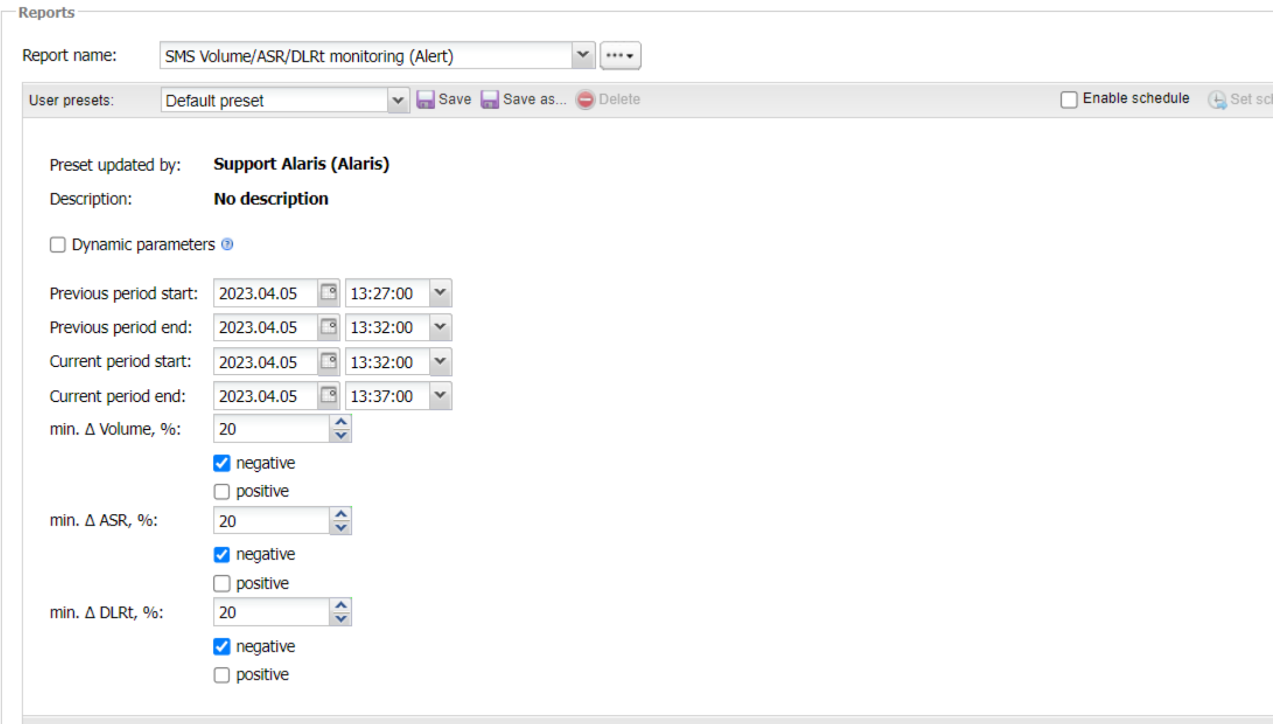
User logon history (Administration) report

The report contains the following columns:

- *IP address*
- *Successful*: shows if the attempt was successful
- *Login*: user login name
- *Attempt start/finish date*: the login attempt duration
- *Attempts count*

10.12 SMS Volume/ASR/DLRt monitoring (Alerts)

The *SMS Volume/ASR/DLRt monitoring (Alerts)* report serves to monitor the dynamic of the traffic metrics.

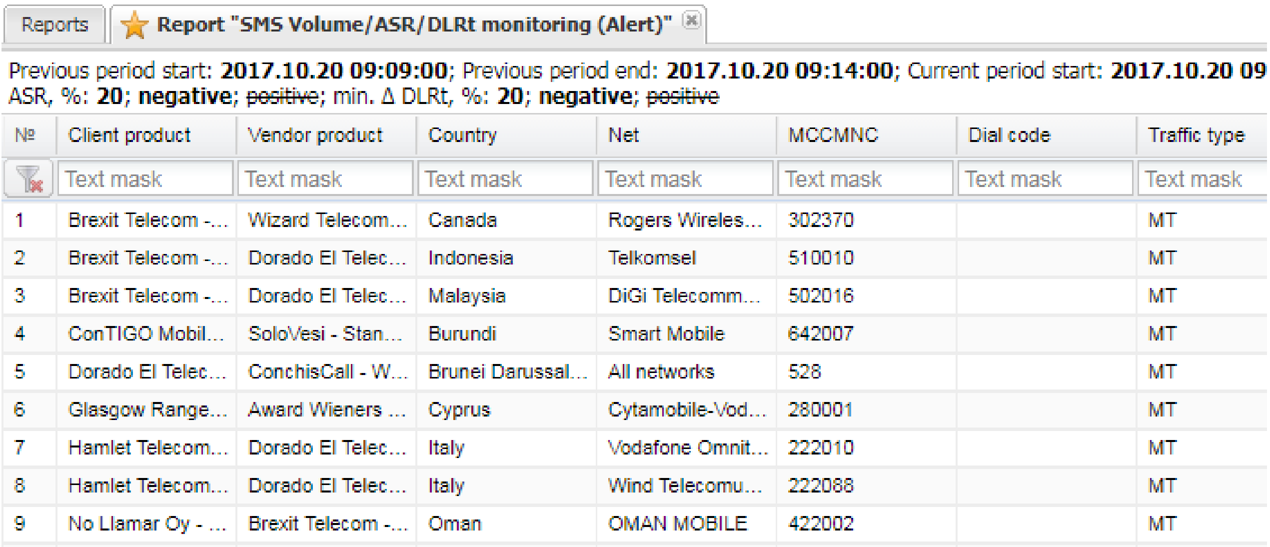


SMS Volume/ASR/DLRt monitoring (Alerts)

Configure the following parameters:

- *Previous period start/end*: the past period that will be compared with the current period
- *Current period start/end*: the period for comparison
- *min. Δ volume, %*: the minimum volume difference (in percent) between the periods that will be included in the report
  - select *negative* to display the negative delta (decrease in volume) or *positive* to show increase
- *min. Δ DLRt, %*: the minimum DLR(t) delta (in percent) that will be included in the report
  - select *negative* to display the negative delta (decrease in DLR(t)) or *positive* to show increase

An example of the report is shown below.



Reports | Report "SMS Volume/ASR/DLRt monitoring (Alert)"

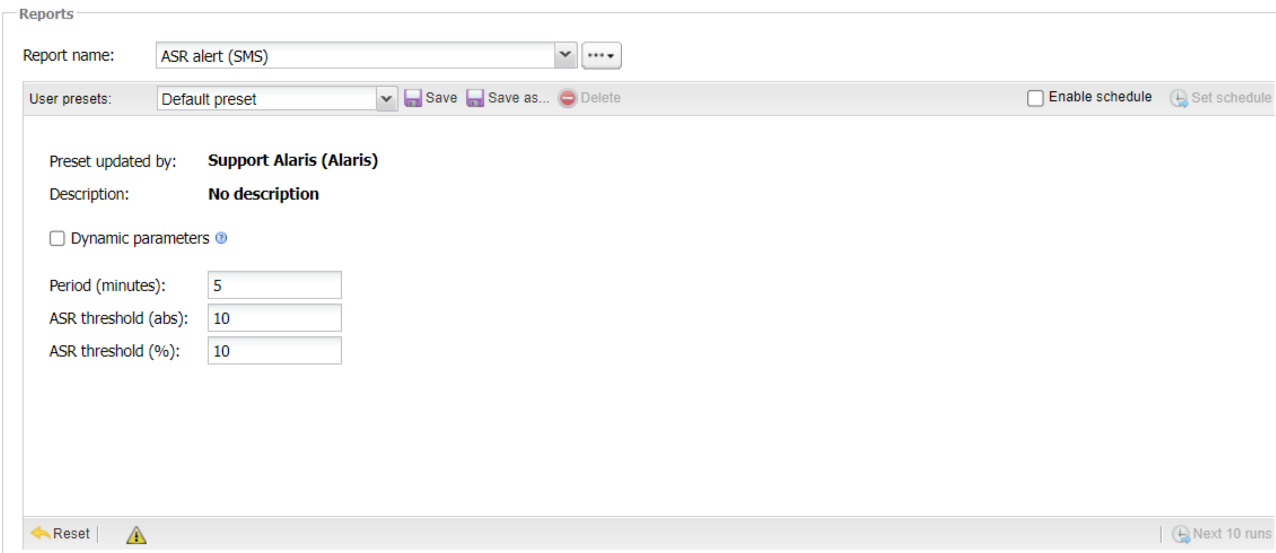
Previous period start: **2017.10.20 09:09:00**; Previous period end: **2017.10.20 09:14:00**; Current period start: **2017.10.20 09**
ASR, %: **20**; **negative**; ~~positive~~; min. Δ DLRt, %: **20**; **negative**; ~~positive~~

№	Client product	Vendor product	Country	Net	MCCMNC	Dial code	Traffic type
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	Brexit Telecom -...	Wizard Telecom...	Canada	Rogers Wireles...	302370		MT
2	Brexit Telecom -...	Dorado El Telec...	Indonesia	Telkomsel	510010		MT
3	Brexit Telecom -...	Dorado El Telec...	Malaysia	DiGi Telecomm...	502016		MT
4	ConTIGO Mobil...	SoloVesi - Stan...	Burundi	Smart Mobile	642007		MT
5	Dorado El Telec...	ConchisCall - W...	Brunei Darussal...	All networks	528		MT
6	Glasgow Range...	Award Wieners ...	Cyprus	Cytamobile-Vod...	280001		MT
7	Hamlet Telecom...	Dorado El Telec...	Italy	Vodafone Omnit...	222010		MT
8	Hamlet Telecom...	Dorado El Telec...	Italy	Wind Telecomu...	222088		MT
9	No Llamar Oy - ...	Brexit Telecom -...	Oman	OMAN MOBILE	422002		MT

Report example

10.13 ASR alert (SMS Alert)

ASR alert (SMS) is a report that gathers information at regular intervals and sends notifications if preset ASR threshold values are exceeded.



ASR alert (SMS) report parameters

Define the report parameters:

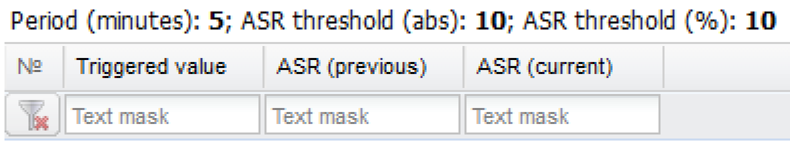
- *Period (minutes)*: the period for which the data is calculated

NOTE: The report will only be sent if the ASR exceeded the threshold values. It is recommended to set the period to 5 minutes.

- *ASR threshold (abs)*: ignore routes with ASR below this value
- *ASR threshold (%)*: send alert when ASR drops by this percentage as compared to the previous period

In the right hand panel select *Export to file* and *Send to email*, and specify the email address(es) for sending the report. Set the schedule (for example, configure the report to run every 5 minutes).

According to the settings illustrated above, and the 5-minute schedule, the System will check all routes every 5 minutes, compare the ASR values to those in the previous 5 minutes and notify the System owner of any events when the ASR value drops by 10 percent. An example of the report is illustrated below.

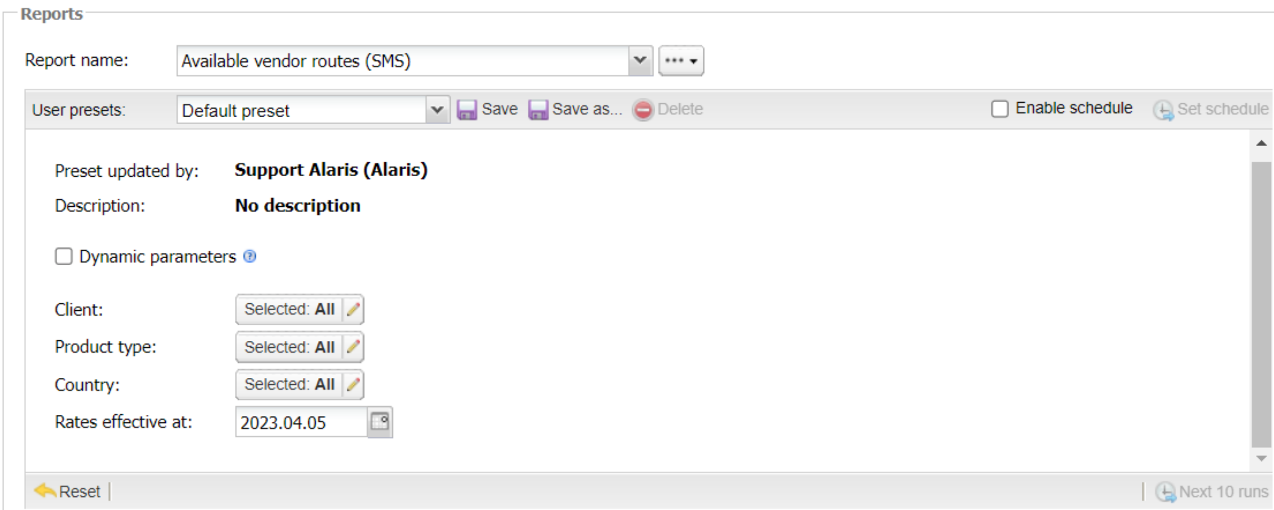


ASR alert (SMS) report

NOTE: This report can be used as an example for creating other alerting reports that are sent to the user only when a preset threshold is exceeded.

10.14 Available vendor routes (Reference)

The *Available vendor routes (Reference)* report shows the vendors that can terminate a message for specific MCCMNCs available in a customer rate deck.

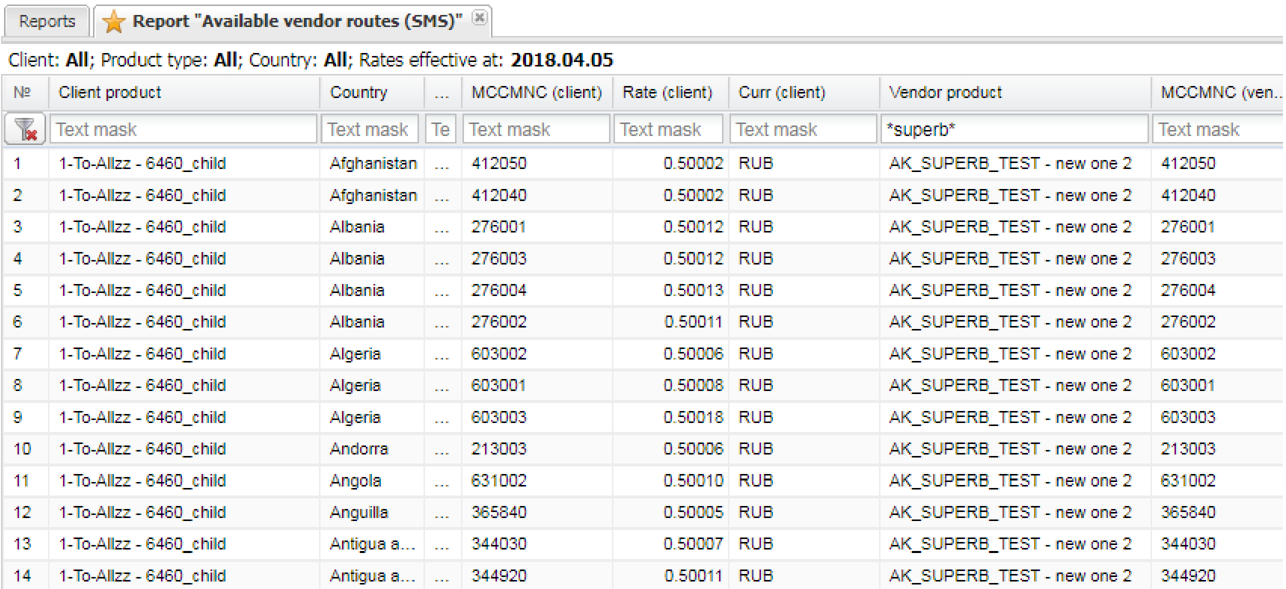


Available vendor routes (Reference) report settings

Specify the following report parameters:

- *Client*
- *Product type*
- *Country*
- *Rates effective at*: specify the date when the rate becomes active

An example of the report is shown in the figure below.



Reports | Report "Available vendor routes (SMS)"

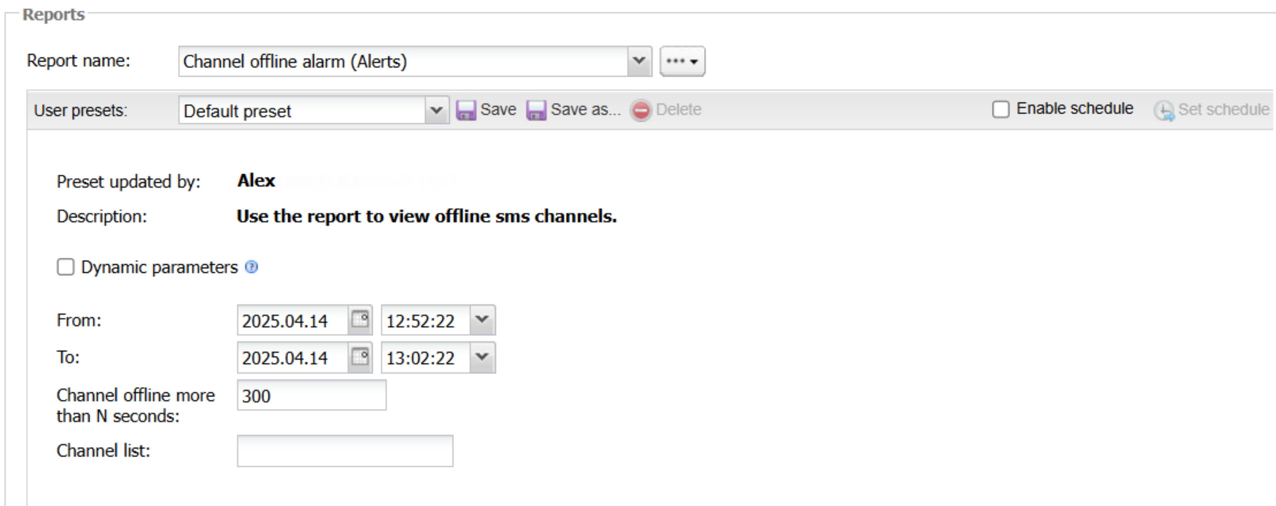
Client: **All**; Product type: **All**; Country: **All**; Rates effective at: **2018.04.05**

№	Client product	Country	...	MCCMNC (client)	Rate (client)	Curr (client)	Vendor product	MCCMNC (ven..
	Text mask	Text mask	Te	Text mask	Text mask	Text mask	*superb*	Text mask
1	1-To-Allzz - 6460_child	Afghanistan	...	412050	0.50002	RUB	AK_SUPERB_TEST - new one 2	412050
2	1-To-Allzz - 6460_child	Afghanistan	...	412040	0.50002	RUB	AK_SUPERB_TEST - new one 2	412040
3	1-To-Allzz - 6460_child	Albania	...	276001	0.50012	RUB	AK_SUPERB_TEST - new one 2	276001
4	1-To-Allzz - 6460_child	Albania	...	276003	0.50012	RUB	AK_SUPERB_TEST - new one 2	276003
5	1-To-Allzz - 6460_child	Albania	...	276004	0.50013	RUB	AK_SUPERB_TEST - new one 2	276004
6	1-To-Allzz - 6460_child	Albania	...	276002	0.50011	RUB	AK_SUPERB_TEST - new one 2	276002
7	1-To-Allzz - 6460_child	Algeria	...	603002	0.50006	RUB	AK_SUPERB_TEST - new one 2	603002
8	1-To-Allzz - 6460_child	Algeria	...	603001	0.50008	RUB	AK_SUPERB_TEST - new one 2	603001
9	1-To-Allzz - 6460_child	Algeria	...	603003	0.50018	RUB	AK_SUPERB_TEST - new one 2	603003
10	1-To-Allzz - 6460_child	Andorra	...	213003	0.50006	RUB	AK_SUPERB_TEST - new one 2	213003
11	1-To-Allzz - 6460_child	Angola	...	631002	0.50010	RUB	AK_SUPERB_TEST - new one 2	631002
12	1-To-Allzz - 6460_child	Anguilla	...	365840	0.50005	RUB	AK_SUPERB_TEST - new one 2	365840
13	1-To-Allzz - 6460_child	Antigua a...	...	344030	0.50007	RUB	AK_SUPERB_TEST - new one 2	344030
14	1-To-Allzz - 6460_child	Antigua a...	...	344920	0.50011	RUB	AK_SUPERB_TEST - new one 2	344920

Available vendor routes (Reference) report

10.15 Channel offline alarm (Alerts)

The *Channel offline alarm (Alerts)* report shows the list of SMS channels that have been offline for a period longer than set in the field *Channel offline more than N seconds*.

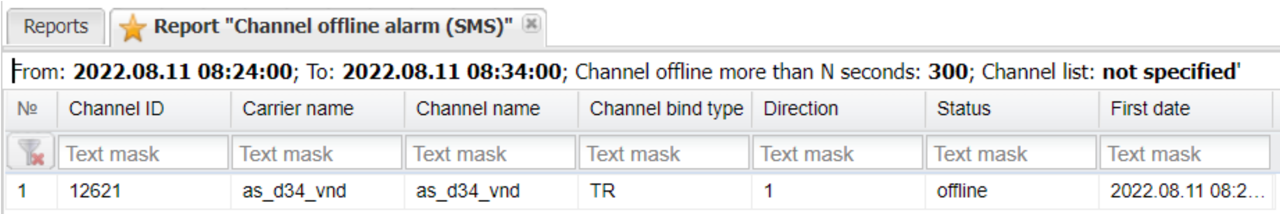


Channel offline alarm (Alerts) report settings

Specify the following parameters:

- *From/To*: report period
- *Channel offline more than N seconds*: an alert is sent out if the channel has been offline more than N seconds
- *Channel list*: channel IDs, comma-separated. If left empty, all channels are taken into account

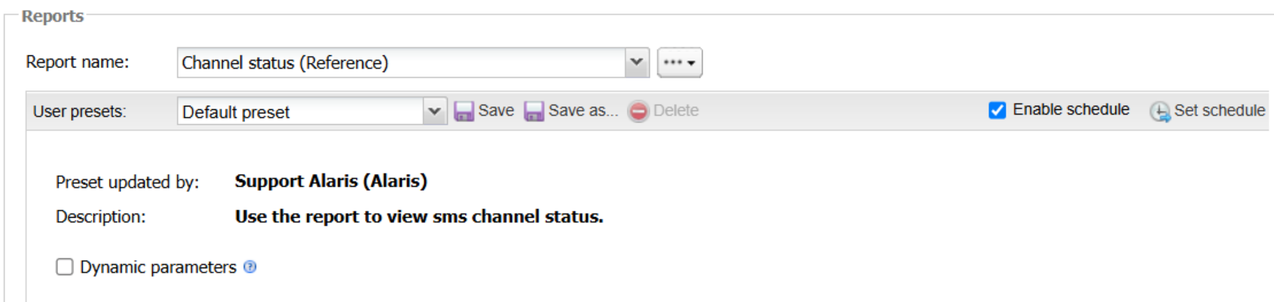
An example of the report is shown in the figure below.



Channel offline alarm (Alerts) report

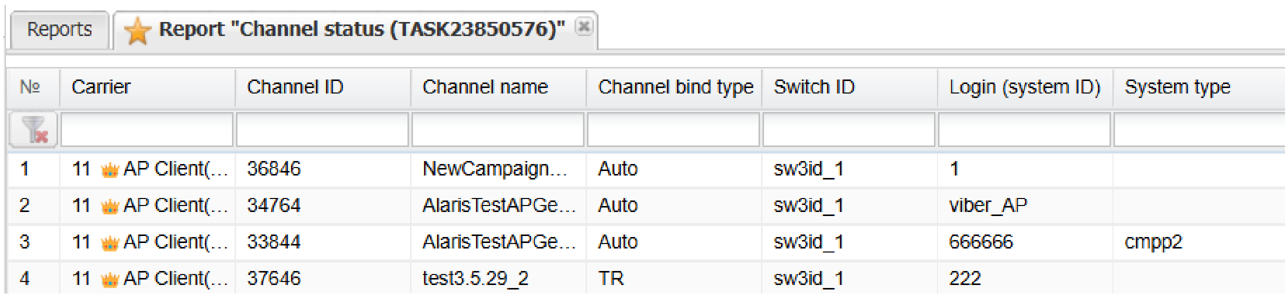
10.16 Channel status (Reference)

The *Channel status (Reference)* report shows the current state of client and vendor SMPP binds, and is updated every minute. This report is highly instrumental when establishing connection with a new partner carrier.



Channel status (Reference) report parameters

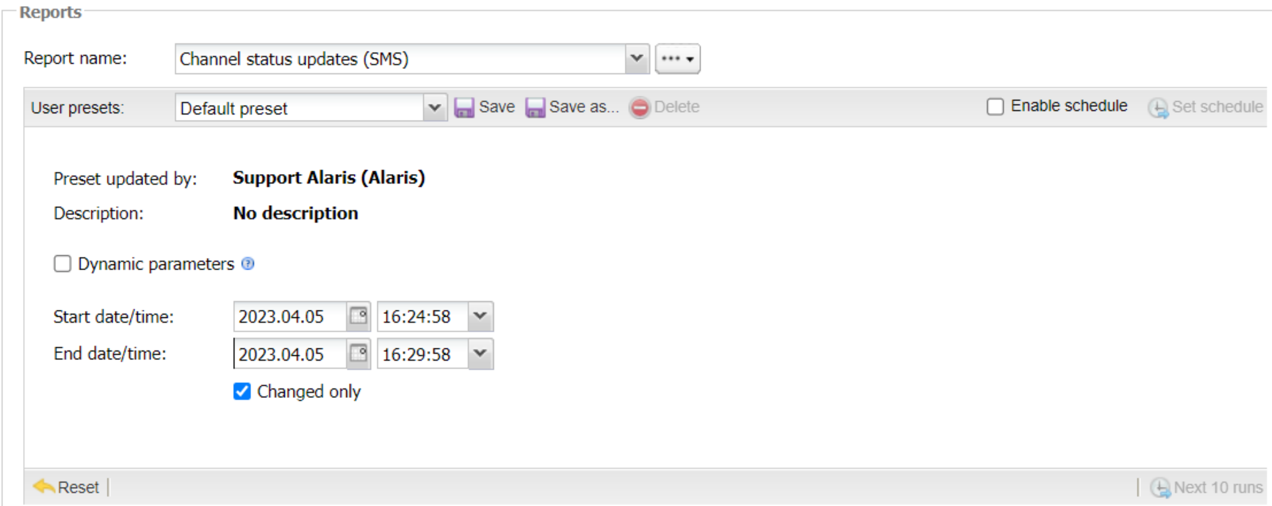
An example of the report is shown in the figure below.



Channel status (Reference) report

10.17 Channel status updates (Reference)

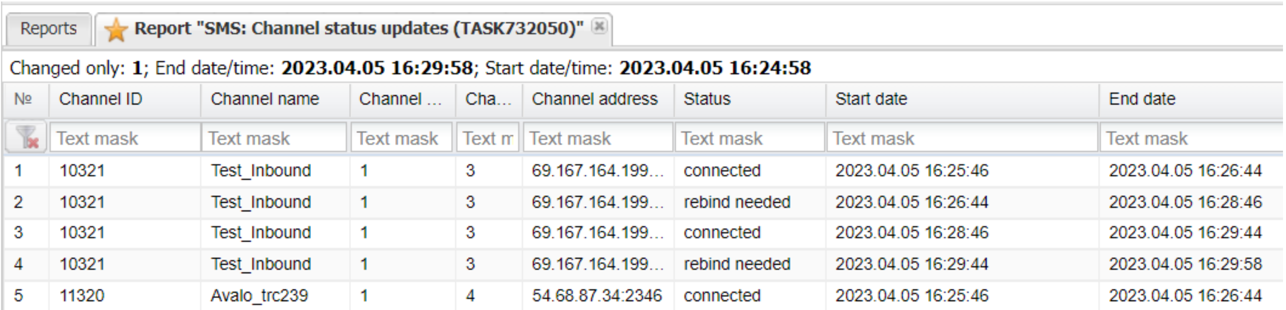
The *Channel status updates (Reference)* report shows the state of client and vendor SMPP binds for a predefined period. It is similar to the *Channel status (Reference)* report except the latter is updated every minute whereas this report serves rather to view the data for a specific period.



Channel status updates (Reference) report settings

Specify the period in the fields *Start/End date/time.* Select *Changed only* to display only channels whose status was changed.

An example of the report is shown in the figure below.



Changed only: **1**; End date/time: **2023.04.05 16:29:58**; Start date/time: **2023.04.05 16:24:58**

№	Channel ID	Channel name	Channel ...	Cha...	Channel address	Status	Start date	End date
	Text mask	Text mask	Text mask	Text m	Text mask	Text mask	Text mask	Text mask
1	10321	Test_Inbound	1	3	69.167.164.199...	connected	2023.04.05 16:25:46	2023.04.05 16:26:44
2	10321	Test_Inbound	1	3	69.167.164.199...	rebind needed	2023.04.05 16:26:44	2023.04.05 16:28:46
3	10321	Test_Inbound	1	3	69.167.164.199...	connected	2023.04.05 16:28:46	2023.04.05 16:29:44
4	10321	Test_Inbound	1	3	69.167.164.199...	rebind needed	2023.04.05 16:29:44	2023.04.05 16:29:58
5	11320	Avalo_trc239	1	4	54.68.87.34:2346	connected	2023.04.05 16:25:46	2023.04.05 16:26:44

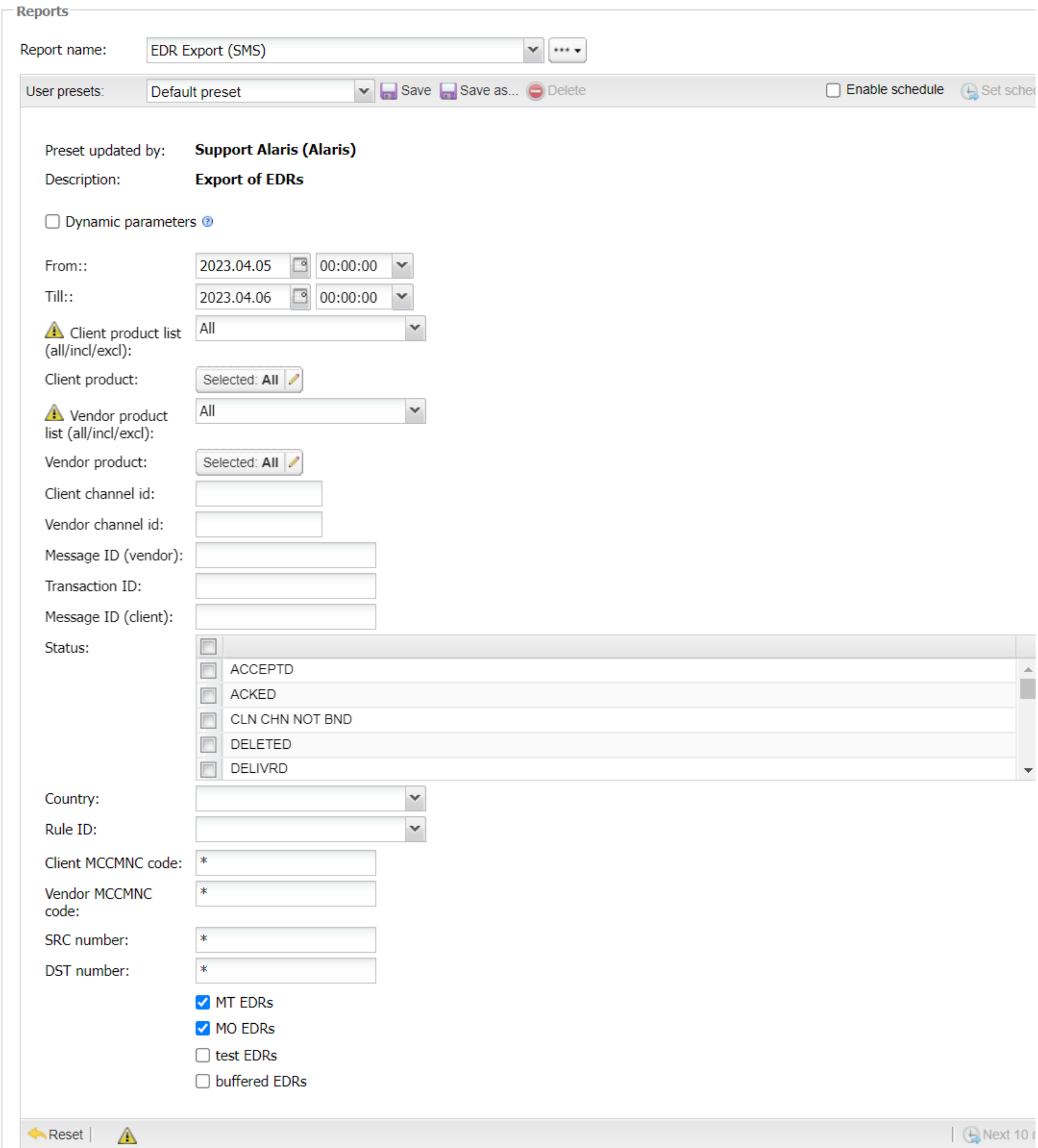
Channel status updates (Reference) report

NOTE: If it takes less than a minute to rebind an SMPP channel, the change may not be logged because the Oracle process collects channel statuses once per minute.

10.18 EDR export (Administration)

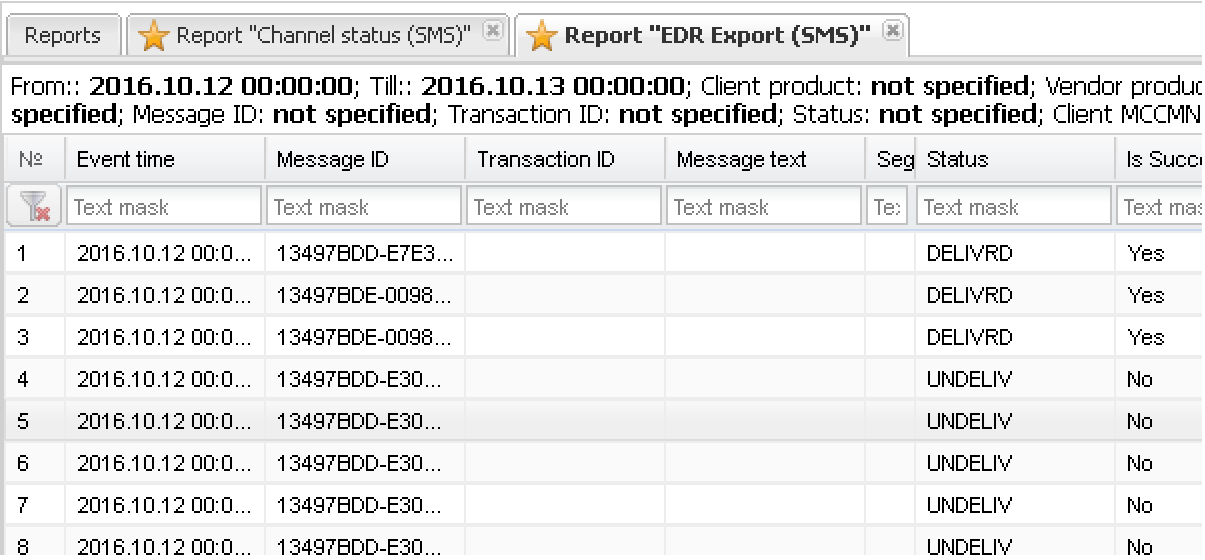
The *EDR Export (Administration)* report serves to export EDR records as XSL files.

Select appropriate parameters as shown in the figure below.



EDR Export (SMS) report parameters

An example of the report is shown in the figure below.



EDR Export report

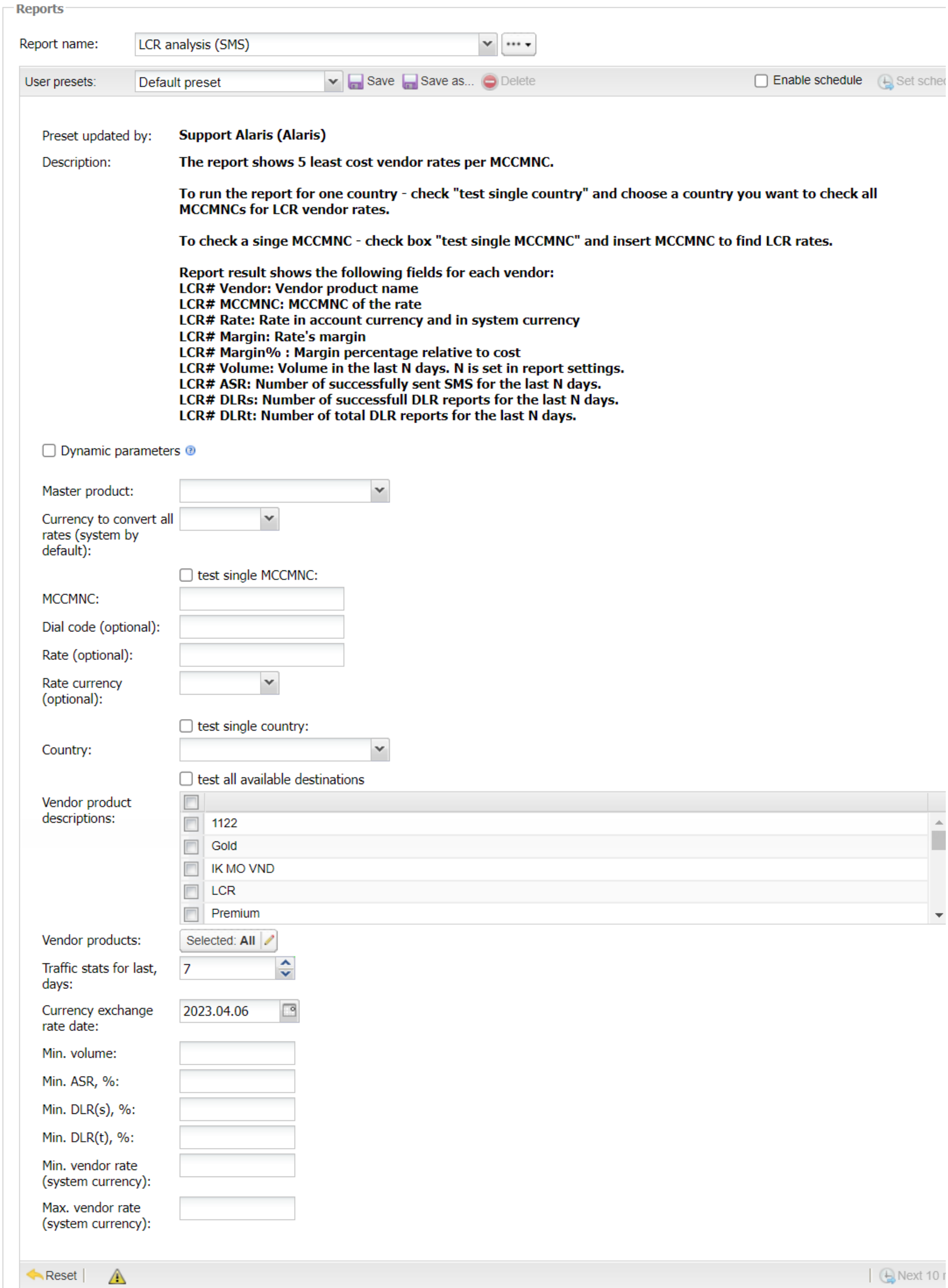
NOTE: The *Client cost* and *Vendor cost* fields in the report are calculated based on the *SMS billing option* selected for the product. See also the Alaris YouTube video.

For column descriptions, refer to SMS\EDR management\EDR export tool 371.

Alternatively, EDR records can be exported in the SMS\Analytics 363 page using the  button.

10.19 LCR analysis (Reference)

LCR analysis (Reference) is a report that allows comparing a product with least cost rates that exist in the System. The report shows five least cost vendors per MCCMNC.



LCR Analysis settings

Set the appropriate parameters as detailed below:

- *Master product*: the product to which least cost rates will be compared
- *Currency to convert all rates (system by default)*: select to convert all rates to the specified currency. If not set, rates are converted to the System currency. See also the Alaris YouTube video
- *test single MCCMNC*: check the flag and supply the MCCMNC code in the field below for least cost rates for the MCCMNC. The *Master product* field becomes inactive
- *Dial code*, *Rate*, *Rate currency* (optional): supply the parameters if necessary
- *test single country*: check the flag to generate a report for a single country; select the country in the drop-down list below
- t*est all available destinations*: select to search the rates for all MCCMNCs available in the reference book
- *Vendor product descriptions*: select the appropriate product types
- *Vendor products*: click to open the product multi-picker and choose the products
- *Traffic stats for past, days*: indicate the period (in days) for which the report will be generated
- *Currency exchange rate date*: select the date of the currency exchange rate
- *Min. volume*: indicate the minimum amount of SMS
- *Min. ASR, %*: specify the minimum ASR value
- *Min. DLR(s)*, %: provide the minimum DLR(s) value (the percentage of SMS successfully received by the end user with respect to the number of messages received by the carrier)
- *Min. DLR(t)*, %: provide the minimum DLR(t) value (the percentage of SMS delivered to the end user with respect to the total number of message send attempts)
- *Min./Max. vendor rate (System currency)*: specify the minimum and/or maximum vendor rate

The report is illustrated below.

Master product: **not specified**; **test single MCCMNC:**; MCCMNC: **1213455**; Dial code (optional): **not specified**; Rate (optional
Vendor product types: **Gold,LCR,Premium,Premium SMS,Retail,Silver,Special,Standard,Wholesale**; Vendor products: **All**;
specified; Min. ASR, %: **not specified**; Min. DLR(s), %: **not specified**; Min. DLR(t), %: **not specified**

№	Master product	Country	Network	MCCMNC	Mas	LCR1: Vendor	LCR1: ...	LCR1: Rate
	Text mask	Text ma	Text mask	Text mask	Te:	Text mask	Text mask	Text mask
1	CLIENT RATE TEST			1213455				
2	COUNTRY TEST	Finland	Alands Mobiltelefon	244014		Hen-Parking Zone - LCR	244014	0.00080 (€ 0.00080)
3	COUNTRY TEST	Finland	All networks	244		Hen-Parking Zone - LCR	244013 244021 244091	0.00100 (€ 0.00100) 0.00100 (€ 0.00100) 0.00100 (€ 0.00100)
4	COUNTRY TEST	Finland	DNA Ltd	244003		Hen-Parking Zone - LCR	244003	0.00060 (€ 0.00060)
5	COUNTRY TEST	Finland	DNA Ltd	244012		Hen-Parking Zone - LCR	244012	0.00060 (€ 0.00060)
6	COUNTRY TEST	Finland	DNA Verkot Oy	244004		Hen-Parking Zone - LCR	244	0.00080 (€ 0.00080)
7	COUNTRY TEST	Finland	Elisa Corporation	244021		Hen-Parking Zone - LCR	244021	0.00100 (€ 0.00100)
8	COUNTRY TEST	Finland	Elisa Oyj	244005		Hen-Parking Zone - LCR	244005	0.00090 (€ 0.00090)
9	COUNTRY TEST	Finland	Globalstar Northern ...	244000		Hen-Parking Zone - LCR	244	0.00080 (€ 0.00080)
10	COUNTRY TEST	Finland	Sonera	244091		Hen-Parking Zone - LCR	244091	0.00100 (€ 0.00100)

LCR Analysis report

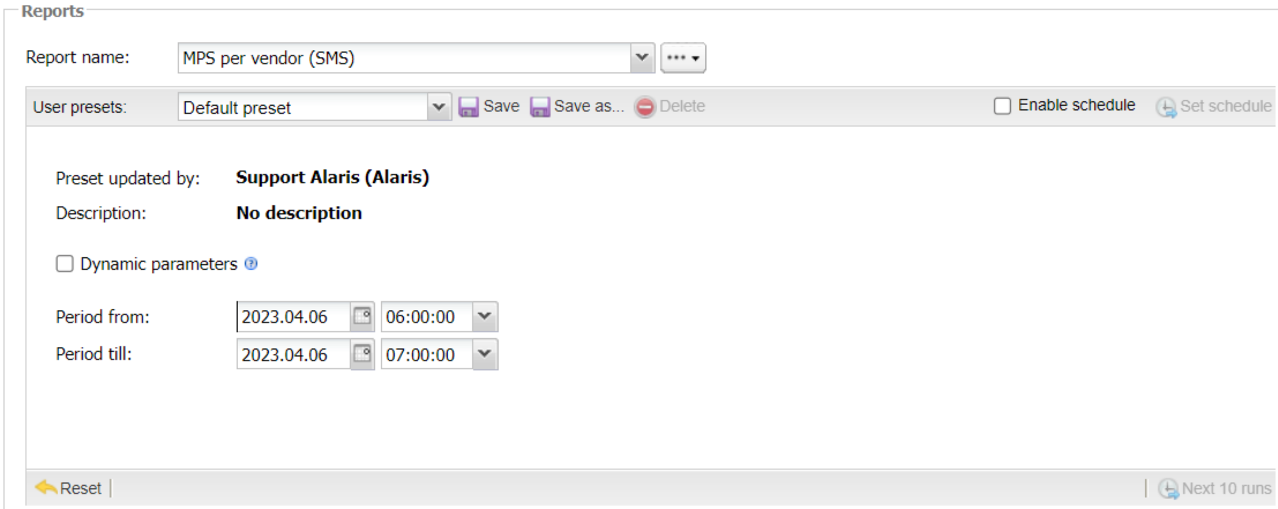
The report contains the following fields for each vendor:

- *LCR# Vendor*: vendor product name
- *LCR# MCCMNC*: MCCMNC of the rate
- *LCR# Rate*: rate in account currency and in System currency
- *LCR# Margin*: rate margin
- *LCR# Margin%*: margin percentage relative to cost
- *LCR# Volume*: volume in the past N days. N is configured in the report settings (*Traffic stats for last, days* parameter)
- *LCR# ASR*: number of successfully sent SMS to total attempts for the past N days
- *LCR# DLRs*: number of delivered messages to successful attempts for the past N days
- *LCR# DLRt*: number of delivered messages to total attempts for the past N days

NOTE: Blocked rates are not shown in the report.

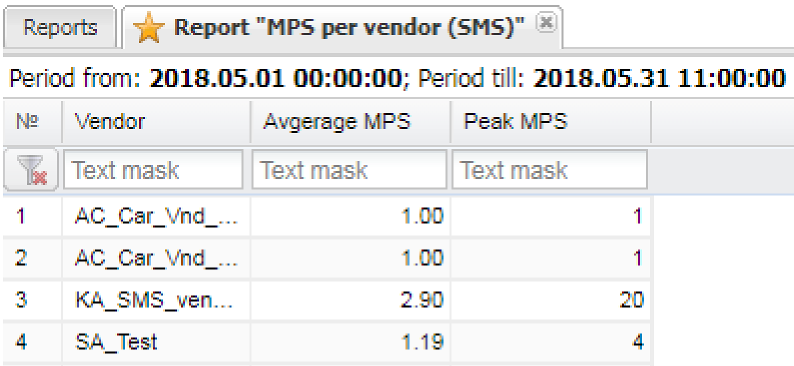
10.20 MPS per vendor (Reference)

The *MPS per vendor (Reference)* report shows the number of SMS per second that were actually sent to the vendor (the average for the period and the maximum number of SMS).



MPS per vendor (Reference) report settings

Specify the period. An example of the report is shown in the figure below.



№	Vendor	Avgerage MPS	Peak MPS
	Text mask	Text mask	Text mask
1	AC_Car_Vnd_...	1.00	1
2	AC_Car_Vnd_...	1.00	1
3	KA_SMS_ven...	2.90	20
4	SA_Test	1.19	4

MPS per vendor (Reference) report

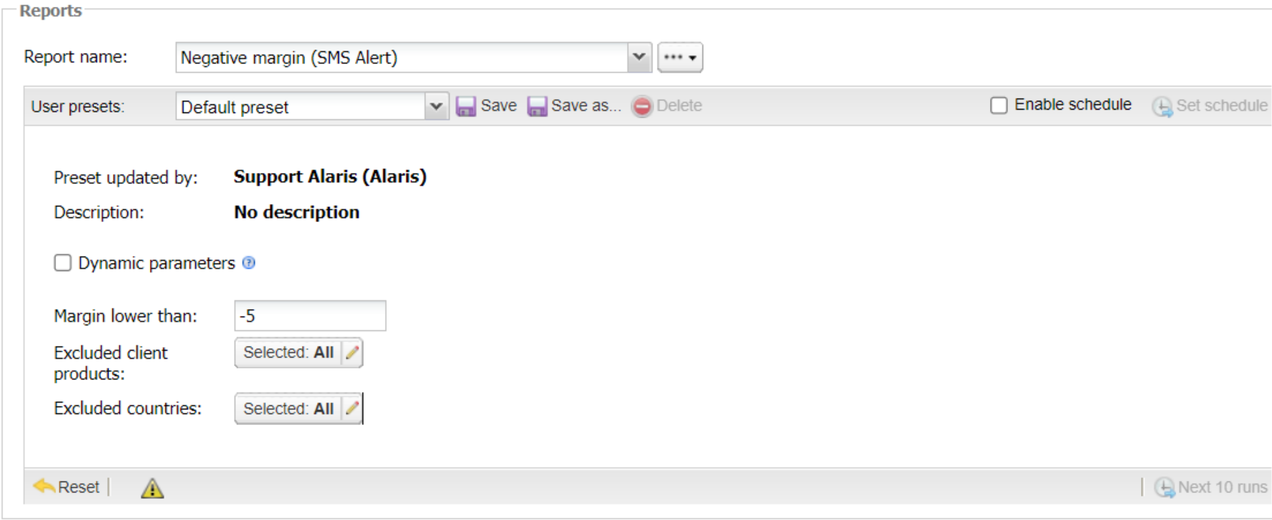
The report contains the following columns:

- *Vendor*
- *Average MPS*: average number of messages per second for the period
- *Peak MPS*: maximum number of messages per second

Find out more about the report in the Alaris YouTube video.

10.21 Negative margin alert (Alerts)

The *Negative margin (Alerts)* report provides information about the margin for SMS exchange dropping below a predefined minimum during the past hour. It is similar to Negative margin (SMS) 313 report - except that the latter shows more elaborate details and allows specifying a period for data collection, whereas the *Negative margin (SMS Alert)* only shows data for the past hour.

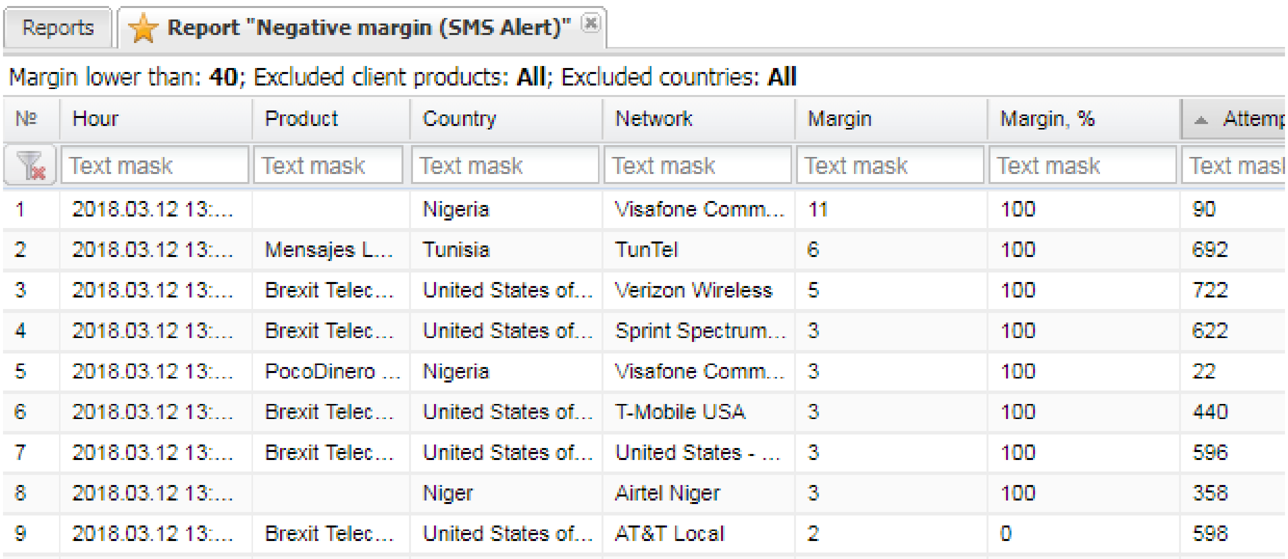


Negative margin alert (Alerts) report settings

Specify the following report parameters:

- *Margin lower than*: the value that triggers report generation (can be positive, zero or negative)
- *Excluded client products*: select client products to be excluded from the report
- *Excluded countries*: select countries to be excluded from the report

An example of the report is shown in the figure below.



№	Hour	Product	Country	Network	Margin	Margin, %	Attemp
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text masl
1	2018.03.12 13:...		Nigeria	Visafone Comm...	11	100	90
2	2018.03.12 13:...	Mensajes L...	Tunisia	TunTel	6	100	692
3	2018.03.12 13:...	Brexit Telec...	United States of...	Verizon Wireless	5	100	722
4	2018.03.12 13:...	Brexit Telec...	United States of...	Sprint Spectrum...	3	100	622
5	2018.03.12 13:...	PocoDinero ...	Nigeria	Visafone Comm...	3	100	22
6	2018.03.12 13:...	Brexit Telec...	United States of...	T-Mobile USA	3	100	440
7	2018.03.12 13:...	Brexit Telec...	United States of...	United States - ...	3	100	596
8	2018.03.12 13:...		Niger	Airtel Niger	3	100	358
9	2018.03.12 13:...	Brexit Telec...	United States of...	AT&T Local	2	0	598

Negative margin alert (Alerts) report

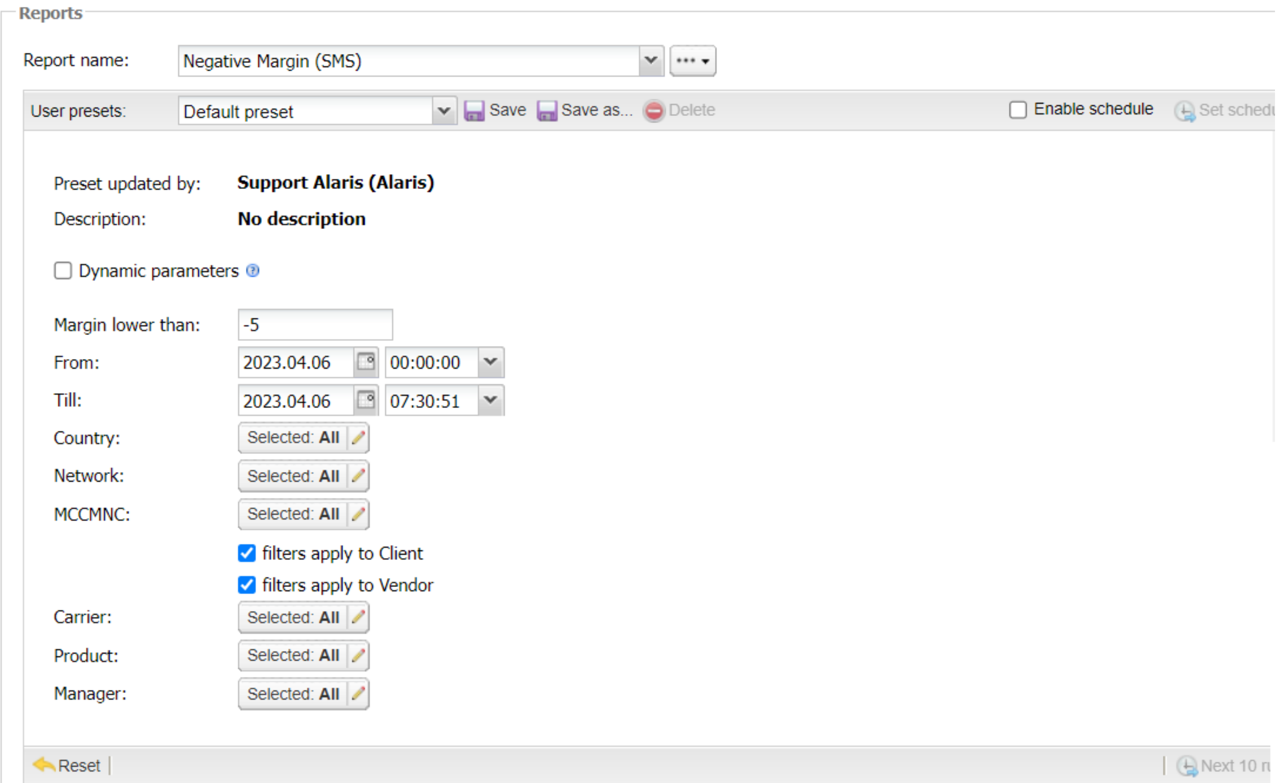
The report contains the following columns:

- *Hour*
- *Product*
- *Country*
- *Network*

- *Margin*
- *Margin, %*
- *Attempts, last hour*: SMS send attempts in the past hour

10.22 Negative margin detailed (Finance)

The *Negative margin detailed (Finance)* report provides information about the margin for SMS exchange dropping below a predefined minimum. It is similar to Negative margin alert (Alerts) 311 report but shows more detailed statistics.



Negative margin detailed (Finance) report settings

Specify the following report parameters:

- *Margin lower than*: the value that triggers report generation (can be positive, zero or negative)
- *From/till*: the statistics collection period
- *Country*
- *Network*
- *MCCMNC*
- *Filters apply to Client/Vendor*
- *Carrier*
- *Product*
- *Manager*

An example of the report is shown in the figure below.

Reports | Report "Negative Margin (SMS)"

Negative margin threshold: **40**; From: **2018.03.15 00:00:00**; Till: **2018.03.15 11:42:55**

№	Client	Vendor	Country	Network	MCCMNC	Client's Rate	Client's Currency
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	Wizard Telecom...	Award Wieners ...	Cyprus	MTN Cyprus	280010	0.00450000000...	EUR
2	No Llamar Oy P...	Market First Wh...	Netherlands	KPN B.V.	204008	0.02250000000...	EUR
3	No Llamar Oy P...	MagusWorld Co...	Spain	MVNO Vodafon...	214025	0.0221	EUR

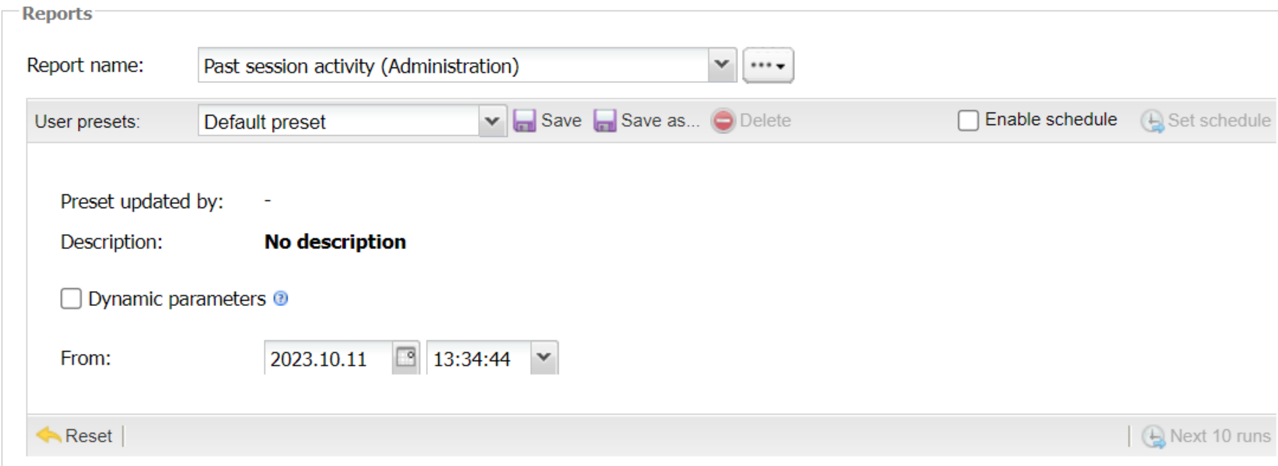
Negative margin detailed (Finance) report

The report contains the following columns:

- *№*
- *Client*
- *Vendor*
- *Country*
- *Network*
- *MCCMNC*
- *Client's Rate*
- *Client's Currency*
- *Vendor's Rate*
- *Vendor's Currency*
- *Margin, EUR*: the margin in System currency
- *Margin (past), EUR:* the margin in System currency for the specified period less 15 minutes (for example, if you selected the period from 00:00 till 10:30, this field will show the margin from 00:00 till 10:15
- *Count*: the count of SMS send attempts for the period
- *First/Last Event time*: the date and time of the first/last SMS send attempt

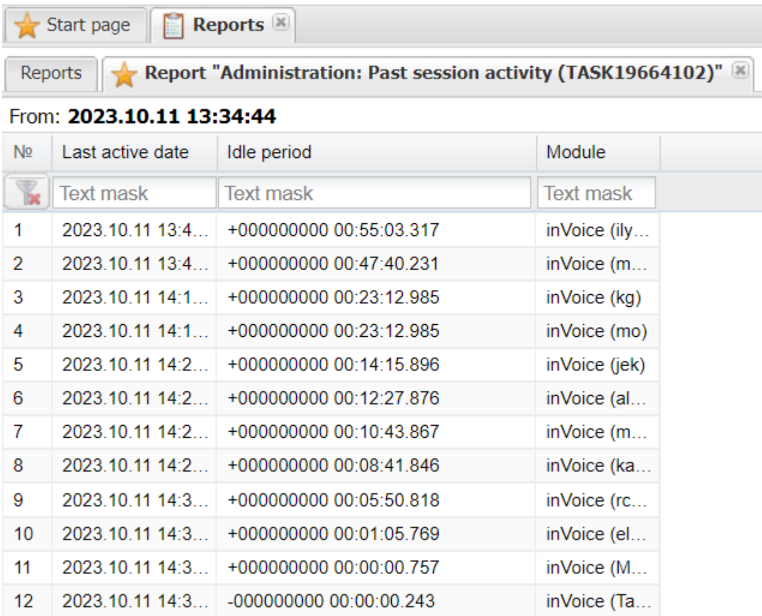
10.23 Past session activity (Administration)

The *Past session activity (Administration)* report serves to show sessions that involved any activity in the System interfaces.



Past session activity (Administration) report settings

An example of the report is shown in the figure below.



From: **2023.10.11 13:34:44**

№	Last active date	Idle period	Module
	Text mask	Text mask	Text mask
1	2023.10.11 13:4...	+000000000 00:55:03.317	inVoice (ily...
2	2023.10.11 13:4...	+000000000 00:47:40.231	inVoice (m...
3	2023.10.11 14:1...	+000000000 00:23:12.985	inVoice (kg)
4	2023.10.11 14:1...	+000000000 00:23:12.985	inVoice (mo)
5	2023.10.11 14:2...	+000000000 00:14:15.896	inVoice (jek)
6	2023.10.11 14:2...	+000000000 00:12:27.876	inVoice (al...
7	2023.10.11 14:2...	+000000000 00:10:43.867	inVoice (m...
8	2023.10.11 14:2...	+000000000 00:08:41.846	inVoice (ka...
9	2023.10.11 14:3...	+000000000 00:05:50.818	inVoice (rc...
10	2023.10.11 14:3...	+000000000 00:01:05.769	inVoice (el...
11	2023.10.11 14:3...	+000000000 00:00:00.757	inVoice (M...
12	2023.10.11 14:3...	-000000000 00:00:00.243	inVoice (Ta...

Past session activity (Administration) report

10.24 Rate generator (Rates)

Rate generator (Rates) is a report that allows creating rates based on preconfigured base cost and markup calculation rules. This tool serves to update client rates in accordance with vendor rates and desired markup.

Reports

Report name: Rate generator (SMS)

User presets: Default preset | Save | Save as... | Delete | Enable schedule | Set sche

Preset updated by: **Support Alaris (Alaris)**

Description: **Report serves as a rate generating tool for SMS.**

General descriprion:
System operator chooses client product, e.212 list and Network list to narrow down the exact MCCMNC for which they want to generate SMS rates.
Then a period of time is defined. To calculate base cost of SMS termination system operator should choose and narrow down the list of Vendors, vendor rates and their quality parameters over chosen period.
After base cost of SMS termination is defined, Markup is added to base cost to get final rates.

Report settings:
Client Product: select client product, to define for which MCCMNC rates will be calculated for.
e.212 mask: select mask of MCCMNC, to define for which MCCMNC rates will be calculated for.
Network list: select specific networks, to define for which MCCMNC rates will be calculated for.

X Price in the LCR List: define which rate from the cheapest will be taken for calculation of rates. 1 means the cheapest rate for each MCCMNC is taken into account. 5 means 4 cheapest vendor rates will not be taken into account for base rate calculation.
Period From, Period to: select period of time for rate generator to select vendor rates and statistics from.
Volume greater than: parameter defines how much volume should be sent to MCCMNC of a vendor for it to be considered active. Inactive rates are not taken into account. Leave field blank if you want to calculate based on all rates irrespective of the fact if there was traffic or not.
ASR higher than: parameter defines minimum ASR of vendor MCCMNC for it to be considered for rate calculation. Similar to parameter "Volume greater than".
DLR(T) greater than: Total DLR required for MCCMNC to be taken into account for rate calculation. Similar to parameter "Volume greater than".
DLR(S) greater than: minimum Successful DLR percentage MCCMNC of a vendor should have to be taken into account for rate calculation. Similar to parameter "Volume greater than".

Cost base calculation type: Defines how base cost of termination is calculated.
LCR: takes cheapest vendor rate for MCCMNC among the vendors that qualify based on abovementioned parameters and have rates for the period chosen above.
Average Cost: system takes all qualifying vendor's traffic for the period and defines average weighed cost os 1 sms as base cost of termination.

Markup type: defines how markup is added.
Absolute: adds a fixed amount in system currency to base rate.
Relative: adds a percentage of base cost as markup.

Markup:amount added if Markup type is Absolute or percentage of base cost if Markup type is Relative.
Vendor list type: Inclusive or Exclusive list of vendors to narrow down the field of searching to define base cost of termination.
Vendor list: defines the list of vendors among which base cost of termination of SMS will be defined(if Vendor list type is inclusive) or list of vendors which will be excluded from base cost of termination calculation (If Vendor list type is exclusive)

☐ Dynamic parameters

Client product:

e.212 mask: *

Country list:
- ☐ Afghanistan
- ☐ Albania
- ☐ Algeria
- ☐ American Samoa
- ☐ Andorra

X price in the LCR list: 1

Period from: 2023.03.30

Period to: 2023.04.06

Volume greater than:

ASR higher than:

DLR (T) higher than:

DLR (S) higher than:

Cost base calculation type:

Absolute markup:

Relative markup:

☐ Use longer matches for client MCC

Vendor list type: All

Vendor list: Selected: **All**

Rate generator (Rates) report settings

Configure the following parameters:

- *Client product*: select a product for which MCCMNC rates will be calculated

NOTE: Check that MCCMNC rates are uploaded in the product in order for the report to be generated.

- *e.212 mask*: set the mask of MCCMNC
- *Country list*: specify the countries
- *X price in the LCR list*: define which rate from the cheapest will be taken for the calculation of rates. *1* means the cheapest rate for each MCCMNC is taken into account. *5* means the fifth cheapest rate will be considered; the previous four cheapest vendor rates will not be taken into account for base rate calculation
- *Period from*, *Period to*: select the period for which statistics will be selected
- *Volume greater than*: define the traffic volume that should be sent to the vendor MCCMNC rate for it to be considered active. Inactive rates are not taken into account. Leave the field blank to consider all rates irrespective of the amount of traffic
- *ASR higher than*, *DLR(T) higher than*, *DLR(S) higher than*: the minimum values of ASR, DLR(T) and DLR(S) respectively of vendor MCCMNC rate to be considered for rate calculation. Similar to the parameter *Volume greater than*.

NOTE: The DLR(T) and DLR(S) are explained in Terms and Acronyms 14.

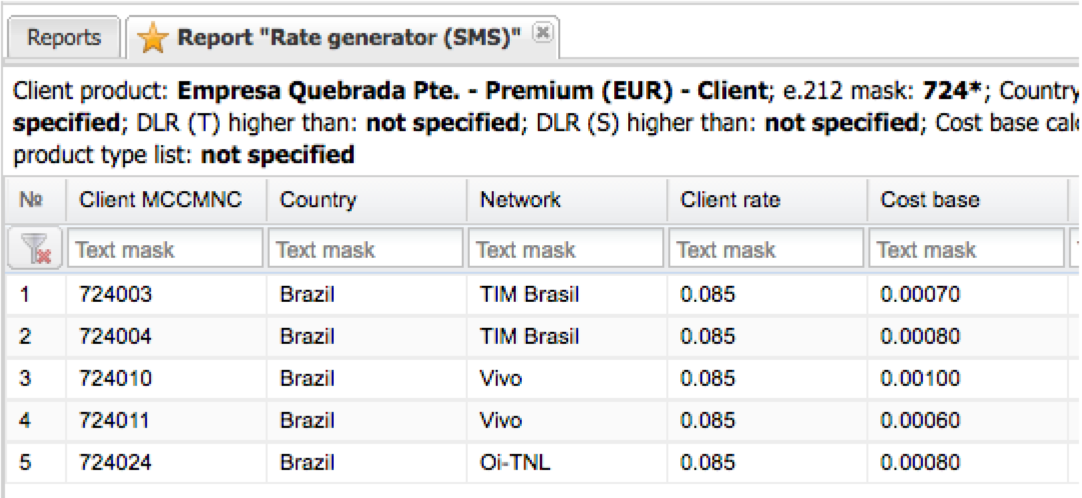
- *Cost base calculation type*: defines the calculation principle of termination base cost. Values include:
  - *Average rate*: the System takes all qualifying vendor's traffic for the period chosen above and defines average weighted cost of one SMS as the base cost of termination
  - *LCR*: the System takes the cheapest vendor rate for the MCCMNC among the vendors that qualify based on the specified parameters and have rates for the period
- *Markup type*: defines how markup is added. Values include:
  - *Relative*: adds a percentage of base cost as markup
  - *Absolute*: adds a fixed amount in System currency to the base cost
- *Use longer matches for client MCC*: check the flag if the client offers a flat rate for an MCC and the vendor offers multiple rates for the MCC. For example, the client offers 202 for Greece and the vendor has rates for 202001, 202002 etc.

NOTE: In case of multiple matches for client MCC (for example, 202001, 202002 etc., the System will use the match with the highest vendor rate.

- *Vendor list type*: *Inclusive* or *Exclusive* list of vendors to narrow down the field of searching to define the base cost of termination
- *Vendor list*: the list of vendors among which the base cost will be defined (if the *Vendor list type* is *Inclusive*) or list of vendors excluded from base cost calculation (if the *Vendor list type* is *Exclusive*)
- *Vendor product type list*: defines whether the Vendor product list is *Inclusive* or *Exclusive* (similar to *Vendor list type*)

- *Vendor product names*: defines the product types for which the base cost will be calculated

An example of the report is shown below.

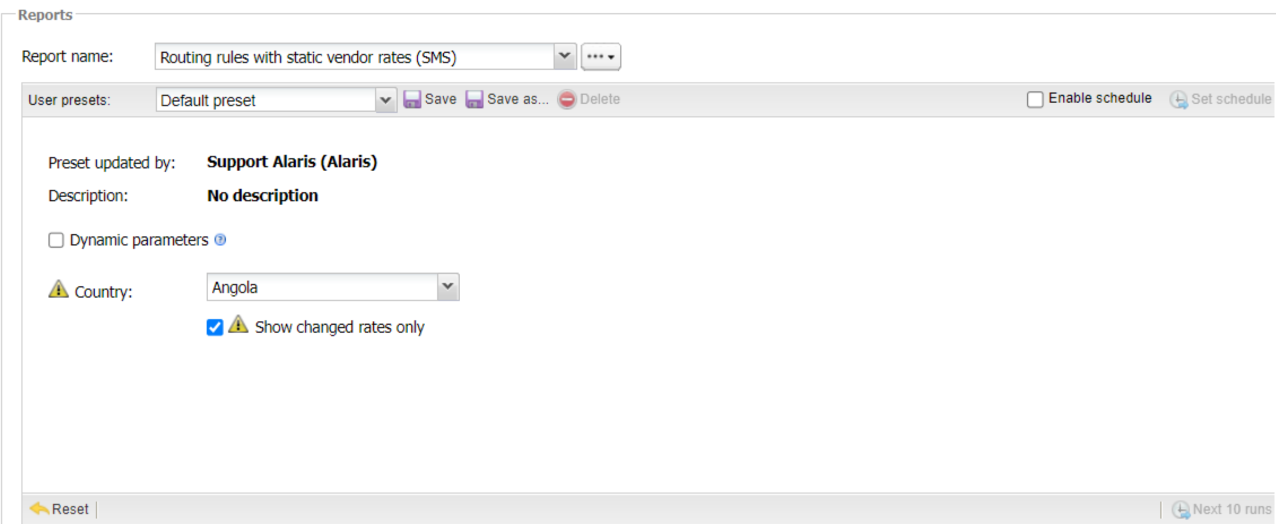


№	Client MCCMNC	Country	Network	Client rate	Cost base
	Text mask	Text mask	Text mask	Text mask	Text mask
1	724003	Brazil	TIM Brasil	0.085	0.00070
2	724004	Brazil	TIM Brasil	0.085	0.00080
3	724010	Brazil	Vivo	0.085	0.00100
4	724011	Brazil	Vivo	0.085	0.00060
5	724024	Brazil	Oi-TNL	0.085	0.00080

Rate generator (Rates) report

10.25 Routing rules with static vendor rates (Reference)

The *Routing rules with static vendor rates (Reference)* report displays the first five vendors from static choices, and their current and future rates.

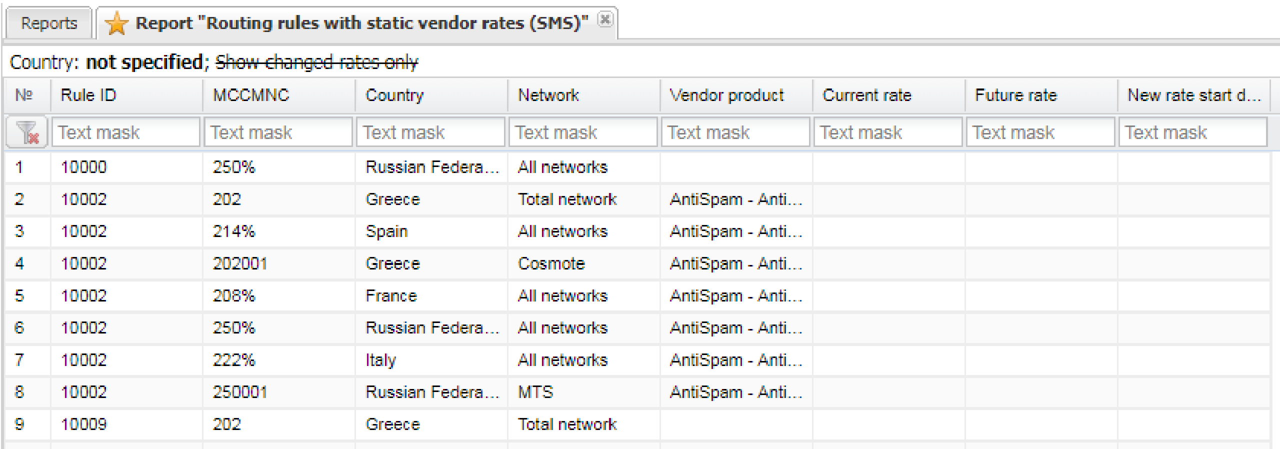


Routing rules with static vendor rates (Reference) report settings

Specify the following report parameters:

- *Country*: select the country for which the report will be generated
- *Show changed rates only*: select to display only rates that were modified

An example of the report is shown in the figure below.



Reports | Report "Routing rules with static vendor rates (SMS)"

Country: **not specified**; ~~Show changed rates only~~

№	Rule ID	MCCMNC	Country	Network	Vendor product	Current rate	Future rate	New rate start d...
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	10000	250%	Russian Federa...	All networks				
2	10002	202	Greece	Total network	AntiSpam - Anti...			
3	10002	214%	Spain	All networks	AntiSpam - Anti...			
4	10002	202001	Greece	Cosmote	AntiSpam - Anti...			
5	10002	208%	France	All networks	AntiSpam - Anti...			
6	10002	250%	Russian Federa...	All networks	AntiSpam - Anti...			
7	10002	222%	Italy	All networks	AntiSpam - Anti...			
8	10002	250001	Russian Federa...	MTS	AntiSpam - Anti...			
9	10009	202	Greece	Total network				

Routing rules with static vendor rates (Reference) report

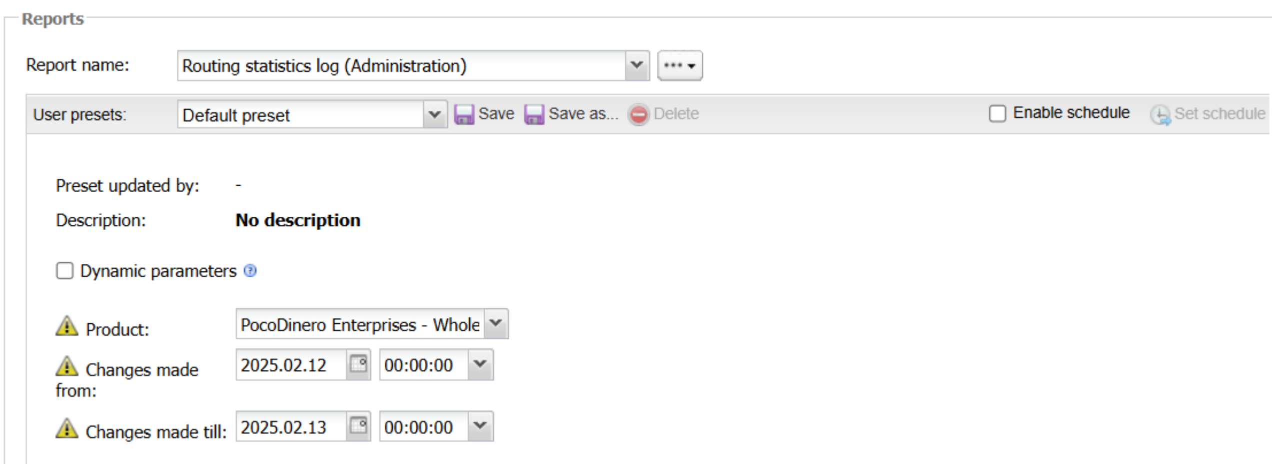
The report contains the following columns:

- *Rule ID*
- *MCCMNC*
- *Country*
- *Network*
- *Vendor product*
- *Current rate*
- *Future rate*
- *New rate start date*

Learn more in the Alaris YouTube video.

10.26 Routing statistics log (Administration)

The *Routing statistics log (Administration)* report serves to view a log of routing statistics. Routing statistics log data is available for the past 24 hours. Logs are cleared at the start of the System task PRV_CLEANUP_SCHEME.

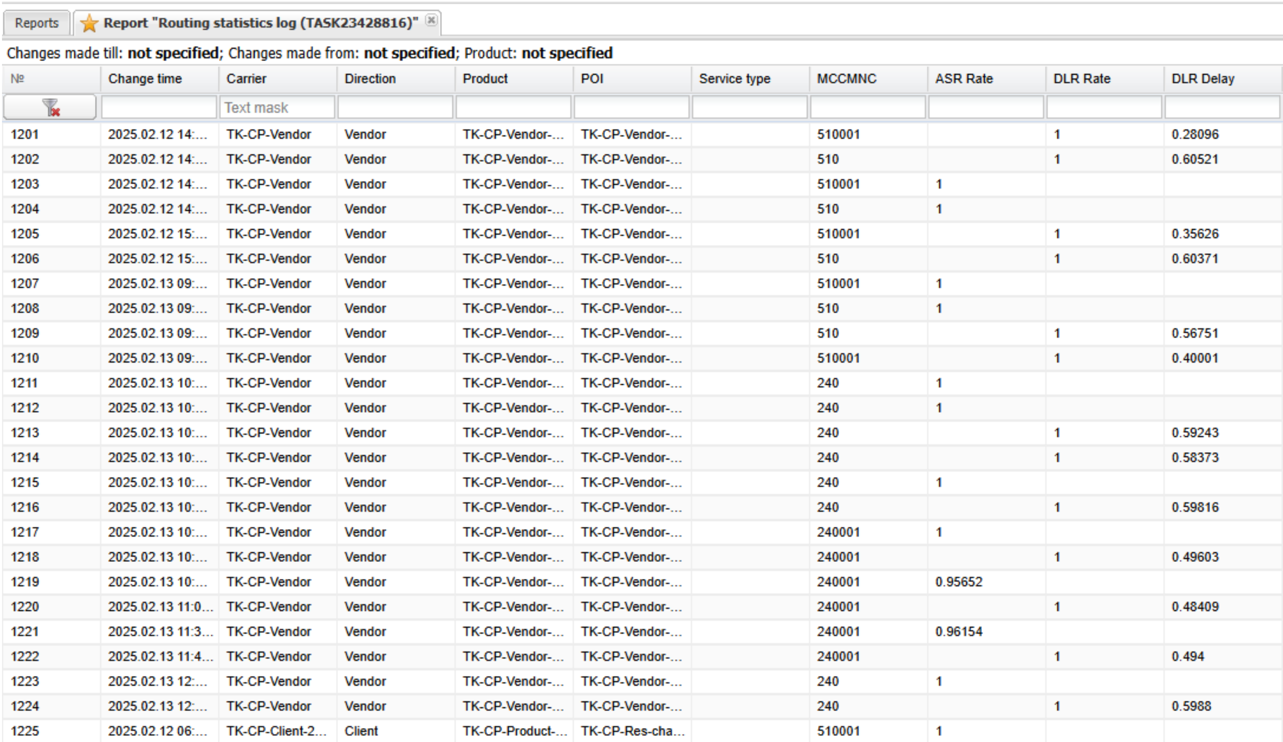


Routing statistics log (Administration) report settings

Specify the following report parameters:

- *Product*
- *Changes made from/till*: specify a period no longer than the past 24 hours.

An example of the report is shown in the figure below.



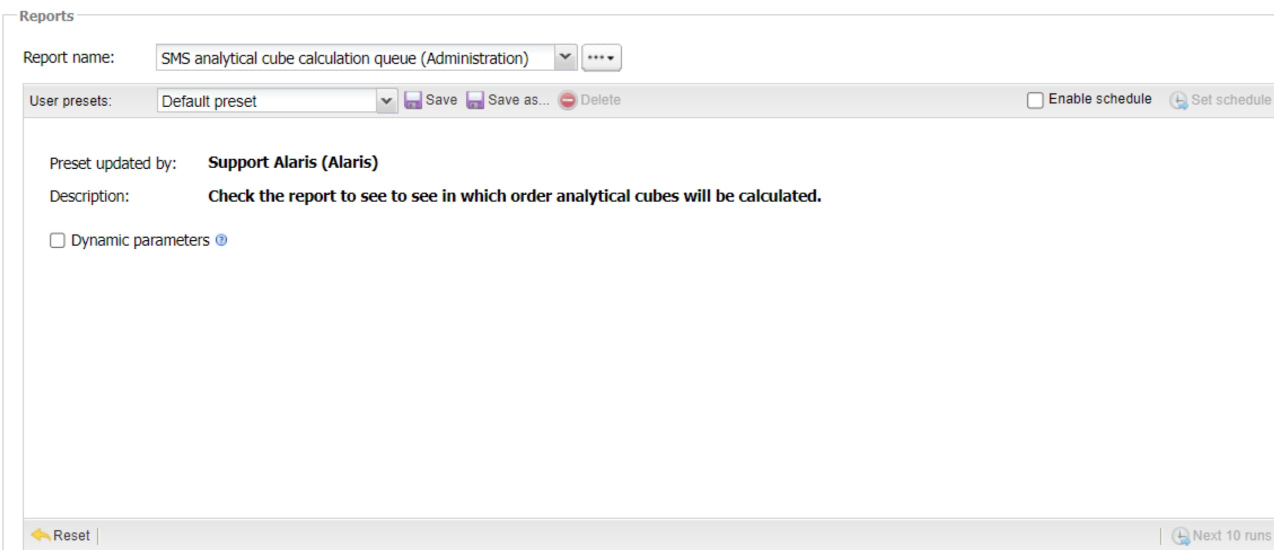
Changes made till: **not specified**; Changes made from: **not specified**; Product: **not specified**

№	Change time	Carrier	Direction	Product	POI	Service type	MCCMNC	ASR Rate	DLR Rate	DLR Delay
		Text mask								
1201	2025.02.12 14:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510001		1	0.28096
1202	2025.02.12 14:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510		1	0.60521
1203	2025.02.12 14:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510001	1		
1204	2025.02.12 14:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510	1		
1205	2025.02.12 15:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510001		1	0.35626
1206	2025.02.12 15:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510		1	0.60371
1207	2025.02.13 09:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510001	1		
1208	2025.02.13 09:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510	1		
1209	2025.02.13 09:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510		1	0.56751
1210	2025.02.13 09:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		510001		1	0.40001
1211	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240	1		
1212	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240	1		
1213	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240		1	0.59243
1214	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240		1	0.58373
1215	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240	1		
1216	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240		1	0.59816
1217	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240001	1		
1218	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240001		1	0.49603
1219	2025.02.13 10:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240001	0.95652		
1220	2025.02.13 11:0...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240001		1	0.48409
1221	2025.02.13 11:3...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240001	0.96154		
1222	2025.02.13 11:4...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240001		1	0.494
1223	2025.02.13 12:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240	1		
1224	2025.02.13 12:...	TK-CP-Vendor	Vendor	TK-CP-Vendor-...	TK-CP-Vendor-...		240		1	0.5988
1225	2025.02.12 06:...	TK-CP-Client-2...	Client	TK-CP-Product-...	TK-CP-Res-cha...		510001	1		

Routing statistics log (Administration) report

10.27 SMS analytical cube calculation queue (Administration)

The *SMS analytical cube calculation queue (Administration)* report serves to monitor the queue of SMS analytical cubes.



SMS analytical cube calculation queue (Administration)

An example of the report is shown in the figure below. It shows a list of cubes that are in queue for calculation.

Start page | Reports

Reports | Report "SMS analytical cube calculation queue (Administration)"

№	Rating	Threshold exceeded	Cube type	Cube date
	Text mask	Text mask	Text mask	Text mask
1	2.8	0	MIN	2021.01.27 13:44:00

SMS analytical cube calculation queue (Administration) report

10.28 SMS analytical cube status (Administration)

Analytical cubes are pre-calculated statistical tables based on the OLAP (online analytical processing) technology. The System aggregates multi-dimensional data for various objects and their combinations. This method allows fast and easy retrieval of any type of statistics – for example, for each client the System knows to which countries the traffic was sent, to which network in each country, to which MCCMNC in each network, to which vendors for each MCCMNC etc. This information is collected in minute, hour, day and month increments and is stored in analytical cubes. Cube updating is a time consuming process and is therefore performed either at the end of a time increment or when a EDR threshold is reached (whichever happens first).

The cube updating parameters are configured in Administration\System settings\SMS analytics 88 section illustrated below.

SMS analytics

Allow list of rates to be calculated in analytics (0 - no, 1 - r...	2
Analytics calculation process count	4
Analytics first currency	USD
Analytics second currency	null
Analytics third currency	null
Auto threshold calculation (0 - no, 1 - yes)	1
Calculate analytics total depending on VPD	0
Day cube partition count	465
Default Analytics view	SRC_CARRIER
Delivery interval ranges (comma-separated, seconds)	5,15,60,300
Hour cube partition count	1512
List of SMS products which margin is set to 0 in analytics	null
Minute cube partition count	300
Month cube partition count	24
Recalculate current day stats at, hours (0-23, 1-fold)	null
Recalculate current hour stats at, mins (0-50, 10-fold)	null

Cube update parameters

The following parameters are available:

- *Auto threshold calculation (0 - no, 1 - yes)*: when the value is 1, the cube update thresholds are calculated automatically

- *Stats calculation delay, minutes (day/hour/min/month):* the delays are configured for each time increment (minute, hour, day, week, and month) to allow the entirety of data to be collected for the completed increment. For example, the value *45* in the parameter *Stats calculation delay, minutes (day)* means that the statistics for the past day will be updated on 00:45 of the following day in case the amount of new records does not exceed the threshold defined in *Stats calculation threshold (EDR/day)*

- *Stats calculation threshold*: the threshold (in EDR/min, EDR/hour, EDR/week, EDR/month). When reached, the statistics will be recalculated even if the increment is not yet complete

The thresholds must be configured based on the intensity of traffic; otherwise the analytics may be displayed with a noticeable delay. For example, during initial System tests when the SMS count is low it is advisable to set low thresholds for the minute/hour/day increments.

Recalculate current day stats at, hours (0-23, 1-fold)	null
Recalculate current hour stats at, mins (0-50, 10-fold)	null

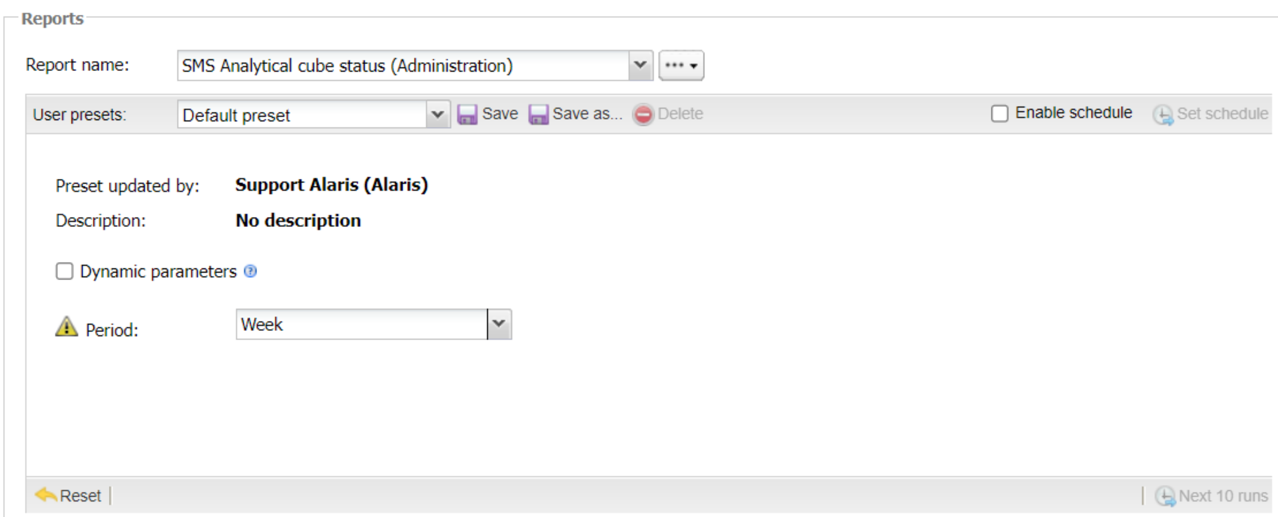
Recalculate stats parameters

Additionally, it is possible to configure forced recalculation of day and hour statistics at the specified hour and minute respectively. The following parameters are used for that purpose:

- *Recalculate current day stats at, hours (0-23, 1-fold)*: any integer value from 0 to 23. For example, the value *23* means that the statistics for the current day will be recalculated at 23:00 on the same day

- *Recalculate current hour stats at, mins (0-50, 10-fold)*: specify 0, 10, 20, 30, 40 or 50. For example, the value *30* means that the statistics for the current hour will be recalculated at 30 minutes of the current hour

The *SMS Analytical cube status* report provides information about the general status of the cubes and the cube update schedule.



SMS Analytical cube status report parameters

NOTE: *Financial* are specialized cubes calculated by billing period. Their calculation delay is configured by the parameter *Invoice generation delay, hours* at Administration\System settings\Financial module 61
.

Period: **Week**

№	Partition period t...	Partition date	State	Last change	Row count	New EDR count..
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	WEEK	2016.10.24 00:0...	Must be recalcul...	2016.10.17 00:0...	0	
2	WEEK	2016.10.17 00:0...	Must be recalcul...	2016.10.17 13:5...	58876	60303
3	WEEK	2016.10.10 00:0...	Ready	2016.10.17 02:2...	79520	0

SMS Analytical cube status report

The report table contains the following columns:

- *Partition period type*: the cube type (minute, hour, day, week, month or financial)
- *Partition date*: the increment date and time
- *EDR State and DLR state*: *Ready* or *Must be recalculated*
- *Last change*: date and time of the last update
- *Row count*: the number of rows
- *New EDR count*: the number of new EDRs after update
- *New DLR count*: the number of new delivery reports to be applied
- *Recalculation status*: estimated cube calculation date and time

10.29 SMS e212/e164 book (Reference)

The *SMS e212/e164 book (Reference)* report serves to show to which MCCs(MNCs) e.164 codes are mapped.

An example of the report is shown in the figure below.

Reports | Report "Reference: SMS e212/e164 book (TASK19664054)"

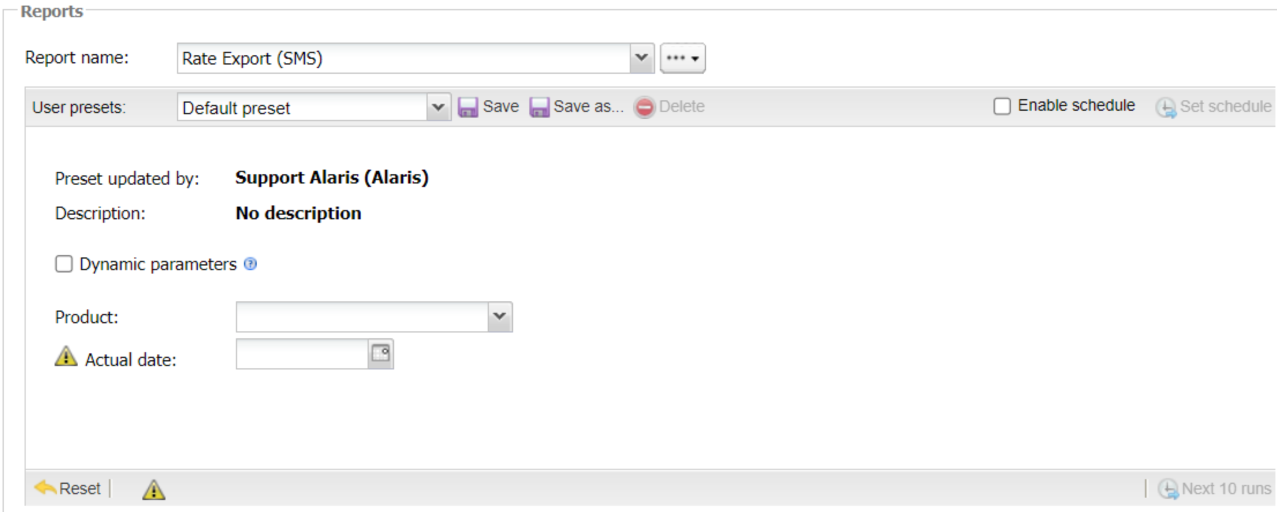
№	MCCMNC	Country code	Country name	Network name	Dial code	Level of trust
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	421003	967	Yemen	Yemen Mob. C...	1002967	50
2	421003		Yemen	Yemen Mobile	1002967	50
3	421004	967	Yemen	HITS/Y Unitel	1003967	50
4	421004		Yemen	Y	1003967	50
5	424		United Arab Em...	All networks	1007971	50
6	426		Bahrain	All networks	1018973	50
7	428		Mongolia	All networks	1025976	50
8	428099		Mongolia	MobiCom	1029976	50
9	428099	976	Mongolia	Mobicom	1029976	50

SMS e212/e164 book (Reference) report

NOTE: The report shows records with the highest LOT (level of trust). However, the *Level of trust* column in the report results shows the value 50 for unification purposes.

10.30 SMS rate export (Rates)

The *SMS Rate Export (Rates)* report enables automatic scheduled export of rates.



SMS Rate Export (Rates) report settings

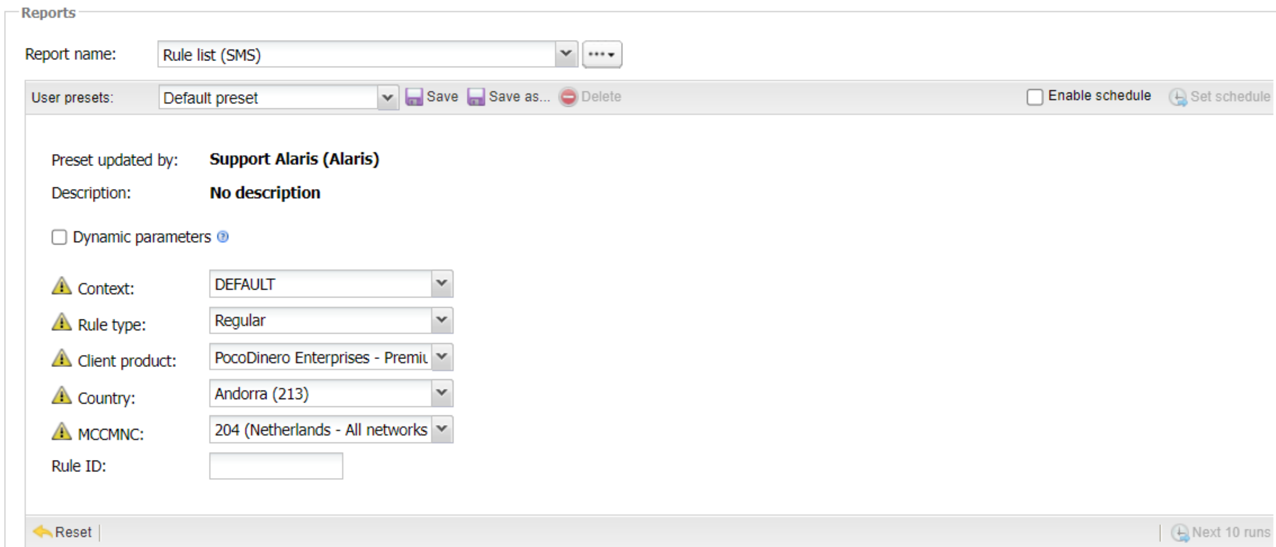
Select the product and specify the date for which rate export must be performed.

Configure the export schedule and report recipients.

NOTE: Report parameters and schedule will not be overridden with the System upgrades.

10.31 SMS rule list (Reference)

SMS rule list (Reference) is a report that shows the list of routing rules configured for a specific product, and allows exporting them to an MS Excel file.



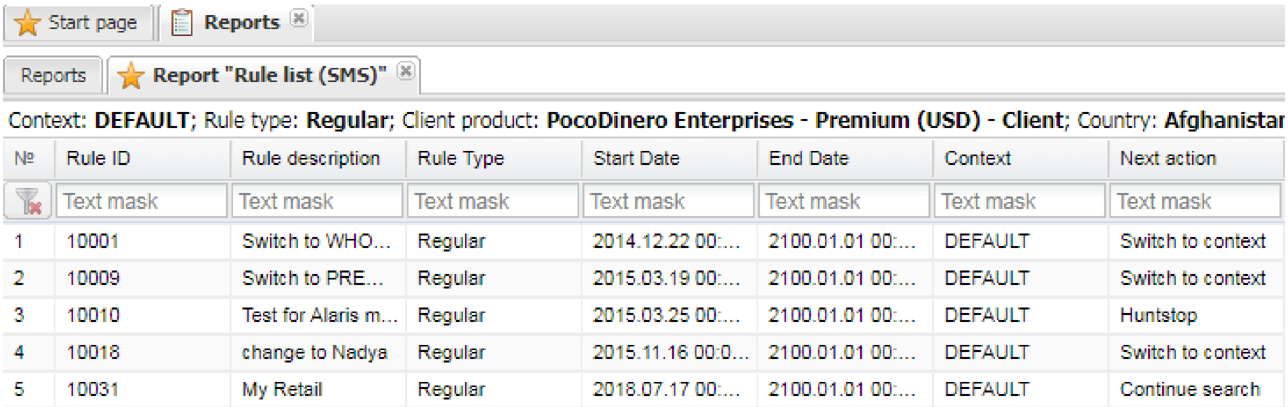
SMS rule list (Reference)

Configure the following parameters:

- *Context*
- *Rule type*

- *Client product*
- *Country*
- *MCCMNC*

An example of the report is shown below.



№	Rule ID	Rule description	Rule Type	Start Date	End Date	Context	Next action
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	10001	Switch to WHO...	Regular	2014.12.22 00:...	2100.01.01 00:...	DEFAULT	Switch to context
2	10009	Switch to PRE...	Regular	2015.03.19 00:...	2100.01.01 00:...	DEFAULT	Switch to context
3	10010	Test for Alaris m...	Regular	2015.03.25 00:...	2100.01.01 00:...	DEFAULT	Huntstop
4	10018	change to Nadya	Regular	2015.11.16 00:0...	2100.01.01 00:...	DEFAULT	Switch to context
5	10031	My Retail	Regular	2018.07.17 00:...	2100.01.01 00:...	DEFAULT	Continue search

SMS rule list (Reference) report

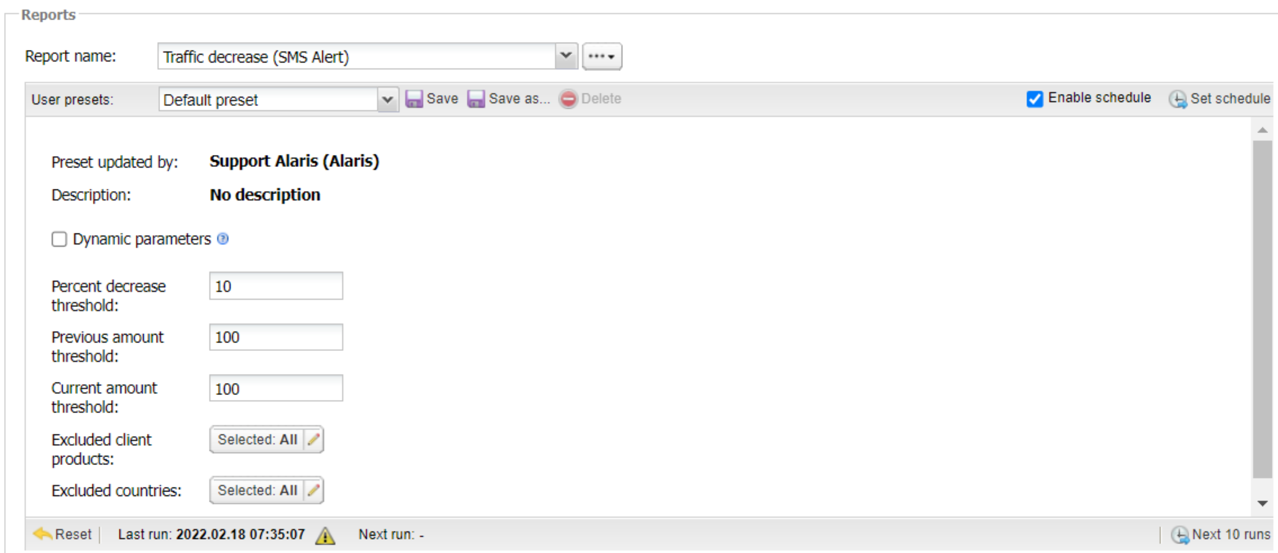
The report contains the following columns:

- *No*: number of the record in the table
- *Rule ID*
- *Rule description*
- *Rule type*
- *Start/End date*
- *Context*
- *Next action*
- *Next context*
- *Rule status*
- *Priority*
- *Probability*
- *Client products scope*: *All*, *Inclusive* or *Exclusive*
- *Client products list*: client rates active as of the moment of the report launch. If the rule has more than one MCCMNC and the product has more than one rate, the highest values are selected. See also the [Alaris YouTube] video
- *MCCMNC scope*: *All*, *Inclusive* or *Exclusive*
- *MCCMNC list*
- *Rule last updated on*: date of the latest update of the rule
- *Rule condition*: condition that applies to the whole rule

- *ANI/DNIS/Message pattern*
- *Choice number*
- *Choice type*: *Static* or *Dynamic*
- *Condition*: condition within a choice
- *Formula*
- *Products*: vendor rates active as of the moment of the report launch. If the rule has more than one MCCMNC and the product has more than one rate, the highest values are selected. See also the [Alaris YouTube]() video
- *User last updated*: name of the user that performed the latest updates to the routing rule

10.32 Traffic decrease (Alerts)

Traffic decrease (Alerts) is a report that gathers information at regular intervals and sends notifications if preset traffic decrease threshold values are exceeded.



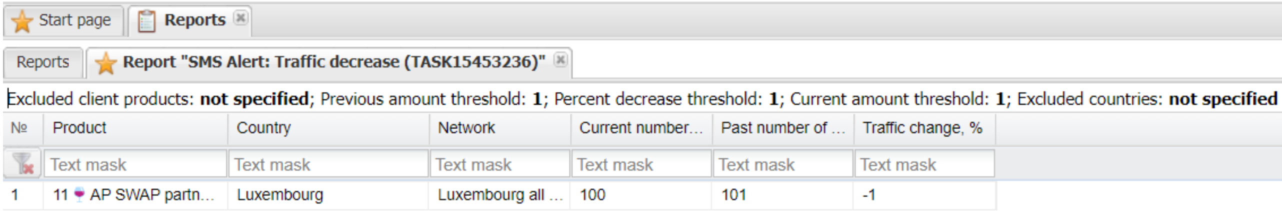
Traffic decrease (Alerts) report parameters

Define the report parameters:

- *Percent decrease threshold*: traffic decrease threshold in percent
- *Previous amount threshold*: the number of SMS attempts that must be exceeded for report generation for the period of one full hour two hours before. For example, if current time is 17:35, then *Previous amount threshold* is calculated for the period 15:00-16:00
- *Current amount threshold*: the number of SMS attempts that must be exceeded for report generation for the period of one full hour one hour ago. For example, if current time is 17:35, then *Current amount threshold* is calculated for the period 16:00 - 17:00
- *Excluded client products, Excluded countries*: allows defining client products and countries that will be excluded from the report

In the right hand panel select *Export to file* and *Send to email,* and specify the email address(es) for sending the report. Set the schedule (for example, configure the report to run every 5 minutes).

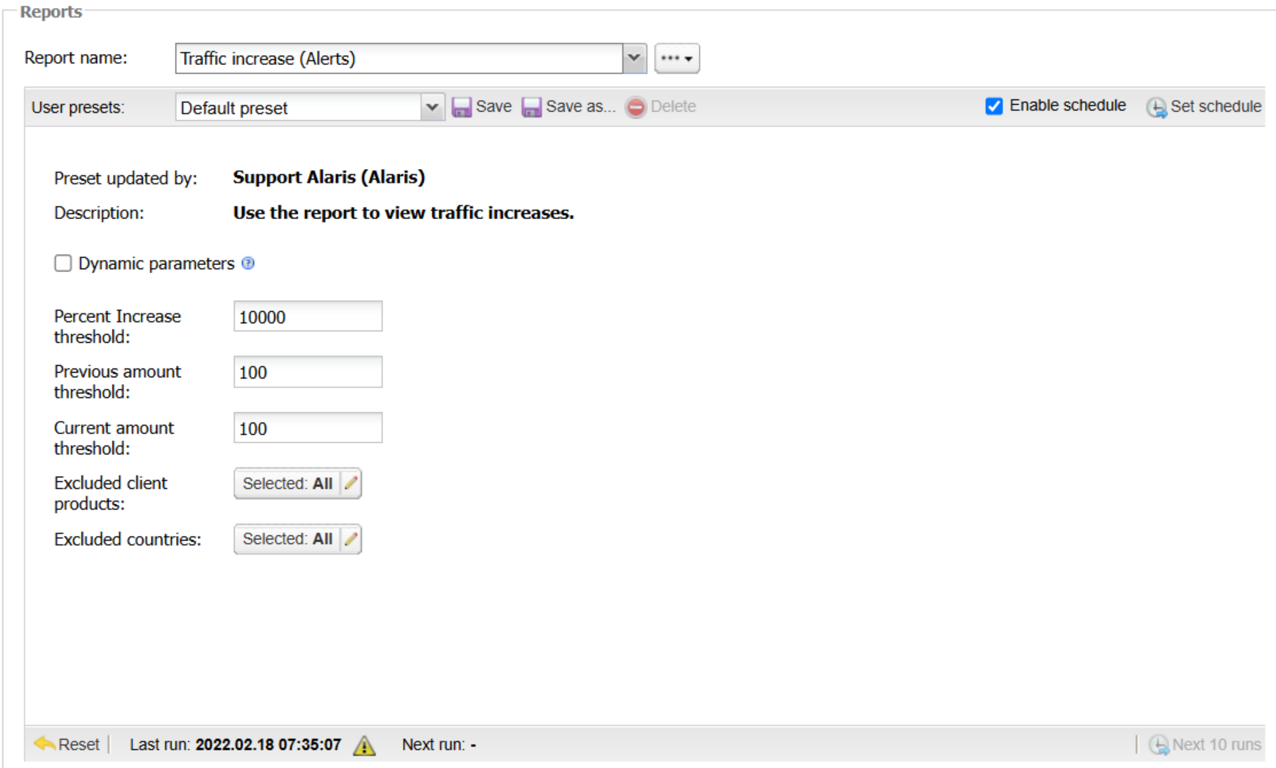
An example of the report is illustrated below.



Traffic decrease (Alerts) report

10.33 Traffic increase (Alerts)

Traffic increase (Alerts) is a report that gathers information at regular intervals and sends notifications if preset traffic increase threshold values are exceeded.



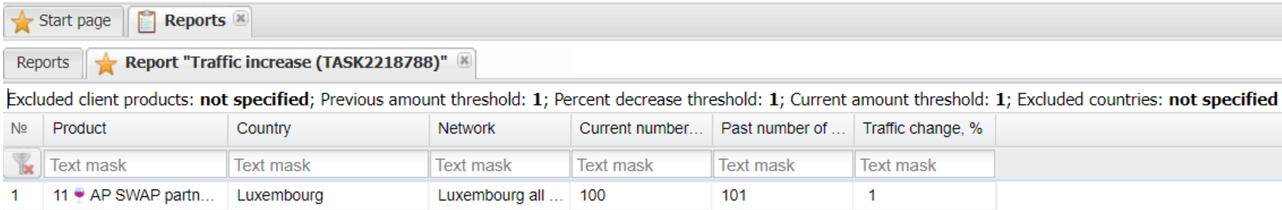
Traffic increase (Alerts) report parameters

Define the report parameters:

- *Percent Increase threshold*: traffic increase threshold in percent
- *Previous amount threshold*: the number of SMS attempts that must be exceeded for report generation for the period of one full hour two hours before. For example, if current time is 17:35, then *Previous amount threshold* is calculated for the period 15:00-16:00
- *Current amount threshold*: the number of SMS attempts that must be exceeded for report generation for the period of one full hour one hour ago. For example, if current time is 17:35, then *Current amount threshold* is calculated for the period 16:00 - 17:00
- *Excluded client products, Excluded countries*: allows defining client products and countries that will be excluded from the report

In the right hand panel select *Export to file* and *Send to email,* and specify the email address(es) for sending the report. Set the schedule (for example, configure the report to run every 5 minutes).

An example of the report is illustrated below.



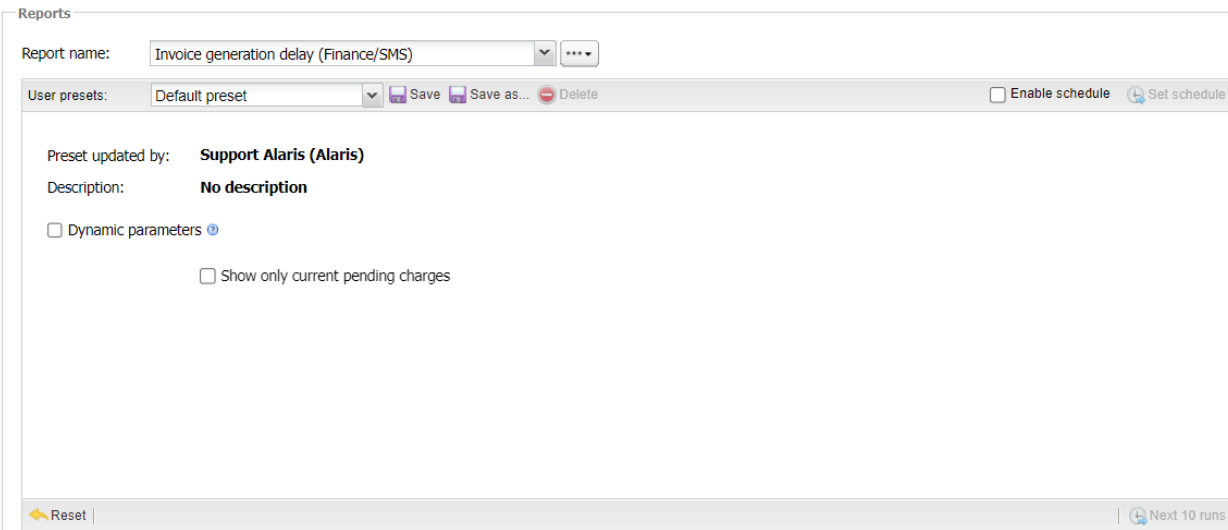
№	Product	Country	Network	Current number...	Past number of ...	Traffic change, %
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	11 AP SWAP partn...	Luxembourg	Luxembourg all ...	100	101	1

Traffic increase (Alerts) report

10.34 Invoice generation delay SMS (Finance)

The *Invoice generation delay SMS (Finance))* report serves to provide information on all the internal charges whose generation has been postponed due to one of the following conditions:

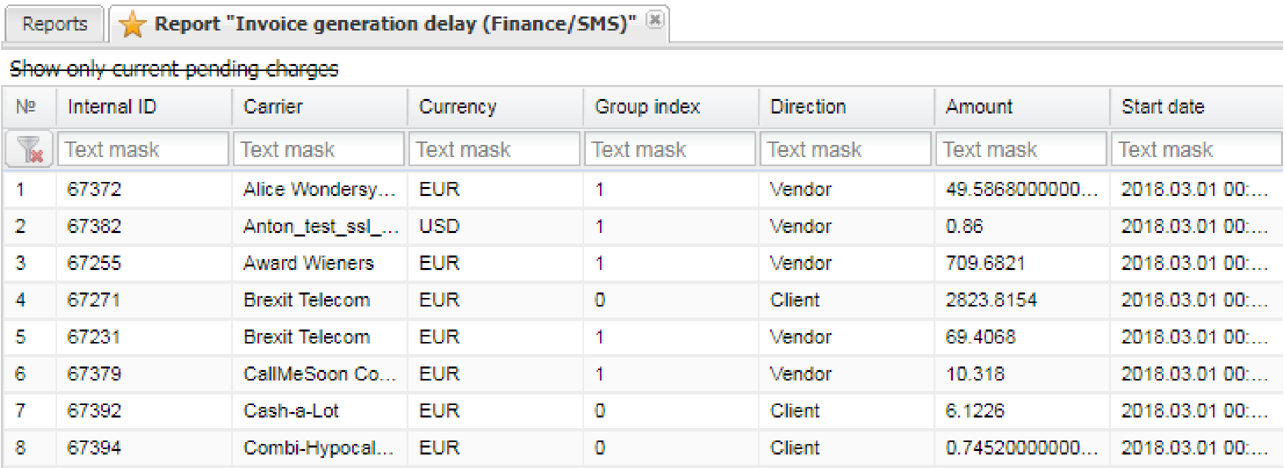
- Underlying financial cubes are not ready
- The billing period has not ended
- The generation delay (defined by the parameter *Invoice generation delay* in System settings\Financial module 61) has not passed yet



Invoice generation delay report settings

Select the checkbox *Show only current pending charges* to display only charges that were generated within the past 60 days.

An example of the report is shown in the figure below.

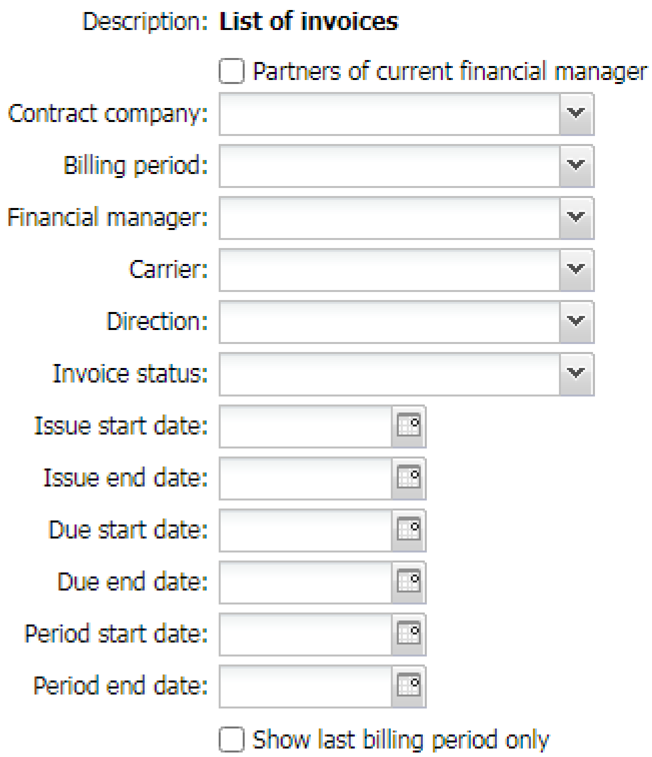


№	Internal ID	Carrier	Currency	Group index	Direction	Amount	Start date
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	67372	Alice Wondersy…	EUR	1	Vendor	49.5868000000…	2018.03.01 00:…
2	67382	Anton_test_ssl_…	USD	1	Vendor	0.86	2018.03.01 00:…
3	67255	Award Wieners	EUR	1	Vendor	709.6821	2018.03.01 00:…
4	67271	Brexit Telecom	EUR	0	Client	2823.8154	2018.03.01 00:…
5	67231	Brexit Telecom	EUR	1	Vendor	69.4068	2018.03.01 00:…
6	67379	CallMeSoon Co…	EUR	1	Vendor	10.318	2018.03.01 00:…
7	67392	Cash-a-Lot	EUR	0	Client	6.1226	2018.03.01 00:…
8	67394	Combi-Hypocal…	EUR	0	Client	0.74520000000…	2018.03.01 00:…

Invoice generation delay report

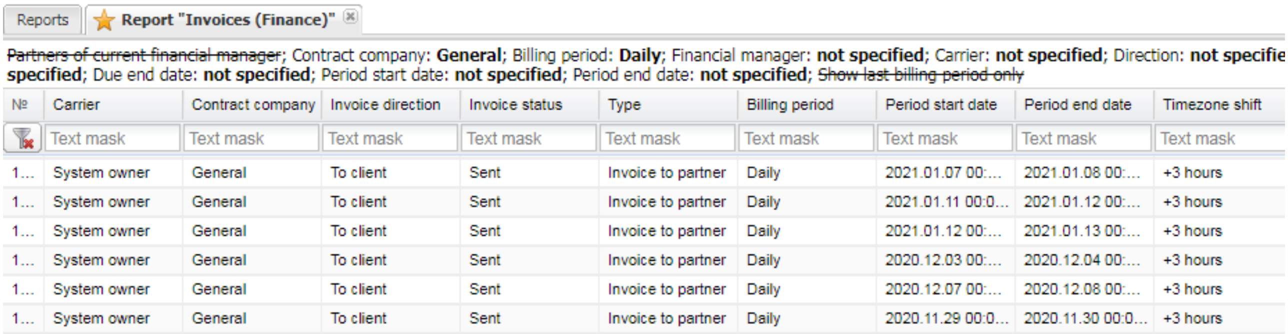
10.35 Invoices (Finance)

The *Invoices (Finance)* report serves to generate a list of invoices that comply with the parameters illustrated in the figure below.



Invoices (Finance) report settings

An example of the report is shown in the figure below.



Reports | Report "Invoices (Finance)"

~~Partners of current financial manager~~; Contract company: **General**; Billing period: **Daily**; Financial manager: **not specified**; Carrier: **not specified**; Direction: **not specifie**
specified; Due end date: **not specified**; Period start date: **not specified**; Period end date: **not specified**; ~~Show last billing period only~~

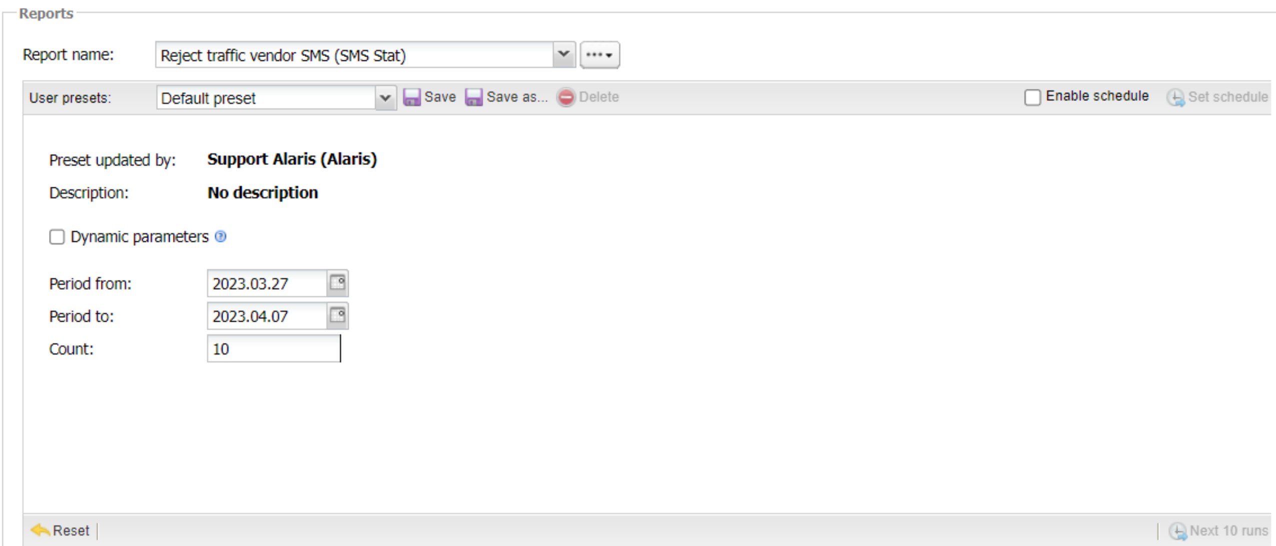
№	Carrier	Contract company	Invoice direction	Invoice status	Type	Billing period	Period start date	Period end date	Timezone shift
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1...	System owner	General	To client	Sent	Invoice to partner	Daily	2021.01.07 00:...	2021.01.08 00:...	+3 hours
1...	System owner	General	To client	Sent	Invoice to partner	Daily	2021.01.11 00:0...	2021.01.12 00:...	+3 hours
1...	System owner	General	To client	Sent	Invoice to partner	Daily	2021.01.12 00:...	2021.01.13 00:...	+3 hours
1...	System owner	General	To client	Sent	Invoice to partner	Daily	2020.12.03 00:...	2020.12.04 00:...	+3 hours
1...	System owner	General	To client	Sent	Invoice to partner	Daily	2020.12.07 00:...	2020.12.08 00:...	+3 hours
1...	System owner	General	To client	Sent	Invoice to partner	Daily	2020.11.29 00:0...	2020.11.30 00:0...	+3 hours

Invoices (Finance) report

NOTE: The value of the *Payment status* column for vendors is taken directly from the invoice.

10.36 Reject traffic vendor SMS (Statistics)

The *Reject traffic vendor SMS (Statistics)* report shows vendors that reject more traffic than defined in the report parameters.



Reject traffic vendor SMS (Statistics) report settings

Configure the following parameters:

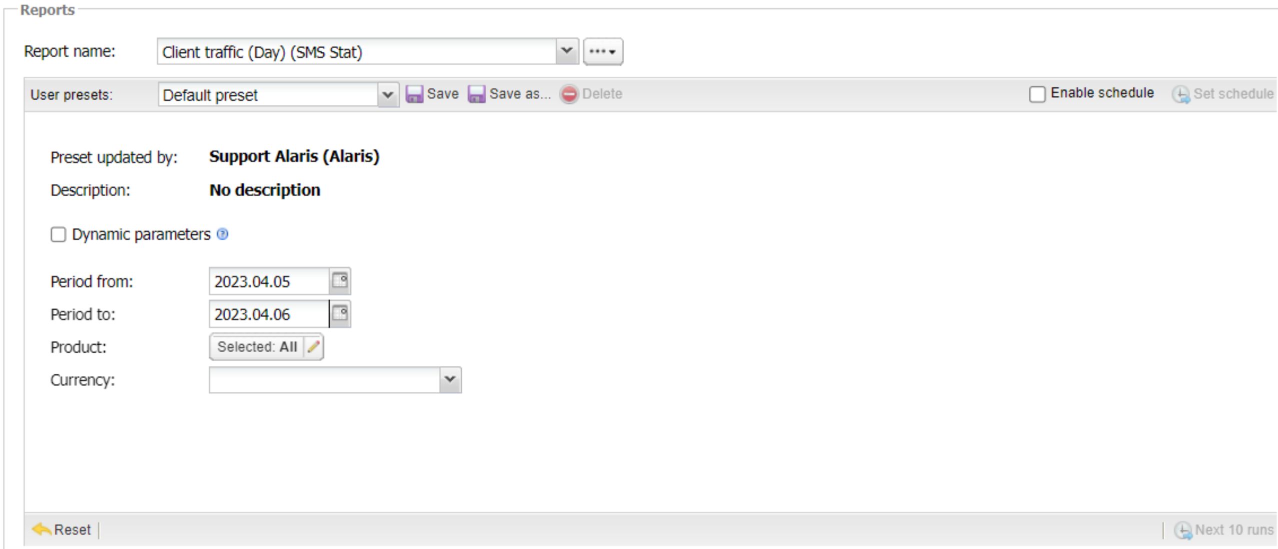
- *Period from/to*: report period
- *Count*: the number of SMS send attempts to a vendor, with identical statuses and error codes to a specific MCCMNC per day. A vendor will be included in the report if this value is exceeded

An example of the report is shown in the figure below.

Reject traffic vendor SMS (Statistics) report

10.37 Client traffic (Day) (Statistics)

The *Client traffic (Day) (Statistics)* report shows the client traffic statistics for a day. The same statistics are available in SMS\Analytics 363. Similar reports exist for displaying statistics for a week or month - *Client traffic (Week) (Statistics)* and *Client traffic (Month) (Statistics)* respectively.



Client traffic (Day) (Statistics) report settings

Configure the following parameters:

- *Period from/to*: report period
- *Product*: the product(s) for which the statistics must be displayed in the report
- *Currency*

An example of the report is shown in the figure below.

Reports | Report "Client traffic (Day) (SMS Stat)"

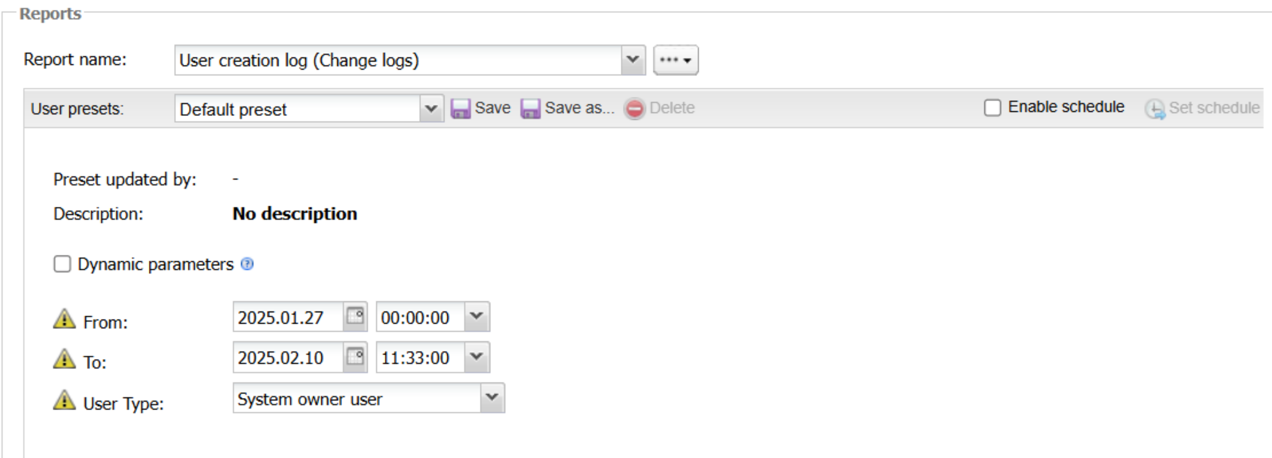
Period from: **2019.03.13**; Period to: **2019.03.14**; Product: **1-To-Allzz - 6460_parent (RUB) - Client, 1-To-Allzz - SMS retail (USD) - Client, 1-Tc**

№	Date	Carrier		Country	Net	Attempts	Sent	Delivered
	Text mask	Text mask		Text mask	Text mask	Text mask	Text mask	Text mask
1	Brexit Telecom	Canada	Bell Mobility	6	6	5	0.33825	0.30713
2	Brexit Telecom	Canada	Rogers Wireles...	10	10	10	0.56375	0.53443
3	Brexit Telecom	Canada	TELUS Mobility	3	3	3	0.16912	0.15932
4	Brexit Telecom	Canada	Videotron	1	1	0	0.05638	0.05333
5	Brexit Telecom	Indonesia	Telkomsel	7	7	2	0.06945	0.04814
6	Brexit Telecom	Malaysia	Celcom Axiata ...	1	1	0	0.00575	0.00462
7	Brexit Telecom	Malaysia	DiGi Telecomm...	1	1	1	0.00496	0.00383
8	Brexit Telecom	Malaysia	Maxis Bhd	4	4	4	0.02706	0.02210

Client traffic (Day) (Statistics) report

10.38 User creation log (Change logs)

The *User creation log (Change logs)* report shows the history of user creation and the users that created them.

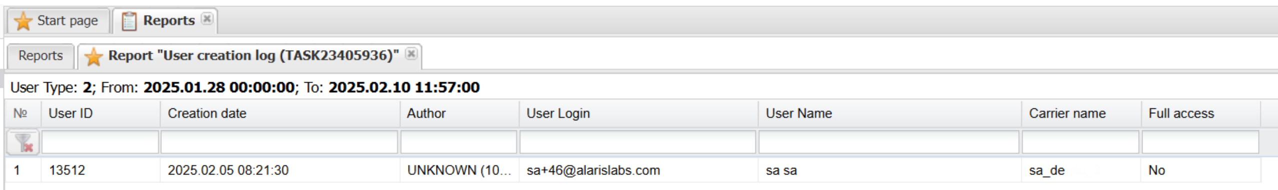


User creation log (Change logs) report settings

Configure the following parameters:

- *From/to*: report period
- *User type*: select *System owner user* to display users of the System owner carrier or *Client user* to show users of partner carriers

An example of the report is shown in the figure below.



User creation log (Change logs) report

11 RCS

11.1 Overview

RCS (Rich Communication Services) is a mobile telephony standard which allows users to send rich content messages such as images, videos, and files. RCS offers more advanced features than traditional SMS, making it more convenient and engaging for users.

The System supports RCS2RCS traffic and can convert SMS (received over HTTP or SMPP) to RCS (SMS2RCS). The System configuration must be started from the RCS\Bots 357 interface.

11.2 Analytics

The *RCS\Analytics* interface provides an easy-to-read and quick-to-draw picture of the most important statistical parameters in the System. This tool feeds on pre-calculated statistical tables (OLAP cubes) instead of raw EDR data. This approach decreases the System response time when a user selects a new aspect to display. The side effect is that the amount of available aspects is limited (mostly by server performance and free disk space). However, the limit is adjustable and all essential aspects are included into the scope by default.

The page consists of two interconnected parts. The top part displays a table of performance indicators pertaining to the specified statistical aspects (a user-defined combination of business items, for example, *Client* >> *Country* >> *Message type*) for the period selected in the bottom part. The *Total* row shows data for the clients or vendors of the System owner, whichever is selected, in accordance with the System parameter *RCS\Calculate analytics total depending on VPD*.

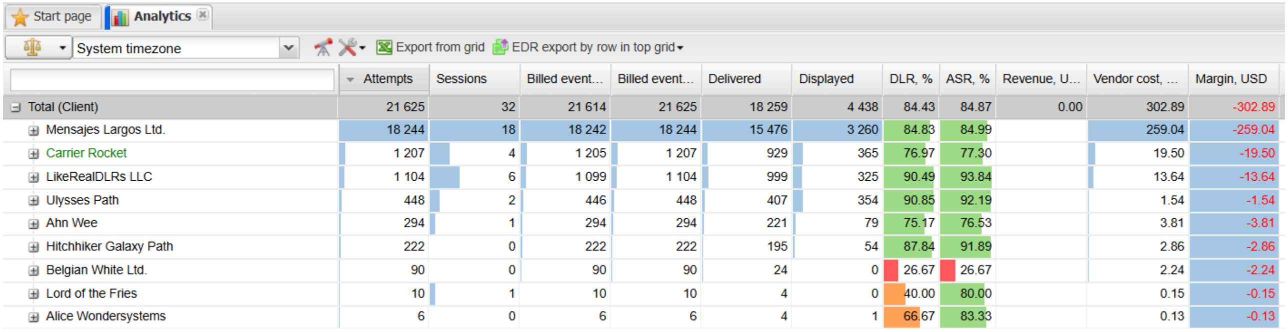
It is possible to calculate and view statistics based on the following parameters:

- *Client*: client name (will be under *Unknown partner* if the client or its bot was deleted, or the Bot GUID was re-named)
- *Client bot*: Bot name from *RCS\Bots* (will be under *undefined* if the bot was deleted, or the Bot GUID was re-named)
- *Client product*: client product name
- *Country*
- *Direction*: *a2p* (application to person) or *p2a* (person to application)
- *Host IP:* IP address of the server on which a client (bot) request has been received
- *MCCMNC*
- *Message type*: event type. Possible values include:
  - *Any*
  - *Basic*: text up to 160 bytes
  - *Single*: text over 160 bytes or text with additional parameters - for example, with an image
  - *Conversational*: implies reply capability (text, richcard, geolocation, file, audio, suggestedChipList - text with a dialogue window which provides multiple options of answer)
- *Net*
- *Vendor*: provider name (will be under *Deleted partner* if the vendor was deleted or *undefined* if the provider cannot be defined - for example, no RCS vendor product was assigned for the bot)

- *Vendor product*: vendor product name

Items in the table can be sorted ascending or descending by any of the columns. When the Analytics page is first opened, items are sorted by the total traffic volume (Attempts).

Each item with available underlying layers has the “+” sign on the left of its name. Click on the “+” sign to open the context menu and add more items to the displayed combination. To close a layer click on the “-” sign on the left of its parent object.



	Attempts	Sessions	Billed event...	Billed event...	Delivered	Displayed	DLR, %	ASR, %	Revenue, U...	Vendor cost, ...	Margin, USD
Total (Client)	21 625	32	21 614	21 625	18 259	4 438	84.43	84.87	0.00	302.89	-302.89
Mensajes Largos Ltd.	18 244	18	18 242	18 244	15 476	3 260	84.83	84.99		259.04	-259.04
Carrier Rocket	1 207	4	1 205	1 207	929	365	76.97	77.30		19.50	-19.50
LikeRealDLRs LLC	1 104	6	1 099	1 104	999	325	90.49	93.84		13.64	-13.64
Ulysses Path	448	2	446	448	407	354	90.85	92.19		1.54	-1.54
Ahn Wee	294	1	294	294	221	79	75.17	76.53		3.81	-3.81
Hitchhiker Galaxy Path	222	0	222	222	195	54	87.84	91.89		2.86	-2.86
Belgian White Ltd.	90	0	90	90	24	0	26.67	26.67		2.24	-2.24
Lord of the Fries	10	1	10	10	4	0	40.00	80.00		0.15	-0.15
Alice Wondersystems	6	0	6	6	4	1	66.67	83.33		0.13	-0.13

Analytics

For example, to drill down on the client level, select a client, then choose to view its stats by country, then select a specific country and further detail it by message type and so on as shown in the figure above.

Items can be filtered by filling in the edit box at the top of the first column. The filter always applies to the child items (if any) of the currently selected item. For example, to display the *Congo* stats for *Krakozhia Telecom*, select *Krakozhia Telecom* in the list, in the context menu select *Country*, and enter the first few characters of the search word, for example, *Con*. To locate the item by the characters in the middle/end of the word, use the wildcards * or %, in this example *Congo* can be filtered by entering **go* or *%go*.

Test carriers are displayed in orange font, and the Carrier name has the prefix [TEST]. Test carriers are those that have the *Is test* checkbox selected in Carriers\Carriers 163.

When a user adds a new detail level to the selected aspect, the System includes the items that have stats for the combination of previously selected objects. Example: select *Client* and *Country* in the context menu. The System will display countries to which the selected client was forwarding traffic over the periods selected in the bottom table.

The top table contains information on the following parameters:

- *Atempts*: total number of events
- *Sent*: the number of messages in displayed, delivered and sent statuses
- *Sessions*: number of events with the session time
- *Billed events (C)/Billed events (V)*: number of client/vendor events that can be potentially billed (for example, if several messages were received within a session and must be billed as 1 message)
- *Delivered*: number of events in the delivered status
- *Displayed*: number of events in the displayed status
- *DLR, %*: delivered and displayed messages to the client total events ratio
- *ASR, %*: successful messages (sent, delivered and displayed) to the client total events ratio

- *Revenue*: total client cost
- *Vendor cost*: total vendor cost
- *Margin*
- *Rate (C)*: client rates list
- *Rate (V)*: vendor rates list

The bottom area presents the same performance indicators arranged by periods for the item selected in the top table. The top line always shows total values for each parameter of the selected statistical layer within the defined timeframe – for example, if the user specifies four days in the Timeframe selector, the *Total* line in the bottom table will show the summary for the selected four days. It is convenient when you need to see the totals for a custom period (not equal to the System defaults – hours, days etc.)

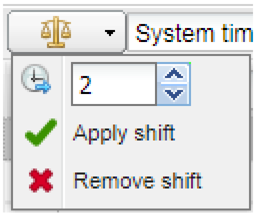
NOTE: For periods that are recalculated due to a change of event status, the date is highlighted in grey italic font. For those recalculated due to new RCS EDR, the date is highlighted in bold grey italics.

Data in the bottom table can be displayed either in a table format or as a chart by switching the *Chart/Table* switch button in the mid-page toolbar. The chart view allows creating three different profiles in separate tabs sheets. Select appropriate parameter boxes in the left panel that will appear as charts in the right panel.

The top table contains the following controls:

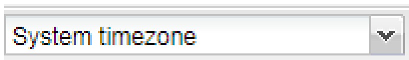
- *Offsets* : this control allows comparison of current data for some period to the same period in the past, registered a preset number of periods ago. For example, to compare the current month stats with the data of 2 months ago, select *month* in the *Period* control, enter *2* in the edit box as shown below, and click Apply shift. Click to open the chart view for more convenient data representation.

NOTE: The past data appears dimmed both in the table and chart views.



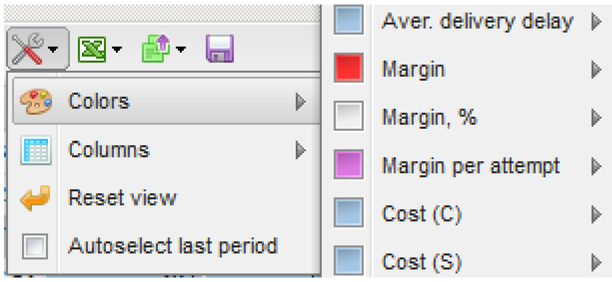
Offsets

- *System timezone*: select the timezone for display of data in the tables (available only if the selected period is *Day*). The timezone is shifted on the basis of hourly cubes. Therefore, if shifting is performed for a past period that has not enough hour cubes, it could result in empty output for the day.



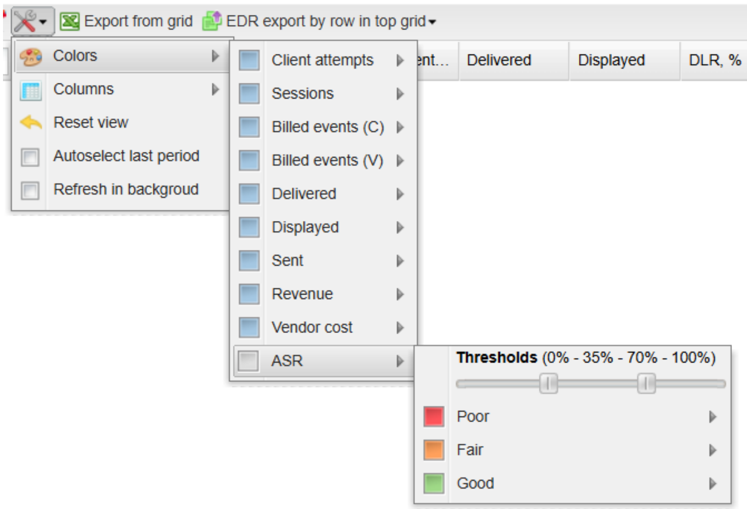
System timezone

- *View options* contains the following parameters:



View options

- *Colors*: selection of colors for performance indicators. For the *ASR* indicator the control allows setting threshold values and assigning different colors to them:



Assigning thresholds and colors

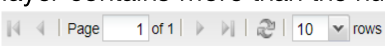
- *Columns*: selection of columns for display
- *Reset view*: reset all colors and displayed columns
- *Autoselect last period*: the checkbox fixes the last interval set in the timeframe selector. When the checkbox is selected, the interval shifts forward as time goes on. For example, if the current date is October 20, the interval is 1 - 10 October and the period set by the button is *Day*, on October 21 the interval will shift to 2 - 11 October, on October 22 it will shift to 3-12 October and so on
- *Refresh in background*: when selected, the *Analytics* page is refreshed automatically when it is inactive - that is, when other tabs are open on top of it (note that with this mode on, the System works slower). When deselected, the page is only refreshed when it is open and active

• 

Export from grid allows data export from the upper table to an XLS file

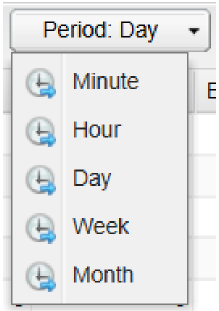
The bottom table contains the following controls:

• *Page navigation*: statistics in the top table will be arranged in two or more pages if the specified layer contains more than the number of items set in the pagination control



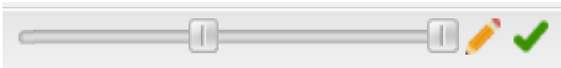
NOTE: Only items with non-zero data are displayed in the table.

- *Refresh* button
- *Period*: timeframe breakdown defined by selecting a period from the drop-down list (*Minute, Hour, Day, Week*, *Month*):

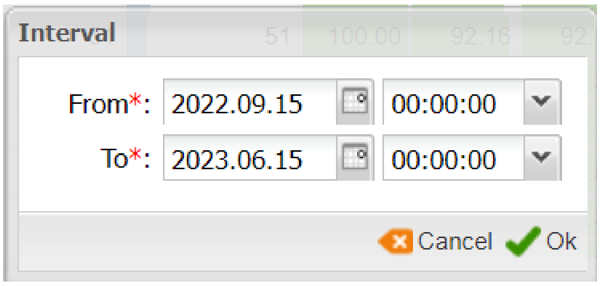


Period

- *Timeframe selector*: a tool for defining the time interval for which statistics are generated. The interval can be set either by dragging the left or right margin of the scale, or by selecting the period in the pop-up window (pencil button). Click to apply the timeframe:



Timeframe selector

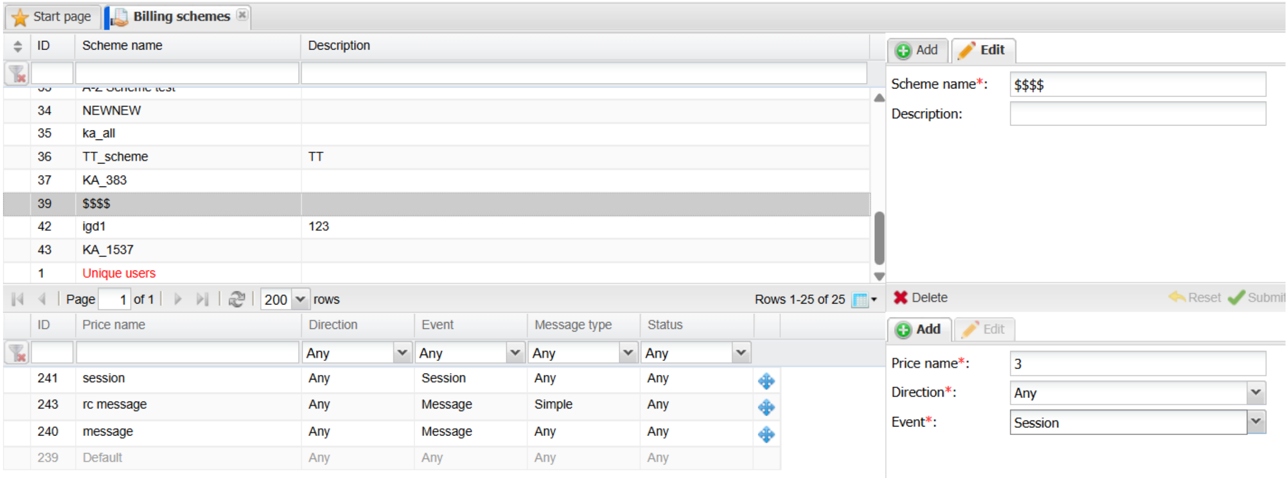


Interval

- Export from grid *Export from grid* allows data export from the bottom table to an XLS file
- *Table/chart switch* : a switch between table and chart display formats
- *Save current state* button saves the current view (the *Timeframe selector* value, the period (day, month etc.) and the first selected layer of performance indicators). These settings are saved in the browser cache and are displayed when the user accesses the *RCS\Analytics* page the next time.

11.3 Billing schemes

The interface provides a possibility to configure various schemes for charging. The *RCS\Billing schemes* page is divided into 2 sections: the top section serves to configure the scheme name and its description. The bottom one allows setting up details for the scheme.

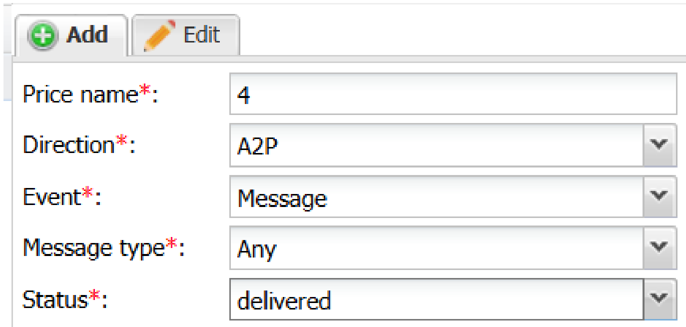


Billing schemes

The table of billing schemes contains a default record (*Unique users*) applicable to unique destination addresses irrespective of the message type (given that the scheme is selected for the RCS product). The scheme cannot be edited or deleted and is highlighted in red. The value is available for selection in Carriers\Products 180 (for RCS products) as the *Billing scheme* value even if no records were added to the table by the user.

To add a custom scheme, select the *Add* tab on the right, specify the *Scheme name* and the *Description* (optional) and click Submit *Submit*.

The record will appear in the top table. Select it and configure the following fields in the bottom table's *Add* tab. The field data will be taken into account when picking the price to bill an EDR.



Add tab, bottom table

- *Price name*: the name which will be displayed when adding the price on RCS\Rate editor 346
- *Direction*: *Any*, *A2P* (application/bot to person) or *P2A* (person to application/bot)
- *Event*: *Message* or *Session*
- *Message type*: available when *Event=Message*. Possible values include:
  - *Any*
  - *Basic*: text up to 160 bytes
  - *Single*: text over 160 bytes or text with additional parameters - for example, with an image
  - *Conversational*: implies reply capability

- *Status*: available when *Event=Message*. For *Direction=P2A* the default value *sent* is to be used. Possible values, which are retrieved from the provider, include:
  - *displayed:* the message was displayed on the user's device (that is, the user has seen the message)
  - *delivered:* the message was delivered to the user's device (that is, the message has not been displayed yet, or the user may not have seen it)
  - *sent:* the message has been sent and not yet delivered to the user's device
  - *pending:* an intermediate status which shows that the message is to be sent soon, or in the process of sending
  - *failed:* the status is assigned if an error occurred during sending
  - *queued:* an intermediate status which shows that the message is in the line for sending
  - *unknown*: the status is unknown to the System (the message state cannot be defined)
  - *revoked:* the message was revoked by its sender (that is, the user decided to delete the message after its sending, before it has been delivered or displayed)
  - *webhook failed:* the status is assigned if sending a message to webhook failed and the *Enable bot blocking* option was selected in the Bots 357 interface

NOTE: The *Default* record (greyed-out) is added automatically to any new billing scheme with all parameters set to *Any* to cover all possible cases of billing. The record cannot be removed or edited, and it has a low (999999) priority.

NOTE: It is not possible to create identical records as the unique constraint error will occur.

To define the priority of a price in case of several records within one billing scheme, use the button or drag-n-drop function. A top record has a priority over a lower record (provided that the event parameters comply with the price configuration). The same order of prices is available in the *Add rate* or *Modify rate* table in RCS\Rate editor 346.

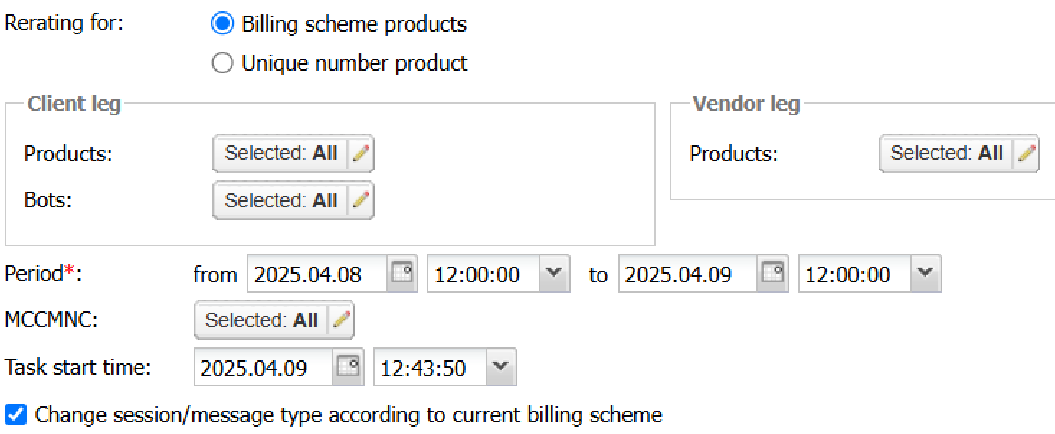
To delete a scheme or a specific price that has not been assigned to an RCS product, click the *Delete* button. If the scheme has been already assigned, the error message appears: "Cannot delete billing scheme or modify its prices because it is bound to one or more products." It is not allowed to modify the price parameters or add a new price if the corresponding billing scheme is already used in a product, but it’s possible to change a name or description of such a scheme.

11.4 EDR rerating

The *RCS\EDR Rerating* page serves for revaluation of previously generated RCS event charges in cases when certain data (rates, MCCs etc.) affecting such valuations in the past is altered or added. This mechanism allows keeping statistics and billing data up-to-date. The page is divided into three parts: *Tasks*, *Recalculation settings* and *Task details*.

Recalculation settings

The *Recalculation settings* panel contains parameters for manual recalculation.



Recalculation settings

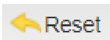
NOTE: Automatic rerating is not supported for RCS EDR rerating.

The *Recalculation settings* panel enables selecting items that need to be adjusted by applying the following filters:

- *Rerating for*: *Billing scheme products* (for the products with regular billing schemes) or *Unique number product* (for the products with the *Unique users* billing scheme)
- *Product direction* (available if *Rerating for* is set to *Unique number product*): the direction of products to be rerated (*Client* or *Vendor*)
- *Products*: name of the product to be revalued. The list depends on the direction picked in the *Product direction* parameter. Select the *Include undefined* checkbox to recalculate undefined messages that may appear in the System due to misconfiguration
- *Period*: time interval within which charges are recalculated
- *Client bots* (available if *Product direction* is set to *Client*): the bot names from RCS\Bots 357
- *MCCMNC*: use the *MCCMNC* multipicker to select appropriate values
- *Task start time*: this option allows scheduling the recalculation task for any convenient time, for example postponing it till the next System off-peak interval to avoid excessive load on the System
- *Change session/message type according to current billing scheme*: when enabled, all affected session messages are included in the recalculation. When disabled, only the messages that are included in time span specified in the *Period* parameter are recalculated.

Recalculation of RCS EDRs through this interface affects RCS sessions if there was a change of message type (from sessions to messages). Note that if the entire session is not included in the recalculation period, the recalculation will not affect it.

When through with defining the parameters, click 

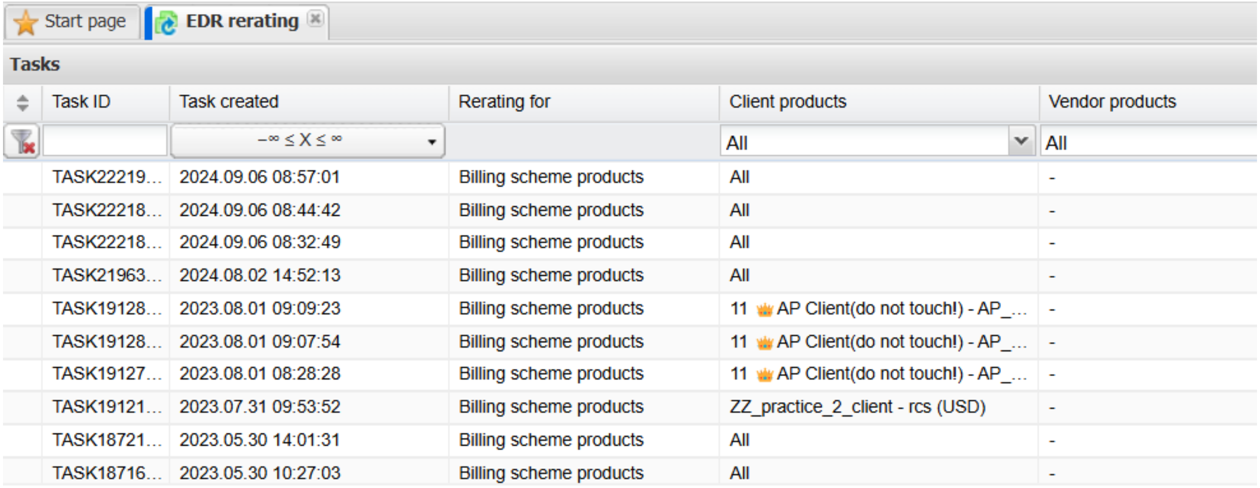
Run to start recalculation or 

Reset to discard the settings.

NOTE: After recalculation, all statistics and analytics will become outdated. The rerating triggers automatic recalculation of OLAP cubes after some time, depending on the current System load.

NOTE: After EDR rerating, perform recalculation of invoices for the same period to bring the invoicing information up to date. Refer to Finance\Invoices 217 for instructions.

Tasks



Task ID	Task created	Rerating for	Client products	Vendor products
	−∞ ≤ X ≤ ∞		All	All
TASK22219…	2024.09.06 08:57:01	Billing scheme products	All	-
TASK22218…	2024.09.06 08:44:42	Billing scheme products	All	-
TASK22218…	2024.09.06 08:32:49	Billing scheme products	All	-
TASK21963…	2024.08.02 14:52:13	Billing scheme products	All	-
TASK19128…	2023.08.01 09:09:23	Billing scheme products	11 AP Client(do not touch!) - AP_…	-
TASK19128…	2023.08.01 09:07:54	Billing scheme products	11 AP Client(do not touch!) - AP_…	-
TASK19127…	2023.08.01 08:28:28	Billing scheme products	11 AP Client(do not touch!) - AP_…	-
TASK19121…	2023.07.31 09:53:52	Billing scheme products	ZZ_practice_2_client - rcs (USD)	-
TASK18721…	2023.05.30 14:01:31	Billing scheme products	All	-
TASK18716…	2023.05.30 10:27:03	Billing scheme products	All	-

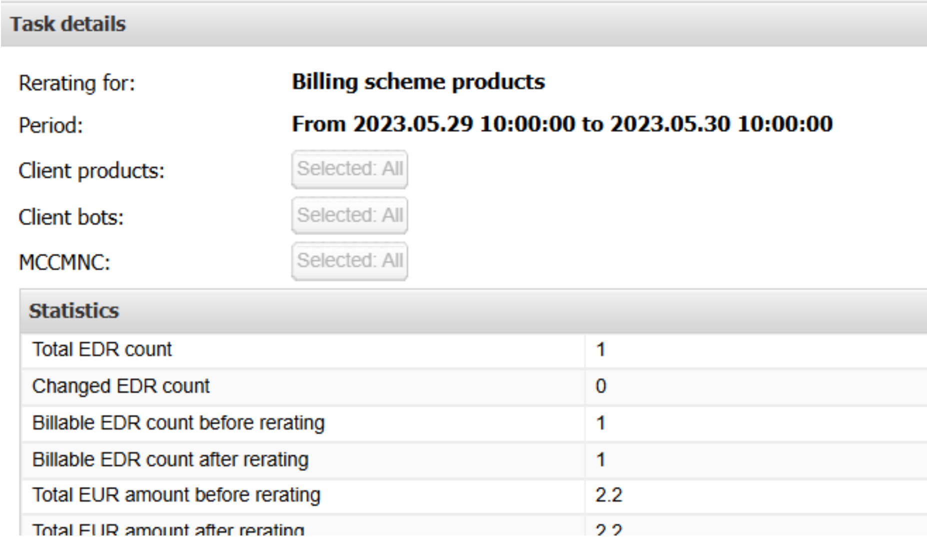
Tasks

The *Tasks* table displays a list of recent RCS EDR recalculation tasks with the following information:

- *Task ID*
- *Task created*: date and time of the task creation
- *Rerating for*
- *Client products*
- *Vendor products*
- *Client bots*
- *Period*
- *Task status*: status of the task. Possible values include:
  - *in progress* (with the progress percentage specified)
  - *scheduled*: scheduled task waiting to be run
  - *pending* (currently out of use)
  - *aborted* (if terminated manually by the System owner)
  - *ready*
  - *error*
  - *new*: the task has been created by the user and not started yet
  - *waiting* (currently out of use)
- *Details*: shows that the task is ready or contains the *Abort task* button if the task is in progress
- *User name*: name of the user that initiated the task

Any task can be recalculated with the previously selected settings reentered automatically. Select the required task and click the Restart recalculation *Restart recalculation* button located under the *Tasks* table.

Tasks details



Tasks details

The *Task details* table provides a quick overview of major parameters for the task selected in the *Tasks* table:

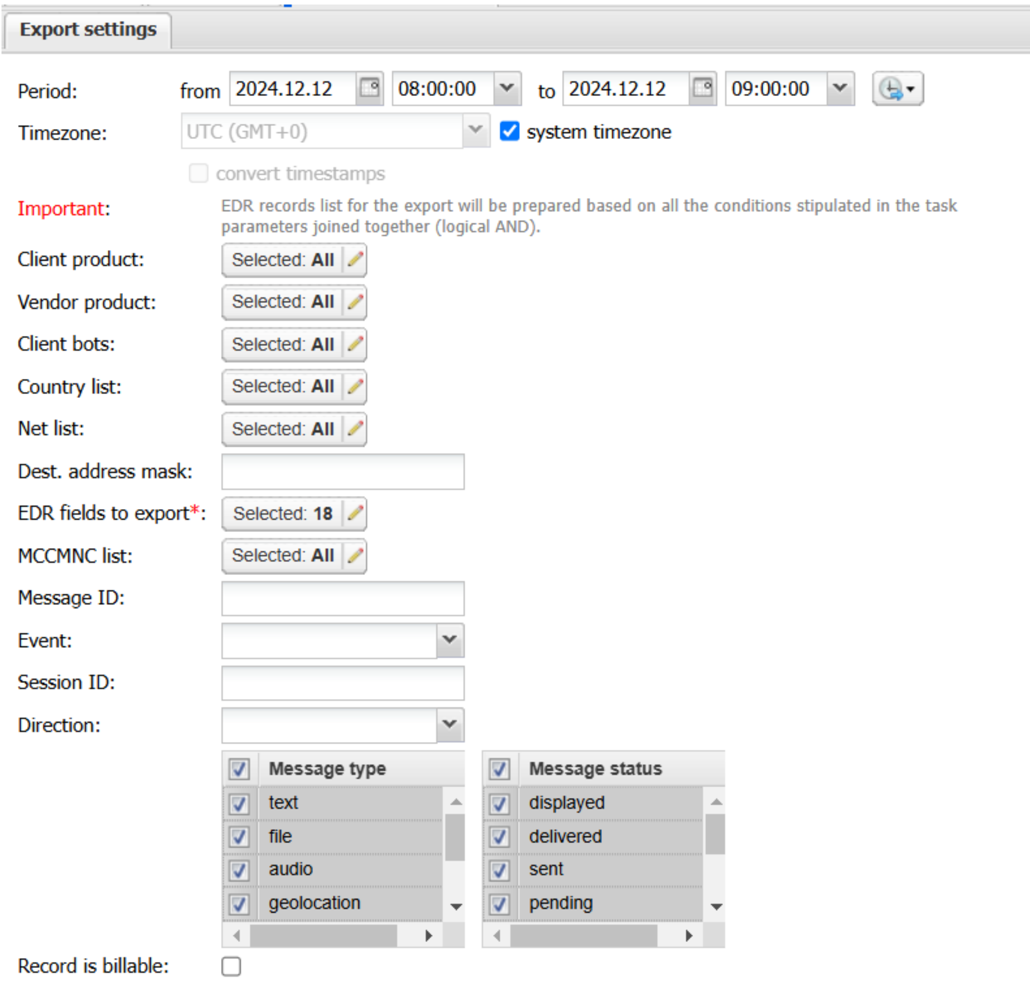
- *Rerating for*
- *Period*: period for EDR recalculation
- *Client products/Vendor products*: product for RCS EDR recalculation
- *Client bots*
- *MCCMNC*

It also contains the *Statistics* table that shows the data on RCS EDRs affected by recalculation. Click Details by product *Details by product* at the bottom of the table to export the table to MS Excel.

11.5 EDR export tool

The *EDR export tool* allows exporting RCS EDR data from the System database with a number of flexible filters and options. The page consists of three panels: *Export settings*, *Task grid* and *Task details*.

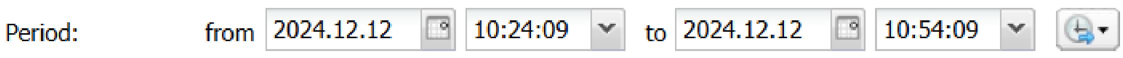
Export settings



Export settings

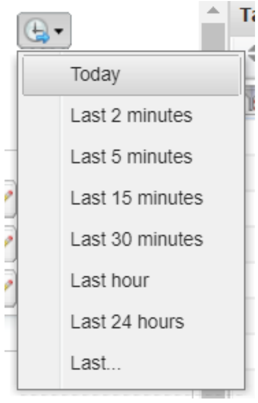
The *Export settings* tab allows configuration of the following export parameters:

- *Period*: timeframe of the RCS EDR export (both dates are inclusive)



Period selection in 'Show last' option

- *Show last*  button sets the export period to today (period from 00:00 of the current day till 00:00 of the next day), the last 2, 5, 15, 30 minutes, last hour, last 24 hours. The value *Last...* serves to select a custom period (minutes, hours and days) for EDR export. When selected, the *Last* parameter appears that allows selecting a customized period.



"Show last" option

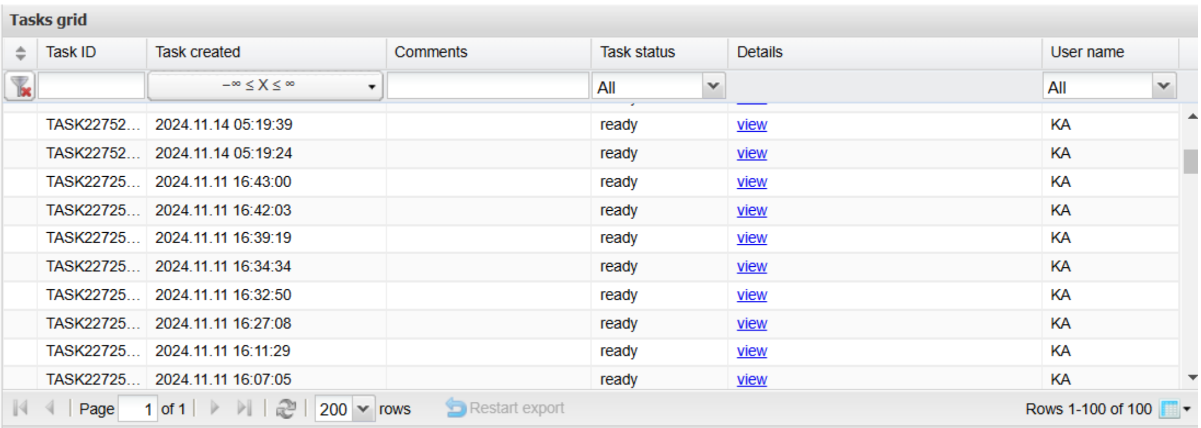
- *Timezone*: select the time zone in the drop-down list or select the *system timezone* checkbox. Select *convert timestamps* to convert timestamps to the selected timezone (available if the *system timezone* checkbox is deselected). This is helpful if you need to provide your partners with RCS EDRs in their specific timezone
- *Client product*
- *Vendor product*
- *Client bots*
- *Country list*: select countries
- *Net list*: select networks
- *Dest. address mask*: an exact number or a mask. For example: *1*, 1%, 1790811111* or *% 00000000*. Comma-separated values (exact match) are supported (for example, *1790811111,1790811112*)
- *EDR fields to export*: select from the EDR fields available in the System. Most field names are self-explanatory.
- *MCCMNC list*
- *Message ID*: an exact message ID or a mask. For example, *alss-%, alss-** or *%00000000*. Comma-separated values (exact match) are supported
- *Event*: *Message* or *Session*
- *Session ID*: an exact ID of a session. Comma-separated values (exact match) and a mask are supported. For example, *alss-%, alss-** or *%00000000*.
- *Direction*: A2P or P2A
- *Message type*: select specific message types for which export must be done (all types are selected by default)
- *Message status*: select specific message statuses for which export must be done (all statuses are selected by default)
- *Record is billable*: select to export only RCS EDRs for billable records
- *Task start time*: export task start time. The control allows scheduling a task on off-peak hours

- *Export target*:
  - *Show here*: export results are displayed in the web interface. Total number of displayed EDRs is limited by the *Export limit* parameter - up to 1000 records
  - *Export to file*: export results are downloaded from the web interface as a file with the extension specified in the *File format* parameter
  - *Send EDRs by email*: export results are sent as an attachment by the e-mail indicated in the *Send EDRs to* field
- *Export limit*: the maximum number of exported EDRs. Active when the *Export target* is *Show here*
- *File format*: active when *Export to file* or *Send EDRs by email* is selected: the export format (CSV or Excel)
- *Send EDRs to*: email to send the exported EDRs (several comma-separated addresses can be indicated)
- *CC exported file to* (active when *Export target* is *Send EDRs by email*): set comma-separated emails for sending a copy of the exported files
- *Comments*: additional comments, available in the *Comments* column of the *Tasks grid* panel. The field is automatically filled with the preset name in when a preset is loaded

The *Presets* toolbar at the bottom of the page enables the user to create, upload and delete the pre-set export templates.

When through with defining the parameters, click Export Export to start the task or Clear filter *Clear filter* to discard the settings.

Tasks grid



Tasks grid

Task ID	Task created	Comments	Task status	Details	User name
TASK22752...	2024.11.14 05:19:39		ready	view	KA
TASK22752...	2024.11.14 05:19:24		ready	view	KA
TASK22725...	2024.11.11 16:43:00		ready	view	KA
TASK22725...	2024.11.11 16:42:03		ready	view	KA
TASK22725...	2024.11.11 16:39:19		ready	view	KA
TASK22725...	2024.11.11 16:34:34		ready	view	KA
TASK22725...	2024.11.11 16:32:50		ready	view	KA
TASK22725...	2024.11.11 16:27:08		ready	view	KA
TASK22725...	2024.11.11 16:11:29		ready	view	KA
TASK22725...	2024.11.11 16:07:05		ready	view	KA

Page 1 of 1 | 200 rows | Restart export | Rows 1-100 of 100

Tasks grid

The *Tasks grid* displays the list of recent EDR export tasks with the following information:

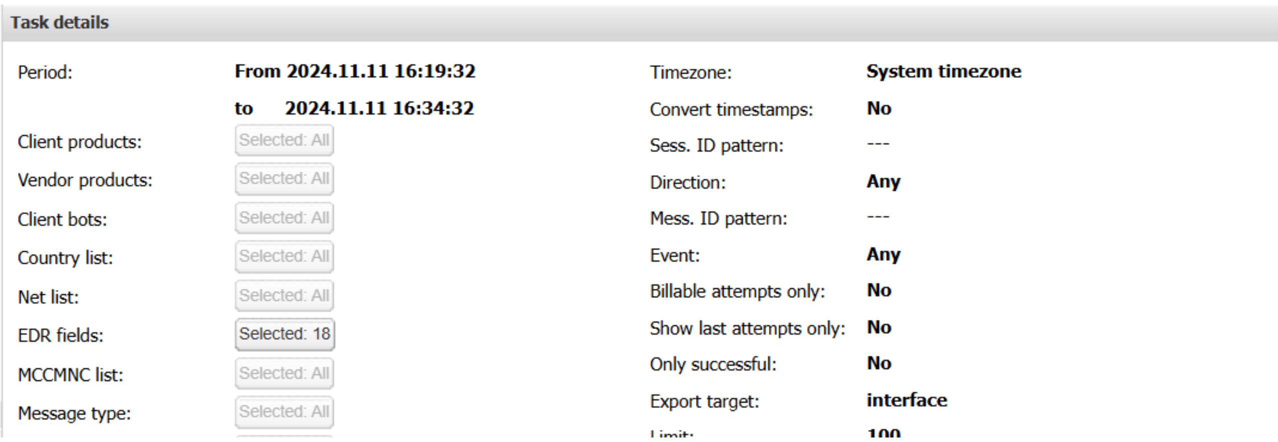
- *Task ID*: internal identification number of the export task
- *Task created*: date and time of the task creation (obtained from the *Task start time* parameter)
- *Comments*: the content of the *Comment* field if it was filled when a task was created. If the field was left empty, but a user preset was applied, the System displays the name of the preset. If

both the field was filled and the preset used, the column will contain the value manually specified by the user during export

- *Task status*: status of the task. Possible values:
    - *in process* (with the progress percentage specified)
    - *aborted* (if terminated manually by the System owner)
    - *ready*
    - *error*
- *Details*: this column can contain:
    - a link to the export results window, if *Export target*: *Show here* is selected
    - a link to the file download, if *Export target*: *Export to file*/*Send EDRs by email* or *Export to file* is selected
    - error description, if any error occurred during the EDR export
    - empty column if the task was aborted
- *User name*: name of the user that initiated the procedure

The *Export results* view contains the button that serves to export the results to an MS Excel file.

Click the *Restart export* button to run an export task again with the same export settings, which are displayed in the *Task details* view.



Task details

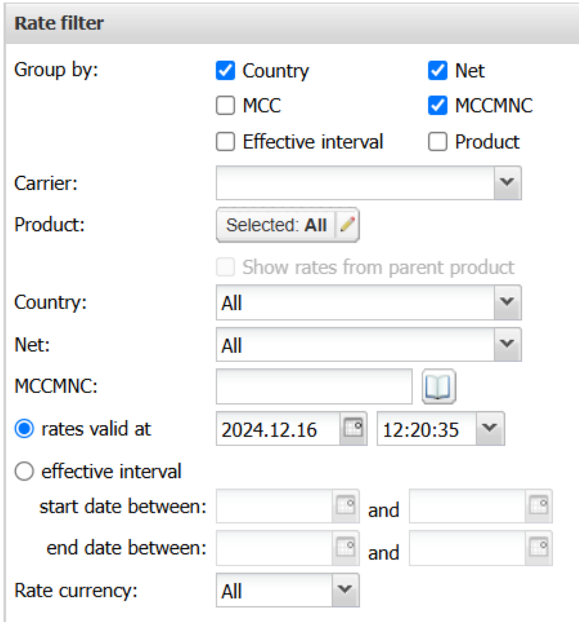
11.6 Rate editor

The *RCS\Rate editor* section allows viewing and modifying single rates and rate groups registered in the System, as well as manually create new rates.

The section consists of two pages: *Rate groups* and *Rates.*

The *Rate groups* page contains the *Rate filter* view with filtering and grouping options, and the *Rate groups* table displaying the rates grouped as defined in the filter.

The button in the upper left corner of the page toggles the *Rate filter* view.



Rate filter

In the *Group by* field, select one or several checkboxes to define grouping parameters: *Country*, *MCC*, *MCCMNC*, *Product*, *Net* or *Effective interval*. If none of the grouping checkboxes is selected, the System displays one group with the total number of rates in the selection according to the following filter parameters:

- *Carrier*
- *Product*: specific carrier product. Select several products to compare rates between them. Click the *Edit list* button for multiple selection

NOTE: If the parameter *Inactive entities* in *User settings* has the value *Hide* (see Interface structure 18), inactive products will be hidden in the *Product* multipicker.

- *Show rates from parent product*: select this checkbox if you wish to include rates from the parent product into the output
- *Country*
- *Net*: network name
- *MCCMNC*: masks with % and * symbols are supported. Several MCCMNCs cannot be specified
- *rates valid at*: rates effective at the specified date/time
- *effective interval*: rates effective in the specified period
- *Rate currency*

Click the *Apply filter* button to display the rates complying to the filter parameters. Click *Clear filter* button to reset the form. The filtered rates will appear in the *Rate groups* tab sheet, grouped by the parameters specified in the *Rate filter* panel. Rates in the figure below are grouped by Country:

Rate groups | Rates

Select row and go to next tab

Country	Net	MCCMNC	Rate	Currency	Rate count
AP	kuku	100000	{..}	{..}	2
Abkhazia	ACE Telecom	100104	0.500/16....	USD	1
Abkhazia	Advanced Wireless Network Compa...	100	12.000/12...	USD	1
Afghanistan	All networks	412	0.413/0.4...	EUR	1
Afghanistan	Afghanistan all operators	412	1.000	USD	1
Brazil	All networks	724	0.151/0.300	EUR	1
Greece	Cosmote	202002	{..}	USD	2

Rate groups table

Click the *Close* button to modify the *Active till date* of the rate group.

Click the *Edit* button to edit the rate group.

Click the *Clone* button to create an exact copy of the selected rate group, so that a new group can be created by means of changing one or several parameters of the clone.

Click *Export to Excel* to export the table to an MS Excel file.

Click the *Add period* button to modify the rate group *Active from* and/or *Active till* dates and/or prices; the old rates will be active for the dates that do not overlap with the new period. For example, suppose there is a rate valid from 2016.01.01 till 2100.01.01 and you need to increase it. Click *Add period*, set the *Active from* date to 2017.02.01 and the *Active till* date to 2100.01.01 and specify a new rate. In this way, you will have two rates: the old one from 2016.01.01 till 2017.02.01 and the new one from 2017.02.01 till 2100.01.01.

NOTE: The buttons *Add period* and *Clone* are only active if *Group by* has *Product* selected or a single product is specified in the *Products* multipicker.

The *Rates* page is disabled by default. To enable it, click on one of the rate groups in the *Rate groups* table. The *Rates* page will display the rates in the selected rate group, allowing you to edit them one by one or in the group edit mode.

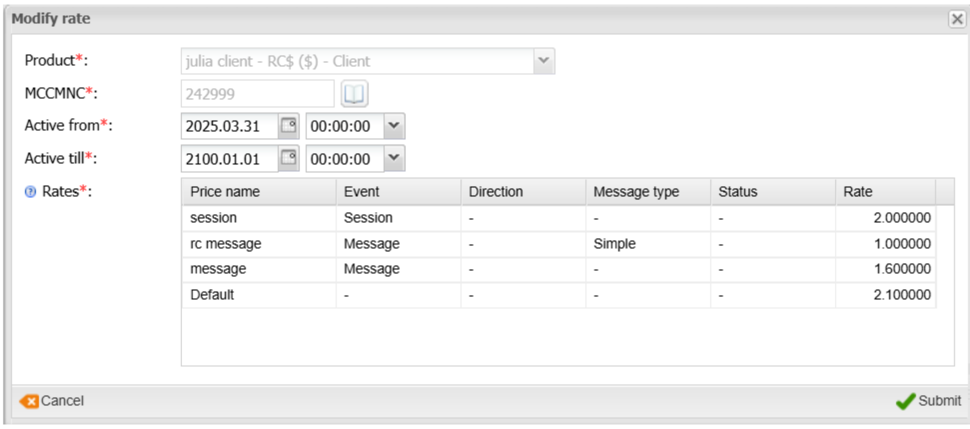
Rate groups | Rates

Product	MCCMNC	Currency	Rate	Rate (USD)	Country	Net
MaksP_RCS - MaksP_RCS_Client (USD) - Cli...	204007	USD	0.0000	0.0000	Netherlands	Teleena Holding BV

Rates

Click the *Refresh* button on the bottom toolbar to refresh the table.

Double-click on a rate to open the *Modify rate* dialog.



Modify rate

The *Price name*, *Event*, *Direction*, *Message type*, and *Status* columns will be filled in automatically in accordance with the product RCS billing scheme (assigned in Carriers\Products 180). The values cannot be changed. Specify the Rate which corresponds to every price name and click the Submit *Submit* button to save changes.

NOTE: If you change the *Active from* date and the rate will be starting later, the period not covered by the rate will lose the billing information. A note explaining this will appear on the screen.

The bottom part of the *Rates* page contains a table with rate history details. Click on a rate in the *Rates* table to view the history of the rate changes. The *History status* column indicates the rate periods as previous, selected or upcoming. Double-click a record to edit it.

Rate history (double click to edit)

History status	Rate	Country	Net	Active from	Active till
selected	0.151/0.300	Brazil	All networks	2023.05.19 00:00:...	2100.01.01 00:00:...
previous	0.100/0.300	Brazil	All networks	2022.05.19 00:00:...	2023.05.19 00:00:...

Rate history

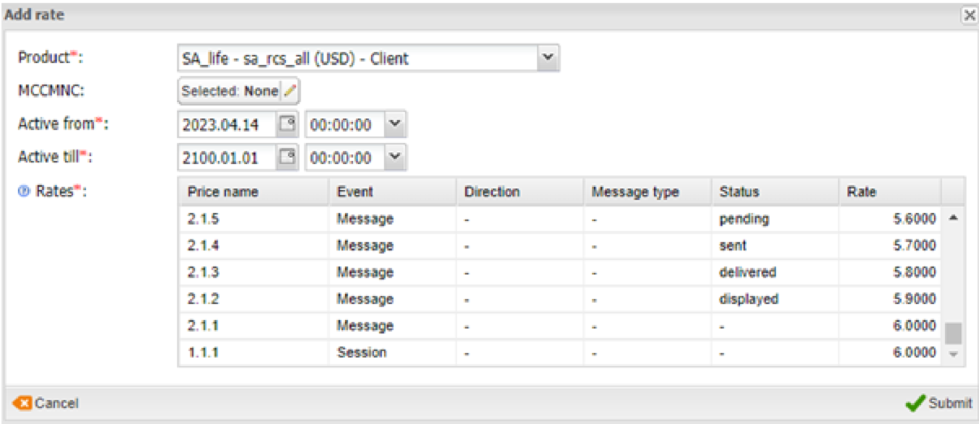
NOTE: For example, editing the rate history may come useful when correcting an erroneous price etc.

Below is a list of available actions with rates. They are invoked by appropriate buttons located on the instrument panels above and below the *Rate history* table.

- *Add rate*
- *Add rate to group*
- *Roll back rates*
- *Add period*
- *Modify period*
- *Close selected*
- *Clone rate*
- *Export to Excel*

Add rate: add a new rate (zero prices are allowed)

Click the Add rate *Add rate* button to open the *Add rate* dialog.



Add rate

The configurable parameters of the *Add rate* dialog are:

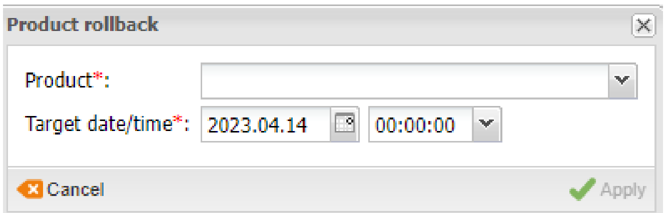
- *Product*: the carrier product the rate belongs to
- *MCCMNC*
- *Active from/Active till*: select the active period of the prices. If the entered period overlaps with a rate for the same carrier product parameters, a new rate cannot be added. Specify a period that does not overlap with an existing rate. If the carrier product matches some existing rates, the existing rates will change – a new period (with the new price) will be added. If the user creates a unique rate (there are no rates with same carrier product in the System), then a new rate will be added
- *Rates*

When through with defining the parameters, click Submit *Submit* or Cancel *Cancel* to discard the settings.

Click the Add rate to group *Add rate to group* button to add a new rate directly to the selected rate group, i.e. the fields in the *Add rate* window that correlate with the selected *Group by* filters will be filled automatically.

NOTE: If the *Group by country* filter is on and the group has several MCCMNC codes, the *MCCMNC* field will show the MCC code.

Roll back rates



Roll back rates

The dialog serves to discard all changes made to the rates of the specified product since the target date/time. The option is used to correct possible erroneous actions (wrong ratesheet imported etc.):

- Select the required product from the drop-down list
- Set the target date and time

- Click Apply *Apply* or Cancel *Cancel* to discard the settings

Add period

Click the Add period *Add period* button to modify the rate *Active from* and/or *Active till* dates; the old rate will be active for the dates that do not overlap with the new period. For example, suppose there is a rate valid from 2016.01.01 till 2100.01.01 and you need to increase it. Click Add period *Add period*, set the *Active from* date to 2017.02.01 and the *Active till* date to 2100.01.01. In this way, you will have two rates: the old one from 2016.01.01 till 2017.02.01 and the new one from 2017.02.01 till 2100.01.01.

Modify period

Click the Modify period *Modify period* button to modify the rate *Active from* and/or *Active till* dates; the rates whose dates do not overlap with the new period are removed from routing. For example, the original rate period is June 10 – June 20; the corrected period is June 10 – June 15. Rates for the period between June 16 and June 20 will be removed.

NOTE: This control is recommended for correcting erroneous new rates. In other cases it is recommended to use *Add period* rather than *Modify period*.

Close selected

Click the Close selected *Close selected* button to close one or several rates after a certain date/time. Once you choose this option, only the *Active till* field is editable. Set the *Active till* value to close the rates by that date-time stamp. All intervals of the rate history that are later in time than that point will be deleted.

Clone rate

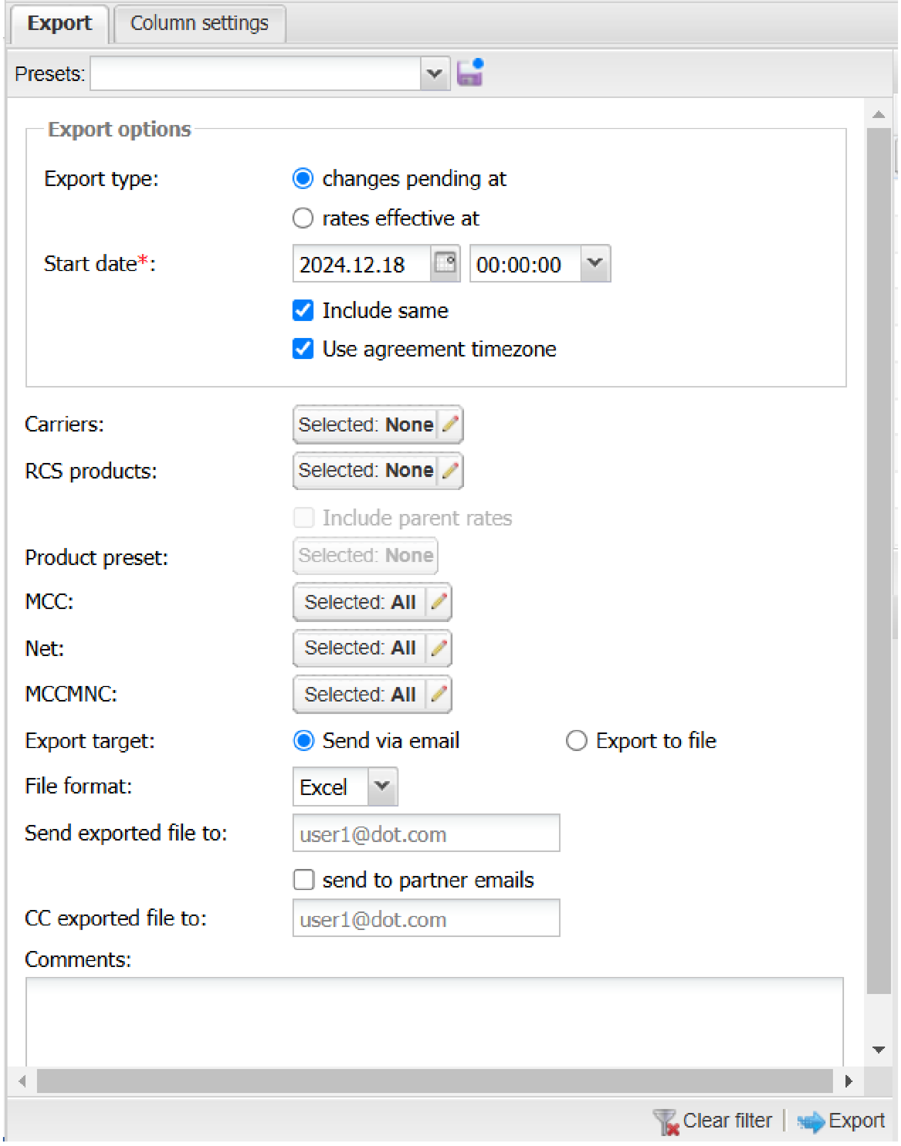
Click the Clone rate *Clone rate* button to create an exact copy of the selected rate, so that a new rate can be created by means of changing one or several parameters of the clone. A new rate without any changes is not added to the System. It is recommended for use when creating a new rate with similar parameters.

11.7 Rate export

The *RCS\Rate export* page enables the user to download rate data to a file (for analysis) or send it to partners' e-mails. The page consists of two tab sheets: *Export* and *Column settings*.

Export tab

The *Export* tab serves to select rates to be exported, by applying the following filters:



Export tab

- *Export type*: includes the following radio buttons:
    - *changes pending at*: export rates with account for periods set in the *Rate notification periods* section of Carriers\Agreements [171]. That is, export scheduled rate changes between the date indicated in the *Start date* parameter and the same date PLUS the period set in the *Rate notification periods* section (for example, *In increase notification, days* for client rate increases and *Out new rate notification, days* for vendor new rates). In the exported file, rates are marked in compliance with pending changes: increase, decrease, new, close, same
    - *rates effective at*: export rates as of the date indicated in the *Start date* parameter
- *Start date*: timeframe of rates for export
- *Include same*: check the flag to include the rates that were unchanged
- *Use agreement timezone*: use the partner’s time zone in the exported rates
- *Carriers*

- *RCS products*: carrier SMS product(s) associated with the exported rates. Check *include parent rates* to include rates of parent products (if applicable)
- *Product preset*: a set of columns in the exported file defined in the *Column settings* tab sheet
- *MCC*
- *Net*: network name
- *MCCMNC*: click on the Edit list button to select one or several MCCMNCs
- *Export target*: indicate how the file should be exported. Options include:
  - *Send via email*
  - *Export to file*
- *File format*: select *Excel* or *CSV*
- *Send exported file to*: available if the *Send via email* option is selected; specify comma-separated email addresses for file delivery. Check the *Send to partner emails* flag to deliver the file to the carrier emails configured in Carriers\Agreements 171 (*Default rate change emails* parameter). A copy is also sent to:
  - the address specified in the field *Email address to CC rates updating* in Reference books\Contract companies 261
  - the account manager if the *Send rate changes* checkbox is selected in the user settings of the manager (Administration\Users 158)
- *CC exported file to*: a copy of rate export results is sent to the addresses specified in the field. The addresses must be separated by comma or comma followed by blank space.

NOTE: Each partner receives only rates pertaining to their accounts. A copy of the message is also sent to the partner's account manager.

- *Comments*: arbitrary comments

NOTE: The field appears in the exported file only if the [Comments] marker is configured in the MS Excel template file (Administration\Template manager 104, *RCS rate export* template or *RCS rate update letter* template).

Tasks

The *Tasks* table displays a list of recent rate export tasks with the following information:

- *Task created*: date and time of the task creation
- *Product*: relevant product
- *Task status*: status of the task. Possible values:
  - new
  - in progress
  - aborted (if terminated manually by the user)
  - ready
  - error

   - pending: currently out of use
   - queued: when an email is placed to a mail queue
   - scheduled: the task is scheduled for a specific time
- *Details* can contain:
   - error description if an error occurs during the export procedure (for example, *Not sent, export is empty*)
   - Sent status if the *Send via email* option was selected. The status can be changed to *Delivered on %timestamp%* if the recipient has followed the link generated in the email (given that the System parameter *Ratesheet delivery options (1 - attachment, 2 - link, 3 - attachment and link)* is set to 2 or 3).
   - a link to the generated file if the *Export to file* option is selected
   - *Abort task* button if the task is in progress
- *User name*: name of the user that initiated the procedure

Click the *Refresh* button to refresh the table.

Any task can be restarted with the previously configured settings. To restart a task, select it in the table and click the *Restart export* button located at the bottom toolbar.

By default, exported files can be downloaded for the last 30 days while tasks themselves can be available for a longer period.

Task details

The *Task details* table provides an overview of parameters for the task selected in the *Tasks* table.

Export can be configured for several grouped products. For every product in a group a separate task is created. The *Task details* table shows all products within one task.

Column settings

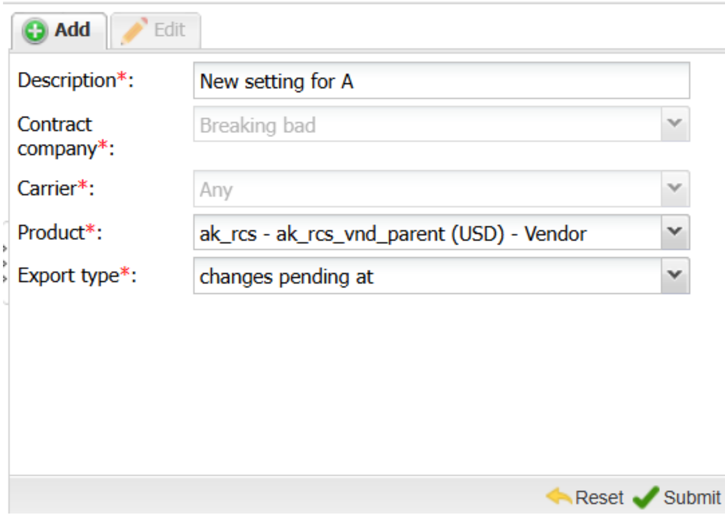
The *Column settings* tab sheet serves to configure columns of the output MS Excel file. Such set of columns and their parameters is called a product preset. The *Column settings* tab sheet contains four panels: the upper left panel is a table of product presets, the bottom left panel shows details of the selected record; the top right panel contains the *Add* and *Edit* tabs for creating and editing a product preset; the bottom right panel contains the *Add* and *Edit* tabs for configuring columns within the preset.

Export | **Column settings**

Description	Contract company	Carrier	Product	Export type
	All	Any	All	All
CAT	Any	Any	Any	Any
EE	Any	Any	EE_client - ee_rcs_client	changes pendin...
For any	Any	Any	Any	Any

Column settings table

To create a new product preset, open the *Add* tab in the top right panel and enter the appropriate parameters in the fields detailed below. Fields marked with an asterisk (*) are required.



Adding a new product preset

- *Description*: name of the product preset
- *Contract company*: the legal entity of the System owner on behalf of which it works with the carrier
- *Carrier*
- *Product*
- *Export type*: the parameter configured in the *Export* tab sheet (options include: *changes pending at* or *rates effective at*)

Click Submit *Submit* to save the changes. Click Reset *Reset* to clear the form. Click Clone *Clone* to create a copy of a record selected in the table (the button opens the *Add* tab with the parameters of the record. Edit them as appropriate and click Submit *Submit*).

A new product preset contains the following default columns:

- *MCC*
- *MNC*
- *COUNTRY*
- *NETWORK: network name*
- *RATE_START_DATE*
- *RATE*
- *PRICE_NAME*
- *CHANGE_TYPE*: describes the rate change (*increase, decrease, new, close, same*)

	System column	User column name	Width	Alignment	Rounding precision
1	MCCMNC	e.212	60	left	
2	RATE	Rate	60	right	6
3	RATE_START_DATE	Effective date	100	center	
4	RATE_END_DATE	Effective till	100	center	
5	PRICE_NAME	Price name	150	left	
6	PRICE_DIRECTION	Price direction	100	left	
7	PRICE_EVENT	Price event	100	left	
8	PREV_RATE	Previous rate	60	right	6
9	CHANGE_TYPE	Change type	80	left	
10	NETWORK	Network	10	left	

Details of a selected preset

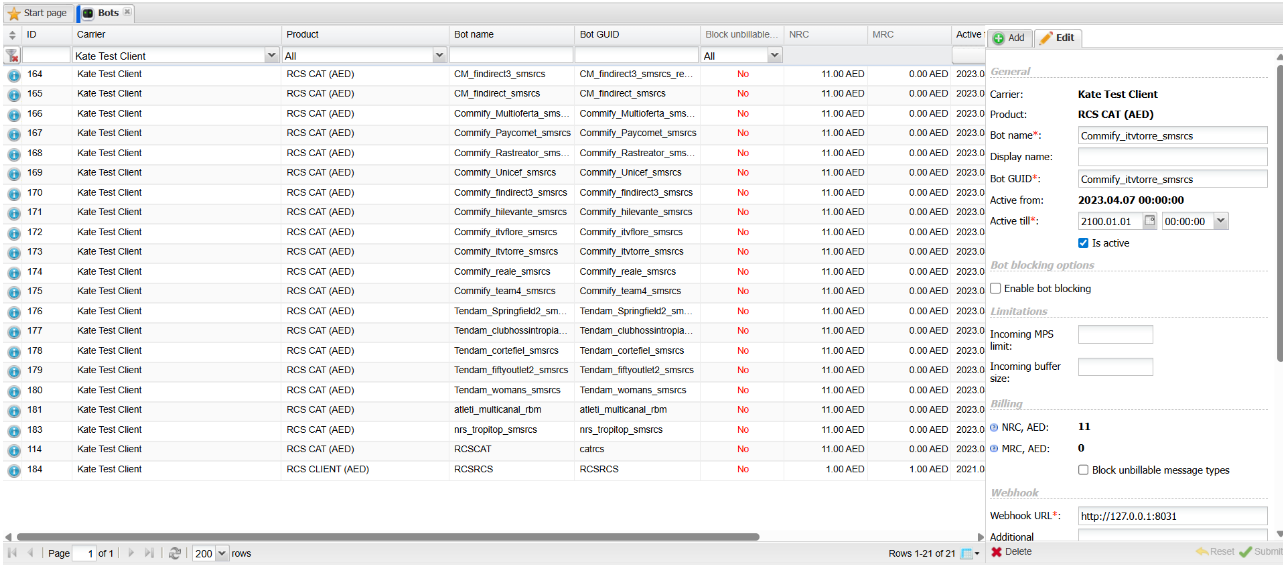
The user can edit the parameters of the default columns (use the *Edit* tab at the bottom right panel) or add new columns (use the *Add* tab at the bottom right panel). When adding a new column, configure the following settings (fields marked with an asterisk (*) are required):

- *System column*: select the data type in the drop-down list. Values include:
  - *PRICE_DIRECTION*
  - *MCCMNC*
  - *PRICE_EVENT*
  - *MCCMNC5*: MCCMNC code in a 5-digit format, with the first digit of the MNC code removed (for example, if the 6-digit MCCMNC code is 202002, the 5-digit code is 20202). Note that MCCMNCs of the MCCs added to the System parameter *List of MCCs with 3-digit MNCs* are exported as 6-digit MCCMNCs
  - *RATE_END_DATE*
  - *PREV_RATE*: the value of the previous rate
  - *PRICE_MSG_TYPE*: message type from RCS\Billing schemes 337
  - *PRICE_STATUS*: status from RCS\Billing schemes 337
  - *PRICE_PRIORITY*: priority of the price from RCS\Billing schemes 337
- *User column name*: the name of the column
- *Width*
- *Alignment*
- *Rounding precision*
- *Sort order*: specify sorting priority for the columns, with 1 being the highest priority. Possible values are 1, 2, 3. For example, in the figure above columns will be first sorted by MCC (value 1 in the *Sort order* field) and then by MNC (value 2 in the *Sort order* field)
- *Sort direction*: select *asc* for ascending and *desc* for descending (applicable to the *MCC* or *MNC* columns)

Click Submit *Submit* to save the changes. Click Reset *Reset* to clear the form.

11.8 Bots

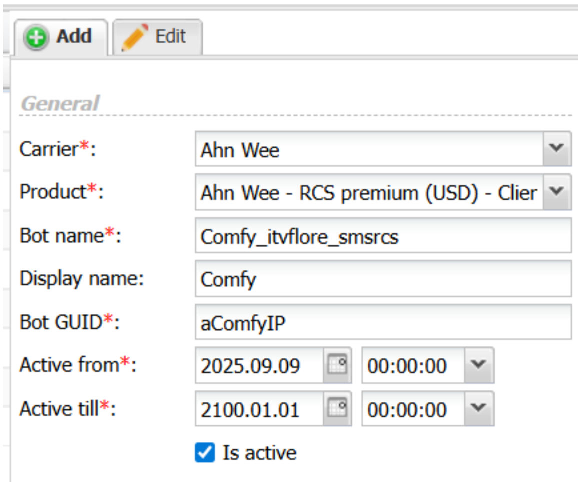
The page is intended for configuration of RCS bots (clients) in order to accept incoming messages and terminate them to RCS providers. First, a carrier, account, agreement, client product (of the RCS type) must be created in Carriers 163.



Bots

The right panel contains the *Add* and *Edit* tabs that allow adding new records or editing existing ones. To activate the *Edit* tab, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required. The *Add* tab contains the following parameters:

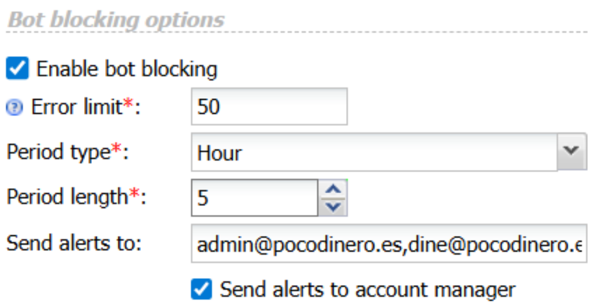
General



Add tab, General

- *Carrier*: select a carrier to which an RCS bot is associated from the drop-down list
- *Product*: specify a product. Only RCS products are available in the drop-down list
- *Bot name*: arbitrary name (the maximum number of symbols is 32) defined by the user (this name is displayed in RCS\Analytics 333 and in RCS EDRs)

- *Display name*: the sender name to be displayed on the end (user) device. The field is for reference
- *Bot GUID*: unique bot identifier to be used in incoming requests
- *Active from/Active till*: date and time of RCS bot activation/deactivation
- *Is active*: enable to make bot active (separate checkbox may come in handy for a temporary switch-off of a bot)



Bot blocking options

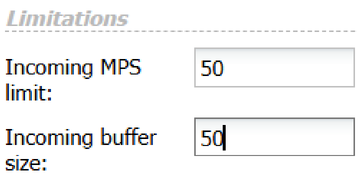
Bot blocking options: allows disabling a bot when it is unavailable. When the *Enable bot blocking* flag is enabled, the following options become available:

- *Error limit*: number of errors (of the 5xx type - for example, 500, 501 etc.) and non-responses (total counter) when sending to Webhook URL. When exceeded, the flag *Is active* is deselected. Once the flag is deselected, the error/non-response counter is reset. The minimum value is 1 and the maximum value is 1000
- *Period type*: period for error/non-response statistics (possible values: *Minute*, *Hour*, *Day*)
- *Period length*: the length of the period for error/non-response statistics collection. Minimum value is 1, maximum value is 1000
- *Send alerts to*: optional list of addresses (separated by commas) to send notifications when the bot is deactivated
- *Send alerts to account manager*: flag to send notifications to the account manager when the bot is deactivated

If sending a message to webhook fails and the above logic is enabled, an EDR with the status *webhook failed* will be generated.

NOTE: Bot blocking options apply to the new generation RCS proxy only.

Limitations



Add tab, Limitations

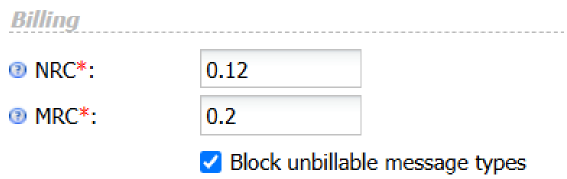
- *Incoming MPS limit*: allowed number of messages per second for client. When exceeded, and if the value of the parameter *Incoming buffer size* is not set, messages are rejected. If the buffer is not empty and new incoming messages are received, the System uses the FIFO (first in, first out) logic: if the buffer already contains messages, they will be sent out first (in incoming order) and only then new messages will be processed

NOTE: Please note that no buffer EDRs will be formed at this time.

- *Incoming buffer size*: allowed number of messages in the storage buffer. In case when the *Incoming MPS limit* is exceeded, all new incoming messages are stored in a buffer. If the buffer is overflown, all the following messages are rejected

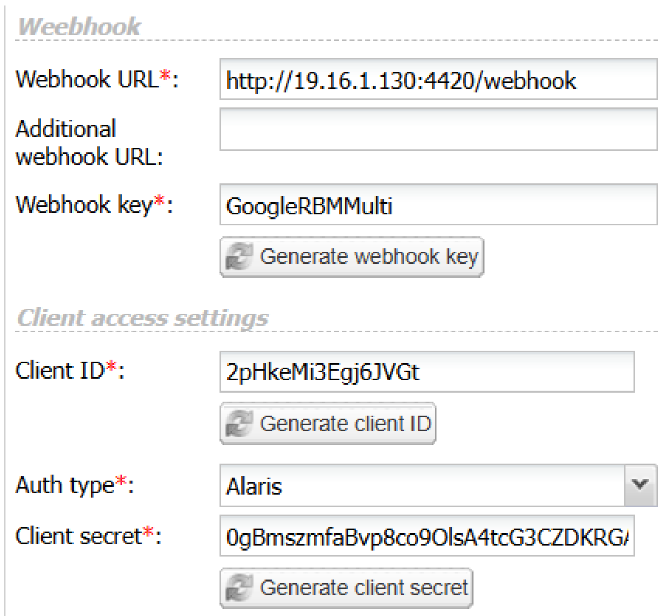
NOTE: Limitations apply to the new generation RCS proxy.

Billing



Add tab, Billing

- *NRC*: non-recurrent charge (a fee will be subtracted from the account's balance once an RCS bot is submitted; an invoice for the RCS fees type and the agreement's billing period will be generated). Can be set as 0
- *MRC*: monthly recurring charge, can be set as 0
- *Block unbillable message types:* if selected, messages with types for which no rates are set will be blocked. Note that if the flag is enabled, the *Default* price is not verified - thus, the price for a specific type must be set. The functionality works only for the new generation RCS proxy (RCS proxy 2)



Add tab, Webhook and Client access settings

Webhook

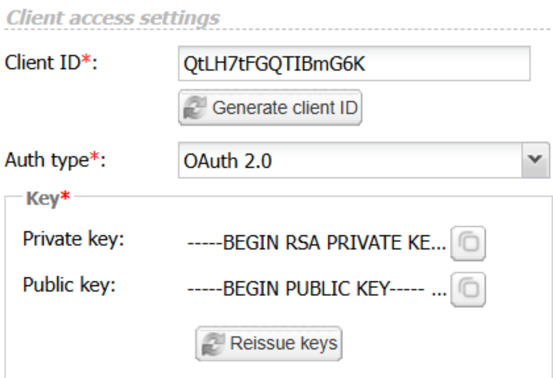
- *Webhook URL*: bot (client) URL where MO/P2A (user responses) messages and changes of initial messages' statuses will be pushed to. Must start with http:// or https://. In case of

SMS2RCS, the webhook must be set as http://127.0.0.1:88/invoice/cgi/rcsproxygw.py/webhook/?username=sms2rcs&password=callback&dnis=test&command=deliver for the SMS switch to receive callbacks and convert them for SMS clients (where values for the username and password parameters must be replaced with values from a dedicated SMS channel)

- *Additional webhook URL*: additional URL the system uses in case of unavailability of the Webhook URL
- *Webhook key*: the key to be used in providers' incoming webhooks to send MO/P2A messages or notify the System in regard to a change of message status. The format of the link is as follows: http(s)://alaris.rcsproxy.com/webhook/KEY, where *KEY* is replaced with the Webhook key value and *alaris.rcsproxy.com* is the domain name registered for the RCS proxy IP address. Use the *Generate webhook key* button to create a unique value for the Webhook key parameter

Client access settings

- *Client ID*: client authorization parameter (login). Use the *Generate client ID* button to create a unique value for the *Client ID* parameter.
- *Auth type*: authentication type (*Alaris* or *OAuth 2.0*). If *OAuth 2.0* is selected, the *Private key* and *Public key* fields become available as illustrated below. Click to copy the value. If *Alaris* is selected, the *Client secret* field (password) and *Generate client secret* button become available.



Auth type: OAuth 2.0

Delivery channels

The *Delivery channels* section allows configuring multiple providers within one RCS bot with the help of the *Add new provider* button.

When clicked, the following options are available:

- *Alaris*: select if requests must be sent to Alaris RCS proxy. When selected, the *Alaris GUID*, *Alaris client ID* and *Alaris secret* parameters must be filled in (click to expand the parameters)
- *Dotgo*: select if requests must be proxied to Dotgo (Vodafone). When selected, authorization parameters *Dotgo secret*, *Dotgo client ID* must be specified as well as *Dotgo GUID* (sender name)
- *Google RBM*: select if requests must be proxied to Google RBM. When selected, insert a Google RBM JSON file in the text format in the *Authentication file content* parameter.

Specify the *Agent ID* to send agent ID as an authorization parameter to Google. When omitted, the agent ID is not passed in requests

NOTE: When an RCS message is sent through Google RBM or Telefonica and gets a REVOKED status from that provider with *UseFallback=true*, the System can automatically reroute it to a fallback provider. To enable the feature contact the Alaris technical support team and provide the code CS-1350.

- *SMS fallback*: select if messages must be processed as regular SMS (that is, only messages with text type can be processed through the provider, processing of other types will result in error). The expected flow is as follows: a regular client SMS channel and an SMS POI with an empty service type must be configured additionally. The client channel username and password are to be specified in the bot's *SMS fallback username* and *SMS fallback password* parameters. When a message is proxied to the fallback, the SMS is sent to the SMS switch on behalf of the SMS client and regular routing takes place. To configure delivery report and MO message sending with the help of the scheme, contact the Alaris technical support team and communicate the BZ61644 code

NOTE: For the provider to be used as a fallback, the incoming request must contain *UseFallback=true*. In this case the MCCMNC list of the provider will not be verified and if the first RCS provider returns an unsuccessful response code, the fallback will be used. If the SMS fallback provider's MCCMNC list is set to *All*, it will serve as a backup when the original request includes *UseFallback=true* and the primary provider returns an error. If particular MCCMNC values are specified, then, even if *UseFallback=true* is received, the provider will be used as an independent route rather than a fallback. It can be used as a fallback if another RCS provider has the same MCCMNC specified.

NOTE: For the provider to be used as a fallback, the incoming request must contain *UseFallback=true*. If the SMS fallback provider's MCCMNC list is set to *All*, it will serve as a backup when the original request includes *UseFallback=true* and the primary provider returns an error. If particular MCCMNC values are specified, then, even if *UseFallback=true* is received, the provider will be used as an independent route rather than a fallback.

- *Sinch*: select if requests must be sent to Sinch. When selected, the following fields must be specified:
    - *Sinch Project ID*
    - *Sinch Key Secret*
    - *Sinch Key ID*
    - *Sinch App ID*
    - *Sinch API URL:* the sending URL. If this field contains no value, the URL from the internal configuration will be used. Note that the functionality is available for the new generation of RCS proxy (RCS proxy 2).
- *Telefonica*: select if requests must be proxied to Telefonica. When selected, specify *Telefonica Secret/Client ID/Bot ID* with the credentials of Telefonica service

It is possible to set up several RCS providers of the same type within one RCS bot. It may come in handy if the provider shares different URLs for different MCCMNCs. To differentiate between the RCS provider services, use the *Change name* icon to specify different names. To remove an RCS provider from a bot, click the *Delete* icon next to the provider's settings. Drag and drop the provider records to arrange them as appropriate.

Each provider has additional settings such as *MCCMNC* and *Vendor product*. The MCCMNC list serves to define the destinations (networks) for which the provider will be used to terminate messages. Lists must not intersect among the providers (except *SMS fallback*). If an RCS provider and SMS fallback have an overlapping list of MCCMNCs, the RCS provider has a priority over the fallback.

The *Vendor product* field allows specifying a vendor RCS product on a bot level, which rates will be used for vendor-leg billing. Note that a similar system-wide setting can be specified in the internal configuration. Bot-related setting has a priority over the internal setting.

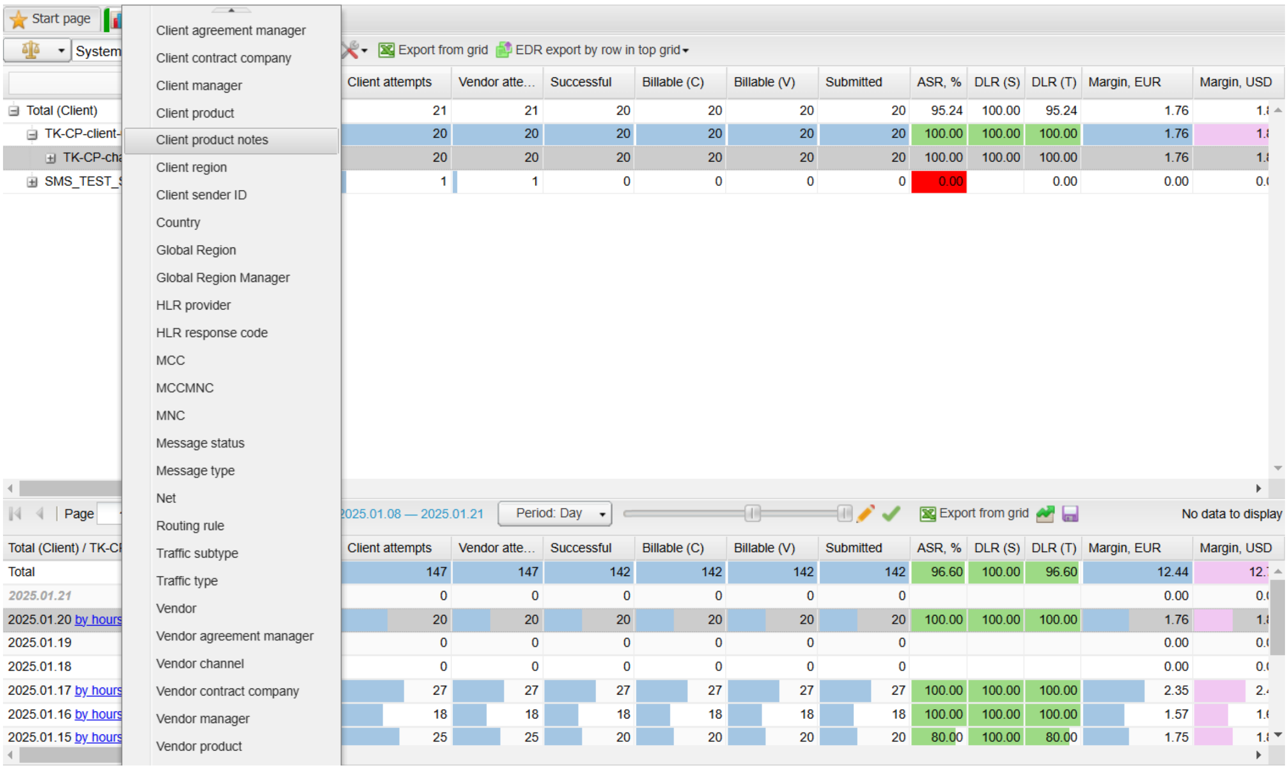
NOTE: URLs where requests will be sent to are defined in the internal configuration. Contact the Alaris technical support team and share the connection details.

12 SMS

12.1 Analytics

The *SMS\Analytics* page provides an easy-to-read and quick-to-draw picture of the most important statistical parameters in the System. This tool feeds on pre-calculated statistical tables (OLAP cubes) instead of raw EDR data. This approach decreases the System response time when a user selects a new aspect to display. The side effect is that the amount of available aspects is limited (mostly by server performance and free disk space). However, the limit is adjustable and all important aspects are included into the scope by default.

The page consists of two interconnected parts. The top part displays a table of performance indicators pertaining to the specified statistical aspects (a user-defined combination of business items, e.g. *Client >> Country >> Vendor*) for the period selected in the bottom part. The *Total* row shows data for all the clients or vendors of the System owner, whichever is selected.



Selecting the level of detail in the context menu

Along with parameters illustrated in the figure above, it is possible to calculate and view statistics based on the following parameters:

- *Client sender ID / Vendor sender ID*: the layers allow viewing statistics by sender IDs, and adding these details to reports generated based on the analytics data. To enable the layers, contact the Alaris technical support team and communicate the code BZ43468. Also, numeric Sender IDs that contain 9 or more digits will be grouped under the *Numeric* category
- *Routing rule* (available only to users with the *SMS routing rules view* permission): the rule used to terminate the traffic (to enable the option, contact the Alaris technical support team)
- *HLR provider*: the HLR provider polled for the SMS

NOTE: By default, the parameters *Rule ID* and *HLR provider* are disabled not to affect platform performance and maintain previously established data growth rate. To enable the stats display, contact the Alaris technical support team and communicate the code BZ20486 for *Rule ID* and BZ22143 for *HLR provider*. Additionally, the layers *HLR response code*, *Client sender ID* and *Vendor sender ID* can be enabled (contact the Alaris technical support team communicate the codes BZ43622 and BZ43468 respectively).

- *HLR response code*: statistics by the HLR response code. The *HLR response code* field can be taken from different fields based on specific HLR service providers. See the details on the hlrResponseCode metrics for a correlation between the field and HLR service provider in Appendix 4. Formulas and conditions used in routing\Routing metrics\Message metrics 693
- *Country*: country as configured in Reference books\Regions\Countries 275. The country is determined by HLR or by the MCCMNC existing in the System. Learn more in the Alaris YouTube video
- *Client product notes*: content of the *Product notes* field from client products
- *Vendor product notes*: content of the *Product notes* field from vendor products

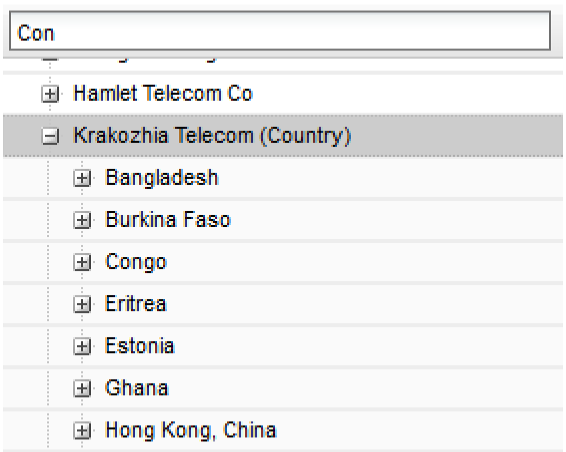
NOTE: The *Message status* layer illustrated in the figure above is activated by request. Contact the Alaris technical support team and communicate the code BZ27880. This analytical layer displays the breakdown of traffic by internal message status.

NOTE: The *Client/Vendor manager* layer is displayed correctly in monthly analytical cubes only when the manager is assigned to an account from the first day of the month. If the manager is assigned in the middle of the month, the monthly analytics will display the previously assigned manager or undefined.

Items in the table can be sorted ascending or descending by any of the columns. When the *Analytics* page is first opened, items are sorted by the total traffic volume.

Each item with available underlying layers has the “+” sign on the left of its name. Click on the “+” sign to open the context menu and add more items to the displayed combination. To close a layer click on the “-” sign on the left of its parent object.

For example, to drill down on the client level, select a client, then choose to view its stats by country, then select a specific country and further detail it by vendor and so on as shown in the figure above.



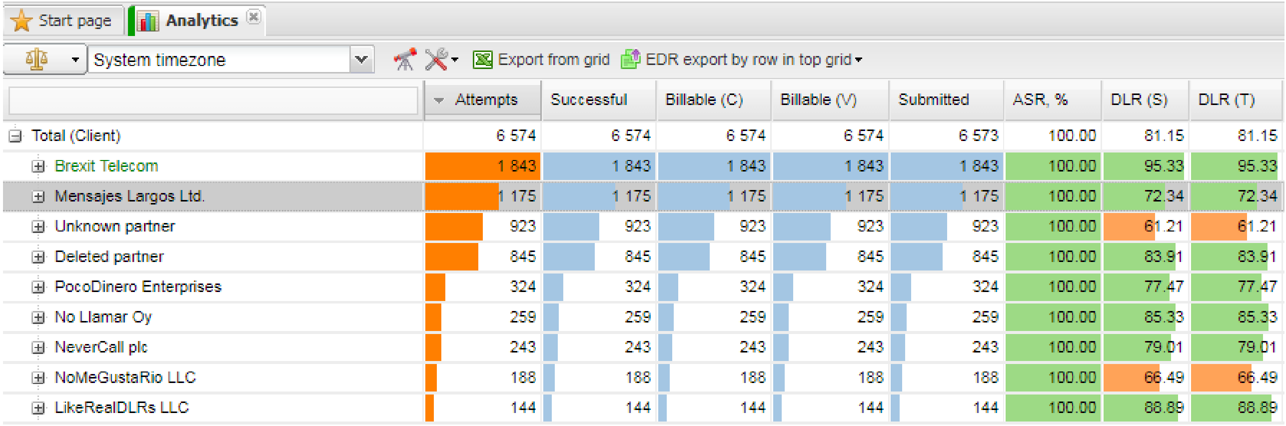
Items filter

Items can be filtered by filling in the edit box at the top of the first column. The filter always applies to the child items (if any) of the currently selected item. For example, to display the *Congo* stats for *Krakozhia Telecom*, select *Krakozhia Telecom* in the list, in the context menu select *Country*, and enter the first few characters of the search word, for example, *Con*. To locate the item by the characters in the middle/end of the word, use the wildcards * or %, in this example *Congo* can be filtered by entering **go or %go*.

Carriers highlighted in green are created through the Alaris Campaign Portal 583. To filter such records, select the *Total* row in the table and enter %Self-signed% in the edit box.

Test carriers are displayed in orange font, and the *Carrier name* has the prefix [TEST]. Test carriers are those that have the *Is test* checkbox selected in Carriers\Carriers 163.

When a user adds a new detail level to the selected aspect, the System includes the items that have stats for the combination of previously selected objects. Example: select *Client* and *Country* in the context menu. The System will display countries to which the selected client was forwarding traffic over the periods selected in the bottom table.



	Attempts	Successful	Billable (C)	Billable (V)	Submitted	ASR, %	DLR (S)	DLR (T)
Total (Client)	6 574	6 574	6 574	6 574	6 573	100.00	81.15	81.15
Brexit Telecom	1 843	1 843	1 843	1 843	1 843	100.00	95.33	95.33
Mensajes Largos Ltd.	1 175	1 175	1 175	1 175	1 175	100.00	72.34	72.34
Unknown partner	923	923	923	923	923	100.00	61.21	61.21
Deleted partner	845	845	845	845	845	100.00	83.91	83.91
PocoDinero Enterprises	324	324	324	324	324	100.00	77.47	77.47
No Llamar Oy	259	259	259	259	259	100.00	85.33	85.33
NeverCall plc	243	243	243	243	243	100.00	79.01	79.01
NoMeGustaRio LLC	188	188	188	188	188	100.00	66.49	66.49
LikeRealDLRs LLC	144	144	144	144	144	100.00	88.89	88.89

Analytics (top table)

The top table contains information on the following parameters:

- *Client attempts*: total number of attempted SMS transfers from the client side. For the client side the EDRs with is_last=1 are taken into calculation
- *Vendor attempts*: total number of attempted SMS sent to vendors. The number can be different from the *Client attempts* value in case of rerouting
- *Successful*: number of SMS transfers confirmed by vendors as received (submit_sm_resp with error code 0x00 has been received)
- *Billable (C), Billable (V)*: number of potentially billable SMS for clients (C) and vendors (V) as configured by the parameter *SMS billing* option on the Carriers\Products 180 page. If the product's *Billable* checkbox is deselected, messages are still taken into consideration to calculate the column values
- *Submitted*: the message status is included in the *Bill by submitted* preset (SMS\Reference books\Billing status presets 447)
- *ASR, %*: successful to total attempts ratio. An attempt is considered successful if a vendor accepted it for delivery (i.e. submit_sm_resp with the field “cause=0” is received in response to the client’s request submit_sm)
- *DLR (S)*: delivered messages to successful attempts ratio
- *DLR (T)*: delivered messages to total attempts ratio
- *Margin*: total margin

NOTE: The cost of HLR dipping is excluded from the *Margin* field if the parameter *Deduct HLR rate from margin (0 - no, 1 - yes)* is set to 1 in Administration\System settings\SMS routing 95. Find out more about the feature in the Alaris YouTube video.

- *Revenue*: total charge for SMS traffic associated with the selected item chain that the System owner can bill to the clients
- *Activated:* the amount of activated SMS (disabled by default, to enable it contact the Alaris technical support team and communicate the code BZ21305 for Viber activations and the code BZ56375 to obtain activation reports for other services through the Alaris API)
- *Delivered*: messages delivered to the end user (successful delivery report is received). Messages with the DELIVRD and ACTIVATED statuses are displayed
- *Reported*: messages with statuses marked as *Reported* in SMS\Reference books\Billing status presets 447
- *HLR successful*: the number of successful HLR dipping attempts (those for which the HLR MCCMNC was received). The column is available if the user has the *View SMS technical details* permission. Please note that the column does not take into account the number of cached requests
- *HLR cost*: total amount spent on HLR dipping (can be taken from HLR vendor products, for more details see question 6 at Appendix 7. Frequently asked questions\HLR module 760)
- *HLR ported*: number of requests that were sent to ported numbers

NOTE: The System does not take this information (*Is ported* flag) from all HLR providers. To check if the *Is ported* flag is taken for a specific provider contact the Alaris technical support team.

- *HLR cached*: number of requests that were dipped earlier and were taken from cache
- *Aver. delivery delay*: average delivery delay in minutes. To show the value in seconds, set the System parameter *Show aver. delivery delay in seconds (0 - no, 1 - yes)* to 1
- *Delivered within interval 1-5*: number of messages delivered within intervals set in the parameter *Delivery interval ranges (comma-separated, seconds)* in Administration\System settings\SMS analytics 88, whereby delivery reports are distributed between the intervals for more precise calculation of average delivery delay (ADD)
- *Segments (C), Segments (V)*: C - for client, V - for vendor, number of SMS parts for all final (is_last=1) attempts (analytics by client), and number of SMS parts for all attempts (analytics by vendor). The number of segments for SMPP/HTTP is calculated as described in Appendix 10. Data coding schemes\How to calculate the allowed number of symbols 865
- *Act. rate (T)*: activated messages to total attempts ratio
- *Act. rate (S)*: activated messages to successful messages ratio (available to users having the permission *View SMS financial details*). Additionally the permission regulates the availability of the financial columns for MNP server\MNP analytics 568 (*Margin*, *Revenue*, *Vendor cost* etc)
- *Vendor cost*: total cost of SMS traffic associated with the selected item chain that the System owner must pay to the vendors
- *Margin per succ. SMS*: if the *Total* row is verified, the field is calculated as the ratio of margin divided by the number of attempts; if a particular client or vendor is checked, then it is calculated as the ratio of margin divided by the number of *Billable (C)* or *Billable (V)* correspondingly

- *Margin, %*: ratio of margin divided by *Revenue*
- *Aver. rate (C), Aver. Rate (V)*: average client (C) and vendor (V) rates for the selected destination(s) during the selected time interval
- *Rate (C), Rate (V)*: client (C) and vendor (V) rates that were in effect for selected destination(s) during the selected time interval. If the number of different rates involved does not exceed 3, all of them are displayed; otherwise the System will show the "…" symbols

NOTE: Rates for year cubes are not calculated, in order to increase Analytics performance.

- *Tax (C/V)* (available to users having the permission *View SMS financial details*): tax amount for the client and vendor
- *Cost with tax*: the cost of SMS plus tax (available to users having the permission *View SMS financial details*)
- *Margin with tax*: the margin plus tax (available to users having the permission *View SMS financial details*)
- *Tax list (C/V)*: tax rates applicable to the selected layer for the client and vendor (available to users having the permission *View SMS financial details*)
- *HLR requests*: the number of requests to HLR providers. By default, only the last HLR provider is taken into account. It is also possible to track all HLR requests (intermediate and final) - for example, in cases when the first supplier did not return the MCCMNC and the dipping request was sent to the next provider. For this, contact the Alaris technical support team and comminicate the code CS-479

Page 1 of 1 | 50 rows 2019.01.22 — 2019.02.04 | Period: Day

Total (Client) / Mensajes Largos Ltd.	Attempts	Successful	Billable (C)	Billable (V)	Submitted
Total	259 676	259 673	259 673	259 673	259 601
2019.02.04	0	0	0	0	
2019.02.03 by hours by minutes	6 574	6 574	6 574	6 574	6 573
2019.02.02 by hours by minutes	21 072	21 072	21 072	21 072	21 071
2019.02.01 by hours by minutes	11 650	11 650	11 650	11 650	11 646
2019.01.31 by hours by minutes	20 395	20 395	20 395	20 395	20 392
2019.01.30 by hours by minutes	25 443	25 443	25 443	25 443	25 434

Analytics (bottom table)

The bottom area presents the same performance indicators arranged by periods for the item selected in the top table. The top line always shows total values for each parameter of the selected statistical layer within the defined timeframe – e.g. if the user specifies four days in the *Timeframe selector* (see below), the *Total* line in the bottom table will show the summary for the selected four days. It is convenient when you need to see the totals for a custom period (not equal to the System defaults – hours, days etc.)

NOTE: For periods that are recalculated due to new DLRs, the date is highlighted in grey italic font. For those recalculated due to new EDR, the date is highlighted in bold grey italics. In the figure above, the top four rows have the date highlighted in bold grey italics, and the bottom row in grey italics. To view the stats recalculation progress, see the SMS Analytical cube status (Administration) 321 report.

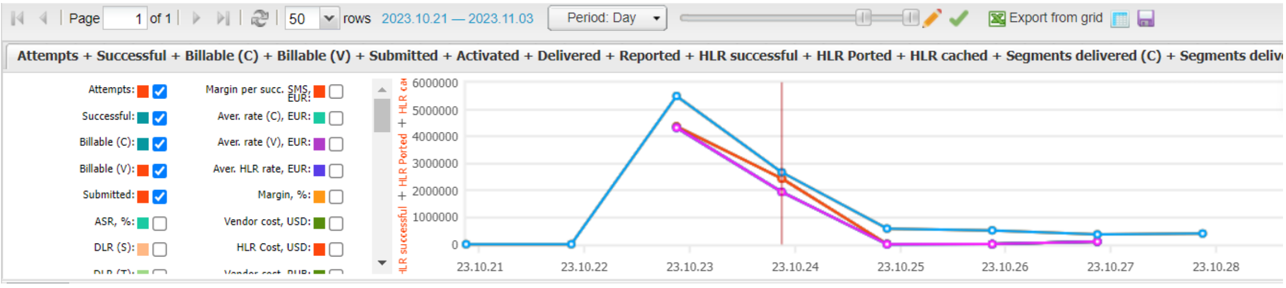


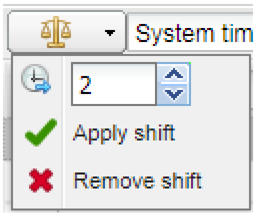
Chart view (bottom table)

Data in the bottom table can be displayed either in a table format or as a chart by switching the *Chart/Table switch* button in the mid-page tool bar. The chart view allows creating three different profiles in separate tabs sheets. Select appropriate parameter boxes in the left panel that will appear as charts in the right panel.

The top table contains the following controls:

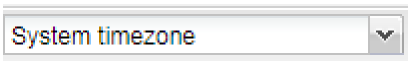
- *Offsets* : this control allows comparison of current data for some period to the same period in the past, registered a preset number of periods ago. For example, to compare the current month stats with the data of 2 months ago, select *month* in the *Period* control, enter *2* in the edit box as shown below, and click Apply shift. Click to open the chart view for more convenient data representation.

NOTE: The past data appears dimmed both in the table and chart views.



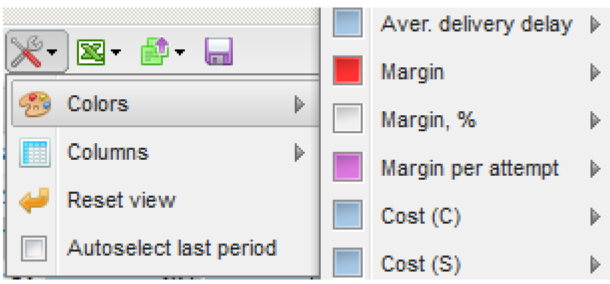
Offsets

- *System timezone*: select the timezone for display of data in the tables (available only if the selected period is *Day*). The timezone is shifted on the basis of hourly cubes. Therefore, if shifting is performed for a past period that has not enough hour cubes, it could result in empty output for the day.



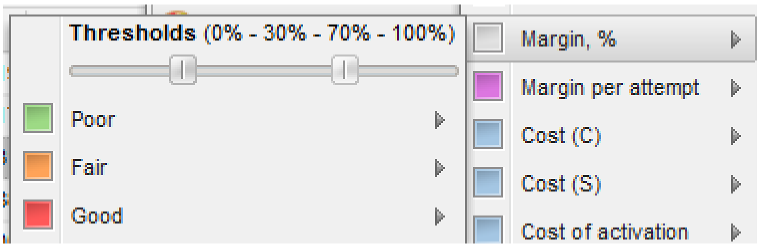
System timezone

- *View options* contains the following parameters:



View options

- *Colors*: selection of colors for performance indicators. For the indicators *Margin, %*, *ASR*, *DLR(T)* and *DLR(S)* the control allows setting threshold values and assigning different colors to them:



Assigning thresholds and colors

- *Columns*: selection of columns for display
- *Reset view*: reset all colors and displayed columns
- *Autoselect last period*: when enabled, the row with the last available period (in accordance with the configured interval) with non-zero statistics are automatically selected. The functionality may come handy in monitoring traffic in the top table without the need to switch manually periods in the bottom table
- *Refresh in background*: when selected, the *Analytics* page is refreshed automatically when it is inactive - that is, when other tabs are open on top of it (note that with this mode on, the System works slower). When deselected, the page is only refreshed when it is open and active

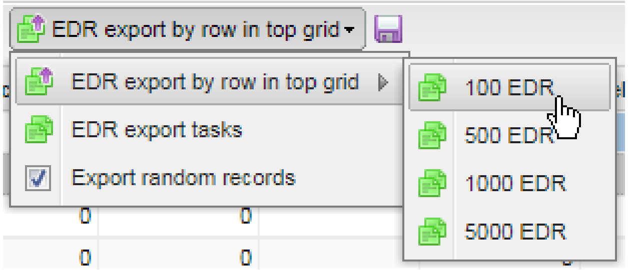
• *Telescopic view* : enable the SMS telescopic mode for a selected layer. With this feature, the selected layer is calculated using more detailed cubes and delivers more recent data; however it takes more time for calculation. The *Telescopic view* logic is explained in description of the System parameter *SMS statistics telescopic mode* (refer to Administration\System settings\SMS analytics 88 for details)

NOTE: This button is only shown in the panel if the parameter *SMS statistics telescopic mode* is set to *0* in Administration\System settings\SMS analytics 88 and the user is granted the permission *SMS analytics\Telescopic mode in* Administration\Users 158. Also note that button activates the Telescopic view for the selected layer only; when you select another layer, the mode is automatically deactivated.

• Export from grid *Export from grid* allows data export from the upper table to an XLS file

• The button EDR export by row in top grid *EDR export by row in top grid* serves for EDR export. The *EDR export by row in top grid* allows exporting a specific number (100, 500, 1000 or 5000) of EDRs from the top table, or all EDRs for the minute, hour, or day as selected in the *Period* control of bottom grid with the help of the *Export for the entire period* button. The *EDR export tasks* menu allows viewing export tasks, their progress and task details. The *Export random records* checkbox allows exporting a predefined number of rows selected randomly. Learn more about this feature in Alaris YouTube video.

NOTE: The columns of the exported EDR file contain only the most relevant parameters. The top row of the file contains information about the data period and the timezone. For a more detailed file use the EDR Export (Administration) 305 report. For export of all parameters refer to SMS\EDR management\EDR export tool 371.



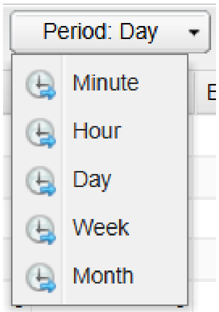
EDR export button

The bottom table contains the following controls:

- The *Page navigation*: statistics in the top table will be arranged in two or more pages if the specified layer contains more than the number of items set in the pagination control 

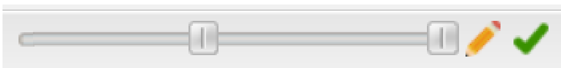
NOTE: Only items with non-zero data are displayed in the table.

- *Refresh* button
- *Period*: timeframe breakdown defined by selecting a period from the drop-down list (*Minute, Hour, Day, Week*, *Month* or *Year*):

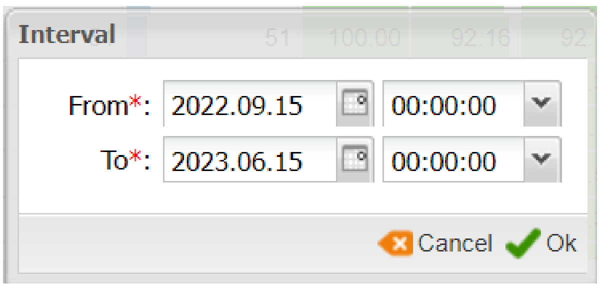


Period

- *Timeframe selector*: a tool for defining the time interval for which statistics are generated. The interval can be set either by dragging the left or right margin of the scale, or by selecting the period in the pop-up window (pencil button). Click to apply the timeframe:



Timeframe selector



Interval

NOTE: the interval shifts forward as time goes on. For example, if the current date is October 20, the interval is 1 - 10 October and the period set by the *Period* button is *Day*, on October 21 the interval will shift to 2 - 11 October, on October 22 it will shift to 3-12 October and so on.

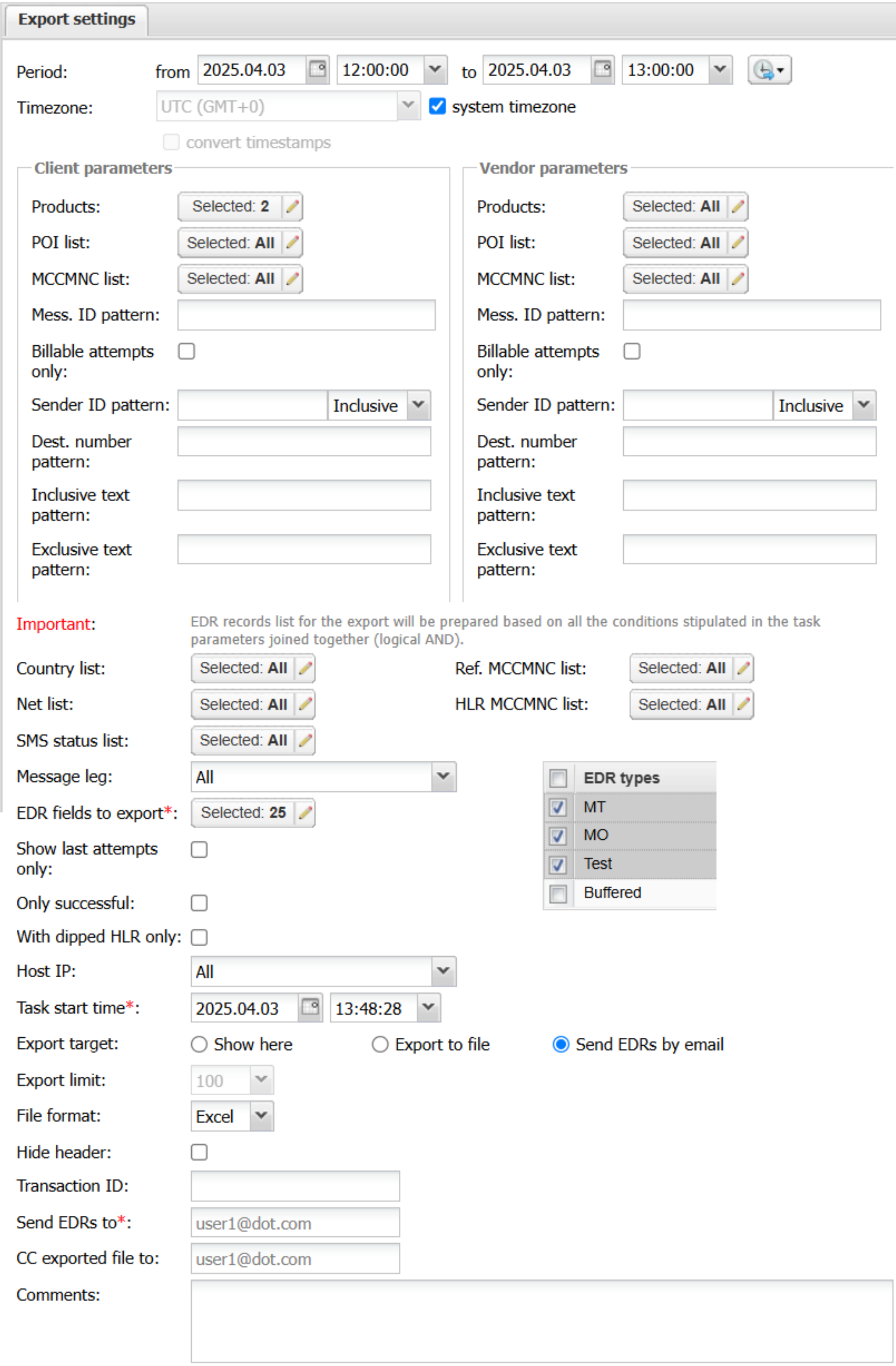
- Export from grid allows data export from the bottom table to an XLS file
- *Table/chart switch*: a switch between table and chart display formats
- *Save current state* button saves the current view (the *Timeframe selector* value, the period (day, month etc.) and the first selected layer of performance indicators). These settings are saved in the browser cache and are displayed when the user accesses the *SMS\Analytics* page the next time

For better visualization the length of the colored bar correlates with the parameter value. Colors for *ASR* and *Margin* parameters can be set to differentiate between *poor*, *fair* or *good* performance. Selection of columns with performance indicators (technical and commercial) can be defined individually for each user by checking *View financial details* and/or *View technical details* boxes in Administration\Users 158 (*Analytics* section).

12.2 EDR management

12.2.1 EDR export tool

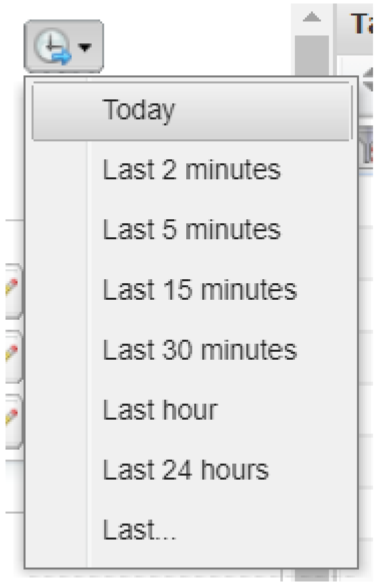
The *EDR export* tool allows exporting EDR data from the System database with a number of flexible filters and options. The page consists of three panels: *Export settings, Task grid and Task details.*



Export settings

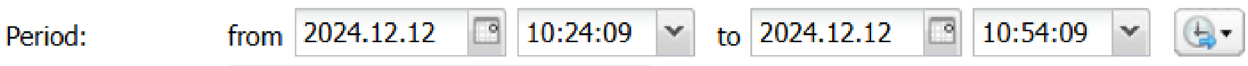
The *Export settings* tab allows configuration of the following export parameters:

- *Period*: timeframe of the EDR export



"Show last" option

- *Show last*  button sets the export period to today (period from 00:00 of the current day till 00:00 of the next day), the last 2, 5, 15, 30 minutes, last hour, last 24 hours. The value *Last...* serves to select a custom period (minutes, hours and days) for EDR export. When selected, the *Last* parameter appears that allows selecting a customized period.



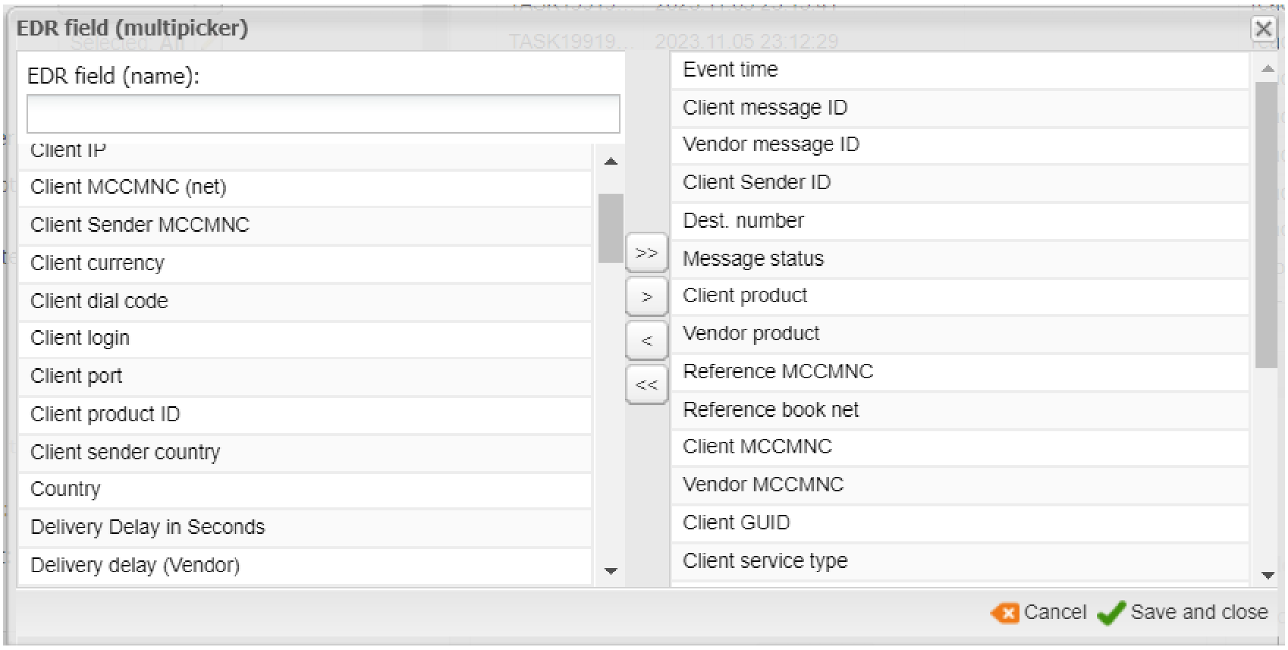
Period selection in 'Show last' option

- *Timezone*: select the time zone in the drop-down list or select the *system timezone* checkbox. Select *convert timestamps* to convert timestamps to the selected timezone (available if the *system timezone* checkbox is deselected). This is helpful if you need to provide your partners with EDRs in their specific timezone.
- The *Client/Vendor parameters* section allows sorting out EDRs for export – for example, all SMS terminated by one of the vendors. The section contains the following fields:
  - *Products*: the client/vendor products respectively (inactive products can be selected as well)
  - *POI list*
  - *MCCMNC list*
  - *Mess. ID pattern*
  - *Billable attempts only*: select to export only EDRs for billable message send attempts
  - *Sender ID pattern* (*Exclusive* or *Inclusive*)
  - *Dest. number pattern*
  - *Inclusive ext pattern*: text of the SMS (supports regular expressions and wildcards; when neither is employed, case insensitive match is applied)
  - *Exclusive text pattern:* search messages the text of which text does not include the text or

regular expression specified in the field

NOTE: The fields *Sender ID pattern, Dest. address pattern, Mess. ID pattern* and *Inclusive/Exclusive text pattern* support regular expressions. The expression must start with ^ and end with $ (the symbols signify the start and end of the expression respectively). For example, to find all occurrences of the combination "12345" use the following expression: %12345% or *12345*. Other examples: ^(34150000000|12345)$ (exact match search of either 34150000000 or 12345); ^12345.+$ (a string starting with 12345 followed by at least one symbol).

- *Message leg*: select the message leg from the drop-down list (*All*, *Client*, *Vendor*)



EDR field multi picker

- *EDR fields to export*: select from the EDR fields available in the System. Most field names are self explanatory. Below are a few that may need explanation:
  - *Activation time*: activation code receipt time (when the message status ACTIVATED has been received)
  - *Attempt number*: number of the EDR send attempt
  - *Billable (Client/Vendor)*: shows if the EDR is billed by the client/vendor respectively
  - *Block rule IDs:* the field is filled if no routes were found because the vendor was blocked by a block rule. If all vendors were blocked by various block rules, they all will be listed in the column. See also the Alaris YouTube video
  - *Client dial code:* client dial code from the rate
  - *Client/Vendor currency*: the client/vendor currency respectively
  - *Client/Vendor GUID:* the client/vendor GUID respectively
  - *Client/Vendor IP:* the client/vendor IP address respectively
  - *Client/Vendor MCCMNC*: the client or vendor MCCMNC (respectively) of the rate plan
  - Client/*Vendor sender MCCMNC*: MCCMNC defined by the sender ID received from the

client/sent to the vendor

- *Client/Vendor MCCMNC (net)*: the System format is "214(All)", that is, MCCMNC(net)
- *Client/Vendor login:* the client/vendor login configured in Carriers\SMS channels 188
- *Client/Vendor POI ID*: ID of the client/vendor POI respectively
- *Client/Vendor port*
- *Client/Vendor product ID*
- *Client/Vendor product*: partner's name and product description (name)
- *Client/Vendor rate*
- *Client/Vendor service type*
- *Client message ID*: the message ID transmitted to the client
- *Client sender ID*: A-number received from the client
- *Client/Vendor sender country*: country defined by the sender ID received from the client/sent to the vendor
- *Client/Vendor UDH*: UDH in case of a concatenated message (otherwise the field is empty or listed as *None*)
- *Country*: the country based on HLR data or the MCCMNC reference book if no HLR data is available
- *Delivery delay (client)*: the difference between the receipt date of the delivery report and the receipt date of the message from the client (in seconds)
- *Delivery delay (vendor)*: the difference between the delivery report receipt date and the send date to the vendor (in seconds)
- *Delivery errmsg*: the *errmsg* code
- *Delivery state*: the delivery code
- *Delivery time*: time when the delivery report was received from the vendor by the System (in System timezone)
- *Dest. number*: the B-number as of the moment of routing
- *Destination data coding*: the vendor's data coding
- *Destination NPI*: B-number NPI
- *Destination TON*: B-number TON
- *Dial code*: B-number dial code
- *Done date*: delivery date as per deliver_sm sent by the vendor
- *EDR type*: EDR type (MT, MO, Test, or Buffer)
- *Event time*: timestamp for the event of message receipt from the client
- *HLR MCCMNC*: MCCMNC received from the HLR source

- *HLR net*: country and network of the MCCMNC returned by the HLR (the country and network are taken from the System reference book even if they are returned from the HLR. If the network name is missing in the reference book, it will be listed as *Undefined*)
- *HLR product*: vendor HLR-based product
- *HLR rate*: HLR-based rate
- *HLR response code*: the value (for example, the number status or response status) is taken from the response of some HLR providers (for more details refer to Appendix 4. Formulas and conditions in routing\Routing metrics\Message metrics 693)
- *HLR source name*: name of the HLR source
- *Host IP*: the switch IP address
- *Is HLR*: flag that indicates whether HLR dipping was performed (0/1). The flag has the value 1 if a successful response (containing the HLR MCCMNC) from the HLR provider was received or a timeout was reached. The flag has the value 0 in case of an unsuccessful response. The actual HLR dipping is shown in the *hlrResponseFlag* in the *Technical details* field
- *Is last*: flag that indicates the last attempt to send the SMS. For example, when the System tries to send the SMS to several vendors, the last vendor will receive *Is last = 1*, and all the others receive *Is last = 0*
- *IM channel*: list of IM channels used for sending the message
- *Message status*: status of the message
- *Message status before activation*: message status before the ACTIVATED status was received
- *Network*: network based on HLR data or the MCCMNC reference book if no HLR data is available
- *Reference book net*: network of the MCCMNC as per the System's reference book
- *Registered delivery*: the value of the registered_delivery flag of the submit_sm packet
- *Reference MCCMNC*: MCCMNC defined by the reference book
- *Route end time*: the receipt date and time of the vendor response (or its timeout)
- *Route start time*: the receipt date and time of responses (routes) from the routing module
- *Routing rule ID*: ID of the rule that was used to route the SMS
- *Segment amount (Client)*: potential number of SMS parts before translation
- *Segment amount (Vendor)*: potential number of SMS parts sent to the vendor (after translation)

NOTE: The value of *Segment amount (Vendor)* may be 0 if the number of segments was changed (for example, from 3 to 2).

- *Sender data coding*: the client's data coding
- *Sender ID*: A-number after pre-routing translation

- *Sender NPI*: A-number NPI
- *Sender TON*: A-number TON
- *SMS text*: text of the original SMS
- *Status code*: message status code. In case of routing issues it will contain the routing code (routing codes are listed in question 8 of Appendix 7. Frequently asked questions\Reports 779). In other cases it contains the internal code of the SMS switch
- *Translated text*: text after translation (if translation was performed). Learn more about this field in Alaris YouTube video
- *Translation rule details*: translation rules applied to a message. The rule IDs either precede or follow the slash symbol "/", depending on whether the rule was applied before or after routing respectively.The field includes the following parameters:
  - aniTranslationsRuleId
  - dnisTranslationsRuleId
  - textTranslationsRuleId
  - aniTonTranslationsRuleId
  - aniNpiTranslationsRuleId
  - dnisTonTranslationsRuleId
  - dnisNpiTranslationsRuleId
  - flashTranslationsRuleId
  - registeredDeliveryTranslationsRuleId
- *Technical details*: technical details of the SMS (TON/NPI, status codes returned to the client or received from the vendor, the response delay from the HLR service provider
- *Transaction ID*: internal message ID (in most cases it coincides with the client message ID)
- *Vendor dest. number*: A-number sent to the vendor
- *Vendor dial code*: vendor dial code taken from the rates
- *Vendor message ID*: message ID received from the vendor (in case of failed send attempt the System supplies its own message ID)
- *Vendor sender ID*: A-number sent to the vendor
- *Vendor sent time*: timestamp for the event of sending a submit to a vendor socket
- *Vendor status code*: the submit_sm_resp code received from the vendor. For example, in case of the *no routes* response when no vendor is available, the code will be -1

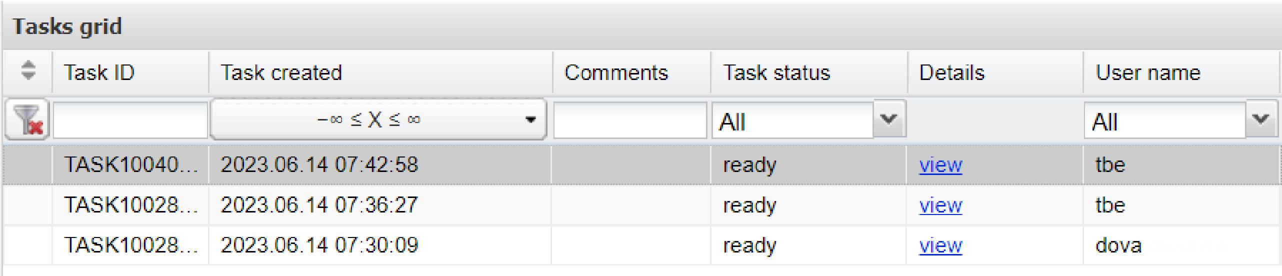
* *Country list*: select countries
* *Net list*: select networks
* *Ref. MCCMNC list*: MCCMNC from the System's reference book
* *HLR MCCMNC list*: MCCMNC received from the HLR

- *SMS status list*: select SMS statuses to be exported
- *Message leg*: select *All*, *Client* or *Vendor*
- *Show last attempts only*: when selected, only the last SMS send attempts will be exported. See also the Alaris YouTube video
- *Only successful*: select the checkbox to export only successful SMS (those for which a successful submit_sm_resp signal was received)
- *With dipped HLR only*: select the checkbox to export only SMS for which the routing module made a successful request to the HLR service
- *Host IP*: allows filtering traffic by a specific SMS switch during export. The field comes instrumental when the System employs more than one SMS switch with different IP addresses
- *Task start time*: export task start time
- *Export target*:
  - *Show here*: export results are displayed in the web interface. Total number of displayed EDRs is limited by the *Export limit* parameter - up to 1000 records.
  - *Export to file*: export results are downloaded from the web interface as a CSV or MS Excel file
  - *Send EDRs by e-mail*: export results are sent as an attachment by the e-mail indicated in the *Send EDRs to* field (several comma-separated addresses may be indicated)
- *Export limit*: the maximum number of exported EDRs
- *File format* active when *Export to file* or *Send EDRs by Email* is selected: the export format (*CSV* or *Excel*)
- *Hide header* (available if *Export target=Export to file* or *Send EDRs by email*): when enabled, the exported file will not contain a header
- *Send EDRs to*: email to send the exported EDRs
- *EDR types*: the available values are *MT* (mobile termination), *MO* (mobile origination), *Test*, *Buffered*
- *CC exported file to* (active when *Export target* is *Send EDRs by email*): set comma-separated emails for sending a copy of the exported files (find out more in the Alaris YouTube video)

The *Presets* toolbar in the bottom of the page enables the user to create, upload and delete the pre-set export templates. The user can set a default preset (marked with a star icon next to the preset name) to auto-select upon opening the interface.

Presets toolbar

When through with defining the parameters, click Export to start the task or Clear filter to discard the settings.

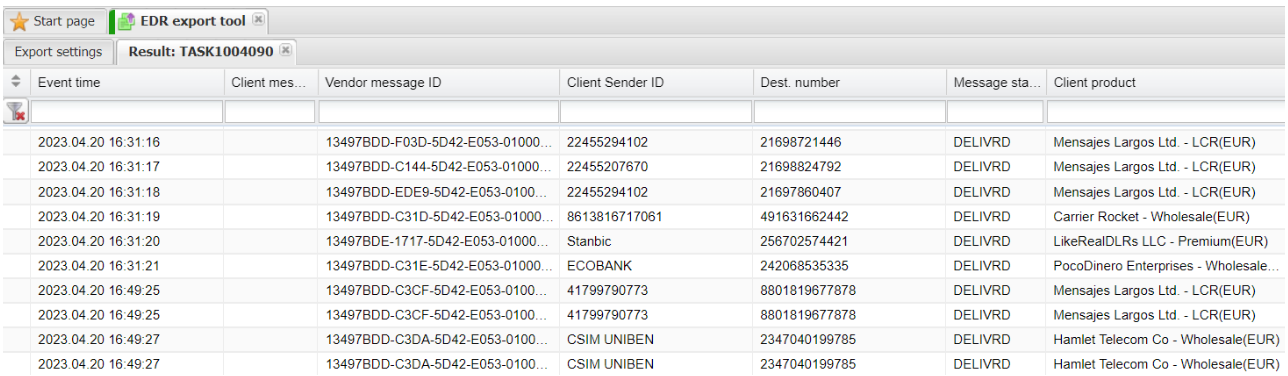


Task ID	Task created	Comments	Task status	Details	User name
TASK10040...	2023.06.14 07:42:58		ready	view	tbe
TASK10028...	2023.06.14 07:36:27		ready	view	tbe
TASK10028...	2023.06.14 07:30:09		ready	view	dova

Tasks grid

The *Task grid* displays the list of recent EDR export tasks with the following information:

- *Task ID*: internal identification number of the export task
- *Task created*: date and time of the task creation
- *Comments*: the content of the *Comments* field if it was filled when a task was created. If the field was left empty, but a user preset was applied, the System displays the name of the preset. If both the field was filled and the preset used, the column will contain the value manually specified by the user during export. See also the Alaris YouTube video
- *Task status*: status of the task. Possible values:
  - *in progress* (with the progress percentage specified)
  - *aborted* (if terminated manually by the operator)
  - *ready*
  - *error*
- *Details*: this column can contain:
  - a link to the export results window, if *Export target*: *Show here* is selected
  - a link to the file download, if *Export target: Export to file/Send EDRs by email* is selected
  - error description, if any error occurred during the EDR export
- *User name*: name of the user that initiated the procedure

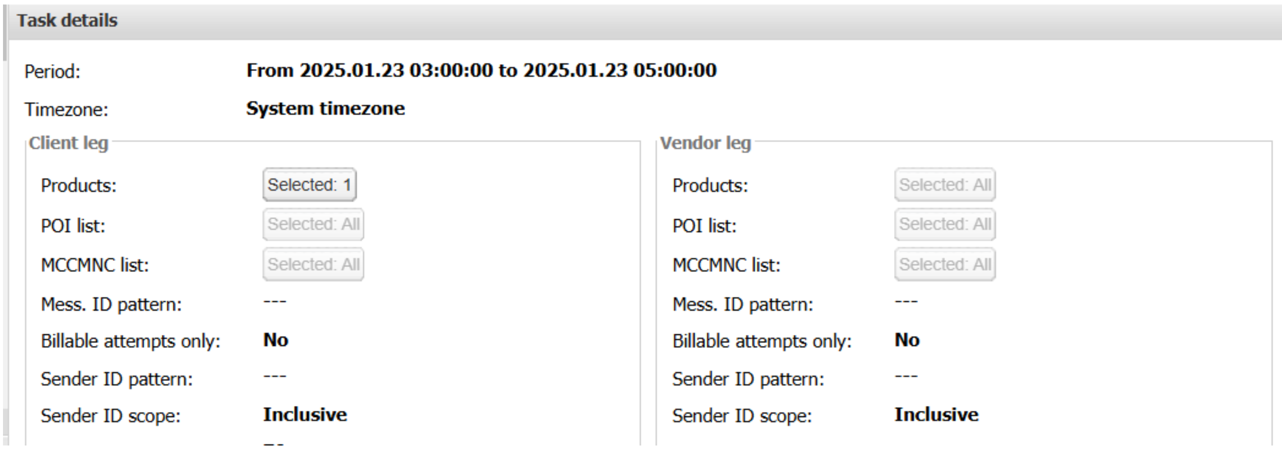


Event time	Client mes...	Vendor message ID	Client Sender ID	Dest. number	Message sta...	Client product
2023.04.20 16:31:16		13497BDD-F03D-5D42-E053-01000...	22455294102	21698721446	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:31:17		13497BDD-C144-5D42-E053-01000...	22455207670	21698824792	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:31:18		13497BDD-EDE9-5D42-E053-0100...	22455294102	21697860407	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:31:19		13497BDD-C31D-5D42-E053-01000...	8613816717061	491631662442	DELIVRD	Carrier Rocket - Wholesale(EUR)
2023.04.20 16:31:20		13497BDE-1717-5D42-E053-01000...	Stanbic	256702574421	DELIVRD	LikeRealDLRs LLC - Premium(EUR)
2023.04.20 16:31:21		13497BDD-C31E-5D42-E053-01000...	ECOBANK	242068535335	DELIVRD	PocoDinero Enterprises - Wholesale...
2023.04.20 16:49:25		13497BDD-C3CF-5D42-E053-0100...	41799790773	8801819677878	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:49:25		13497BDD-C3CF-5D42-E053-0100...	41799790773	8801819677878	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:49:27		13497BDD-C3DA-5D42-E053-0100...	CSIM UNIBEN	2347040199785	DELIVRD	Hamlet Telecom Co - Wholesale(EUR)
2023.04.20 16:49:27		13497BDD-C3DA-5D42-E053-0100...	CSIM UNIBEN	2347040199785	DELIVRD	Hamlet Telecom Co - Wholesale(EUR)

Export results view

The *Export results* view contains the button that serves to export the results to an MS Excel file.

Click the Restart export *Restart export* button to run an export task again with the same export settings, which are displayed in the *Task details* view.

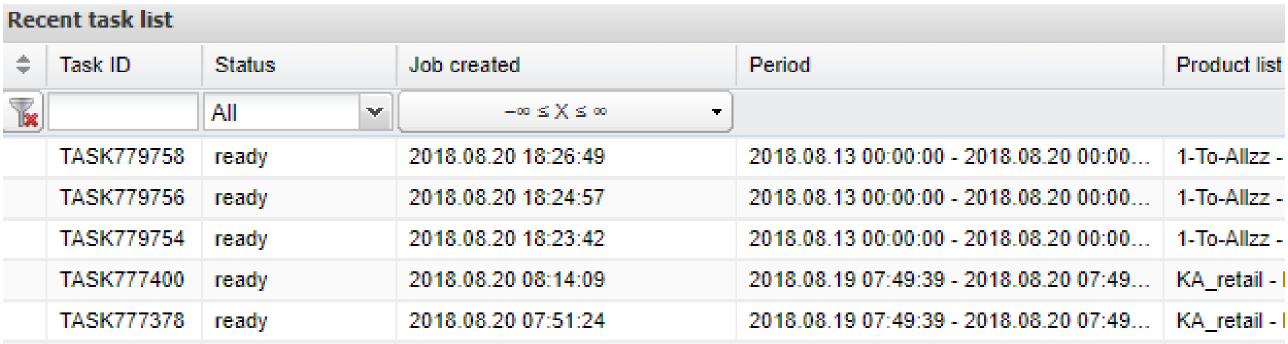


Task details

12.2.2 EDR reconciliation

In case of a dispute, the *EDR reconciliation* tool performs verification of the EDR data stored in the System database against a partner version of EDRs (received as a CSV file) for supposedly the same scope of traffic. During comparison, the System takes into account the difference in the time settings between two EDR versions (time zones and difference in the System time). The System tries to find a match for every record having in mind the discovered time differences (which can vary within the compared interval).

The *SMS\EDR Management\EDR reconciliation* page comprises three parts: *Recent task list* showing the table of recent reconciliations, *Task details* containing the parameters of a selected task and *Reconciliation summary* displaying the result of the comparison.


Recent task list

Task ID	Status	Job created	Period	Product list
	All	−∞ ≤ X ≤ ∞		
TASK779758	ready	2018.08.20 18:26:49	2018.08.13 00:00:00 - 2018.08.20 00:00...	1-To-Allzz -
TASK779756	ready	2018.08.20 18:24:57	2018.08.13 00:00:00 - 2018.08.20 00:00...	1-To-Allzz -
TASK779754	ready	2018.08.20 18:23:42	2018.08.13 00:00:00 - 2018.08.20 00:00...	1-To-Allzz -
TASK777400	ready	2018.08.20 08:14:09	2018.08.19 07:49:39 - 2018.08.20 07:49...	KA_retail - I
TASK777378	ready	2018.08.20 07:51:24	2018.08.19 07:49:39 - 2018.08.20 07:49...	KA_retail - I

Recent task list

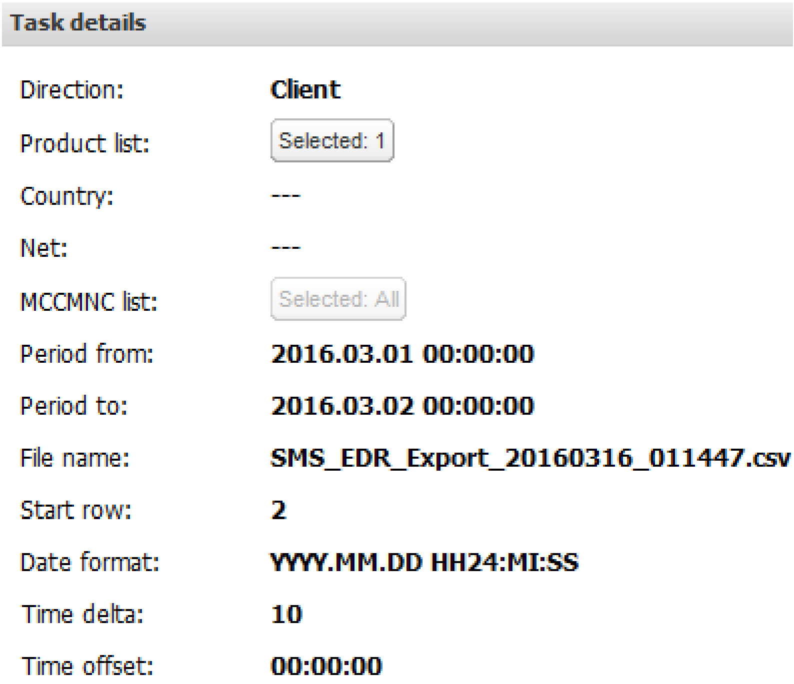
- *Task ID*: internal identification number of the reconciliation task
- *Status*: status of the task. Possible values:
  - *in progress* (with the progress percentage specified)
  - *aborted* (if terminated manually by the operator)
  - *ready*
  - *error*
- *Job created*: date and time of job creation
- *Period*: reconciled period

- *Product list*: reconciled products
- *Details*: shows that the ID if its status task is *ready,* contains the *Abort task* button if the task is in progress or the error message if the task was terminated with error
- *User name*: name of the user that initiated the procedure

EDR reconciliation tasks are time-limited: if a task lasts longer than six hours, it stops with recommendation to change the query parameters.

Once a task in the *Recent task list* is selected, the information on it appears in the *Task details* and the *Reconciliation summary* panels.

The *Task details* window contains information about the parameters of reconciliation.



Task details (EDR reconciliation)

Click the Restart reconciliation *Restart reconciliation* button to restart the selected task with the same previously configured settings.

Reconciliation summary

Matching type	EDR count	Owner cost	Partner cost
Partner EDR found only	28	-	
Owner EDR found only	13	0.06	
Same	1 761	45.65	
Total	1 802	45.71	

Reconciliation summary

The *Reconciliation summary* table displays the list of discovered matches and mismatches with the following information:

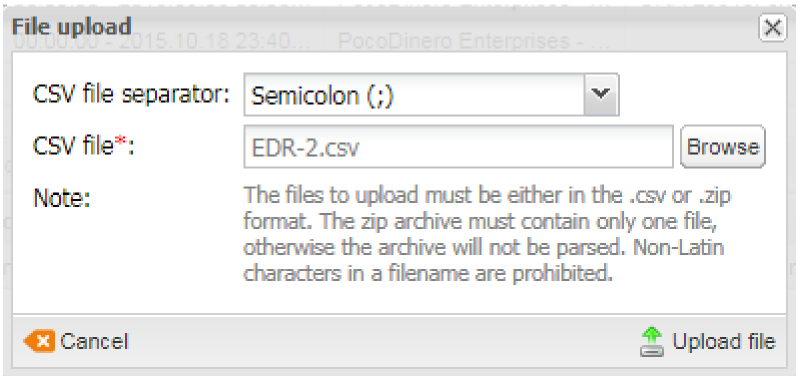
- *Matching type*: the EDR records grouped by type of discrepancy. Click on the links to view the records. Possible values include:
    - *Partner EDR found only*: records found only in the partner EDR file

- *Owner EDR found only*: records found only in the System's EDR file
- *MCCMNC mismatch*
- *Message ID mismatch*
- *Rate mismatch*
- *Submit time mismatch*: the submit (message receipt) time by the System owner is not the same in the two files
- *Same*: identical records in both files
- *Total*: the total number of records

NOTE: The most frequent discrepancies are different MCCMNC and cost.

- *Owner EDR count, Partner EDR count*: the number of EDRs of each type
- *Owner cost*: cost for the System owner
- *Partner cost*: cost for the partner

To start a new reconciliation task click the New reconciliation *New reconciliation* button at the bottom of the *Recent task list*.



File upload

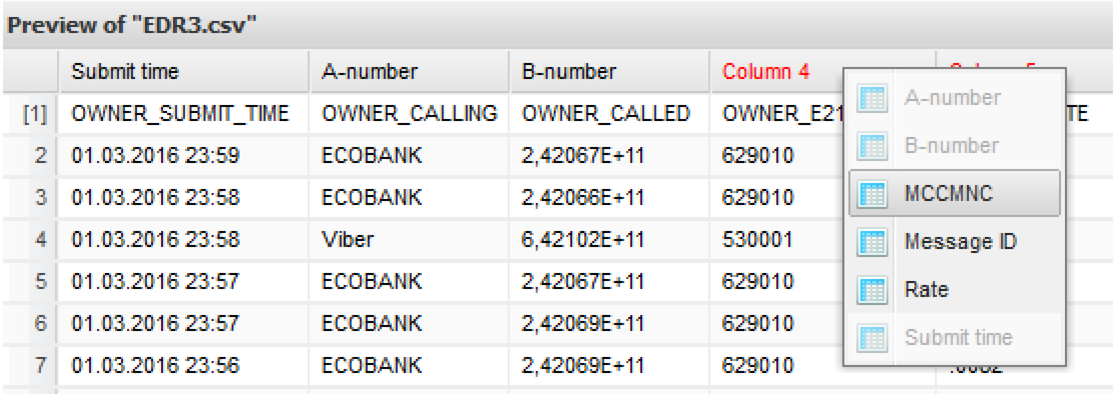
In the file upload dialog select the CSV file separator and CSV file.

NOTE: The accepted file format is .csv.

Click Upload file *Upload file* to open the file parsing page.

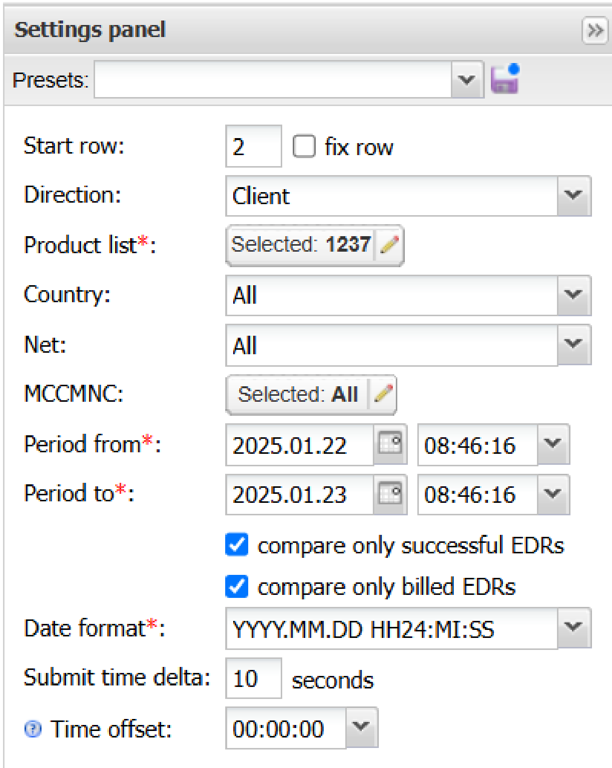
NOTE: If opening the page takes longer than ten minutes, the System aborts the operation. It means that there may be a problem with the file.

The page contains two panels - the file preview and the *Settings* panel.



Preview window

In the file preview define the column types by clicking on the headers of the table, so that the System knows where to take MCCMNC codes, A- and B-numbers etc. The available column types are shown in the figure above.

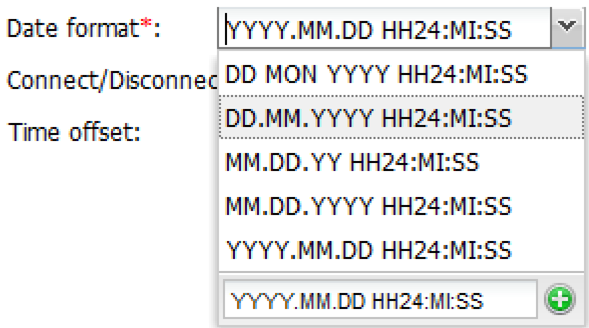


Settings panel

Once the column headers are defined, configure the parameters in the *Settings* panel:

- *Start row*: define the first row with the EDR data, so that the System ignores everything that is above the EDR table in the file. Check fix row to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Direction: Client* or *Vendor*. If *Client* is selected, the client (incoming) sender ID will be used for reconciliation. For the *Vendor* value, the vendor one will be applied
- *Product list*
- *Country*

- *Net*: network name
- *MCCMNC*
- *Period from/Period to*: set the period
- *compare only successful EDRs*: check the flag to include only EDR for successfully transmitted SMS
- *compare only billed EDRs*: select to compare only those EDRs that are considered to be billable from the System's point of view (columns *Billable (client)* and *Billable (vendor)* in the SMS\EDR management\EDR export tool 371 interface)
- *Date format*: format of the dates in the EDR file. If required, set up a custom format in the bottom field of the drop-down list of available formats



Date format

- *Submit time delta (seconds)*: allowed time slot for better identification of the EDR pair (in case the time on the System and partner servers is not fully synchronized)
- *Time offset*: sets the max EDR time difference between your server and the partner’s server, so that the EDRs are matched with the appropriate time adjustment. The offset will change the partner EDR timestamps and match them with the System timezone. Example: to shift the partner timestamps in GMT+3 to the System time GMT+0, use offset -03:00:00

Click Start *Start* to launch reconciliation. Click Cancel reconciliation *Cancel reconciliation* to discard the settings and return to the previous page.

The EDR reconciliation settings can be saved as a preset. Presets allow quick access to preconfigured settings. Type the new preset name in the *Presets* field at the top of the panel or select an existing one from the drop-down list and click . To open a preset, select it in the drop-down list and click Load .

Presets toolbar

12.2.3 EDR rerating

The *SMS\EDR Management\EDR Rerating* page serves for revaluation of previously generated SMS event charges in cases when certain data (rates, MCCs, carrier interconnect information etc.) affecting such valuations in the past is altered or added. This mechanism allows keeping statistics and billing data up-to-date. The page is divided into three parts: *Tasks, Recalculation settings* and *Task details*.

The System performs automatic EDR recalculation every night for a period up to 30 days, in case any backward changes were made in the rate data.

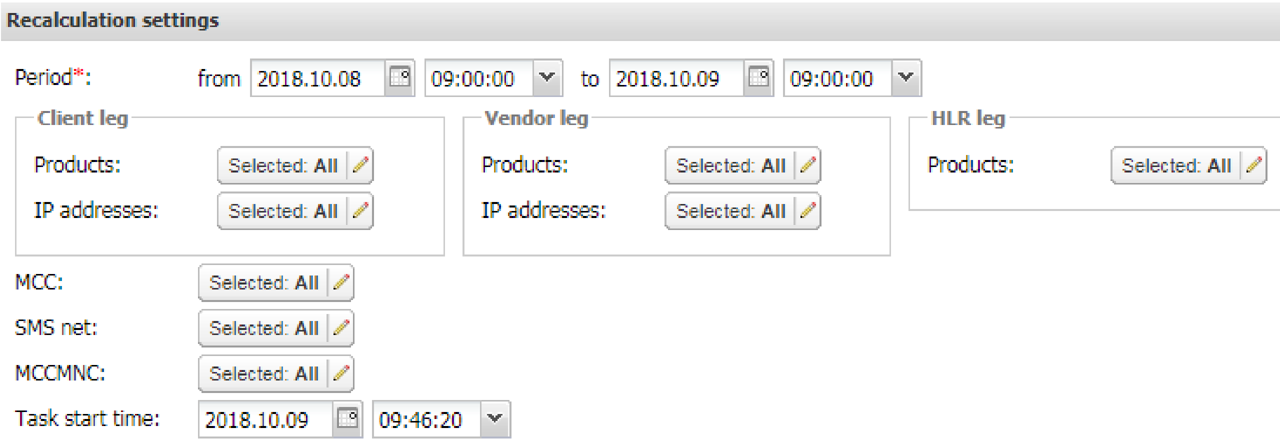
NOTE: The storage period of EDRs for automatic recalculation is limited by a window of 10,000 records or the number of days set in the parameter *Log store period, days* (Administration\System settings\Common 49).

The *Recalculation settings* panel contains parameters for manual recalculation.

NOTE: Rerating operations can be launched only if at least one *Edit* permission in the *View/edit permissions* section is granted to the user. For mode detail about permissions, see Appendix 2. User permissions\View/edit permissions 797.

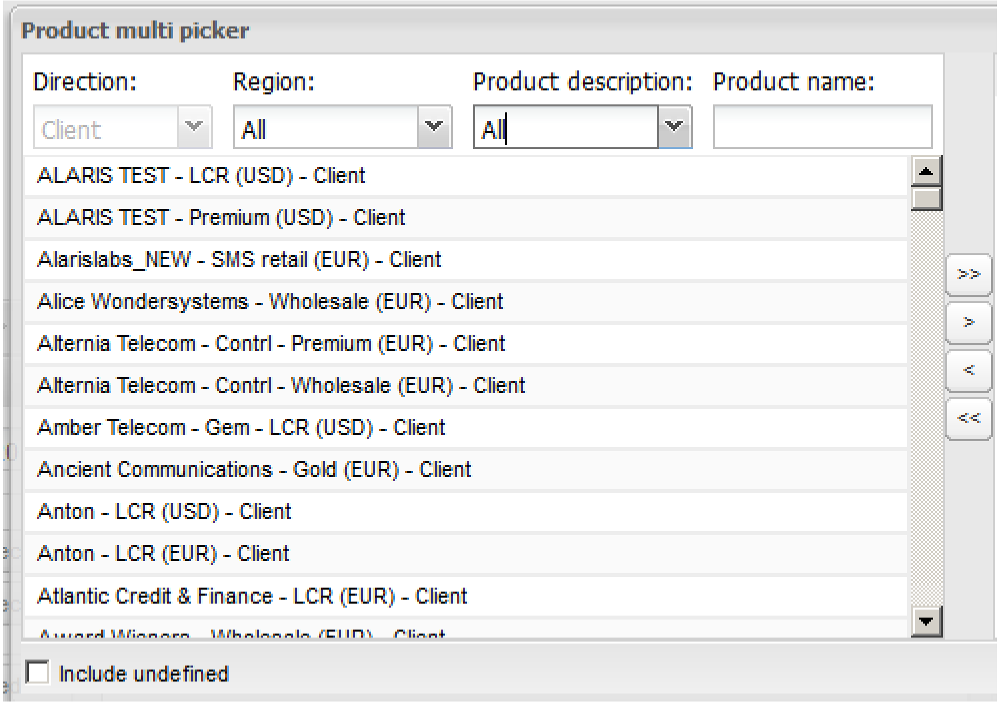
12.2.3.1 Recalculation settings

The *Recalculation settings* panel enables selecting items that need to be adjusted by applying the following filters:



Recalculation settings

- *Period*: time interval within which charges are recalculated
- *Products*: name of the product to be revalued, selected from clients' (*Client leg*), vendors' (*Vendor leg*) or HLR (*HLR leg*) products in the *Products* multi picker window opened by the button (see also the Alaris YouTube video):

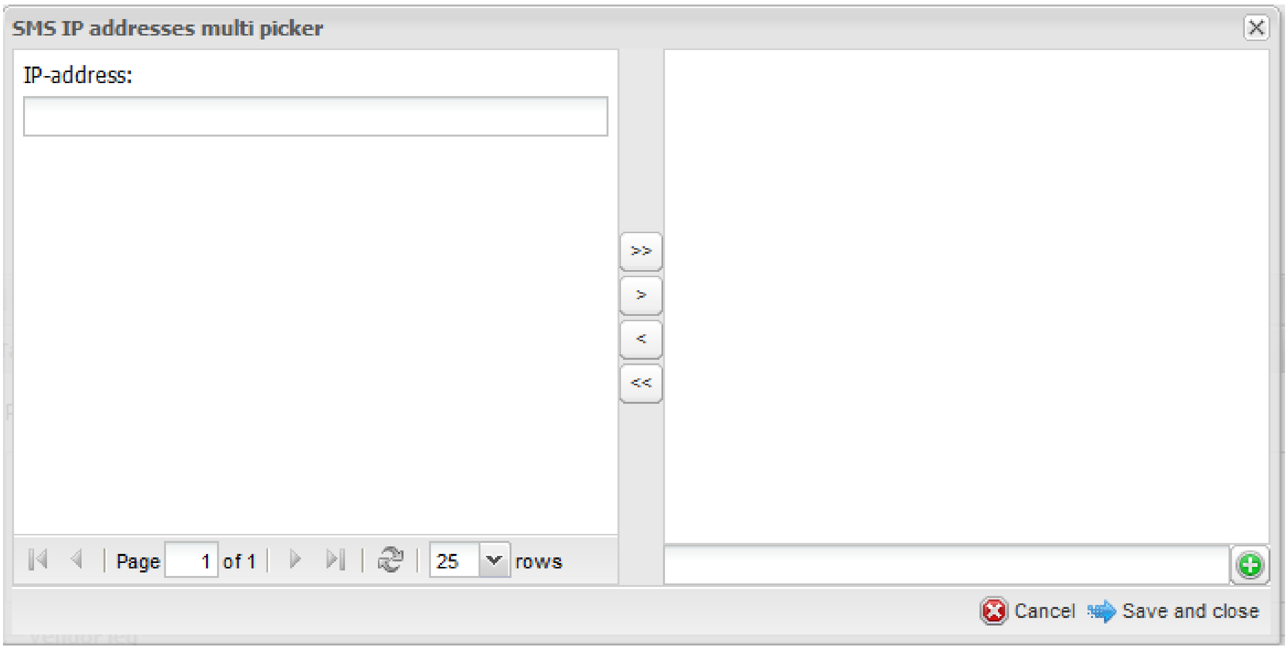


Product multi picker

- Select the *Include undefined* check box to recalculate undefined messages that may appear in the System due to mal-configuration, junk traffic etc.

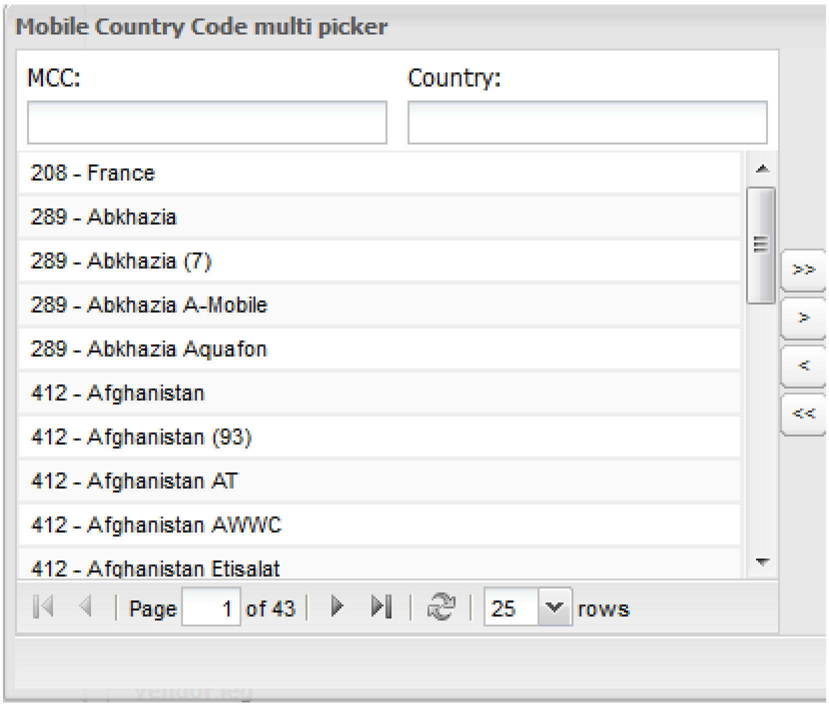
NOTE: If rerating is performed after an SMS channel was accidentally removed, the messages within the product will be marked as undefined. To fix this, restore the SMS channel and perform rerating with the *Include undefined* checkbox selected.

- *IP addresses*: IP-address(s) for the selected Product. Open the *SMS IP addresses* multi picker window by the button. Select IP addresses from the list in the left section of the window, or add them manually in the edit field at the bottom of the right section and click the button.



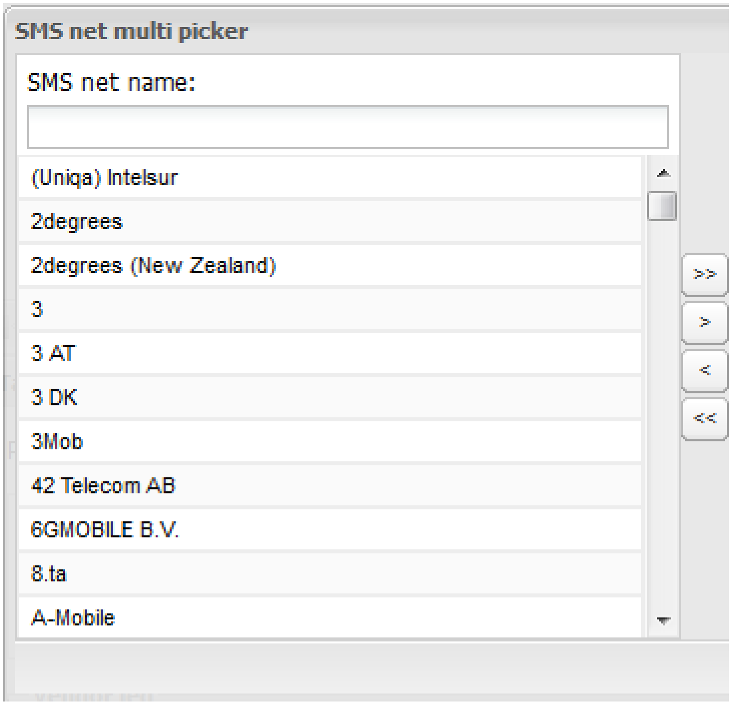
SMS IP addresses multi picker

- *MCC*: target Mobile Country Codes. Open the *Mobile Country Code* multi picker window by the button. Select code(s) from the list in the left section of the window. Search them by specifying either MCC or Country. The filter is treated as a mask, that is, search is performed for all networks in the country (countries)



Mobile Country Code multi picker

- *SMS net*: operator mobile network(s). Open the *SMS net multi picker* window by the button. Select the SMS net name from the list in the left section of the window. Search them by specifying the network name in the edit box



SMS net multi picker

- *MCCMNC*: use the MCCMNC multi picker to select appropriate values
- *Task start time*: this option allows scheduling the recalculation task for any convenient time, for example postponing it till the next System off-peak interval to avoid excessive load on the System

When through with defining the parameters, click Run to start recalculation or Reset to discard the settings.

NOTE: After recalculation, all statistics and analytics will become outdated, and the affected data may be displayed as zero values in tables and charts. The rerating triggers automatic recalculation of OLAP cubes after some time, depending on the current System load. To see when recalculation will be performed, go to SMS Analytical cube status (Administration) 321 and check the *EDR State* column.

Period: **Week**

№	Partition period t...	Partition date	State	Last change	Row count	New EDR count...
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	WEEK	2016.09.26 00:0...	Must be recalculated	2016.09.19 00:0...	0	
2	WEEK	2016.09.19 00:0...	Must be recalculated	2016.09.21 14:2...	72843	4481
3	WEEK	2016.09.12 00:0...	Ready	2016.09.19 02:2...	79346	0
4	WEEK	2016.09.05 00:0...	Ready	2016.09.12 02:2...	79525	0

Recalculation status report

NOTE: After EDR rerating, perform recalculation of invoices for the same period to bring the invoicing information up to date. Refer to Finance\Invoices 217 for instructions.

12.2.3.2 Tasks

The *Tasks* table displays a list of recent EDR recalculation tasks (both automatic and manual) with the following information:

Start page | EDR rerating

Tasks

Task ID	Task created	Client products	Vendor products	HLR products	Period	MCCMNC list	Task status	Detail
	−∞ ≤ X ≤ ∞	All	All	All			All	
TASK648416	2023.03.03 13:36:10	All	All	All	2023.03.02 12:00:00 - 2023.03.03 13:00:00		ready	comp
TASK629430	2023.02.01 17:42:39	Dorado El Telecom - Gold - Wholesa...	All	All	2023.01.28 00:00:00 - 2023.01.29 00:00:00		ready	comp
TASK629348	2023.02.01 17:19:01	Dorado El Telecom - Gold - Wholesa...	All	All	2023.01.28 00:00:00 - 2023.01.29 00:00:00		ready	comp
TASK529150	2022.10.04 14:01:35	Belly Acres - Premium (USD)	All	All	2022.08.01 00:00:00 - 2022.10.04 13:00:00		ready	comp
TASK529142	2022.10.04 14:00:50	Belly Acres - Premium (USD)	All	All	2022.10.03 13:00:00 - 2022.10.04 13:00:00		ready	comp
TASK479014	2022.06.06 06:40:59	All	All	All	2022.06.05 06:00:00 - 2022.06.06 06:00:00		ready	comp

Page 1 of 1 | 200 rows | Show autorerating tasks | Restart recalculation | Start task | Rows 1-6 of 6

Tasks

- *Task ID*
- *Task created*: date and time of the task creation
- *Client products*
- *Vendor products*
- *Period*

- *MCCMNC list*: use the MCCMNC multipicker to filter in the column. It is possible to specify masks in the multipicker (using the % symbol). Also, if several MCCMNCs are specified, the filter will show tasks that contain at least one MCCMNC from the list
- *Task status*: status of the task. Possible values include:
  - *in progress* (with the progress percentage specified)
  - *scheduled*: scheduled task waiting to be run
  - *pending*: automatic task waiting to be run. Every hour the System checks for rate changes and if any are found, it creates a recalculation task scheduled for 1 a.m. All such tasks have the pending status. If you need to update the information sooner, start the task manually by the Start task button
  - *aborted* (if terminated manually by the operator)
  - *ready*
  - *error*
  - *new*: the task has been created by the user and not started yet
  - *waiting* (currently out of use)
- *Details*: shows that the task is *ready* or contains the *Abort task* button if the task is in progress
- *User name*: name of the user that initiated the task

The toolbar under the *Tasks* table contains the following controls:

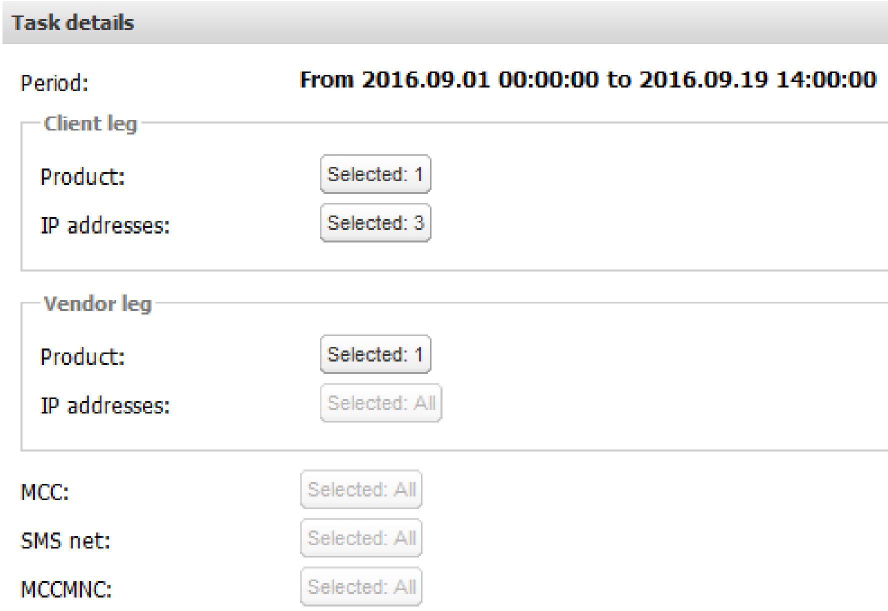
- *Restart calculation* Restart recalculation : serves to recalculate a task with the previously selected settings reentered automatically. Select the required task and click the button
- *Show autorerating tasks* Show autorerating tasks: select the checkbox to show the tasks created under the *Autorerating* user. The tasks are created automatically if there was a retrospective rate change. The tasks are run with the help of the System job SMS_INIT_RERATE_TASKS

12.2.3.3 Task details

The *Task details* table provides a quick overview of major parameters for the task selected in the *Tasks* table:

- *Period*: period for EDR recalculation
- *Product (client leg/vendor leg)*: product for EDR recalculation
- *IP addresses (client leg/vendor leg)*: IP addresses for EDR recalculation
- *MCC*
- *SMS net*
- *MCCMNC*

It also contains the *Statistics* table that shows the data on EDRs affected by recalculation. Click Details by product at the bottom of the table to export the table to MS Excel.



Task details

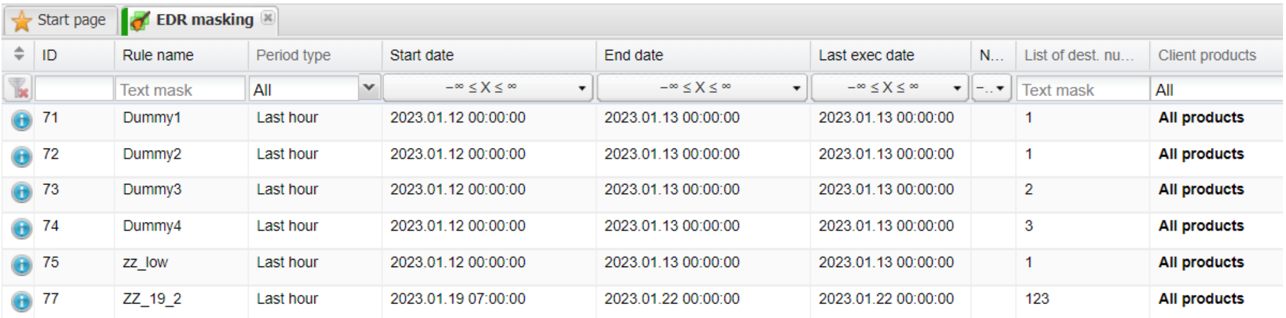
12.2.4 EDR masking

The *SMS\EDR management\EDR masking* section allows creating scheduled tasks to remove the text of SMS messages based on the telephone number, and to mask the destination address in EDRs. The interface is designed in compliance with the General Data Protection Regulation (GDPR) that serves to protect the security of private data. Based on the law, subscribers can request carriers to clear their data: that is, remove the text of messages and partly conceal the telephone number. Normally, such requests are very rare.

NOTE: EDR masking rules are also applied to EDRs for messages sent from Alaris Campaign Portal.

The interface contains three sections - the table of masking rules, the *Add/Edit/Single run* panels, and a table of EDR masking tasks.

The top left part of the page is a table of configured EDR masking rules. Use text masks or drop-down lists under the column headers to filter the records in the table. Use the button in the upper left corner to clear the configured filter. Use the button on the bottom toolbar to refresh the table.

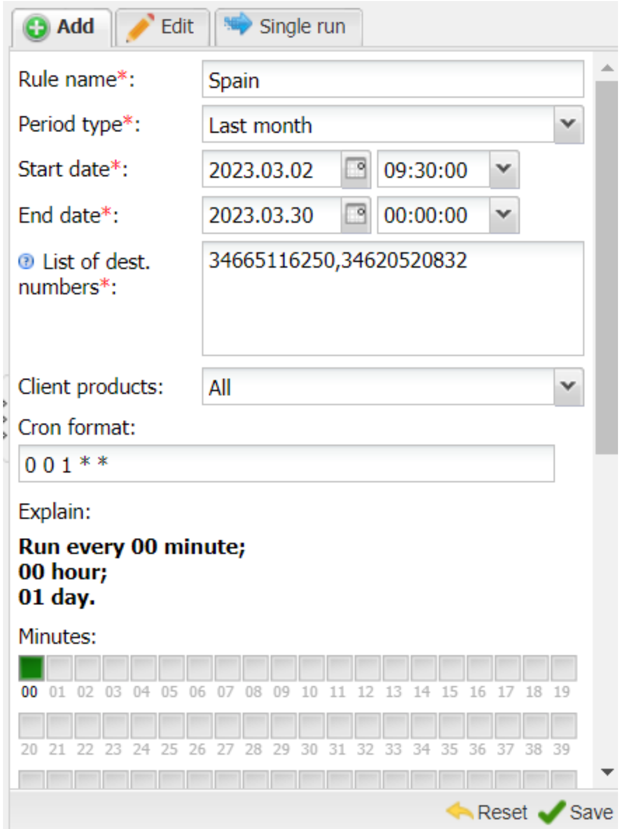


Start page | EDR masking

	ID	Rule name	Period type	Start date	End date	Last exec date	N...	List of dest. nu...	Client products
		Text mask	All	−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞	-..	Text mask	All
	71	Dummy1	Last hour	2023.01.12 00:00:00	2023.01.13 00:00:00	2023.01.13 00:00:00		1	**All products**
	72	Dummy2	Last hour	2023.01.12 00:00:00	2023.01.13 00:00:00	2023.01.13 00:00:00		1	**All products**
	73	Dummy3	Last hour	2023.01.12 00:00:00	2023.01.13 00:00:00	2023.01.13 00:00:00		2	**All products**
	74	Dummy4	Last hour	2023.01.12 00:00:00	2023.01.13 00:00:00	2023.01.13 00:00:00		3	**All products**
	75	zz_low	Last hour	2023.01.12 00:00:00	2023.01.13 00:00:00	2023.01.13 00:00:00		1	**All products**
	77	ZZ_19_2	Last hour	2023.01.19 07:00:00	2023.01.22 00:00:00	2023.01.22 00:00:00		123	**All products**

EDR masking rules

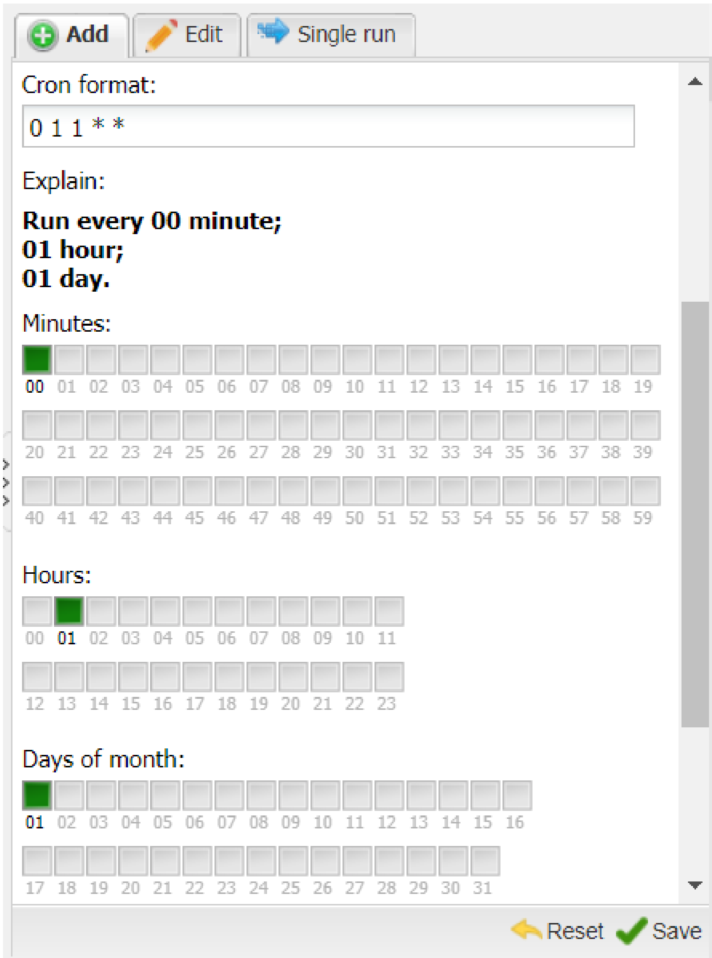
The right panel contains the *Add* and *Edit* tabs that serve to add new rules or edit existing ones, and the *Single run* tab that serves to create a rule that runs one time only. To activate the *Edit* tab, click on a record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



Add tab

The *Add* tab contains the following parameters:

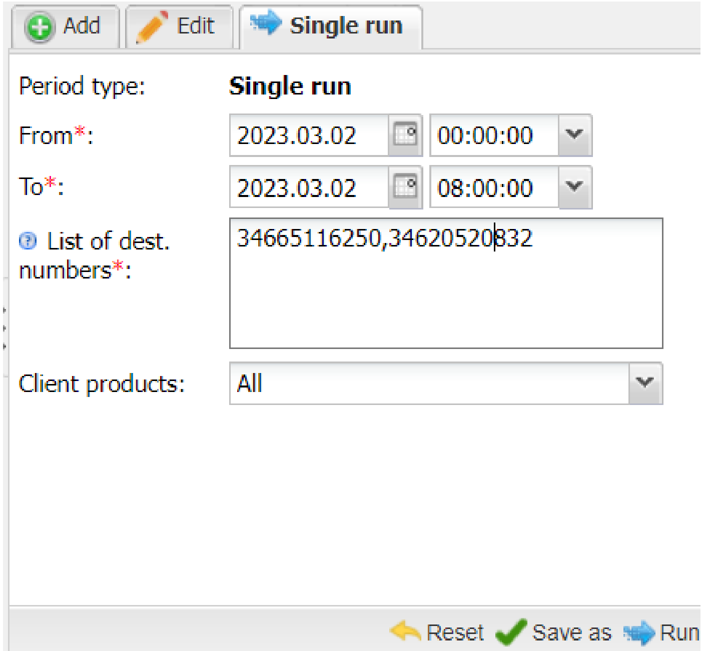
- *Rule name*
- *Period type*: select the period for which the data will be cleared. Possible values are: *Last hour*, *Last day*, *Last week*, *Last month*
- *Start date, End date*: the rule validity period
- *List of dest. numbers*: comma-separated list of destination numbers for which the data must be cleared. The message text sent to these numbers will be removed permanently; the last five digits of each number will be replaced with asterisk (*) symbols. Masks (* or %) are supported. Specify only one symbol (* or %) to make the rule applicable to all numbers
- *Client products*: exclusive/inclusive list of products or all products
- Controls that allow setting the schedule for the rule. It can be set in the cron format or using the standard controls. The availability of standard controls depends on the *Period type* parameter value. The figure below illustrates a rule with *Period type* = *Last month* that will be activated at 01-00 on the first day of every month and clear the data for the past month



EDR masking rule schedule

Click Submit to save the rule or Reset to clear the form.

The *Single run* tab comes instrumental for one-time EDR masking - that is, if scheduled data clearing is not required.



Single run tab

The *Single run* tab contains the following parameters:

- *From, To*: period for which the data will be cleared (must be less than one month)
- *List of dest. numbers*: a comma-separated list of destination numbers. The message text sent to these numbers will be removed permanently; the last five digits of each number will be replaced with asterisk (*) symbols. Masks (* or %) are supported. Specify only one symbol (* or %) to make the rule applicable to all numbers
- *Client products*

Click Run to start the rule or Reset to clear the form. Click Save as to save the rule for further use (you will be redirected to the *Add* tab). Every minute the System job EDR_MASK_DISPATCHER checks if any rules are available and runs them. If necessary, the user can view and edit the EDR_MASK_DISPATCHER periodicity at [Administration\System jobs](#) 42.

The bottom table shows the list of EDR masking tasks.

EDR masking tasks

Task created	Task updated	List of dest. numbers	Period	Task status	Details	Rule ID	User name	Task ID
−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞			All			All	
2023.03.01 11:03:01	2023.03.01 11:03:05	34343	2023.03.01 00:00:00 - 2023.03.01 1...	ready	completed(masked 2 records)		alexander.z...	TASK15037...
2023.03.01 11:02:14	2023.03.01 11:02:15	34343	2023.03.01 00:00:00 - 2023.03.01 1...	ready	completed(masked 3 records)		alexander.z...	TASK15037...
2023.02.22 06:33:28	2023.02.22 06:33:29	5555	2023.02.22 00:00:00 - 2023.02.22 0...	ready	completed(masked 5 records)	98		TASK14957...
2023.02.21 00:00:29	2023.02.21 00:00:30	200002	2023.02.20 23:42:00 - 2023.02.21 0...	ready	completed(masked 4 records)	96		TASK14939...

EDR masking tasks

It contains the following fields:

- *Task created*: task creation date
- *Task updated*: the task's last status update
- *List of dest. numbers*
- *Period*: the rule's validity period

- *Task status*
- *Details*: the task execution results. The format of the column values for completed tasks is as follows: *completed (masked EDR:20/RTL:0 records),* where *RTL* stands for 'Campaign Portal EDRs'
- *Rule ID*: click on the value to open the rule in the top table
- *User name*: name of the user that created the rule
- *Task ID*

12.3 Rates

Efficient rate processing is a key factor defining the overall efficiency of the company business processes. The System owner has to import multiple vendor ratesheets daily, perform analysis of partner rates, create client products etc. The System offers a set of powerful and convenient tools to cope with the rate management tasks.

12.3.1 Auto rate import

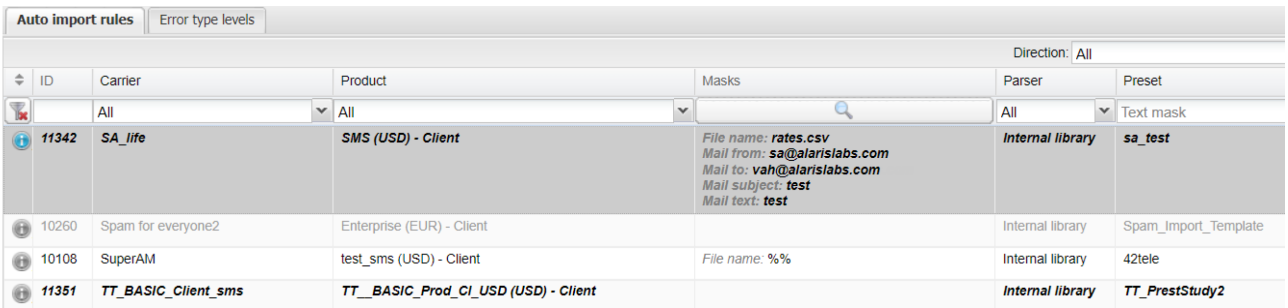
Auto rate import allows creating rules that are used for automatic import of rate sheets sent to a predefined email address or uploaded in the System using the Upload *Upload* button on the SMS\Rates\Rate import 420 page.

NOTE: Data in this section is displayed only if the user has the appropriate permissions (*View own accounts only*, *View own contract companies* etc.) Permissions are configured in Administration\Users 158. Find out more about the feature in the Alaris YouTube video.

To configure automatic rate sheet import:

- Indicate error types that will prevent auto import
- Create an auto import rule
- Test the rule
- Activate the rule

The *SMS\Rates\Auto rate import* section comprises two tab sheets: *Auto import rules* and *Critical errors*.

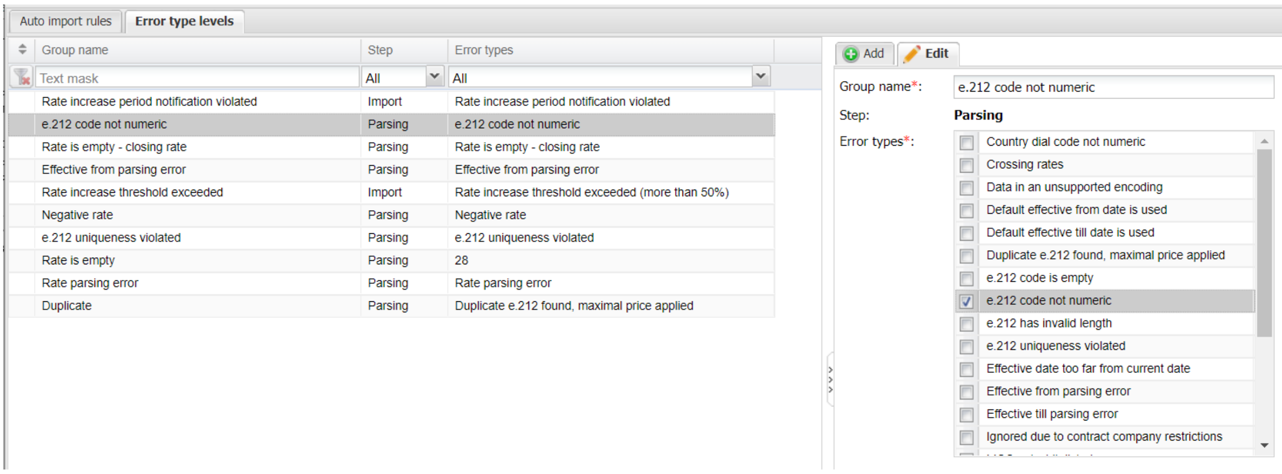


Auto import rules

Records in the *Auto import rules* table have the or icon showing the rule creation or modification dates respectively, when hovered over.

Critical errors tab sheet

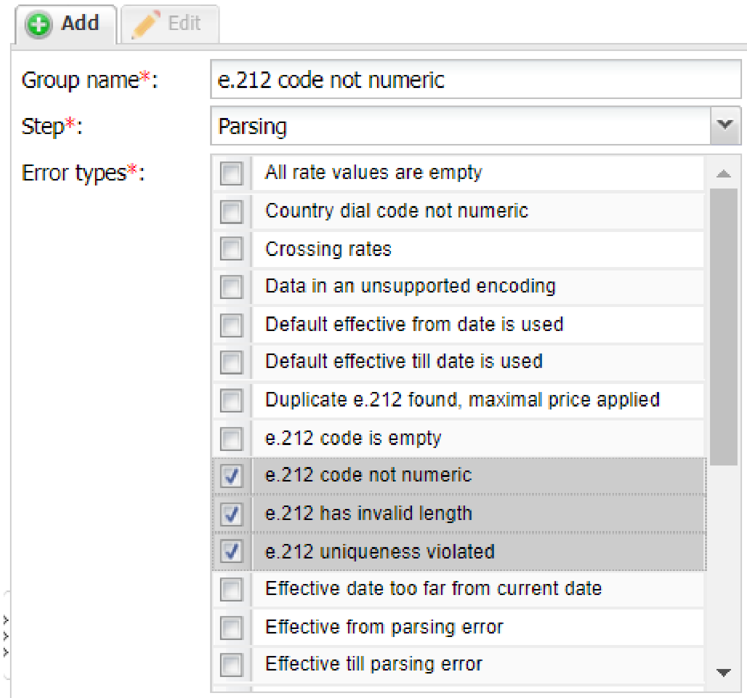
Open the *Error type levels* tab sheet to define errors critical for import.



Error type levels

The *Error Type levels* page enables defining the errors or their combinations (groups) that are considered critical for auto rate import. The occurrence of all errors in a group during auto import blocks the import task. If some errors within a group do not occur, the auto rate import proceeds.

The right panel contains the *Add* and *Edit* tabs that serve to configure groups of errors.



Add tab

The *Add* tab allows defining errors and combining them into groups. It contains the following parameters:

- *Group name*: name of the group of errors
- *Step*: stage on which the auto import operation is blocked (*Parsing* or *Import*)
- *Error types*: contains a list of errors. If several errors are selected, only the occurrence of all of them stops the import process. Some error types include:

- *Country blacklist, Network blacklist*: the errors stop automatic import if such countries or networks are available (configured in the System parameters *Rate country names to ignore for import (comma separated)* and *Rate network names to ignore for import (comma separated)* respectively)
- *Past period rate increase/decrease/added (more than 1 day ago)*: appears if an increase/decrease/new rate is supposed to become active more than 1 day (that is, starting from 'current date 00:00 minus 1 day') and further to the past. For example, it will appear if the *Increase date* is 18.06.2024 00:00:00 (System timezone) or 17.06.2024 (any time) and the file is imported on 19.06.2024
- *Past period rate increase (less than 1 day ago)*: the period between "current date minus 1 day at 00:00:01" and "current date 00:00:00" (not included) is verified for this error to occur. That is, if today is 19.06.2024, the error will pop up with the *Increase date* set as 2024.06.18 00:00:01 (System timezone) or, for example, 2024.06.18 23:59:00 (System timezone)
- *Rate increase/decrease/add/close period notification violated*: occurs when a change is to happen between 'current date 00:00:00' and 'the current date 00:00:00 plus the number of days from the agreement'. Suppose, the *Out increase notification, days* agreement's period is set to 1 and the current date and time is 19.06.2024 01:00:00. This error will be triggered if the *Increase date* is between 18.06.2024 00:00:00 and 'current date and time plus 1 day' (20.06.2024 01:00:00)

NOTE: The errors of the *Rate increase/decrease/add/close period notification violated* types (in case of the agreement's period for increases/decreases/new or closed rates specified as 0 and the rate start date is to be applied the date of the rate file receipt) will have a delay of 1 hour to be triggered for the auto rate import process (not applicable to the *Auto rate import selected file* function). Suppose, the rate file is received on 2024.06.19 01:05:03 and the increase start date is 2024.06.19 01:05:03. As the System job BAS_IMP_DISP can be run with a slight delay, the verification happens on 2024.06.19 01:07:01. Due to the 1-hour delay, the *Rate increase period notification violated* error is not triggered.

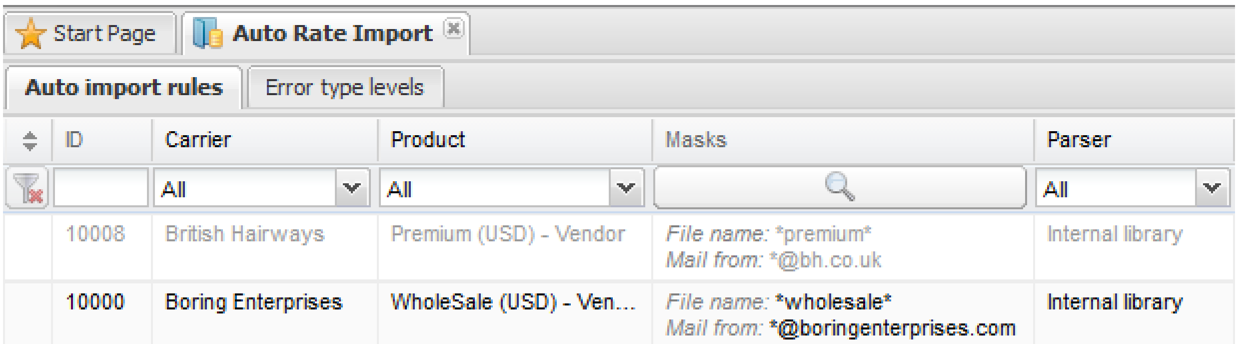
Click Submit *Submit* to save the changes.

Rate sheet files containing the all errors within a group will not be imported.

Auto import rules tab sheet

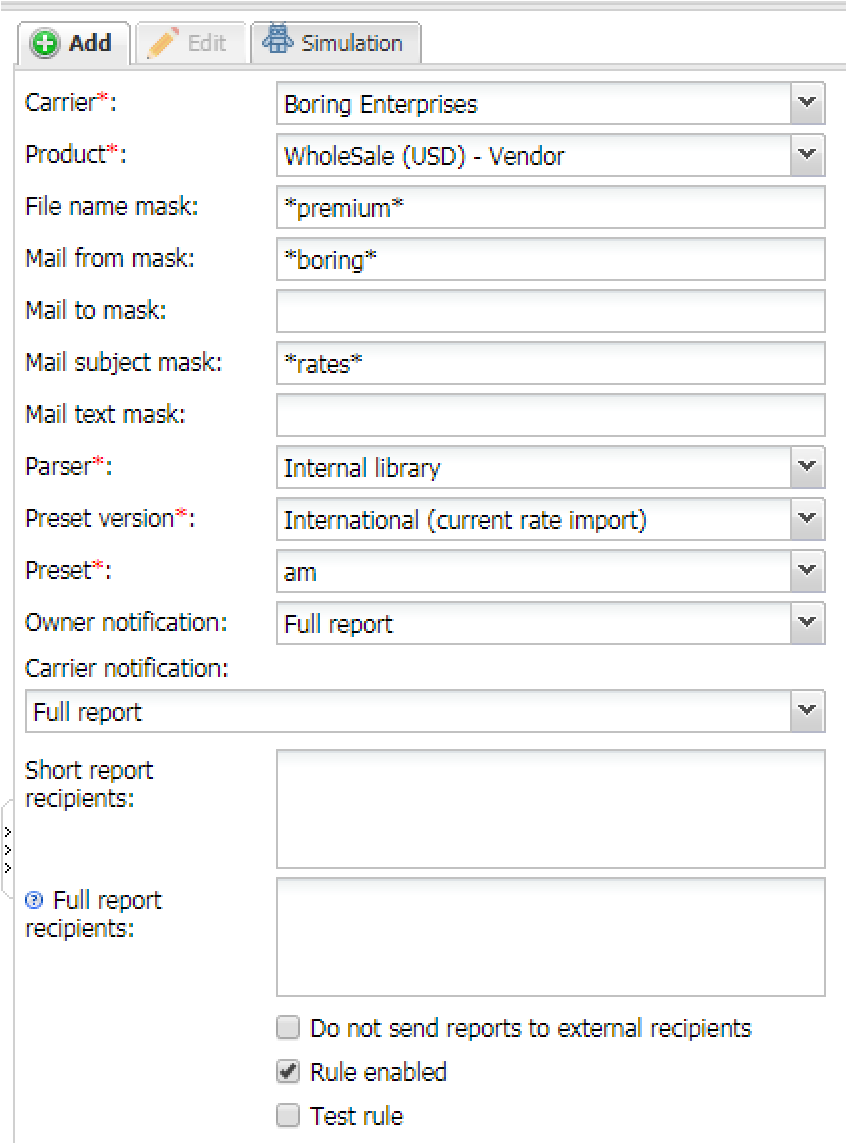
Open the *Auto import rules* tab sheet. It contains a list of rules for automatic import. Test rules are highlighted in bold italic font, while inactive rules are greyed out. The button at the bottom serves to export the rules table to an MS Excel file.

The page is divided in two panels. The left panel is a table of configured import rules.



Auto import rules

The table columns contain the parameters that are configured in the right-hand panel.



Add tab

The right panel contains the *Add* and *Edit* tabs that allow adding new rules or editing existing ones, and the *Simulation* tab that serves to test the rule.

To activate the *Edit* tab, click on the record in the table. Enter the above listed parameters in the appropriate fields. Fields marked with an asterisk (*) are required.

- *Carrier*: name of the vendor – sender of the attached ratesheet
- *Product*: name of the vendor's product
- *File name mask*, *Mail from mask*, *Mail to mask*, *Mail subject mask*, and *Mail text mask*: use an asterisk * to define a mask

NOTE: Comma (,) is treated as a separator for masks. For example, if the *File name mask* field is specified as %file1%,%file2%, the System interprets it as 2 separate masks.

NOTE: The System can receive up to 4000 bytes in the *To* field when getting mail. Emails with over 4000 bytes in the field will not be processed.

- *Parser*: parsing rule for processing of the ratesheet files (default value – Internal library)

- *Preset*: template for parsing a certain format of the ratesheet file (*.xls, *.xlsx etc.). Presets are created in the rate file import settings panel at SMS\Rates\Rate import 420

- *Owner notification*: (*Not sent, Short report, Full report*): the System owner receives a short message or detailed description on the ratesheet processing results or does not receive any of them. Notifications are sent to the carrier's account manager email address

- *Carrier notification*: (*Not sent, Short report, Full report*): the vendor receives short message or detailed description on the ratesheet processing results or does not receive any of them. Notifications are sent to the email addresses set in the agreements' parameter *Default rate change emails* and the carriers' users email addresses (with the selected *Send rate changes* checkbox)

- *Short report recipients*: email-address(es) for delivery of short reports on the ratesheet processing results

- *Full report recipients*: email-address(es) for delivery of full reports on the ratesheet processing results

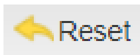
NOTE: The short/full report formats (for *Owner/Carrier notification* and *Short/Full report recipients* fields) can be configured with the help of the *SMS auto rate import owner notification (short report), SMS auto rate import owner notification (full report) SMS auto rate import carrier notification (short report)* and *SMS auto rate import carrier notification (full report)* templates in Administration\Template manager 104.

- *Do not send reports to external recipients*: send reports only to managers of the accounts pertaining to the selected carrier

- *Rule enabled*: select when the tests are complete to activate the rule

- *Test rule*: select when testing the rule. Files that fall under the rule's parameters with the selected checkbox will not be imported

When through with defining the parameters, click 

Submit to confirm or 

Reset to discard the settings.

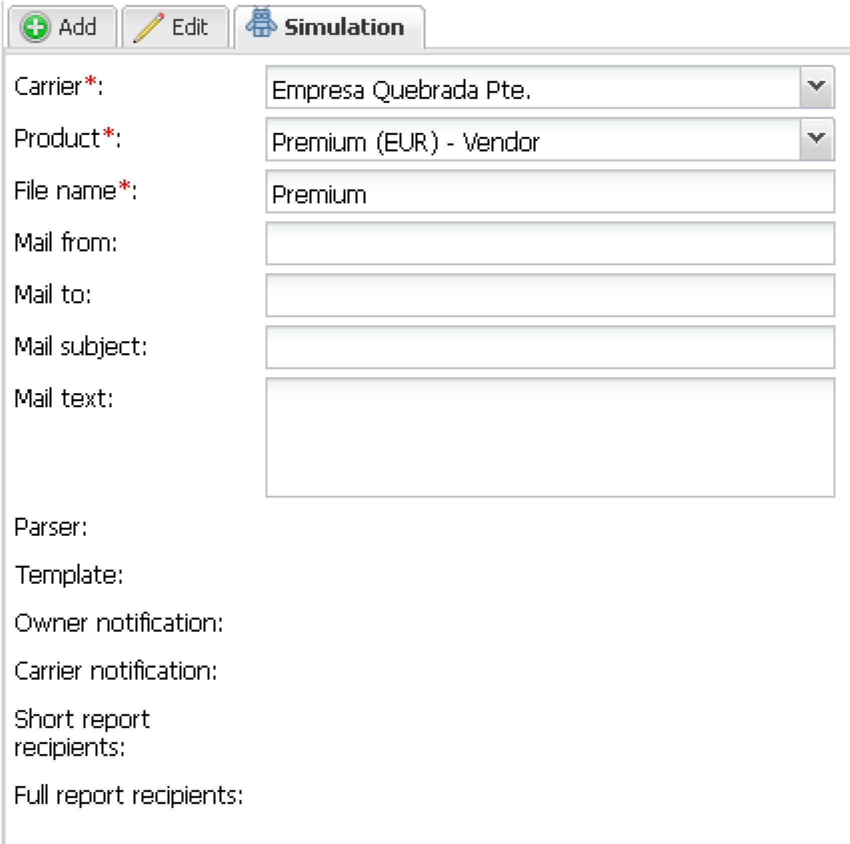
The 

Clone button creates a duplicate of the configured rule. This is helpful when you wish to configure another rule with similar parameters.

Use the 

Delete button to delete the selected rule.

To test the rule, open the *Simulation* tab.



Simulation

Enter the appropriate parameters and click Run *Run*. The test results will appear on the *Simulation* panel. Once the tests are completed, return to the *Edit* tab and check the *Rule enabled* flag to activate the rule.

12.3.2 Rate Editor

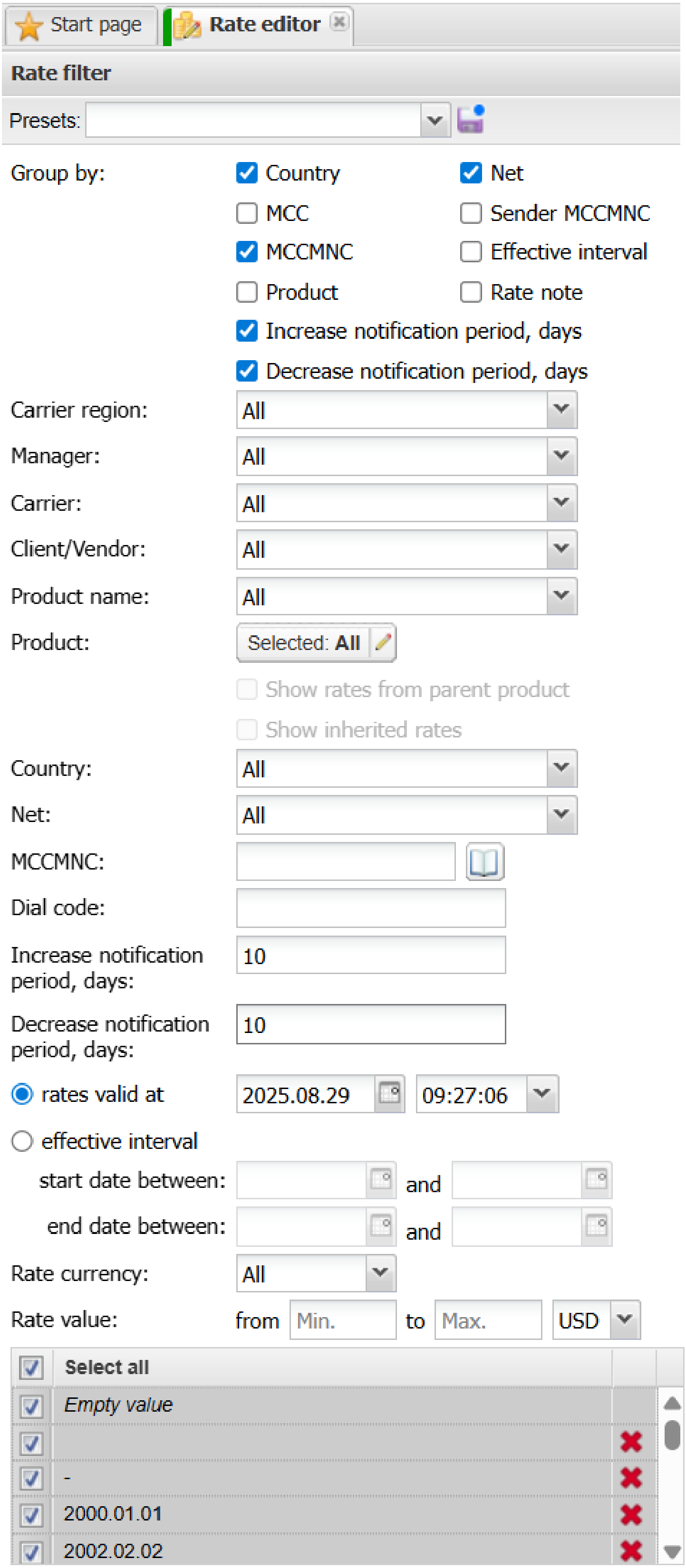
The *SMS\Rates\Rate editor* section allows viewing and modifying single rates and rate groups registered in the System, as well as manually create new rates.

The section consists of two pages: *Rate groups* and *Rates*.

12.3.2.1 Rate groups

The *Rate groups* page contains the *Rate filter* view with filtering and grouping options, and the *Rate groups* table displaying the rates grouped as defined in the filter.

The button in the upper left corner of the page toggles the *Rate filter* view.



Rate filter

The *Presets* toolbar at the top of the *Rate filter* enables the user to create, upload and delete preconfigured filtering presets. The user can set a default preset (marked with a star icon next to the preset name) to auto-select upon opening the interface.

Presets toolbar

In the *Group by* field, select one or several checkboxes to define grouping parameters: *Country, MCC, MCCMNC, Product, Net, Sender MCCMNC, Effective interval, Rate note, Increase/Decrease notification period, days*. If none of the grouping checkboxes is selected, the System displays one group with the total number of rates in the selection according to the following filter parameters:

- *Carrier region*
- *Manager*: account manager
- *Carrier*
- *Client/Vendor*
- *Product name*: type of SLA (for example, premium, wholesale etc.)
- *Product*: specific carrier product. Select several products to compare rates between them. Click  on the 

button for multiple selection

NOTE: If the parameter *Inactive entities* in *User settings* has the value *Hide* (see Interface structure 18), inactive products will be hidden in the *Product name* drop-down list and *Product* multipicker.

- *Show rates from parent product*: select this checkbox if you wish to include rates from the parent product into the output
- *Show inherited rates* (active when the *Show rates from parent product* checkbox is selected): when selected, the parent product rates are shown in grey italic font. When any edits are made to the inherited rates (that is, the child product rates) the rates in the parent product remain unchanged, but a new rate is added to the child product instead.
- *Country*
- *Net*: network name
- *MCCMNC*: masks with % and * symbols are supported
- *Dial code*: is used when a single MCCMNC includes several dial codes with different rates. For example, two dial codes +1212 and +1718 with different rates can exist for the MCCMNC 310779. Enter the appropriate dial code to view its rates
- *Increase/Decrease notification period, days* (displayed if the same-name checkboxes are selected in the *Group by* field): enable viewing (and changing) rates for agreements with specified rate notification periods for increases or decreases
- *Rates valid at*: rates effective at the specified date/time
- *Effective interval*: rates effective in the specified period
- *Rate currency*
- *Rate value from... to...*: price range for more precise filtering

- *Rate notes*: the table containing comments available in the *Rate note* field (editable only if *Grouping by rate notes* is set). Select rate notes by setting appropriate flags or remove a note from all rates by clicking ✖.

NOTE: System notes such as *BLOCKED* and *Volume-based deal* do not contain the button and cannot be removed.

Click Apply filter *Apply filter* to display the rates complying to the filter parameters. Click Clear filter *Clear filter* to reset the form. The filtered rates will appear in the *Rate groups* tab sheet, grouped by the parameters specified in the *Rate filter* panel. Rates in the figure below are grouped by *Country, Net,* and *MCCMNC.*

NOTE: The *Bill by* column takes the values: *D* (rates with the dial code/sender ID) or *SM* (rates with Sender MCCMNC).

Rate groups | Rates

Select row and go to next tab

Bill by	Country	Net	MCCMNC	Rate	Currency	Rate (USD)	Increase notification period, days	Decrease notification period, days
D	Abkhazia	Advanced Wireless Network Compa…	111	1.000000	USD	1.000000	10	10
D	Abkhazia	A-Mobile	289068	{..}	USD	{..}	10	10
D	Abkhazia	A-Mobile	289088	{..}	USD	{..}	10	10
D	Abkhazia	ACE Telecom	100104	2.000000	USD	2.000000	10	10
D	Abkhazia	Advanced Wireless Network Compa…	100	1.205300	USD	1.205300	10	10
D	Abkhazia	Aquafon	289067	{..}	USD	{..}	10	10

Rate groups table

Click Close *Close* to modify the *Active till* date of the rate group.

Click Edit *Edit* to edit the rate group.

NOTE: When editing the *Sender MCCMNC* of a rate group, rates will be merged if the new rate overlaps with an existing one. This may cause billing discrepancies for the past traffic. To prevent this, a warning message appears when the user attempts to change the *Sender MCCMNC* of a rate group.

Click the Clone *Clone* button to create an exact copy of the selected rate group, so that a new group can be created by means of changing one or several parameters of the clone.

Click Export to Excel *Export to Excel* to export the table to an MS Excel file.

Click the Add period *Add period* button to modify the rate group *Active from* and/or *Active till* dates; the old rates will be active for the dates that do not overlap with the new period. For example, suppose there is a rate valid from 2016.01.01 till 2100.01.01 and you need to increase it. Click Add period *Add period*, set the *Active from* date to 2017.02.01 and the *Active till* date to 2100.01.01. In this way, you will have two rates: the old one from 2016.01.01 till 2017.02.01 and the new one from 2017.02.01 till 2100.01.01.

NOTE: The buttons Close *Close*, Clone *Clone*, Add period *Add period* are only active if a single product is selected in the *Product* multipicker in the *Rate filter*.

Click Export *Export* to open the SMS\Rates\Rate export 407 interface with pre-set filters for the export of the selected rates — for example, the button becomes active when grouping rates by product.

12.3.2.2 Rates

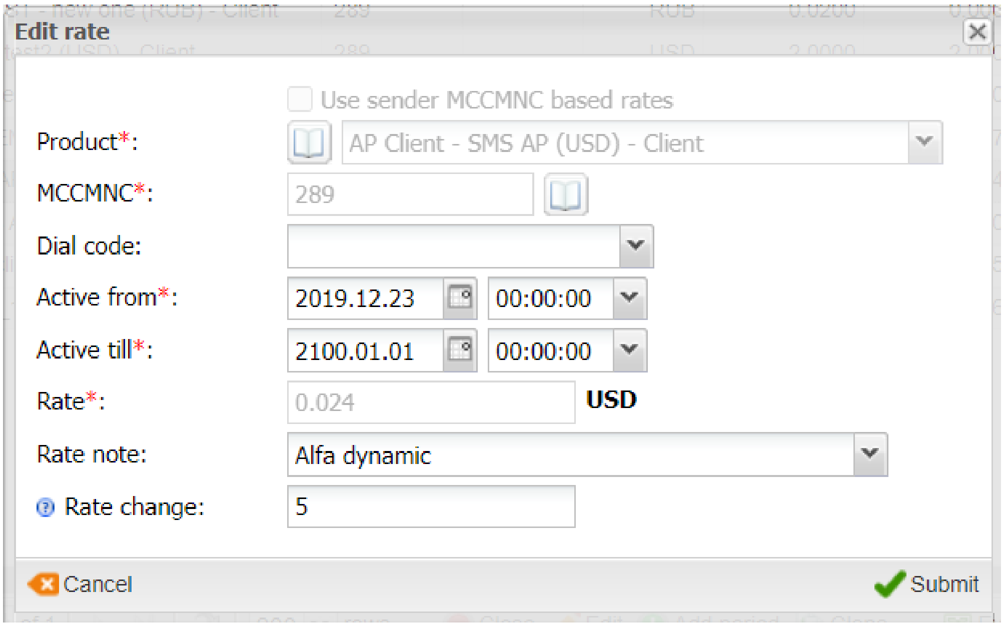
The *Rates* page is disabled by default. To enable it, click on one of the rate groups in the *Rate groups* table. The *Rates* page will display the rates in the selected rate group, allowing you to edit them one by one or in the group edit mode.

Rate groups	**Rates**						
Product	MCCMNC	Dial code	Currency	Rate	Rate (USD)	Country	Net
Chip&Dale Solutions - LCR (EUR) - Client	722341		EUR	0.00000	0.00000	Argentina	Telecom Personal S.A
ConTIGO Mobile - Wholesale (EUR) - Vendor	722341		EUR	0.00320	0.00320	Argentina	Telecom Personal S.A
NeverCall plc - Wholesale (EUR) - Vendor	722341		EUR	0.00330	0.00330	Argentina	Telecom Personal S.A
Mejor Networks - Premium (EUR) - Client	722341		EUR	0.01570	0.01570	Argentina	Telecom Personal S.A
Hungry Telecom - Meat - Wholesale (EUR) - Cl...	722341		EUR	0.01500	0.01500	Argentina	Telecom Personal S.A

Rates table

Click the button on the bottom toolbar to refresh the table.

Double-click on a rate to open the *Edit rate* dialog.



Edit rate dialog

NOTE: If you change the *Active from* date and the rate will be starting later, the period not covered by the rate will lose the billing information. A note explaining this will appear on the screen. Learn more about the warning in Alaris YouTube video.

The *Rate change* field allows changing the rate. A percentage or an absolute value can be entered in this field. For example, the value 5 or +5 will increase the rate by 5 currency units (US Dollars, Euro etc.), while the value 5% will increase the rate by 5 per cent. Negative values can also be used given that the resulting value is not negative. For example, -5 will decrease the rate by 5 currency units, while -5% will decrease the rate by 5 per cent. See also the Alaris YouTube video.

The bottom part of the *Rates* page contains a table with rate history details. Click on a rate in the *Rates* table to view the history of the rate changes. The *History status* column indicates the rate periods as *previous*, *selected* or *upcoming*. Double click a record to edit it.

NOTE: For example, editing the rate history may come useful when correcting an erroneous price etc.

Rate history (double click to edit)

History status	Rate	Country	Net	Active from	Active till	Rate note
selected	0.001	333	Advanced Wireless Network Company Li...	2022.05.31 00:00:...	2100.01.01 00:00:...	-
previous	0.018	Romania		2015.03.01 00:00:...	2022.05.31 00:00:...	-

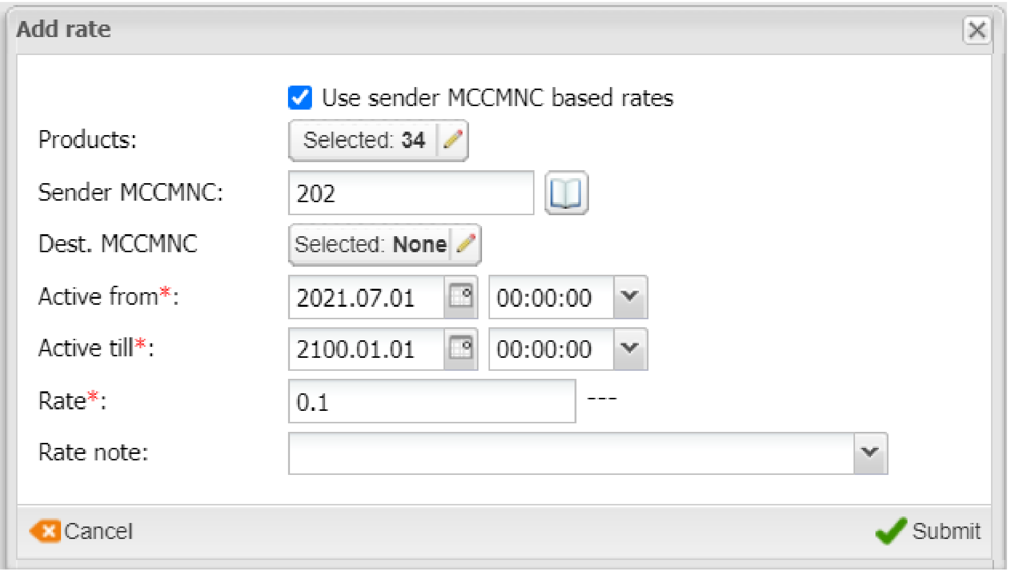
Rate history

Below is a list of available actions with rates. They are invoked by appropriate buttons located on the instrument panels above and below the *Rate history* table.

- *Add rate*
- *Add rate to group*
- *Roll back rates*
- *Add period*
- *Edit*
- *Close*
- *Clone*
- *Export to Excel*

Add rate: add a new rate

Click the Add rate *Add rate* button to open the *Add rate* dialog.



Add rate dialog

The configurable parameters of the *Add rate* dialog are:

- *Use sender MCCMNC based rates*: select to add a rate for p2p traffic. In the fields *Sender MCCMNC* and *Dest. MCCMNC* specify the appropriate MCCMNC(s). When enabled, the *Products* list contains only products that have the *Use sender MCCMNC based rates* option enabled on the product level
- *Product*: the carrier product(s) the rate belongs to. Click to open the multipicker and select the product(s)
- *MCCMNC*
- *Dial code*: specify the dial code to be used for rate search (for a sender ID or destination number). The rate search logic is described in Appendix 3. Rate search logic 687. Alphanumeric

dial codes (ASCII symbols) can be used. The drop-down list will additionally contain numeric values (dial codes belonging to the MCCMNC) once the MCCMNC is specified

- *Sender MCCMNC, Dest. MCCMNC*: available if *Use sender MCCMNC based rates* is selected
- *Active from*/*Active till*: select the active period of the price. If the entered period overlaps with a rate for the same carrier name/carrier product parameters, a new rate cannot be added. Specify a period that does not overlap with an existing rate. If the carrier name/carrier product match some of the existing rates, the existing rates will change – a new period (with the new price) will be added. If the user creates a unique rate (there are no rates with same carrier name/carrier product in the System), then a new rate will be added
- *Rate*
- *Rate note*: optionally the user can specify notes for the rate. Usually they correspond to quality-related details of the rate (*CLI, Premium* etc.). If the field value is *Swap deal*, such rate will not be overwritten during rate import

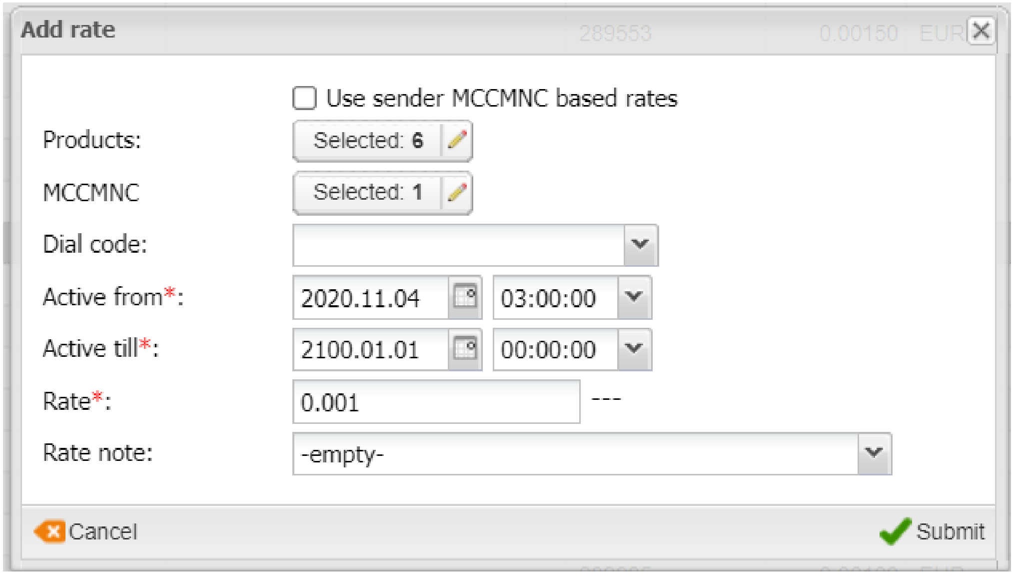
NOTE: The length of the *Rate note* field is limited to 1024 bytes. Rates with a note longer than that cannot be created and cannot be imported.

When through with defining the parameters, click Submit to confirm or Cancel to discard the settings.

Add rate to group

Click the Add rate to group *Add rate to group* button to add a new dial code directly to the selected rate group, i.e. the fields in the *Add rate* window that correlate with the selected *Group by* filters will be filled automatically.

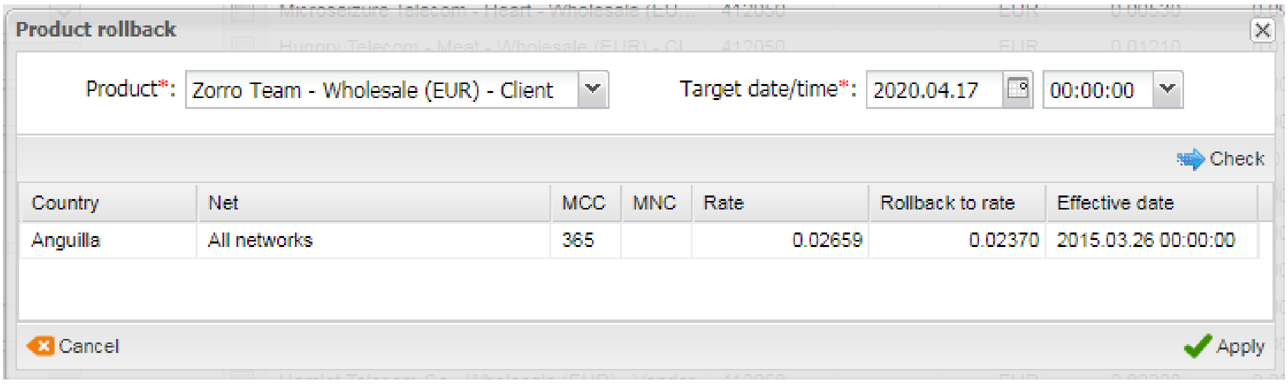
NOTE: If a *Group by country* filter is on and the group has several MCCMNC codes, the *MCCMNC* field will show the MCC code.



Add rate to group

Roll back rates

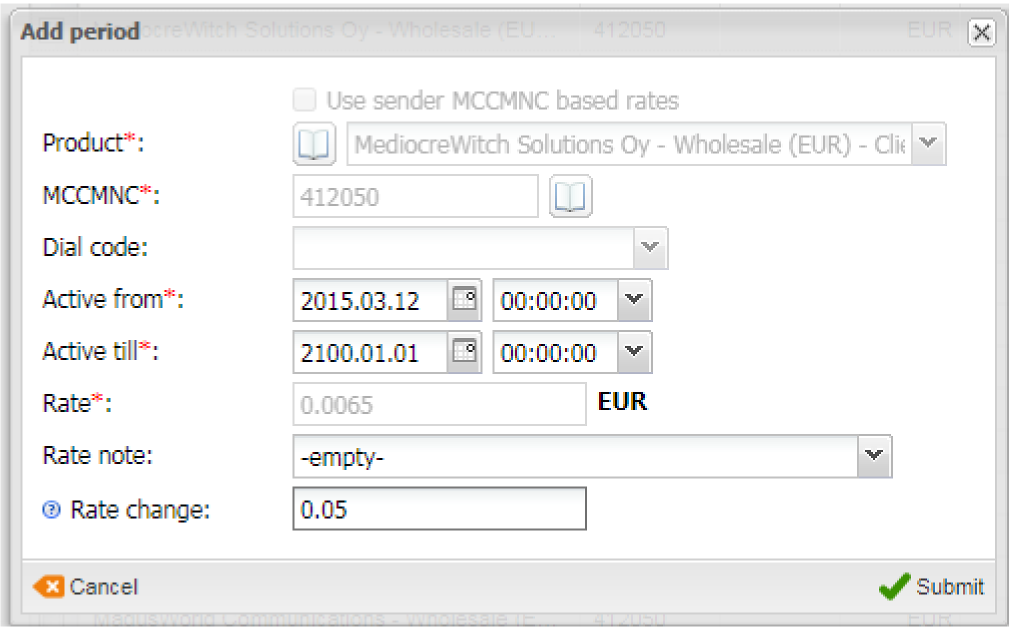
Click the Roll back rates *Roll back rates* button to open the *Product rollback* dialog.



Product rollback

The dialog serves to discard all changes made to the rates of the specified product since the target date/time. The option is used to correct possible erroneous actions (wrong ratesheet imported etc.):

- Select the required product from the drop-down list
- Set the target date and time
- Click Check *Check* to get a preview of the changes that will be applied
- Click Apply *Apply* to confirm or Cancel *Cancel* to discard the settings



Add period

Add period

Click the Add period button to modify the rate *Active from* and/or *Active till* dates; the old rate will be active for the dates that do not overlap with the new period. For example, suppose there is a rate valid from 2016.01.01 till 2100.01.01 and you need to increase it. Click Add period, set the *Active from* date to 2017.02.01 and the *Active till* date to 2100.01.01. In this way, you will have two rates: the old one from 2016.01.01 till 2017.02.01 and the new one from 2017.02.01 till 2100.01.01.

Edit

Click the Edit button to modify the rate *Active from* and/or *Active till* dates; the rates whose dates do not overlap with the new period are removed from routing. For example, the original rate period is June 10 – June 20; the corrected period is June 10 – June 15.

NOTE: Rates for the period between June 16 and June 20 will be removed from routing. This control is recommended for correcting erroneous new rates. In other cases it is recommended to use Add period rather than Edit.

Close

Click the Close button to close one or several rates after a certain date/time. Once you choose this option, only the *Active till* field is editable. Set the *Active till* value to close the rates by that date-time stamp. All intervals of the rate history that are later in time than that point will be deleted.

Clone

Click the Clone button to create an exact copy of the selected rate, so that a new rate can be created by means of changing one or several parameters of the clone. A new rate without any changes is not added to the System. It is recommended for use when creating a new rate with similar parameters.

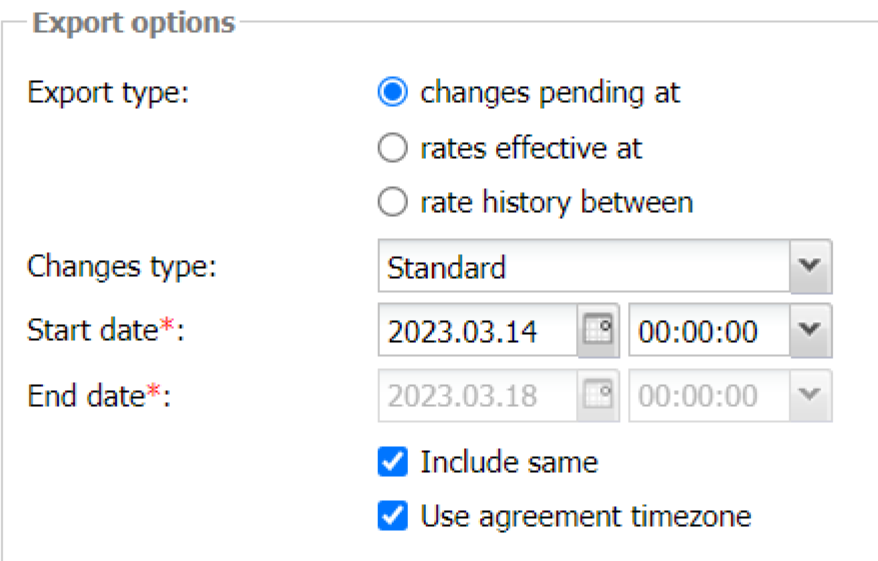
Click Export *Export* to open the SMS\Rates\Rate export 407 interface with pre-set filters for the export of the selected rates — for example, the button becomes active when grouping rates by product.

12.3.3 Rate Export

The *SMS\Rates\Rate export* page enables the user to download rate data from the System database to a file (for analysis) or send it to partners' e-mails. The page consists of two tab sheets: *Export* and *Column settings*.

12.3.3.1 Export

The *Export* tab sheet serves to select rates to be exported, by applying the following filters:



Export options

- *Export type*: includes the following radio buttons:
  - *Changes pending at*: export rates with account for periods set in the *Rate notification periods* section of Carriers\Agreements 171

- *Rates effective at*: export rates as of the date indicated in the *Start date* parameter

- *Rate history between:* export history of rate changes for the period between the *Start date* and *End date* and analyze if any planned changes were made within the period. Unlike the previous parameter, the System will not show changes for the whole period but display all changes planned (or effected) between the *Start date* and *End date* for part of the period (future dates can be included). For example, select the *Start date* 1 October and the *End date* 10 October. Suppose the rate was 0.05 between October 1 and October 6 and was changed to 0.06 starting October 7. This change will be reflected in the exported file. It is recommended to use this parameter in most cases involving rate history analysis

- *Changes type* (available if *Changes pending at* is selected): contains the following values:

  - *System default* (is displayed when opening the interface): use the value set in the System parameter *Default rate export mode* (Administration\System settings\SMS rates 92)

  - *Standard*: export scheduled rate changes between the date indicated in the *Start date* parameter and the same date PLUS the period set in the *Rate notification periods* section of Carriers\Agreements 171 (for example, *In increase notification, days* for client rate increases and *Out new rate notification, days* for vendor new rates). In the exported file, rates are marked in compliance with pending changes: *increase, decrease, new, close, same*

  - *Show closest*: when selected, the agreement settings are ignored and only those rates will be exported that are effective as of the date set in the *Start date* field and the changes that come into effect as of the *Start date*. Example: suppose the following rates exist in the System:

MCCMNC	Start date	End date	Price
202001	2019.04.01	2019.09.01	0.1
202001	2019.09.01	2100.01.01	0.2
202002	2019.01.01	2100.01.01	0.3
202099	2019.01.01	2019.05.01	0.4
202099	2019.05.01	2019.05.05	0.3
202099	2019.05.05	2100.01.01	0.5

If the *Show closest* mode is selected, and the *Start date* is set to 2019.04.20, the following rates will be exported:

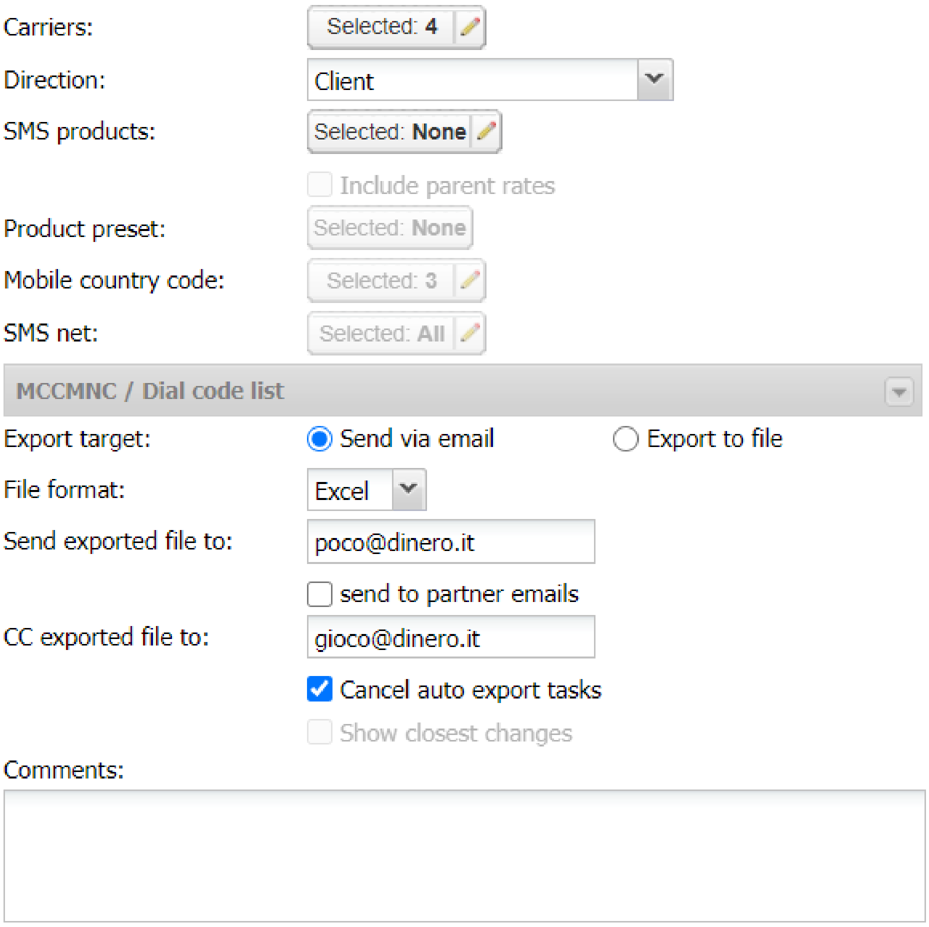
MCCMNC	Start date	End date	Price
202001	2019.09.01	2100.01.01	0.2 - increase
202002	2019.01.01	2100.01.01	0.3 - same
202099	2019.05.01	2019.05.05	0.3 - decrease

NOTE: The period for 'closest changes' - that is, in which the System observes the validity of rates, is 30 days by default. It can be changed in the System parameter *Period for show closest changes export option, days* at Administration\System settings\SMS 80.

- *Show latest*: show the latest rate changes as of the task start date. The change analysis period is limited by the System parameter *Period for show latest changes export option, days*

NOTE: The *Show latest* option may come instrumental if partners were already notified of the rate change effective in the future, whereas another future change has been added to the MCCMNC (for example, change No 1 as of 12/08 and change No 2 as of 12/09), and it is required to export the latest change (because the partners have been already notified of the change No 1).

- *Start date, End date*: timeframe of rates for export. *End date* is enabled only if type *rate history between* is selected
- *Include same*: check the flag to include the rates that were unchanged
- *Use agreement timezone*: use the partner's time zone in the exported rates



Export, continued

- *Carriers*
- *Direction*
- *SMS products*: carrier SMS product(s) associated with the exported rates. Check *include parent rates* to include rates of parent products (if applicable)

NOTE: The *include parent rates* checkbox is enabled by default for rate export tasks triggered by rate changes (when the option *Send rate change notifications automatically* is set to either *Send partial price* *list* or *Send full price list* in Carriers\Products 180). It is also enabled if the product list contains a product for which a parent is assigned.

- *Product preset*: a set of columns in the exported file defined in the Column settings 407 tab sheet
- *Mobile country code*
- *SMS net*: network name
- *MCCMNC/Dial code list*: unfold the form by clicking and enter MCCMNC and/or dial codes if necessary

MCCMNC/Dial code list

- *Export target*: indicate how the file should be exported. Options include:
  - *Send via email*
  - *Export to file*
- *File format*: select *Excel* or *CSV*
- *Send exported file to*: specify comma-separated email addresses for file delivery. Check the *Send to partner emails* flag to deliver the file to the carrier emails configured in Carriers\Agreements 407 (*Default rate change emails* parameter). A copy is also sent to:
  - the address specified in the field *Email address to CC rates updating* in Reference books\Contract companies 261
  - the account manager if the *Send rate changes* checkbox is selected in the user settings of the manager (Administration\Users 158)
- *CC exported file to*: a copy of rate export results is sent to the addresses specified in the field. The addresses must be separated by comma or comma followed by blank space. Check out the Alaris YouTube video for more details.

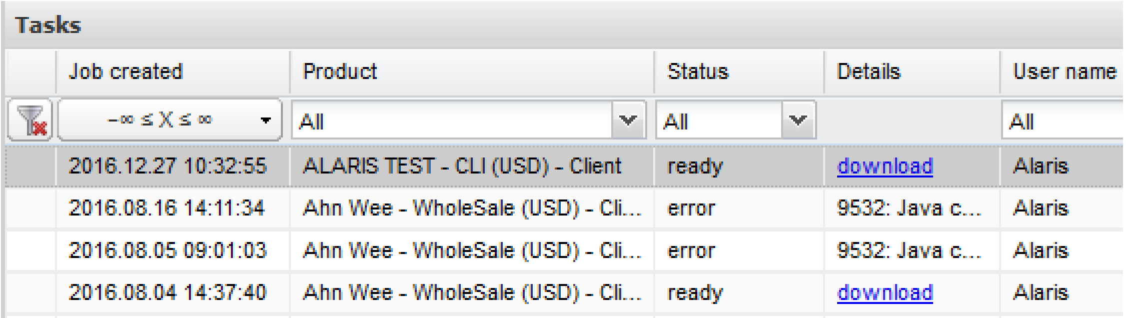
NOTE: Each partner receives only rates pertaining to their accounts. A copy of the message is also sent to the partner's account manager.

- *Cancel auto export tasks* (available if the *SMS net* filter is set to *All* and the *MCCMNC/Dial codes* list is empty): the checkbox serves to avoid repeated sending of rates to partners (for example, when the rate update was scheduled to be sent automatically but the user already sent it manually). If the checkbox is selected and a specific product is selected for manual export, previously scheduled automatic export tasks for the same product are canceled
- *Comments*: arbitrary comments

NOTE: The field appears in the exported file only if the *Comments* field is configured in the MS Excel template file (Administration\Template manager 407)

Tasks

The *Tasks* table displays a list of recent rate export tasks with the following information:



Tasks

	Job created	Product	Status	Details	User name
	-∞ ≤ X ≤ ∞	All	All		All
	2016.12.27 10:32:55	ALARIS TEST - CLI (USD) - Client	ready	download	Alaris
	2016.08.16 14:11:34	Ahn Wee - WholeSale (USD) - Cli...	error	9532: Java c...	Alaris
	2016.08.05 09:01:03	Ahn Wee - WholeSale (USD) - Cli...	error	9532: Java c...	Alaris
	2016.08.04 14:37:40	Ahn Wee - WholeSale (USD) - Cli...	ready	download	Alaris

Tasks

- *Job created*: date and time of the task creation
- *Product*: relevant product
- *Status*: status of the task. Possible values:
  - *new*
  - *in progress* (with the progress percentage specified)
  - *aborted* (if terminated manually by the user)
  - *ready*
  - *error*
  - *pending*: currently out of use
  - *queued*
  - *scheduled*: the task is scheduled for a specific time

NOTE: Tasks that have the *Export target* value *Send via email* change their status as follows: *New* > *Queued* > *In progress* > *Sent* (in case of success) or *Error* in case of email sending failure. Tasks that have the *Export to file* value change their status as follows: *New* > *In progress* > *Ready*.

- *Details* can contain:
  - error description if an error occurs during the export procedure
  - *Sent* or *Delivered* status if the *Send via email* option is selected. The status is changed from *Sent* to *Delivered* if the partner follows the link from the rate sheet email. The link is specified if the System parameter *Ratesheet delivery options (1 - attachment, 2 - link, 3 - attachment and link)* is set to 2 or 3
  - a link to the generated file if the *Export to file* option is selected
  - *Abort task* button if the task is in progress
- *User name*: name of the user that initiated the procedure

Click the button to refresh the table.

Any task can be restarted with the previously configured settings. To restart a task, select it in the table and click the Restart export *Restart export* button located at the bottom toolbar.

By default, created tasks remain in the System for the period of 30 days, and the list of tasks has no length restrictions.

Task details

The *Task details* table provides an overview of parameters for the task selected in the *Tasks* table.

Task details

Product:	**Alaris - Wholesale (USD) - Client**	Include parent rates:	**No**
Export type:	**Rates effective at**	Direction:	**All**
Date:	**2023.05.31 00:00:00**		
Use agreement timezone:	**No**	Include same:	**Yes**
Mobile country code:	Selected: All	SMS net:	Selected: All
File format:	**Excel**	MCCMNC / Dial code list:	Selected: 1
Export target:	**Export to file**	Comments:	**---**
Cancel auto export tasks:	**No**	All products in task:	**Alaris - Wholesale (USD) - Client**
All carriers in task:	**Alaris**		

Task details

Export can be configured for several grouped products. For every product in a group a separate task is created. The *Task details* table shows all products within one task.

12.3.3.2 Column settings

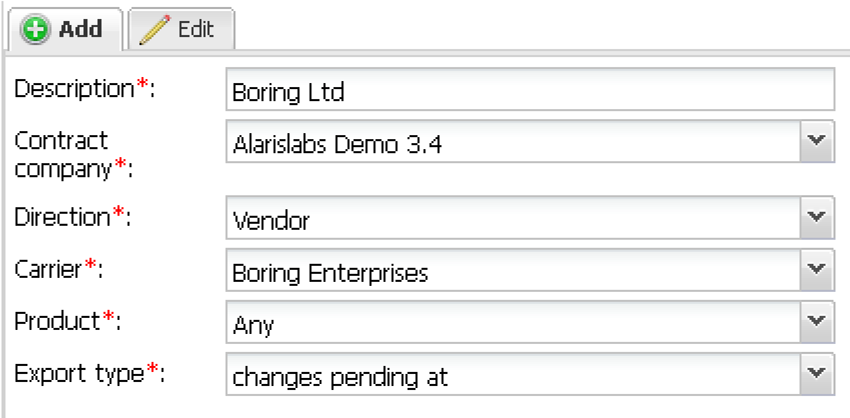
The *Column settings* tab sheet serves to configure columns of the output MS Excel file. Such set of columns and their parameters is called a product preset. The *Column settings* tab sheet contains four panels: the upper left panel is a table of product presets, the bottom left panel shows details of the selected record; the top right panel contains the *Add* and *Edit* tabs for creating and editing a product preset; the bottom right panel contains the *Add* and *Edit* tabs for configuring columns within the preset.

Export | **Column settings**

Description	Contract company	Direction	Carrier	Product	Export type
Text mask	Any	Any	Any	Any	Any
anton	Any	Any	Any	Any	Any
Pocodinero Preset	Alarislabs Demo 3.4	Vendor	PocoDinero Enterprises	PocoDinero Enterpris...	changes pending at

Table of product presets

To create a new product preset, open the *Add* tab in the top right panel and enter the appropriate parameters in the fields detailed below. Fields marked with an asterisk (*) are required.



Add tab

- *Description*: name of the product preset
- *Contract company*: the legal entity of the System owner on behalf of which it works with the carrier
- *Direction*
- *Carrier*
- *Product*
- *Export type*: the parameter configured in the *Export* tab sheet (options include: *changes pending at*, *rates effective at* or *rate history between*)

Click Submit *Submit* to save the changes. Click Reset *Reset* to clear the form. Click Clone *Clone* to create a copy of a record selected in the table (the button opens the *Add* tab with the parameters of the record. Edit them as appropriate and click Submit *Submit*).

A new product preset contains the following default columns:

- *MCC*
- *MNC*
- *DIALCODE*: dial code added for the rate (in E164 format, alpha or alphanumeric)
- *COUNTRY*
- *NETWORK*: network name
- *RATE START DATE*
- *RATE*
- *CHANGE TYPE*: describes the rate change (*increase*, *decrease*, *new*, *close*, *same*)

	System column	User column name	Width	Alignment	Rounding precision	Sort order	Sort direction
1	MCC	MCC	40	left		1	asc
2	MNC	MNC	40	left		2	asc
3	DIALCODE	Dial code	45	left			-
4	COUNTRY	Country	150	left			-
5	NETWORK	Network	250	left			-
6	RATE_START_DATE	Effective date	100	center			-
7	RATE	Rate	60	right	6		-
8	CHANGE_TYPE	Change type	80	left			-

Details of a selected preset

The user can edit the parameters of the default columns (use the *Edit* tab at the bottom right panel) or add new columns (use the *Add* tab at the bottom right panel). When adding a new column, configure the following settings (fields marked with an asterisk (*) are required):

- *System column*: select the data type in the drop-down list. Values include:
  - RATE_NOTE: comments configured in the *Rate note* field
  - MCCMNC5: MCCMNC code in a 5-digit format, with the first digit of the MNC code removed (for example, if the 6-digit MCCMNC code is 202002, the 5-digit code is 20202)
  - RATE_END_DATE
  - PREV_RATE: the value of the previous rate
  - MCCMNC: MCCMNC code in a 6-digit format
  - FEATURE: a routing feature added for the MCCMNC and product of the rate in SMS\Routing\Routing features 456. To export routing features of parent products, refer to the *Rate export routing feature inheritance (0 - no, 1 - yes)* System parameter
  - SENDER_MCCMNC: Sender e.212 (applicable to the products with the enabled *Use sender MCCMNC based rates* flag)
- *User column name*: the name of the column
- *Width*
- *Alignment*
- *Rounding precision*
- *Sort order*: specify sorting priority for the columns, with 1 being the highest priority. Possible values are *1, 2, 3*. For example, in the figure above columns will be first sorted by *MCC* (value *1* in the *Sort order* field) and then by *MNC* (value *2* in the *Sort order* field)
- *Sort direction*: select *asc* for ascending and *desc* for descending

Click Submit *Submit* to save the changes. Click Reset *Reset* to clear the form. Click Delete *Delete* to delete the column.

12.3.4 Auto rate export

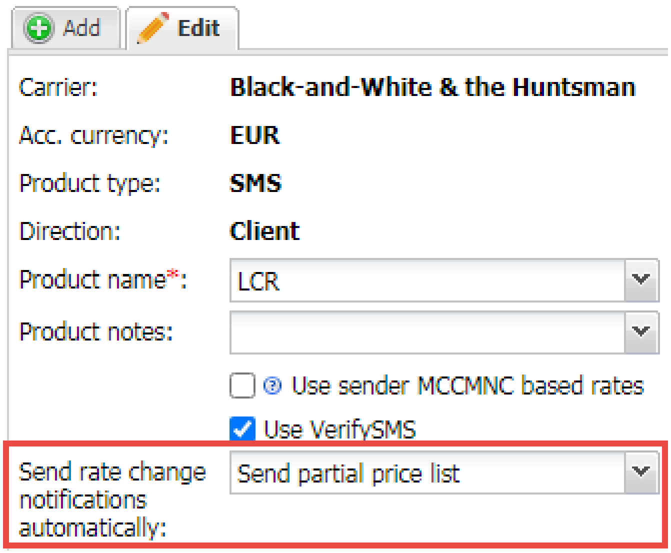
Auto rate export is a feature that provides an opportunity to notify customers in regard to rate changes without any additional action required from the System owner. It allows defining the hour(s) at which the System will send notifications as well as how detailed the notification will be. Note that the feature is disabled by default. To enable it, perform the configurations as detailed in the section below.

Auto rate export tasks are created as regular export tasks in the SMS\Rates\Rate export 407 interface.

12.3.4.1 How to configure auto rate export

Auto rate export must be configured in the client product first - the *Send rate change notifications automatically* drop-down list must be changed from the default value (*Do not send*) to one of the following values:

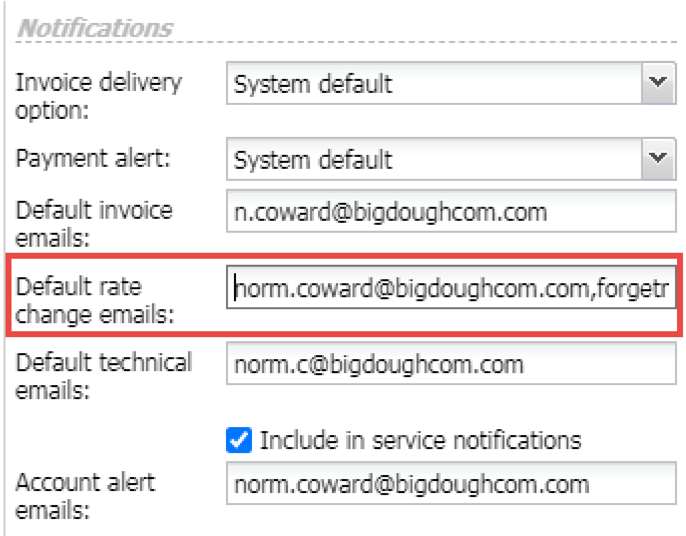
- *Send partial price list*: send only changes that were made recently (between the hour specified in the System setting *Rate changes auto send hours* that is the closest to the current time and the current time. If there is only one hour set, it is between the beginning of the day and current time)
- *Send full price list*: send a complete rate sheet including the changes



'Send rate change notifications automatically' field in Carriers\Products

The System parameter *Rate changes auto send hours (comma separated)* (Administration\System settings\SMS rates 92) must be set to an hour or several hours (comma-separated, no space) at which auto rate export tasks will be created in the *Rate export* interface.

The client's address(es) to which the notifications must be sent are configured in the agreement's parameter *Default rate change emails* (several email addresses can come comma-separated).



'Default rate change emails' field in Carriers\Agreements

The notification will be sent from the mail server defined in the Administration\Outgoing email accounts 36 interface. If a custom server of the *Rates* type is applicable (based on the *Accounts/Contract company* lists), it will be used; if no suitable *Rates* mail server is found, the *Default* one will be used.

The notifications are triggered by actions carried out in such rate-related interfaces as SMS\Rates\Rate editor 399, SMS\Rates\Rate import 420 and SMS\Rates\Rate compilation 434 given that the *send rate update to client* flag has been disabled. Note that for the child products of the target product auto rate export tasks can be created even if the flag was enabled provided that all mandatory for auto rate export settings were applied.

It is also possible to configure automatic sending with the help of the System parameter *Send changes to child products if the parent products are changed* if changes are applied to the parent product.

12.3.4.2 How it works

The System prepares a list of client products that have the *Send rate change notifications automatically* option value other than *Do not send* and whose rates have been modified based on the changes applied to the rates starting from the last hour in accordance with the System setting *Rate changes auto send hours*.

The following changes are taken into consideration:

- If only one hour is specified in the System setting, the period between the current date and the previous date (from the specified hour) is considered. For example, if the send hour is set to 5 and a rate was changed on 2021.01.01 06:30:05, the change will be reflected in the task that will be launched on 2021.01.02 05:10:44 (provided that the agreement requirements are met).

- If several hours are specified in the parameter, the period between them is verified. For example, if the send hour is set to 5,6,7 and a change was done on 2021.01.01 06:30:05, the change will be reflected in the task created on 2021.01.01 07:10:00. If a change was made on 2021.01.01 07:49:09, the task created on 2021.01.02 05:10:00 will contain the change.

NOTE: The *In increase/decrease/new rate/close rate notification, days* parameter set to 0 means that the partner must be notified in regard to rate changes immediately. In this way, if the rate start date of a corresponding type (increase/decrease etc.) is 2021.02.02 00:00:00, the *changes pending at* option for *Changes type: Standard* or *Default* (where the default System value is *Standard*) of *Rate export* must be set to the same date and time in order to include this change to the export's results.

If agreement notification periods are set to values other than 0, it refers to the fact that the notifications must be sent out no later than this number of days. Suppose, the *In increase notification, days* is specified as 7 and an increase comes out on 2021.02.07 01:00:00. The *changes pending at* datepicker (for *Changes type*: *Standard* or *Default* (where the default System value is *Standard*) can be set within a time frame from 2021.02.01 01:00:00 to 2021.02.08 01:00:00 in order to reflect this change (as such changes can be sent out on condition they have been applied within the period between the task start date and the task start date+number of days in the agreement).

The System job SMS_AUTO_RATE_SEND is launched on the 10th minute of every hour by default; it analyzes the changes and checks if they can be formed into an export task. Such task will have the parameters as follows:

Export type: changes pending at

Changes type: the value obtained from the system parameter *Default Auto rate export mode* (*Standard* by default)

Start date: the task start date, find the logic below

Include same: depends on the *Send rate change notifications automatically* product option: if set to the partial mode, the flag is deselected; if set to the full mode, the flag is selected

Use agreement timezone: deselected

SMS products: the client product

Include parent rates: selected

Product preset: the preset configured in the *Rate export\Column settings* that is suitable for the product and the export type

Export target: Send via email

send to partner emails: selected

Cancel auto export tasks: deselected

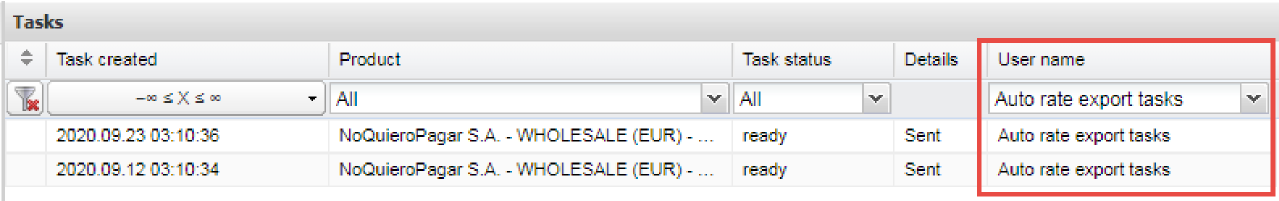
The start date is set subject to the following conditions:

- if only one hour is specified in the System setting, it is set to 00:00:00 of the current date;
- if several hours are specified in the parameter: the task will be created with the current date 00:00:00 hours, if rate changes were applied before the hour specified first (for example, if the first specified hour is 5 and the changes were applied before 5:00:00), or as of the current date and previous hour set in the parameter (for example, if the set hours are 5,6 and the changes were applied between 5:00:00 and 6:00:00).

A task will be created only if the analysis returns any change in the SMS\Rates\Rate export 407 interface given that the task start date complies with the *Rate notification periods* such as *In increase/decrease/new rate/close rate notification, days* (Carriers\Agreements 171).

For example, if new rates are added with the rate start date: 2021.01.10 00:00:00 on 2021.01.01 06:12:00, the System setting is specified as 8 and the *In new rate notification, days* is set to 7, the System job that will be launched on 2021.01.01 08:10:00 will ignore the changes as they are effective in more than 7 days from the task start date (which is 2021.01.01 00:00:00).

Tasks created by the System have the *User name: Auto rate export tasks* in the SMS\Rates\Rate export 407 interface.



Tasks

Task created	Product	Task status	Details	User name
-∞ ≤ X ≤ ∞	All	All		Auto rate export tasks
2020.09.23 03:10:36	NoQuieroPagar S.A. - WHOLESALE (EUR) - ...	ready	Sent	Auto rate export tasks
2020.09.12 03:10:34	NoQuieroPagar S.A. - WHOLESALE (EUR) - ...	ready	Sent	Auto rate export tasks

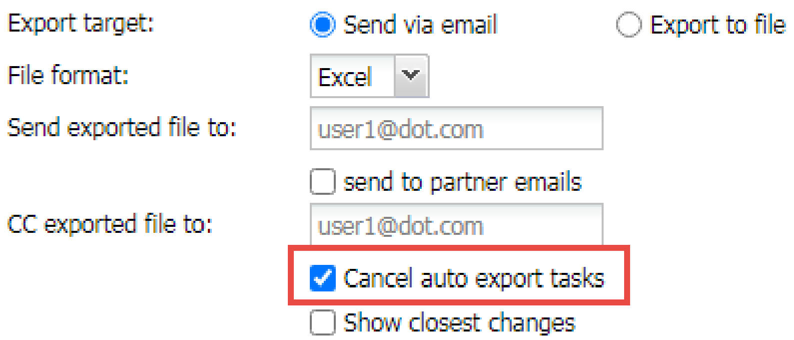
User name: Auto rate export tasks in the Rate export interface

The following record is also present in the *System log (Administration)* report if a task was created: *Export task created: TASK12345*.

If a change was made that does not meet the agreement terms, no task is created and the following record is reflected in the *System log (Administration)* report (can be filtered by *Operation: SMS auto rate send*): *Auto rate export triggered for the product ID 111 but there are no pending rates changes on 2020.01.01 00:00:00. No task created.*

If there are no changes applied during the past period (since the last launch of the System job), no task is created as well as no record is written to the *System log (Administration)* report.

Additionally the System provides an opportunity to cancel auto export tasks. This may come handy if the product has auto rate export enabled but the System owner has already sent out rate notification manually. The dedicated checkbox (*Rate export\Cancel auto export tasks*) is selected by default and follows the logic: if a specific product is selected for manual export with the selected flag, all the rate changes that have been gathered by the auto export logic are removed.



The Cancel auto rate export tasks checkbox of the Rate export interface

Note that by default the export task is not created if the client product's parent rates have been modified while the client product itself has no changes. To send out rates to client products in such cases, the System parameter *Send changes to child products if the parent products are changed* must be set to 1 (Administration\System settings\SMS rates 92). As soon as it is enabled, changes applied to parent rates will trigger rate export tasks for the child products even if the auto export has been disabled in the parent product directly (meaning that the child products' option will be taken into consideration).

12.3.4.3 Examples

All scenarios imply that the schedule of the System job is default (runs on the 10th minute of every hour). The agreement notification periods are specified for the child product.

Scenario 1

Suppose that there is a child product with the *Send partial price list* mode selected and the parent product with the *Do not send* mode. A new rate with the start date: 2021.12.15 09:00:00 was added to the child product on 2021.12.15 07:14:02.

1. In increase notification, days: 0

Rate changes auto send hours (comma separated): 11

The System job will be launched on 2021.12.15 11:10:00 and retrieve the change. However, no task is created as it will have the start date: 2021.12.15 00:00:00 and the rate's start date does not comply with the agreement's setting (in order for the change to be included to the export, the task must have the start date: 2021.12.15 09:00:00).

2. In increase notification, days: 0

   Rate changes auto send hours (comma separated): 6,7,9,10,15,17

No task will be created due to the following reasons:

- as the change was applied after the job launch on 07:10:00, the change will be taken into consideration when the job runs on 09:10:00. As the start date of an auto rate export task is 2021.12.15 07:00:00 (the previous hour from the System setting) and no suitable change was applied at that time, the change will not be included in the task
- the next job execution will be on 10:10:00, the start date of such a task could be suitable to reflect the change (2021.12.15 09:00:00), however it will have no effect as this change is no longer in the System's 'memory'.

3. In increase notification, days: 1

   Rate changes auto send hours (comma separated): 11

The System job will be launched on 2021.12.15 11:10:00 and will retrieve the change. As the possible start date for the task is 2021.12.15 00:00:00 and the change becomes effective within the period 2021.12.15 00:00-2021.12.16 00:00:00 (the task start date and the task start date+1 day from the agreement), the export task will be created.

Scenario 2

The child product has the *Send partial price list* mode and the parent product has the *Do not send* option. A new rate with the start date: 2021.12.20 09:00:00 was added to the parent product on 2021.12.15 09:14:02.

1. In increase notification, days: 1

   Rate changes auto send hours (comma separated): 11

The System job will be launched on 2021.12.15 11:10:00 and find the change, but no task will be created as it would have the start date: 2021.12.15 00:00:00 and the rate start date does not fit in the period 2021.12.15 00:00:00-2021.12.16 00:00:00.

2. In increase notification, days: 7

   Rate changes auto send hours (comma separated): 11

A task will be created on condition that the System parameter's value (*Send changes to child products if the parent products are changed*) is set to 1 as the rate start date is in the period between 2021.12.15 00:00:00 (task's start date) and 2021.12.22 00:00:00 (task's start date+the agreement period).

Scenario 3

The child product has the *Do not send* mode and the parent product is set to *Send full list*. A new rate with the start date: 2021.12.20 09:00:00 was added to the parent product on 2021.12.15 09:14:02.

No task will be created (even if a change could be considered suitable for inclusion in the export based on the agreement) as the client option does not imply auto rate export.

Scenario 4

The client product has the *Send partial price list* mode enabled. A new rate with the start date: 2021.12.20 09:00:00 was added to the product on 2021.12.15 09:14:02. Then a manual export task for all MCCMNCs was created on 2021.12.15 10:00:33 with the enabled flag *Cancel auto export tasks* for the same product.

1. In increase notification, days: 7

   Rate changes auto send hours (comma separated): 11

No task will be created (even though the rate could be considered suitable to be included in the export based on the agreement) as the client has already received the update and automatic tasks were canceled with the *Cancel auto export tasks* checkbox.

12.3.5 Rate import

Uploading of supplier ratesheets is probably the most common everyday task for any carrier. The key challenge of automatic rate upload is the diversity of ratesheet file formats used by carriers. Besides, it is important to automatically check the imported data for integrity, syntax and compliance of the rate details (increase dates in particular) with the interconnect agreement terms. Another significant parameter is the import speed. So we designed a tool for MS Excel ratesheet parsing that is robust, efficient and at the same time easy to understand and convenient to use.

The *SMS\Rates\Rate import* page enables uploading partner rate sheets to the System as .csv, .xls and .xlsx files. Rate import can be performed in two ways:

- Manually – the System owner manually configures the rate sheet format and launches import (further detailed in this section)
- Automatically – all incoming rate sheets are imported automatically based on a preconfigured import template (see SMS\Rates\Auto rate import 394)

The procedure for rate import is as follows:

1. The System owner creates a mailbox for receipt of partner rate sheets and communicates the email address to the Alaris support team to register it with the System
2. Vendors send their rate sheets to this email address; client rate sheets are uploaded to the System manually using the Upload file button. The rate sheet files are displayed at the *SMS\Rates\Rate import* page
3. In case of auto rate import, the files are imported in the System automatically
4. In case of manual rate import, the System owner performs rate sheet parsing in order to translate the file in the format that can be processed by the System (see SMS\Rates\Rate import\Rate sheet parsing 424 for more details)
5. The System owner analyzes the import results, makes corrections if necessary and applies the new rates to the System (or cancels the import)

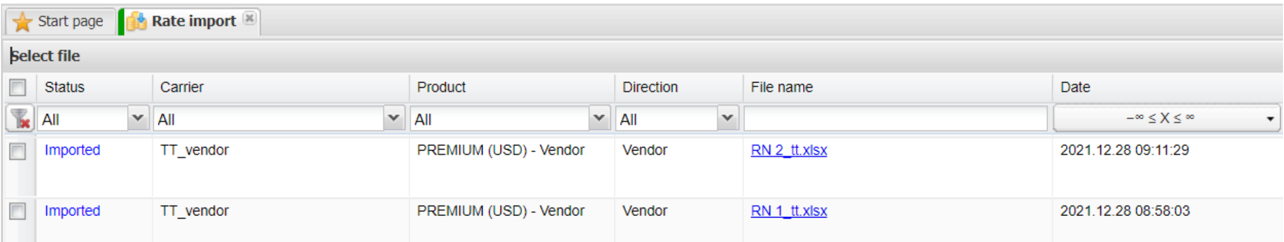
To start rate import:

1. Go to *SMS\Rates\Rate import*
2. Select a file in the *Select file* table
3. Supply appropriate values in the *Import settings* panel
4. Click Continue to proceed to rate sheet parsing

Below is a detailed overview of the *SMS\Rates\Rate import* page.

12.3.5.1 Rate import page overview

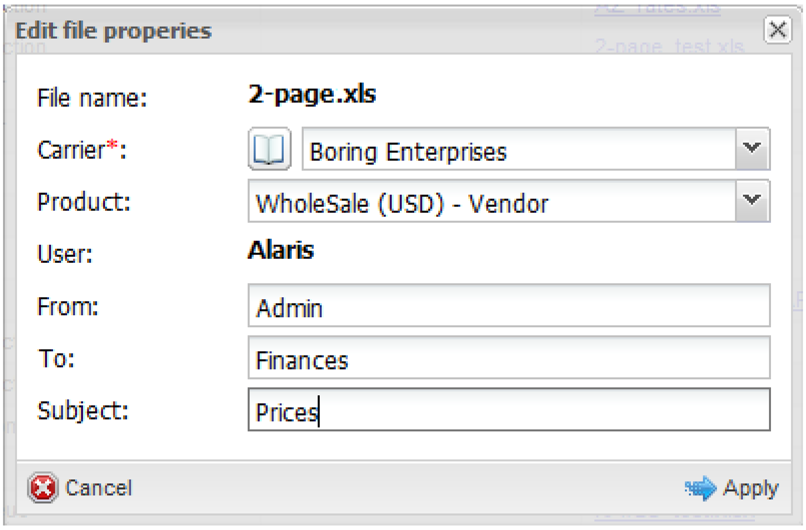
The *SMS\Rates\Rate import* page contains three sections: file import queue, *Tasks* and *Import settings*. The top left section is a file import queue that displays files both received to the email address and uploaded by the System owner.



File import queue

The table contains the following columns (self-explanatory columns are not described below):

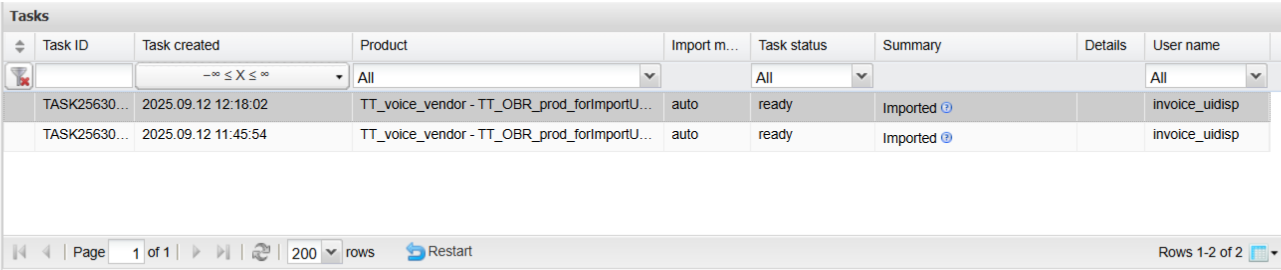
- *Status*: displays one of the following values: *Not imported* (has not been parsed), *Imported, Confirmed* (is set by the user to mark successfully imported files), *Ignored* (is set by the user to mark files not intended for import), *Canceled* (the import is canceled by the user – for example, after preview) and *Failed* (if any errors were found during auto rate import). Click *Set file status* Set file status *Set file status* below the table to change the status of selected records
- *Carrier*
- *Product*
- *Direction*: the partner direction
- *File name*: click on the file name to open the rate sheet file
- *Mail parameters*: *Mail from*, *Mail to* and *Mail subject* Click a record to edit the rate sheet file properties as illustrated below: *Carrier*, *Product* and mail parameters: *From*, *To* and *Subject*.



Edit file properties

The panel below the table contains the following buttons: *Delete* Delete - delete the selected record; *Upload file* Upload file - upload a file for import; *Set file status* Set file status - change the file status; *Auto import selected file* Auto import selected file - perform automatic import of the file; When applied, only errors with the *Step*: *Parsing* are verified. That is, if an error from the *Import* step is detected, auto import will not be canceled.

The bottom section of the page is the *Tasks* table containing import tasks (for both manual and auto import).



Tasks

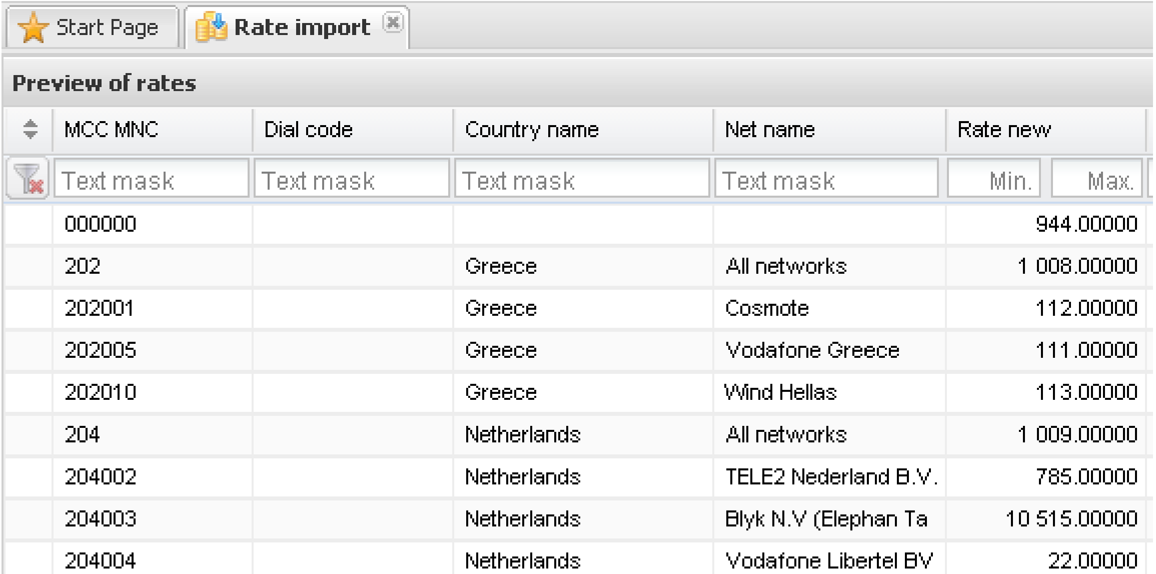
Task ID	Task created	Product	Import m...	Task status	Summary	Details	User name
	-∞ ≤ X ≤ ∞	All		All			All
TASK25630...	2025.09.12 12:18:02	TT_voice_vendor - TT_OBR_prod_forImportU...	auto	ready	Imported		invoice_uidisp
TASK25630...	2025.09.12 11:45:54	TT_voice_vendor - TT_OBR_prod_forImportU...	auto	ready	Imported		invoice_uidisp

Page 1 of 1 | 200 rows | Restart | Rows 1-2 of 2

Tasks

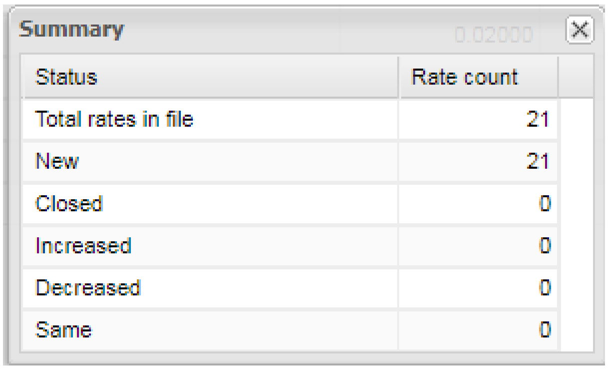
The table contains the following columns:

- *Import mode*: possible values are:
  - *auto*: import with additional analysis (available in the *Details* column)
  - *import*: import without a preview of results
  - *choice*: analysis with possibility to import rates into the product
- *Status*: possible values are:
  - *ready*: the task is complete
  - *new*: the task has just been created
  - *error*: the task resulted in error
  - *aborted*: the task has been canceled by the user or the System
  - *pending*: the status is currently out of use
  - *scheduled*: the task is scheduled for a specific time
  - *waiting*: the task is not yet completed by the user (e.g., the user has previewed rate results but has not applied them). It contains the view hyperlink that opens a preview of rates illustrated below (for the *choice* import mode).
- *Summary*: the task result. Click on the tasks that resulted in import to view the summary, in the format: *Valid rates found in file: 1*; *New rates added: 10*; *Existing rates expanded/closed: 0*; *Rates deleted: 0*
- *Details*: contains the view hyperlink that opens a preview of rates illustrated below (for the *choice* and *auto* import mode). Click *Back* Back to return to the previous page; click *Export to Excel* Export to Excel to view the table in MS Excel. Click *Show summary* Show summary to view rate import statistics



MCC MNC	Dial code	Country name	Net name	Rate new
000000				944.00000
202		Greece	All networks	1 008.00000
202001		Greece	Cosmote	112.00000
202005		Greece	Vodafone Greece	111.00000
202010		Greece	Wind Hellas	113.00000
204		Netherlands	All networks	1 009.00000
204002		Netherlands	TELE2 Nederland B.V.	785.00000
204003		Netherlands	Blyk N.V (Elephan Ta	10 515.00000
204004		Netherlands	Vodafone Libertel BV	22.00000

Preview of rates

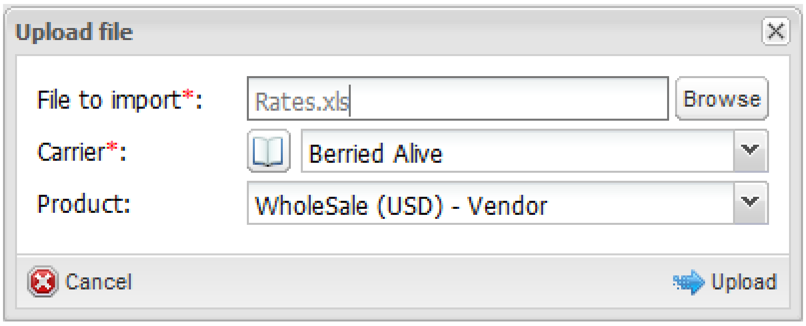


Status	Rate count
Total rates in file	21
New	21
Closed	0
Increased	0
Decreased	0
Same	0

Summary of imported rates

12.3.5.2 File upload

To upload a new file for rate import, click the Upload file *Upload file* button on the bottom toolbar of the *Rate import* page. In the *Upload file* window, specify the carrier and product for the rate import and add the ratesheet file to upload (must be in the .csv, .xls or .xlsx format).

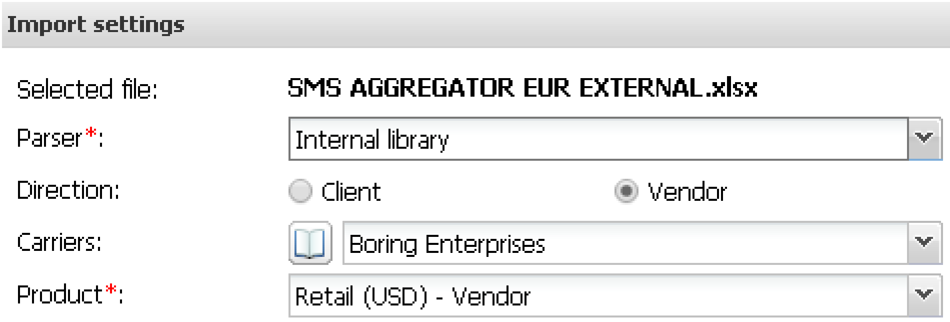


Upload file window

When through with defining the imported file, click Upload *Upload* to upload the file or Cancel *Cancel* to discard the settings.

12.3.5.3 Import settings menu

Click on the uploaded file in the *Select file* table to activate the *Import settings* view located to the right of the table.



Import settings view

The *Import settings* view contains the following parameters:

- *Selected file* (not editable): indicates the name of the selected uploaded ratesheet
- *Parser*: parser for converting of the source file into the System structure. The default (and recommended) value is *Internal library*; try other values only if the output file is illegible
- *Direction (Client* or *Vendor)*: defines whether to import the selected ratesheet to a client or vendor product

NOTE: It is possible to limit the user rights to importing only client or only vendor products (See Administration\Users 158, *Roles* section of the *Add/Edit* tab, *SMS rate import* right)

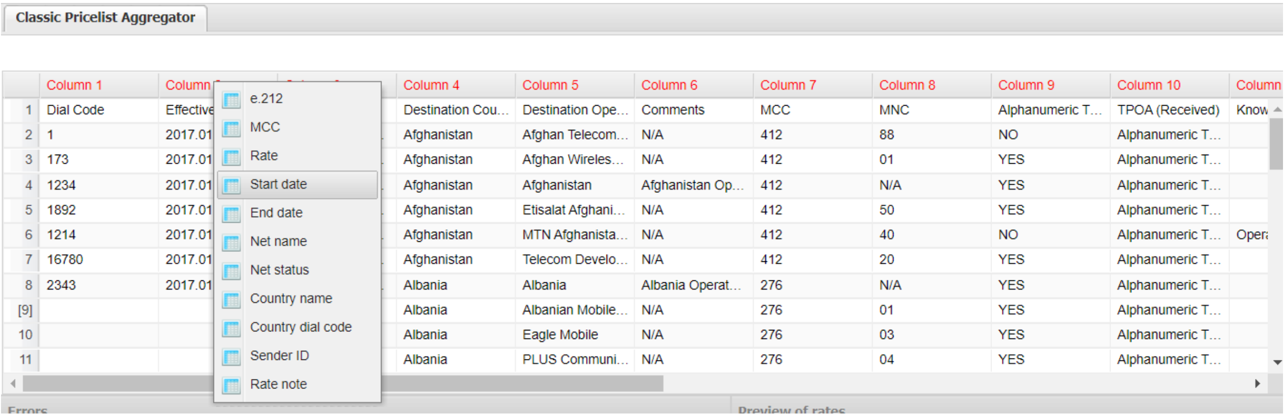
- *Carriers*: defines the carrier for rate import (by default is set to the carrier selected during the file upload)
- *Product*: defines the selected carrier's product for rate import

When through with defining the import settings, click Continue *Continue* to open the *Parser settings* page.

NOTE: If opening the page takes longer than ten minutes, the System aborts the operation. It means that there may be a problem with the file.

12.3.5.4 Rate sheet parsing

Once the selected rate sheet file is opened for parsing, the System shows a preview of its contents the way it looks in MS Excel. Everything is shown "as is" – all cell contents and the overall file structure (sequence and naming of columns and worksheets) is preserved at this stage.



Source file preview

The user can view the column headers and the data that may be above the rates (some important comments are often placed there by vendors).

NOTE: Images from the original rate sheet file are not displayed.

To make the System able to parse the file, define the column types by clicking on the headers of the table, so that the System knows where to take dial codes, rates etc. You do not have to define all columns in the original file – many of them contain auxiliary data that is not required by the rate import process. The following column types are available:

- *Sender e.212*: the sender E212 code. The value is available only if the product into which the rates are exported has the selected checkbox *Use sender MCCMNC based rates* (see Carriers\Products 180 for more details)

- *e.212*: up to 3 columns containing the E212 code. It is applicable when full E212 codes are given in one column rather than with the MCC and MNC split to two columns (if the E212 column is selected, the *MCC* column becomes unavailable). All the parsed MCCMNCs in different columns will be treated as separate MCCMNCs and imported as different rates. Several e.212 columns are parsed in the order as they were set by the user. Only numeric values are eligible to be imported in those columns. E.212 records with alphanumeric content will be ignored

NOTE: Hyphen-separated MCCMNCs (for example, "636-01") are supported in the *e.212* column. Also, all e212 columns support multiple MCCMNCs separated with the | delimiter, dot or comma.

- *MCC*: MCC code column, in case E212 codes are split in two columns in the file (if the *MCC* column is selected, the *E212* column becomes unavailable and the *MNC* column shows up on the menu)

- *MNC*: MNC code, in case E212 codes are split in two columns in the file (only available if the *MCC* column is selected)

- *Rate*: termination price for the E212 code (the rate currency is defined by the currency of the partner account the product belongs to)

- *Start date*: effective date/time for the imported rates (if provided as a column in the file)

- *End date*: expiration date/time of imported rates (if provided as a column in the file)

NOTE: It is possible to import consecutive rates for one MCCMNC. For example, if a partner sends two rates for the same MCCMNC with different and non-overlapping active periods (for instance, from 2016.01.01 to 2017.02.28 and from 2017.03.01 to 2099.01.01), the System will be able to process such a file without warnings or errors, and both rates will be imported.

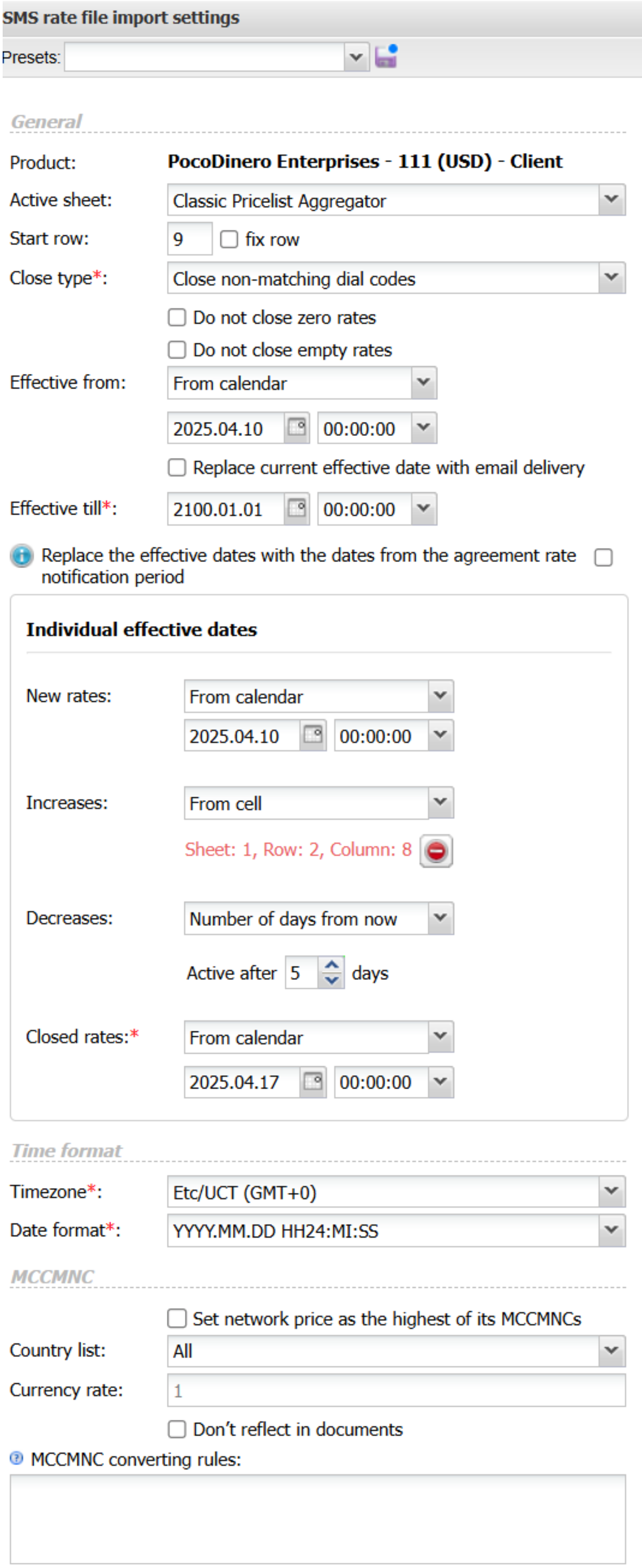
NOTE: Importing a rate with the start date equal to the end date will delete an existing rate, the effective period of which includes the start/end date of the imported price.

- *Net name*: name of the mobile network the E212 code belongs to
- *Net status*: network availability
- *Country name*: along with the *Net name* column, has no effect on the uploaded rates as the rates' country and net names are fetched from the SMS\Reference books\e.212/e.164 reference book editor 439 interface
- *Country dial code* (maximum dial code length is 16 digits; longer codes will be trimmed). The column comes in handy when the same MCC represents several countries and, as a result, has different dial codes. If one MCC/MCCMNC is assigned to one dial code in the rate sheet, the dial codes will not be imported. If the "plus" symbol "+" is specified at the beginning of the code, it will be deleted
- *Sender ID:* the rate's dial code

NOTE: The user cannot simultaneously specify both *Country dial code* and *Sender ID* columns for products with the *Use sender MCCMNC based rates* setting disabled. If one of the columns is assigned, the other becomes disabled.

- *Rate note*: arbitrary comments

NOTE: The only required columns are *MCC/MNC* (or *e.212*) and *Rate*. If the product has *Use sender MCCMNC based rates* enabled, the required columns are *MCC/MNC* (or *e.212*), *e.212* and *Rate*.



SMS rate file import settings

Once the column headers are defined, configure the parameters in the SMS rate file import settings panel (the parameters are disabled if the data is already contained in the preview table).

- *Active sheet*: select the spreadsheet that will be parsed (in case the original MS Excel file contains several spreadsheets)
- *Start row*: define the first row with the rate data, so that the System ignores everything that is above the rate table in the file. Check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Close type*: select the appropriate value (the default value depends on the *Default close type* system parameter):
  - *Update only rates for fully matching dial codes*: matching rates will be updated, and all other rates will remain unchanged
  - *Close non-matching dial codes*: close all non-matching rates
  - *Full country*: close all rates for the countries whose MCCMNCs are not in the rate sheet provided that at least one MCCMNC of the country is in the sheet. Note that if no network of a country is mentioned in the rate sheet, no change will be applied to this country. Example: if a product has active rates to the following networks:
214001
214002
214003
470001
470002
Once a file with the MCCMNCs 214001 and 214002 in the *Full country* mode is uploaded, MCCMNC 214003 will be closed (since networks belonging to MCC 214 are in the file while 214003 that belongs to the same country - is not). MCCMNCs 470001, 470002 will not be changed or closed since no MCC 470 is present in the file.
- *Do not close zero rates* (available if the *Close type* field is set to anything but *Full country*): when deselected, zero rates will be closed

---

NOTE: Check the parameter *Price values to be considered as closed* (System settings\SMS rates 92). Its default value is "-" (dash), which means that rates containing "-" (dash) will be closed. To ignore such rates, delete the "-" (dash) value from the parameter.

- *Do not close empty rates* (available if the *Close type* field is set to anything but *Full country*): when enabled, if the *Rate* field is empty, such rate will be ignored instead of being closed by the *Effective from* date

---

NOTE: Check the parameter *Price values to be considered as blocked* (System settings\SMS rates 92). Its default value is "-" (dash), which means that rates containing "-" (dash) will be blocked. To ignore such rates, delete the "-" (dash) value from the parameter. The parameter *Price values to be considered as closed* has a priority over *Price values to be considered as blocked*

- *Effective from*: select the date or indicate the number of days in the following parameter
- *Replace current effective date with email delivery date* (available if the *Start date* column is defined in the file): if enabled and the date from the *Start date* column matches the current date, but does not contain specific hours and minutes, then the rate effective date is set to the email receipt time. If the date from the *Start date* column does not match the current day or if there are specific hours and minutes in the date, the date and time values from the *Start date* column are used
- *Effective till*: use the default value

- *Replace the effective dates with the dates from the agreement rate notification period*: when selected, dates from the Individual effective dates fields (see below) will be ignored if in violation of In/out increase/decrease/new rate/close rate notification, days (Carriers\Agreements 171). The ignored dates will be replaced with the ones taken from the rate notification periods from the agreement
- *Individual effective dates*: the section serves to specify the effective dates for each type of rate change. Click to unfold the fields. Each type of change (*New rates*, *Increases*, *Decreases* and *Closed rates*) has the following date configuration controls:
  - Source from which the date must be taken:
    - *From cell*: when selected, the *Choose new date from cell* control becomes available. Click on it and select the cell in the source file preview. The cell coordinates will be displayed as in the following example: *Sheet: 1, Row: 2, Column: 7*. Click to deselect the cell
    - *From calendar:* select the date in the calendar control that becomes available when the option is selected
    - *Number of days from now*: specify the number of days from the current date in the edit box that that becomes available when the option is selected

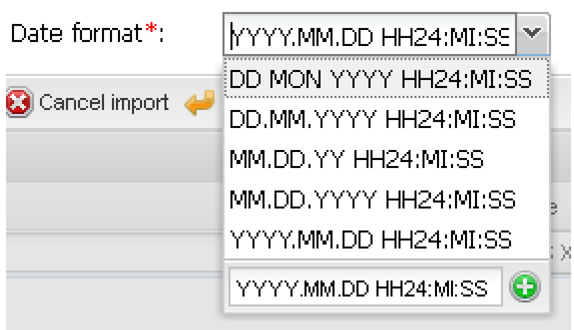
NOTE: If the start date is specified in the file it has priority over the dates specified in the rate import settings.

NOTE: The default value for the *Closed rates* field is set to *From calendar* and is calculated by automatically adding to the current date the number of days from the partner agreement as defined in the *In/Out close rate notification, days* parameter for the client and vendor sides respectively.

- *Timezone*: define the partner time zone.

NOTE: It is good practice to use the GMT time zone in order to eliminate possible time zone discrepancies.

- *Date format*: format of the effective dates if they are provided in the file - i.e. if the *Start date* and *End date* columns are defined. If required, set up a custom format in the bottom field of the drop-down list of available formats. To review some non-conventional date, refer to Reference books\Datetime patterns 280



Date format

- *Set network price as the highest of its MCCMNCs*: when selected, the highest price is selected for different MCCMNCs that have the same country and network combination in the reference book
- *Country list*: define the list of countries to import or ignore rates belonging to these countries
- *Currency rate*: currency exchange rate index. The System will multiply the rate by the value set in this parameter - for example, if the value is *1*, the imported rate will remain the same. See also the Alaris YouTube video
- *Don't reflect in documents* (available if the internal System parameter *Enable 'ignorable rates' in SMS rate import* is active): select to allow backdate import of rates and avoid creation of correctional invoices. Rates with the enabled checkbox will be added to an internal table. When the System attempts to create a correctional invoice, the table will be verified, and the financial records with the same product and MCCMNC for the appropriate period will not be included in the correctional invoice. To make the checkbox available, contact the Alaris technical support team, provide the code BZ55213 and ask to activate the System parameter *Enable 'ignorable rates' in SMS rate import*
- *MCCMNC converting rules*: configure MCCMNC translation rules. The rules allow using regular expressions to determine how source MCCMNCs must be changed

NOTE: The rules are applied after e.212 unification (codes are expended to 6 digits by adding leading zeros to the MNC when necessary). For example, to convert 722031 to 723310 add the following row: 722031;723310. To replace the MCC code, use the expression of the following type: 723(.*);725\1 In this example, MCC 723 will be replaced with 725.

NOTE: Rate effective dates are defined in the order explained in Logic of selecting rate start dates 433.

Click Check *Check* to check the file before the actual import. To clear the parser settings click Reset *Reset*. To cancel and return to the previous page, click Cancel import *Cancel import*.

The file import settings can be saved as a preset. Presets allow quick access to preconfigured settings and are also used in automatic import of rate sheets (see SMS\Rates\Auto rate import 394 for more details). Type the new preset name in the *Presets* field at the top of the panel or select an existing one from the drop-down list and click Save. To open a preset, select it in the drop-down list and click Load *Load*.

Presets toolbar

12.3.5.5 Preview of rates

Once the System has processed the rate file (and before the new rates are applied), it shows a preview of the parsed rates and a list of errors that must be shown to the user before committing the new data to the database. The *Preview of rates* is illustrated below.

Preview of rates

e.212	D...	Country	Net	New rate	Old rate	Start date	End date	Change type	Rate difference	Rate note
202030		Greece	undefined	0.00030	0.00030	2023.03.24 00:00:00	2100.01.01 00:00:00	Same	0	
206032		Belgium	undefined	0.00400	0.00040	2023.03.29 00:00:00	2100.01.01 00:00:00	Increase	0.0036	
208033		France	undefined	0.00040	0.00040	2023.03.24 00:00:00	2100.01.01 00:00:00	Same	0	
213376		Andorra	undefined	0.00009	0.00009	2023.03.24 00:00:00	2100.01.01 00:00:00	Same	0	
216036		Hungary	undefined	0.00018	0.00018	2023.03.24 00:00:00	2100.01.01 00:00:00	Same	0	
218387		Bosnia	undefined	0.00018	0.00018	2023.03.24 00:00:00	2100.01.01 00:00:00	Same	0	

Preview of rates

NOTE: The values in the *Old rate* column will be italicized if the comparison between the newly uploaded (new) and current rate is taken from the corresponding MCC. For example, if a new rate for 234003 is loaded and at the same time the product has a rate for 234, the price comparison can be done based on the shorter MCC.

Errors

R...	Error name	Error info
45	e.212 uniqueness violated	This record has e.212 code 505 w...
72	e.212 code not numeric	Supplied e.212 code: N/A
150	Rate for network withou...	Supplied e.212 code: 237006
152	e.212 has invalid length	Supplied e.212 code: 00
159	e.212 uniqueness violated	This record has e.212 code 302 w...
232	Rate for network withou...	Supplied e.212 code: 467
282	Rate for network withou...	Supplied e.212 code: 750
286	e.212 uniqueness violated	This record has e.212 code 54200...

Errors

The *Errors* panel contains the following columns:

- *Row number*: the row in the original MS Excel rate sheet where the error is found
- *Error name*: error message type. Possible values are:
  - *e212 code not numeric*
  - *e212 code has invalid length*
  - *e212 uniqueness violated*: one and the same E212 code is present in the file more than once. One of the possible reasons is that some vendors send E212 codes where the MCC code consists of 3 digits as expected, but the MNC code may be either empty or contain 1 or 2 digits (but not 3). Otherwise, there may be an E212 code having 3, 4 or 5 digits in it. In case of empty MNC or a 3-digit E212 code, the System leaves it the way it has arrived, as this may be a case when an entire country is sold flat-rate. In case of a 1- or 2-digit MNC it adds extra zeros (2 or 1 respectively) at the beginning of the MNC, so that it has 3 digits in it. For example, the E212 codes 2141 and 21401 will be converted to 214 001 (while 214 will remain 214). In case the regular 6-digit MCCMNC code is also present in the file besides its “shortened” cognates (e.g. 214001 vs. 21401), the outcome of such code conversion will be two identical E212 codes – and that will result in error
  - *Rate parsing error*

NOTE: If a rate parsing error is found (for example, a rate is not numeric), other parsing errors are not checked and not displayed in the list.

- *Rate for network without dial codes*: the MCC/MNC code does not exist in the E212 reference book; alternatively, the MCC/MNC code exists but is not linked to any dial code
  - Past period rate added (less than 1 day ago)
  - Past period rate added (more than 1 day ago)
  - Past period rate increase (less than 1 day ago)
  - Past period rate increase (more than 1 day ago)
  - Past period rate decrease (less than 1 day ago)
  - Past period rate decrease (more than 1 day ago)

NOTE: Issues of the less than 1 day ago type track changes between the previous day and the current day (00:00 hours), while issues of the more than 1 day ago type track a period older than the previous day. The allows tracking situations when there is no date overrun, but the issue occurs due to time zone shifts.

- *Error info*: message details

Send the error descriptions to the partner for corrections. In case of reference book-related errors, make the necessary amendments in the original MS Excel file and upload it back to the System.

After the import messages are reviewed, the user can either cancel the import or apply the new rates. Click Run import *Run import* and select one of the following options:

- *Auto*: import with additional analysis (available in the *Details* column)
- *Choice*: manual import with a preview of results
- *Import*: import without a preview of results

NOTE: All errors and warnings will be ignored in the preview and imported file.

The user is then returned to the SMS\Rates\Rate import421 page; the task appears in the *Tasks* panel (see the figure above).

NOTE: If no rows were found suitable for import, the file status is marked *Not imported*. See also the Alaris YouTube video.

To see the preview of import results (*Choice* and *Auto* options only) click *view* in the *Details* column.

SMS (20190329184401267)(HKG_HGC-GBR_DIGT)(PL)(EUR)(DIGI-TOUCH-SMS-A2P)(1)FinalPL.xlsx (

MCCMNC	Dial ...	Country name	Net name	Rate new		Rate old	
Text mask	Text m	Text mask	Text mask	Min.	Max.	Min	Ma
202		Greece	All networks	0.03270		-	
202001		Greece	Cosmote	0.80000		0.80000	
202001		Greece	Cosmote	0.03270		0.80000	
202005		Greece	Greece	0.70000		0.70000	
202005		Greece	Greece	0.03110		0.70000	
202007	30	Greece	sa_test	0.50000		0.50000	
202009		Greece	Wind Hellas	0.01200		0.01200	
202009		Greece	Wind Hellas	0.03270		0.01200	

Import results

NOTE: The *Warning* column of the import results page contains warning messages. For example, the *Rate is blocked* message is displayed for rates that contain a zero price. See also the Alaris YouTube video.

The import results preview contains the Show summary button that displays the details of the changes (*Total rates* / *New* / *Increased* / *Decreased* / *Closed / Same*).

To view the summary of import results, click the appropriate cell in the *Summary* column.

Valid rates found in file: 1017; New rates added: 0; Existing rates expanded/closed: 0; Rates deleted: 0.

Summary of import results

12.3.5.6 Logic of selecting rate start dates

If a rate sheet is imported manually, the following order is applied:

1. The dates from the *Start date* column
2. The individual dates from the *Individual effective dates* section
3. The date set in the *Effective from* field (given that the individual date cannot be parsed from the cell or the datetime control is left empty)
4. The current date and time (given that the *Effective from* date cannot be parsed from the cell or the datetime control is left empty)

During auto rate import, the following logic is considered:

1. The dates from the *Start date* column
2. The individual dates from the *Individual effective dates* section if the type is *From cell* or *Number of days from now*
3. The date set in the *Effective from* field (given that the individual date cannot be parsed from the cell or the datetime control is left empty and the control is set to *From calendar* or *Number of days from now*)
4. The date and time of rate sheet file receipt (if not possible to recognize: the current date and time)

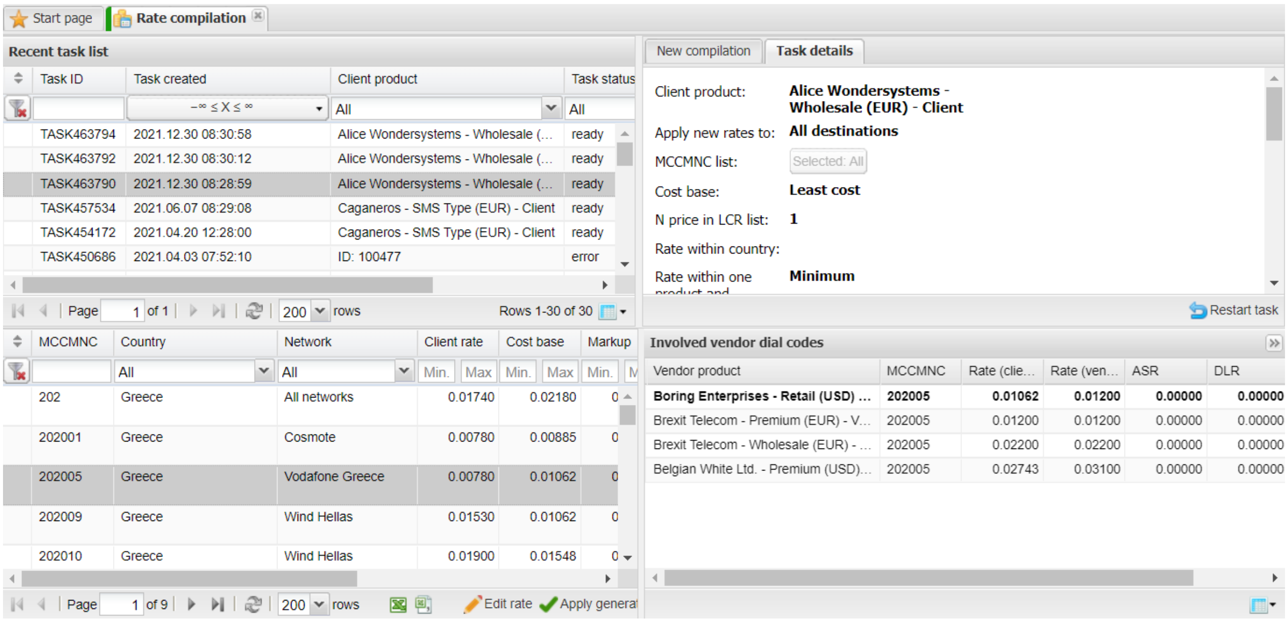
If a rate with an empty value is closed (provided that the *Do not close empty rates* checkbox has not been selected), the *Start date* column is used to define the closure date. If it is not parsed, the file receipt date and time (for auto rate import) or the file upload time (for manual import) is applied.

NOTE: The *Timezone* parameter is taken into account to calculate the *Start date* as well.

NOTE: The *Replace the effective dates with the dates from the agreement rate notification period* flag overwrites the order described above.

12.3.6 Rate compilation

The *SMS\Rates\Rate compilation* page serves to generate new rate plans for clients based on available vendor rates and the desired markup. It is similar to the Rate generator (Rates) 315 report, but additionally provides extra features - for example, enables the user to apply newly created rate plans or export them to an MS Excel file.

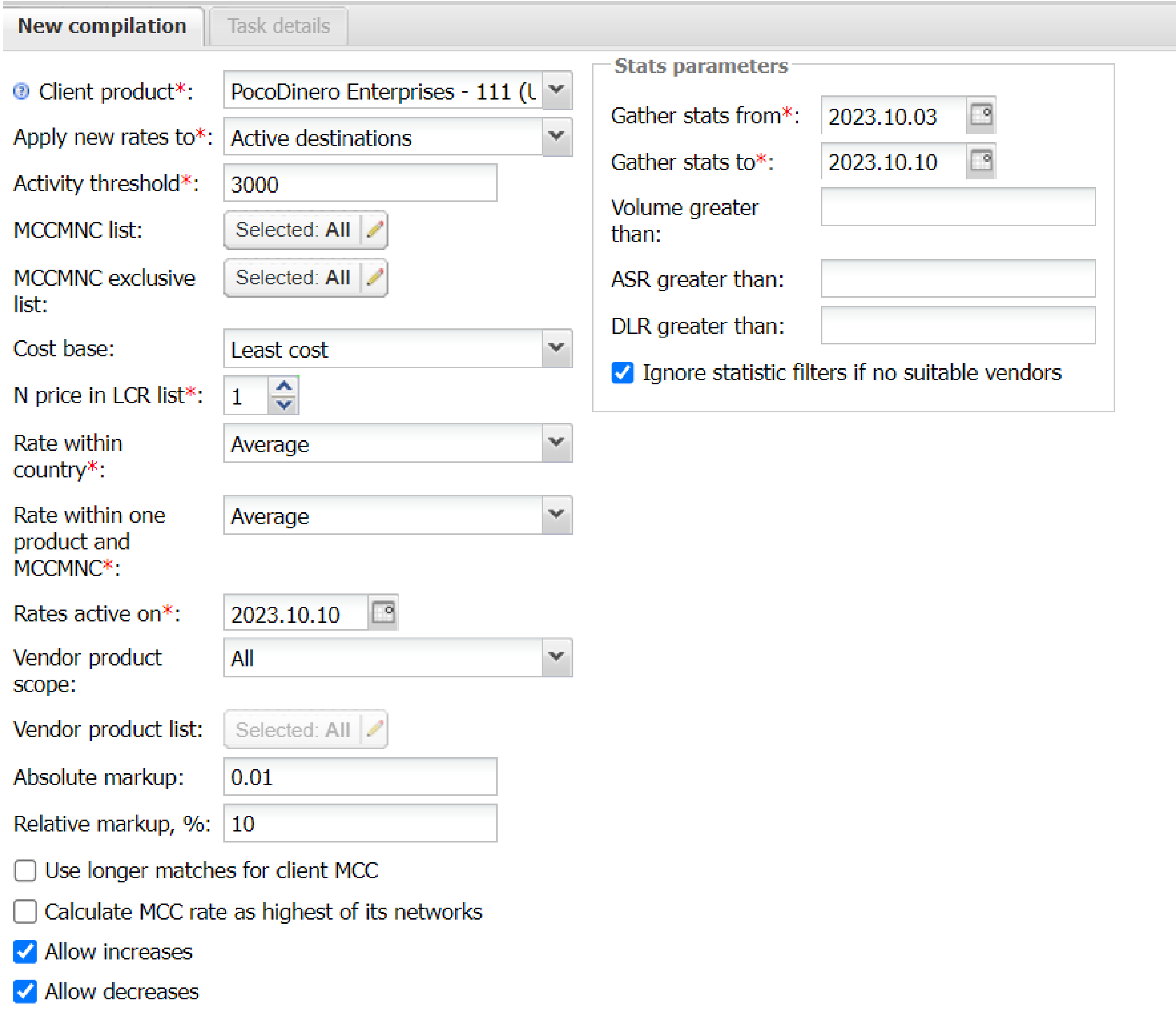


Rate compilation page

The page consists of four parts:

- The top left section is a table of created/completed tasks
- The top right section contains the *New compilation* tab sheet that serves to create a new task, and the *Task details* tab sheet that provides information on an existing task
- The bottom left section is a table of rates generated for a selected task: source data (MCCMNC, price, country, network) as well as compilation output (cost base, markup, rate change, warnings). The user can sort the table by any column.
- The bottom right section is the *Involved vendor dial codes* table containing a list of vendors that were considered for a specific MCCMNC (dial code) for the rate selected in the bottom left section

NOTE: The section shows only actual rates and does not include rates with the BLOCKED rate note.



New compilation

The *New compilation* tab sheet contains the following parameters:

- *Client product*: the source rate plan from which the list of MCCMNCs and prices is obtained

NOTE: MCCMNCs present in the selected client product will be chosen as the basis for rate compilation. If the product has no rates, no rates will be created as a result of rate compilation.

- *Apply new rates to*: serves to select rates to be used based on the activity of destinations. Possible values include:
  - *All destinations*: all rates are selected
  - *Active destinations*
  - *Inactive destinations*. When options *Active destinations* or *Inactive destinations* are selected, the *Activity threshold* field appears that serves to indicate the threshold number of SMS for the destination. In this way the user can offer its partners better rates for new destinations while keeping the active destinations as they are. Find out more in the Alaris YouTube video
- *MCCMNC list*: contains filters by country/network. The maximum allowed number of symbols is 3,000

- *MCCMNC exclusive list*: serves to exclude MCCMNCs from the compilation
- *Cost base*: defines the calculation principle of termination base cost. Values include:
  - *Least cost*: vendor rates are sorted from the least expensive to the most expensive and the rate generator picks the Nth record from the list based on the setting *N price in LCR list*
  - *Average*: the System takes all qualifying vendor's traffic and defines the average weighed cost of one SMS as the base cost of termination
  - *Weighted average*: the System uses statistics to determine vendor cost for the period specified by the parameters *Gather stats from/to* and calculates an average based on the amount of traffic sent to each of the vendors
- *Rate within country*: serves to select how rates within a country must be treated. Possible values are:
  - *Default*: assign each network its own rate
  - *Minimum*: assign the minimum rate to all networks within a country
  - *Average*: assign the average rate to all networks within a country
  - *Maximum:* assign the maximum rate to all networks within a country
- *Rate within one product and MCCMNC*: aggregating function for multiple vendor rates that share the same MCCMNC but have different dial codes. Possible values are:
  - *Minimum*
  - *Average*
  - *Maximum*
- *Rates active on*: effective date for client and vendor rates
- *Vendor product scope*: select *Inclusive/Exclusive list*
- *Vendor product list*: select applicable vendors only products of the *SMS* type are available)
- *Absolute/Relative markup, %*: value added to the cost base (in client currency or percentage of the base respectively). When both are used, relative markup is added first. Zero values ("0") can be used

NOTE: The *Relative markup, %* field value must be set as an integer (for example, 50). The value is treated as percentage.

- *Use longer matches for client MCC*: check the flag if the client offers a flat rate for an MCC and the vendor offers multiple rates for the MCC. For example, the client offers 202 for Greece and the vendor has rates for 202001, 202002 etc. In case of multiple matches for the client MCC (for example, 202001, 202002 etc.), the System will pick the match with the highest vendor rate.
- *Calculate MCC rate as highest of its networks*: when this checkbox is selected, the System picks the highest MCCMNC rate within an MCC. Example: suppose the vendor rate for MCC 214 is 0.1 while for MCCMNC 214001 it is 0.2. This option will change the vendor rate for MCC 214 to 0.2
- *Allow increases/decreases*: the System generator is allowed to change price to more/less expensive than the original rate
- Stats parameters:

- *Gather stats from/to*: period to calculate vendor statistics

- *Volume/ASR/DLR greater than*: filter involved vendors by their stats values (*ASR/DLR greater than* are specified in per cent)

- *Ignore statistic filters if no suitable vendors*: when selected, and if *ASR greater than,* and/or *DLR greater than* and/or *Volume greater than* values are set and no suitable vendors have been found for them, all available vendors are selected. Learn more in the [Alaris YouTube video]

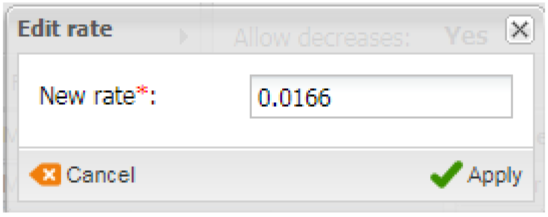
Click Run to generate the rates. A new task will appear in the *Recent task list* section; the task details will be shown in the *Task details* tab sheet.

The *Presets* toolbar at the bottom of the *New compilation* tab sheet enables the user to create, upload and delete pre-set templates:

Presets toolbar

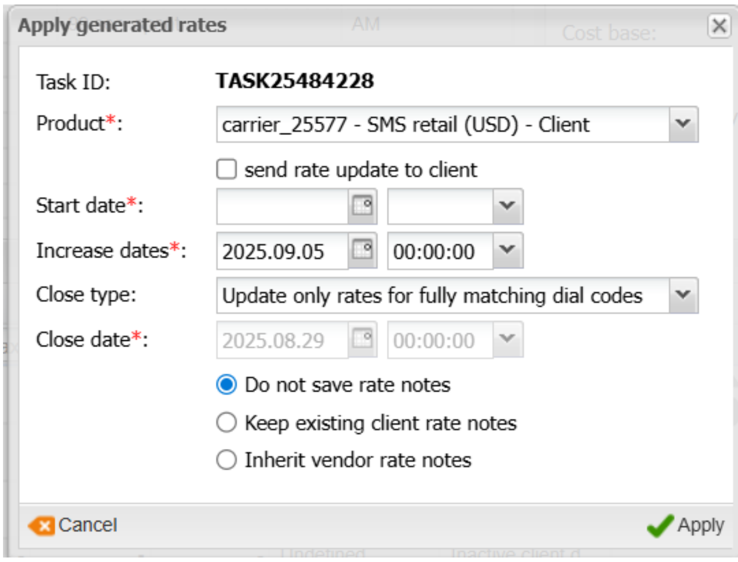
Click Edit rate to edit the rate selected in the bottom left section, or double-click on the record. Enter the appropriate value in the dialog that appears and click Apply.

NOTE: Edited rates will be highlighted in bold italic font in the bottom left section.



Edit rate dialog

Click Apply generated rates *Apply generated rates* to apply the rates created in the task that is selected in the *Recent task list* table.



Apply generated rates dialog

In the dialog that appears, specify the appropriate parameters:

- *Product*: select the product to which the rates will be applied
- *Send rate update to client*: when selected, an export task is created and the rate sheet is sent to the partner carrier to inform of the changes, with the *Export type = changes pending at* and the *Start date* equal to the earliest of the dates set in the fields *Start dates* and *Increase dates* of the *Apply generated rates* dialog. See the feature overview in the Alaris YouTube video

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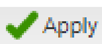
NOTE: In order to receive notifications, the partner carrier must have the *Default rate change emails* field configured in Carriers\Agreements 171.

- *Start dates*: start date for the new rates
- *Increase date*: effective date for increased rates

NOTE: The *Increase dates* field is filled in automatically according to the *In increase notification, days* period configured in the Agreement.

- *Close type*: select one of the values:
    - *Update only rates for fully matching dial codes*: matching rates will be updated, and all other rates will remain unchanged
    - *Close non-matching dial codes*: close all non-matching rates
- *Do not save rate notes* (default value): if selected, rate notes are reset when generating rates
- *Keep existing client rate notes*: if selected, rate notes are not reset when generating rates
- *Inherit vendor rate notes* (available only for tasks created with *Cost base: Least cost* and the *Calculate MCC rate as highest of its networks* flag disabled)

Click *Apply* 

 to save the settings.

NOTE: Outdated rate generation tasks are removed every night (only the last 30 tasks are kept in the System) in order to ensure quick execution of tasks.

12.3.7 Rate management tools

Two important rate management tools - LCR Analysis and Rate generator - are implemented in the Reports 439 section. Refer to Reports\LCR Analysis (Reference) 307 and Reports\Rate generator (Rates) 315 for more details.

12.4 Reference books

In the SMS industry charges are typically based not on “standard” E164 dial codes, but on a special type of codes intended to address mobile networks rather than geographic areas. That special standard is called E212. On a large scale it brings forward two major items extensively used in the mobile communications industry:

- MCC: mobile country code, a 3-digit code of the country the target mobile network is located in. There may be more than one MCC per country
- MNC: mobile network code, a 2- or 3-digit code of the target mobile network

MCC and MNC codes are used together as E212 codes. In the inter-carrier settlements there may be cases when a particular E212 dial code traded by a particular carrier has no MNC – meaning that an entire country is bought or sold flat-rate.

While interconnect rates are usually based on E212 codes, SMS messages contain only E164 numbers of addressed mobile subscribers. Therefore, the ability to match E164 numbers with the respective E212 codes is required to correctly estimate the SMS cost for the customer and vendor. For that purpose the System has a reference book that stores E212 E164 code combinations, as well as mobile network names and country names for E212 codes. All rating- and routing-related procedures are dependent on this reference book, so it should always contain complete and accurate data to avoid billing mismatches.

NOTE: The System comes with a basic version of the reference book. It is recommended to keep it regularly updated.

The *SMS/Reference books* section consists the following pages: *E212/E164 reference book editor, E212/E164 reference book import, Billing status presets and IM channels*.

12.4.1 E212/E164 reference book editor

The *E212/E164 reference book editor* interface consists of two tab sheets - *Editor* and *Rollback*. *Editor* enables the user to review, create and edit entries in the E212/E164 reference book. Rollback serves for reverting changes applied to the reference book.

The *Editor* tab sheet is divided into four panels. The left panels contain the button at the bottom that serves to export the table to an MS Excel file.

The top left panel is a table of registered E212 codes.

Editor | Rollback

ID	MCCMNC	Net	Country	Country code	Start date	End date	LOT	Description
886141	419 999	Fix Line	Kuwait	965	2023.03.21	2100.01.01	50	
861133	539 001	U-Call (Tonga Communications Corp...	Tonga	676	2000.01.01	2023.03.21	49	

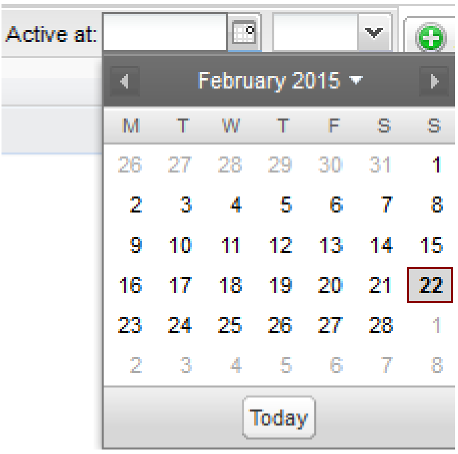
E212 codes

Use text masks under the column headers to filter the records in the table. Use the button in the upper left corner to clear the filter.

- *ID*: internal identification number (the icon shows the record creation/modification date and author)
- *MCCMNC*: Mobile Country Codes/Mobile Network Codes
- *Net*: name of the mobile network the e.212 code belongs to
- *Country*: name of the country the e.212 code belongs to
- *Country code*: code of the country in e.164 format (optional)
- *Start date/End date*: period of the record validity (normally default values are used to set up an indefinite period)
- *LOT*: level of trust index (from 0 to 100). This parameter defines the level of trust in the source of information placed into the e.212/e.164 reference book. For example, Home Location Register always gives authentic information about e.164/MCCMNC code matching, while some vendor's price list could be less reliable

NOTE: Several records for the same MCCMNC and different LOT indices can exist in the table; only the record with the highest LOT will be used for billing and routing. However, it is recommended to timely verify the information and delete irrelevant records with the same MCCMNC to avoid confusion.

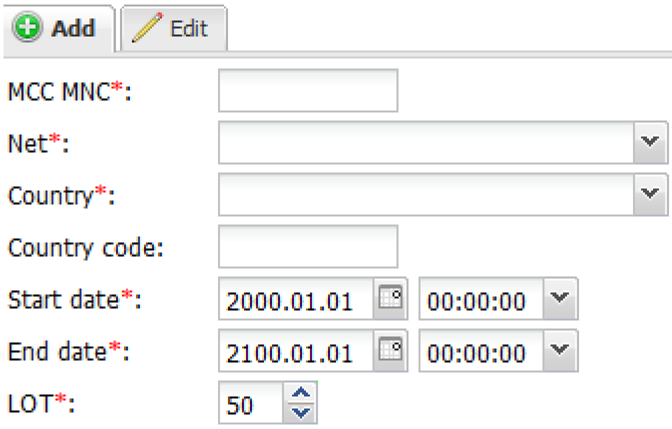
Displayed codes can also be filtered according to their validity by setting a date and time in the *Active at* tool bar:



The "Active at" tool bar

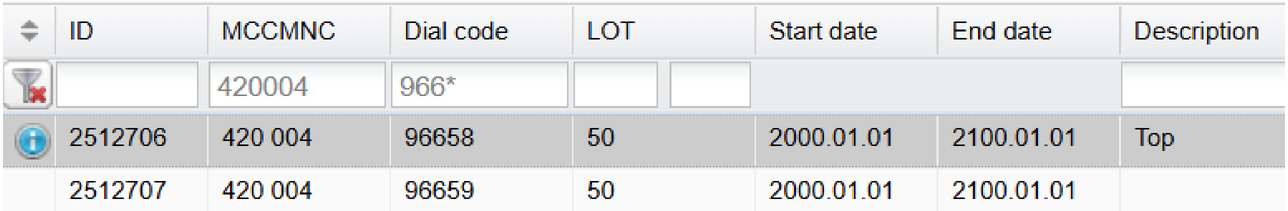
The *Add* and *Edit* tabs in the upper right corner of the page allow editing records and creating new ones. To activate the *Edit* tab, click on the record in the table. Enter the required parameters. Fields marked with an asterisk (*) are required.

NOTE: When a new country is added to the *Add code* tab, it automatically appears in the *Country region* tab of Reference books\Regions 275. See also the Alaris YouTube video.



Add code tab

The bottom left panel shows a table of e.164 codes matching the e.212 codes. A single e.164 code may match only one e.212 code, while a single e.212 code may match multiple e.164 prefixes.



	ID	MCCMNC	Dial code	LOT	Start date	End date	Description
		420004	966*				
	2512706	420 004	96658	50	2000.01.01	2100.01.01	Top
	2512707	420 004	96659	50	2000.01.01	2100.01.01	

E164 codes

Click on the record in the top table of e.212 codes. The matching e.164 code will appear in the bottom table. The table contains the following information:

- *ID*: internal identification number (the icon shows the record creation/modification date and author)
- *MCCMNC*: Mobile Country Codes/Mobile Network Codes
- *Dial code*: dial code in e.164 format. NOTE: It is essential that all records contain a dial code. Records without a dial code will not be used for routing or billing
- *LOT*: level of trust index (from 0 to 100). This parameter defines the level of trust in the source of information placed into the e.212/e.164 reference book. For example, Home Location Register always gives authentic information about E164/MCCMNC code matching, while some vendor's price list could be less reliable

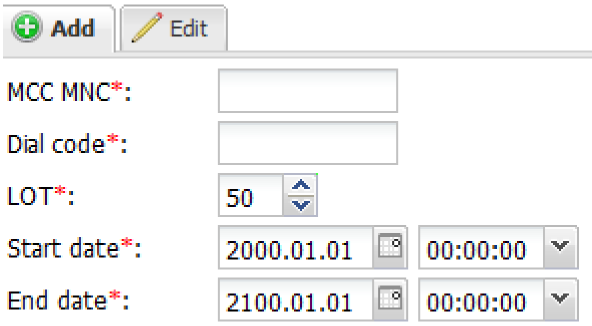
NOTE: In routing, the *LOT* parameter is verified first, before the longest match. For example, if the reference book contains the following two records:

MCCMNC	dial code	LOT
214	34	52
214001	34600	50

... and if the traffic is sent to dial code 34600*, MCC 214 will be used as its LOT is higher.

- *Start date/End date*: period of the record validity (normally default values are used to set up an indefinite period)

The *Add* and *Edit* tabs in the bottom right corner allow editing this code or adding a new one.



Add E164 code tab

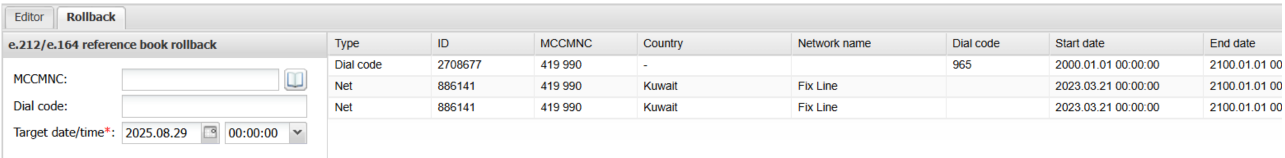
When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to remove a record (available in the *Edit* tab).

NOTE: If a record in the top table (*E212 codes*) is closed (the *End date* field value is changed), the dependent records in the bottom table (*E164 codes*) are closed as well.

NOTE: The following verifications and translations are applied when adding MCCMNCs to the e.212/e.164 reference book:

- no blank spaces are allowed
- if a blank space is found, it will be removed
- the minimum field length is 3 symbols
- if 4 or 5 symbols are entered, leading zeros will be placed in the MNC part (for example, 21420 will be replaced with 214020)

The *Rollback* tab is designed to revert changes applied to the reference book (whether made through single record edits or file imports) to a specific point in time.



Rollback

The page consists of two panels. The right panel shows changes to the reference book that can be reverted. The left panel serves to filter the records that were changed and contains the following controls:

- *MCCMNC*
- *Dial code*
- *Target date/time*: the date to which the rollback will be performed (the calendar is limited in the past by the number of days specified in the System setting *Log store period, days*)

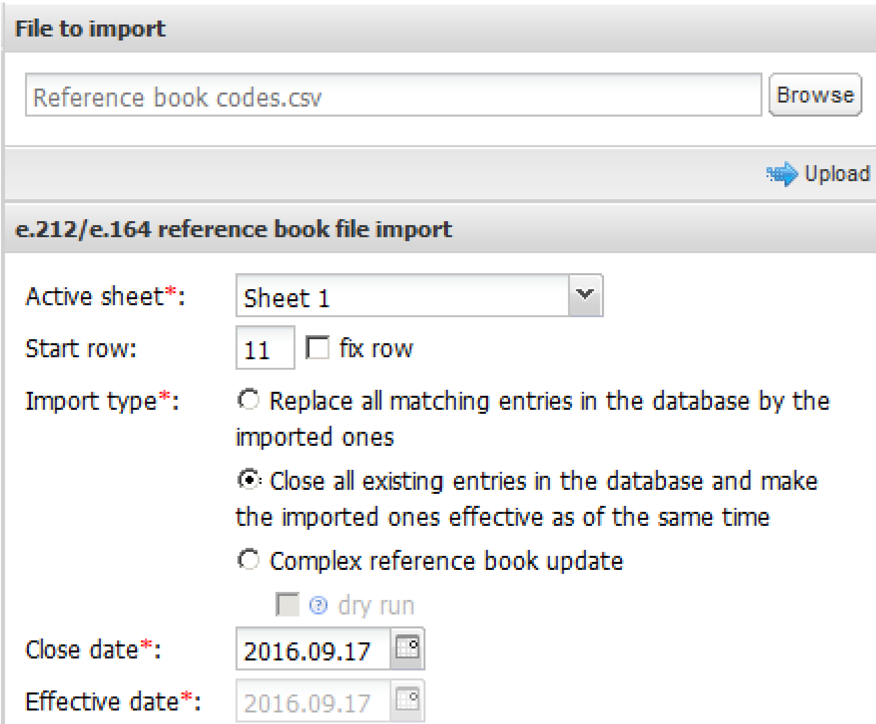
Click Check *Check* to display the table with records that will be restored. To apply the rollback, click Rollback *Rollback* at the bottom of the table.

12.4.2 E212/E164 reference book import

The System supports import of the E212/E164 data from external sources as a CSV or MS Excel file. The file must contain the following columns:

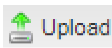
- e.212 (or MCC and MNC separately)
- e.164 - up to 3 *e.164* columns can be specified, the order number will be specified as follows: *e.164 (1), e.164 (2), e.164 (3)*
- Net

The *e.212/e.164 reference book import* page consists of two panels. The left panel is a preview table of the file; the right panel is the upload view.



Upload panel

Use the 

Browse button to select the file on the local PC and click 

Upload.

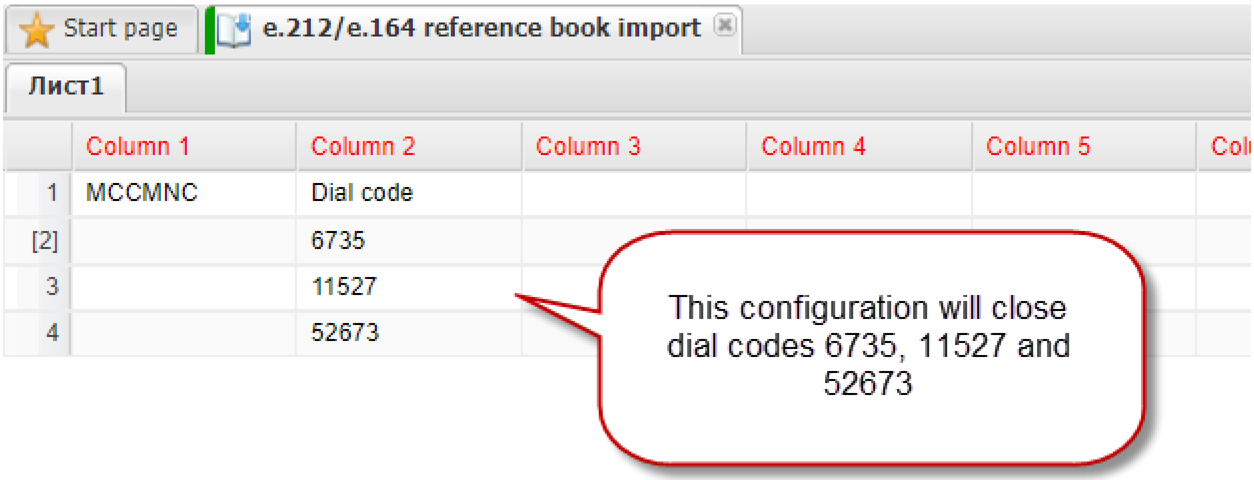
NOTE: If uploading the file takes longer than fifteen minutes, the System aborts the operation. It means that there may be a problem with the file.

Fill the appropriate parameters in the upload panel:

- *Active sheet*: select the spreadsheet of the uploaded file that will be imported
- *Start row*: define the first row of the reference book data, so that the System ignores everything that is above the rate table in the file. Check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Import type*: contains the following options:
  - *Replace all matching entries in the database by the imported ones*

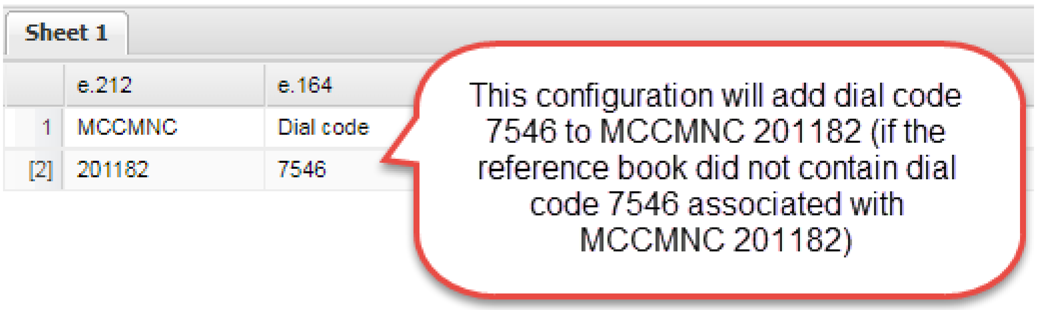
NOTE: If the imported file contains rows for code 999%, records existing in the reference book for the same code will be closed. If the imported file has no such rows, the existing records for codes 999% will remain unchanged. See also the [Alaris YouTube video](#).

- *Close all existing entries in the database and make the imported ones effective as of the same time.* The date for closing the entries is specified in the *Close date* parameter below
- *Complex reference book update*: the parameter serves for updating the reference book as follows:
  - To close a dial code of a specific MCCMNC: upload a file containing the MCCMNC whose dial code(s) must be closed



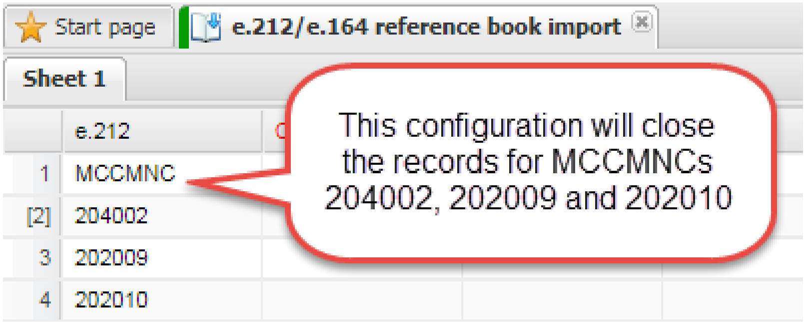
Close a dial code of a specific MCCMNC

  - To add a new dial code: upload a file containing the MCCMNC and the new dial code



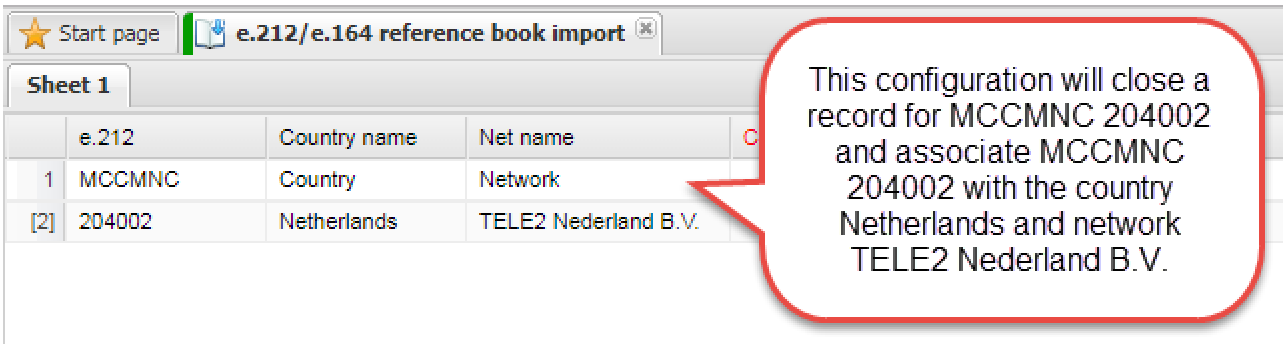
Add a new dial code

  - To close the records for a specific MCCMNC: upload a file containing the e.212 column



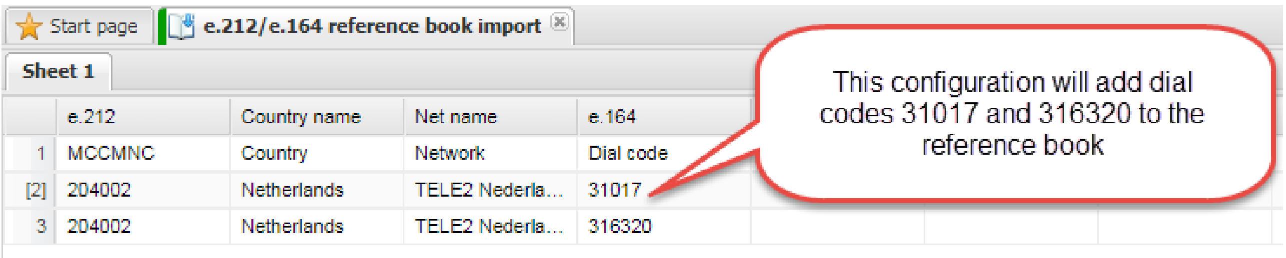
Close records for a specific MCCMNC

- To close an existing MCCMNC record and open a new one: upload a file containing the MCCMNC, new country name (if needed) and new network name (if needed)



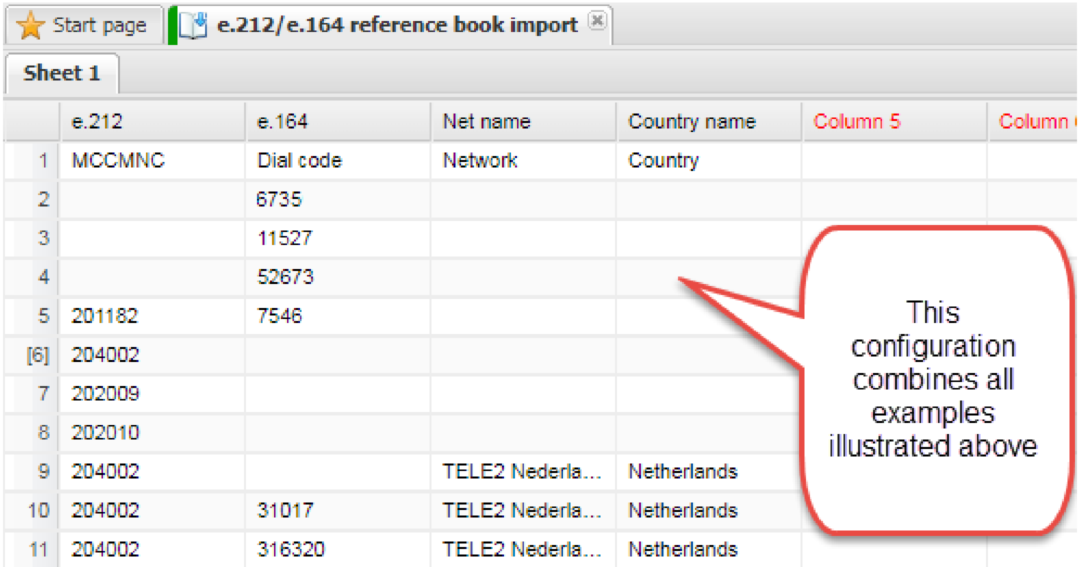
Close an existing MCCMNC record and open a new one

- To add a new dial code to the reference book: upload a file containing the MCCMNC, country name, network name and dial code



Add a new dial code to the reference book

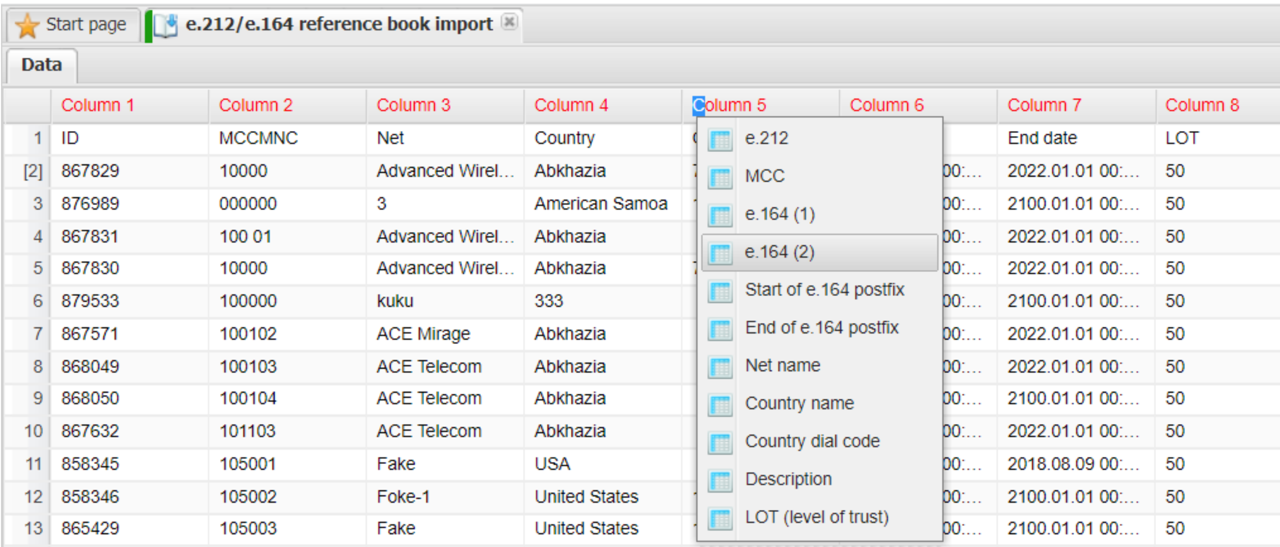
All these data can be imported as a single file or in separate files. The date the updates come into effect is specified in the *Effective date* parameter.



	e.212	e.164	Net name	Country name	Column 5	Column
1	MCCMNC	Dial code	Network	Country		
2		6735				
3		11527				
4		52673				
5	201182	7546				
[6]	204002					
7	202009					
8	202010					
9	204002		TELE2 Nederla...	Netherlands		
10	204002	31017	TELE2 Nederla...	Netherlands		
11	204002	316320	TELE2 Nederla...	Netherlands		

All updates combined in a single file

- *Dry run*: check the flag to view the updates without applying them to the database (they will not be submitted even after clicking the Apply button)



	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
1	ID	MCCMNC	Net	Country			End date	LOT
[2]	867829	10000	Advanced Wirel...	Abkhazia		00:...	2022.01.01 00:...	50
3	876989	000000	3	American Samoa		00:...	2100.01.01 00:...	50
4	867831	100 01	Advanced Wirel...	Abkhazia		00:...	2022.01.01 00:...	50
5	867830	10000	Advanced Wirel...	Abkhazia		00:...	2022.01.01 00:...	50
6	879533	100000	kuku	333		00:...	2100.01.01 00:...	50
7	867571	100102	ACE Mirage	Abkhazia		00:...	2022.01.01 00:...	50
8	868049	100103	ACE Telecom	Abkhazia		00:...	2022.01.01 00:...	50
9	868050	100104	ACE Telecom	Abkhazia		00:...	2100.01.01 00:...	50
10	867632	101103	ACE Telecom	Abkhazia		00:...	2022.01.01 00:...	50
11	858345	105001	Fake	USA		00:...	2018.08.09 00:...	50
12	858346	105002	Foke-1	United States		00:...	2100.01.01 00:...	50
13	865429	105003	Fake	United States		00:...	2100.01.01 00:...	50

File preview

In the file preview, set the appropriate column names by clicking on the headers.

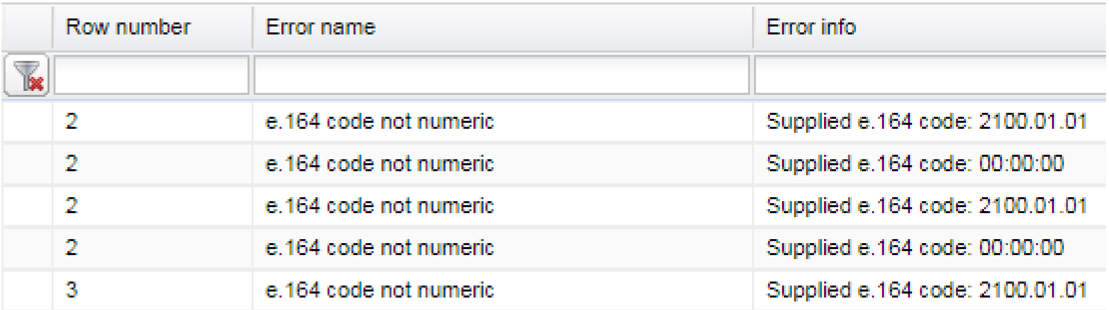
NOTE: It is possible to set the *LOT (level of trust)* column when *Import type = Replace all matching entries in the database by the imported ones*. If the *LOT* column is not defined, the *LOT* value is set to 50 for all new entries. Find out more in the Alaris YouTube video.

NOTE: It is also possible to set phone number ranges by setting the columns *Start of e.164 postfix* and *End of e.164 postfix*. The feature may come instrumental when the reference book file contains separate columns with the country code and a range of numbers included into it, for example:

30 0099999 100000

Click Start import *Start import* to start import. To discard the settings, click Reset *Reset*. To cancel, click Cancel import *Cancel import*.

If any errors are found, they are displayed in the page that appears after clicking the Start import *Start import* button.



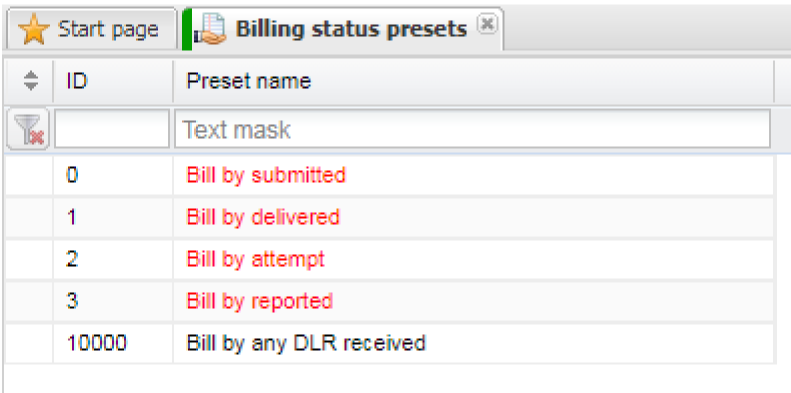
Row number	Error name	Error info
2	e.164 code not numeric	Supplied e.164 code: 2100.01.01
2	e.164 code not numeric	Supplied e.164 code: 00:00:00
2	e.164 code not numeric	Supplied e.164 code: 2100.01.01
2	e.164 code not numeric	Supplied e.164 code: 00:00:00
3	e.164 code not numeric	Supplied e.164 code: 2100.01.01

List of errors

The bottom section contains a preview of records to be updated. Click Apply *Apply* to submit the updates to the Database. Click Back *Back* to return to the previous page.

12.4.3 Billing status presets

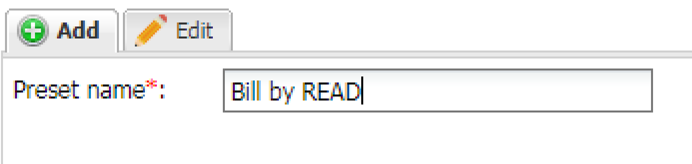
The *SMS\Reference books\Billing status presets* page serves to create custom values for the *SMS billing option* parameter in Carriers\Products 180. The top of the page contains a table of billing option presets; the bottom of the page is a table of possible statuses for a preset selected in the top table. Both tables have the *Add* and *Edit* tabs.



ID	Preset name
0	Bill by submitted
1	Bill by delivered
2	Bill by attempt
3	Bill by reported
10000	Bill by any DLR received

Billing status presets

The table of billing option presets contains default records that cannot be edited. They are highlighted in red. These values are available for selection in the *SMS billing option* parameter in Carriers\Products 180 even if no records were added to the table by the user.

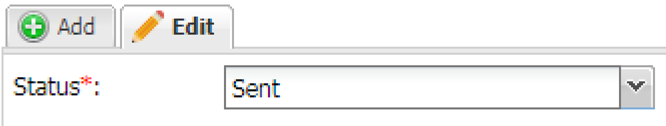


Add a new SMS billing option

To add a new SMS billing option, specify its name in the Preset name and click Submit. The record will appear in the top table. Select it and configure the appropriate statuses in the bottom table using the *Add* tab.

ID	Status
	Text mask
10088	ACCEPTD
10089	ACCEPTED
10090	BUFFERD_CLB
10091	BUFFERED_SEGMENT

Table of statuses



Add a new status

Click Submit *Submit* to save the changes. The *Edit* tab contains the Clone *Clone* button that allows creating a copy of an existing preset. See also the Alaris YouTube video.

The newly created preset will be displayed in Carriers\Products 180 in the *SMS billing option* parameter.

12.4.4 IM channels

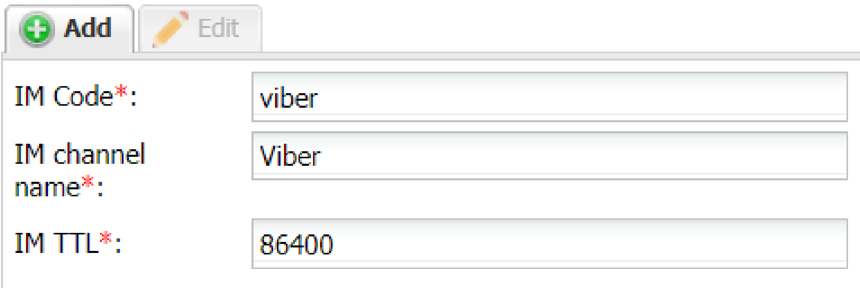
The *SMS\Reference books\IM channels* page serves to add instant messaging (IM) channels for IM services utilized in the System. It allows viewing names reserved by the System, and adding your own names. The page consists of two panels - the *IM channels* table and the *Add/Edit* tabs.

Start page | IM channels

ID	IM Code	IM channel name	IM TTL
9	bbm	BlackBerry Messenger	86400
3	facebook	Facebook Messenger	86400
11	hangouts	Hangouts Google	86400
8	line	Line	86400
4	qq	QQ mobile	86400
6	skype	Skype	86400
7	snapchat	Snapchat	86400
10	telegram	Telegram	86400
2	viber	Viber	86400
5	wechat	WeChat	86400
1	whatsapp	WhatsApp	86400
1001	sms	sms	

IM channels table

Names reserved by the System are in blue font; those created by users are in black font.



Add tab

The *Add* tab contains the following fields:

- *IM code*: the channel code name that can be used in the *im-channels* field (and is communicated to the client carrier when configuring a connection)
- *IM channel name*: the channel name that will be displayed in other System interfaces (for example, in Alaris Campaign Portal\Administration 614, *IM channels* tab)
- *IM TTL*: the time (in seconds) that can be spent on attempts to send the message through the instant messaging service

When through with defining the parameters, click Submit to confirm or Reset to discard the settings.

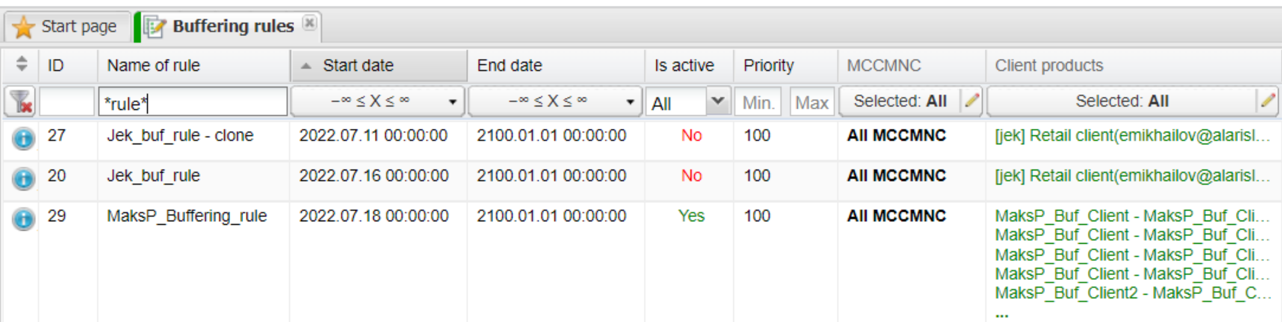
12.5 Routing

The SMS\Routing section allows managing the way messages are routed by the switch.

12.5.1 Buffering rules

As in some countries the law prohibits sending out messages at a specific time of the day, the *SMS\Routing\Buffering rules* interface serves to configure message storage rules so that messages matching a rule are not sent in hours prohibited by the law but are sent out later after the period ends.

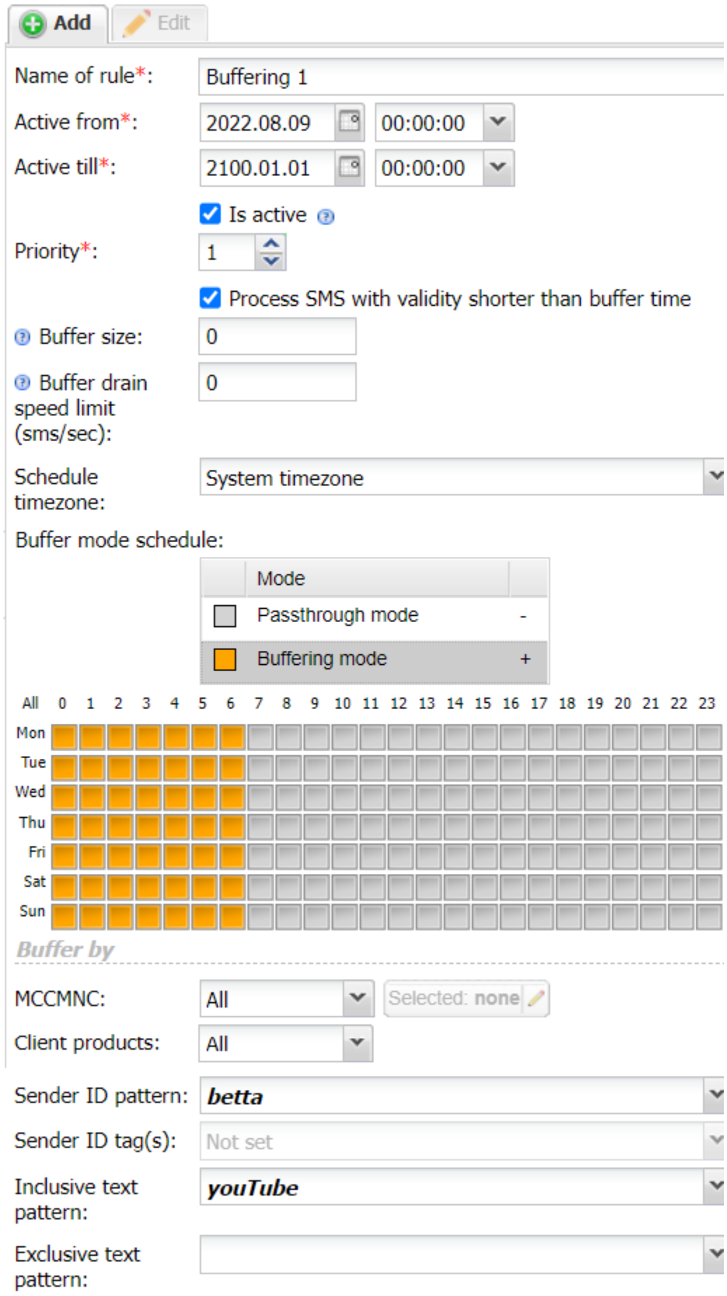
The following permissions configured in Administration\Users 158 control access to the interface and rule editing: *View buffering rules* and *Edit buffering rules*.



ID	Name of rule	Start date	End date	Is active	Priority	MCCMNC	Client products
	rule	−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞	All	Min. Max	Selected: All	Selected: All
27	Jek_buf_rule - clone	2022.07.11 00:00:00	2100.01.01 00:00:00	No	100	All MCCMNC	[jek] Retail client(emikhailov@alarisl...
20	Jek_buf_rule	2022.07.16 00:00:00	2100.01.01 00:00:00	No	100	All MCCMNC	[jek] Retail client(emikhailov@alarisl...
29	MaksP_Buffering_rule	2022.07.18 00:00:00	2100.01.01 00:00:00	Yes	100	All MCCMNC	MaksP_Buf_Client - MaksP_Buf_Cli... MaksP_Buf_Client - MaksP_Buf_Cli... MaksP_Buf_Client - MaksP_Buf_Cli... MaksP_Buf_Client - MaksP_Buf_Cli... MaksP_Buf_Client2 - MaksP_Buf_C... ...

Buffering rules: table of rules

The interface contains two sections. The left section displays a table of buffering rules.



Buffering rules: Add/Edit panel

The right panel contains the *Add* and *Edit* tabs that serve to create and edit rules. The *Add* tab has the following fields:

- *Rule name*
- *Active from/Active till*: rule activity dates (in the System timezone)
- *Is active*: checkbox that enables or disables the rule. The checkbox is selected by default

NOTE: If the rule is disabled while there are messages in its buffer, the messages are released from the buffer at the rule's drain speed set in the *Buffer drain speed limit (sms/sec)* parameter below.

- *Priority*: rules are searched for from the highest to the lowest priority. If several rules have the same priority, the System picks the one with the highest ID

- *Process SMS with validity shorter than buffer time* (disabled by default): checkbox that allows the user to enable or disable processing of messages that expire while kept in the buffer. When enabled, the System accepts messages that expire in the buffer and sends expired messages with all the others. When disabled, such messages will be rejected

- *Buffer size* (0 by default): to store messages matching the rule in the buffer, a positive integer denoting the maximum number of messages in the buffer must be set. When the value is exceeded, new messages matching the rule will be rejected. An empty value is treated as 0. 200,000 messages in buffer consumes approximately 1Gb of RAM

NOTE: If the user changes the *Buffer size* value to the effect that the buffer has exceeding SMS (for example, if the current buffer size is 100, the buffer contains 80 messages and the user sets the *Buffer size* to 70), the exceeding messages will be rejected. The client will receive the deliver_sm packet with the UNDELIV status; EDRs with the RULE BUFFER OVERFLOW status will be written.

- *Buffer drain speed limit (sms/sec)*: speed at which messages are released from the buffer. If the value is set larger than 1500, the value the SMS switch will use is limited by 1500

- *Schedule time zone*: timezone in which the schedule will operate. The default value is the System timezone

- *Buffer mode schedule*: the period for keeping the message in the buffer before sending. Default value: send the message without buffering. Please note that buffering cannot be set for the entire period, otherwise the following message will appear when attempting to save the rule: "Buffering messages 24/7 is not allowed". The schedule is set in the timezone configured in the *Schedule timezone* field. If a schedule is modified in a way that the hour within which messages have been buffered has the *Passthrough mode*, the buffered messages are released from the buffer. If the buffering period is extended, the new schedule is applied to already buffered messages

- *MCCMNC*: the list of MCCMNCs that is verified based on HLR dips or the MCCMNC reference book (if the HLR MCCMNC is unavailable)

- *Client products*: the list of client products

- *Sender ID pattern, Sender ID tag(s)*: only one of the fields can be set. The Sender ID pattern supports regular expressions. The fields are verified after Sender ID pre-routing translations are applied

- *Inclusive / Exclusive text pattern*: regular expressions (both fields can be set at the same time). When searching for matching rules, the exclusive list is verified first, and then the inclusive list is verified (provided that the message text does not match the exclusive pattern). If the message text matches the exclusive pattern, the rule is not selected for buffering the message. Patterns are verified after pre-routing text translations are applied. The maximum allowed number of symbols is 4000 bytes

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to remove a record.

NOTE: When removing a rule that has messages in its buffer, the messages will be rejected. The client will receive the deliver_sm packet with the UNDELIV status; EDRs with the RULE BUFFER OVERFLOW status will be written.

To view the edit history of buffering rules, use the System report *SMS buffering rules change log (Administration)*. Please note that by default change logs of System objects are available for 90 days (the value is set in the System parameter *Log store period, days*). The interface is VPD restricted.

The buffering rule search steps can be tracked in the *Simulation* log (SMS\Routing\Simulation\Simulation log 491), which allows double-checking the rule parameters. Specifying the *Time* parameter when creating a simulation task (for the *Advanced* type) affects selection of rules whose activity period falls under the specified time, as well as verification of the schedule. The simulation's *Time* parameter is set in the System timezone; however, the buffering rule schedule can be set in another timezone that is taken into account when searching for suitable rules. For example, the rule timezone can be set to GMT+8 whereas the System timezone is GMT+0. If message buffering is configured for the period 08:00-09:00GMT+8, and Time is set somewhere between 00:00 and 01:00, the rule will be considered matching.

Only one rule can be selected as a result of rule search.

Buffering rules are verified after defining the client, its balance and credit limit, the message MCCMNC and client rate, and the message validity period. In the course of primary routing of the message, the list of routes and buffering rules that match message parameter patterns is defined (except for the rule schedule and the *Process SMS with validity shorter than buffer time* option). These lists will be used in further message processing, and changes applied to the rules (except the buffering rule schedule) will be ignored. After the message leaves the buffer and before it is sent back to the route, the buffering rules from the list created earlier are verified again. If a rule that matches the buffering schedule is found, the message is placed back to the buffer. A similar verification of buffering rules is performed in rerouting - for example, when getting an unsuccessful submit_sm_resp from the vendor or getting a delivery report included in the list of statuses for rerouting.

When a message is placed to the buffer, a buffer EDR is created with the BUFFERED_BY_RULE status, which affects the client balance irrespective of its billing mode. The procedure operates this way because the balance is verified before applying buffering rules, and it allows timely topping up the balance. After a non-buffer EDR is recorded for the message, EDR evaluation is performed: the buffer EDR no longer affects the balance whereas a non-buffer EDR has the same rate. Consequently, the balance cannot be reduced but can increase (for example, if the message is billed by 'delivered' and the message status is 'SENT').

Please note that client and vendor rates are taken as of the moment of the message receipt.

12.5.2 Loop detection

The *SMS\Routing\Loop detection* interface serves to configure rules for detection of message loops. They may occur in case of misconfiguration of routing rules on the side of the System owner and/or its partners, which may lead to sending the message over the same route in an endless loop. Also, the interface may come instrumental in preventing spam attacks when similar messages are sent from a set of sender IDs to a multitude of recipients.

The interface is available if the *Loop detection* permission is granted to the user in Administration\Users 158.

NOTE: The interface is compatible with the new generation SMS switch only. Before version 3.5.25 detection of message loops was set up in the SMS switch internal configuration. Starting from version 3.5.25, the internal configuration has been made obsolete (even if it is set up), and all previously created rules will be transferred to the new interface.

NOTE: the loop verification takes place before gathering segments of a concatenated (long) message. That is, every segment is considered a separate message

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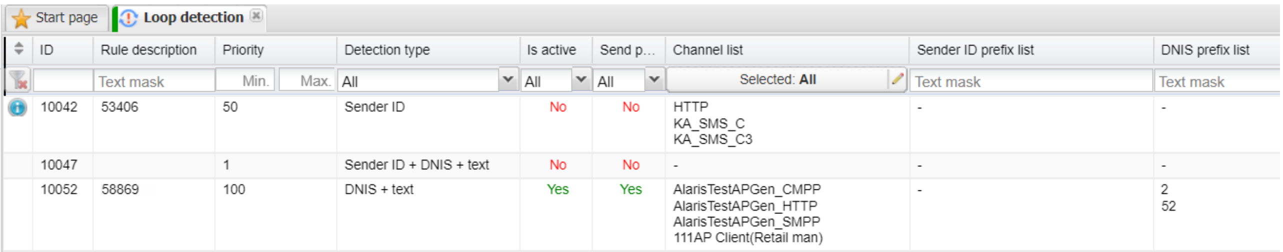
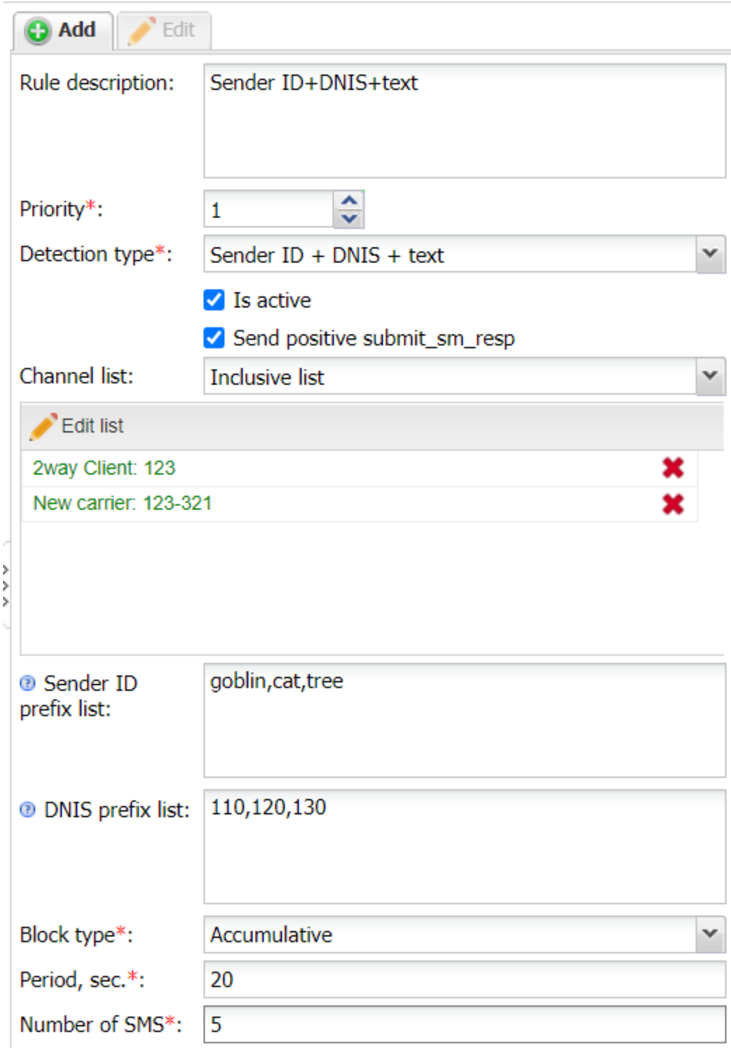


ID	Rule description	Priority	Detection type	Is active	Send p...	Channel list	Sender ID prefix list	DNIS prefix list
10042	53406	50	Sender ID	No	No	HTTP KA_SMS_C KA_SMS_C3	-	-
10047		1	Sender ID + DNIS + text	No	No	-	-	-
10052	58869	100	DNIS + text	Yes	Yes	AlarisTestAPGen_CMPP AlarisTestAPGen_HTTP AlarisTestAPGen_SMPP 111AP Client(Retail man)	-	2 52

Loop detection: table of rules

The interface contains two sections. The left section displays a table of SMS loop detection rules. Rules are searched from the highest priority (100) to the lowest (1) and once a suitable rule is found, the search stops. If a priority of 2 rules is the same, the rule with a greater ID is selected. The icon shows the date and time of the rule creation and last editing.



Loop detection: Add/Edit panel

The right panel contains the *Add* and *Edit* tabs that serve to create and edit rules. It contains the following fields:

- *Rule description*
- *Priority*: priority, with 1 being the lowest

- *Detection type*: message parameters and their combinations used to detect loops. Possible values include:
  - *Sender ID*
  - *DNIS*
  - *Sender ID + DNIS*
  - *Sender ID + text*
  - *DNIS + text*
  - *Sender ID + DNIS + text*: may come instrumental in detection of message duplicates sent from a specific sender ID(s) to multiple DNIS with the same text (spam)

NOTE: For detection types containing *text*, a loop is detected if all the rule parameters are met AND the text is the same as in the previous message. For example, if *Detection type=Sender ID + DNIS + text,* and a message arrives from *Sender ID=Facebook* to *DNIS=3460* with the text *Hello*, and then another message arrives from *Sender ID=Facebook* to *DNIS=3460* with the text *How are you*, the messages will not be considered duplicates.

- *Is active*: select to enable the rule
- *Send positive submit_sm_resp*: when enabled, the checkbox activates the following System behavior. When a loop is detected that matches a rule, the client receives a successful submit_sm_resp, followed by a delivery report with the UNDELIV status. Please note that the internal EDR status will be written as SMS LOOP

NOTE: If traffic is blocked according to the Loop detection rules and *Send positive submit_sm_resp* option enabled for this traffic, the client side first receives submit_sm_resp with a successful code and then receives deliver_sm with code 001. It is possible to override this code (001) using a code translation rule with the type *System delivery error code to client error code*. The code *900 - SMS Loop detected* should be specified as *Error code* (of the *Source* section*)*, and the new value to be sent to the client side should be specified in the *Error code* field (of the *Result* section*)*.

- *Channel list*: select *Inclusive list* to add specific channels in the *Edit list* form, or *All* to include all channels
- *Sender ID prefix list* (available if *Detection type = Sender ID, Sender ID + DNIS, Sender ID + text, Sender ID + DNIS + text).* Character, numeric and alphanumeric values are supported. Character and alphanumeric values are searched by exact match (for example, if you specify *Face*, the *Facebook* sender ID will not be found)
- *DNIS prefix list* (available if *Detection type = DNIS, Sender ID + DNIS, DNIS + text, Sender ID + DNIS + text;* only numeric values are allowed): destination number prefixes

NOTE: The list of destination number prefixes as well as the list of sender IDs can be comma separated. Also, such lists (numeric values) are treated as masks, therefore, no % or * symbols are needed. To take all numbers into account, leave the appropriate field blank.

- *Block type*: the way duplicate messages will be blocked. Possible values include:
  - *After first SMS*: the block is activated after the first message, and all further duplicate messages will be rejected with the internal SMS LOOP reason within the timeout set in the *Period, sec*. field. If a duplicate message was received while the timeout was not expired, the timeout will be reset and started over

- *Accumulative*: the block is enabled after a preset number of messages is received (configured in the *Number of SMS* field). The timeout calculation starts after the receipt of the first message and the timeout (set in the *Period, sec.* field) is activated after receipt of the last allowed message. The receipt of duplicates does not change the timeout start time. For example, if *Period,* sec.*=20*, *Number of SMS*=2 and the first message is received at 14:02:33, while the second message is received at 14:02:41, the block will be active till 14:02:53 as 20 seconds are counted from the receipt of the first message. Duplicates are also rejected with the internal SMS LOOP reason

NOTE: A System-wide reject code can be set for the internal SMS LOOP reason in the submit_sm_resp packet (0x45 by default). For this, contact the Alaris technical support team and communicate the code BZ50359.

- *Period, sec.*: the timeout during which message sending will be blocked. If the value is 0, the channels specified in the *Inclusive list* are excluded from the loop check

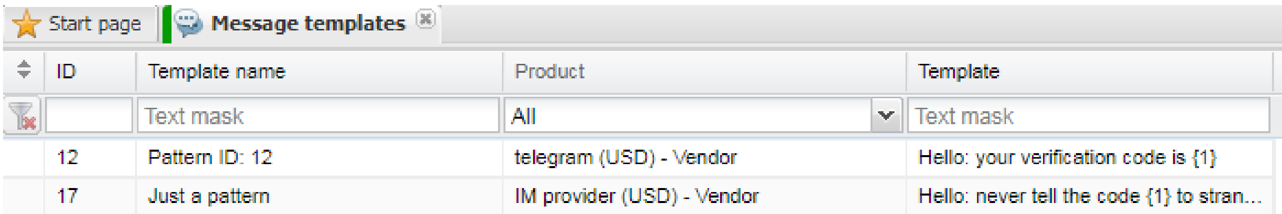
- *Number of SMS* (available if *Block type=Accumulative*): the number of received SMS after which the block is activated

When through with defining the parameters, click Submit to confirm or Reset to discard the settings.

12.5.3 Message templates

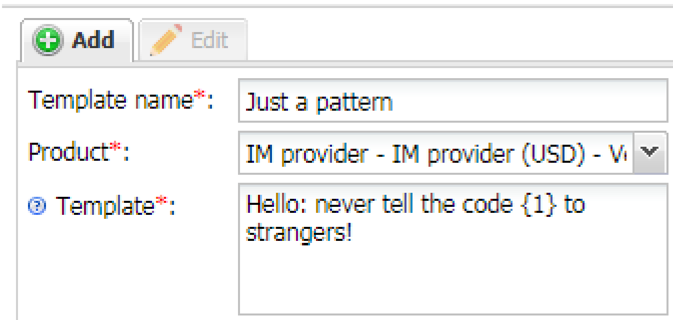
The *SMS\Routing\Message templates* interface serves to register templates of pre-approved message texts. A template is a message text with placeholders that are replaced with parts of the message text received from the client and formatted specifically to be used when sending a message to the vendor.

Currently message templates are supported for WhatsApp only. This section is available to users that have the *Message templates* permission enabled in Administration\Users 158.



Message templates

The page is divided in two sections. The left section displays a table of message templates registered in the System.



Add message template

The right panel contains the *Add* and *Edit* tabs that have the following fields:

- *Template name*
- *Product*: vendor product to which the message will be sent
- *Template*: the template pattern containing placeholders that will be replaced with values. The placeholders must have the following format: {1} (with a digit inside brackets)

When through with defining the parameters, click Submit to confirm or Reset to discard the settings.

NOTE: WhatsApp requires the use of pre-approved message templates. Message templates are designed to reduce the likelihood of spam to users on WhatsApp.

When a message arrives to a client WhatsApp IM channel, the routing module compares the message text with a template. If the comparison is successful, the System will send a message with text formatted in a specific JSON structure.

Suppose you create a template with the following parameters:

Template name*: Your_template
Product*: Test_vendor - im-test (USD) - Vendor
Pattern*: your {1} is {2}

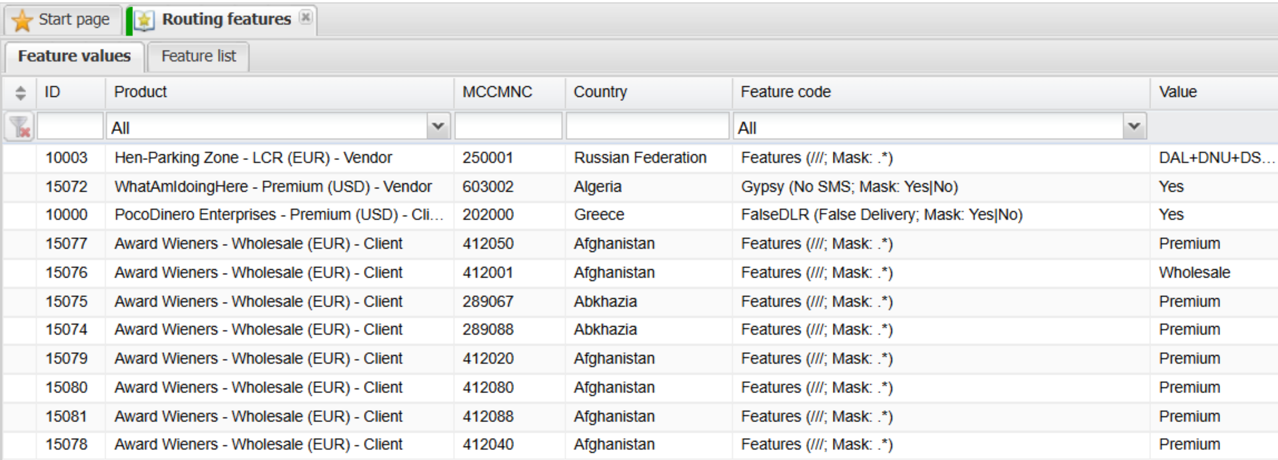
The System receives a message with the text 'your code is 12345', which matches the 'Your_template' template. Before sending the message to the vendor, the text will be converted to the following JSON array:


```
"content":{
      "type":"template",
      "template":{
        "name": "Your_template",
        "parameters":[
          {
            "default":"code"
          },
          {
            "default":"12345"
          }
        ]
      }
    },
    "whatsapp": {
      "policy": "deterministic",
      "locale": "en-GB"
    }
```


12.5.4 Routing features

The *SMS/Routing/Routing features* page allows assigning preconfigured properties to routes. The assigned properties will be used as conditions in setting up routing rules.

The page consists of two panels. The left panel contains the *Feature values* and *Feature list* tab sheets; the right panel shows the *Add* and *Edit* tabs.



ID	Product	MCCMNC	Country	Feature code	Value
10003	Hen-Parking Zone - LCR (EUR) - Vendor	250001	Russian Federation	Features (///; Mask: .*)	DAL+DNU+DS...
15072	WhatAmIdoingHere - Premium (USD) - Vendor	603002	Algeria	Gypsy (No SMS; Mask: Yes|No)	Yes
10000	PocoDinero Enterprises - Premium (USD) - Cli...	202000	Greece	FalseDLR (False Delivery; Mask: Yes|No)	Yes
15077	Award Wieners - Wholesale (EUR) - Client	412050	Afghanistan	Features (///; Mask: .*)	Premium
15076	Award Wieners - Wholesale (EUR) - Client	412001	Afghanistan	Features (///; Mask: .*)	Wholesale
15075	Award Wieners - Wholesale (EUR) - Client	289067	Abkhazia	Features (///; Mask: .*)	Premium
15074	Award Wieners - Wholesale (EUR) - Client	289088	Abkhazia	Features (///; Mask: .*)	Premium
15079	Award Wieners - Wholesale (EUR) - Client	412020	Afghanistan	Features (///; Mask: .*)	Premium
15080	Award Wieners - Wholesale (EUR) - Client	412080	Afghanistan	Features (///; Mask: .*)	Premium
15081	Award Wieners - Wholesale (EUR) - Client	412088	Afghanistan	Features (///; Mask: .*)	Premium
15078	Award Wieners - Wholesale (EUR) - Client	412040	Afghanistan	Features (///; Mask: .*)	Premium

Feature values tab sheet

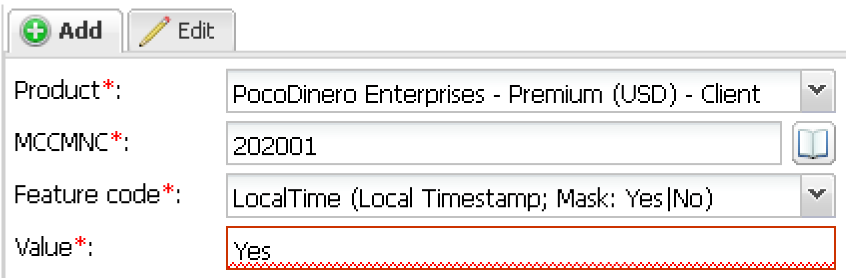
The bottom of the table contains the *show inactive* checkbox that serves to show/hide outdated records.

The *Feature values* tab sheet is a table of products and features assigned to them. It contains the following columns:

- *ID*: the record ID number
- *Product*: select one or several products (learn more in the [Alaris YouTube video](#))
- *MCCMNC*

NOTE: A feature defined for an MCC will be applied to the MCCMNCs of the same product.

- *Feature code*: the feature name, description and possible values as configured in the *Feature list* tab sheet
- *Value*: the feature value
- *Start date, End date*: routing feature validity period (find out more in the [Alaris YouTube video](#))



Add tab

The *Add* and *Edit* tabs in the upper right corner of the page allow editing table records and creating new ones. To activate the *Edit* tab, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required. When through with defining the parameters, click Submit to save the entry or Reset to discard the settings.

Start page | Routing features

Feature values | Feature list

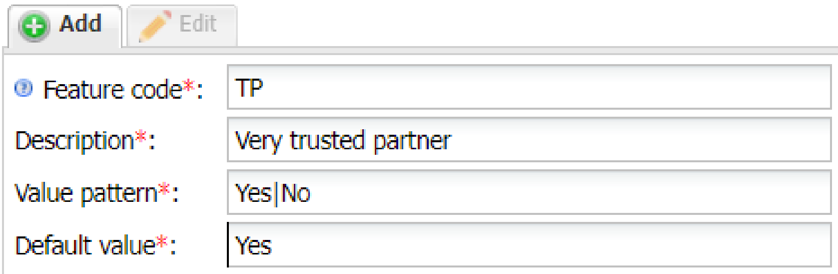
ID	Feature code	Description	Value pattern	Default value
11	TextIntegrity	Verified text integrity	Yes|No	Yes
16	oneorzero	choice	1|0	1
2	LongMSG	Long Message Support	Yes|No	Yes
3	LocalTime	Local Timestamp	Yes|No	Yes
4	OrigNotKept	Originator Overwritten	Yes|No	No
5	PreRegOrig	Pre-Registration Originator	Yes|No	No
6	DLVNotif	Delivery Notifications To Handset Support	Yes|No	Yes
7	Bin	Binary	Yes|No	Yes
8	MSGLength	Length Support	\d+	254
9	AvailNet	Available Network	Yes|No	Yes
10	FalseDLR	False Delivery	Yes|No	No
18	SCR	SCR	-1|0|1	0
17	Gypsy	No SMS	Yes|No	Yes
15	Features	///	.*	

Feature list tab sheet

The *Feature list* tab sheet contains a list of available features and the *Add* and *Edit* tabs for creating new entries or editing existing ones.

The following default features exist in the System:

- *MNP* (Mobile number portability support): the route supports mobile number portability. This feature allows configuring routing rules so as to save money on HLR requests
- *Long MSG* (Long Message Support): the route supports messages exceeding standard length. The feature can be used to configure routing to partners that process long messages correctly
- *LocalTime* (Local Timestamp)
- *OrigNotKept* (Originator Overwritten): describes routes where the A-number may be changed during message transfer
- *FalseDLR* (False Delivery): describes routes where messages may be terminated with fake delivery reports
- *DLVNotif* (Delivery Notifications To Handset Support)
- *Bin* (Binary): the route supports binary (rich-content) SMS
- *MSGLength* (Length Support)
- *AvailNet* (Available Network)
- *PreRegOrig* (Pre-Registration Originator)



Add tab

The *Add/Edit* tabs contain the following parameters:

- *Feature code*: name of the feature
- *Description*: description that explains the feature
- *Value pattern*: possible values (|-separated)
- *Default value*: the default value of the feature which will be assigned in the process of routing for the corresponding routing metric for the set 'product-MCCMNC' if no value has been inserted on *Routing features\Feature values*. Additionally the value is substituted on the *Add tab* (the *Value* parameter) when a new value is added for the feature

To edit a record, select it in the table.

NOTE: Default features cannot be edited (except for the *Default value* parameter) and cannot be deleted. Custom features cannot be deleted if at least one classifier has been added for the feature. Click Submit to save the entry or Reset to discard the settings.

12.5.4.1 How to use routing features in routing

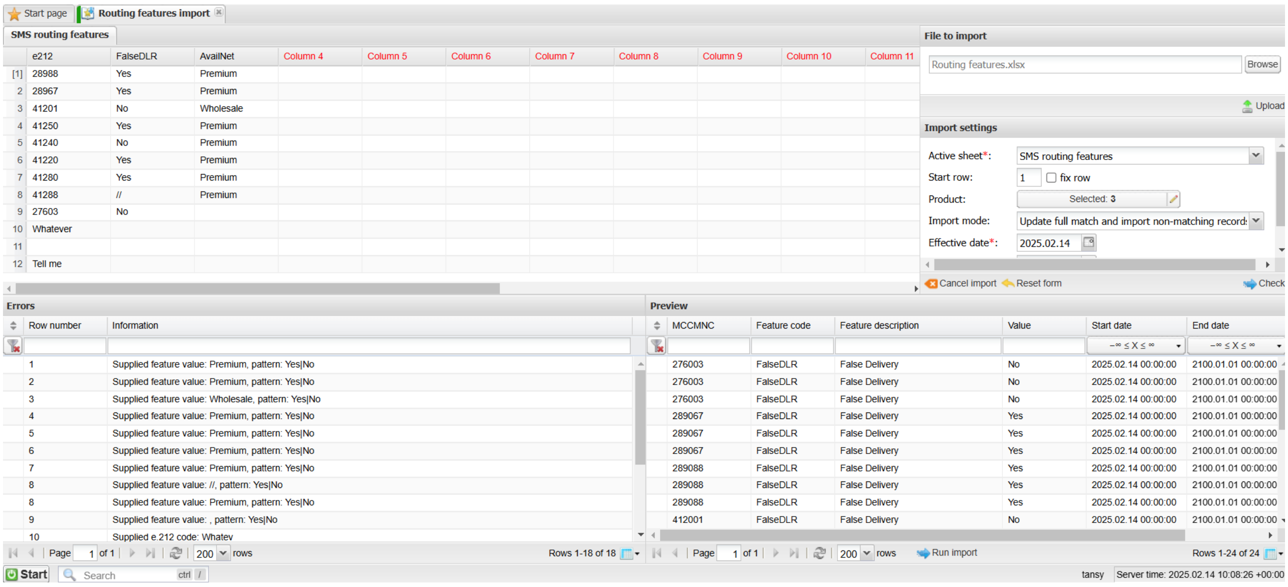
Suppose vendor X sends false DLR reports to MCCMNC 214001 and must therefore be excluded from routing. Proceed as follows:

1. In the *SMS/Routing/Routing features* page open the *Feature values* tab sheet of and create a new record with the the following parameters:
   - *Product*: select the appropriate product of vendor X
   - *MCCMNC*: specify *214001*
   - *Feature code*: select *FalseDLR*
   - *Value*: specify *Yes*
2. Open the SMS\Routing\Routing rules\Rules page 464 and create a new rule. In the *Rule type* field of the *Add* tab select *Block*. In the *Condition* field specify *VNDFalseDLR == 'Yes'*. The System will therefore reject all vendors that have the *VNDFalseDLR* value equal to *Yes*.

12.5.5 Routing features import

The *SMS/Routing/Routing features import* section serves to import routing features for specific product(s) (in csv or xlsx formats). To access the section, the user must have the permission *SMS routing features edit*.

The page consists of the following panels: the *File to import* and *Import settings* panels at the top right; the file preview at the top left of the page; the *Errors* panel at the bottom left of the page that displays import errors and the *Preview* panel at the bottom right of the page that shows the records to be imported.

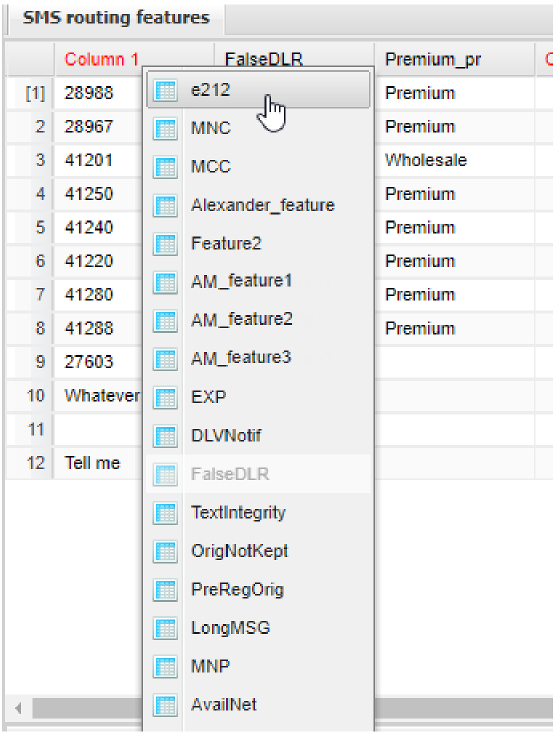


Routing features import

To import a file with routing features, proceed as follows:

1. In the *File to import* section at the top right corner of the page select the file (in csv or xlsx format) with features that need to be imported. The file must contain the following columns:
   - MCC and MNC (or e.212)
   - At least one feature (each feature must be in a separate column)
2. Click 

. The file preview will appear in the top left panel the way it looks in MS Excel. Everything is shown "as is" – all cell contents and the overall file structure (sequence and naming of columns and worksheets) is preserved at this stage. To prepare the file for parsing, define the column types by clicking on the headers of the table. The mandatory columns are *MCC* and *MNC* (or e.*212*) and at least one feature. The list of columns contains the names all features available in the System (they are created in the SMS/Routing/Routing features 456 page).

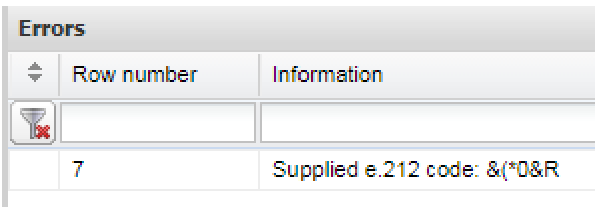


Source file preview

3. Configure the parameters at the *Import settings* panel:

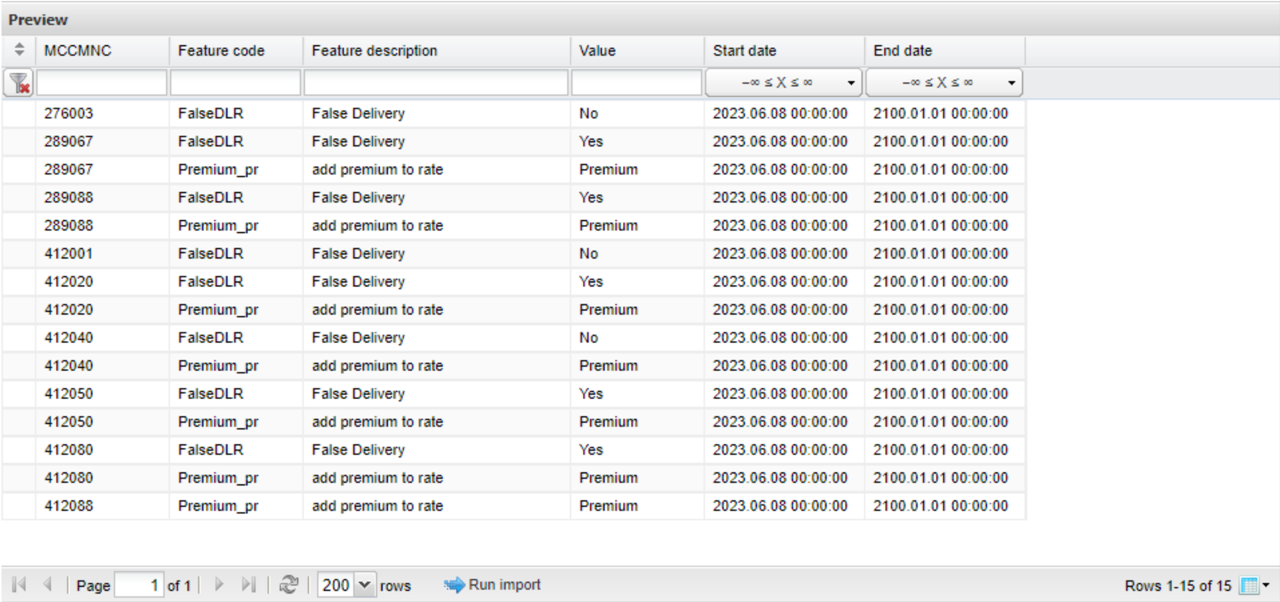
- *Active sheet*: select the spreadsheet that will be parsed (in case the original MS Excel file contains several spreadsheets)
- *Start row*: define the first row with the data on features, so that the System ignores everything that is above the table in the file. Check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Product*: select the products into which the feature will be imported
- *Import mode:* possible values are:
  - *Update full match and import non-matching records:* if the *Effective date* contains a future date, records will be added; if it contains a past date, the existing features are replaced by features from the file
  - *Full replacement*: remove all existing features for the product and import those set in the file
- *Effective date*: specify the start date for the features
- *Close date*: the end date of new records

Click Check to view the parsing results and errors. To clear the *Import settings* panel click Reset form. To clear all panels, click Cancel import.



Errors panel

The *Errors* panel displays the list of parsing errors.

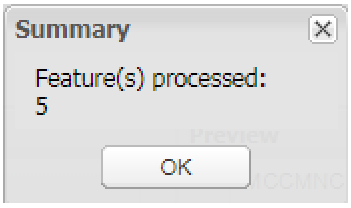


MCCMNC	Feature code	Feature description	Value	Start date	End date
276003	FalseDLR	False Delivery	No	2023.06.08 00:00:00	2100.01.01 00:00:00
289067	FalseDLR	False Delivery	Yes	2023.06.08 00:00:00	2100.01.01 00:00:00
289067	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00
289088	FalseDLR	False Delivery	Yes	2023.06.08 00:00:00	2100.01.01 00:00:00
289088	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00
412001	FalseDLR	False Delivery	No	2023.06.08 00:00:00	2100.01.01 00:00:00
412020	FalseDLR	False Delivery	Yes	2023.06.08 00:00:00	2100.01.01 00:00:00
412020	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00
412040	FalseDLR	False Delivery	No	2023.06.08 00:00:00	2100.01.01 00:00:00
412040	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00
412050	FalseDLR	False Delivery	Yes	2023.06.08 00:00:00	2100.01.01 00:00:00
412050	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00
412080	FalseDLR	False Delivery	Yes	2023.06.08 00:00:00	2100.01.01 00:00:00
412080	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00
412088	Premium_pr	add premium to rate	Premium	2023.06.08 00:00:00	2100.01.01 00:00:00

Preview panel

The *Preview* panel shows the records that will be imported.

5. Review the errors and preview records and click Run import. Once the operation is complete, import summary will appear on the screen as shown below.



Import summary

12.5.6 Routing rules

Routing rules define all the routing logic. Each rule is an instruction from a user to the System - which vendors and networks/E212 codes to use for terminating traffic from a specific set of client products and going to a list of destinations or E164 dial codes. By default, each rule affects all client products and all destinations/E164 codes, unless specified otherwise. Vendor selection is done by setting choices: choice #1 will be the first route for the switch to try, choice #2 will be the second option (in case the first route fails) etc.

12.5.6.1 Routing procedure description

For every message that hits the switch, it immediately sends a request to the routing module over a proprietary protocol. The most important information in the request is the internal ID of the client channel on the switch and the addressed B-number. The System performs client authentication based on the client channel GUID provided by the switch and (optionally) the "service type" parameter specified in the SMS, identifies the net name for the E164 B-number, and collects the E212 code associated with that net name in the SMS\Reference books 439 or in an external HLR service.

As soon as E212 code matching the destination network is obtained, the System tries to find the respective rate(s) in the client product. Then it makes up a list of vendor rates available for the given MCCMNC (or MCC) code.

As soon as the list of vendor rates in the format “one rate per vendor product” is created, the System checks for any restrictions related to any of the respective vendor accounts and filters the vendor rate list accordingly. Possible restrictions are: no SMS POIs created for the vendor product, or the outgoing credit for the vendor is exceeded, therefore the vendor cannot be used for routing.

On the final stage of routing the System goes through the list of routing rules that can be applied to the given customer and MCCMNC. If such rules are found, it picks the vendor routes from the list (for more details on vendor selection please refer to SMS\Routing\Routing rules\Routing types 463 and SMS\Routing\Routing rules\Rules page 464). Then the System returns the ordered sequence of the selected routes as vendor channel GUIDs back to the switch. Maximum number of routes per SMS is set by the *Routes to send* parameter in Administration\System settings\SMS 80. The switch checks if it has active binds of correct types for the provided GUIDs. If yes, message termination attempts are performed to the vendors in the order they were returned by the System. Rerouting to the next vendor is made after the expiration of timeout for the previous route (default timeout value is 30 seconds) or (for SMPP) upon receipt of submit_sm_resp message with any value in the cause field except 0x00. For HTTP, rerouting is made upon the receipt of a valid response with the status other than 200 OK or no response.

12.5.6.2 Routing types

In terms of vendor list creation in a rule, the following routing types exist in the System (they are just for explanation purposes and are not directly reflected in any System parameters):

- *Static routing*: the routing choice contains one or several manually selected vendor products (if more than one vendor product is present in one choice, percent-based load sharing must be set), so that the routing is only possible between these vendor products

- *Dynamic routing*: instead of a static product list, a formula is provided in the routing choice. The formula is resolved as a numeric value. When the routing rule is triggered, the System forms a list of available vendors and uses the formula to calculate the routing weight for each of them. The bigger the resulting weight value is, the higher the vendor position in the resulting route list – so the vendor with the biggest weight will be used as route #1. All vendors with negative or zero weights are disregarded. In case the weight is equal for two or more vendors, the System introduces a small random value to arbitrarily distribute the traffic between them. If necessary, the initial list of vendors can be trimmed by applying a condition – a logical expression that is resolved as *True* or *False*. If it is *False* for a vendor product, that product is disregarded. Conditions can contain the same System parameters and operators as formulas. The key difference is that the result of the formula must be a number, while the result of the condition is a Boolean (*True/False*) value.

NOTE: If the *Condition* field is empty, the System applies the condition MRG>=0

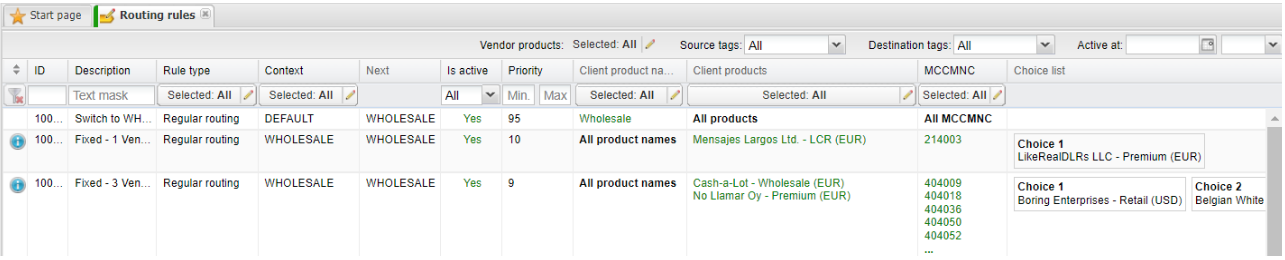
- *Combined routing*: it is possible to set a formula in the routing choice, but at the same time to make a list of manually selected vendor products to apply this formula. In this case, the routing is *dynamic* (as it is based on a formula, the final sequence of vendors for each SMS may be different if the formula parameters change), and at the same time *static* (as the routing is done only within the manually defined list of vendor products).

It is also possible to use a more complex type of combined routing: the user can set a static product and a formula within the same routing choice (optionally – with a limited set of vendor products). Then configure load sharing between two options – so that a certain part of the affected traffic will be statically routed to the selected vendor product, while the other part of the traffic will be dynamically distributed according to the formula.

12.5.6.3 Rules page

The *SMS\Routing\Routing rules* page serves to review, create and edit routing rules displayed in the *Routing rules* table.

Routing rules define all the routing logic. Each rule is an instruction from a user to the System - which vendors and networks/E212 codes to use for terminating traffic from a specific set of client products and going to a list of destinations or E164 dial codes. By default, each rule affects all client products and all destinations/E164 codes, unless specified otherwise. Vendor selection is done by setting choices: choice #1 will be the first route for the switch to try, choice #2 will be the second option (in case the first route fails) etc.

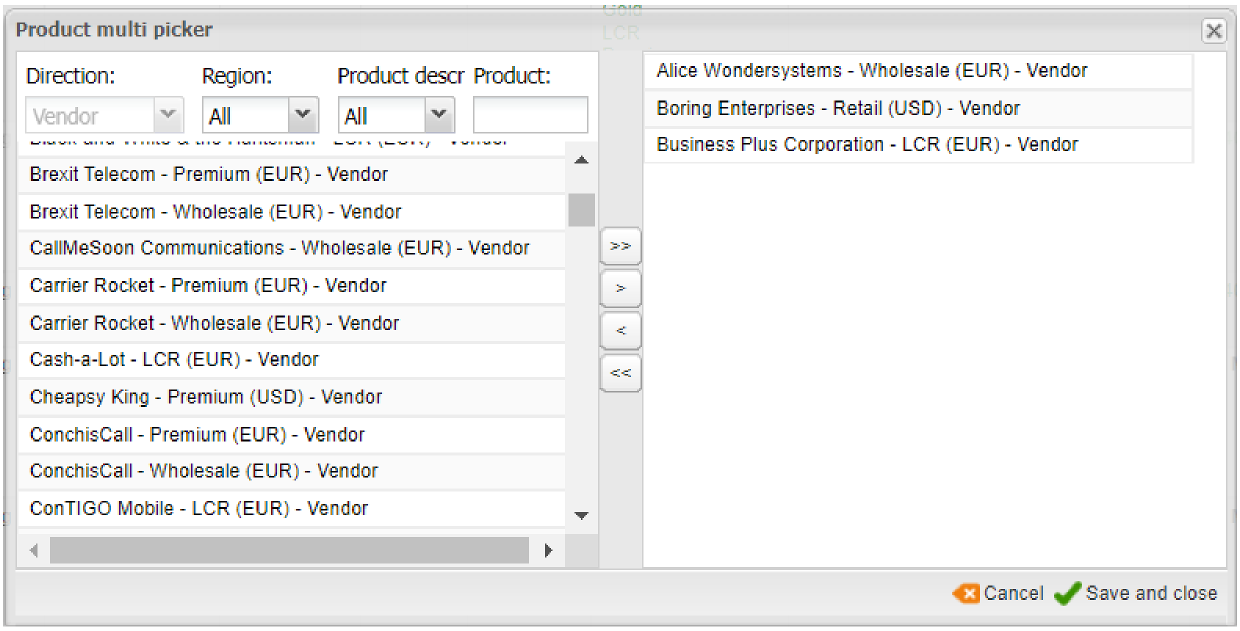


Routing rules table

Use text masks or drop-down lists under the column headers to filter the records in the table. Use the button in the upper left corner to clear the configured filter.

The upper toolbar contains the following controls:

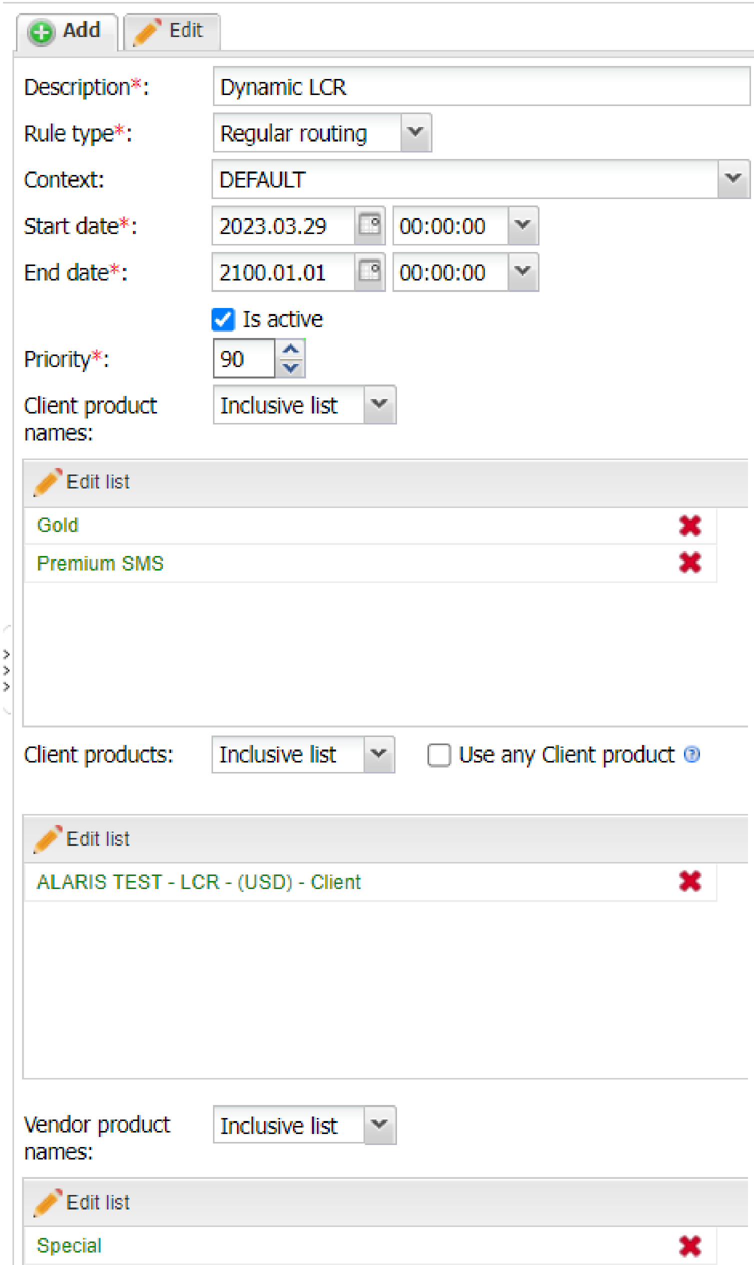
- *Vendor products*: filter that allows specifying one or more vendor products used in the choices of the routing rules or excluded from the choices (for rules that have the *Rule type* = *Block*). Click to open the multipicker. The vendor products can be filtered by *Direction*, *Region*, *Product description* (LCR, Premium etc.) and *Product name*



Product multipicker

- *Source tags, Destination tags*: filter by A- and B-number tags included in the routing rule
- *Active at*: filter by the activity period

The *Add* and *Edit* tabs in the top right corner of the page serve to create new rules and edit existing ones.



Add tab

The following parameters are available for configuration in the *Add* tab:

- *Description*: arbitrary text description of the rule. It is recommended to use easy-to-understand descriptions that give an immediate idea about the rule (e.g. *Spain mobile for Client X*)
- *Rule type*: type of the rule according to expected effect:
  - *Regular routing*: standard rules providing vendors for routing
  - *Block*: route-blocking rules

- *Test*: rules aimed at distributing a small predefined portion of traffic going through the System among many or all active vendors in the System, in order to keep their stats up-to-date. The statistics are calculated based on ASR, DLR(s) and delivery delay.

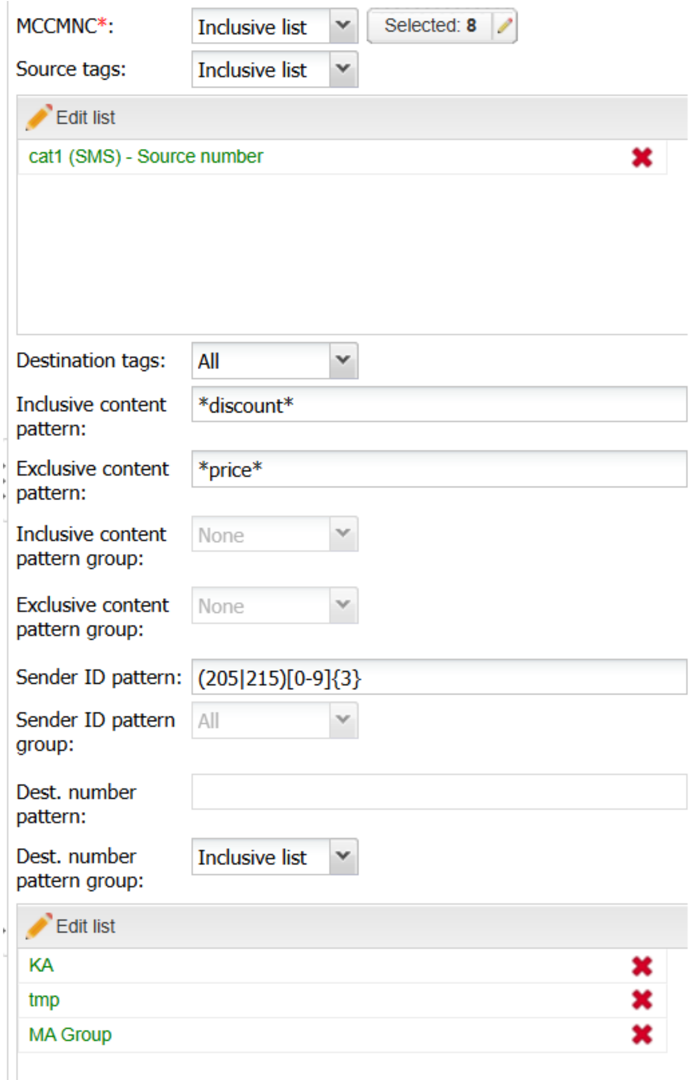
- *Context*: user-defined group, to which the given rule is assigned (see SMS\Routing\Routing rules\Use of contexts 474)
- *Start date / End date*: date and time when the rule becomes effective / goes out of effect. Rules whose *End date* is in the past become inactive and are greyed out in the table
- *Is active*: select this checkbox to enable the configured rule, otherwise the routing module will disregard it
- *Priority*: numeric value defining the rule priority in the range from one to 100. Bigger values mean higher priority. Two or more rules may have the same priority. In this case the rule with bigger ID is prioritized. By default the final route list will be created after sorting the vendors from all applicable rules by their weight. The weight can be viewed in the SMS\Routing\Simulation 485 page

NOTE: If several rules have the same priority, static choices will be on top of the resulting route list (even if some/all of them are not choices #1 in their rules). This is done because the System is unable to decide how to otherwise combine static and dynamic vendors from numerous rules. To avoid ambiguity, it is NOT recommended to create two rules with the same priority. However to apply the order of choices within a rule, the *Use choice and rule ID dependent sorting of routes (0 - disable, 1 - enable)* System parameter must be set to 1.

- *Client product names*: types of client products whose traffic the rule will route. Can be inclusive or exclusive. Limiting the list of affected client products by type instead of the exact product list is more convenient when separating the routing for large customer groups – for more details refer to SMS\Routing\Routing rules\Use of contexts 474
- *Client products*: list of client products the rule will affect. Can be inclusive or exclusive. Can be used for a rule specific for one client or a small group of clients (i.e. where using the *Client product names* parameter does not help)

NOTE: The field displays only products that have POIs associated with them, as products with no associated POIs cannot be used for routing.

- *Use any Client product* (available if both *Client product names* and *Client products* are set to *Inclusive list*): the checkbox allows handling requests of the client product included either in the product list or product name list, by a single rule. When the checkbox is enabled and one of the filters is set to *Exclusive list*, the rule is checked as disabled when searching for rules
- *Vendor product names*: types of the vendor products that will be allowed to take part in dynamic route selection. Can be handy when the user, for example, wants to limit the possible routing options to vendors whose products are called *Premium* and *Platinum* without enumerating all such vendors one by one



Add tab, continued

- *MCC MNC*: E212 codes the rule will be effective for (can be inclusive or exclusive). The MCCMNCs are checked for compliance with the codes received from the HLR (if any) or the reference book. Click to open the multipicker. The bottom area of the picker contains the edit box that allows pasting a list of e.212 codes with an arbitrary separator (comma, space, etc.). Click Paste to list to have the values parsed and added to the filter. The maximum length of the *MCCMNC* field is 4,000 symbols

- *Source/Destination tags*: tags used for routing by A-number and B-number respectively. Tags are configured in Reference books\Tags 255. Can be inclusive or exclusive

NOTE: Source number tags serve to configure routing by A-number; destination number tags can be used in creating routing rules and black lists. Using both numbers in routing rules, it is possible to filter traffic by a specific source and destination number combination.

- *Inclusive content pattern*: keywords and keyword patterns, for example .*discount.*. Messages with this keyword or pattern will be selected by the routing rule. The field comes handy in creating blocking rules that will filter messages that can be considered as spam. The maximum field length is 4,000 symbols (or around 2,000 for Unicode symbols). Regular expressions are allowed

NOTE: The System translates the text of SMS messages to UTF-8, therefore it is recommended to use only symbols compatible with the UTF-8 encoding

- *Exclusive content pattern*: serves to process traffic within a specific rule except for the specified pattern. The maximum field length is 4,000 symbols (or around 2,000 for Unicode symbols). Regular expressions are allowed

- *Inclusive content pattern group/Exclusive content pattern group* (available if the *Inclusive/Exclusive content pattern* fields are not filled): serve to include or exclude from routing a group of regular expressions configured in Reference books\Regular expressions 277. Up to 100 groups can be specified. Groups from the *Exclusive content pattern group* list will be verified before processing the *Inclusive content pattern group* list.

- *Sender ID pattern*: regular expression that configures a group of A-numbers. For example, for all short codes following the pattern 205XXX and 215XXX use the regular expression *(205|215)[0-9]{3}*

- *Sender ID pattern group* (available if the *Sender ID pattern* field is not filled): group of regular expressions configured in Reference books\Regular expressions 277. Up to 100 groups can be specified

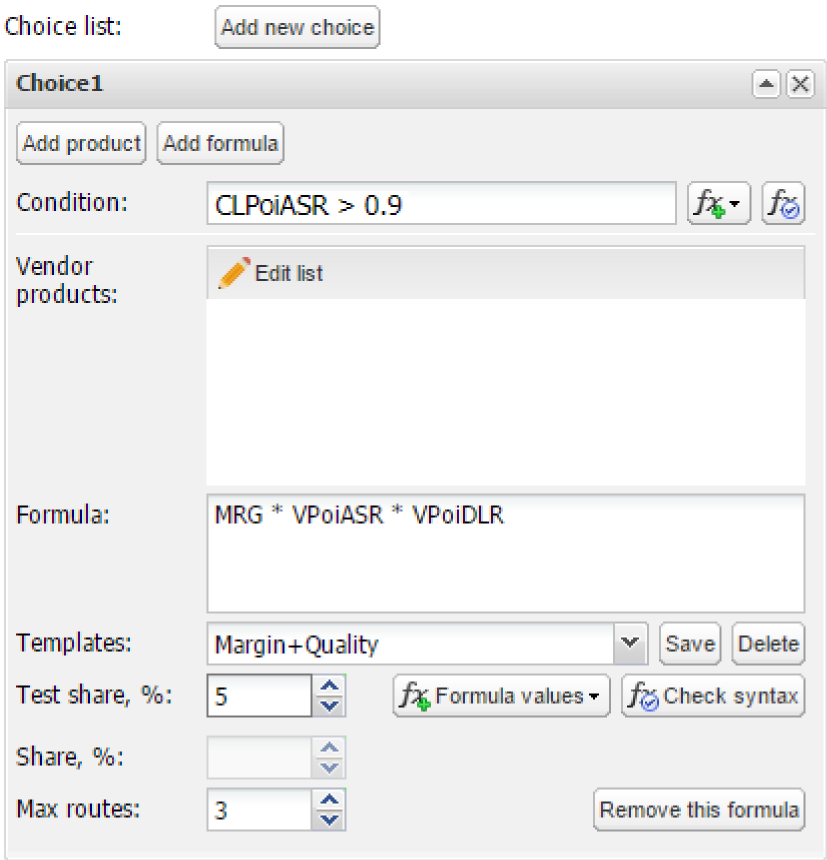
- *Dest. number pattern*: regular expression that configures a group of B-numbers. For example, for 10-digit B-numbers use the regular expression *[0-9]{10}*

- *Dest. number group* (available if the *Dest. number pattern* field is not filled): group of regular expressions configured in Reference books\Regular expressions 277. Up to 100 groups can be specified

NOTE: The use of double pipe symbols (||) is not allowed in regular expressions in the fields *Content pattern*, *Sender ID pattern* and *Dest. number pattern*. If double pipes are used the following message will be displayed: "Sorry, not allowed to use double pipe in this regular expression". See also the Alaris YouTube video.

NOTE: Fields with patterns (*Inclusive/Exclusive content pattern, Sender ID pattern* and *Dest. number pattern*) are displayed as text fields even if the checkbox *Use the RegExp ref. books for routing interfaces* is enabled in User settings 23.

- *Condition*: allows configuring complex conditions for selection of the rule. Only client metrics can be used, as the field is checked before the rule is applied. If the condition in the field is resolved as false, the System proceeds to the next rule.



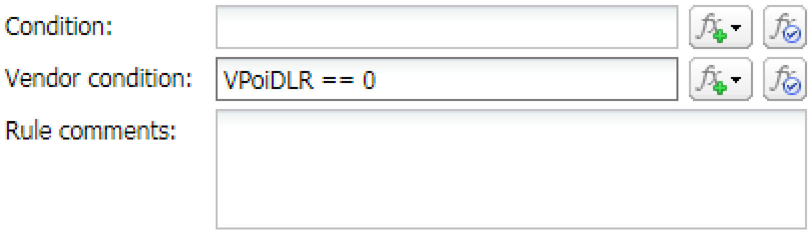
Add tab, Choice list

- *Choice list*: list of vendor selection options. One or several choices per rule can be created; each can contain one or several routing options. Click the Add new choice button to open the *Add new choice* form. Each choice form contains the following controls at the top right corner: - toggle choice; - clone choice; - delete choice. The following choice parameters are available:
    - *Condition*: logical expression based on System metrics that resolves as *True* or *False* for every involved vendor product, so that the product is or is not considered during the route selection in the current rule. If no MRG condition is specified explicitly, negative margin will not be allowed for the choice (same as MRG >= 0 condition)

NOTE: This field helps reject vendors that are not suitable for traffic termination based on the predefined condition. If the field is empty, the System checks for negative margin and rejects vendors that offer rates higher than client rates.

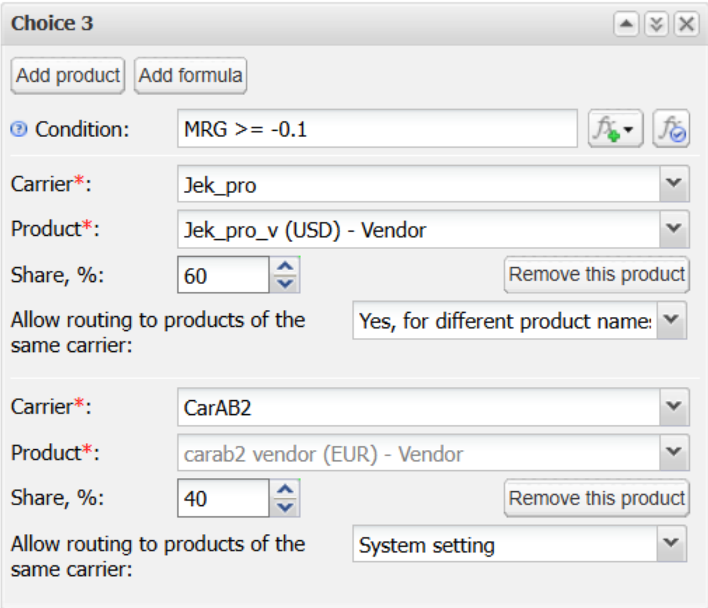
Click the button to open the drop-down list of conditions. The System metrics available as condition parameters are listed in the SMS\Routing\Routing rules\Statistical parameters in routing 475 section below. The use of standard mathematical and logical operations (*and/or*, *if/then/else* etc.) is allowed.Additionally, routing features can be used as conditions. Routing features and the examples of their use are detailed in SMS\Routing\Routing features 456. Click the button to verify the syntax of the conditional expression.

NOTE: If a formula or condition (in the fields *Condition*, *Formula* and *Vendor condition*) is verified as incorrect, the routing rule cannot be saved.



Vendor condition field

- *Vendor condition* (available when the *Rule type = block*): allows selection of vendor metrics and features. If a vendor route complies with the condition specified in the parameter, the route will be excluded from routing. For example, if the parameter value is VPoiDLR == 0, all vendors that have DLR = 0 for a specific MCCMNC will be excluded from routing. Find out more about the feature in the Alaris YouTube video



Add product (static options)

Static options (available for each vendor product added by the Add product button):

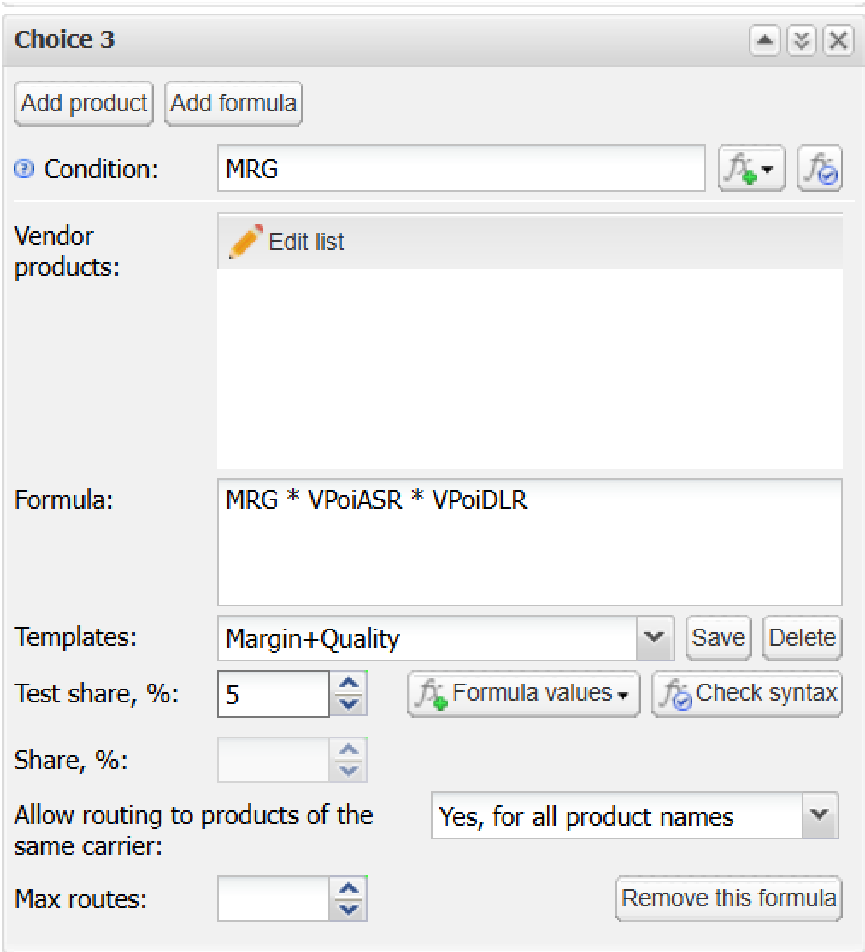
- *Condition* (see above)
- *Carrier*: vendor name
- *Product*: vendor product name

NOTE: The field displays only products that have POIs associated with them, as products with no associated POIs cannot be used for routing. See also the Alaris YouTube video.

- *Share*: share of traffic to go to the given vendor product out of the total scope of traffic affected by the rule (needs to be used in case there are two or more products – or products and formulas – within one choice). Makes it possible to balance the load between several vendors
- *Allow routing to products of the same carrier*: possible values are
  - *System setting* (default): as defined in the System setting *Enable traffic exchange between the same carrier products*

- *No*
- *Yes, for all product names*
- *Yes, for different product names*

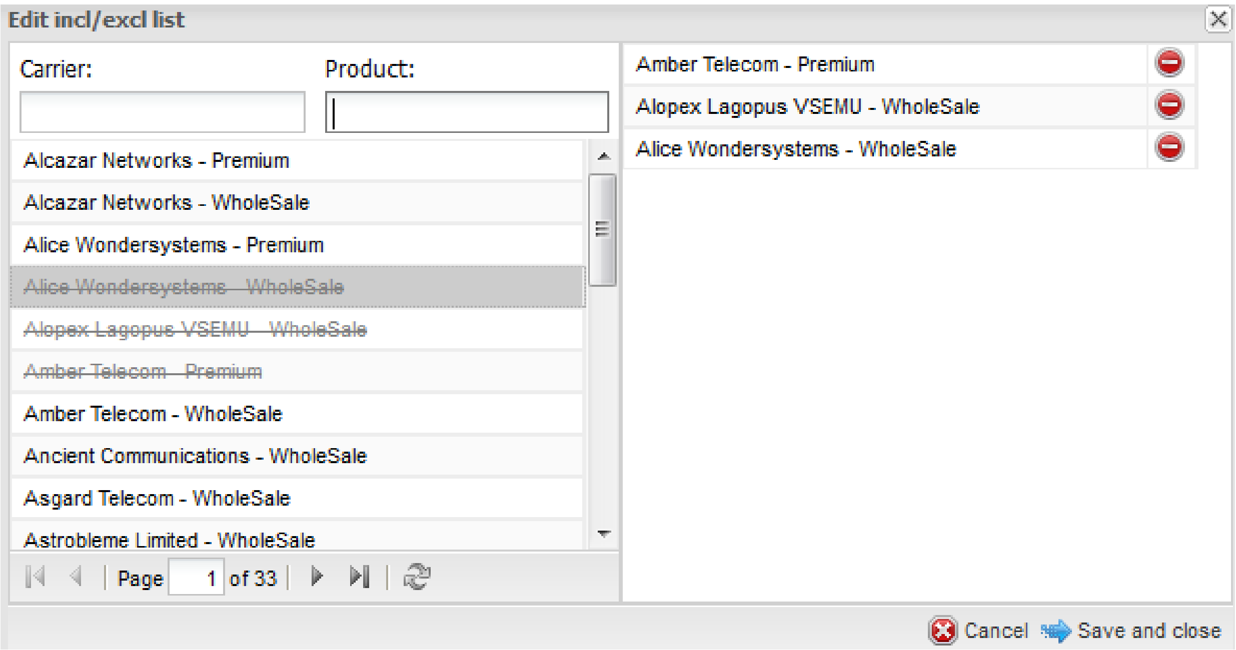
Click the Remove this product button to exclude the added product from the vendor selection.



Add new choice (dynamic)

Dynamic options (available for each formula added by means of the *Add formula* button):

- *Condition*
- *Vendor products*: optional list of vendor products to apply the routing formula to (no other vendor products will be considered in this case). The default value is empty, which means that all vendors with valid rates for the E212 is going to take part in the routing process. Click the Edit list button to open the window that allows adding/excluding vendor products.



Edit incl/excl list

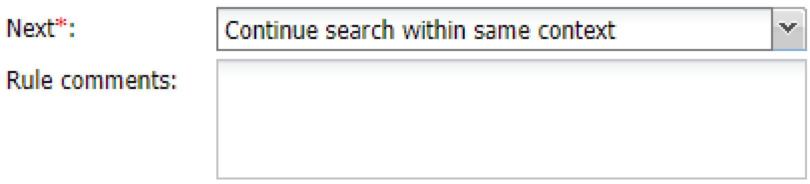
Vendor products can be filtered by carrier or product name in the left part of the window. Double-click on the product to add it to the list. Click the ✖ button to remove the product from the list. When through with creating the list, click ✔ Save and close to confirm the settings. The list of selected products will appear in the *Vendor products* field.

NOTE: The field displays only products that have POIs associated with them, as products with no associated POIs cannot be used for routing.

- *Formula*: routing formula - a Python expression that may contain any of the supported System parameters (e.g. margin, ASR etc.), arbitrary numeric factors and mathematical, logical or conditional operators. Click the Formula values button to open the drop-down list of parameters supported in Python. For every vendor product involved in routing, the formula resolves as a number used as the weight of the respective vendor product. The weight serves to set the order of routing - vendors with a higher weight are considered first. The metrics available as formula parameters are the same as those in the *Condition* control – refer to the SMS\Routing\Routing rules\Statistical parameters in routing 475 section below. Click the Check syntax button to verify correctness of the formula. Click the Remove this formula button if you wish to exclude the added formula from the routing rule. If not specified, the weight will be assigned as a random float value (from 0 to 1; same as *RND* routing metric)
- *Templates*: drop-down list of preset formula templates allowing difficult-to-type formulas to be reused in new rules. Use Save and Delete buttons to manage the templates.
- *Test share, %*: share of traffic passing through the rule that needs to be divided between all vendors present in the Vendor products list (if any) in order to keep their stats up-to-date
- *Share, %*: share of traffic to be routed by the formula out of the total scope of traffic affected by the rule
- *Allow routing to products of the same carrier*: possible values are

- *System setting* (default): as defined in the System setting *Enable traffic exchange between the same carrier products*
- *No*
- *Yes, for all product names*
- *Yes, for different product names*

- *Max routes*: the maximum number of routes to be returned by the routing choice with the formula. The parameter limits the number of vendor POIs



Next and Rule comments

- *Next*: this parameter defines whether the routing must:
  - stop after the current rule (*Huntstop*)
  - continue in the current context (*Continue search within same context*) or
  - switch over to another context (*Switch to context*). See SMS\Routing\Routing rules\Use of contexts 474 for more details.
- *Rule comments*: arbitrary comments on the configured routing rule
- *Probability, %*: the share of traffic processed by the test rule (applicable only for rules with the value *Test* in the *Rule type* parameter)

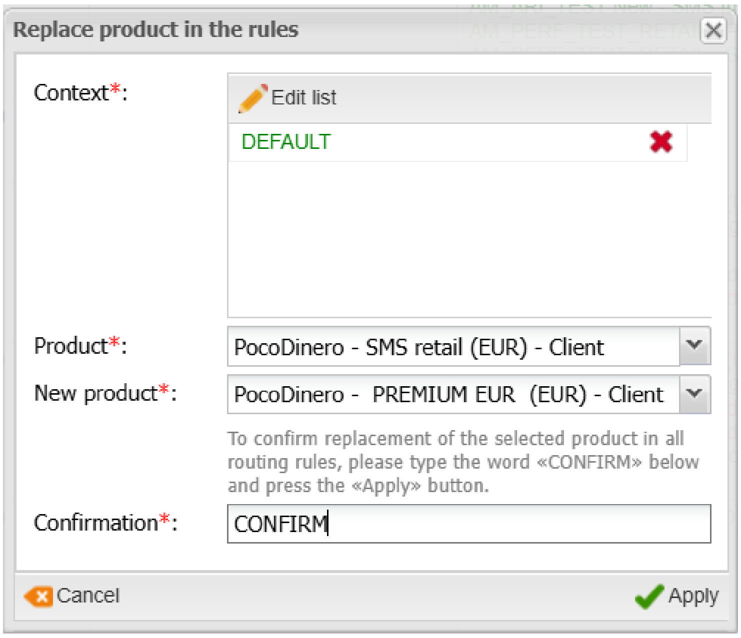
NOTE: If a rule contains both static and dynamic options, static choices will be checked earlier than dynamic ones, even if dynamic choices are placed earlier in the list.

When through with defining the parameters, click Submit to confirm or Reset to discard the settings.

The Clone button creates a duplicate of the configured rule. This is helpful when you wish to configure another rule with similar parameters.

Use the Delete button to delete the selected rule.

The Replace product *Replace product* button at the bottom of the rules table serves to replace one product with another in all available routing rules. The control opens a dialog box that prompts the user to select the context, the product to be replaced, and the new product as shown in the figure below. As this action changes routing rules significantly, the user is requested to confirm the operation. For this, type CONFIRM in the *Confirmation* field.



Replace product in the rules

The *Choice* sections of *Edit* tab additionally contain the *Vendor rate* field. It is displayed in the list of static choices if the *MCCMNC list* value is *Inclusive*. When the field is not empty it indicates that the vendor product contains a rate. If it contains several rates, the field will show the highest one.

NOTE: When the user attempts to export the list of routing rules to an MS Excel file with the help of the button, the content of the fields *Choice 1* and *Choice 2* is not exported; the number of vendors is shown instead.

12.5.6.4 Use of contexts

A context is a user-defined group of routing rules. Each rule is assigned to a context. There may be as many contexts in the System as the user needs. The only context that must be there at all times is DEFAULT – that is where routing of every SMS always starts.

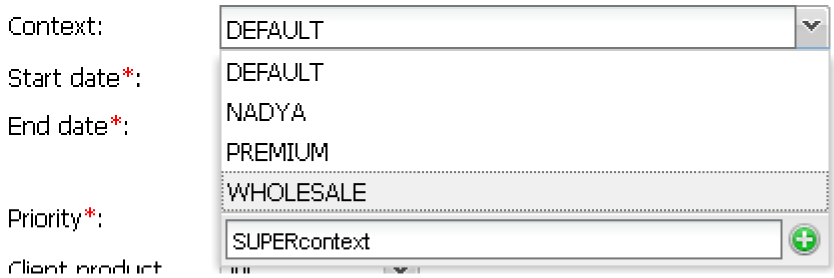
Switching the route search to another context is possible by setting the *Next* parameter in one of the rules in the current context to the *Switch to context* value supplemented with the name of the target context (it is not necessary to set any routing choices in such rules). If that routing rule is triggered, the System switches to the selected context for further routing. There are no other ways to make the System change the current context – if it has checked all rules in the current context and has not come across any context-switching rules, the routing procedure will end.

There are two typical ways to use contexts in routing:

- Contexts are created for different types of clients, based on client product names (e.g. *Premium* or *Wholesale*). To switch the routing to the right context for all clients with a particular product type(s) respective context-switching rules must be created in the *DEFAULT* context

- Contexts are created for individual clients when it is necessary to stipulate one or several per-customer exceptions in the routing setup. In this setup each individual context needs to contain a context-changing rule with the lowest priority, so that this rule will be the last considered. The System will be switching the routing to a context that will be common for all customers – therefore that new context must contain routing rules effective for all clients

To create a context, open the *Add* tab of the *Routing rules* page. Unfold the *Context* drop-down list. In the edit field at the bottom of the list type the context name and click . Fill other parameters of the rule as appropriate and click Submit to save the changes.

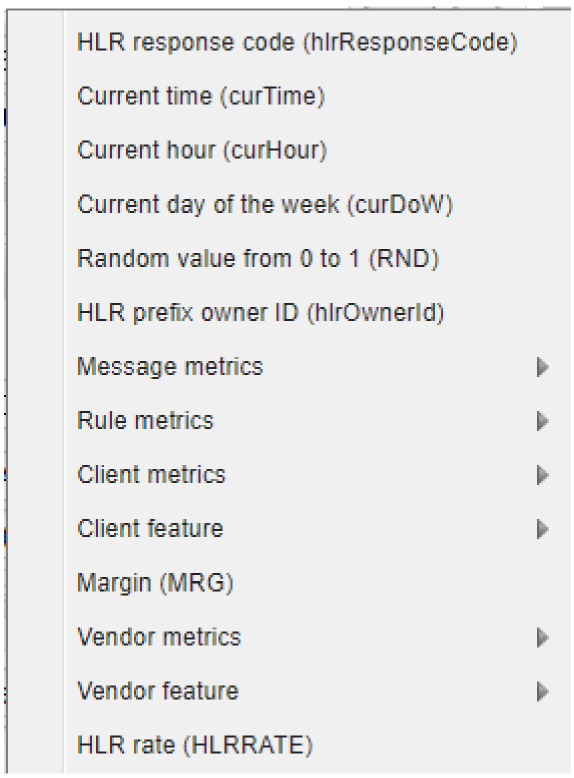


Adding a new context

To remove a context, delete all rules in this context.

12.5.6.5 Statistical parameters in routing

The following metrics can be used as parameters in the *Condition* or *Formula* expressions in SMS\Routing\Routing rules 464:



Condition parameters

NOTE: To use statistical parameters such as *CLPoiASR*, *VPoiDLR* etc. For new partners, assign initial values at SMS\Routing\Routing statistics 484.

The following System metrics are available as condition parameters (can be selected from the list or typed in manually):

- *curTime*: current time in seconds starting from 01.01.1970 (UNIX time)
- *curHour*: current hour

- *curDow*: current day of the week
- *RND*: random value from 0 and 1
- *hlrResponseCode*: HLR response code. Its value is taken from the providerResponseCode field that is returned by the HLR proxy module (refer to Appendix 2. Supported HLR providers 679). Additionally, the field value is saved to the EDR
- *Client metrics:*
  - CLAccBal: client account balance in the System currency
  - CLRate: client rate value in the System currency
  - CLPoiASR: client POI ASR
  - CLPoiDLR: client POI DLR
  - CLPoiADD: client POI average delivery delay in minutes
  - CER: client effective rate
- *Client features* (configured in SMS\Routing\Routing features 456)*:*
  - *CLTextIntegrity*: verified text integrity
  - *CLMNP*: mobile number portability support
  - *CLLongMSG*: long message support
  - *CLLocalTime*: local timestamp
  - *CLOrigNotKept*: originator overwritten
  - *CLDLVNotif*: delivery notifications to handset support
  - *CLBin*: binary
  - *CLMSGLength*: length support
  - *CLAvailNet*: available network
  - *CLFalseDLR*: false delivery
  - *CLPreRegOrig*: pre-registration originator
- *MRG*: margin in the System currency
- *Vendor metrics:*
  - *VAccBal*: vendor account balance
  - *VRate*: vendor rate value in System currency
  - *VPoiASR*: vendor POI ASR
  - *VPoiDLR*: vendor POI DLR
  - *VPoiADD*: vendor POI average delivery delay in minutes
  - *VER*: vendor effective rate

- Vendor features: similar to client features (for example, *VTextIntegrity:* verified text integrity etc.)
- *Message metrics:*
  - *aniTon*: Sender ID type of number
  - *aniNpi*: Sender ID numbering plan indicator
  - *dnisTon*: Dest. type of number
  - *dnisNpi*: Dest. numbering plan indicator
  - *DNISScore*: DNIS score
  - *DNISRisk*: DNIS risk level
  - *RuleAttCNT*: rule total attempt count
  - *RuleSucCNT*: rule successful attempt count
  - *RuleDLVCnt*: rule delivered attempt count

NOTE: The routing metrics *RuleDlvCNT*, *RuleSucCNT* and *RuleAttCNT* can be calculated directly by the SMS switch. This will enable routing modules to receive current values in near real time. For configuration contact the Alaris technical support team and communicate the code BZ12760 and a list of rule IDs for which the optimized calculation must be enabled. On request the feature can be applied to all rules.

  - *REFMCCMNC*: MCCMNC from the System's reference book
  - *HLRMCCMNC*: MCCMNC received from the HLR
  - *PORTED*: the metric indicates that the number is ported. The value is obtained from the HLR provider's response if appropriate parsing has been implemented for the service. For details on providers with implemented parsing refer to Question 8 of Appendix 7. Frequently asked questions\HLR module 760.

NOTE: The REFMCCMNC, HLRMCCMNC and PORTED metrics serve to create conditions to route traffic ported from one network to another through a specific partner. For example, the formula PORTED and (REFMCCMNC == "214001") means that the number is ported from the network with the MCCMNC 214001, and the formula PORTED and (REFMCCMNC == "214099") and (HLRMCCMNC == "214001") means that the number is ported from the network with the MCCMNC 214099 to MCCMNC 214001.

  - *MRGH*: average rule margin (hourly)
  - *MRGD*: average rule margin (daily)
  - *messageLen*: message length. Use this parameter together with the appropriate message length in bytes (for example, messageLen>=70.

NOTE: For data codings 0 to 7 every character corresponds to 1 byte, for coding 8 - to 2 bytes.

  - *concatMessage*: concatenated message. If the message is a part of a long message (specific ESM Class is set and UDH is present in the text), the metric is set to 1.
- *Rule metrics:*
  - *RuleAttCNT*: rule total attempt count
  - *RuleSucCNT*: rule successful attempt count

- *RuleDlvCNT*: rule delivered attempt count
- *MRGH*: average rule margin (hourly)
- *MRGD*: average rule margin (daily)

- HLRRATE: HLR rate. The metric serves to create formulas and conditions based on the cost of HLR dipping. Find out more about the feature in the Alaris YouTube video

for more details about rule metrics, refer to Appendix 4. Formulas and conditions in routing 689

12.5.6.6 Routing configuration algorithm

Suppose you need to configure routing for two types of SLAs – wholesale and premium. Create client products of two types: *Premium* and *Wholesale*. Products are created in the Carriers\Products 180 page.

Two routing setup procedures are possible:

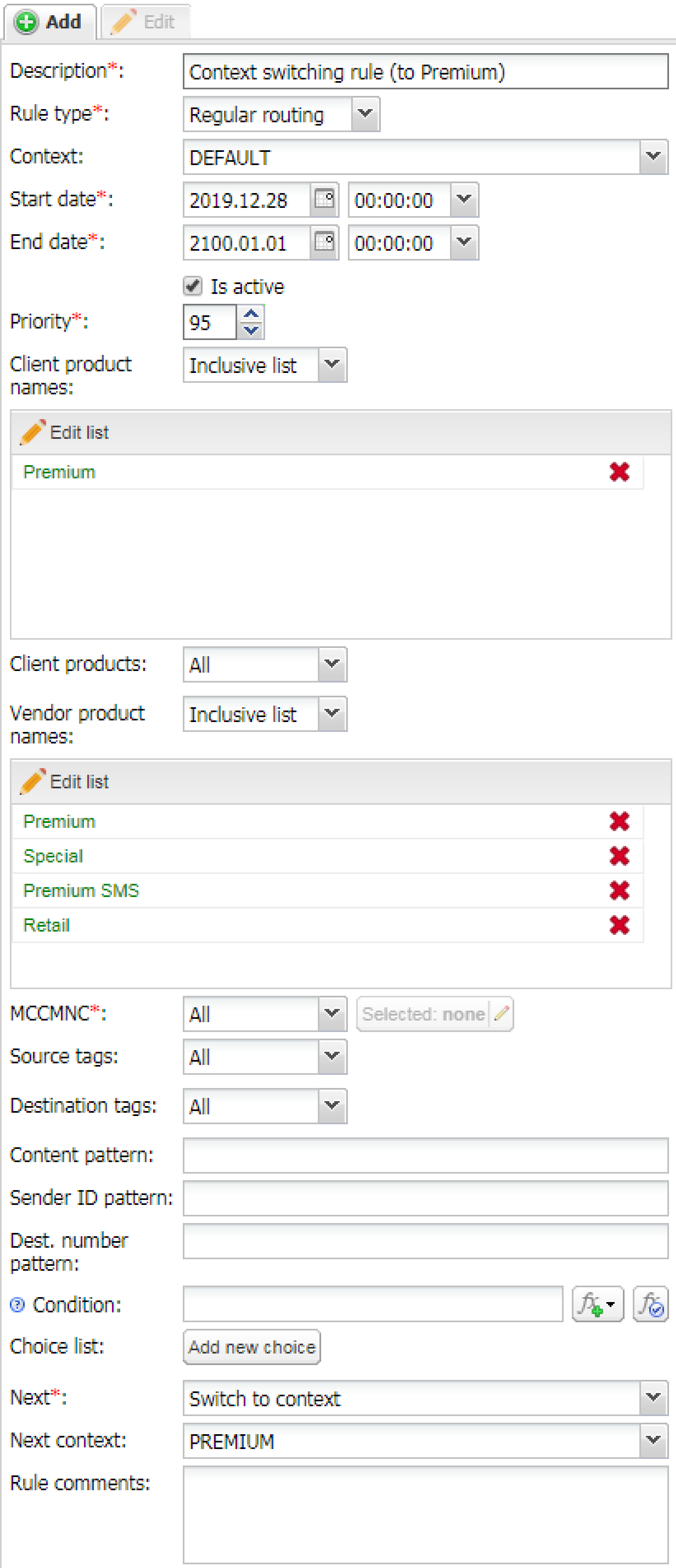
Procedure 1 (recommended).

1. Create two contexts: *wholesale* and *premium* (refer to SMS\Routing\Routing rules\Use of contexts 474 for instructions)
2. Create rules for wholesale clients, with the value *wholesale* in the *Context* field. Create rules for premium clients, with the value *premium* in the *Context* field.

NOTE: Leave the *Client product names* field blank as the product types are already defined by the context.

3. Create two “context-switching rules” so that the System can switch to the *premium* context for premium routes and *wholesale* context for wholesale routes. For these “context-switching rules” configure the following parameters:
   - in the *Context* field select *DEFAULT*
   - in the *Priority* field enter a high value, for example, 95
   - in the *Client product names* field select appropriate values (for example, those relating to retail/Gold etc. SLA for the premium routes and relating to LCR, standard etc. SLA for wholesale routes)
   - in the *Vendor product names* field select appropriate values
   - in the *Client product names* and *MCC MNC* fields select *All*
   - leave the *Choice* list must be left blank
   - in the *Next* field select *Switch to context*
   - in the *Next context* field select *wholesale* for wholesale routes and *premium* for premium routes.

An example of a context-switching rule is illustrated in the figure below.


Add
Edit
Description*:
Context switching rule (to Premium)
Rule type*:
Regular routing
Context:
DEFAULT
Start date*:
2019.12.28
00:00:00
End date*:
2100.01.01
00:00:00
Is active
Priority*:
95
Client product names:
Inclusive list
Edit list
Premium
Client products:
All
Vendor product names:
Inclusive list
Edit list
Premium
Special
Premium SMS
Retail
MCCMNC*:
All
Selected: none
Source tags:
All
Destination tags:
All
Content pattern:
Sender ID pattern:
Dest. number pattern:
Condition:
Choice list:
Add new choice
Next*:
Switch to context
Next context:
PREMIUM
Rule comments:

“Context-switching rule” settings

Procedure 2.

1. Create the routing rules as necessary. In the *Context* field of all the rules select *DEFAULT*.
2. In the *Client product names* list select *Premium* for premium clients and *Wholesale* for wholesale clients.

NOTE: In this case the System will have to process all rules of the *DEFAULT* context which adds extra load on the System. Besides, administration of the numerous rules may be difficult. It is therefore recommended to use Procedure 1 in routing rule creation.

12.5.6.7 Routing setup example

Suppose Client A has 3 products: CLI, Non-CLI, Premium. The following routing setup is required:

- Premium traffic to Spain from Client A needs to be routed to special vendors (not like all other Premium clients), as well as its CLI traffic to TIM Brazil.
- No traffic to Verizon Wireless USA for client A is allowed.
- No traffic to O2 UK is allowed from Client A - Premium.
- For other countries general routing for all clients of the same type (Premium, CLI, Non-CLI) needs to work for that client.

Context DEFAULT

Rule 1

Name = Switch to CLI

Rule type = Regular routing

Priority = 90

Client product names = CLI (the rule will only work for clients with products named CLI, irrespective of the client name)

Client products = All

MCCMNCs = All

Choices = No

Next = Switch to context, Next context = CLI (switching the route search to the context CLI)

Rule 2

Name = Switch to Non-CLI

Rule type = Regular routing

Priority = 90

Client product names = Non-CLI

Client products = All

MCCMNCs = All

Choices = No

Next = Switch to context, Next context = Non-CLI

Rule 3

Name = Switch to Premium

Rule type = Regular routing

Priority = 90

Client product names = Premium

Client products = All

MCCMNCs = All

Choices = No

Next = Switch to context, Next context = Premium

Rule 4

Name = Block Verizon Wireless - Client A

Rule type = Block

Priority = 20 (basic priority of Block rules is always higher than that of Regular routing rules, so the Priority field does not have any real impact in this case)

Client product names = All

Client products = Client A Premium, Client A CLI, Client A Non-CLI

MCCMNCs = 310010

Vendor products = All

Context PREMIUM

Rule 4

Name = Spain - Client A

Rule type = Regular routing

Priority = 90

Client product names = All (you do not need to set Premium here, as this has already been checked in the DEFAULT context and no other client products except Premium are allowed in this context anyway)

Client products = Client A Premium

MCCMNCs = 214% (please note the '%' sign after the MCCMNC - it makes the rule valid for any network within the given MCC)

Choices = Vendor 1, Vendor 2, Vendor 3

Next = Huntstop (this is to stop routing for Client A on this rule, so that vendors for Spain from Rule 5 will not be added to the routing results - it is up to you whether or not this needs to be done in each particular case)

Rule 5

Name = Spain - General

Rule type = Regular routing

Priority = 80 (this rule has a lower priority than Rule 4, therefore for Client A Rule 4 will be triggered first)

Client product names = All

Client products = All

MCCMNCs = 214%

Choices = Vendor 4, Vendor 5, Vendor 6

Rule 6

Name = Other countries - General

Rule type = Regular routing

Priority = 80

Client product names = All

Client products = All

MCCMNCs = All

Choice = MRG, Max routes = 3 (with this formula traffic will be routed by margin, and 3 most profitable vendors will be selected as routing options)

Rule 7

Name = Block O2 UK - Client A Premium

Rule type = Block

Priority = 20

Client product names = All

Client products = Client A Premium

MCCMNCs = 234010, 234011

Vendor products = All

Context CLI

Rule 7

Name = Special Route to TIM Brazil for Client A

Rule type = Regular routing

Priority = 90

Client product names = All

Client products = Client A CLI

MCCMNCs = 724002, 724003, 724004, 724008

Choices = Vendor 10, Vendor 11, Vendor 12

Rule 8

Name = General Routing to TIM Brazil

Rule type = Regular routing

Priority = 80

Client product names = All

Client products = All

MCCMNCs = 724002, 724003, 724004, 724008

Choices = Vendor 13, Vendor 14, Vendor 15

Rule 9

Name = General Routing to other countries

Rule type = Regular routing

Priority = 80

Client product names = All

Client products = All

MCCMNCs = All

Choice = MRG, Vendor product list = Vendor 16, Vendor 17, Vendor 18 (the LCR formula will only be applied to the short list of selected vendors)

Context NON-CLI

Rule 10

Name = General Routing to Spain

Rule type = Regular routing

Priority = 80

Client product names = All

Client products = All

MCCMNCs = 214%

Choices = Vendor 19, Vendor 20, Vendor 21

Rule 11

Name = General Routing to Brazil

Rule type = Regular routing

Priority = 80

Client product names = All

Client products = All

MCCMNCs = 724%

Choices = Vendor 22, Vendor 23, Vendor 24

12.5.7 Routing statistics

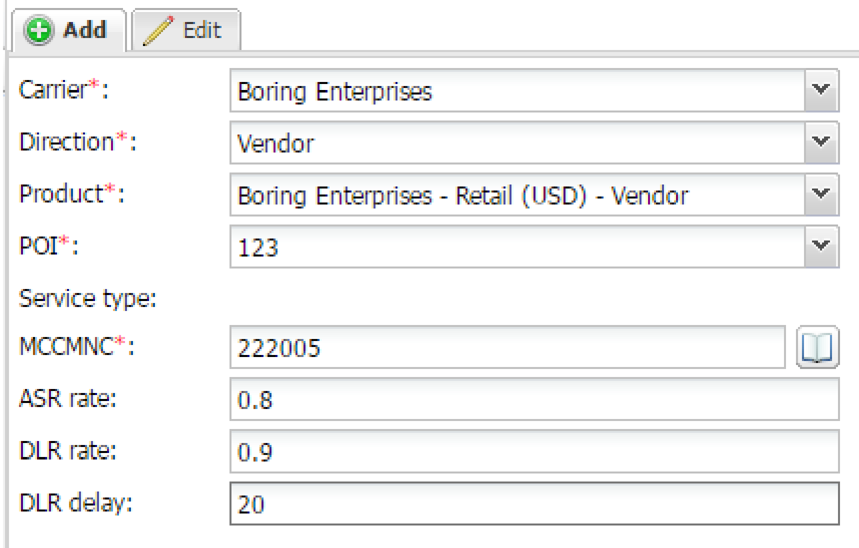
The *SMS/Routing/Routing statistics* page serves for supplying initial quality of service (QoS) statistics for new vendors. When a new vendor is added, the System knows nothing about its quality of service, and therefore cannot use it for quality-based routing. The System owner can enter initial data about the vendor's quality in the *Routing statistics* page.

Carrier	Direction	Product	POI
All	All	All	All
Alarislabs_NEW	Client	SMS retail (EUR) - Client	Alarislabs_NEW: 11554
Alice Wondersystems	Vendor	Wholesale (EUR) - Vendor	Alice_trc328
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336
Award Wieners	Vendor	Wholesale (EUR) - Vendor	Porto_trc336

Statistics table

The page contains the button at the bottom that serves to export the table to an MS Excel file.

The page contains two panels. The left panel is the statistics table, the right panel contains the *Add* and *Edit* tabs.



Add tab

To add a new record to the table, open the *Add* tab and complete the following fields:

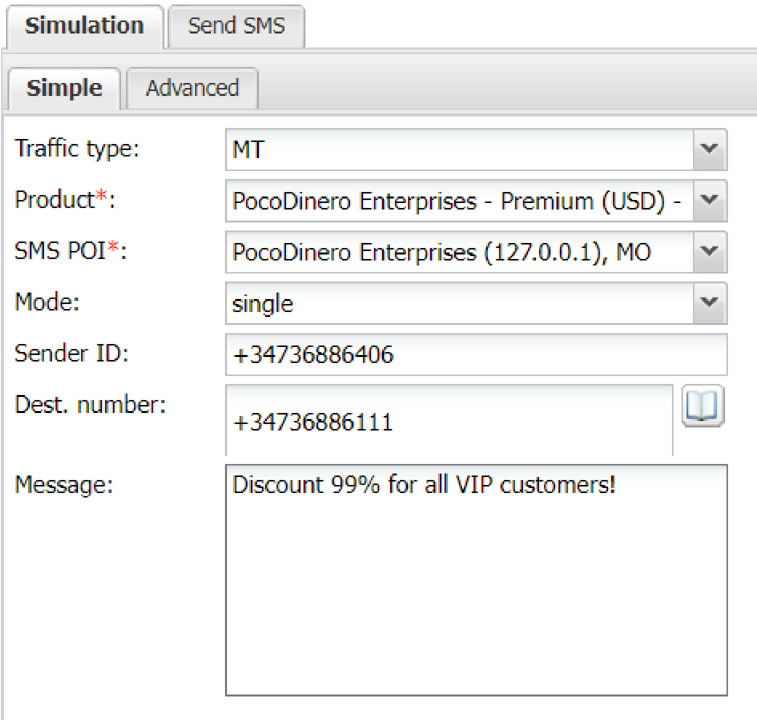
- *Carrier*: the partner's name
- *Direction*
- *Product*
- *POI*
- *Service type*
- *MCCMNC*
- *ASR rate*: a decimal value between 0 and 1 (for example, 0.1 implies 10% of ASR)
- *DLR rate*: a decimal value between 0 and 1 (for example, 0.1 implies 10% of DLR)
- *DLR delay*: DLR delivery delay in minutes

Click Submit to save the entry or Reset to discard the settings. Once the record appears in the table, the new vendor can be used in configuring routing rules. NOTE: Once the real-life statistics are collected, the record becomes irrelevant.

12.5.8 Simulation

The *SMS\Routing\Simulation* page allows checking the actual behavior of the routing logic at a selected moment by emulating a routing request like the one sent to the routing module by the switch.

The *Simulation* page is divided in three panels. The upper left panel contains the *Simple* and *Advanced* tabs.



Simulation tab

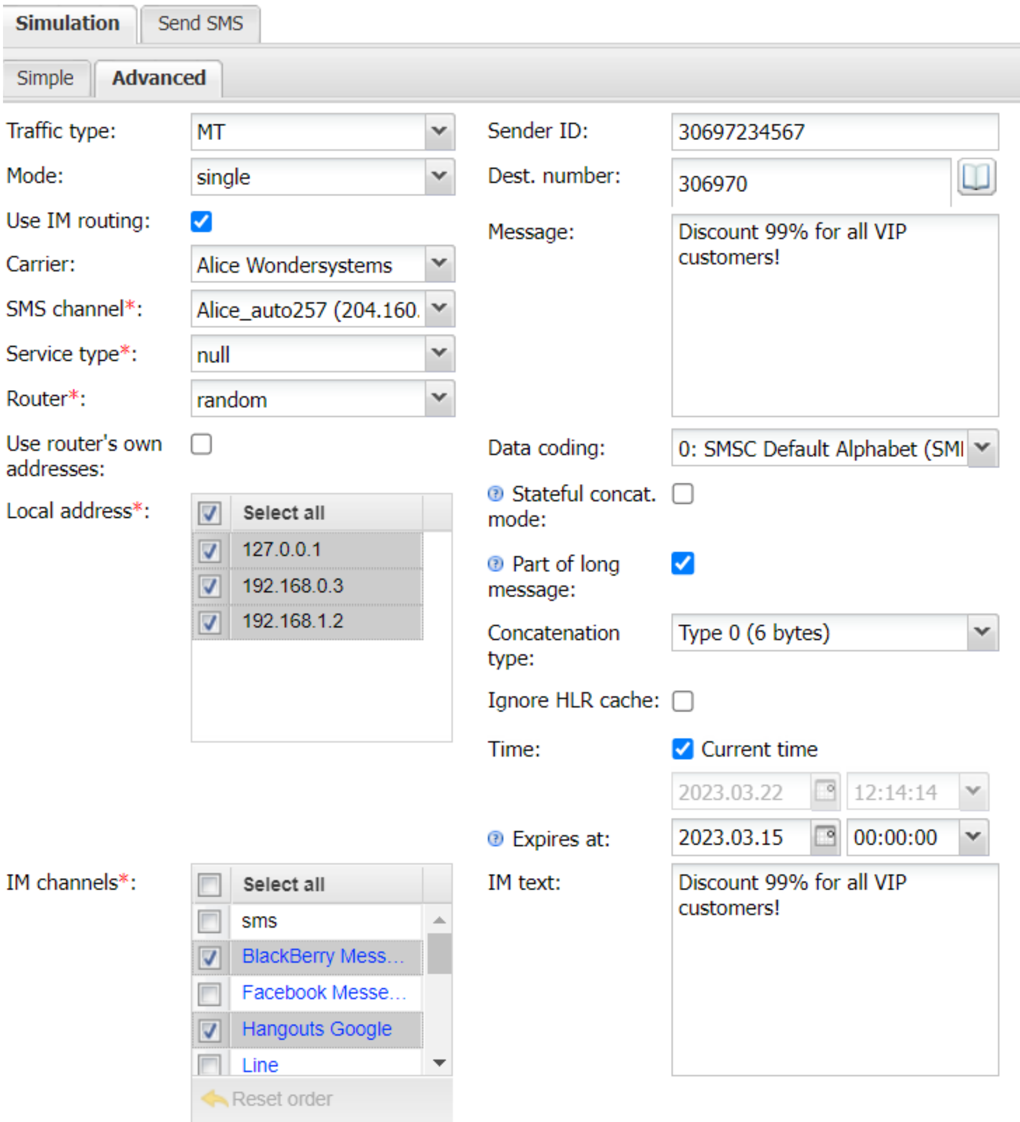
The *Simple* simulation type serves to set the basic parameters and allows starting the simulation quickly, whereas the *Advanced* type contains a set of more detailed settings. The *Simple* type contains the following parameters:

- *Traffic type*: *MO* or *MT* (if the traffic type is *MT*, client products with active POIs are displayed; if the traffic type is *MO*, vendor products with active POIs are displayed)
- *Product* (only active products having active POIs are displayed). If a partner has IM products, enable the Use IM routing checkbox to display them
- *SMS POI*: select the POI from the drop-down list
- *Mode*: the parameter defines the simulation mode and contains the following options:
  - *single*: check routing for a single number
  - *iterative*: launch a series of tasks for the same set of parameters (*Sender ID*, *Destination address*, etc.) to all the available router instances for the number of times defined in the *Iterations* field. The bottom table shows the distribution of traffic between the routes (vendor + POI + MCCMNC + Sender ID + Destination address + Rule) which allows for easier detection of the test rules, traffic shares within one choice and possible problems with a specific router instance
  - *multi*: check multiple routes for multiple preselected MCCMNCs. If no MCCMNC list is set, the simulation uses all MCCMNCs for which active rates in the product are available. If the active rate in the product contains MCCs only, the System will search for the available MCCMNC
- *Sender ID*: this parameter is used to test routing by the A-number (configured in SMS\Routing\Routing rules\Rules page 464 by the Caller ID and Sender ID pattern parameters. Specify a caller ID tag value or a Sender ID pattern

- *Dest. number* (available when the *Mode* value is *single* or *iterative*): target number. The field does NOT support blank spaces. To auto fill the field, click on the icon and select a dial code that belongs to a required MCCMNC. If a product is selected, the list will contain the MCCMNCs, rates for which have been added to the product

NOTE: The *Dest. number* field supports the plus "+" symbol, which allows for more precise validation of routing rules. Additionally, the *cutPlusInDnis* parameter in the SMS router configuration file allows keeping the plus "+" symbol in the destination number if necessary. To activate the parameter, contact the Alaris technical support team and communicate the code BZ28787. The field also supports alphanumeric values when simulating MO traffic sending.

- *Message*: text of the SMS (up to 2,000 symbols)



Simulation tab (Advanced type)

The *Advanced* type contains the following parameters:

- *Traffic type*: *MO* or *MT* (if the traffic type is MT, client products with active POIs are displayed; if the traffic type is MO, vendor products with active POIs are displayed)
- *Carrier*

- *SMS channel*
- *SMS POI*: select the POI from the drop-down list
- *Router*: routing module used for simulation
- *Mode*: the parameter defines the simulation mode and contains the following options:
    - *single*: check routing for a single number
    - *iterative*: launch a series of tasks for the same set of parameters (*Sender ID*, *Destination address*, etc.) to all the available router instances for the number of times defined in the *Iterations* field. The bottom table shows the distribution of traffic between the routes (vendor + POI + MCCMNC + Sender ID + Destination address + Rule) which allows for easier detection of the test rules, traffic shares within one choice and possible problems with a specific router instance
    - *multi*: check multiple routes for multiple preselected MCCMNCs
- *Use router's own addresses*: when selected, the Simulation module will use the SMS channels with *Local address* set as *Use switch default setting* in Carriers\SMS channels 188 and the IP addresses that are available on the server with the selected routing module. If the checkbox is disabled, the Simulation module will use *Local addresses* defined in the list below
- *Local address*: select the SMS channel local address. Channels that have *Local address not available* on the switch server will be excluded from the route list. The parameter verifies vendor local addresses only. For example, if *Local address* is set to 1.1.1.1 and the simulation is performed for a client that has *Local address* set to 3.3.3.3 in its channel settings, no error will be shown and the System will be searching for routes
- *Use IM routing*: use IM channels for simulation. When selected, the *IM channels* and *IM message* fields appear. Specify the list of IM channels in the *IM channels* field, and the message text in the *IM message* field. If *SMS* is selected in the *IM channels* field, SMS is used as fallback if all other channels are unavailable
- *Sender ID*: this parameter is used to test routing by the A-number (configured in SMS\Routing\Routing rules\Rules page 464 by the Caller ID and Sender ID pattern parameters. Specify a Source tag value or a Sender ID pattern
- *Dest. number* (available when the *Mode* value is *single* or *iterative*): target number. The field does NOT support blank spaces. To auto fill the field, click on the icon and select a dial code that belongs to a required MCCMNC. If a product is selected, the list will contain the MCCMNCs, rates for which have been added to the product

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NOTE: The *Dest. number* field supports the plus "+" symbol, which allows for more precise validation of routing rules. Additionally, the *cutPlusInDnis* parameter in the SMS router configuration file allows keeping the plus "+" symbol in the destination number if necessary. To activate the parameter, contact the Alaris technical support team and communicate the code BZ28787. See also the Alaris YouTube video.

- *Message*: text of the SMS (up to 2,000 symbols)
- *Part of long message*: select to simulate routing of a part of a concatenated message - if the routing is triggered for a single segment when *Stateful concatenated messages processing* is disabled or there was a timeout for expecting all the parts

NOTE: When the checkbox is selected (and when parts of a long message are received, but no stateful processing has been applied), message text of the part will not be translated as it may result in its incorrect length.

- *MCCMNC list* (available when the *Mode* value is *multi*): define the MCCMNCs that will be tested (the list is fetched from the e.212/e.164 reference book). The field displays the MCCMNCs whose rates are active for the time set in the *Time* field. The field can be left empty, in this case all MCCMNCs for which rates are available in the client product will be used in the simulation.
- *Check parent product* (available when the *Mode* value is *multi* and a parent product is assigned to the product): enables checking parent rates during simulation process. Note that the user must have access to parent (System owner) rates so that the System would take them into account
- *Ignore HLR cache*: when enabled, HLR dipping will occur even if the number was in the HLR cache (that is, HLR dipping was performed earlier for this number). This will allow getting a more accurate picture of routing with account for the HLR rate, which is deducted from the client rate in case of regular routing (if the System parameter *Deduct HLR rate from margin (0 - no, 1 - yes)* is enabled)
- *Time*: set date and time in the calendar or select the *Current time* checkbox. The time is taken into account for the following data: client and vendor rates are searched for the date; the account activity time set in the agreement; the validity period of translation and routing rules; the validity dates of dial code/MCCMNC associations; verification of routing rules that have the *curHour/curDoW* metrics in the *Condition* field. The currency exchange rate is taken into account as of the set date and time
- *Expires at*: serves to set the parameter validity_period. The field allows for more accurate tracking that the translation rules are applied correctly, and for monitoring the operation of the channel or System parameter *Block expired messages*. Additionally it may come instrumental in verifying buffering rules. If left blank (default value), the value of the System parameter *Delivery waiting period, secs* is added to the *Time* value set for the simulation, to define the validity_period value

If *Traffic type* is *MT*, the following fields are additionally available:

- *Data coding*: if set to 0, the *Default data coding scheme* will be used, as set in the client SMS channel. Additionally, if the message text contains symbols not included in the data coding, the data coding will be selected automatically. For example, if

  Message: Test €

  Data coding: 3: Latin 1

  data coding 8 will be selected for simulation
- *Stateful concat. mode*: to simulate sending of messages processed in the stateful concatenated mode (cannot be set simultaneously with the *Part of long message* checkbox)
- *Concatenation type* (possible values are: *Type 0* for UDH length of 6 bytes, *Type 8* for UDH length of 7 bytes) and *SAR*: serves to enable more flexible message sending simulation. The parameter can be set when the *Stateful concat. mode* or *Part of long message checkbox* is selected

When through with defining the parameters, click Get routes *Get routes* to confirm or Reset *Reset* to discard the settings.

The table in the top right corner of the page displays the results of recently performed simulations:

Task ID	Task created	Details	Traffic type	Simulation type	Carrier	Mode	SMS channel	Sender ID
	-∞ ≤ X ≤ ∞		All	All	All	All	All	
TASK459536	2021.08.26 09:11:58	view log	MT	Simple	Democracy Networks	single	Zerro_auto385	123
TASK459302	2021.08.12 09:42:56	view log	MT	Simple	Democracy Networks	single	Zerro_auto385	123
TASK459276	2021.08.10 16:19:33	view log	MT	Simple	Democracy Networks	single	Zerro_auto385	123
TASK459160	2021.08.05 14:45:25	view log	MT	Simple	Democracy Networks	single	Zerro_auto385	123

Recent simulations table

The table displays the following parameters:

- *Task ID*
- *Task created*: date and time of the task creation
- *Details*: contains a link to the simulation log (SMS\Routing\Simulation\Simulation log 491). The link to each simulation log can be shared and opened from the outside. The log describes the steps of the routing procedure
- *Traffic type*: *MO* or *MT*
- *Simulation type*: *Simple* or *Advanced*
- *Carrier*: name of the carrier selected in the *Simulation* tab
- *Product*: name of the product selected in the *Simulation* tab, its direction and account currency
- *Mode:* simulation mode selected in the *Simulation* tab (*single*, *iterative* or *multi*)
- *SMS channel*: name of the SMS channel
- *Sender ID*: A-number selected in the *Simulation* tab
- *Destination number*: B-number selected in the *Simulation* tab
- *Time*: date and time of the SMS selected in the *Simulation* tab
- *User name*: name of the user that created the simulation task

Click on a record in the table to view the simulation results displayed at the bottom of the page. The results are displayed in a table of vendor routes, listed as they were used for routing. If the route is dynamic, it is displayed in black. If it is static, it is greyed out. Unsuccessful simulations are highlighted in red. The upper (zero) row shows the details of the client route on behalf of which the simulation is performed.

Router	#	Context	Weight	Carrier
All	Min. Max.	All		All
10.200.0.26:1752	0			SA_life
10.200.0.26:1752	1	DEFAULT		SA_Test

Applied translation

Field name	Rule ID	Old value	New value
Sender NPI	15849	0	6
Flash message	15852		8
Destination TON	15850	1	6
Registered deliv...	15851		0
Sender ID	15845	test	Facebook
Destination NPI	15853	1	6

Vendor routes

The table displays the following parameters:

- *Router:* the IP address and port of the router used in simulation. For simulations with the *Mode* = *multi*, the field contains multiple links that allow viewing the log for each simulation separately

- *#*: sequence number
- *Context*: context of the routing rule. Several vendors can be selected for routing according to different rules
- *Weight*: vendor weight (starts with the word FIXED for static routes, since no weight calculation is done for them)
- *Carrier*: in the upper row - name of the client used for simulation, in all the other rows – names of the selected vendors
- *Product*: in the upper row - client product type used for simulation, in all the other rows – types of the selected vendor products
- *GUID*: identifier of the selected vendor's POI
- *Service type*: service type of the selected vendor's POI
- *Vend. sender ID*: vendor's caller ID
- *Dest number*: target number used for simulation
- *e212*: MCCMNC of the rate selected for a vendor in routing
- *Country*
- *Net*
- *ASR*: answer seizure ratio of the product and MCCMNC
- *DLR*: delivery rate of the simulation
- *Count*: number of sent messages
- *Rate*: in the upper row - rate from the client's side, in the remaining rows – termination rates from vendors
- *HLR rate*: the HLR rate in System currency (if the *Dip HLR* option is enabled for the product and the HLR MCCMNC is not taken from the cache)
- *Margin*: margin for the route
- *Margin, %*: the value is calculated by the formula Margin(%)=(Revenue-Cost)/Cost. Find out more in the Alaris YouTube video
- *Rule ID*: link to the used routing rule (click to open the rule for editing)

The *Applied translation* table at the right shows:

- for the selected client route: pre-routing translations applied for all the routes
- for the selected vendor route: post-routing translations applied for the selected vendor route

Click the Restart button to start the simulation again.

12.5.8.1 Simulation log

The simulation log is used for troubleshooting purposes. It comes instrumental if something goes wrong during the simulation process – for example, unexpected routes or no routes at all are found. To view the log for a particular simulation task, click on the view log link of the appropriate record in the tasks table (*Details* column).

	Dest. number	Time		Details	User name
					All
	17341234567	2016.09.06 16:20:17		view log	Alaris
	17341234567	2016.09.06 16:18:59		view log	Alaris

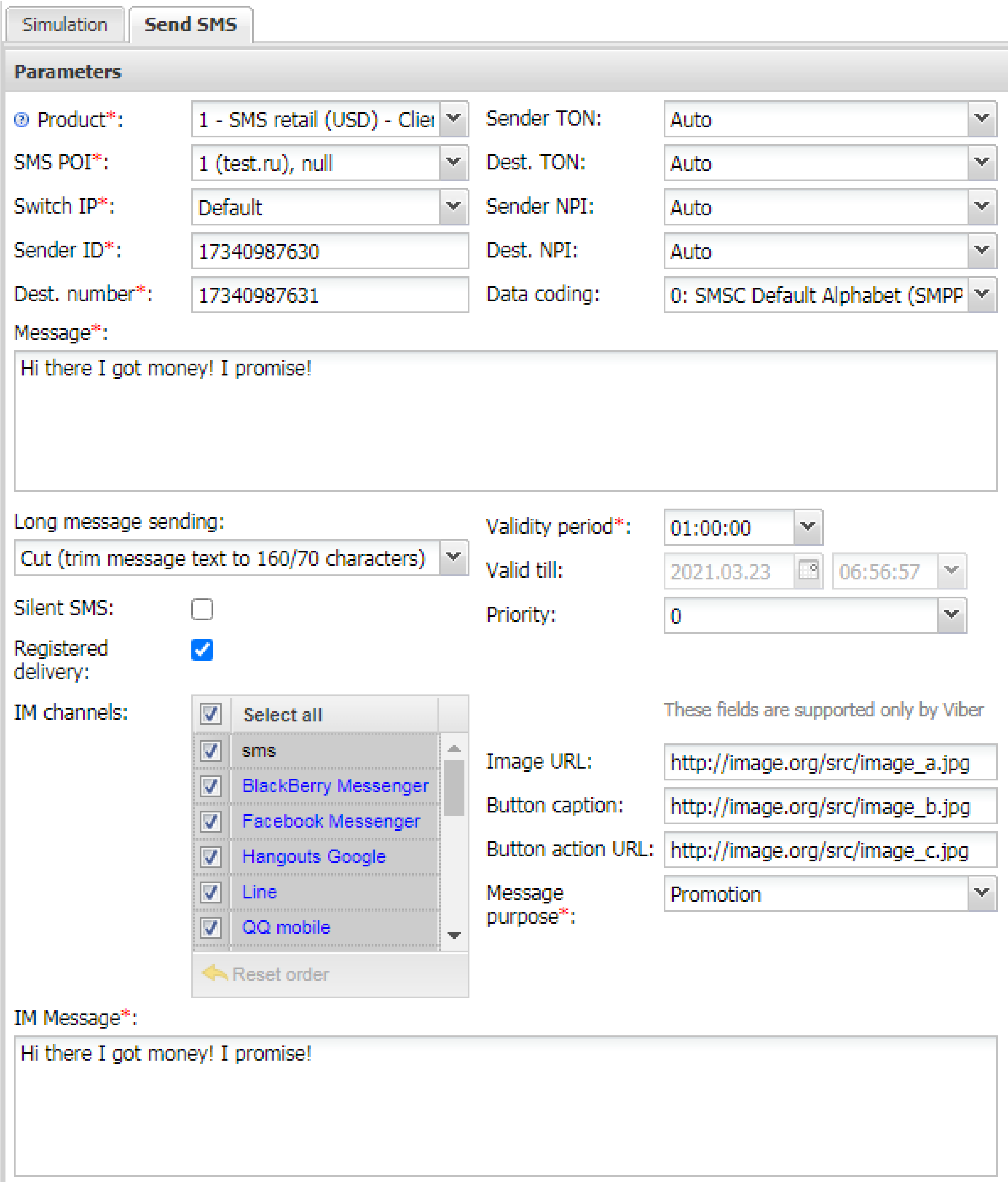
View log link

The log is explained in detail in Appendix 5. SMS simulation troubleshooting guide\Simulation process 704.

12.5.8.2 Send SMS

The *Send SMS* page allows configuring and sending test messages on behalf of a client. Clients whose settings are used are not charged for test messages, but the System applies the routing logic the way it would do for an SMS received from that customer.

NOTE: The test messages will be originated from and paid for by the System owner. Messages are received by the switch over HTTP. The URL is generated based on the System parameter *Switch URL template for SMS test send* (Administration\System settings\SMS 80). Messages are sent to the vendor over the vendor protocol set in the SMS channel. The recorded EDRs have Traffic type=test.



Send SMS tab

The tab allows configuration of the following parameters:

- *Product*: client's product
- *SMS POI*: client's POI for the test message
- *Switch IP:* the switch used for the test message (list of switches is configured in the parameter *Switch IP list for test message sending* in Administration\System settings\SMS 80)
- *Sender ID*: A-number
- *Dest. number*: B-number

NOTE: The *Dest. number* field supports the plus "+" symbol, which allows for more precise validation of routing rules. Additionally, the *cutPlusInDnis* parameter in the SMS router configuration file allows keeping the plus "+" symbol in the destination number if necessary. To activate the parameter, contact the Alaris technical support team and communicate the code BZ28787. See also the Alaris YouTube video.

- *Source TON / Source NPI / Dest. TON / Dest. NPI (optional)*
- *Data coding*: message text encoding
- *Message*: text of the test message
- *Long message sending*: specify how the System should send messages exceeding the standard length
- *Validity period (required):* the period during which the SMS sending attempts will be performed
- *Valid till (uneditable, for reference only)*
- *Silent SMS*: select to test the silent mode of SMS sending (a message is sent with a special data coding, and the message arrives with no sound). Find out more in the Alaris YouTube video
- *Registered delivery*: when selected, the submit request will be sent with the registered_delivery flag set to 1. If the flag is set to 0, the vendor is not guaranteed to return a delivery report
- *Priority*: message priority in the GSM network
- *IM channels*: select the channels for simulation. If at least one IM channel is selected, the following fields become available:
    - *IM message*: the text of the instant message
    - *Image URL* (specific for Viber messages (*promotion* type)): the link to an image sent in the message
    - *Button caption* (specific for Viber messages (*promotion* type)): the link to a button sent in the message
    - *Button action URL* (specific for Viber messages (*promotion* type)): URL opened when clicking the button sent in *Button caption*
    - *Message purpose* (specific for Viber messages): *Transaction* or *Promotion*

When through with defining the parameters, click Send to send a message or Reset to discard the settings.

The results will be displayed in the right hand panel containing the following details:

- *Status*: *true* (message delivered) or *false* (message not delivered)
- *Output*: transaction_id if the message is delivered or error description if an error occurred

12.5.9 Limitation rules

The *SMS\Routing\Limitation rules* interface serves to send notifications and block MT traffic when certain indicators for specified networks (for example, ASR/DLR) exceed or fall below predefined thresholds. To access the interface, the user must have the *SMS limitation rules* permission. The notification that is sent if the rule is activated is configured in Administration\Template manager104 (the *SMS limitation rule letter* template). Indicators are calculated based on analytical cubes.

The interface contains two tabs - *Rule list* and *Thresholds*. Thresholds are set for each metric (up to 5 values; also depending on the metric they can be either in the ascending or descending order). They are used for sending notifications. If not set, a notification will not be sent, but the traffic will be blocked if the threshold of 100 percent is reached (if the rule is of the *Block and alert* type).

The *Rule list* page is divided into three parts: the table of rules , the *Rule stats* table, and the *Add* and *Edit* panels.

The top left part of the page is a table of configured limitation rules. Use text masks or drop-down lists under the column headers to filter the records in the table. Use the button in the upper left corner to clear the configured filter. Use the button on the bottom toolbar to refresh the table. The icon displays the date the rule was created and the date the rule was last edited.

Rule list | Thresholds

	ID	Active from	Active to	Rule type	Metric	Limit	Period type	Period length	Products
		−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞	All	All		All		Selected: **All**
	1004	2024.02.01 00:00:00	2024.03.29 00:00:00	Alert	Attempts	12	hour	1	ZAcademy Vendor - Premium (USD)
	1003	2023.11.01 00:00:00	2023.11.02 00:00:00	Block and alert	Cost, System c...	12	hour	1	WhatAmIdoingHere - Premium (USD)
	1000	2022.10.10 00:00:00	2023.02.14 00:00:00	Alert	ASR, %	80	day	1	Alice Wondersystems - Wholesale (... Award Wieners - Wholesale (EUR) BestRetail - WholeSale (EUR)
	1002	2023.09.20 00:00:00	2023.11.20 00:00:00	Block and alert	Attempts	1 000	hour	24	Brexit Telecom - Premium (EUR)

Rule list table

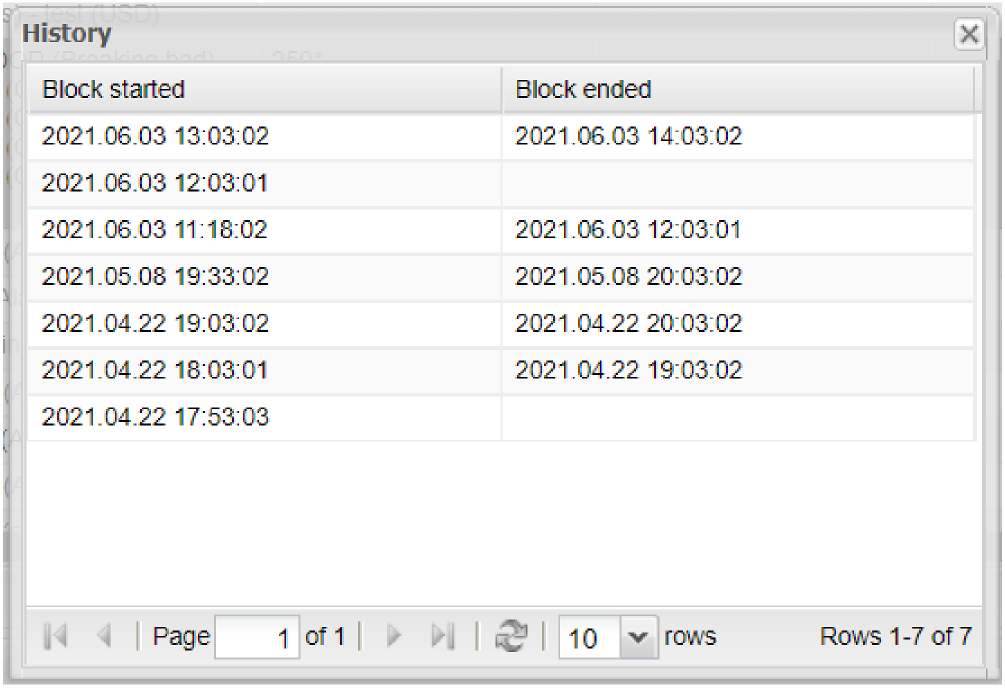
Select a record in the table to view the rule statistics, which is displayed at the bottom left section of the page.

Rule stats

	MCCMNC mask	Country	Network	Product	Last threshold	Last threshold c...	Current value
				Selected: **All**			
	100102	Abkhazia	ACE	I_Client - WholeSale (USD)		2023.09.30 23:...	0.00000

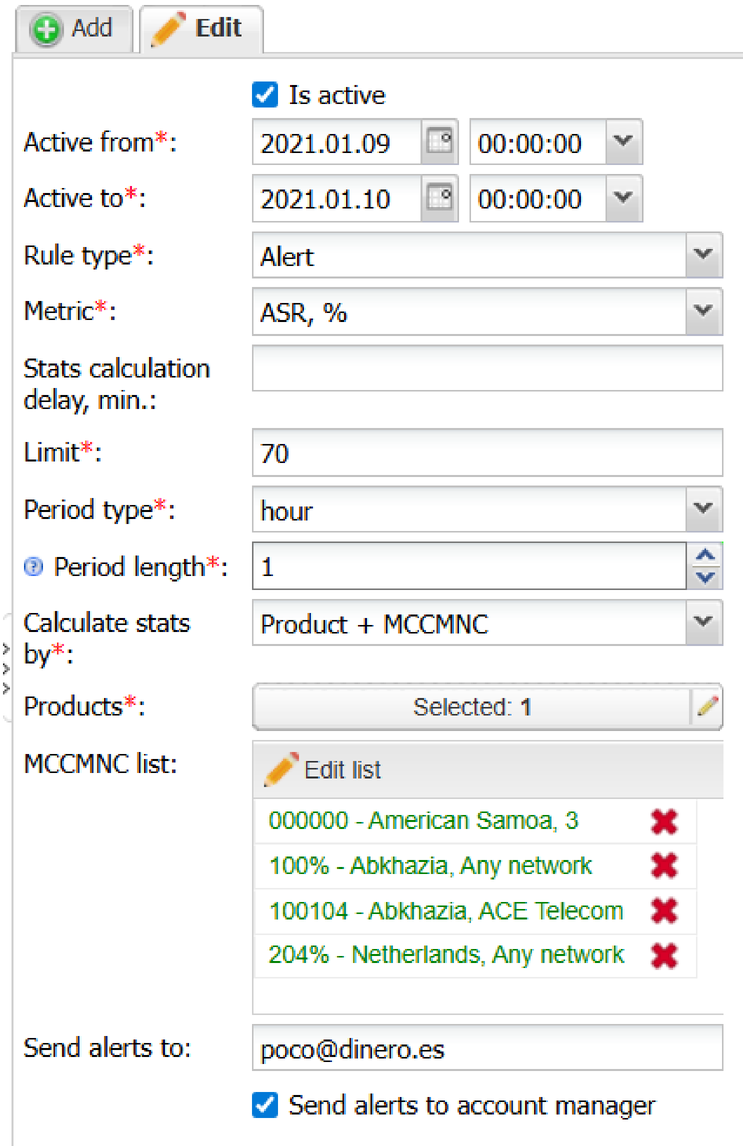
Rule stats

The *Details* column contains the *View history* link that opens the history of rule application and shows when the block started and ended.



Limitation rule history

The right panel contains the *Add* and *Edit* tabs that serve to add new rules or edit existing ones. To activate the *Edit* tab, click on a record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



Add tab

The *Add* tab contains the following parameters:

- *Is active*: the checkbox that enables/disables the rule
- *Active from/Active to*: rule activity period
- *Rule type*: possible values are:
  - *Alert*: the user will be notified when each threshold is reached
  - *Block and alert*: the user is notified when each threshold is reached; and when the metric limit (set in the *Limit* field) is reached the traffic is blocked
- *Metric*: the metric for which the limitation rule is applied. Possible values include:
  - *Cost, System currency*: the cost of traffic in System currency, set in ascending order (the traffic is blocked/notifications are sent when the indicator is exceeded rather than lowered). In *Analytics* the indicator is displayed as *Revenue* for the client direction and *Cost* for the vendor direction

- *Attempts*: number of attempts (ascending, displayed in *Analytics* as *Attempts*)
- *Sent messages*: the number of sent messages (ascending, displayed in *Analytics* as *Successful*)
- *Delivered messages*: the number of delivered messages (ascending, displayed in *Analytics* as *Delivered*)
- *Activated messages*: messages with the ACTIVATED delivery status (ascending, displayed in *Analytics* as *Activated*)
- *ASR, %*: notification/blocking is performed if the indicator goes down
- *DLR (total), %*: notification/blocking is performed if the indicator goes down
- *Average Delivery Rate, min*: notification/blocking is performed if the indicator is exceeded; a decimal value can be specified (for example, 2.5 = 2:30, 1.75 = 1:45)
- *Margin, %*: notification/blocking is performed if the indicator goes down
- *Margin, System currency (greater than)*: notification/blocking is performed if the indicator is exceeded

* *Stats calculation delay, min.*: serves to specify the number of the last minutes for which the collected statistics will not be taken into account. The functionality can be useful when the period for data collection has just started (for example, for the period *hour* - at the beginning of the hour) and not all statistics (for example, DLR) have been calculated
* *Limit*: the limit that triggers the alert. In order for alerts to be sent, at least one threshold must be configured for the metric selected in the *Metric* field. The *Limit* field allows entering a negative value if the *Metric* value is *Margin, system currency (less than)*
* *Period type*: defines the activity period of the block triggered by exceeding/going below the indicator threshold. Additionally it defines the analytical cubes that will be analyzed to verify that the threshold is reached:

  - *hour*: all available minute cubes are used (for example, to calculate stats for the period 2018.09.03 01:00 - 2018.09.03 13:00, the number of available minute cubes is 181 (3 hours and 1 minute), and the last three full hours 2018.09.03 10:00 - 2018.09.03 13:00 will be calculated by minute cubes, while the remaining 2018.09.03 01:00 - 2018.09.03 10:00 will be calculated by hour cubes
  - *day*: the last two hours are calculated by minutes, the previous 22 hours are calculated by hours and the rest by days
  - *week*: the last two hours are calculated by minutes, the previous 22 hours are calculated by hours, then by days until the end of the previous week, and then by weeks
  - *month*: the last two hours are calculated by minutes, the previous 22 hours are calculated by hours, then by days until the end of the previous month, and then by months.
  - *single period*: when the threshold is reached, traffic restriction will be active from the date specified in *Active from* till the date specified in *Active to*. The statistics for the rule are also collected by the specified dates. If this value is selected, the *Period length* and *Block length* fields disappear

- *Period length*: the number of periods for which statistics are calculated
- *Calculate stats by*: serves to determine the way statistics is calculated (in an aggregated way or by specific parameter values). Possible values include:
  - *Product + MCCMNC*
  - *MCCMNC*
  - *Product*
  - *Total*

  Based on the field value, the *MCCMNC list* and *Products* fields can take single or multiple values. For example, if *Product + MCCMNC* is selected, only a specific product and MCCMNC can be specified, and the statistics will be collected for this pair. If *Total* is specified, the statistics will be aggregated.
- *Block length*: number of block periods. Available if the rule type is *Block and alert*

NOTE: For example, if the 'hour' period is selected, the block length is 2 and the e.212/product combination is blocked at 12.09.2017 06:05, the block start time is calculated as the start time of the current period (12.09.2017 06:00), and the block lasts for the value set in the parameter (until 12.09.2017 08:00 in this example). If a client product is blocked by a limitation rule, incoming attempts will be assigned the following unsuccessful status: CLN PRODUCT IS LOCKED.

- *Products*: products with which the rule is associated
- *MCCMNC list*: MCCMNCs with which the rule is associated
- *Send alerts to*: comma-separated list of email recipients (inserted in the *To* field)
- *Send alert to account manager*: select to send the alert to the account manager (sent as a *CC*)

NOTE: If the *Send alerts to* field is empty and *Send alert to account manager* is not selected, no alert is sent.

Click Submit to save the rule or Reset to clear the form.

The *Thresholds* tab sheet serves to set alerting thresholds for each metric. The tab sheet contains the table of metrics and the *Edit* tab. Select the metric in the table to edit it.

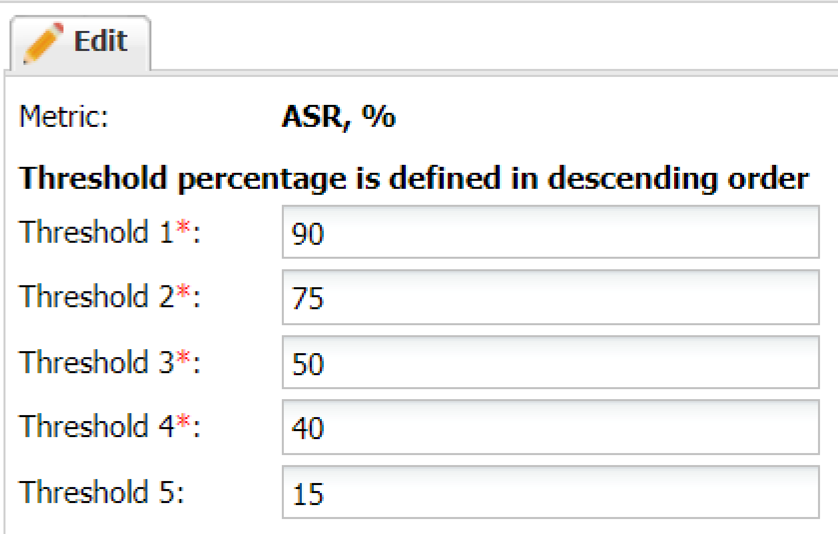
Rule list | **Thresholds**

Metric	Threshold 1	Threshold 2	Threshold 3	Threshold 4	Threshold 5
Cost, system currency	1.00	50.00	75.00		
Attempts	5.00	25.00	50.00	75.00	
Sent messages	3.00	50.00			
Delivered messages	5.00	75.00			
Activated messages	5.00	15.00	60.00		
ASR, %	90.00	75.00	50.00	40.00	15.00
DLR (total), %	90.00	75.00	50.00	25.00	10.00
DLR (successful), %	75.00	60.00	40.00	10.00	5.00
Average Delivery Rate, min	10.00	15.00	20.00	30.00	50.00
Margin, %	75.00	40.00	30.00	20.00	5.00
Margin, system currency (…	10.00	20.00	30.00	50.00	75.00
Margin, system currency (l…	75.00	50.00	25.00	15.00	5.00

Thresholds

The available metrics are:

- *Cost, system currency* - defined in ascending order
- *Attempts*: message send attempts - defined in ascending order
- *Sent messages* - defined in ascending order
- *Delivered messages* - defined in ascending order
- *Activated messages* - defined in ascending order
- *ASR, %* - defined in descending order
- *DLR (total), %* - defined in descending order
- *DLR (successful), %* - defined in descending order
- *Average delivery rate, min* - defined in ascending order
- *Margin, %* - defined in descending order
- *Margin, system currency (greater than)* - defined in ascending order
- *Margin, system currency (less than)* - defined in descending order



The Edit tab

The user can supply from 1 to 5 thresholds. If no threshold is provided for a metric, no alerts will be sent. In order to generate the alert on reaching 100 percent of the limit set in the *Limit* field in the *Rule list* tab sheet, specify *100* in the parameter *Threshold 1*.

NOTE: For metrics set in the descending order and percentage (such as, ASR, %, DLR, %, and Margin, %), thresholds are set in absolute values that do not depend on the *Limit* field value. For example, if *Limit* is set to 20 and *Threshold 1* to 75, an alert will be sent when the current value drops below 75, and the block will be activated if the current value falls below the *Limit* value.

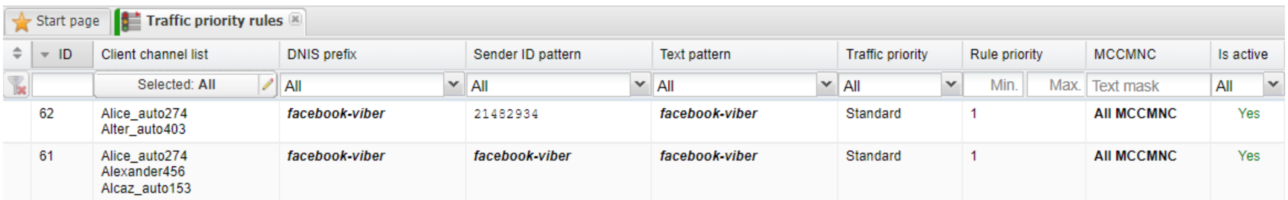
Click Submit to save the changes or Reset to clear the form.

12.5.10 Traffic priority rules

The *SMS\Routing\Traffic priority rules* interface allows splitting up traffic (for example, advertisement and wholesale traffic) for faster sending and delivery of a specific traffic type. Access to the *Traffic priority rules* interface is enabled by the *SMS traffic priority rules* permission.

The interface contains two sections - the table of rules on the left and the *Add/Edit* panels on the right.

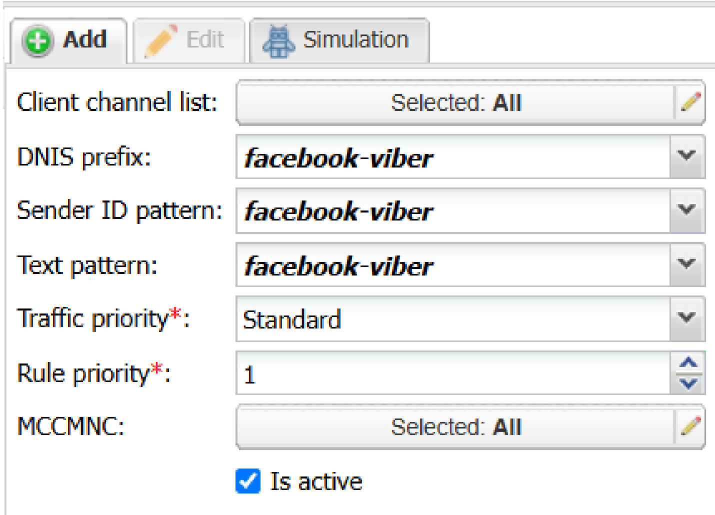
The top left part of the page is a table of configured traffic priority rules. Use text masks or drop-down lists under the column headers to filter the records in the table. Use the button in the upper left corner to clear the configured filter. Use the button on the bottom toolbar to refresh the table. Inactive rules are greyed out.



ID	Client channel list	DNIS prefix	Sender ID pattern	Text pattern	Traffic priority	Rule priority	MCCMNC	Is active
	Selected: All	All	All	All	All	Min. Max.	Text mask	All
62	Alice_auto274 Alter_auto403	facebook-viber	21482934	facebook-viber	Standard	1	All MCCMNC	Yes
61	Alice_auto274 Alexander456 Alcaz_auto153	facebook-viber	facebook-viber	facebook-viber	Standard	1	All MCCMNC	Yes

Table of rules

The right panel contains the *Add, Edit* and *Simulation* tabs. To activate the *Edit* tab, click on a record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



Add tab

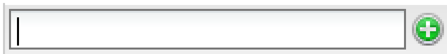
The *Add* tab contains the following parameters:

- *Client channel list*: the list of employed client SMS channels. Click on the multipicker to select the channels

---

NOTE: Inactive channels are marked grey and are moved to the bottom of the list in the *Client SMS channel multipicker*. When the cursor is hovering over the channel name, the reason of its inactivity will be shown (e.g. "Channel disabled" or "No active SMS POI found for this channel").

- *DNIS prefix* (regular expressions are supported)
- *Sender ID pattern*
- *Text pattern*: message text pattern

NOTE: You can either select a value of the *DNIS prefix*, *Sender ID pattern* and *Text pattern* fields from the drop-down list or create a new value by typing it in the edit box  and clicking the  button.

- *Traffic priority*: serves to define the priority of traffic. Possible values include: *Standard, High.* Messages with a higher priority will be processed first. If no suitable priority rule is found, a message is considered to have standard priority (whereas any message matching a rule is considered having a higher priority). If a matching rule is found, no further search is performed. Also, to enable sending standard traffic in case of large volumes of prioritized traffic, the SMS switch handles one standard priority message per 10 messages. This proportion is configured by the Alaris technical support team.
- *Rule priority*: sets the rule priority (from 1 to 100, with 100 being the highest). This field in combination with *Traffic priority* allows handling exceptions in high priority traffic. For example, if traffic to prefix 34% is considered high priority, and to 34600% has standard priority, two rules must be configured:

  1) Traffic priority: high

  DNIS prefix: All Spain

  Rule priority: 99

  (where All Spain is set by regular expression: 34*)

2) Traffic priority: standard

DNIS prefix: Vodafone

Rule priority: 100

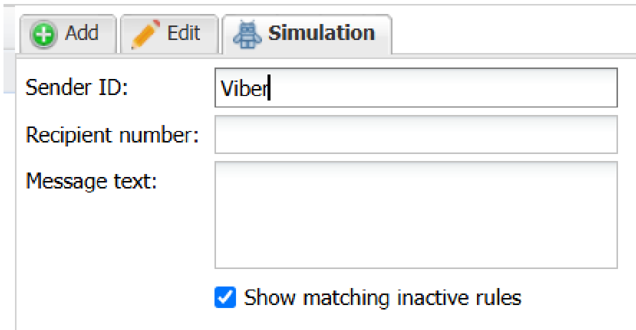
(where Vodafone is set by regular expression: 34600*)

- *MCCMNS*: select the MCCMNC list
- *Is active* (selected by default): deselect to disable the rule

Click Submit to save the rule or Reset to clear the form.

NOTE: Priority rule IDs and the priority value (0 - standard, 1 - priority traffic) are added to the *EDR Extra* field if the rule was applied.

The *Simulation* tab serves to display matching rules according to the specified *Sender ID*, *DNIS prefix* and *Text pattern*. The fields can be left blank, which equates to “any value”.



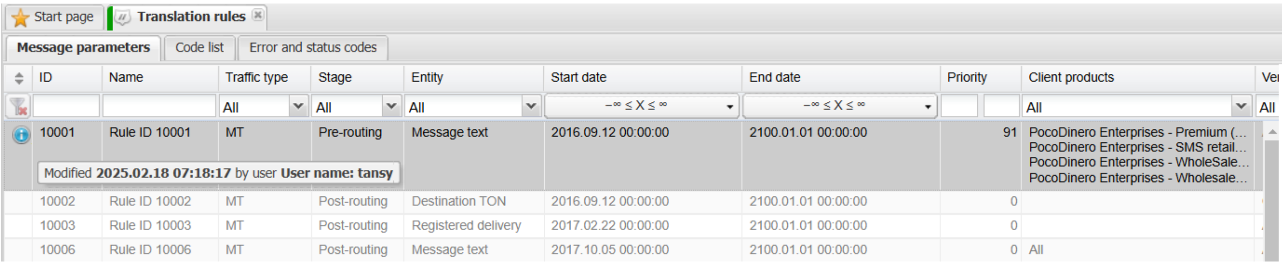
Simulation tab

12.5.11 Translation rules

The *SMS\Routing\Translation rules* page serves to configure regular expressions for transforming various parameters of an SMS as it is transferred from one carrier to another, as well as error and status codes. The page contains three tab sheets: *Message parameters*, *Code list* and *Error and status codes.* The *Message parameters* tab sheet serves to configure translation of message parameters. The *Error and status codes* and *Code list* tab sheets serve to configure translation rules for submit_sm_resp and deliver_sm codes. Translation is needed because there is no uniform standard for code transfer, and each carrier's switch may generate their own codes that may not be correctly interpreted by a partner's switch. All tab sheets contain the button at the bottom that serves to export the table to an MS Excel file.

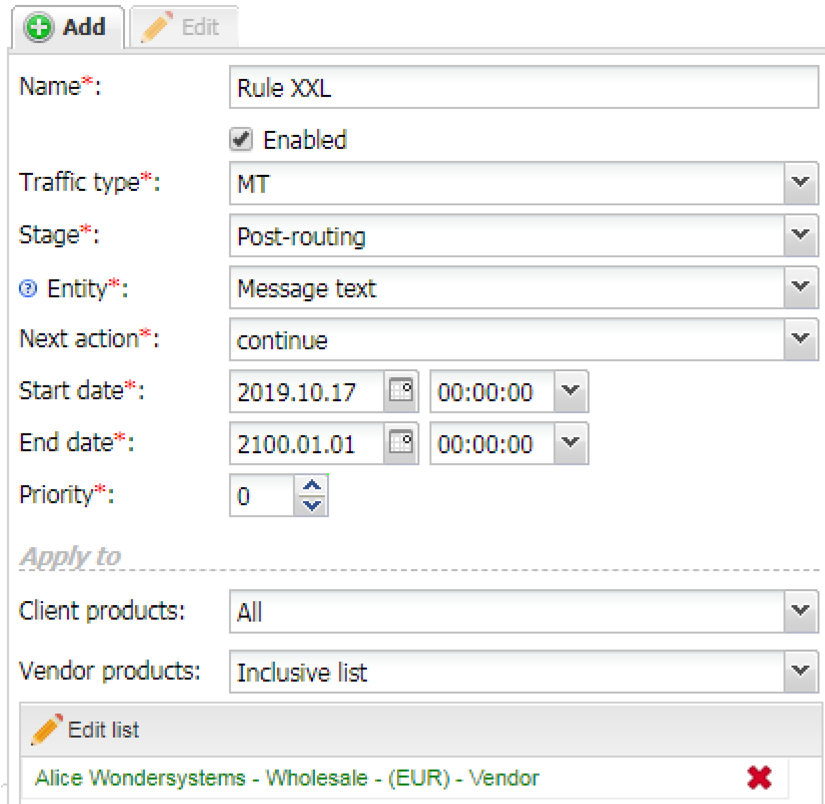
12.5.11.1 Message parameters

The *Message parameters* tab sheet shows a table of translation rules; the *Add* and *Edit* tabs that allow adding and editing records. The icon displays the date the rule was created and the date the rule was last edited. Hover over the icon to view the details.



Message parameters tab sheet

The bottom of the *Message parameters* tab sheet contains the *hide inactive* checkbox that serves to hide disabled rules from the table (those having the *Enabled* checkbox deselected).



Add tab (part 1)

The *Add* tab contains the following fields:

- *Name*
- *Enabled*: select to make the rule active
- *Traffic type*:
  - *MO*: mobile originated
  - *MT*: mobile terminated
- *Stage*:
  - *Pre-routing*: perform the translation after client authorization. Pre-routing translations are suitable, for example, in case it is required to change the destination number (removing the + character or adding the country code) before the System starts dipping HLR or going

through the reference book. The *Vendor products* and *MCCMNC list* parameters are disabled since the vendor and MCCMNC list are not defined on this stage of routing and cannot be used as filters

- *Post-routing*: perform the translation after the route list is completed

- *Entity*: the SMS parameter to be transformed. The order to search for suitable translation rules in accordance with the *Entity* type is as follows: *Sender ID*, *Destination number*, *Sender TON*, *Sender NPI*, *Destination TON*, *Destination NPI*, *Registered delivery*, *Validity period*, *Flash message*, *Optional field (TLV)*, *Message text*. However, the original value is verified even if a translation has been applied. For example, if the sender ID was changed from *Facebook* to *Google*, the *Sender ID pattern* must be set to *Facebook* (that is, the initial value) in a translation rule for *Entity*: *Message text* so it could be applied. The logic differs only for the *Sender TON* and *Sender NPI* (see the description of *Sender ID pattern*). Possible values include:

  - *Sender ID*: select this parameter to transform the sender ID from numeric to alpha values or vice versa. The maximum field length is 4,000 bytes

NOTE: For correct translation, two rules must be created: one with the *Sender ID* selected as the *Entity*, the other with the *Sender TON*.

NOTE: When creating a translation rule for the *Sender ID* entity, the value *Not set* can be specified in the *Sender ID pattern* field to leave the field blank. The value is available in the drop-down list if the user has enabled the option *Use the RegExp ref. books for routing interfaces* (see Interface structure 18).

  - *Destination number*: the parameter is used when a partner sends or wants traffic in a non-E164 numbering format

  - *Sender TON*: a numeric value denoting the sender's type of number (*Unknown (0), International (1), National (2), Network specific (3), Subscriber number (4), Alphanumeric (5), Abbreviated (6)*). Typically, the parameter is used when the *Sender ID* needs to be transformed from numeric to alpha values or vice versa.

  - *Sender NPI*: a numeric value denoting the Sender's numbering plan ID (*Unknown (0), ISDN/telephone numbering plan (E163/E164)(1), Data numbering plan (X.121)(2), Telex numbering plan (F.69)(4), Land mobile (E.212)(6), National numbering plan (8), Private numbering plan (9), ERMES numbering plan (ETSI DE/PS 3 01-3)(10), Internet (IP)(13), WAP client ID (18)*)

  - *Destination TON*, *Destination NPI*: the parameters are similar to *Sender ID* and *Sender NPI*. They are normally used for translation between a national and international number plans

  - *Registered delivery*: use this parameter to change the value of the registered_delivery flag of the submit_sm packet. NOTE: This parameter is used when for some reason the client fails to provide DLR reports. Create a rule translating the flag value from 0 to 1 to request DLR reports from the vendor

  - *Flash message*: this flag allows transforming regular messages to flash SMS and vice versa. When selected, use the following values in the *Translation* field: 0 for a regular message and 1 for a flash message.Note that to receive a message as flash on the end device, the vendor (and its vendors) must support the flag and deliver the message correctly. More info on flash messages can be found in Appendix 10. Data coding schemes\Data coding in SMPP 865

  - *Message text*: select to configure translation of SMS text

NOTE: During translation, the SMS text is modified and encoded in UTF-8. Then the System tries to encode the translated message back to the original datacoding. If the translated message cannot be re-encoded back to the original encoding, it is translated to UCS2 (Unicode). If the resulting message does not exceed the message length limit for the final datacoding parameter, the message is sent to vendors. Otherwise the message is rejected. This message encoding logic is not applied to concatenated (UDH or SAR) messages. Also, before sending the translated message to a particular vendor channel the System may have to perform additional text encodings, depending on the allowed datacoding list for the vendor channel.

- *Validity period*: allows translating the validity_period parameter. When selected, the *Registered delivery* and *Validity period filter* parameters appear in the *Apply to* section (see below)

NOTE: If a translation rule has *Entity=Validity period* and *Translation=0*, the transmitted value of validity_period=null. The period is set in days (in the *Translation* field), the maximum allowed value is 30. Fractional values are allowed. The translated value is applied to the SMS receipt timestamp.

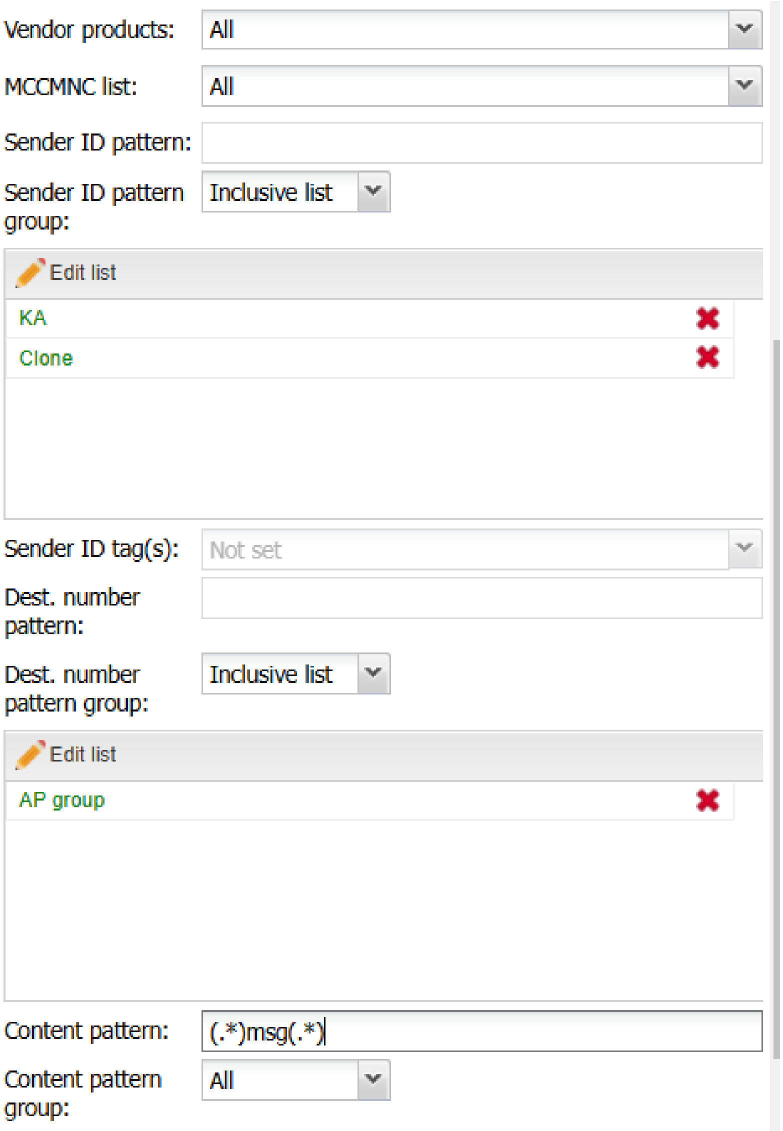
- *Optional field (TLV)*: serves to translate optional (TLV) fields. When selected, the *TLV field tag, TLV value type* and *TLV value* parameters appear in the *Translation* section (see below). If optional fields were not received, they are added after translation to be sent to the vendor

NOTE: Additionally, it is possible to apply multiple rules of this type in a row. For this, set *Next action* to *continue* or *huntstop*.

NOTE: To translate optional fields for *Traffic type: MO* and send them to the client, the *Use optional field for receipt* option must be enabled in the client channel, and the optional fields must be selected.

- *Next action* (available if *Entity* is *Message text*): possible values are:
  - *continue*: search for the next rule until the System runs out of rules or reaches a rule with *Next action = hunt stop*. Each matching translation rule is applied one after another - it means that several consecutive translations are performed
  - *hunt stop*: stop the search
- *Start date*, *End date*: the period during which the rule is valid
- *Priority*: serves to set the priority for several rules with overlapping parameters. For example, suppose rule No1 changes *registered_delivery* for all messages from 0 to 1, while rule No2 changes *registered_delivery* for messages in Greece to 0. In this case it is reasonable to set a higher priority for Rule No2.

NOTE: In case several rules have the same priority, the System first selects the one with a higher ID.



Add tab, Apply to (part 2)

Apply to: the section serves to configure the parameters of the source SMS messages that must be translated:

- *Client products*, *Vendor products*: select *All* or *Inclusive list* and indicate the list values
- *MCCMNC list:* select *All* or *Inclusive list* and indicate the list values
- *Sender ID pattern*: sender ID pattern (regular expression)

NOTE: If the *Entity* value is *Sender TON* or *Sender NPI*, and the sender ID was changed during translation, the *Sender ID pattern* filter for subsequent translation rules is applied to the translated sender ID (and not to the source sender ID). Example: suppose Translation rule #1 translates all sender IDs to the text 'Operator'. Translation rule #2 translates the TON to '1', with the *Sender ID pattern* value "34590600000". In this case, Translation rule #2 will not be applied even if the SMS is sent from number 34590600000, as this Sender ID will be translated by Translation rule #1 to 'Operator', and the *Sender ID pattern* of Translation rule #2 is not equal to 'Operator'.

- *Sender ID pattern group* (available if the *Sender ID pattern* field is not filled): group of regular expressions configured in Reference books\Regular expressions 277. Up to 100 groups can be specified

- *Sender ID tag(s)*: select *Inclusive tag* or *Exclusive tag.* In the edit box that appears, click Edit list and specify one or several tags (as defined in Reference books\Tags 255). It is not available if *Entity=Sender TON, Sender NPI, Destination TON* or *Destination NPI*

- *Dest. number pattern*: B-number pattern (regular expression). The maximum field length is 4,000 bytes

- *Dest. number pattern group* (available if the *Dest. number pattern* field is not filled): group of regular expressions configured in Reference books\Regular expressions 277. Up to 100 groups can be specified

- *Content pattern*: the text pattern that must be contained in the source SMS message. The maximum field length is 4,000 bytes.

NOTE: If compilation of a regular expression in the fields *Sender ID pattern*, *Dest. number pattern* and *Text pattern* takes longer than set in the System parameter *Maximum search time for regexp in string*, the following error will appear: "It will take too long time to resolve: Sender ID pattern/Dest. number pattern/Text pattern". It is recommended to verify that the regular expression is correct and/or optimize it.

- *Content pattern group* (available if the *Content pattern* field is not filled): group of regular expressions configured in Reference books\Regular expressions 277. Up to 100 groups can be specified

- *Registered delivery*: possible values are:

  - *Any* (request the final and intermediate DLR)

  - *0* (do not request DLR)

  - *1* (request the final DLR)

- *Validity period filter*: possible values are:

  - *Any*: apply to messages with any validity_period (default value)

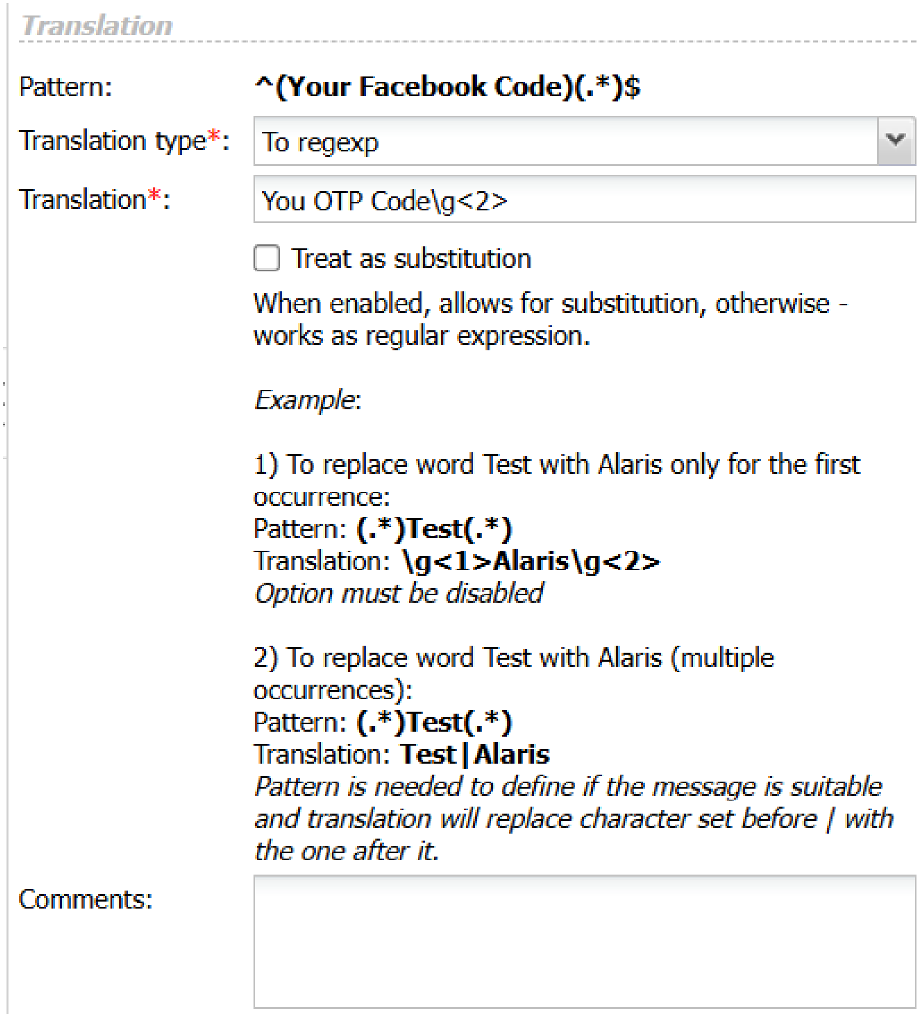
  - *Not set*: apply to messages with no validity_period set

  - *Longer than*: apply only to messages with the validity_period of the source submit_sm longer than the period specified in the field

  - *Shorter than*: apply only to messages with the validity_period of the source submit_sm shorter than the period specified in the field

NOTE: If *Longer than* or *Shorter than* is specified, the number of days can be specified in the edit box on top of the V*alidity period (days)* field. Decimal values (up to 4 decimal places) are allowed.

NOTE: The System first performs translation for *Registered delivery* and then for *Validity period*.



Add tab, Translation (part 3)

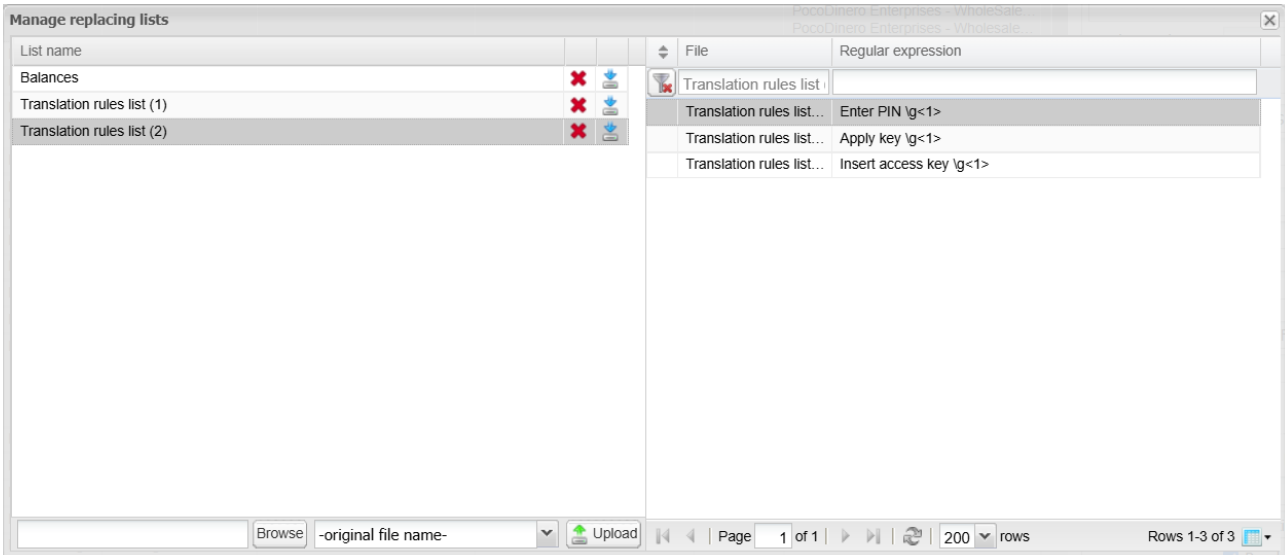
Translation: the section serves to configure how the SMS message will be translated

- *Pattern* (uneditable): displays the content of *Sender ID pattern*, *Dest. number pattern* or *Text pattern* field
- *Translation type* (available if *Entity=Sender ID*, *Destination number* or *Message text*): possible values are:
  - *To regexp*: if selected, specify the regular expression in the *Translation* field detaled below

NOTE: "You can't use capturing groups if pattern groups are selected" error appears if the pattern group is indicated for the selected entity and a capturing group (for example, *\g<1>*) is specified in the *Translation* field. The restriction is caused by the particular way in which regular expressions groups operate. Given that multiple regular expressions are included in the same group, they are considered merged during rule verification, which may result in an incorrect output.

  - *Replace list*: if selected, the name of the regular expression list is specified in the *Select list* field that appears instead of the *Translation* field, and the original text will be replaced with the text from the list

Lists are created with the help of the *Manage replacing lists* button located at the bottom of the rules table. The button opens the window illustrated above that serves to upload lists from CSV files.



Manage replacing lists

- *Randomize translations* (available if *Replace list* is selected): enable to randomly select values from the list (otherwise, the values are selected in order)

  Example. Suppose that a list titled *Code* containing the following regular expressions has been loaded into the text translation rule:

  Your SMS code is \g<1>

  Access Key is \g<1>

  Please copy \g<1>

  \g<1>

  The text filter for the rule is specified as

  ^Your code is (.*)$

  When receiving a message with the text 'Your code is 12345' and selecting a rule, the text is translated. If the *Randomize translations* flag is off, the resulting text value will be 'Your SMS code is 12345'. If similar text is received a second time (for example, 'Your code is 7524'), the resulting text will be 'Access Key is 7524'.

  If the *Randomize translations* flag is enabled, the pattern for the translated text will be randomized. For example: '12345' (i.e., selecting the regular expression \g<1>).

- *Translation*: the regexp-based rule (the maximum field length is 4,000 bytes)
- *Treat as substitution* (active *if Entity* = *Message text*): select to replace multiple occurrences of the text string. When deselected, the *Translation* field is interpreted as a regular expression. It is possible to set a substitutable character sequence separated by |. For example, if the *Translation* field contains the following sequence:

  DisneyPlus|Twitter|Facebook|Google

  and the *Treat as substitution* mode is enabled, the template for the part to be substituted will be "DisneyPlus|Twitter|Facebook" (everything before the last delimiter), and the sequence to be translated will be "Google"

- *Tag* (active when *Entity* = *Sender ID* and the *Translation* field is empty): when a value is specified in this field, the SMS will receive a new sender ID randomly selected from the specified caller ID tag (tags are configured in Reference books\Tags 255)

- *TLV field tag* (available when *Entity* = *Optional field (TLV)*): a TLV field tag that can contain any value from 0x0000 to 0x3FFF

- *TLV value* (available when *Entity* = *Optional field (TLV)*): the transmitted TLV value

- *TLV value type* (available when *Entity* = *Optional field (TLV)*): possible values include:

    - *String*

    - *Integer (1 byte)*: positive integer values up to 255 are allowed

    - *Integer (2 bytes)*: positive integer values up to 65535 are allowed

    - *Integer (4 bytes)*

- *Comments*: arbitrary notes

For the *Sender ID* and *Message text* entities, special functions can be used to replace the pattern with arbitrary symbols:

- RANDINT(X): generate an integer with the length of X digits. If a non-numerical symbol is specified instead of X, the default value 7 is used. If a fractional number is specified, the number is rounded downward

- RAND(X): similar to the RANDINT function

- RANDHEX(X): generate an arbitrary hex string with the length of X symbols (the employed ranges of symbols are a - f and 0-9). It is more advisable to use it rather than RANDTEXT

- RANDTEXT(X): generate an arbitrary text string with the length of X symbols (the employed ranges of symbols are a - Z and 0-9)

- RANDLETTERS(X): generate an arbitrary text string with the length of X symbols (the employed ranges of symbols are a - Z)

These functions can be used one after another. Also they can be applied to replace the sender ID from the *Sender ID tag(s)* list

Below are some examples of regular expressions and translation rules.

Sender ID pattern:

[a-zA-Z0-9_]* - alphanumeric

[0-9]* - numeric

340[0-9]* - numeric beginning with 340

Dest. number pattern:

[0-9]{10,12} – numeric between 10 and 12 digits

34[0-9]{10} – prefix 34 + 10 digits

Example of translation (for Sender ID):

Sender ID pattern:

([0-9]{4}).* - any numeric number, the first 4 digits of which are saved into group 1

Translation:

\g<1>10500 - use group 1 from the source Sender ID and add 10500

Translation of message text

Text pattern:

- Deleting a word from the source text (only the first occurrence will be erased)
  - Text pattern: (.*)word(.*)
  - Translation: \g<1>\g<2>
  - Adding a word to the end of the text
    - Text pattern: (.*)
    - Translation: \g<1>word
  - Replacing a word:
    - Text pattern: (.*)word(.*)
    - Translation: \g<1>verb\g<2>
  - Replacing all occurrences of a word in the text (for example, replace all occurrences of *word* with *verb*:
    - Text pattern: (.*)word(.*)
    - Translation: word|verb

Learn more about the feature in Alaris Youtube video.

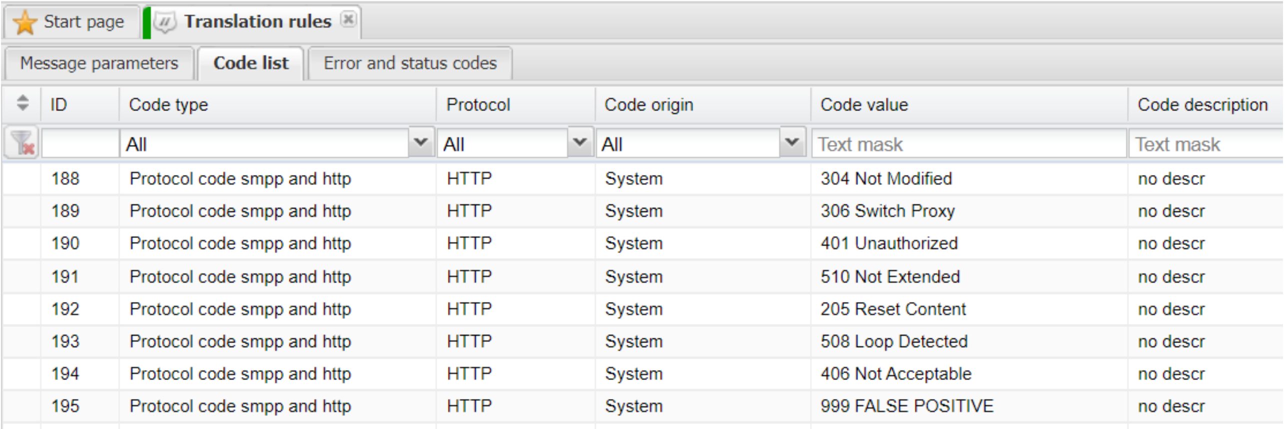
NOTE: If the text length exceeds the limit defined for a specific character, extra symbols from the end of the message are removed.

Fields marked with an asterisk (*) are required. When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to delete the selected record. Click Clone to clone the selected record in the table. The ID of the cloned rule will be inserted in the *Name* field. This will allow the user to clearly identify the rule that was cloned.

NOTE: The user can track the applied translation rules by EDRs in the SMS\EDR management\EDR export tool 371 interface (the *Translation rule details* column).

12.5.11.2 Code list

The *Code list* tab sheet contains a table of all System codes. The interface consists of a table of codes and the *Add* and *Edit* tabs that allow adding user-defined codes and editing them (only codes added by a user can be edited or removed; System codes cannot).

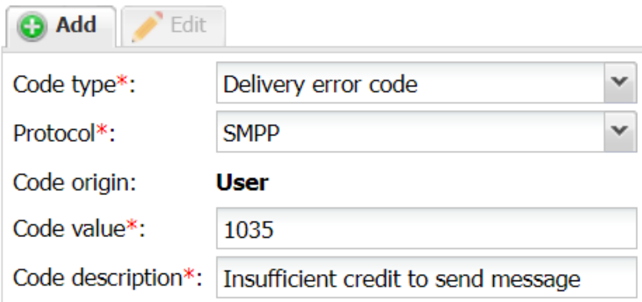


Start page | Translation rules

Message parameters | Code list | Error and status codes

ID	Code type	Protocol	Code origin	Code value	Code description
	All	All	All	Text mask	Text mask
188	Protocol code smpp and http	HTTP	System	304 Not Modified	no descr
189	Protocol code smpp and http	HTTP	System	306 Switch Proxy	no descr
190	Protocol code smpp and http	HTTP	System	401 Unauthorized	no descr
191	Protocol code smpp and http	HTTP	System	510 Not Extended	no descr
192	Protocol code smpp and http	HTTP	System	205 Reset Content	no descr
193	Protocol code smpp and http	HTTP	System	508 Loop Detected	no descr
194	Protocol code smpp and http	HTTP	System	406 Not Acceptable	no descr
195	Protocol code smpp and http	HTTP	System	999 FALSE POSITIVE	no descr

System codes



Add tab (Submit response status)

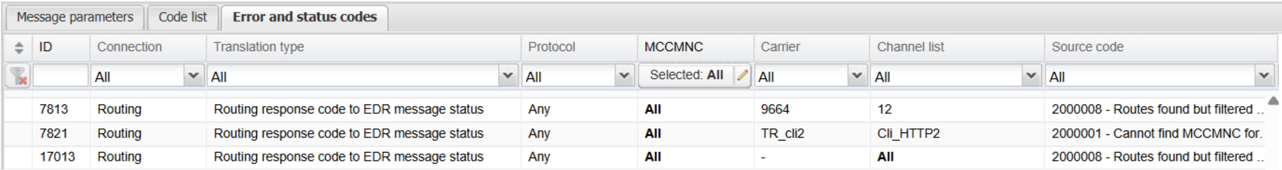
The *Add* and *Edit* tabs contain the following parameters:

- *Code type*: the following values are available:
  - *EDR status*: codes for replacing the EDR status
  - *Routing code*: internal routing module codes when the message is rejected with the NO ROUTES cause
  - *Protocol code smpp and http*: SMPP and HTTP protocol codes
  - *Delivery status*: delivery statuses
  - *System code*: SMS switch System codes
  - *Delivery error code*: delivery report codes
- *Protocol*: *Any*, *SMPP*, or *HTTP*
- *Code origin*: *User* or *System*
- *Code value*: the actual numeric code and its description
- *Code description*: notes on the code

Click Submit to save the changes. The entry will appear in the table.

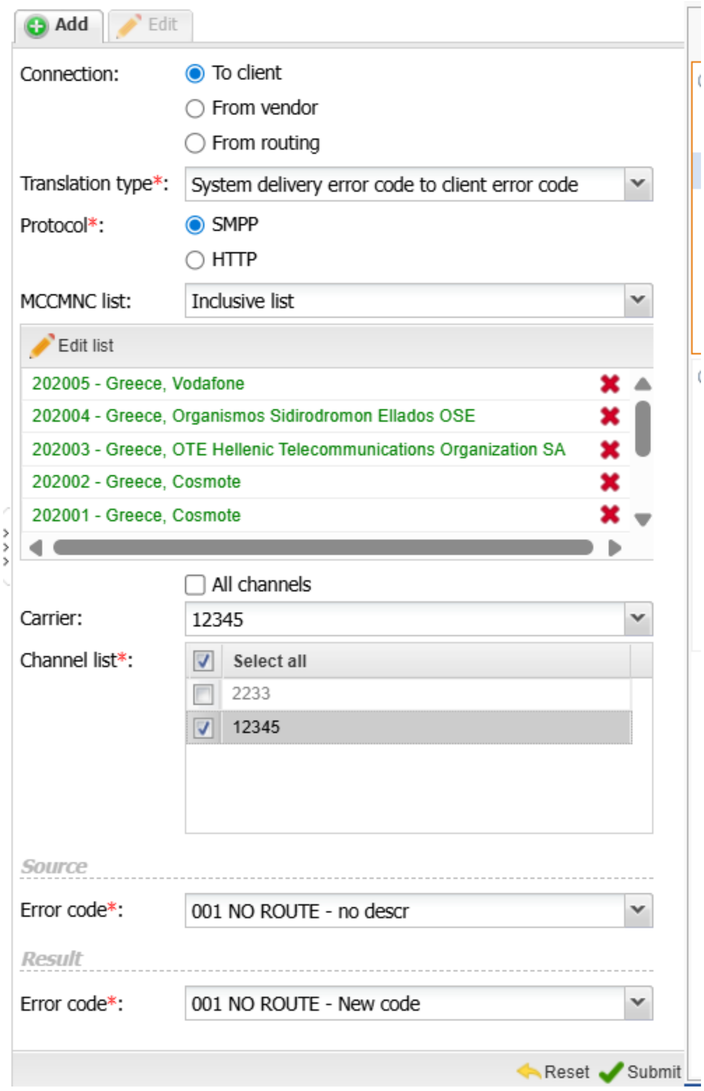
12.5.11.3 Error and status codes

The *Error and status codes* tab sheet serves to configure translation rules for codes and statuses, based on the data in the *Code list* tab.



ID	Connection	Translation type	Protocol	MCCMNC	Carrier	Channel list	Source code
	All	All	All	Selected: All	All	All	All
7813	Routing	Routing response code to EDR message status	Any	All	9664	12	2000008 - Routes found but filtered ..
7821	Routing	Routing response code to EDR message status	Any	All	TR_cli2	Cli_HTTP2	2000001 - Cannot find MCCMNC for.
17013	Routing	Routing response code to EDR message status	Any	All	-	All	2000008 - Routes found but filtered ..

Error and status codes



Add tab (Error and status codes)

The *Add* and *Edit* tabs serve to configure translation rules and contain the following parameters:

- *Connection*: *To client, From vendor* or *From routing*
- *Translation type*: translation options. Based on the selected direction, possible values include:
  - *System code to client response code* (available when *Connection=To client*)
  - *System delivery error code to client error code* (available when *Connection=To client*)
  - *System delivery status to client status* (available when *Connection=To client*)
  - *Vendor delivery status to system status* (available when *Connection=From vendor*)

- *Vendor delivery error code to system code* (available when *Connection=From vendor*)
- *Routing response code to EDR message status* (is selected automatically when *Connection=From routing*)

- *Protocol*: *SMPP* or *HTTP*
  - *Vendor delivery status to system status*: serves to translate the vendor status to the System format and optionally include the error code. For example, the status REJECTD with error code 501 can be translated to UNDELIV/EXPIRED/etc., which will allow the carrier not to charge for it, and also configure rerouting for it. If this value is selected, enter *REJECTD* in the *Delivery status* field and 501 in the *Error code* field

NOTE: It is also possible to set a custom status instead of the System status that can be further used in Carriers\SMS channels 188 to reroute messages to the next-in-line vendor. To add the new status, contact the Alaris technical support team and communicate the code BZ31523.

NOTE: Translation rules with the *Translation type = Routing response code to EDR message status* are automatically added to the billing presets (a new status appears in *preset 2 Bill by attempt* at SMS\Reference books\Billing status presets 447).

- *MCCMNC list*: serves to specify MCCMNCs to which the rule must be applied. The field is available if *Translation type* is set to *System delivery error code to client error code* or *Vendor delivery error code to system code*
- *Carrier*: carrier to which the translation rule will apply
  - Select *all channels* to apply the translation rule to all carriers
- *Channel list*: specify the selected carrier's channels
- *Source:*
  - *System code* (if *Connection=To client* and *Translation type=System code to client response code*): the source System code of submit_sm_resp that needs to be translated
  - *Error code* (if *Connection=To client* and *Translation type=System delivery error code to client error code*): enter or select the code that needs to be translated. Specify * in the field to apply the rule for all codes
  - *Error code* (if *Connection=From vendor* and *Translation type=Vendor delivery error code to system code*): enter or select the code that needs to be translated
  - *Delivery status* (if *Connection=To client* and *Translation type=System delivery status to client status*): the source delivery status that needs to be translated. Specify * in the field to apply the rule for all statuses
  - *Delivery status* (if *Connection=From vendor* and *Translation type=Vendor delivery status to system status*): the source delivery status that needs to be translated. It is possible to fill in the *Error code* field with the vendor error code so that to apply the translation taking into account both vendor delivery status and error code
- *Result*: shows the translation result. Based on the values of the *Connection* and *Translation type* fields, it can take the following values:
  - *Error code* (if *Connection=To client* and *Translation type=System delivery error code to client error code*): enter or select the translation result

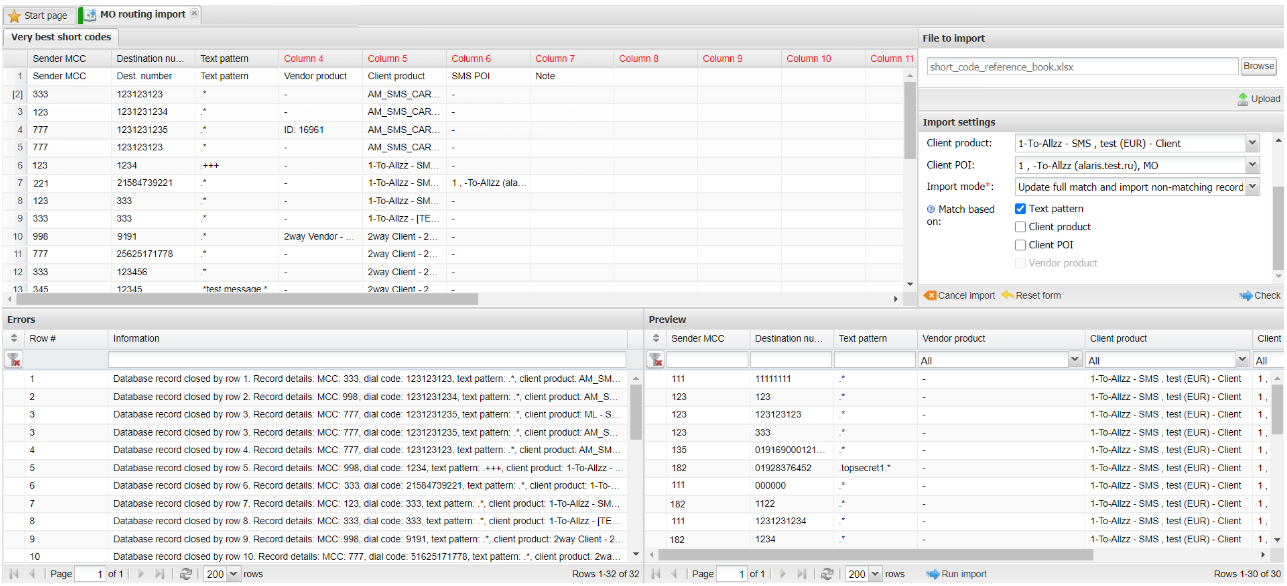
- *Client code* (if *Connection=To client* and *Translation type=System code to client response code*): enter or select the translated submit_sm_resp code that will be sent to the client
- *Client status* (if *Connection=To client* and *Translation type=System delivery status to client status*): enter or select the translated client status
- *System code* (if *Connection=From vendor and Translation type=Vendor delivery error code to system code*): enter or select the translated System code
- *System status* (if *Connection=From vendor and Translation type=Vendor delivery status to system status*): enter or select the translated System status

Click Submit to save the changes. The entry will appear in the table.

NOTE: The user can track the applied error and status code translations by EDRs in the SMS\EDR management\EDR export tool 371 interface (the *Delivery extra information* column - the *src* part of it shows the value sent to the client, the *sys* column shows the System (EDR) value, and the *dst* column shows the value received from the vendor (without translation).

12.5.12 MO routing import

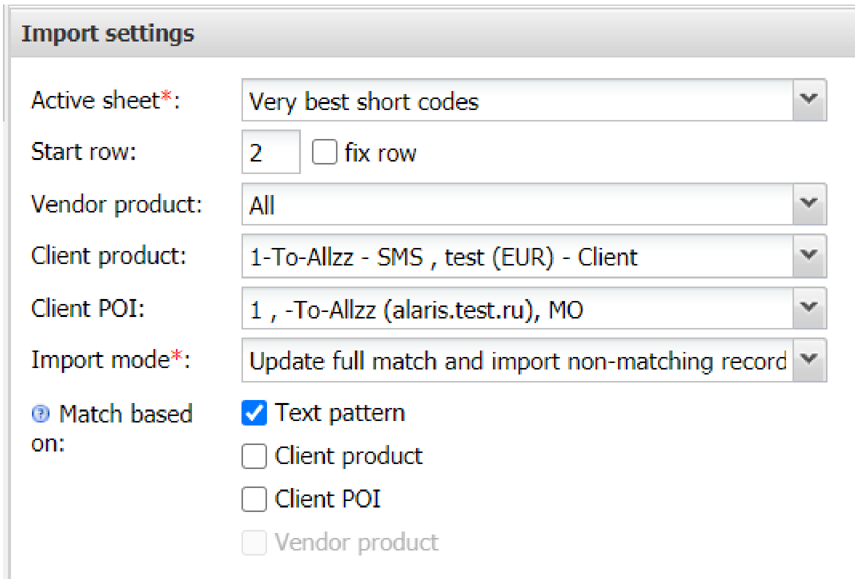
SMS\Routing\MO routing import interface serves to upload short codes from a file. The page contains four sections: file parsing panel, *Import settings*, *Errors* and *Preview*.



MO routing import

The System supports import of the e.212/e.164 data from external sources as a CSV or MS Excel file.

Use the Browse button to select the file on the local PC and click Upload. The file must contain at least two columns: *Sender MCC* and *Destination number*.

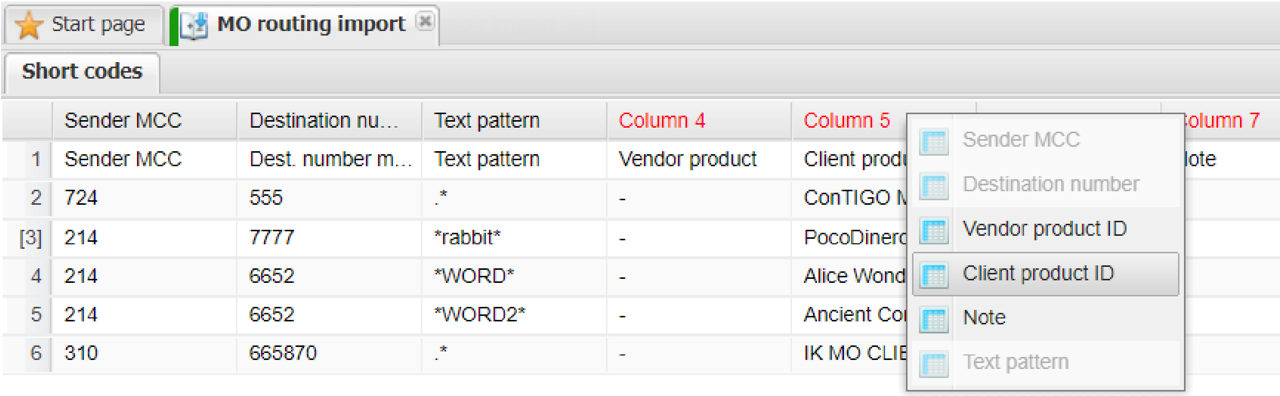


Import settings

Fill the appropriate parameters in the *Import settings* panel:

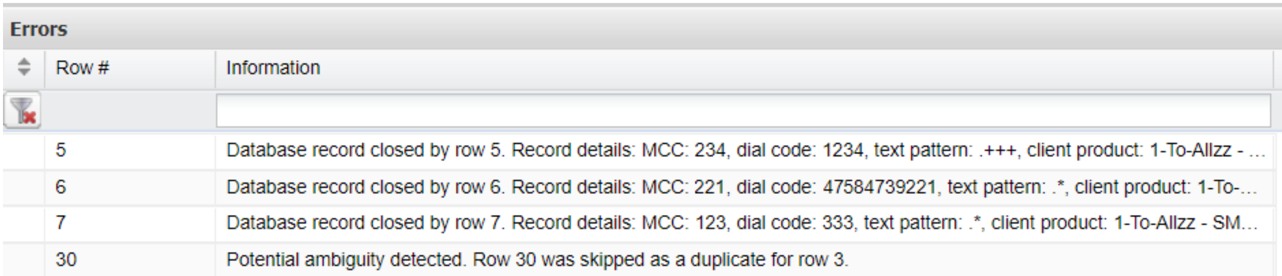
- *Active sheet*: select the spreadsheet of the uploaded file that will be imported
- *Start row*: define the first row of the reference book data, so that the System ignores everything that is above the rate table in the file. Check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Vendor product*
- *Client product*: select a client product that has an SMS POI with the *MO* service type
- *Client POI*
- *Import mode*: possible values are:
    - *Update full match and import non-matching records:* matching records will be updated (for example, if *Client product* is selected in the *Match based on* field below, then the *Notes*, *Vendor Product* and *Text pattern* fields will be updated). If there is no matching record, it will be added to the reference book as a new one
    - *Delete full match and import non-matching records*: select to remove matching records and add the ones that do not have matches in the reference book
    - *Delete numbers*: select to remove numbers by exact match with the *Destination number*
    - *Full replacement*
- *Match based on*: serves to determine which fields are used to match new records with existing ones and also to search for duplicates within the imported file. By default the System uses the *MCC* and *Destination number* fields to find matches but can be extended by the following fields:
    - *Text pattern*
    - *Client product*
    - *Client POI*
    - *Vendor product*

The top left panel shows a preview of the *MO routing editor* the way it looks in MS Excel. Everything is shown "as is" – all cell contents and the overall file structure (sequence and naming of columns and worksheets) is preserved at this stage.



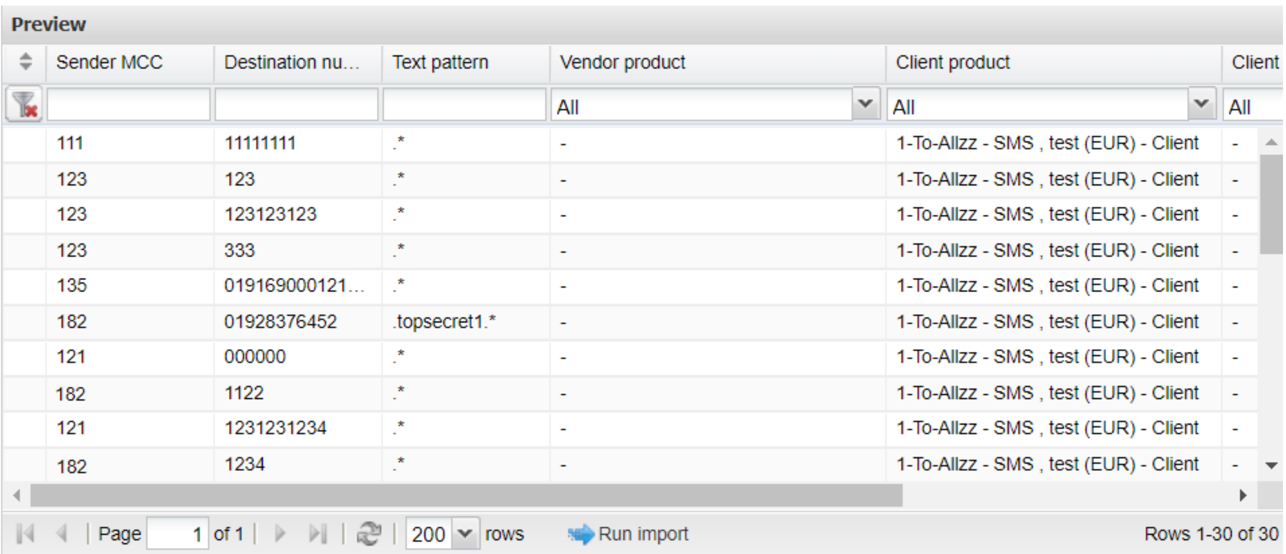
File preview

In the file preview, set the appropriate column names by clicking on the headers. The required columns are *Sender MCC* and *Destination number*. If *Match based on* is set to *Text pattern*, the *Text pattern* column must also be set.



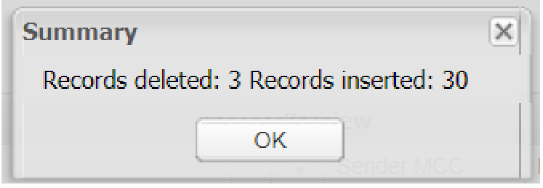
List of errors

Click Check to check the file before the actual import. If any errors are found, they are displayed in the *Errors* panel. To discard the settings, click Reset. To cancel, click Cancel import.



Preview

The bottom right section contains a preview of records to be updated. Click Run import to submit the updates to the database. After that, a summary appears as shown in the figure below.

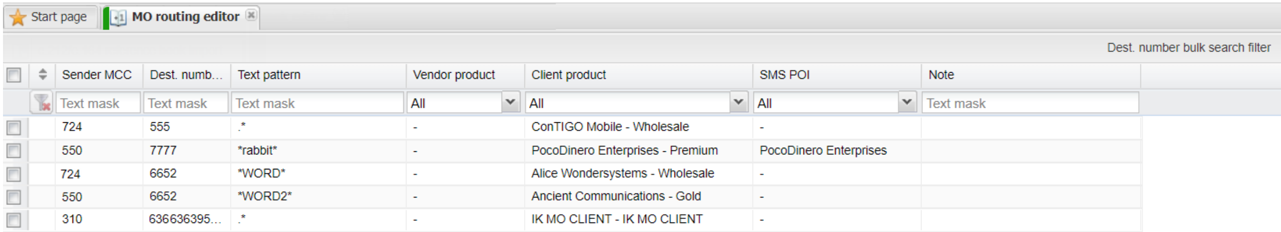


Import summary

12.5.13 MO routing editor

The MO routing editor allows configuring short code/carrier matches to enable two-way messaging. When a mobile originated SMS is received from a subscriber, the System uses the reference book to look up which carrier the short code belongs to, and directs the SMS to this carrier.

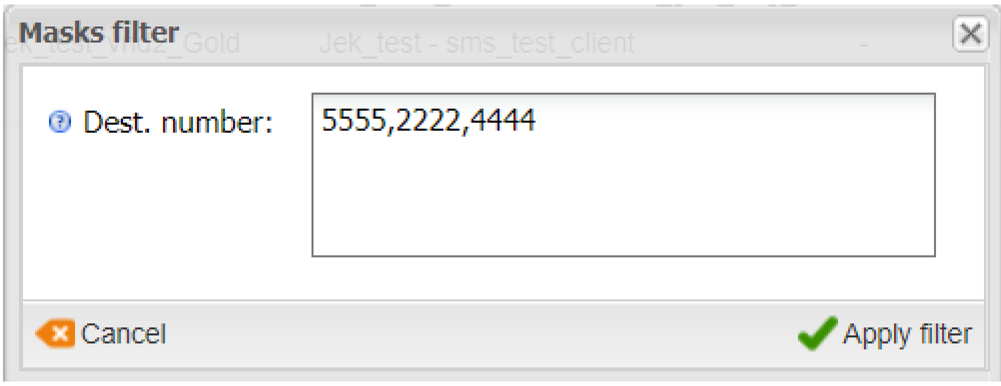
The *MO routing editor* page consists of two panels. The left panel contains the reference book table; the right panel shows the *Add* and *Edit* tabs.



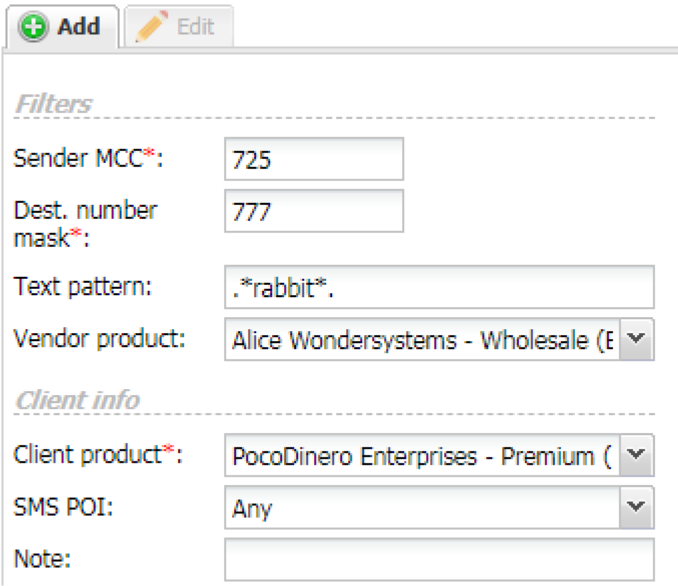
Sender MCC	Dest. numb...	Text pattern	Vendor product	Client product	SMS POI	Note
Text mask	Text mask	Text mask	All	All	All	Text mask
724	555	.*	-	ConTIGO Mobile - Wholesale	-	
550	7777	*rabbit*	-	PocoDinero Enterprises - Premium	PocoDinero Enterprises	
724	6652	*WORD*	-	Alice Wondersystems - Wholesale	-	
550	6652	*WORD2*	-	Ancient Communications - Gold	-	
310	636636395...	.*	-	IK MO CLIENT - IK MO CLIENT	-	

Reference book table

In order to filter by a long list of destination numbers or their masks, click the *Dest. number bulk search filter* button located in the top right corner of the table. This option is similar to filtering by the *Dest. number mask* column in the table, except that it allows entering a large number of values (separated by comma, line break, pipe | or blank space).



Dest. number bulk search filter



Add tab

The *Add* tab contains the following parameters:

- *Sender MCC*: MCC of MO's sender ID (which is the same as the destination address of the relevant original MT message). The match between the number and the MCC is found based on the *e.212/e.164 reference book*
- *Dest. number mask*: destination address of the MO message (the same as the sender ID of the original MT message). Masks (% or *) are supported. Values containing letters are supported (the maximum number of bytes for the field is 21)

Usage example: Suppose an MT message has been received with sender ID 5555 and destination address 541135447500. The Sender ID of the corresponding MO message will be 541135447500 and destination address - 5555. Suppose the longest match for 541135447500 is MCC 722. In this way, an entry with the following parameters to route the MO message to the client product *Test client - WholesaleMO* will be created:
Sender MCC: 722
Dest. number: 5555
Client product: Test client - WholesaleMO

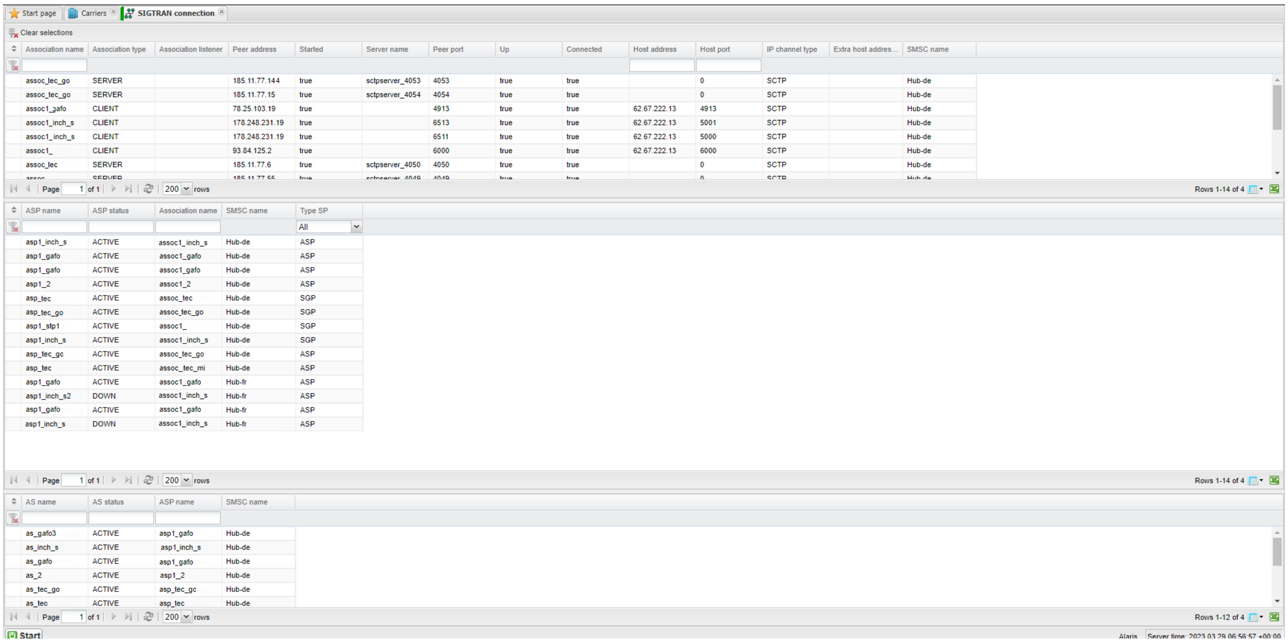
- *Text pattern*: the field is used in case a short code is shared by several carriers, each having their own text code; specify the text code in this field
- *Client product*: select the appropriate product in the drop-down list
- *SMS POI*: serves to add the SMS POI to which the MO messages will be sent. If the field is left blank, the appropriate POI is selected by the routing module
- *Note*: any arbitrary details. Learn more about the feature in Alaris YouTube video
- *Vendor product*: allows routing MO messages based on the vendor from which the message was received. See also the Alaris YouTube video

Fields marked with an asterisk (*) are required. When through with defining the parameters, click Submit to save the record or Reset to discard the settings. Click Delete to remove a record (available in the *Edit* tab). Click Clone to create a copy of a record selected in the table (the button opens the *Add* tab with the parameters of the record. Edit them as appropriate and click Submit.

NOTE: If, during MO routing, no product matching the MCC from the reference book was found, the System searches for the product by the MCC 777 ("Rest of the world").

12.6 SIGTRAN connection

The *SMS\SIGTRAN connection* interface shows statuses of connections between carriers used for short message transmission over the SS7 protocol suite. Note that all SS7 connections are configured internally and their statuses are not available by default. To make them visible, contact the Alaris technical support team and communicate the BZ60301 code.



SIGTRAN connection

The *SIGTRAN connection* interface contains 3 tables: the top table shows created associations (over SCTP: Stream Control Transmission Protocol), the middle table represents application server processes (ASP, over M3UA (MTP-3 User Adaptation Layer) protocol) and the bottom one represents application servers (AS, over MAP (Mobile Application Part) protocol).

The *Associations* grid has the following columns:

- *Association name*: association name
- *Association type*: direction of the association (CLIENT or SERVER)
- *Association listener*: the IP address and the port of an external application where SS7 traffic can be terminated to (not used by default)
- *Peer address*: the IP address of a remote (partner) side
- *Started*: shows if the connection has been enabled from the SMS Hub or SMSc (*true* or *false*)
- *Server name*: the server name
- *Peer port*: the port of a remote (partner) side

- *Up*: *true* or *false*. When true: the connection has been established but no traffic passing currently through it
- *Connected*: shows if the connection has been established and if traffic is sent over the connection
- *Host address*: the SMSC IP address (Alaris side)
- *Host port*: the SMSC port (Alaris side)
- *IP channel type*: SCTP
- *Extra host addresses*: list of additional IP addresses (applicable to multi-homing configuration when traffic must be processed on different hosts with the same connection parameters)
- *SMSC name*: internal name of the SMS centre (Alaris side)

Once an association is selected in the top table, corresponding records are filtered and displayed in the middle (ASP - application server processes) and bottom (AS - application servers) grids. To clear the filters in all tables, click the Clear selections *Clear selections* icon. To clear the selection in a specific table, click the icon.

The middle and bottom tables have similar sets of columns:

- *ASP name/AS name*: ASP or AS name
- *ASP status/AS status*: ASP or AS status (ACTIVE or DOWN)
- *Association name/ASP name*: related association or ASP name
- *SMSC name*: SMSC name
- *Type SP* (only available in the middle table): server process type. Possible values include: *ASP* (application server process) and *SGP* (signaling gateway process)

12.7 Test system

The *SMS\Test system* page serves to test the quality of SMS delivery and change of message parameters (such as message text and sender ID). The *Test system* provides an API for multiple platforms (see the list in Test system editor 533).

Also there is a possibility to use manual testing which involves sending test messages to a specific vendor with predefined parameters without the routing stage (so there is no need in routing configuration and there are no balance/rate checks).

NOTE: Since a test message is sent directly to the provider, the routing stage is skipped and therefore no translation rule is applied.

The interface consists of two tabs: Test system 523 and Test system editor 533.

Test systems can be configured in one of the following ways, depending on the System parameter *SMS Test System service enabled*:

- If the parameter is set to 0, test systems are configured in Administration\System settings 85 (SMS Test 85 section).

- If the parameter is set to 1, test systems are configured in Test system editor 533. In this case, test system tasks are processed by a dedicated Java service, which allows increasing the test performance. To enable the functionality, contact the Alaris technical support team and communicate the code CS-349.

12.7.1 Test system tab

The *Test system* page contains three panels:

- *Test destinations*: destinations for testing
- *Task settings*: testing task parameters
- *Test tasks*: test results

NOTE: As test platforms charge for tests, the System allows issuing invoices for them. Invoices are generated based on tasks with the completed status, created in the *Test system* interface. Also, a payment can be added if a preset number of tasks (test messages) has been exceeded. The parameters used for generation of financial documents are configured by the Alaris technical support team. Contact the support team and communicate the code BZ35603.

12.7.1.1 Test destinations

The *Test destinations* panel contains the *Test platform* drop-down list that allows selection of the test platform.

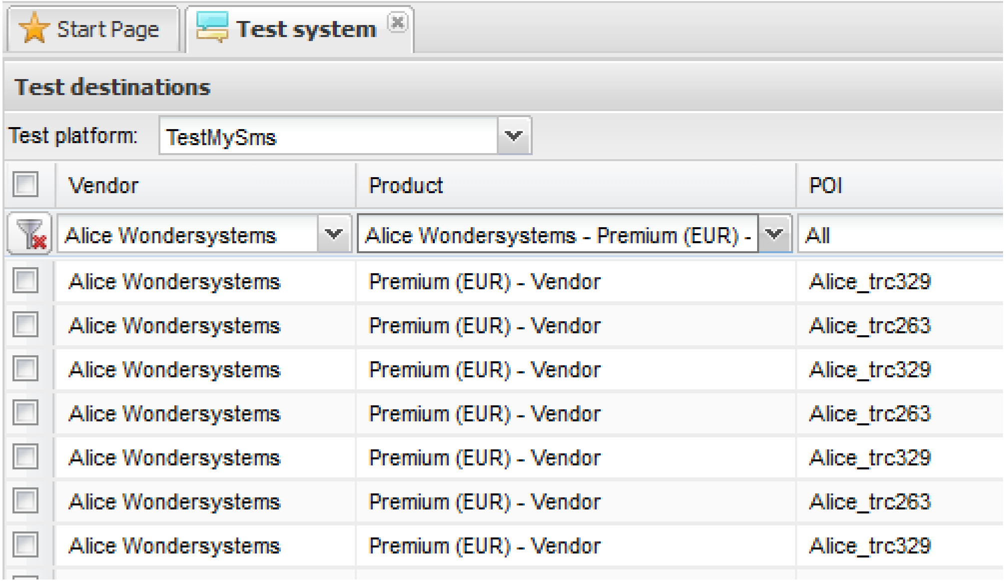
The page also displays the *Test destinations* table with the following columns:

- *Vendor*
- *Product* (the products' active parent rates are also shown)
- *POI*
- *Country*
- *Net*: network name
- *MCCMNC*: MCC/MNC code
- *Rate, <the System currency>:* the actual rate for the MCC(MNC). Additional filters for the minimum and maximum rate can be set. Active parent product rates are reflected as well
- *Rate actual at*: the date on which the rate is actual. The default value is the today’s next hour (for example, if the interface is open on 2020.02.02 at 13:01, *Rate actual at* will be set as 2020.02.02 14:00).

Note that the product must have an active SMS POI and active rates for the MCCMNC on the *Rate actual at* date in order to reflect the records.

If a test system other than the *Manual* is selected, the rows may be greyed out which means that the network is not available from the test provider. The list of the networks is updated every 5 minutes automatically. To update it manually, use the *Refresh* button of the *Task settings* panel.

Additionally, the *Active networks* filter allows the user to find only available networks in the grid.



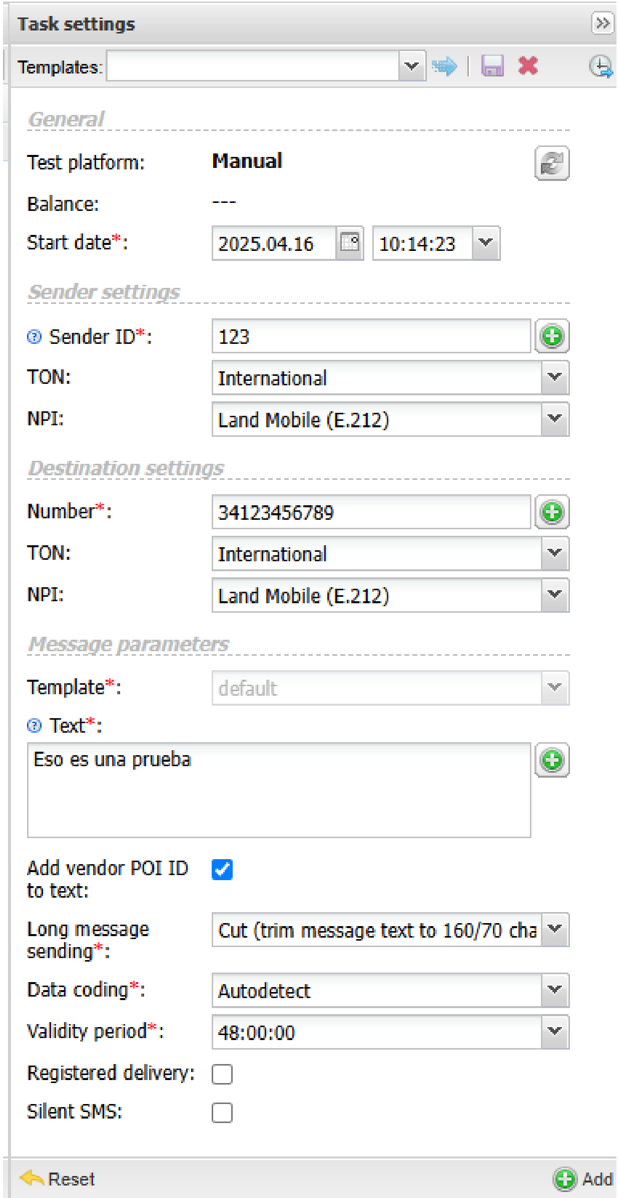
Test destinations

Use text masks or drop-down lists under the column headers to filter the records in the table. Click to export the table to MS Excel (active if at least one filter except *Rate* is set).

The *Active networks only* checkbox located at the bottom of the *Test destinations* panel serves to display only networks available for testing. It is enabled by default.

The checkbox *Show MCC / MCCMNC without rates* located at the bottom of the *Test destinations* panel allows showing all MCCMNC as per e.212/e.164 reference book even if they were not added to the vendor product. This allows verifying destinations for which the vendor offers a countrywide rate.

12.7.1.2 Task settings



Task settings

The *Task settings* panel serves to create a new test task. It has the following parameters:

General:

- *Test platform*: the system selected in the *Test destinations* panel
- *Balance*: the account balance of the test platform (only available for TestMySMS and Testelium)
- *Start date*: the start date and time for the test

Sender settings:

- *Sender ID*: the sender ID. Alphanumeric values are supported - for example, *Google.com.* Several sender IDs per test can be set.

- *TON* (available if *Test platform=Manual* or *TelQ*): type of number. Possible values include: *0 - Unknown, 1 - International, 2 - National, 3 - Network specific, 4 - Subscriber number, 5 - Alphanumeric, 6 - Abbreviated*

- *NPI* (available if *Test platform=Manual* or *TelQ*)*:* Numbering Plan Indicator. Possible values include: *0 - Unknown, 1 - ISDN/telephone numbering plan (E163/E164), 3 - Data numbering plan (X.121), 4 - Telex numbering plan (F.69), 6 - Land Mobile (E.212), 8 - National numbering plan, 9 - Private numbering plan, 10 - ERMES numbering plan (ETSI DE/PS 3 01-3), 14 - Internet (IP), 18 - WAP Client ID*

Destination settings:

- *Number*: destination number

- *TON* (available if *Test platform=Manual* or *TelQ*): type of number (possible values are listed above)

- *NPI* (available if *Test platform=Manual* or *TelQ*)*:* Numbering Plan Indicator (possible values are listed above)

Message parameters:

- *Template*: the message template (configurable in the test platform, not available for the *Manual* testing)

- *Text*: text of the test message (for the TestMySms service it is configured in the service interface). For test systems the maximum field value is 100 symbols (except for the *Manual, TelQ iTest* and *TestMySMS* platforms for which it is 1000 bytes)

NOTE: If the + sign is specified in the *Dest. number*, it will be removed by the SMS switch.

NOTE: It is possible to generate random numbers (NUM) or text strings (STR) in the *Sender* and *Message text* fields in order to automate the testing process. For this purpose, placeholders are used. For example, {NUM(5)} will generate a number with 5 digits, {STR(10)} - 10 Latin symbols. Learn more about the feature in the Alaris YouTube video.

- *Add vendor POI ID to text message* (available if the *Manual* test platform is selected):when enabled, the feature allows tracking the vendor through which a specific message was received (when it arrives at the end-user device). It is instrumental in case of a large amount of tests on a specific number with the same text

- *Long message sending*: define how the System should send messages exceeding the standard length. Available for *TelQ* and *Manual* platforms

- *Data coding* (available if *Test platform=Manual*): the data coding for the test message. When empty, the System defines the data coding automatically. If the message text contains symbols that persist in GSM7bit, the *data_coding* is set as 0, otherwise - as 8 (UCS2)

- *Validity period* (available if *Test platform=Manual* or *TelQ*): the period during which the SMS sending attempts will be performed (in the format: HH:MM:SS)

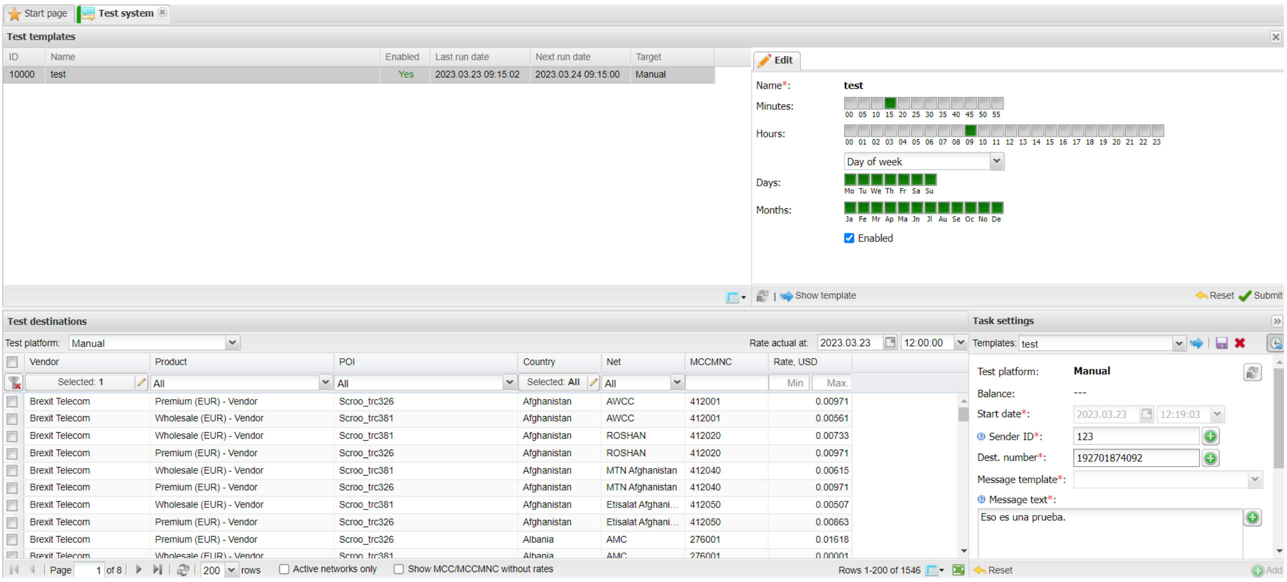
- *Registered delivery* (available if *Test platform=Manual* or *TelQ*): when selected, the submit request will be sent with the registered_delivery flag set to 1. If the flag is set to 0, the vendor is not guaranteed to return a delivery report

- *Silent SMS*: select to test the silent mode of SMS sending (a message is sent with a special data coding, and the message arrives with no sound). Available only for the *Manual* and *TelQ* platforms

To add the task, click Add. Click Reset to discard the settings.

To save configured settings under a template, insert the template name in the *Templates* field and click the button. To restore the template settings, click on the button. Click to delete the template.

Click in the top right corner of the panel to configure a schedule for the task.

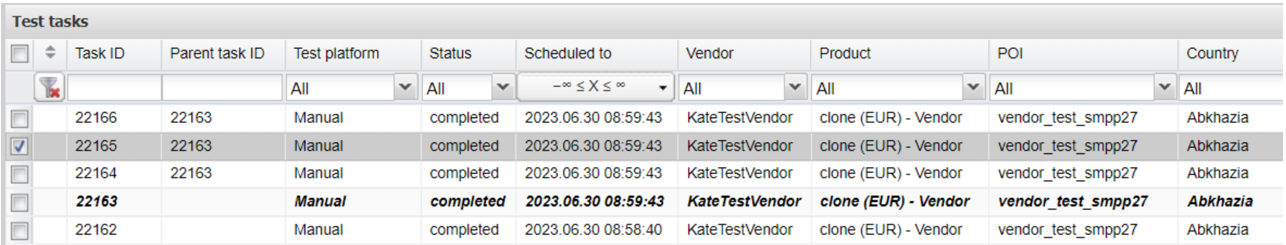


Configuring the task schedule

Configure the schedule as necessary. Click in the top right corner to return to the previous view.

12.7.1.3 Test tasks

The *Test tasks* panel is located at the bottom of the page and shows a table of submitted test tasks.



Test tasks

Task ID	Parent task ID	Test platform	Status	Scheduled to	Vendor	Product	POI	Country
		All	All	−∞ ≤ X ≤ ∞	All	All	All	All
22166	22163	Manual	completed	2023.06.30 08:59:43	KateTestVendor	clone (EUR) - Vendor	vendor_test_smpp27	Abkhazia
22165	22163	Manual	completed	2023.06.30 08:59:43	KateTestVendor	clone (EUR) - Vendor	vendor_test_smpp27	Abkhazia
22164	22163	Manual	completed	2023.06.30 08:59:43	KateTestVendor	clone (EUR) - Vendor	vendor_test_smpp27	Abkhazia
22163		***Manual***	***completed***	***2023.06.30 08:59:43***	***KateTestVendor***	***clone (EUR) - Vendor***	***vendor_test_smpp27***	***Abkhazia***
22162		Manual	completed	2023.06.30 08:58:40	KateTestVendor	clone (EUR) - Vendor	vendor_test_smpp27	Abkhazia

Test tasks

It contains the following columns:

- *Task ID*: unique identifier of the task
- *Parent task ID:* the ID of the initial task in accordance with which the child task was created. Child tasks are created if a test task contains long text and the *Long message mode* parameter is set to *Split* or *Split SAR*. The records of parent tasks are highlighted in bold
- *Test platform*
- *Status*: the task status. Possible values include:
  - *scheduled: task with a future date and time*

- *in progress*: task in progress; the status may be assigned to the task even though the message was successfully sent due to absence of a delivery report
- *postponed*: indicates impossibility of sending the last test attempt (the number of attempts is configured in the System parameter *SMS test max attempts count* in Administration\System settings 48). The status may be caused by an unsuccessful response from the test platform or rejection by the SMS switch. For more details, refer to the *System log (Administration)* report (the *Operation* filter must be set to *SMS Test framework*)
- *completed*: the task is completed (the message was sent; it may be delivered correctly or with errors, or not delivered, which is shown in the *Delivery status* and *Status details* columns)
- *failed*: the task was not completed successfully
- *canceled*: the task was canceled by the user

- *Scheduled to*: the task launch date
- *Vendor*
- *Product*
- *POI*
- *Country*
- *Net*
- *MCCMNC*
- *Rate, <the System currency>*: vendor rate as of the testing date and time.

NOTE: Once the test is completed, the value of the *Rate* column remains the same even if the rate itself is later changed retrospectively.

- *Result*: task result. Valid values include:
  - *OK*: the task is completed successfully and no message parameter was changed
  - *FAIL*: one of the message parameter has been changed - for example, there is a difference between the initial sender ID and the one received on the handset
- *Test ref ID*: the message ID; for the *Manual* platform the client message ID is shown; for the *TestMySMS* and *CSG* - the ID of the test assigned from the platform side; for the *TelQ* platform the format is as follows: the System client message ID/ID of the test assigned from the platform side
- *Send date*: the message send date
- *Delivery status*: SMS delivery status. Valid values include:
  - *OK*: the message is delivered based on the test system results
  - *FAIL*: the message is not delivered based on the test system results
  - *TIMEOUT*: status that is assigned automatically when the number of test attempts is exceeded. For example if it is impossible to retrieve a delivery report (the *Status details* column is equal to *Allowed number of attempts exceeded* if no response was received from

the test platform or the *Status details* column contains an actual result returned by the test system)

NOTE: The number of attempts is defined by the System parameter *SMS test max attempts count* (Administration\System settings\SMS test 85).

- *ERROR*: internal status that is assigned if it was not possible to query the test system in regard to a delivery status (internal error) or the test system returned an empty delivery status

The column can also contain the actual delivery statuses (apart from OK and FAIL), for example DELIVRD or REJECTD, given that the SMS switch requests a delivery status (and the status is not returned by the test system itself)

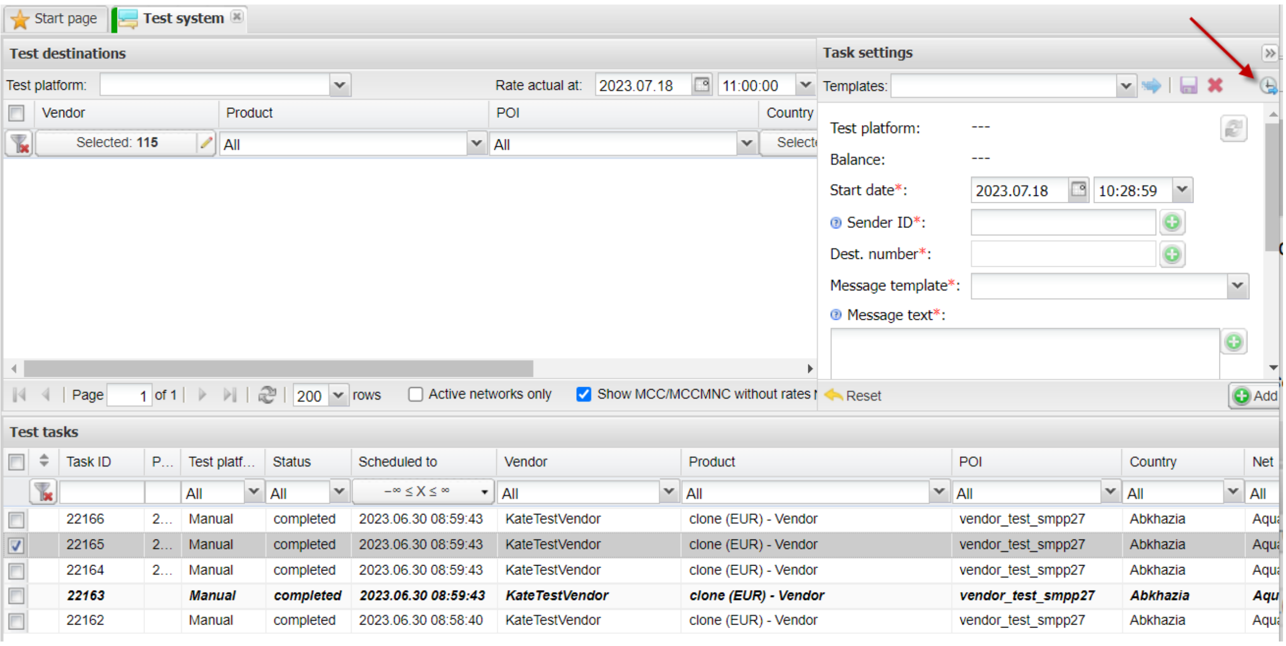
- *Delay*: message delay; returned from the *CSG* and *TelQ* platform only
- *Sent text*: the text sent by the test system
- *Received text*: the text received by the recipient
- *Text diff*: the difference between the sent and received text; relevant for the *TestMySMS* platform only
- *Long message sending*: the mode in which the System sends messages exceeding the standard length
- *Data coding*: the employed encoding
- *Sent sender ID*: the sender ID sent by the test system
- *Received sender ID*: the sender ID received by the recipient
- *Sender ID format*: shows whether the Sender ID is numeric or alphanumeric (applicable to tasks for the Texter test platform)
- *Sender ID status*: set to *OK* if no different between the *Sent sender* and *Received sender* is detected, otherwise - set to *FAIL*
- *Template name*: the template selected in the *Task settings* panel
- *Target number*: the destination number
- *SMS Center*: the SMS center through which the message was sent; the value is returned from the test platform side (without the + sign)
- *SMS c. country*: the SMS center country for the match of the *SMS Center* and the country from the e.212/e.164 reference book
- *Status details*: the information on the task status. Possible values include:
  - *Unexpected status failed*: a conflict between the test statuses received from the vendor and the test platform (the vendor sent the delivered status, whereas the platform sent the failed status)
  - *Network currently is not supported by test provider*: the number for the network went offline or the error received due to incorrect authorization data

- *Required parameters for test provider are not specified*: the platform credentials are not set in the corresponding system settings (*Administration\System settings\SMS Test* 85). For example, for *TestMySMS* the login must be set in the *TestMySMS user name* and the password - in the *TestMySMS password* parameter
- *Waiting for delivery*: the message has been sent; no delivery report received yet
- *Message successfully sent*: the message has been sent, no delivery report received within the *Delivery waiting period, sec* period (*Administration\System settings\SMS switch* 97)
- *Can't send message*: the test couldn't been sent due to the absence of obligatory parameters (for example, a destination number)
- *Can't get test results*: the result cannot be obtained from the test platform - for example, a delivery report has not been returned from the test platform side
- *Task completed, test successful*: the message was delivered with no modifications in the sender's ID or message text
- *Task completed, test unsuccessful*: the message was delivered with some modifications in the sender's ID or message text
- *Allowed number of attempts exceeded*: the task was not executed successfully and the allowed number of attempts was exceeded (the number of attempts is configured in *Administration\System settings\SMS Test* 85 (the parameter *SMS test max attempts count*) - note that the first retry is sent in a minute, the second - in 2 minutes, the 3rd - in 4 minutes, etc (the delay is increased exponentially)
- *Canceled by user*: the task was canceled by the user

* *User name*: the name of the user who launched the task or the template name
* *Add vendor POI ID*: shows if the *Add vendor POI ID to text message* checkbox is selected on the Task settings 525 panel

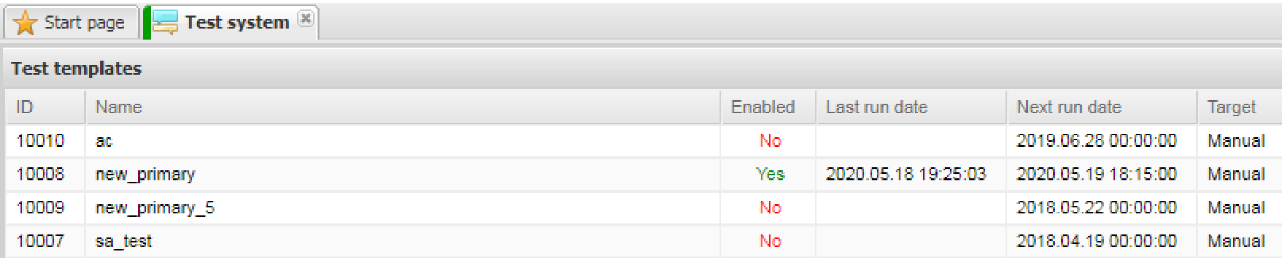
12.7.1.4 Test templates

Click on the *Schedule tasks* button in the top right corner to go into the *Test templates* interface which is intended for scheduling of test tasks with predefined settings.



Schedule tasks button

The interface consists of four panels - *Test templates*, the *Edit* tab, *Test destinations* and *Task settings*.

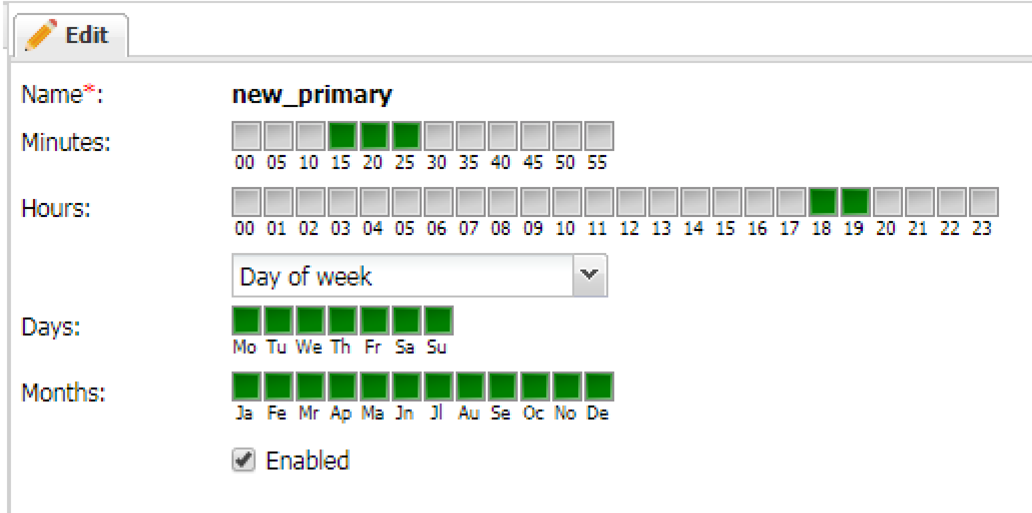


ID	Name	Enabled	Last run date	Next run date	Target
10010	ac	No		2019.06.28 00:00:00	Manual
10008	new_primary	Yes	2020.05.18 19:25:03	2020.05.19 18:15:00	Manual
10009	new_primary_5	No		2018.05.22 00:00:00	Manual
10007	sa_test	No		2018.04.19 00:00:00	Manual

Test templates

The *Test templates* table contains the following fields:

- *ID*: the unique ID of the template
- *Name*: the template name
- *Enabled*: shows if the schedule is activated
- *Last run date*: the date when the template was executed last time
- *Next run date*: the next date when the task will be executed in accordance with the schedule
- *Target*: the test platform name



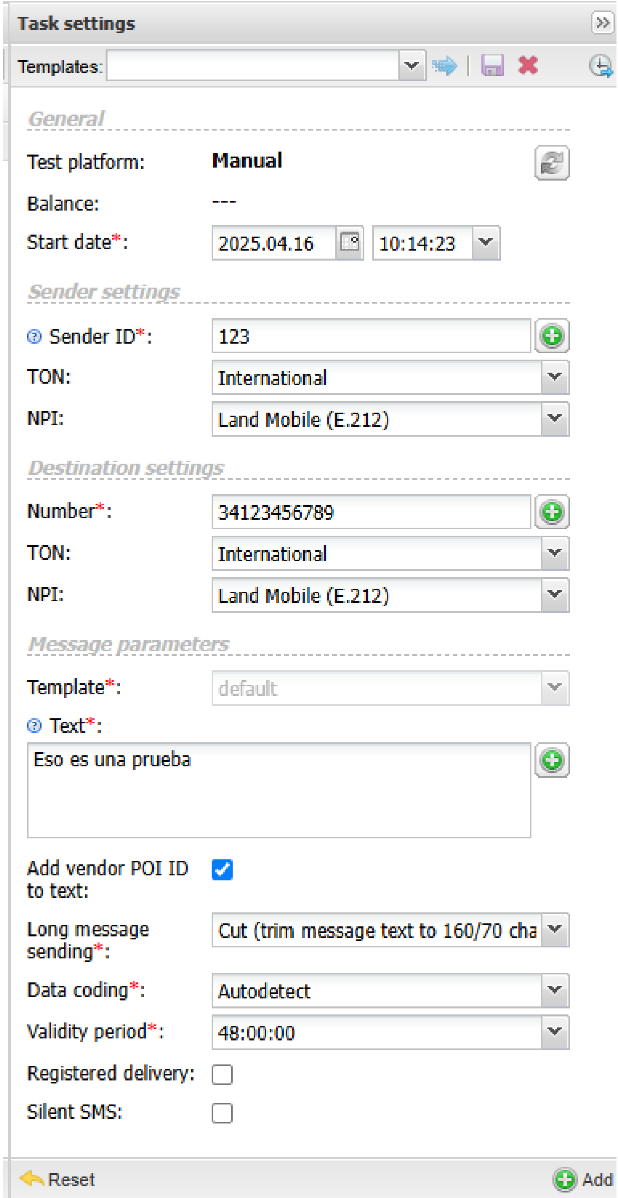
Edit tempate

The schedule can be configured and saved on the *Edit* panel that contains the following fields:

- *Name*: the template name, cannot be changed once saved
- *Days*: can be set as a *Day of week* or a specific *Date*
- *Enabled*: select to enable the schedule

NOTE: To set the schedule, the template must be created/selected first.

To view the details of a specific template, select it in the *Test templates* table, click Show template and view the *Tasks settings* panel at the bottom right corner of the page. It is identical to the Tasks settings panel of the main *Test system* interface.



Task settings

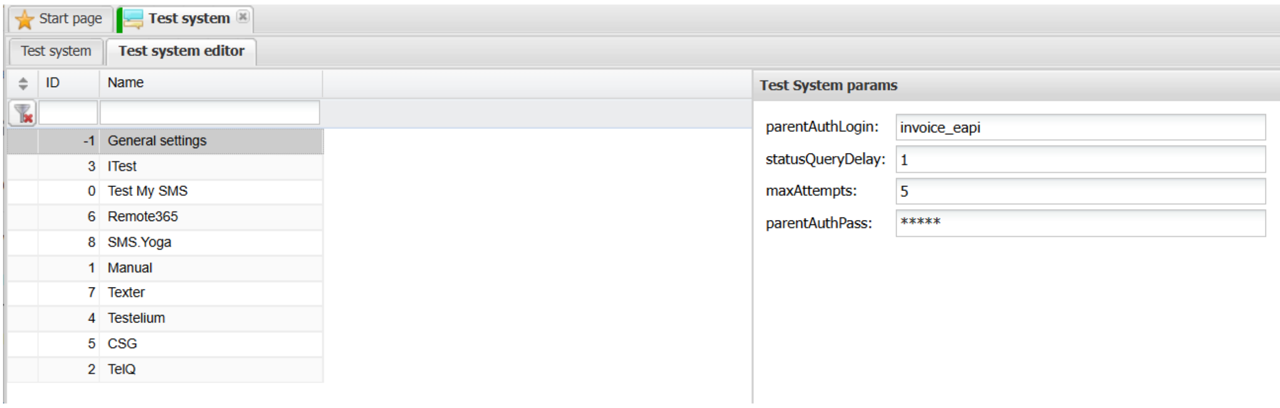
The task settings can be changed and saved either under the same name (new tasks will be launched with the new parameters) or under another one. Tests executed on schedule will have the *User name* set as *Template: <template_name>* in the *Task settings* table. To delete a template, click on the button of the *Task settings* panel.

The *Test destinations* table is also identical to the *Test destinations* table of the main *Test system* interface.

12.7.2 Test system editor

The *Test system editor* tab serves for configuring test systems. It is available if the System parameter *SMS Test System service enabled* is set to 1. Otherwise, test systems must be configured in Administration\System settings 85 (SMS Test 85 section).

The tab contains a table of available test platforms and a panel with settings of the selected platform.



Test system editor

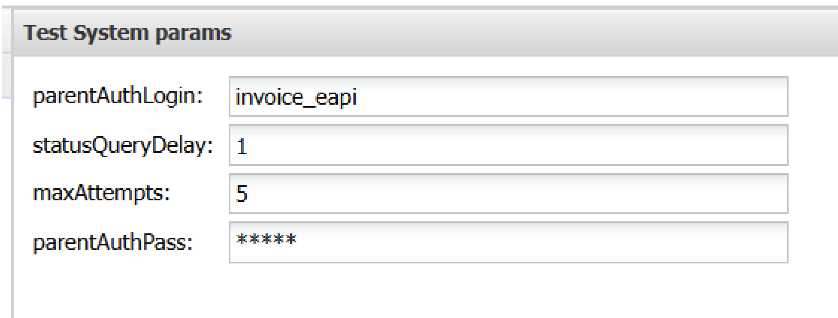
Each test platform has the parameter *enabled*. When set to 1, the platform is available for selection in the *Test platform* list of the [Test system](523) tab. If set to 0 or left empty, the platform is not displayed in the list.

Currently supported platforms include:

- *TestMySMS*
- *remote365*
- *TelQ*
- *CSG Assure*
- *iTest*
- *Testelium*
- *Texter*
- *Manual*
- *SMS.Yoga*

12.7.2.1 General settings

General settings serve to configure the parameters common to all test systems.



General settings

The following parameters are available:

- *parentAuthLogin / parentAuthPass*: authorization parameters of the user under which the Java service connects to EAPI when attempting to send a callback with the test task status to the System

- *statusQueryDelay*: The minimum time in minutes that must elapse before a new request is sent to the Java service. If the service requested the test status from the test system and it responded that the test is still in progress, the next status request will be executed after the number of minutes specified in the parameter

- *maxAttempts*: number (integer) of attempts to send the test message (attempts are made until the number is reached or delivery status is received from the test platform). Note that the first attempt is resent in a minute, the second - in 2 minutes, the 3rd - in 4 minutes, etc (the delay is increased exponentially). If set to null, it is considered as 10 maximum attempts

12.7.3 Configuring test platforms

12.7.3.1 Manual system

The System has a preconfigured carrier SMS_TEST_SYSTEM, its ID is set in the *Route testing client* parameter (Administration\System settings\SMS test 85). This setting should be kept unmodified unless there are changes related to the test carrier.

Test messages are sent from the interface through this carrier as a client and will be seen in the SMS\Analytics 363 interface. If test tasks are failed or the traffic is not shown in the *Analytics*, contact the Alaris technical support team.

Once a manual task is created, the request (the template is configured in the *Manual SMS send URL* parameter) is put to queue and sent from the active database to the SMS switch every minute. The *Service type* is set to the vendor POI ID that is being tested. If the message is received from the *Route testing client*, the SMS switch checks the *serviceType* and sends the message directly to the vendor. If the *serviceType* is empty, the message is rejected.

Since it is not possible to check the amount of actually delivered messages with the help of manual tasks, the *Dest. number* can be set as the user's number. The same concept can be applied to check if the provider changes a sender ID and the message text.

NOTE: If Sender/Destination TON/NPI are not configured, they are set as follows: dstTon/dstNpi = 1, srcNpi=0, srcTon = 5 in case the sender ID is alphanumeric, otherwise (digits only) - srcTon = 1.

12.7.3.2 TestMySMS

The workflow of the test system is as follows: to run a test, the system sends an API call (POST /SendTests) and waits for a message from the TestMySMS client channel via SMPP. Using the value from the service_type of submit_sm, the system knows which vendor to send the message to.

Below are examples of API methods that are currently supported:

- performing a test

curl -X POST 'TestMySMS URL/SendTests' -H 'accept: application/json' -H 'Content-Type: application/json' -d '{"user":{"username":"TestMySMS user name","password":"TestMySMS password"},"mcc":"MCC","mnc":"MNC","templateName":"Message template","vendorName":"TestMySMS vendor","overrideSenderId":"Sender ID","overrideServiceType":"Service type"}'

- obtaining the current balance of the account

curl -X POST 'TestMySMS URL/GetBalance' -H 'accept: application/json' -H 'Content-Type: application/json' -d '{"user":{"username":"TestMySMS user name","password":"TestMySMS password"}}'

- obtaining the networks that are available to perform the test

curl -X POST 'TestMySMS URL/GetAllAvailableNetworkV4' -H 'accept: application/json' -H 'Content-Type: application/json' -d '{"user":{"username":"TestMySMS user name","password":"TestMySMS password"}}'

- retrieving all available templates

curl -X POST 'TestMySMS URL/GetAllTemplates' -H 'accept: application/json' -H 'Content-Type: application/json' -d '{"user":{"username":"TestMySMS user name","password":"TestMySMS password"}}'

- obtaining the results of the test

curl -X POST 'TestMySMS URL/GetTestResult' -H 'accept: application/json' -H 'Content-Type: application/json' -d '{"user":{"username":"TestMySMS user name","password":"TestMySMS password"},"messageId":"Message ID"}'

where

TestMySMS URL is the link for sending test messages through the TestMySMS platform, usually http://portal.testmysms.com:8080/SMSClientWeb/TestSendAPI/

TestMySMS user name, *TestMySMS password*, *TestMySMS vendor* are the corresponding parameters from Administration\System settings\SMS Test 85

MCC, *MNC* are the test destination selected in the *Test system* interface

Message template is the template received from TestMySMS

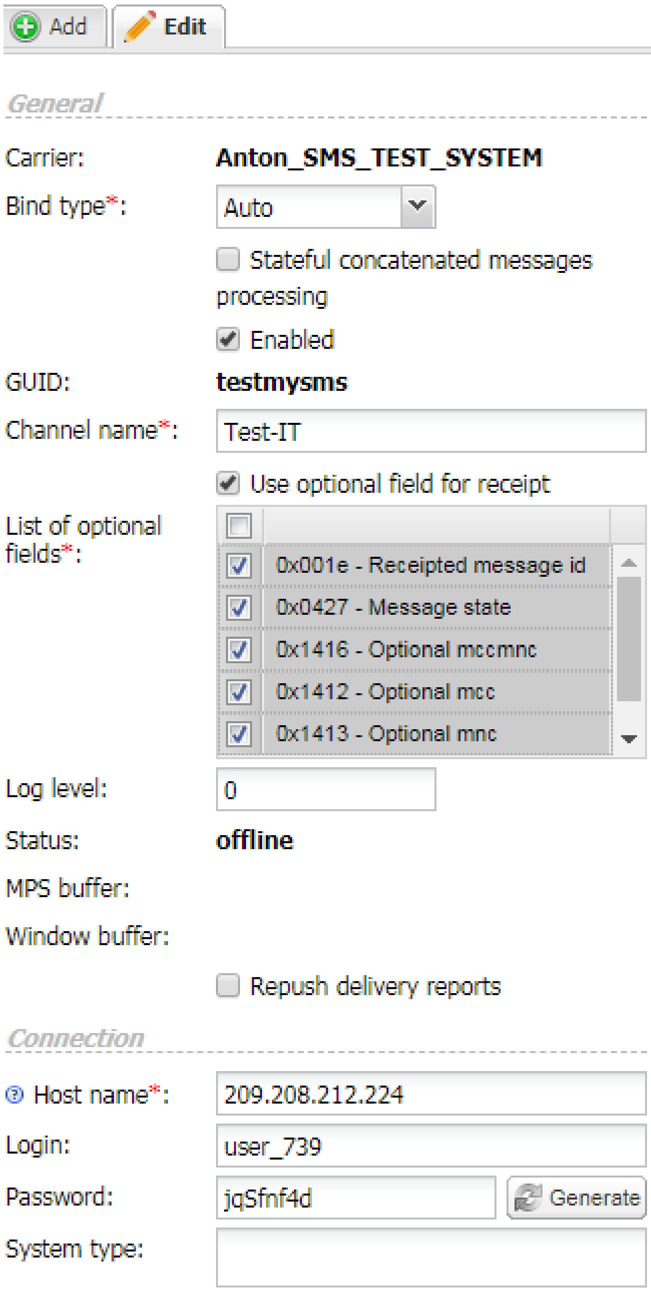
Service type is the POI ID of the tested vendor

To configure the TestMySMS platform proceed as follows:

1. Go to Administration\System settings\SMS Test 85 and find out the value of the parameter *Route testing client*. This will be the carrier ID automatically created by the System for testing purposes

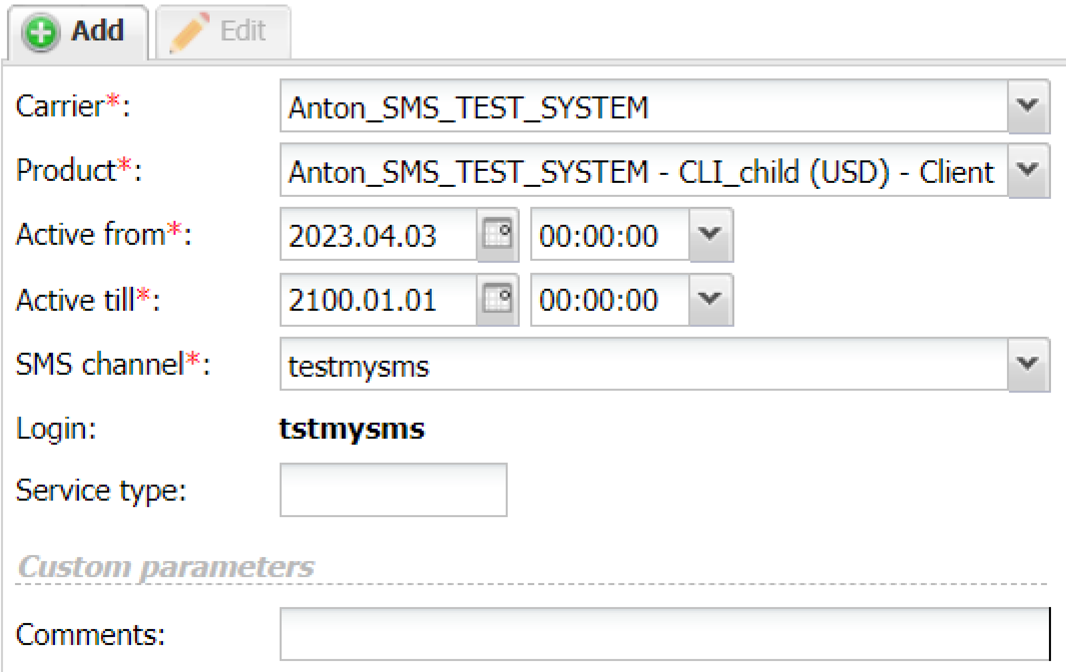
NOTE: If the value is null, contact the Alaris technical support team to add the *Route testing client*.

2. Go to the Carriers 163 section and use this ID to find the carrier record. Normally the carrier's name is SMS_TEST_SYSTEM
3. Add a client channel under the carrier as described below:
   a. In the *SMS channels* page, specify the following:
      - *Carrier*: provide a carrier's name
      - *Channel bind type*: select *Auto*
      - *Channel name*: provide an arbitrary name
      - *Host name:* supply the the TestMySMS IP address 209.208.212.224
      - *Login* and *Password*: make up values that will be used by the TestMySMS service to access the Alaris SMS Platform (usually they are provided from the TestMySMS side)
      - Leave the remaining fields blank or fill them with arbitrary values and click *Submit*



Add SMS channel tab

b. Configure an SMS POI for the channel. Go to the *SMS POI* tab, select the carrier, product, active dates and SMS channel. Leave the *Service type* field blank



Adding the SMS POI

4. Register an account with the TestMySMS service, create a new vendor and configure the channel connection parameters (use the *SMS channel* values configured above)

5. Configure the test platform parameters. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
TestMySMS URL	*url*	the platform URL (http://portal.testmysms.com:8080/SMSClientWeb/TestSendAPI/)
TestMySMS password and *TestMySMS user name*	*password* and *username*	login and password used to access the TestMySMS platform
TestMySMS vendor	*vendor*	the name of the vendor as specified in the TestMySMS platform

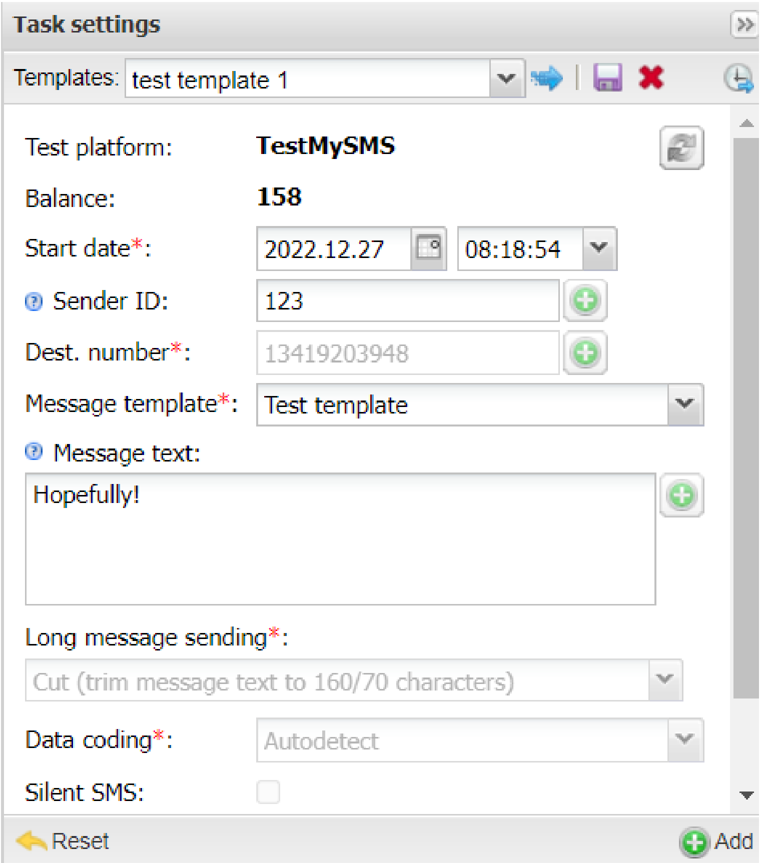
6. Go to the *Test system* page (SMS\Test system 522) and create a new test task.

   a. In the *Test destinations* section:

      - Select *TestMySMS*
      - Select the appropriate destination

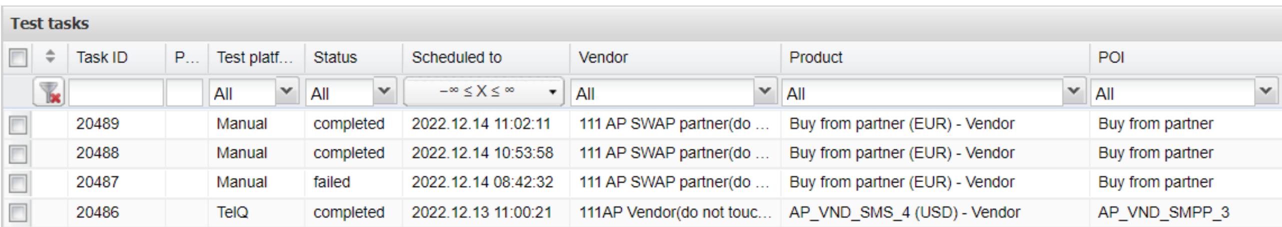
   b. In the *Task settings* section, configure the following:

- *Start date*: specify the start date and time for the test
- *Sender ID*: supply the sender's phone number
- *Message template*: select the message template created in the TestMySMS platform



Task settings

c. Click *Add*. The task will appear in the *Test tasks* panel



Task ID	P...	Test platf...	Status	Scheduled to	Vendor	Product	POI
		All	All	−∞ ≤ X ≤ ∞	All	All	All
20489		Manual	completed	2022.12.14 11:02:11	111 AP SWAP partner(do ...	Buy from partner (EUR) - Vendor	Buy from partner
20488		Manual	completed	2022.12.14 10:53:58	111 AP SWAP partner(do ...	Buy from partner (EUR) - Vendor	Buy from partner
20487		Manual	failed	2022.12.14 08:42:32	111 AP SWAP partner(do ...	Buy from partner (EUR) - Vendor	Buy from partner
20486		TelQ	completed	2022.12.13 11:00:21	111AP Vendor(do not touc...	AP_VND_SMS_4 (USD) - Vendor	AP_VND_SMPP_3

Test results

The *Balance* field in the *Task settings* panel reflects the balance from the TestMySMS side. The balance is updated every five minutes. To update it manually, click the *Refresh* button next to the *Test platform* name.

12.7.3.3 REMOTE365

The workflow of the test system is as follows: to run a test, the system sends an API call (*mtMessageTest*) and receives a response with reference ID. Then the system receives a callback with Destination number for testing and uses it to send a message to the vendor. After that, Remote365 returns the test result in another callback.

Below are examples of API methods as curl commands that are currently supported:

- performing a test

```
curl -X POST 'https://www.remote365.net:17365/RemoteServerPort' -k \
  -H 'Content-Type: text/xml' \
  -H 'Authorization: Basic Remote365 user name:Remote365 password (base64 encoded)' \
  -H 'SOAPAction: ""' \
  -d '
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:rem="rem">
    <soapenv:Header/>
    <soapenv:Body>
      <rem:mtMessageTest/>
    <rem:simNwc>MCCMNC</rem:simNwc>
<rem:externalReference>myRef</rem:externalReference>
<rem:messageType>1</rem:messageType>
  </rem:mtMessageTest>
    </soapenv:Body>
  </soapenv:Envelope>'
```

- obtaining the networks that are available to perform the test

```
curl -X POST 'https://www.remote365.net:17365/RemoteServerPort' -k \
  -H 'Content-Type: text/xml' \
  -H 'Authorization: Basic Remote365 user name:Remote365 password (base64 encoded)' \
  -H 'SOAPAction: ""' \
  -d '
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:rem="rem">
    <soapenv:Header/>
    <soapenv:Body>
      <rem:getAvailableNwcs/>
    </soapenv:Body>
  </soapenv:Envelope>'
```

where

Remote365 user name, *Remote365 password* are the corresponding parameters from Administration\System settings\SMS Test 85

MCCMNC is the test destination selected in the *Test system* interface.

To test SMS delivery using the REMOTE365 platform, first contact the Alaris technical support team to install a specialized add-on module and complete the service configuration.

Configure the test platform parameters in the System interface. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
Remote365 SMS send URL	N/A	the platform URL set in the format http://host:8001/api?command=submit&ani=%from%&dnis=%to%&message=%text%&serviceType=%servicetype%&username=%username%&password=%password% 539
Remote365 password and *Remote365 user name*	*password* and *username*	login and password of the REMOTE365 account
Remote365 control URL	*soapUrl*	set by the Alaris technical support team

An account with a positive balance must be created on the REMOTE365 side. The following URL must be specified in the *Configuration\API Connection* field: http://host:8085/ws/RemoteClient.wsdl 539, where *host* must be replaced by the SMS switch IP address.

12.7.3.4 TelQ

The workflow of the test system is as follows: to run a test, the System sends an API call (*POST /tests*) and receives a response with Destination number and Test ID for testing and uses them to send a message to the vendor. The system then uses another API call (*GET /results*) to retrieve the test results.

Below are examples of API methods as curl commands that are currently supported:

- obtaining a Bearer token (token must be included in all further API requests):

curl -X POST 'https://api.telqtele.com/v2.1/client/token' -H 'accept: application/json' -H 'Content-Type: application/json' -d '{ \"appId\": TelQ app id, \"appKey\": \"TelQ app key\"}'

- obtaining the networks that are available to perform the test:

curl -X GET 'https://api.telqtele.com/v2.1/client/networks' -H 'accept: application/json' -H 'Authorization: Bearer Token'

- performing a test:

*curl -X POST 'https://api.telqtele.com/v2.1/client/tests' -H 'accept: */*' -H 'Content-Type: application/json' -d '{ \"destinationNetworks\": [{ \"mcc\": \"MCC\", \"mnc\": \"MNC\" }] }' -H 'Authorization: Bearer Token'*

- obtaining the results of the test:

*curl -X GET 'https://api.telqtele.com/v2.1/client/results/TestID' -H 'accept: */*' -H 'Authorization: Bearer Token'*

where

TelQ app id, *TelQ app key* are corresponding parameters from [Administration\System settings\SMS Test 85].

Token is the bearer token returned by TelQ in response to a *POST /token* request (obtaining a *Bearer token* stage).

MCC, *MNC* are the test destination selected in the Test system interface (*performing a test* stage).

TestID is the ID of a specific test task returned by TelQ in response to a *POST /tests* request.

To test SMS delivery using the TelQ platform, proceed as follows:

1. Create an account at the TelQ platform and enable external API requests on the platform side (*API* menu)
2. Configure the test platform parameters in the System interface. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
TelQ App ID	*TelQ app ID*	
TelQ App key	*TelQ app key*	
testResultTimeout	*TelQ test result timeout, min*	timeout to wait for the response of the TelQ test platform about the test status. Note that the check is made together with *SMS test max attempts count*. For example, if the count is 5 and the timeout is 60 minutes, test rejection will occur on the 15th minute - and since the timeout value is not reached, the test will be considered failed. However if the count is 7, the rejection will happen on the 63rd minute (in case all attempts are unsuccessful) and the timeout is reached
N/A	*url*	the platform URL, for example https://api.telqtele.com/v3/client

3. Make sure that the Route testing client is set to the test carrier ID. If specified as null, contact the Alaris support team for further configuration

12.7.3.5 CSG Assure

The workflow of the test system is as follows: to run a test, the system sends an API call (*POST /TestBatches*) and waits for a message to the CSG Assure client channel via SMPP. Using the value from the *service_type* of *submit_sm*, the system knows which vendor to send the message to.

Below are examples of API methods as curl commands that are currently supported:

- obtaining the networks that are available to perform the test:

curl -X GET 'CSG URL/QueryResults?code=TestNodes' -H 'Authorization: Basic CSG API login:CSG API password(base64)'

curl -X GET 'CSG URL/QueryResults?code=TestNodeStatuses' -H 'Authorization: Basic CSG API login:CSG API password(base64)'

- retrieving all available templates:

curl -X GET 'CSG URL/QueryResults?code=SMSTemplates' -H 'Authorization: Basic CSG API login:CSG API password(base64)'

- performing a test:

curl -X POST 'CSG URL/TestBatches' -d '{ "TestSetItems": [{ "SMSRouteID": CSG SMSRoute ID, "SMSTemplateName": "Message template", "SMSTemplateModifications": { "ServiceType": Service type, "SourceAddr": "Sender ID", "ShortMessage": "Message text" }, "BPLMN": "MCC,MNC", "AllTestNodes": true }] }' -H 'Authorization: Basic CSG API login:CSG API password(base64)' -H 'Content-Type: application/json'

- obtaining the results of the test:

curl -X GET 'CSG URL/TestBatches/TestBatchID' -H 'Authorization: Basic CSG API login:CSG API password(base64)'

where

CSG URL is the link for sending test messages through the CSG Assure platform from Administration\System settings\SMS Test 85, for example https://h-1-1-1-1.csg-assure.com/api/.

CSG API login, *CSG API password*, *CSG SMSRoute ID* are corresponding parameters from Administration\System settings\SMS Test 85.

MCC, *MNC* are the test destination, selected in the Test system interface.

Sender ID, *Message text* are message parameters selected in the *Test system* interface.

Message template is the template received from CSG Assure.

Service type is the POI ID of the tested vendor.

TestBatchID is the ID of a specific test task returned by CSG Assure in response to a *POST /TestBatches* request.

To test SMS delivery using the CSG Assure service, proceed as follows:

1. Perform configuration on the CSG side:

   - Obtain the following information from CSG:
     - URL to download the CSG client
     - REST API URL
     - Login and password for the CSG client
     - Login and password for REST API
     - Request the CSG support service to activate your REST API
   - Download and install the CSG client
   - Log into the CSG client and change the password

- In the *Admin\SMS Routes* tab of the CSG client create an *SMS Route* that will enable connection to your SMS switch. Configure the following parameters: *Name*, *Route class* (specify the value *Supplier*), *Carrier name* and *Properties* (specify colon-separated parameters needed for the SMTP connection: *Host*, *Port*, *SystemID* and *Password).* This information will be used by the CSG system to establish a connection to the server where Alaris SMS switch is installed.

- In the CSG client, enable display of the *SMSRoute* ID. Right-click on the title and select *Show/Hide Columns*.

2. Perform configuration of the firewall:

- If you use a hosted variant of the Alaris SMS Platform, contact the Alaris technical support team and send them the REST API URL provided by the CSG engineers

- Otherwise, open the firewall for the CSG IP address that is contained in the REST API URL provided by CSG. For example, if the link looks as follows: https://h-55-18-125-12.csg-assure.com/clientdownload/, use the IP address 55.18.125.12

3. Perform configuration of the Alaris SMS Platform:

- Go to Administration\System settings\SMS Test 85 and find out the value of the parameter *Route testing client*. This will be the carrier ID automatically created by the System for testing purposes

NOTE: If the value is null, contact the Alaris technical support team to add the *Route testing client*.

- Go to the Carriers 163 section and use this ID to find the carrier record. Normally the carrier's name is SMS_TEST_SYSTEM

- Add an SMS channel for this carrier (Carriers\SMS channels 188) with the following parameters:

  - *Partner direction*: *Client*

  - *Bind type*: *TR*

  - *Enabled*

  - *Host name*: the IP address contained in the URL provided by CSG (55.18.125.12 in the example below)

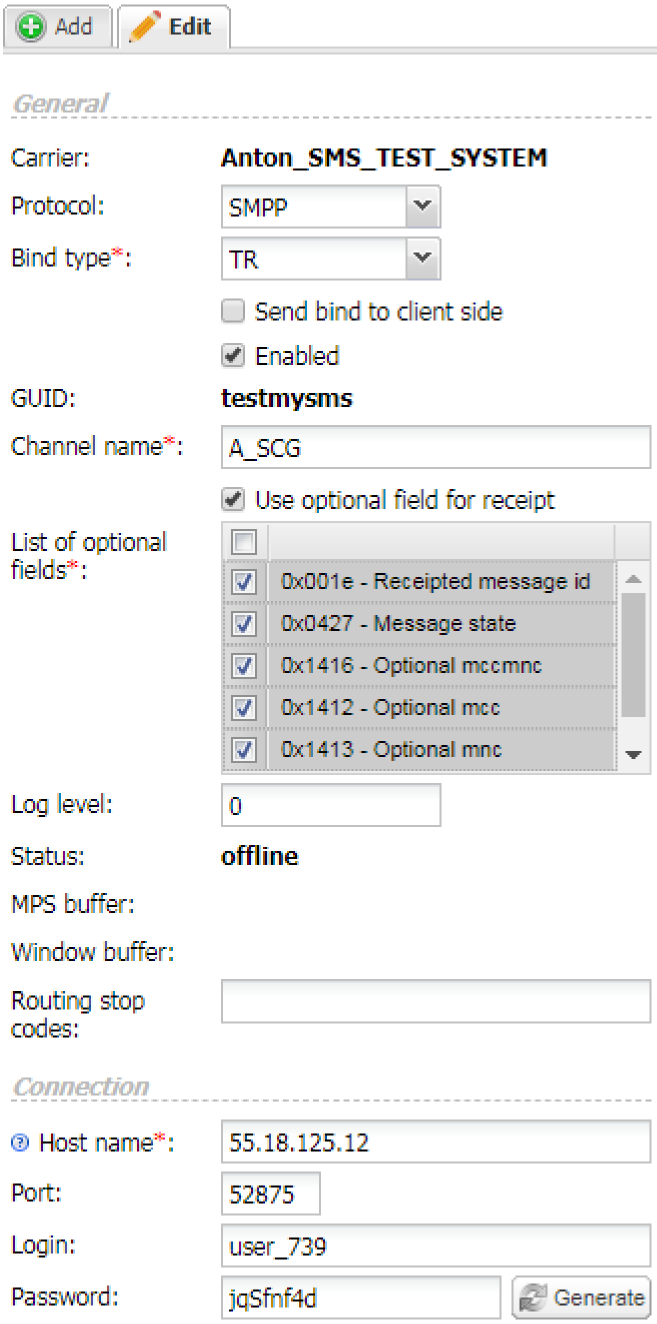
  - *Login* and *Password*: those that you must specify in the *Properties* of the *Admin\SMS Routes* tab of the CSG client

- Add a corresponding client POI for the channel

- Configure the test platform parameters. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
CSG API login	*login*	
CSG API password	*password*	

Parameter in System settings	Parameter in Test system editor	Description
CSG SMSRoute ID	*smsRouteId*	SMSRouteID set in the CSG application. Note that the test system is not available in the drop-down list of test platforms until the parameter is not specified (and if configuration is performed in the *Test system editor*, the *enabled* field must be set to 1)
CSG URL	*url*	URL REST API provider by the CSG team
CSG test result (1 - system calculated, 2 - taken from CSG)	*testResultType*	When set to 2, the test result is taken from the CSG platform. When set to 1, the test result is calculated based on the System logic (the test result is *FAIL* if the Sender ID was changed or the *UITestStatusID* field value is other than 100).



SMS channel settings

12.7.3.6 Testelium

The workflow of the test system is as follows: to run a test, the system sends an API call (*POST /api/tests/run/tasks*) and waits for a message to the Testelium client channel over SMPP. Using the value from the service_type of submit_sm, the system knows which vendor to send the message to. In addition, before making a test, the system verifies the presence of a channel on the Testelium side using the *GET /api/binds* request and compares it with the channel from the *Testelium channel ID* System parameter. After that, the system checks with a *GET /api/vendors* request whether the tested entity of the vendor has been created on the Testelium side, if yes - the test is performed, if not - using the *POST /api/vendors/create* request, the system creates the vendor entity on the Testelium side to correctly receive the Vendor POI ID in the incoming SMPP message.

Below are examples of API methods as curl commands that are currently supported:

- verification of the Bearer token (token must be included in all API requests):

curl -X GET 'https://api.testelium.com/api/auth/token/check' -H 'Authorization: Bearer Token'

where *Token* is obtained on the Testelium side

- obtaining the current balance of the account:

curl -X GET 'Testelium URL/api/balance' -H 'Authorization: Bearer Token'

- obtaining the networks that are available to perform the test:

curl -X GET 'Testelium URL/api/networks' -H 'Authorization: Bearer Token'

- retrieving all available templates:

curl -X GET 'Testelium URL/api/templates' -H 'Authorization: Bearer Token'

- performing a test:

curl -X POST 'Testelium URL/api/tests/run/tasks' -H 'Authorization: Bearer Token' -d '{ "tasks": [{ "network_id": Network ID, "vendor_id": "Vendor POI ID", "template_id": Message template, "sender": "Sender ID", "message": "Message text", "destination": "Dest. number" }]}'

- obtaining bind ID:

curl -X GET 'Testelium URL/api/binds' -H 'Authorization: Bearer Token'

- obtaining a list of vendors:

curl -X GET 'Testelium URL/api/vendors' -H 'Authorization: Bearer Token'

- creating a vendor:

curl -X POST 'Testelium URL/api/vendors/create' -H 'Authorization: Bearer Token' -d '{ "vendor_id": "Vendor POI ID", "name": "Vendor POI ID", "description": "Auto generated for POI ID", "service_type": "Vendor POI ID", "bind_id": bind_id }'

- obtaining the results of the test:

curl -X GET 'Testelium URL/api/reports/show/uuid' -H 'Authorization: Bearer Token'

where
Testelium URL is the link for sending test messages through the Testelium platform, usually https://api.testelium.com
Network ID is the ID of a network returned by Testelium in response to a GET /api/networks request
Vendor POI ID is the POI ID of the tested vendor
Message template is the template received from Testelium
Sender ID, *Message text (optional)*, *Dest. number (optional)* are message parameters selected in the *Test system* interface
bind_id is the ID of a channel created on Testelium platform returned in response to a GET /api/binds request
uuid is the ID of a specific test task returned by Testelium in response to a POST /api/tests/run/tasks request

To test SMS delivery using the Testelium platform (that works over SMPP), proceed as follows:

1. Create an account at the Testelium platform and add a bind with the Alaris switch IP, Alaris SMPP port (2875 by default), arbitrary system ID and password (they will be used in the SMS channels of the Alaris web interface later). System type can be left blank provided that the corresponding field will remain blank as well in the Alaris web interface.

2. Make sure that the *Route testing client* is set to the test carrier ID - if specified as *null*, contact the Alaris support team for further configuration. Create a client channel (*Bind type: Auto*) under the *Route testing client* carrier. The channel's login and password must coincide with the ones set on the Testelium side (step 1). The *Hostname* must be set to the Testelium IP address (check it with the Testelium team). A corresponding SMS POI with an empty *Service type* must be created for the channel.

3. Configure the test platform parameters. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
Testelium URL	*url*	URL to the Testelium service, normally set to https://api.testelium.com 546
Testelium channel ID	*channelId*	client channel ID created for the Testelium platform under the *Route testing client* (step 2)
Testelium token	*token*	the token of the Testelium account. A valid Testelium token must be specified so as to fetch a list of the message templates. Once a new message template is added to the Testelium account, use the *Refresh* button of the *Task settings* panel to update the list and show the actual templates.

NOTE: Templates for test tasks must have different values in the *Template name* field so as to avoid uniqueness violation.

12.7.3.7 iTest

The workflow of the test system is as follows: to run a test, the system sends an API call (POST /?type=sms&t=2021) and provides the Vendor POI ID in the prefix field. The iTest platform generates a submit_sm packet and sends it to the channel created for this service (its ID is set in the *Prefix-based route testing channel ID* System parameter). The submit_sm packet contains the Vendor POI ID as the Destination number prefix, before the plus sign. For example, %2B10601%2B79205554121, where 10601 is POI ID and %2B is the URL-encoded value of the plus sign.

Below are examples of API methods as curl commands that are currently supported:

- obtaining the networks that are available to perform the test:

curl -X POST 'iTest URL API/?type=sms&t=1027' -H 'Content-Type: application/x-www-form-urlencoded' --data-urlencode 'email=iTest login' --data-urlencode 'pass=iTest password'

- obtaining Profile ID according to the iTest profile name set in Administration\System settings\SMS Test 85:

curl -X POST 'iTest URL API/?type=sms&t=1011' -H 'Content-Type: application/x-www-form-urlencoded' --data-urlencode 'email=iTest login' --data-urlencode 'pass=iTest password'

- performing a test:

curl -X POST 'iTest URL API/?type=sms&t=2021&pid=Profile ID&mccmnc=MCCMNC&content=Message text&sender=Sender ID&encode=gsm&lock=0&concat=0&delay=120&qty=1&prefix=%2BVendor POI ID%2B' -H 'Content-Type: application/x-www-form-urlencoded' --data-urlencode 'email=iTest login' --data-urlencode 'pass=iTest password'

- obtaining the results of the test:

curl -X POST 'iTest URL API/?type=sms&t=3025&jid=Test_ID' -H 'Content-Type: application/x-www-form-urlencoded' --data-urlencode 'email=iTest login' --data-urlencode 'pass=iTest password'

where

iTest URL API is the link for sending test messages through the iTest platform, usually https://api.i-test.net/.

iTest login, *iTest* password are corresponding parameters from Administration\System settings\SMS Test 85.

Profile ID is the ID of a profile returned by iTest in response to a *POST /?type=sms&t=1011* request.

MCCMNC is the test destination, selected in the *Test system* interface.

Message text, *Sender ID* are message parameters selected in the *Test system* interface.

Vendor POI ID is the POI ID of the tested vendor.

Test_ID is the ID of a specific test task returned by iTest in response to a *POST /?type=sms&t=2021* request.

NOTE: The hardcoded value to fetch a test result is 5 minutes by default. If the value must be adjusted, contact the Alaris support team and communicate BZ53161 code.

The iTest service is integrated with the Alaris platform over SMPP. To test SMS delivery using the platform, proceed as follows:

1. Create an account at the iTest platform and add *SMS(SMPP) Profiles* in the *Profile* section. Configure the *Profile Name* and *SMPP* parameters for connection to the Alaris switch and *System type* (set to *SMPP*). Later, after completing configuration on the Alaris side, you can check the connection status in this window (with the help of the *Check Status* button)
2. Add *SMS Supplier* to the *Supplier* section on the iTest side. In the *Supplier name* specify the name of the vendor that is being tested, in the *Service Type* field add *sms*, in the *Route Argument* field specify the platform name or your own name in lowercase. In the *Email* field specify the vendor email (adding the email will simplify exchange of test results with your vendor)
3. Configure the test platform parameters. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
iTest URL API	*url*	*URL API of iTest*, normally set to https://api.i-test.net/
iTest login and *iTest password*	*login* and *password*	login and password used to access the iTest platform
iTest profile name	*profile*	profile name from the respective iTest setting

4. Create an SMS channel for the client direction and the relevant client POI with the blank *Service type* for iTest service in the Alaris main interface (the entities must be configured under the *Route testing client* carrier - see more on *Route testing client* at Administration\System settings\SMS Test 85) with the *Hostname*: 5.153.23.46 (iTest IP address); the *Login* and *Password* - corresponding credentials set in the iTest's *SMPP User* and *SMPP Pass* parameters

12.7.3.8 Texter

The workflow of the test system is as follows: to run a test, the system sends an API call (*POST /testrequest*) and receives a response with Destination number, Sender ID, messageKey and Test ID and uses them to send a message to the vendor. The Sender ID is selected based on the user's choice (*Numeric/Alphanumeric sender ID*) in the *Test system* interface, messageKey is added to the Message body. The system then uses another API call (*GET /testresult*) to retrieve the test results.

Below are examples of API methods as curl commands that are currently supported:

- obtaining the networks that are available to perform the test:

curl -X GET 'Texter URL/support/currentavailableoperators'

- performing a test:

curl -X POST 'Texter URL/testrequest/Texter app id' -H 'X-CM-ProductToken: Texter app key' -H 'Content-Type: application/json' -d '{ "mccMnc": "MCCMNC", "testDuration": 60 }'

- obtaining the results of the test:

curl -X GET 'Texter URL/testresult/Texter app id/Test_ID' -H 'X-CM-ProductToken: Texter app key'

where

Texter URL is link for sending test messages through the Texter platform, usually https://api.cmtelecom.com/texter/v1/.

Texter app id, *Texter app key* are corresponding parameters from Administration\System settings\SMS Test 85.

MCCMNC is the test destination, selected in the Test system interface.

Test_ID is the ID of a specific test task returned by Texter in response to a *POST /testrequest* request.

To test SMS delivery using the Texter platform, proceed as follows:

1. Create an account at the Texter platform

2. Configure the test platform parameters. If the *SMS Test System service enabled* is set to 0 (default behaviour), go to Administration\System settings\SMS Test 85, and if set to 1, go to Test system editor 533 and configure the following parameters:

Parameter in System settings	Parameter in Test system editor	Description
Texter URL	*url*	the URL to access the test service - https://api.cmtelecom.com/texter/v1
Texter app id	*appId*	supplied by the Texter service
Texter app key	*appKey*	supplied by the Texter service

3. Make sure that the *Route testing client* is set to the test carrier ID. If specified as null, contact the Alaris technical support team for further configuration.

As soon as the parameters are set, the Texter tool is available in the drop-down list of the *Test system* interface.

As the test service allows specification of the format of the sender ID (but not the sender ID itself), the *Sender ID format* field is available when *Test platform*: *Texter* is chosen in the *Test system* interface. Possible values are:

- *Numeric sender ID*
- *Alphanumeric sender ID*

NOTE: As the test service operates with its own test statuses, the match (of how the statuses will be reflected in the System) can be found below.

Texter status	Description	Task result (Alaris side)	Delivery status (Alaris side)
Pending	Test result hasn't been received	-	PENDING
Finished	Test is complete	Formed based on the result field from Texter's response	DELIVRD
No result	Test validity period expired, no result received	FAIL	EXPIRED
Handset unreachable	Temporary status. If another result is received within the timeout, the test status will be updated	-	ENROUTE
Invalid test	Timeout exceeded or an error occurred. Possible reason: the handset is unreachable	FAIL	UNDELIV

Texter status	Description	Task result (Alaris side)	Delivery status (Alaris side)
Other statuses	Waiting for the next status	-	UNKNOWN

12.7.3.9 sms.yoga

The workflow of the test system is as follows: to run a test, the System sends an API request (*POST /sim/manualprobe*) to sms.yoga, and receives a response with a Test ID, code, and phone number for testing and uses them to send a message to the vendor. After that, the service sends a request to send an SMS to the switch to the provided phone number, adding the code to the message as a prefix.

The system then uses another API call (*POST /sim/listhistory*) to retrieve the test results and updates the status and fields of the task in the SMS/Test system 522 interface.

Below are examples of API methods as curl commands that are currently supported:

- obtaining a Bearer token (the token must be included in all further API requests):

```
curl --request POST \
   --url 'SmsYoga control URL/apikeys/access-token' \
   --header 'Accept: application/json' \
   --header 'Content-Type: application/json' \
   --data '{
      "client_id": "SmsYoga user name",
      "client_secret": "SmsYoga password"
   }'
```

- obtaining the networks that are available to perform the test:

```
curl --request GET \
   --url SmsYoga control URL/sim/listsim \
   --header 'Accept: application/json' \
   --header 'Authorization: Bearer Token
```

- performing a test:

```
curl --request POST \
   --url SmsYoga control URL/sim/manualprobe \
   --header 'Content-Type: application/json' \
```

```
   --header 'Accept: application/json' \
   --header 'Authorization: Bearer Token' \
   --data '{
          "networks": [ "20810:22210", "20810:20810" ],
          "webhookURL": "http://yourdomain.com/yourwebhook"
      }'
```

- obtaining the results of the test:

```
curl --request POST \
   --url SmsYoga control URL/sim/listhistory \
   --header 'Accept: application/json' \
   --header 'Content-Type: application/json' \
   --header 'Authorization: Bearer Token' \
   --data '{
        "limit": 50,
        "offset": 0,
        "filters": {
            "id":"88d023d5-35b7-45c8-8c29-40c074cfacd3",
            "Code":null,
            "destphone":null,
            "email": null,
            "mccmnc": null,
            "pmccmnc": null,
"Network":null,
"Pnetwork":null,
"Country":null,
"Recmessage":null,
"Recsender":null,
"Recsmsc":null,
"Status":null,
"cdate":null
             }
        }
    }'
```

where

SmsYoga control URL is the direct URL for accessing the service (typically https://sms.yoga/api/v1/)

Client_id, client_secret are taken from the *SmsYoga user name* and *SmsYoga password* parameters in Administration\System settings\SMS Test 85.

Bearer Token is the bearer token returned by SmsYoga in response to a *POST /apikeys/access-token* request (*obtaining a Bearer token* stage).

mccmnc, pmccmnc are the test destination selected in the SMS/Test system 522 interface (*performing a test* stage).

id is the ID of a specific test task returned by SmsYoga in response to a *POST /sim/manualprobe* request (as described in https://sms.yoga/docs-api).

NOTE: The number of status requests is defined by the *SMS test max attempts count* System parameter. If after the last request the successful result is not obtained, the task is finished with 'TIMEOUT' delivery status (may be seen in the *Delivery status* column in the SMS/Test system 522 interface)

- Getting the current balance:

*curl --request GET *

*--url SmsYoga control URL/balance *

*--header 'Accept: application/json' *

--header 'Authorization: Bearer Token'

To test SMS delivery using the SmsYoga platform, proceed as follows:

1. Create an account at the SMSYoga platform (https://sms.yoga/) and take *Client ID* and *Client Secret* from there (from the *API Keys* interface).
2. Go to Administration\System settings\SMS Test 85 and configure the following parameters (supplied by the SMSYoga service):

- *SmsYoga SMS send URL*: the URL for sending messages to the test system over the SMS switch (matches the value specified in the System setting *Manual SMS send URL*).
- *SmsYoga control URL*: the direct URL for accessing the service (typically https://sms.yoga/api/v1/).
- *SmsYoga password*: the password for the service (*Client Secret*).
- *SmsYoga user name*: the username for the service (*Client ID*).

3. Make sure that the *Route testing client* parameter is set to the test carrier ID. If specified as *null*, contact the Alaris support team for further configuration.

12.7.4 Auto generation of routing features

Test results can be used for generation of several routing features (SMS\Routing\Routing features 456).

The default value of the *FalseDLR* feature will be changed to *Yes* if at least one of the selected tests does not have *DELIVRD* status (the *Delivery status* column) if the *Manual* platform was used. The value will be changed to *Yes* if the delivery report received from the vendor and the one returned from the Test system are different (for example, the vendor returned *DELIVRD* while the Test system returned *UNDELIV*) if any other platform was used.

Additionally, the value of *OrigNotKept* metric can be updated automatically using a test platform other than *Manual.* The metric's default value will be set as *No* if no sender ID was not modified in all tests (*Sender ID status* column) that are taken into account.

The value of the *TextIntegrity* routing feature can be maintained automatically - the default value of *TextIntegrity* will be set as *No* if test texts were modified (*Text diff* column). This is applicable to the *TestMySMS* platform only.

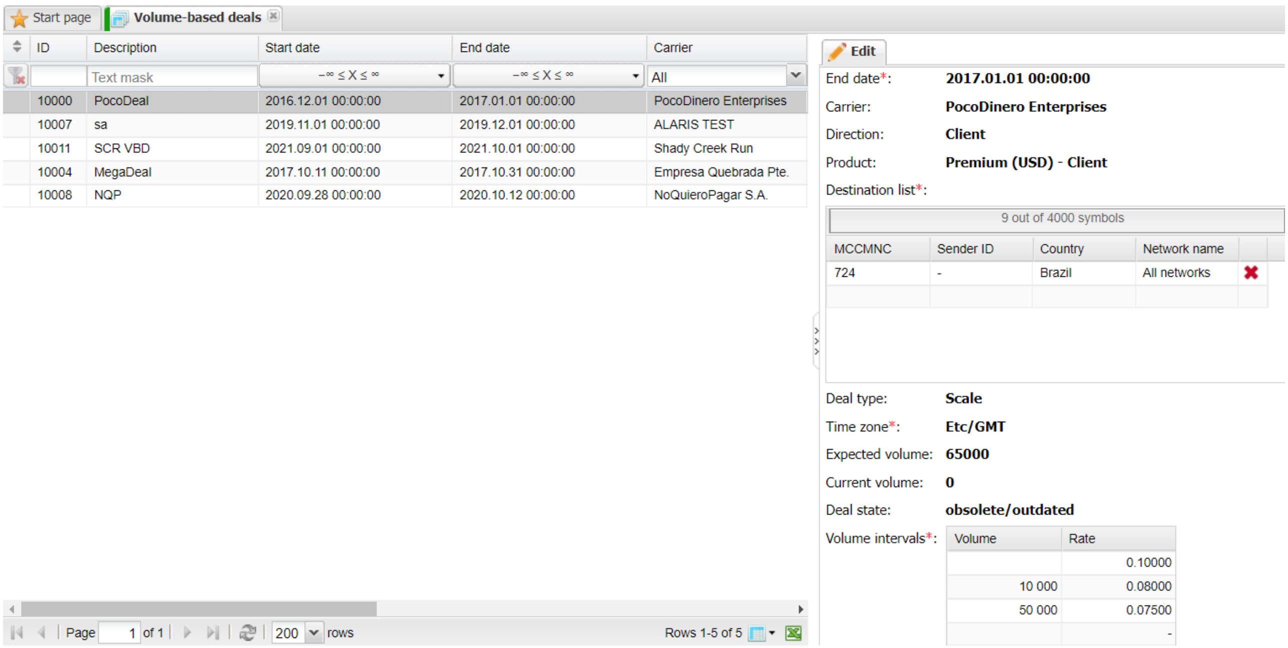
NOTE: The System job SMS_AUTO_FEATURES which is disabled by default must be enabled (Administration\System jobs 42) to update the metrics.

NOTE: The number of tests and period sufficient for automatic generation of routing features are defined by the System parameters *Number of tests to consider for feature generation* and *Period of tests to consider for feature generation* correspondingly. For example, if *Number of tests to consider for feature generation* is 10 and *Period of tests to consider for feature generation* is 1 day, then only the last 10 tests for the past 24 hours will be taken into account. If there are only 5 tests for the period, the result will be based on them.

Finally, these features can be used in routing rules in the *Condition* field (for more details see SMS\Routing\Routing features\How to use routing features in routing 459).

12.8 Volume-based deals

Announcement: The *Volume-based deals* interface has been made read-only starting from System version 3.5.27. All deals have been automatically moved to the Volume-based deals 2.0 556 interface.



Volume-based deals

12.9 Volume-based deals 2.0

The *SMS\Volume-based deals 2.0* is a more advanced version of the *Volume-based deals* interface that serves to create flexible rating schemes for destinations based on the total volume of processed traffic within a pre-defined period. It allows setting multiple threshold rates. Once a threshold is reached, newly inserted EDRs will be billed in accordance with the next threshold. Past data will be re-rated correspondingly - note that the period for autorerating is limited to 30 days, the rest of the period (if exceeded) must be rerated manually in SMS\EDR management\EDR rerating 384. Additionally, back to first deals can have multiple rates to different MCCMNCs. The interface is available to users with the *SMS volume-based deal edit* permission (it controls access to both the original *Volume-based deals* and the new *Volume-based deals 2.0* interface).

A typical volume-based deal requires more than one threshold of the traffic amount. Bypassing the threshold decreases the price per message, to make it lower than the average market price. If the lowest of the thresholds is not reached before the deal's expiration, the default price (higher than average) is applied. In this way, failure to perform traffic delivery obligations makes the deal unprofitable for the partner carrier.

Another popular scenario is a two-way deal, where two carriers exchange pre-defined amounts of traffic to different destinations (for example, one million SMS to Spain mobile in exchange to 300,000 SMS to Myanmar mobile). Pre-defined prices for both destinations are used for rating if the obligation on the traffic delivery is fulfilled. If one of the carriers did not fulfill the obligation, then its traffic is priced with a penalty. In fact, this scenario comprises two interlinked volume-based deals.

The *SMS\Volume-based deals 2.0* page is divided into two panels. The top panel is a table of registered volume-based deals and the *Add/Edit* tabs. Use text masks or drop-down lists under the column headers to filter the records in the table. To clear the filter, click the *Clear filter* button in the upper left corner of the table.

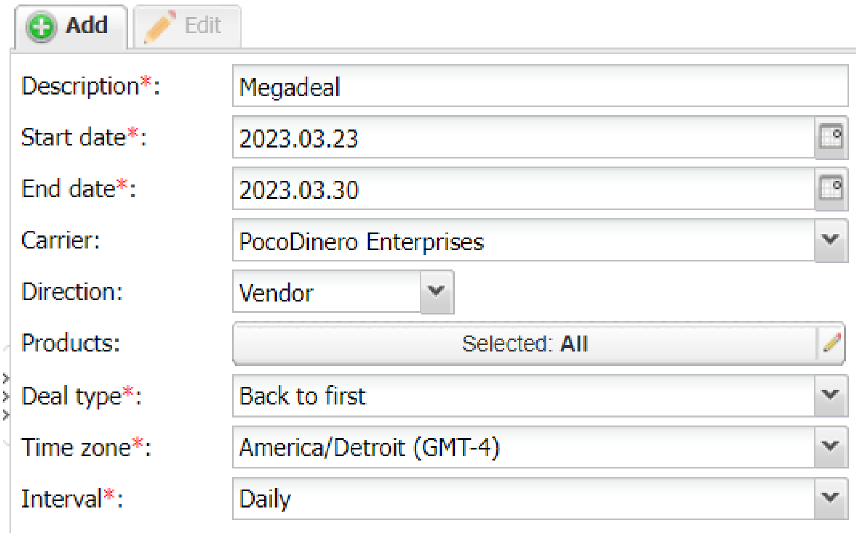
Start page | **Volume-based deals 2.0**

ID	Description	Start date	End date	Carrier	Direction	Products	Deal type
	Text mask	−∞ ≤ X ≤ ∞	−∞ ≤ X ≤ ∞	All	All	Selected: **All**	All
10010	Evenbetter	2021.03.30	2021.03.31	PocoDinero Enterprises	Client	PocoDinero Enterprises - WholeSale (EUR)	Back to first
10009	Bestever	2021.03.29	2021.04.10	PocoDinero Enterprises	Client	PocoDinero Enterprises - WholeSale (EUR)	Scale

Volume-based deals

The bottom of the table contains the *hide obsolete* checkbox that serves to hide deals that are not fully covered by financial cubes.

The *Add* and *Edit* tabs on the right serve to add new deals or edit existing ones. Enter the parameters listed below in the corresponding fields. Fields marked with an asterisk (*) are required.



Add/Edit tabs

- *Description*: arbitrary description of the deal
- *Start date* / *End date*: activity period of the deal
- *Carrier*
- *Direction*: *Client* or *Vendor*
- *Products* (the field is required): partner carrier's product(s). Several products of one account can be specified

NOTE: The traffic volume is calculated in the aggregate for all products specified in the field. For example, if two products are specified, only one of which had traffic, and the threshold was exceeded, rates will be changed for both products.

- *Deal type*:
  - *Back to first*: when a threshold is bypassed, a new price is applied to all traffic, starting from the very first SMS
  - *Scale*: when a threshold is bypassed, the price per SMS changes only for the exceeding traffic
- *Time zone*: the deal time zone. Rates will be created in this timezone. For example, if the System timezone is GMT+0 and the deal timezone is GMT-3, rates for a deal with the period 01.01.2021 00:00-01.01.2022 00:00 will be created for 01.01.2021 03:00-01.01.2022 03:00

NOTE: When creating a deal, the timezone is automatically substituted to the field - the value is obtained from agreements based on selected products given they have identical timezones. If multiple products are selected that have different timezones, and the timezone was selected earlier, its value is reset. If the timezone was set and then products with the same timezone were selected, the value remains unchanged.

- *Interval*: the deal interval. The values coincide with those of the parameters *In/Out billing period of* Carriers\Agreements 171. Select a period ranging from 1 day to 4 months from the drop-down list:
  - *Single deal*: the deal is not periodic and is calculated for the whole active period

NOTE: Periods of deals with the *Single deal* interval cannot be edited.

- *Daily*
- *Every 3 days*
- *Twice a week (Mon & Thu)*
- *Weekly*
- *Weekly (non-calendar)*
- *Every 10 days*
- *Twice a month (1st & 16th)*
- *Monthly*
- *Every 2 months*
- *Every 3 months*
- *Every 4 months*

NOTE: The value *Weekly (non-calendar)* means the following intervals: 1st – 7th, 8th – 14th, 15th – 21st, 22nd – end of the month.

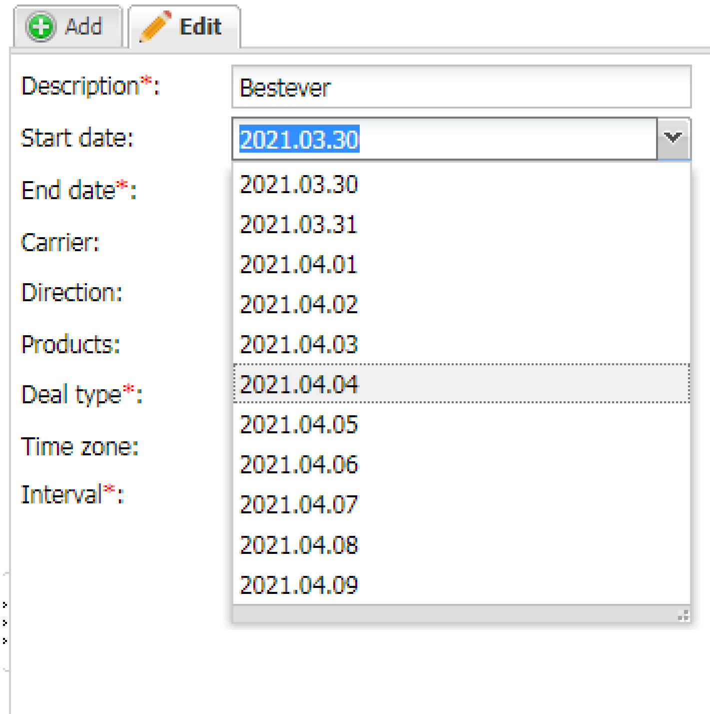
NOTE: Deal length must be divisible by period. For example, a weekly deal cannot be created from 06/06/2022 till 06/14/2022 as its length is 8 days. The following error will appear in this case: "Deal duration must be multiple to period". Deals with the *Twice a week (Mon & Thu)* interval must start on Monday or Thursday; deals of the *Weekly* interval must start on Monday only. Otherwise, the following error will appear: "Invalid dates for deal".

When through with defining the parameters, click Submit to confirm or Reset to discard the settings. Click Delete to remove a record (available in the *Edit* tab).

To activate the *Edit* tab, click on the record in the table. The *Edit* tab contains the Clone and *Change the Start date* buttons. The Clone button creates a duplicate of the configured record (available if a period is selected in the bottom table). This is helpful in configuring another deal with similar parameters.

The *Change the Start date* button opens the *Edit* tab (available if a period is selected in the bottom table). It serves to break down the deal into multiple deals with different intervals. Suppose there is a monthly deal from 01.01.2021 till 01.01.2022. Select an interval in the bottom table, click *Change the Start* date, select *Start date* = 01.03.2021 and click Submit. As a result, two deals will be created for the periods 01.01.2021-01.03.2021 and 01.03.2021-01.01.2022. Also, if traffic is currently processed within an active deal period, the *Start date* cannot be selected earlier than the current date. For example, if the current month is April, the monthly deal is for a period 01.01.2021-01.09.2021, and there is traffic in April, the the *Start date* can be set to 01.05.2021 or later.

The *Start date* field contains a drop-down list with the start dates of the deal's interval.



Changing the deal's Start date

The bottom panel shows a table of intervals for a selected deal on the left and the rates for a selected interval on the right.

Interval	Expected volume	Actual volume	Threshold	State	Action
−∞ ≤ X ≤ ∞	Min. Max.	Min. Max.	Text mask	All	
2021.03.29	500	0		A	Recalculate
2021.03.30	500	0			Recalculate
2021.03.31	500	0			Recalculate
2021.04.01	500	0			Recalculate
2021.04.02	500	0			Recalculate
2021.04.03	500	0			Recalculate
2021.04.04	500	0			Recalculate
2021.04.05	500	0			Recalculate
2021.04.06	500	0			Recalculate
2021.04.07	500	0			Recalculate
2021.04.08	500	0			Recalculate

Table of intervals

The table of intervals contains the following fields:

- *Interval*: interval start date
- *Expected volume*: the expected traffic volume set for the interval. Use this field if you need the System to create a rate based on the volume specified in the field. If the specified volume has not been surpassed within the period of the interval, the rates to the set MCCMNCs are changed automatically in the product in accordance with the configured thresholds. This may come instrumental when creating a backdate deal - when some traffic for the deal has already been handled. The field works only for the *Back to first* deals. Suppose the expected volume is 100000

and the deal has the following thresholds:
0-50000: 0.5
50000-90000: 0.3
90000-150000: 0.25
150000+: 0.01
In this case the first rate for a *Back to first* deal will be created with the price 0.25 (that is, for the interval in which the *Expected volume* fits)

- *Actual volume*: the current traffic volume (calculated by financial cubes)

NOTE: Traffic to the Rest of the world MCCMNC (777 by default) is not taken into consideration for the Actual volume.

NOTE: If a volume-based deal includes only a general MCC without a specific MCCMNC for the same country, then such a deal will only cover the traffic that was charged at general MCC. In case the corresponding product has rates for specific MCCMNCs for the same country, the traffic charged at these rates will not be included in the deal. For example, if a deal is created for MCC 260 and the product has a rate for MCCMNC 260001, then traffic charged at MCCMNC 260001 will not be included in the deal, while traffic for MCCMNC 260002 will be included, as it will be charged at MCC 260.

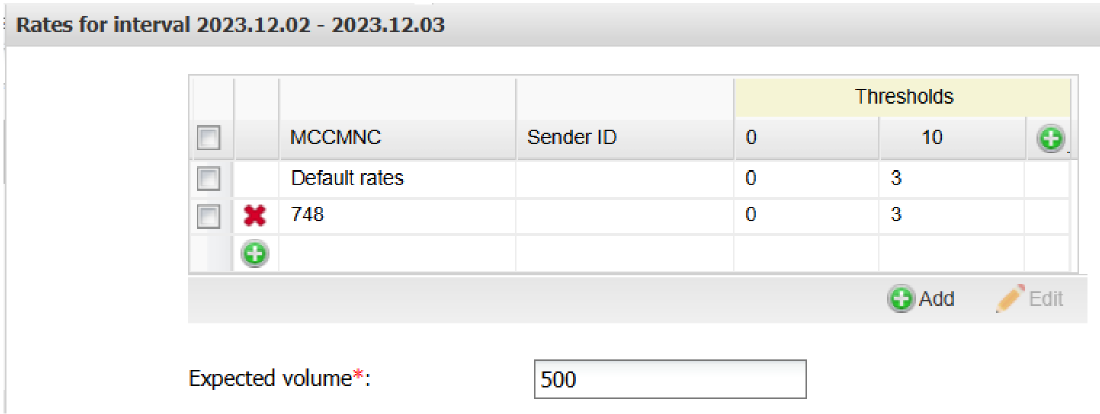
- *Threshold*: the number of the threshold reached

NOTE: When adding a new backdate threshold to the period of a volume-based deal 2.0 (that is, for a closed deal), the value in the *Threshold* column may remain unupdated. Please note that only the display of the value is incorrect, whereas EDR recalculation is performed properly based on the thresholds.

- *State*: state of the deal. Possible values include:
  - *A* (actual): the deal is fully calculated; there are enough financial cubes to cover the deal and its internal parameters have been verified
  - *I* (invalid)*:* verification of the deal's internal parameters has failed. For example, cubes to cover the deal are being recalculated. If it is a deal for the current period, this status is normal, as the latest financial cubes are usually in recalculation
  - *O* (outdated): not enough financial cubes to cover the deal
- *Action*: contains the *Recalculate* button that serves to recalculate the deal rates

Intervals are inclusive, which means that the first value of the next interval is included in the previous interval. Suppose you have the deal with the following thresholds:
0: 0.5
50000: 0.3
90000: 0.25
The 0.3 rate will be applied from the 50,001st message. The rate 0.25 will be applied from the 90,001st message

The bottom right section shows the MCCMNCs and rates of the interval selected in the *Table of intervals*. Traffic for different MCCMNCs within one interval is calculated in the aggregate (similar to the Products field detailed above).

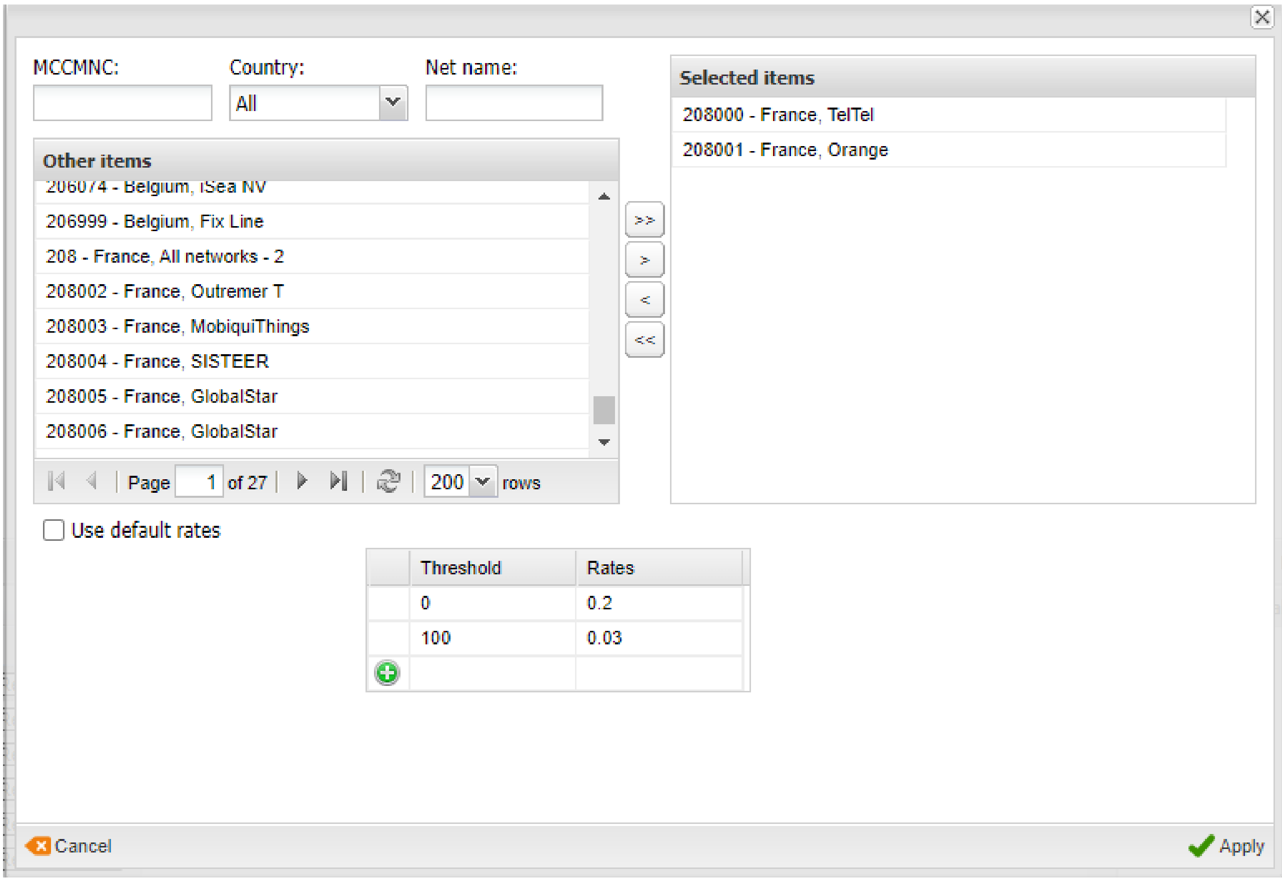


Rates for interval

The section contains a table of MCCMNCs, Sender IDs, thresholds and rates for them. The threshold column names (set in the headers of the *Thresholds* section) show the maximum number of messages in a threshold, and can be changed by clicking on the header (except for the *0* threshold). Specify the expected volume in the respective field. Click to add a new threshold, and Add to add a new rate.

NOTE: The value *0* is allowed as the rate in the first volume interval. In this case negative margin must be allowed in routing rules.

NOTE: The Sender ID field can only contain ASCII symbols (up to 15). If a deal has a blank Sender ID while there is a non-VBD rate with a specified Dial code (which can be treated as the Sender ID) for the same MCCMNC, and there is traffic towards this sender ID and the MCCMNC, it will be billed per non-VBD rate. However, this traffic will be taken into calculation for the Actual volume.



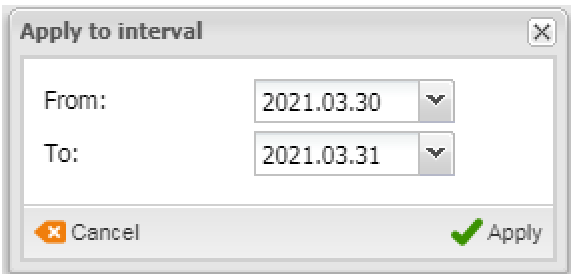
Add new rate window

The *Add new rate* window contains the MCCMNC multipicker and a table of thresholds and rates.

NOTE: If there is a rate to the MCCMNCs selected for the product for the specified period, it will be replaced by the Volume-based deal rates and the following warning will be shown: "Rate on these MCCMNC and product already exists. Are you sure you want to replace it?"

In the *Threshold* field specify the number of messages, in the *Rates* field set the rate in the account currency. Select the *Use default rates* checkbox to use the value set in the *Default rates* row for all thresholds (the checkbox is only available for *Back to first* deals; for *Scale* deals the option is selected by default). Use to add another threshold. Click Apply to save the changes and close the window. Click Edit to modify the rates and thresholds. When through with defining the thresholds and rates, click Apply to interval.

In the window that appears, specify the interval in the *To* and *From* fields and click Apply.



Apply to interval

NOTE: All previous rates in the interval will be overwritten.

13 Campaign Portal

The *Campaign Portal* section serves to create and manage SMS packages that can be purchased and used in the Alaris Campaign Portal [583]. The section contains two pages: SMS pack [564] and SMS pack user subscription [566].

13.1 SMS pack

The *Campaign Portal\SMS pack* page serves to create and edit SMS packages for the Alaris Campaign Portal [583]. An SMS package is a set of SMS messages for a specific destination provided at a flat rate, for example, 100 SMS messages to Spain for 10 USD.

The page consists of four panels: the table of SMS packs and pack *Add/Edit* tabs at the top, and the table of MCCMNC/country codes and their *Add/Edit* tabs at the bottom.

Start page | SMS pack

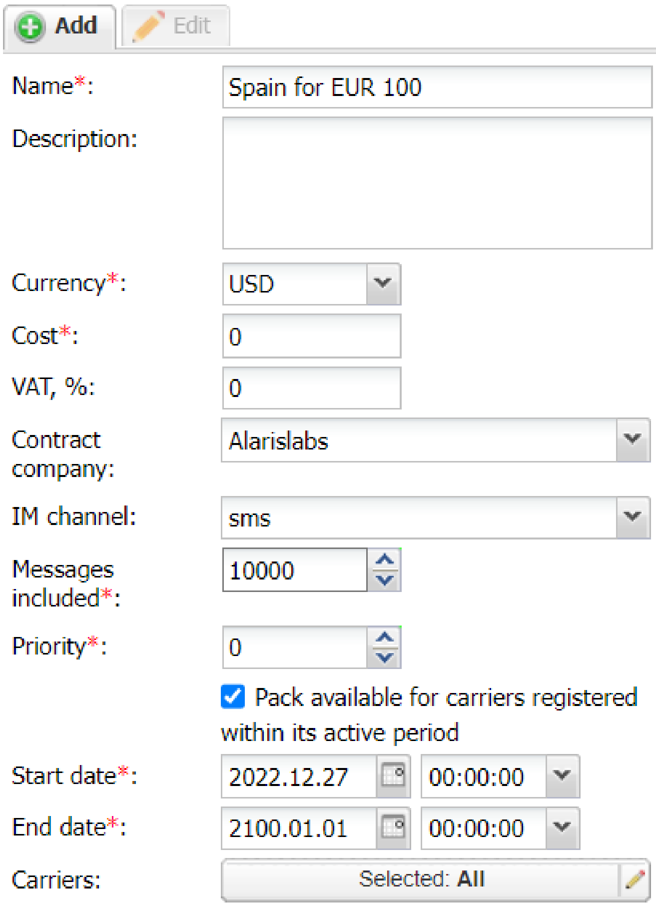
MCCMNC: Text mask Country code: Text mask Active at:

ID	Name	Description	Cost	VAT, %	Contract company	IM channel	Messages included	Priority	Start da
	Text mask	Text mask			All	All			
3	Lebanon - test package	Test package	30 USD		-	sms	1000	0	2015
23	IM viber promotion	SMS pack for Viber	100 EUR	20	Anton_comp	Viber	10000	0	2020
10	Italy	Italy	0.02 USD	0	General	sms	1000	1	2019
11	Caribbean Islands		10 EUR	0	-	sms	100	50	2015

Table of SMS packs

The *Subscribers* column shows the number of subscribers to the pack. The number contains a hyperlink leading to the Campaign Portal\SMS pack user subscription [566] interface. When the user clicks the link, a filter is applied, and only subscriptions pertaining to the selected pack are shown.

The *Add* tab contains the following parameters:



Add new pack tab

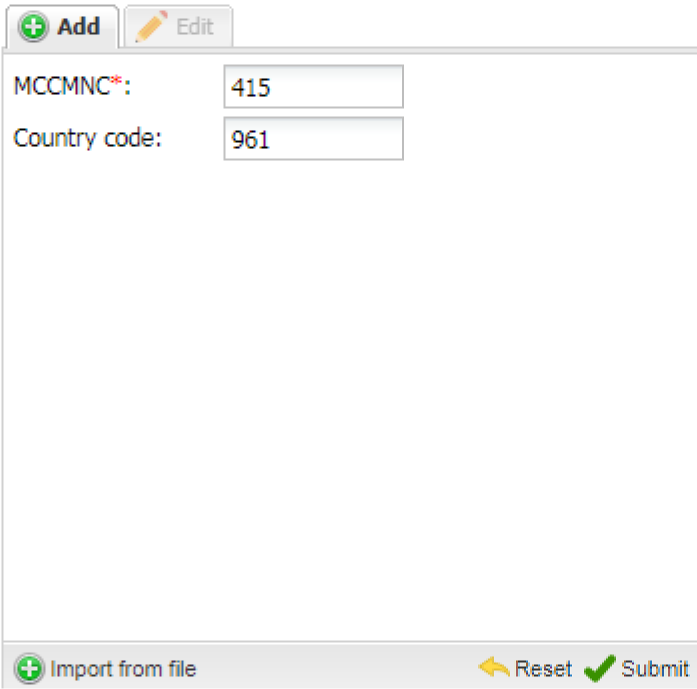
- *Name*: package name
- *Description*
- *Currency*
- *Cost*: the package price
- *VAT, %*: the tax amount that is added to the total price of the pack. Check out this feature in the Alaris YouTube video
- *Contract company*
- *IM channel*: the message channel for which the pack is intended
- *Messages included*: the amount of SMS in the package
- *Priority*: defines which package will be used first if several packages for a specific country/network are available
- *Pack available for carriers registered within its active period*: serves to control the pack availability. If the checkbox is enabled, the pack will be available only to partners that were automatically created or registered within the pack validity period. The option is taken into account when subscribing to the pack in the Alaris Campaign Portal or when assigning the pack in the main web interface, and also when calling the REST method GET:sms_pack
- *Start date*, *End date*: the package validity period

- *Carriers*: displays all carriers present in the System, both having and not having SMS products. Find out more in the Alaris YouTube video

Click Submit to save the changes. The entry will appear in the table of SMS packs. The *Edit* tab also contains the read-only *Subscribers* field that shows the number of users that are subscribed to the pack.

NOTE: When editing a pack, note that the *End date* must not be earlier than the current date if the pack has subscribers. Also, partners that are subscribed to the pack cannot be removed from the *Carriers* field.

Once the SMS pack is created, define the MCCMNC and country code using the *Add* tab located in the bottom right corner of the page. Select the record in the table of SMS packs and complete the *MCCMNC* and *Country code* fields as illustrated below.



Add MCCMNC and country code tab

Click Import from file to import a list of MCCMNC and country codes from a CSV file.

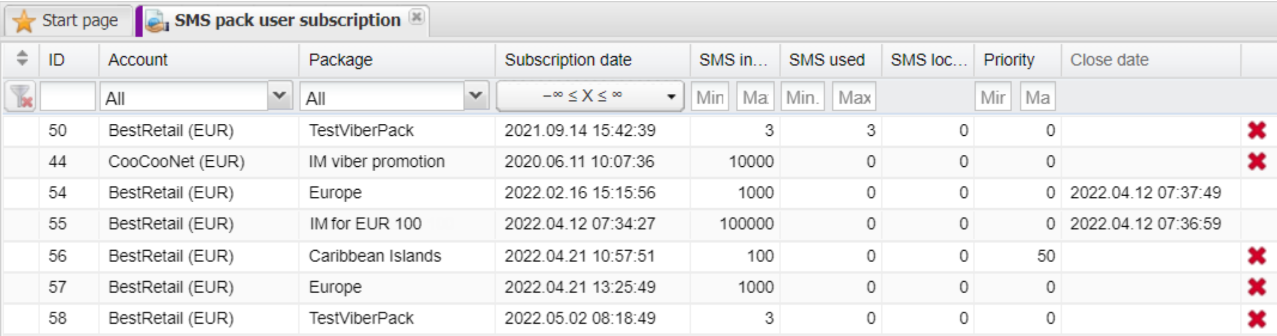
Click Submit to save the changes. The entry will appear in the table of MCCMNC and country codes.

ID	MCCMNC	Country code
2	415	961

Table of MCCMNC and country codes

13.2 SMS pack user subscription

The *Campaign Portal\SMS pack user subscription* page serves to view user subscriptions to SMS packages and their usage, and terminate subscriptions.



ID	Account	Package	Subscription date	SMS in...	SMS used	SMS loc...	Priority	Close date	
50	BestRetail (EUR)	TestViberPack	2021.09.14 15:42:39	3	3	0	0		✖
44	CooCooNet (EUR)	IM viber promotion	2020.06.11 10:07:36	10000	0	0	0		✖
54	BestRetail (EUR)	Europe	2022.02.16 15:15:56	1000	0	0	0	2022.04.12 07:37:49	
55	BestRetail (EUR)	IM for EUR 100	2022.04.12 07:34:27	100000	0	0	0	2022.04.12 07:36:59	
56	BestRetail (EUR)	Caribbean Islands	2022.04.21 10:57:51	100	0	0	50		✖
57	BestRetail (EUR)	Europe	2022.04.21 13:25:49	1000	0	0	0		✖
58	BestRetail (EUR)	TestViberPack	2022.05.02 08:18:49	3	0	0	0		✖

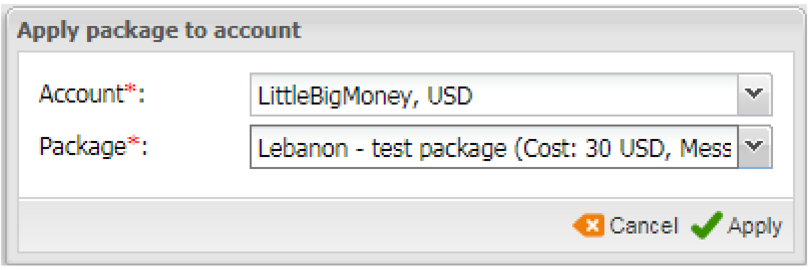
SMS pack user subscription

The table contains the following columns:

- *ID*
- *Account*
- *Package*
- *Subscription date*
- *SMS included:* number of SMS in the package
- *SMS used:* number of sent SMS
- *SMS locked:* the number of SMS that have been sent by the user but that do not have the *Sent* status yet. They are locked so that the user does not exceed the allowed SMS limit.
- *Priority*: the package priority
- *Close date*

Click ✖ to terminate the subscription.

To apply a package to a specific account, click Apply package to account.



Apply package to account

Select the account and SMS package and click Apply.

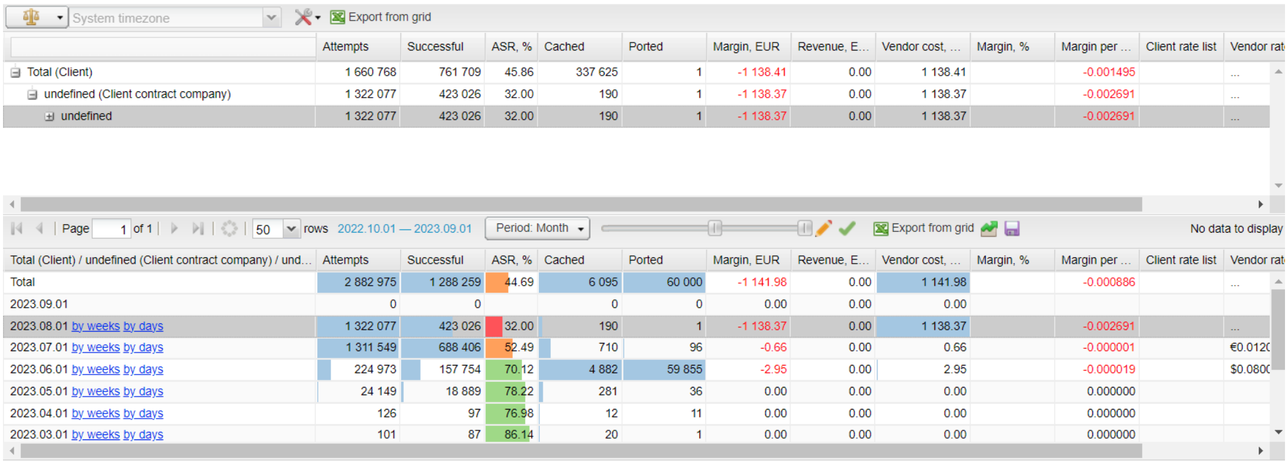
14 MNP server

The *MNP server* interface serves to manage reselling of HLR traffic and contains two sections - [MNP analytics](568) and [MNP configurator](574). It is available if the internal System parameter has been enabled. Note that this feature is charged for separately. Contact your account manager to enable it.

14.1 MNP analytics

The *MNP server*\MNP *analytics* page provides an easy-to-read and quick-to-draw picture of the most important statistical parameters in the System regarding HLR traffic (HLR reselling). This tool feeds on pre-calculated statistical tables (OLAP cubes) instead of raw EDR data.

The page consists of two interconnected sections. The top section displays a table of performance indicators pertaining to the specified statistical aspects (a user-defined combination of business items, for example, Client >> Country >> Vendor) for the period selected in the bottom part. The *Total* row shows data for all the clients or vendors of the System owner, whichever is selected.

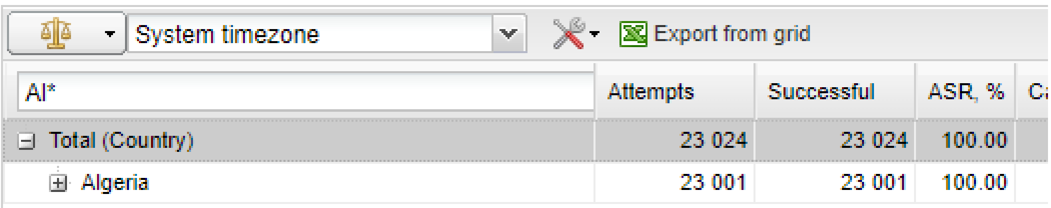


MNP analytics

Items in the table can be sorted in the ascending or descending order by any column. When the *MNP analytics* page is first opened, items are sorted by the total traffic volume.

Each item with available underlying layers has the "+" sign on the left of its name. Click on the "+" sign to open the context menu and add more items to the displayed combination. To close a layer click on the "-" sign on the left of its parent object.

For example, to drill down on the client level, select a client, then choose to view its stats by country, then select a specific country and further detail it by vendor and so on as shown in the figure above.



Using the filter

Items can be filtered by filling in the edit box at the top of the first column. The filter always applies to the child items (if any) of the currently selected item. For example, to display the Algeria stats, in the context menu select *Country*, and enter the first few characters of the search word, for example, Al. To locate the item by the characters in the middle/end of the word, use the wildcards * or %, in this example Algeria can be filtered by entering *ria or %ria.

Test carriers are displayed in orange font, and the carrier name has the prefix [TEST]. Test carriers are those that have the *Is test* checkbox selected in Carriers\Carriers163. Additionally carriers with the enabled *Self signed-up* flag will be highlighted in green.

When a user adds a new detail level to the selected aspect, the System includes the items that have stats for the combination of previously selected objects. Example: select *Client* and *Country* in the context menu. The System will display countries to which the selected client was forwarding traffic over the periods selected in the bottom table.

NOTE: The *Net* layer reflects the network name for the HLR MCCMNC from *Reference books\e.212/e.164 reference book editor*. If the network name cannot be defined (missing from the reference book), it is marked as *Unknown networks*. The name will be reflected as *undefined* if HLR MCCMNC is not available.

Analytics. Top table.

The top table contains information on the following parameters:

- *Attempts*: total number of attempts (HLR dips) received from the client side
- *Successful*: number of dips for which HLR MCCMNCs have been obtained. For the vendor leg, the number of cached records are excluded from the calculation
- *ASR,%*: successful to total attempts ratio
- *Cached*: the number of requests the results for which were obtained from the cache (that is, no actual request to an HLR provider took place)
- *Ported*: the count of ported numbers
- *Average delay response, ms*: the delay in milliseconds that took the HLR provider to respond. The values are available for cached requests as well

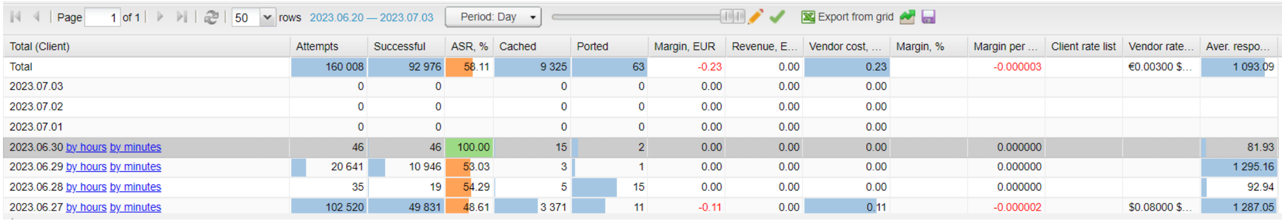
The following columns are available if the user is granted the *View SMS financial details* permission:

- *Margin*: total margin (*HLR client rate* minus *HLR vendor rate*)
- *Revenue*: total charge for HLR traffic associated with the selected item chain that the System owner can bill to the clients
- *Vendor cost*: total cost of HLR traffic associated with the selected item chain that the System owner must pay to the vendors
- *Margin, %*: ratio of margin divided by *Revenue*
- *Margin per succ. SMS*: ratio of margin (*Margin, %*) divided by the number of successful requests
- *Client rate list*, *Vendor rate list*: client and vendor HLR rates that were in effect for selected destination(s) during the selected time interval. If the number of different rates involved does not exceed 3, all of them are displayed; otherwise the System will show the "…" symbols

NOTE: Neither client nor vendor rate is available if an attempt does not belong to a client product with the *HLR* type. As a result, margin, revenue and cost will show an empty value as well.

Analytics (bottom table)

The bottom table presents the same performance indicators arranged by periods for the item selected in the top table. The top line always shows total values for each parameter of the selected statistical layer within the defined timeframe. For example, if the user specifies four days in the *Timeframe selector* (see below), the *Total* line in the bottom table will show the summary for the selected four days. It is convenient when you need to see the totals for a custom period (not equal to the System defaults – hours, days etc.)



Total (Client)	Attempts	Successful	ASR, %	Cached	Ported	Margin, EUR	Revenue, E...	Vendor cost, ...	Margin, %	Margin per ...	Client rate list	Vendor rate...	Aver. respo...
Total	160 008	92 976	58.11	9 325	63	-0.23	0.00	0.23		-0.000003		€0.00300 $...	1 093.09
2023.07.03	0	0		0	0	0.00	0.00	0.00					
2023.07.02	0	0		0	0	0.00	0.00	0.00					
2023.07.01	0	0		0	0	0.00	0.00	0.00					
2023.06.30 by hours by minutes	46	46	100.00	15	2	0.00	0.00	0.00		0.000000			81.93
2023.06.29 by hours by minutes	20 641	10 946	53.03	3	1	0.00	0.00	0.00		0.000000			1 295.16
2023.06.28 by hours by minutes	35	19	54.29	5	15	0.00	0.00	0.00		0.000000			92.94
2023.06.27 by hours by minutes	102 520	49 831	48.61	3 371	11	-0.11	0.00	0.11		-0.000002		$0.08000 $...	1 287.05

Table view

NOTE: For periods that are recalculated due to new HLR EDR, the date is highlighted in bold grey italics.

Chart view (bottom table)

Data in the bottom table can be displayed either in a table format or as a chart by switching the *Chart/Table switch* button  in the mid-page toolbar. The chart view allows creating two different profiles in separate tabs sheets. Select appropriate parameter boxes in the left panel that will appear as charts in the right panel.

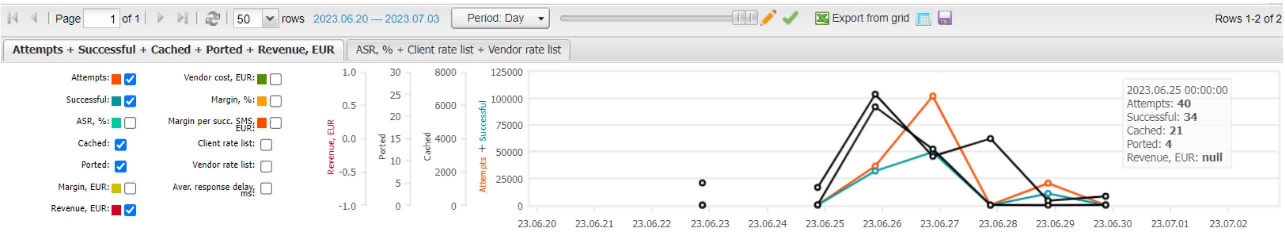
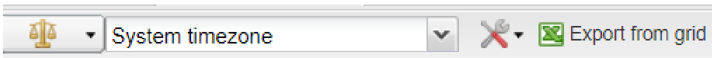


Chart view

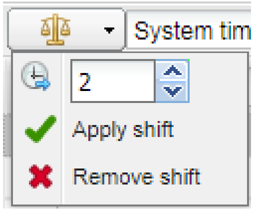
The top table contains the following controls:



Top table controls

- *Offsets* : this control allows comparison of current data for some period to the same period in the past, registered a preset number of periods ago. For example, to compare the current month stats with the data of 2 months ago, select month in the *Period* control (in the mid-page toolbar), enter 2 in the edit box as shown below, and click *Apply shift*. Click  to open the chart view for more convenient data representation.

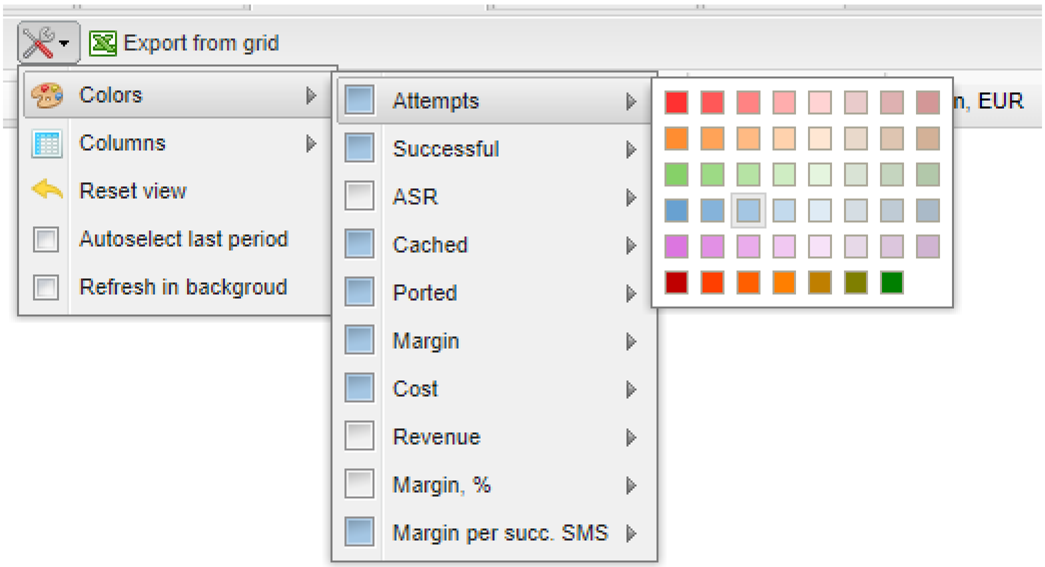
NOTE: The past data appears dimmed both in the table and chart views.



Offsets

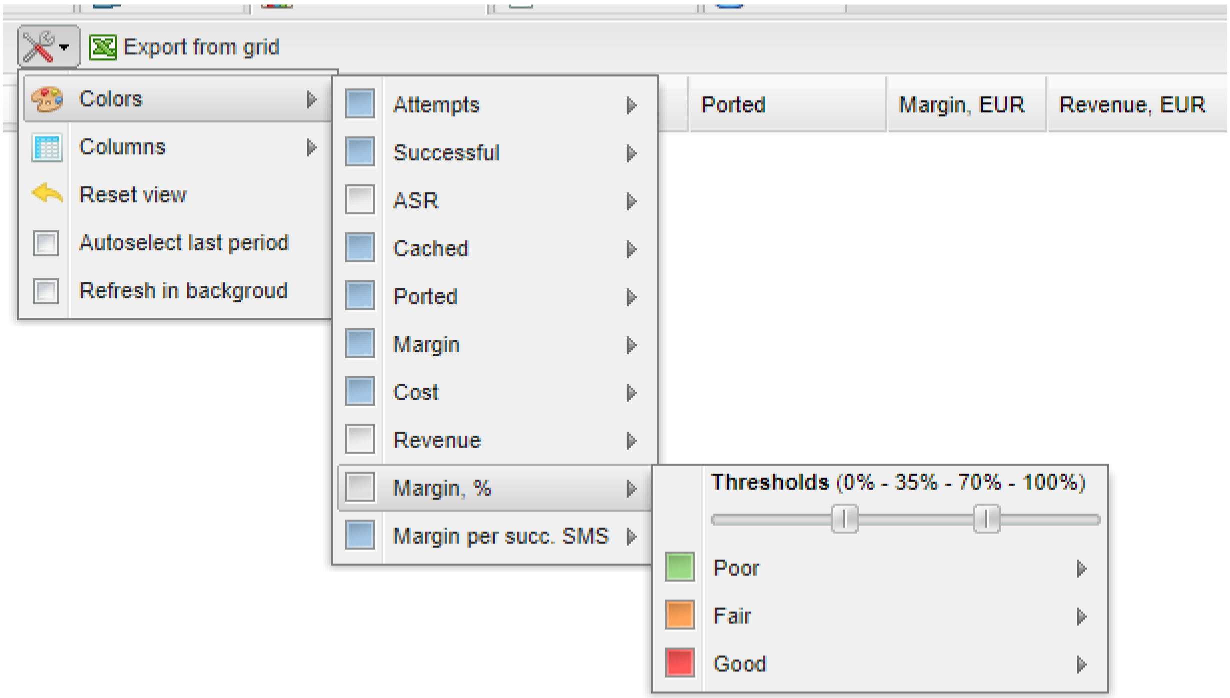
- *System timezone*: select the timezone for display of data in the tables (available only if the period selected in the mid-page toolbar is *Day*). The timezone is shifted on the basis of hourly cubes. Therefore, if shifting is performed for a past period that has not enough hour cubes, it could result in empty output for the day

- *View options* control  contains the following parameters:



View options

  - *Colors*: selection of colors for performance indicators. For the indicators *Margin, %* and *ASR* the control allows setting threshold values and assigning different colors to them as shown in the figure below.



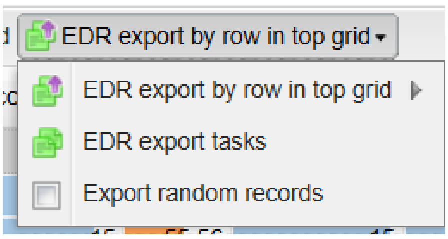
Assigning thresholds and colors

- *Columns*: selection of columns for display
- *Reset view*: reset all colors and displayed columns
- *Autoselect last period*: when enabled, the row with the last available period (in accordance with the configured interval) with non-zero statistics are automatically selected. The functionality may come handy in monitoring traffic in the top table without the need to switch manually periods in the bottom table
- *Refresh in background*: when selected, the *MNP analytics* page is refreshed automatically when it is inactive - that is, when other tabs are open on top of it (note that with this mode on, the System works slower). When deselected, the page is only refreshed when it is open and active

- 

Export from grid allows data export from the upper table to an XLS file
- The button *EDR export by row in top grid* 

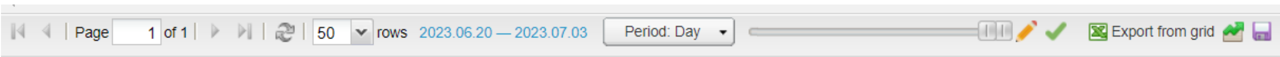
serves for HLR EDR export. It allows exporting a specific number (100, 500, 1000 or 5000) of HLR EDRs from the top table. The *EDR export tasks* menu allows viewing export tasks, their progress and task details. The *Export random records* checkbox allows exporting a predefined number of rows selected randomly



EDR export by row in top grid

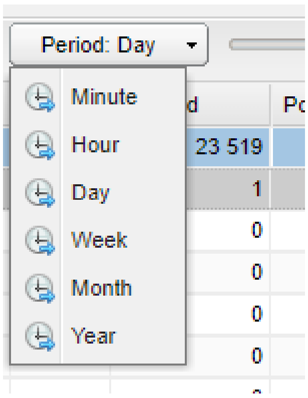
NOTE: The option is available for users with the *Export EDRs* permission (*MNP server* section).

The mid-page toolbar contains the following controls:



Mid-page toolbar

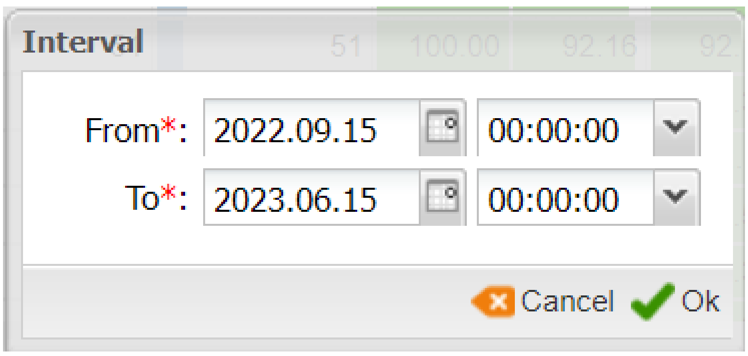
- The *Page* navigation: statistics in the top table will be arranged in two or more pages if the specified layer contains more than the number of items set in the pagination control
- *Refresh* button
- *Period*: timeframe breakdown defined by selecting a period from the drop-down list (*Minute*, *Hour*, *Day*, *Week*, *Month* or *Year*):



Period

- *Timeframe selector*: a tool for defining the time interval for which statistics are generated. The interval can be set either by dragging the left or right margin of the scale, or by selecting the period in the pop-up window (pencil button). Click to apply the timeframe:

Timeframe selector



Interval

NOTE: The interval shifts forward as time goes on. For example, if the current date is October 20, the interval is 1 - 10 October and the period set by the *Period* button is *Day*, on October 21 the interval will shift to 2 - 11 October, on October 22 it will shift to 3-12 October and so on.

- allows data export from the bottom table to an XLS file
- Table/chart switch : a switch between table and chart display formats
- Save current state button saves the current view (the *Timeframe selector* value, the period (day, month etc.) and the first selected layer of performance indicators). These settings are saved in the browser cache and are displayed when the user accesses the *MNP server\MNP analytics* page the next time

14.2 MNP configurator

The interface serves for configuration of HLR dipping rules and users for HLR reselling clients. The interface is described in the MNP server user's guide.

15 Number management

The *Number management* page allows the user to work with DID (Direct Inward Dialing) and TFN (Toll Free Numbers) numbers:

- Create, edit and modify DID and TFN numbers
- Import new DID numbers into the System
- Assign/deassign numbers from partners
- Charge NRC (non-recurring fee) and/or MRC (monthly recurring fee) for each number (see below)
- Provision numbers to the routing module to ensure static routing

The “Direct inward dialing (DID)” is a telecommunication service offered by telephone companies to subscribers that operate a private branch exchange (PBX) system. A TFN number (a toll-free telephone number or freephone number) is a telephone number that is billed for all arriving SMS instead of incurring charges to the originating telephone subscriber.

NRC charges are created for:

- The vendor account at the moment when the number is associated with the vendor product if the NRC specified in the billing scheme for the vendor is not equal to zero.
- The client account at the moment when the number is associated with the client product if the client billing scheme is specified and the NRC specified in the billing scheme for the client is not equal to zero.

MRC charges are created:

- Once a month for the vendor account for the use of numbers associated with the account products, if the MRC specified in the billing schemes of these associations for the vendor is not equal to zero.
- Once a month for the client account for the use of numbers associated with the account products, if the client billing scheme is set and the MRC specified in the billing schemes of these associations for the client is not equal to zero.

The System allows routing MT messages directly to a vendor product with no additional check of routing rules and sending messages to a client DID number in MO routing, based on the algorithm from the *Number management* reference book. The MO route search algorithm is as follows:

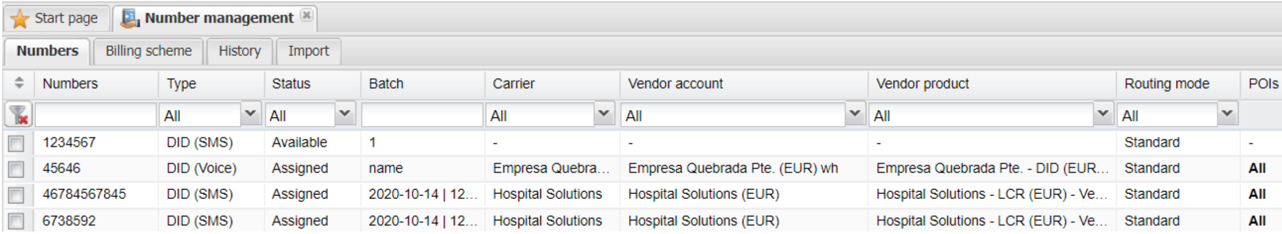
a) Verification of the 'Track MO responses to MTs' option

b) Verification of the DID reference book

c) Verification of the *MO routing editor*

The page contains four tabs: Numbers 576, Billing scheme 578, History 579 and Import 580.

15.1 Numbers



	Numbers	Type	Status	Batch	Carrier	Vendor account	Vendor product	Routing mode	POIs
		All	All		All	All	All	All	
	1234567	DID (SMS)	Available	1	-	-	-	Standard	-
	45646	DID (Voice)	Assigned	name	Empresa Quebra...	Empresa Quebrada Pte. (EUR) wh	Empresa Quebrada Pte. - DID (EUR...	Standard	All
	46784567845	DID (SMS)	Assigned	2020-10-14 | 12...	Hospital Solutions	Hospital Solutions (EUR)	Hospital Solutions - LCR (EUR) - Ve...	Standard	All
	6738592	DID (SMS)	Assigned	2020-10-14 | 12...	Hospital Solutions	Hospital Solutions (EUR)	Hospital Solutions - LCR (EUR) - Ve...	Standard	All

Numbers

The *Numbers* tab sheet contains a table of numbers and the *Editor* panel. The table consists of the following columns:

- Checkbox that allows selecting multiple records
- *Numbers*
- *Type* (DID (SMS)/DID (Voice)/TFN (Voice))
- *Status*. The following statuses are possible:
  - *Available*: the number is not assigned to a specific partner and can be used further
  - *Assigned*: the number belongs to a partner and was charged by the *Non-recurring charge (NRC)* or *Monthly recurring charge (MRC)* method
  - *Aging*: the number has been revoked from a partner. By default the number has the *Aging* status for 30 days and is then automatically changed to *Available*. The user with the permission *Number management\Override DID statuses* can change the status manually at any time (permissions are configured in the *Roles* section of Administration\Users 158). By default such numbers are hidden and are displayed only when the checkbox *show aging* is selected
  - *Archived*: the status can only be set manually and means that the number is not active anymore and not in use. By default such numbers are hidden and are displayed only when the checkbox *show archived* is selected
  - *Closed*: the number is removed from the database

NOTE: In terms of routing, if the DID/TFN number has the status *Available*, *Aging* or *Archived* the SMS will be rejected.

- *Batch*: name of the group that includes one or several numbers. The batch name can be assigned in the *Editor* panel or on the Number management\Import 580 tab sheet. If the batch name is not set in the *Editor* panel, the System will automatically assign it using the format specified in the parameter *Batch format* in Administration\System settings\DID inventory 59
- *Carrier*
- *Vendor account*
- *Vendor product* (optional), *POIs*: the vendor product and POI to which the SMS must be passed. If the *POIs* field is empty then all POIs will be used
- *Vendor billing scheme*: the scheme that can be configured on the Number management\Billing scheme 578 tab sheet.

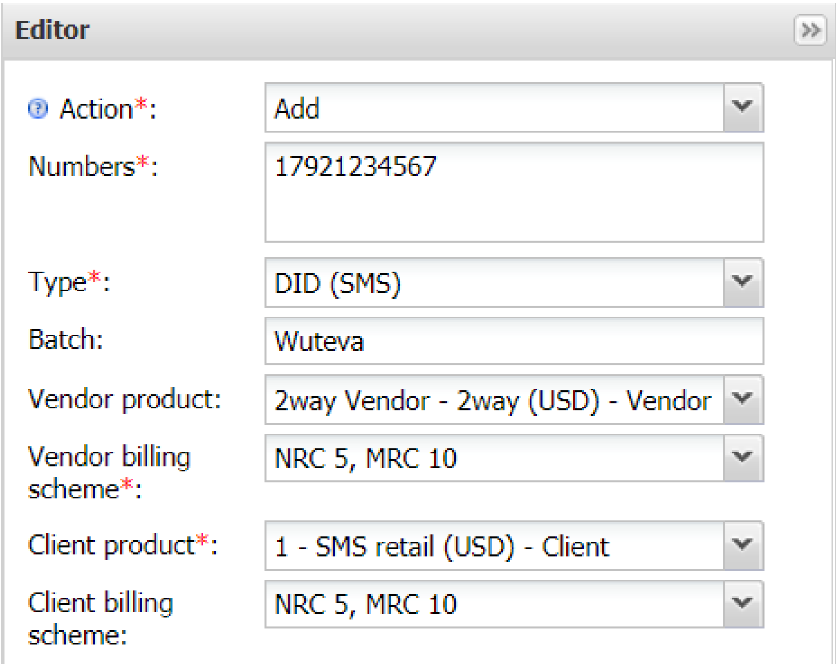
NOTE: Once a scheme is assigned to a number, it cannot be changed later.

- *Added*: date and time when the number was created
- *Assigned*: date and time when the number was assigned to a carrier

NOTE: Numbers are assigned as of 00:00 of the current day.

- *History*: link to the Number management\History 579 tab sheet
- *Client product*: the client product to which the MO message will be sent
- *Client billing scheme*: billing scheme of the client to which the MO message will be sent
- *Client account*: account of the client to which the MO message will be sent
- *Forward product*: product to which the call will be redirected (applicable to Alaris inVoice only)
- *Forward DNIS:* B-number for redirection (applicable to Alaris inVoice only)

NOTE: The bottom right corner of the table contains the *Export to .CSV* button that allows exporting the table records.



Editor

The *Editor* panel contains the following parameters:

- *Action*: serves to perform the following operations:
  - *Add*: add a new number
  - *Edit*: edit the selected number(s)

NOTE: Multiple records can be modified only if they have the same value in the *Status* column.

  - *Assign*: assign the number to a partner product

- *Deassign*: revoke the number from a partner. The status will be changed to *Aging* and the record will disappear from the table (to view the record, select the *show aging* checkbox)
- *Archive*: deactivate the number (can be applied to numbers whose *Status* is *Available* or *Aging*). The status will be changed to *Archived* and the record will disappear from the table (to view the record, select the *show archived* checkbox)
- *Dearchive*: reactivate the number (applicable to numbers whose *Status* is *Archived*). The status will be changed to *Available*
- *Close*: remove the number from the database (applicable to numbers whose *Status* is *Archived*). The System checks if this number has ever been assigned to any product. If the number has never been assigned to a product, all mentions of the number are removed from the System
- *Make available* (applicable only to numbers in the *Closed* status): restore the number (create it again). In the *Selection type* field that appears, select *inclusive* to restore the selected numbers, or *exclusive* to restore all numbers except the selected ones. To view closed numbers, click *show closed* at the bottom of the table

- *Selection type*: *inclusive or exclusive* (available for all *Action* values except *Add*)
- *Numbers*: telephone number(s). Multiple numbers can be added (when the *Action* value is *Add*). Numbers can be separated by the following symbols: ',', ';', '|' or ' '. The maximum field length is 4,000 symbols
- *Type*: the parameter defines the type of pricing. Possible values are *DID (Voice)*, *TFN (Voice)* and *DID (SMS)*. TFN induces reverse charging and uses the A-number to find the dial code: the vendor is charged and pays for the SMS to the client. DID billing is the same as usual – the prefix is defined by the B-number; the client is charged for the SMS and pays for it to the vendor
- *Batch*: name of the group of numbers
- *Vendor product*

NOTE: When *DID (SMS)* is selected in the *Type* field, the *Vendor product* field serves to define the product from which MO messages will arrive.

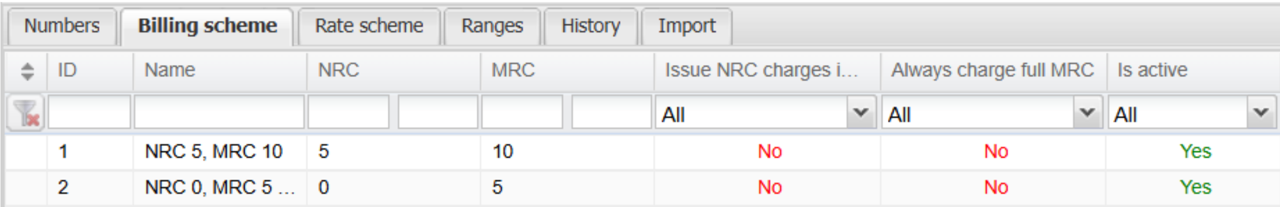
- *Vendor billing scheme*: billing scheme for the use of the number. It serves to generate vendor invoices. The field is available only for the *Add* and *Assign* actions. Possible billing scheme options are configured in the Number management\Billing scheme 578 tab sheet
- *Client product*
- *Client billing scheme*
- *Client account*

NOTE: Routing of DID numbers is effected as follows. In case the routing module detects that a message is coming to a pool of DID numbers, the route search logic is simplified: the route list will contain only those POIs that are present in the POIs field above (or all POIs if the list is empty). Margin check is arbitrary and can be enabled by means of the parameter *List of products to check margin in the routing* available in the Administration\System settings\DID inventory 59.

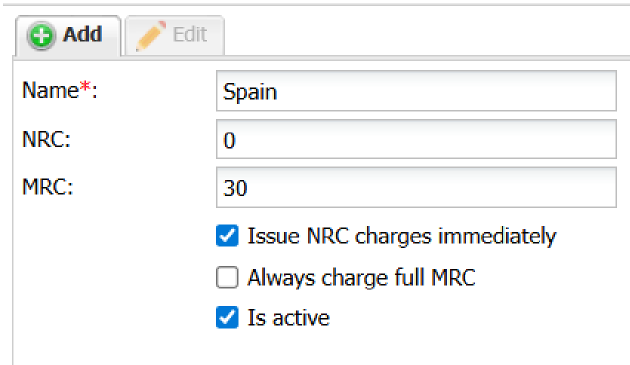
15.2 Billing scheme

The *Billing scheme* tab sheet serves to configure billing schemes to charge partners for using DID and TFN numbers.

The page contains a table of configured schemes and the *Add/Edit* tabs.



Billing scheme



Add tab

The *Add* tab contains the following fields:

- *Name*: name of the billing scheme
- *NRC*: amount of the non-recurring charge (one-time payment for the number). The amount is substracted from the balance as soon as the number is assigned on the *Numbers* tab
- *MRC*: amount of the monthly recurring charge (monthly fee). If the number is assigned in the middle of the month, a partial amount will be written off on the 1st of the next month. For example, if the month has 31 days (MRC=31) and the number was assigned on the 20th, the cost for 11 days will be written off (11*1)
- *Issue NRC charges immediately*: select to bill NRC charges with a one-day (current) period. If the checkbox is not selected, the invoice will be generated according to the billing period selected in the agreement
- *Always charge full MRC*: when selected, MRC is charged for the full month irrespectively of the number assignment date
- *Is active*: click to make the record active. Inactive records will be grayed out and cannot be selected when creating a new number

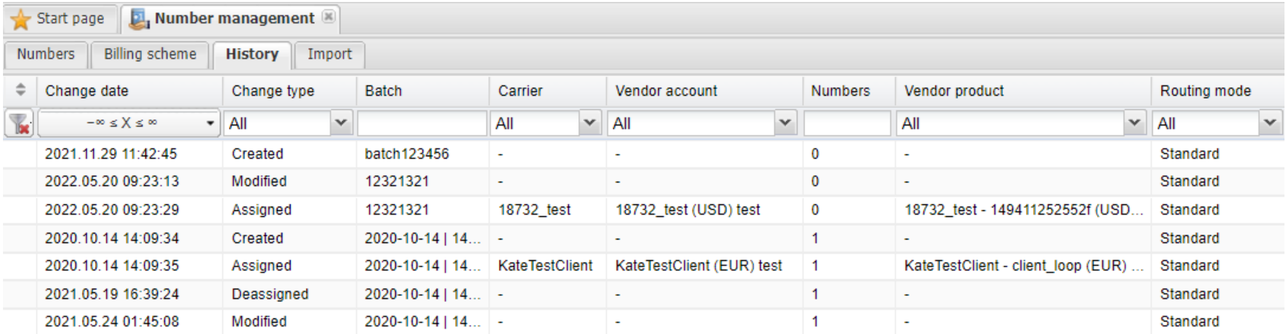
Click *Submit* Submit to save the changes.

NOTE: Billing schemes associated with an assigned number cannot be edited.

NOTE: When generating a non-recurrent charge by DID data for NRC, the charge period is taken from the agreement.

15.3 History

The *History* tab sheet serves to view a history of operations performed on numbers. Click to export the table to a CSV file.

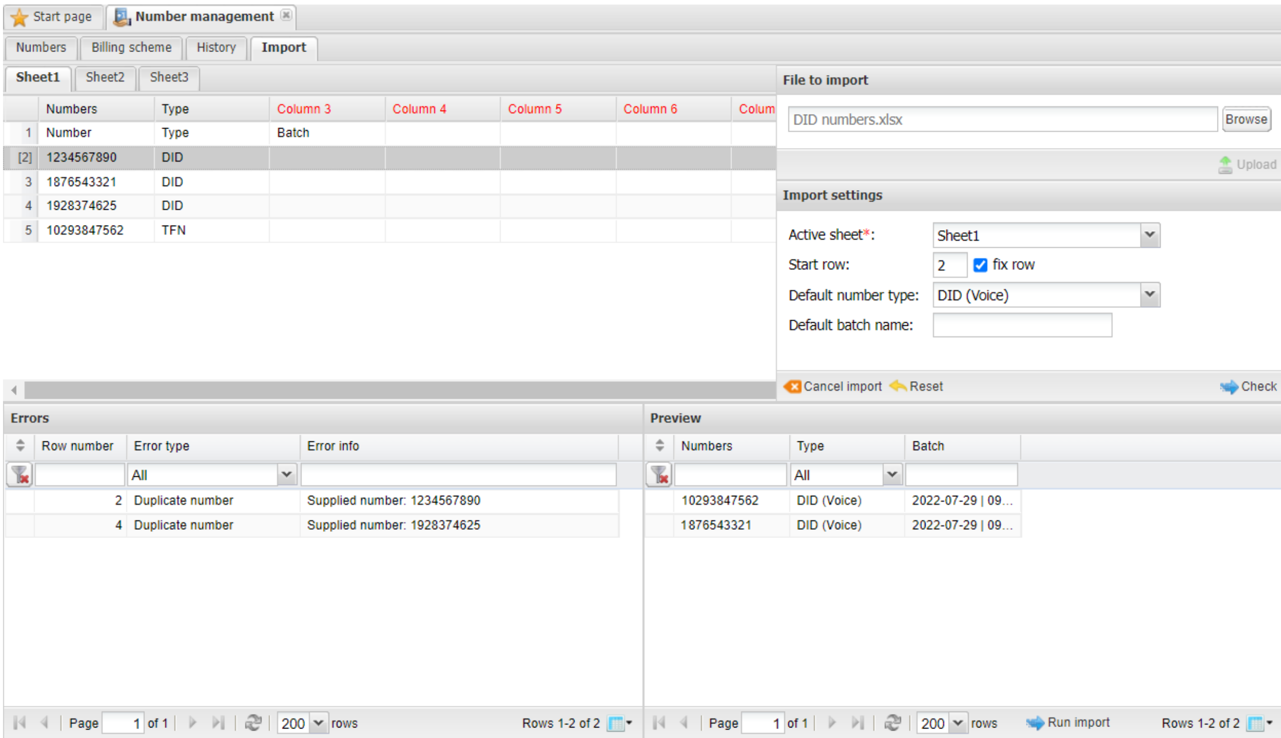


History tab sheet

15.4 Import

The *Import* tab sheet serves to add new numbers in bulk using a CSV or MS Excel file. The functionality is similar to [Reference books\Tag import](257).

The page consists of the following panels: the *File to import* and *Import settings* panels at the top right; the file preview at the top left of the page; the *Errors* panel at the bottom left of the page that displays import errors and the *Preview* panel at the bottom right of the page that shows the records to be imported.



Import

To import a file with DID/TFN numbers, proceed as follows:

1. In the *File to import* section at the top right corner of the page select the file with numbers that need to be imported. The file must contain numbers and optionally their type and batch name (the type and batch can be also specified in *Import settings*)

2. Click Upload. The file preview will appear in the top left panel the way it looks in MS Excel. Everything is shown "as is" – all cell contents and the overall file structure (sequence and naming of

columns and worksheets) is preserved at this stage. To prepare the file for parsing, define the column types by clicking on the headers of the table. The mandatory column is *Number*.

Numbers | Billing scheme | History | **Import**

Sheet1 | Sheet2 | Sheet3

	Number	Type	Column 3
1	Number	Type	Batch
[2]	1234567890	DID	
3	1876543321	DID	
4	1928374625	DID	
5	10293847562	TFN	

Source file preview

3. Configure the parameters at the *Import settings* panel:

- *Active sheet*: select the spreadsheet that will be parsed (in case the original MS Excel file contains several spreadsheets)
- *Start row*: define the first row with the rate data, so that the System ignores everything that is above the table in the file. Check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Default number type*: select *DID (Voice)* or *TFN (Voice)* if it was not defined in the preview. The value will be applied to all numbers

Click Check to view the parsing results and errors. To clear the *Import settings* panel click Reset. To clear all panels, click Cancel import.

Errors

Row number	Error type	Error info
	All	
6	Number is not numeric	Supplied number: some stuff

Errors panel

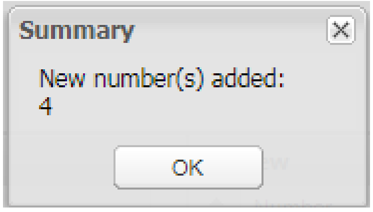
4. The *Errors* panel displays the list of parsing errors.

Preview

Number	Type	Batch
	All	
10293847562	TFN	2018-04-06 | 10...
1234567890	DID	2018-04-06 | 10...
1928374625	DID	2018-04-06 | 10...
1876543321	DID	2018-04-06 | 10...

Preview panel

5. The *Preview* panel shows the records that will be imported. Review the errors and preview records and click Run import. Once the operation is complete, import summary will appear on the screen as shown below.



Import summary

16 Alaris Campaign Portal

Alaris Campaign Portal enables the user to carry out SMS marketing campaigns - that is, bulk mailouts of messages to a predefined list of subscribers. Additionally, it allows sending SMS from third-party applications and websites (for example, confirmation codes and other notifications).

The Campaign Portal can be used by the customers of the System owner as a valuable service. Each customer can have their own account in the Campaign Portal.

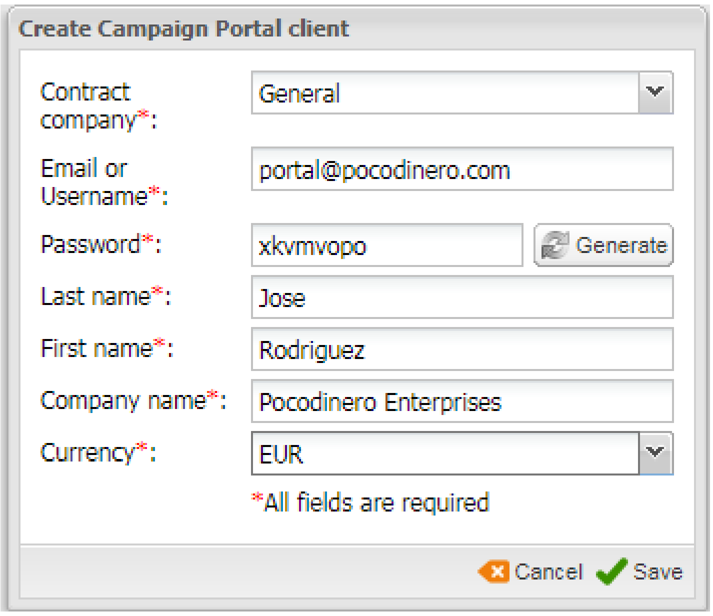
To have your Campaign Portal installed, contact the Alaris technical support team and provide them with a dedicated domain name for the IP address where the main System is located.

16.1 Providing access to Alaris Campaign Portal

Request the Alaris Campaign Portal access link (or several links if necessary) from the Alaris support team and assign it to a contract company in the Reference books\Contract companies 261 (*Campaign Portal URL* field).

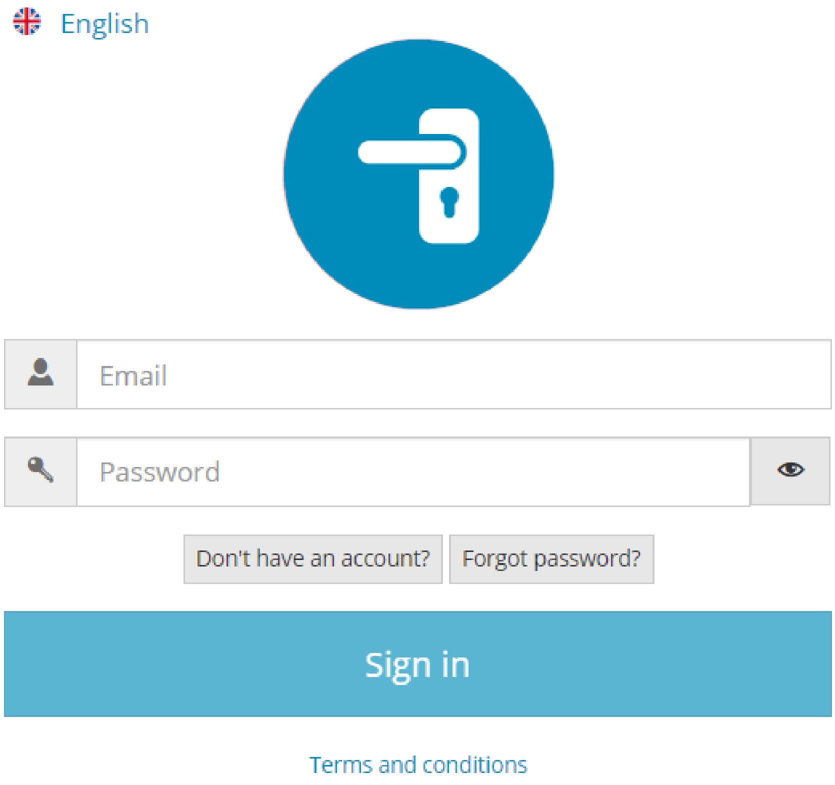
To provide customers with a Campaign Portal account, use one of the following procedures:

1. Create a user in the Carriers\Carriers 163 page. Click Create Campaign Portal client at the bottom of the Carriers\Carriers 163 page to open the *Create Campaign Portal client* form. Complete the appropriate fields and click Save. The new record appears in the list of carriers. The *Company name* is displayed in the *Carrier name* column.



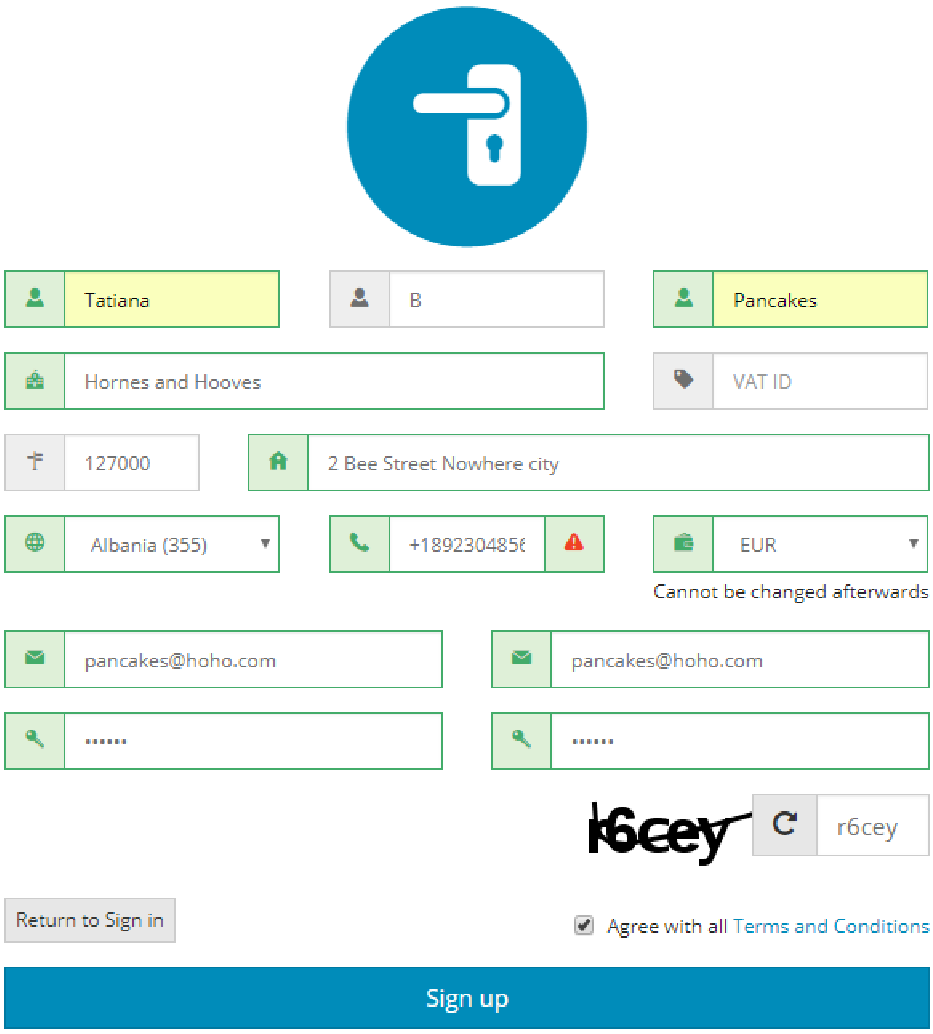
Create Campaign Portal client

2. A customer can register directly in the Alaris Campaign Portal. Open the login page, click *Don't have an account?* and complete the user registration form. You will be sent an email with account activation instructions. See also the Alaris YouTube video



Alaris Campaign Portal login page

In the course of registration, the following entities are automatically created in the main System interface for the new user: a carrier, a user, an agreement and an account.



Alaris Campaign Portal registration form

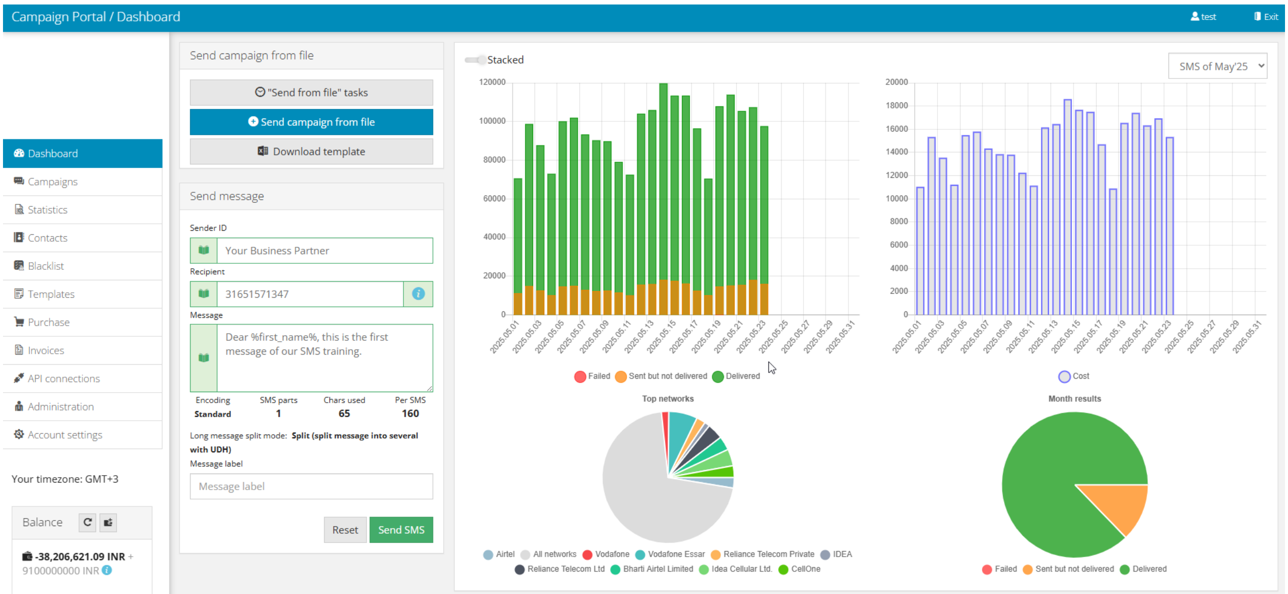
The user is asked to agree with Terms and Conditions. The text of the Terms and Conditions is configured in Reference books\Contract companies 261 or loaded directly on the Campaign Portal server.

NOTE: Terms and conditions are downloaded to the Portal server by request. To do this, contact the Alaris technical support team.

The main page of Alaris Campaign Portal consists of two panels: the left panel is the menu and balance information, and the right panel displays the section selected in the menu.

Balance. Click to update the balance information and point to to view the allowed credit (the credit is also displayed in grey font next to the balance). The credit is configured in the *In Credit* field of Carriers\Agreements 171. The *Total* row displays the number of used / remaining messages for all available packs.

Access to Campaign Portal features and functions is based on user permissions configured in Administration\Users 158. for more details refer to Appendix 8. User permissions\Portals 790.

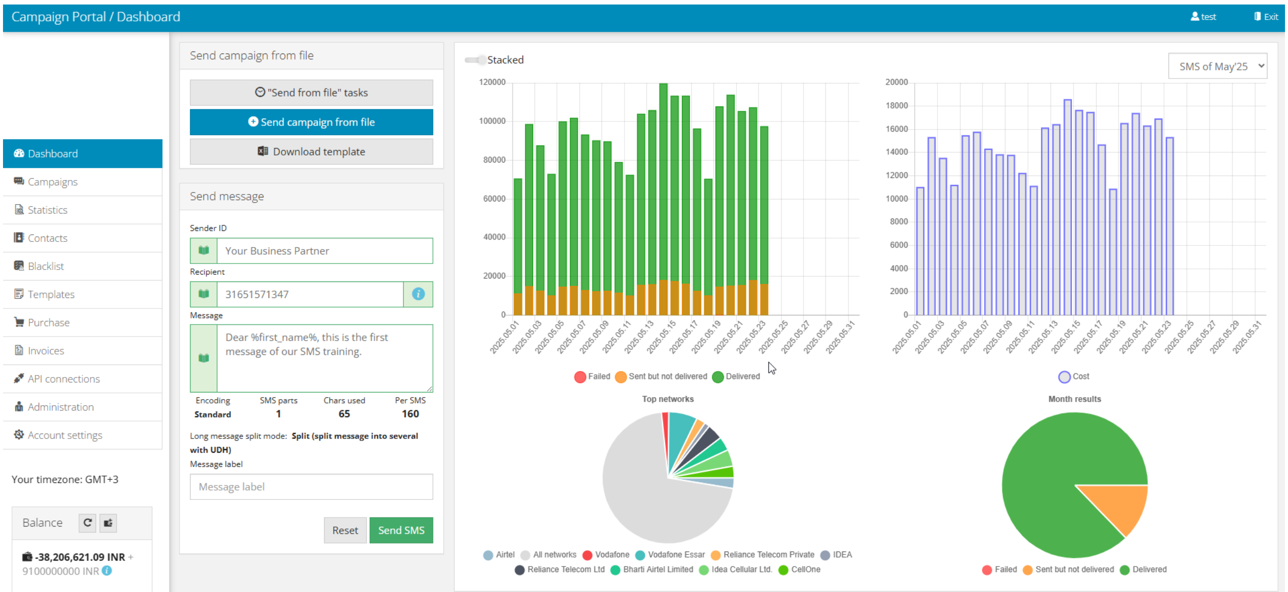


Alaris Campaign Portal main page

The Alaris Campaign Portal header, theme and logo can be customized to suit your business needs. Contact the Alaris technical support team if you need customization.

16.2 Dashboard

The *Dashboard* contains the most frequently used controls: *Send campaign from file, Send message,* and *Traffic stats*.



Dashboard

Traffic stats contains diagrams on cost, delivery and top 5 networks for the appropriate month, which is selected in the drop-down window at the top right corner. Click *Stacked* on top of the charts to show all data types (*Failed*; *Sent but not delivered*; *Delivered*) in a single bar or in separate bars. Click on the data/network type to hide it from the chart. The *Top networks* and *Month results* pie charts will only be shown if there is available data for them.

Send campaign from file: contains controls that allow fast sending of a campaign. The controls are detailed in Campaigns 590.

Send message: the control allows quickly sending one or several messages for testing purposes. Complete the following fields:

- *Sender ID*: alphanumeric string (16 characters maximum).
- *Recipient*: the recipient's phone number (must contain the country code)

NOTE: The *Recipient* field value is verified for matching the regular expression set in the System parameter *E.164 number pattern (POSIX format)* (Administration\System settings\Portals 71). If verification is successful, the field will be highlighted in green. Multiple numbers can be set in the field separated by comma, but in this case the comma must be allowed in the *E.164 number pattern (POSIX format)* parameter.

- *Message*: message text

NOTE: Click next to each field to insert records from an appropriate reference book. The Recipient reference book is configured in Alaris Campaign Portal\Contacts 601. The Message text templates and Sender IDs are configured in Alaris Campaign Portal\Templates 606.

- *Long message split mode*: displays the value of the same-name parameter in *Account settings* and can display one of the following values:
  - *Cut (trim message text according to GSM spec)*
  - *Payload (send SMPP message with text in message_payload field)*
  - *Split (split message into several with UDH)*
  - *Split (using SAR TLV fields)*
- *Message label*: specify the campaign's external ID (if necessary).
- Select the currency (available if multiple accounts with different currencies are configured for the user's carrier)
- *Choose channel*: choose the message send channel (SMS or an instant messaging channel). Drag and drop channels to change their order when necessary. The available values in this field depend on the rate plans and packs to which the user is subscribed. For example, if packs for sending messages through Telegram and WhatsApp were purchased, only these services will be available for selection. The System will attempt to send the message to the first service in the list. If it fails, the System switches to a next-in-line service until the message is successfully sent/delivered or the list of available services is exhausted

The following parameters are IM-specific and are available when at least one IM channel is selected:

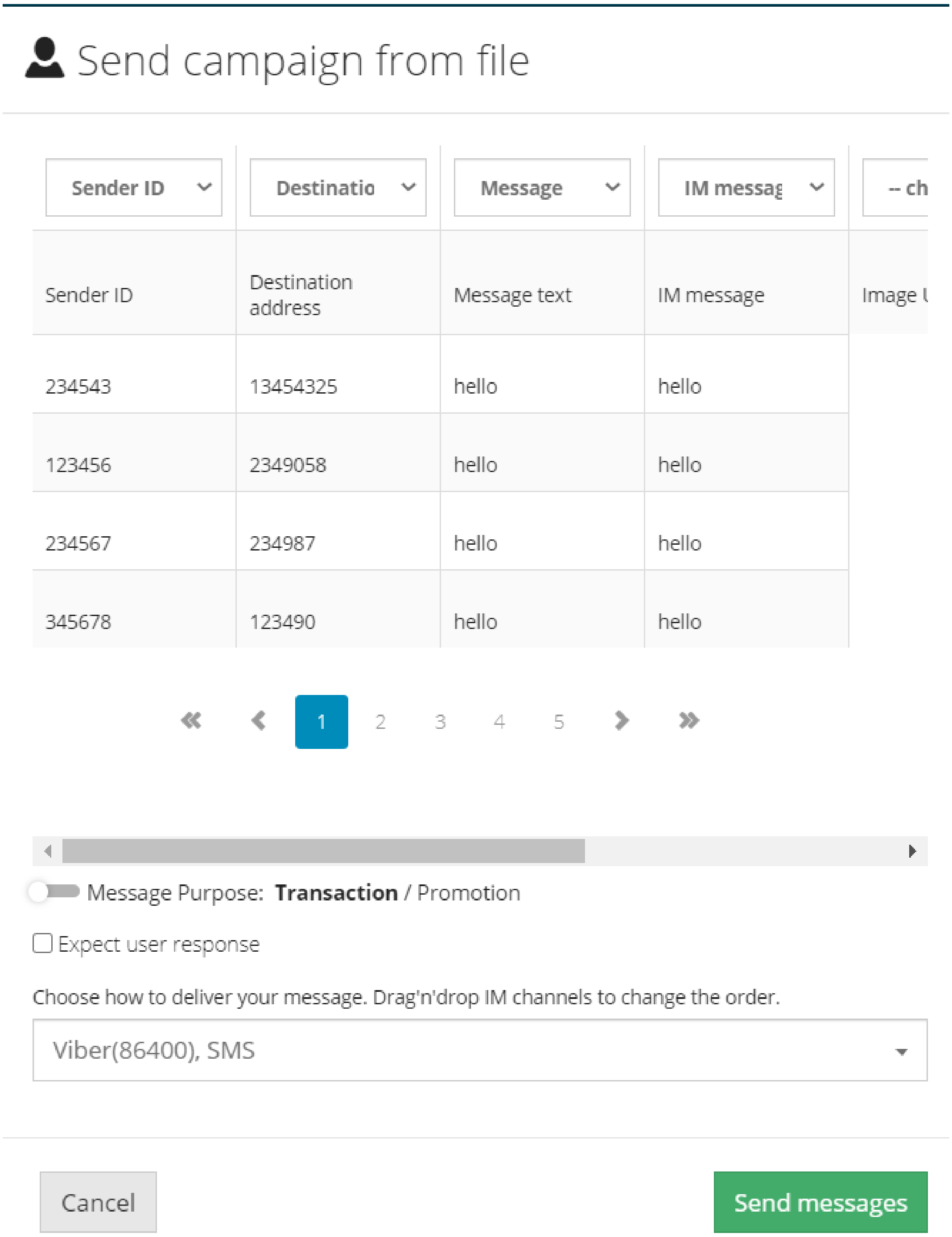
- *IM message*: IM message text. Fill in the value if you wish to send the message through IM channels
- *Image URL* (specific for Viber messages (*promotion* type)): the link to an image sent in the message
- *Button caption* (specific for Viber messages (*promotion* type)): the link to a button sent in the message
- *Button action URL* (specific for Viber messages (*promotion* type)): URL opened when clicking the button sent in *Button caption*

- *Expect user response* (specific for Viber messages (*promotion* type)): enable to send the message to which the user will be able to respond
- *Message purpose: Transaction / Promotion* (specific for Viber messages): use this radio button to select message type for messages sent through Viber. Select *Transaction* for messages that can contain plain text only and *Promotion* for messages that can contain buttons and links.

Click Send SMS.

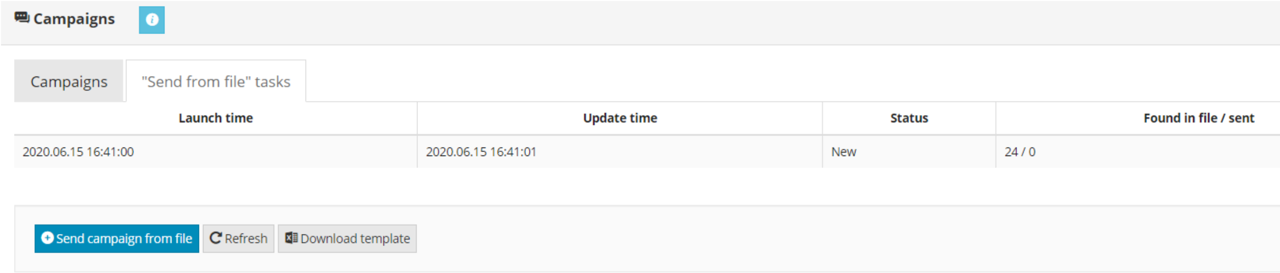
NOTE: When a user sends a message through Alaris Campaign Portal, the rates are searched only within products that are associated with the Campaign Portal. Such products have the selected *Campaign Portal product* checkbox in their properties (Carriers\Products 180). Also, products that are created when a user subscribes to a pack, have the reserved name *SMS retail* (which cannot be changed) and the product POI's *service type* = the carrier's account ID. If no products associated with Alaris Campaign Portal are found, the SMS is rejected as no suitable rates are available.

Alternatively, click Send campaign from file to load the campaign parameters from an MS Excel file. For regular SMS, the file must contain three columns: Sender ID, Destination number and Message text. For instant messages, the file must additionally contain the column IM message, and for Viber promotion messages - also Image URL, Button caption, and Button action URL. Click Send SMS. In the *Send campaign from file* dialog configure the column headers as appropriate and click Send messages.



Send campaign from file

To check the status of the campaign, go to the [Alaris Campaign Portal\Campaigns] 590 page, and click "Send from file" tasks.



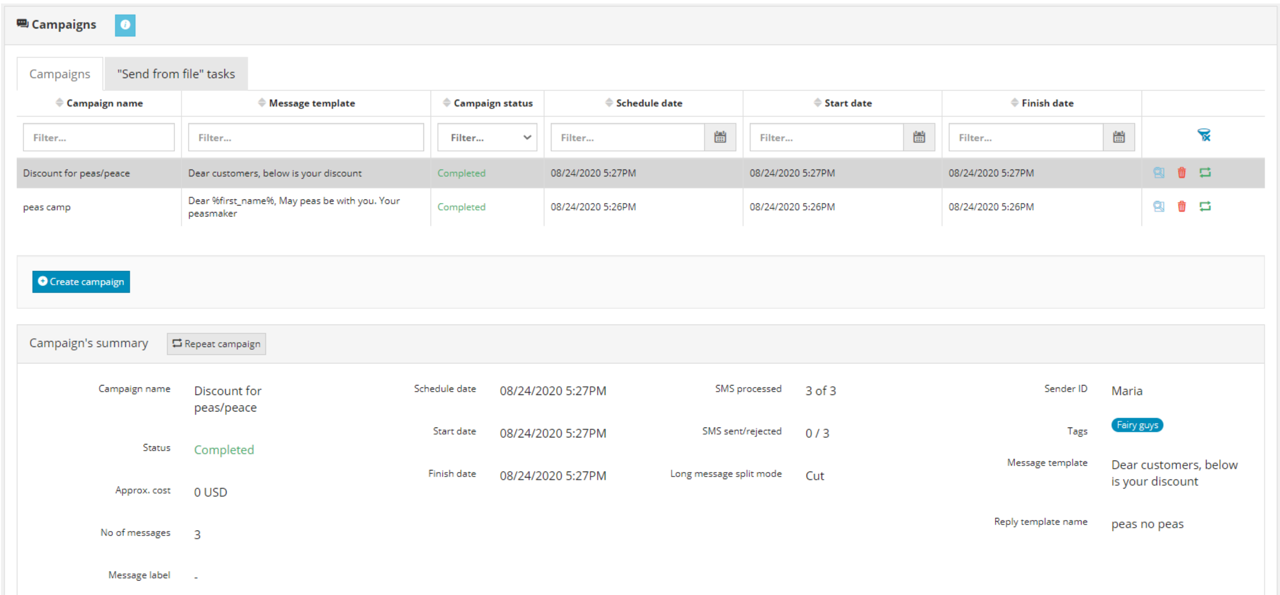
Send from file tasks

16.3 Campaigns

The *Campaigns* page serves to create new campaigns and manage existing ones. A campaign is a bulk mailout that is sent to the list of contacts specified in it. The cost per SMS varies on the destination country of each contact.

Messages are either billed to the appropriate SMS package decreasing its SMS count or are deducted from the user's account balance if the user has a rate plan for the message MCCMNC. If both an SMS package and rate plan are applicable, messages are billed to the SMS package.

Search of applicable rates is performed by MCCMNC/MCC, including the MCC 'Rest of the World' (the default value is 777 and can be changed in Administration\System settings\SMS routing 95).



Campaigns

The page consists of two tabs: *Campaigns* and *"Send from file" tasks*.

The *Campaigns* tab contains a table with a list of campaigns. The table columns display the following information:

- *Campaign name*
- *Message template*
- *Campaign status*

NOTE: The System allows sending email notifications if the SMS campaign status changes to *Paused*, *Canceled*, *Completed* or *Failed*. The texts of the notifications are defined in the following templates

(Administration\Template manager 104): *SMS campaign fail threshold letter (html)*, *SMS campaign failed messages resend notification (html)*, *SMS campaign resuming notification (html)*, *SMS campaign start letter (html)*, *SMS campaign status change letter (html)*. The email addresses (comma-separated) where notifications of campaign status change are sent are configured in the System parameter *Campaign status change notification emails* (Administration\System settings\Portals 71). See also the Alaris YouTube video.

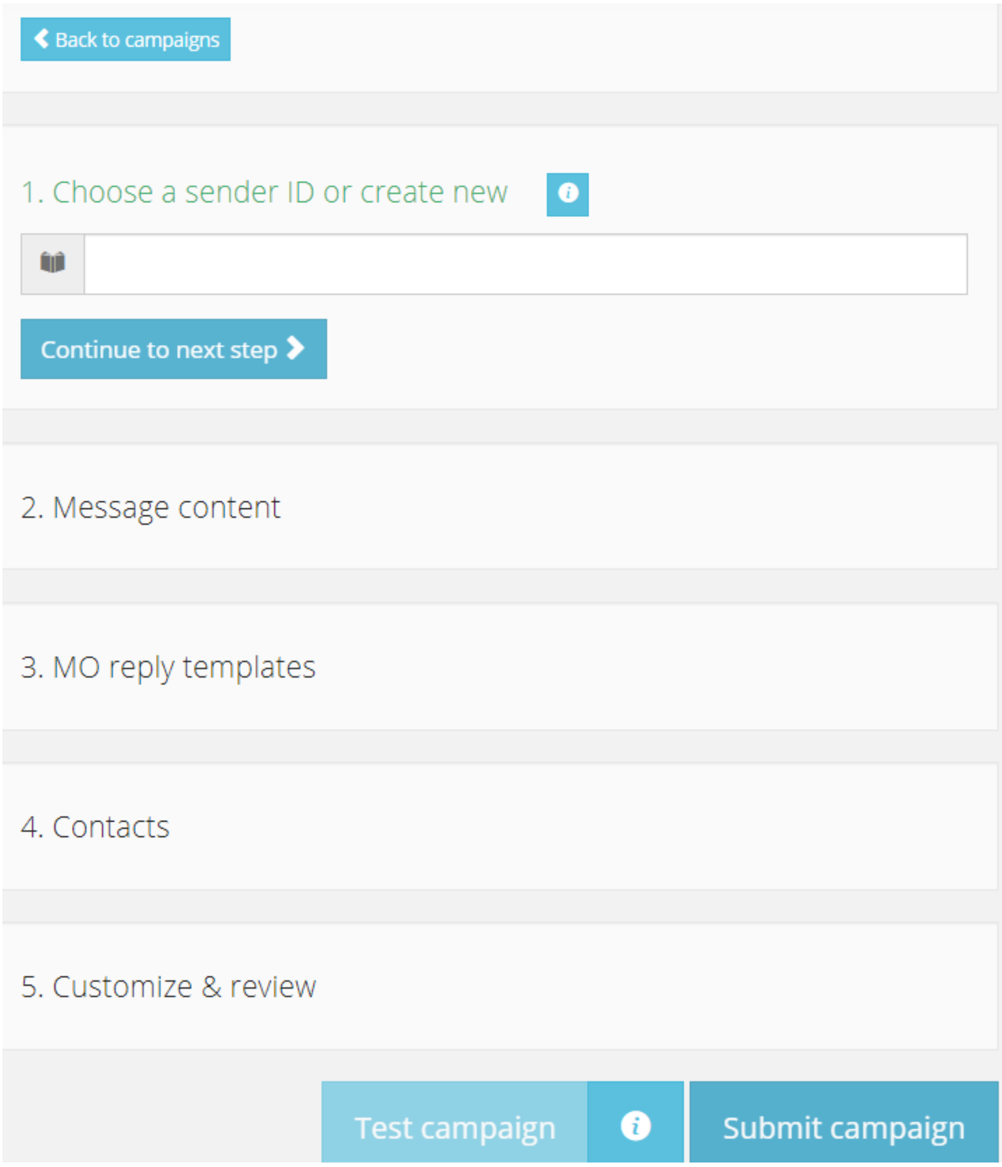
- *Schedule date*: the date specified in the *Set a future time* control
- *Start date, Finish date*: start and end date of the campaign. See also the Alaris YouTube video

Click in the appropriate table record to display the campaign summary (appears below the *Campaigns* table).

NOTE: For campaigns that are in progress, the campaign summary statistics are updated in real time.

Click to delete a completed campaign and to resend failed messages. While the campaign is in process, the button is replaced with that allows pausing the sendout process.

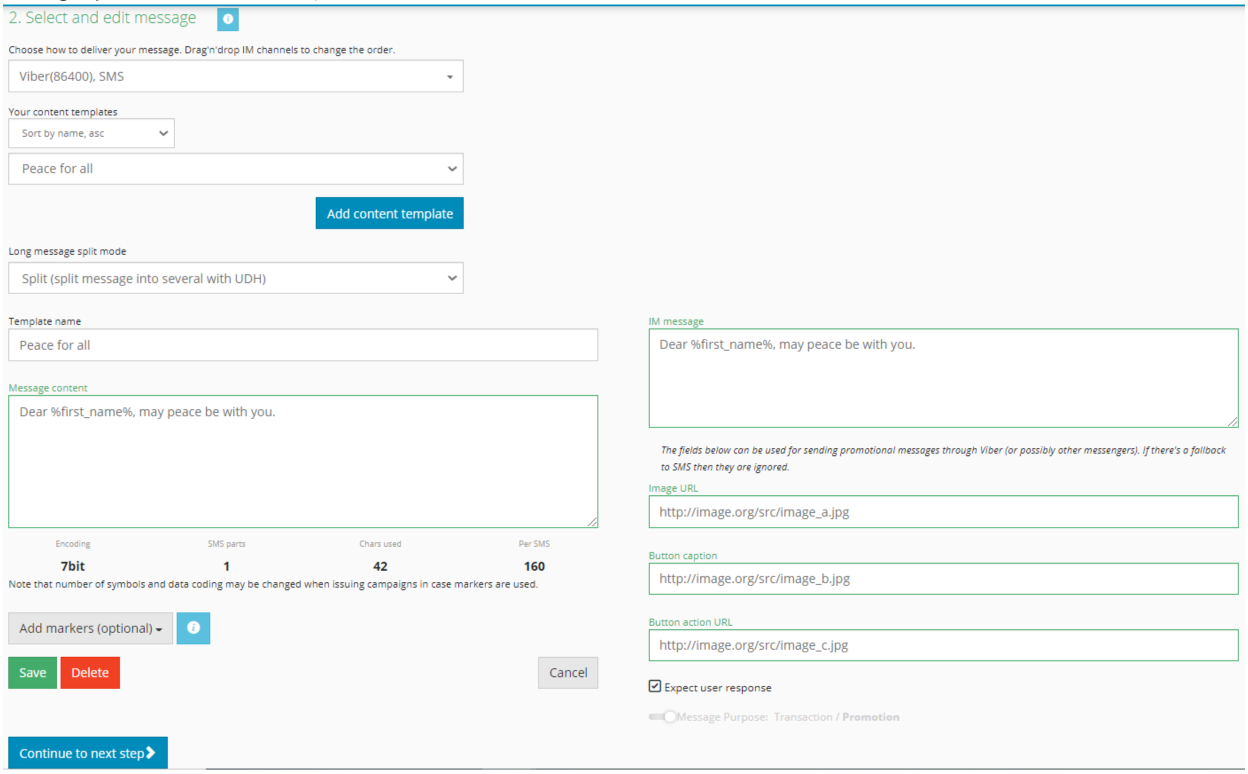
To create a new campaign, click Create Campaign.



Create campaign dialog

Follow the steps of the *Create campaign* dialog:

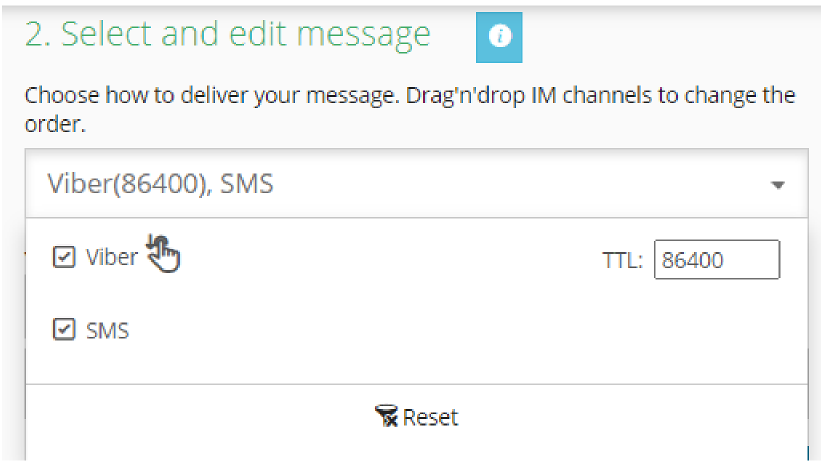
1. Choose a sender ID or create a new one. Click to select the sender ID or type a new one in the edit box. A sender ID is the name of the person or company that is sending the SMS (alphanumeric string up to 16 characters). Click Continue to next step.



Step 2. Select and edit message

2. *Select and edit message*.

   a. Choose the message send channel (SMS or an instant messaging channel).



Choosing the message send channel

Drag and drop channels to change their order when necessary. The available values in this field depend on the rate plans and packs to which the user is subscribed. For example, if packs for sending messages through Telegram and WhatsApp were purchased, only these services will be available for selection. The System will attempt to send the message to the first service in the list. If it fails, the System switches to a next-in-line service until the message is successfully sent/delivered or the list of available services is exhausted

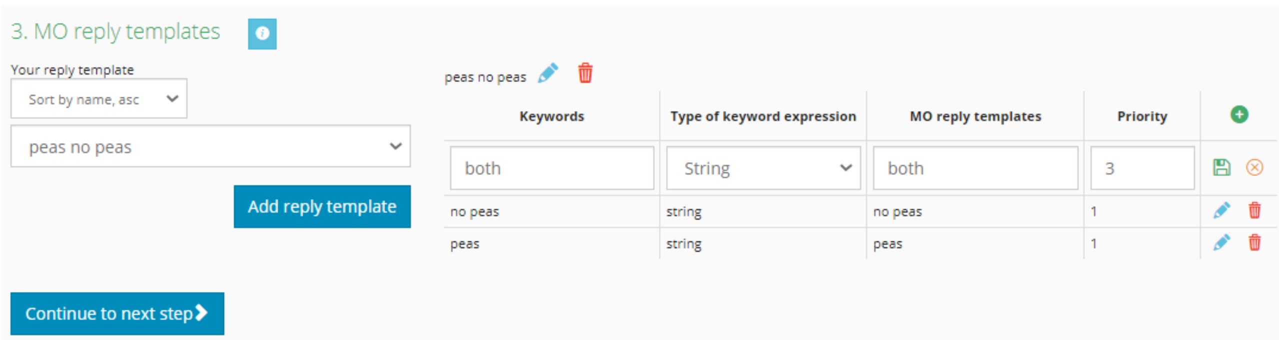
b. In the drop-down list *Your content templates*, select an existing message or click *Add content template* to create a new one and fill in the *Template name* and *Message content* fields. Select the long message split mode (possible values are explained in Alaris Campaign Portal\Dashboard 586), review and, if necessary, edit the message. Optionally, using the *Add markers* drop-down list, include markers to the text to personalize the message. The marker values are substituted to the message from the Alaris Campaign Portal\Contacts 601 page. The user can also create custom markers in the Administration\Custom fields 614 tab.

If at least one IM channel is selected, the following parameters are available:

- *IM message*: IM message text. Fill in the value if you wish to send the message through IM channels
- *Image URL* (specific for Viber messages (*promotion* type)): the link to an image sent in the message
- *Button caption* (specific for Viber messages (*promotion* type)): the link to a button sent in the message
- *Button action URL* (specific for Viber messages (*promotion* type)): URL opened when clicking the button sent in *Button caption*
- *Expect user response* (specific for Viber messages (*promotion* type)): enable to send the message to which the user will be able to respond
- *Message purpose: Transaction / Promotion* (specific for Viber messages): use this radio button to select message type for messages sent through Viber. Select *Transaction* for messages that can contain plain text only and *Promotion* for messages that can contain buttons and links.

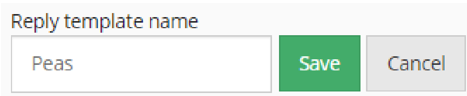
When finished, click Continue to next step.

3. *MO reply templates*. MO replies are automatic responses to MO messages that were received in response to a campaign. To use the feature, configure MO reply templates.



MO reply templates

a. To create a template, click Add reply template. In the *Reply template name* field



enter the template name and click Save.

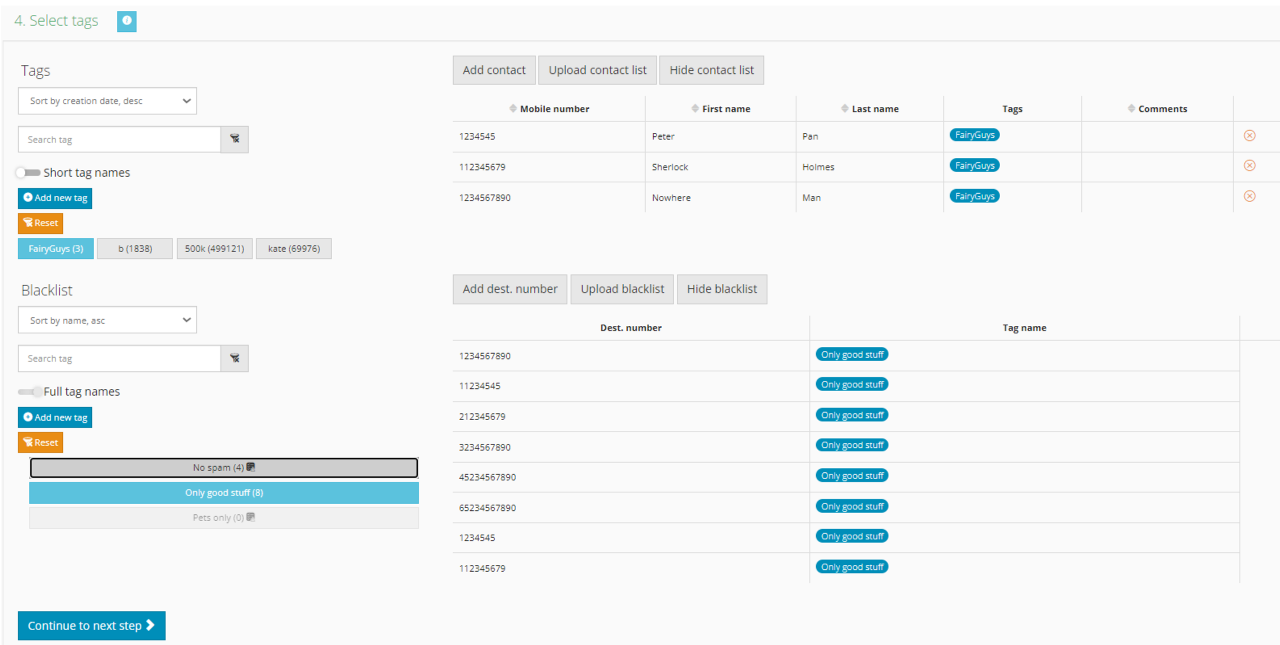
Adding a new template

b. In the table that appears, configure the following parameters of the template:

- *Keywords* - allows setting several templates for each Keyword+User reply pair
- *Type of keyword expression* (string or regular expression)
- *MO reply templates* - reply templates to the user's response
- *Priority* - the order in which MO message keywords must be checked (from higher to lower priority, or, if priorities are equal, from a higher to a lower ID).

Once the Campaign Portal receives an MO response from the end user, it compares the response text to the template from the *Keywords* field, and if a match is found, it sends the user the appropriate text from the *MO reply templates* field. An EDR is written for each response, and the responses are billed.

NOTE: Templates can also be configured at Alaris Campaign Portal\Templates 606.

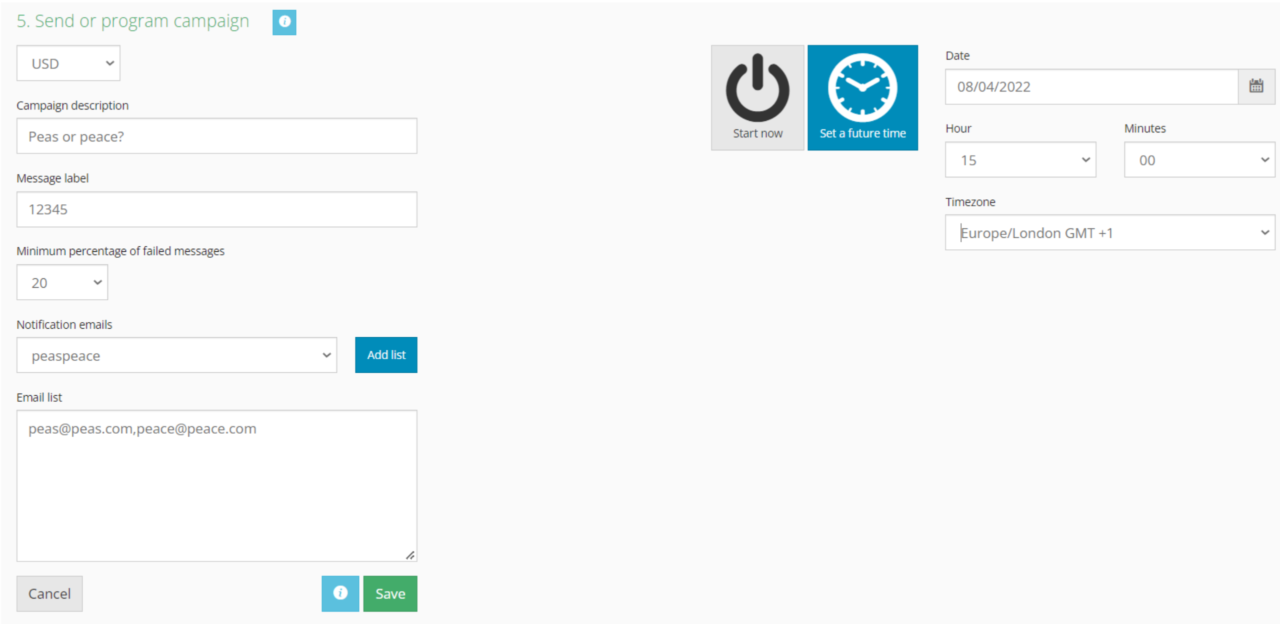


Select tags

4. *Select tags*. Select tags and configure the list of recipients, and select blacklist tags to exclude specific numbers from the campaign.

Tags are groups of recipients that are configured in the Alaris Campaign Portal\Contacts 601 page. Click on the appropriate tag, then click the *Show contact list* Show contact list button. In the contact list that appears, select the sort order and edit the list of recipients if necessary. Click to remove the recipient from the mailout (it will stay in the Alaris Campaign Portal\Contacts 601 page). To add a new recipient(s), click *Add contact* Add Contact or *Upload contact list* Upload contact list (for instructions refer to Alaris Campaign Portal\Contacts 601). Proceed in the same way to configure the blacklist tags. Note that if a blacklist which is marked as *Is default* is specified for the campaign along with a non-default blacklist, the default one will be disregarded during campaign sending. If no blacklist is set, the default ones will be used

When finished, click Continue to next step.

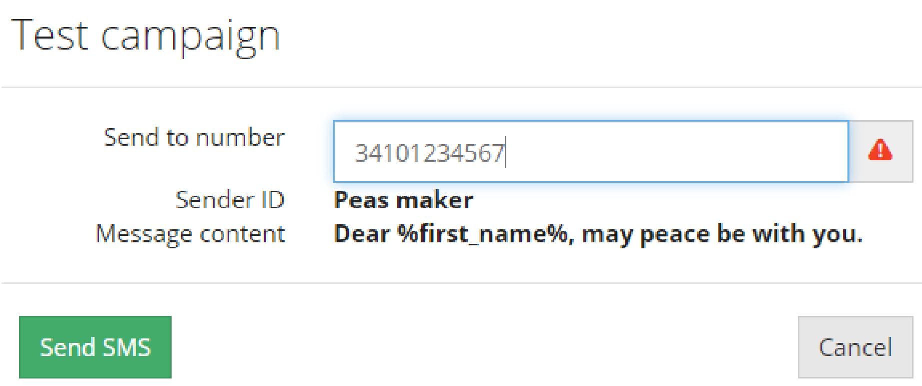


Send or program campaign

NOTE: To return to any previous step click Edit next to the step or double-click on the blank area under the name of the step.

5. *Send or program campaign*. Select the campaign currency and provide a description in the *Campaign description* field. In the *Message label* field specify the campaign's external ID (if necessary). In the field *Notification emails* select the list of emails that will receive notification of the campaign start. The lists are configured in the *Notification emails* tab of Alaris Campaign Portal\Templates 606 page. Also, you can specify the threshold of failed SMS messages (percentage) in the field *Minimum percentage of failed messages*. When the threshold is reached, notifications will be sent to the emails specified in the *Notification emails* field. The templates for both types of notifications are configured Administration\Template manager 104.

6. Click *Start now* for immediate launch or *Set a future time* for a scheduled mailout, and specify the date and time and the timezone. By default the user's timezone is specified.

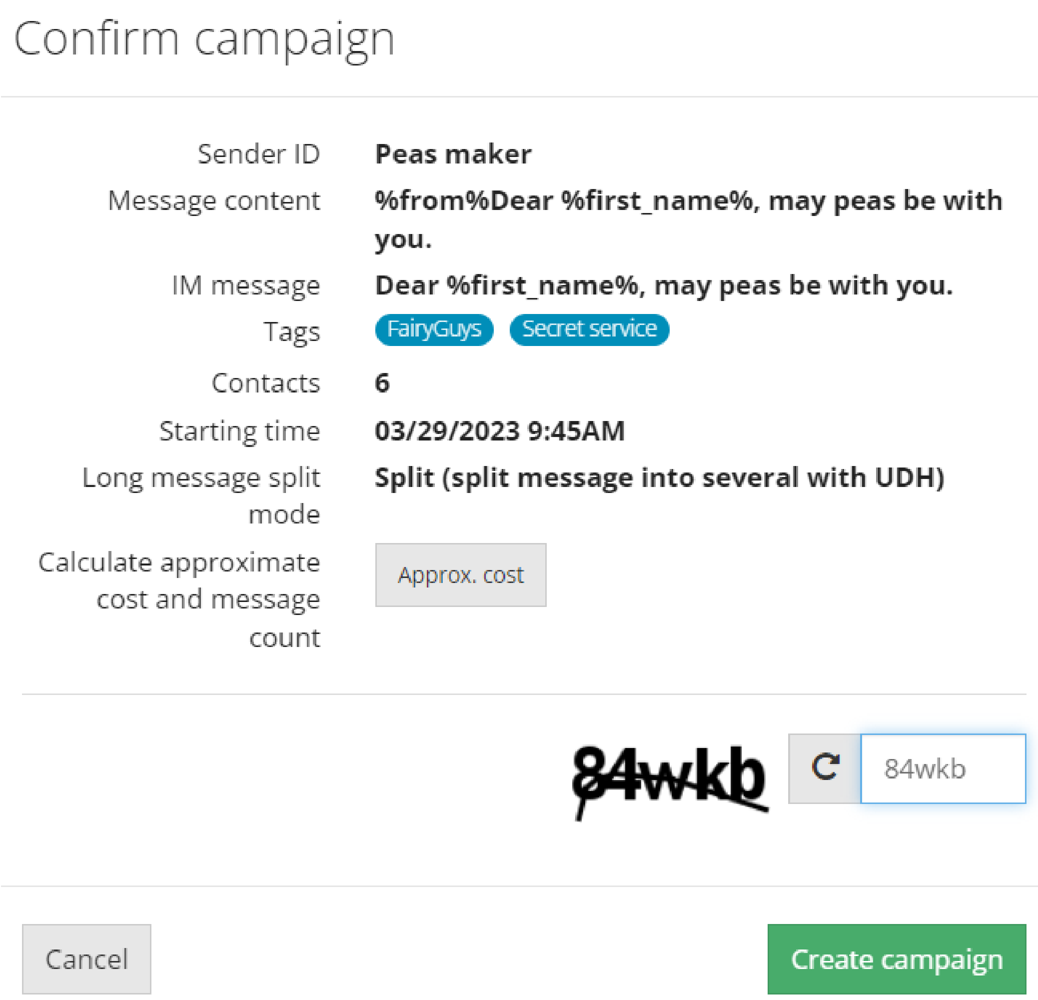


Test campaign

7. Click Test Campaign to test the mailout. In the dialog that appears, specify the number to which the SMS will be sent, and click Send SMS.

NOTE: To send a message to a number, it is required to have an SMS pack or rate plan including its country/network as well as non-zero balance or credit limit.

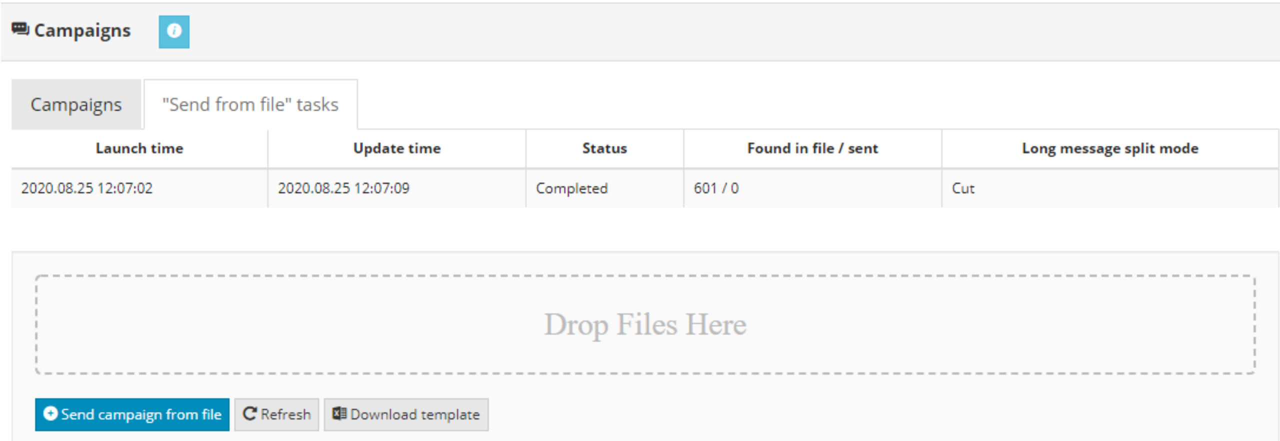
8. Click Submit Campaign.



Confirm campaign

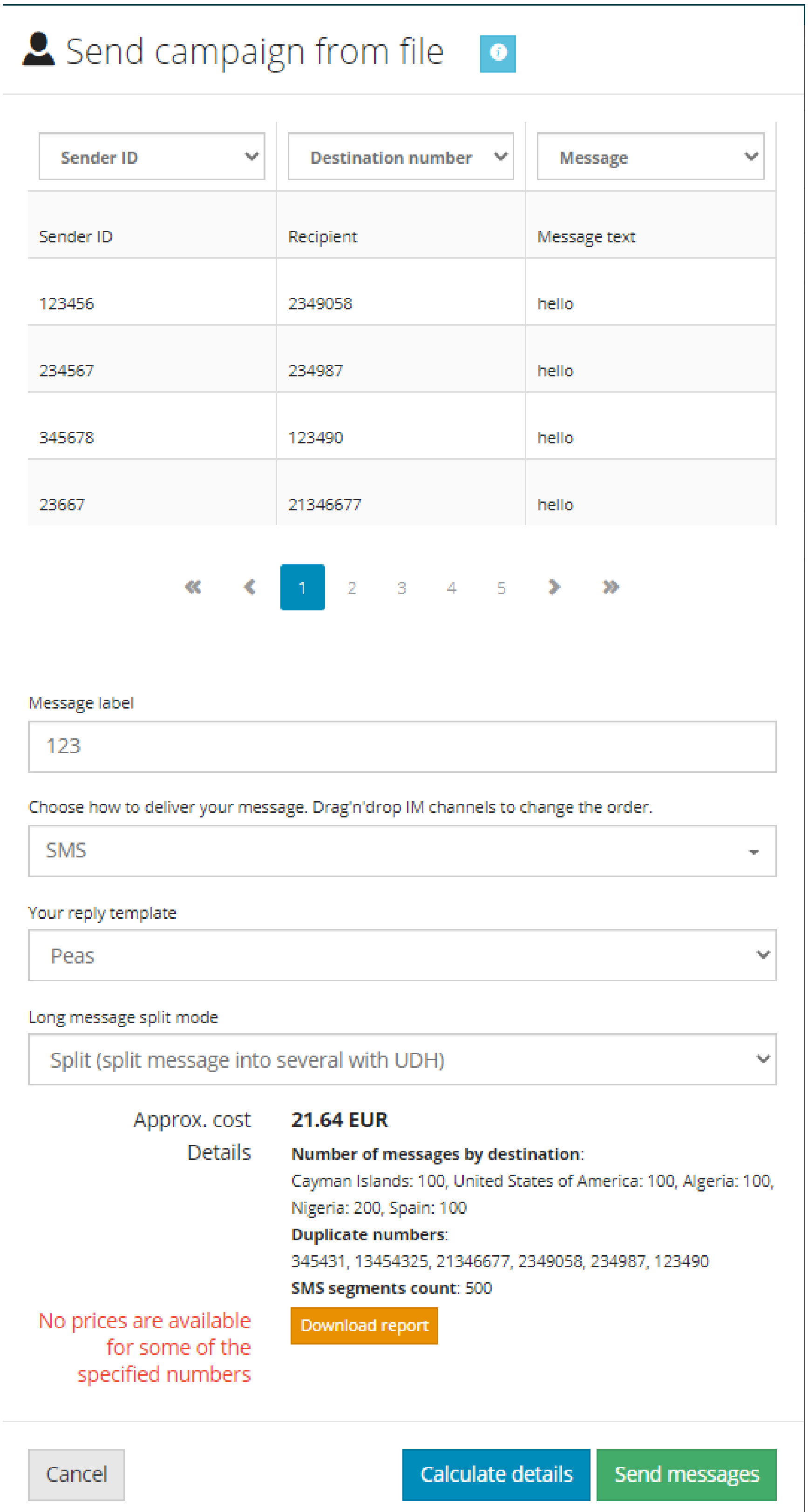
9. In the preview window that appears, fill in the CAPTCHA edit box and click Create Campaign again. The campaign will appear in the table.

NOTE: It is possible to disable association of the generated CAPTCHA to the IP address, to allow customers with a dynamic IP address to send campaigns. This feature is activated for the entire Alaris Campaign Portal. To activate it, contact the Alaris technical support team and communicate the code BZ38788.



"Send from file" tasks

The *"Send from file" tasks* tab allows loading the campaign parameters from an MS Excel file (same as in the Dashboard). For this purpose, click Send campaign from file. Click Download template to download an MS Excel file that contains all the columns required for launching a campaign with the help of the Send campaign from file button. The table shows a list of campaigns launched from file.



Send campaign from file form

Drag and drop the campaign file to the *Drop files here* area or click on the it to open the file upload dialog. Configure the fields as illustrated in the figure above:

- *Currency*

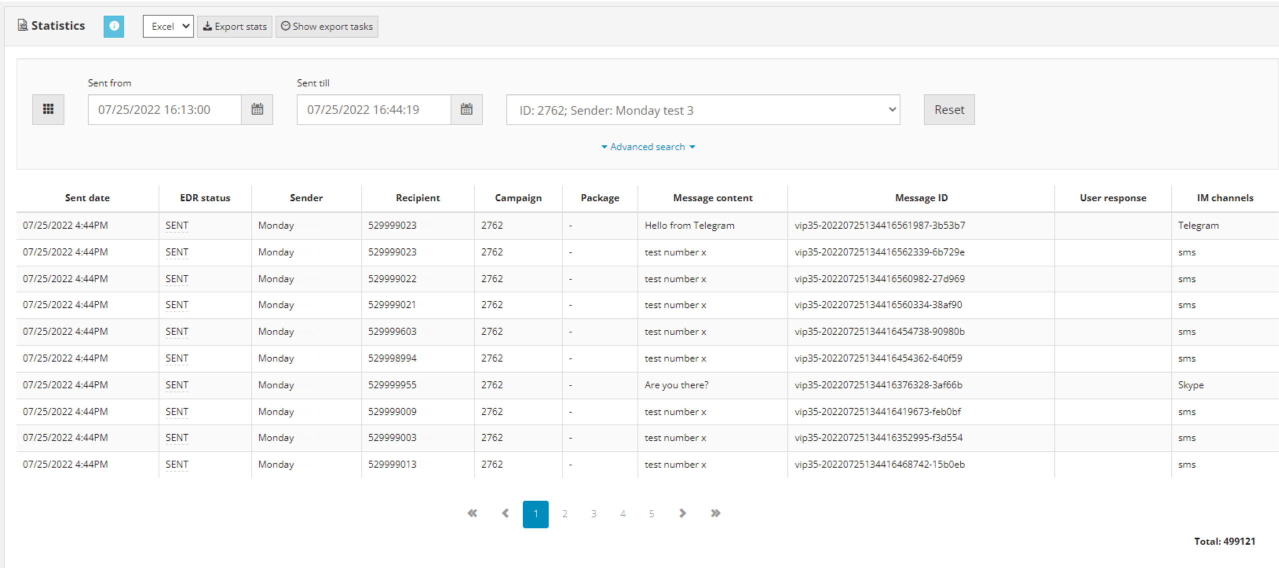
- Set the columns by assigning them appropriate headers
- *Message label*: if necessary, specify the campaign's external ID
- *Your reply template*: select an MO reply template (configured in Alaris Campaign Portal\Templates 606)
- *Long message split mode*: select the long message split mode (possible values are explained in Alaris Campaign Portal\Dashboard 586)

The bottom of the form contains the Calculate details button that serves to calculate and show the campaign's estimated cost, the amount of phone numbers by destination and duplicate numbers. Click Download report to download an MS Excel file with a report on unavailable rates.

Click Send messages to submit the campaign. It will appear in the table of "Send from file" tasks.

16.4 Statistics

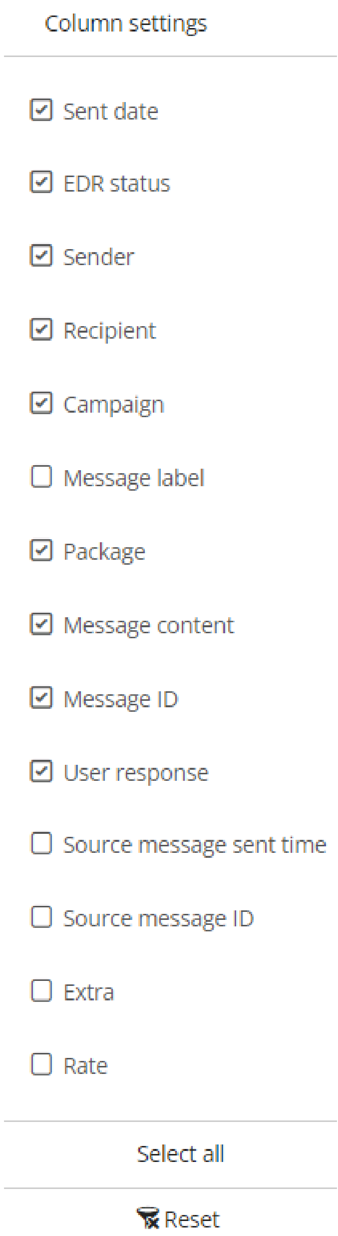
The *Statistics* page shows the stats for all sent messages - in fact, a list of EDR records. Use the filter at the top of the page to display the required messages.



Statistics

Use the control at the top left to select the columns for display.

Use the *Advanced* search drop-down list to set additional filters. For example, the *Select tags* filter allows display and export of EDRs whose telephone numbers are included in the tag.



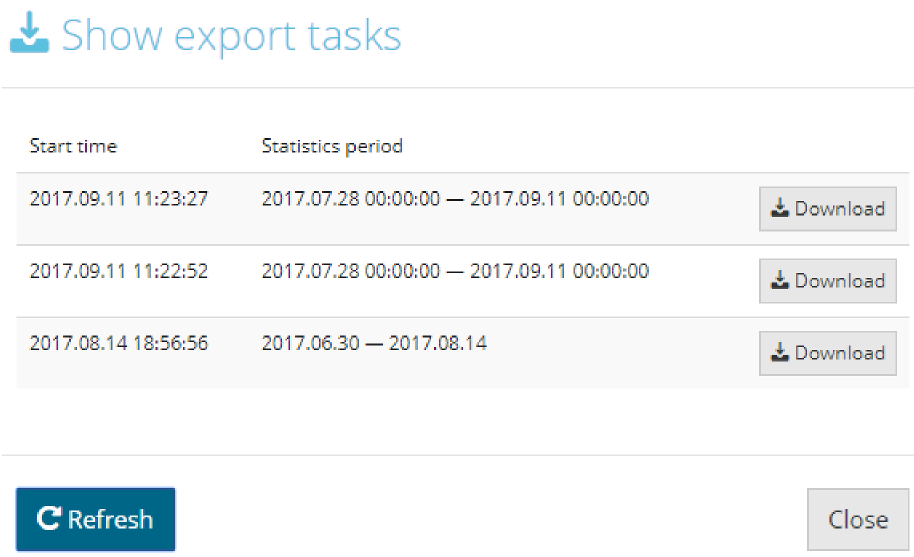
Advanced filters

The following filters may come handy when searching for subscriber responses to MO messages:

- *Reply text*: serves to filter messages by the reply of the Campaign Portal to user responses
- *Show records*: allows displaying outgoing messages, all messages or replies only. If the value *Outgoing messages* or *All messages* is selected, the *Source message sent time* and *Source message ID* columns appear in the table. They allow linking the response and the source message (the *Send date* of the source message will correspond to the *Source message sent time* of the response, and the *Message ID* of the source message will be identical to the *Source message ID* of the response).

The *Show temporary EDRs* filter allows showing/hiding EDRs with an intermediate status.

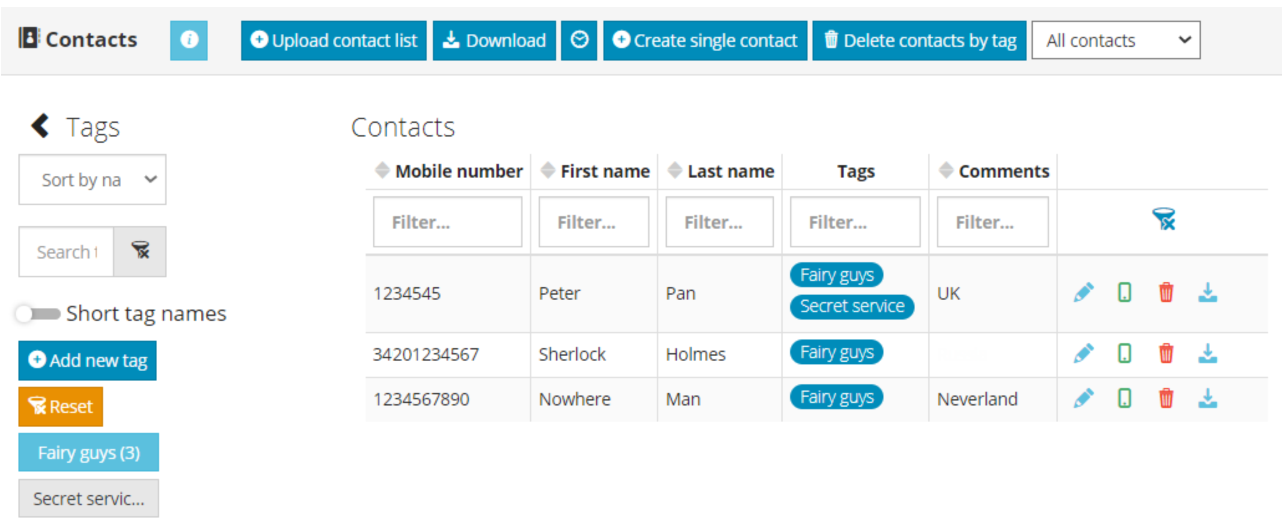
Click Export stats to export the records displayed in the table. Use the drop-down list next to the Export stats button to select the format of the exported file (CSV or Excel). The file will be downloaded in a .zip archive. Click Show export tasks to view the export tasks and download the export results. Hover over a value in the *Statistics period* column to view the task details in a popup tip.



Show export tasks

16.5 Contacts

The *Contacts* page serves to create and edit message recipients and organize them into groups by assigning tags to them.



Contacts

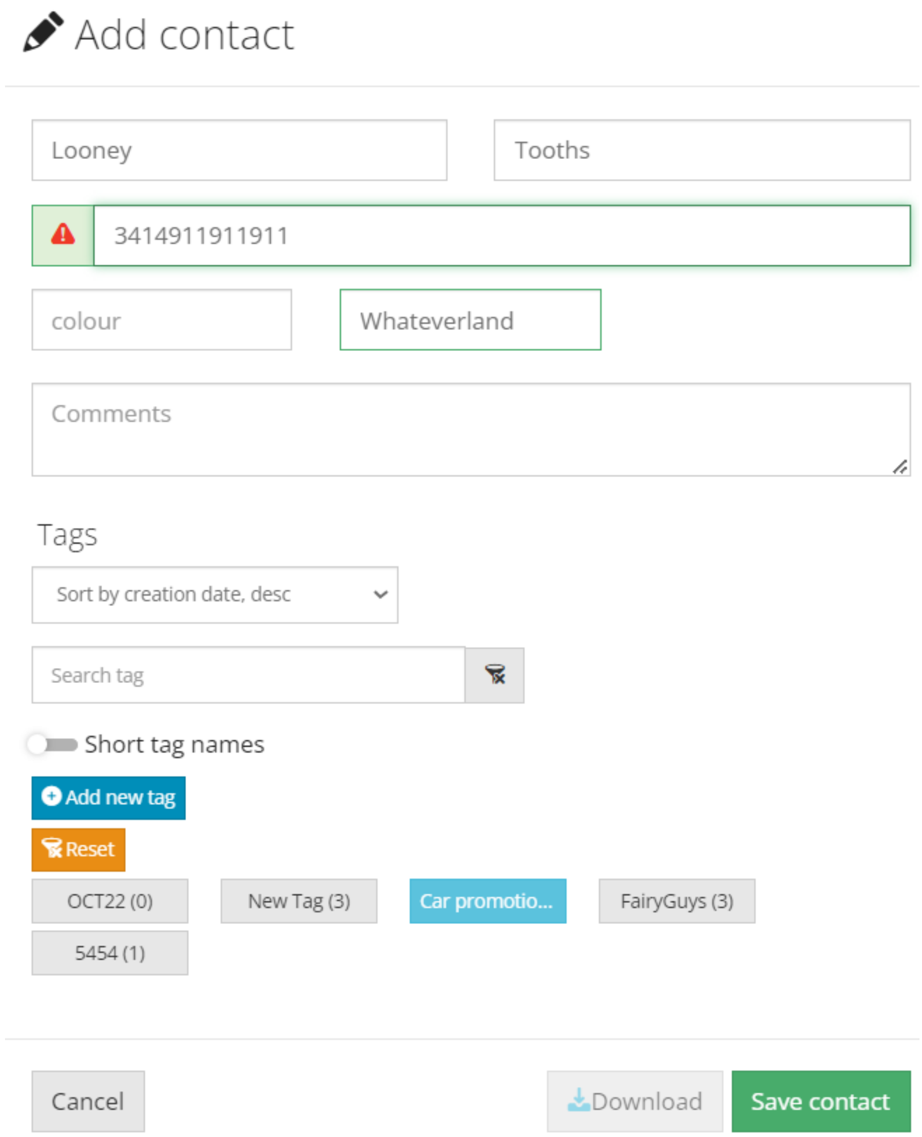
The rightmost table column contains the following controls:

- The button opens the contact's details window and allows editing the contact
- The button serves to exclude the contact from mailouts. See Alaris Campaign Portal\Blacklist 605 for more details. Once the contact is blacklisted, the button changes to

- The button that serves to delete the record
- The button serves to download the contact

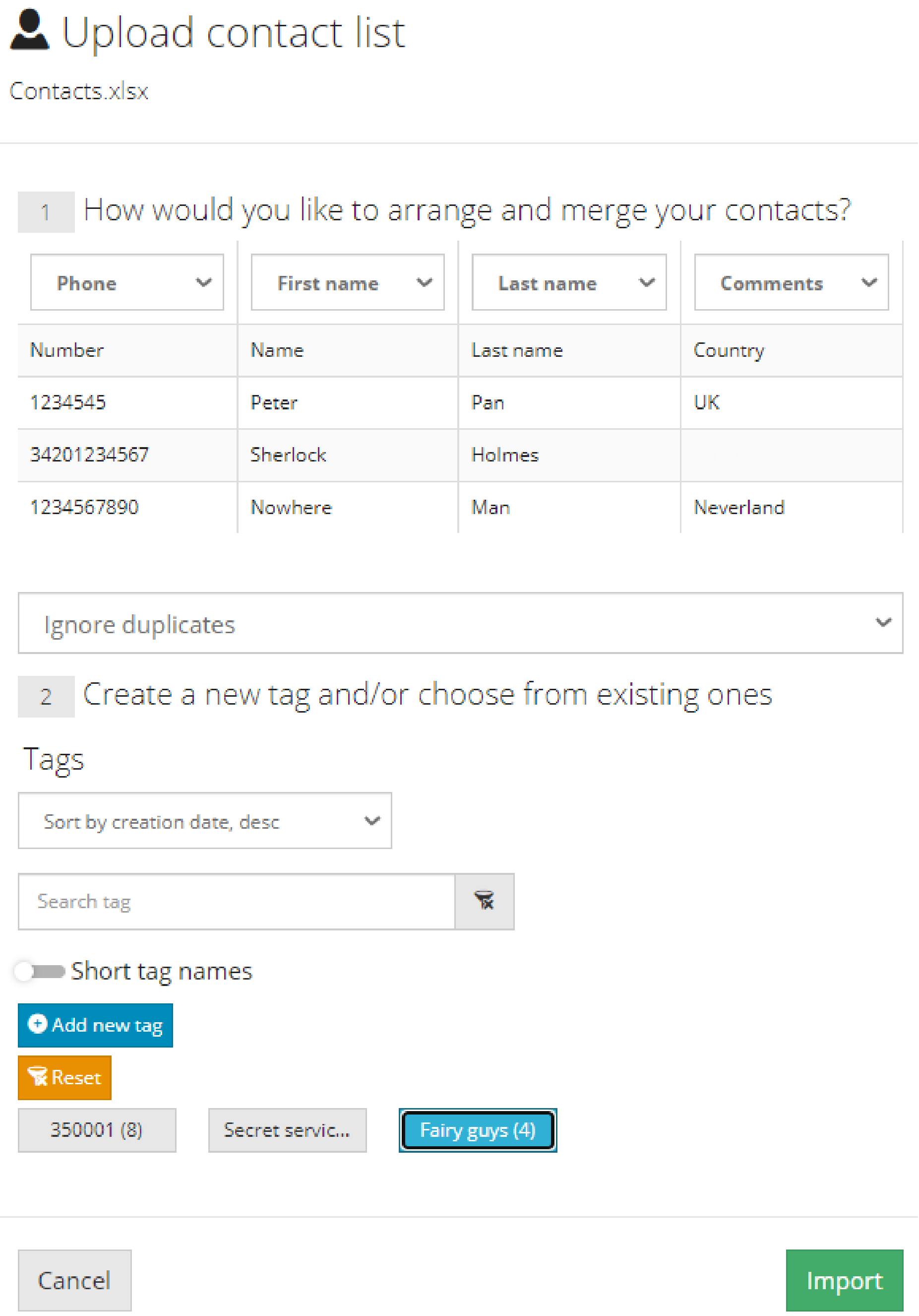
To add a new contact, click Create single contact. Fill the appropriate fields in the *Add contact* dialog that appears. Assign one or several tags to the contact by clicking on them. Add a new tag if necessary. Click Save Contact.

NOTE: The *Mobile number* field value is verified for matching the regular expression set in the System parameter *E.164 number pattern (POSIX format)* ([Administration\System settings\Portals](71)). If verification is successful, the field will be highlighted in green.



Add contact dialog

Alternatively, load one or multiple contacts from an MS Excel file by clicking Upload contacts list.



Upload contacts list

The file must contain at least one column with phone numbers. In the *Upload contacts list* dialog that appears select or create the tags for the contact(s), configure the column headers as appropriate.

NOTE: If the original file contains names that coincide with System columns, the columns will be assigned automatically. This allows simplifying import configuration.

NOTE: The maximum number of allowed characters for the fields is as follows: *First Name* - 256 bytes, *Last Name - 256 bytes*, *Comment* - 1024 bytes.

In the *Merge type* list select the way duplicates must be handled. Possible options are:

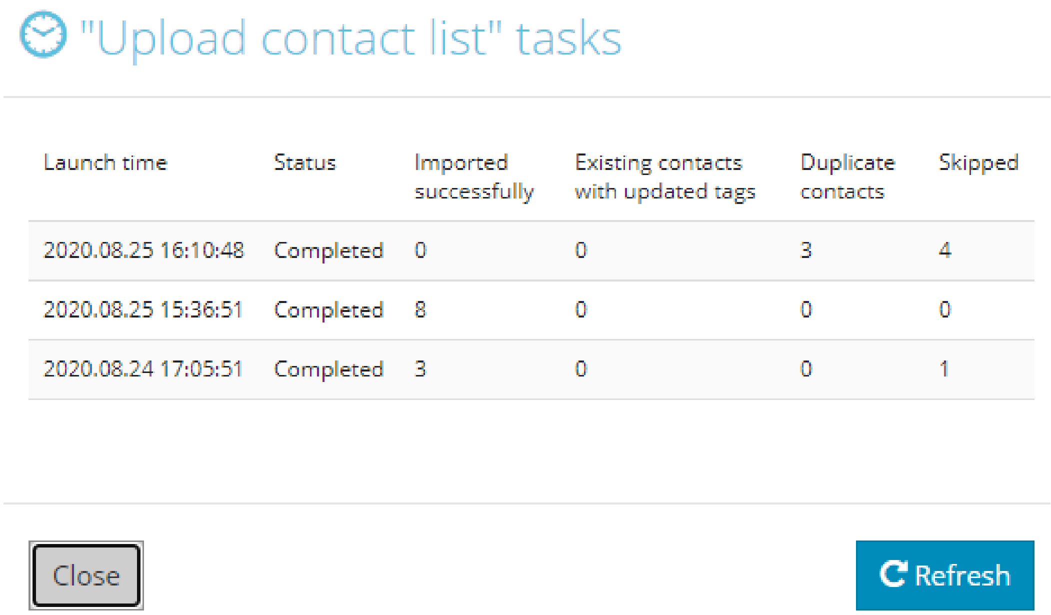
- *Ignore duplicates*
- *Update number tags only*

- *Update tags and contact data*
- *Add duplicates*

NOTE: For better user experience, the *Merge type* parameter displays the value that was selected during the previous upload. This allows for more convenient and quick upload of contacts from multiple files.

Click Import.

Click the button next to Upload contacts list for a list of contact import tasks.



Launch time	Status	Imported successfully	Existing contacts with updated tags	Duplicate contacts	Skipped
2020.08.25 16:10:48	Completed	0	0	3	4
2020.08.25 15:36:51	Completed	8	0	0	0
2020.08.24 17:05:51	Completed	3	0	0	1

Contact import tasks

Click Delete contacts by tag to remove contacts associated with a specific tag. Contacts with several tags will not be removed.

To filter contacts by tag click on the tag name on top of the contacts table. To remove the filter, click Reset.

Editing tags

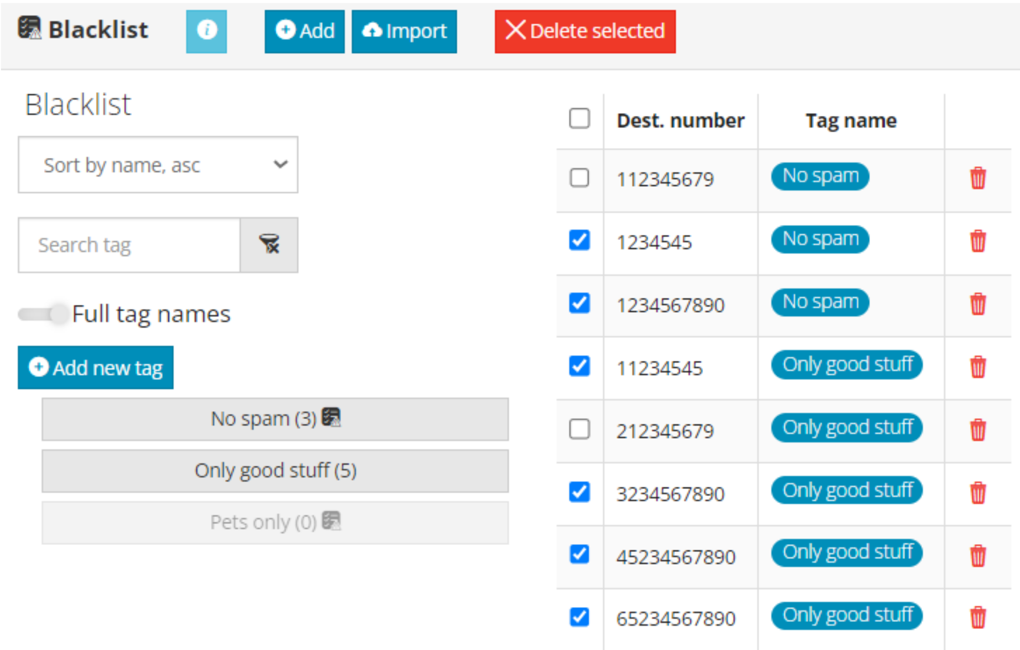
To edit a tag, hover over it and click that appears. Edit the name and click Save to save the changes. To remove a tag, click on top of the tag as illustrated above.

NOTE: A tag cannot be removed if it has contacts associated with it. To remove a tag, delete the contacts first.

Additionally, contacts can be transferred from one tag to another using drag&drop (a warning about contact merging will appear).

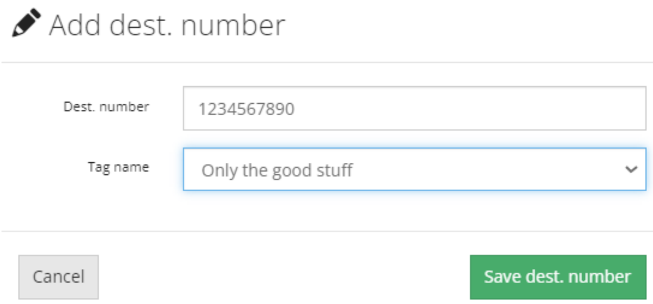
16.6 Blacklist

The *Blacklist* page serves to block SMS sending to numbers included in the list.



Blacklist

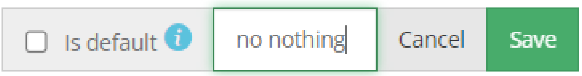
Click *Add* Add to add a number to the list, or *Import* Import to import one or several numbers from an MS Excel file. The file must contain a single column with destination numbers.



Adding a number to the blacklist

Each number must is associated with a tag during creation (see figure above). Tags are used when creating campaigns, to exclude numbers from receiving the campaign. To filter the numbers by tag, click on the appropriate tag. Click *Reset* Reset to reset the filter.

To create a new tag, click *Add new tag* Add new tag.



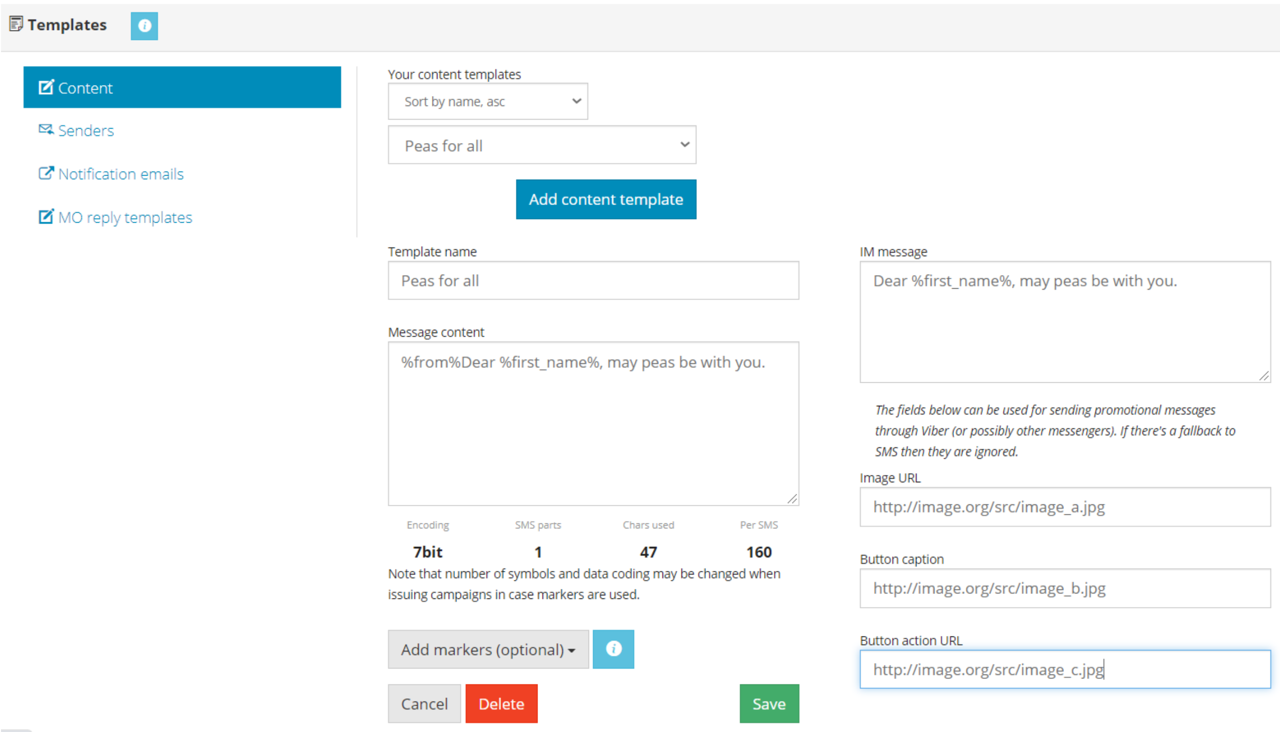
Add new tag

Type the tag name in the edit box and click *Save*. Select *Is default* to use the tag in campaigns that have no blacklist tags specified for them.

To remove a record from the table, click . To remove multiple records, select them and click *Delete selected* Delete selected.

16.7 Templates

The *Template* page allows creating templates for message text, sender IDs, notification emails and MO reply templates. Templates can be used multiple times, saving the user's time in creating campaigns.



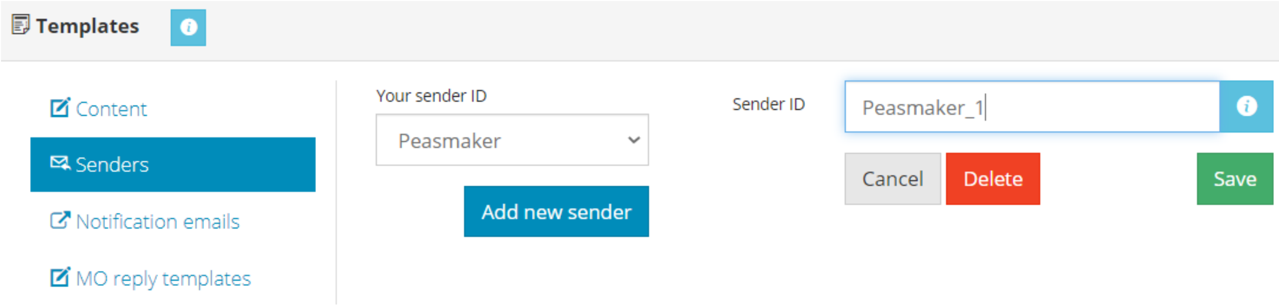
Content template

Content templates.

To create a content template, select *Content* and click Add Content Template. In the edit section in the right part of the page, supply the template name and message content. Markers can be used to personalize the message (the *Add markers* drop-down list). The marker values are substituted to the message from the Alaris Campaign Portal\Contacts 601 page. The user can also create custom markers in the Administration\Custom fields 614 tab. Supply the following parameters related to IM messages:

- *IM message*: IM message text. Fill in the value if you wish to send the message through IM channels
- *Image URL* (specific for Viber messages (*promotion* type)): the link to an image sent in the message
- *Button caption* (specific for Viber messages (*promotion* type)): the link to a button sent in the message
- *Button action URL* (specific for Viber messages (*promotion* type)): URL opened when clicking the button sent in *Button caption*

Click Save to save the template.



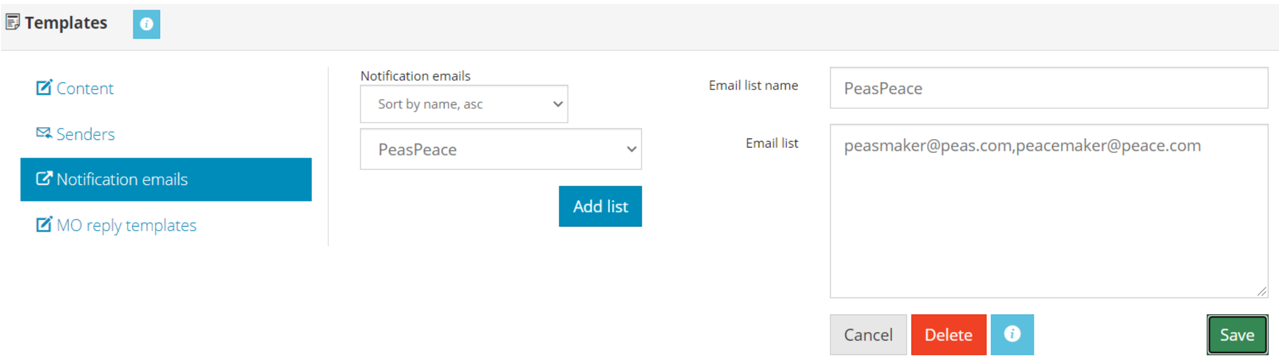
Senders

Senders.

To create a list of sender IDs, select *Senders* and click Add New Sender. In the edit section in the right part of the page, enter the sender ID and click Save. To remove a sender ID, select it in *Your sender name* list and click Delete.

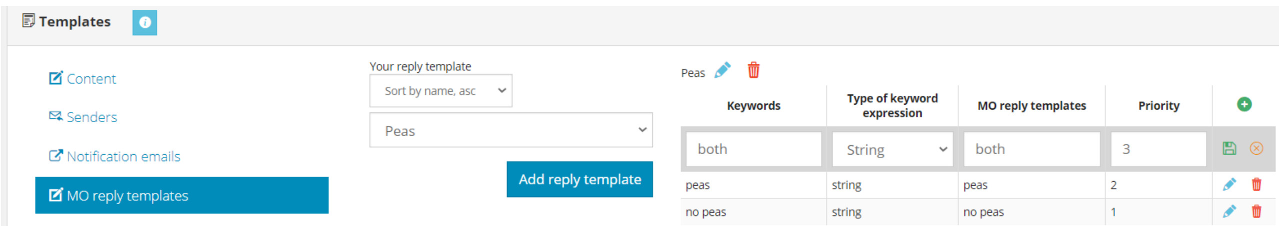
Notification emails.

The *Notification emails* tab serves to create groups of emails that receive notifications about a campaign. The user provides a list of comma-separated emails that can then be selected in Step 4 of campaign creation (see Alaris Campaign Portal\Campaigns 590).



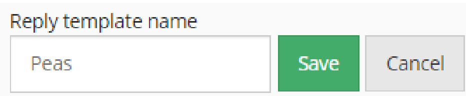
Notification emails

MO reply templates. MO replies are automatic responses to MO messages that were received in response to a campaign. To use the feature, configure MO reply templates as detailed below.



MO reply templates

a. To create a template, click Add reply template. In the *Reply template name* field



enter the template name and click Save.

Adding a new template

b. In the table that appears, configure the following parameters of the template:

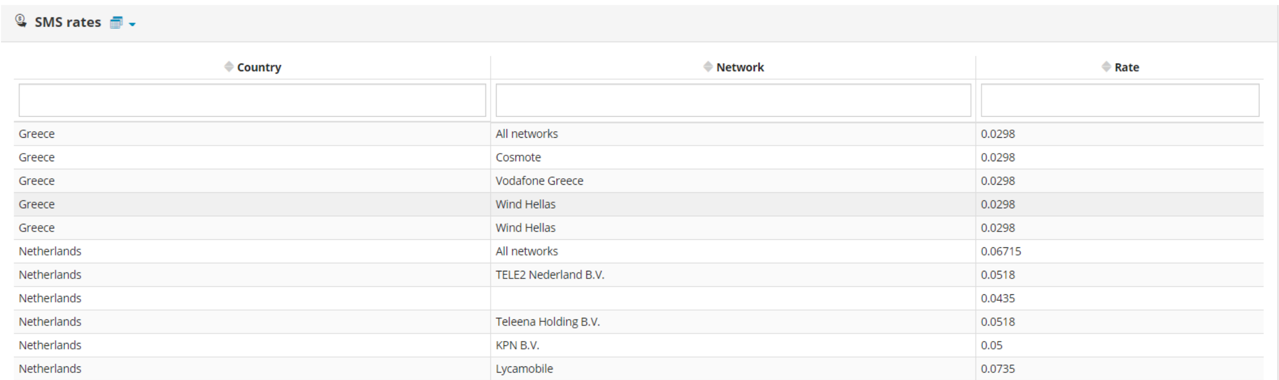
- *Keywords* - allows setting several templates for each Keyword+User reply pair
- *Type of keyword expression* (string or regular expression)
- *MO reply templates* - reply templates to the user's response
- *Priority* - the order in which MO message keywords must be checked (from higher to lower priority, or, if priorities are equal, from a higher to a lower ID).

Once the Campaign Portal receives an MO response from the end user, it compares the response text to the template from the *Keywords* field, and if a match is found, it sends the user the appropriate text from the *MO reply templates* field. An EDR is written for each response, and the responses are billed.

NOTE: Templates can also be configured at Step 3 of campaign creation (see Alaris Campaign Portal\Campaigns 590).

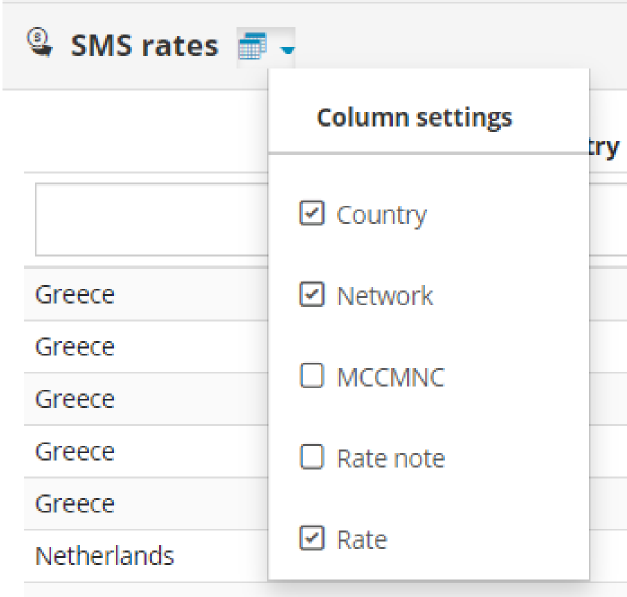
16.8 SMS rates

The *SMS rates* page shows all rates available to the user. It is only available if the user is subscribed to a rate plan. The table of rates contains filters that allow locating specific rates.



SMS rates

By default, the table contains the columns *Country*, *Network* and *Rate*. The user can customize column display by clicking on the control next to the table header. The customized column display is saved by the browser.

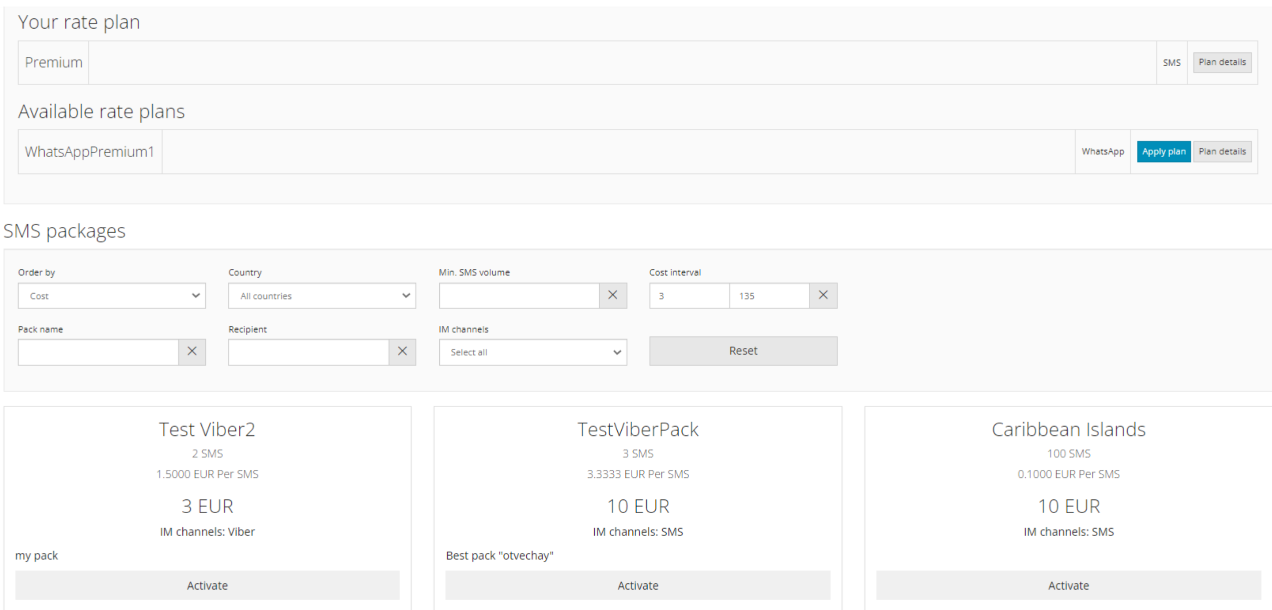


Customizing column display

The same page can be accessed by clicking the Plan Details button in the [Alaris Campaign Portal\Purchase](#) 609 page.

16.9 Purchase

The *Purchase* page serves to view the rate plan details, top up the balance and purchase SMS packages.



Purchase

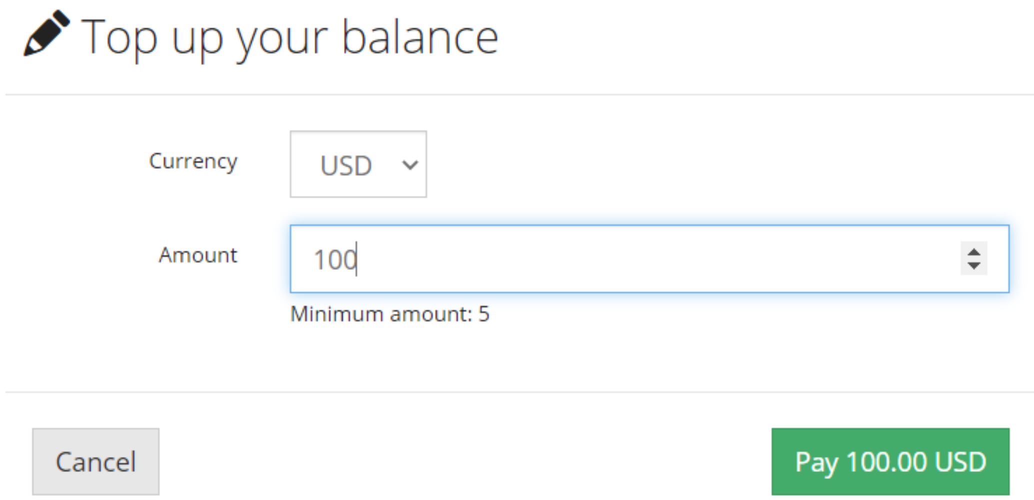
After the first logon to the System, the user must choose and apply the rate plans. They are displayed in the *Available rate plans* table.

NOTE: Rate plans correspond to the products of the *System owner* carrier in the main System interface (see [Carriers\Products](#) 180). The *Available rate plans* table only displays rate plans with the same account currency as the user record. For example, if during registration, the user specified USD as the account currency, only USD products will be displayed as available rate plans.

To view the rate plan details, click Plan Details. To apply a rate plan, click Apply plan.

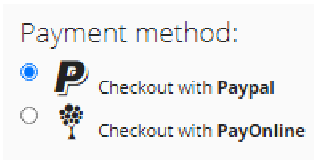
NOTE: The rate plan is applied only once and cannot be changed in the future.

To top up the balance, click Top up your balance. In the dialog that appears, select the currency, enter the amount and click the *Pay* button (in this example, Pay 100.00 EUR).



Top up your balance

Select the payment system and click Submit Order.

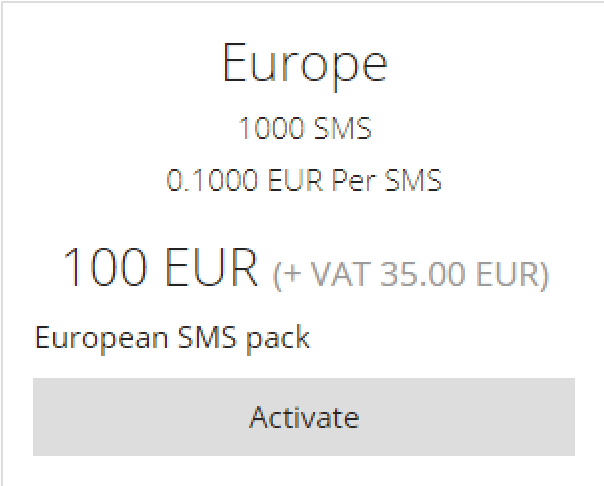


Select payment method

NOTE: Prior to accepting payments, an account must be registered at the respective payment system and configured in Administration\System settings\Portals 71. The user must have the respective permissions enabled (*Use Authorize.net, Use PayPal, Use PayU Latam* etc.*)* in Reference books\Contract companies 261.

To purchase an SMS package, click *Activate* at the bottom of the appropriate package. If necessary, use filters to locate a suitable package. If any credit is required for the purchase, the *Activate using credit* button is shown instead of *Activate*. If the user's balance is too low to make the purchase, a warning message appears.

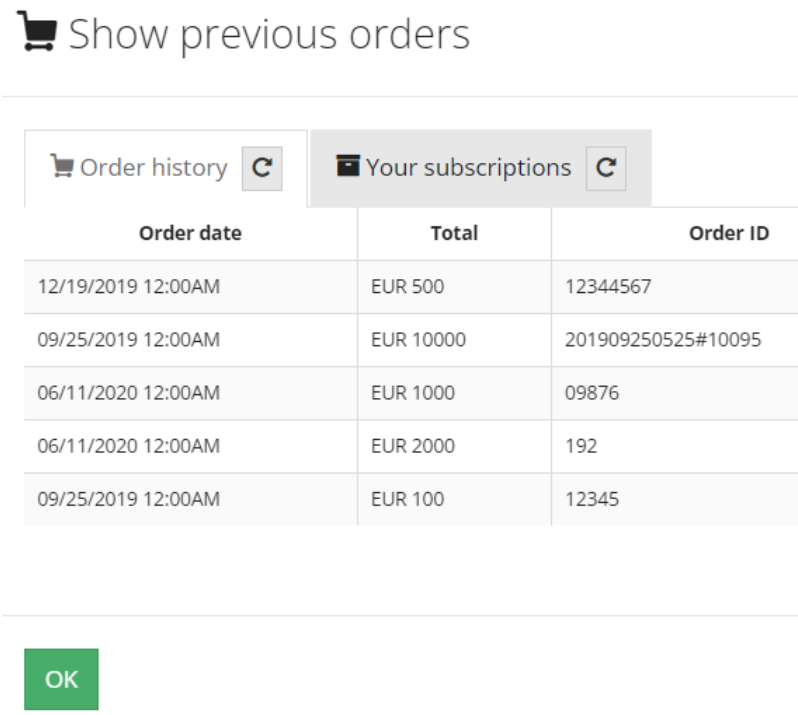
NOTE: Packs are by default sorted by price. It is possible to hide the cost per message in a pack. To enable it, contact the Alaris technical support team and communicate the code BZ33001.



Activating a package

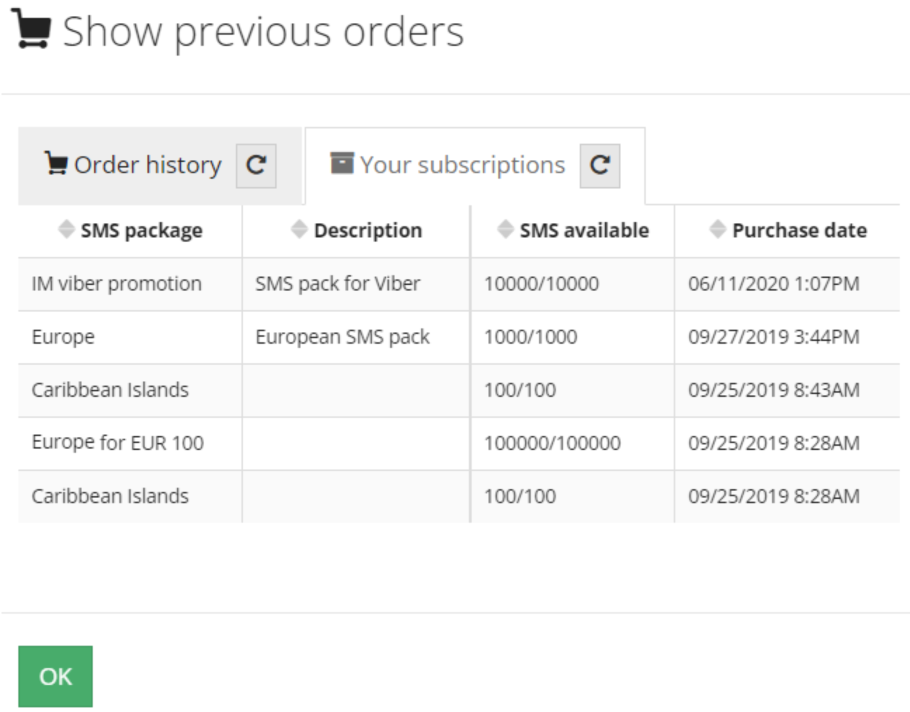
Confirm your choice in the dialog that appears.

Click Show previous orders to view the history of your purchases and subscriptions. The window contains two tabs - *Order history* and *Your subscriptions*.



Order history

Your subscriptions tab sheet is a table of the user's SMS packs, including fully consumed ones. The data is sorted by the *Purchase date* column.

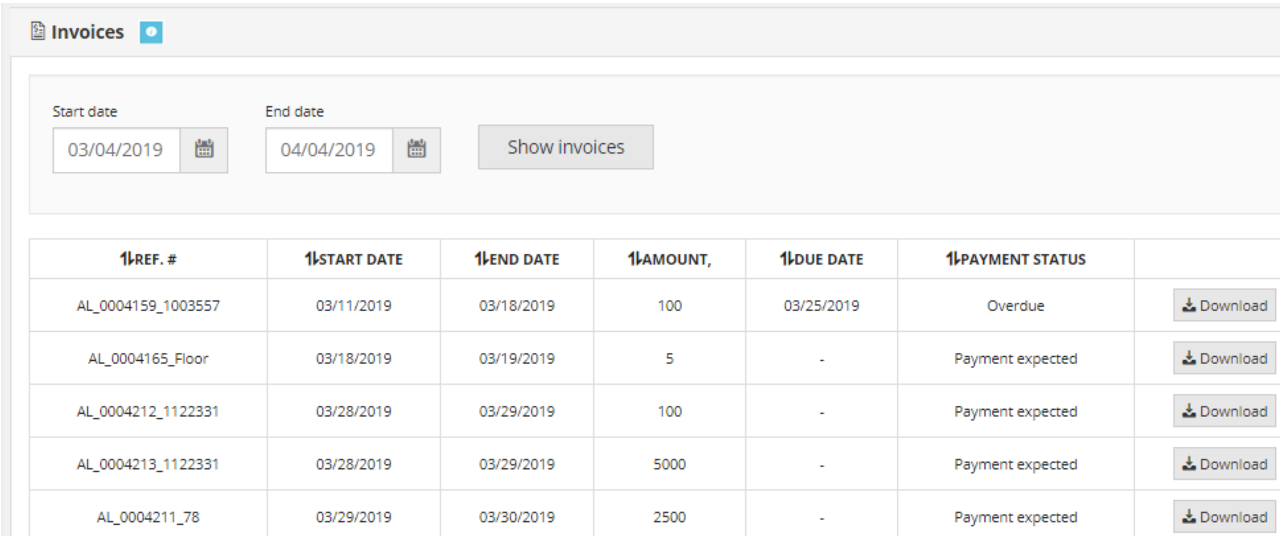


SMS package	Description	SMS available	Purchase date
IM viber promotion	SMS pack for Viber	10000/10000	06/11/2020 1:07PM
Europe	European SMS pack	1000/1000	09/27/2019 3:44PM
Caribbean Islands		100/100	09/25/2019 8:43AM
Europe for EUR 100		100000/100000	09/25/2019 8:28AM
Caribbean Islands		100/100	09/25/2019 8:28AM

Subscriptions

16.10 Invoices

The *Invoices* page contains invoice details and allows downloading invoices.



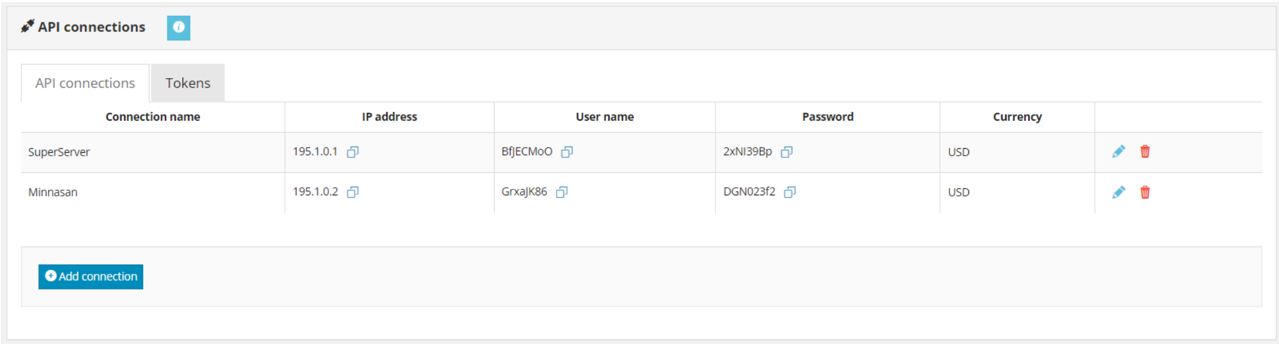
REF. #	START DATE	END DATE	AMOUNT,	DUE DATE	PAYMENT STATUS	
AL_0004159_1003557	03/11/2019	03/18/2019	100	03/25/2019	Overdue	Download
AL_0004165_Floor	03/18/2019	03/19/2019	5	-	Payment expected	Download
AL_0004212_1122331	03/28/2019	03/29/2019	100	-	Payment expected	Download
AL_0004213_1122331	03/28/2019	03/29/2019	5000	-	Payment expected	Download
AL_0004211_78	03/29/2019	03/30/2019	2500	-	Payment expected	Download

Invoices

In the *Start date* and *End date* fields specify the period for which invoices must be shown, and click Show invoices. To download an invoice, click Download. See also the Alaris YouTube video.

16.11 API connections

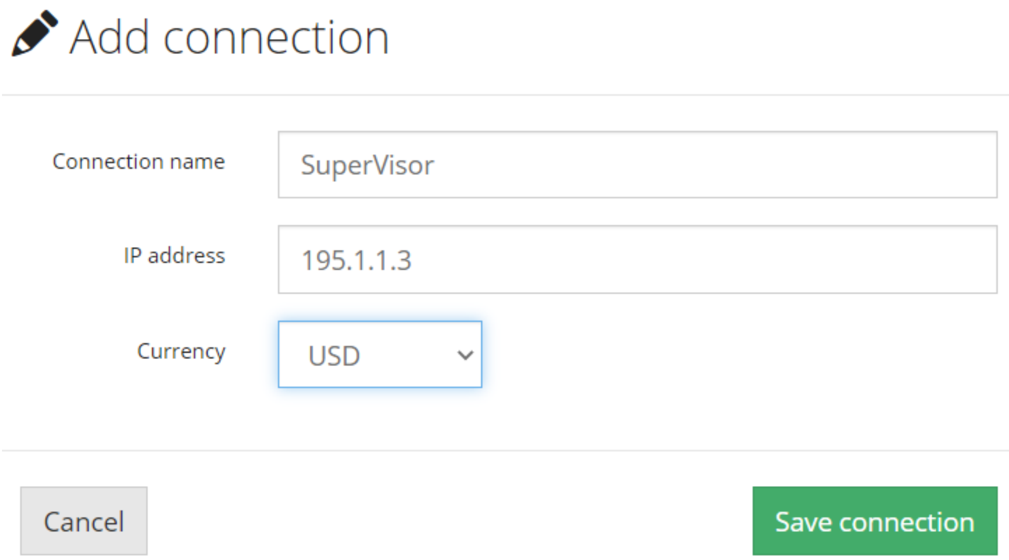
The *API connections* page contains two tab sheets: *API connections* and *Tokens*. *API connections* enables sending SMS messages from external applications and websites. The page serves to configure parameters for connection to such third-party servers. The *Tokens* tab serves to generate tokens with a custom lifetime.



API connections tab

The *API connections* tab contains a table of configured connections. To create a new connection, click Add, specify the connection name, IP address (or mask) of the third-party server and currency, and click Save Connection.

NOTE: When using the mask, replace one or several octets with an asterisk (*). For example, 192.168.1.* matches any IP address starting with 192.168.1.



Add connection

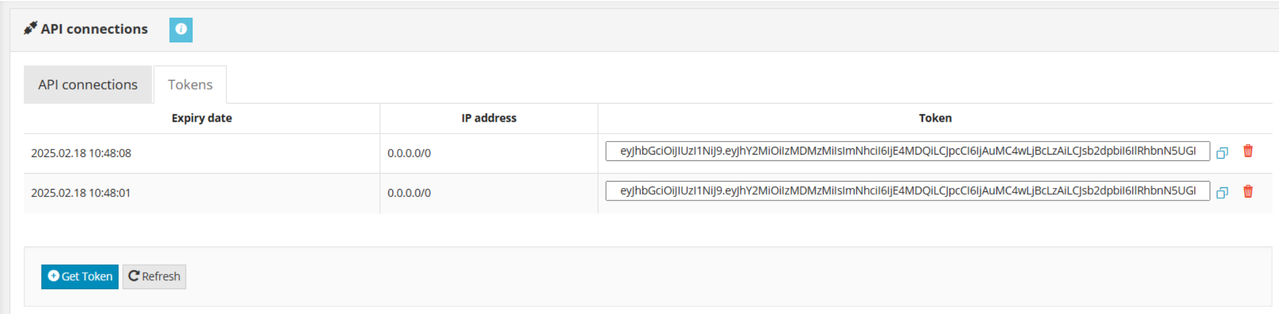
The new record will appear in the table, with an assigned user name and password. Insert the user name and password in the HTTP template and communicate it to the web programmers of the third-party application.

The HTTP template is as follows:

<portal_url>/rest/send_sms?
from=**<ani>**&to=**<dnis>**&message=**<message>**&username=**<username>**&password=**<password>**

where **username** and **password** are the credentials provided by the System; **ani** is the originator address; **dnis** is the destination number; **message** is the message text. For any additional information contact the Alaris technical support team.

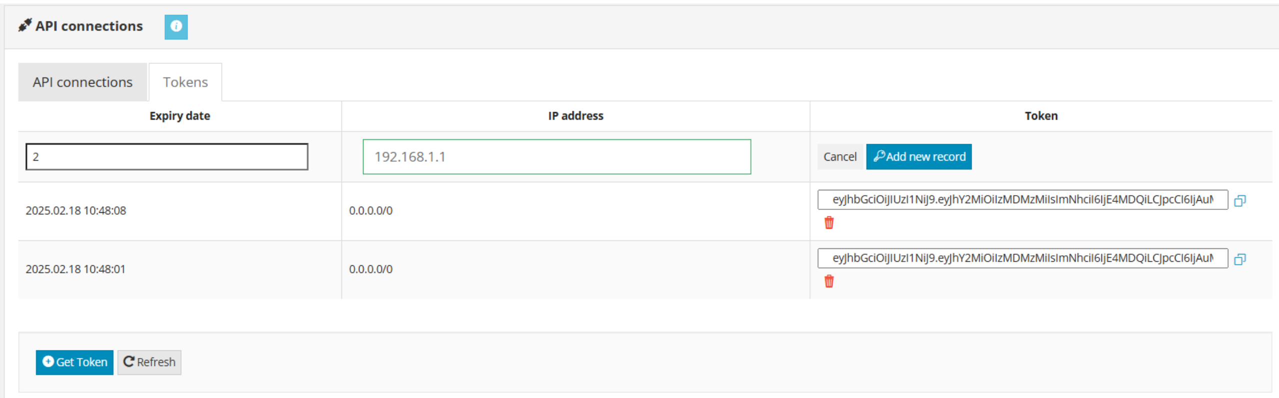
The *Tokens* tab serves to create tokens with the lifetime defined by the user. A token is an identifier of a user session that is automatically created when the user authorizes in the portal. The standard lifetime of a token is two hours. In this tab, the user can configure a different lifetime.



Tokens tab

To generate a new token, click Get Token. In the edit fields specify the token lifetime (in days, from 0.000694 (1 minute) to 365 (1 year)), the user IP address and click Add new record in the *Token* column. The new token will appear in the table.

NOTE: To link the token to any IP address specify the IP address *.*.*.*.



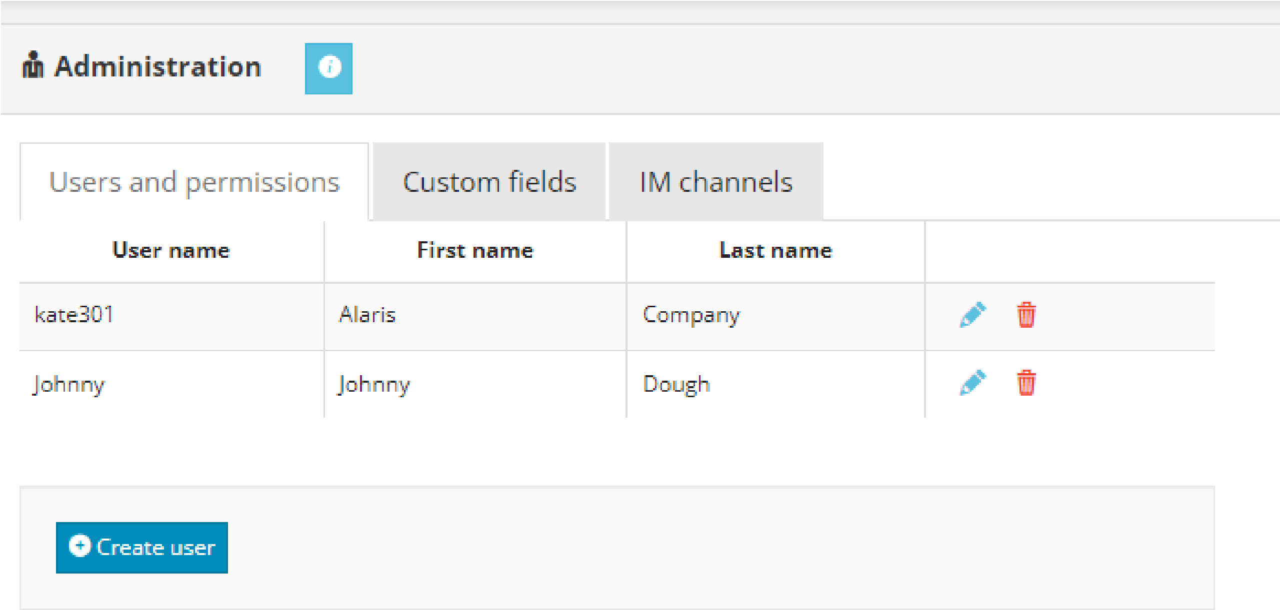
Generating a token

NOTE: Tokens with an arbitrary lifetime can also be created by the REST API method GET:auth by setting the optional parameter lifetime (in days). The minimum value is 0.000694 (1 minute), the maximum value is 365 (1 year).

16.12 Administration

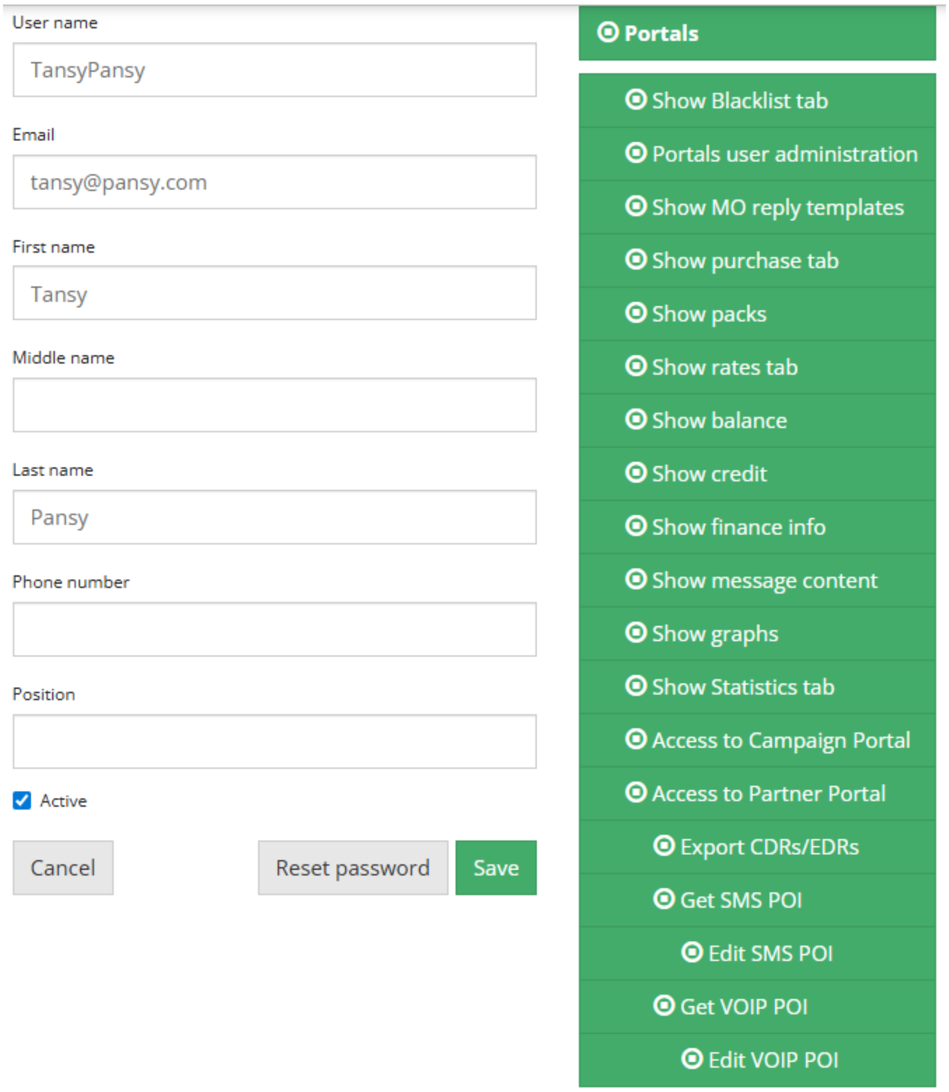
The *Administration* page contains three tabs:

- *Users and pe*rmissions: it serves for viewing, editing and adding new users
- *Custom fields*: it allows creating new fields and markers which can be further used when creating contacts
- *IM channels*: it contains a list of the IM and SMS channels for which products have been created



Users and permissions tab

To edit a user record, open the *Users and permissions* tab and click next to the record. Edit the user properties in the panel that appears in the right section of the page.



Edit user

The panel allows editing the user permissions both for Alaris Campaign Portal and the Partner portal 632. The same permissions can also be configured in the Administration\Users 158 section). The following are available:

- *Portals*: defines permissions for users having access to the Partner portal 632 and Alaris Campaign Portal.
  - *Portals user administration*: when granted, the *Administration* page appears in the Alaris Campaign Portal 583 interface. It provides a list of all existing users that are registered under the partner
  - *Show purchase tab*: the permission affects whether the user can view the *Purchase* and *Invoices* tabs of Alaris Campaign Portal and *Invoices* and *Payments* tabs of the Partner portal. The *Invoices* tab contains confirmed invoices of the user's carrier - downloading them will be allowed if the permission is granted
  - *Show packs*: defines whether SMS packs available for subscribing will be shown on the *Purchase* tab in Alaris Campaign Portal
  - *Show rates tab*: defines whether non-applied rate plans will be shown. Also, when disabled, the *Plan details* of the applied rate plan (*Purchase* tab) is hidden from Alaris Campaign Portal 583,

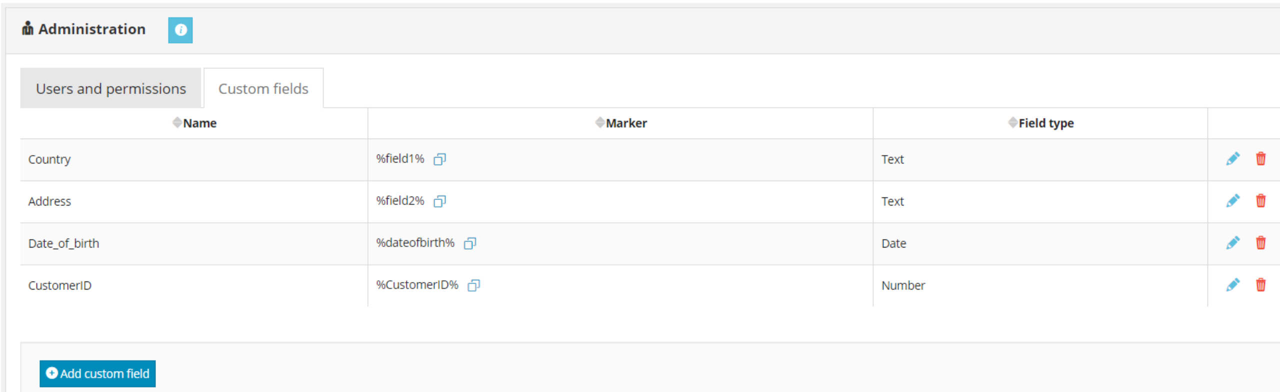
and the *SMS rates* tab is hidden from the Partner portal and Alaris Campaign Portal 583 (which is usually shown if the user is subscribed to any rate plan)

- *Show balance*: defines whether balance should be shown in Alaris Campaign Portal (*Dashboard* and *Purchase* tabs, and the main menu.)
- *Show finance info*: it serves for hiding the *Buy subscription* button in case of unsuccessful message submitting as well as for hiding the campaign cost (*Campaigns\Details*) and pack cost (*Average price per SMS*)
- *Show message content*: serves to control the REST API method GET sms_edr. When a user with the disabled permission calls this method, message content is hidden in the output
- *Show graphs*: when disabled, no charts are displayed on the Dashboard 586 page of Alaris Campaign Portal. Also see the Alaris YouTube video
- *Access to Campaign Portal*: grants access to Alaris Campaign Portal
- *Access to Partner Portal*: grants access to the Partner portal 632
  - *Export CDRs/EDRs*: when disabled, the export menu will be hidden from the Partner portal interface

Click Save to save the changes. To reset the user's password, click Reset Password.

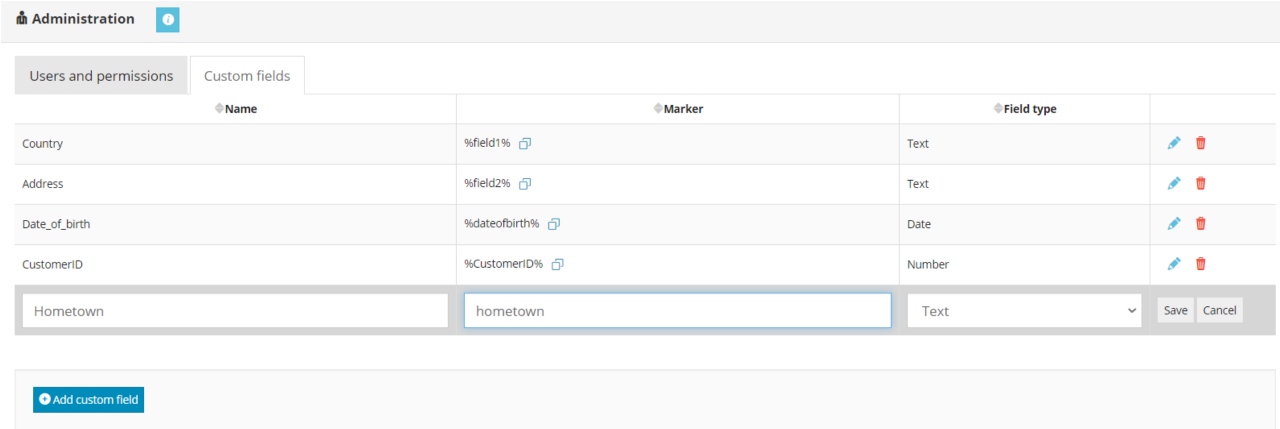
To create a user, click Create user and configure the appropriate parameters. The new user will receive an activation email with the link to set the password.

The *Custom fields* tab contains a table of custom fields and markers that can be further used when creating contacts and then inserted in the text of campaigns and templates.



Custom fields tab

To add a new custom field, click Add custom field.



Adding a new custom field

In the fields that appear, supply the values:

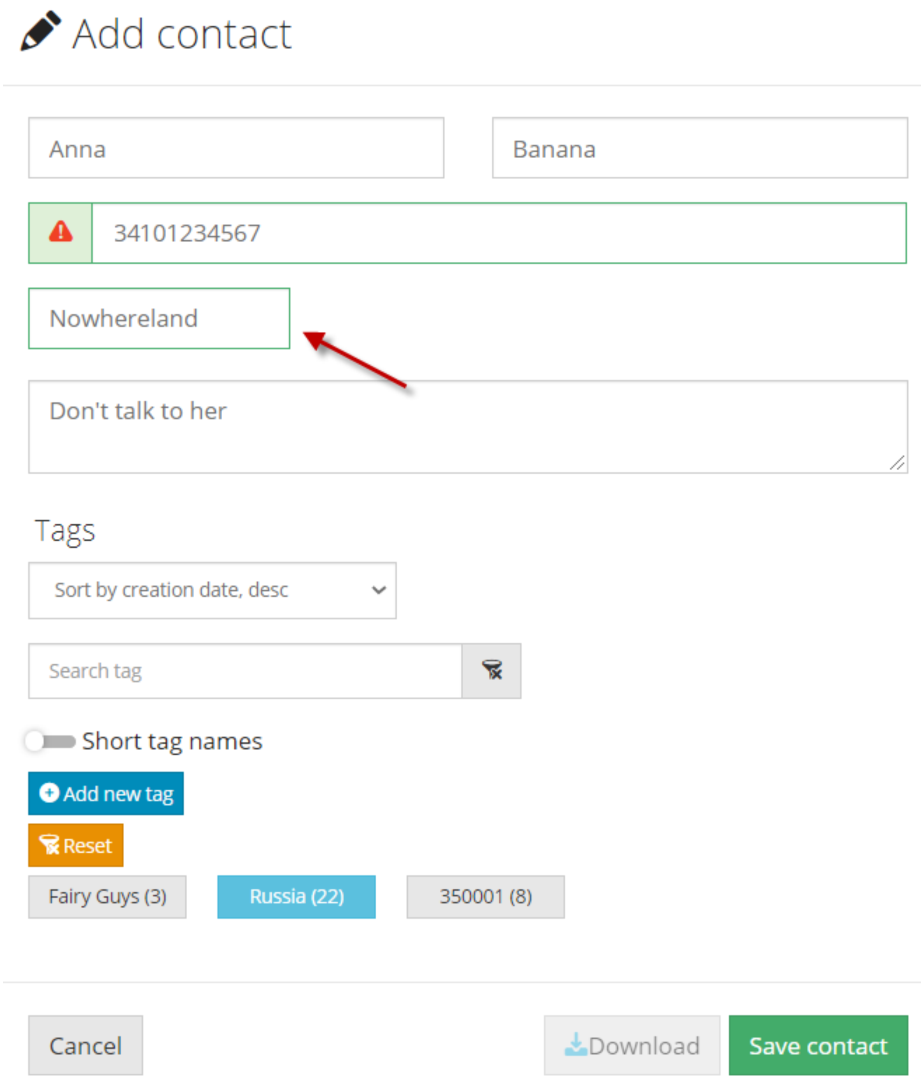
- *Marker name*: the name that will appear in the drop-down lists in the Campaigns 590 and Templates 606 pages
- *Marker*: the marker value. After saving the value will be automatically enclosed in the per cent symbols, for example, %date_of_birth%

NOTE: The maximum length of either field is 20 symbols. The supported characters are digits, Latin characters and the underscore symbol.

- *Field type*. Possible values are *Text*, *Number* and *Date*.

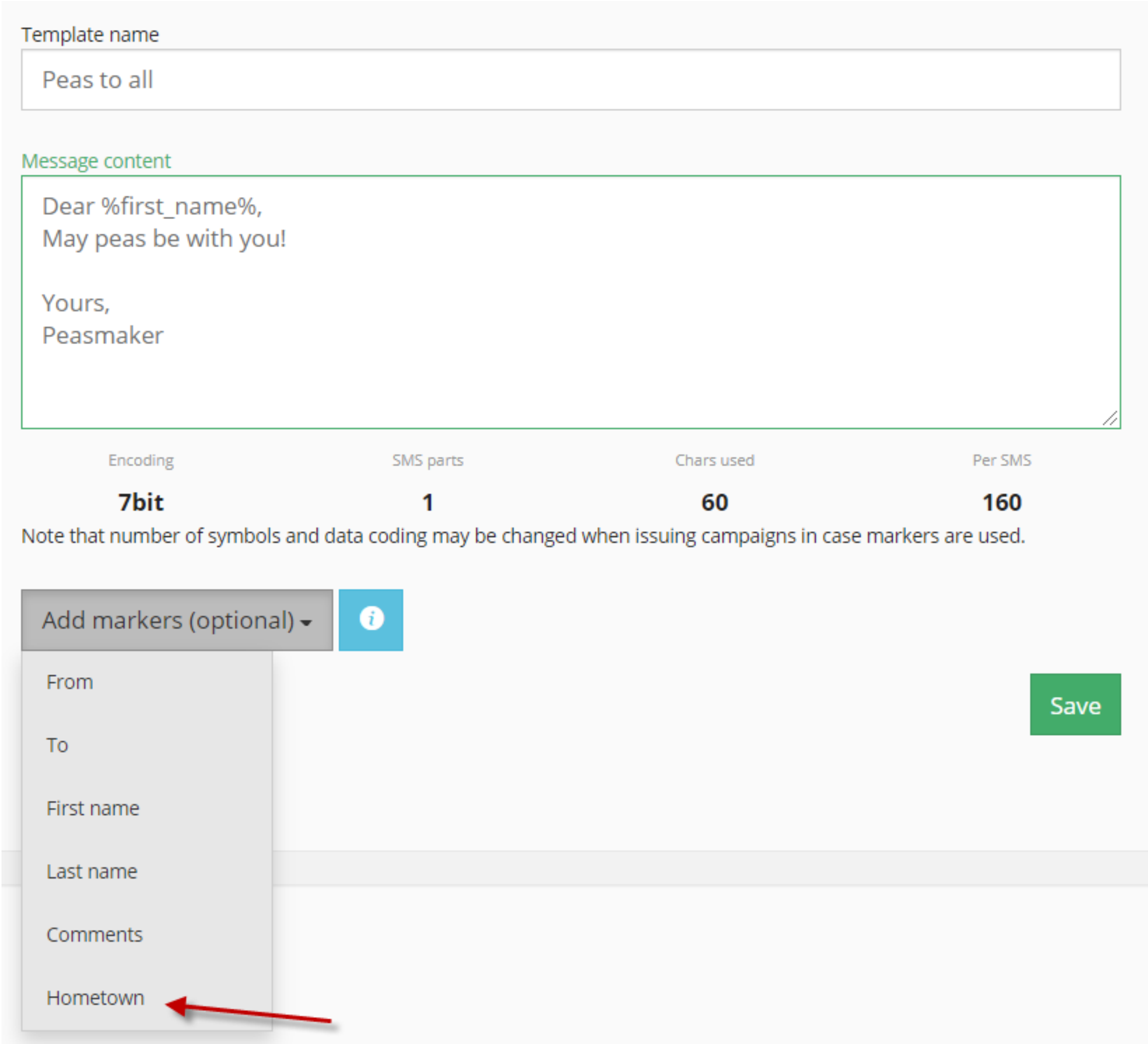
Click Save to save the changes. The new field will appear in the table.

Once the custom field is added, it appears when creating and importing contacts as shown in the figure below.



Custom fields in the 'Add contact' dialog

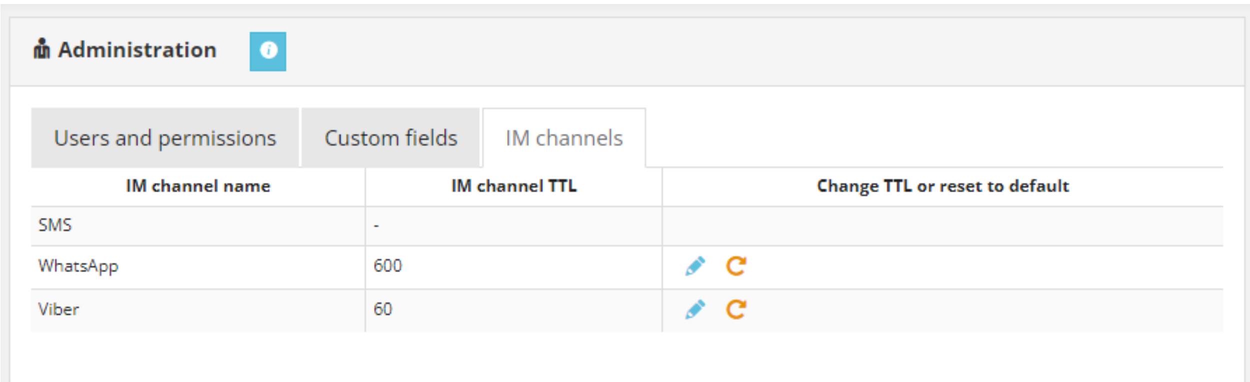
The custom fields can then be used as markers in SMS campaigns (in the Campaigns 590 page). They will be replaced with appropriate values.



Adding a custom field to the campaign text

Similarly, custom fields can be inserted into the text template in the Templates 606 page.

Custom fields are associated with a specific partner and are not shared between other portal users. Each user can create their own custom fields and markers. See also the Alaris YouTube video.



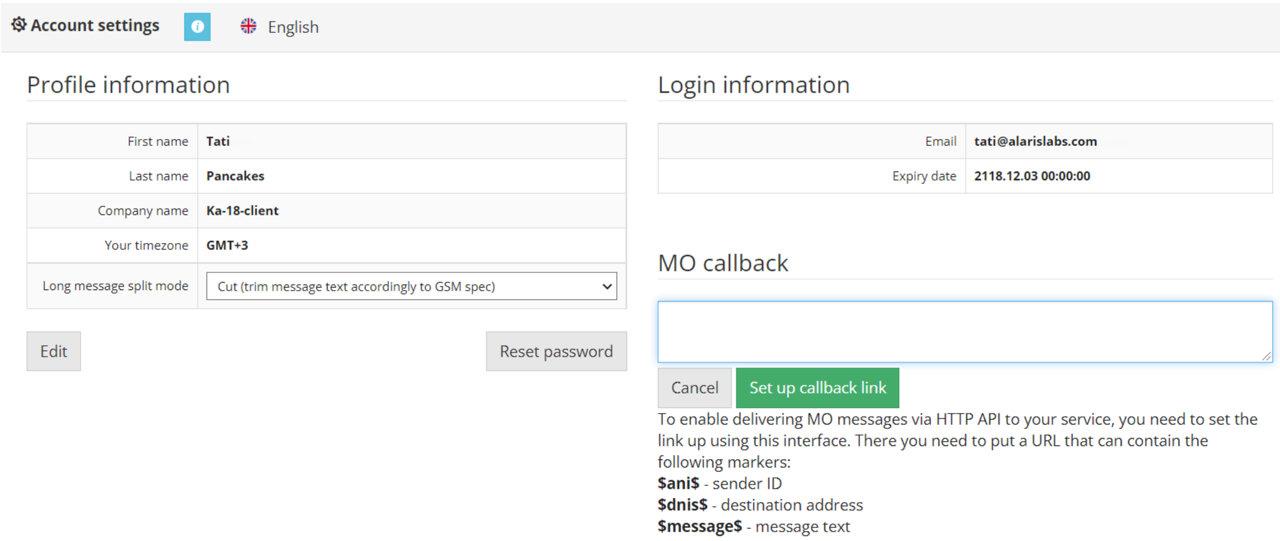
IM channels tab

The *IM channels* tab shows IM and SMS channels for which products have been created. It contains the following columns:

- *IM channel name*: the IM channel's name as configured in the *IM channel name* field in SMS\Reference books\IM channels 448
- *IM channel TTL*: the default TTL configured for the channel in the main System web interface.
- *Change TTL or reset to default*: allows editing or resetting the channel's TTL. Click *Edit* to set a custom TTL, or to reset to a default value.

16.13 Account settings

The *Account settings* page contains three tab sheets: *Account information*, *Order history* and *Subscriptions*. Click on the language icon at the top of the page to select the interface language.



Account settings

The *Account settings* page displays the following sections:

- *Profile information* (click Edit to update the profile and Reset Password to change the password)
- *Long message split mode*: the parameter defines how long messages are treated. The same parameter is configured in Alaris Campaign Portal\Campaigns 590. By default, when a campaign is re-launched, the value from the previous launch is used. If the parameter was not specified in the campaign settings, the System uses the one from the account settings. Otherwise, the value from Administration\System settings\Portals 71 is used. The drop-down list contains the following values:
  - *Cut (trim message text according to GSM spec)*
  - *Payload (send SMPP message with text in message_payload field)*
  - *Split (split message into several with UDH)*
  - *Split (using SAR TLV fields).* See also the Alaris YouTube video
- *Login information*
- *MO callback*: serves to set the MO push URL template (which can also be configured in the *MO push URL template* field in Carriers\SMS channels 188 of the main System interface). Several URL links can be displayed if multiple SMS channels are associated with a carrier, each having a

separate link. However, if the user changes the format though Alaris Campaign Portal, all channels will get the same link. See also the Alaris YouTube video

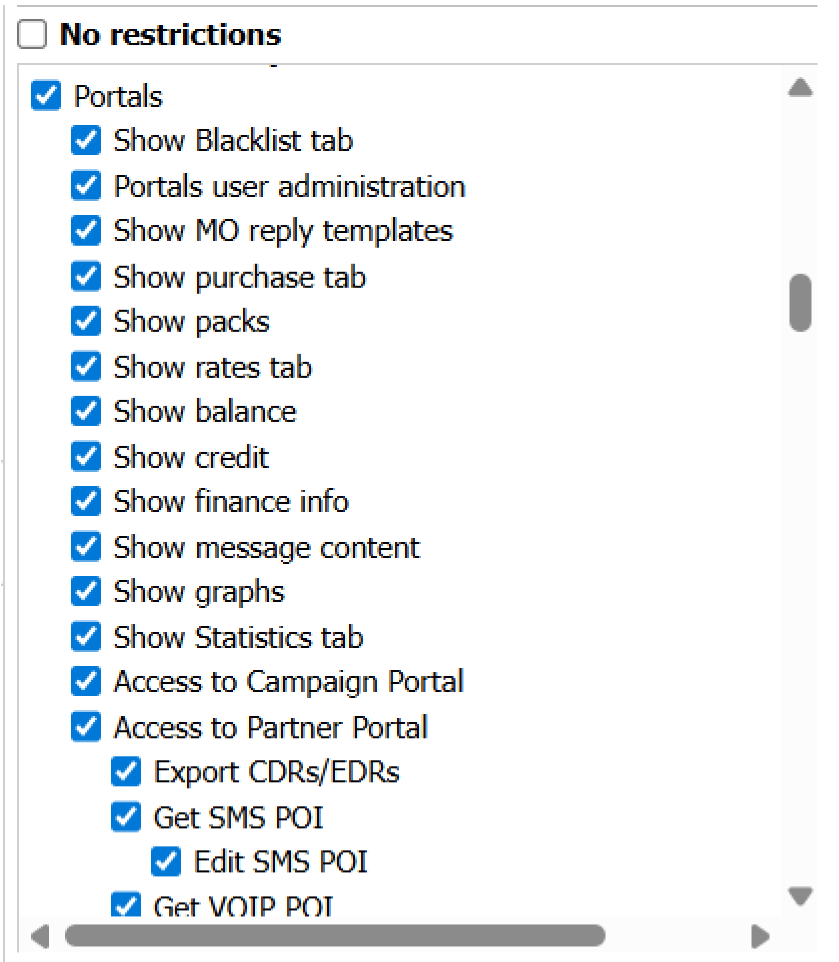
NOTE: It is possible to hide the *MO callback* section. To do so, contact the Alaris technical support team and communicate the code BZ43502.

17 Wholesale Portal

17.1 Overview

The client portal is the System's web interface intended for partner carriers of the System owner. Based on their rights, partner carriers can view their statistics and create and edit SMS POIs.

User accounts and access rights for the portal are configured by the System owner in Administration\Users 158. User rights are configured in the *Roles* section of the *Add* tab (*Roles >> Portals*).

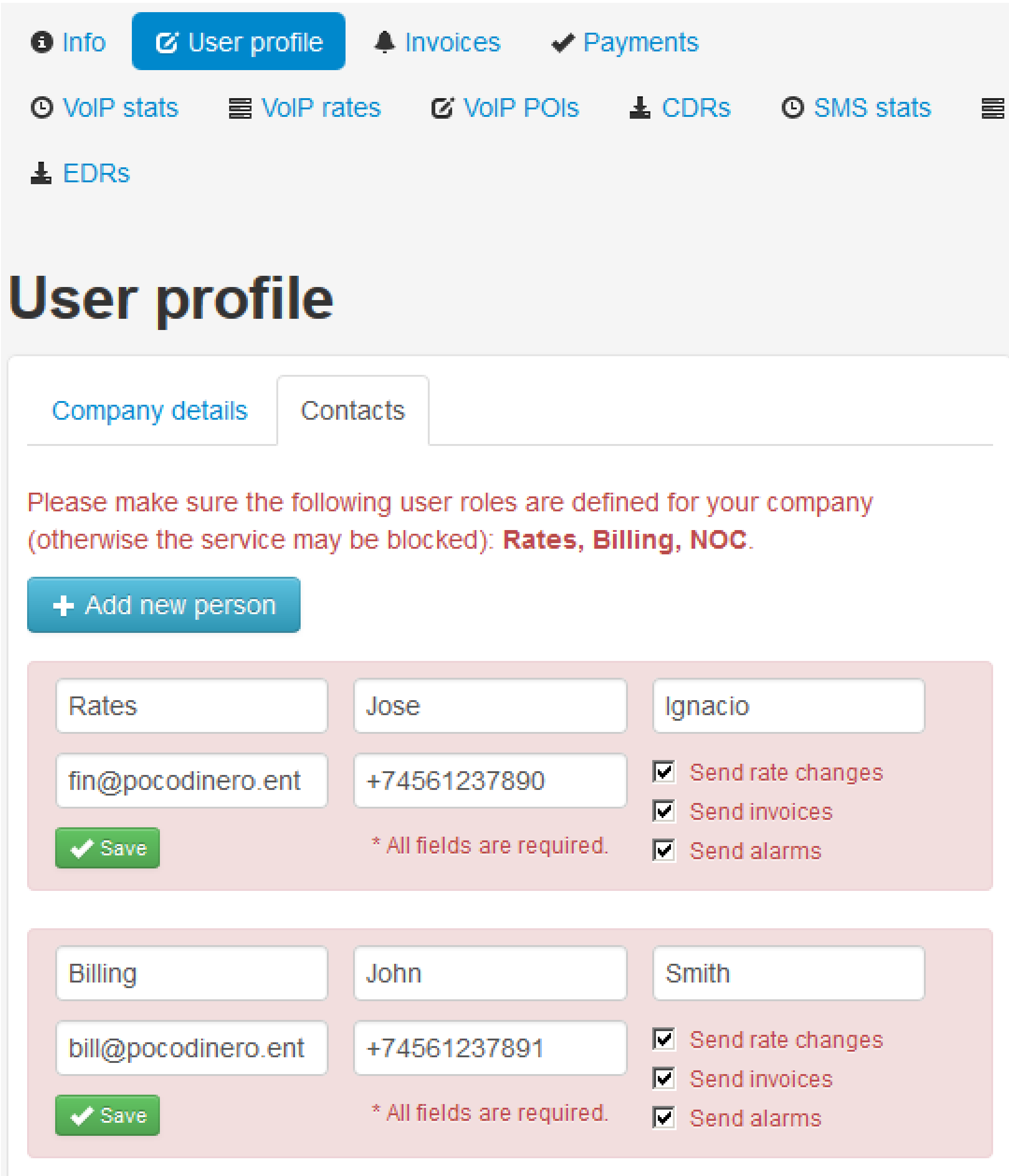


Roles (Add tab, Administration\Users 158)

Once the user account is created, the user will receive an email with account activation instructions.

Wholesale portal registration form

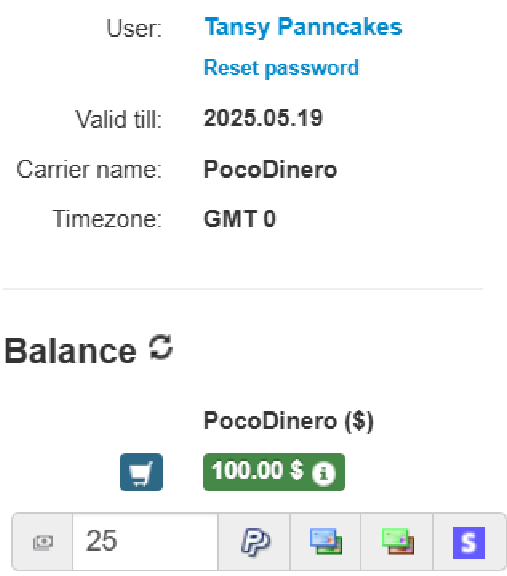
The user can also register directly through the portal. For this purpose, click the *Registration* link on the login page and complete the appropriate fields in the registration form as illustrated above.



Portal front page

The portal front page contains the following sections and controls:

- *Menu*: shows the following items (displayed depending on the user permissions): *Info*, *User profile*, *Invoices*, *Payments*, *SMS Stats*, *SMS Rates*, *SMS POIs* and *EDRs*
- *User profile*: contains two tab sheets: *Contacts* and *Company details*:
  - The *Contacts* tab sheet shows information about the carrier's users: *Position, First name, Last name, Phone, Email* address for sending notifications and *Notifications* checkboxes (*Send rate changes*, *Send invoices*, *Send alarms*)
  - The *Company details* tab sheet shows the company's name, region and address



Account details and Balance sections

- *Account details* section at the top right corner of the page shows the account summary. It also contains the *Reset password* link
- *Balance* section: displays the account balance in the carrier's and System currencies as well as the user credit (see also the Alaris YouTube video). It also shows the content of the *Description* field from Carriers\Accounts 168. This allows easier differentiation of accounts created for a single carrier. When no description is available, the carrier's name and account currency are shown. Point the cursor to the amount to view the billing period and latest balance update date. Click to update the balance. Click to top up the balance. Enter the amount in the edit box and click to use Paypal, to use Authorize.net, to use PayOnline or to use Stripe.

NOTE: Prior to using this function, an account must be created at the respective payment system and configured in Administration\System settings\Portals 71. The user must have the *Show purchase tab* permission enabled in Administration\Users 158.

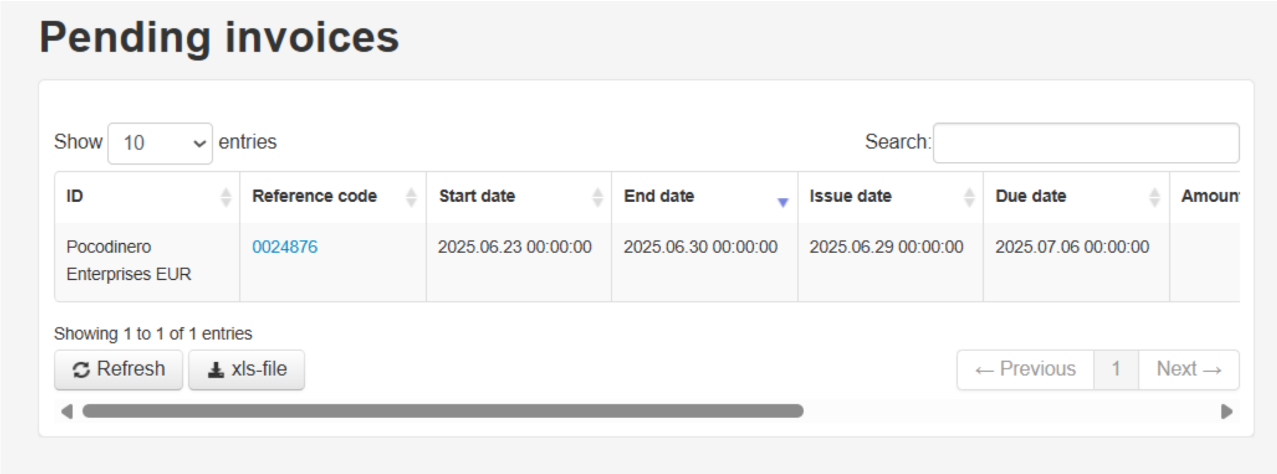
- The top right corner of the page contains the Logout button and the session expiry timer 09:13. A minute before the session expires, the user is offered to renew the session or log out. The default session time is 10 minutes. Click on the timer to renew the session at any time

Pages containing tables have the Refresh button that serves to update the page, and the xls-file button that serves to import the table to an xls file.

NOTE: It is possible to customize the portal header and hide *Powered by Alaris Labs* footer which, by default, is shown in the interface. Contact the Alaris technical support team.

17.2 Invoices

The *Invoices* page contains a list of the carrier's invoices.



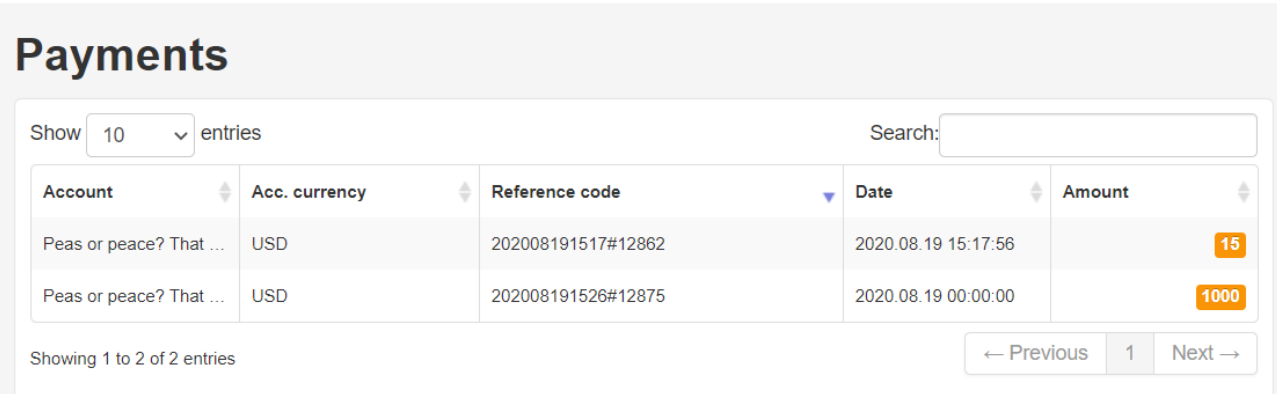
Invoices

Click on the value in the *Reference code* column to open the invoice cover sheet (in pdf format). Click on the *xls* link in the *Amount* column to view the traffic details file (in xls format).

NOTE: Invoices in the following statuses are displayed: *Confirmed*, *Sent*, *Delivered* and *Disputed*. By default, fully paid invoices are not shown. To change the logic, adjust the System parameter *Show fully paid invoices (0 - no, 1 - yes)* value.

17.3 Payments

The *Payments* page contains a list of the carrier's payments.



Payments

The *Account* field shows the content of the *Description* field in Carriers\Accounts 168. This allows easier differentiation of accounts created for a single carrier. When no description is available, the carrier's name and account currency are shown.

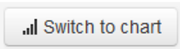
17.4 SMS Stats

The *SMS Stats* page contains the carrier's statistics on SMS transfer.

Date	Country	Network	Total
	Total	Total	1108691
2016.10.27 00:00:00	Austria	tele.ring	4
2016.10.27 00:00:00	Sweden	TeliaSonera Mobile Networks AB	2
2016.10.27 00:00:00	Croatia	TELE2	6
2016.10.27 00:00:00	Croatia	T-Mobile HR	4
2016.10.27 00:00:00	Estonia	Elisa Eesti	1

SMS usage statistics

To view the statistics, select the product in the drop-down list and specify the period in the edit fields.

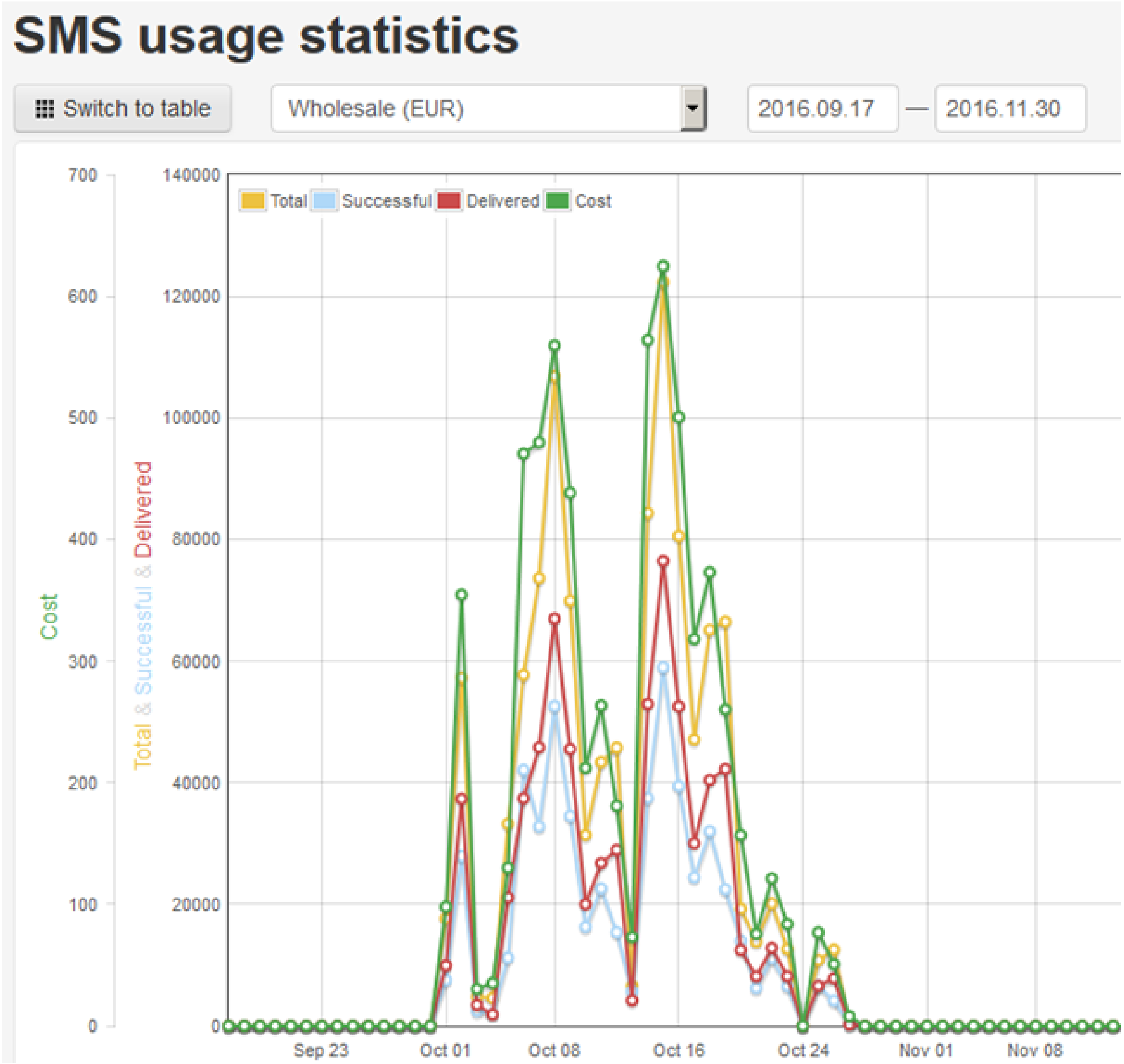
Click 

for a chart view.

The table contains the following information:

- *Date*
- *Country*
- *Network*
- *Total*: total number of SMS
- *Successful*: number of SMS transfers confirmed by vendors as received
- *Delivered*: messages delivered to the end user (successful delivery report with DELIVRD status has been received)
- *Billable*: number of billable SMS for selected product
- *Cost*: total cost of SMS traffic for selected product
- *Reported*: messages for which any delivery report has been received (DELIVRD, REJECTD etc.)
- *Others*: the difference between the *Delivered* and the *Reported* values
- *Segments*: number of segments in the message
- *Successful segments*: number of successfully delivered segments
- *DLR(T)*

The displayed data is built on daily analytical cubes, however data may differ from the System (Analytics) stats as the telescopic mode may be enabled for the Analytics interface



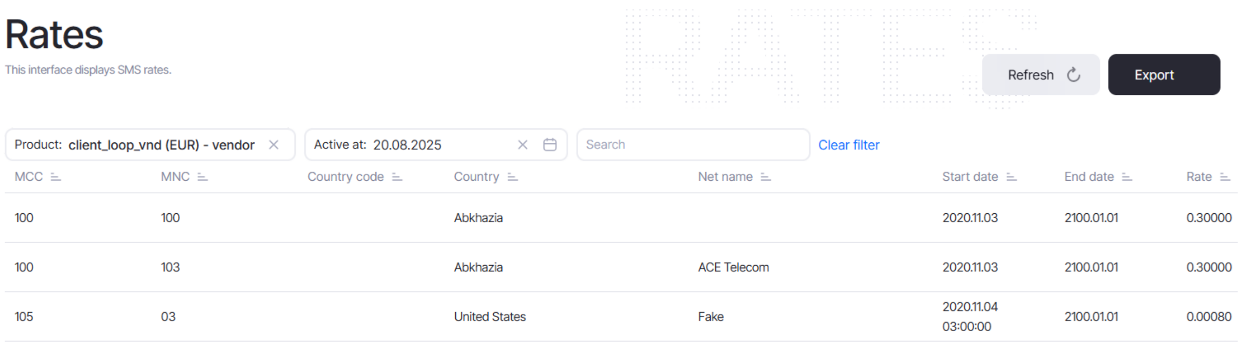
SMS usage statistics chart view

NOTE: The traffic cost is shown in the account currency of the selected product as of the date of the stats calculation.

17.5 SMS rates

The *Rates* page contains a table of the carrier's active rates. To view the statistics, select the product in the drop-down list and specify the date in the *Active at* field. Rates of vendor products can be viewed, if the *Show vendor product in Partner Portal (0 - no, 1 - yes)* system parameter is set to 1.

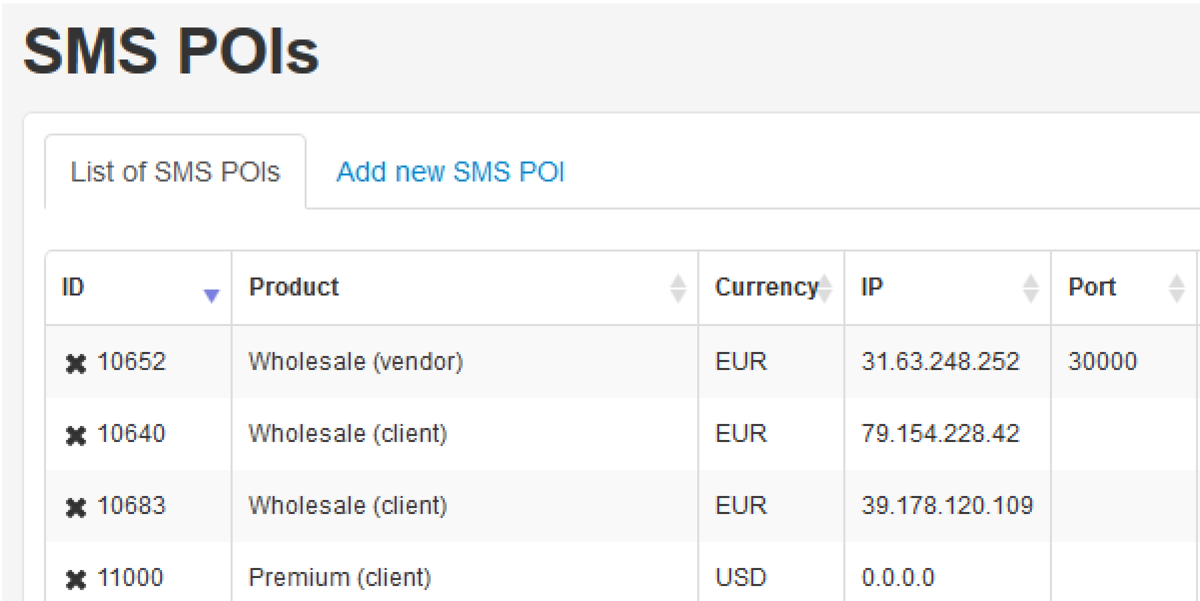
Click Export *Export* to download the table of rates to your computer. The file extension depends on the *Default spreadsheet extension (supported values: xls, xlsx)* system parameter.



Current rates

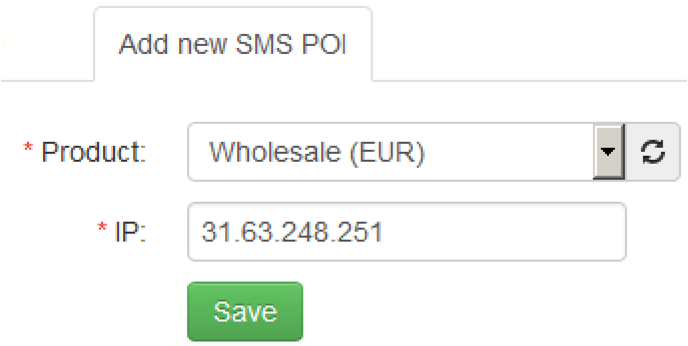
17.6 SMS POIs

The *SMS POIs* page contains two tab sheets: *List of SMS POIs* and *Add new SMS POI* (displayed if the user has the rights to create/edit *SMS* POIs; the permissions are configured in Administration\Users 158 (*SMS POI edit*). Additionally access can be managed with the help of the System parameters *Allow Partner Portal users to edit POI (1 - yes, 0 - no)* and *Partner Portal access mode (1 - read/write, 2 - read only)* in Administration\System settings\Portals 71.



SMS POIs

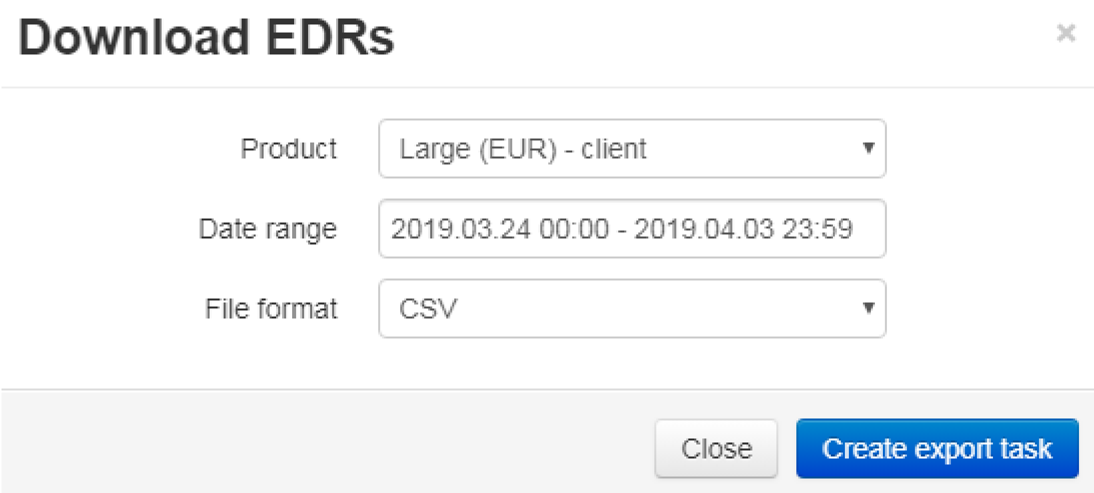
To add a new *SMS POI*, open the *Add new SMS POI*, select the product and enter the IP address.



Add new SMS POI

17.7 EDRs

The *EDRs* page serves to download EDRs for a specified period.



Download

Select the product, specify the period and file format and click Create export task. Once the file is downloaded, the download link will be sent to the user's email address (as configured in Carriers/Users 158).

NOTE: Buffered EDRs are not exported; also, only the EDRs of the last SMS send attempt are exported. See the Alaris YouTube video.

NOTE: EDR export from the Partner Portal will contain no message text if the *Show message content* permission is not granted to the user.

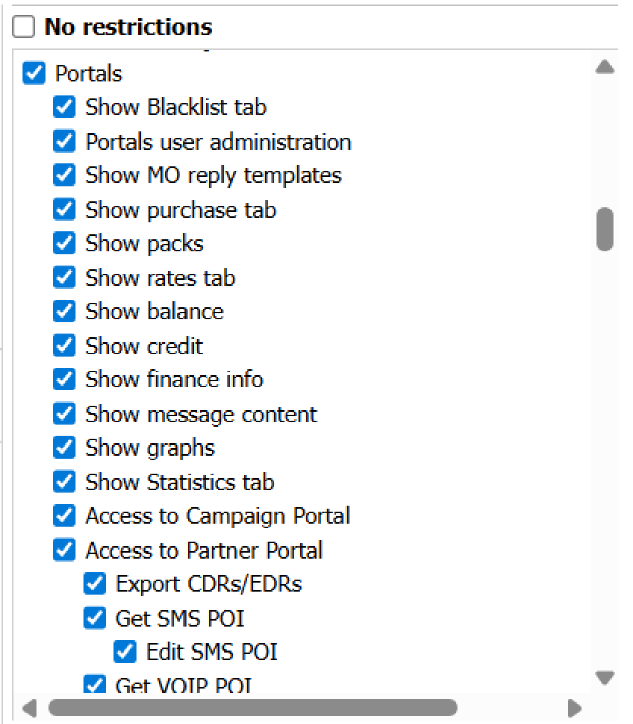
18 Partner Portal

18.1 Overview

The Partner Portal is the System's web interface intended for partner carriers of the System owner. Based on their permissions, partner carriers can view their statistics and financial documents, as well as create SMS POIs, and monitor their status. Basically, it is a next-generation, improved version of the Wholesale Portal with a number of new capabilities that include: account traffic viewing, expanded EDR export capabilities, logo customization from the main System interface, a wider list of supported payment systems and more.

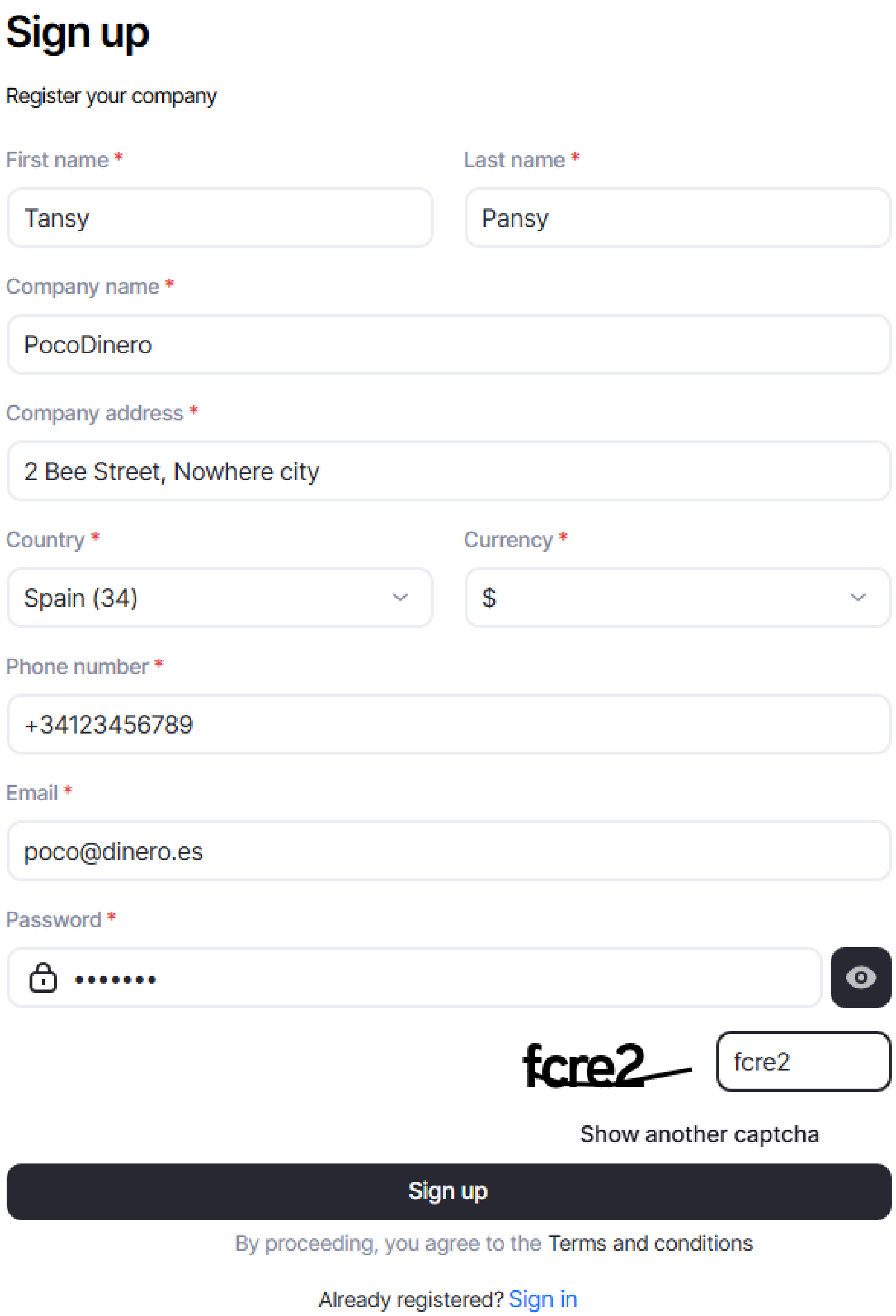
User accounts and access permissions for the Partner portal are configured by the System owner in Administration\Users 158. User permissions are configured in the *Roles* section of the *Add* tab (*Roles >> Portals*).

NOTE: It is recommended to grant the following permissions to make the account operable: *View/edit permissions -> View all data.*



Roles (Add tab, Administration\Users 158)

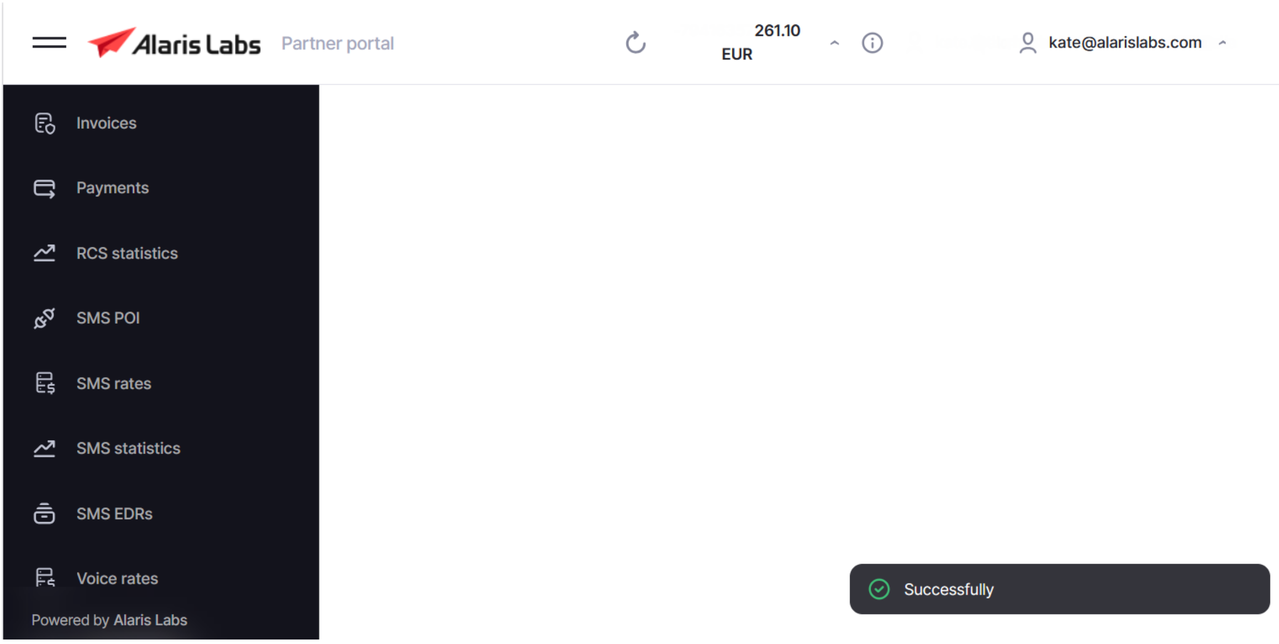
Once the user account is created, the user will receive an email with account activation instructions.



Partner portal registration form

The user can also register directly through the portal. For this purpose, click *Don't have an account?* on the login page and complete the appropriate fields in the registration form as illustrated above.

NOTE: Self registration is available if the System parameter *Allow portals user self-registration (0 - no, 1 - yes)* is enabled in the main interface.



Portal front page

The portal front page contains the following sections and controls:

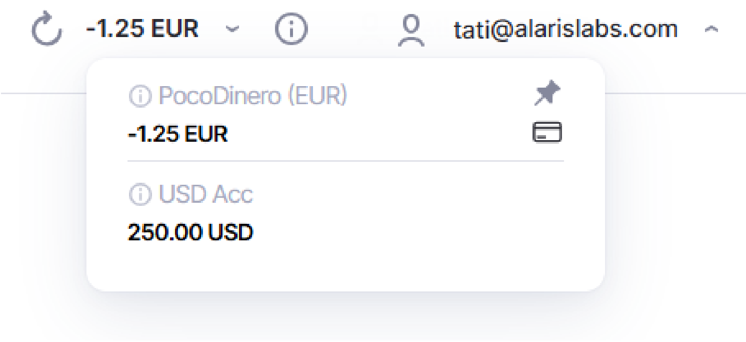
- *Menu*: shows the following items (displayed depending on the user permissions). Click ═ in the top left corner to toggle the menu:
    - *Invoices* (available if the permission *Show purchase tab* is granted)
    - *Payments* (available if the permission *Show purchase tab* is granted)
    - *RCS statistics* (available if the user's carrier has RCS products and the permission *Show Statistics tab* is granted)
    - *SMS* (available if the user's carrier has SMS products):
        - *POI* (available if the permission *Portals\Get SMS POI* is granted)
        - *Rates* (available if the permission *Show rates tab* is granted)
        - *Statistics* (available if the permission *Show Statistics tab* is granted)
        - *EDRs* (available if the permission *Export CDRs/EDRs* is granted)

NOTE: The menu items are displayed if the user has the *View all data* permission enabled in Administration\Users 158.

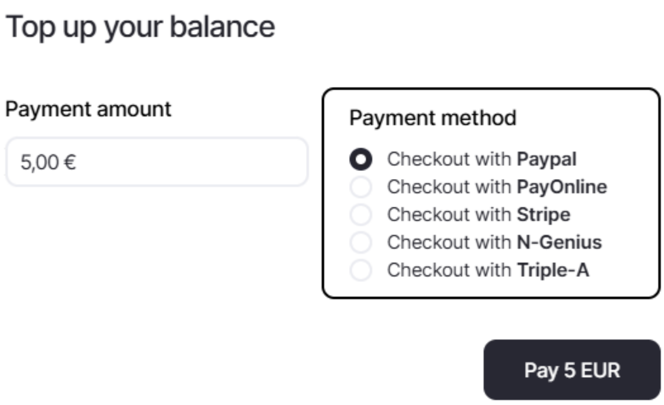
-
    - *User administration* (available if the permission *Portals user administration* is granted): serves to manage permissions for other users associated with the same companies, and edit their profile info.

- *Balance*: it is shown in the top right corner of the page (available if the *Show finance info* permission is granted). Click ↻ to refresh the balance. Click ˄ to view balance in all the available currencies (if the carrier has several accounts in different currencies). Each account is differentiated by the content of the *Description* field from Carriers\Accounts 168. When no description is available, the carrier's name and account currency are shown. Click to top up the balance. Note that the *Payment amount* field will be highlighted in red if the amount is less than indicated in the contract company's parameter *Minimum payment amount for portals*.

NOTE: Prior to topping up the balance, an account must be created at the respective payment system and configured in Reference books\Contract companies\Payment systems 267 as well as the corresponding *Use..* flag (for example, *Use Authorize.net*) must be enabled for the carrier's contract company in Reference books\Contract companies\Contract companies 261

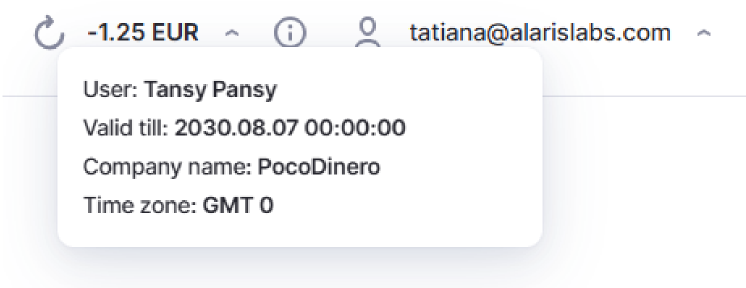


Balance details



Top up your balance

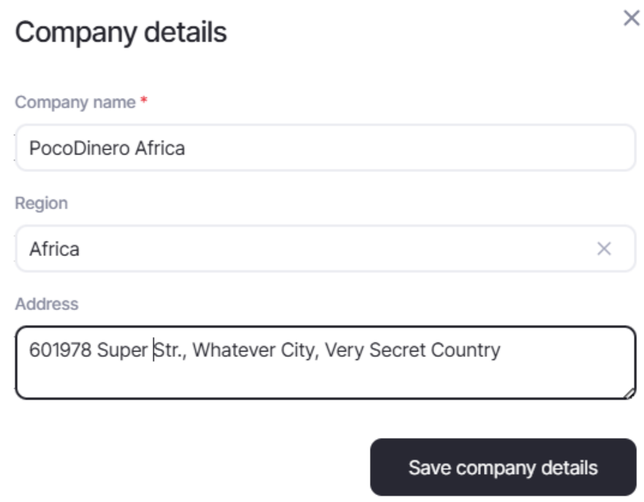
- *Quick profile info* icon ⓘ: hover to view the user name, account expiry date, company name and time zone as illustrated in the figure below.



Balance, Quick profile info and Account details menu

- *Account details* menu: click on the user email in the top right corner of the page to expand the menu containing the following items:
    - *Dark color theme*: serves to switch between the white and dark color themes.
    - *Language*: serves to select the interface language (by default - the one selected on the authorization page).

- *Company details*: serves to view and edit the *Company name, Region* and *Address.* Editing is possible given that the system parameter *Partner Portal access mode (1 - read/write, 2 - read only)* value is set to 1



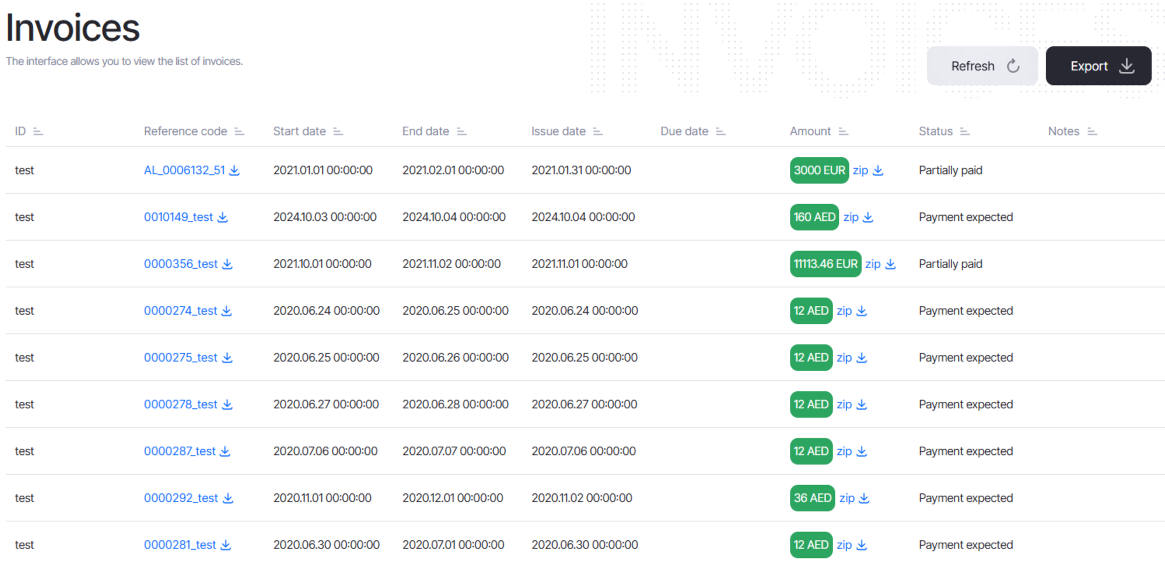
Company details

- *Reset password*
- *Log out*

NOTE: To customize the portal header and logo go to Reference books\Contract companies 261, select the contract company to which the user belongs, and in the *Edit* panel select *Set customization*. To hide *Powered by Alaris Labs* footer which, by default, is shown in the interface, contact the Alaris Technical support team.

18.2 Invoices

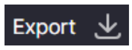
The *Invoices* page contains a list of the carrier's invoices.



ID	Reference code	Start date	End date	Issue date	Due date	Amount	Status	Notes
test	AL_0006132_51	2021.01.01 00:00:00	2021.02.01 00:00:00	2021.01.31 00:00:00		3000 EUR zip	Partially paid	
test	0010149_test	2024.10.03 00:00:00	2024.10.04 00:00:00	2024.10.04 00:00:00		160 AED zip	Payment expected	
test	0000356_test	2021.10.01 00:00:00	2021.11.02 00:00:00	2021.11.01 00:00:00		11113.46 EUR zip	Partially paid	
test	0000274_test	2020.06.24 00:00:00	2020.06.25 00:00:00	2020.06.24 00:00:00		12 AED zip	Payment expected	
test	0000275_test	2020.06.25 00:00:00	2020.06.26 00:00:00	2020.06.25 00:00:00		12 AED zip	Payment expected	
test	0000278_test	2020.06.27 00:00:00	2020.06.28 00:00:00	2020.06.27 00:00:00		12 AED zip	Payment expected	
test	0000287_test	2020.07.06 00:00:00	2020.07.07 00:00:00	2020.07.06 00:00:00		12 AED zip	Payment expected	
test	0000292_test	2020.11.01 00:00:00	2020.12.01 00:00:00	2020.11.02 00:00:00		36 AED zip	Payment expected	
test	0000281_test	2020.06.30 00:00:00	2020.07.01 00:00:00	2020.06.30 00:00:00		12 AED zip	Payment expected	

Invoices

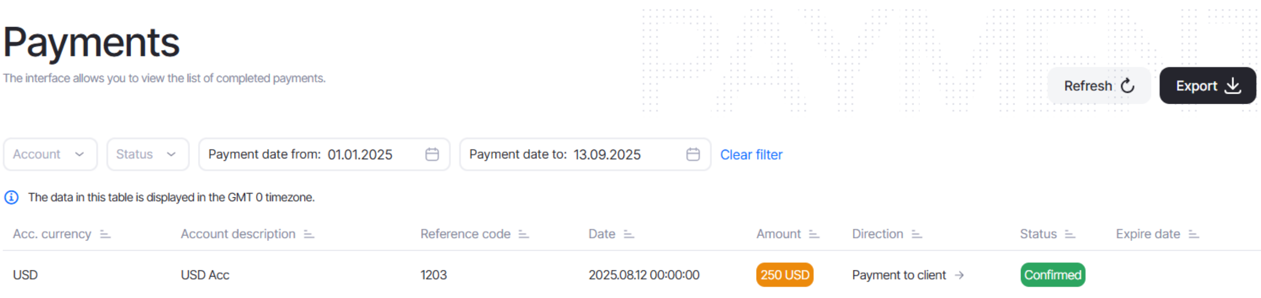
Click on the value in the *Reference code* column to download the invoice cover letter (in pdf format).

Click on the link in the *Amount* column to download the traffic details file (in xls format). Click  *Export* to download the table of invoices to your computer. The file extension depends on the *Default spreadsheet extension (supported values: xls, xlsx)* system parameter.

NOTE: Invoices in the following statuses are displayed: *Confirmed*, *Sent*, *Delivered* and *Disputed*. By default, fully paid invoices are not shown. To change the logic, adjust the System parameter *Show fully paid invoices (0 - no, 1 - yes)* value.

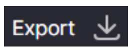
18.3 Payments

The *Payments* page contains a list of the carrier's payments. Use the filters at the top of the page to locate relevant records. Note that the list of accounts is visible only if the user has the *Show finance info* permission granted.

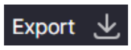


Acc. currency	Account description	Reference code	Date	Amount	Direction	Status	Expire date
USD	USD Acc	1203	2025.08.12 00:00:00	250 USD	Payment to client →	Confirmed	

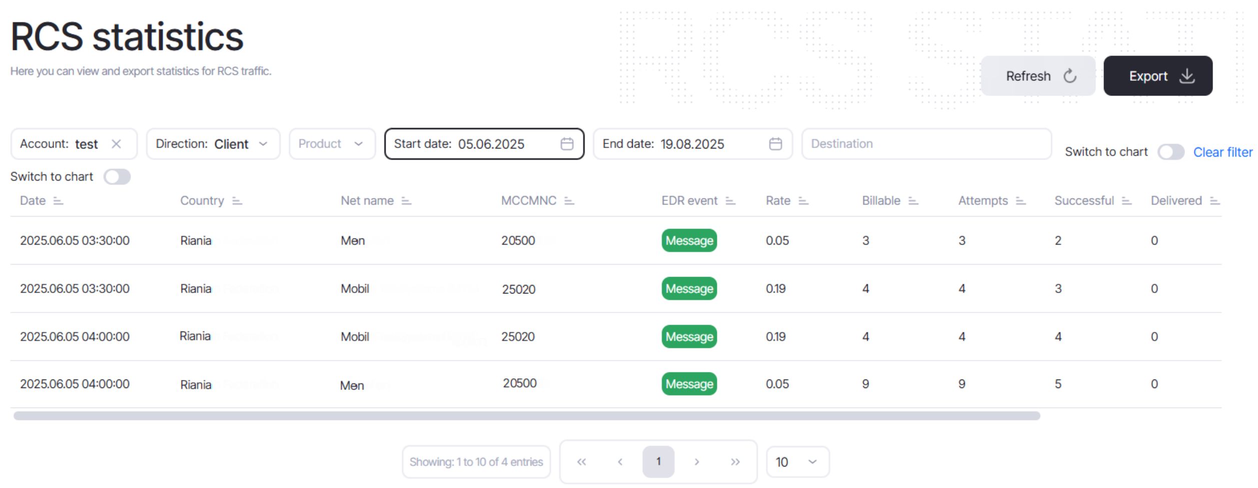
Payments

The *Account description* field shows the content of the *Description* field in Carriers\Accounts 168. This allows easier differentiation of accounts created for a single carrier. Click  *Export* to download the table of payments to your computer. The file extension depends on the *Default spreadsheet extension (supported values: xls, xlsx)* system parameter.

18.4 RCS statistics

The *RCS statistics* page contains the carrier's statistics on RCS messages. Click  *Export* to download the table to your computer. Click *Switch to chart* for a chart view.

NOTE:The displayed data is built on financial cubes, therefore it may differ from the RCS\Analytics 333 stats.



RCS statistics

The table contains the following information:

- *Date*
- *Country*
- *Net name*
- *MCCMNC*
- *EDR event: Message* or *Session*
- *Rate*
- *Attempts*: total number of message send attempts
- *Successful*: number of message transfers confirmed by vendors as received
- *Delivered*: messages delivered to the end user (successful delivery report with DELIVRD status has been received)
- *Cost*: total cost of traffic for the selected record
- *Displayed*: the number of messages displayed on the end user device

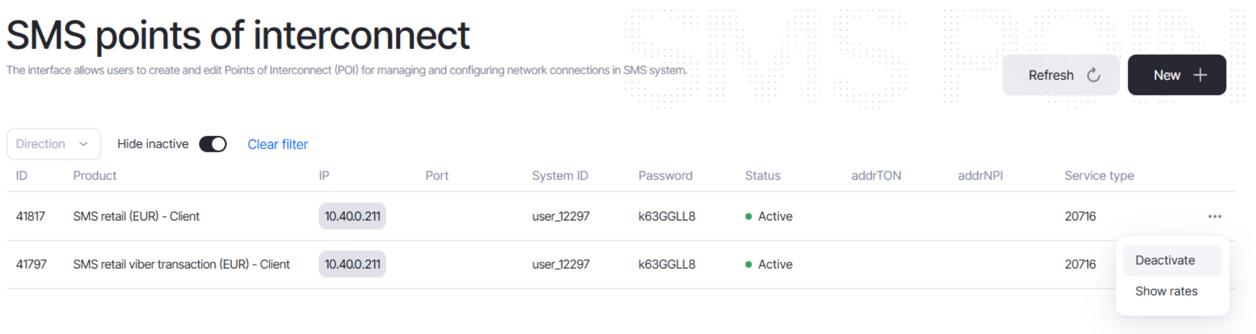
NOTE: The traffic cost is shown in the account currency of the selected product as of the date of the stats calculation.

18.5 SMS

18.5.1 POI

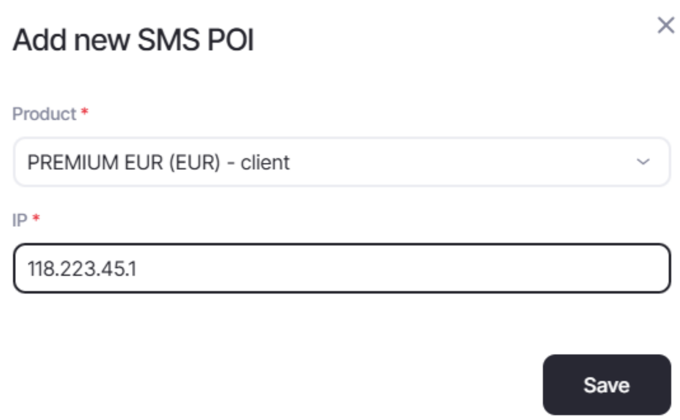
The *POI* page allows users to create and deactivate Points of Interconnect (POI) for managing and configuring network connections in Alaris SMS Platform. The page is available if the user has the permission *Portals\Get SMS POI* granted in Administration/Users 158. The user can add and deactivate POIs if the permission *Portals\Edit SMS POI* is granted in Administration/Users 158. Additionally access is managed with the help of the System parameters *Allow Partner Portal users to edit POI (1 - yes, 0 - no)* and *Partner Portal access mode (1 - read/write, 2 - read only)* in Administration\System settings\Portals 71. When deactivated, the POI's end date is set to the current date and time. To prolong a POI, contact the System owner.

To go to the *Rates* page, select the *Show rates* option. Note that the option is available if the user has *Show rates tab* permission granted.



POIs

To add a new POI, click *New POI*, select the product and enter the IP address. A POI for a vendor product can be added if the *Show vendor product in Partner Portal (0 - no, 1 - yes)* system parameter is enabled.

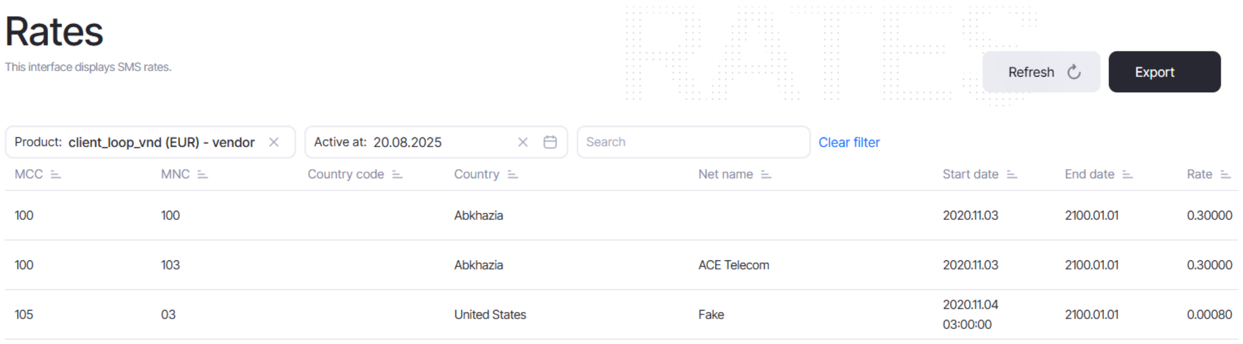


Add new POI

18.5.2 Rates

The *Rates* page contains a table of the carrier's active rates. To view the statistics, select the product in the drop-down list and specify the date in the *Active at* field. Rates of vendor products can be viewed, if the *Show vendor product in Partner Portal (0 - no, 1 - yes)* system parameter is set to 1.

Click *Export* to download the table of rates to your computer. The file extension depends on the *Default spreadsheet extension (supported values: xls, xlsx)* system parameter.



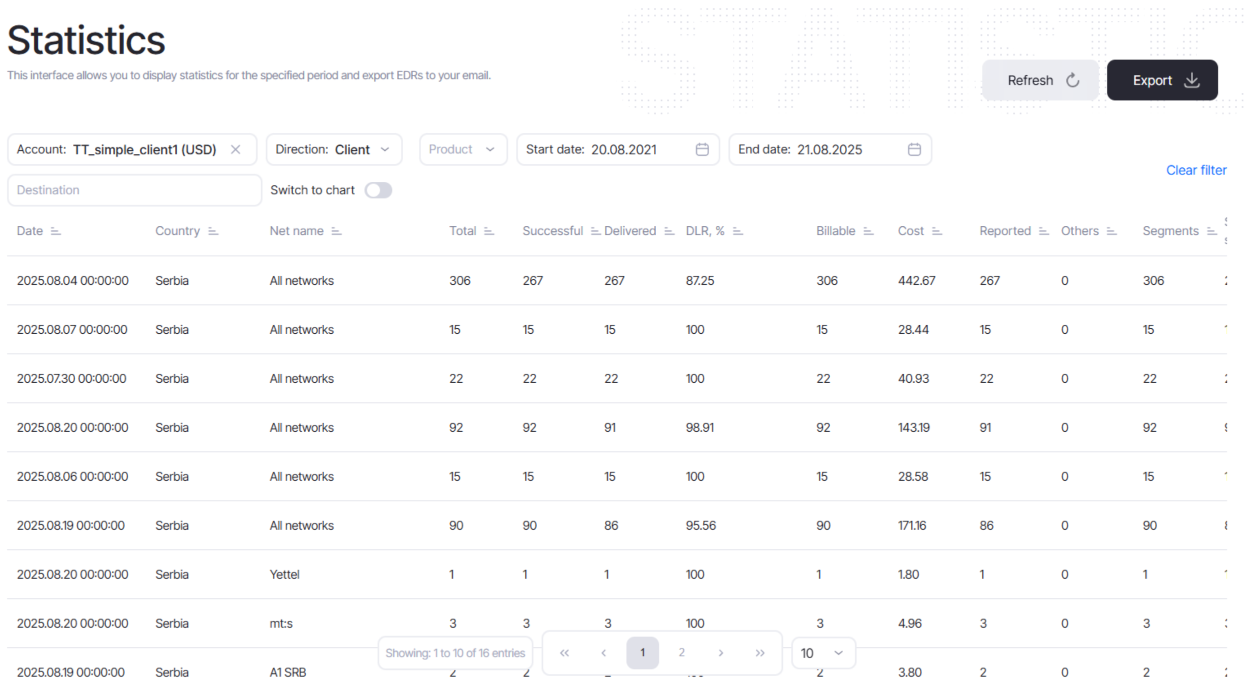
MCC	MNC	Country code	Country	Net name	Start date	End date	Rate
100	100		Abkhazia		2020.11.03	2100.01.01	0.30000
100	103		Abkhazia	ACE Telecom	2020.11.03	2100.01.01	0.30000
105	03		United States	Fake	2020.11.04 03:00:00	2100.01.01	0.00080

Current rates

18.5.3 Statistics

The *Statistics* page contains the carrier's statistics on SMS transfer. The data is built on hourly analytical cubes if the System parameter *Display data in the timezone from the agreement* is set to *1* — *Partner timezone*. It is built on daily cubes if the parameter is set to *0* — *System timezone*.

NOTE: The displayed data may differ from the SMS\Analytics 363 stats as the telescopic mode may be enabled for the interface.



Date	Country	Net name	Total	Successful	Delivered	DLR, %	Billable	Cost	Reported	Others	Segments
2025.08.04 00:00:00	Serbia	All networks	306	267	267	87.25	306	442.67	267	0	306
2025.08.07 00:00:00	Serbia	All networks	15	15	15	100	15	28.44	15	0	15
2025.07.30 00:00:00	Serbia	All networks	22	22	22	100	22	40.93	22	0	22
2025.08.20 00:00:00	Serbia	All networks	92	92	91	98.91	92	143.19	91	0	92
2025.08.06 00:00:00	Serbia	All networks	15	15	15	100	15	28.58	15	0	15
2025.08.19 00:00:00	Serbia	All networks	90	90	86	95.56	90	171.16	86	0	90
2025.08.20 00:00:00	Serbia	Yettel	1	1	1	100	1	1.80	1	0	1
2025.08.20 00:00:00	Serbia	mt:s	3	3	3	100	3	4.96	3	0	3
2025.08.19 00:00:00	Serbia	A1 SRB	2	2	[illegible]	[illegible]	2	3.80	2	0	2

Statistics

To view the statistics, select the account, traffic direction and product, and specify the period in the filters at the top of the table. Click *Switch to chart* for a chart view.

The table contains the following information:

- *Date*
- *Country*
- *Net name*

- *Total*: total number of SMS
- *Successful*: number of SMS transfers confirmed by vendors as received
- *Delivered*: messages delivered to the end user (successful delivery report with DELIVRD status has been received)
- *DLR, %*
- *Billable*: number of billable SMS for selected product
- *Cost*: total cost of SMS traffic for selected product. It is available if the *Show finance info* permission is granted for the user
- *Reported*: messages for which any delivery report has been received (DELIVRD, REJECTD etc.)
- *Others*: the difference between the *Delivered* and the *Reported* values
- *Segments*: number of segments in the message
- *Successful segments*: number of successfully delivered segments

NOTE: A set of columns can be hidden. The logic is regulated by the *Hide successful columns in SMS statistics* System parameter

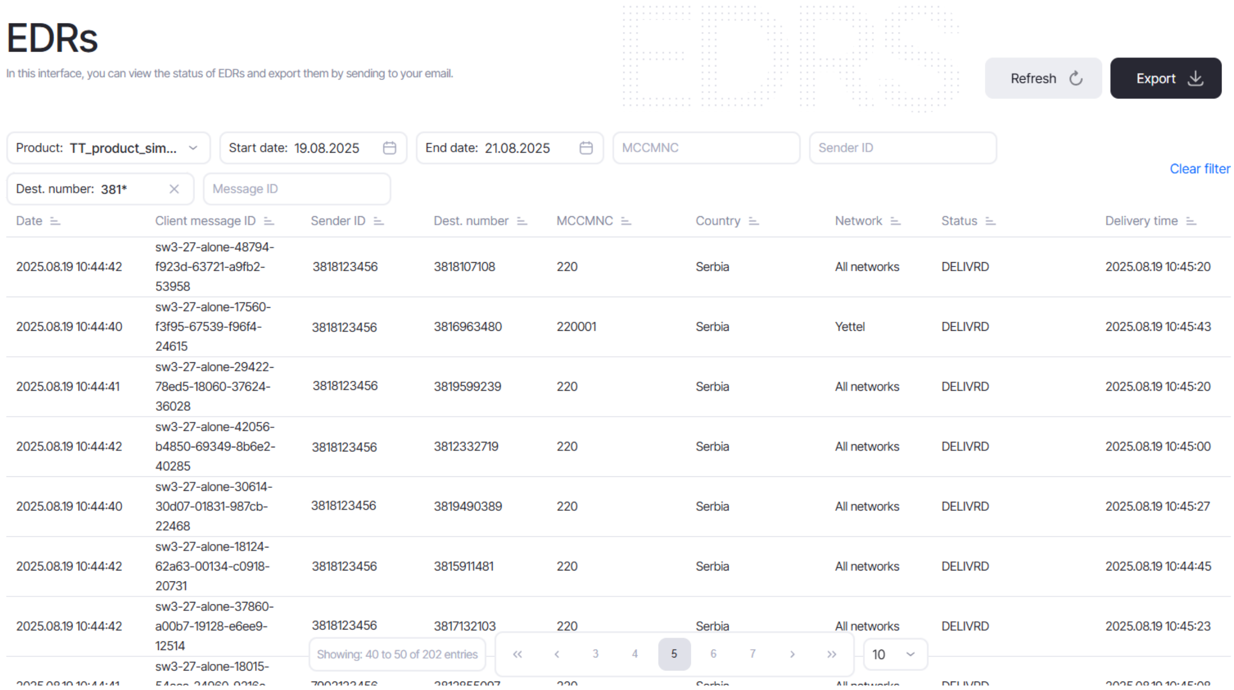
The displayed data is built on daily analytical cubes, however data may differ from the System (Analytics) stats as the telescopic mode may be enabled for the *Analytics* interface.

Statistics chart view

NOTE: The traffic cost is shown in the account currency of the selected product as of the date of the stats calculation.

18.5.4 EDRs

The *EDRs* page serves to view and export EDRs.

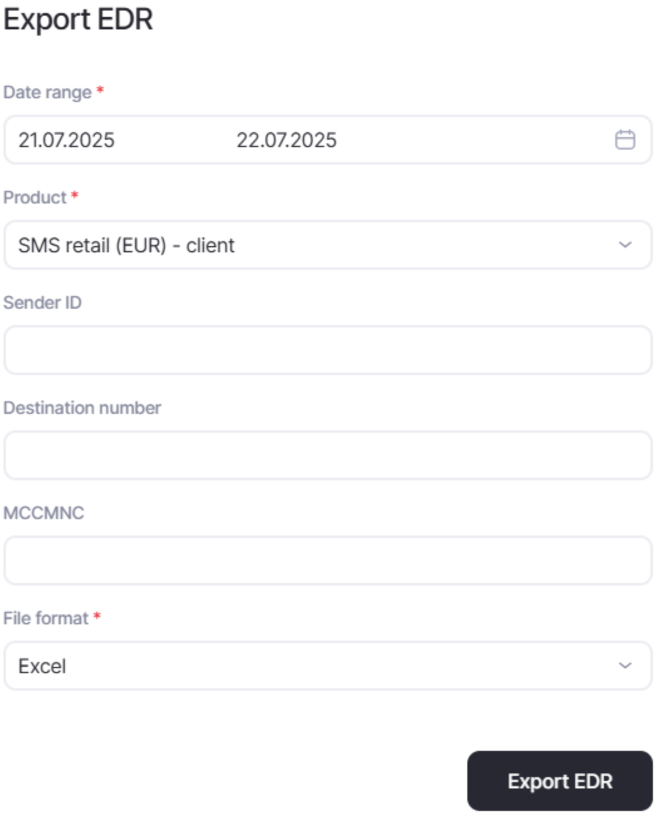


EDRs

The *Product* filter contains products of the vendor direction given that the *Show vendor product in Partner Portal (0 - no, 1 - yes)* system parameter is set to 1.

The amount of days for the *Start date* filter is limited by the number of days to store EDRs (the *Active EDR day count* system parameter).

Click Export *Export* to download the EDRs to your computer. Complete the fields in the form that appears, and click *Export EDR*.



Export EDRs

Once the file is downloaded, the download link will be sent to the user's email address (as configured in Carriers/Users 158).

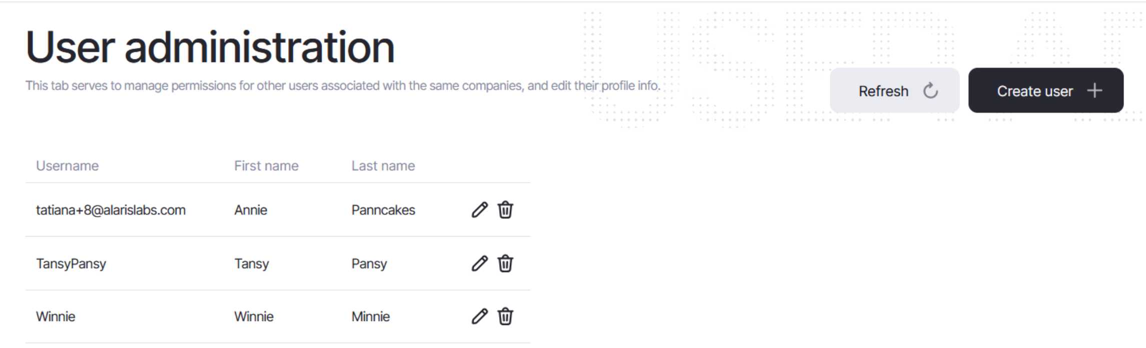
NOTE: Buffered EDRs are not exported; also, only the EDRs of the last SMS send attempt are exported for client products.

NOTE: EDR export from the Partner Portal will contain no message text if the *Show message content* permission is not granted to the user.

18.7 User administration

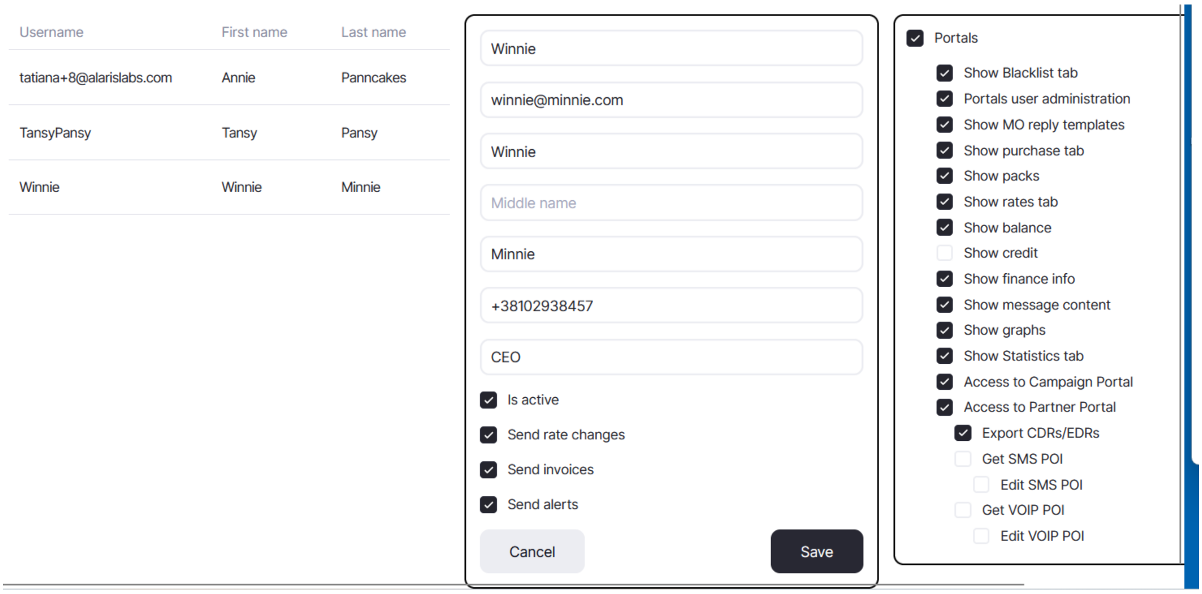
The *User administration* page serves to manage users associated with the same carrier: create and remove users, edit user profile, and manage user permissions.

NOTE: The page is displayed if the permission *Portals user administration* is granted. The create/edit/delete user options are available if the System parameter *Partner Portal access mode (1 - read/write, 2 - read only)* is set to 1.



User administration

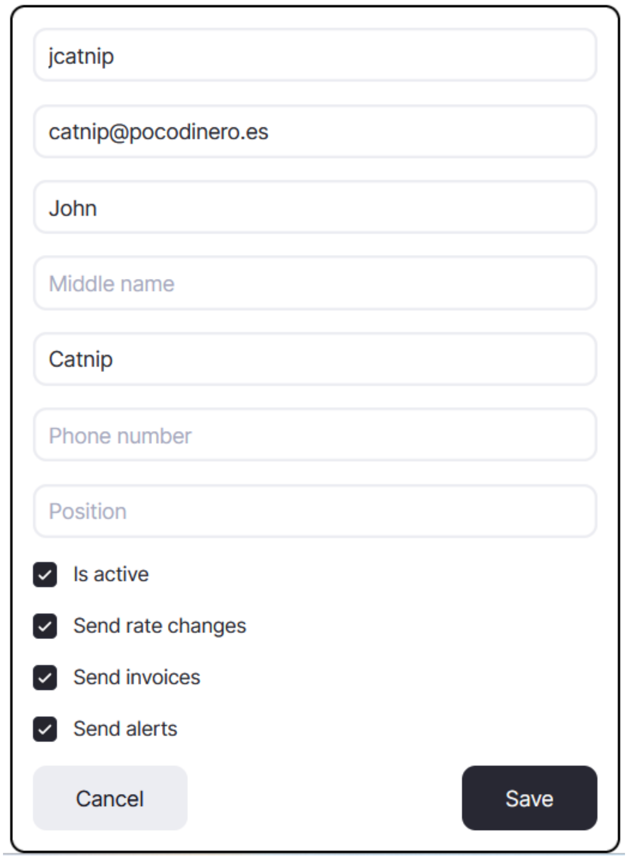
Click to edit a record. Edit the user details and permissions as appropriate and click *Save*.



Edit user

Click to delete a record.

Click Create user *Create user* to add a new user record.



Add user

Configure the fields as illustrated above. Select the checkboxes as appropriate:

- *Is active*: select to activate the record
- *Send rate changes/invoices/alerts*: select to enable respective notifications

Click *Save* to save the changes.

19 Appendix 1. HTTP API

19.1 Overview

This section provides the HTTP API description for integration of external systems with Alaris SMS platform.

HTTP API enables SMS submission and SMS delivery status requests.

Authentication information (login/password) for connecting to Alaris SMS platform must be requested from the owner of Alaris SMS platform for each new interconnection. Credentials must be sent with each API request otherwise the user will be rejected as non-authorized.

Requests can be sent either with the GET or POST method to URL provided by the System owner in the format:

```
http(s)://<IP_address>:<port>/api? (e.g. https://<domainname>:8002/api? or
http://1.1.1.1:8001/api?)
```

19.2 SMS submission

19.2.1 Alaris SMS HTTP API

Request format:

GET request to HTTP port: http://1.1.1.1:8001/api?username=<username>&password=<password>&ani=<ani>&dnis=<dnis>&message=<message>&command=submit&serviceType=<serviceType>&longMessageMode=<longMessageMode>

GET request to HTTPs port: https://domainname:8002/api?username=<username>&password=<password>&ani=<ani>&dnis=<dnis>&message=<message>&command=submit&serviceType=<serviceType>&longMessageMode=<longMessageMode>

POST request (credentials are part of the link) to HTTP port: curl -H 'Content-Type: application/json' -X POST -d '{"ani":"ani","dnis":"dnis","message":"test"}' 'http://1.1.1.1:8001/api?command=submit&username=username&password=password'

POST request (credentials are a part of the JSON body) to HTTP port: curl -H 'Content-Type: application/json' -X POST -d '{"username":"username","password":"password","command":"submit","ani":"ani","dnis":"dnis","message":"test"}' 'http://1.1.1.1:8001/api?'

Additionally credentials can be transferred as a flag or as a header:

curl -H 'Content-Type: application/json' -X POST -d '{"ani":"ani","dnis":"dnis","message":"test"}' -u 'username:password' 'http://1.1.1.1:8001/api?command=submit'

or

curl -H 'Content-Type: application/json' -X POST -H 'Authorization: Basic base64(username:password)' -d '{"ani":"ani","dnis":"dnis","message":"test"}' 'http://1.1.1.1:8001/api?command=submit'

NOTE: To send multiple SMS messages, add several comma-separated DNIS to the <dnis> field.

Parameter	Value	Required
command:	Request type. Possible values: "submit", "query", "mo". To send a message over HTTP, specify command=submit	Yes
dnis:	Destination number. Must be sent in international E.164 format (up to 15 digits allowed). If the field length exceeds 2048 symbols or 100 numbers, the incoming message will be rejected with the following code: 400 Bad Request (Destination number is too long). Multiple DNIS's cannot be used for longMessageMode=split_or_payload If multiple identical numbers are transferred in the field, the duplicates will not be sent further, even though message IDs will be issued for all successfully routed messages.	Yes
message:	Message text (must be URL-encoded for GET requests)	Yes
password:	Password	Yes
serviceType:	Service type, provided by the System owner for the registered interconnection. Can be blank. The maximum length is 9 bytes.	Yes
username:	Login	Yes
ani:	Caller ID. Technical limitation - alpha-numeric up to 32 symbols. Additional limitations can be caused by destination route peculiarities	No
dataCoding	data coding scheme for sending the message to the vendor. Format: integer. Optional. Allowed values are: 0, 1, 3, 6, 7, 8, 10, 14, where: *0: SMSC Default Alphabet (SMPP 3.4)/MC Specific (SMPP 5.0)* *1: IA5 (CCITT T.50)/ASCII (ANSI X3.4)* *3: Latin 1 (ISO-8859-1)* *6: Cyrillic (ISO-8859-5)* *7: Latin/Hebrew (ISO-8859-8)* *8: UCS2 (ISO/IEC-10646)* *10: ISO-2022-JP (Music Codes)*	No

Parameter	Value	Required
	14: KS C 5601	
esmClass	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0-255	No
flash	Flag that indicates a flash message. Possible values are: 0 (regular message) and 1 (flash message that is shown on the screen and is not stored in the device memory). Please note that the flag is merely written to the EDR (*Technical details* field) and does not change the message data coding. The flag value can be transmitted for MT message sending. The flag can also be changed with the help of translation rules.	No
longMessageMode:	Type of long message processing (applicable to incoming MT messages only). The following values allowed: cut (trim message text to 140 bytes) - shortens the message leaving only first 140 bytes to be sent. split and split_sar - split the message according to the logics described below. The difference between them is in the header to be used, for split it is UDH header, for split_sar it is sar accordingly. single_id_split - split the message but return the message ID common for all segments payload - message_payload field is used for sending the message text. Note that an SMPP vendor will receive the message text in the payload field as well The splitting (options 2/3) depends on the coding: "- dataCoding = 0, 1 or 3: one message can contain up to 160 bytes. If more: segment count = 'message length in symbols / 153 symbols' (or: 'message length in bytes / 153 bytes') - dataCoding 2, 4 - 7: one message can contain up to 140 bytes, if more – segment count = 'message length in symbols / 134 symbols' (or: 'message length in bytes / 134 bytes') - dataCoding 8: one message can contain up to 140 bytes, if more – segment count = 'message length in symbols / 67 symbols' (as 1 symbol	No

Parameter	Value	Required
	occupies 2 bytes, that is: 'message length in bytes / 134 bytes') split_or_payload: serves for sending long messages received over HTTP to SMPP vendors. The mode is not supported if several numbers have been received in the *dnis* parameter within a single request from the client. When the *Send text in payload* option is enabled in the vendor channel, the message will be sent in the payload field as a single submit_sm packet. Also, a single delivery report is expected for it, whereas the client will be sent as many reports as the number of received parts. Besides, a single EDR will be written, therefore, the *bill by segments* option must be set in the client product for correct billing of the client. The default value is "cut".	
incMsgId (inc_msg_id)	The client message ID (124 bytes maximum) that can be used for incoming HTTP requests with longMessageMode=cut, longMessageMode=split, longMessageMode=split_sar or no longMessageMode (which equals to longMessageMode=cut). When the SMS switch receives this parameter it will use its value as a client ID. This will allow clients to use their ID to request information on the message if, for example, no routes are available. In case of long messages (when longMessageMode=split or longMessageMode=split_sar), the incoming parameter inc_msg_id will be one and the same for the entire message, whereas the SMS switch will split the message into several parts and use the same ID for each part, adding the part number to each of them. For example, if a message contains two parts and has the incoming message ID is inc_msg_id=1gfc4dd56cbndcj741xs, the SMS switch will process the messages with IDs 1gfc4dd56cbndcj741xs-1 and 1gfc4dd56cbndcj741xs-2.	No
srcTon, srcNpi, dstTon, dstNpi	the respective parameters for Sender ID and Destination number. Format: integer. Optional	No
priorityFlag	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0 and 1	No

Parameter	Value	Required
registeredDelivery	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0 and 1	No
replaceIfPresentFlag	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0 and 1	No
silent	Flag that allows sending silent SMS (message that arrives with no sound and is not displayed on the screen) Allowed values are: 0 and 1, where 0 means NOT silent. Any value other than 0 which has been set explicitly is treated as true, for example, silent=false is interpreted as silent=1. Whether the silent SMS arrives as a silent one to the end user depends on the vendor and the other carriers that handle it.	No
validityPeriod	validity period in absolute or relative format Examples: *validityPeriod=000002000000000R* (relative format - the message is valid for 2 days) *validityPeriod=241222080910000-* (absolute format - the message is valid till Dec 22, 2024, 08:09:10GMT+0)	No

Response format

In case of successful processing, the status in the header of the HTTP response is 200 OK. Response body contains the message_id.

Sample of a response in JSON format:

```
HTTP/1.1 200 OK
Content-Type: application/json

{"message_id":"alss-a1b2c3d4-e5f67890"}
```

In case

1) the request contains more than one DNIS (comma-separated)
2) the longMessageMode=split/split_sar and the message is longer than 160/70 symbols (GSM/Unicode respectively),

the response will look as follows:

```
HTTP/1.1 200 OK
Content-Type: application/json

[{"dnis":"34511121","message_id":"5b4c46a8-8dc9-44b4-f55f-3bef56819305",
```

```
"segment_num":"1"},{"dnis":"34511121",
"message_id":"5b4c46a8-46bc-7ee6-4a16-7d4e5a0d14af","segment_num":"2"}]
```

In case of rejected SMS (for example, no compatible routes found), the HTTP response status is - 400 Bad Request. The response body contains a string describing the reason for rejection, for example NO ROUTES.

```
HTTP/1.1 400  Bad Request
Content-Type: text/html; charset=UTF-8

NO ROUTES
```

In case an incorrect user name or password is provided, the HTTP status is 401 Unauthorized. The response body contains the string describing the reason for rejection.

```
HTTP/1.1 401 Unauthorized
Content-Type: text/html; charset=UTF-8

not authorized (check login and password)
```

If the service_type field exceeds 6 bytes, the response will look as follows:

```
HTTP/1.1 400 Bad request\n
Content-Type: text/html; charset=UTF-8\n
Service type is invalid\n
```

If a message is considered a loop in accordance with the Loop Detection functionality, the response will be as follows:

```
HTTP/1.1 508 Loop Detected
Content-Type: text/html; charset=UTF-8
loop detected
```

19.2.2 Alaris MMS HTTP API

Request format:

curl 'http://1.1.1.1:8001/api?username=<username>&password=<password>&ani=<ani>&dnis=<dnis>&message=<message>&command=submit&serviceType=<serviceType>&longMessageMode=<longMessageMode>&messageType=mms&mmsContentUrl=<url>'

Parameter	Value	Required
command:	Request type. Possible values: “submit”, "query", "mo". To send a message over HTTP, specify command=submit	Yes
dnis:	Destination number. Must be sent in international E.164 format (up to 15 digits allowed). If the field length exceeds 2048 symbols or 100 numbers, the incoming message will be rejected with the following code: 400 Bad Request (Destination number is too long). Multiple DNIS's cannot be used for longMessageMode=split_or_payload	Yes
message:	Message text	Yes

Parameter	Value	Required
messageType	mms	Yes
mmsContentUrl	Link to content, for example, ..mmsContentUrl='http://path/1.png'... with specified extension if the contentType parameter is not transferred (for example, in "1.png" *png* is the extension). Supported content extensions: jpg/jpeg wbmp png bmp gif amr wav aac qcp 3gp/mp4 txt	Yes
password:	Password	Yes
serviceType:	Service type, provided by the System owner for the registered interconnection. Can be blank. The maximum length is 9 bytes.	Yes
username:	Login	Yes
ani:	Caller ID. Technical limitation - alpha-numeric up to 32 symbols. Additional limitations can be caused by destination route peculiarities	No
contentType	content type/extension. If the contentType parameter is not transferred, the extension must be present in mmsContentUrl. Possible values: image/jpeg image/vnd.wap.wbmp (equals to wbmp extension) image/png image/bmp image/gif audio/amr audio/x-wav audio/aac audio/qcp video/3gpp text/plain; charset=UTF-8 (equals to txt extension)	No

Parameter	Value	Required
dataCoding	data coding scheme for sending the message to the vendor. Format: integer. Optional. Allowed values are: 0, 1, 3, 6, 7, 8, 10, 14, where: *0: SMSC Default Alphabet (SMPP 3.4)/MC Specific (SMPP 5.0)* *1: IA5 (CCITT T.50)/ASCII (ANSI X3.4)* *3: Latin 1 (ISO-8859-1)* *6: Cyrillic (ISO-8859-5)* *7: Latin/Hebrew (ISO-8859-8)* *8: UCS2 (ISO/IEC-10646)* *10: ISO-2022-JP (Music Codes)* *14: KS C 5601*	No
esmClass	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0-255	No
flash	Flag that indicates a flash message. Possible values are: 0 (regular message) and 1 (flash message that is shown on the screen and is not stored in the device memory). Please note that the flag is merely written to the EDR (*Technical details* field) and does not change the message data coding. The flag value can be transmitted for MT message sending. The flag can also be changed with the help of translation rules.	No
longMessageMode:	Type of long message processing. The following values allowed: cut (trim message text to 140 bytes) - shortens the message leaving only first 140 bytes to be sent. split and split_sar - split the message according to the logics described below. The difference between them is in the header to be used, for split it is UDH header, for split_sar it is sar accordingly. single_id_split - split the message but return the message ID common for all segments payload - message_payload field is used for sending the message text	No

Parameter	Value	Required
	The splitting (options 2/3) depends on the coding: "- dataCoding = 0, 1 or 3: one message can contain up to 160 bytes. If more: segment count = 'message length in symbols / 153 symbols' (or: 'message length in bytes / 153 bytes') - dataCoding 2, 4 - 7: one message can contain up to 140 bytes, if more – segment count = 'message length in symbols / 134 symbols' (or: 'message length in bytes / 134 bytes') - dataCoding 8: one message can contain up to 140 bytes, if more – segment count = 'message length in symbols / 67 symbols' (as 1 symbol occupies 2 bytes, that is: 'message length in bytes / 134 bytes') split_or_payload: serves for sending long messages received over HTTP to SMPP vendors. The mode is not supported if several numbers have been received in the *dnis* parameter within a single request from the client. When the *Send text in payload* option is enabled in the vendor channel, the message will be sent in the payload field as a single submit_sm packet. Also, a single delivery report is expected for it, whereas the client will be sent as many reports as the number of received parts. Besides, a single EDR will be written, therefore, the *bill by segments* option must be set in the client product for correct billing of the client. The default value is "cut".	
incMsgId (inc_msg_id)	The client message ID (128 symbols maximum) that can be used for incoming HTTP requests with longMessageMode=cut, longMessageMode=split, longMessageMode=split_sar or no longMessageMode (which equals to longMessageMode=cut). When the SMS switch receives this parameter it will use its value as a client ID. This will allow clients to use their ID to request information on the message if, for example, no routes are available. In case of long messages (when longMessageMode=split or longMessageMode=split_sar), the incoming parameter inc_msg_id will be one and the same for the entire message, whereas the SMS switch will split the message into several parts and use the same ID for each part, adding the part number to	No

Parameter	Value	Required
	each of them. For example, if a message contains two parts and has the incoming message ID is inc_msg_id=1gfc4dd56cbndcj741xs, the SMS switch will process the messages with IDs 1gfc4dd56cbndcj741xs-1 and 1gfc4dd56cbndcj741xs-2.	
srcTon, srcNpi, dstTon, dstNpi	the respective parameters for Sender ID and Destination number. Format: integer. Optional	No
priorityFlag	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0 and 1	No
registeredDelivery	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0 and 1	No
replaceIfPresentFlag	corresponds to the same name parameter in SMPP. Format: integer. Optional. Allowed values are: 0 and 1	No
silent	Flag that allows sending silent SMS (message that arrives with no sound and is not displayed on the screen) Allowed values are: 0 and 1, where 0 means NOT silent. Any value other than 0 which has been set explicitly is treated as true, for example, silent=false is interpreted as silent=1. Whether the silent SMS arrives as a silent one to the end user depends on the vendor and the other carriers that handle it.	No

Response format:

If *contentType* is not available in the request, and *mmsContentUrl* does not contain a supported extension, the unsuccessful response will look as follows:

```
Content Type contains incorrect value
```

If *mmsContentUrl* is not transferred in the report, the unsuccessful response will look as follows:

```
mmsContentUrl/mms-content-url missing, please define it explicitly in the
mmsContentUrl/mms-content-url parameter
```

19.2.3 Oracle Responsys format

Request format:

curl -u <username>:<password> 'http://127.0.0.1:8001/api?recipient=<dnis>&reply_to=<ani>&messageBody=<text>&reporting_key=<reporting_key>'

or

curl Authorization: Basic dXNlcjpwYXNz 'http://127.0.0.1:8001/api?recipient=<dnis>&reply_to=<ani>&messageBody=<text>'

where:

- *dXNlcjpwYXNz* is the base64 encode value of username:password (only Basic Authorization is used for authorization)
- *reporting_key* is an optional field (an extra client ID)
- all other fields are required

Response format:

A successful response will look as follows:

```
{"success": true, "error": ""}
```

An unsuccessful response will look as follows:

```
{"success": false, "error": "not authorized (check login and password)"}
```

19.2.4 RCS API

1. **Authentication request to obtain a token**

- **Default auth type (based on OAuth)**

curl 'https://domainname/v1/auth/' -u 'login:password'

where

domainname must be replaced with the actual System owner RCS proxy domain name (or the IP address). The default RCS proxy ports are 80 (HTTP) and 443 (HTTPS), therefore it is omitted

/v1/auth/ is the default path

login is the Client ID (configured in RCS\Bots 357)

password is the Client secret (configured in RCS\Bots 357)

- ***OAuth 2.0/Google* auth type**

First, it is necessary to generate client ID and certificate (private and public key) in the *RCS/Bots* interface - private key and client ID must be shared with the client. After that the client is supposed to generate JWT token. This can be done using basically any programming language. Some examples are listed below:

a. Javascript:

```
const jwt = require('jsonwebtoken');
const privateKey = 'your_private_key';
const clientId = 'your_client_id';
const expirationTime = Math.floor(Date.now() / 1000) + (60 * 60);
const token = jwt.sign(
 { sub: clientId, exp: expirationTime },
 privateKey,
```

```
 { algorithm: 'RS256'}
);
console.log(token);
```

b. Python

```
import jwt
import time
private_key = 'your_private_key'
client_id = 'your_client_id'
expiration_time = int(time.time()) + 3600
payload = {
   'sub': client_id,
   'exp': expiration_time
}
token = jwt.encode(payload, private_key, algorithm='RS256')
print(token)
```

c. Java

```
import io.jsonwebtoken.Jwts;
import io.jsonwebtoken.SignatureAlgorithm;
import java.util.Date;

public class JwtExample {
   public static void main(String[] args) {
       String privateKey = "your_private_key";
       String clientId = "your_client_id";
       long expirationTimeMillis = 3600000;
       Date expirationDate = new Date(System.currentTimeMillis() + expirationTimeMillis);
       String jwt = Jwts.builder()
               .setSubject(clientId)
               .setExpiration(expirationDate)
               .signWith(SignatureAlgorithm.RS256, privateKey)
               .compact();
       System.out.println(jwt);
```

```
  }
}
```

The resulting token must be used in a request for authentication:

curl 'https://domainname/v2/auth' -H 'Content-Type: application/x-www-form-urlencoded' -d 'grant_type=urn%3Aietf%3Aparams%3Aoauth%3Agrant-type%3Ajwt-bearer&assertion=TOKEN'

where

domainname must be replaced with the actual System owner RCS proxy domain name (or the IP address).

JWT_token is the JWT token formed by the client side

The response will contain a token:

```
{
  "access_token": "NanEMc87ZJfGJqdNYF292uSumAgvdH",
  "token_type": "Bearer",
  "expire": 3599
}
```

The default token's time-to-live is 1 hour (3600 seconds)

In case of an authentication error, the response will be as follows:

```
{
  "error": "invalid_client"
}
```

2. Placeholders to be replaced in the requests described below

$domainname$ must be replaced with the actual System owner RCS proxy domain name (or the IP address)

$botGUID$ must be replaced with a Bot GUID (configured in RCS\Bots 357)

$token$ must be replaced with the token obtained on step 1

$dnis$ is the destination number (example: 34666271478). The + sign must be present in the request

$clientId$ is the client message ID assigned by the client in order to proxy it to Google and receive message status updates from Google with the same ID

3. Sending a text message

NOTE: Incoming requests can be sent in compliance with any of the following API: GSMA specification or Google API unless the bot type is Google RBM. It is mandatory to follow Google API while sending a message (applicable to any message type – for example, a file message or a geo-tag message) to the Google RBM bot.

GSMA specification	Google API

curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"textMessage": "hello"}, "messageContact": {"userContact": "+$dnis$"}}' or to use a fallback if the RCS provider responses with an error: curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"textMessage": "hello"}, "messageContact": {"userContact": "+$dnis$"}, "UseFallback": true}' add *timeToLive* to specify the message time-to-live validity period: curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"textMessage": "hello", "timeToLive": "3.5s"}, "messageContact": {"userContact": "+$dnis$"}}' where a positive integer or decimal value must be specified in seconds	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"contentMessage": {"text": "hello"}}' add *ttl* to specify the message time-to-live validity period: curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"contentMessage": {"text": "hello"}, "ttl": "3.5s"}}' where an integer or decimal value must be specified in seconds

4. **Sending a message with a file**

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"fileMessage": {"thumbnailFileName": "car.png","thumbnailUrl": "https://example.com/car.png","thumbnailMIMEType": "image/png", "thumbnailFileSize": 125, "fileName": "lexus.png", "fileUrl": "https://example.com/lexus.png", "fileMIMEType": "image/png", "fileSize": 10125}},"messageContact": {"userContact": "+$dnis$"}}'	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d {"contentMessage": {"fileName": "lexus.png", "contentInfo": { "fileUrl": "https://example.com/lexus.png"}}}

5. **Sending a message with an audio file**

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"audioMessage": {"fileName": "birds.mp3", "fileUrl": "https://example.com/birds.mp3", "fileMIMEType": "audio/mp3", "fileSize": 20125, "playingLength": 600}}, "messageContact": {"userContact": "+$dnis$"}}'	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d {"contentMessage": {"fileName": "birds.mp3", "contentInfo": {"fileUrl": "https://example.com/birds.mp3"}}}

6. **Sending a geo tag message**

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"geolocationPushMessage": {"label": "My new home", "timestamp": "2021-07-04T12:00:00.000Z", "expiry": "2021-07-05T12:00:00.000Z", "timeOffset": 10800, "pos": "26.1181289 -80.1283921", "radius": 10}}, "messageContact": {"userContact": "+$dnis$"}}'	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"contentMessage": {"text": "My new home", "suggestions": [{"action": {"text": "My new home", "postbackData": "TXkgbmV3IGhvbWU=", "viewLocationAction": {"latLong": {"latitude": 26.1181289, "longitude": 80.1283921}, "label": "My new home"}}}]}}'

The *postbackData* field contains the base64-encoded value of the *label*

7. **Sending a single rich card message**

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"richcardMessage": {"message": {"generalPurposeCard": {"layout": {"cardOrientation": "HORIZONTAL", "imageAlignment": "LEFT"}, "content": {"media": {"mediaUrl": "https://cdn.server/path/media.mp4", "mediaContentType": "video/mp4", "mediaFileSize": 2718288, "thumbnailUrl": "https://cdn.server/path/media.png", "thumbnailContentType": "image/png", "thumbnailFileSize": 314159, "height": "MEDIUM_HEIGHT", "contentDescription": "Textual	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"contentMessage": {"richCard": {"standaloneCard": {"cardOrientation": "HORIZONTAL", "thumbnailImageAlignment": "LEFT", "cardContent": {"title": "This is a single rich card.", "description": "This is the description of the rich card. It's the first field that will be truncated if it exceeds the maximum width or height of a card.", "media": {"height": "MEDIUM", "contentInfo": {"fileUrl": "https://cdn.server/path/media.mp4", "thumbnailUrl": "https://cdn.server/path/media.png"}}}}}}}'

description of media content, e. g. for use with screen readers."}, "title": "This is a single rich card.", "description": "This is the description of the rich card. It's the first field that will be truncated if it exceeds the maximum width or height of a card."}}}}}, "messageContact": {"userContact": "+$dnis$"}}'	

8. **Sending a rich card message (carousel)**

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"richcardMessage": {"message": {"generalPurposeCardCarousel": {"layout": {"cardWidth": "MEDIUM_WIDTH", "titleFontStyle": ["underline"], "style": "http://example.com/default.css"}, "content": [{"media": {"mediaUrl": "https://cdn.server/path/media.mp4", "mediaContentType": "video/mp4", "mediaFileSize": 2718288, "thumbnailUrl": "https://cdn.server/path/media.png", "thumbnailContentType": "image/png", "thumbnailFileSize": 314159, "height": "MEDIUM_HEIGHT" }, "title": "This is a first rich card.", "description": "This is the description of the rich card. It's the first field that will be truncated if it exceeds the maximum width or height of a card."}, {"title": "This is a second rich card!", "description": "Carousel cards need to specify a card width in the 'layout' section. For small width cards, only short and medium height media are supported."}]}}}}, "messageContact": {"userContact": "+$dnis$"}}'	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"contentMessage": {"richCard": {"carouselCard": {"cardWidth": "MEDIUM", "cardContents": [{"title": "This is a first rich card.", "description": "This is the description of the rich card. It's the first field that will be truncated if it exceeds the maximum width or height of a card.", "media": {"height": "MEDIUM", "contentInfo": {"fileUrl": "https://cdn.server/path/media.mp4", "thumbnailUrl": "https://cdn.server/path/media.png"}}}, {"title" : "This is a second rich card!", "description" : "Carousel cards need to specify a card width in the 'layout' section. For small width cards, only short and medium height media are supported."}]}}}}'

9. **Sending a message with suggested chip list**

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/messages/' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"RCSMessage": {"textMessage": "Hello World!", "suggestedChipList": {"suggestions": [{"action": {"dialerAction": {"dialPhoneNumber": {"phoneNumber": "+$dnis$"}}, "displayText": "Let me speak with your manager", "postback": {"data": "set_by_chatbot_open_dialer"}}}, {"action":	curl -X POST 'https://$domainname$/v1/phones/+$dnis$/agentMessages?messageId=$clientId$' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"contentMessage": {"text": "Hello, world!", "suggestions": [{"action": {"dialAction": {"phoneNumber": "+$dnis$"}}}, {"action": {"openUrlAction": {"url": "https://www.alarislabs.com",}}}, {"reply": {"text": "No", "postbackData": "he_said_no"}}]}}'

{"urlAction": {"openUrl": {"url": "https://www.alarislabs.com", "application": "browser"}}, "displayText": "Let me know more!", "postback": {"data": "set_by_chatbot_website_opened"}}}, {"reply": {"displayText": "No", "postback": {"data": "he_said_no"}}},]}}, "messageContact": {"userContact": "+$dnis$"}}'	

10. Checking if a subscriber supports RCS

GSMA specification	Google API
curl -G -X GET 'https://$domainname$/v1/bot/v1/$botGUID$/contactCapabilities' --header "Authorization: Bearer $token$" --data-urlencode="userContact=+$dnis$"	curl -G -X GET 'https://$domainname$/v1/phones/+$dnis$/capabilities' --header "Authorization: Bearer $token$" --data-urlencode="requestId=$clientId$"

11. Requesting the message status

The format on an incoming request is identical for both GSMA specification and Google

curl -X GET 'https://$domainname$/v1/bot/v1/$botGUID$/$messageId$/status' --header "Authorization: Bearer $token$"

where *$messageId$* must be replaced with the message ID returned by RCS proxy to a message sending request (in case of a GSMA request) or set by the client (in case of a Google request).

12. Uploading a file to CDN (Content Delivery Network)

GSMA specification	Google API
curl -X POST 'https://$domainname$/v1/bot/v1/$botGUID$/files --header "Authorization: Bearer $token$" --form 'fileUrl="https://example.com/picture.jpg"'	curl -G -X POST 'https://$domainname$/v1/upload/v1/files' --header "Authorization: Bearer $token$" --header "Content-Type: application/json" -d '{"fileUrl": "https://example.com/picture.jpg"}'

13. RCS proxy responses

A successful response to a message-sending request will be as follows:

{"RCSMessage": {"msgId":"rcs-630458-195680","status":"sent","timestamp":"2023-02-20T16:12:36ZZ"}}

The following errors can be returned:

Error	Error description	Troubleshooting

code		
400001	Incoming bot not found	Applicable to the Orange Group (legacy) bot type: verify the bot GUID is specified correctly in the incoming request (an obsolete error)
400002	Outgoing bot not found	
400003	Rcs method is blocked	Applicable to the GSMA specification: verify the blocked_methods internal setting or contact the Alaris technical support team
400004	Out of credit	The client balance is low – check the In credit setting of Start\Carriers\Agreements and the client balance on Start\Carriers\Accounts
400005	Post body parsing is failed	Check if the request body is correct and compiled according to the API
400006	Ssl handshake failed	The vendor rejected SSL handshake or did not respond to the handshake
400007	This destination is not allowed for rcs traffic	Make sure that the destination address is set in the incoming request in accordance with the API. Verify the allowed_destinations internal setting or contact the Alaris technical support team
400008	Dns cannot be resolved	Check the Webhook URL of the RCS bot and that its domain name can be resolved
400009	Not authenticated	Make sure that the bot GUID matches the token value (that is, the specified Bot GUID is the one for which the token was obtained)
400010	Request processing error	Verify if the syntax of the incoming request is correct
400011	Auth file is not defined	Make sure that the Authentication file content has been specified for the Google RBM bot type in Start\RCS\Bots
400012	Ambiguous message type	Check that the audioMessage and fileMessage are not specified within the same request
400013	Remote auth has failed	Token cannot be obtained due to an occurred error
400014	Remote server not found	
400015	Client’s account is inactive	Verify if the client’s agreement is active
400016	Remote auth no token	Token was not found in the returned response or was not saved due to an exception

400017	Unknown file type	Verify if the file that is being uploaded to CDN has the correct/known type (for example, the executable type is an unknown type)
400018	Incoming bot not active	Check if the bot is active verifying the Active from/Active till period and the Is active flag in Start\RCS\ Bots
400019	Outgoing bot not active	
400020	Outgoing bot has incorrect webhook url	
400021	Invalid RCS Request	The following scenarios can be tracked for the error to be returned: request body is missing or empty; user contact cannot be defined; message type (textMessage, audioMessage etc) cannot be defined (if applicable). Note that all 3 scenarios are verified for GSMA (A2P direction), while for Google (A2P direction) only user contact is checked. For P2A direction only request body is verified
400023	no routes	The request was sent to the MCCMNC defined in the internal configuration file for a particular RCS provider which is not set up in the bot's delivery channels

Example:

< HTTP/1.1 400 Bad Request

< Content-Length: 65

< Content-Type: application/json

<

{

"description": "Out of credit",

"error": 400004

}

19.3 SMS status request

The links below are intended for request of delivery reports over HTTP from the client side.

Request format:

http://1.1.1.1:8001/api?username=<username>&password=<password>&messageId=<messageId>&command=query

https://1.1.1.1:8002/api?username=<username>&password=<password>&messageId=<messageId>&command=query

Parameters:

username:	Login
password:	Password
messageId:	Message identifier received with the submission response
command:	Request type. Must be set to “query” value

All parameters are obligatory.

Response format:

In case of successful processing, the status in the header of the HTTP response is 200 OK. The response body contains the one of the following possible values:

ENROUTE:	Message is in routing stage. The status can be returned to the client if the message is in the SENT status
DELIVRD:	Message is delivered to the Subscriber
EXPIRED:	Message storage period expired
DELETED:	Message was deleted
UNDELIV:	Message cannot be delivered
ACCEPTD:	Message is accepted by SMSC
UNKNOWN:	Unknown message status. Information on statuses is stored in the in-memory database for 24 hours (by default). Therefore, this status may be returned if the client has requested a status quite late and it was already removed from the memory.
REJECTD:	Message was rejected by SMSc. The status can also be returned for internal failed statuses, for example, for the NO ROUTES status.
IM_EXPD	Delivery report was not received from the IM provider within the im_ttl timeout

Response sample:

```
HTTP/1.1 200 OK
Content-Type: application/json
```

```
{"status": "DELIVRD", "delivery_time": "20210922093309", "mccmnc": "214099",
"error_code": "000", "system_delivery_time": "210922093309"}
```

where delivery_time is the *done date* received from the vendor (if not received the field will be empty); mccmnc is the E212 code; error_code is the delivery error code; system_delivery_time is the delivery report receipt time by the System (in the format YYMMDDHH24MISS, for example, 210325153842).

The status can be requested within 24 hours after the message submission.

In case the message with the requested message ID is not found the response HTTP status is 200 OK. The response body contains the error description in the “status” field:

```
HTTP/1.1 200 OK
Content-Type: application/json

{"status": "UNKNOWN", "delivery_time": "", "mccmnc": ""}
```

In case an incorrect user name or password is provided, the HTTP status is 401 Unauthorized. The response body contains the string describing the reason for rejection.

```
HTTP/1.1 401 Unauthorized
Content-Type: text/html; charset=UTF-8

not authorized (check login and password)
```

19.4 Allowed marker names for outgoing HTTP callbacks

This section contains allowed marker names for outgoing HTTP callbacks (sending of delivery report and MO SMS with the help of cURL in a generated script).

It is possible to specify the _*noencode* suffix for markers. This allows, for example, transmitting text without URL encoding to the client. Example: curl 'http://1.1.1.1/api/callback/api?msg-id=$message_id$&state=$delivery_status$&reason-code=$result_code$&to=$dnis$&time=$done_date_noencode$&mcc=mcc&mnc=mnc'

NOTE: It is possible to configure custom markers with predefined static values with the help of internal configuration. To learn more, contact the Alaris technical support team and share the BZ20893 code. The functionality comes in handy in case several SMS switches are employed and a static value for the SMS switch address cannot be specified directly in the link.

19.4.1 Deliver

Parameter	Description	Format	Allowed values
ani	Destination address	string	
clientChannelId	vendor channel ID that was used to receive the deliver_sm	integer	
country_name	country name	string	if not defined, the marker is replaced by "Undefined"

Parameter	Description	Format	Allowed values
currency	client account's currency	string	
delivery_status	delivery status based on outgoing translations for the client side	string	
delivery_time	time when the delivery report was generated by the switch	string	Date format: YYMMDDHHMMSS
dlvrResultCodeDescr	response code description	string	
dnis	Sender ID	string	
done_date	time value from the "done date:" field of the delivery report received from the vendor	string	Date format: YYYY-MM-DDZHH24:MI:SS. Example: 2019-11-12Z08:06:18
done_date_t	the message delivery time in the System timezone with an unrounded value of seconds (for example, 2021-02-23Z13:46:21) the same as done_date marker but with replacing the Z delimiter by T	string	Example: 2019-11-12T08:06:18
done_date_unix	done_date in UNIX format (in UTC time zone)	string	Example: 1732525860 (which corresponds to 2024-11-25Z09:11:00)
delivery_time_unix	time of receipt of SMS delivery report by the switch in UNIX format (in UTC time zone)	string	Example: 1732525860 (which corresponds to 2024-11-25Z09:11:00)
im_channel	IM (instant messaging) channel	string	Depend on the IM channels configured in

Parameter	Description	Format	Allowed values
	name		the System. Examples: viber_promotion,whatsapp,sms
message	delivery report text generated by the switch	string	
message_id	message identifier, including the common ID of a concatenated message if the switch correctly detected concatenation and successfully put together all message segments	string	
mcc	MCC	string	
mccmnc	MCCMNC	string	HLR MCCMNC if defined; otherwise, e.212/e.164 reference book MCCMNC
mnc	MNC	string	
mnc_no_zero	MNC without leading zeros	string	
net_name	network name	string	if not defined, the marker is replaced by "Undefined"
part_amount	total number of message parts	string	number, from 1 and above
rate	message cost in the client's currency	string	number; up to 5 decimal places are allowed the value for replacement depends on the product billing mode and the message longMessageMode. To

Parameter	Description	Format	Allowed values
			learn more, communicate BZ33117 code to the Alaris technical support team
reportingKey	reporting key received in an Oracle Responsys request	string	
response_code_description	response code description received from the vendor in the optional field 0x2167 (leading and trailing zero bytes are removed)	string	If absent in the vendor delivery report, the empty value is proxied to the client
result_code	error code from the delivery report received from the vendor	string	The default value is “000”
serviceType	for POIs with service type='*' it is replaced with the service type received from the client in the initial submit request	string	
system_delivery_time	the delivery report send time to the client	string	Date format: YYMMDDHHMMSS

19.4.2 MO SMS

Parameter	Description	Format	Allowed values
ani	Sender ID	string	
clientChannelId	vendor channel ID that was used to receive the deliver_sm	integer	
delivery_status	delivery status	string value, always equal to "MO"	MO

Parameter	Description	Format	Allowed values
delivery_time	time when the message was generated by the switch	string	Date format: YYMMDDHHMMSS
dnis	DNIS	string	
keyword	word templates used to remove words from the message text	string	
localAddress	local address to which the deliver_sm is received	string	
message	message text in UTF-8	string	
message_id	generated identifier associated with the message	string	
messageWithoutKeyword	message text without the words that were removed based on the templates	string	
mt_message_id	MT message ID to which the MO was sent. The MT ID is registered as the client ID for the MO. If a long MT message was received over HTTP with longMessageMode=split, mt_message_id will have an ID of any part assigned (the logic is not defined explicitly)	string	
network	network name	string	
result_code		string value, always equal to "000"	000

Parameter	Description	Format	Allowed values
sarId	UDH message ID in decimal format	string	
sarIdHex	UDH message ID in hexadecimal format	string	
sarPartNumber	Segment number	integer	
sarParts	Total number of segments	integer	
serviceType		string value, always equal to "MO"	MO
udh	UDH in hexadecimal format	string	the allowed symbols are 0123456789ABCDEF. If the source message contains no UDH, the string is empty

19.5 Parameters used for incoming delivery reports and MO SMS over HTTP

The System can accept Callback URLs (cURL) over HTTP to receive MO messages and delivery reports over HTTP. The table below contains a minimum set of parameters with which the System owner can provide its vendor so that the vendor can configure the callback URL and send delivery statuses and/or MO messages to the System owner.

A sample cURL for sending delivery reports:

http://alarisIP:8003/api?dnis=$dnis$&username=SmsChannelUsername&password=SmsChannelPassword&command=deliver&dlvrMsgId=$messageID$&dlvrMsgStat=$status$

A sample cURL for sending MO:

http://alarisIP:8003/api?dnis=$dnis$&ani=ani&username=SmsChannelUsername&password=SmsChannelPassword&command=mo&message=$message_text$

(the *message* field is obligatory for MO)

Sample cURL records for sending an activation (conversion) report. Note that the feature is not configured by default, to proceed with configuration, communicate BZ56375 code to the Alaris technical

support team:
http://alarisIP:8003/?message_id=$message_id$&command=deliver&status=ACTIVATED&username=SmsChannelUsername&password=SmsChannelPassword

curl -X POST 'http://alarisIP:8003/api?command=deliver&username=SmsChannelUsername&password=SmsChannelPassword&status=ACTIVATED' -d '{"message_id": ["62fe00ce-0279-8c6b-9236-7f91b29d250c", "62fe00ce-0d08-82c3-2a9e-6b473ab802a2", "62fe00ce-9f1f-aca0-c3c6-a479e6088b4b", "62fe00ce-1682-bef0-2bb0-e970a3698685"], "type": "http"}' -H "Content-Type: application/json"

Parameters used for incoming delivery reports and MO SMS over HTTP

Parameter	Description	Format	Allowed values	Required
command	request type	string	mo deliver	Yes
ani	from	string		Yes if command=mo
dnis	DNIS (to)	string		Yes if command=mo
message	text of delivery report	string		Yes if command=mo
dlvrMsgId, or messageId, or message_id	ID of the submit request related to the delivery report	string		Yes if command=deliver
dlvrMsgStat	status, messageStatus – SMS delivery status	string	Allowed values must either be equal to the standard set of statuses or the vendor status translation rules	Yes if command=deliver
dlvrMsgErr	error code	string		No
username password	authentication credentials used for vendor channel authentication	string		Quasi optional. If both parameters are missing from the request, the switch can use the parameter *callbackAuthData* from its configuration file to substitute the default authentication data
srcTon	the respective parameters for Sender ID and	integer		No

Parameter	Description	Format	Allowed values	Required
srcNpi	Destination number			
dstTon				
dstNpi				
dataCoding	data coding scheme for sending the message to the client	integer	0, 1, 3, 6, 7, 8, 10, 14, where: *0: SMSC Default Alphabet (SMPP 3.4)/MC Specific (SMPP 5.0)* *1: IA5 (CCITT T.50)/ASCII (ANSI X3.4)* *3: Latin 1 (ISO-8859-1)* *6: Cyrillic (ISO-8859-5)* *7: Latin/Hebrew (ISO-8859-8)* *8: UCS2 (ISO/IEC-10646)* *10: ISO-2022-JP (Music Codes)* *14: KS C 5601*	No
udhMsgId	UDH ID for an already concatenated MO message, must be specified together with *udhMsgPartNumber* and *udhMsgParts*. Not applicable to MT messages.			No

Parameter	Description	Format	Allowed values	Required
udhMsgPartNumber	Part number of a concatenated message; must be specified together with *udhMsgId* and *udhMsgParts*. Applicable to incoming MO messages only.	integer		No
udhMsgParts	The general number of parts of a long MO message, must be specified together with *udhMsgPartNumber* and *udhMsgId*. Applicable to incoming MO messages only.	integer		No
udhType	UDH type. If omitted, set to 0. Applicable to incoming MO messages only.	integer		No

NOTE: If the request contains an optional parameter and its value is not in the list of allowed values, the submit will be rejected with the appropriate status.

19.6 Submit placeholders

The following placeholders can be used in the *URL template* field for SMS submission.

Parameter	Value
username	Login
password	Password
ani	Sender ID
dnis	Destination address

Parameter	Value
text	Message text (URL-encoded)
textUTF8	Message text in UTF-8 (non URL-encoded)
message	Message text (URL-encoded)
message64	Message text encoded in base64
onewayText	Hex-encoded text in UTF-16 for data coding 8, for other cases - UTF-8 non URL-encoded text
hexText	Message text in hexadecimal format (applicable to UTF-8)
hexUCS2	Message text in hexadecimal format (applicable to UTF-16). For example, the symbol g is encoded as 0067 with the help of the marker
hexUCS2U	The same as hexUCS2 but with \u prefix. For example, the g symbol is encoded as \u0067 with the help of this marker
textUTF16BE	Message text in UTF-16 BE format
serviceType	Service type, provided by the system owner for the registered interconnection. Can be blank.
ownIntMessageId	Platform-generated message ID (decimal), the maximum length is 10
ownHexMessageId	Platform-generated message ID (hexadecimal), the maximum length is 10
srcTon, srcNpi, dstTon, dstNpi	TON and NPI for sender ID and destination address respectively. Format: integer.
dataCoding	Data coding value - 0 or 8. Set as 0 if message can be encoded in GSM7bit, if not then set as 8.
clientName	Client name (URL-encoded) from which submit_sm has been received (as configured in the Carriers page)
validityPeriod	Validity period in yyyymmddhh24miss format (in UTC). If not set, the validityPeriod is set as current date + time of delivery

Parameter	Value
	reports storing (set in the system setting Delivery waiting period, sec)
validityPeriodRelative	Validity period in relative format (in seconds)
silent	Flag that allows sending silent SMS (message that arrives with no sound and is not displayed on the screen)
localid	Message ID generated for client
transactionid	Transaction ID
submitsenttime	Message receive date
mccmnc	Message MCCMNC. It will be changed to the HLR MCCMNC when sent to the HTTP vendor in cases when the HLR value is received
protocolId	Protocol ID (taken from submit_sm respective field, same as protocol_id in SMPP)
hexUDH	UDH in hexadecimal, if message has no UDH, the marker value left blank
isconcat	0/1 flag, set to 1 if submit is a part of a long message
im-message	Message text (applicable when a message is sent through IM - instant messaging - provider)
im_channels	List of IM channels to send a message (a message will be sent thorugh these channels in the specified order)
im-ttl	TTL for sending of a message through IM channel(s)
ttl_expiry_text	Message text after expiration of validity period
image_url	Link to the button image for buttons sent in the message through IM channel(s)
button_action_url	Link to the website where the user will be redirected after clicking the button (when a message is sent through IM channel(s)

Parameter	Value
button_caption	Button caption (when a message is sent through IM channels)
message_purpose	Applicable when a message is sent through Viber IM channels. Possible values are promotion and transaction
deliver_only_via_im	Specifies if only IM channels can be used for message sending, proxied from a client submit
mmsContentUrl	The link obtained from the mmsContentUrl parameter of the incoming submit
sarData	SAR/UDH info in the following format: ID/the number of parts/the part number (for example, 0D/2/1)
sar	SAR (UDH will not be replaced) info in the following format: ID/the number of parts/the part number (for example, 0D/2/1)
dnis_sha256	dnis encrypted with the help of the sha256 algorithm

NOTE: Starting from 3.5.19 release it is possible to proxy custom markers to HTTP vendors. To configure the feature, contact the Alaris technical support team and communicate the code BZ33127.

NOTE: It is possible to add *_noencode* and *_plencode* suffixes (for example, $textUTF8_noencode$) to placeholders in the URL template and *_plencode* in the POST template of SMS channels. The noencode suffix serves to disable URL encoding; the plencode suffix replaces spaces with '+' while the text is URL encoded (for example, 'Two Factor Auth verification code is: 123456' will be URL encoded as 'Two+Factor+Auth+verification+code+is%3a+123456' if the placeholder $text_plencode$ is used). All text markers except textUTF8 can be set with the *_noencode* and *_plencode* suffixes in the *URL Template* field.

19.7 Query placeholders

The following placeholders can be used in the *Status template* field for DLR request.

Parameter	Value
username	Login
password	Password
ani	Sender ID
dnis	Destination address
text	Message text

Parameter	Value
messageId	Message ID
ownIntMessageId	Alaris message ID in integer (decimal), the maximum lenght is 10
ownHexMessageId	Alaris message ID in hexadecimal, the maximum lenght is 10
serviceType	Service type, provided by the system owner for the registered interconnection. Can be blank.
srcTon, srcNpi, dstTon, dstNpi	The respective parameters for Sender ID and Destination number. Format: integer.
querySmId	The value of a specific key that is different from messageID and that was also received in the response to a message send request

20 Appendix 2. Supported HLR providers

The following HLR providers are supported by the System. Note that the information is relevant for the HLR module of a newer generation:

HLR provider	Protocol	hlrResponseCode	HLR MCCMNC notes	Notes
3g	HTTP	*error_code*		BZ45900
advance	HTTP	*error_code*		BZ22859
aicross	HTTP			BZ53162
alarisHlr3	HTTP	*providerResponseCode;* if the field is not returned in the response, *result* will be used as *hlrResponseCode*		
alphasms	HTTP			BZ50770
AMD (routee)	HTTP	*status*		BZ43457
ameex	HTTP	*errorcode*		
aroute	HTTP	If *present=false,* hlrResponseCode is 1. Given that *present=true,* hlrResponseCode is 0		
asmsc (SMS ALA)	HTTP	*ErrorCode*		BZ61580
bbix	HTTP	*errmsg*		
beepsend	HTTP			BZ20300
bind	HTTP	*gsmErrorCode*		
bsg	HTTP	The hlrResponseCode is taken from the *status* field, only if its value is *unknown*	If the HLR service returns *status=unknown*, the HLR MCCMNC is assigned as 999999	BZ44964
bsg2	HTTP	*status*	If the HLR service returns *status=unknown* and empty *network*, the HLR MCCMNC is assigned as 999999	
bsg_new	HTTP	*ls*		MNP-705
clx	HTTP			BZ12693
CM Telecom (cmtelecom)	HTTP	The hlrResponseCode metric equals to 0 if *valid_number* field is not available in the provider's response or		BZ21201

		false is returned in it, and equals to 1 if *true* is returned in the field		
Calixtaondemand	HTTP			BZ29303
cequens	HTTP	*errorCode*	MCCMNC is fetched only for *replyCode=200.* The portability flag is assigned as 1 (ported) if *status=002* in the HLR service response; otherwise the number is considered non-ported	BZ32640
cequens_enum	ENUM	*err_code*	The portability flag is assigned as 1 (ported) if *status=002* in the HLR service response; otherwise the number is considered non-ported	MNP-605
couretech	HTTP	*simActiveStatus*		BZ63527
datafon_enum	ENUM	*err*, *gsm_error_code* if indicated explicitly		
eocean	HTTP			BZ52442
esme	HTTP	*subscriberStatus*		BZ58029
gapit	HTTP			
generic_enum	ENUM	*q_stat*		Response example: *!^(.*)$!tel:\1;npdi;spn=24421;mcc=202;mnc=01;q_stat=001!*
gms	ENUM			BZ55310
globalvoice	HTTP	Two APIs are supported: globalvoice and globalvoice_2. For globalvoice the hlrResponseCode is taken from the *error* field. For globalvoice_2 the hlrResponseCode is taken from the *status* field.		BZ53790, BZ48697

hgc_enum	ENUM	If parsed HLR MCCMNC appears as 111011 or 211011, hlrResponseCode is set to the value	MCCMNC is not returned if fetched as 111011 or 211011	
hgc2_enum	ENUM	*status*		
HLR Directory	HTTP	*groupName*		BZ25652
hlrlookup (https://hlrlookup.com/api/hlr/)	HTTP	*error_code*		BZ58018
hlrlookups (https://www.hlr-lookups.com/api/?action=submitSyncLookupRequest..)	HTTP	*statuscode*		BZ39344, BZ50914
hlrlookup_v2 (https://api.hlrlookup.com/apiv2/hlr)	HTTP	*live_status*		BZ63936
horisen	HTTP			It is possible to interconnect with this provider directly through the routing module (bypassing connection to the HLR module). This comes instrumental when there is a need, for example, to ensure the performance of over 200-300 HLR requests per second. To enable the feature, contact the Alaris technical support team and communicate the code BZ30131. BZ16346
infobip	HTTP	*groupName*		BZ9051
isms	HTTP		The HLR service is a local MNP database, therefore the MCC is always defined as 401 while the MNC is obtained from the HLR service response	BZ18089
itdecisions	HTTP	*status*		BZ65333
itelvox	HTTP			BZ40511, BZ53521

JT Navigate (jtnav)	HTTP, ENUM	*StatusCode*		BZ48581
lanck	HTTP	*status*		
lifecell	HTTP	*resultCode*		BZ32548, BZ40143
lleida	HTTP			BZ17483
mediafon	HTTP	*isActive*		BZ42058
mediafon_enum	ENUM	hlrResponseCode=0, if the *Status* field from the vendor response has the value *1*. If *Status=2*, the hlrResponseCode value is taken from the *Error* field		BZ49740
messagebird	HTTP			BZ15242
messagecloud	HTTP	*gsmCode*		BZ41482
mitto	HTTP	The hlrResponseCode is taken from the *gsmCode* field. If the *gsmCode* field has not been received from the provider, the hlrResponseCode is taken from the *response* field (in this case, the System will add the *r* prefix to the value. For example, if *response=0*,the hlrResponseCode=="r0") . Also, the *absent* field can be used as hlrResponseCode In addition, it is possible to set up a more complex logic (disabled by default): if the *absent* field is not returned by the provider, no *hlrResponseCode* is fetched; given that *absent=true*, hlrResponseCode will be "1"; if *absent=false*, the aforementioned logic of 'gsmCode' and 'response' fields is applied	It is possible to replace the MCCMNC by the one sent in the provider's response (in the *response* or *gsmCode* field)	BZ24500, BZ68880

mittoenum	ENUM	*gsmCode*		BZ46425
netnumbercid (https://../gds/cid)	HTTP	*response_code*	If the HLR service returns *type=Fixed*, the HLR MCCMNC is assigned as 999999 - the logic can be overridden with disabling of the *Use fixed MCCMNC* flag on the HLR source level (from the configurator web interface, or internally) Additionally, the *ported* flag is set in accordance with the *pi* field from a provider's response	BZ37923, BZ52601, BZ64846
netnumber_mnis (https://../gds/mnis)	HTTP	*status;* also it is possible to obtain the value from the *nnti* or *nnci* field		BZ64835
netnumber_enum	ENUM	*nnti*		BZ43393
neustar	HTTP	The hlrResponseCode is taken from the *q_stat* field; if the field is not available, *re* is used as hlrResponseCode		BZ42308
paasoo	HTTP	*errorCode*		BZ47029
pivotel	HTTP	*ErrorCode*		BZ55227
plusmobile	HTTP	*wireless*		BZ32699, BZ33043
prolenea	HTTP			BZ54327
redsms	HTTP	If *status=undelivered*, hlrResponseCode=1. For *status=delivered* hlrResponseCode=0, otherwise hlrResponseCode=-1		BZ65474
redsms2	HTTP	If *sms=deliver*, hlrResponseCode=0. For *sms=not_deliver* hlrResponseCode=1, otherwise hlrResponseCode=-1	No MCCMNC is returned	
ring	ENUM			BZ61957

routemobile	HTTP	*errcode*		BZ15177
runexis	HTTP			The HLR service is a local Russian MNP database, therefore the MCC is always defined as 250 while the MNC is obtained from the HLR service response BZ52745
sinch	HTTP	*result*		BZ42687
sms77	HTTP	*gsm_code*		BZ46634
svyazcom	HTTP	The hlrResponseCode is a combination of *RES1, RES2* and *RES3* values of provider's response, separated by /. For example, if the response contains *RES1:1* *RES2:3* *RES3:5* then hlrResponseCode will be *1/3/5*		BZ20837
telco_guard	HTTP	*res2*		MNP-760
telesign (https://rest-ww.telesign.com/v1/phoneid/live/)	HTTP	hlrResponseCode is taken from the *device_status* field. If the *device_status* has not been received, hlrResponseCode is taken from the *description* field.	No MCCMNC is returned	BZ36933
telesign_net (https://rest-ww.telesign.com/v1/phoneid/)	HTTP	*{porting_status}{status}{code}*	If *mnc_current* is returned as a list of values, the first one is used for the MNC part (the value is searched until separator *;* occurs)	BZ50364
telesystems_enum	ENUM	*gsm_error_code*		MNP-639
televlookup	HTTP	First 3 digits of the *msisdn* and *MSC* fields are compared - given they match, hlrResponseCode=r0, otherwise r7. Note that if	No MCCMNC is returned	BZ68643

		one or both fields are empty, hlrResponseCode=r0		
termii	HTTP	For *status=DND blacklisted* hlrResponseCode=1, otherwise hlrResponseCode=0	No MCCMNC is returned	BZ45434
text2reach	HTTP	The *error* field of the *response* array		BZ14345
tmtenum	ENUM	The hlrResponseCode is taken from the *gsmcode* field. If the *gsmcode* field is not available, hlrResponseCode is taken from the *pres* field. Additionally it is possible to fetch info from the *e* field.		BZ27304
tmthttp (https://api.tmtvelocity.com/standard/...)	HTTP	The hlrResponseCode is taken from the *status* field		BZ37776
tmtlive (https://api.tmtvelocity.com/live/json/..)	HTTP	The hlrResponseCode is taken from the *status* field. It is possible to configure taking this value from the *present* or *error* fields. Also, a particular code can be assigned if the provider returns *status_message=Invalid Number*		BZ38351, BZ50163
tmtsip (http://live-sip.tmtvelocity.com)	ENUM	*gsmcode*		BZ39348
tyntec	HTTP	*errorCode,* or *presence* if set explicitly	It is possible to replace the MCCMNC by the one sent in the provider's response (in the *errorCode* field). The feature is set up in the internal configuration.	BZ11695
unibell	HTTP	If *status=absent*, hlrResponseCode is set to 1; for *status=active*,	No MCCMNC is returned	

		hlrResponseCode is set to 0. For any other values it is set to -1		
webcom	HTTP	*state*		
xconnect	HTTP	The hlrResponseCode is taken from the *rc* field (string). It is additionally possible to retrieve the code from the *ns* field		BZ19854, BZ59459
xconnect_enum	ENUM	The value is fetched from the *rc* field. Additionally it is possible to use the *ns* field, as well as to enable logic based on combination of *rc+ns+nv* fields		BZ62176, BZ66489
xconnectverifier (https://lookup.xconnect.net/pi/[dnis]?service=valid)	HTTP		If the provider returns *valid=N*, MCCMNC is assigned as 999999. In case of *valid=Y*, no MCCMNC is assigned and the next-in-line HLR service can be queried	BZ37698

NOTE: Regarding HLR request billing: some services return details other than MCCMNC that the System owner can use to configure routing. To take account of such requests, the following logic of HLR request billing has been implemented. If the EDR contains the name and type of the HLR service provider but contains no HLR MCCMNC, the System will search for the rate to MCC rest of the world (777 by default) in the appropriate HLR product. If it is available, it will be used for billing.

21 Appendix 3. Rate search logic

The rate search procedure is employed in routing as well as billing operations in the database (when EDRs are matched to rates).

The following variables are used during rate search for MT messages:

- The *Rate inheritance mode* parameter available in Administration\System settings\SMS rates 92
- The *MCC "Rest of the world"* parameter available in Administration\System settings\SMS routing 95
- The rate's *dial code* field is matched to the *Sender ID* present in a submit

Taking into account all these variables, the following logic priorities are employed:

Mode: global longest match	**Mode: longest match at child first**
Child rate for MCCMNC + Sender ID	Child rate for MCCMNC + Sender ID
Parent rate for MCCMNC + Sender ID	Child rate for MCCMNC + dial code
Child rate for MCCMNC + dial code	Child rate for MCCMNC without dial code
Parent rate for MCCMNC + dial code	Child rate for MCC + Sender ID
Child rate for MCCMNC without dial code	Child rate for MCC + dial code
Parent rate for MCCMNC without dial code	Child rate for MCC without dial code
Child rate for MCC + Sender ID	Child rate for Rest of world MCC + Sender ID
Parent rate for MCC + Sender ID	Child rate for Rest of world MCC + dial code
Child rate for MCC + dial code	Child rate for Rest of world MCC without dial code
Parent rate for MCC + dial code	Parent rate for MCCMNC + Sender ID
Child rate for MCC without dial code	Parent rate for MCCMNC + dial code
Parent rate for MCC without dial code	Parent rate for MCCMNC without dial code
Child rate for Rest of world MCC + Sender ID	Parent rate for MCC + Sender ID
Parent rate for Rest of world MCC + Sender ID	Parent rate for MCC + dial code
Child rate for Rest of world MCC + dial code	Parent rate for MCC without dial code

Mode: global longest match	Mode: longest match at child first
Parent rate for Rest of world MCC + dial code	Parent rate for Rest of world MCC + Sender ID
Child rate for Rest of world MCC without dial code	Parent rate for Rest of world MCC + dial code
Parent rate for Rest of world MCC without dial code	Parent rate for Rest of world MCC without dial code

22 Appendix 4. Formulas and conditions in routing

This section describes operators and variables which can be used to create routing rules and their choices (fields *Condition* and *Formula* in *Routing rules*). Besides, it provides examples how they can be used in different business cases.

NOTES:

The *Condition* serves to determine if the vendor from the corresponding choice will be selected. The expression in the field should return *True* or *False* (for each vendor the result may be different).

If the condition returns *True*, vendor is added to the list of possible routes (to which message send attempts will be made).

In the opposite case (the condition returns *False*), the vendor is not added - and the next vendor from the same or the next choice will be checked. In case there is no next *Choice*, the *Next* field is used to determine further action: stop the search, continue going through the same context or switch to another context.

The *Formula* serves to sort vendors that have been selected for routing by the condition from the *Condition* field. The result of this calculation returns a weight (a numeric value) according to which an ordered list of vendors will be compiled (a vendor with a greater weight is listed above a vendor with a lower weight).

If the vendor's weight is negative or equal to 0, it does not take part in routing (but it can be included in routing according to the next routing rules).

22.1 Operators

NOTE: Syntax of operators (such as *and*, *or*) implies case sensitivity. That is, *AND* is incorrect syntax and *and* is the correct one.

Operator	Code	Description	Allowed values
+	Value1+ Value2	Addition of operands	Operands: numeric values
-	Value1 - Value2	Subtracting of operands	Operands: numeric values
*	Value1 * Value2	Multiplication of operands	Operands: numeric values
/	Value1 / Value2	Division of operands	Operands: numeric values *(Note: one of the operands cannot be equal to zero – otherwise the formula expression cannot be executed).*
%	Value1 % Value2	Division of the operands by modulus (division of the left operand to the right one and returning a remainder)	Operands: numeric values *(Note: one of the operands cannot be equal to zero – otherwise the formula expression cannot be executed).*

Operator	Code	Description	Allowed values
**	Value1 ** Value2	Exponentiation of operand	Operands: numeric values
//	Value1 // Value2	Return integer part of operands' division	Operands: numeric values *(Note: one of the operands cannot be equal to zero – otherwise the formula expression cannot be executed).*
==	Value1 == Value2	Check if the operands are equal to each other	Operands: numeric, alpha and alphanumeric values
!=	Value1 != Value2	Check if the operands are not equal to each other	Operands: numeric, alpha and alphanumeric values
>	Value1 > Value2	Check if the first operand is strictly greater than the second operand	Operands: numeric values
<	Value1 < Value2	Check if the second operand is strictly greater than first operand	Operands: numeric values
>=	Value1 >= Value2	Check if the first operand is equal to the second operand or greater than the second operand	Operands: numeric values
<=	Value1 <= Value2	Check if the second operand is equal to or greater than the first operand	Operands: numeric values
and	Condition1 and Condition2	Logical operator: if *Condition1* is true and *Condition2* is true then the whole condition is true. In the opposite case the whole condition is false	Operands: more complex constructions composed of the above mentioned operands that serve as conditions *For example,* (Value1 **!=** Value2) **and** (Value3 **>** 10)
or	Condition1 or Condition2	Logical operator: if at least one of the conditions is true then the whole condition is true. If none of them is true then the whole condition is false	Operands: more complex constructions composed of the above mentioned operands that serve as conditions *For example,* (Value1 **%** Value2 ==0) **or** (Value3 **==** 0)
in	Value1 in (Value2, …, Value*n*)	Checks if *Value1* is equal to one of the values from the list (*Value2, …, Valuen)*	Routing metrics can be used as *Value1*
if else	Result1 if (Condition) else Result2	If *Condition* is true, return *Result1,* if *Condition* is false, return *Result2*	Operands: more complex constructions composed of the above mentioned operands that serve as conditions *For example,*

Operator	Code	Description	Allowed values
			MRG **if** (MRG **>** 0) **else** 0
not	not Value1	Returns the opposite result of the Value1	Routing metrics can be used as Value1. For example, not PORTED

22.2 Routing metrics

Examples for the *Condition* field are given in the column '*How to use*'. Similar metrics can be used for the *Formula* field as well (but since a result of this field calculation should be a numeric value, only the following operators can be used: +, -, *, /, **, //, %).

For example, the MRG metric can be used in the *Condition* field in the following way: **MRG > -0.5**, and in the *Formula* field: **MRG+1**.

Additional examples can be found in Sections How to use (field 'Condition' in 'Routing Rules') 701 and How to use (field 'Formula' in 'Routing Rules') 702.

NOTE: Metrics from a Client/vendor feature (not mentioned in the following tables) also can be used for the *Condition* and *Formula* fields for checking if the condition is true or for calculation of weight.

NOTE: The condition can be set at the routing rule level (metrics from the following tables can be used for this purpose as well). If the specified condition is true, the rule will be used in the routing scheme, in the opposite case it will be skipped.

22.2.1 Client metrics

The metrics show statistics for the client side.

Variable	Description	Note	How to use
CLAccBal	Client balance	In account currency	CLAccBal > 10 (the vendor is added to routing in case the client balance is greater than 10)
CLRate	Client rate	In System currency	CLRate > 0.3 (the vendor is added to routing in case the client rate is greater than 0.3)
CLPoiASR	ASR for the set 'client POI - MCCMNC'	From 0 to 1 The metric is calculated according to the latest EDR data. In case there are less than 100 messages (the window frame is set in *System settings* >> *SMS* >> *EMA frame*) in the file for the set, the EMA algorithm is being applied for calculation.	CLPoiASR > 0.6 (the vendor is added to routing in case ASR for the set is greater than 60%)

Variable	Description	Note	How to use
CLPoiDLR	DLR(s) for the set 'client POI - MCCMNC'	From 0 to 1 The metric is calculated based on statistics from date when the procedure took place last time till current date, where the date of last check can be seen in *System settings >> SMS >> EMA stats last date* and value specified in *System settings >> SMS >> EMA stats delay, min* is subtracted from current date. When statistics has been calculated, date of last checking is set to current date minus *EMA stats delay, min.* In case there are less than 100 messages (the window frame is set in *System settings >> SMS >> EMA frame*) for the set for the period, EMA algorithm is being applied for calculation.	CLPoiDLR > 0.55 (the vendor is added to routing in case DLR(s) for the set is greater than 55%)
CLPoiADD	ADD for the set 'client POI - MCCMNC'	In minutes Calculation of the metric is similar to the logic for *CLPoiDLR*	CLPoiADD > 1 (the vendor is added to routing in case ADD for the set is greater than 1 minute)
CER	Client effective rate	In System currency CER = CRate*(ASR - CLProdBillByDLR*(ASR-DLR)), *where CLProdBillByDLR = 1, if 'SMS billing option: Bill by delivered', in the opposite case - 0*	CER < 0.5 (the vendor is added to routing in case CER is less than 0.5)

22.2.2 Vendor metrics

The metrics show statistics for the vendor side.

Variable	Description	Note	How to use
VAccBal	Vendor balance	In account currency	VAccBal > 100 (the vendor is added to routing in case its balance is greater than 100)

Variable	Description	Note	How to use
VRate	Vendor rate	In System currency	VRate < 0.3 (the vendor is added to routing in case its rate is less than 0.3)
VPoiASR	ASR for the set 'vendor POI - MCCMNC'	From 0 to 1 Calculation of the metric is similar to the logic for *CLPoiASR*	VPoiASR > 0.7 (the vendor is added to routing in case ASR for the set is greater than 70%)
VPoiDLR	DLR(s) for the set 'vendor POI - MCCMNC'	From 0 to 1 Calculation of the metric is similar to the logic for *CLPoiDLR*	VPoiDLR > 0.5 (the vendor is added to routing in case DLR(s) for the set is greater than 50%)
VPoiADD	ADD for the set 'vendor POI - MCCMNC'	In minutes Calculation of the metric is similar to the logic for *CLPoiDLR*	VPoiADD > 1 (the vendor is added to routing in case ADD for the set is greater than 1 minute)
VER	Vendor effective rate	In System currency VER = VRate*(ASR - VProdBillByDLR*(ASR-DLR)), *where VProdBillByDLR = 1 if 'SMS billing option: Bill by delivered', in the opposite case - 0*	VER > 0.2 (the vendor is added to routing in case VER is greater than 0.2)

22.2.3 Message metrics

The metrics show statistics for the message.

Variable	Description	Note	How to use
antifraudMatch	Anti-fraud verification. The metric verifies numbers that match those registered in a third-party anti-fraud system or defines spam probability by Alaris Traffic Classifier	The metric works only if integration with an anti fraud system has been configured. To learn more about Alaris Traffic Classifier, contact your Alaris account manager	antifraudMatch == True (the vendor is selected for routing given that the fraud service returned '1' (True) value for the destination number) or antifraudMatch > 0.1 (the vendor is selected for routing given that Alaris Traffic Classifier defined the probability of spam greater than 10%)
aniTon	Type of A-number	Possible values:	aniTon== 1

Variable	Description	Note	How to use
		0 - Unknown 1 - International *(country code + destination code + subscriber number; e.g, +31612345678 - Netherlands)* 2 - National *(destination code + subscriber number)* 3 - Network Specific *(length of number is 5 symbols or less, e.g., 73833)* 4 - Subscriber Number *(without country code and destination code, e.g., for number 7-903-1234567 subscriber number in international format is 1234567)* 5 - Alphanumeric *(contains only letters or digits and letters)*	(the vendor is added to routing in case the A-number is international)
aniNpi	Numbering type indicator (for A-number)	Possible values: 0 - Unknown 1 – E163/E164 3 – Data numbering Plan (X.121) 4 – Telex numbering Plan (F.69) 6 – Land Mobile (E.212) 8 – National numbering Plan 9 – Private numbering Plan 13 – Internet (IP)	aniNpi == 1 (the vendor is added to routing in case the A-number in E163/E164 format)
dnisTon	Type of B-number *Possible values:* *0 - Unknown* *1 - International* *2 - National* *3 - Network Specific* *4 - Subscriber Number* *5 - Alphanumeric*	Possible values: 0 - Unknown 1 - International *(country code + destination code + subscriber number; e.g, +31612345678 - Netherlands)* 2 - National *(destination code + subscriber number)* 3 - Network Specific	dnisTon != 5 (the vendor is added to routing in case the B-number doesn’t contain any letter)

Variable	Description	Note	How to use
		(length of number is 5 symbols or less, e.g., 73833) 4 - Subscriber Number *(without country code and destination code, e.g., for number 7-903-1234567 subscriber number in international format is 1234567)* 5 - Alphanumeric *(contains only letters or digits and letters)*	
dnisNpi	Numbering type indicator (for B-number)	Possible values: 0 - Unknown 1 – E163/E164 3 – Data numbering Plan (X.121) 4 – Telex numbering Plan (F.69) 6 – Land Mobile (E.212) 8 – National numbering Plan 9 – Private numbering Plan 13 – Internet (IP)	dnisNpi == 1 (the vendor is added to routing in case the B-number in E163/E164 format)
DNISScore	Score for B-number	'Score' field from scoring-service response Scoring-service is a third-party service which estimates how risky will it be to send message to the number (how 'bad' the number is). Configuration for the service is similar to HLR configuration. Each service can return its own value. For example, Telesign service returns values of 'Score' from 0 to 1000 (the greater value, the worse the number)	dnisScore < 100 (the vendor is added to routing in case the result from scoring service is less than 100)
DNISRisk	Risk level of B-number	'Risk' field from scoring-service response Each service can return its own value. For example, Telesign service returns following values of 'Risc': Neutral, Low, Medium-Low, Medium, Medium-High, High	DNISRisk == "Low" (the vendor is added to routing in case the result from scoring service is 'Low')

Variable	Description	Note	How to use
REFMCCMNC	MCCMNC value from Reference Book		REFMCCMNC == "214099" (the vendor is added to routing in case the MCCMNC from Reference Book is 214099)
HLRMCCMNC	MCCMNC value from HLR		HLRMCCMNC == "214001" (the vendor is added to routing in case the MCCMNC from HLR service is 214001)
hlrResponseCode	Value returned from HLR provider in *providerResponseCode* internal field, the metric works only in case HLR configuration is done via HLR proxy	To see the values for specific providers, refer to Appendix 2. Supported HLR providers 679. String values must be specified if the HLR module of a newer generation is used. For the previous version of the HLR module, it depends on the format which the HLR provider uses to return values.	hlrResponseCode == "0" (the vendor is added to routing in case Mitto (for example) returns 0 in the *gsmCode* field)
PORTED	Is number ported	Return *True* if the number is ported, *False* – in the opposite case (the value is obtained from the HLR provider's response if corresponding parsing has been implemented for the service. For details on providers with implemented parsing refer to Question 8 of Appendix 7. Frequently asked questions\HLR module 760)	not PORTED (the vendor is added to routing in case the number is not ported) or PORTED == True (the vendor is added to routing in case the number is ported)
messageLen	Message length	In bytes	messageLen < 160 (the vendor is added to routing in case the message length is less than 160 bytes)
concatMessage	Is message part of long message	Return 1 if the message contains either UDH or SAR and has not been processed by the Stateful concatenated messages functionality; 0 - in the opposite case	concatMessage == 1 (the vendor is added to routing in case the message is concatenated)
statefulConcatMessage	The value is set to 1 if message parts were collected with the help of the		statefulConcatMessage == 1 (a message will be routed to the provider(s) in case it is a concatenated one)

Variable	Description	Note	How to use
	Stateful concatenated messages processing functionality and to 0 in the opposite case		
dataCoding	The metric allows routing messages based on the client data coding	The metric can be used on the rule level as well as the choice level. For a list of data codings refer to Carriers\SMS channels 188	Example: if the user needs to send messages to a vendor when the incoming data coding=0, the condition must look as follows: dataCoding == 0
messageCategory	Message category returned by Alaris Traffic Classifier	To learn more about Alaris Traffic Classifier, contact your Alaris account manager	messageCategory in ("OTP", "Marketing") (the vendor is selected for routing if Alaris Traffic Classifier defined the category as OTP or Marketing)

22.2.4 Rule metrics

The metrics show routing rule statistics.

Variable	Description	Note	How to use
RuleAttCNT	The number of times when the rule was applied and the vendor's product was chosen and used for routing according to this rule. The metric is not updated when messages are sent through *Send SMS*	Period for calculation of the metric can be set in *System Settings -> SMS -> "Rule count stats clear policy (0 - hourly, 1 - daily, 2 - weekly, 3 - monthly)"* The data is calculated based on EDR, however, the frequency of the data update depends on the System job SMS_UPDATE_RULE_EMA. Additionally it is possible to calculate the metric almost on the fly in order to avoid delays in calculation. To configure, communicate BZ12760 to the Alaris technical support team The metric counter is incremented when sending the message to the vendor buffer and is not increased when the message leaves the buffer and is sent further	RuleAttCNT > 5 (the vendor is added to routing in case attempts count of message sending for the rule is greater than 5)
RuleSucCNT	The number of times when the rule was	Period for calculation of the metric can be set in *System*	RuleSucCNT > 3

Variable	Description	Note	How to use
	applied and the vendor's product was chosen and used for routing according to this rule with successful sending of the message. The metric is not updated when messages are sent through *Send SMS*	*Settings -> SMS -> "Rule count stats clear policy (0 - hourly, 1 - daily, 2 - weekly, 3 - monthly)"* The data is calculated based on EDR, however, the frequency of the data update depends on the System job SMS_UPDATE_RULE_EMA. Additionally it is possible to calculate the metric almost on the fly in order to avoid delays in calculation. To configure, communicate BZ12760 to the Alaris technical support team	(the vendor is added to routing in case more than 3 messages were sent through the rule)
RuleDlvCNT	The number of times when the rule was applied and the vendor's product was chosen and used for routing according to this rule with sending of a message with 'DELIVRD' and ACTIVATED status. The metric is not updated when messages are sent through *Send SMS*, when the vendor returns delivery reports	Period for calculation of the metric can be set in *System Settings -> SMS -> "Rule count stats clear policy (0 - hourly, 1 - daily, 2 - weekly, 3 - monthly)"* The data is calculated based on EDR, however, the frequency of the data update depends on the System job SMS_UPDATE_RULE_EMA. Additionally it is possible to calculate the metric almost on the fly in order to avoid delays in calculation. To configure, communicate BZ12760 to the Alaris technical support team	RuleDlvCNT > 2 (the vendor is added to routing in case more than 2 messages with DELIVRD status were passed through the rule.)
MRGH	Average hourly margin value (within the rule)	In System currency The data is calculated based on EDR	MRGH > 0.5 (the vendor is added to routing in case the margin for an hour is greater than 0.5)
MRGD	Average daily margin value (within the rule)	In System currency The data is calculated based on EDR	MRGD > 0.3 (the vendor is added to routing in case the margin for a day is greater than 0.3)
TotalMRGH	Total hourly margin value (within all rules)	In System currency The data is calculated based on EDR	TotalMRGH > 0.3 (the vendor is added to routing in case total margin for an hour is greater than 0.3)

Variable	Description	Note	How to use
TotalMRGD	Total daily margin value (within all rules)	In System currency The data is calculated based on EDR	TotalMRGD > 0.4 (the vendor is added to routing in case the total margin for a day is greater than 0.4)

22.2.5 Common metrics

Variable	Description	Note	How to use
curTime	Current time in seconds since 01.01.1970		(curTime % 3600) < 300 (the choice is selected for routing during the first 5 minutes of every hour)
curHour	Current hour	Possible values: 0-23	curHour >= 12 (choice is selected for routing starting from 12 P.M. till 12 A.M.) (curHour >=13) or (curHour <= 3) (choice is selected for routing starting from 13 P.M. till 4 A.M.) (curHour >=3) and (curHour <= 13) (choice is selected for routing starting from 3 A.M. till 14 P.M.)
curDoW	Current day of the week	Possible values: 1-7, where 1 – Monday, 7 - Sunday	curDoW != 7 (the choice is selected for routing every day except for Sunday)
HLRRATE	Cost of HLR dipping in System currency	If no vendor HLR product is found or no HLR rate is found, the metric is equal to 0	HLRRATE == 0 (the vendor is added to routing in case no cost is charged for HLR dipping)
RND	Random float value from 0 to 1, generated for every vendor's product from choice		RND > 0.3 (the vendor is added to routing in case generated random value is greater than 0.3)
MRG	Margin	In System currency. If the margin is less than 0.0000009, it is still considered as 0.	MRG > 0.1 (the vendor is added to routing in case the margin is greater than 0.1)

22.2.6 HLR response array

The following fields are returned by the new generation HLR module (HLR3) and can be used as routing metrics (*Condition* and *Formula* fields). Check that following conditions are met before using the metrics:

1. The System user that serves to provide communication between the routing modules and HLR must have the smsrt interface enabled in the MNP server web interface (*Clients* page).
2. The System user mentioned above must have the same login and password as specified in the *smsrt2.conf* file.
3. The fields detailed below must be enabled for the user in the MNP server web interface (*Clients* page). Normally, they are enabled by default.

To check that the above conditions are met, contact the Alaris technical support team.

Variable	Description (field name)	Note	How to use
hlr["message_id"]	Internal ID of the HLR request		
hlr["mccmnc"]	HLR MCCMNC		hlr["mccmnc"] != "234001"
hlr["result"]	result	possible values can be found via link	hlr["result"] == 0
hlr["ported"]	portability flag		hlr["ported"] == True
hlr["source"]	source of HLR dipping: MNP database or HLR service, possible values include *MNP* or *HLR*		
hlr["present"]	present flag	full logic is described via link	hlr["present"] == "yes"
hlr["roaming"]	roaming flag	full logic is described via link	hlr["roaming"] == "no"
hlr["source_name"]	HLR source name		hlr["source_name"] == "mitto"
hlr["source_type"]	HLR source type		
hlr["dnis"]	message's destination number		
hlr["cached"]	0 - result was obtained from an HLR provider 1 - result was obtained from an HLR cache		hlr["cached"] == 0

Variable	Description (field name)	Note	How to use
hlr["error"]	extra info (error code) returned by the HLR provider		hlr["error"] == "r1"
hlr["sender_id"]	message's sender ID		
hlr["login"]	HLR client login	For an SMS message the field refers to the internal user (client)	
hlr["context_log"]	context_log		
hlr["provider_ttl"]	HLR source's TTL		
hlr["providerResponseCode"]	providerResponseCode (hlrResponseCode)		
hlr["raw_response"]	raw response proxied from the HLR provider		
hlr["aux_sources"]	aux_sources	To return all intermediate HLR sources, the functionality must be enabled additionally - contact the Alaris technical support team and share CS-479 code	

22.3 How to use (field 'Condition' in 'Routing Rules')

VPoiDLR > n

The condition returns *True* if VPoiDLR is greater than n, in the opposite case *False* is returned

Example

Condition: *VPoiDLR > 0.5*

If DLR for the set 'vendor POI - MCCMNC' is greater than 50%, then True is returned, in the opposite case - False

CLAccBal > n

The condition returns *True* if the client's balance is greater than n, in the opposite case *False* is returned

Example

Condition: *CLAccBal > 500*

If the balance is greater than 500, True is returned, in the opposite case False is returned

concatMessage == 0

The condition returns *True* if the message is not concatenated, in the opposite case *False* is returned

dnisTon in (1,2)
The condition returns *True* if the B-number is in the *International* or *National* format, in the opposite case *False* is returned

CER > 0.5
The condition returns *True* if the client's effective rate is greater than 0.5, in the opposite case *False* is returned

Example
Client's rate = 0.33,
Client POI ASR = 70%,
Client POI DLR = 69%,
Billing mode for client's product: 'Bill by attempts' - therefore CLProdBillByDLR = 0.

*In this case CER = 0.33 * (0.7 – 0*(0.7-0.69)) = 0.231 < 0.5, The condition returns False*

22.4 How to use (field 'Formula' in 'Routing Rules')

VPoiDLR * VPoiASR
This formula can be used in case it is needed to sort the vendors by the value of multiplication of ASR and DLR metrics (both based on the set 'vendor POI - MCCMNC')

Example
The routing list contains 2 vendors:
Vendor1: VPoiDLR = 80%, VPoiASR = 78%
Vendor2: VPoiDLR = 50%, VPoiASR = 90%
When the mentioned formula is set in Formula field, vendors will be sorted in following way:
*Vendor1: VPoiDLR * VPoiASR = 0,624*
*Vendor2: VPoiDLR * VPoiASR = 0,45*

100*MRG + VPoiDLR + VPoiASR
This formula can be used in case it is needed to sort the vendors by the value of 3 metrics (DLR and ASR - both based on the set 'vendor POI - MCCMNC', and margin multiplied by 100)

Example
The routing list contains 2 vendors:
Vendor1: MRG = 3, VPoiDLR = 80%, VPoiASR = 78%
Vendor2: MRG = 5, VPoiDLR = 50%, VPoiASR = 90%
When the mentioned formula is set in Formula field, vendors will be sorted in following way:
*Vendor2: MRG *100 + VPoiDLR + VPoiASR = 501,4*
*Vendor1: MRG *100 + VPoiDLR + VPoiASR = 301,58*

RND + VPoiASR * VPoiACD
This formula can be used in case it is needed to sort the vendors by the value of multiplication of ACD and ASR (both based on the set 'vendor POI - MCCMNC') and addition of a random value

Example
The routing list contains 3 vendors:
Vendor1: VPoiASR= 90%, VPoiACD= 70
Vendor2: VPoiASR= 90%, VPoiACD= 70

Vendor3: VPoiASR= 80%, VPoiACD= 80

Suppose the random value is generated for every vendor as follows:
Vendor1: 0.2
Vendor2: 0.3
Vendor3: 0.75

Then vendors will be sorted in the following way:
*Vendor3: RND+VPoiASR*VPoiACD = 64.75*
*Vendor2: RND+VPoiASR*VPoiACD = 63.3*
*Vendor1: RND+VPoiASR*VPoiACD = 63,2*

-1 if PORTED else 1
The formula weight will be equal to -1 (the vendor will not be chosen for routing) if the message is ported and equal to 1 in the opposite case.

Example
The routing list contains 2 vendors:
Vendor1: PORTED = true
Vendor2: PORTED = false
(the message will be ported if it is sent to Vendor1 and will not be ported if it is sent to Vendor2).

When the mentioned formula is set in the Formula field, only Vendor2 will be chosen for routing (as Vendor1's weight is equal to -1 and Vendor2's weight is equal to 1).

VER

Example
Rate for vendor1 = 0.3,
Vendor1 POI ASR = 75%,
Vendor1 POI DLR = 40%,
Billing mode for product vendor1: 'Bill by delivered' - therefore VProdBillByDLR = 1.

Rate for vendor2 = 0.25,
Vendor2 POI ASR = 90%,
Vendor2 POI DLR = 85%,
Billing mode for product vendor2: 'Bill by submit' - therefore VProdBillByDLR = 0.

The sorted list will look as follows:
*Vendor2: VER = 0.25 * (0.9-0*(0.9-0.85)) = 0.225*
*Vendor1: VER = 0.3 * (0.75 – 1*(0.75-0.4)) = 0.12*

23 Appendix 5. SMS simulation troubleshooting guide

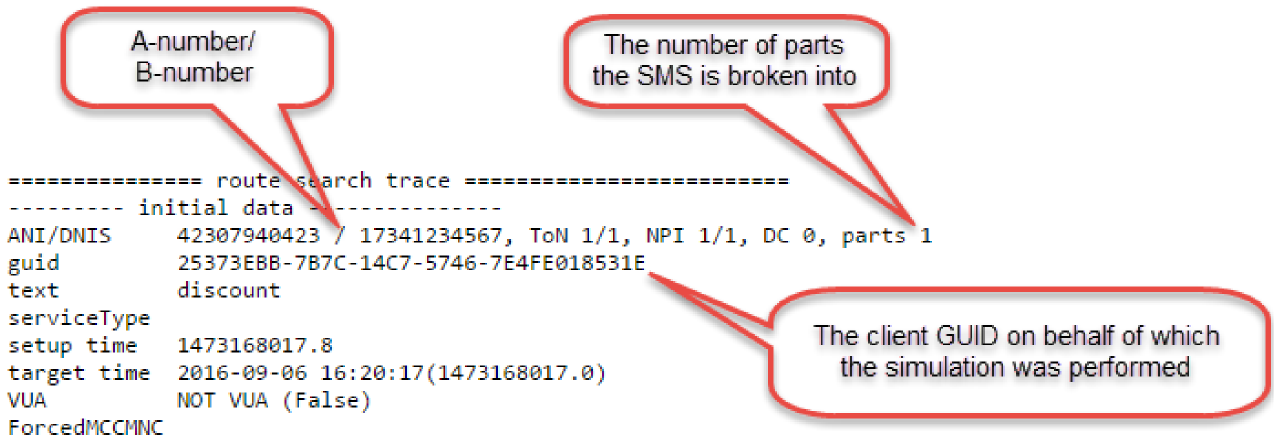
23.1 Simulation process

This section presents a step-by-step description of the simulation process. It is designed to help System users analyze the SMS simulation guide to locate possible routing issues. The simulation process is detailed in the simulation log (SMS\Routing\Simulation\Simulation log 491).

The log contains the following sections:

1. *initial data*: simulation input parameters
2. *looking for client*: client identification
3. *applying pre-routing translation rules*
4. *getting MCCMNC for DNIS*
5. *looking for ANI tags*
6. *applying buffering rules*
7. *looking for client rates*
8. *looking for vendor rates*
9. *getting vendor product list*
10. *applying routing rules*
11. *applying post-routing translation rules*

1. Initial data



Initial data

Input parameters entered in *Simulation* tab

=============== route search trace ========================
--------- initial data ---------------
ANI/DNIS FB / 786124, ToN 1/1, NPI 1/1, DC 0, parts 1, concat 0, message length 11
guid life_smpp
text just a text
serviceType 80

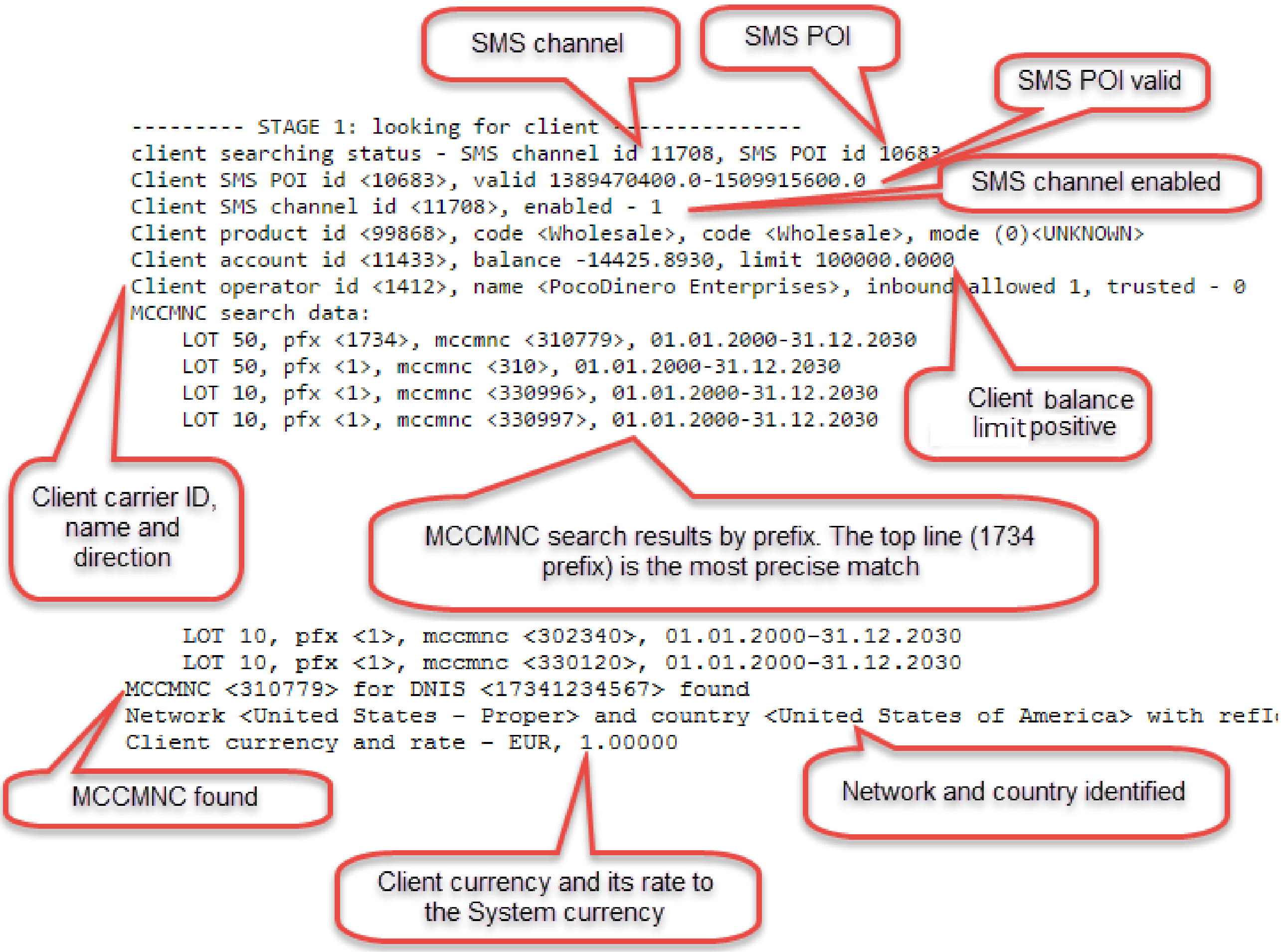
setup time 2018-04-16 12:36:52.628752
target time 2018-04-16 12:36:52 (1523882212.0)
expires at 2023-03-30 00:00:00 (1680134400)
VUA NOT VUA (False)
ForcedMCCMNC
Message just a text
Local addr []

where

ANI	Sender ID
DNIS	Destination address
ToN	Type of number (Sender ID/Destination number)
NPI	Numbering type indicator (ANI/DNIS)
DC	Message data coding
parts	Number of message parts
message length	Message length
Guid	Unique channel identifier (usually identical to channel name)
Text	Message text
service type	POI service type
setup time	Simulation start time
target time	Time from field *Time* in *Simulation* tab
expires at	the *Expires at* time configured for the simulation task. If left empty, the value of the specified *Time* + the value of the *Delivery waiting period, sec* System parameter is used
Message	Message text
Local addr	*Local address* field in *Simulation* tab

note: ToN and NPI values are shown as 1 by default

2. Client identification



Looking for client

--------- STAGE 1: Looking for client ---------------
client searching status - SMS channel id 16474, SMS POI id 16170
Client SMS POI id <16170>, valid 2017-11-27 00:00:00 - 2030-12-31 23:59:59
Client SMS channel id <16474>, enabled - 1
Client product id <12363>, mode (2) <Client, bill by messages, include vendors with segment billing>, retailBil <1>
"Client account id <10942>, balance 0.0000, limit <no limit>, inbound allowed 0"
Client operator id <3165>, inbound allowed 1, trusted - 1

where

client authentication
client searching status - SMS channel id 16474, SMS POI id 16170

client SMS POI identification: check client SMS POI validity
Client SMS POI id client SMS POI ID
valid SMS POI validation period (*'Active from'* and *'Active till'* dates from *SMS POI* tab)

client channel identification: check if client channel is active

Client SMS Channel ID client channel ID
enabled Is *SMS Channel* active (‘*Enabled’* option is set in *SMS Channels* tab)

client product identification:
Client product id product ID
Mode SMS product billing option
retailBil if ‘*Billable’* option is selected in *Products* tab (if the option is disabled, client’s financial data as balance or credit is not being checked during simulation)

client account identification: check if client account is not blocked
Client account id account ID
balance current account balance
limit value from *‘In credit’* field in *Agreement* tab
inbound allowed shows 1 if 'Inbound traffic allowed' option is set in *Accounts* tab, otherwise shows 0

client identification: check if client traffic is allowed
Client operator id carrier ID
inbound allowed shows **1** if *‘Inbound traffic allowed’* option is set in *Carriers* tab, else shows **0**
trusted shows **1** if *‘In credit’* field in *Agreement* tab is not filled, else shows **0**

3. Pre-routing translation rules

-------- STAGE 2: Applying pre-routing translation rules --------
Applying translation rules, stage 0, time 2018-04-16 12:36:52, cProd 12363, vProd None, ANI FB(ToN 5, NPI 0), DNIS 786124(ToN 1, NPI 1):
ANI ToN: rule 10730 found, rule translation applied, 5->33
RegDlv: rule 10417 found, rule translation applied, new RegDlv - <1>

where

stage 0 pre-routing stage (defined in *Translation rules* interface)
time 2018-04-16 12:36:52 target time of the simulation task
cProd 12363 client product ID
vProd None vendor product ID *(as it is pre-routing stage - vendor is not defined yet, so the ID is None)*
ANI FB(ToN 5, NPI 0) Sender ID and actual ToN and NPI of it
DNIS 786124(ToN 1, NPI 1) Destination address and actual ToN and NPI of it

pre-routing translation rules are being applied:
ANI ToN: rule 10730 found, rule translation applied, 5->33
Sender ID’s ToN is being changed from 5 to 33 in accordance with translation rule ID 10730

RegDlv: rule 10417 found, rule translation applied, new RegDlv - <1>
Flag ‘registered delivery’ is set to 1 accordingly to rule ID 10417

4. MCCMNC identification

-------- STAGE 3: Getting MCCMNC for DNIS --------
MCCMNC search data:
PFX <786124>:
LOT <50>, data ['i', 1010109, '786124', '214001', 946684800, 1924991999, 50], cTime 1523882212.63 - selected
PFX <78612>: missed
PFX <7861>: missed
PFX <786>: missed
PFX <78>: missed
PFX <7>:
LOT <50>, data ['i', 247875, '7', '214', 946684800, 1924991999, 50], cTime 1523882212.63 - selected
Selected data list:
LOT 50, pfx <786124>, mccmnc <214001>, 01.01.2000-31.12.2030
LOT 50, pfx <7>, mccmnc <214>, 01.01.2000-31.12.2030
MCCMNC <214001> for DNIS <34511121> found
Network <Vodafone> and country <Spain> with refId 30979 found for MCCMNC <214001> and DNIS <34511121>, netOnly ID 214001
Client currency and rate - EUR, 1.23690

search all available MCCMNC for the given DNIS (longest match search):
MCCMNC search data:
PFX <786124>:
LOT <50>, data ['i', 1010109, '34511121', '214001', 946684800, 1924991999, 50], cTime 1523882212.63 - selected
(for prefix 34511121 MCCMNC is found in Reference book with specified data: ID from Reference book bottom grid, dial-code, MCC/MCCMNC, LOT)
(note: MCCMNC specified as 'obsolete' has End date less than current date)

PFX <345111>: missed
PFX <34511>: missed
PFX <3451>: missed
PFX <345>: missed
(for prefixes mentioned above MCCMNC is not found in Reference book)

PFX <34>:
LOT <50>, data ['i', 247875, '34', '214', 946684800, 1924991999, 50], cTime 1523882212.63 - selected

final list of selected suitable MCCMNC:
Selected data list:
LOT 50, pfx <34511121>, mccmnc <214001>, 01.01.2000-31.12.2030
LOT 50, pfx <34>, mccmnc <214>, 01.01.2000-31.12.2030

selected MCCMNC for routing (dial code with longest match is selected):
MCCMNC <214001> for DNIS <34511121> found

network and country identification for selected MCCMNC:
Network <Movistar> and country <Spain> with refId 30979 found for MCCMNC <214001> and DNIS <34511121>, netOnly ID 214001

client account currency and exchange rate between system currency and client account currency identification:
Client currency and rate - EUR, 1.23690

5. Sender ID tags

```
-------- STAGE 4: Looking for ANI tags --------
Sender ID tags (ANI prefix tags) [u'NonASCII']
```

Looking for ANI tags

Verification of the SMS source tags which may be suitable for the sender ID

---------- STAGE 4: Looking for ANI tags ----------
Sender ID tags (ANI prefix tags) ['Spain', 'test']

6. Buffering rules

```
-------- STAGE 5: Applying buffering rules (70 rules found) --------
    Searching for buffering rules which match given SMS data:

Buffering Rule<id=95,    priority=100 > - skipped, rule is not active
Buffering Rule<id=94,    priority=100 > - skipped, rule is not active
Buffering Rule<id=93,    priority=100 > - skipped, rule is not active
Buffering Rule<id=92,    priority=100 > - skipped, rule is not active
Buffering Rule<id=91,    priority=100 > - skipped, rule is not active
Buffering Rule<id=90,    priority=100 > - skipped, rule is not active
Buffering Rule<id=87,    priority=100 > - skipped, rule is not active
Buffering Rule<id=86,    priority=100 > - skipped, rule is not active
Buffering Rule<id=85,    priority=100 > - skipped, rule is not active
Buffering Rule<id=82,    priority=100 > - skipped, rule is not active
Buffering Rule<id=77,    priority=100 > - skipped, rule is disabled for this product
Buffering Rule<id=75,    priority=100 > - skipped, rule is not active
```

Applying buffering rules

Verification of rules configured in SMS\Routing\Buffering rules 449

Note: specifying the Time parameter when creating a simulation task (for the Advanced type) has an effect on selection of rules whose activity period falls under the specified time, as well as verification of the schedule. The simulation's Time parameter is set in the System timezone; however, the buffering rule schedule can be set in another timezone that is taken into account when searching for suitable rules. For example, the rule timezone can be set to GMT+8 whereas the System timezone is GMT+0. If message buffering is configured for the period 08:00-09:00GMT+8, and Time is set somewhere between 00:00 and 01:00, the rule will be considered matching.

---------- STAGE 5: Applying buffering rules (70 rules found) ----------
Searching for buffering rules which match given SMS data:
Buffering Rule<id=30,   priority=1   > - selected
Buffering Rule<id=29,   priority=100 > - selected
Buffering Rule<id=5,   priority=1   > - selected
Buffering Rule<id=27,   priority=100 > - skipped, rule is not active
Buffering Rule<id=20,   priority=100 > - skipped, rule is disabled for this product
Buffering Rule<id=15,   priority=100 > - skipped, rule is not active
. . . . . .

(the first records represent the selected for buffering rules in accordance with the rules' filters, further rules are ordered by the IDs and the priorities and have a description for not being selected)
If no suitable rules are found at this stage, the following record will be reflected in the log:

No matching buffering rules were found, SMS won't be buffered

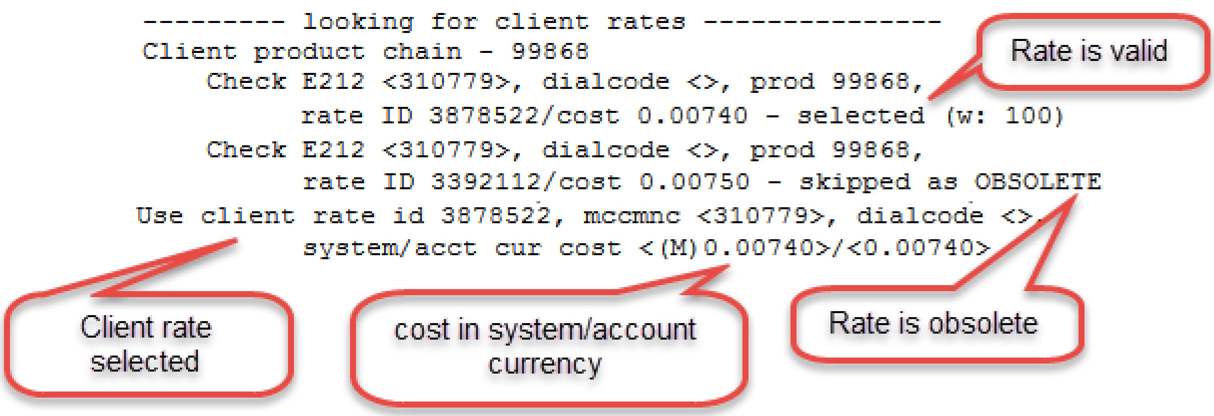
Otherwise, the check continues:

Searching for buffering rules whose schedules allow buffering SMS at the moment (2022-07-18 11:34:23 UTC):

Buffering Rule<id=30, priority=1 > - selected
Buffering Rule<id=29, priority=1 > - skipped, rule is not currently buffering
Buffering Rule<id=5, priority=1 > - selected
(only those rules which are suitable for buffering according to the rules' schedules are picked)
Searching for buffering rules which allow SMS to be processed after buffering according to the rule's schedule (in consideration to SMS validity period):
Buffering Rule<id=30, priority=1 > - selected
Buffering Rule<id=5, priority=1 > - selected
(the message validity period, the buffering period and the rules' Process SMS with validity shorter than buffer time flag are verified)
Found rule, which might be used for SMS bufferization:
Buffering Rule<id=30, priority=1 > - found and will be used to buffer SMS till 2022-07-18 13:00:00 UTC.

(only one rule can be chosen to buffer a message at the specific moment. However, when the message is released from the buffer, the SMS switch verifies the list of the rules selected on the first stage one more time and if there is a rule suitable in terms of buffering schedule and validity period on the release time, the message will be placed in the buffer again. The list of selected rules to be rechecked for the aforementioned example is as follows: rule ID 29, ID 5).

7. Client rate identification



Looking for client rates

--------- STAGE 6: Looking for client rates ---------------
Client product chain - 12363, 10048, mode - longest match
Check E212 <214001>, dialcode <Facebook>, prod 12363, rate ID 237822/cost 0.50000 - skipped as filtered by rate dialcode
Check E212 <214001>, dialcode <>, prod 12363, rate ID 224787/cost 0.00500 - skipped as OBSOLETE
Check E212 <214001>, dialcode <FB>, prod 10048, rate ID 237823/cost 0.03000 - selected (w: 100099) by ANI
Use client rate id 237823, mccmnc <214001>, dialcode <FB>, system/acct cur cost <(M)0.03624>/<0.03000>

Searching for client rate in client product ID 12363 and its parent product ID 10048 (mode is determined by the system setting 'Rate inheritance mode (0 - longest match at child, 1 - global longest match'):

Client product chain – 12363, 10048, mode - longest match

Check E212 <214001>, dialcode <Facebook>, prod 12363, rate ID 237822/cost 0.50000 - skipped as filtered by rate dialcode

(rate for the MCCMNC is found but filtered by specified in rate dial-code 'Facebook' as Sender ID is FB)

Check E212 <214001>, dialcode <FB>, prod 10048, rate ID 237823/cost 0.03000 - selected (w: 100099) by ANI

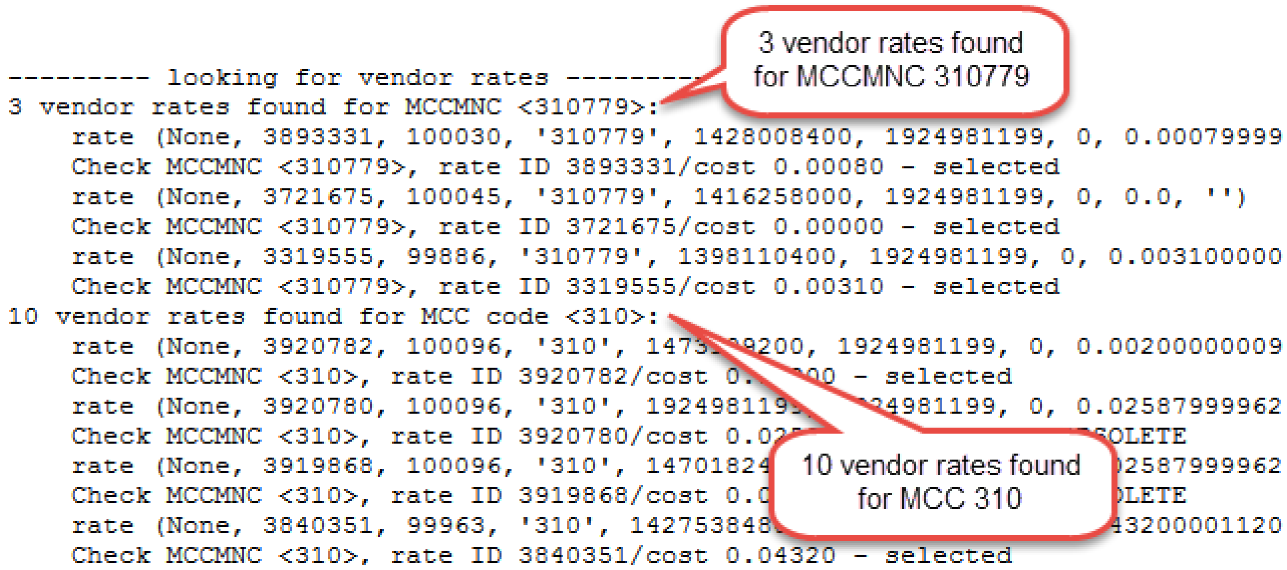
(rate for specified MCCMNC, dial-code and product ID with the ID and the cost is found and selected)

definition of selected client rate:

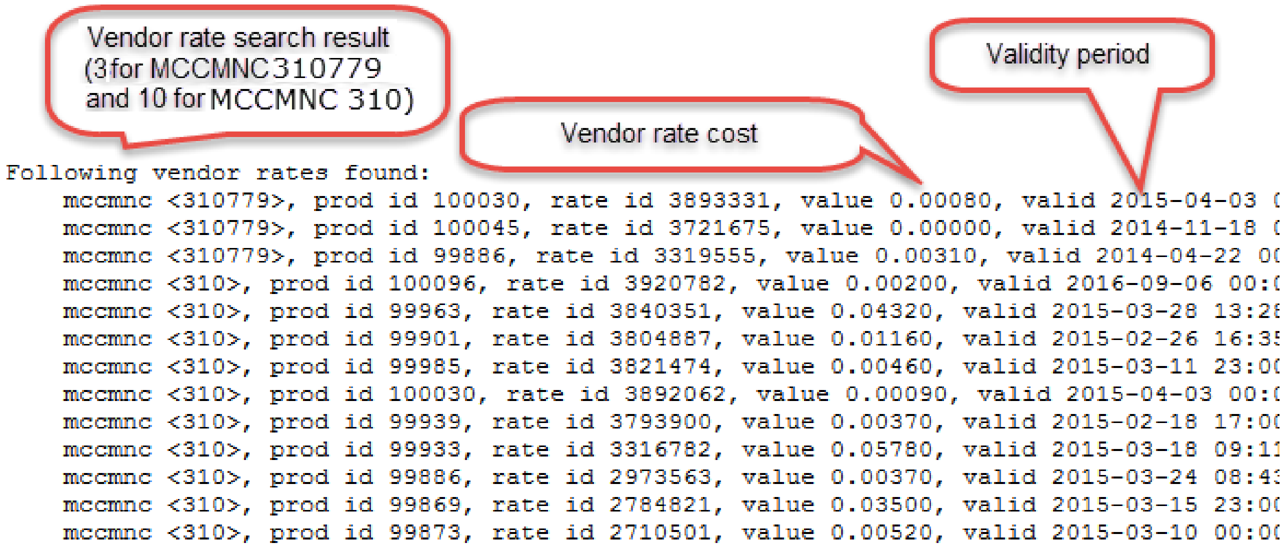
Use client rate id 237823, mccmnc <214001>, dialcode <FB>, system/acct cur cost <(M) 0.03624>/<0.03000>

(rate ID, MCCMNC, dial-code, system and client account currency)

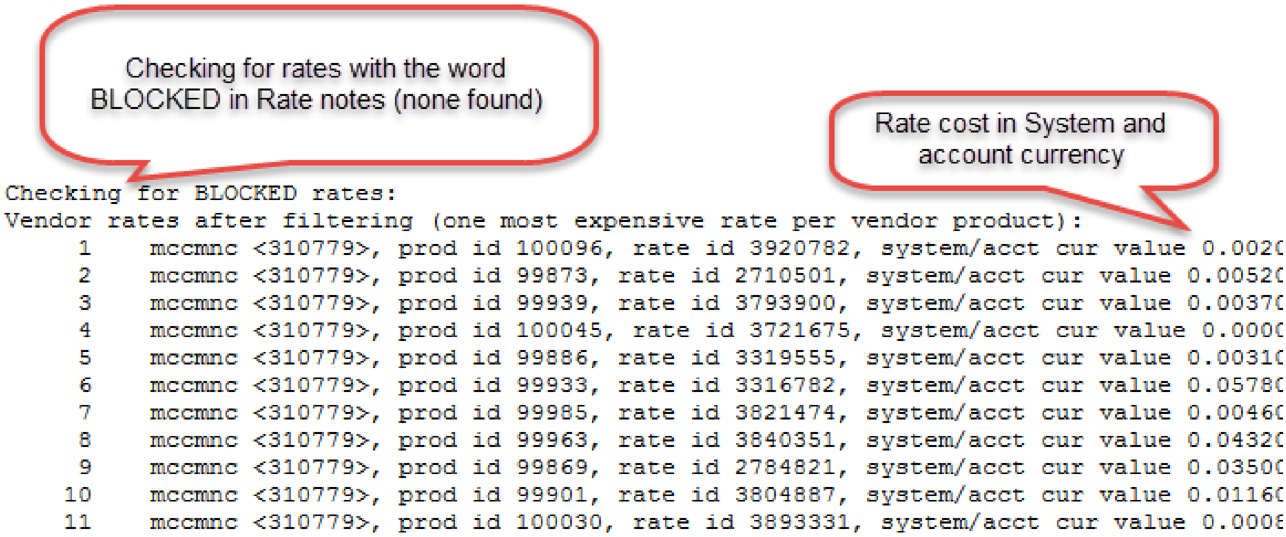
8. Vendor rate identification



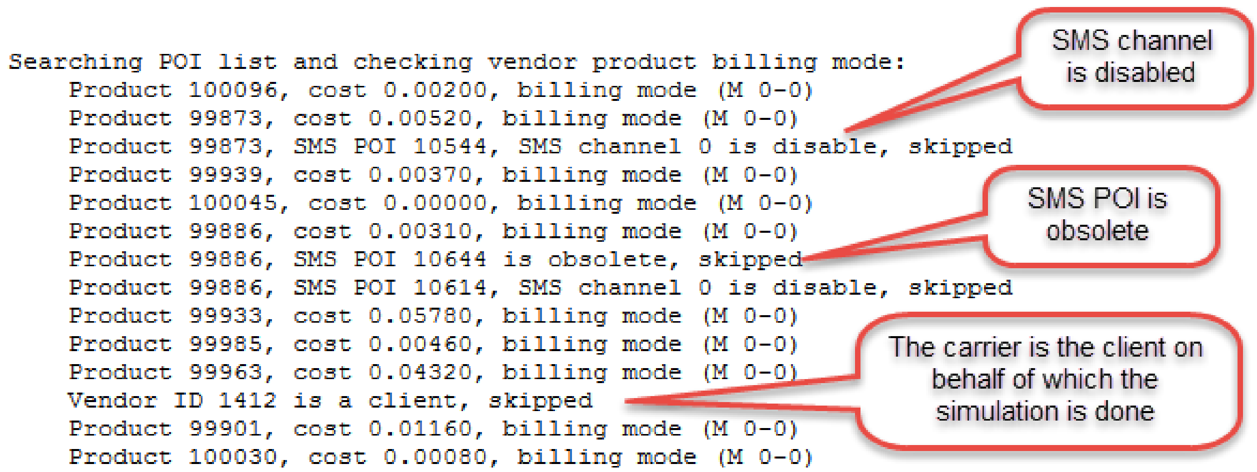
Looking for vendor rates



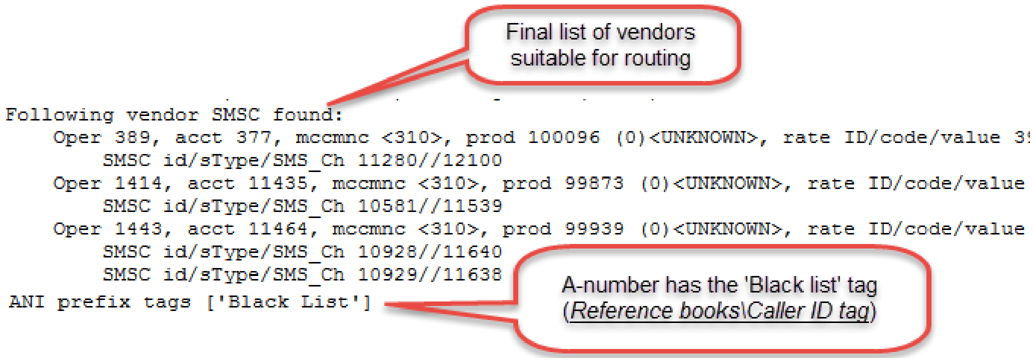
Vendor rate search results



Checking for blocked rates; vendor rates list



Searching POI list



List of vendor SMSC

--------- STAGE 7: Looking for vendor rates ---------------
25 vendor rates found for MCCMNC <214001>:
rate (None, 229450, 14152, '214001', 1518739200, 1924991999, 0, 0.30000001192092896, '')
Check MCCMNC <214001>, rate ID 229450/cost 0.30000 - selected
……………………..
rate (None, 231782, 10027, '214001', 1456790400, 1924991999, 0, 0.2199999988079071, 'No_way')
Check MCCMNC <214001>, rate ID 231782/cost 0.22000 - skipped as filtered by dialcode
……………………..

Searching all possible vendor rates for code 214001:
rate (None, 229450, 14152, '214001', 1518739200, 1924991999, 0, 0.30000001192092896, '')
(rate ID, product ID, MCCMNC, rate start and end dates in unixtime format, cost, dialcode)

Check MCCMNC <214001>, rate ID 229450/cost 0.30000 - selected
(rate ID 229450 is selected so vendor product ID 14152 can be added to routing)

Check MCCMNC <214001>, rate ID 231782/cost 0.22000 - skipped as filtered by dialcode
(rate ID 231782 was skipped due to inappropriate dial code 'No_way')

Searching all possible vendor's rates for code 214 and 777 (as it is specified as 'MCC "Rest of the world' in System settings)

29 vendor rates found for MCC code <214>:
rate (None, 229455, 14152, '214', 1518739200, 1924991999, 0, 0.44999998807907104, '')
Check MCCMNC <214>, rate ID 229455/cost 0.45000 - selected
……………………..
6 vendor rates found for rest of world MCC code <777>:
rate (None, 132415, 10027, '777', 1488326400, 1924991999, 0, 5.0, '')
Check MCCMNC <777>, rate ID 132415/cost 5.00000 - selected
……………………..

Summary of selected vendor rates:
Following vendor rates found:
mccmnc <214001>, prod id 14152, rate id 229450, value 0.30000, valid 2018-02-16 00:00:00 - 2030-12-31 23:59:59
mccmnc <214>, prod id 14152, rate id 229455, value 0.45000, valid 2018-02-16 00:00:00 - 2030-12-31 23:59:59

mccmnc <777>, prod id 10027, rate id 132415, value 5.00000, valid 2017-03-01 00:00:00 - 2030-12-31 23:59:59

(MCCMNC, product ID, rate ID, cost, start and end dates of rate)

Vendor rates after filtering:
1 mccmnc <214001>, prod id 14152, rate id 229450, system/acct cur value 0.37107/0.30000
…………….

(MCCMNC, product ID, rate ID, cost in system/account currency)

9. Getting vendor product list

--------- STAGE 8: Getting vendor product list ---------------

Checking available vendor's POI (for corresponding vendor's product which rates were selected on previous step) and vendor product's billing mode:

Searching POI list and checking vendor product billing mode:
Product 10368, cost 0.01000, billing mode (M 2-6)
Product 10368, SMS POI 10927, SMS channel 11462 is disable, skipped
…
Product 14152, cost 0.37107, billing mode (S 2-7)
…
No SMS POI found for vendor product with ID <10775>
Product 10265, cost 0.10000, billing mode (M 2-6)
SMS POI 10040 is obsolete, skipped
Vendor ID 790 (Product ID 17339) - outbound traffic prohibited

…

Vendor account for product 10185 is over 5057.900000 (limit 500.0000)
…

Product 10368, cost 0.01000, billing mode (M 2-6)
(product ID 10368 with rate 0.01 is in message billing mode)
Product 10368, SMS POI 10927, SMS channel 11462 is disable, skipped
(product ID 10368 is skipped from routing as corresponding SMS channel is not active)

Product 14152, cost 0.37107, billing mode (S 2-7)
(product ID 14152 with rate 0.37107 is in segment billing mode)
(note: in case client's billing mode is 'Client, bill by messages, exclude vendors with segment billing', the product will be skipped from routing list due to inappropriate billing mode)

No SMS POI found for vendor product with ID <10775>
(product ID 10775 is skipped from routing as there is no any SMS POI for the product)

Product 10265, cost 0.10000, billing mode (M 2-6)
SMS POI 10040 is obsolete, skipped
(product ID 10265 is skipped from routing as corresponding SMS POI is not active)

Vendor ID 790 (Product ID 17339) - outbound traffic prohibited
(vendor ID 790 is not allowed to receive traffic - option 'Outbound traffic allowed' is disabled)

Vendor account for product 10185 is over 5057.900000 (limit 500.0000)
(product ID 10185 is skipped from routing due to exceeding of credit limit.

Note: vendor's limit verification can be disabled in System settings via setting 'SMS vendor credit control enabled (1 - yes, 0 - no)')

Checking available vendor's channels (for corresponding vendor's product selected on previous step):

Following vendor SMSC found:
…...
Oper id 4993, acct id 12786, mccmnc <214001>, prod id 14152 (7) <Vendor, bill by segments>, rate id/code/value 229450//0.300000011921, 1 SMS POIs
 SMSC id/sType/SMS_Ch 16717/base/18117
…….

Oper id 4993, acct id 12786, mccmnc <214001>, prod id 14152 (7) <Vendor, bill by segments>, rate id/code/value 229450//0.300000011921, 1 SMS POIs
(carrier ID, account ID, selected MCCMNC, product ID and its billing mode, rate ID, cost, count of corresponding SMS POI)

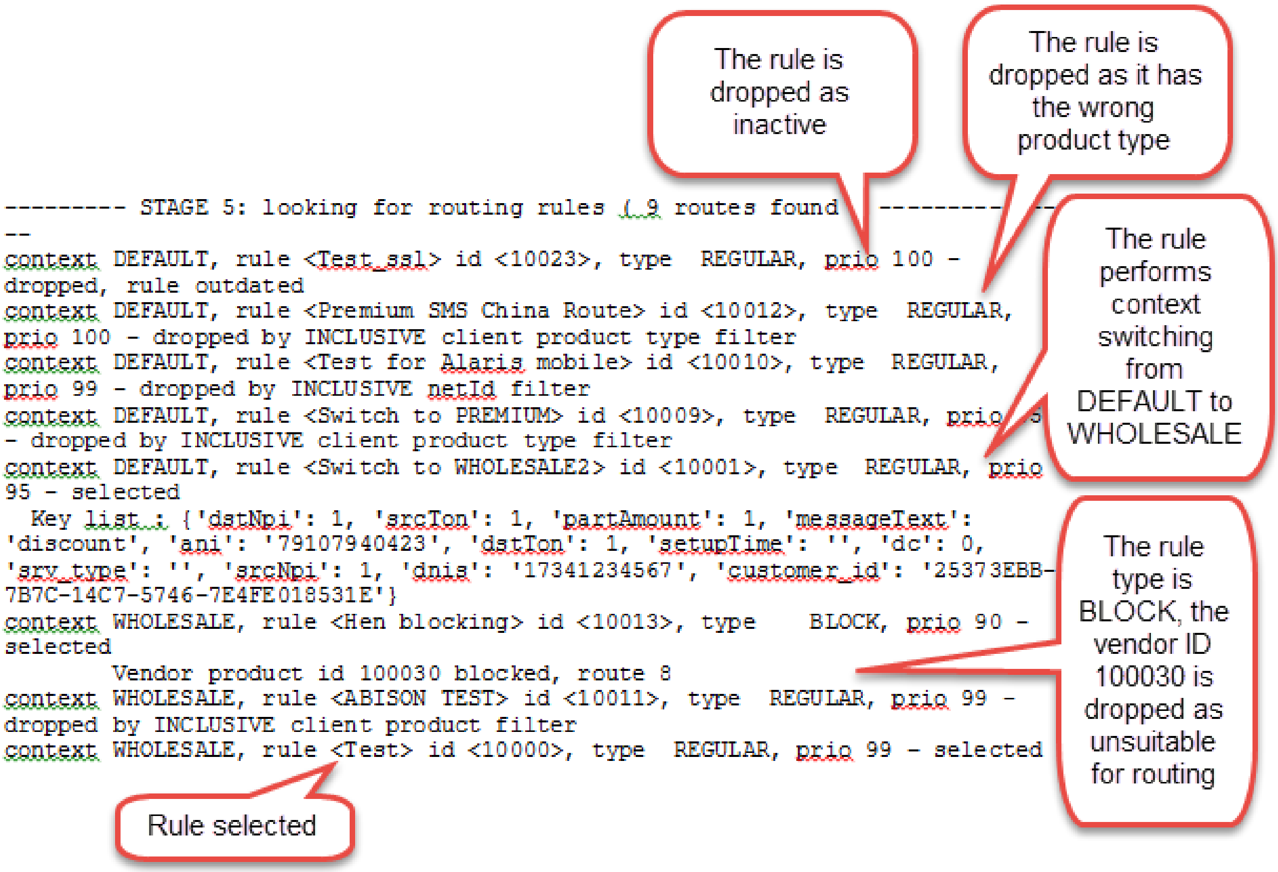
SMSC id/sType/SMS_Ch 16717/base/18117
(POI ID 16717, POI service type, channel ID 18117)

ANI prefix tags not found
Looking for destination features (2018-04-16 12:36:52):
 vProd 10027: Bin=Yes(OK/OK), MSGLength=33(OK/OK)
 vProd 10142: Bin=No(OK/OK), MSGLength=150(OK/OK)
 vProd 11739: autoFalseDLR=No(OK/OK), autoTextIntegrity=Yes(OK/OK)

Checking suitable Sender ID tags:
ANI prefix tags not found

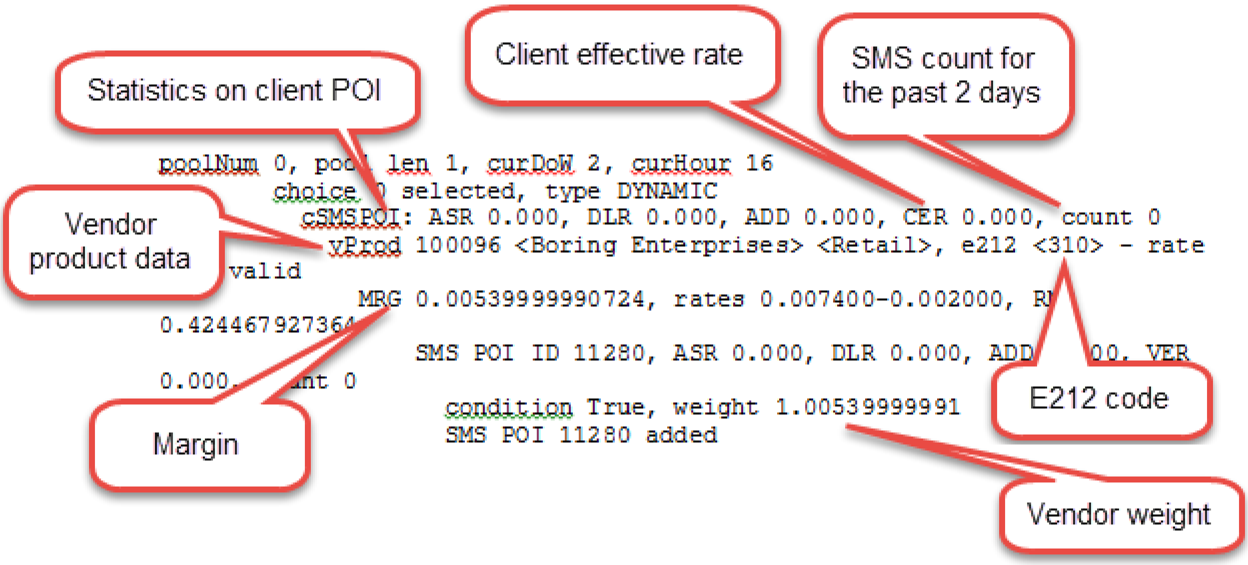
Checking routing features which are actual on simulation target time for the MCCMNC and for the added to routing products):
Looking for destination features (2018-04-16 12:36:52):
 vProd 10027: Bin=Yes(OK/OK), MSGLength=33(OK/OK)
(product ID: feature code and its value with result: if name of routing feature code (client/vendor side) can be compiled by routing module)

10. Routing rules


```
--------- STAGE 5: looking for routing rules ( 9 routes found ---------
--
context DEFAULT, rule <Test_ssl> id <10023>, type  REGULAR, prio 100 -
dropped, rule outdated
context DEFAULT, rule <Premium SMS China Route> id <10012>, type  REGULAR,
prio 100 - dropped by INCLUSIVE client product type filter
context DEFAULT, rule <Test for Alaris mobile> id <10010>, type  REGULAR,
prio 99 - dropped by INCLUSIVE netId filter
context DEFAULT, rule <Switch to PREMIUM> id <10009>, type  REGULAR, prio 5
- dropped by INCLUSIVE client product type filter
context DEFAULT, rule <Switch to WHOLESALE2> id <10001>, type  REGULAR, prio
95 - selected
  Key list : {'dstNpi': 1, 'srcTon': 1, 'partAmount': 1, 'messageText':
'discount', 'ani': '79107940423', 'dstTon': 1, 'setupTime': '', 'dc': 0,
'srv_type': '', 'srcNpi': 1, 'dnis': '17341234567', 'customer_id': '25373EBB-
7B7C-14C7-5746-7E4FE018531E'}
context WHOLESALE, rule <Hen blocking> id <10013>, type   BLOCK, prio 90 -
selected
        Vendor product id 100030 blocked, route 8
context WHOLESALE, rule <ABISON TEST> id <10011>, type  REGULAR, prio 99 -
dropped by INCLUSIVE client product filter
context WHOLESALE, rule <Test> id <10000>, type  REGULAR, prio 99 - selected
```


Looking for routing rules

NOTE: The rules with the BLOCK type are processed first, irrespective of their priority; this is why after the context was switched to WHOLESALE in the figure above, the rule <Hen blocking> with the priority 90 was handled earlier than the rules with higher priorities such as <ABISON TEST> or <Test> (both having priority 99).



One of selected routing rules

```
Route added:  1. vProd 100045-LCR, SMS POI 10962
<17341234567>, ToN/NPI/RD/F (1, 1, 1, 1, None, N
Route added:  2. vProd 100096-Retail, SMS POI 11
ToN/NPI/RD/F (1, 1, 1, 1, None, None), trRule:
Route added:  3. vProd 99939-Wholesale, SMS POI
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
Route added:  4. vProd 99939-Wholesale, SMS POI
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
Route added:  5. vProd 99985-Wholesale, SMS POI
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
Route added:  6. vProd 99873-Wholesale, SMS POI
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
Route added:  7. vProd 99901-Wholesale, SMS POI
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
Route added:  8. vProd 99963-Premium, SMS POI 10
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
Route added:  9. vProd 99933-Wholesale, SMS POI
<17341230423>, DNIS <17341234567>, ToN/NPI/RD/F
```

Summary of added routing rules

If the message text required translation, the translation result is shown at the end of the log (see figure above).

Checking all possible routing rules until 'Next' action of checked rule is 'Huntstop' (if there is no huntstop - until rule with the lowest priority and ID in the current context is checked).

Note: rules with 'Block' type are being checked in the first place (depending on block rule priority and ID - rule with the greater ID but with the same priority is being checked first), after that rules in 'DEFAULT' context is being checked.

--------- STAGE 9: Applying for routing rules (22 routes found) ---------------
context DEFAULT, rule id <12448>, type BLOCK, prio 100 - selected
Vendor product id 14068 blocked, route 22

context DEFAULT, rule id <10005>, type BLOCK, prio 100 - dropped by INCLUSIVE client product filter
context DEFAULT, rule id <10140>, type BLOCK, prio 50 - dropped, rule inactive
context DEFAULT, rule id <11868>, type REGULAR, prio 100 - dropped by INCLUSIVE client product filter
…….

context DEFAULT, rule id <12448>, type BLOCK, prio 100 - selected
Vendor product id 14068 blocked, route 22
(Rule ID 12448 is selected - and vendor's product ID 14068 is blocked for routing)

context DEFAULT, rule id <10005>, type BLOCK, prio 100 - dropped by INCLUSIVE client product filter
(Rule ID 10005 is dropped due to client product filter)

context DEFAULT, rule id <10140>, type BLOCK, prio 50 - dropped, rule inactive
(Rule ID 10140 is dropped due to date filter)

context DEFAULT, rule id <11863>, type REGULAR, prio 100 - selected
Key list : {'localAddress': [], 'dstNpi': 1, 'srcTon': 5, 'partAmount': 1, 'messageText': 'just a text', 'setupTime': '', 'dstTon': 1, 'ani': 'FB', 'dc': 0, 'concatMessage': 0, 'srv_type': '80', 'DNISRisk': '', 'startTime': 1523882212.6287451, 'srcNpi': 0, 'messageLen': 11, 'DNISScore': -1, 'dnis': '786124', 'customer_id': 'life_smpp'}
ref/HLR MCCMNC <214001>/<214001>, is ported <False>
RuleStat: MRGH 0.000, MRGD 0.000, RuleAttCNT 0, RuleSucCNT 0, RuleDlvCNT 0
TotalRuleStat: MRGH 0.000, MRGD 3513.761

Regular rule ID 11863 with priority 100 in DEFAULT context is selected for routing:
(note: 'Condition: MRG > -0.5' and 'Formula: MRG+1'):

Key list : {'localAddress': [], 'dstNpi': 1, 'srcTon': 5, 'partAmount': 1, 'messageText': 'just a text', 'setupTime': '', 'dstTon': 1, 'ani': 'FB', 'dc': 0, 'concatMessage': 0, 'srv_type': '80', 'DNISRisk': '', 'startTime': 1523882212.6287451, 'srcNpi': 0, 'messageLen': 11, 'DNISScore': -1, 'dnis': '786124', 'customer_id': 'life_smpp'}
(parameters of simulation task: switch local address, destination NPI, source TON, message part count, message text, destination TON, Sender ID, datacoding, is message concatenated, client's POI service type, Risk value of Destination address, simulation target time, source NPI, message length, Score value for Destination address, Destination address, channel GUID)

ref/HLR MCCMNC <214001>/<214001>, is ported <False>
(MCCMNC in accordance with reference book and HLR source - in case of HLR dipping)

RuleStat: MRGH 0.000, MRGD 0.000, RuleAttCNT 0, RuleSucCNT 0, RuleDlvCNT 0
(the rule statistics)

TotalRuleStat: MRGH 0.000, MRGD 3513.761
(total routing rules statistics - margin for current hour and for current day)

poolNum 0, pool len 2, curDoW 1, curHour 12
choice 0, grant 70, RND 46.0
choice 0 selected, type DYNAMIC
cSMSPOI: ASR 0.000, DLR 0.000, ADD 0.000, CER 0.000, count 0

Where

poolNum 0, pool len 1, curDoW 1, curHour 12
choice number - starting with 0, number of sub-choices, current day of week, current hour

choice 0, grant 70, RND 46.0
sub-choice number - starting with 0, specified 'Share,%', random value - in case the value is less than share, the sub-choice is selected:
choice 0 selected, type DYNAMIC

cSMSPOI: ASR 0.000, DLR 0.000, ADD 0.000, CER 0.000, count 0
client's POI statistics

```
vProd 14253 <oper id 5043>, e212 <214> - rate note valid
      MRG -1.06376302465, rates 0.036237-1.100000, RND 0.471089395416
        SMS POI ID 16733, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
         condition False,
     vProd 14152 <oper id 4993>, e212 <214001> - rate note valid
      MRG -0.334833, rates 0.036237-0.37107, RND 0.0437274356135
        SMS POI ID 16717, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
         condition True, weight 0.665167
         SMS POI 16717 added
     vProd 11437 <oper id 3056>, e212 <214> - rate note valid
      MRG -1.16376300379, rates 0.036237-1.20000000379, RND 0.274075945841
        SMS POI ID 12835, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
         condition True, weight -0.16376300379
…………………..
```

Checking the choice of rule ID 11863:
vProd 14253 <oper id 5043>, e212 <214> - rate note valid
(vendor product ID, carrier ID, MCCMNC)

MRG -1.06376302465, rates 0.036237-1.100000, RND 0.471089395416
(margin, client rate - vendor rate, random value)

SMS POI ID 16733, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
(vendor POI ID and its statistics)

condition False,
(as 'Condition' is specified as 'MRG > -1', the condition is considered as false and vendor is not added to routing list)

vProd 14152 <oper id 4993>, e212 <214001> - rate note valid
...
condition True, weight 0.665167
SMS POI 16717 added
(condition is true and weight (which is calculated based on 'Formula' field) is positive - vendor is added to routing)

vProd 11437 <oper id 3056>, e212 <214> - rate note valid
......
condition True, weight -0.16376300379
(vendor is not added to routing as weight is negative)

poolNum 1, pool len 1, curDoW 1, curHour 12
    choice 0 selected, type STATIC
        cSMSPOI: ASR 0.000, DLR 0.000, ADD 0.000, CER 0.000, count 0
            0: oper 2445, prod 10370, choiceProdId 11134 - dropped by productID list
            1: oper 310, prod 10027, choiceProdId 11134 - dropped by productID list
            2: oper 3489, prod 13446, choiceProdId 11134 - dropped by productID list
            3: oper 2449, prod 10377, choiceProdId 11134 - dropped by productID list
            ………………..
HUNT STOP

poolNum 1, pool len 1, curDoW 1, curHour 12
…
3: oper 2449, prod 10377, choiceProdId 11134 - dropped by productID list
(the second choice with type static is being checked - none of checked products is suitable for the choice as only product ID 11134 is specified in it; as this product doesn't have rates for corresponding codes, it cannot be chosen for routing)

HUNT STOP
('Next' option of the rule - routing is not checking any vendors after this option)

Rules checked/applied: 20/1
Route added: 1. vProd 14152, SMS POI 16717-base, SMS cnl 18117-AC_Vnd_SMPP_01, E212 <214001>, rate 0.371070014745, ANI <FB>, DNIS <786124>, ToN/NPI/RD/F (33, 0, 1, 1, 1, 0)
Applying translation rules, stage 1, time 2018-04-16 12:36:52, cProd 12363, vProd 14152, ANI FB(ToN 33, NPI 0), DNIS 786124(ToN 1, NPI 1):
    Message: rule 11062 found, rule translation applied as expand, new value <translated text>

Summary of checked and applied rules:
Rules checked/applied: 20/1
(all type of rules are checked, but only regular and test routing rules are considered as applied)

Summary of added route(s):
Route added: 1. vProd 14152, SMS POI 16717-base, SMS cnl 18117-AC_Vnd_SMPP_01, E212 <214001>, rate 0.371070014745, ANI <FB>, DNIS <786124>, ToN/NPI/RD/F (33, 0, 1, 1, 1, 0)
(vendor's product ID, SMS POI ID and its service type, SMS channel ID and its GUID, MCCMNC, vendor rate, sender ID, destination address, source/destination TON and NPI, registered delivery and flash message flags)

11.Post-routing translation rules

-------- STAGE 10: Applying post-routing translation rules --------
post-routing translation rules are being applied:
Applying translation rules, stage 1, time 2018-04-16 12:36:52, cProd 12363, vProd 14152, ANI FB(ToN 33, NPI 0), DNIS 786124(ToN 1, NPI 1):
Message: rule 11062 found, rule translation applied as expand, new value <translated text>
(Message text is set to 'translated text')

12. Final routing list

NOTE: As message text translations can be applied multiple times (for rules with *Next=continue*), the Simulation log will show intermediate translation results.

Result of selected for routing vendor's product(s) is represented in the table below (note - in case of several routes, static vendors will go first, dynamic vendors will be sorted in accordance with corresponding formula - from higher weight to the least one):

```
+----+------------+-----------+-------------+-------------+------------------------+---------+--------+--------+----------
+------------+-------------+
| N |  Context |  Weight |  Vendor  |  Product |     Vendor POI    | MCCMNC |  ASR |  DLR |  Rate |    ANI
  |    DNIS   |
+----+------------+-----------+-------------+-------------+------------------------+---------+--------+--------+----------
+------------+-------------+
| 1 |   DEFAULT | FIXED_999 |      4993 |      14152 |        (16717) base | 214001 |  0.0% |  0.0% | 0.37107 |
  FB   |     786124 |
+----+------------+-----------+-------------+-------------+------------------------+---------+--------+--------+----------
+------------+-------------+
```

23.2 Common issues

This section provides some examples of simulation logs that contain the 'No routes found' entry or end up without routes list (and reasons for it).

1. Channel disabled

In case option '*Enabled'* is not set in *SMS Channels* tab, simulation log will look like this:

```
......................
--------- STAGE 1: looking for client ---------------
client searching status - SMS channel id 16474, SMS POI id 15297
client SMS channel disable
```

2. No active POI is found

If client SMS POI close date is older than current date, entry in simulation log will be as follows:

```
--------- STAGE 1: looking for client ---------------
client searching status - SMS channel id 16474, SMS POI id NOT FOUND
No SMS POI or SMS channel found
```

3. Client agreement is outdated

In case 'End date' of client's agreement is older than current date (and time) - routes for simulation will not be found (*note: date '1970-01-01' is specified in the log as routing module cannot find any suitable agreement*):

```
--------- STAGE 1: looking for client ---------------
client searching status - SMS channel id 18895, SMS POI id 17353
client account is outdated - allowed period is 1970-01-01 03:00:00 - 1970-01-01 03:00:00
```

4. Account balance is too low

In case client balance exceeded value specified '*In credit limit*' in *Agreements* tab, simulation log will have the following rows:

--------- STAGE 1: looking for client ---------------
client searching status - SMS channel id 23897, SMS POI id 29447
cli low balance. Account id <15081>, balance: <-0.00340>, limit <0.0000>, currency <EUR>

5. Inbound traffic is prohibited

In case option *'Inbound traffic allowed'* in *Carriers* or *Accounts* tab is not set for the carrier, simulation log will end up without routes list:

--------- STAGE 1: looking for client ---------------
client searching status - SMS channel id 16474, SMS POI id 15297
Client SMS POI id <15297>, valid 2017-08-13 00:00:00 - 2030-12-31 23:59:59
Client SMS channel id <16474>, enabled - 1
Client product id <12363>, mode (2) <Client, bill by messages, include vendors with segment billing>, retailBil <1>
Client account id <10942>, balance 0.0000, limit <no limit>, inbound allowed 0
Client operator id <3165>, inbound allowed 0, trusted - 1

6. No exchange rate for the account currency

In case there is no exchange rate between account's currency and System currency (in *Reference books >> Currency exchange rates*), simulation log will end up without routes list:

--------- STAGE 1: looking for client ---------------
client searching status - SMS channel id 16474, SMS POI id 15297
……..
Cannot find exchange rate for client account currency <CURRENCY>
Cannot find exchange rate for client account currency <CURRENCY>

7. No MCCMNC for the specified B-number

If there is no corresponding record of MCC/MCCMNC (which is effective at current date) in e.212/e.164 reference book for destination address, there will be no routes as well:

--------- STAGE 1: looking for client ---------------
……………………………
ANI prefix tags not found
Cannot find MCCMNC for DNIS <34600>

8. Client rate is filtered by Sender ID or dial code

Client rate search uses the following logic:

1) MCCMNC + sender ID

2) MCCMNC + dial code

3) MCCMNC + no dial code

4) MCC + sender ID

5) MCC + dial code

6) MCC + no dial code

7) Rest of world MCC (777 by default)

So, for example, if client product has rates for MCCMNC 214001 and dial code ‘Facebook’ (which is treated as Sender ID) and no other rates for the same MCCMNC/MCC, then the routing will fail and reject the attempt:

```
--------- looking for client rates ---------------
Client product chain - 12363, 10048, mode - longest match
   Check E212 <214001>, dialcode <Facebook>, prod 12363, rate ID 237822/cost 0.50000 - skipped as
filtered by rate dialcode
……………………………
```

9. Client rate is not found

In case there are no client rates for DNIS (or rate end/start date is older/newer than simulation *target time*/start date), simulation log will look like:

```
………………….
--------- looking for client rates ---------------
Client product chain - 12363
      Cannot find client rates for MCCMNC <310>
      Check MCC <777> - Rest of the world
      Cannot find client rates for rest of world MCC <777>
Searching POI list and checking vendor product billing mode:

ANI prefix tags not found
No rates found for client product 12363 and its parent products, MCCMNC <310>
No rates found for client product 12363 and its parent products, MCCMNC <310>
```

10. Vendor product belongs to client’s carrier

In case carrier has a client and vendor products (under the same account) with rates for the network and the *Enable traffic exchange between the same carrier products (0 – disabled, 1 – enabled for all product names, 2 – enabled for different product names)* System parameter or the *Allow routing to products of the same carrier* routing rule setting does not allow such a loop, the vendor’s rate will not be checked - and vendor cannot be selected to routing:

```
--------- Applying routing rules ---------------
………………………...
141: oper 7102, prod 23981, choiceProdId 23981 -
  vProd id 23981, oper id <7102> - dropped by same carrier traffic exchange type sys/choice: 0/3
…………………………
```

11. Vendor channel is disabled

Vendor cannot be selected for routing in case all its channels are disabled:

--------- looking for vendor rates ---------------
……………………………
Product 10027, SMS POI 12135, SMS channel 12963 is disable, skipped
……………………………

12. Vendor SMS POI is outdated

Vendor cannot be selected for routing in case its SMS POI is not active:

--------- looking for vendor rates ---------------
……………………………
Product 10265, cost 0.10000, billing mode (M 1-6)
SMS POI 10040 is obsolete, skipped
……………………………

13. Billing option incompatibility

In case for the client's product *'SMS billing option'* (*Products* tab) is specified as '*Bill by messages, exclude vendors with segment billing*' and the vendor's product has '*Bill by segments*' option, the vendor's product will be excluded from routing:

--------- looking for vendor rates ---------------
……………………………
Vendor product 13828 is in segment billing mode, incompatible with client product billing mode, excluded
……………………………

14. Vendor balance limit is exceeded

The vendor cannot be selected for routing in case its balance exceeds specified '*Out credit limit*' in *Agreements* tab (if system setting '*SMS vendor credit control enabled (1 - yes, 0 - no)*' is set to 1):

--------- looking for vendor rates ---------------
……………………………
Vendor account for product 10185 is over 109057.900000 (limit 500.0000)
……………………………

15. Vendor agreement is outdated

In case '*End date*' of vendor's agreement is older than current date (and time) - the vendor's product will not be included in the routing list (*note: date '1970-01-01' is specified in the log as routing module cannot find any suitable agreement*):

--------- looking for vendor rates ---------------
……………………………
Vendor account for product 10942 is outdated, valid from 1970-01-01 03:00:00 till 1970-01-01 03:00:00
……………………………

16. Outbound traffic is prohibited

In case option *'Outbound traffic allowed'* in *Carriers* or *Accounts* tab is not enabled for vendor, its product will not be ignored:

```
--------- looking for vendor rates ---------------
……………………………
Vendor ID 3202 (Account ID 15082, Product ID 17338) - outbound traffic prohibited by carrier/account: 1/0
……………………………
```

17. Blocked rate

In case vendor's rate has BLOCKED marker in *Rate note* field, vendor's product will be skipped from routing:

```
--------- looking for vendor rates ---------------
……………………………
Checking for BLOCKED rates:
mccmnc <777>, prod id 13095, rate id 231783, value 0.10000 - BLOCKED, skip product
……………………………
```

18. Block rule

If there is a suitable routing rule with *'Type': Block*, all routes (or specific ones in the block rule) will be filtered:

```
--------- STAGE 5: looking for routing rules ( 13 routes found ) ---------------
context DEFAULT, rule id <12724>, type    BLOCK, prio 100 - selected
   route 0: vendor product id 10027 blocked by product type
   route 1: vendor product id 11536 blocked by product type
   route 2: vendor product id 10142 blocked by product type
……………………………
Rules checked/applied: 1/1
routes found but filtered by rules
```

19. Huntstop

Routing rules are being checked starting from the priority 100 (in case of the same priority rule with greater ID is checked first) until *'Next'* action of a rule suitable for all filters is *'Huntstop'* - and sometimes *'Huntstop'* option has taken place before rule in question is checked (so the rule is not checked and vendor list is not formed):

```
--------- STAGE 5: looking for routing rules ( 18 routes found ) ---------------
……………………………
context DEFAULT, rule id <11863>, type  REGULAR, prio 100 - selected
……………………………
HUNT STOP
Rules checked/applied: 13/1
routes found but filtered by rules
routes found but filtered by rules

+----+------------+-----------+-------------+-------------+-----------------------+---------+--------+--------+----------
+------------+-------------+
| N |  Context |  Weight |   Vendor   |   Product  |      Vendor POI     | MCCMNC |  ASR |  DLR |  Rate |    ANI
  |    DNIS    |
+----+------------+-----------+-------------+-------------+-----------------------+---------+--------+--------+----------
+------------+-------------+
| no valid routes found                                                                                              |
+----+------------+-----------+-------------+-------------+-----------------------+---------+--------+--------+----------
+------------+-------------+
```

20. Custom context

Rules with 'Block' type (in context: DEFAULT) are being checked in the first place, after that regular and test rules in the same context are being checked - and in case the needed rule is in different context (and there is no switchover to this context from default one), route list may not be formed as well.

21. Test rule

Rule with type *'Test'* may not be chosen due to *'Probability, %'* parameter (for example, if it is too low):
--------- STAGE 5: looking for routing rules (18 routes found) ---------------
……………………………
context DEFAULT, rule id <10007>, type TEST, prio 100 - dropped test rule by prob/rnd 5.00/44.00
……………………………

22. Rule is outdated

In case rule has '*Start date*' newer than current date or '*End date*' older than current date, the rule will not be checked for routing:

--------- STAGE 5: looking for routing rules (18 routes found) ---------------
……………………………
context DEFAULT, rule id <10140>, type BLOCK, prio 50 - dropped, rule outdated
……………………………

23. Rule is not active

In case checkbox '*Is active*' is disabled, the rule cannot be chosen for routing:

--------- STAGE 5: looking for routing rules (18 routes found) ---------------
……………………………
context DEFAULT, rule id <10141>, type BLOCK, prio 50 - dropped, rule inactive
……………………………

24. Other filters

In case there are specified patterns (*Content pattern, Sender ID pattern, Destination number pattern*) or inclusive/exclusive list (*MCCMNC, Client products, Client product names, Vendor products, Vendor product names*), the rule can be filtered and dropped as well:

--------- STAGE 5: looking for routing rules (18 routes found) ---------------
……………………………
context DEFAULT, rule id <12724>, type BLOCK, prio 100 - dropped by message text filter
context DEFAULT, rule id <10005>, type BLOCK, prio 100 - dropped by INCLUSIVE client product filter
context DEFAULT, rule id <10140>, type REGULAR, prio 100 - dropped by DNIS pattern
…………………………

25. Condition is false

In case the condition is false, the choice will not be selected for routing (*note: in case there is no specified condition regarding margin - it is considered as MRG >= 0 by default*)

```
--------- STAGE 5: looking for routing rules ( 18 routes found ) ---------------
…………………………….
context DEFAULT, rule id <11863>, type  REGULAR, prio 100 - selected
………………………….
       choice 0 selected, type DYNAMIC
         cSMSPOI: ASR 0.000, DLR 0.000, ADD 0.000, CER 0.000, count 0
           vProd 10027 <oper id 310>, e212 <214> - rate note valid
             MRG -0.41625, rates 0.583750-1.000000, RND 0.284442252415
                 SMS POI ID 11875, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
                   condition False
………………………….
```

26. Vendor weight is negative

In case calculated weight of formula is 0 or less than 0, the vendor's product will not be chosen for routing:

```
--------- STAGE 5: looking for routing rules ( 18 routes found ) ---------------
…………………………….
context DEFAULT, rule id <11863>, type  REGULAR, prio 100 - selected
………………………….
          vProd 14639 <oper id 5320>, e212 <214> - rate note valid
             MRG -0.41625, rates 0.583750-1.000000, RND 0.478281935006
                 SMS POI ID 17072, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
                   condition True, weight -0.41625
………………………….
```

27. Condition is incorrect

In case syntax of condition is incorrect, it will not be parsed - and as result, vendor's product(s) specified in the choice cannot be added to routing *(note: syntax can be checked with 'Check syntax' button):*

```
--------- STAGE 5: looking for routing rules ( 18 routes found ) ---------------
…………………………….
context DEFAULT, rule id <11863>, type  REGULAR, prio 100 - selected
………………………….
vProd 10027 <oper id 310>, e212 <214> - rate note valid
             MRG -0.41625, rates 0.583750-1.000000, RND 0.638480866477
                 SMS POI ID 11875, ASR 0.000, DLR 0.000, ADD 0.000, VER 0.000, count 0
                   cannot check condition - reason <name 'MRg' is not defined>, skipped
```

28. The vendor channel belongs to a different SMS switch

In case the vendor channel's *Local address* is different than the *Use switch default settings* and is other than the one specified for the simulation task, the vendor's channel is skipped:

```
--------- looking for vendor rates ---------------
…………………………….
       SMS POI 12835, SMS channel 13690 local address <127.0.0.1> is unsupported by switch local addresses
['127.0.0.3'], skipped
   Product 11437, SMS POI 23804, SMS channel 26057 is disable, skipped
```

29. The client/vendor product has been locked by a limitation rule

If the vendor product has exceeded the limit set in a limitation rule, it will not be selected for routing, which may result in the no routes reason (if it is the only suitable route):

--------- looking for vendor rates ---------------
……………………………
Checking for parent products, BLOCKED and IM channel rates:
……………………………
mccmnc <214>, prod id 18565, rate id 530232, value 0.60000 locked by lock rule id 1092/exp in 3663 secs, destination mask 214%, skip product
In case of a client product, incoming messages will be rejected until the lock is removed:
--------- STAGE 1: looking for client ---------------
……………………………
Client product is locked by lock rule id 1097/exp in 2401 secs, destination mask 214%

30. The vendor channel filter failed

If a vendor channel has limitations in acceptance of source/destination ToN/NPI, the channel will not be added to the routing list:
...
ANI ToN channel filter failed
…
Note that currently it is not possible to select source/destination ToN/NPI for Simulation as they have hardcoded values.

31. The max number of routes is reached

In case the routing list contains more routes that specified in the system parameter Routes to send, the list will be trimmed and the rest of the vendor products will not be selected for routing:
...
Max routes per message is set to 3, 3 routes have been found
...

32. Vendor datacoding incompatibility

In case the System parameter *Filter HTTP vendors based on data coding* is turned on and the HTTP vendor does not have the message datacoding in the *Allowed data coding list*, the route will not be selected for routing:
...
Route skipped: vProd 18565, SMS POI 24465-, SMS cnl 26617-http_test_sms, E212 <410006>, rate 0.0713459984053, ANI <123>, DNIS <923438718956>, ToN/NPI (1, 1, 1, 1) - Encodings incompatibility
...

33. Vendor channel is RX

If the vendor product has only RX channel(s) assigned which implies receiving packets from the channel(s), the route will be rejected with the following reasons:

```
--------- looking for vendor rates <Child + Parent> ---------------
```
...
Product 14560, cost 0.00000, billing mode (M 1-6)
SMS POI 31867, SMS channel 32511 is in RX mode, skipped
...

33. Vendor POI is absent

If the vendor SMS POI close date is older than the current date, the entry in the simulation log will be as follows:

```
--------- looking for vendor rates <Child + Parent> ---------------
...
Searching POI list and checking vendor product billing mode:
  No SMS POI found for vendor product with ID <607>
...
```

34. A message is blocked due to the *Block expired messages* channel's setting

If the *Expires at* date and time is set to an expired value and the *Block expired messages* control has "Yes" value or "System default" value (given that the System parameter *Block expired messages (0 - no, 1 - yes)* is set to 1 for the latter case), traffic will be blocked when received with an expired validity_period, but the simulation task will return successful result. The situation can be tracked with the help of the *Simulation log*, the following records will be listed:

```
--------- STAGE 5: looking for routing rules ( 88 routes found ) ---------------
...
Route dropped by client channel settings
...
```

or

```
--------- STAGE 5: looking for routing rules ( 88 routes found ) ---------------
...
Route dropped by vendor channel settings
...
```

24 Appendix 6. Two-way messaging setup

What is 2-way messaging?

2-way messaging is a means of SMS communication that involves sending messages from a short code and receiving responses from end-user devices.

The first part of a 2-way message (for which a response is required) is called **MT** or Mobile Terminated message. It is a regular message (sent **from** your **client**) that arrives from a short code to your System in a submit_sm packet and is sent to a **mobile user** through one of your vendors. The System uses the routing scheme created in the SMS\Routing\Routing rules 464 interface to send the MT message.

NOTE: For the sake of simplicity, all messages that arrive to the System in submit_sm signal are called MTs (mobile-terminated).

The second part of the 2-way message is called **MO** or Mobile Originated message. The peculiarity of this message is that it does not arrive to your System as a submit_sm, but rather it arrives to your System as a deliver_sm, meaning that the **vendor** sends a reply back to the System (in case the mobile phone user sent a reply to the initial message) as a delivery report that the System treats as a 2-way message. This delivery report does not belong to any message in the System. The switch considers such messages as 2-way ones and checks the MCC of the originator address (the MCC should be specified in the *MO routing editor*), the Destination number (the DNIS that is configured in *MO routing editor* as well) and the text of the message so this delivery can be sent to the client.

The originator address of the MO is the number of the mobile user that sent the response to the initial message. The B-number is the short code **from** which the initial message (MT) was sent.

In order for Alaris SMS Platform to correctly route the second message (MO), the System should have a few parameters set differently from the usual SMS processing. In this section we will go over all the settings you need to perform in order for your System to be able to successfully process 2-way messages.

Important information

- It is strongly recommended to create separate products for 2-way messaging for the client and vendor as by default the switch will unconditionally set the incoming deliver_sm service type as MO, the same is done on the client's side. Similarly, it is required to create 2-way client and vendor SMS POIs with the MO value in the *Service type* field to have correct billing, otherwise MO messages will not be defined and will appear as undefined in SMS\Analytics 363.

- For proper billing, 2-way rates must be created with the MCC or MCCMNC of the originator address and the dial code which is usually a short code.

NOTE: Instead of the MCC of the originator address, the MCC ''Rest of world'' can be used (the default value is 777 and can be changed in Administration\System settings\SMS routing 95). If no appropriate records are found, the message will be routed to the MCC ''Rest of world'' irrespective of the originator country.

- There are no routing rules for 2-way messages in their usual way as other types of routing are implied for 2-way messaging

Configuration
The configuration process consists of the following steps:

- Step 1 is configuration of the **client** side in the *Carriers* section.

- Step 2 is configuration of the **vendor** side in the *Carriers* section.

- Step 3 is enabling the *Track MO responses to MTs* parameter at Carriers\SMS channels 188
- Step 4 is creation of a record in **Number management** 575
- Step 5 is creating records in the SMS\Routing\MO routing editor 519
- Step 6 is adding SMS rates

NOTE: Only one routing setup (step 3, step 4 or step 5) is required. If several configurations match the MO message routing, the record with the highest priority is taken. The priority is defined as follows: the *Track MO responses to MTs* parameter, *Number management*, *MO routing editor*.

Step1. Client side configuration

1. Create a carrier for the client side (an existing carrier can be used)
2. Add a new client account (an existing account can be used)
3. Add a new client agreement (an existing agreement can be used)
4. Create a **dedicated** product for 2-way SMS processing – for example, *2way-client*
5. Create an SMS channel or use an existing one
6. Create the SMS POI with Service type set as **MO (this is mandatory for client channel and product search)**. This POI will be used for routing of Mobile-Originated (MO) messages

Step 2. Vendor side configuration

1. Create a carrier for the vendor side (an existing carrier can be used)
2. Add a new vendor account (an existing account can be used)
3. Add a new vendor agreement (an existing agreement can be used)
4. Create a new product - for example, *2way-vendor* (an existing product can be used)
5. Add a new SMS channel (an existing channel can be used)
6. Again, create a new SMS POI. In the *Service type* field specify *MO*. This is required.

NOTE: Any *Service type* value received from the vendor will be replaced by MO.

Step 3. Enabling the Track MO responses to MTs parameter at Carriers\SMS channels 188

The *Track MO responses to MTs* option in a client channel implies unconditional routing of an MO message towards the client channel from which the initial MT message was received. This setup supposes having a vendor POI with the service type MO while there is no such a necessity for the client side as the client POI ID of the MT message will be written in the MO EDR. Note that translation rules are not applied to such MO messages.

Step 4. Number management 575

Create a record for *Type*: *DID(SMS)*, specify the number (to which an MO message is received) and the client product where to route this message. The System parameter *Use DID/TFN management* must be set to 1 to use the DID management functionality.

Step 5. Creating records in the *MO routing editor*

In order to create short code records, proceed to the SMS\Routing\MO routing editor 519.

Suppose you send messages to Spain.

Suppose the short code from which Mobile Terminated (**MT**) messages are sent is *12345*

At this point you should already have a client product named *2way* for the 2-way client carrier.

Create a new record with the following parameters:

- **Product**: *2way Client – 2way*
- **Sender MCC** (Spain): *214*
- **Dest. number mask**: the short code from a short code provider – in our example, *12345*. It will be used as the B-number in the MO message
- **Text pattern**: the *MO routing editor* can route MO messages based on their content. This may come handy when there is a need to route only messages with specific text. The *Text pattern* field supports python programming language regular expressions and by default is filled automatically allowing any message content.

Step 6. creation of rates

NOTE: Creation of rates is necessary to enable billing of 2-way messages. If no billing is required, you can skip this step. It is important to note that invoices for client MO products (that is, for termination of traffic to clients) will be created with the *To partner* (client) direction while invoices for vendor products - with the *From partner* (vendor) direction. In other words, no reverse charging is available for MO products.

Proceed to SMS\Rates\Rate editor 399. Click Add rate and complete the following parameters:

- *Products*: select the client product created for 2-way messaging setup. In our example, *2way Client – 2way*
- *MCCMNC*: enter the MCC or MCCMNC. In our example, *214* for Spain
- *Dial code* (optional): specify the short code - DNIS - defined in SMS\Routing\MO routing editor 519. In our example, *12345*
- *Active from/till*: set the effective period for the rate
- *Rate*: specify the rate that the vendor will be paid for the message

NOTE: for the client leg the *Dial code* field is compared to the received sender ID and in case of the full match, has a priority. If the sender ID does not match, the *Dial code* field is checked for the longest match of the destination number. For the vendor leg the *Dial code* field is compared with the destination number using the full match logic.

With these steps completed, your System is ready to process 2-way messages. In this particular example, if an MO message comes from any Spanish number (MCC 214) to short code 12345 it will be routed to *2way Client - 2way (USD) - Client product* and billed according to the rates set up in the System.

If you still have questions on the 2-way message processing, feel free to contact the Alaris technical support team.

NOTE: To configure 2-way messaging over HTTP, use the markers listed in Appendix 1. HTTP API\Allowed marker names for outgoing HTTP requests\MO SMS 669.

24.1 Configuring MO message sending for Twilio

The System supports MO message sending for Twilio. To enable it, perform the following configurations:

1. Create a vendor HTTP channel (Carriers\SMS channels 188) with the following parameters:

- *URL template*: http://service_IP_address/api?ani=ani&dnis=$dnis$&username=$username$&password=$password$&message=$text$&command=submit&serviceType=$serviceType$
- *Login*: twilio
- *Password*: twiliopass

2. Create a POI with *Service type* = MO (Carriers\SMS POI 209).

3. Check that the appropriate short code is present in *MO routing editor* to handle the MO (SMS\Routing\MO routing editor 519). Add the code to the *MO routing editor* if necessary.

25 Appendix 7. Frequently asked questions

The section contains frequently asked questions about configuration and usage of Alaris SMS Platform.

25.1 General

1) What does the option '*Is test*' in *Carriers* mean?

The option is intended to highlight test carriers - *[TEST]* prefix will be added to the carrier name, also traffic of such carriers will be highlighted orange in the *Analytics* section. Similar option *'Is test*' in *Products* interface affects product name only, also it may affect routing in case it is based on product types (*'Client/Vendor product names'* filters in *Routing rules*).

2) What does the option *'Self signed-up'* mean?

The checkbox is automatically ticked when a client is registered in the Wholesale/Partner/Campaign Portal - these clients will be shown green in the *Analytics* interface.

3) How do I limit the client balance so the client cannot send messages if the balance is negative?

For the limitation it is recommended to use the *'In credit'* option in Carriers\Agreements 171 - in case the option is set to 0, the client is called 'Prepaid' and can send traffic only if the balance is positive. If the option is empty, the client is called 'Trusted' and can send traffic even if the balance is negative. To limit the balance threshold, the *'In credit'* parameter can be set to any positive value - e.g., if it is set to *200*, then the client can send traffic until the balance reaches -200 (in the account currency) - the client will be called 'Postpaid' in this case.

The same works for the vendor side in reverse: it is possible to send traffic to the vendor until their balance reaches 200 (in case the System setting '*SMS vendor credit control enabled (1 - yes, 0 - no)*' is set to 1). If the balance is positive, the System owner is in debt to the partner, otherwise (in case of negative balance), the partner is in debt to the System owner.

4) How do I configure sending credit and balance alerts in the System?

Credit alerts are sent out only for the client's agreements for which the *In credit* field is filled in with a positive value. To configure them to be sent, follow the steps as detailed below:

- Set credit thresholds for a specific account and/or in the System settings (Administration\System settings\Financial module 61)

NOTE: Just one threshold may be specified but it has to be the first one, not the last or in the middle of the list.

- the email addresses for sending alerts are described in the *Credit alert letter* template (see Administration\Template manager\Templates and markers 104)

Balance alerts can be sent out for the agreements with a zero or non-zero (and non-empty) credit limit:

- set balance thresholds for a specific account and/or in the System settings (Administration\System settings\Financial module 61)

- for clients with a non-zero credit limit, the System setting *Send balance alerts for accounts with non-zero credit limit (0 - no, 1 - yes)* must be additionally enabled to receive balance alerts (if the balance thresholds are configured).
- the email addresses for sending alerts are described in the *Balance alert letter* template (see Administration\Template manager\Templates and markers 104)

The text of such notifications can be configured with the help of the *Credit alert letter* or *Balance alert letter* templates (Administration\Template manager 104).

5) What does the field 'Parent product' in Carriers\Products 180 mean?

The field serves to specify a product whose rates will be inherited by the initial product. The goal is to keep generic rate plans which are offered to many clients in one parent product - it is a convenient way to add or modify rates only in one product so they can be changed for other products as well.

For example, product *A,* which has active rates 0.3 for MCC 214 and 0.25 for MCCMNC 222002, is a child of parent product *B* (and this product contains rates 0.2 for MCCMNC 214001 and 0.26 for MCCMNC 222002 with dial code 123) - so the product *A* will have 4 rates in total:

0.3 for MCC 214
0.25 for MCCMNC 222002
0.26 for MCCMNC 222002 (with dial code 123)
0.2 for MCCMNC 214001

The inheritance mode also depends on the System setting *Rate inheritance mode* (the setting is also available on the product level when *Parent product* is filled in) which shows how rates will be searched for routing. If the value is 1 (*longest global match*), the System searches for the most detailed rate (in terms of both MCCMNC and dial code) in the parent and child product and uses it to charge the client. When the value is 0 (*longest match at child*), the System first searches for the child product and if there is no suitable rate (for either MCC or MCCMNC), it searches for the parent product. Additionally the logic can be checked in the manual (*Appendix 3. Rate search logic*).

Suppose that the parameter is set to 0 - if a message is sent to 214001, the rate 0.2 will be selected; if a message is sent to 222002 from number 123456789, the rate 0.26 will be used.If the setting is set to 1 and a message is sent to 214001, the child rate for MCC 214 (0.3) will be used due to the setting's value.

6) What can be affected if I change the product name (e.g., from *Direct* to *Wholesale*)?

The change of a product name will affect routing only in case the routing rules use filters such as *'Client/Vendor product names'*.

7) Is it possible to change the account currency?

Since it will affect all current rates and previous finance information, it is preferable to close the old account (by setting the *End date* of the corresponding agreement to, for example, 01.01.2019 - both the agreement and the account will be inactive starting from 01.01.2019) and create a new one in the necessary currency (and also create all related entities such as agreement, product, channel, and POI).

8) How does the System handle multiple currencies? Where does the exchange rate come from?

To add new currency is possible in *Reference books >> Currency exchange rates* ('+' button of '*Existing currency*' filed), after that it will be possible to create an account in the currency. Also the exchange rate has to be added (*Exchange rates* table of the same *Currency exchange rates* interface), it can be defined manually or fetched automatically from a set of pre-defined sources – the System setting *Currency update source* support following values: ECB, LCB, BNR, NBU, NBRB, CBR (*European Central Bank*, *Lithuania Central Bank*, *National Bank of Romania*, *National Bank of Ukraine*, *National Bank of the Republic of Belarus* and Central Bank of Russia correspondingly).

9) Where do I check the content (message text) of processed traffic?

Message text is contained in EDRs, which can be found in *Analytics* (*EDR export by row in top grid* option), in *EDR export tool* and in *Reports* (report *EDR Export (Administration)*. It is recommended to specify at least one of the filters (*client message ID, sender ID, destination address, etc*) while using the report, otherwise its launching may take a lot of time.

10) How many days are EDRs stored in the system?

The period is defined by 2 system settings - *Active EDR day count* and *Archive EDR day count*. The first one shows period of data available from the main interfaces (the web interface, REST API, etc.), the last defines the period of data which can be restored by request.

NOTE: An increase of the values has to be approved with the technical support team as the operation may require additional disk space.

11) What is a trace/dump/pcap file? Where in the System can I find trace files? How do I use the Trace analyzer tool?

A trace file contains information about network packet exchange between servers (the client's equipment and the switch or the switch and the vendor's equipment). In most cases, trace files on TCP (transmission control protocol) level or SMPP level are required for analysis of situations. TCP packets may show information about network issues. Once the TCP connection is successfully established, the switch waits for the bind command from a client (SMPP level). Usually traces are opened by the Wireshark program - a lot of different tutorials can be found on the Internet, for example this one or this one.

The Administration\Trace analyzer 155 interface serves to take traces in the System. The left panel contains task parameters that must be filled in by user. When they are set, click *Run* to put the task in the queue.

Once the task is ready, the file can be downloaded by the *'download'* hyperlink. The task parameters *'Carrier'*, '*Start/end date offset*' are optional, the former parameter is intended to filter IP addresses by the carrier name (once it is specified, the *Hostname* drop-down list contains only IP address(es) of the carrier's channels), the latter two specify the offset for *Start/end date* fields for easier specification of the filters, so for example, if the *Start date offset* is set to -4, the *Start date* will be automatically change to current hour-4.

The *Hostname* field has to contain the carrier's IP address. The *Start/end date* must be set to a period for which traces should be taken (it is recommended to specify a short period - 1-2 hours).

NOTE: Tasks are handled consistently so it is preferable to launch a new task once the previous is ready, additionally they are launched only for the past period. Trace files are stored for 3 days by default (to increase the period, please contact the support team).

12) Why does the 'e.212/e.164 reference book' contain non-actual data?

The System contains a pre-uploaded reference book which is intended for initial stage of the System configuration and doesn't contain actual information. To keep it up-to-date is a responsibility of the System owner. Single changes can be made through SMS\Reference books\e.212/e.164 reference book editor 439, modification in bulk can be performed through SMS\Reference books\e.212/e.164 reference book import 443. Alternatively, to obtain relevant MCCMNC information, HLR functionality can be used.

13) Why are there 2 grids in e.212/e.164 reference book editor?

The System works as follows: for each incoming message a destination address (B-number/DNIS) is taken and matched (longest match logic) with an MCCMNC (MCC) (in accordance with the bottom grid of e.212/e.164 reference book). If there is no suitable MCC (MNC), the message will not be routed since the System needs to have information about the e.212 code to search for rates and routes. The *LOT* field defines the level of trust – that is, which record (in case of the same records for the MCCMNC+dial code with an overlapping period) should be more 'trusted' and used in the first place. The top grid defines the *Country* and *Network name* for the MCCMNC which will be used in rates and EDRs.

14) Is there any difference between a 5-digit MCCMNC and a 6-digit one? Why does the System use 6 digits while some partners use 5 digits?

Each country uses its own format of e.212 codes - 5-digit MCCMNCs or 6-digit MCCMNCs, the difference is in addition of a leading zero to MNC if it contains 2 digits (for example, 214 01 >> 214 001). For convenience and unification, the System uses a single 6-digit format. Unification happens in the SMS\Rates\Rate editor 399 interface as well as in SMS\Rates\Rate import 420. In case a client requires to send them rates in the format of 5-digit MCCMNCs, the configuration should be done in SMS\Rates\Rate export 407 >> *Column settings*. Instead of the *MCC and MNC or MCCMNC* columns, the column *MCCMNC5* should be defined as the *System column*. The system allows creating several presets (formats) for rate export - on the contract company, carrier or product level.

15) How does manual testing of the Test system work? Which test platform is preferable?

In terms of functionality many test platforms offer almost the same - checks of actual message delivery and its properties: message text, sender ID. The system is integrated with such systems as CSG, TelQ, TestMySMS, Remote365, iTest, Texter and Testelium systems. The full list of supported test systems can be reviewed in Test system editor 533. Also there is a possibility to use manual testing. It involves sending test messages to a specific vendor with predefined parameters (sender ID, message text, destination address) without the routing stage (so there is no need in routing configuration and there are no balance/rate checks). Note that translation rules are not applied to test messages.

Note that the vendor POI ID that is being tested is added to the beginning of the message text during manual testing. The prefix cannot be removed - and actually can be a help to define which of the providers has delivered the message when bulk message sending is being tested (the same text + destination address).

16) What is Route testing client and how does the Test system work?

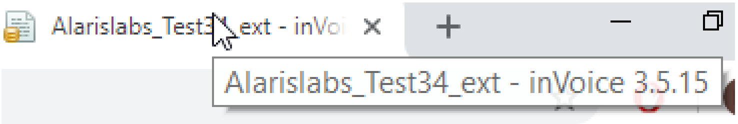
Test messages are sent from the interface through a special carrier added in the System - usually the configuration for the Test system is performed by the support team. This carrier's ID is configured in the System setting *Route testing client*. Note that change of the setting has to be followed either with the change of the test channel(s) or with SMS switch restart - please contact the support team.

17) What does the carrier switch_monitoring in SMS\Analytics 363 mean?

It is an internal tool which sends a test message to check operation of the switch and routing module and traffic flow. By request these messages can be hidden from *Analytics* but only for a future period.

18) How do I check the System version?

If you point your mouse cursor to the browser tab with the open web interface, you will find the System version, as illustrated below



19) Where can I find all markers available in the System?

The markers can be found here: Templates and markers 106

20) How do I remove the 'License will expire in n days' message?

All license questions must be discussed with the account manager directly - the questions are not discussed by the support team either tickets or assistance chats since it is outside their competence.

21) How do I avoid 'this site is not secure' message when I log in to the web interface and/or portals?

To remove the message, an SSL certificate should be purchased (the certificate may be registered for any domain name assigned to the IP address where the web module is located or to the web domain name which is already used to access the web interface). Once it is registered, it should be provided to the support team (with the corresponding key). To apply the certificate, restart of the web module is required (which leads to web unavailability for about 1-2 minutes). Note that some providers give bundles (set of certificates in order for the browser to accept it as trusted). They should be provided for installation as well.For certificate generation most providers require CSR (certificate signing request). For hosting clients it has to be generated by the support team - and the following information should be provided to the team: *Common Name (domain name or wildcard), Organization, Organization Unit, City or Locality, State or Province, Country, Passphrase (Optional), E-mail.*Once the CSR and the key is generated, they should be sent to the registration center for further purchase of the certificate.

22) How can I implement GDPR in the System?

The following possibilities are available in the System:

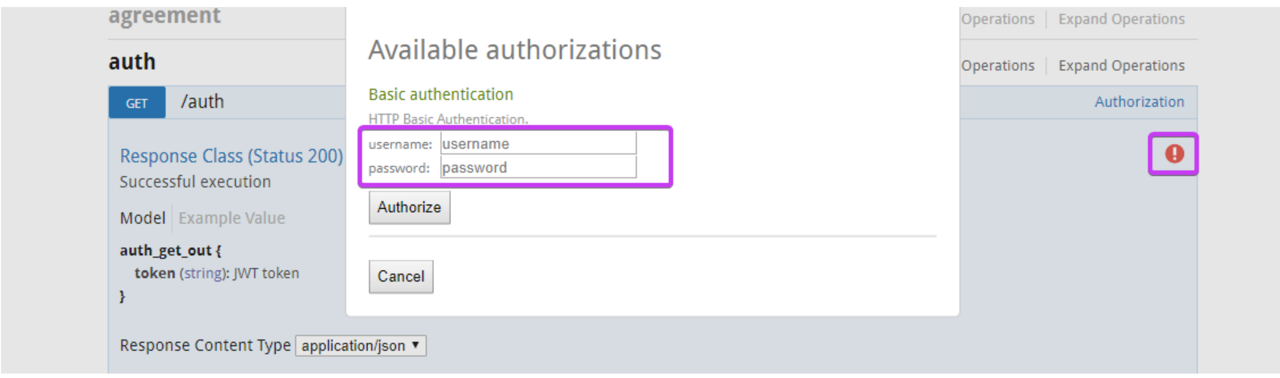
- it is possible not to write message text (so they will not be stored in the System) - to achieve this, specify the list of client channel IDs in the System parameter Ignore message texts for customer channels (comma separated ID list) 68
- to mask destination addresses and texts, use SMS\EDR management\EDR masking 390
- to erase message text when a certain number of days passes, configure the System parameter Wipe SMS contents after, days 68
- to remove personal data, refer to the System parameter Wipe personal data after, days of inactivity 68
- message text can be hidden from specific users in the main (admin) web interface. To configure contact the Alaris technical support team, share the code BZ50378 and the list of user names

23) Is there a manual for REST API? How do I use it?

There is a REST API available in the system which offers a lot of methods of data receiving and managing. Description of some REST API methods and examples of their usage can be found in Appendix 9. REST API methods 809. Additionally, descriptions and possible values for every method are provided in the methods themselves (once you click on a method, it is possible to switch between the Model and Example value).

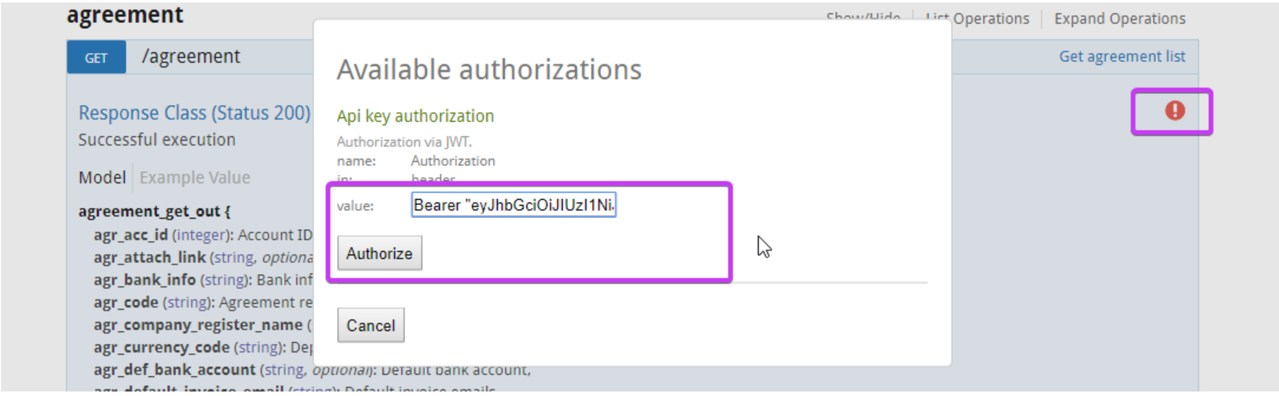
To use the API, a user must be created in the main web interface under the System Owner carrier (to have access to all methods) or under any carrier but with relevant permissions (for example, if a user should be able to check all rates, the permissions *View all data* and *SMS rate view* must be granted). Authorization for REST API is possible through the authorization header (login/password of the user - see image below) or through the method GET:auth (but first the basic auth should be done - see image below) - once the token is received (see image below), it can be applied to any method as illustrated below (the token expires in 2 hours starting from version 3.5.13 - or a custom value can be specified in the lifetime parameter of the GET:auth method).

Authorization header



GET:auth method

Token



Applying token to method

Note that System owner-related methods (to manage the System functionality, for example carriers or charges) have been moved to Enterprise API (EAPI for short) which is not configured by default. To proceed with installation, register a domain name for the web server IP address and share it with the Alaris technical support team along with a list of IP addresses from which EAPI calls will be performed.

24) How do I download files using the REST API?

Some export methods, such as export_sms_edr, export_invoice, export_sms_rate, export_sms_usage_stats, allow exporting data into a file. The methods' output will contain the file_id and file_name:

```
{
  "file_id": "ftCL3dEdl4eb01A",
  "file_name": "Export.csv"
}
```

This data must be put to the hidden download method that can be called through third-party software (for example, Postman) or from the browser address bar. The link to obtain the data will be as follows:

http://api.client.com/rest/download/ftCL3dEdl4eb01A/Export.csv

where *api.client.com* is the REST API domain name; *ftCL3dEdl4eb01A* - the file ID, *Export.csv* - the file name

25.2 SMS channels/SMS POI

1) What is the bind type?

It is the type of connection in accordance with which requests will be handled. Possible values are *Auto, TX* (transmitter), *RX* (receiver), *TR* (transceiver). For client connections it is recommended to specify the *Auto* type, and for vendor ones - *TR*. *TX* means that it will be only possible to send packets via the channel, and *RX* - only to receive them.

2) Why should SMS POI be created for a channel?

POI is a point of interconnection which links the SMS channel and product so it is possible to send traffic of different levels (wholesale, premium) via the same channel. Creation of POI forms a link between the channel ('gateway') and product (level of service).

3) Is it possible to create both a client and vendor direction channel?

A channel with the *TR* type has to be configured in this case - the SMS switch will be waiting for incoming packets on the IP address specified in *Hostname* and will send outgoing requests to the *Hostname* and to the port specified in the *Port* field. As a result 2 binds (at least) will be established - one bind request must be received from the client side and the other will be established by the SMS switch with the vendor side. Note that 2 POIs with client and vendor direction must be configured for the channel.

4) Is it possible to use the same login and password for different channels of the same direction?

Yes, it is possible in case these channels have different IP addresses - since the login/password are auth information. However, if the channels have the same IP address with the same credentials, it will not be possible to understand through which channel the binds should be established.

5) Is it possible to create one channel with multiple IP addresses?

The *Hostname* field supports masks only for the client side - so it is possible to specify the field in the format *<IP>/mask* (for example, for 65.98.108.111/29 the range will be 65.98.108.105-65.98.108.110). If the field is set to 0.0.0.0/0, all requests from any IP address will be processed by the SMS switch (in case the login/password pair is suitable – for HTTP connections, and the login, password and system type - for SMPP connections). If IP addresses are from different ranges, they can be set comma-separated within one client channel provided that the new generation switch has been installed. Otherwise, *n* channels should be created (where *n* is a number of these IP addresses). Note that masks are not supported when multiple IP addresses are specified within one client channel.

6) Is it possible to use the domain name in a client channel?

Domain names are only allowed for vendor channels since the SMS switch needs to check if the IP address from an incoming request is allowed (if the SMS channel with this IP address is created in the System) and (as a result) it will require to resolve domain names every time.

7) What is the difference between the channel 'System type' and POI 'Service type'?

System type is a field used to authorize an incoming bind request along with the login (system ID)and password. In case the client sends bind requests with a different system type, the SMS switch will reject them. *Service type* is used in submit packets - if a client sends submits with a different service type, the SMS switch will reject such requests (the EDR status will be SRC POI NOT FOUND), these attempts will be available in the SMS\Analytics 363 interface under the *Undefined* category (since a client cannot be defined due to incorrect service type).

8) Is it possible to limit the number of binds for a client channel? What is the maximum number of client sessions?

At the moment the limitation is only possible for vendor channels (Carriers\SMS channels 188 interface >> *No. of connections* parameter). The default value for vendor channels is 0 (which equals to 1 session). The maximum number of client sessions is not limited.

9) How do I send parts of a concatenated message to the same vendor in case of routing rule that shares traffic between vendors?

To solve the situation, enable the option *Stateful concatenated messages processing* in a client channel or System-wide. The checkbox enables sending segments of a concatenated message using the same list of routes (by default the parts may be routed and sent through different vendors). To enable the feature for all client channels, activate the parameter *Enable system-wide stateful concatenated messages processing (0 - no, 1 - yes)* in Administration\System settings\SMS 80.

The logic of stateful processing is as follows: once all parts of a segmented message are received, the message text of these parts is joined (in accordance with the segment numbers) and routing for the whole message takes place: responses for all submits are sent to the client side and the corresponding submits are sent to the vendor.

If all responses are unsuccessful, the switch sends requests to the next-in-line vendor (if any) or sends a delivery report with the UNDELIV status to the client (to each segment). In case of both successful and unsuccessful responses, delivery reports with the UNDELIV status are sent (to each segment) and further routing does not happen.

In case of a submit timeout from vendor side, the next-in-line route will be tried for message sending - and if there is no next route, the UNDELIV report will be sent. If the vendor responses are successful for all submits, the switch waits for delivery reports. In case all returned reports are successful, they are returned to the client. If there is at least one unsuccessful delivery report (for example, it has not been received within 48 hours), it will be sent to the client for all message segments.

NOTE: Rerouting based on delivery reports does not work for concatenated messages with the enabled option. Additionally, delays between the client submit and response to it may happen in case of the enabled option (due to the period of waiting for all segments). If all segments are not received within 10 seconds (default value, can be changed in Administration\System settings\SMS switch 97 or on the channel level), the segments will be processed as single messages (the behavior can be changed with the help of the System parameter *Concatenated messages: Reject incomplete messages (0 - no, 1 - yes)* or on the channel level). To minimize delays between the client submit and response it is recommended to use the quick response mode for concatenated messages. However, in this case clients will first receive successful responses even if the message could not be routed. Then an UNDELIV report will be sent for each message segment.

10) What is the difference between ‘Enquire_link_resp timeout, sec’ and ‘Timeout’ fields for vendor direction channel?

Enquire_link_resp timeout, sec parameter specifies the period within which the vendor must respond to our enquire link. Otherwise, 2 more attempts to send the enquire link will be made. If the vendor does not respond to 3 enquire links, in 30 seconds after sending the last one, the TCP connection will be reopened and a new bind command will be sent. The default value is 30 seconds.

Timeout defines period within which the vendor has to respond to submit request (otherwise the message will be sent to the next-in-line vendor or will be rejected with internal SUBMIT_RESP TIMEOUT status) - by default 30 seconds as well.

NOTE: In the Carriers\SMS channels 188 interface it is not possible to specify the rebind interval - delay between successive bind requests in case the vendor does not respond to our attempts to establish a TCP connection, does not respond to binds or responds with an error, it is configured in the internal configuration. By default it is 10 seconds.

11) What should be specified in the ‘Local address’ field?

The field defines the IP address to be used for sending requests to the vendor. Since the field is needed in case of 2 or more switches, it must be left as *Use switch default settings* if only one SMS switch is installed. For VPN connections (for the vendor side) the field must be set as the encryption domain. The parameter is used for the client direction in case of 2 or more switches. If the request is received to the first switch while the channel is created on the second switch, the request will be rejected (due to an unknown IP address).

12) What are ‘Allowed src\dst NPI\ToN’ settings? Should they be changed?

The settings specify allowed values of the source or destination ToN (type of number) and NPI (numbering plan indicator) for messages which can pass through the channel. By default all values are allowed. It is recommended to change them only in case the vendor clearly specifies its limitations. Otherwise changing the values may lead to traffic rejection.

13) Is it possible to limit the TPS? What are the recommended values? Is the limitation applied to one bind or to all binds within the channel?

TPS can be limited in the Carriers\SMS channels 188 >> *Client\vendor capacity* field. The limitation is applied within the channel. Note that if the buffer value (*Client/vendor overflow buffer size*) is not set, messages will be rejected when the capacity is reached.

14) Are there any default values for capacity parameters i.e. client\vendor MPS?

MPS for the client side is not limited by default, however the overall capacity is limited by routing modules. The performance depends on the routing scheme (how it is optimized). If the scheme is properly separated by contexts based on products or countries, one routing module can handle ~ 200-300 requests. Additionally, the SMS switch can process up to 1000-1500 requests per second (the maximum performance depends on server hardware). For the vendor side there is a default restriction set System-wide (Administration\System settings\SMS switch 97 >> *Default vendor window size*).

15) How do I check the current MPS?

In the *Reports* interface there are reports *‘MPS per client (Reference)’* and *‘MPS per vendor (Reference)’* that show the average MPS and peak MPS for a predefined period (previous hour by default).

16) What is ‘Overflow buffer size’ and ‘Window size’? What is the difference and what are maximum values for it? What happens if the buffer is reached?

Overflow buffer size defines how many messages may be stored in the buffer if the *Capacity* limitation is reached (if the value is exceeded, messages will be rejected). If the *Capacity* limit is set and reached but the *Overflow buffer size* is not set, new messages will be rejected as well. If the buffer is not empty and new incoming messages are received, the System uses the FIFO logic: if the buffer already contains messages, they will be sent out first (in incoming order) and only then new messages will be processed.

Window size specifies how many messages (without the vendor’s response) can be left pending until the message is sent to the next route or is buffered. For example, if the *Window size* is set to 10, it means that 10 pending messages are allowed for the vendor (10 messages without a response from the vendor side to our submit requests). If the *Vendor overflow buffer size* is set to 0, the 11th message will be rejected (if the vendor fails to respond within the submit timeout or the vendor does not respond at least to one of the pending messages). Otherwise the message will be placed in the buffer.

If the settings are not specified on the channel level, the System-wide values are taken (Administration\System settings\SMS switch 97 >> *Default vendor overflow buffer size* and *Default vendor window size*). Maximum values can be calculated based on server specifications (200,000 messages in the buffer require approximately 1 GB of RAM).

17) Is it possible to check how many messages in the buffer are there at the moment?

In the Carriers\SMS channels 188 interface the column *MPS buffer* displays the number of messages in a corresponding buffer (the feature is currently relevant for SMPP connections only).

18) How do I enable pushing delivery reports or MO messages to client? How do I set up callbacks?

The parameters *DLR push URL template* and *MO push URL template* (Carriers\SMS channels 188 tab) serve to set up deliver/MO callbacks respectively for client HTTP channels. A client must provide the format in which it is waiting for MO\DLRs as well as where the callbacks must be sent to. The supported markers are described in Appendix 1. HTTP API\Allowed marker names for outgoing HTTP callbacks 666

Example:

curl "http://blabla/status.php?message_id=$message_id$&from=ani&eventType=sms&text=$message$&time=$delivery_time$&delivery_status=$delivery_status$"

To send a callback as a POST request, specify its body in the *DLR push POST template*/*MO push POST template* parameter. Additionally headers can be inserted to the *DLR push HTTP headers*/*MO push HTTP headers* parameter. An example would be:
DLR push URL template: https://blabla/status.php
DLR push POST template:
{"ani":"ani","dnis":"$dnis$","id":"$message_id$","text":"$message$","serviceType":"$serviceType$"}
DLR push HTTP headers: *Authorization: Bearer XXX*

19) How do I configure client HTTP connection?

The HTTP API description is available here 646.
All entities (including an SMS channel and a POI) must be configured as usual - note that it is impossible to specify a protocol for client connections since there is no restriction for the client side (clients can establish SMPP connections as well as HTTP ones).

A client should send requests in the following format:

http://<switch_IP>:8001/api?username=<username>&password=<password>&ani=<ani>&dnis=<dnis>&message=<message>&command=submit&serviceType=<serviceType>&longMessageMode=<longMessageMode>
where <username> and <password> are the login and password of the client channel, <serviceType> is the POI's service type, other placeholders must be replaced by actual values, for example:

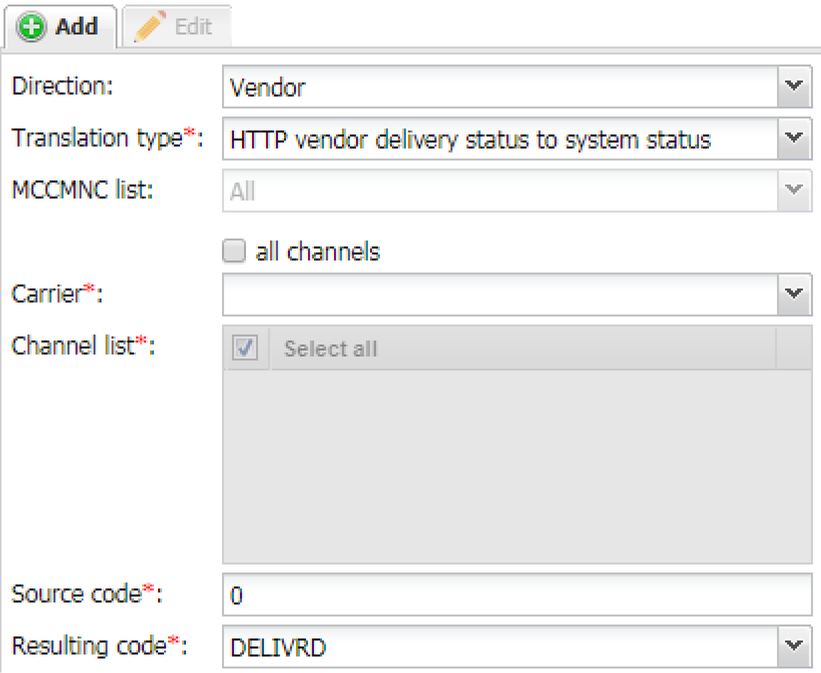
http://1.1.1.1:8001/api?username=test&password=pass&ani=7656883&dnis=7673681&message=text&command=submit&serviceType=&longMessageMode=cut

The request (and message text in particular) must be urlencoded.

20) How is it possible to connect with an HTTP vendor?

Since the SMS switch has to understand the vendor's responses and learn how to handle them, the vendor's API (with examples of message sending, status receiving, specification where the message ID should be taken from in response and which response should be considered successful) must be provided to the support team for further implementation in the System. Additionally, credentials (such as login\password) and allowed message parameters (allowed destination address and sender ID, message text that can be used) for tests are required as well as information in regard how the message status is changed (and method of the change - query or callback).

NOTE: In order for a delivery report to be applied, the status must be specified in the *Final SMS status* parameter (Carriers\SMS channels 188). Several statuses must be set pipe-separated. Example: ACCEPTD|accepted. Thereby if a received status is not in the list, it will not be applied to the EDR. In some cases providers can return vendor-specific statuses (e.g., not DELIVRD but code 0 instead of it), so if the standard value must be sent to a client, a translation rule (SMS\Routing\Translation rules\Error and status codes 503) must be configured.



Translation rule (Error and status codes)

21) How do I check the channel status?

The status of a channel can be checked in Carriers\SMS channels 188 in the *Status* column. In case of two or more simultaneously established sessions, the hyperlink *View sessions* will be available, showing the status of the sessions.

22) Why is the channel status not shown?

The channel status can be empty if:

- No corresponding SMS POI is created
- The *Enabled* option is not selected
- The port is not specified (it may be an optional field in old versions)
- It is an HTTP connection (it is normal behavior)

If everything is set up, trace files for further check can be taken in the Administration\Trace analyzer 155 interface

23) What is Rebind needed status?

The status means that the vendor side has responded with an error to bind requests. This can be due to incorrect credentials (System ID - which is the login, password or System type). To double-check the situation, take a trace file (Administration\Trace analyzer 155) specifying the partner's IP address.

24) If an SMS POI is deleted, how will it affect the System?

Since analytics is based on POI ID, once a POI is deleted and EDRs are recalculated, it will affect the carrier's balance and all processed traffic (it will be shown in the *SMS/Analytics* interface as *Deleted partner* before recalculation and as *Unknown partner* after recalculation).

25) Is it possible to find all changes for a channel\POI?

Changes are stored in the database for 30 days (by default; the value is defined in the parameter *Log store period, days* in Administration\System settings\Common 49) and can be checked in the reports *'SMS channel change log (Administration)'* and *'SMS POI change log (Administration)'* correspondingly.

26) Is there any restriction by message length? What happens if it exceeds the allowed number of characters?

160 bytes are allowed for 7-bit character sets (datacodings 0-3), 140 - for 8-bit character sets (datacodings 4-7),) and 70 - for Unicode messages (DC 8). If a long message is sent over SMPP, it will be sent to a vendor as it was received from a client (it is possible to restrict long SMPP messages by enabling the option *Reject too long messages* in a channel). A long HTTP message will be cut or split in accordance with the long message mode and datacoding.

25.3 SMS switch

1) How many messages per second can the SMS switch handle?

The SMS switch can handle up to 1,500 messages per second (depending on server hardware). Additional limitation is on the routing module side - in case of a well-built routing scheme, the TPS can be up to 150-200. By request the support team can calculate the current maximum of TPS. It is possible to increase the performance of routing modules. Contact the Alaris technical support team to check whether this can be done for your System.

2) What are the SMS switch ports?

The default port for SMPP connections is 2875, and for HTTP connections - 8001. By default incoming and outgoing secure connections are not available. When enabled for incoming secure traffic, the switch uses port 2876 (for SMPP) and 8002 (for HTTP) by default but this can be changed in internal configuration (additionally an SSL certificate is required). More detailed information can be found in question 6).

3) What is the new generation SMS switch and how does it work?

Switch 3 (new generation SMS switch) is the next generation of the SMS switch module, which provides receiving, processing and sending traffic over SMPP, HTTP and CMPP protocols. A new generation was required to improve the performance of the SMS switch up to 25000 MPS.

In the new generation, all processes are divided into separate services with a deeper division by functionality. The exchange of data between them is carried out in the in-memory DB Redis, which allows the use of queuing and reservation mechanisms.

However, at the moment switch 3 must work together with switch 2 (which is the previous generation of the switch) to perform some of the functions that have not yet been moved to switch 3 (for example, processing of delivery queries).

The functionality implemented only for switch 3 is listed below:

- Support of a higher MPS
- Multiple IP addresses within one SMS client channel (comma-separated, masks for such a setup are not supported)
- Advanced loop detection (rules configured in the *Loop detection* interface), possibility to set a custom error code for rejected messages (BZ50359)
- Support of the CMPP protocol (versions 2.0 and 3.0)
- Sending different parts of a concatenated message through a single connection
- Sending delivery reports via the same instance of SMS switch on which initial messages were received (applicable for a geo-redundant scheme, that is, two separate servers with new generation SMS switches installed)
- Sending a message in a deliver_sm packet towards a vendor (BZ40657)
- Conversion of incoming submit_sm into an MO message (BZ34135, BZ36785, BZ48851)
- Resending of MO messages and delivery reports for specific client channels at preset intervals (BZ41035)

4) How are long trace files and switch logs stored in the System?

By default trace files are stored for 3 days, and switch\routing logs on the server - for 7 days.

5) What are MT messages and MO messages?

An MT (mobile terminated) message is a regular message sent from a client. An MT message can be sent from a short code to a mobile user (the first part of a 2-way message). The reply of the end user to the MT is called an MO (mobile originated) message (the second part of the 2-way message). The MO message usually comes in a delivery packet from the vendor side. For details on configuration of MO messages refer to Appendix 6. Two-way messaging setup 730.

6) How do I connect through SMPP over SSL or HTTPS?

By default this feature is disabled in the System. To enable it for the client side, an SSL certificate should be obtained for the domain name (pointed to the IP address where the SMS switch is installed). Once the certificate is installed by the support team, clients can send their requests to the domain name and SSL port (2876 or 8002 by default). No SSL certificate is required for the vendor side - it can be configured with the help of the *SSL type* parameter for the vendor channel.

7) Where is it possible to find error codes and message statuses?

The list of codes can be found in SMS\Routing\Translation rules 503, *Code list* tab. If there is no applicable translation rule (on the tab *Error and status codes*), delivery codes and statuses are passed from the vendor to the client with no change. In case of unsuccessful response to a submit request received from the vendor side, the client will receive a delivery report with the UNDELIV status. In case of an unsuccessful response when the submit is not sent to the vendor (for example, routing is not configured properly) or a timeout in the vendor's response, the code is set to 45 in hex (reason ESME_RSUBMITFAIL).

For binds the list is as follows:

0x00000004 - ESME_RINVBNDSTS - incorrect bind status for given command 0x0000000D - ESME_RBINDFAIL - bind failed due to authorization error (incorrect login, password or system type)
0x00000005 - ESME_RALYBND - bind failed due to exceeded limitation of number of sessions

For submits the codes are:

0x0000000 - ESME_ROK - no error
0x00000014 - ESME_RMSSQFUL - message is rejected due to exceeded MPS buffer with non-set *Overflow buffer size*
0x00000045 - ESME_RSUBMITFAIL - no routes were found
0x00000058 - ESME_RTHROTTLED - message is rejected due to exceeded *Overflow buffer size*

For delivery reports, error code 0x0000000 means DELIVRD, 0x0000001 - UNDELIV (in case all routes were unavailable or the message was rejected). Other error codes as well as delivery statuses are proxied from the vendor side (if no translation rule is applied).

8) Is it possible to change the format of message ID? What format is used by default?

Message IDs are generated in hex format by the switch (but can be received in any format from the vendor side). The format can be changed in the internal switch configuration. To do this, contact the Alaris technical support team.

9) Why can a vendor and client message IDs be almost identical?

In case the vendor has not responded to the submit request or the vendor responded with an error code in the response other than 0x00, the vendor message ID is similar to the client message ID, only with the *loc-* prefix and *-n* postfix where *n* is the order number of the vendor in the routing list. In case of unsuccessful response to a submit request, the response contains no message ID as required by the standard. Therefore the message ID is generated by the System.

10) How fast does the System apply delivery reports received from a vendor?

Reports are sent to the client once they are received, if the client channel is online. If the client channel is offline, the reports will be sent either to another client channel of the same product (in case there is any), or once the channel becomes bound and the channel's option *Repush delivery reports* is enabled (only if the channel goes back online within 24 hours after the report is received).

11) Where can I find the description of EDR statuses?

The list of EDR statuses is below:

ACTIVATED	An activation report was received from a service that could notify if the message code had been activated (by default the feature is disabled). To configure the functionality for Viber, communicate BZ21305 code to the Alaris support team. In case of any other services that follow the supported format, communicate BZ56375 code.

ALL VENDORS ARE NOT BOUND	The status is assigned given that all vendor channels are offline once routing is complete. One EDR is written. The feature is disabled by default, that is, several EDRs are written (for each attempt) in VND CHN NOT BND internal status. To enable it, communicate BZ14117 code to the Alaris technical support team.
BUFFERED_BY_RULE	Message was placed to the buffer in accordance with the Buffering rules functionality
BUFFERED_CLB	Message went to the client's MPS buffer
BUFFERED_HB	Message went to the client's POI hold buffer
BUFFERED_VLB	Message went to the vendor's MPS buffer or vendor's window size buffer (given that the MPS limit is also set)
BUFFERED_VSLB	Message went to the vendor's window size buffer (given that no MPS limit is set)
BUFFERED_SEGMENT	Message went to the segment buffer (stateful concatenated messages processing)
CLIENT REDIS FAILED	Message could not be processed due to unavailability of one site. Applicable to Systems with partial geo-redundancy (when there are 2 or more different sites/clusters with common in-memory DB)
CLN CHN NOT BND	Client channel is not bound
CLN LOW BALANCE MPS LIMIT	Client balance is too low according to the System setting *Low balance account MPS modifier* (the allowed MPS balance is calculated as the current balance/Low balance account MPS modifier)
CLN PRODUCT IS LOCKED	Client product has been locked by a limitation rule
DATA CODING FAILED	Data coding is not allowed in the vendor channel and *Only lossless transcoding* is set in the vendor channel but no symbol translation rule is found in the internal configuration
DATA CODING INCOMPATIBILITY	Data coding is not whitelisted in the vendor's channel
DELIVER_RESP TIMEOUT	Deliver response was not received from client (applicable for 2way (MO) messages)
DNIS MCCMNC NOT FND	No MCCMNC was found for the destination address (or the address was not specified)

EXPIRED	Delivery report that is regularly returned by a vendor. Provided that rerouting based on the internal SENT status has been configured (BZ29102, BZ63554) and the routing list contains more than 1 route, the EXPIRED status can be assigned by the System if no delivery report was obtained from the vendor within an interval set up internally. If the vendor is the last route, the interval depends on the value of the system parameter *Delivery waiting period, sec*.
HELD SMS NO CHANNEL	Message was in the client's hold buffer and the POI/channel was deleted
IM CHANNELS REJECTED	No suitable client IM channel has been found
IM_EXPD	No delivery report has been received within the timeout set initially in the im-ttl parameter of incoming request (applicable to IM messaging). A corresponding delivery report is sent to the client provided the IM route is the only route (no further delivery report can be obtained)
INCOMPLETE LONG MESSAGE	Message segment(s) were rejected because the switch was unable to obtain all of them during the timeout
INCORRECT MESSAGE LENGTH (DC)	Message length exceeds the limit for a specific data coding defined in the internal configuration
MESSAGE DECODING FAILED	Transcoding of the message text failed due to the incorrect UDH or impossibility to decode to Unicode
MESSAGE ENCODING FAILED	Transcoding to the vendor's data coding (defined in the channel) failed because the result exceeds the byte limit defined in the switch configuration file (if the *Reject too long messages* channel flag is enabled) or the results exceeds 254 bytes (otherwise)
NO ACTIVE SMSRT	All available SMS routers are down
NO ROUTES	No suitable routes were found
NO ROUTE FOUND FOR MO SMS	No suitable routes found for MO message
NO TEST VND POI FOUND	Invalid service type (vendor POI ID) supplied in an incoming test message request
PAYLOAD NOT ALLOWED	The message sent over SMPP was rejected as the text was sent in the message_payload field. By default the check is disabled. To turn it on, communicate the BZ24368 code to the Alaris technical support team

RB: ROUTE FAILED	Message will be resent to vendor due to specific error code configured internally
REVERSE CHARGE NEGATIVE MARGIN	Margin is negative and either client, or vendor (or both) product has the *Set MO reverse charge* function enabled with the *Allow negative margin* checkbox deselected
ROUTE FAILED	Vendor responded to the submit request with an unsuccessful code. For MO routing, the status means that the vendor and client channels belong to one and the same partner. To disable the checkbox for MO messages, communicate the BZ55739 code to the Alaris technical support team.
ROUTE DROPPED BY VBR	The message could not be sent as a limit for the number of messages sent towards the vendor had been reached. The limits are configured internally and can be tracked for the set ‘sender ID pattern, destination address pattern, text pattern, MCCMNC list, lists of client and vendor products’ The feature is disabled by default. To configure, communicate BZ43478 to the technical support team
ROUTE VALIDITY PERIOD EXPIRED	Received message has an expired validity_period and this specific route does not allow sending such a message. The check is disabled by default, to enable it the *Block expired messages* parameter must be turned on
RULE BUFFER OVERFLOW	Message is rejected due to the buffer size overflow set in a suitable buffering rule
SAME CHN SKIPPED ON REROUTE	An attempt based on delivery rerouting through the same SMS channel which was already used for termination of the message is skipped
SEEN	A report that the message was seen on the end device was received from Viber (by default the feature is disabled. To configure, communicate BZ21305 code to the Alaris support team)
SENT	Successful message submission
SMS IN BUF OVL	Client's MPS buffer limit overflow
SMS LOOP	SMS was rejected as it was considered a loop (either a concatenated message with a duplicated UDH/SAR has been received or a duplicate (based on destination address and text) has been encountered - the latter case is relevant given that the respective configuration for the SMS switch has been applied)
SMS OUT BUF OVL	Vendor's MPS buffer overflow

SMSRT REQUEST BUFFERED	Messages placed to buffer due to high volume of traffic received on routing modules. The feature to store such messages is disabled by default - to enable, contact the Alaris technical support team and communicate the code BZ30490
SMSRT TIMEOUT	All active SMS routers failed to respond to a routing request
SRC POI NOT FOUND	Invalid service type supplied in an incoming submit request
SUBMIT INTERVAL LIMIT	Vendor's submit interval limit is exceeded (more than 1 message tried to be sent without limit)
SUBMIT_RESP TIMEOUT	No response from the vendor channel within a pre-defined timeout period
TEST SRV TYPE EMPTY	Empty service type supplied in the test submit request
TARGET SMSSW IS UNAVAILABLE	The SMS switch instance on which the vendor channel is configured (with the help of the *Local address* channel parameter) has become unavailable. The feature is disabled by default. To configure, share the STS-48 code to the Alaris technical support team
TEST SRV TYPE INCORRECT	Incorrect (non-numeric) service type supplied in the test submit request
TO BE REPROCESSED	Message will be resent due to an unexpired validity period (if validity period resending is enabled)
UNKNOWN MO SMS	No short code was found in the *MO routing editor* for the destination address sent in the DNIS field
VALIDITY PERIOD IS EXPIRED	Received message has an expired validity_period and no routes allow sending such a message. The check is disabled by default, to enable it turn on the *Block expired messages* parameter
VALID PERIOD EXPIRED-BUFFER RL	Message should have been buffered by a suitable buffering rule but the rule has Process SMS with validity shorter than buffer time disabled and the message's validity_period would have been expired if the message had been placed in a buffer
VND CHANNEL UNKNOWN	The switch is unable to find this channel on the specific switch instance (for example, when the channel was deleted before the switch started to use it as a route but the routing module still provided it, or two separate IP addresses are used for traffic termination and a message from an external test system was received on one IP address, while the

	vendor channel was created for the other (the *Local address* parameter)
VND CHN NOT BND	Vendor channel is not bound
VND CHN NOT HTTP/SMPP	Incorrect vendor channel settings (i.e. improper link in the System type)
VND CHNL SBM QUEUE OVL	Vendor window size limit overflow (buffer is disabled or overflown)
VND CHN TCP FAILED	Cannot connect to an HTTP channel (TCP request was rejected)
VND CHN TCP TIMEOUT	Cannot connect to an HTTP channel (no response to TCP requests)
VND PRODUCT NOT FOUND IN NUMBER MANAGEMENT	A number is assigned in the Number management 575 interface with an empty vendor product, and an MT message was received to this number
WRONG SEGMENT NUMBER	UDH/SAR is not correct - a segment with the same number and UDH ID has been already received, the segment number is greater than the total amount of segments or the segment number is less than 0 and the total amount of segments is less than 1

12) A message has NO ROUTES status - what does it mean? Is 'NO ROUTES' status sent to the client side?

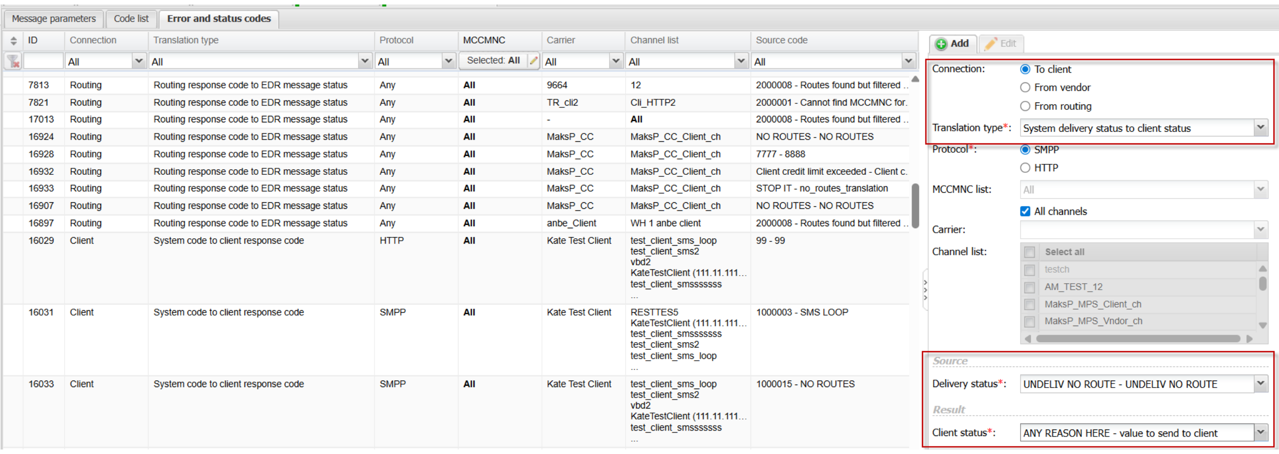
The status means that routing has not been configured properly (the client has not been allowed to send traffic, the client has no rate, or no suitable vendor for message termination has been found - more detail information can be found in p.1 of *SMS routing* section below). To check the situation, choose a message with the 'NO ROUTES' status and proceed with simulation (*SMS/Routing/Simulation* interface) specifying the same parameters as the message has - message text, sender ID, destination address, client product and POI and check why there is no suitable route in the given simulation log. Useful guide for simulation troubleshooting may be found in Appendix 5. SMS simulation troubleshooting guide 704.

The status is not sent to the client side, but the unsuccessful submit response (with error code 69 in decimal and 45 in hex) is sent.

13) What does the status ROUTE FAILED mean?

The status means that the vendor has responded with an error code other than 0x00 – that is, with an unsuccessful submit response. The situation must be checked with the vendor (why their side responded with an error). The error code can be found in EDRs (for example, in *EDR Export (Administration)* it is column *Vendor status code*) or in the corresponding trace file containing the submit response. Given that the vendor follows the 3.4 SMPP specification, the description of the returned error code is additionally possible to find in SMS\Routing\Translation rules 503, *Code list* tab.

Note that the client will receive deliver_sm with stat:UNDELIV and err:001. It is additionally possible to send a custom status or code. To achieve this, a status translation rule as follows must be created:



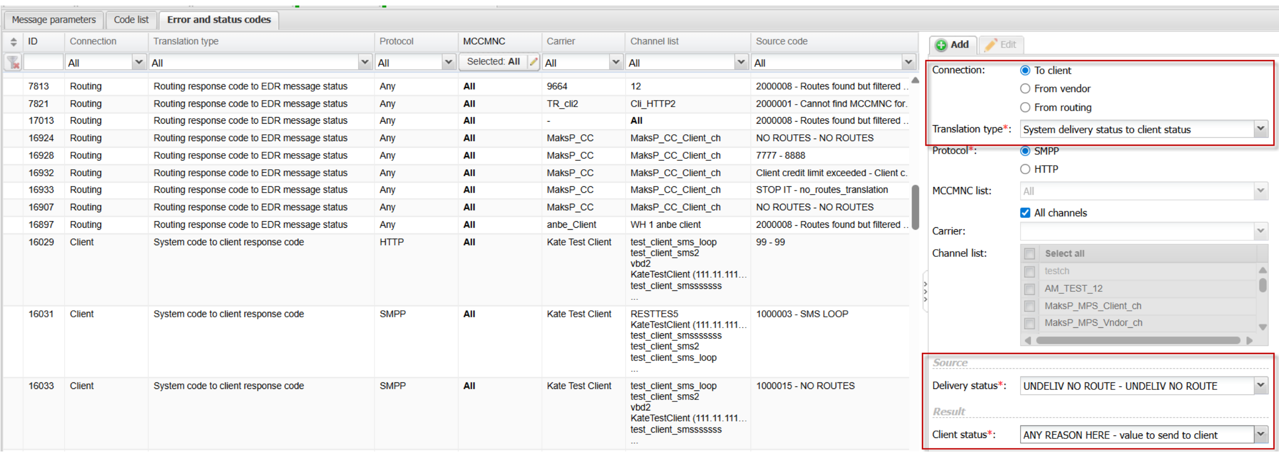
Status translation rule

- *Translation type*: *System delivery status to client status*
- *Protocol*: *SMPP*
- *Carrier*: specify the client
- *Channel list*: select the necessary channels
- *Delivery status*: UNDELIV NO ROUTE
- *Client status*: the value that must be sent to the client

If the UNDELIV NO ROUTE status cannot be selected as the *Delivery status*, contact the Alaris technical support team and communicate the code BZ46465.

14) Is it possible to notify clients with a custom status in a delivery report if all routes were unsuccessful?

It is additionally possible to send a custom status or code. To achieve this, a status translation rule as follows must be created:



Translation rule

- *Translation type*: *System delivery status to client status*

- *Protocol*: *SMPP*
- *Carrier*: specify the client
- *Channel list*: select the necessary channels
- *Delivery status*: *UNDELIV NO ROUTE*
- *Client status*: the value that must be sent to the client

If the UNDELIV NO ROUTE status cannot be selected as the *Delivery status*, contact the Alaris technical support team and communicate the BZ46465 code.

To change a code, the *Translation type* must be specified as *System delivery error code to client error code*.

Note that the original status will be kept in the corresponding EDR - for example, *NO ROUTES* or *ROUTE FAILED*.

15) How do I troubleshoot SRC POI NOT FOUND issue?

The status means that no suitable SMS POI was found for a client submit_sm packet - that is, the submit's service type differs from the POI's one. The service type that the client used can be found in a corresponding trace file or in the EDR (the *Client service type* field). Note that the *Service type* is case-sensitive - to receive submits with any value in the *serviceType* field, * (asterisk) can be inserted as the value in the *Service type* field. Note that only one SMS POI with this value can be created per SMS channel.

16) Why does a message have the status SENT in the System but not DELIVRD?

The System applies delivery statuses once they are received from a vendor. Therefore, if a vendor claims that the report has been already sent to the System, corresponding trace files from their side must be provided as a proof.

17) How does the System split up long messages?

Long messages sent over HTTP are split in accordance with the long message mode of the request. The System does not split long messages sent over SMPP and passes them to a vendor as they were received. Therefore a client that sends long messages must split them on its side beforehand. However, it is possible to reject such messages by enabling the SMS channel option *Reject too long messages.* If the incoming request contains no longMessageMode parameter, the default mode *cut* is used.

18) How does the *Repush delivery reports* option work?

When the option is enabled, delivery reports that should be sent to the client will be stored while the channel is offline and sent when it goes online. If the checkbox is deselected, delivery reports will not be sent if the channel is offline. However, if there is an online channel of the same product with the same IP address of the RX or TR type, reports will be sent to this channel. Below are some examples of channels to which DLRs will be sent (if applicable) when the option is either enabled or disabled:

- Only one channel is suitable and it is online; the option is enabled

The report will be sent once it is received from the provider (since the channel is already online).

- Only one channel is suitable and it is offline; the option is enabled

The report will be sent as soon as the channel is online.

- Only one channel is suitable and it is online; the option is disabled

The report will be sent once it is received from the provider (since the channel is already online).

- Only one channel is suitable and it is offline; the option is disabled

No report will be sent to the channel until it is online. No report (that came when the channel was offline) will be resent to it once it becomes online.

- Several channels are suitable and the channel in question is online; the option is enabled

The report will be sent to the channel once it is received from the provider (since the channel is already online).

- Several channels are suitable and some of them are online while the channel in question is offline; the option is enabled

Reports will not be sent to the suitable channels. The System will wait until the channel where the submit came from becomes online.

- Several channels are suitable and the channel in question is online, the option is disabled

The report will be sent once we receive it from the provider (since the channel is already online).

- Several channels are suitable and some of them are online while the channel in question is offline; the option is disabled

The report will be sent to one of the suitable channels.

19) What is CR (conversion rate) and how can I track it in the System?

Conversion rate reflects how many times codes from messages have been used to activate an application. This information can be supplied by the holder of the application which must be the originator of such messages.

For example, messages sent from Viber (usually with sender ID=Viber) contain codes to activate the Viber application. Therefore, once the codes are applied, Viber is aware of the activation and can send out corresponding information.

By default, activations are not gathered by the System. To configure the functionality for Viber, communicate BZ21305 code to the Alaris technical support team. In case of any other services that follow the supported format 671, communicate the BZ56375 code.

Apart from internal configuration, there must be a vendor channel with the following parameters created along with the vendor POI assigned to the channel:

Partner direction: Vendor

Protocol: HTTP

URL template: a URL containing the IP address from which activation notifications will be sent, for example: http://33.101.87.3:8000/api?ani=ani&dnis=$dnis$&username=$username$&password=$password$&message=$text$&command=submit&serviceType=$serviceType$&longMessageMode=$messageMode$

where 33.101.87.3 must be replaced with the actual IP address. The domain name and multiple IP addresses are not supported in the field.

Final SMS status (pipe-separated): ACTIVATED

Activations are expected within the period set in the System parameter *Delivery waiting period, sec* (two days by default). The period start time is calculated from the receipt of report with the DELIVRD status. Conversion can be tracked by EDRs with the ACTIVATED status and by the *Activated* column in *Analytics*.

25.4 SMS routing

1) What should be configured for successful routing?

The client/vendor (which is supposed to be chosen for routing) must have the *Inbound/Outbound traffic allowed* option enabled (*Carriers* tab) respectively, also all related entities should be created and active:

- The client/vendor agreements must be active. Additionally, the option *Incoming* should be enabled for the client side and *Outgoing* for the vendor side
- The client/vendor balance should not exceed credit limit thresholds (*In/Out credit limit* field of the Carriers\Agreements 171 tab)
- The billing mode of the vendor product must be compliant with the client option - for example, if the client mode is *Bill by messages, exclude vendors with segment billing* and the vendor mode is *Bill by segments*, the vendor will not be suitable for routing messages from this client
- Client/vendor channels must be *Enabled*
- Client/vendor POIs for the corresponding channel and product must be active
- There must be a match between the dial code (of the destination address) and MCCMNC in the SMS\Reference books\e.212/e.164 reference book editor 439. The currency exchange rate between the account currency and the System currency must exist in the *Currency exchange rate interface*. The client and vendor products must have an active rate for the MCCMNC/MCC. The client and vendor products must not have a rate for the MCCMNC with *BLOCKED* note and there should be no block rule that blocks the product(s). The routing rule should be active, enabled and its filters suitable for the message routing. In case the rule is in a context other than *DEFAULT*, a corresponding that switches search from the *DEFAULT* context to a required one must be created. If the rule is not checked, most probably there is also a rule with the *Huntstop* option which is checked first (rules are checked in the descending order of rule priority - and in case of the same priority, a rule with a greater ID is checked first). If the rule is checked but the result is *No routes found*, verify that the vendor product is selected in the choice (there should be records like '*17: oper 5, prod 14, choiceProdId 14 - OK*'), the condition returns *True* and the vendor product has a positive weight.

2) What is static and dynamic routing?

Static routing means that vendor products have been added to a choice by the *Add product* button - and the product is set manually. *Add formula* serves to create dynamic choices. Vendor products may not be specified in the choice list since the list may be restricted by *Condition* and afterwards *Formula* is used for vendor sorting. In this case all suitable vendors will be used in routing. A vendor is considered suitable if it has all active entities with the enabled vendor direction (carrier, agreement, product, channel and POI), the credit limit not exceeded and an active rate for the MCC/MCCMNC. In addition, the list can be shortened by specifying the list of vendors manually.

3) What is the difference between the 'Condition' and 'Formula' field? What happens if they are left empty?

The *Condition* field returns a boolean value (*True* or *False*) while *Formula* returns a number (*vendor's weight*). *Condition* defines whether the choice will be selected or not. For example, if *Condition* is *MRG > 0.5*, the choice will not be selected unless the client rate is greater than the vendor's one by 0.5 in System currency. *Formula* specifies how vendor products should be sorted (for example, if *MRG* is set, the vendors will be sorted by margin in a descending order). By default the *Condition* field is *MRG >= 0*, and *Formula* is *RND* (random value between 0 and 1). In case of negative or zero weight the vendor product does not take part in routing.

4) Why does simulation fail due to 'no rate found for a client' even if the rate has been added?

Please recheck the rate and period of its activity in the SMS\Rates\Rate editor 399 interface - the rates must be checked for the MCCMNC selected for routing (in the simulation log the row looks like:

MCCMNC <214> for DNIS <34511121> found

Additionally, the rate must be active as of the simulation date – for example, if the simulation is performed for a past date, the rate must be active as of that date.

5) What is 'weight' in routing?

The weight of a vendor product is calculated only when *Add formula* used (it means a dynamic (sub)choice is added) and the weight is calculated based on the *Formula* value. If the field is empty, random values will be applied as the vendor weight.

The weight is used to sort vendor products in the final routing list. Suppose there are 2 choices, the 1st one has vendor product *A* and *Formula: MRG*, the 2nd one has vendor product *B* and *Formula: MRG+1.* Suppose both vendors are chosen for routing, and the vendor *A* margin is 0.5 and vendor *B* margin is -0.3. The first vendor obviously has a greater margin, but the message will be first sent to vendor *B* (since it has a greater weight: margin + 1 = -0.3+1 = 0.7).

Please note that the weight cannot be negative or 0, otherwise the vendor product will not be added to the routing list.

6) What is a final routing list?

During any simulation task or message sending, the SMS routing module checks such info as client entities (POI, SMS channel, rates, etc), available vendor rates, and suitable routing rules. At the end of the checks, a routing list is formed. It contains a list of vendor POIs to which the message will be sent. Static choices are checked first; dynamic choices go after (in vendor weight descending order), unless the System parameter *Use choice and rule ID dependent sorting of routes* is enabled (set to 1). If there is more than one SMS POI assigned to a vendor product that can be chosen for routing, all POIs will be added to the final list.

7) How do I check why a routing rule is not chosen for routing? How do I check if a rule was changed?

Changes can be checked in the *SMS routing rule change log (Change logs)* report. In addition, the situation can be checked in SMS\Routing\Simulation 485 tool - sometimes changes in other rules may have an effect as well (for example, if rule ID 74 previously had the option *Next: Continue search within the same context* and the option was changed to *Huntstop*, rule ID 69 with the same priority in the same context may not be checked anymore).

8) How can I block traffic based on content?

Create a block rule with a defined *Content pattern*. The field supports regular expressions (Python syntax) - for example, if it set as *^.*text.*$,* any traffic that contains the word *text* will be blocked. Another example is to create block rule with *Vendor products inclusive list* and *Content pattern* set to *^(?i)Uber.*$* - if a block rule is checked, then all vendor products specified in the list will be blocked. (Block rules are checked before regular and test rules but in accordance with the context and filters - so the rule will be checked if a message starts with the word *Uber* (case insensitive). If the vendor product list is set to 'All' and the rule works in accordance with the text filter, all possible vendor products (that have rates for the MCCMNC) will be blocked. 'Block' words can be specified pipe-separated, for example:

*^.*Facebook.*|.*WhatsApp.*|.*Viber.*|.*Google.*|.*Telegram.*|.*Microsoft.*$*

In case of the occurrence of any word, the traffic will be blocked.

9) Is it possible to apply a rule if the traffic is sent from several specific sender IDs?

Use the *Sender ID* field while creating/editing a rule. The field supports regular expressions (Python syntax). Besides, the field can be set as *Sender ID: X|Y|z,* then the traffic only from senders *X, Y* or *z* will be passed through the rule. If the rule must be suitable for many sender IDs, it is recommended to use the Sender ID tags functionality. Multiple sender IDs can be added under one tag (name) with the *Source number* direction. Then it will be possible to specify the tag (name) in *Source tags* filter of a routing rule. Tags are configured in interfaces Reference books\Tags 255 or Reference books\Tags import 257. For example, if numbers 1,2,3,4,5,6,7,8 are added under tag *D* and this tag is specified in a rule as *Source tags inclusive list,* the rule will be applied to all sender IDs 1,2,3,4,5,6,7,8.

10) Is it possible to send a message from a client to a vendor within the same carrier?

Such loops are prevented in the System by default. To enable them, select the required option in the *Allow routing to products of the same carrier* routing rule field, or configure the System setting *Enable traffic exchange between the same carrier products*.

11) How can I route a message to a vendor with the greatest stats (ASR\DLR) first?

It is suggested to use the *Formula* field - for example, if the *VPoiASR* metric is set for a choice, it means that the vendor list (which is formed in accordance with the choice) will be sorted based on the ASR value for the vendor POI + MCCMNC (descending order - so the first vendor in the list will be with a better ASR). The similar metric for DLR is *VPoiDLR.*

12) Is it possible to route 50% of traffic through channel X and the rest 50% - through channel Y if the channels are under the same product?

In case the *Formula* field contains the *RND* metric (which means that a dynamic choice with a single vendor product is created), traffic between the vendor channels will be separated randomly but almost equally (provided that only two channels are assigned to the product). The *Max. routes* parameter must be set to 1, otherwise both channels will be included in the routing list, only their order will be changed.

Another way to do that is to set the *Number of POIs* parameter in Carriers\Products 180 to 1, without setting the *POI routing priorities*

13) What does the 'Vendor rate' field in Routing rules show?

The information is visible when an inclusive/exclusive *MCCMNC* list is specified in a test/routing rule - the highest vendor rate (in case there are several prices) for the list is shown.

14) What does the 'Share' field mean?

The field is available when 2 or more sub-choices are created within one choice. It specifies how traffic should be divided between the subchoices. For example, if the first subchoice has *X - Wholesale* product with the share 10%, the second is *Y - Direct* with the share 70% and *Z - Gold* with the share 20% (total sum of the shares should be 100%), then every time when the rule is selected for routing, a random number (from 0 to 1 with floating point) will be generated. If it is equal to or less than the first choice share (0.1), the product *X - Wholesale* will be used for routing. If the random value is greater than the first share (let's say it is 0.85), it will be compared with the second share with the following logic: if (random value minus the first share value) <= the second share. So we get (0.85-0.1 = 0.75) > 0.7, that is why the second sub-choice is not selected as well as the first one. The logic for application of the next sub-choice is the same: 0.75-0.7 = 0.05 < 0.2 which met the condition - so the product *Z - Gold* will be added to the routing. Note that only one sub-choice out of all specified in the choice is always added to the routing.

15) Is it possible to reroute a message?

One of the rerouting types the System supports is based on delivery reports received from the vendor side (can be configured in Carriers\SMS channels 188, *Reroute statuses* field). By default, rerouting per delivery status towards the same vendor channel is disabled. To enable and configure it, select the *Allow rerouting to the same channel* flag and specify the *Rerouting intervals (sec.)* values. Another type of rerouting is not configurable. It is always enabled and based on the submit response received from the vendor - in case it is unsuccessful (the submit response has error code other than 0x00) or the message is rejected by submit timeout, the message will be sent to the next-in-line vendor. Additionally the logic can be changed through the Carriers\SMS channels 188 parameter *Routing stop codes*. Once the code is received from the vendor, the routing stops (the message will not be sent to the next-in-line vendor and the client will receive the UNDELIV status for the message).

In addition to it, the System provides a possibility of SENT-based rerouting - to configure, communicate the BZ29102, BZ63554 codes to the Alaris technical support team, provide a list of client or vendor channels for which the feature must be enabled (it can be enabled for all client channels) and the interval after which rerouting will be performed (in seconds; each channel can have its own value).

16) Is it possible to resend a message?

It is not possible to resend an already sent/delivered message manually (even if it has an unsuccessful status like *NO ROUTES* or *ROUTE FAILED).*

25.5 HLR module

1) What is HLR dipping and in which cases can it come handy? Is it available in the System?

The HLR functionality allows receiving current MCCMNCs for numbers through sending requests towards HLR providers over HTTP(S) or ENUM. Enabling such functionality provides an opportunity to define MCCMNCs of ported numbers correctly, which in turn allows choosing a route more precisely and evaluating the message cost. Additionally, it can be useful when the System reference book is not up-to-date in regard to some countries or networks. Note that most HLR providers charge for each incoming request, meaning that the overall margin can be affected.

The Alaris technical support team can install the 'HLR proxy' module that can be used to integrate with different HLR providers and request information about numbers' MCCMNCs before the routing. To install the module, open a ticket at Helpdesk with a description of required configuration: the list of prefixes and providers with their credentials.

2) How do I add a new provider to the System?

The list of supported HLR providers is available in [Appendix 2. Supported HLR providers](679).

Almost all the providers are implemented over HTTP (REST API) except for the TMT and Mitto services. Note that the Alaris Labs team is not related to any of the providers' contacts. Also we cannot advise our customers in regard to which provider should be selected.

In case you need to integrate with a new provider, please supply the service API description and credentials to the Alaris technical support team. To configure one of the already supported services from the list above please share the credentials (if necessary) and the list of e.164 prefixes for which dipping to a specific provider is needed (additionally it is possible to configure dipping to a specific provider for a client product). Note that in case of multiple services (for example, XConnect NPQ, GNR and live), each service is configured as a separate provider, requiring separate credentials and configuration details. In some cases HLR providers need to whitelist your server IPs. Contact the Alaris technical support team to verify the list of IP addresses to be whitelisted.

Additionally, it is possible to set TTL (time to live - defines for how many seconds requests will be stored in cache) for each provider separately as well as a timeout (in seconds; defines the period to wait a response from a provider). However, as a change of the TTL parameter may affect the occupied server RAM, consult the Alaris technical support team concerning the change.

Once the Alaris technical support team has completed the configuration, you must enable the *Dip HLR* option for clients for which request dipping is needed. The *HLR prefixes* field specifies the codes for which dipping must be performed as well. For example, in the internal configuration prefixes 78 and 79 are set to the Mitto provider but for one specific customer it is necessary to check the 79 prefix only and in that case the *HLR prefixes* field comes useful. It is possible to check the configuration through the [SMS\Routing\Simulation](485) tool. The entry will look as follows in the simulation log:

HLR(g): HLR request will be sent to ('hlr.com', 80)
HLR: result failed, reason <No MCC/MNC found for 798 with X HLR service>, cached <0>, source_type <refbook>

A successful record will look as follows:

HLR(g): HLR request will be sent to ('hlr.com', 80)
HLR: result ported, MCCMNC <248002>, ported <True>, cached <1>, source_name <hlr_1>, source_type <hlr_1>, HLR product id <>

3) How detailed is HLR dipping configuration?

It is possible to configure several providers for the same prefix(es) to enable backup route if the first service does not respond, does not provide an MCCMNC or rejects the request - an HLR dip will be done through the next-in-line provider. Along with that the System uses the longest match search to find a suitable provider to send a dip request, which makes it possible to check the same country (but different networks) using different sources.

Beside prefixes, it is also possible to configure client-based HLR routing,that is, a request received from a specific client to a specific destination can be routed to a particular HLR provider while the rest of the customers use the reference book only or another set of providers.

Internal configuration contains the following parts:

1. all enabled services are listed in the sources section with corresponding credentials. Example:

"sources": {
"provider": {
"type": "provider_type",
"key": "provider_key",
"url": "http://api.hlr.provider.com/hlr?auth=$key&msisdn=$dnis"
}
}

2. the rules section describes how to send dipping requests. Example:

"rules": [
{
"codes": ["33", "62", "34600", "34601"],
"choices": ["provider1"]
},
-- the section means that if a message to 33, 62, 34600 or 34601 prefix is received, a request will be sent to the provider1 service
{
"codes": ["1", "336001"],
"choices": ["provider2"]
},
--the section shows that the provider2 service has been enabled for a French network as well as for USA. Note that if a request to 336001 is received, even though the first rule is suitable as well, the longest match will be checked in the first place. If no response is received (or no MCCMNC is returned in a response), the check will be done through the first rule, i.e., MessageBird. Additionally it is possible to stop the check once this specific rule is applied.*
{
"codes": ["34"],
"choices": ["provider3", "provider4"]
}
--the rule enables checks for Spain codes (the longest match for 34600 and 34601 will be done towards the first rule). Note that the first attempt will be sent to provider3 and in case no MCCMNC is received, provider4 will be used as a backup.
],

Additionally, the list of prefixes that can be used by a client can be limited in the *HLR prefixes* field of the Carriers\Products 180 interface (space separated). Suppose the configuration as illustrated above has been enabled but the client's attempts must be dipped for 1807* and *34602** only. In this case the client product must have the *HLR prefixes* field set as:
1807 34602.

4) Is it possible to configure HLR in a web interface?

In addition to internal configuration, a dedicated web interface MNP configurator can be set up. To have it installed, create a ticket for the Alaris technical support team and provide a domain name registered for the system IP address (usually it is the IP address of the admin web interface).

5) How does cache work?

Each HLR service has a TTL setting that defines the period for responses to be saved in an internal storage (cached). Cached records are saved for particular numbers to which the requests were made. It helps avoiding multiple requests to the same provider/service within a certain period of time (which can be reconfigured by request of the System owner). If it is required to flush the cache (that is, when the provider returned an incorrect MCCMNCs for a certain country), contact the Alaris support team to do that.

6) Is it possible to use my own MNP database?

Yes, the System enables such possibility. The database is uploaded to the servers where the Alaris software is installed and maintained by the Alaris team (which means that the database is kept up-to-date with the help of full and incremental updates). Note that the procedure must be agreed with the account manager at Alaris Labs first as it requires allocation of additional resources to store the database. Once confirmed, open a ticket at Helpdesk providing the database format as well as information of database update frequency. Note that it's mandatory to have a list of matches between returned routing number/prefix/network name and MCCMNC.

If the System accesses the database over HTTP only (and does not obtain results from files), no approval from Alaris Labs is required.

7) Is it possible to take an HLR rate into consideration while routing a message and calculating the margin?

Yes, to achieve that, create an HLR product with the vendor direction (with no channel or SMS POI attached to it). To identify the HLR provider correctly, the product must be created in the following:

Product type: HLR
Direction: Vendor
Product name: set to the provider's service name (case-sensitive)
Product notes: set to the HLR provider name (case-sensitive)

To verify the product name and notes, contact the Alaris technical support team.

Once created, it is necessary to import or add rates to that product to ensure correct calculation. To subtract the cost from client requests, set the System parameter *Deduct HLR rate from margin (0 - no, 1 - yes)* to 1 (Administration\System settings\SMS routing 95). The margin will be calculated as follows: (client rate - HLR rate - vendor rate) (in the System currency). Note that no cost is deducted for cached requests as no actual request was sent through an HLR provider.

Invoices for HLR vendors are generated in accordance with the agreement.

8) Is it possible to use the HLR provider's response code in routing?

The possibility to route messages in accordance with returned information has been implemented for some providers. Note that different fields are taken into account for different providers; the list can be found at Appendix 4. Formulas and conditions in routing\Routing metrics\Message metrics 693 (in the description of the *hlrResponseCode* metric).

Suppose all messages for which a non-zero code was returned in the *gsmCode* field from Mitto, must be sent towards vendor product X. In this case the *Condition* field of a routing rule must be set as:

hlrResponseCode != "0"

and the choice must be set to *product X*.

9) Is it possible to route ported messages towards particular vendors?

As the *Condition* field of routing rules supports the *PORTED* metric, messages can be sent through vendor products based on a returned portability flag. Note that the System does not provide such information itself; besides, this flag may not be implemented for some HLR providers. The portability flag is taken from different fields for different HLR providers:

Beepsend: *ported* field
CM Telecom: *ported* field
GMS: *npdi* field
Horisen: *ported* field
Infobip: *ported* field
Mediafon (both services): *IsPorted* field
MessageBird: *ported* field
Mitto (HTTP and ENUM): *ported* field
NetNumber and NetNumber MNIS: *port* field
NetNumber CID: *npdi* field
NeuStar: *npdi* field
Telesign: *ported* field
TMT ENUM and TMT sip: *np* field
TMT live and HTTP services: *ported* field
Tyntec: *ported* field
XConnect (HTTP): *npi* field
XConnect (ENUM): *npdi* field

To check for a particular HLR provider, contact the Alaris technical support team.

10) What is HLR reselling and how can it be configured in the System?

The System owner can resell HLR service of an already configured provider or local MNP database to the clients. Reselling allows System owner's clients to retrieve information in regard to number portability directly from the HLR module. It comes handy when a partner needs to verify which network a number belongs to.

Note that additional configuration (described below) is required as well - and it must be agreed upon with the account manager at Alaris Labs first. Once configured, the clients will be able to use a URL (each client must use their own link with a predefined set of credentials). The requests will be sent to the internal module and then routed to an HLR provider based on the internal set of rules.

To configure the service, open a ticket at Helpdesk with the following information:

- client IP address(es) from which information will be requested (they'll be whitelisted at our side)
- any domain name (that clients will use to request the HLR module) registered for the IP address where the HLR module has been installed. Regularly it is the address of the web file server. To verify it, contact the Alaris technical support team. Note that multiple domain names can be configured
- login and password that will be used by the client to send requests (by default generated randomly by the Alaris technical support team)
- client product ID created in the System for the client (required if client HLR invoices and EDRs must be generated in the System)

Additionally it is advisable to verify the configuration that will be used for the HLR client requests (which HLR provider has been configured for prefixes, their TTL). It is also possible to limit destinations that will be specified in a client's link (for example, if all codes have been configured for Mitto but a client can check only +1/+7 numbers).

Given that configurator is installed, details are configured within it: a client record is added on the *Clients* page, and HLR rules for the client are configured on the *HLR request rules* page.

Note that by default the System does not generate invoices or EDRs for customer HLR traffic. To enable those features, create a carrier, account, agreement and a client HLR product for the partner who will use the reselling service. No SMS channel and POI must be associated with the product, however corresponding rates must be uploaded to the product. When configured, provide the product ID that will be associated with the user to the Alaris technical support team. Invoices will be generated based on agreement settings and HLR EDRs will have its own structure:

Event time: request time in format *YYYY.MM.DD HH24:MI:SS*
Customer login
Destination address
MCCMNC
Result: -1 unsuccessful, 0 successful
Response delay
Portability flag: -1 - no flag returned, 0 - number is non-ported, 1 - number is ported
Cached: 0 - response was received from a provider, 1 - taken from cache
HLR service name
HLR client rate
HLR client product ID: 0 in case no product ID was defined for the user that sent the requests
HLR provider
HLR provider error

Additional info in regard to how customers can use the service and which responses are expected can be reviewed in the HelpDesk KnowledgeBase (accessible for customers of Alaris Labs registered on Alaris HelpDesk).

25.6 Translation rules

1) Is it necessary to specify a client\vendor products list and MCCMNC list?

The fields *Client products, Vendor products* and *MCCMNC list* are intended to configure rules of particular partners if required (so the rule will be applied only to client\vendor products and\or destinations specified in the list if the list type is inclusive and will be applied to all products\destinations except ones specified in the list if the list type is exclusive).

2) Why it is not possible to specify an MCCMNC list selecting the Pre-routing stage? What is the difference between the Pre-routing and Post-routing stage?

The stage specifies when the translation rule is applied – before or after the search of applicable routes. It is not possible to use the *MCCMNC list* on the *Pre-routing* stage because on that stage the MCC (MCCMNC) that will be used for routing is not defined yet. Additionally routing rule IDs are not defined yet, thus it may affect the result (for example, if message text is translated to another, it can affect some routing rules that contain a message text filter, and these rules may be selected or dropped). The *Post-routing* stage means that the translation will be applied to vendor products of the final routing list - so routing will happen based on the parameters of the initial message.

3) What is the purpose of Sender ID\Dest. number\message pattern?

Pattern fields are designed for the same purpose as the *list* fields - to specify the sender ID, destination address and\or message text so the rule works based on these parameters too. The pattern fields support regular expressions (Python syntax) along with static values. Also the *Translation* field depends on *Entity* value and the corresponding pattern field if it is a regular expression. For example, if *Entity* is set to *Sender ID*, then *Translation* will be based on the *Sender ID pattern* field - if it is a regular expression which contains some groups, these groups can be used in *Translation.* At the same time *Dest. number pattern* can contain groups of regular expressions but they will not affect the *Translation* field.

As an example create a rule where the sender IDs *Google, WhatsApp, Viber, Twitter* must be replaced by *Info* only when the message text contains the word *code*:

Entity: Sender ID
Sender ID pattern: Google|WhatsApp|Viber|Twitter
Message pattern: (.)code(.*)*
Translation: Info

If it is needed to ignore the register of the Sender ID, the rule will look like:

Entity: Sender ID
Sender ID pattern: (?i)Uber
Translation: Info
So the sender ID *uber* written in any register *(UBER, uBer, Uber, UbeR, etc)* will be replaced by *Info*

The following rule will remove *Sender*, translate the following 9 digits and add two random digits to the sender ID:

Entity: Sender ID
Sender ID pattern: Sender (\d{9})(.)*
Translation: \g<1>RAND(2)

4) Is it possible to change all sender IDs received from a particular customer to another sender ID?

The following rule must be created:

Entity: Sender ID
Client product inclusive list: Client X - Wholesale (USD)
Sender ID pattern: (.)*
Translation: Info

NOTE: The *Sender ID pattern* field can be left empty.

5) How is it possible to translate any sender ID to a random sender from the list? In case there are multiple sender IDs, how is it possible to configure a translation rule for all senders which are not from the list?

The list of sender IDs which should be translated are defined in the *Sender ID pattern* field - the field supports up to 2,000 characters or 100 groups of regular expressions (if set). In case of translation of any sender ID, the list should be empty or should contain following regular expression: *.**

If the list contains too many senders, it is recommended to use the *Reference books\Tags* interface, where it is possible to specify multiple sender IDs within one name (*tag*) and use this name to define all these numbers. For bulk uploading use the *Reference books\Tags import* interface. Once the tag is added (let's name it *Test_tag*), the translation rule can be created as follows:

Entity: Sender ID

Sender ID pattern: (.)*
Tag: Test_tag

So any sender will be translated to a random record from *Test_tag* tag.

To exclude some senders from the search, a tag (with *Direction: Source number*) must be created for the list as in the previous example. The translation rule will look as follows:

Entity: Sender ID
Sender ID tag type: Exclusive list
Sender ID tag: Test_tag
Translation: Info

6) Is it possible to change message content?

Yes, it is possible - a translation rule with *Entity: Message text* must be created. The *Message pattern* can be specified as a regular expression of message text based on which the rule will be applied. The *Translation* field should contain the value to which the message text will be translated (it may be a static value or a regular expression).

Suppose you need to use only the code (*xxxx*) from all messages containing '*Your code is xxxx*', where *x* is any digit. Therefore the fields *Message pattern* and *Translation* must be set as follows:

Message pattern: Your code is (\d{4})
Translation: \g<1>

The quantifier *{4}* shows that there can only be 4 digits. If the restriction is unnecessary, the message pattern can be specified as *Your code is (\d*)* - so any (even 0) number of digits is allowed.

Suppose you need to remove some parts of a message. For example, the message contains *Your Yahoo code is xxx, thanks,* where *xxx* is any code with any number of symbols, and the words *Yahoo* and *thanks* should be removed. The rule will look as follows:

*Message pattern: (.*Your) (Yahoo) (code is.*)thanks*
Translation: \g<1> \g<3>

In this case the comma after the code will be included in the translated message as well. To remove it, the rule should look as follows:

*Message pattern: (.*Your) (Yahoo) (code is.*)\, thanks*
Translation: \g<1>\g<3>

If you need to create a rule that replaces a particular word (or several occurrences of the word) to another word, enable the option *Treat as substitution*. The rule will look as follows:

*Message pattern: Your Yahoo code is .*thank you for choosing Yahoo*
Translation: Yahoo|Google

The translated text will be like *Your Google code is 123456, thank you for choosing Google*

To replace specific words, two rules must be created. Suppose the message has the following format: *'Twitter code is 8999. Twitter link: http://goo.gl/twitter1234'* and all occurrences of *Twitter* must be removed, also *code* should be changed to *Code* and the link should be replaced by https://twitter.com [765]. The first rule(with the greatest priority) will be as follows:

Next action: continue
Text pattern: Twitter code is (.) Twitter link: (.*)*
Translation: Twitter |
Treat as substitution: enabled

The second rule (with a lower priority) will be as follows:

Next action: huntstop
Text pattern: code is (.) link: (.*)*
Translation: Code is \g<1> link: https://twitter.com [765]
Treat as substitution: disabled

7) Is it possible to request delivery reports from a vendor?

In accordance with SMPP 3.4 specification, the flag *registered_delivery* set to 1 in *submit_sm* requests delivery reports from the vendor. It is possible to set the flag to 1 in SMS\Routing\Translation rules [503]. For example:

Entity: Registered delivery
Translation: 1

The rule will be applied to any message. If the rule must be applied to specific vendors\destinations, the corresponding filters can be specified.

8) Is it possible to set source ToN to 1 in case the sender ID contains only digits or to 5 in case of alphanumeric sender ID?

To achieve the goal the following translation rules should be created:

Entity: Sender TON
*Sender ID pattern: [0-9]**
Translation: 1

Entity: Sender TON
Sender ID pattern: \w[a-zA-Z]+\w**
Translation: 5

NOTE: The same pattern of rule creation is applicable for entities *Source NPI, Destination TON, Destination NPI.*

9) Is it possible to translate message text or sender ID to a random value fully or partially?

The System supports the following functions:

RANDINT(X) - generate an integer with the length of X digits. If a non-numerical symbol is specified instead of X, the default value 7 is used. If a fractional number is specified, the number is rounded downward

RAND(X) - similar to the RANDINT function

RANDHEX(X) - generate an arbitrary hex string with the length of X symbols (the employed ranges of symbols are a - f and 0-9). It is more advisable to use it rather than RANDTEXT

RANDTEXT(X) - generate an arbitrary text string with the length of X symbols (the employed ranges of symbols are a - Z and 0-9)

RANDLETTERS(X) - generate an arbitrary text string with the length of X symbols (the employed ranges of symbols are a - Z)

For example, to translate the message text 'Your code is 123456' to 'Your code is xxxxxxx' where xxxxxxx is a set of random symbols, a translation rule as follows should be created:

Entity: Message text
Text pattern: (Your code is) ([0-9])*
Translation: \g<1> RANDHEX(7)

25.7 SMS\Rates

1) How can I check all periods of a specific rate?

In the SMS\Rates\Rate editor 399 interface specify the necessary filters (*Client/Vendor*, *Product*, *MCCMNC*, etc) and set the *effective interval* with empty *start date between* and *end date between,* then click *Apply filter.*

2) Is it possible to add the same rates to multiple customers at once?

To do this, create a parent product and add all rates to the product. As soon as client products have the product as a parent one (*Products >> Parent product*), the rates of the parent will be inherited by the client products.

3) Is it possible to change the price to the same value for multiple customer products?

The situation may be resolved by the *Group by* option (SMS\Rates\Rate editor 399 interface). For example, you can specify *Group by MCCMNC* only and set the *MCCMNC* filter. Once you click *Apply filter*, the group will be shown in the main panel of the interface. The group can be modified by the *Edit* button. To change specific products go to the *Rates* tab, select the appropriate products specify the price by using the *Modify period* button.

4) Does the System have a default template for rate exporting? Where is it configured?

All templates are located in the Administration\Template manager 104 interface. The template *SMS rate update letter* is used for rate letters and the *SMS rate export* template is used for the export result. To update the second template, download the file, change it and upload back (by clicking the *Refresh* button next to the template name and selecting the file by the *Browse* button). Note that the column set for rate export is configured in SMS\Rates\Rate export 407 >> *Column settings*. Additionally it is possible to have different templates for different companies/accounts/products - a new template with the type *SMS rate update letter/SMS rate export* must be created. It is possible to specify the *Contract Company/Accounts/Products* field for the template. Additionally, is possible to configure the set of columns on the carrier/account/etc. level by creating a new set in the *Column settings* tab.

5) Where it is possible to define which email server/sender name will be used for rate sending to customers?

The configuration of all outgoing accounts takes place in Administration\Outgoing email accounts 36. For rate sending an account of the *Rates* type is used (otherwise an account of the *Default* type is employed).

6) How can I configure automatic uploading of rate sheets from a predefined email to the System?

For configuration of automatic rate import please provide the support team with the following information: server type (POP3 or IMAP), server port, server address, email login, and email password. Once configured, the fetching module will check the mailbox for emails (unread - in case of IMAP protocol) every 10 minutes and upload them to the System. However, not all emails will be fetched into the System - only those for which rules are configured in the Administration\Email processing rules 32 and SMS\Rates\Auto rate import 394 interfaces. The former is responsible for rules in accordance with which emails from the mailbox are processed and uploaded to the System *(*Administration\Email processing rules 32 >> *Files*). Administration\Email processing rules 32 regulates how the received rate sheets should be parsed and imported to products. Presets for rate sheets can be configured and saved on the parsing 424 step of the SMS\Rates\Rate import 420 interface.

Note that auto import rules follow email processing rules and the important information is to know to which product the rates will be uploaded. Therefore it is not necessary to specify filters in auto import rules such as *File name mask, Mail from mask*, and *Mail text mask*.

7) Why can an auto import operation fail?

If a file is visible in the SMS\Rates\Rate import 420 interface but a task was not created (to check this, select the file and look at the bottom grid), please run *Auto import selected file* and check the output. In case of parsing error, review the parsing step of rate import. You will need to import the file manually to understand what exactly the issue is. Make sure that date format is suitable for dates specified in the file, the columns are indicated correctly and the *Start row* is specified properly as well.

If a task has been created in the *Rate import* interface, but was not imported, please recheck the task details. Click on the *view* hyperlink and see if the rate sheet contains any critical errors. Then you can disable the specific errors of entire error groups in SMS\Rates\Auto rate import 394 >> *Error type levels.*

8) What does the 'Status' column in Rate import show?

The *Status* column shows the status of a rate sheet. It can be changed manually but it does not affect the real result of import. Possible values are:

Not imported: the file has not been imported since no suitable auto import rule had been found or due to parsing errors which are critical for auto rate import (can be configured in SMS\Rates\Auto rate import 394 >> *Error type levels*)

Imported: the import task has been finished successfully

Confirmed: the status is set by the user to confirm that the file has been imported correctly

Ignored: the status is set by the user to mark files not intended for import

Canceled: the import task has been canceled by the user

Ready to import: the file has been uploaded to the System in accordance with an email processing ule and will be processed soon

In progress: the file is being automatically imported

Failed: the file has not been imported due to critical errors found in the file (can be configured in SMS\Rates\Auto rate import 394 >> *Error type levels*)

9) Is it possible to cancel changes made through rate import?

Cancellation can be done using the *Roll back rates* button of the SMS\Rates\Rate editor 399 interface. Specify a product and period to which the rates must be rolled back. For example, if a rate had the value 0.001 on 01.01.2019 00:00:00 (by server time) and its price was changed on 01.01.2019 3:00:00 to 0.1, once the option is used with the specified *Period: 01.01.2019 02:00:00*, the price will be changed back to 0.001 (since at 02:00:00 it was still 0.001).

10) How do I upload rates that contain MNC values like 999?

Sometimes providers offer prices only to MCCs. Placeholders like '-' or '999' can be specified in the MNC column of the rate sheet. To upload the MCC correctly, we suggest using the following system setting (Administration\System settings\SMS rates 92):

Default network markers (client/vendor) - a comma-separated list of characters that must be ignored when parsing the MNC and/or e.212 column. The parameter is set separately for the client and vendor. It is helpful with price lists that contain placeholders (for example, space, dash or 999) instead of empty value in the MNC/e.212 field when offering a flat country rate.

11) Why can a rate for a past period in Analytics have one value and another in the Rate editor?

The situation can be caused by a rate change in past. It can be checked in *SMS rate change log (Change logs)* report (*Reports* interface) which by default stores changes for the past 30 days.

12) What does the field 'dial code' in rates mean?

The field is used for the A-number (sender ID)-based routing as well as for routing based on the destination prefix. The routing logic is as follows:

1) The System matches the dial code from the rate with the sender ID (**NOTE**: the exact match is required)

2) If the match is exact, the rate will be used - so billing takes place in accordance with the sender ID

3) If the dial code does not match the sender ID in full, the System will try to match the dial code in this rate with the destination address

Suppose there are 3 rates in a client product - MCC 214 without a dial code (the first rate), MCC 214 and dial code 34 (the second rate), MCC 214 and dial code 34800 (the third rate):

1) If message is sent from (sender ID) 34800 to (destination address) 34511121, the third rate will be used (as the sender ID fully matches the dial code from the rate and the MCC is suitable for the destination address).

2) If the message is sent from 348001 to 34511121, the second rate will be used (as the sender ID does not match the dial code in full, and the dial code from the rate is suitable for the destination address. No exact match is not required for the destination address.)

3) If the message is sent from 88 to 344985769845, the first rate will be used (as neither the sender ID or destination address are suitable for the rate dial code, the System uses its general logic and searches for a match between the destination address and MCC/MCCMNC in accordance with the reference book).

25.8 SMS billing

1) What is the difference between the ‘Bill by segments’ and ‘Bill by messages’ options in the Products tab?

If a message is received over HTTP with the long message mode *payload* or a long message is received over SMPP (in the *short_message* field with the length greater than 160/70 symbols respectively on the *data_coding*), the number of segments will be calculated based on the data coding. In case of the *Bill by message* mode, the product will be charged for these *n* segments as for one message, in case of the *Bill by segments* mode, the product will be billed *n* times (*n*rate).*

In this way, the *Bill by segments* mode has an effect in following cases:

- a long message is received over SMPP and sent further over SMPP
- a long message is received over HTTP with the longMessageMode=payload and sent further over HTTP
- a long message is received over HTTP with the longMessageMode=payload and sent further over SMPP

The following five options are available for the client side:

- *Bill by messages, exclude vendors with segment billing* - any long message will be billed as one message but vendor products with segment billing do not take part in routing
- *Bill by messages, include vendors with segment billing* - any long message will be billed as one message, vendor products with segment billing take part in routing
- *Bill by segments, calculate routing rate by message* - segment billing, routing rate will be calculated by message
- *Bill and calculate routing rate by segments* - both billing and routing will calculate rate based on segments
- *Bill by messages/segments depending on vendor mode* - billing/routing is based on the selected vendor product option

NOTE: The difference between the options (*calculate routing rate by message* and *routing rate by segments*) is in the way of how the rate for message routing will be calculated while the rate in an invoice (in case of successful routing) may be calculated differently. Suppose the *Bill by segments, calculate routing rate by message* mode is set in the product. Every segment of a long message will be billed, but the routing rate will be calculated for one single message: a client is sending a long message (that contains 2 parts); each part will cost 0.5 EUR. In this way, during the routing step the rate will be 0.5 EUR - and the margin will be checked correspondingly. Suppose the vendor has the *Bill by segments* mode enabled and its rate 0.4. In this case, the margin will be calculated as 0.5-(0.4 * 2) = -0.3 (not as 0.5-0.4). Since the margin is negative, the message will be rejected (the default behavior). To allow negative margin the rule’s condition must be configured correspondingly (for example, MRG>-0.5). The client's invoice will be generated for 0.5*2(=1) EUR.

NOTE: The *Bill by segments* option has no effect on concatenated messages (since they have already been split into separate messages), and HTTP messages received with the longMessageMode=cut (such messages will be trimmed) or longMessageMode=split or longMessageMode=split_sar (the messages will be split to several segments and processed as separate ones). Therefore the mode *Bill by segments* is similar to the *Bill by message logic* in this case.

NOTE: Long messages are not separated by the Alaris switch and processed as is in case of SMPP protocol (for HTTP the longMessageMode parameter defines the way to send long message texts). To change the behaviour when a message is sent to a provider over HTTP, specify the *longMessageMode* parameter in the channel’s *URL template* (if the provider supports the parameter).

2) How do I bill a vendor based on delivered messages only? Which statuses will be considered by billing?

The billing option is set in the Carriers\Products 180 tab >> *SMS billing option.* The available variants are: *attempts* (all messages), *submitted* (successfully sent messages), *delivered* (only messages with *DELIVRD* and *ACTIVATED* statuses), *reported* (any messages with statuses from delivery reports - like *EXPIRED*).

To charge partners only for specific statuses, create a custom billing preset in SMS\Reference books\Billing status presets 447, include the statuses to it and assign the new preset to a necessary product.

The interface SMS\Reference books\Billing status presets 447 contains presets named according to the *SMS billing option.* Each preset contains a list of statuses for which a product will be billed.

NOTE: If the *SMS billing option* is changed and you need to apply the option to the past traffic (for example, to rebill a vendor only for a delivered message), EDR files must be recalculated (SMS\EDR management\EDR rerating 384 interface) and then the corresponding invoice must be recalculated as well (*Recalculate invoice* button).

3) Is it possible to create a custom preset for the ‘SMS billing option’ of the Carriers\Products interface to bill a specific customer?

It is possible to add a status to the default presets via the support team. Also, it is possible to create custom presets by cloning the existing ones or adding statuses manually.

NOTE: The statuses unknown to the System that are received in delivery reports are automatically added to the *Bill by attempts* and *Bill by submitted* presets.

4) How can invoices under products with different directions of one carrier be generated in a single file? How can I separate invoices for client and vendor directions?

The *Invoice group index* option (in (Carriers\Products 180) defines how invoices for different products (or different directions) of the same account should be created. Decimal values are supported.

Suppose 3 products are available: *X - Wholesale (Vendor)* with group index 1.1, *X - Wholesale (Client)* and *X - Premium (Client)* with the same value 1.2 set in the parameter *Invoice group index*. The PDF invoice file will be single while traffic details will be separate for the vendor and client products (since the fraction is the same for the client products and different for the vendor). However, if you select the checkbox *Generate 1 invoice details file per product type* in Carriers\Agreements 171, the System will generate a single traffic details file for the products containing a dedicated column with the product name.

Note that the default behavior is defined by the parameter *Default charge grouping mode (1 - separate invoices for client and vendor side; 2 - separate invoices for each product; 3 - separate charges within 1 invoice)* set in Administration\System settings\Financial module 61.

5) Why has an invoice been created with the billing period different from the agreement's period?

This may happen in case a user closed billing period before the invoice was generated correctly *(Close billing period* button). Another common reason is a change in the agreement. To fix it, it is recommended to recalculate period for the problematic account (*Recalculate period* in Finance\Invoices 217).

6) Why has no invoice been generated for a partner once the billing period ended?

If the financial cubes for the billing period are not calculated yet (for example, the data is being changed), the invoice will not be generated until the cubes are ready. You can check this in the report *SMS Analytical cube status (Administration).* Specify *Period: Financial* and check the *EDR/DLR state* columns for the billing period.

NOTE: Check *DLR state* if the SMS billing option parameter is set to *Bill by delivered* or *Bill by reported*. Otherwise check only the *EDR state* column.

An additional delay is defined in the parameter *Invoice generation delay, hours* (Administration\System settings\Financial module 61), which sets the delay of generation once the financial data is ready.

Also invoices may not be generated in case the product option *Is billable* is disabled*,* if there was no traffic (or the invoice amount is less than the agreement setting *In/out minimum invoice amount* or the System setting *Global minimum invoice amount*). In case some parameters of the agreement (such as *In/Out billing period*) have been changed, the changes may affect generation as well.

7) How can I re-bill a client if the invoice has been already generated but the client rates were changed with past dates?

Rerate EDRs first (SMS\EDR management\EDR rerating 384 interface) and once financial cubes have been recalculated, recalculate the invoice (*Recalculate* button in the Finance\Invoices 217 interface). The cube status can be checked in the report *SMS Analytical cube status (Administration).* Specify the filter *Period: Financial*. If the *EDR state* and *DLR state* show *Ready,* and the value *Last change* is recent (10 minutes ago, for example), the cubes have been recalculated. In case the *EDR/DLR state* show *Must be recalculated*, it is obligatory to wait until the *State* changes to *Ready* .

8) How can I apply a new template to an already generated invoice?

Once a new invoice template (*Invoice\Invoice details*) is uploaded to the Administration\Template manager 104 interface, recalculate the invoice (*Recalculate* button in the Finance\Invoices 217 interface).

9) What is the difference between the ‘Recalculate’ and ‘Recalculate period’ buttons?

The *Recalculate* button is normally used when only financial data has been changed (for example, due to rate changes) or there was some modification in the templates. *Recalculate period* is used when:

1) The agreement data has been changed - for example, *Billing period* (Carriers\Agreements 171 tab) or *Invoice group index* (Carriers\Products 180 tab)

2) The agreement timezone has been changed - but in order to avoid any discrepancies with the partner, period recalculation must be performed starting with the agreement start date

3) The invoice group index has been changed, so invoices must be generated based on the new value

10) Is it possible to delete an unnecessary invoice?

It is not possible to remove invoices from the web interface since they are based on actual processed data and its removal will affect the carrier's balance. If necessary, this can be done by the support team. Please note that the balance will be affected - also deleted invoices will be re-generated once EDR rerating for the period will take place.

11) What does the status 'Dispatch failed' mean?

The status means that for some reason the invoice could not be sent. To check what is the problem, point the mouse cursor to the status. The most common reasons are: financial cubes are being recalculated or there is an issue with the mail server (Administration\Outgoing email accounts 36, the parameter *Server type = Billing*).

12) What is a credit note?

A credit note is an additional invoice with a negative amount that is generated by the System in case of a change in financial data for a past period. For example, if a client's balance must be corrected due to discrepancies (for example, the initially generated invoice shows 1100 as the total amount but the client should actually pay 1000), a credit note will be created.

13) Why can balance be changed when there is no traffic?

A newly added or deferred payment (Finance\Payments 228 interface) can affect the carrier's balance. For example, if a client's balance is 2,000 USD, the payment with amount to 2,500 and the direction: to partner is created, the client's balance will be -500 USD. A deferred payment affects the balance in another way: suppose that a draft (non-confirmed) payment with *Expiry date: 01.01.2019 00:00:00* for a client has been created for 500 USD, but in case the payment is expired (not confirmed till 01.01.2019 00:00:00), 500 USD will be subtracted from the client's balance and it may go negative.

Another case is deletion of a client's payment with direction: from partner. If a client balance previously was -300 EUR, then the payment for 500 EUR was added, the balance is 200 EUR. Once the payment is deleted, the balance will go negative again.

Recalculation of previously processed traffic can also affect the balance.

14) Why does the 'Billable (C)' column in Analytics show messages, but the client is not billed?

The column shows the amount of messages in accordance with which a client can be potentially billed (in compliance with the product billing option). However, if, for example, the *Is billable* option is disabled (or was when the traffic was passing), the client will not be billed for the messages. Additionally, in case the invoice amount is less than the value set on the agreement level (*In/out minimum invoice amount)* or (if the agreement option is not specified) than the System setting *Global minimum invoice amount* value, no invoice will be generated. The same happens if a rate was deleted after the traffic passed.

25.9 SMS analytics

1) Why are there 'Unknown partner' and 'Deleted partner' in Analytics?

Deleted partner means that the traffic has passed through a POI but it was deleted afterwards (the match is based on POI ID). Once EDR rerating is performed, *Deleted partner* will be changed to *Unknown partner*.

Unknown/Undefined partner means that it was not possible to match EDR data with the System data - for example, if the POI's service type was changed (or the client was sent a submit request with a service type other than the one specified in the corresponding POI).

If an SMS channel or an SMS POI within which traffic was processed has been deleted or changed (for example, the POI service date or effective dates), retrospective traffic will go to *undefined*. To verify the changes it is recommended to use the *SMS channel change log (Change logs)* or *SMS POI change log (Change logs)* report. The log action for deletion of an entity is marked as 'd'. The entities or their parameters must be restored as they were before with the help of the logs and after that EDR rerating must be performed in SMS\EDR management\EDR rerating 384. It is required to select the *Include undefined flag* in the *Products* filter for a rerating task. Note that if traffic went to a *Deleted* partner, the removed POI ID is still available in EDRs - therefore, a specific product must be selected for EDR rerating (or a task can be launched for all products).

2) Why does the Analytics show only the last N periods even if the selected period is longer?

The period within which analytical cubes (minute, hour, day, week, month) are stored in the System is defined in Administration\System settings\SMS analytics 88 >> *Minute\hour\day\week\month cube partition count*.

Prior to changing the values it is recommended to consult the support team (since changing the parameter leads to recalculating the cubes and as a result affects the System workflow. In the worst-case scenario, when the number of cubes is increased drastically, the database may consume ll the available disk space and the System will stop responding).

3) Why can there be delays in the Analytics update?

Analytical cubes may be recalculated slowly due to rerating tasks launched for a long period or in case the parameters responsible for the number of statistical cubes are changed (*Minute/Hour/Day/Week/Month cube partition count*). In some cases statistics may be updated slowly due to thresholds specified in Administration\System settings\SMS analytics 88 >> *Stats calculation threshold (EDR/<corresponding cube type>)* and *Stats calculation delay, minutes (<corresponding cube type>).* A cube is recalculated if:

1) *X* new EDRs are imported where *X* is less than *Stats calculation threshold,* but *n* minutes since the first EDR import into that cube have already passed (where *n* is *Stats calculation delay*) or

2) *X* new EDRs come to the System where *X* is greater than *Stats calculation threshold.* Note that it is not recommended to change the values without consulting the support team first since it leads to almost constant recalculation of practically the same data. Additionally please note that all values are calculated automatically based on the daily traffic volume.

4) Which permissions must be granted to a user to check traffic of its carriers in the Analytics?

A set of roles from the *SMS analytics* section (Administration\Users 158) must be granted. For example, to check the client data, the *View all client data* permission must be given to the user. Additionally, to show only allowed clients, go to the *View\edit permissions* section of the Administration\Users 158 interface. For example, to find data only of managed carriers, the *View and edit objects of managed accounts* must be enabled.

Note that there is a System setting that specifies how to reflect the total data in the Analytics: *Calculate analytics total depending on VPD* - if set to 1, the analytics' *Total* row will be calculated and shown in accordance with permissions configured for a user on the Administration\Users 158 tab. Some traffic may not be taken into account (for example, if the user has permission to check data of client X and vendor Z but is restricted to check data of vendor Y, the traffic passed from client X to vendor Y will not be calculated for the *Total*).

5) What does the 'Reported' column mean in Analytics?

The column shows all delivery statuses (for example, *Delivered* shows only the *DELIVRD* and *ACTIVATED* statuses) - the statuses may be found in SMS\Reference books\Billing status presets 447 >> *Bill by reported.*

25.10 Alaris Campaign Portal

1) Is it possible to provide customers with a domain name for the Campaign Portal and\or client portal?

Yes, domain name(s) must be pointed to the IP address where the web module is installed (web file server). After that, the domain name must be provided to the support team for further internal configuration change.

2) Is it possible to change the Campaign Portal logo and its title? Is it possible to remove the 'Powered by Alaris' logo?

The Alaris Campaign Portal logo and title can be changed, as well as the Campaign Portal color scheme - please provide them (in png format) and the new title to the support team. Removal of *Powered by Alaris* logo must be discussed with the account manager first.

3) How do I create a Campaign Portal customer correctly?

To enable message sending from the portal, all entities must be created not manually but automatically. The scenario is as follows:

- The carrier, user, account and agreement are created when you click the *create Campaign Portal client* button (in the main web interface: Carriers\Carriers 163) and fill all the necessary fields (or when your customer proceeds with registration from the portal)
- The product, SMS channel and SMS POI are created once you apply the rate plan (Carriers\Products 180 >> *Apply rate plan for Campaign Portal client*) or subscribe the client to a pack (Campaign Portal\SMS pack user subscription 566, *Apply package to account* button; the same can be done from the *Purchase* tab in Alaris Campaign Portal)

SMS packs can be created in the main web interface: Campaign Portal\SMS pack 564. Subscription to a specific account can be applied in the Campaign Portal\SMS pack user subscription 566 interface.

A rate plan is a parent product that is created under the *System owner* carrier with the same account's currency. It is possible to assign a rate plan from the main web interface (*Apply rate plan to Campaign Portal client* button) or from the Campaign Portal (*Purchase* tab). Note that the rate plan cannot be changed once it is applied.

It is possible to assign a default rate plan to newly registered users through the System setting *Default SMS rate plan (Product ID) for new Campaign Portal clients (null - do not add rate plan)*. Additionally, rate plans (in case there are several in the System) can be hidden from the Campaign Portal through the System setting *Available product IDs (null - All)*. You can specify only those parent product IDs that must be visible.

If the System setting is not configured (*null* value) and no rate plan is assigned to the client over the main web interface, all applicable rate plans will be available in the *Purchase* tab of the Campaign Portal. Applicable rate plans are rate plans of the System owner carrier.

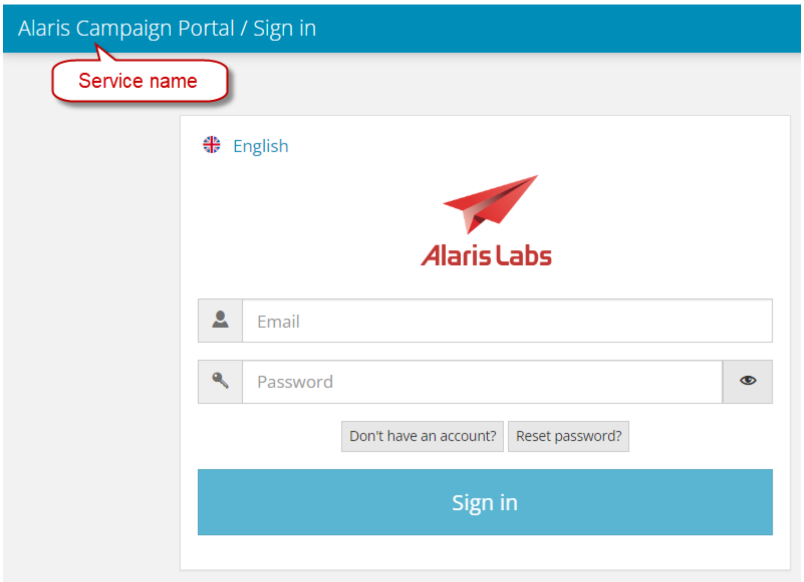
NOTE: Account currencies should be the same - for example, if a Campaign Portal user has a EUR account, the rate plan of the System owner product under a USD account will not be shown.

4) What is 'Forbidden; host: xxx' error?

The message means that the domain name (the host) must be added to Reference Books\Contract companies 261 >>*List of allowed domains* field.

5) What are other possible customizations for Campaign Portal?

- Campaign Portal tabs (for example, *Statistics* or *Contacts*) can be hidden System-wide
- *Show Terms and Conditions* under the main menu (hidden by default)
- Define a custom date format (default: MM/dd/yyyy)
- Define a custom datetime format (default: MM/dd/yyyy HH:mm), applicable to custom contact fields of the *Date* type
- Change the Service name



Service name

- Hide the default long message mode, *MO callback* section
- Define which graphics must be visible on the *Dashboard* page
- Add extra sign up text for the *Registration* form

- Show *Disclaimers* when importing/editing contacts or templates, or launching campaigns
- Define the list of available languages on the *Start* page
- Restrict users from registration (hide *Don't have an account* button)

For the customizations, contact the Alaris technical support team as the configuration is internal.

6) How can I hide the client balance from the Campaign Portal?

Disable the permission *Show finance info* in Administration\Users 158 >> *Roles* of the main web interface.

NOTE: Other financial information such as campaign cost and rates will be hidden as well.

7) How can I automatically add a payment to all newly registered partners?

The initial balance can be assigned to all clients in Administration\System settings\Portals 71 >> *Initial payment for new Campaign Portal clients* (in account currency). On the contract company level it can be set in Reference books\Contract companies 261 >> *Initial payment for new Campaign Portal clients.*

8) What does error '400' mean when a message is sent from the Campaign Portal?

Error 400 means 'no routes'. Please recheck the routing configuration in the main web interface.

9) Are MO messages shown in the Campaign Portal?

They are shown in the *Statistics* tab in case the MO has been received within the predefined timeout (set in Administration\System settings\Portals 71 >> *MO matching window frame, min*) for the corresponding Campaign Portal MT message. The match also depends on the numbers - the sender ID of the MO message must be the same as the destination address of MT message; the destination address of MO message must be the same as the sender ID of the MT message).

25.11 Reports

1) Is it possible to send a report every day to an email address?

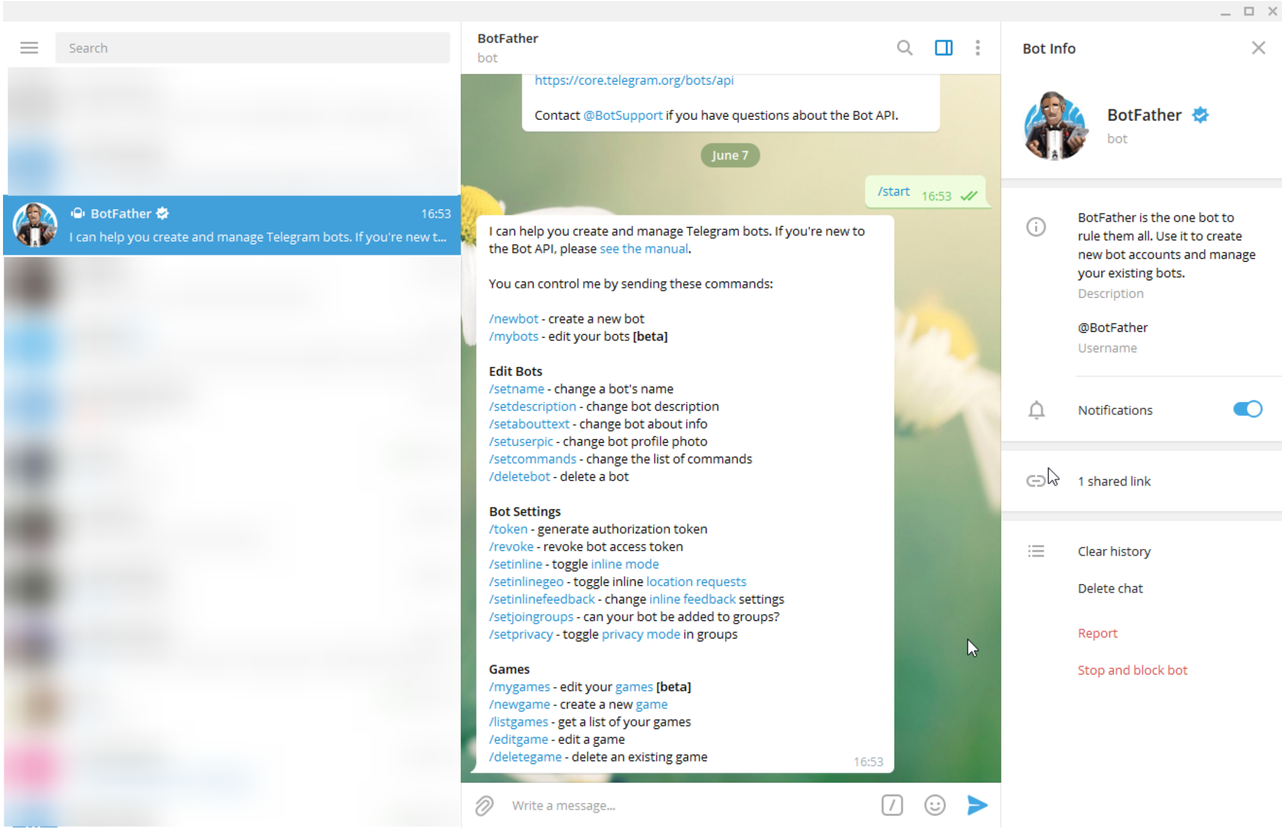
Yes, it is possible - the report schedule and sending parameters can be specified in the *Reports* interface. If a required report is selected and the *Enable schedule* option is on, the parameters are available for specification with the help of the *Set schedule* button. Once the schedule is set, do not forget to save changes (*Save* button).

2) How do I configure a report notification by Telegram?

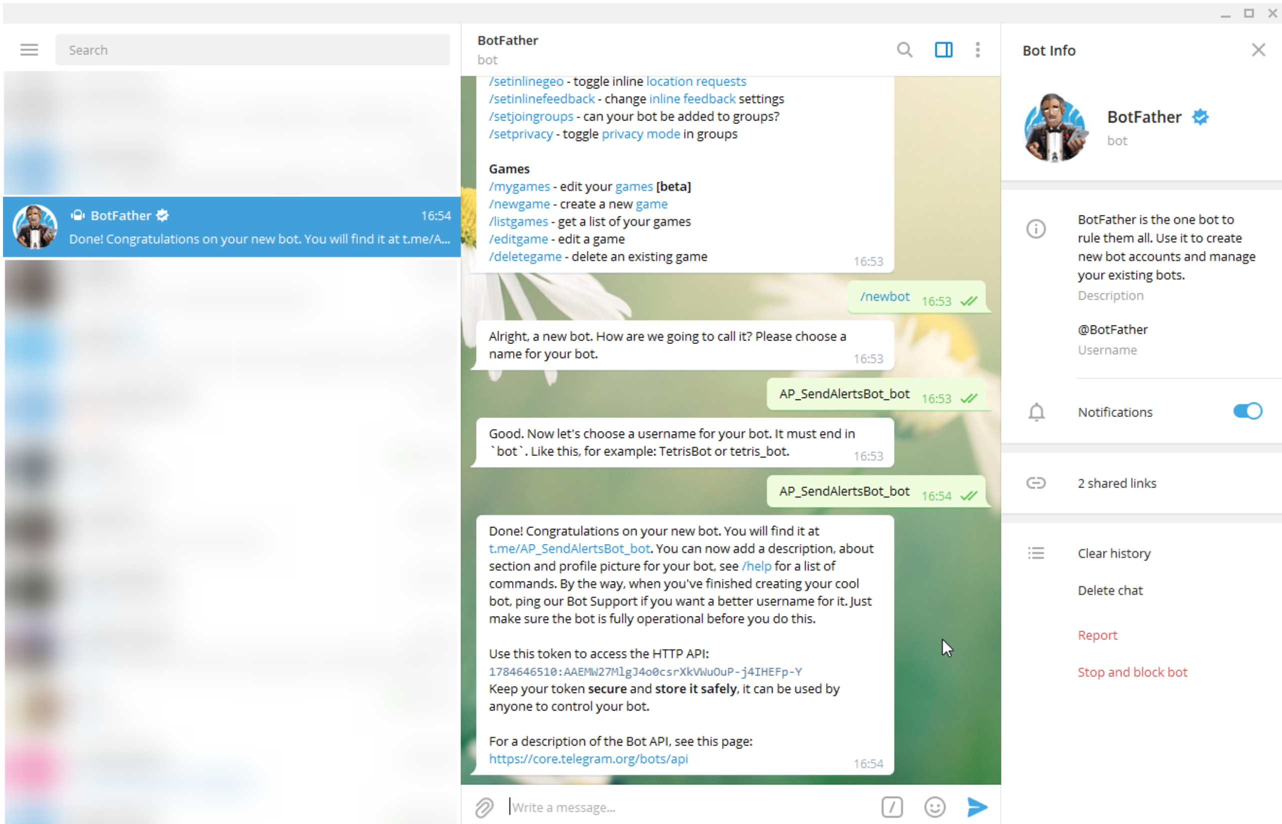
Follow the steps from question 1. That is, the *Enable schedule* option must be on, the schedule is configured along with the recipients list as full results are sent by email only, while a notification that the report has been executed is sent out by Telegram.

The configuration of telegram notifications includes the following steps:

1. Register a bot at https://telegram.me/BotFather as illustrated below:

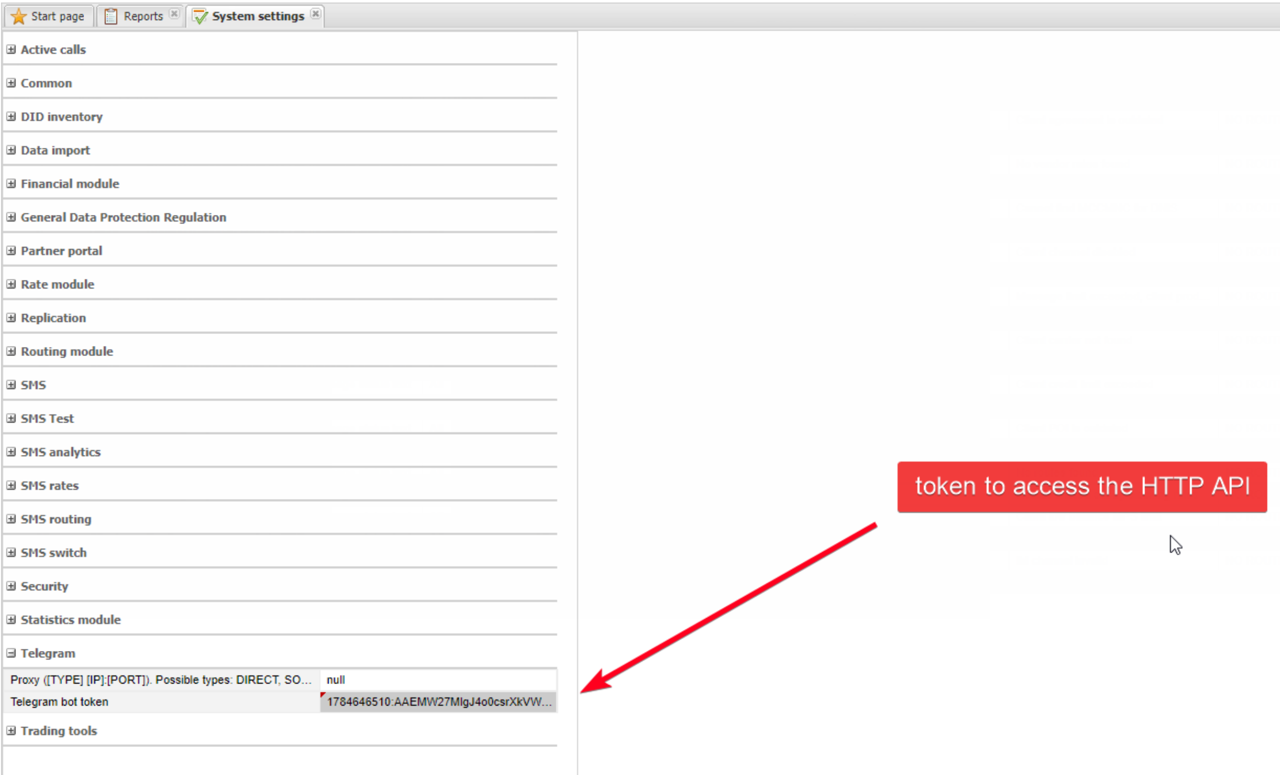


Register a bot (1)



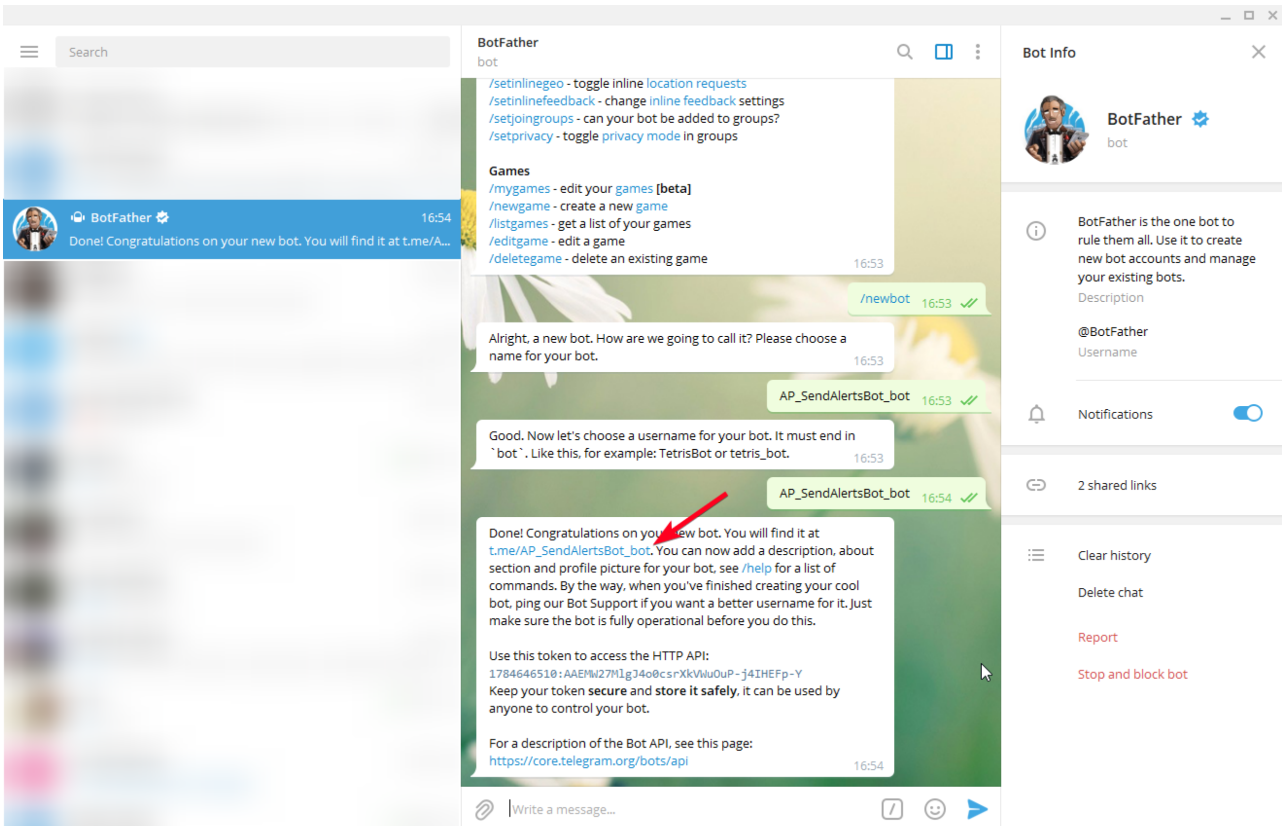
Register a bot (2)

2. Specify the Telegram bot token in the *Telegram bot token* System setting:

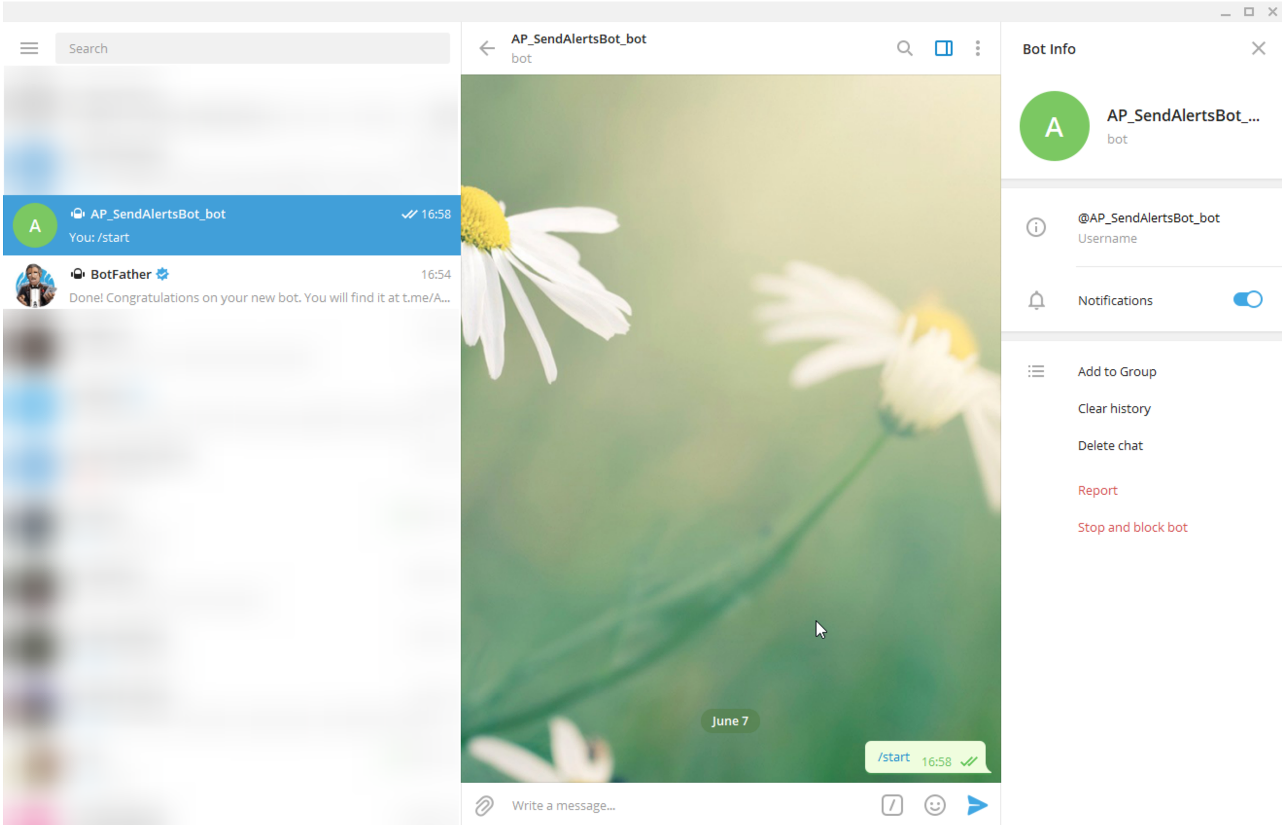


'Telegram bot token' System setting

3. Create a chat with the newly created bot:

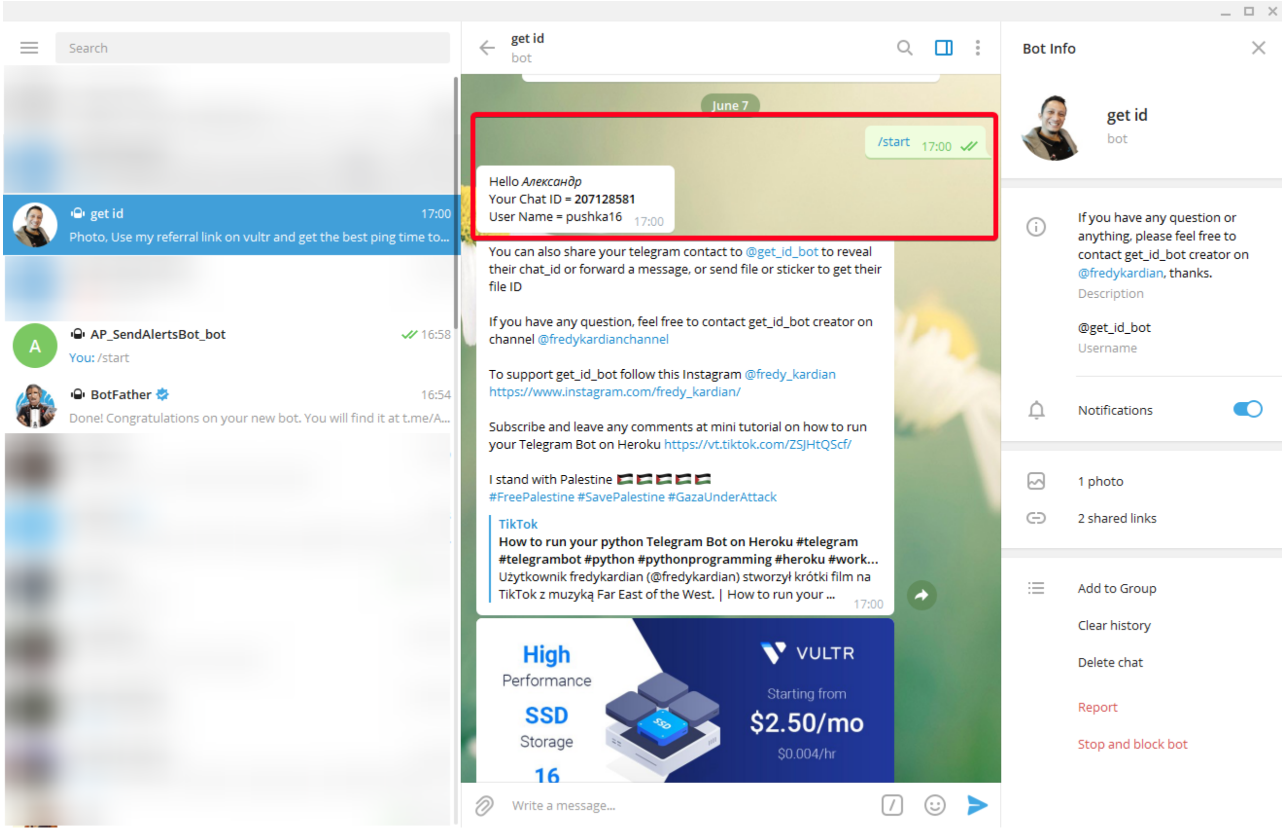


Create a chat with the bot (1)

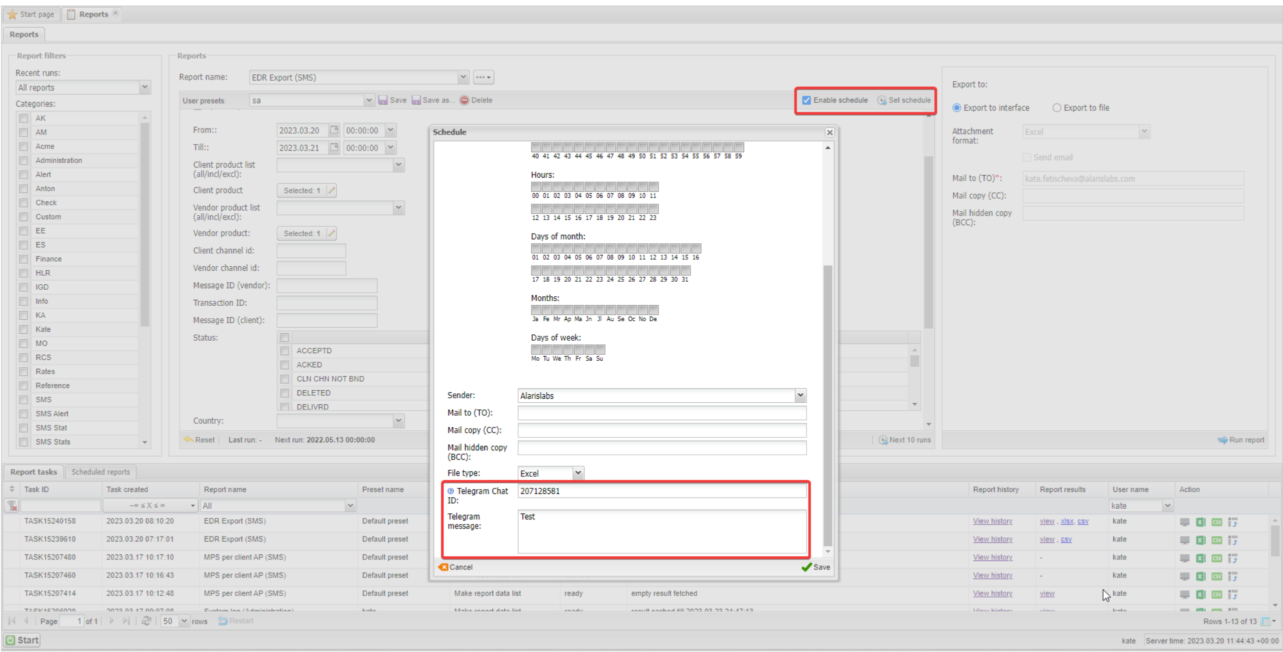


Create a chat with the bot (2)

4. Get chat ID and specify it in the *Telegram Chat ID* parameter:

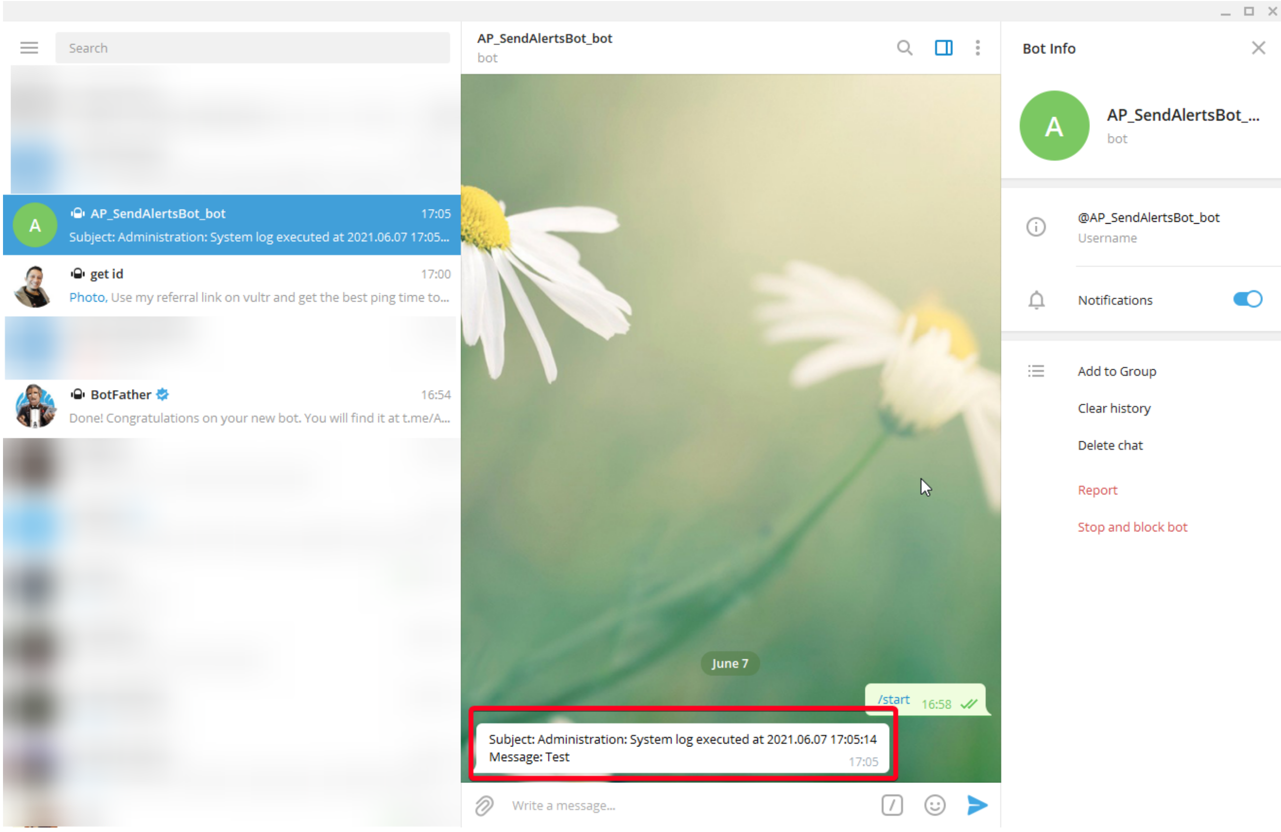


Get a chat ID



Specify the chat ID in the Telegram Chat ID parameter

5. The execution result will look as follows:



Execution result

3) How do I check if a report has been sent from the System?

If the report schedule is configured, but you did not receive the email (while *Last run* shows that the report has been launched), double-check the situation using the report '*System log (Administration)*'. The *Operation* field must be filtered by %mail% and the report name or email address must be specified in the *Message* field, for example: %Client traffic%.

Additionally, it may come instrumental to specify the approximate send time (as a mask) in the *Time* field, for example, 2019.01.01 11:4%. Once the record that the email has been added to queue is found (it can start with *New mail added to queue..*), copy the record ID from the log (*...record_id":"10721"...*) and specify it as a filter in the *Message* field of the report (**10721**). If the report was sent, there will be a record *Mail successfully sent; record ID: 10721*. In case there is no record, it is recommended to filter the *System log* by the *error* word in the *Event type* field. If there were issues with the mail server, corresponding records will be shown (*Failed to send mail….*).

NOTE: Reports with empty results are not sent to email addresses.

4) Is it possible to receive alerts when a channel goes offline?

Some System reports can be configured as recurrent for sending such notifications:

- *Channel offline alarm (Alerts)*: to get results when a channel becomes offline
- *Channel status updates (Reference)*: to get results when a channel changes its status

For details on configuration of sending recurrent reports, refer to the question 1 of this section.

5) Is there a report in the System that shows client traffic stats for a day? How can I configure it for sending to clients?

The report is called *Client traffic (Day) (Statistics)*, and if it contains a filter by products, it can be sent to the clients' addresses (in case there is no filter, please contact the support team to add it). To configure sending a report to clients use custom presets (where each preset contains a specific client set in the *Product* filter), or using an advance schedule of the Reports779 interface. The *Report* field must be set as *Client traffic (Day) (Statistics).* The *SQL code* field (available when the *Dynamic parameters* checkbox is selected) must contain the following code:

select
product_id as "p_prod|n",
trunc(sysdate-1) as "dfrom|d",
trunc(sysdate) as "dto|d",
agr_fin_alert_email as "p$mailto"
from bas_product_v
left join bas_agreement on agr_acc_id = acc_id
where product_id = x

where *x* must be replaced by product ID. The row *agr_fin_alert_email as "p$mailto"* means that the report will be sent to the email address specified in *Default invoice emails* of the corresponding agreement; also, the row can be replaced by the static value as *'put_email_address_here' as "p$mailto"*

6) How can I save custom settings of a report?

They can be saved in a custom preset. Once you have changed the filters (and configured the schedule if necessary), click *Save as* (next to the report name) and specify the preset name. Then the preset can be chosen from the *User presets* drop-down list

7) How can I change the report description and mail parameters for the report sending?

At the moment it is not possible to change mailing parameter (such as the email body or subject). The report description can be edited in *Reports >> Edit report >> Description* field. If you need to remove the header from the generated file, the system setting *Add report info to file header* (Administration\System settings\Common49) must be set to 0.

8) Why may operation of exporting a generated report to Excel/CSV take some time?

Exporting a report to a file takes as much time as the report launch takes. If the report must check a lot of data and its launch takes much time, export will take the same time. To reduce it, it is suggested to specify additional filters in the report parameters.

9) How do I find test messages in the 'EDR Export (Administration)' report?

Test messages (sent from the SMS\Routing\Simulation492 >> *Send SMS* interface) are available if the report is launched with the selected *test EDRs* checkbox.

10) Why is the field 'SMS status code' in 'EDR Export (Administration)' report sometimes filled and sometimes not?

The field shows a code if no routes have been found for the message. The description of the codes can be found below:

2000001 Cannot find MCCMNC for dnis
2000002 Cannot find client account currency
2000003 Client credit limit exceeded
2000004 Client rate not found
2000005 No vendor rates found
2000007 Routes found but filtered by vendor channel TON/NPI filter
2000008 Routes found but filtered by rules or due to the mismatched vendor settings (credit limit, non-suitable billing mode etc)
2000009 Client inbound traffic is prohibited
2000010 Client POI or channel not found
2000011 Client product not found
2000012 Message limit exceeded, client product blocked
2000013 Client channel disabled
2000014 Client account not found
2000015 Client agreement is outdated
2000016 Client POI is outdated
2000017 Client carrier not found
2000019 A non valid IM channel is specified
2000020 No route found for the specified IM channels
2000028 Client product locked by a limitation rule
2000030 Routes filtered out by blocking rules
2000033 Validity period is expired (no routes allow sending message with expired validity_period)
2000034 Validity period is expired (specific route does not allow sending message with expired validity_period)
2000037 TSM response not found (a dedicated tag storage module did not respond within the internally defined timeout)
2000038 Reverse charge negative margin not allowed (either client, or vendor (or both) product has the *Set MO reverse charge* function enabled with the *Allow negative margin* checkbox deselected)
2000039 No suitable routes found for MO message
2000044 Vendor product for a DID number not found in *Number management* (applicable to MT messages)

11) Why can execution of the report ‘EDR Export (Administration)’ take so long?

In case the report is launched with default parameters (all traffic for the current day) or for a longer period, it will check all EDRs for the period. Therefore it is recommended to shorten the period and/or specify filters: message ID, client/vendor products (do not forget to specify the type of the list: inclusive or exclusive), SRC number, DST number, etc.

If you need to download EDRs for a long period, please use the SMS\EDR management\EDR export tool 371 interface since there is a timeout (15 minutes) for report execution in the web interface. Additionally, you can use the interface to specify a set of columns that must be exported.

12) Why are some users unable to find report X?

The permission that must be granted to make a report visible can be found in *Reports >> Edit report >> Available to*. For example, if the field contains the *View administration reports value*, a user must have the permission granted in the Administration\Users 158 >> *Roles* section to view the report.

13) Is it possible to modify a report - to add new columns, remove some of them, or add new filters?

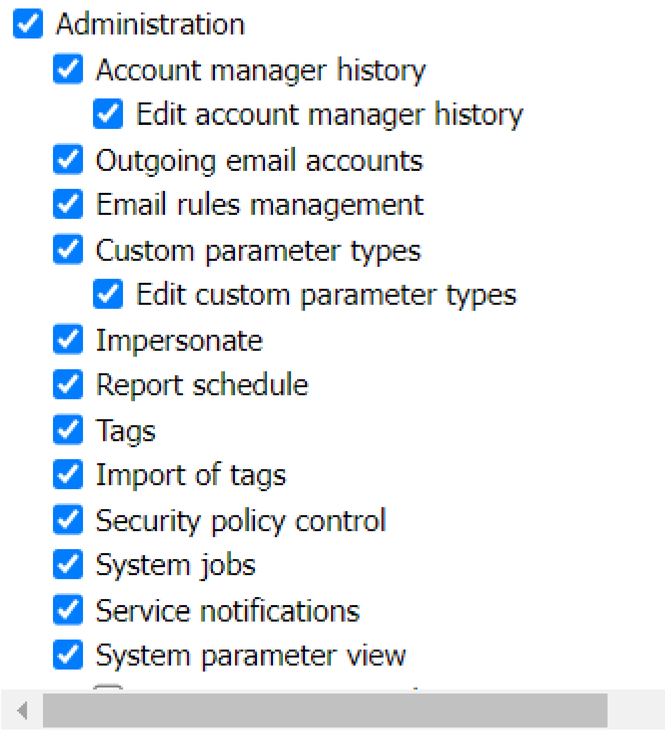
Yes, a report can be modified. In most cases changes are made by the support team, but if you have engineers familiar with SQL, a new report can be created by the *New report* button and the database structure can be found in the report *DB struct (Info).*

26 Appendix 8. User permissions

This Appendix provides a detailed description of permissions that are configured in Administration\Users 158. Some permissions are VPD restricted.

NOTE: VPD (virtual private database) is an Oracle security feature intended to isolate data based on the user's roles and permissions. VPD policies allow managing data based on granted permissions. The section that controls VPD policies in the System is the *View/edit permissions* section (Administration\Users 158 -> *Roles*). The permissions may affect other roles - in that case, a dependent permission will be marked as *VPD restricted* in this Appendix. For example, the Carriers 163 interface is VPD restricted. Suppose a user has the permission *View and edit objects of own contract companies.* In this case the user will be able to manage data in the interface only for carriers belonging to the same contract companies. Another example is the Administration\Outgoing email accounts 36 interface. suppose the user has only View and edit objects of own contract companies permission granted and the user's contract company is test (Administration\Users 158 -> *Contract companies*). In this case none of the mail servers created for different contract companies (Administration\Outgoing email accounts 36 -> *Contract company* field) will not be shown to the user. An example of VPD-independent interface is SMS\Routing\Routing rules 462 - all rules will be shown irrespective of the granted permissions in the *View/edit permissions* section. Note that the names of products inaccessible to the user will be replaced by the IDs (for *Client products list* and vendor choices).

26.1 Administration



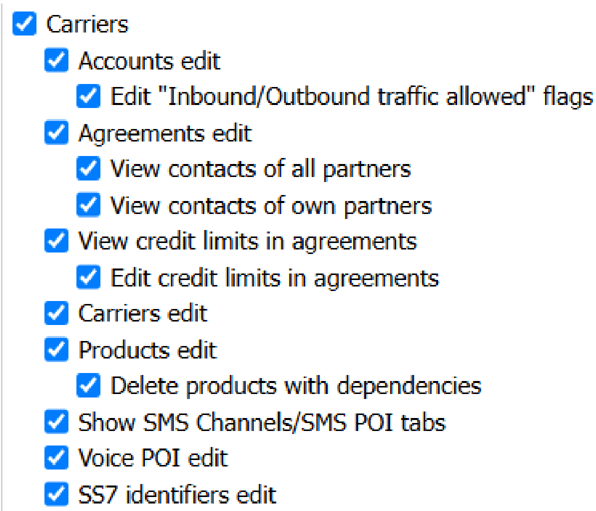
Administration

- *Account manager history*: the permission must be enabled in order to view the Administration\Account manager history 29 interface. *VPD restricted*
    - *Edit account manager history*: the permission allows to edit records in Administration\Account manager history 29 interface (assign an account or billing manager or delete records). In case the permission is not granted, the *Set account manager* and *Set billing account manager* buttons are hidden from Carriers\Accounts 168

- *Outgoing email accounts*: the permission makes it possible for the user to view/edit data in Administration\Outgoing email accounts 36. *VPD restricted*
- *Email rules management*: the permission grants possibility to view/edit data in Administration\Email processing rules interface 32. *VPD restricted*
- *Custom parameter types*: the permission defines if the user is allowed to view data in Administration\Custom parameter types 30 interface
  - *Edit custom parameter types*: the permission defines if the user is allowed to edit data in Administration\Custom parameter types 30 interface
- *Impersonate*: when the permission is granted, the user can login to the main web interface, get authorized via REST API interface and Alaris Campaign Portal using another user's identity (adding its login to the username after # in the format yourlogin#otherusername) with its own password. The feature can be used to login to the Partner Portal given that both users are not under the System owner carrier. Note that in case the user makes any changes, change logs will contain the "otherusername" (the login of the user on behalf of which another user logged in to the System)
- *Tags*: the permission defines if user is allowed to view data in the Reference books\Tags 255 interface. The user must have the *SMS routing rules edit* permission enabled in order to edit tags
- *Import of tags*: the permission grants possibility to if the user is allowed to import tags via Reference books\Tag import 257 interface
- *Security policy control*: when granted (alongside the *User administration* and *Users edit* permissions to edit other users' properties), the user can select the *Enable two factor authentication* checkbox for other users in order to enable 2-factor authorization for them to the main web interface as well as manage the *Two-factor authentication* section in User settings 23.
- *System jobs*: the permission defines if the user is allowed to view/edit data in the Administration\System jobs 42 interface
- *Service notifications*: the permission makes possible to view data in the Administration\Service notifications 40 interface. *VPD restricted*. Note that user with the *View all data* permission will be allowed to edit notifications
- *System parameter view*: the permission allows the user to view data in the Administration\System settings 48 interface
  - *System parameter edit*: the permission makes it possible to view and edit data in Administration\System settings 48 interface
- *Template manager*: the permission grants the possibility to view/edit data in the Administration\Template manager 104 interface. If the permissions *View objects of own accounts* and *View and edit objects of own contract companies* are enabled, the user cannot see templates belonging to other users accounts and contract companies respectively. *VPD restricted*. Note that a user with the *View all data* permission will be allowed to edit notifications
- *Trace analyzer*: the permission defines if the user is allowed to access the Administration\Trace analyzer 155 interface. The user will be able to find other users' tasks only in case the user either has the permission *View all data* or *View and edit all data*. *VPD restricted*
- *Translations*: the permission makes it possible to show/hide the *Administration\Translations* interface

- *Users*: the permission allows access to the Administration\Users 158 tab with a possibility of sending a reset password letter to the user's mail. *VPD restricted*.
  - *User administration*: when granted, it allows the user to change permissions of other users (Administration\Users 158 -> *Roles*), otherwise the user can edit (revoke) its permissions. Note that the user A cannot modify other user's permissions (user B) in case user A does not have permissions which the user B has - for example, if user B does not have the *Edit rates* permission, user B cannot either grant to or revoke *Edit rates* from user A
    - *Manual password change*: the permission allows the user to change the password manually (Administration\Users 158 -> *User password change*). Otherwise it is allowed to change the password only by email (Administration\Users 158 -> *Send password reset letter*)
  - *Users edit*: the permission allows editing or removing users (Administration\Users 158). Note that setting the user password manually is possible without the *Users edit* permission in case the permission *Manual password change* is granted. To create a new user both *Users edit* and *User administration* must be granted
- *View administration reports*: the permission allows checking reports in the Reports 787 interface with *Available to: View administration reports*. If the permission is not enabled, the reports will be hidden from the drop-down list

26.2 Carriers



Carriers

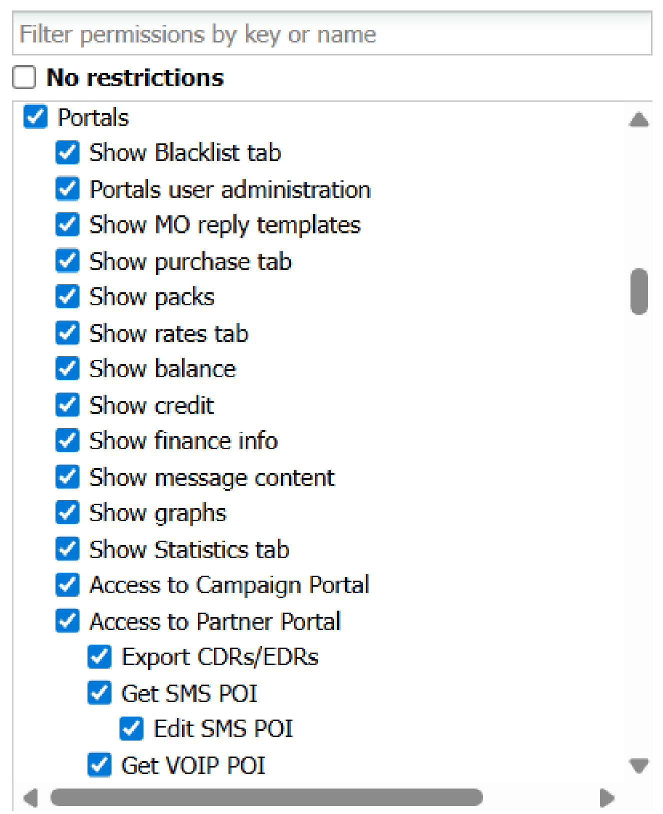
The section is intended to grant permissions of editing main entities of the Carriers 163 interface. VPD restricted.

- *Accounts edit*: the permission allows editing accounts (Carriers\Accounts 168). Note that to delete an account and dependent objects (*Delete this account and all child components* button) the user must have the *No restrictions* role
  - *Edit "Inbound/Outbound traffic allowed" flags*: when enabled, the user is allowed to edit the *Inbound traffic allowed* and *Outbound traffic allowed* fields of Carriers\Accounts 163
- *Agreements edit*: the permission allows editing agreements (Carriers\Agreements 171)
  - *View contacts of all partners*: enables access to email addresses of all available partners

- *View contacts of own partners*: allows users to view email addresses of partners they manage as account managers under the *View and edit objects of managed accounts* permission, or partners linked to contract companies they are authorized to access under the *View and edit objects of own contract companies* permission

- *View credit limits in agreements*: if the permission is given, the values (*In/Out credit*) will be shown, otherwise - hidden irrespectively of given permissions from *View/edit permissions*
  - *Edit credit limits in agreements*: if the permission is enabled, it is additionally allowed to change *In/Out credit* fields
- *Carriers edit*: the permission allows editing carriers (Carriers\Carriers 163). Note that to delete a carrier and dependent objects (*Delete this carrier and all child components* button) the user must have the *No restrictions* role
- *Products edit*: the permission allows editing products (Carriers\Products 180).
  - *Delete products with dependencies*: the permission allows using the *Delete this product and all child components* button (Carriers\Products 180)
- *Show SMS Channels/SMS POI tabs*: the permission allows accessing the *SMS channels* and *SMS POI* tabs along with a possibility of viewing channel system IDs (logins) in other interfaces (for example, SMS\Routing\Simulation 485). The permission also affects the availability of the *Set POI routing priorities* and *Change POI routing priorities* buttons for *SMS* type products.
- *SS7 identifiers edit* (applicable to Alaris SMS Platform only): the permission allows adding, editing and deleting entities created in Carriers\SS7 identifiers 210. Note that the tab is available if the *Enable SS7 billing* System parameter is enabled

26.3 Portals



Portals

If the permission is granted with no specification of child permissions, the user will not be able to login to the Portals (including Alaris Campaign Portal) and check the portal data.

- *Show Blacklist tab*: the permission opens access to the *Blacklist* tab of Alaris Campaign Portal
- *Portals user administration*: the permission has effect on Alaris Campaign Portal and allows modifying Campaign Portal users' info on the portal's *Administration* tab. Additionally a user with this permission can use the portal to reset the passwords of other users registered under the same carrier. For the Wholesale Portal the role allows changing contacts on the *User profile* tab. For the Partner Portal, it opens access to the *User administration* page
- *Show MO reply templates*: the permission serves to hide the fields related to MO reply templates:
    - when creating a campaign (*MO reply templates* section)
    - when viewing a created campaign (*Reply template name*)
    - *MO reply templates* section at the *Templates* tab
    - the *Reply text* filter as well as *Source message sent time* and *Source message ID* columns of the *Statistics* tab
- *Show purchase tab*: the permission affects whether the user can view the *Purchase* and *Invoices* tabs of Alaris Campaign Portal and *Invoices* and *Payments* tabs of the Partner Portal. The *Invoices* tab contains confirmed invoices of the user's carrier - downloading of them will be allowed as well if the permission is granted
- *Show packs*: defines whether SMS packs available for subscribing will be shown on the *Purchase* tab in Alaris Campaign Portal
- *Show rates tab*: defines whether non-applied rate plans will be shown. Also, when disabled, the *Plan details* of the applied rate plan (*Purchase* tab) is hidden from Alaris Campaign Portal 583, and the *SMS rates* tab is hidden from the Partner Portal and Alaris Campaign Portal 583 (which is usually shown if the user is subscribed to any rate plan).Additionally, the *Client rate* and *Vendor rate* fields will be hidden for EDR export. Also, if the permission is not granted, the *Show rates* option is hidden in the SMS\POI 639 interface
- *Show balance*: defines whether balance should be shown in Alaris Campaign Portal (*Dashboard* and *Purchase* tabs, and the main menu). See also the Alaris YouTube video
- *Show credit:* enables hiding the credit limit configured in agreements from the Partner Portal
- *Show finance info*: the permission grants the possibility to hide the *Cost* (*SMS stats* tab) and *Balance* info from the Wholesale Portal, as well as the *Cost* column of the *SMS\Statistics* and *RCS statistics* tabs and balance values in the Partner Portal.In Alaris Campaign Portal it serves to hide the *Buy subscription* button in case of unsuccessful message submitting as well as hide the cost of campaigns (*Campaigns -> Details*), packs (*Average price per SMS*) along with the balance and the *Top up your balance* button on the *Dashboard* page. Note that the *Top up your balance* button on the *Purchase* tab will be hidden if both *Show finance info* and *Show balance* permissions are revoked
- *Show message content*: if the permission is granted, REST API method GET:edr will contain the message text, otherwise the value is hidden (the field will contain the *Message content hidden* value instead of the message text). The permission also affects EDR export from the Partner Portal and controls the display of the *Message text* and *User response* fields in Alaris Campaign Portal (the *Statistics* tab)

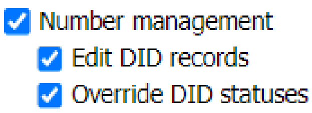
- *Show graphs*: if the permission is enabled, charts are displayed on the *Dashboard* page of Alaris Campaign Portal
- *Show Statistics tab*: the permission opens access to the *Statistics* tab of Alaris Campaign Portal and to *SMS\Statistics, Voice\Statistics, RCS statistics* tabs of the Partner portal
- *Access to Campaign Portal*: the permission allows to login to Alaris Campaign Portal. Note that Alaris Campaign Portal domain name has to be added to the field *List of allowed domains* (Reference books\Contract companies 261) of the corresponding contract company for successful login
- *Access to Partner Portal*: the permission allows to login to the Partner Portals. Note that the portal domain name must be added to the field *List of allowed domains* (Reference books\Contract companies 261) of the corresponding contract company for successful login
  - *Export CDRs/EDRs*: the permission allows to create export tasks in the Partner Portal
  - *Get SMS POI*: when disabled, the *SMS POIs* and *POI* tabs are hidden in the Wholesale and Partner Portal, respectively
    - *Edit SMS POI*: the permission allows the user to edit SMS POIs and add POIs in the Wholesale and Partner Portals, respectively
- *Get VOIP POI* (applicable to Alaris inVoice only): when disabled, the *VoIP POIs* tab and *POI* tab are hidden in the Wholesale and Partner Portals, respectively
  - *Edit VOIP POI*: the permission allows the user to edit voice POIs and add POIs in the Wholesale and Partner Portals, respectively

NOTE: The ability to edit POIs is also controlled by the System parameters *Partner Portal access mode (1 - read/write, 2 - read only)* and *Allow Partner Portal users to edit POI (1 - yes, 0 - no)*.

26.4 Delete file records

- *Delete file records*: the permission allows removing files from SMS\Rates\Rate import 420 and Administration\Email processing rules 32 (the *Files* tab).

26.5 Number management



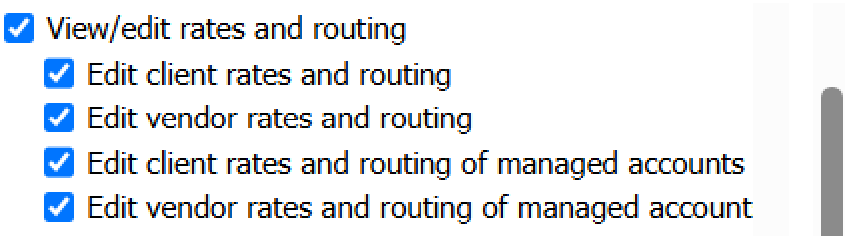
Number management

The section opens access to the Number management 575 interface. The user will be able to view product names based on View/edit permissions. If the user is not allowed to view data (for example, it does not belong to the appropriate contract company while having only the *View and edit objects of own contract company* permission granted), the product ID will be shown instead of the name (the *History* tab will show hidden values as well).

- *Edit DID records*: the permission allows editing DID records (add, assign, deassign them etc). Note that the *Product* control (for example, when the user is assigning a DID record) will contain the list of products available to the user based on the *View/edit permissions* section. If the permission is disabled for the user, the user will not be able to add records on the *Billing scheme* tab and use the *Import* functionality
- *Override DID statuses*: the permission allows the following operations:

- Assign an aging number
- Dearchive an archived number
- Close an archived or aging number
- Deassign an assigned number
- Archive an available or aging number

26.6 View/edit rates and routing



View/edit rates and routing

The section grants permissions for editing rates and routing rules. Additional restrictions are set in the following sections: *SMS rate edit* section and *SMS routing rules edit*

- *View/edit rates and routing*:
  - *Edit client rates and routing*: if the permission is granted, the user is allowed to edit client rates through the SMS\Rates\Rate editor 399 interface. If the permission is granted together with *Edit client rates and routing of managed accounts*, the user is allowed to edit client rates only of its own account. If the permission *Edit client rates and routing of managed accounts* is not granted while *Edit client rates and routing* is, the user can edit client rates in accordance with permissions given in the *View/edit permissions* section. Note if the user has the *Rate import* permission, the operation of import will be allowed if the task does not affect rates that cannot be changed by the user
  - *Edit vendor rates and routing*: if the permission is granted, the user is allowed to edit vendor rates through the SMS\Rates\Rate editor 399 interface. If the permission is granted together with the *Edit vendor rates and routing of managed accounts* permission, the user is allowed to edit vendor rates only of own account. If the permission *Edit vendor rates and routing of managed accounts* is not granted while *Edit vendor rates and routing* is, the user can edit vendor rates in accordance with permissions given in the *View/edit permissions* section. Note if the user has the *Rate import* permission, the operation of import will be allowed if the task does not affect rates that cannot be changed by the user
  - *Edit client rates and routing of managed accounts*: if the permission is granted together with the *Edit client rates* permission, the user is allowed to edit client rates and routing only for its account. If the permission is granted while *Edit client rates* is not allowed, the user will be able to modify only the routing rules that affect its account. For example, with the following set of permissions:
    - *Edit client rates and routing of managed accounts* - granted
    - *Edit vendor rates and routing of managed accounts* - granted
    - *Edit client rates* - not granted

- *Edit vendor rates* - granted
- *Edit routing rules* - granted

the user will be able to modify a routing rule that contains an inclusive *Client products* list the products of which belong to the user. However, the user will not be allowed to edit a rule where an exclusive *Client products* list contains products belonging to the user (since the user will exclude its own products from routing, which affects other users' traffic)

- *Edit vendor rates and routing of managed accounts*: if the permission is granted together with the *Edit vendor rates* permission, the user is allowed to edit vendor rates and routing only for its account. In case the permission is granted while *Edit vendor rates* is not allowed, the user will be able to modify only those routing rules that affect its account. For example, with the following set of permissions:
  - *Edit client rates and routing of managed accounts* - granted
  - *Edit vendor rates and routing of managed accounts* - granted
  - *Edit client rates* - granted
  - *Edit vendor rates* - granted
  - *SMS routing rules edit* - granted
  - *View and edit all data (except System owner parent rates)* - not granted

  the user will be able to modify a routing rule that does not contain the System owner's products in the *Products* list.

26.7 Enterprise API

The section is intended for granting permissions to launch internal System methods (for example, to receive a list of charges or rates) over the external module Enterprise API.

- *Enterprise API*: the permission grants access to the Enterprise API module.

NOTE: The module operates through REST API and has extended methods for controlling the System to allow for greater security. One of the methods serves to work with charges - and the *Charges* permission must be granted as well to enable it. To configure the module, contact the Alaris technical support team and communicate the code BZ35475.

26.8 Export to CSV/Excel from interfaces

- *Export to CSV/Excel from interfaces*: when enabled, the *Export to Excel* button is available in the System interfaces. The permission does not affect export of the e.212/e.164 reference book as well as export of reports. These operations are allowed by the *e.212/e.164 reference book export* and *Export to CSV/Excel from reports* permissions respectively.

26.9 Finance

- [x] Finance
  - [x] Charges
  - [x] Invoicing
    - [x] Confirm vendor invoice
    - [x] Confirm client invoice
    - [x] Register vendor invoice
    - [x] Generate client invoice
  - [x] Payments
    - [x] Confirm vendor payment
      - [x] Delete registered vendor payments
    - [x] Confirm client payment
      - [x] Delete registered client payments
    - [x] Register payments to vendor
    - [x] Register payments from client
  - [x] Recurring fees
    - [x] Recurring fees edit

Finance

The section is intended for granting financial permissions. Note that in order for the *Finance* tab to be shown under the *Start* menu, at least one child permission must be granted.

- *Charges*: the permission defines whether the user can view data in the Finance\Charges 211 interface. Additional restrictions/permissions can be set in the *View/edit permissions* and *Invoicing* sections

- *Invoicing*: the permission allows to view data in the Finance\Invoices 217 interface. *VPD restricted*

- *Confirm vendor invoice*: the permission allows confirming invoices from partner and credit notes to partner. If both permissions:*Confirm vendor invoice* and *Register vendor invoice* : are granted, the user can add/edit payable charges with the enabled checkbox *Create/update invoices* (Finance\Charges 211 interface), edit invoices from partner and credit notes to partner and recalculate period for accounts with the vendor direction (Finance\Invoices 217 interface)

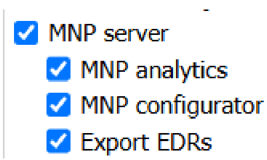
- *Confirm client invoice*: the permission allows confirming invoices to partner and credit notes from partner. If both permissions:*Confirm client invoice* and *Generate client invoice* : are granted, the user can to add/edit receivable charges with selected checkbox *Create/update invoices* (Finance\Charges 211 interface*)*, edit invoices to partner and credit notes from partner and recalculate the invoice period for accounts with the client direction (Finance\Invoices 217 interface)

- *Register vendor invoice*: the permission allows the user to delete and recalculate payable charges; delete, clone and import payable charge details (the bottom grid of *Charges* interface); recalculate invoices and close billing period from partner/credit notes to partner. A user with the permission granted is allowed to change the *Force invoice status* control. Note that to change charges, the permission *Charges* must be given to the user. *VPD restricted*

- *Generate client invoice*: the permission allows to delete and recalculate receivable charges; delete, clone and import receivable charge details (the bottom grid of the Finance\Charges 211 interface); recalculate and close the billing period of invoices to partner and credit notes from partner. In order to modify charges, the permission *Charges* must be given to the user. *VPD restricted*

- *Payments*: the permission allows viewing data in the the Finance\Payments 228 and Reference books\Bank accounts 255 interfaces. *VPD restricted*
- *Bank accounts*: the permission allows accessing Reference books\Bank accounts 255
- *Confirm vendor payment*: the permission enables the user to create confirmed/confirm/import payments to a partner if the permission *Register payments to vendor* is granted as well. If the permission is granted together with the permission *Confirm client payments*, the user will be allowed to synchronize balances (*Finance >> Payments*)
    - *Deleting vendor payments with unaccounted amounts*: if the permission is granted, the user can delete payments from a partner with the *Bad debt* flag enabled
    - *Delete registered vendor payments*: if the permission is granted, the user can delete payments to partner
- *Confirm client payment*: the permission allows to creating confirmed/confirm/import payments from a partner if *Register payments from client* is granted as well. if the permission is granted together with the permission *Confirm vendor payments*, the user will be allowed to synchronize balances
    - *Deleting customer payments with unaccounted amounts*: if the permission is granted, the user can delete payments to a partner with the *Bad debt* flag enabled.
    - *Delete registered client payments*: if the permission is granted, the user can delete payments from a partner
- *Register payments to vendor*: the permission allows adding draft payments to a partner; additionally the user will be allowed to edit payments/add confirmed payments to a partner if the permission *Confirm vendor payments* is granted as well
- *Register payments from client*: the permission allows adding draft payments from a partner; additionally the user will be allowed to edit payments/add confirmed payments from a partner if the permission *Confirm client payments* is granted as well
- *Recurring fees*: the permission allows viewing data in the Finance\Recurring fees 236 interface. *VPD restricted*
    - *Recurring fees edit*: the permission allows editing data in the Finance\Recurring fees 236 interface

26.10 MNP server



MNP server

The section is intended to grant overall System permissions to access sub-interfaces. If no child permission is granted, no related interface can be opened. To have access to the section, the internal System parameter must be enabled.

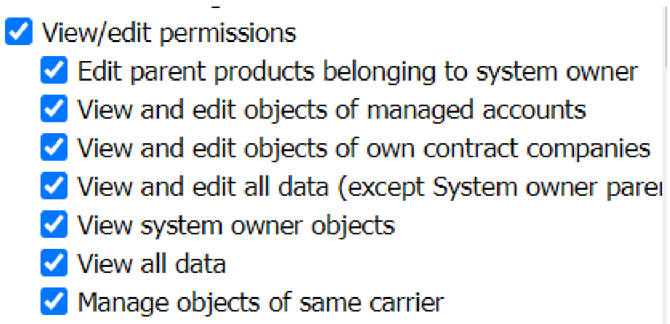
- *MNP analytics*: the permission opens access to MNP server\MNP analytics 568. *VPD restricted*
- *MNP configurator*: the permission opens access to MNP server\MNP configurator 574

- *Export EDRs*: the role allows exporting EDRs in MNP server\MNP analytics 568.

26.11 Ignore inactivity logout timeout

- *Ignore inactivity logout timeout*: if the role is enabled, the *Inactivity logout timeout, min* System parameter does not have an impact on the user.

26.12 View/edit permissions



View/edit permissions

The section is intended to grant overall System permissions to view and edit data in the interfaces where access can be restricted based on account manager/contract companies: for example, *Carriers*, *Finance*, etc. If no child permission is granted, the user will not be allowed to view data in the interfaces (e.g., Carriers 163, Reference books\Contract companies 261) but records in some interfaces will be shown with hidden carrier/product/contract company names (for example, SMS\Routing\Routing rules 464). If a user is allowed to view but not to edit data, System entities (carrier and product names) will be highlighted in italic

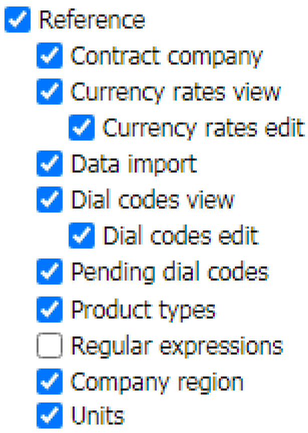
- *Edit parent products belonging to system owner*: the permission allows editing products created on behalf of the System owner carrier and its rates if the products are assigned as the *Parent product*
- *View and edit objects of managed accounts*: the permission allows viewing and editing data of carriers managed by the user
- *View and edit objects of own contract companies*: the permission allows viewing and editing data if it belongs to the contract company assigned to the user (Administration\Users 158 -> *Contract companies* field)
- *View and edit all data (except System owner parent rates)*: the permission allows viewing and editing all data except for products created on behalf of the System owner carrier and product rates if the product is a parent one for another product
- *View system owner objects*: the permission allows viewing entities created on behalf of the System owner carrier
- *View all data*: the permission allows viewing all data
- *Manage objects of same carrier*: the permission allows viewing and editing objects of the carrier under which the user has been created

26.13 Post monitoring data

- *Post monitoring data*: if the permission is enabled, it is possible to use POST:monitoring_data method in REST API

26.14 Reference

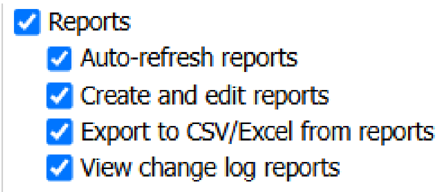
The section allows specifying which tabs of the Reference books 798 section can be shown to the user. To allow access to the Reference books\Bank accounts 255 interface, the *Payments* permission must be granted. Note that to have a possibility to edit data in the interface, a corresponding edit permission must be granted in the View/edit permissions 797 section (for example, *View and edit (system owner rates)*). To access the Reference books\Tags 255 and Reference books\Tag import 257 interfaces, permissions *Tags* and *Import of tags* are required respectively.



Reference

- *Contract company*: the permission defines whether the user can manage data on Contract company interface. VPD restricted
- *Currency rates view*: the permission gives access to view data in Reference books\Currency exchange rates 270
  - *Currency rates edit*: the permission allows editing data in Reference books\Currency exchange rates 270
- *Data import*: the permission defines if the user is allowed to import data over the Reference books\Data import 278 interface
- *Product types*: the permission allows viewing/editing data in the Reference books\Product types 273 interface. Note that the System product types (such as *International, SMS, DID* etc) cannot be edited and deleted from the web interface
- *Regular expressions*: allows accessing and managing the Reference books\Regular expressions 277 interface
- *Company region*: the permission allows viewing data in the Reference books\Countries and regions 274 interface. *VPD restricted*
- *Units*: the permission allows to viewing/editing data in the Reference books\Units 277 interface

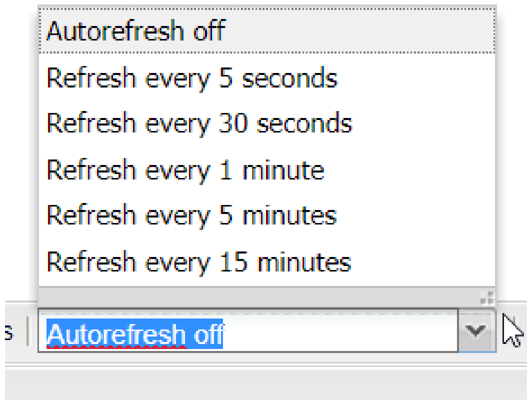
26.15 Reports



Reports

The section gives permissions to view, launch and export reports in the Reports 799 interface.

- *Auto-refresh reports*: if the permission is granted, the user will be able to set a period for report autorefresh (see figure below)



Reports autorefresh

- *Create and edit reports*: if the permission is granted, the user will be able to edit reports, create new ones and export the SQL code of reports
- *Export to CSV/Excel from reports:* if the permission is granted, the user will be able to export report results to a file. Additionally, the *Open as pivot* icon is available in the *Action* column of the *Reports* interface if the permission is selected for the user
- *View change log reports*: allows access to reports of the *Change logs* category.

26.16 Show start page metrics

- *Show start page metrics*: the permission defines if graphs and the *Set of metrics* button are hidden on the *Start* page of the main web interface

26.17 View swap deals

The section allows viewing swap deals. *VPD restricted*.

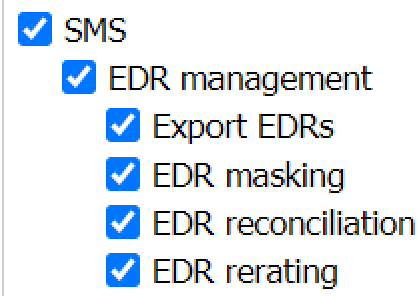
- *Edit swap deals*: the permission allows editing swap deals. *VPD restricted*

26.18 View swap deals 2.0

The section allows viewing swap deals 2.0. The section is hidden by default as a separate license must be purchased for the module. *VPD restricted*.

- *Edit swap deals 2.0*: the permission allows editing swap deals 2.0. *VPD restricted*

26.19 EDR management



EDR management

The section opens access to the SMS\EDR management 800 interfaces.

- *Export EDRs*: the permission allows exporting EDRs in the SMS\EDR management\EDR export tool 371 interface and from the SMS\Analytics 363 interface. Note that the user with the granted permission will be allowed to select only those client/vendor products for task creation which it is allowed to manage or view based on permissions from the View/edit permissions 797 section.

- *EDR masking*: the permission allows users to mask the destination address and message texts for a certain period. Note that the user with the granted permission will be able to check tasks if either *View and edit all data* or View *and edit all data (except System owner parent rates)* is granted as well.

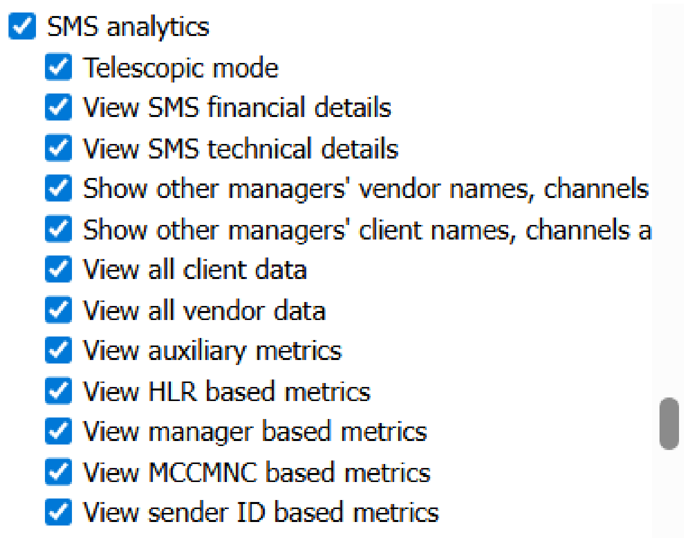
- *EDR reconciliation*: the permission allows comparing System and partner's EDRs in the SMS\EDR management\EDR reconciliation 380 interface. Note that the user with the granted permission will be able to check tasks if either *View and edit all data* or *View and edit all data (except System owner parent rates)* is granted as well.

- *EDR rerating*: the permission allows scheduling EDR rerating tasks. The user is allowed to view tasks and their details (the bottom grid) based on permissions from the View/edit permissions 797 section. The user is allowed to rerate EDRs if at least one edit permission from that section is enabled. For example, if the permission *View all data* is granted, the user will be able to check all tasks with the details but will not be allowed to launch rerating tasks. if the permission *View and edit objects of own contract company* is granted, the user will be able to select those client/vendor products in the *Products* filter of the corresponding *Client/Vendor leg* filter which are available based on the granted permissions.

26.20 Network diagnostics

If the *Network diagnostics* permission is granted, the user is able to use the *Network Diagnostics* button in Carriers\SMS channels 188.

26.21 SMS analytics



SMS analytics

The section allows to view the SMS\Analytics 363 interface. If no child permission is granted under the section, the user will be able to check only the *Total* info with a possibility to drill down by *Message status* and *Message type* layers. Note that the *Routing rule* layer is available if the *SMS routing rules view* permission is granted.

- *Telescopic mode*: the permission specifies if the *Telescopic view* button is shown in the *Analytics* page. Note that the permission has a priority over the System setting *SMS statistics telescopic mode*

- *View SMS financial details*: the permission allows checking finance info (SMS\Analytics 363) such as margin, revenue, vendor and HLR costs, rates (client/vendor), average client/vendor/HLR/activation rates, and tax-related columns. If the permission is not granted (and *View SMS technical details* is not granted either), the user will be able to check only the following details: *Attempts*, *Successful*, *Billable (C)*, *Billable (V)*, *Submitted.* Additionally the permission regulates the availability of the financial columns for the MNP server\MNP analytics 568 interface (*Margin*, *Revenue*, *Vendor cost* etc)

- *View SMS technical details*: the permission allows checking technical info (SMS\Analytics 363) such as *ASR*, *DLR* (total and successful), *Activated*, *Delivered*, *Reported*, *HLR cached/ported*, *Segments delivered (C)*, *Segments delivered (V), ADD*, *Delivered within interval 1-5*, *Act. rate (T)*, *Act. rate (S)*

- *Show other managers' vendor names, channels and products*: the permission allows viewing vendor names, vendor channel names and vendor product names of other managers in the SMS\Analytics 363 interface

- *Show other managers' client names, channels and products*: the permission allows viewing client names, client channel names and client product names of other managers in the SMS\Analytics 363 interface

- *View all client data*: the permission allows viewing client data based on permissions given in the View/edit permissions 797 section. For example, if *View and edit objects of own contract companies* is granted to the user, the user will be able to find traffic of another contract company, however, instead of client names the account manager name + carrier ID will be shown. If *Show other managers' client names and channels* is granted additionally, the user will be able to view the client names of other managers' accounts. If the permission *View all vendor data* is granted as well, the user will be able to check vendor-related layers

- *View all vendor data*: the permission allows viewing vendor data based on permissions given in the View/edit permissions 797 section
- *View auxiliary metrics*: controls availability of the *Global Region* and *Message type* layers
- *View HLR based metrics*: controls availability of the *HLR response code* and *HLR provider* layers
- *View manager based metrics*: controls availability of the *Client agreement manager*, *Client manager*, *Vendor agreement manager*, *Vendor manager*, and *Global Region Manager* layers
- *View MCCMNC based metrics*: controls availability of the *MCC*, *MNC*, *MCCMNC*, *Country*, and *Net* layers
- *View sender ID based metrics*: controls availability of the *Client sender ID* and *Vendor sender ID* layers

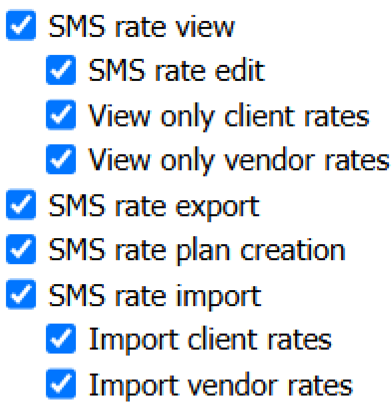
26.22 SMS channel edit

- *SMS channel edit*: the permission allows editing SMS channels (Carriers\SMS channels 188)

26.23 SMS POI edit

- *SMS POI edit*: the permission allows editing SMS POIs (Carriers\SMS POI 209)

26.24 SMS rates



SMS rates

The section opens access to rate management interfaces (SMS\Rates 394). If no child permission is granted, the *Rates* menu is hidden. Note that by default it is possible to edit System owner's products that have not been assigned any child products (that is, they are not parent ones) if the permission *Rate editor* is granted, provided that the System owner's products are available to the user (for example, the *View all data* permission is granted as well).

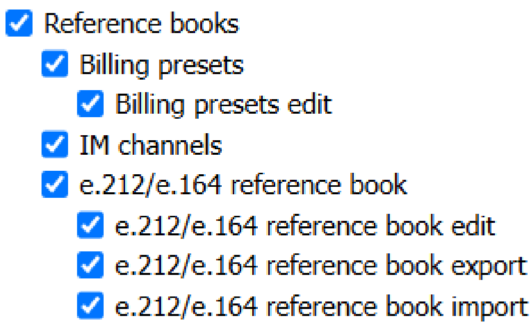
- *SMS rate view*: the permission allows access to the SMS\Rates\Rate editor 399 interface. *VPD restricted*
    - *SMS rate edit*: a parent permission for *Edit client/vendor rates* permissions which grants a possibility to manage rates through the SMS\Rates\Rate editor 399 interface. Note that it is still allowed for user to change rates using SMS rate import based on View/edit permissions section even if the permission SMS rate edit is not given. For example, if the user is allowed

to edit objects of managed accounts and SMS rate import permission is granted, it is possible to import rates to the products of managed accounts

  - *View only client rates*: if the permission is granted, the user can view client rates. To be able to view both directions, only the *SMS rate view* permission must be enabled
  - *View only vendor rates*: if the permission is granted, the user can view vendor rates. To be able to view both directions, only the *SMS rate view* permission must be enabled

- *SMS rate export*: the permission allows access to the SMS\Rates\Rate export 407 interface. *VPD restricted*
- *SMS rate plan creation*: the permission allows access to the SMS\Rates\Rate compilation 434 interface. To apply generated rates, a user must have the *SMS rate edit* permission. *VPD restricted*
- *SMS rate import*: the permission enables access to the SMS\Rates\Rate import 420 interface. If the permission is granted, the SMS\Rates\Auto rate import 394 interface is accessible as well. *VPD restricted*
  - *Import client rates*: the permission defines if a user can import client rates. If the permission is granted, the user will be allowed to restart and add tasks for the client direction (*Restart* and *Continue* buttons) as well as check tasks in the *Choice* and *Auto* modes (*waiting* and *view* hyperlinks)
  - *Import vendor rates*: the permission defines if a user can import vendor rates. If the permission is granted, the user will be allowed to restart and add tasks for the vendor direction (*Restart* and *Continue* buttons) as well as check tasks in the *Choice* and *Auto* modes (*waiting* and *view* hyperlinks)

26.25 Reference books



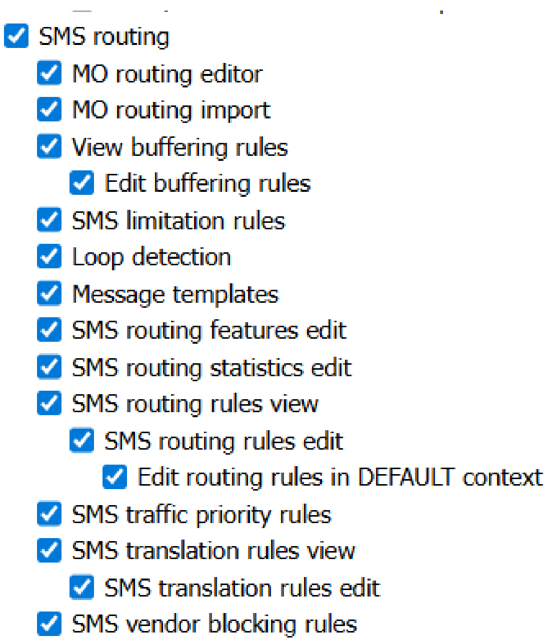
Reference books

The *Reference books* session contains the permissions for accessing the respective reference books (SMS\Reference books 439):

- *Billing presets:* allows access to the SMS\Reference books\Billing status presets 447 interface
  - *Billing presets edit*: the permission specifies if the user is allowed to edit the Billing status presets 447 interface
- *IM channels:* allows access to the SMS\Reference books\IM channels interface 448
- *e.212/e.164 reference book:* opens access to the *e.212/e.164 reference book* interface and contains the following child permissions:

- *e.212/e.164 reference book edit*: the permission specifies if the user is allowed to edit the e.212/e.164 reference book. Note that if the user has only the *View all data* granted together with this permission, the user will be able to edit records in the interface
- *e.212/e.164 reference book export*: if the permission is granted, the user will be able to export the e.212/e.164 reference book from both grids of the SMS\Reference books\e.212/e.164 reference book editor 439 interface
- *e.212/e.164 reference book import*: the permission specifies if the user can import the reference book through the SMS\Reference books\e.212/e.164 reference book import 443 interface.

26.26 SMS routing



SMS routing

The section opens access to routing management interfaces (SMS\Routing 449) such as Loop detection 452, Routing features 456, Routing features import 459, Routing rules 464, Routing statistics 484, Limitation rules 494, Translation rules 503, Traffic priority rules 501, and Buffering rules 449.

- *MO routing editor:* the permission allows accessing SMS\Routing\MO routing editor 519. VPD restricted
- *MO routing import:* the permission allows accessing SMS\Routing\MO routing import 516. VPD restricted
- *View buffering rules*: the permission allows access to the SMS\Routing\Buffering rules 449 interface. *VPD restricted.*
    - *Edit buffering rules*: when granted, the user can edit buffering rules in accordance with the View/edit permissions 797 section. If the user has only the *View all data* permission, it is still possible to modify records in the interface as the interface permission has a priority over the VPD permission. *VPD restricted*
- *SMS limitation rules*: the permission allows viewing and editing rules in the SMS\Routing\Limitation rules 494 interface in accordance with granted roles in the *View/edit permissions* section. Note that if the permission is granted to the user, the user will be able to

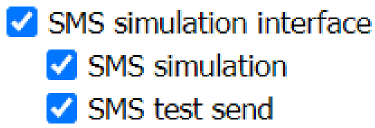
edit data on the *Thresholds* tab given that the *View and edit all data (except System owner parent rates)* permission is granted. *VPD restricted*

- *Message templates*: enables access to the SMS\Routing\Message templates 455 interface
- *SMS routing features edit*: if the permission is granted, the user can manage data in the SMS\Routing\Routing features 456 and Routing features import 459 interfaces. Even if the permission is disabled while the *SMS routing rules view/edit* permissions are granted, the user is allowed to view routing features in the Routing rules 464 interface. Note that if the user has only the *View all data permission*, it is still possible to modify records in both tabs (*Feature values* and *Feature list*). *VPD restricted*
- *Loop detection*: allows access to the Routing\Loop detection 452 interface. *VPD restricted*
- *SMS routing statistics edit*: if the permission is granted, the user can manage data in the SMS\Routing\Routing statistics 484 interface. Note that if the user has only the view permissions, it is still possible to add/modify/delete records. *VPD restricted*
- *SMS routing rules view*: if the permission is granted, the user can view data in the SMS\Routing\Routing rules 464 interface. Note that product names unavailable to user (due to the *View/edit permissions* 797) will be replaced with IDs (for the *Client products* list and vendor choices). Additionally the permission allows viewing the *Routing rule* layer in SMS\Analytics 363.
    - *SMS routing rules edit*: the permission allows users to edit routing rules including the *Replace product* option as well as edit tags (Reference books\Tags 255) of the SMS type. To edit rules the user must have the *Edit client/vendor rates/routing for own accounts* correspondingly. The logic how the permissions apply is described in the Edit rates\routing permissions 793 section of the document. If the *SMS routing rules edit* is not granted, the user is not allowed to use the *Delete this product from all routing rules* button (Carriers\Products 180) for SMS products. Note that the user can modify rules using the button even if the permission *SMS routing rules edit* is granted while only *View all data* is granted from the View/edit permissions 797 section
        - *Edit routing rules in DEFAULT context*: the permission allows users to edit routing rules in the DEFAULT context. Users without this permission cannot edit routing rules in the DEFAULT context
- *SMS traffic priority rules*: allows access to the SMS\Routing\Traffic priority rules 501 interface. *VPD restricted*
- *SMS translation rules view*: if the permission is granted, the user can view data in the SMS\Routing\Translation rules 503 interface (*Message parameters*, *Error and status codes*, *Code list* tabs). If a rule is created for client/vendor products which the user is not allowed to check (based on the View/edit permissions 797 section), the rule will be shown but the product names will be hidden
    - *SMS translation rules edit*: if the permission is granted, the user can edit data in the SMS\Routing\Translation rules 503 interface (*Message parameters*, *Error and status codes*, *Code list* tabs). Note that if the user has only the view permissions, it is still possible to modify records as well as modify restricted records (which contain unallowed products) if the user has limited editing permissions (for example, *View and edit objects of own contract companies*)

26.27 SIGTRAN connection

The permission allows accessing *SMS\SIGTRAN conne*ction interface.

26.28 SMS simulation interface



SMS simulation interface

The section opens access to the SMS\Routing\Simulation 485 interface.

- *SMS simulation*: the permission allows simulating message termination from the SMS\Routing\Simulation 485 interface (Simulation tab). Note that the *Product* and *SMS POI list* will contain only allowed products/POIs. To find other users' tasks it is necessary to have the Vie*w all data/View and edit all data* permission

- *SMS test send*: the permission allows sending a message from the *Send SMS* tab (SMS\Routing\Simulation 485)

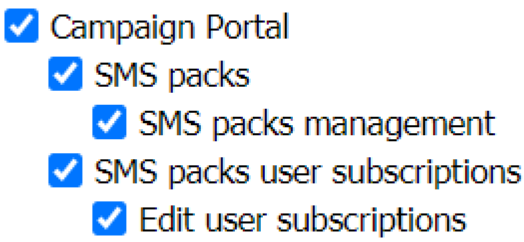
26.29 SMS tests management

- *SMS tests management*: if granted, the user can launch tasks in the SMS\Test system 522 interface. *VPD restricted*

26.30 SMS volume-based deal edit

- *SMS volume-based deal edit*: if granted, the user can manage data in the SMS\Volume-based deals 2.0 556 interface. If the user has only view permissions given in the View/edit permissions 797 section, it is still allowed to modify records. VPD restricted

26.31 Campaign Portal



Campaign Portal

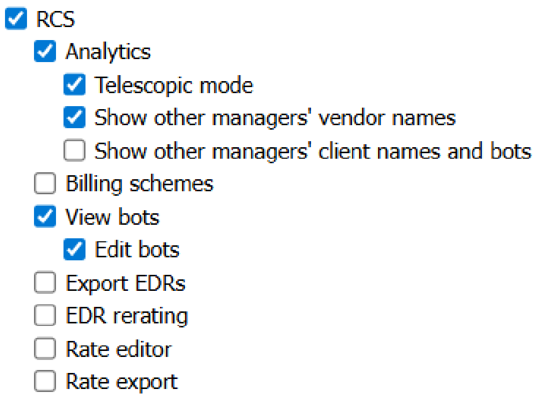
The section opens access to the Campaign Portal 564 section of the interface.

- *SMS packs*: if the permission is granted, the user can view data in the Campaign Portal\SMS pack 564 interface. *VPD restricted*
  - *SMS packs management*: the permission allows users to edit data (add new packs, modify them, and delete) in both grids of the Campaign Portal\SMS pack 564 interface. Note that pack modification is restricted if the pack has subscribers (can be checked at Campaign Portal\SMS pack user subscription 566)

- *SMS pack user subscriptions*: if the permission is granted, the user can apply packages to accounts in Campaign Portal\SMS pack user subscription 566. The user will be able to select packages based on the View/edit permissions 797 section. For example, if the user has the *View and edit objects of managed accounts* permission, the user can check subscriptions of managed accounts and apply an available package to its accounts (for example, the package that has been created for a specific contract company or carrier). Note that contract company names will be replaced by contract company IDs if the user is not allowed to view them (for example, if they are not the user's contract companies while the *View and edit objects of own contract companies* permission is given). *VPD restricted*

- *Edit user subscriptions*: if the permission is granted, the user can close subscriptions in Campaign Portal\SMS pack user subscription 566

26.32 RCS



RCS

- *Analytics*: the section allows viewing the RCS\Analytics 333 interface. *VPD restricted*
  - *Telescopic mode*: the permission specifies if the *Telescopic view* button must be shown in the *Analytics* page. Note that the permission has priority over the System setting *RCS statistics telescopic mode*
  - *Show other managers' vendor names*: the permission allows viewing vendor names of other managers in the RCS\Analytics 333 interface
  - Show *other managers' client names and bots*: the permission allows viewing client names and client bots of other managers in the RCS\Analytics 333 interface
- *Billing schemes:* the permission allows accessing *RCS\Billing schemes* interface
- *View bots*: the permission allows viewing the RCS\Bots 357 interface. *VPD restricted*
  - *Edit bots*: the permission allows editing bots in RCS\Bots 357.
- *Export EDRs*: the permission allows accessing RCS\EDR export tool 342 interface and exporting RCS EDRs in RCS\Analytics 333 using the the *EDR export by row in top grid* button
- *EDR rerating*: the permission allows accessing RCS\EDR rerating 339 interface
- *Rate editor*: the permission allows accessing RCS\Rate editor 346 interface
- *Rate export*: the permission allows accessing RCS\Rate export 351 interface

26.33 Examples

Below are some examples illustrating combinations of user permissions that can be given to different departments. Note that permissions from the View/edit permissions 797 section must be granted depending on the requirements.

Permissions	System administrator	Finance department	Rates department	Routing department	Sales department	NOC

Accounts edit	+	+	-	-	+	-
Agreements edit	+	+	-	-	+	-
Products edit	+	-	-	+	-	-
Carriers	+	-	-	-	+	+
Edit rates\routing permissions	+	-	+	+	+	+
EDR management	+	-	-	-	-	+
Finance	+	+	-	-	-	
Reports	+	+	-	-	+	+
SMS analytics	+	-	-	-	+	+
SMS rates	+	-	+	-	+	-
SMS routing	+	-	-	+	+	+
SMS simulation	+	-	-	+	+	+
Trace analyzer	+	-	-	-	-	+

27 Appendix 9. REST API methods

This Appendix provides a description of methods available through REST API (Application Programming Interface of Representational State Transfer).

REST API is a principle for the organization of interaction between the application and server over the HTTP protocol. The main peculiarity of REST is that authorization parameters are sent to the server in each request.

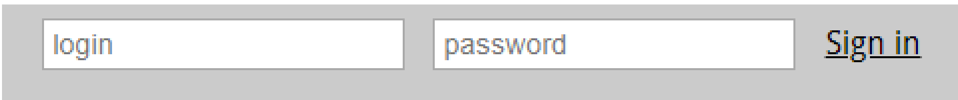
REST API allows users to get information based on predefined parameters (ID, name, etc). Additionally it allows the System owner to provide its partners with URLs to execute queries with pre-defined parameters so they can extract data without having access to the main web interface.

NOTE: To use REST API provide the Alaris support team with a domain name assigned to the web server IP address.

27.1 REST API authorization and main information

To call REST API methods, the user must be authorized. There are 2 types of authorization in the Alaris API - basic and bearer (token).

The basic type uses credentials of a user created in the main web interface (Administration\Users 158)



Login and password fields

Once the *login* and *password* are inserted, the user must click *Sign in*. If a method is used for the first time, it is required to provide the credentials. Further calls of this or other methods will reuse this information.

The login and password are encoded in base64 and sent in the *Authorization* header of each request - internal login and logout happen every time when a request is processed, therefore this process is basically stateless.

NOTE: This authorization method will result in the ERR-2FA-AUTH-ERR error if the *Enable two factor authentication* flag is selected for the user. With 2FA enabled, it is recommended to use the Bearer authentication.

The Bearer authentication requires using the method ***GET:auth***. Note that first it is necessary to fill in the credentials of a user already created in the main web interface.

After that it is possible to click the *Try it out* button - the *Response body* will contain a token as illustrated below.

Token

Authorization through Basic is possible using the cURL:

curl -u login:password 'https://test.api.com/rest/auth'

curl -H 'Authorization: Basic <username:password encoded in base64>'

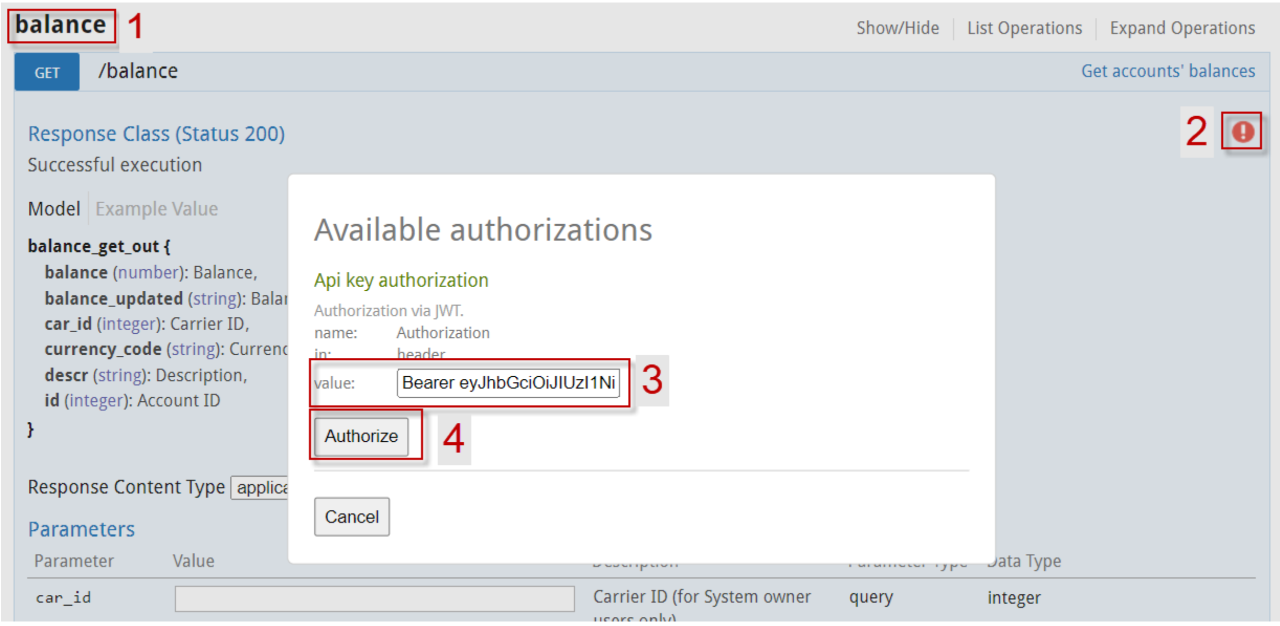
NOTE: If the *Enable two factor authentication* flag is enabled for the user, the token is to be retrieved using a cURL, where the Basic header must contain a base64-encoded value of *login:password:TOTP_code*. For instance, if the login value is *user*, the password is *pass* and the code received from Google Authenticator is *123456*, then the header value is *dXNlcjpwYXNzOjEyMzQ1Ng==*

curl -X GET --header 'Accept: application/json' --header 'Authorization: Basic dXNlcjpwYXNzOjEyMzQ1Ng==' 'https://test.api.com/rest/auth'

Once the token is received, it can be used in methods, for example:

curl -H 'Authorization: Bearer token' 'https://test.api.com/rest/method'

The token should be copied and inserted when using any other method, for example:



Inserting a token

The format must be as follows *Bearer <token>*. The default token expiration time is 2 hours, a custom one (positive, decimal values are allowed) can be set in *lifetime* input parameter - the minimum is 0.000694 (a minute) and maximum is 365 (a year). Additional restriction is that the token is given for a specific IP, trying to use the same token from another host will result in an error.

The difference between these 2 types is that the bearer one is more secure. Almost all REST API methods can be launched using basic authorization except for ***POST:send_sms***. Note that some methods (example is ***GET:info***) do not require authorization.

27.2 Summary of REST API and permissions

Methods	Method description	Is VPD restricted	List of permissions
GET:balance	Retrieve the account balance	+	-

GET:sms_channel	Get list of SMS channels	+	Carriers
POST:sms_channel	Create a new SMS channel	-	SMS channel edit
PUT:sms_channel	Update an SMS channel	+	SMS channel edit
DELETE:sms_channel	Delete an SMS channel	+	SMS channel edit
GET:sms_poi	Get list of SMS POIs	+	Carriers
POST:sms_poi	Create a new SMS POI	+	SMS POI edit
PUT:sms_poi	Update an SMS POI	+	SMS POI edit
DELETE:sms_poi	Delete an SMS POI	+	SMS POI edit
GET:sms_rate	Get list of SMS rates	+	SMS rates tab
GET:sms_translation_rule	Get list of SMS translation rules	-	SMS translation rules view
POST:sms_translation_rule	Create a new translation rule	-	SMS translation rules edit
PUT:sms_translation_rule	Update a translation rule	-	SMS translation rules edit
DELETE:sms_translation_rule	Delete a translation rule	-	SMS translation rules edit
GET:invoice	Get list of invoices	+	-
GET:payment	Get list of payments	+	-
POST:payment	Add a new payment	-	Register payments from client/to vendor, Confirm client/vendor payment
PUT:payment	Update a payment	-	Payments
DELETE:payment	Delete a payment	-	Payments
GET:sms_edr	Get EDRs	+	Show message content
GET:sms_edr_text	Get message content	-	-
GET:sms_usage_stats	Shows daily statistics (SMS daily/hourly cubes)	+	-

GET:sms_usage_summary	Shows summary of daily statistics (SMS daily/hourly cubes)	+	-
GET:sms_poi_ema_stats	Shows EMA statistics based on SMS POI+MCCMNC	-	-
GET:sms_ema_rule	Shows routing rule statistics	-	SMS routing statistics edit

Methods for the Campaign Portal return data available to a Campaign Portal user. For example, if a Campaign Portal user has the permission *View all data*, the user will still be able to access the data related to its partner only using ***GET:edr*** method.

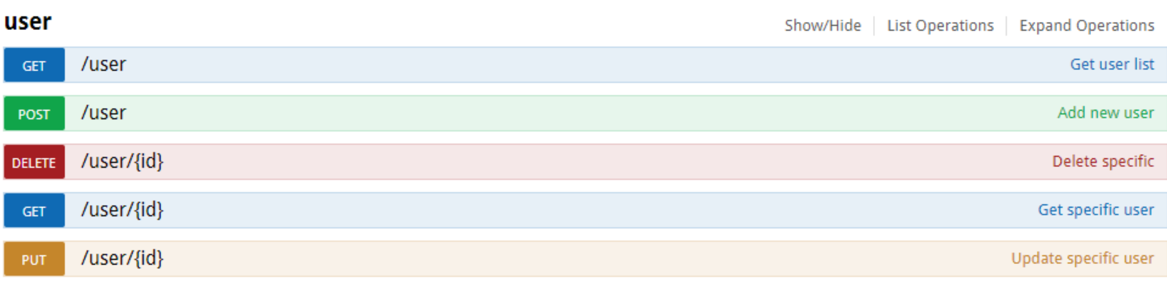
27.3 REST methods and responses

There are several possible ways to manage data using REST API by means of different HTTP methods:

- GET - to get records
- POST - to add new record(s)
- PUT - to modify existing record
- DELETE - to delete record

Some REST methods support all these types in different variations and others support only some of them. For example:

user (manage data of users):



Object'user'

GET:user - get info of all users

POST:user - add a new user

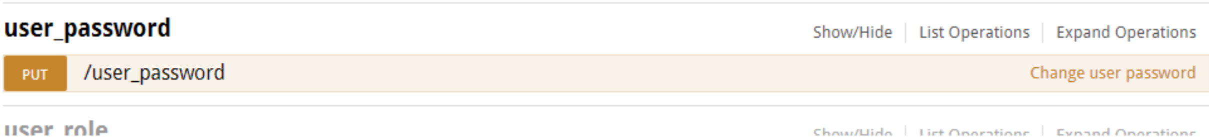
DELETE:user{id} - delete a user with ID *{id}*

GET:user{id} - get info of a user with ID *{id}*

PUT:user{id} - change data of a user with ID *{id}*

and

user_password (to change user's password) - the only available method is ***PUT*** (to update the password for an already existing user):



PUT: user_password method

The correct default date format depends on the System parameter *System date/time format*: the separators are not taken into account, however the order of the timestamp must coincide with the values specified in the parameter. Suppose its value is is **YYYY.MM.DD HH24:MI:SS**. If the date is set as YYYY.MM.DD it is equal to YYYY.MM.DD 00:00:00. The correct format to specify hours, minutes and seconds is YYYY.MM.DD HH24:MI:SS (e.g., "start_date": "2018.01.01 01:00:33").

Methods marked with the **VPD restricted** flag rely on the *View/edit permissions* section (Administration\Users 158 *permissions*) to restrict access for certain companies or partners. For example, if the user has *View all data* granted only, using the method ***PUT:invoice*** which is **VPD restricted** it will not be possible to update an invoice - and a corresponding message will be shown. Another example: to control objects of managed accounts through VPD restricted methods, the user must have *View and edit objects of managed accounts* together with other permissions that are required to use the method.

Response codes are as follows:

200 - OK

400 - Invalid input, the request does not contain the mandatory parameters, the response will be as follows: *{"error_message":"Parameter #### required"}*

401 - Authorization failed, the response will contain the following: *{"error_message":"Authorization failed"}*

404 - Not Found, the /rest path after the REST API domain is specified incorrectly

405 - Method is not supported, the method name is incorrect, the response will contain the following: *{"error_message":"Request #### unsupported"}*

426 - Upgrade Required, token is expired or request is done from unallowed IP address, the response will contain one of the following messages:

{"error_message":"Remote address #### not allowed for this token"}

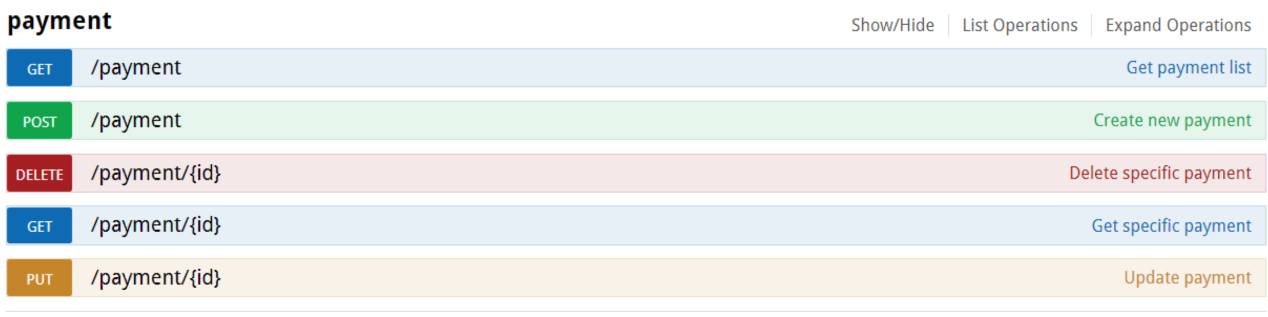
{"error_message": "Token is expired"}

500 - Internal Server Error, this error may be associated with incorrectly specified parameters in the request and, as a result, Oracle errors, or problems on the server side.

502 - Bad Gateway, 504 - Gateway Timeout - these errors are not returned by the REST API module itself, but may be related to the REST API module malfunction.

27.4 Examples of using REST methods

Let's examine how to use these 4 method types for the object 'payment':



Object 'payment'

27.4.1 GET:payment

The method will return a list of payments.

NOTE: The method is hidden from REST API, however it can be called from a third-party software, such as Postman.

The response will contain a JSON array, for example:


```
[
 {
   "id": 10063,
   "pay_amount": 200,
   "pay_currency_code": "USD",
   "pay_amount_agr_currency": 0.14,
   "acc_currency_code": "USD",
   "pay_ref_code": "xxx20",
   "pay_date": "2020.11.23 13:20:00",
   "pay_direction": 1,
   "car_id": 745,
   "cnt": 824
 },
 {
   "id": 10062,
   "pay_amount": 100,
```

"pay_currency_code": "EUR",

"pay_amount_agr_currency": 98,

"acc_currency_code": "EUR",

"pay_ref_code": "xxx19",

"pay_date": "2020.11.23 13:20:00",

"pay_direction": 0,

"car_id": 745,

"cnt": 824

},

....

]

VPD restricted.

cURL pattern will be as follows:

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer <token>' 'http://<domain_name>/rest/<method>

cURLs of this specific example will be as follows:

curl -X GET -H 'Authorization: Basic username:password_in_base64' ‘https://test.api.com/rest/payment’

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1N' 'https://test.api.com/rest/payment'

27.4.2 POST:payment

The method will create a new payment. An example of the body is as follows.

{

"acc_id": 15081,

"amount": 100,

"amount_agr_currency": 100,

"bacc_id": 0,

"comments": "comments",

"confirm": 0,

"currency_code": "EUR",

"dcheck": "2021.08.01",

"details": "details",

"direction": 0,

"expire_date": "2024.08.01",

"ref_code": "NO. 123456789"

}

A draft payment of the client direction with the amount=100 will be created.

The successful response will return the ID of the created entity:

{ "pay_id": "7102"}

Response code 400 will be given if one of the obligatory parameters is missing:

{ "error_message": "Parameter acc_id required"}

Response code 401 means *Authorization failed*.

To use the method, the permissions *Register payments from client/to vendor*, *Confirm client/vendor payment* must be granted.

The cURL pattern will be as follows:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer <token>' -d '{body}' 'http://<domain_name>/rest/<method>

cURLs of this specific example will be as follows:

curl -X POST -H 'Authorization: Basic username:password_in_base64' -d '{

"acc_id": 15081,

"amount": 100,

"amount_agr_currency": 100,

"bacc_id": 0,

"comments": "comments",

"confirm": 0,

"currency_code": "EUR",

"dcheck": "2021.08.01",

"details": "details",

"direction": 0,

"expire_date": "2024.08.01",

"ref_code": "NO. 123456789"

}' 'https://test.api.com/rest/payment'

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJI' -d '{

"acc_id": 15081,

"amount": 100,

"amount_agr_currency": 100,

"bacc_id": 0,

"comments": "comments",

"confirm": 0,

"currency_code": "EUR",

"dcheck": "2021.08.01",

"details": "details",

"direction": 0,

"expire_date": "2024.08.01",

"ref_code": "NO. 123456789"

}' 'https://test.api.com/rest/payment'

27.4.3 PUT:payment

The method will update parameters of the existing payment based on the inserted ID. Let's change the payment amount for the payment ID 13191.

The cURLs of this specific example will be as follows:

curl -X PUT -H 'Authorization: Basic username:password_in_base64' -d '{

"amount": 200,

"amount_agr_currency": 200

}' 'https://test.api.com/rest/payment/13191'

or

curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci' -d '{

"amount": 200,

"amount_agr_currency": 200

}' 'https://test.api.com/rest/payment/13191'

The response body will contain the following record:

{ "rows_affected": "1"}

which means that parameters of one payment have been updated. Note that if some parameters are not sent through the method, they will remain the same.

To use the method, the permission *Payments* must be granted.

The cURL pattern will be as follows:

curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer <token>' -d '{body}' 'http://<domain_name>/rest/<method>

27.4.4 DELETE:payment

The method will delete the existing payment based on the inserted ID.

The response body will contain the record:

{ "rows_affected": "1"}

which means that one payment has been deleted. It is only possible to delete one entity in a row.

To use the method, the permission *Payments* must be granted.

The cURL pattern will be as follows:

curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer <token>' 'http://<domain_name>/rest/<method>

cURLs of this specific example will be as follows:

curl -X DELETE -H 'Authorization: Basic username:password_in_base64' 'https://test.api.com/rest/payment/13191'

curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ' 'https://test.api.com/rest/payment/13191'

27.5 Alaris REST methods

27.5.1 Main objects

Configuration of a chain of main objects in the System is possible either with the help of Enterprise API (a separate module) - entities such as carriers, accounts, agreements, products, routing rules etc. - or through the methods listed below.

27.5.1.1 sms_channel

The ***GET:sms_channel*** method returns the list of SMS channels available to the user if the *Carriers* permission is granted - otherwise, the response will be empty. **VPD restricted**.
The response body will contain the following parameters:

[{

"id": 18955,

"car_id": 3165,

"buffer_client": 13,

"direction": 2,

"enabled": 1,

"guid": "test_v",

"ip": "1.1.1.1",

"name": "test_v",

"opt_fields_for_receipt": 0,

"password": "uniquepass",

"rx_enabled": 1,

"ssl_type": -1,

"submit_attempts": 0,

"submit_interval": 0,

"systemid": "uniquelogin",

"systemtype": "22",

"tx_enabled": 1,

"port": 20,

"allowed_connects": 1,

"buffer_send": 13,

"buffer_vendor": 13,

"lim_speed_receive": 13,

"lim_speed_send": 13,

"local_addr": "127.0.0.1",

"log_level": 0,

"submit_retry_interval": 0.0769,

"data_coding_translation": 1,

"allowed_data_coding_list": "1,2,3,4,5,6,7,8,9,10,13,14",

"send_bind_to_client": 0,

"fast_response": 0,

"target_data_coding": 1,

"default_data_coding": 1,

"reject_too_long_msg": 0,

"repush_delivery_reports": 0,

"channel_status": "bound,offline"

"send_text_in_payload": 0

}]

where

buffer_client: Client overflow buffer size;

direction: 0 - TX, 1 - RX, 2 - TR, 3 - Auto;

enabled: 0 - disabled, 1 - enabled;

opt_fields_for_receipt: is *Use optional field for receipt* enabled, applicable for *Auto* and *TX* channels only (0 - disabled, 1 - enabled);

rx_enabled/tx_enabled: is *RX/TX* mode enabled correspondingly (0 - disabled, 1 - enabled). For both *Auto* and *TR* modes, the parameters are set to 1;

submit_attempts: No. of resends, applicable for *TX* and *TR* channels;

submit_interval: Resend interval, applicable for *TX* and *TR* channels;

allowed_connects: Number of connections - if set to 0, considered as 1. Applicable for vendor channels only;

buffer_send: Vendor window size;

buffer_vendor: Vendor overflow buffer size;

lim_speed_receive: Client capacity (sms/sec);

lim_speed_send: Vendor capacity (sms/sec);

local_addr: Local address, applicable for *TX, RX* and *TR* channels. If the response doesn't contain *local_addr* parameter, it is set to *Use switch default setting*.

submit_retry_interval: Submit interval (applicable for vendors);

send_bind_to_client - is *Send bind to client side* is enabled, applicable for *TX* and *TR* channels only (0 - disabled, 1 - enabled);

fast_response: is *Send submit_sm_resp before routing* enabled, applicable for client channels only (0 - disabled, 1 - enabled);

data_coding_translation: Transcode messages in unsupported encodings (0 - No transcoding, 1 - Only lossless transcoding to, 2 - Force transcoding to);

allowed_data_coding_list: list of allowed data coding list (*0: SMSC Default Alphabet (SMPP 3.4) / MC Specific (SMPP 5.0), 1: IA5 (CCITT T.50)/ASCII (ANSI X3.4), 2: Octet unspecified (8-bit binary), 3: Latin 1 (ISO-8859-1), 4: Octet unspecified (8-bit binary), 5: JIS (X 0208-1990), 6: Cyrillic (ISO-8859-5), 7: Latin/Hebrew (ISO-8859-8), 8: UCS2 (ISO/IEC-10646), 9: Pictogram Encoding, 10: ISO-2022-JP (Music Codes), 13: Extended Kanji JIS (X 0212-1990), 14: KS C 5601*);

target_data_coding: data coding which message text will be transcoded to if option *Transcode messages in unsupported encodings* is set to either *Only lossless transcoding to* or *Force transcoding to.* Applicable for vendor channels only (0 - *Transcode messages in unsupported encodings* is set to *No transcoding*; 1 - *IA5 (CCITT T.50)/ASCII (ANSI X3.4);* 3 - *Latin 1 (ISO-8859-1);* 5 - *JIS (X 0208-1990);* 6 - *Cyrllic (ISO-8859-5);* 7 - *Latin/Hebrew (ISO-8859-8);* 8 - *UCS2 (ISO/IEC-10646);* 9 - *Pictogram Encoding;* 10 - *ISO-2022-JP (Music Codes);* 13 - *Extended Kanji JIS(X 0212-1990);* 14 - *KS C 5601*);

default_data_coding: Default data coding scheme (*0 - GSM 7-bit Default Alphabet (GSM 03.38), 1 - IA5 (CCITT T.50)/ASCII (ANSI X3.4), 3 - Latin 1 (ISO-8859-1), 5 - JIS (X 0208-1990), 6 - Cyrllic (ISO-8859-5),*

7 - Latin/Hebrew (ISO-8859-8), 8 - UCS2 (ISO/IEC-10646), 9 - Pictogram Encoding, 10 - ISO-2022-JP (Music Codes), 13 - Extended Kanji JIS(X 0212-1990), 14 - KS C 5601);
reject_too_long_msg: is *Reject too long messages* enabled (0 - disabled, 1 - enabled);
repush_delivery_reports: is *Repush delivery reports* enabled, applicable for client channels (0 - disabled, 1 - enabled);
send_text_in_payload: is *Send text in payload* enabled, applicable for vendor channels (0 - disabled, 1 - enabled).
stateful_concat_msg: is *Stateful concatenated messages processing enabled* (0 - disabled, 1 - enabled). Applicable to *Auto* channels only;
segment_concatenation_timeout: *All segments submit timeout, sec* setting. If not set, it will not be given in the method response. Instead, the System parameter value (*concatenated messages: All segments submit timeout, sec*) will be used. Applicable to *Auto* channels only;
fast_response_segment: Fast response for every segment (0 - No, 1 - Yes). If set to the *Default* value, the parameter is not shown in the response. Applicable to *Auto* channels only;
reject_incompleted_long_msg: Reject incomplete messages (0 - No, 1 - Yes). If set to the *Default* value, the parameter is not shown in the response. Applicable to *Auto* channels only.

cURL example is:
*curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbG' 'https://test.api.com/rest/sms_channel?channel_status=offline*818'

The same info - but for a specific SMS channel ID - can be obtained through the ***GET:sms_channel{id}*** method. The permission *Carriers* must be granted. **VPD restricted**.

POST:sms_channel method requires the permission *SMS channel edit* to be granted.
The obligatory parameters are *direction, enabled, guid, name, ip* and *port* (for channels of TR/TX/RX types). If no *car_id* is set, the channel is created under the *System owner* carrier. The default value for *Local address* is *Use switch default setting*. For example:

```
{
  "car_id": 7102,
  "direction": 0,
  "enabled": 0,
  "guid": "RESTTEST1",
  "name": "RESTTEST",
  "ip": "1.1.1.1",
   "reroute_status_list": "UNDELIV|EXPIRED"
  "port": 1024
}
```

where
direction: 0 - TX, 1 - RX, 2 - TR, 3 - Auto;
enabled: 0 - no, 1 - yes;
port: in range of 1024 - 65535;
reroute_status_list: pipe-separated status list for rerouting (possible values are *EXPIRED|DELETED|UNDELIV|UNKNOWN|REJECTD|ACCEPTD*.

guid must be unique, also the set '*IP-port-system ID-local address*' must be unique.

cURL example:
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOi' -d '{

```
  "car_id": 7102,
  "direction": 0,
  "enabled": 0,
  "guid": "RESTTEST1",
  "name": "RESTTEST",
  "ip": "1.1.1.1",
  "port": 1024,
   "reroute_status_list": "UNDELIV|EXPIRED"
}' 'https://test.api.com/rest/sms_channel'
```

The ***PUT:sms_channel*** method requires *SMS channel edit* permission granted. **VPD restricted**.
Values that can be updated are listed in the *Model* window.

cURL example:
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIU' -d '{ "allowed_connects": 15 }' 'https://test.api.com/rest/sms_channel/23900'

DELETE:sms_channel requires having permission *SMS channel edit* granted. **VPD restricted**. The successful response is: *{ "rows_affected": "1" }*
Note that it is not possible to delete channels with linked POIs.

cURL example is:
curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJI' 'https://test.api.com/rest/sms_channel/16559'

27.5.1.2 sms_poi

To get a list of all SMS POIs, the method ***GET:sms_poi*** can be used. Note that the *Carriers* permission must be granted. **VPD restricted**.

Response body will be as follows:

```
[{
    "id": 22069,
    "product_id": 18563,
    "start_date": "2019.07.18 00:00:00",
    "end_date": "2100.01.01 00:00:00",
```

"service_type": "MO",

"direction": 0,

"channel_id": 23897

}]

where

service_type: service type (if set as empty, the field is not shown in the response)

cURL example is:

*curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbG' 'https://test.api.com/rest/sms_poi*822*'*

The same logic applies to ***GET:sms_poi{id}*** where the obligatory parameter is SMS POI ID. Since the method is **VPD restricted** as well, if the POI is not available to the user, the *null* response will be returned.

To create an SMS POI using ***POST:sms_poi*** the user must have the permission *SMS POI edit* granted. The obligatory parameters such as *channel_id, product_id, start_date* and *end_date* must be specified. If either *start_date* or *end_date* specified in some wrong format, the error will be shown as well as when *start_date* is set greater than *end_date*. Both *channel_id* and *product_id* must belong to the same carrier. Note that it is impossible to create a POI with the same set of 'Channel+direction+service type' that already exists in the System. The body example is:

{

"channel_id": 11121,

"product_id": 18570,

"start_date": "2019.01.01",

"end_date": "2019.02.01"

}

Additional parameters can be set:

priority: integer number that serves to place the POI in priority tables (*Products >> Change POI routing priorities*);

service_type: 6 symbols max (according to SMPP 3.4 specification);

cURL example is:

*curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci' -d '{ "channel_id": 11121, "product_id": 18570, "start_date": "2019.01.01", "end_date": "2019.02.01" }' 'https://test.api.com/rest/sms_poi*822*'*

The user must have the *SMS POI edit* permission granted to update an SMS POI (***PUT:sms_poi***) - the obligatory parameter is the POI ID. If there is no POI with the mentioned ID, the message *no data found* will be returned. The same filters as for *POST:sms_poi* except for *product_id* (since it cannot be changed) work for the method.

cURL example is:

curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJjYXJyaWVyX2lkIjoiMSIsInJlbW90ZV9hZGRyIjoiMTYzLjE3Mi4yNDkuNTUiLCJsb2dpbiI6ImVmZXQiLCJleHAiOiIxNTcwNzI2ODA0In0.Tnz01aW7xQVMDcIiK0HHIp8HCkZpcwcoJ_y6iZDoN08' -d '{ "service_type": "111111" }' 'https://test.api.com/rest/sms_poi/22069'

Deletion of an SMS POI (***DELETE:sms_poi***) requires the permission *SMS POI edit*. If the user is not allowed to delete the POI or there is no POI with such ID (since the method is **VPD restricted**), no rows will be updated. The successful response is:

{ "rows_affected": "1" }

cURL example is:

curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhhgvfcbG' 'https://test.api.com/rest/sms_poi/22

27.5.1.3 sms_rate

To get a list of SMS rates the permission *Show rates tab* must be granted - to use the ***GET:sms_rate*** method. **VPD restricted** - if the user is not allowed to obtain information in regard to product rates, the message *{ "error_message": "Product not found" }* will be given. If more than one product is available to the user, the message *{"error_message": "More than one product found"}* will be shown - in that case it is required to specify the product ID in the respective filter. If the product does not contain any rate, an empty response will be returned.

The following input filters are available:

agr_tz: Use agreement timezone (0 - no, 1 - yes);

codes: MCCMNCs mask, i.e., 214001;505%;

include_parent_rates: Include parent rates (0 - no, 1 - yes);

include_same: Include rates with *same* type (for export type: *pending_at*, 0 - no, 1 - yes);

mcc_list: MCC filter. I.e, 202,204;

net_ids: network list, i.e.: 204007,202001;

product_descr: product name, exact value is required;

product_id: product ID;

rate_end_date: rate end date in the default format (mandatory for export type: *between;* if not set for *export type=pending at*, the end date is calculated as follows: the current date+the number of days from the System parameter *Period for show closest changes export option, days*);

rate_start_date: rate start date in the default format (for export type: *between*), if not set, the start date considered as the current time;

show_closest_changes: 0 - disabled, 1 - enabled. When enabled, the agreement settings are ignored and only those rates will be exported that are effective as of the date set in the *rate_start_date* and the changes that come into effect as of the *rate_start_date*.

type: export type, possible values are *pending_at, effective_at, between.* If not set, *effective_at* is used.

The successful response will be as follows:


```
[{
   "mcc": "214",
   "mccmnc": "214",
   "dialcode": "34",
   "country": "Spain",
   "network": "All networks",
   "rate_start_date": "2018.05.10 00:00:00",
   "rate_end_date": "2100.01.01 00:00:00",
   "rate": 0.44,
   "prev_rate": 0.44,
   "change_type": "Same"
 },
 {
   "mcc": "214",
   "mnc": "01",
   "mccmnc": "214001",
   "dialcode": "34511121",
   "country": "Spain",
   "network": "Orange",
   "rate_start_date": "2019.05.10 00:00:00",
   "rate_end_date": "2020.05.10 00:00:00",
   "rate": 0.222,
   "prev_rate": 0.2,
   "change_type": "Increase"
 }]
```


cURL example is:

https://test.api.com/rest/sms_rate?product_id=10156&rate_end_date=2019.05.11&rate_start_date=2018.05.11&type=between 824

27.5.1.4 sms_translation_rule

To get an SMS translation rules list (***GET:sms_translation_rule*** method), the permission *SMS translation rules view* must be granted to the user.

Additional filters can be applied to get more precise info.

NOTE: The method is hidden from REST API, however it can be called from a third-party software, such as Postman.

The response body can be as follows:

[{

"id": 10001,

"entity_type": 3,

"start_date": "2016.05.23 18:54:02",

"end_date": "2100.01.01 00:00:00",

"src_product_list": "10113,10183,10143,10320,11006",

"src_template": ".[^0-9].*",*

"translation": "5",

"priority": 100,

"direction": 1,

"stage": 1,

"status": 1,

"name": "test",

"treat_as_substitution": 1,

"next": 3

}]

where

id: rule ID;

entity_type: Entity (1 - Sender ID, 2 - Destination number, 3 - Sender TON, 4 - Sender NPI, 5 - Destination TON, 6 - Destination NPI, 7 - Registered delivery, 8 - Flash message, 9 - Message text);

src_product_list: client product IDs list, if is not returned in the response, set to *All*;

src_template: Sender ID pattern;

translation: *Translation* value;

direction: Rule direction (1 - MT, 2 - MO);

stage: Rule stage (0 - prerouting, 1 - postrouting);

status: Rule status (0 - disabled, 1 - enabled);

treat_as_substitution: *Treat this rule as substitution* (0 - no, 1 - yes);

next: *Next* action (1 - continue, 3 - hunt stop).

cURL example is:

*curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOi' 'https://test.api.com/rest/sms_translation_rule*826*'*

To get a specific rule (if its ID is known), it is possible to use the ***GET:sms_translation_rule{id}*** method.

cURL example is:

*https://test.api.com/rest/sms_translation_rule/10008*826

A new rule can be created through the ***POST:sms_translation_rule*** method - the *SMS translation rules edit* permission must be granted. The obligatory parameters are *direction, start_date, end_date, entity_type, next, priority, stage, translation, name*. If *entity_type* is 9 (message text), the *next* option must be specified as well. If *status* is not specified, the rule is created as enabled.

{

"direction": 2,

"start_date": "2000.01.01",

"end_date": "2100.01.01",

"entity_type": 9,

"next": 1,

"priority": 101,

"stage": 1,

"translation": "test",

"name": "TESTREST"

}

A successful response will contain the ID of a created rule.

cURL example is:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJ' -d '{ "direction": 2, "start_date": "2000.01.01", "end_date": "2100.01.01", *"entity_type": 9, "next": 1, "priority": 101, "stage": 1, "translation": "test", "dst_product_list": "18570", "src_product_list": "15956,18563", "name": "TESTREST" }' https://test.api.com//rest/sms_translation_rule'*

To update an SMS translation rule (***PUT:sms_translation_rule*** method), the permission *SMS translation rules edit* must be granted to the user. The rule ID must be set as the obligatory parameter, if the rule ID is not found, the *no data found* message will be returned to the user.

cURL example:

curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJ' -d '{ "direction": 1 }' 'https://test.api.com/rest/sms_translation_rule/15886'

DELETE:sms_translation_rule requires the *SMS translation rules edit* permission to be granted. The rule ID that should be deleted must be specified - in case of success, the message *{ "rows_affected": "1" }* will be returned.

cURL example is:

*curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUz' 'https://test.api.com/rest/sms_translation_rule/15890*826*'*

27.5.1.5 invoice

The method is **VPD restricted**.

Additional filters such can be set such as *car_id, acc_id,currency_code* (the exact match is required - e.g, *EUR* not *euro*), *product_type_id* (system type IDs are 1 - International, 2 - US domestic, 3 - SMS, 5 - Balance correction, 6 - DID, 7 - HLR, 8 - DID/TFN fees, 9 - SMS pack, 10 - IM) etc.

NOTE: Only confirmed, sent, registered, delivered or disputed invoices are available.

The response example is:

[{

"id": 50791,

"inv_ref_code": "0000029",

"inv_start_date": "2015.02.18 00:00:00",

"inv_end_date": "2015.02.19 00:00:00",

"inv_issue_date": "2015.02.18 00:00:00",

"inv_estimated_amount": 22.2,

"pay_status_name": "Paid in full",

"inv_direction": 0,

"currency_code": "EUR",

"acc_id": 10015,

"type": "Invoice to partner",

"status": "Sent",

"doc_id": 10806,

"inv_last_updated": "2015.02.18 15:15:58"

}]

cURL example is:

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOi' 'https://test.api.com/rest/invoice?car_id=745828'

To get an invoice by its ID, the method ***GET:invoice{id}*** can be used, which returns the same info and requires the same permission to be granted. VPD restricted.

27.5.1.6 payment

To get a list of payments is possible through **VPD restricted** method ***GET:payment***.

NOTE: The method is hidden from REST API, however it can be called from a third-party software, such as Postman.

Returned info will contain the following fields:

[{

"id": 10064,

"pay_amount": -100.65,

"pay_currency_code": "BAN",

"pay_amount_agr_currency": 0.14,

"acc_currency_code": "EUR",

"pay_ref_code": "xxx21",

"pay_date": "2015.11.23 13:20:00",

"pay_direction": 1,

"cnt": 337

}]

where

id: payment ID;

pay_amount: Bank statement amount;

pay_currency_code: Bank statement amount currency;

pay_amount_agr_currency: Amount debited;

acc_currency_code: account currency;

cnt: Number of records in selection.

cURL example:

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciO' 'https://test.api.com/rest/payment 829*'*

To create a payment is possible through the ***POST:payment*** method that requires correct permissions from the *Payments* section to be granted. For example, to create a client (*direction* - 0) draft (non-confirmed payment - *confirm* is set to 0) the permission *Register payments from client* must be granted, to create a confirmed payment (*confirm* is set to 1), the permission *Confirm client payment* is needed. The same works for the vendor side (*direction* - 1).

Obligatory parameters are *acc_id, amount, currency_code, confirm, direction, ref_code*. The response body is as follows:

{

"direction": 0,

"confirm": 0,

"acc_id": 15082,

"amount": 10,

"currency_code": "USD",

"dcheck": "2019.10.17",

"ref_code": "RESTTEST3",

"expire_date": "2100.01.01"

}

where

direction: payment direction (0 - Inbound, 1 - Outbound);

confirm: 0 - draft, 1 - confirmed payment;

amount: payment amount in *currency_code*;

currency_code: currency code from *Reference books\Currency exchange rates*. If *amount_agr_currency* is not set and *currency_code* is different from the account currency, exchange rate active on the payment date must be present otherwise the error *Payment amount cannot be converted to the account currency* will be given;

dcheck: payment date;

expire_date: payment expiry date (must be equal or greater than *dcheck*).

cURL example is
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbG' -d '{ "direction": 0, "confirm": 0, "acc_id": 15082, "amount": 10, "currency_code": "USD", "dcheck": "2019.10.17", "ref_code": "RESTTEST3", "expire_date": "2100.01.01" }' 'https://test.api.com/rest/payment'

To update a payment (***PUT:payment*** method), permission *Payments* must be granted.

cURL example is:

curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhb' -d '{ "acc_id": 15081 }' 'https://test.api.com/rest/payment/12323'

To delete a payment through ***DELETE:payment***, permission *Payments* must be granted. Successful action will result in *{ "rows_affected": "1" }* message.

cURL example is:

curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJ' 'https://test.api.com/rest/payment/12318'

27.5.2 SMS statistics

27.5.2.1 sms_edr

The method returns EDR info (the maximum number of returned rows are set in the System setting *Maximum record count in REST API responses*) - note that the retail traffic will be shown as well, although with certain limitations (for example, without mention of the campaign ID etc). The obligatory parameter is *start_date*. If *end_date* is not set, period between *start_date* and *start_date+1* hour is checked.

Since the method is **VPD restricted**, the user can extract data based on *View/edit permissions* (set in the main web interface on the *Users* tab) - for example, if *View and edit objects of managed accounts* is set, the user will get EDRs for the carriers managed by the user (configured in *Start\Administration\Account manager history*). If the permission *Show message content* is not granted, it will not be possible to view message text:

*{…"text": "***Message content hidden***",…}*

Additionally the filter *direction* can be set - if specified as 0, only the client side information will be shown, 1 - only vendor-side. If the parameter is not specified explicitly, it is considered 0 (client leg). Most of non-obligatory filters are self-explanatory.

hide_system_statuses - hide system statuses (for example, *NO ROUTES, VND CHN NOT BND*) - they will be masked with *UNDELIV*;

is_last - set to 1 to fetch only the last EDRs/attempts within a single transaction (i.e. due to rerouting based on unsuccessful response from vendor);

src_is_successful/dst_is_successful - set to 1 for messages considered billable for client and vendor side respectively;

status - message status, case-sensitive, the exact match is required;

*op_edr_type (*and other filters which starts with *op*-prefix*)*- comparison operator for *edr_type* field. Valid values: ==, !=, >, <, >=, <=, =@, !@, =~, !~. For example, *edr_type* set to 3 and *op_edr_type* is set to ==*,* EDRs with type 3 (test messages) will be shown.

Note that comparison operators can be used in regard to fields contain digit values (such as *edr_type*):

== equal to

!= not equal to

> greater than

< less than

>= greater than or equal to

<= less than or equal to

The following ones - for strings:

=@ is a substring

!@   is not a substring

=~ *like* operator

!~ *not like* operator

For example, to retrieve all EDRs for the specified period which contain *BND* word in the statuses, the following filters can be set in addition to *start_date/end_date*:

op_status: =@

status: BND

To get an EDR which starts with *loc* prefix, contains timestamp *20190803055418* and one symbol after it:

op_vendor_message_id: =~

vendor_message_id (one of the following values is possible): *%20190803055418%* or **20190803055418** or *loc%20190803055418_* or **20190803055418_*

Successful response body will be as follows:

[{

"edr_date": "2019.08.01 19:21:03",

"client_message_id": "test-20190801521",

"vendor_message_id": "loc_test-test-20190801521-1",

"sender_name": "test",

"dnis": "3400000",

"network": "All networks",

"country": "Spain",

"text": "text",

"status": "VND CHN NOT BND",

“cdr_delivery_time”: "2019.08.01 19:22:03",

"edr_type": 1,

"mccmnc": "214",

"vendor_rate": 0.1,

"client_acc_id": 10011,

"vendor_acc_id": 299,

"src_part_amount": 1,

"dst_part_amount": 1,

},

......

{

"edr_date": "2019.08.03 08:52:26",

"client_message_id": "test-201908f34f6f",

"vendor_message_id": "loc_test-201908f34f6f-1",

"sender_name": "347778",

"dnis": "34511121",

"network": "Orange",

"country": "Spain",

"text": "This is test message",

“cdr_delivery_time”: "2019.08.03 09:22:03",

"status": "DELIVRD",

"edr_type": 1,

"client_rate": 0.5,

"mccmnc": "214001",

"vendor_rate": 0.5,

"client_acc_id": 10977,

"vendor_acc_id": 10978,

"src_part_amount": 1,

"dst_part_amount": 1,

}]

where

edr_date: timestamp when the client's submit was received;

client_rate/vendor_rate: client or vendor cost in the account's currency; for non-System owner users fields are returned in accordance with the direction filter (if direction=1, client_rate is not returned);

edr_type: 1 - MT; 2 - MO (2-way message); 3 - test message (sent from 'Send SMS' tab); 4 - buffered message;

src_part_amount/dst_part_amount: amount of possible segments for a long message. For example, if a client has sent a long message which, based on the SMPP 3.4 specification, should be separated into 2 parts - *src_part_amount* will be 2. The client and vendor part amounts can differ if the number of segments were increased or decreased in accordance with text translation rules.

27.5.2.2 sms_usage_stats

The method shows daily statistics based on period and product ID.

Since the method is **VPD restricted**, it returns data based on the permissions from the *View/edit permissions* section (Administration\Users158). E.g., if the user is granted with *View and edit objects of own contract companies*, the result will be shown only if the product indicated in *product_id* filter belongs to the user's contract company. The note is relevant to the System owner's users since non-System owner's users are allowed to check statistics of their carriers only.

The obligatory parameters are *start_date, end_date* and *product_id*. If the user does not have permissions to view the stats of the specified product ID (can be configured in the *View/edit permissions* section of the *Users* tab), the corresponding warning will be shown.

Note that since daily cubes are used, if the *start_date* or the *end_date* parameters contain hours, the specified day will not be taken into account. Example: *start_date* is set as 2019.08.05 01:00:00, *end_date* is set as 2019.08.06 - if there is traffic for 2019.08.05-2019.08.06, it will not be shown (since *start_date* should be set as 2019.08.05 00:00:00 - which is equal to 2019.08.05).

In order to get stats based on hourly data, the filter *use_hourly_data* should be set as 1.

The parameter *filter* (case-insensitive) serves to show only those records that are suitable for the filter based on either destination or country the filter word must start with the country or destination name). For example, if the response body contains (*Spain, Vodafone, Spain, Movistar* and *Aruba, All networks* and the *filter* is set as

- *spain* - records for *Spain, Vodafone and Spain, Movistar* will be shown
- *aru* - results for *Aruba, All networks* will be shown
- *all* - results for *Aruba, All networks* will be shown
- *Vodafone* - *Spain, Vodafone* will be shown
- *pain* - nothing will be shown

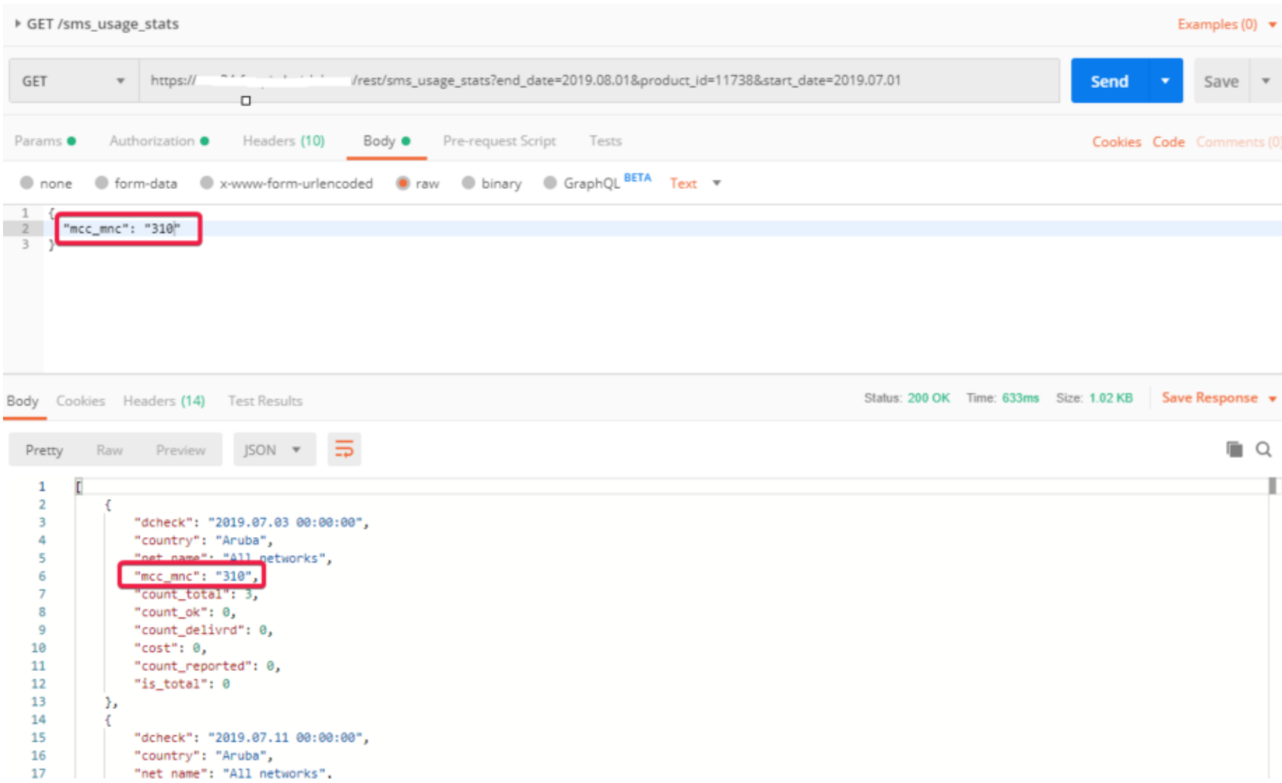
the *first_rec* and *rec_count* parameters are intended for pagination.

first_rec: first record (for example, if set to 10, first 9 records will not be shown and the info will be shown starting from the 10th row)

rec_count: maximum number of records (for example, if set to 2, 2 records will be shown. If *first_rec* set to 10 and *rec_count* set to 2, the 10th and 11th rows will be shown)

orderby_clause: list of column numbers separated by commas

body shows results only for specified MCCs/MCCMNCs (comma-separated). It comes handy when using a third-party service - for example, Postman where there is possibility to specify a link and body separately:



Using Postman to use body parameter and filter the result by MCCs/MCCMNCs

Example of cURL:

*curl -k -X GET --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Basic S0E6YWRtaW4=' -d '{ "mcc_mnc": "310"}' 'https://test.api.com/rest/sms_usage_stats?end_date=2019.08.01&product_id=11738&start_date=2019.07.01*834*'*

If there is no stats suitable according to the filters, the response body will be as follows:

[{

"country": "Total",

"net_name": "Total",

"count_total": 0,

"count_ok": 0,

"count_delivrd": 0,

"cost": 0,
"count_reported": 0,
"is_total": 1
}]

In case there is some statistics for the past traffic, the response body can have the following format:

[{
"dcheck": "2019.07.02 00:00:00",
"country": "Spain",
"net_name": "Vodafone",
"mcc_mnc": "214001",
"count_total": 100,
"count_ok": 19,
"count_delivrd": 13,
"cost": 8.39,
"count_reported": 13,
"is_total": 0
},
{
"dcheck": "2019.07.02 00:00:00",
"country": "Spain",
"net_name": "Orange",
"mcc_mnc": "214002",
"count_total": 510,
"count_ok": 99,
"count_delivrd": 80,
"cost": 43.72,
"count_reported": 80,
"is_total": 0
},
....
{

"dcheck": "2019.08.05 00:00:00",

"country": "Spain",

"net_name": "Orange",

"mcc_mnc": "214002",

"count_total": 30,

"count_ok": 5,

"count_delivrd": 0,

"cost": 2.26,

"count_reported": 0,

"is_total": 0

},

{

"country": "Total",

"net_name": "Total",

"count_total": 2293,

"count_ok": 390,

"count_delivrd": 266,

"cost": 155.07,

"count_reported": 266,

"is_total": 1

}]

where

dcheck: specific day;

count_total: number of attempts;

count_ok: number of submitted messages;

count_delivrd: number of delivered messages (with DELIVRD/ACTIVATED status);

cost: cost in the account currency;

count_reported: number of reported messages (for which any delivery status has been returned);

is_total: set to 0 if the data is for a specific day/hour, set to 1 if returns *Total* result for the specified period.

27.5.2.3 sms_usage_summary

Getting SMS statistics summary accumulated by days is possible through **VPD restricted** method ***GET:sms_usage_summary***.

The obligatory parameters are *start_date, end_date* (including the specified day) and *product_id.* Note that if the product ID does not exist or it exists but does not belong to the user, a corresponding warning will be shown. If *end_date* is less than *start_date*, the result will be empty. If there are no statistics available for the specified period (daily if *use_hourly_data* is empty or set to 1, hourly - if the filter is set to 1), all fields in the result will contain 0 as a value.

The successful response body will be as follows:


```
[{
   "dcheck": "2019.08.08 00:00:00",
   "charge": 33.33,
   "count_total": 100,
   "count_ok": 50,
   "count_delivrd": 49,
   "count_reported": 50
 },
 ....
 {
   "dcheck": "2019.08.10 00:00:00",
   "charge": 2.67,
   "count_total": 6,
   "count_ok": 6,
   "count_delivrd": 6,
   "count_reported": 6
 }
]
```


where

dcheck: specific day;

charge: revenue/cost in the account currency;

count_total: number of attempts;

count_ok: number of submitted messages;

count_delivrd: number of delivered messages (with DELIVRD or ACTIVATED status);

count_reported: number of reported messages (for which any delivery status has been returned).

Additionally it is possible to set the filter *use_hourly_data* to 1 (if other value than 0 or 1 is specified, the response will return an error) which means that the summary will be divided by hours, for example:

[{
  "dcheck": "2019.08.09 00:00:00",
  "charge": 33.33,
  "count_total": 100,
  "count_ok": 50,
  "count_delivrd": 49,
  "count_reported": 50
 },
 {
  "dcheck": "2019.08.09 01:00:00",
  "charge": 0,
  "count_total": 0,
  "count_ok": 0,
  "count_delivrd": 0,
  "count_reported": 0
 },
....
 {
  "dcheck": "2019.08.09 22:00:00",
  "charge": 2.67,
  "count_total": 6,
  "count_ok": 6,
  "count_delivrd": 6,
  "count_reported": 6
 },
 {
  "dcheck": "2019.08.10 23:00:00",
  "charge": 0,
  "count_total": 0,
  "count_ok": 0,
  "count_delivrd": 0,
  "count_reported": 0

}]

cURL example is

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1N' 'https://test.api.com/rest/sms_usage_summary?end_date=2019.08.10&product_id=11738&start_date=2019.08.09&use_hourly_data=1'

27.5.2.4 sms_poi_ema_stats

The method ***GET:sms_poi_ema_stats*** returns statistics based on POI+MCCMNC - these stats are used in routing for conditions and formulas - for example, routing metrics *CLPoiASR, CLPoiDLR* etc. *mccmnc, poi_id, start_date* can be set as filters. *start_date* filter excludes stats updated before the date specified.

The response body will be like:

[{

"poi_id": 3432,

"mccmnc": "425002",

"asr_rate": 0.99924,

"last_updated": "2019.08.14 13:35:33",

"delivery_rate": 0.6122,

"delivery_delay": 0.04819,

"asr_attempts": 100,

"dlr_attempts": 100

}]

where *asr_rate/delivery_rate* is a ratio of ASR/DLR for last *asr_attempts/dlr_attempts* correspondingly.

cURL example is:

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJjYXJyaWVyX2lkIjoi' 'https://test.api.com/rest/sms_poi_ema_stats'

27.5.2.5 sms_ema_rule

The method ***GET:sms_ema_rule*** returns routing rule statistics that is equivalent to routing metrics such as *MRGH, MRGD, RuleAttCNT* etc.

To use the method, the permission *SMS routing statistics edit* must be granted.

The response body will be as follows:

[{

"id": 1302,

"mrgh": 0,

"mrgd": 0.0012,

"ruleattcnt": 1,

"rulesuccnt": 1,

"ruledlvcnt": 0

},

….

{

"id": 1316,

"mrgh": 0,

"mrgd": 0.006994546085576875,

"ruleattcnt": 4,

"rulesuccnt": 4,

"ruledlvcnt": 0

}]

where

id: the routing rule ID;

mrgh: rule's average hourly margin;

mrgd: rule's average daily margin;

ruleattcnt: number of attempts when this rule was triggered and lead to one of its vendors being selected;

rulesuccnt: number of successful attempts (i.e. when the message was accepted by the vendor) when this rule was triggered and lead to one of its vendors being selected;

ruledlvcnt: number of delivered attempts (i.e. when message was reported as successfully delivered to end user) when this rule was triggered and lead to one of its vendors being selected

Note that stats are reset based on system setting *Rule count stats clear policy (0 - hourly, 1 - daily, 2 - weekly, 3 - monthly) (Administration\System settings\SMS)*.

cURL example is:

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.ey' 'https://test.api.com/rest/sms_ema_rule'

27.5.3 Campaign portal

27.5.3.1 register_user

Registering a Campaign Portal user is possible using the ***POST:register_user*** method which does not require authorization or any permission.

{

"address": "string",

"captcha": "string",

"car_name": "string",

"cc_id": 0,

"country": "string",

"currency_code": "string",

"first_name": "string",

"last_name": "string",

"middle_name": "string",

"phone_number": "string",

"pwd": "string",

"url": "string",

"user_name": "string",

"vat_id": "string",

"zip_code": "string"

}

Obligatory fields are: *captcha*, *currency_code*, *pwd* and *user_name*. The captcha value must be obtained if the request is launched from an IP address not set in the *Campaign Portal trusted IP list (separated by comma)* parameter: Administration\System settings\SMS 80. Otherwise the parameter itself must present in a request, but the value can be 'dummy', for example: "captcha": "12345". *user_name* must be an email address where the registration email will be sent (additionally, a user can be activated by the method *activate_user*). Once the user will confirm the registration (by opening the link), a corresponding carrier, user, account and agreement will be created in the main web interface.

captcha can be received through the ***GET:captcha*** method (*test.api.com/rest/captcha*). Example is:

{

"captcha": "t78hn",

"currency_code": "USD",

"pwd": "t",

"user_name": "test@alarislabs.com"

}

If the parameter *car_name* is not set, it is automatically generated based on the System setting *Campaign Portal carrier name prefix (used if company name is not set)*. If *currency_code* is set as a currency which is not defined in *Reference book\Currency exchange rates*, the following error will be shown: *"error_message": "Currency XXX not accepted".*

If a user with the same email address (*user_name*) already exists or *car_name* is already used, the message *010:Such carrier name already exists/011:Such user name already exists* will be shown. If the specified *cc_id* doesn't exist, a warning will be shown as well.

The *url* parameter can be set as a link where the user will be redirected after confirming the registration (the user will receive an email with the respective link).

cURL example is:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{

"captcha": "t",

"currency_code": "USD",

"pwd": "t",

"user_name": "test@alarislabs.com"

}' 'https://test.api.com 841 /rest/register_user'

27.5.3.2 activate_user

Activation of a Campaign Portal user can be done through the ***POST:activate_user*** method. Note that the method requires no dedicated permission.

Body format:

{ "activation_key": "string"}

where *activation_key* is the key received through an email sent once the user is registered (through the interface or *register_user* method).

For example, if a user receives the following link through the email: https://test.api.com/?key=CJ1HJGfCIAAGNONFh1P5EhmF9Fj18IhdlF4aoJNIx17M6GPHGAdNMh7MsC2c2GHH 843, the following request can be used:

{ "activation_key": "CJ1HJGfCIAAGNONFh1P5EhmF9Fj18IhdlF4aoJNIx17M6GPHGAdNMh7MsC2c2GHH"}

The response body will be as follows:

{ "id": "11783"}

where *id* is the newly registered user ID.

If the activation key is no longer valid, the following error will be shown:

{ "error_message": "Token is expired"}

cURL example is:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{ "activation_key": "CJ1HJGfCIAAGNONFh1P5EhmF9Fj18IhdlF4aoJNIx17M6GPHGAdNMh7MsC2c2GHH" }' 'https://test.api.com/rest/activate_user 843 '

Another way to obtain the activation key is the ***GET:activation_key*** method - *car_name* and *user_name* should be specified. The method is hidden from the REST API web page and can be called through a third-party tool (for instance, Postman). Note that the user must have the User administration permission in order to call the method.

The returned response will contain the same key that is sent in a registration email:

{ "activation_key": "GC6HJ3N4g8CLnhgM15HIDEJMh9tnjBfLCmKkL9bJcO5PIJOFILH23sl6L8oDI0EN"}

cURL example is:

*curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer 280b-4Q' 'https://test.api.com/rest/activation_key?car_name=REST_TEST%2021&user_name=test%40alarislabs.com*843'

27.5.3.3 schedule_contact_import

Import of one or multiple contacts from an MS Excel file can be done using the ***POST:schedule_contact_import*** method. Before doing it, upload a file with contacts to a server and get *file_id* using the ***POST:upload*** method.

cURL example for ***POST:upload*** is:

curl -X POST --header 'Authorization: Basic <username:password encoded in base64>' --form file=@contacts.xlsx 'https://test.api.com/rest/upload'

The response will contain file_id as follows:

{"file_id":"2eddbb64645b1bd70205955cc3c511a8d97149b8c62753dffb8019cbeb486cdf"}

After receiving *file_id cURL* example of ***POST:schedule_contact_import*** will look like:

curl -X POST --header 'Authorization: Basic <username:password encoded in base64>' --header 'Content-Type: application/json' -d '{"file_id": "2eddbb64645b1bd70205955cc3c511a8d97149b8c62753dffb8019cbeb486cdf", "phone": 4, "first_name": 5, "last_name": 6, "merge_type": 1, "tag_ids": "279312"}' 'https://test.api.com/rest/schedule_contact_import'

where

tag_ids are Tag IDs that can be found with help of the ***GET:tag*** method. A new tag can be created using the ***POST:tag*** method

merge_type is *Duplicate dest. number import merge type* (*1 - ignore duplicates*, *2 - update number tags only*, *3 - update tags and contact data*, *4 - add duplicates separately*)

phone, *first_name*, *last_name* are column positions in the uploaded file with corresponding data, note that first column in MS Excel file starts with position 4

The response will contain *task_name* as follows which implies that the import task has been completed with the parameters from the request:

{"task_name":"TASK20434254"}

Additionally, the result of a task can be checked using the ***GET:task*** method as follows:

curl -X GET --header 'Basic <username:password encoded in base64>' 'https://test.api.com/rest/task?id=TASK20434254&task_type_id=33'

The response will contain task status and results:

[{

"id": "TASK20434254",

"task_result": "{\"discarded_count\":\"0\",\"duplicates_found\":\"0\",\"only_tag_updated\":\"0\", \"status\":\"done\",\"successfully_loaded\":\"5\"}",

"task_last_update_time": "2024.01.09 17:32:40",

"task_status": 0,

"task_param_json": "{\"comments\":\"\",\"file_id\": \"2eddbb64645b1bd70205955cc3c511a8d97149b8c62753dffb8019cbeb486cdf\",\"first_name\":\"5\", \"last_name\":\"6\",\"merge_type\":\"1\",\"phone\":\"4\",\"tag_ids\":\"279312\",\"user_car_id\": \"12854\"}",

"task_start_time": "2024.01.09 17:32:39"

}]

27.5.3.4 sms_rate_plan

Subscribing to a rate plan (parent product) is possible using the ***POST:sms_rate_plan*** method:

{

"acc_id": 15112,

"rate_plan_id": 17763

}

where *acc_id* is the user's account ID and *rate_plan_id* is the parent product ID. The response will return the ID of the child product created under the partner's account:

{ "id": "18621"}

If *acc_id* and *rate_plan_id* are not compatible (for example, they are in different currencies) or the rate plan is not available for subscription, one of the following error messages will be shown:

{ "error_message": "Account for parent product ID:17763 not found"}

or

{ "error_message": "Product with ID:1 not allowed"}

It is not possible to assign a rate plan to another partner's account. Also note that this method does not require any dedicated permission.

Important note: the user can have several rate plans assigned to a single account - one for SMS and one per each IM service, which cannot be changed afterwards:

{ "error_message": "Cannot apply more than one rate plan per account"}

Method ***GET:sms_rate_plan*** can be used to obtain information of the assigned rate plan. If no rate plan is assigned, an empty response will be returned: *[]*

If any rate plan has been assigned, the response body will be:

{

"id": 18621,

"descr": "Sys_EUR",

"rate_plan_id": 17763,

"currency_code": "EUR"

"im_channel_id": 0

}

where *id* is the product ID and *im_channel_id* is the ID of the IM channel (the default ID is 0 which is the same as the regular SMS product). No special permission should be granted to fetch the info.

If the method is invoked by the System owner user, it is **VPD restricted**.

To list all available rate plans, it is possible to use the ***GET:available_sms_rate_plan*** method. The response will contain a JSON array with product details. Note that a rate plan is a System owner's product in the same currency as the account of the user's partner - for example, if the account currency is EUR, only rate plans in the EUR currency will be shown:

[{

"id": 17763,

"name": "Sys_EUR",

"currency_code": "EUR"

"im_channel_id": 0

}]

where *id* is the parent product ID and *name* - its description/name.

27.5.3.5 sms_pack_subscr

Method to manage pack subscriptions (note that the pack will have a priority over the rate plan if both are used) through the method ***POST:sms_pack_subscr*** which requires the *Show packs* permission. Example of the body:

{

"acc_id": 15112,

"pack_id": 728

}

where *acc_id* is the user's account ID. If the pack has been applied, the following message will be given:

{

"id": "3249",

"message": "Package successfully added"

}

The error will be shown in case of a wrong pack or account ID, if the pack does not have any MCCMNC assigned, the number of the *Messages included* is 0 or the pack's contract company or start/end date is not suitable for the account:

:
{ "error_message": "Package with ID:0 not found or not active"}

Note that it is impossible to subscribe to a pack in a different currency than the account currency. The following error will be returned:

{ "error_message": "Currency mismatch"}

cURL example is:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciO' -d '{

"acc_id": 15112,

"pack_id": 728

}' 'https://test.api.com/rest/sms_pack_subscr'

GET:sms_pack_subscr allows checking the user's subscription.

Method ***PUT:sms_pack_subscr*** is intended to cancel the subscription. Two options are possible - with full and partial refund. The obligatory parameters are body and subscription ID. the body for full refund should contain only one parameter:

{ "cascade": 1}

To use the method with full refund the following permissions must be granted: *Edit user subscriptions, Generate client invoice*, permissions from the *View/edit permissions* section - for example, if the permission *Manage objects of same carrier* is granted, the user will be able to cancel own subscription only. If the subscription has been deleted, the response body will be as follows:

{ "rows_affected": "1"}

The body for partial refund should contain 2 parameters:

{

"cascade": 0,

"refund_amount": 0.0000001

}

If *refund_amount* is not specified (while *cascade* is set to 0), no refund will be applied. To use the method with partial refund the following permissions must be granted: *Edit user subscriptions,* permissions from *View/edit permissions* section - for example, if all permissions from the section are granted, the user will be able to cancel any subscription.

27.5.3.6 sms_pack

To obtain SMS packs available for subscription use the method ***GET:sms_pack***. The permission *Show packs* is required for the method.The response will contain the active packs that are found suitable according to the filters of currency, contract company and carriers list:

[{

"id": 728,

"pack_name": "test",

"pack_descr": "1",

"subscription_cost": 1,

"currency_code": "EUR",

"included_sms_count": 1,

"priority": 100,

"start_date": "2017.03.10 00:00:00",

"end_date": "2100.01.01 00:00:00",

"pack_cc_id": 1

"im_channel_id": 0

}]

Additional filters are available:

Parameters

Parameter	Value	Description	Parameter Type	Data Type
country_name		Country name	query	string
dnis		DNIS	query	string
first_rec		Pagination: first record	query	integer
im_channel		IM channel	query	string
mccmnc		MCC MNC	query	string
min_included_sms_count		Minimum included SMS count	query	integer
orderby_clause		Sort expression: list of column numbers separated by comma (1 - id, 2 - pack_name, 3 - pack_descr, 4 - subscription_cost, 5 - currency_code, 6 - included_sms_count, 7 - priority, 8 - start_date, 9 - end_date, 10 - subscr_cnt, 11 - vat, 14 - im_channel_id, 15 - pack_purpose)	query	string
rec_count		Pagination: maximum number of records	query	integer
show_all		Show all packages in database (for System Owner users only)	query	integer

Filters

country_name: the exact name of the country for one of the pack's MCCMNC in accordance with the e.212/e.164 reference book

dnis: active dial code for one of the pack's MCCMNC in accordance with the e.212/e.164 reference book

first_rec: first record (for example, if set to 10, the first 9 records will not be shown and the info will be shown starting from the 10th row)

im_channel: IM channel ID

mccmnc: MCC/MCCMNC belongs to the pack

min_included_sms_count: minimum number of messages included in the pack

orderby_clause: list of column numbers separated by comma

rec_count: maximum number of records (for example, if set to 2, 2 records will be shown. If *first_rec* set to 10 and *rec_count* set to 2, 10th and 11th rows will be shown).

show_all: if set to 1, all packages in database will be shown (for System Owner users only).

To use the method, no additional permission is required.

Method ***POST:sms_pack*** can be used to create an SMS pack. The obligatory fields are *currency_code, start_date, end_date, included_sms_count, name* and *subscription_cost*:

{

"currency_code": "EUR",

"start_date": "2018.01.01",

"end_date": "2100.01.01",

"included_sms_count": 5,

"name": "test pack",

"subscription_cost": 1

}

If the inserted *currency_code* does not exist in the *Currency exchange rates* interface or *end_date* is less than *start_date*, *subscription_cost* is negative or *name* is longer than 100 symbols, a corresponding warning will be shown.

The successful response contains the pack ID. Note: for pack creation the user must have the permission *SMS packs management* granted, otherwise an error will be given:

{ "error_message": "No permission SMS packs management granted"}

The parameter *car_ids* can be specified as the *Carriers* filter (to which carriers the pack will be available). Multiple comma-separated values are possible, e.g.:

"car_ids": "5680,7075"

The currency of the carrier's accounts must be the same as the pack currency to successfully apply the pack. For example, if the pack currency is EUR and the accounts' currencies of carrier IDs 5680 and 7075 are USD and EUR correspondingly, the pack will be created with included carrier ID 7075 only.

cURL example is:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOi' -d '{

"currency_code": "EUR",

"start_date": "2018.01.01",

"end_date": "2100.01.01",

"included_sms_count": 5,

"name": "test pack",

"subscription_cost": 1

}' 'https://test.api.com/rest/sms_pack 848*'*

DELETE:sms_pack allows removing a pack based on the inserted ID. If the pack with the specified ID does not exist, a warning will be shown:

{ "error_message": "No rows were really affected: object access is restricted or it has already been deleted"}

Additionally the user must have the permission *SMS packs management* granted to delete packs, otherwise the following error will be given:

{ "error_message": "No permission SMS packs management granted"}

cURL example is:

curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciO' 'https://test.api.com/rest/sms_pack/3257'

27.5.3.7 sms_pack_content

To check MCCMNCs assigned to the existing packs, it is possible to use the ***GET:sms_pack_content*** method. The obligatory parameter is *pack_id*. The method is operating without any dedicated permission.

The response will be as follows:

```
[{
    "id": 4186,
    "pack_id": 728,
    "mcc_mnc": "222"
  },
  {
    "id": 4187,
    "pack_id": 728,
    "mcc_mnc": "222222"
  }]
```

where ID is the record ID in the database. This ID can be used in the method ***GET:sms_pack_content{id}*** to receive the following info:

```
{
  "id": 4186,
  "pack_id": 728,
  "mcc_mnc": "222"
}
```

Note that if a pack does not contain any MCC/MCCMNC attached to the pack, an empty result will be returned. Adding a new record is possible using the method ***POST:sms_pack_content***. The obligatory parameters are:

{

"pack_id": 3160,

"mcc_mnc": "214"

}

country_dial_code can be specified as an additional parameter.

Note that the permission *SMS packs management* must be granted. **VPD restricted**.

A new MCCMNC can be added to the pack if all the conditions are followed:

- inserted pack ID must exist
- MCC/MCCMNC must contains 3 or 6 digits
- the pack cannot have subscribers
- MCCMNC or dial code+MCCMNC are not yet present in the pack.

Data can be modified through the ***PUT:sms_pack_content*** method. Note that the permission *SMS packs management* must be granted. **VPD restricted**.

27.5.3.8 sms_campaign

The method ***GET:sms_campaign*** shows a list of sent campaigns. To use the method, no additional permission is required.

Example of the response is:

[{

"id": 1645,

"sender_name": "qwerty",

“black_tag_ids”: "379622",

"template_content": "Give me all your money",

"created": "2019.07.14 23:10:15",

"last_updated_by": "2019.07.15 00:42:57",

"status_id": 0,

"schedule": "2019.07.14 23:09:00",

"last_exec_date": "2019.07.15 00:42:57",

"contact_count": 312,

"sent_cnt": 0,

"rejected_cnt": 312,

"acc_id": 10053,

"campaign_descr": "SuperChamp",

"alert_emails": "tansy@mail.ru,bobby@gmail.com,simba@aol.com",

"finish_date": "2019.07.15 00:43:03",

"im_channels": "sms",

"expect_user_resp": 0,

"message_label": "test_lable"

"failure_alert_threshold": 2

}

]

where *status_id* has one of the following values:

0 - completed

1 - scheduled

2 - failed

3 - canceled

4 - in progress

5 - paused

The same information can be checked through the method ***GET:sms_camp_status*** as well.

Sending a campaign is possible through the ***POST:sms_campaign*** method. To use the method, no additional permission is required.

Mandatory parameters are:

{

"acc_id": 15112,

"captcha": "string",

"schedule": "2019.07.31",

"sender_name": "FB",

"template_content": "message text",

"tag_ids": "278753,278754"

}

where

captcha can be received through the ***GET:captcha*** method (*test.api.com/rest/captcha*);

schedule is the date when the campaign is sent (if it is set as a past date, campaigns will be started immediately; if it is set as a future date, the campaign will be scheduled to the date in question); *tag_ids* - comma-separated IDs of tags created in the Campaign Portal. ID can be found with help of the ***GET:tag*** method.

If either *acc_id* does not belong to the user's account, or *tag_ids* doesn't exist, or *tag_ids* does not contain any contact under it, a corresponding warning will be shown.

Possible values for *message_split_mode* are: split, split_sar, payload, cut. If the option is not set, the default value from the System setting *Default long message split mode. Allowed values: split, split_sar, payload, cut* is used. If the mode is set incorrectly, the corresponding error will be given.

template_id is an ID of content template created in the Campaign Portal (*Templates* page) - ID can be located through the method *sms_template*. If a non-existent ID is used, a warning is shown.

excluded_contact_ids is a list of comma-separated contact IDs under a tag. IDs can be fetched from ***GET:contact*** method. The parameter can come handy if a campaign should be sent to 100 contacts (destination addresses) which are united under one tag and some of them must be excluded. For example, ***GET:contact*** gives the following result:

```
[{
   "id": 18139438,
   "tag_ids": "278754",
   "phone": "1234567",
   "blacklisted": 0
 },
......
 {
   "id": 18139440,
   "tag_ids": "278754",
   "phone": "34600",
   "blacklisted": 0
 }]
```

and phone number 1234567 should be excluded - then ***POST:sms_campaign*** has to contain the following row:

“excluded_contact_ids”: “18139438”,

To send a campaign through IM services, the following parameters can be used:

im_channels: list of IM channels (comma-separated) that will be used in succession (in case one of them fails) for sending a message. Example: *"viber,sms".* The values are case-insensitive, i.e., VIBER, viber, viBer are treated as the same value. If IM channel name is written incorrectly, the SMS switch will send the message to the next-in-line channel if any. If the parameter is specified with no value, it is considered *sms*. Note that to enable fallback to SMS, it is possible to add *sms* after preferable IM channels.

im_ttls: message time-to-live list (several values must be set separated by comma) specified in seconds for each service. This value is proxied to the service in order to ensure message delivery within expected timeframe. The order of IM channels is defined by the *im_channels* parameter. If no TTL is set, the default value configured in the *IM channels* page of the main web interface is taken. Example: *"3,10"* *im_message*: message text that will be sent through IM providers. If empty, *template_content* value will be used.

If a message is sent through a regular SMS channel, the *template_content* is used as the message text

The parameters below can be used for sending *promotional* messages through *viber* - note that they are ignored when a message is sent through other IM channels.

image_url: link to the button image for buttons sent in the message

button_action_url: link to the website where the user will be redirected after clicking the button

button_caption: button caption

Note that the IM provider names are hardcoded and the possible values for the *im_channels* parameter can be reviewed through the *GET:im_channel* method (*im_channel_name* parameter). The current subscription to IM channels can be checked through the *GET:available_im_channels* method.

If a campaign has been successfully sent, its ID will be returned in the response.

Modifying campaign parameters is possible through ***PUT:sms_campaign*** method - no additional permission should be granted to use the method as well.

Deleting a campaign is possible through the ***DELETE:sms_campaign*** method - no additional permission is required to use the method.

27.5.3.9 sms_sender

The method ***GET:sms_sender*** allows a user to manage templates of sender IDs created in the Campaign Portal (*Templates* page). No additional permission is required for management of the templates.

27.5.3.10 sms_campaign_stats

Method ***GET:sms_campaign_stats*** allows checking the stats of sent campaigns.

If *end_date* is not set, it will be set to the current timestamp. Note that if a campaign has been scheduled in the past (e.g., today's date is 2019/01/01 and the *schedule* was set as 2018.12.31 00:00:00), *end_date* will be in the past as well (for example - 2018.12.31). If the filter *campaign_id* is not set, the statistics for all campaigns sent within the mentioned period will be shown.

Response example is:

```
[{
    "dcheck": "2019.08.01 23:36:00",
    "total": 10,
    "sent": 10,
    "delivrd": 5,
    "cost": 2.1
  },
  {
    "dcheck": "2019.08.01 23:37:00",
```

"total": 200,

"sent": 0,

"delivrd": 0,

"cost": 0

},

…….

{

"dcheck": "2019.08.01 23:38:00",

"total": 60,

"sent": 60,

"delivrd": 60,

"cost": 1.1

}]

27.5.3.11 edr

The method ***GET:edr*** will show messages sent from the Campaign Portal. Obligatory parameters are *start_date* and *end_date*. If an incorrect date format is specified, a corresponding error will be shown, for example:

{ "error_message": "start_date: value 2019.29.07 00:00:00 is not valid datetime"}

Note that the user will be able to retrieve only those EDRs that belong to the user's carrier/products.

The response body will be as follows:

[{

"edr_id": 11745613,

"edr_date": "2019.04.03 17:06:24",

"edr_status": "NOT ACCEPTED",

"edr_is_successful": 0,

"message_id": "767d2c8c-e8a3-4ebe-80a7-fc747d286f4c",

"dnis": "593939197379",

"ani": "qwerty",

"message_text": "Give me all your money",

"sender_acc_id": 10053,

"campaign_id": 1598,

"ext_info": "Rate not found for accountId:10053; mccmnc:740001; dnis:593939197379",

"reason_code": 402,

"segment_num": 1
"im_channel": "sms",
"message_label": "test_label"

},
.....
{
"edr_id": 11745610,
"edr_date": "2019.04.03 17:06:24",
"edr_status": DELIVRD",
"edr_is_successful": 1,
"message_id": "60d4fb95-fed0-49a8-b997-3f9d640f8f4b",
"dnis": "593939004819",
"ani": "qwerty",
"message_text": "blablabla",
"sender_acc_id": 10053,
"campaign_id": 1598,
"reason_code": 200,
"segment_num": 1,
“mccmnc”: “214”,
“rate”: 0.01
}]

27.5.4 Message sending

27.5.4.1 send_sms

Sending single Campaign portal messages is possible using the ***POST:send_sms*** or ***GET:send_sms*** method. No specific permissions are required. The method does not support Basic authorization.

For example, to send a message from Facebook sender to 16503407165 with test text the following obligatory parameters must be filled in:

Parameter	Value	Description	Parameter Type	Data Type
acc_id	15081	Account ID (for trusted connection only)	query	integer
button_action_url		Button action url for Viber IM	query	string
button_caption		Button caption for Viber IM	query	string
campaign_id		Campaign ID	query	integer
from	**Facebook**	**From**	query	string
im_channels		IM channels list (comma separated, priority order)	query	string
im_message		IM message	query	string
im_ttls		Ttls list for IM channels (comma separated, order according to im_channels parameter)	query	string
image_url		Button caption image url for Viber IM	query	string
message	**test**	**SMS message**	query	string
message_split_mode		Message split mode: split, split_sar, payload, cut (default value is specified in system settings parameter "Default long message split mode")	query	string
password		Connection authorization password	query	string
to	**16503407165**	**Subscriber's phone number. Several phone numbers can be used (separated by comma)**	query	string
username		Connection authorization	query	string

Message sending

The *To* field can contain up to 100 destination addresses separated by comma, for example:

346003407165,346003407166,346003407167,346003407168,346003407169

To assign a sent message to a campaign, the campaign ID must be specified in *campaign_field*. To use IM channels for message sending, corresponding parameters *im_channels*, *im_message*, *im_ttls* should be specified - additional parameters *button_action_url*, *button_caption*, *image_url* can be set so as to send a message through a Viber promotional channel (if available and enabled).

Note that either *acc_id* or *username* and *password* must be specified (in the latter case, the username and password must be taken from the *API connections* tab). If no connection is created it is also allowed to specify the account ID - note that this entity must be a retail one (created either during the user's registration in the Campaign Portal or automatically from the main interface by clicking the *Create Campaign Portal client* button). Additionally, routing rules must be configured to allow successful termination of a message - for example, if there is no applied rate plan or active pack subscription, the *Response body* will be as follows:

{ "error_message": "Rate not found for accountId:15081; mccmnc:214001; dnis:34511121"}

If the System fails to route this message, the *Response body* will contain HTTP error code 400 (the same as no routes).

If a message is sent successfully,the *Response body* will be as follows:

{ "message_id": "test34-20190719160918482277-7a01fa",

"message_text": "dGVzdA=="

}

where *message_text* is message text encoded in base64.

cURL example:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci' 'https://test.api.com/857rest/send_sms?acc_id=15081&from=Facebook&message=test&to=34511121'

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJh' 'https://test.api.com/rest/send_sms?acc_id=17851&from=Facebook&message=test&to=34511121'

27.5.4.2 bulk_send_sms

POST:bulk_send_sms method is for mass sending Campaign portal SMS and instant messages (IM). No specific permission is required.

The method works synchronically - that is, messages will be sent one by one. No limitation is set for the number of messages that can be sent with the help of the method, however provided that the average TPS restriction (with the default client settings) is 20-30 and the connection is closed in 15 minutes, the general recommendation is to send not more than 20,000 messages at once (within one method call - but up to 3-4 simultaneous tasks can be launched).

The obligatory parameters are *body* and *acc_id* (the *username* and *password* can be specified instead of *acc_id*). *acc_id, username* and *password* are the same parameters that are detailed for the method *send_sms*.

The body should contain a JSON-array, e.g.:

```
[
    {"from": "ANI1", "to": "34603407165", "message": "Hello world1"},
    {"from": "ANI4", "to": "34603407166,34603407167", "message": "Hello world2"},
    {"from": "ANI2", "to": "34603407169", "message": "Hello world3"}
]
```

The *campaign_id* parameter can be specified for bulk sending, however it it will not affect the actual campaign ID. In order to differentiate the sent messages, it is recommended to use the *message_label* parameter.

If the request is processed successfully, *Response body* will be as follows:

```
{
  "sentCount": 2,
  "rejectedCount": 2,
  "totalCount": 4
```

}

where

sentCount is the number of sent messages;

rejectedCount - rejected messages;

totalCount - attempts.

To show additional info such as message ID, destination number, number of segments and HTTP status, *show_details* must be specified as 1. The *Response body* will be:


```
{
  "sentCount": 2,
  "rejectedCount": 2,
  "totalCount": 4,
  "details": [
    {
      "message_id": "9d701059-4570-40f6-87bb-c8a4fdef3616",
      "dnis": "34603407165",
      "segment_num": 1,
      "http_status": 500
    },
    {
      "message_id": "test34-20190719165631320270-d47075",
      "dnis": "34603407166",
      "segment_num": 1,
      "http_status": 200
    },
    {
      "message_id": "test34-20190719165631320343-3b93ba",
      "dnis": "34603407167",
      "segment_num": 1,
      "http_status": 200
    },
    {
      "message_id": "0232f882-8004-462b-95f6-ddfc685f72dc",
```

"dnis": "34603407169",

"segment_num": 1,

"http_status": 500

}]}

cURL example:

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci' -d '[

{"from": "ANI1", "to": "34603407165", "message": "Hello world1"},

{"from": "ANI4", "to": "34603407166,34603407167", "message": "Hello world2"},

{"from": "ANI2", "to": "34603407169", "message": "Hello world3"}

]' 'https://test.api.com/rest/bulk_send_sms?acc_id=15112&show_details=1'

28 Appendix 10. Data coding schemes

28.1 Overview of data coding schemes

The data coding scheme (DCS) indicates information that includes the character set that the message text is encoded in. Each data coding scheme contains its own set of characters. Some symbols can be absent from a particular DC while present in another. This is why it is very important for a client to choose correct data coding and encode symbols in accordance with the character set table - and for the System owner to configure everything properly in the System.

Several data coding schemes are supported, the list can be found either in the Allowed data coding list parameter (Carriers\SMS channels 188) or below:

- *0: GSM 7-bit Default Alphabet (GSM 03.38)*

A special 7-bit encoding that was designed for the Short Message System (SMS) in GSM. The alphabet contains the most-often used symbols from English and a number of Western European languages. The character set table can be found in section GSM 7-bit 868 below. The *GSM 7-bit Default Alphabet* encoding is used as the 0 encoding by default, but the user can select any data coding to be used as the 0 encoding in the *Default data coding schemes* field (Carriers\SMS channels 188)

- *1: IA5 (CCITT T.50)/ASCII (ANSI X3.4)*

ASCII (American Standard Code for Information Interchange) defines the 7-bit characters (but encoded in an 8-bit octet).

- *2: Octet unspecified (8-bit binary)*

The DC suitable for binary messages. In GSM networks a character coded with 7 bits.

- *3: Latin 1 (ISO-8859-1)*

An 8-bit character set that represents the alphabets of Western European languages. The character set table can be found in section Latin-1 874 below.

- *4: Octet unspecified (8-bit binary)*

The same as 2: Octet unspecified (8-bit binary) with the exception of encoding a symbol with 8 bits (applicable to GSM).

- *5: JIS (X 0208-1990)*

A 2-byte character set specified as a Japanese Industrial Standard.

- *6: Cyrillic (ISO-8859-5)*

An 8-bit character set that represents the Cyrillic symbols.

- *7: Latin/Hebrew (ISO-8859-8)*

An 8-bit character set that represents the Hebrew letters.

- *8: UCS2 (ISO/IEC-10646)*

The Universal Coded Character Set (UCS2, also known as UTF-16) is a standard set of characters coded with 2 bytes.

- *9: Pictogram Encoding*

The DC suitable for pictogram (icon charts, picture charts) encoding.

- *10: ISO-2022-JP (Music Codes)*

The DC suitable for Japanese symbols and music codes.

- *13: Extended Kanji JIS (X 0212-1990)*

Extended version of JIS DC.

- *14: KS C 5601*

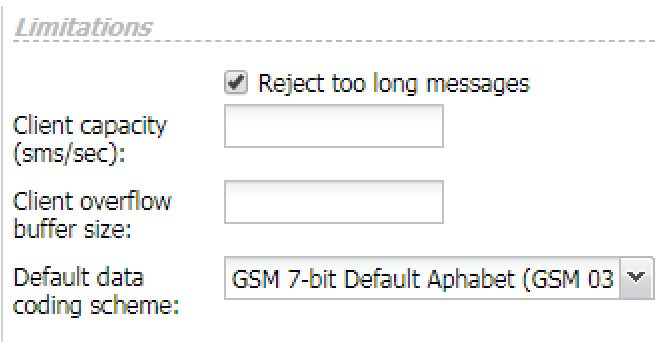
A 2-byte South Korean coded character set standard to represent hangul and hanja characters.

28.2 The System configuration

The configuration can be applied in the Carriers\SMS channels 188 interface.

For the client side it is possible to define which data coding will be considered a default one (when a *submit_sm* with *data_coding=0* is received). By default GSM 7-bit is supposed to be used when *data_coding=0* is sent, but it is still preferable to agree on this parameter with clients in order to avoid discrepancies. In case of any issue with text delivery, the DC which applied when the parameter is set to 0 must be confirmed with the client. The DC can be selected in the *Default data coding scheme* parameter.

Suppose the agreement with a client is to use GSM 7-bit as the default DC, so GSM 7-bit must be specified in the *Default data coding scheme* parameter (Carriers\SMS channels 188, see figure below), and the client must encode symbols according to the GSM 7-bit table 868 if the *data_coding* is set as 0 while a message is sent. If the client's default data coding differs from the vendor's one, the *data_coding* parameter received from the client will be changed when the message is sent to the vendor (for example, *data_coding*=0 translates to *data_coding*=1).



Default data coding scheme

Additional fields can be configured for the vendor side. The *Allowed data coding list* serves to specify a list of DCs that can be sent to the provider. Note if 0 is selected in the list, it refers to the datacoding set in the *Default data coding scheme* parameter. For example if *Default data coding scheme = Latin1*, the *Allowed data coding list: 0, 1* allows both ASCII (DC 1) and Latin1 (the default 0 scheme).

If a message is encoded in the data coding that is not allowed in the list, there will be no attempt of sending the message through the vendor's channel and EDR with the internal status INCOMPATIBLE DATA CODING will be generated. The parameter can come handy when a vendor cannot deliver messages in a specific data coding - for example, in UCS2.

However, in some cases if a vendor restricts some DCs but the route is still preferred for use (for example, it provides an optimal price or it is the only route to a network), the *Transcode messages in unsupported encodings* can be set to either to the *Only lossless transcoding to* or the *Force transcoding to*:

- *Only lossless transcoding to*: allows transcoding the message whose data coding is not included in the *Allowed data coding list*. The transcoding can be selected in the drop-down list that appears. Furthermore, the SMS switch has an internal configuration file that contains translation rules for the symbols not available in the target encoding (for example, it is possible to replace Ö by *O*). But a message is rejected if no suitable symbol-based translation rule is found in the file.

- *Force transcoding to*: same as *Only lossless transcoding to*, except that symbols not found in the target encoding are replaced with question marks.

NOTE: Data codings 2 and 4 are binary (may contain service information such as WAP profiles) and therefore it is not possible to convert them to any other datacoding, and the System only sends the message as it was received. At the same time the System can display the text of such messages (in the EDR export tool or reports) using the ASCII symbol table (from 16 to 127 in decimal). All the rest of the symbols are shown as their codes like \xYY where YY is the hexadecimal code in ASCII table. For example, the decimal value of 0A is 10, therefore the symbol will be shown as \x0A.

Let us consider scenarios of how each mode can work. Suppose a client is sending a message in GSM 7-bit (data_coding=0):

- If the *No transcoding* mode is set while the vendor's *Default data coding scheme* doesn't coincide with the client's *Default data coding scheme* and the received client's submit has *data_coding*=0, the message will be rejected with INCOMPATIBLE DATA CODING internal status. E.g., the message will be rejected in the following conditions: the client's *Default data coding scheme* is GSM7bit while the vendor's one is Latin1 and a submit_sm with the *data_coding*=0 is sent.

  If both *Default data coding scheme* parameters (for the client and vendor channels) match when the initial data_coding is 0 and the data coding (GSM7bit for this example) is added to the vendor's *Allowed data coding list*, the message will be sent through the vendor.

  If the initial *data_coding* is different from 0 (for example, *data_coding=3*), this datacoding must be selected in the vendor's *Allowed data coding list* for the message to be sent to the vendor provided that the *No transcoding* mode is selected.

- If the incoming DC is not allowed while the *Transcode messages in unsupported encodings* is set to *Only lossless transcoding to: ASCII* and ASCII is the only allowed DC, the internal character translation file is checked. Suppose that the only symbol that is not presented in ASCII DC is *ü.* If the internal configuration file contains a translation rule (for example, *ü* must be translated to u which is in ASCII), the message text will be translated accordingly. If a rule for the symbol is not found, the message will be rejected with the DATA CODING FAILED internal status.

  If the incoming DC is 0 while the vendor's *Default data coding scheme* is other than 0, there will be an attempt to transcode the message provided that the data coding set in the *Transcode messages in unsupported encodings* either has been added to the *Allowed data coding list* or has been set as the *Default data coding scheme* and the 0 data coding was allowed.

  NOTE: if the internal configuration file contains transcoding rules, it can be applied when *Force transcoding to mode* is selected in the channel as well (provided that the channel ID has been added to the file and the initial DC coincides the one set in the file for the channel).

  If a symbol is available in both data codings (the original and the target ones), the character translation rules may not be defined. However, once the message text is transcoded and if the number of symbols exceeded the maximum allowed number of symbols of the target data coding, the message will be rejected with MESSAGE ENCODING FAILED internal status. If the *Reject too long messages* checkbox is disabled for the vendor channel, the maximum length is 254 bytes. Otherwise the internal SMS switch setting is applied: by default, 160 bytes are allowed for data codings 0, 1 and 3 and 140 bytes - for the rest of the data codings. For example, if the message length is 100 symbols in ASCII - once it is transcoded to UCS2, the max length (70 symbols or 140 bytes) is exceeded.

  NOTE: if the vendor's *Default data coding scheme* is other than 0 and the same data coding is both allowed and set as the transcoding value, the data coding value (not the default 0 value) will be sent to the vendor if the message has been successfully transcoded. For example, the *Default* *data coding scheme = 1*, the DC is added to the *Allowed data coding list* and specified in the *Transcode messages in unsupported encodings* - when a submit in an unsupported DC is received (data_coding=0 for this example), the text will be transcoded and a submit with data_coding=1 will be sent to the vendor.

- If the DC is not allowed while the *Transcode messages in unsupported encodings* is set to *Force transcoding to*, the message will be sent through the channel with *ü* replaced by ?

28.3 How to calculate the allowed number of symbols

If a message is sent over SMPP, its text is passed in the *message* field which can take up to 254 bytes by the standard. But since the field cannot be fully occupied with the message text (the field can also contain service information), only 140 bytes are allocated for the text. This limitation has come from the GSM standards. If a longer text must still be sent within one message, the optional parameter *message_payload* of the *submit_sm* packet can be used since it can contain up to 64 kilobytes of data.

In this way, the allowed number of symbols for one message if it is encoded with GSM 7-bit can be calculated as: (140 bytes*8 bits)/7 bits=160 characters. 8 bits are used since even if a character 'weighs' 7 bits, it still occupies an octet (8 bits).

The same logic of calculation applied to other data codings - take UCS2 as another example. Since every character is a 16-bit one, the formula will be (140 bytes*8)/16 bits=70 characters. It means that only up to 70 characters can be sent within one unicode message.

As for other 8-bit data codings, it is calculated as (140 bytes*8)/8 bits=140 characters. However since such data codings as Latin-1, ASCII are treated as 7-bits for SMPP, the number of allowed symbols for these data codings will be calculated as 160 symbols.

Messages that exceed the allowed number of characters must be split to separate parts (a concatenated message) from partner side (since the SMS switch does not separate them) and linked together with the help of UDH (user data header). Note that UDH reduces the allowed number of characters since it requires 6 bytes (48 bits). So for GSM 7bit (7-bit data coding), 153 symbols are allowed to be sent: ((140 bytes-6 bytes)*8)/7 bits=153 characters. For 8-bit data codings the calculation is ((140 bytes-6 bytes)*8)/8 bits=134 characters; for 16-bit ones: ((140 bytes-6 bytes)*8)/16 bits=67 characters.

If a long message is sent over SMPP, it is the client's responsibility to separate it since the SMS switch will proxy it to the vendor as is. If a client does not follow the SMPP specification, the checkbox *Reject too long messages* can be selected (Carriers\SMS channels 163) so non-split long messages will be rejected with the INCORRECT MESSAGE LENGTH internal status. By default a message is considered long if the following number of characters is exceeded:

- for DCs 0; 1; 3: 160 symbols
- for DCs 2; 4; 5; 6; 7: 140 symbols
- for DC 8: 70 symbols

The thresholds can be changed with the help of the technical support team. The thresholds set limitations for the *Reject too long messages* if enabled and calculation of segments if a long text is received in the *message_payload* field. For example, if a 156-symbol text is sent in the *message_payload* field in UCS2, it will be split into 3 segments. If the *SMS billing option* (Carriers\Products 180) is set to *Bill by segments*, the client will be billed for each segment - in sum, 3 times for the message.

28.4 Data coding in SMPP

The data coding scheme that will be applied for message encode/decode is sent in the *submit_sm* packet in the *data_coding* parameter.

The parameter is presented as an octet and may also contain the message class that allows sending a flash or a silent message, as an example. A flash message is a message that is shown on an end user device display but is not stored in its memory. A silent message is a message that arrives to an end user device with no sound or notification.

The last 4 bits specify the data coding scheme itself; the fourth bit stands for flash messages (0 - regular message, 1 - flash message); the third bit is a reserved one (is equal to 0); the first two show if the message is silent (00 - regular message, 11 - silent message).

For example, a silent message irrespective of data coding itself will have start bits 11xx xxxx, and a flash message will have the format xxx1 xxxx:

Bits	Meaning
1 1 x x x x x x	A silent message
x x x 1 x x x x	A flash message
x x x x 0 0 0 0	A message in SMSC Default Alphabet DC
x x x x 0 0 1 1	A message in Latin 1 data coding (DC)

Below are some examples:

Bits	Dec	Hex	Meaning
0 0 0 0 0 0 0 0	0	0	SMSC Default Alphabet
0 0 0 0 0 0 0 1	1	1	IA5 (CCITT T.50)/ASCII (ANSI X3.4)
0 0 0 0 0 0 1 0	2	2	Octet unspecified (8-bit binary)
0 0 0 0 0 0 1 1	3	3	Latin 1 (ISO-8859-1)
0 0 0 0 0 1 0 0	4	4	Octet unspecified (8-bit binary)
0 0 0 0 0 1 0 1	5	5	JIS (X 0208-1990)
0 0 0 0 0 1 1 0	6	6	Cyrillic (ISO-8859-5)
0 0 0 0 1 0 0 0	8	8	UCS2 (ISO/IEC-10646)
1 1 0 0 0 0 0 0	192	C0	Silent message in GSM 7-bit DC
1 1 0 0 0 1 1 0	198	C6	Silent message in Cyrillic DC
1 1 0 1 0 0 0 0	208	D0	Silent flash message in GSM 7-

Bits	Dec	Hex	Meaning
			bit DC
0 0 0 1 1 0 0 0	24	18	Flash unicode message

28.5 Data coding in HTTP

Messages in HTTP are sent using a link 646 where the appropriate *dataCoding* parameter can be specified.

By default the SMS switch does not require specification of this parameter and defines the message data coding as GSM 7-bit if the message text contains symbols that are all present in the GSM 7-bit table. Otherwise it is defined as UCS2.

For example, if a message with text *Hello★* is sent to the SMS switch with no dataCoding parameter specified, the switch will process a message as a message in UCS2 data coding since the ★ symbol is not present in GSM 7-bit table.

Note that the message text - that is sent in the *message* field - must be URL encoded but the text length is calculated after the message text is URL decoded. For example, the text *Hello, how are you* (which is 18 symbols long) is URL encoded as *Hello%2C%20how%20are%20you* (26 symbols) - the text length is 18 symbols and not 26 symbols.

Since there is no restriction for the field while the GSM standards must be complied with, there is the *longMessageMode* parameter which determines the way of processing long messages. If the parameter is not set, it is considered *cut* - so it is possible to send up to 160 symbols in GSM 7-bit DC and only 70 in UCS2 (the rest of a long message will be trimmed).

To send a long message as one, the *payload* mode can be used so the message will be sent in the *message_payload* field.

To break a long message into several segments over HTTP is possible using either the *split* or *split_sar* mode (the difference between them is in the employed header: for *split* it is the UDH header, for *split_sar* it is SAR. The number of symbols per segment depends on the DC:

- *dataCoding*=0, 1 or 3: one message can contain up to 160 symbols, if more:

  segment count = message length/153

- *dataCoding*=2 or 4-7: one message can contain up to 140 symbols, if more:

  segment count = message length/134

- *dataCoding*=8: one message can contain up to 70 symbols, if more:

  segment count = message length/67

28.6 DCS tables

The data coding is a table with a limited number of characters, where each character has its own code. A single character can have different codes in different data codings. The SMS switch receives the message text that is already encoded and processes it based on both the client and the vendor channels' settings. If no transcoding mode is set in the vendor channel, the text is sent as is.

The most common character sets are represented below.

28.6.1 GSM 7-bit

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
@	At sign	0	00
£	Pound sign	1	01
$	Dollar sign	2	02
¥	Yuan/Yen sign	3	03
€	Euro sign	27 101	1B65
è	Small letter e with grave accent	4	04
é	Small letter e with acute accent	5	05
ù	Small letter u with grave accent	6	06
ì	Small letter i with grave accent	7	07
ò	Small letter o with grave accent	8	08
Ç	Capital letter C with cedilla	9	09
	Linefeed	10	0A
Ø	Capital letter O with stroke	11	0B
ø	Small letter o with stroke	12	0C
	Carriage return	13	0D
Å	Capital letter A with ring	14	0E
å	Small letter a with ring	15	0F
Δ	Capital letter Greek delta	16	10
_	Underscore	17	11
Φ	Capital letter Greek phi	18	12
Γ	Capital letter Greek gamma	19	13

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
Λ	Capital letter Greek lambda	20	14
Ω	Capital letter Greek omega	21	15
Π	Capital letter Greek pi	22	16
Ψ	Capital letter Greek psi	23	17
Σ	Capital letter Greek sigma	24	18
Θ	Capital letter Greek theta	25	19
Ξ	Capital letter Greek xi	26	1A
	Escape	27	1B
	Form feed	27 10	1B0A
^	Caret / Circumflex	27 20	1B14
{	Left curly bracket	27 40	1B28
}	Right curly bracket	27 41	1B29
\	Backslash	27 47	1B2F
[	Left square bracket	27 60	1B3C
~	Tilde	27 61	1B3D
]	Right square bracket	27 62	1B3E
Æ	Capital letter AE	28	1C
æ	Small letter ae	29	1D
ß	Small letter German Eszett	30	1E
É	Capital letter E with acute accent	31	1F
	Space	32	20

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
!	Exclamation mark	33	21
"	Quotation mark	34	22
#	Number sign	35	23
¤	Currency sign	36	24
%	Percent sign	37	25
&	Ampersand	38	26
'	Apostrophe	39	27
(	Left parenthesis	40	28
)	Right parenthesis	41	29
*	Asterisk	42	2A
+	Plus sign	43	2B
,	Comma	44	2C
-	Minus sign / Hyphen	45	2D
.	Full stop / Period	46	2E
/	Slash	47	2F
0	Digit zero	48	30
1	Digit one	49	31
2	Digit two	50	32
3	Digit three	51	33
4	Digit four	52	34
5	Digit five	53	35
6	Digit six	54	36

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
7	Digit seven	55	37
8	Digit eight	56	38
9	Digit nine	57	39
:	Colon	58	3A
;	Semicolon	59	3B
<	Less-than sign	60	3C
=	Equals sign	61	3D
>	Greater-than sign	62	3E
?	Question mark	63	3F
¡	Inverted exclamation mark	64	40
A	Capital letter A	65	41
B	Capital letter B	66	42
C	Capital letter C	67	43
D	Capital letter D	68	44
E	Capital letter E	69	45
F	Capital letter F	70	46
G	Capital letter G	71	47
H	Capital letter H	72	48
I	Capital letter I	73	49
J	Capital letter J	74	4A
K	Capital letter K	75	4B
L	Capital letter L	76	4C

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
M	Capital letter M	77	4D
N	Capital letter N	78	4E
O	Capital letter O	79	4F
P	Capital letter P	80	50
Q	Capital letter Q	81	51
R	Capital letter R	82	52
S	Capital letter S	83	53
T	Capital letter T	84	54
U	Capital letter U	85	55
V	Capital letter V	86	56
W	Capital letter W	87	57
X	Capital letter X	88	58
Y	Capital letter Y	89	59
Z	Capital letter Z	90	5A
Ä	Capital letter A with diaeresis	91	5B
Ö	Capital letter O with diaeresis	92	5C
Ñ	Capital letter N with tilde	93	5D
Ü	Capital letter U with diaeresis	94	5E
§	Section sign	95	5F
¿	Inverted question mark	96	60
a	Small letter a	97	61
b	Small letter b	98	62

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
c	Small letter c	99	63
d	Small letter d	100	64
e	Small letter e	101	65
f	Small letter f	102	66
g	Small letter g	103	67
h	Small letter h	104	68
i	Small letter i	105	69
j	Small letter j	106	6A
k	Small letter k	107	6B
l	Small letter l	108	6C
m	Small letter m	109	6D
n	Small letter n	110	6E
o	Small letter o	111	6F
p	Small letter p	112	70
q	Small letter q	113	71
r	Small letter r	114	72
s	Small letter s	115	73
t	Small letter t	116	74
u	Small letter u	117	75
v	Small letter v	118	76
w	Small letter w	119	77
x	Small letter x	120	78

Character		GSM 7-bit (Decimal)	GSM 7-bit (Hexadecimal)
y	Small letter y	121	79
z	Small letter z	122	7A
ä	Small letter a with diaeresis	123	7B
ö	Small letter o with diaeresis	124	7C
ñ	Small letter n with tilde	125	7D
ü	Small letter u with diaeresis	126	7E
à	Small letter a with grave accent	127	

28.6.2 Latin-1

Character		Latin 1 (Decimal)	Latin 1 (Hexadecimal)
NUL	Null	0	00
SOH	Start of heading	1	01
STX	Start of text	2	02
ETX	End of text	3	03
EOT	End of transmission	4	04
ENQ	Enquiry	5	05
ACK	Acknowledge	6	06
BEL	Bell	7	07
BS	Backspace	8	08
TAB	Character tabulation	9	09
LF	Line feed	10	0A
VT	Line tabulation	11	0B
FF	Form feed	12	0C
CR	Carriage return	13	0D
SO	Shift out	14	0E
SI	Shift in	15	0F

DLE	Datalink escape	16	10
DC1	Device control one	17	11
DC2	Device control two	18	12
DC3	Device control three	19	13
DC4	Device control four	20	14
NAK	Negative acknowledge	21	15
SYN	Synchronous idle	22	16
ETB	End of transmission block	23	17
CAN	Cancel	24	18
EM	End of medium	25	19
SUB	Substitute	26	1A
ESC	Escape	27	1B
FS	File separator	28	1C
GS	Group separator	29	1D
RS	Record separator	30	1E
US	Unit separator	31	1F
SPC	Space	32	20
!	Exclamation mark	33	21
"	Quotation mark	34	22
#	Number sign	35	23
$	Dollar sign	36	24
%	Percent sign	37	25
&	Ampersand	38	26
'	Apostrophe	39	27
(	Left parenthesis	40	28
)	Right parenthesis	41	29
*	Asterisk	42	2A
+	Plus sign	43	2B
,	Comma	44	2C
-	Minus sign / Hyphen	45	2D

.	Full stop / Period	46	2E
/	Slash	47	2F
0	Digit zero	48	30
1	Digit one	49	31
2	Digit two	50	32
3	Digit three	51	33
4	Digit four	52	34
5	Digit five	53	35
6	Digit six	54	36
7	Digit seven	55	37
8	Digit eight	56	38
9	Digit nine	57	39
:	Colon	58	3A
;	Semicolon	59	3B
<	Less-than sign	60	3C
=	Equals sign	61	3D
>	Greater-than sign	62	3E
?	Question mark	63	3F
@	At sign	64	40
A	Capital letter A	65	41
B	Capital letter B	66	42
C	Capital letter C	67	43
D	Capital letter D	68	44
E	Capital letter E	69	45
F	Capital letter F	70	46
G	Capital letter G	71	47
H	Capital letter H	72	48
I	Capital letter I	73	49
J	Capital letter J	74	4A
K	Capital letter K	75	4B

L	Capital letter L	76	4C
M	Capital letter M	77	4D
N	Capital letter N	78	4E
O	Capital letter O	79	4F
P	Capital letter P	80	50
Q	Capital letter Q	81	51
R	Capital letter R	82	52
S	Capital letter S	83	53
T	Capital letter T	84	54
U	Capital letter U	85	55
V	Capital letter V	86	56
W	Capital letter W	87	57
X	Capital letter X	88	58
Y	Capital letter Y	89	59
Z	Capital letter Z	90	5A
[	Left square bracket	91	5B
\	Backslash	92	5C
]	Right square bracket	93	5D
^	Caret / Circumflex	94	5E
_	Underscore	95	5F
`		96	60
a	Small letter a	97	61
b	Small letter b	98	62
c	Small letter c	99	63
d	Small letter d	100	64
e	Small letter e	101	65
f	Small letter f	102	66
g	Small letter g	103	67
h	Small letter h	104	68
i	Small letter i	105	69

j	Small letter j	106	6A
k	Small letter k	107	6B
l	Small letter l	108	6C
m	Small letter m	109	6D
n	Small letter n	110	6E
o	Small letter o	111	6F
p	Small letter p	112	70
q	Small letter q	113	71
r	Small letter r	114	72
s	Small letter s	115	73
t	Small letter t	116	74
u	Small letter u	117	75
v	Small letter v	118	76
w	Small letter w	119	77
x	Small letter x	120	78
y	Small letter y	121	79
z	Small letter z	122	7A
{	Left curly bracket	123	7B
|	Vertical bar	124	7C
}	Right curly bracket	125	7D
~	Tilde	126	7E
DEL	Delete	127	7F
PAD	Padding character	128	80
HOP	High octet preset	129	81
BPH	Break permitted here	130	82
NBH	No break here	131	83
IND	Index	132	84
NEL	Next line	133	85
SSA	Start of selected area	134	86
ESA	End of selected area	135	87

HTS	Character tabulation set	136	88
HTJ	Character tabulation with justification	137	89
VTS	Line tabulation set	138	8A
PLD	Partial line forward	139	8B
PLU	Partial line backward	140	8C
RI	Reverse line feed	141	8D
SS2	Single shift two	142	8E
SS3	Single shift three	143	8F
DCS	Device control string	144	90
PU1	Private use one	145	91
PU2	Private use two	146	92
STS	Set transmit state	147	93
CCH	Cancel character	148	94
MW	Message waiting	149	95
SPA	Start of guarded area	150	96
EPA	End of guarded area	151	97
SOS	Start of string	152	98
SGCI	Single graphic character introducer	153	99
SCI	Single character introducer	154	9A
CSI	Control sequence introducer	155	9B
ST	String terminator	156	9C
OSC	Operating system command	157	9D
PM	Privacy message	158	9E
APC	Application program command	159	9F
NBS	Non-breaking space	160	A0
	Inverted exclamation mark	161	A1

	Cent sign	162	A2
£	Pound sterling sign	163	A3
¤	Currency sign	164	A4
	Yen sign	165	A5
¦	Broken bar	166	A6
§	Section sign	167	A7
	Diaeresis (umlaut)	168	A8
©	Copyright sign	169	A9
	Feminine ordinal	170	AA
«	Left angle quote	171	AB
¬	Not sign	172	AC
	Soft hyphen	173	AD
®	Registered sign	174	AE
	Macron	175	AF
°	Degree sign	176	B0
±	Plus-minus sign	177	B1
	Superscript two	178	B2
	Superscript three	179	B3
	Acute accent	180	B4
µ	Micro sign	181	B5
¶	Paragraph sign (pilcrow)	182	B6
·	Middle dot	183	B7
	Cedilla	184	B8
	Superscript one	185	B9
	Masculine ordinal	186	BA
»	Right angle quote	187	BB
	One-fourth fraction	188	BC
	One-half fraction	189	BD
	Three-quarter fraction	190	BE
	Inverted question mark	191	BF

	Capital a with grave accent	192	C0
	Capital a with acute accent	193	C1
	Capital a with circumflex	194	C2
	Capital a with tilde	195	C3
	Capital a with diaeresis	196	C4
	Capital a with ring	197	C5
	Capital ae ligature	198	C6
	Capital c with cedilla	199	C7
	Capital e with grave accent	200	C8
	Capital e with acute accent	201	C9
	Capital e with circumflex	202	CA
	Capital e with diaeresis	203	CB
	Capital i with grave accent	204	CC
	Capital i with acute accent	205	CD
	Capital i with circumflex	206	CE
	Capital i with diaeresis	207	CF
	Capital eth	208	D0
	Capital n with tilde	209	D1
	Capital o with grave accent	210	D2
	Capital o with acute accent	211	D3
	Capital o with circumflex	212	D4
	Capital o with tilde	213	D5
	Capital o with diaeresis	214	D6
	Multiplication sign	215	D7
	Capital o with slash	216	D8

	Capital u with grave accent	217	D9
	Capital u with acute accent	218	DA
	Capital u with circumflex	219	DB
	Capital u with diaeresis	220	DC
	Capital y with acute accent	221	DD
	Capital thorn	222	DE
	Small sharp s	223	DF
	Small a with grave accent	224	E0
	Small a with acute accent	225	E1
	Small a with circumflex	226	E2
	Small a with tilde	227	E3
	Small a with diaeresis	228	E4
	Small a with ring	229	E5
	Small ae ligature	230	E6
	Small c with cedilla	231	E7
	Small e with grave accent	232	E8
	Small e with acute accent	233	E9
	Small e with circumflex	234	EA
	Small e with diaeresis	235	EB
	Small i with grave accent	236	EC
	Small i with acute accent	237	ED
	Small i with circumflex	238	EE
	Small i with diaeresis	239	EF
	Small eth	240	F0
	Small n with tilde	241	F1
	Small o with grave accent	242	F2

	Small o with acute accent	243	F3
	Small o with circumflex	244	F4
	Small o with tilde	245	F5
	Small o with diaeresis	246	F6
÷	Division sign	247	F7
	Small o with slash	248	F8
	Small u with grave accent	249	F9
	Small u with acute accent	250	FA
	Small u with circumflex	251	FB
	Small u with diaeresis	252	FC
	Small y with acute accent	253	FD
	Small thorn	254	FE
	Small y with diaeresis	255	FF

28.7 How to use the tables

Suppose that a client needs to send a message with text *Test* encoded in GSM 7-bit. For that, the client must match the letters of all words with the GSM 7-bit table 868 and use their codes. Example, hexadecimal code 54 stands for T, 65 - for e, 73 - for s, 74 - for t. As a result, the following string must be sent as the text: 54657374

In such hexadecimal representation the text must be sent to the next-in-line equipment which, based on the *datacoding* parameter, will try to decode it and send further based on the provider's data coding settings.

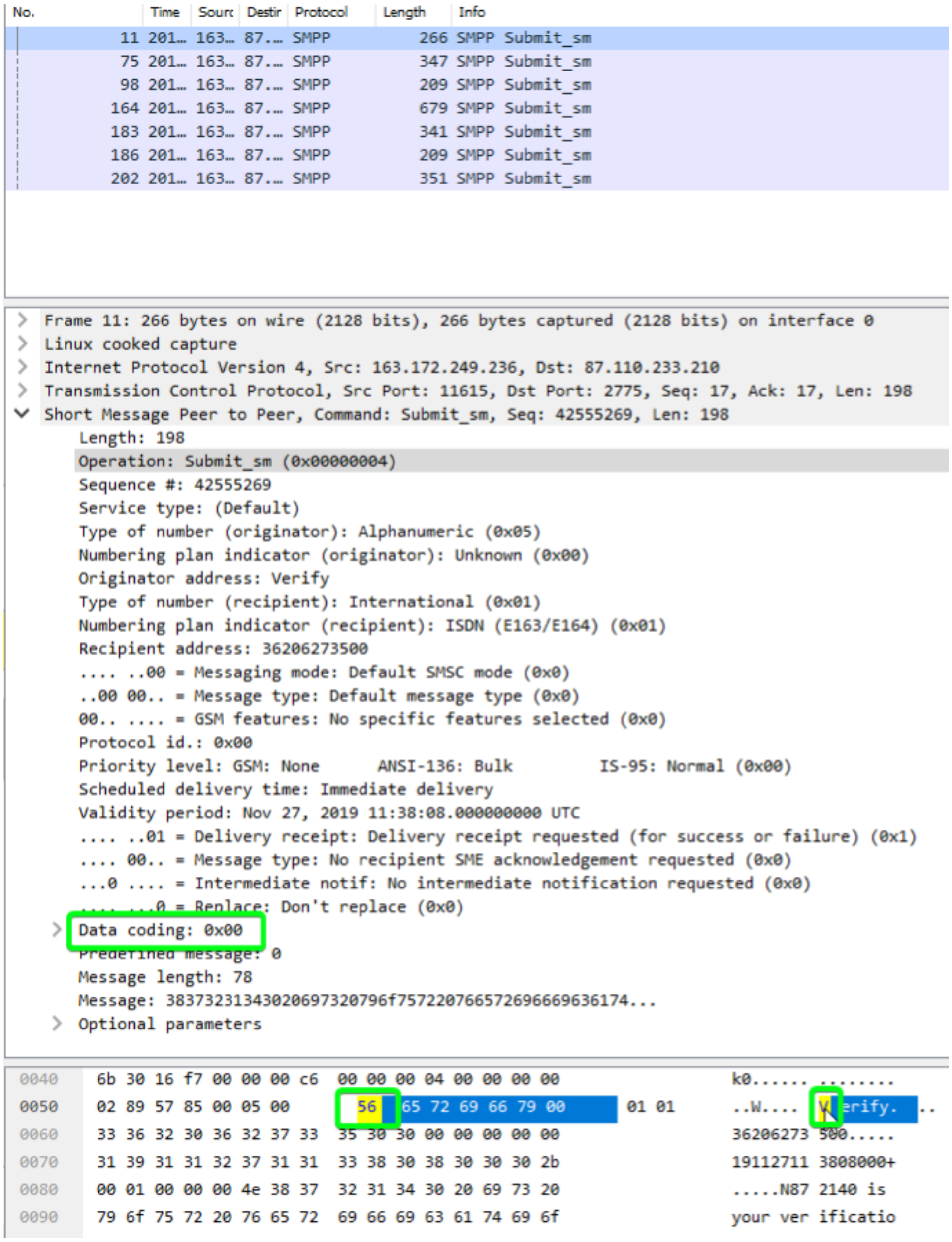
28.8 How to troubleshoot data coding issues

If the message text is received incorrectly on the end-user device, first it is necessary to define if it was properly encoded and sent to the System, and if the vendor channel settings are correct. The System does not transcode the text unless *Transcode messages in unsupported encodings* is specified.

1. Obtain the trace file which includes the *submit_sm* packet received from the client, open it and refer to the *data_coding* parameter. You can use the Administration\Trace analyzer 155 interface to get the traces taken by your platform or obtain the trace file from your client.

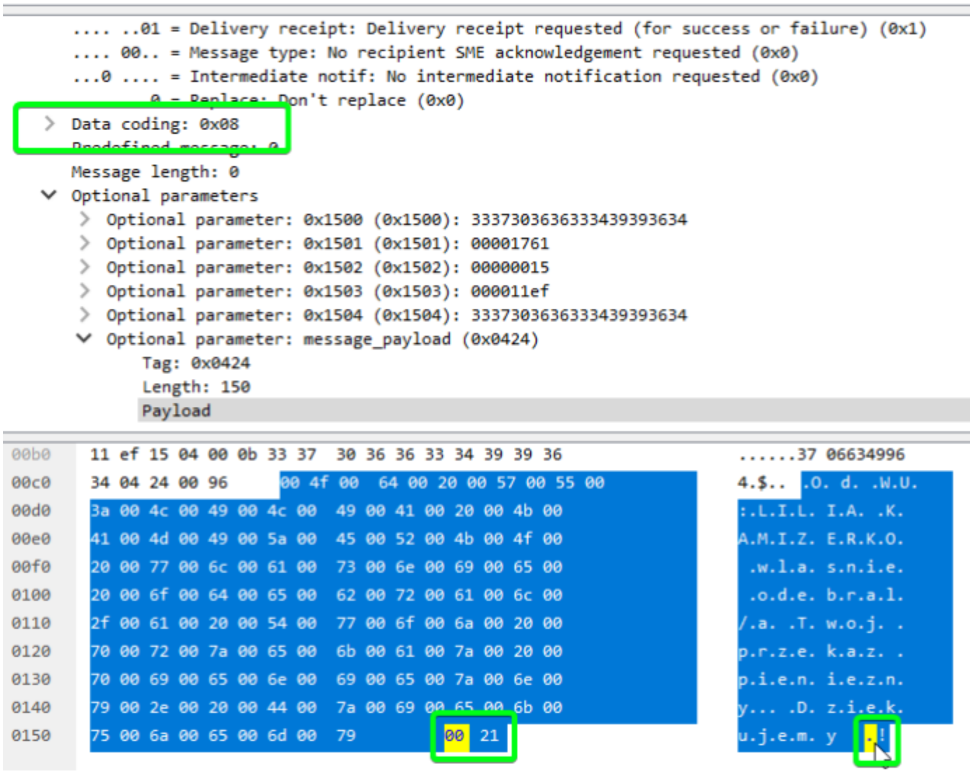
Note that Wireshark program shows message text in ASCII. However, using the *data_coding* and the DC tables it is possible to match characters and their codes. The received data coding parameter is also reflected in EDRs (SMS\EDR management\EDR export tool 371 or Reports\EDR Export (SMS) 305). Currently, even if transcoding was applied, the initial DC will still be written to the EDR as the outgoing data coding.

If *submit_sm* is sent with *data_coding=0* (while the *Default data coding scheme* is set to *GSM 7-bit*), the message text can be found in the packet, and the match can be checked as follows (see the figure below): the symbol V has code 56 (in hex) in GSM 7-bit so the symbol has been encoded correctly. The rest of the symbols can be checked based on the same principle.



Checking the match

If *data_coding=8*, a character is encoded with 2 bytes - for example, an exclamation mark is encoded as 0021 (see figure below).



Exclamation mark encoding

2. If the message text is correctly received and encoded by your client, it is time to check the vendor-side text encoding to make sure that you have not applied any inappropriate data coding changes. Use Administration\Trace analyzer 155 to obtain vendor-side traces or ask your vendor to provide them to you, if possible. Further verification should be done in the same way: Find which Data Coding value was set from your platform to your vendor and ensure that text is encoded correctly by looking up appropriate encoding table.

29 Appendix 11. Instant Messaging: how it works

29.1 What is Instant Messaging?

IM stands for ‘instant messaging’ and offers real-time text transmission over the Internet. Its advantages over regular text messages (SMS) are as follows:

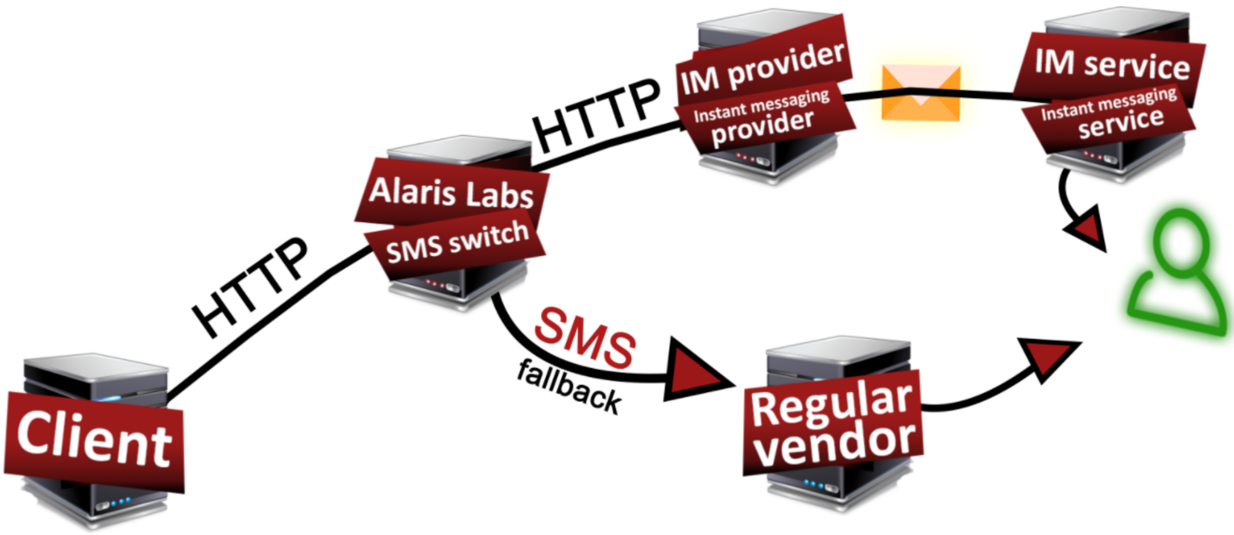
- real-time communication with a possibility of immediate receipt of acknowledgment or reply
- possibility to verify a user’s status (offline/online)
- possibility to transmit video files and images
- less expensive than SMS

In terms of the System, instant messaging is configured using a dedicated product type which gives an opportunity to terminate messages over HTTP through partners that offer access to IM services.

NOTE: Alaris Labs does not provide direct connections to the IM operators. The System only offers a technical possibility of using such services while no contacts are provided by the Alaris team. Currently the System has full support of Viber and Whatsapp APIs.

The System makes it possible for the System owner to create several IM plans in order to send a message over multiple IM services in accordance with their priorities and order (until the message is sent successfully/the list of services is exhausted) and to have a regular SMS channel as a fallback (in case of unsuccessful submission). There is also a possibility to configure TTL (time-to-live) - the period within which the System will be waiting for a response before sending a request to the next-in-line service.

NOTE: It is possible to define the order of IM services/SMS fallback based on which the message will be sent out. However, the SMS service will be used in the end. No SMS fallback is enabled by default, therefore in order to use it, it must be specified while sending the message.



Instant messaging general layout

The figure above illustrates IM message sending. A client carrier connected to Alaris SMS Platform intends to send instant messages to a specific IM channel or service. In its turn, Alaris SMS Platform is connected to an IM provider that will be sending messages through a specific IM service.

This Appendix explains the basics of instant messaging - how messages are sent and how they are different from regular SMS, and how Alaris SMS Platform handles them. Finally, it shows how Alaris Campaign Portal users can benefit from them. You can also view the tutorial on instant messaging that explains how it works and how to configure the System to process IM.

29.2 Configuration of IM channels

29.2.1 General configuration

The System has a predefined list of IM services that can be found in SMS\Reference books\IM channels 448. Note that the default list is given as a reference and currently the System does not support all of their APIs. It is also possible to add a custom IM type that may serve as a fallback: for example, it may be a regular HTTP provider or a local IM service whose API can be added to the System. Once added, it must be configured appropriately (the IM client and vendor products for the service must be added as well as routing must be adjusted). As soon as it is configured, the IM channel can be selected as one of the services for message sending. See the details of the configuration below.

The Reference books\Contract companies 261 page has the IM channels list that allows the System owner to select IM channels and make them available for a specific contract company. For example, if the Viber IM service is not selected for the Alaris contract company, carriers of this company will not be able to subscribe to a pack or IM plan created for the Viber service.

To terminate messages to IM services, corresponding entities must be created for the providers (the products must be of the IM type) as well as for clients - for example, to route a message to WhatsApp, the message must be received from a channel attached to a corresponding WhatsApp client product.

Products of the IM type can be created in the Carriers\Products 180 tab as usual. The main distinctive feature of this type is that when it is selected, the *IM channel* field becomes available - it must be filled in with a specific IM service for which the product is created. Once Viber is selected as the IM channel, the *Product notes* must be set to one of the following values:

- *promotion* (regularly used for sending of advertising campaigns)
- *transaction* (for notifications in regard to the user's transactions)

As both services are supported by the System as well as both have different purposes and may have different pricing for message termination, a separate product can be created for each service.

NOTE: Several client POIs with the same service type can be created, which are associated with a single channel but different products. For example, if four products (regular SMS product, Viber promotion, Viber transaction and WhatsApp) have been created in the System, four POIs of the same service type (attached to separate products) can be created within a channel.

NOTE: General configuration except for product creation (i.e., creation of carrier, account, agreement, SMS channel, SMS POI and routing rules; uploading of rates) should be managed as usual.

29.2.2 Configuring IM for wholesale traffic

To enable IM messaging for wholesale traffic, proceed as follows:

1. Create an IM product for a specific IM channel
2. Add a client channel and POI attached to the product and channel

3. Create one product for each IM service that you plan to provide to the client (for example, if Viber transaction and WhatsApp services will be used by the customer, two corresponding products must be added along with corresponding channels and POIs)

4. If fallback is needed, add an SMS product for the client

5. Below is an example of a link that must be used by the client to send a message over IM services (once all vendor/routing configuration is complete) is as follows:

http://<IP>:<port>/api?ani=<ani>&dnis=<dnis>&username=<login>&password=<pass>&serviceType=<serviceType>&message=<text>&command=submit&im-channels=<imchannels>&im-message=<imtext>&im-ttl=<ttl>&message-purpose=<purpose>&image-url=<imageURL>&button-caption=<button>&button-action-url=<buttonURL>

where

<IP> must be replaced by the SMS switch IP

<port>: the switch port (by default it's 8001 for HTTP and 8002 for HTTPS)

<ani>: sender ID

<dnis>: destination address

<login>: channel login

<pass>: channel password

<serviceType>: POI service type

<message>: message text. Note that the text will be sent to SMS providers only (IM text is filled in a separate field)

<imchannels>: list of IM services; their sequence defines the order. For example, if the value is set as viber,whatsapp,sms, the Viber service will come first for message termination and SMS will be considered a fallback. If set as whatsapp, no fallback is expected. Note that even if sms is set ahead of an IM service, it will always be put to the end of the list automatically

NOTE: The fallback channel will be used if no successful submit response was received within the im-ttl timeout or the final SMS status is marked as a rerouting status (in the vendor channel to which the initial submit was sent).

<imtext>: message text that will be sent to IM providers

<ttl>: time to live for each service. If left empty, the default values defined in SMS\Reference books\IM channels 448 will be used. Example: ..&im-ttl=30,50,70&..

<purpose>: applicable to Viber service only. Can be set either to transaction or promotion. If the purpose is not specified explicitly, it is assigned by the SMS switch: if button-caption or button-action-url parameter is specified in the link, the type is defined as promotion

<imageURL>: link to the button image. Applicable to Viber promotion service only

<button>: button text. Applicable to Viber promotion service only, cannot be specified with button-action-url absent

<buttonURL>: URL opened when clicking a button. Applicable to Viber promotion service only, cannot be specified with button-caption absent

It is also possible to use the viber_message_type parameter in the incoming request. The parameter values can be as follows:

6, 106, 206, 7, 107, 207, 8, 108, 208, 9, 109, 209, 210

which is based on the Viber HTTP API document. If the SMS switch receives a request with a value other than mentioned above, the message will be rejected. If no value is set, it is calculated by the SMS switch.

29.2.3 Configuring IM for the Campaign Portal

Configuration of instant messaging is similar to SMS: IM plans can be used along with IM packs and packs have priorities over rate plans. Regular SMS packs and plans will be used to terminate traffic if SMS channel is selected while sending a single message/launching a campaign.

29.2.3.1 IM plan

To create and enable the use of an IM plan proceed as follows:

1. Create a parent IM rate plan by creating a client product of IM type under the System owner carrier in the Carriers\Products 180 tab. Reminder: a parent product must be created for an account with the currency matching the partner's, otherwise it will not be available for use. Note that to make multiple IM services available for the Campaign Portal partner, several IM rate plans with different IM channel values must be added (to support both promotion and transaction Viber services, add two products with different *Product notes* correspondingly)
2. Create a Campaign Portal carrier with the help of either the *Create Campaign Portal client* button (Carriers\Carriers 163) or registering from the Campaign Portal
3. Assign the rate plan either with the help of the *Apply rate plan to Campaign Portal client* button (Carriers\Products 180) or from the *Purchase* tab of the Campaign Portal. Note that several rate plans can be assigned (one plan of each type + one plan for each Viber service + regular SMS plan)
4. The corresponding product, channel and POI will be created automatically

29.2.3.2 IM pack

To create and enable the use of an IM pack proceed as follows:

1. Create a pack in the Campaign portal\SMS pack 564 interface and fill in the *IM channel* field. Note that to make multiple IM services available for the Campaign Portal partner, several IM packs with different IM channel values must be added (to support both promotion and transaction Viber services, add two packs with different *Pack purpose* correspondingly)
2. Create a Campaign Portal carrier with the help of either the *Create Campaign Portal client* button (Carriers\Carriers 163) or registering from the Campaign Portal
3. Subscribe the carrier to the pack in the Campaign portal\SMS pack user subscription 566 interface or in the *Purchase* tab of the Campaign Portal
4. The corresponding product, channel and POI will be created automatically

29.2.4 IM provider configuration

To configure an IM provider, proceed as follows:

1. Create a carrier, account and agreement for the partner the same way as for an SMS carrier
2. Add a product of the IM type specifying the IM channel. If a client is supposed to use multiple IM services, add a separate product, channel and POI for each service. To support both Viber services (promotion/transaction), two separate products with corresponding *Product notes* must be added

3. Add a channel of vendor direction and the HTTP protocol for the product. Note that the URL template as well as the POST template (if required by the provider's API) must be filled in appropriately

4. Add an SMS POI for the IM product and channel.

Note that it is possible to use one channel for both Viber services while there must be two products and POIs with different service types (can be set to any as the value is not verified on Viber side). To support Viber-related fields, the following markers can be used in a vendor channel:

$message_purpose$ - the marker contains the value of the message-purpose field (transaction/promotion) either received from a client or calculated by the SMS switch

$viber_message_type$ - the marker contains the value of the viber_message_type parameter from the client request. If a message is sent from the Campaign Portal, the value is calculated by the SMS switch

$viber_message$ - the marker contains a value in the JSON format based on the following rules:

1. if viber_message_type is not set or ends with 6, only #txt is included in JSON

2. if viber_message_type ends with 7, only #img is included in JSON

3. if viber_message_type ends with 8 or 10, then #img, #txt, #caption, and #action are included in JSON

4. if viber_message_type ends with 9, then #txt, #caption, and #action are included in JSON

5. if viber_message_type starts with 2, then tracking_data is included in JSON. The tracking_data parameter allows matching an incoming MO message with the initial MT message given that Viber returns the parameter in a deliver_sm packet of the MO message. When sending a message from the Campaign Portal, *Expect user response* must be selected for the viber_message_type parameter to start with 2. If a message is received from a client over HTTP, the viber_message_type must be set by the client. Note that this message type cannot be set for a message sent from the *Send SMS* tab

An example of Viber configuration is as follows:

URL template: https://services.viber.com/vibersrvc/1/send_message

POST template: {

"service_id":ani,

"dest":"$dnis$",

"seq": $ownIntMessageId$,

"type":$viber_message_type$,

"label":"$message_purpose$",

"message":$viber_message$,

"ttl": $im-ttl$

}

29.2.5 Routing configuration

All routing rules must be set as usual. The routing module will search for the rules where a specific IM provider is set. For example, if a request is received from a WhatsApp product, only rules where the WhatsApp vendor has been specified as a choice will be checked.

NOTE: When both IM and SMS channels are used, and the SMS product has the *Dip HLR* option enabled (given that the internal HLR configuration has been set up), the System will do HLR lookup before the routing. If there is an HLR rate, it will be deducted from both the client rates of IM and SMS client products (if the *Deduct HLR rate from margin* System parameter is enabled). This may result in unexpected negative margin on the IM route.

29.3 Simulation

Once all carrier-related configuration along with routing one is complete, it is possible to verify the results with the help of the Simulation tool.

1. Access the page and select any client product and its POI
2. To test IM services, select the Use IM channels flag. Note that it's possible to select several channels as well as sms
3. Set the IM text (text that can be sent to IM providers) and regular message text if required
4. Specify the rest simulation parameters
5. Click on the Get routes and verify the result via the view log hyperlink

Note that a simulation log with specified IM channels differs from a regular one. As a routing module can route an IM message received from a specific IM client channel to the same IM vendor channel (for example, Viber to Viber and WhatsApp to WhatsApp), the log is divided into sections, one for each selected service. The same selected channels can be found in the *List of requested IM Channels* entry of the log. An example of a section is as follows:

<whatsapp> ============ route search trace ==(IM channel <whatsapp>)=================

Each section is marked with the IM channel name for better guidance:

<whatsapp> --------- initial data ---------------

<whatsapp> ANI/DNIS 1 / 7, ToN 1/1, NPI 1/1, DC 0, parts 1, concat 0, segmented , message length 6

<whatsapp> guid omniChannel

<whatsapp> text IM

<whatsapp> serviceType

…..

Additionally every section illustrates the flow of route searching which is similar to regular SMS routing (client identification, vendor available rates, search for suitable rules), see Appendix 5. SMS simulation troubleshooting guide\Simulation process 704.

29.4 Sending messages from the Campaign Portal

Once the configuration is completed and verified, it's possible to test message sending from the Portal.

NOTE: If more than one channel is selected for message termination, the System will reserve cost/messages as if the message was sent towards all channels. Once the message is confirmed to be submitted successfully/delivered over a channel, cost/messages for the services that have not been used will be returned to the balance/SMS packs according to the billing option set for the product. This is done to prevent a user from exceeding the allowed credit limit (in case of any) or consumption of packs.

Example: Suppose the user's balance is 10 USD. Channels Viber and WhatsApp are selected for message termination. Provided there is a pack for 100 left messages for Viber and a rate plan (with the price of 0.2 USD for the selected destination) for WhatsApp, once the message is sent the client's available messages/balance will look as follows:

- 99 messages are left in the Viber's pack
- the client balance will be 9.8 USD

As soon as WhatsApp sends a successful response (suppose that the client product is billed based on submitted messages), it will be updated to:

- 100 messages are left in the Viber's pack
- the client balance will be 9.8 USD

29.4.1 Sending a single message

To send a single message, proceed as follows:

1. Log in to the Alaris Campaign Portal
2. Specify the *Sender ID* and *Recipient* in the Dashboard panel
3. Select the available IM services through which a message must be sent. Drag and drop the IM channels to set the order. Note that TTL can be changed for each IM service for each attempt. To adjust the default values, access the Administration\IM channels 614 tab of the Campaign Portal

Reminder: the SMS channel will remain last in the drag'n'drop window

4. Provide the value in the *Message* field if the SMS channel has been selected
5. Provide the value in the IM *message* field if an IM channel has been selected
6. Specify the *Image URL*, *Button caption* and *Button action URL* field values if the Viber promotion service must be used.

NOTE: Once *Image URL* is set, the *Message purpose* value will be set to *promotion*. *Button caption* and *Button action URL* field values must be specified

7. Once the Viber channel is selected, the checkbox *Expect user response* can be selected, which has an effect on the message type sent to the provider
8. Click *Send SMS*

29.4.2 Sending a campaign

To send a campaign, proceed as follows:

1. Upload contacts in the Contacts 601 page
2. Add an MO reply template in the Templates 606 page if necessary
3. Prepare a file and upload it in the Campaigns\"Send from file" tasks 590 tab. The tab allows selecting necessary channels (only IM, IM+SMS, only SMS) as well as TTL for each IM service and their order. All IM-related fields can be parsed in the file during this step. Once the campaign parameters are set, click the *Send messages* button

The message status can be found in the Statistics 599 page. It is also possible to verify the channel to which the message was sent with the help of the *IM channel* column.

30 Appendix 12. Routing: best practices

This document contains guidelines for building an optimum routing scheme.

30.1 How can I optimize a routing scheme?

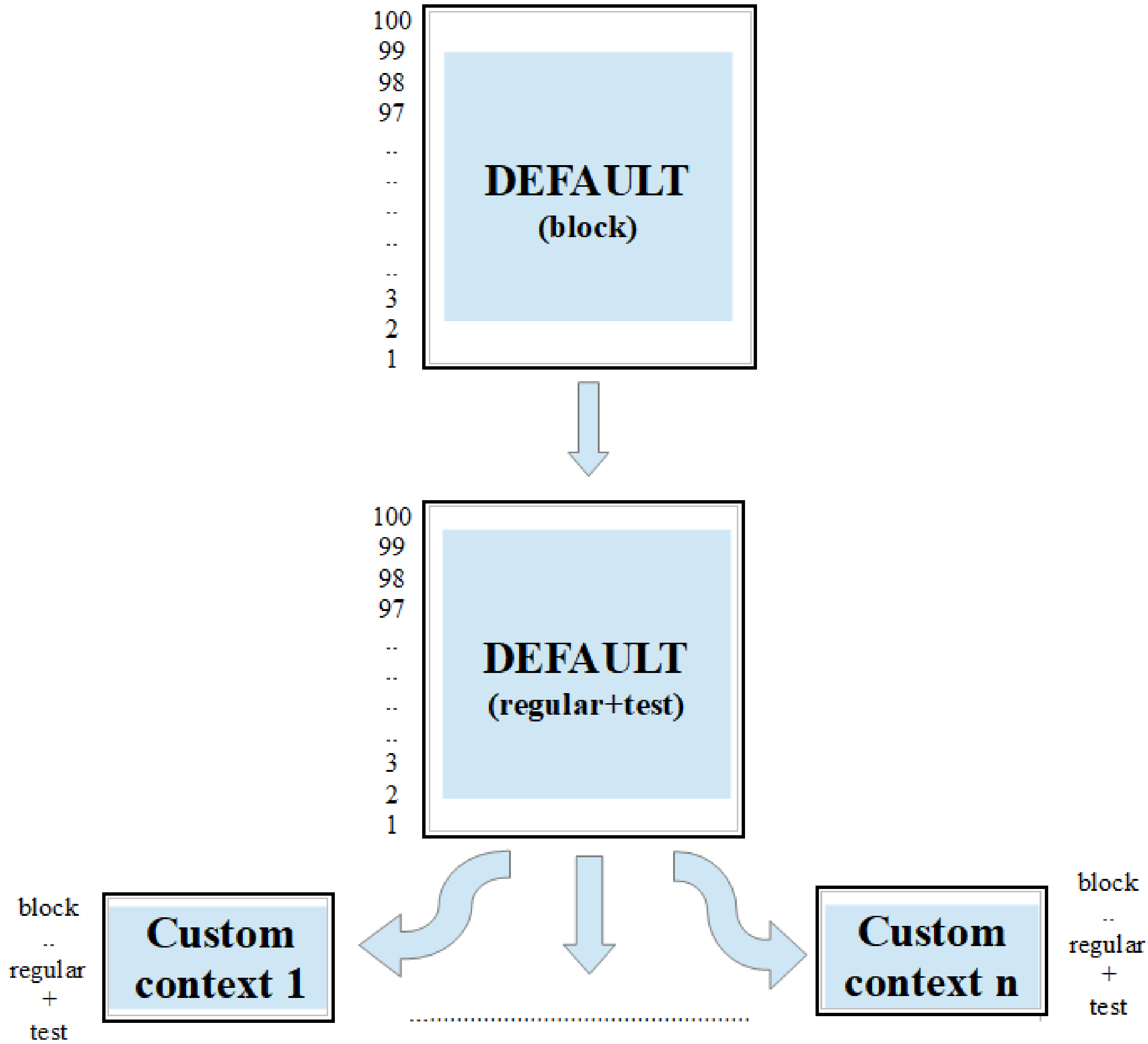
Checks performed by the routing module

In order to optimize the routing scheme it is recommended to reduce the number of routing rules that are checked by the routing module.

NOTE: Before the routing rules are checked, the client's identification takes place. The System verifies that the client is allowed to send traffic (for example, that its POI is active and it has suitable rates for the destination/MCC(MNC)); after that all suitable vendors' rates are checked - this stage can take some time if there are too many active rates in the System.

Routing rules are checked in the following order:

1. Block rules in the DEFAULT context. Rules are checked in the descending order of priority (starting from priority 100; in case of the same priority the rule with greater ID is checked first)
2. Rules (*Test* and *Regular routing*) in the DEFAULT context are checked in the descending order of priority
3. If switching to a different context takes place, block rules in the context are checked first, after that test and regular rules are checked according to their priority

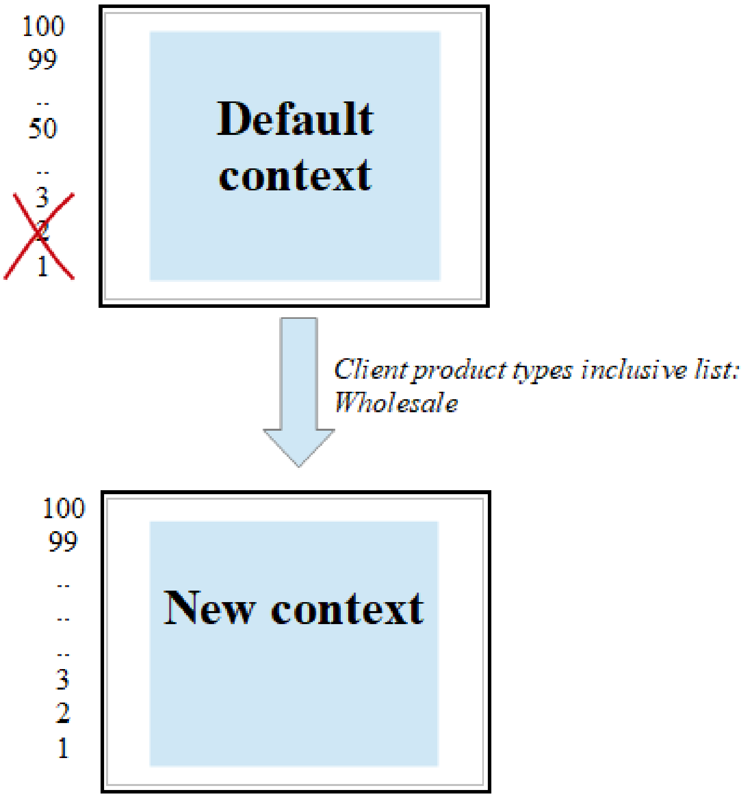


When the number of routing rules (within the same context) in the System is over 300-500, it is advisable to reduce it (since the routing module can be overloaded). This can be done by restructuring the routing scheme: allocating rules based on their common filters into dedicated contexts. This way, it is possible to build a routing table.

What is a routing table?

The term *routing table* refers to a breakdown of routing rules by context (field *Context* in *Routing rules)* for optimal workflow of the routing module. By default the platform offers only one context - DEFAULT - and new contexts can be added when creating a new routing rule with a new codeword defined in *Context* field. Also it is possible to add a new context with a rule having *Next action* defined as *Switch to context*.

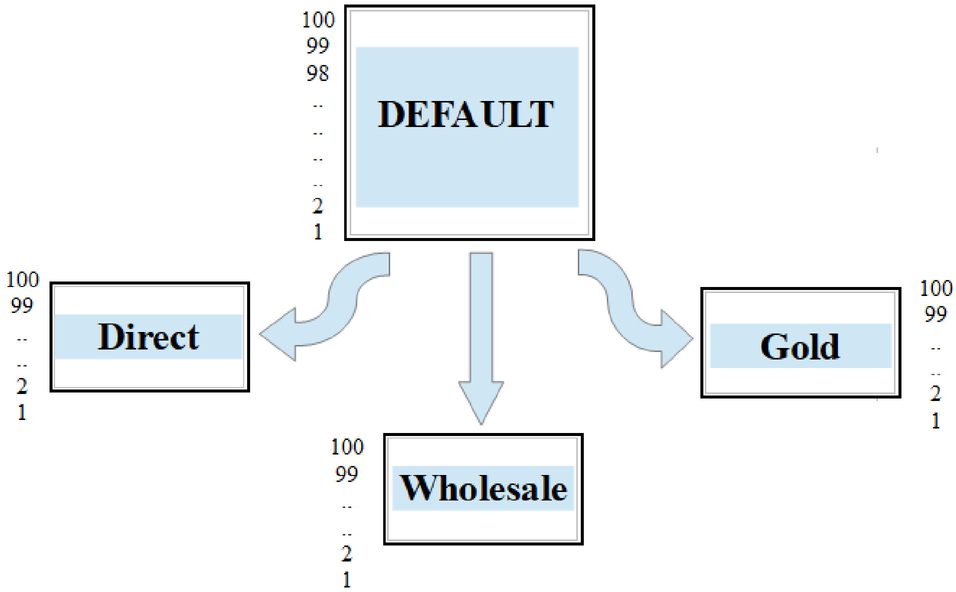
Once the System switches to a user context (happens by *Next: Switch to context* action), rules from DEFAULT and other contexts are not checked (if there is no additional switch) - thus the number of steps required to get a route list is reduced.



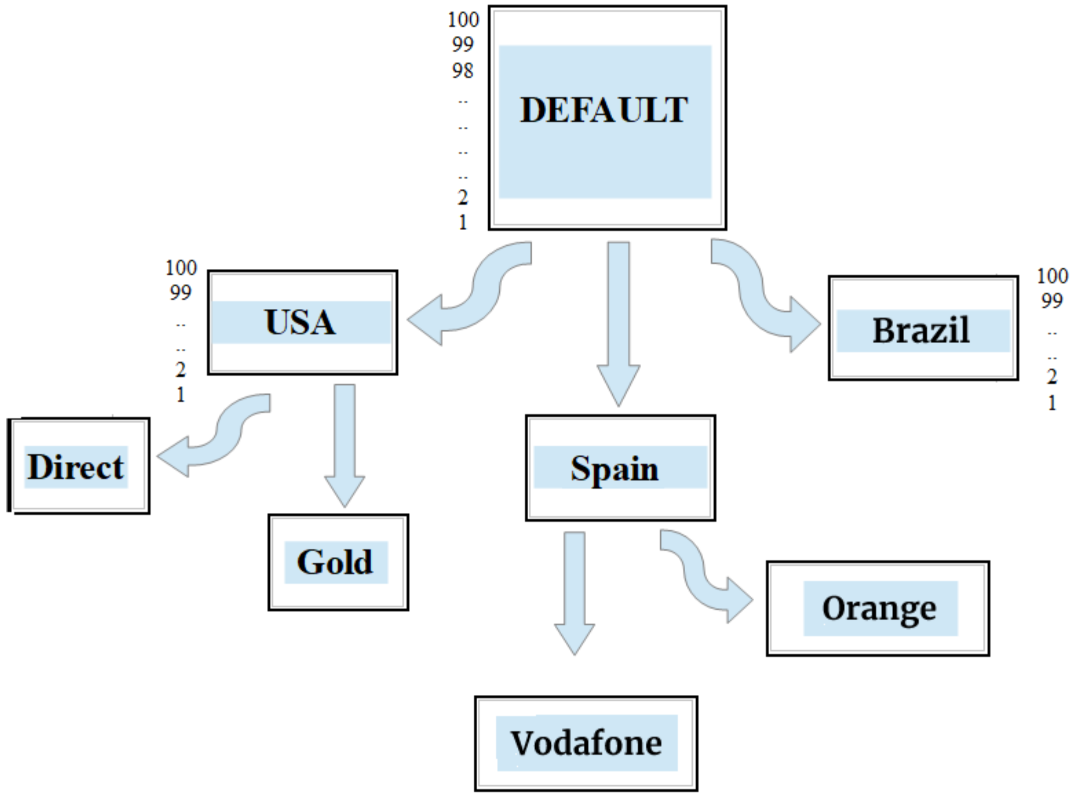
Concepts of rule distribution

Based on our experience of routing configuration, there are two main concepts for creating a routing scheme: splitting contexts based on *Client/vendor product types* and/or by *Destination/MCCMNC*. Which one to select (or selecting their combination) is mostly based on how the System owner plans to route the traffic most of the time: according to the client's service level or the destination.

If the platform has not been used thoroughly and the user is migrating the traffic or building the routing from scratch, at first it can be useful to break down rules based on client product types (for example, if the products are separated into 3 types - *Direct, Wholesale, Gold*, three corresponding contexts can be created - *Direct context, Wholesale context, Gold context*).



Once the number of rules within one context is more than several hundred, the best way to configure the routing scheme is to break down in contexts based on country (e.g., *USA*, *BRAZIL*, *SPAIN*, etc). If most traffic passes through certain countries (the number of which is limited), it is possible to break down a separate context into smaller ones (for example, it is possible to separate contexts by network - Orange, Vodafone, etc) and/or by product types as illustrated below:



Example of rule distribution by context (for initial configuration)

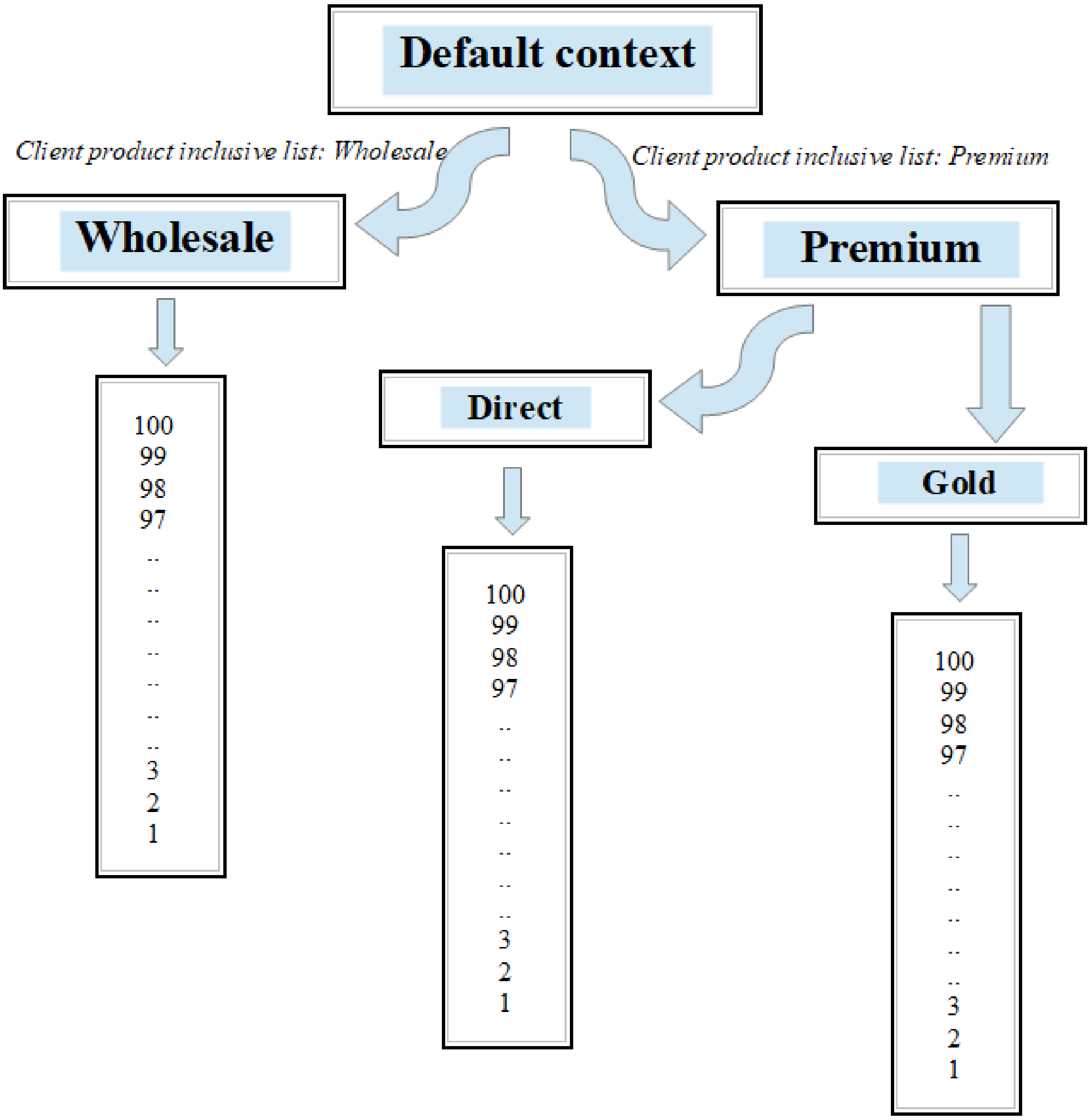
In order to build a proper routing scheme, it is necessary to decide how to best distribute the traffic – by country or product type - and get at least a rough estimation of potential rules. As was mentioned earlier, diverse context distribution (more than a few) is not always best on the initial stage.

Suppose that for initial configuration it is planned to create about 200 rules; also there will be no separation by countries. The main logic is expected to be as follows:

1. Clients with the product type *Wholesale* can send traffic only to vendors of the same product type

2. Clients with the product type *Premium* can send traffic only to vendors of the product type *Direct* (if traffic goes to Kazakhstan) or to vendors with product type *Gold* (any other cases)

Rule distribution by context is illustrated in the figure below.



In this way, the following rules must be created:

1. The DEFAULT context must contain rules that switch traffic to the *Wholesale* and *Premium* contexts based on *Client product types*
2. The *Wholesale* context will contain rules through which traffic to *Wholesale* vendors should be sent
3. The *Premium* context will contain rules that switch traffic to the *Direct* and *Gold* contexts based on the *MCCMNC* filter
4. The *Direct* and *Gold* contexts will contain rules to send traffic to the respective vendors

Example of a switching rule from the DEFAULT context to Wholesale:

NOTE: If a field is not specified in the list above, it is left by default as it is.

Description: Switch to *Wholesale*

Rule type: Regular routing

Context: DEFAULT

Start date: 2018.09.01 00:00:00

End date: 2100.09.01 00:00:00

Is active: Yes

Priority: 90

Client product types inclusive list: Wholesale

Next: Switch to context

Next context: Wholesale

Rule comments: Rule for switching to wholesale traffic

Example of switching from the Premium context to Gold:

Description: Switch from *Premium* to *Gold*

Rule type: Regular routing

Context: Premium

Start date: 2018.09.01 00:00:00

End date: 2100.09.01 00:00:00

Is active: Yes

Priority: 80

MCCMNC exclusive list: 401% - Kazakhstan, All networks

Next: Switch to context

Next context: Gold

Rule comments: Rule for switching traffic from Premium clients

to Gold vendors

Note that it is possible to move some blocking rules into the dedicated contexts that are responsible for processing traffic from *Wholesale*/*Gold* client products. This will reduce the number of rules that are passed through in the DEFAULT context.

NOTE: The *Rule comments* field can be useful for specifying the purpose of creation of the rule especially in case there are many routing managers responsible for the rules.

Example of rule distribution by context (for the current scheme)

Suppose there are 600 regular rules in the DEFAULT context in the System and the traffic passes through countries in the following way:

1. To Spain (number of rules: 350; rules priority: 95)
2. To USA (number of rules: 103; rules priority: 85)
3. To France (number of rules: 92; rules priority: 80)

4. To the rest of the countries (number of rules overall: 55; rules priority: 75 and less)

There is no separation by product type, however the products for leading countries (where there is a lot of traffic) are separated to Wholesale and Premium and names of the product types can be defined by the following pattern: <country_name>_<traffic_profile> (e.g., Spain_Premium). Eventually, once a message is sent to a German destination (MCCMNC 262001), about 400 rules (Spain rules, USA rules, France rules, etc) are being checked - so the flow must be optimized.

In order to optimize the scheme, three rules will be added to switch traffic to SPAIN, USA and FRANCE contexts. This is how the rule for SPAIN context will look like:

Description: Switch to Spain

Rule type: Regular routing

Context: DEFAULT

Start date: 2018.09.01 00:00:00

End date: 2100.09.01 00:00:00

Is active: Yes

Priority: 96

MCCMNC inclusive list: 214% - Spain, All networks

Next: Switch to context

Next context: SPAIN

After that all corresponding rules for Spain must be moved to the SPAIN context (the same should be done for Spain and France as well) by changing field *Context*: DEFAULT to *Context*: SPAIN.

This procedure helps to ‘clear’ the DEFAULT context and check for sending traffic to other countries will be faster.

NOTE: In case the change is too labour-intensive, create a ticket to the Alaris technical support team specifying the list of rules that must be changed, the change itself and time when the change should come into effect. If there is a need to migrate one or several rules to a dedicated context, it makes sense to use the *Clone* option changing the fields in question and then pressing *Submit*. This will create a new rule without making changes to the currently used one.

In the custom contexts for Spain, USA and France countries additional optimization can be done by product types as well, however this may not be efficient for USA and France since the contexts have about 100 rules each.

Optimization for the SPAIN context can be done by moving rules dedicated to specific product types into their own contexts. For example:

Description: Spain Wholesale

Rule type: Regular routing

Context: SPAIN

Start date: 2018.09.01 00:00:00

End date: 2100.09.01 00:00:00

Is active: Yes

Priority: 95

Client product types inclusive list: Spain_Wholesale

Vendor product types inclusive list: PREMIUM

MCCMNC inclusive list: 214001 - Spain, Orange

Next: Switch to context

Next context: Spain Wholesale

Rule comments: Rule for switching traffic to Spain (Orange network) for Wholesale client products

In this example the filter *MCCMNC inclusive list* is set to 214001 – specifying such filters makes sense if there is a need to detail traffic distribution within a context. However, it will be wrong to specify the filter *MCCMNC inclusive list* as ‘214%’ since filtration already takes place during the switch to the SPAIN context (so there is no need in an additional checkup).

NOTE: In order to check how a rule (or a newly configured routing scheme) will work, it is recommended to add rules with the *Start date* in the future and specify this date (or a later date) in the *Time* field during simulation. For example, for the rule with ‘Start date: 01.01.2019 03:00:01’ the *Current time* checkbox can be deactivated and the *Time* field can be set as 01.01.2019 03:00:01 (option 02.01.2019 00:00:00 is also possible).

30.2 Common issues

No proper structure/poor optimization

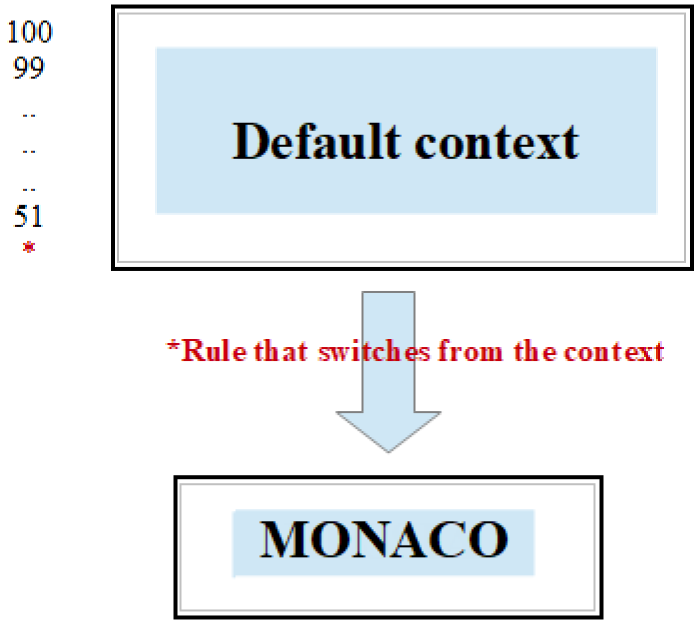
In case the rules (or their most part - at least 80% of them) are in the same context (e.g., in the DEFAULT) routing module checks them one by one according to their priority. This can result in poor performance of the routing module causing rejections in case of peak traffic volumes.

Assignment of the same priority to several rules

If the same priority is assigned to the majority of the rules (for example, 100), situations when it is impossible to create a new rule with greater priority may occur. In case of the same priority rules, will be checked in accordance with date of their creation (newer rules are checked first)

No switching rule available

Once a new context (different from DEFAULT) is created (for example, the SPAIN context), the switching rule (rule that switches traffic to this context) must be created (the option *Next* must be specified as *Switch to context*, also no choice list must be specified).

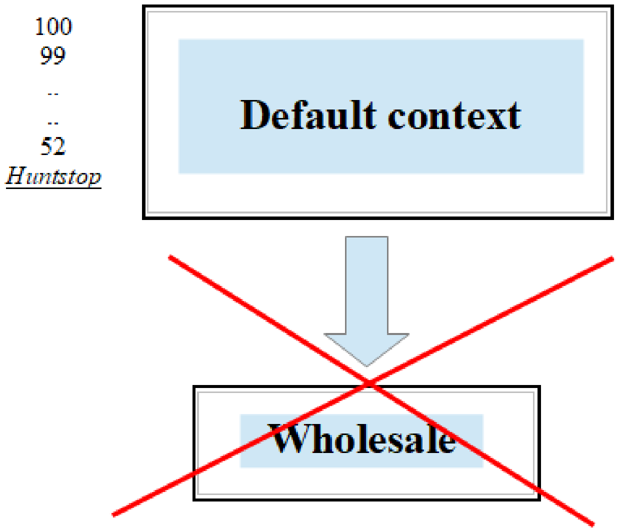


Creating excess rules

If the System owner is working with several countries only or the number of clients is not very high (5 to 10), managing different contexts and creating hundreds of rules is excessive. Such schemes can be managed through a set of 10-20 rules that work for specific client + country/network/destination pairs.

'Huntstop' before the switching rule

Since the DEFAULT context is checked in the first place, switches to the user's contexts must be organized before the 'Huntstop' action is found. As a result, if the switch-to-context rule has a lower priority than the rule that triggers huntstop - routing may stop abruptly before the necessary switch takes place and the traffic gets rejected.

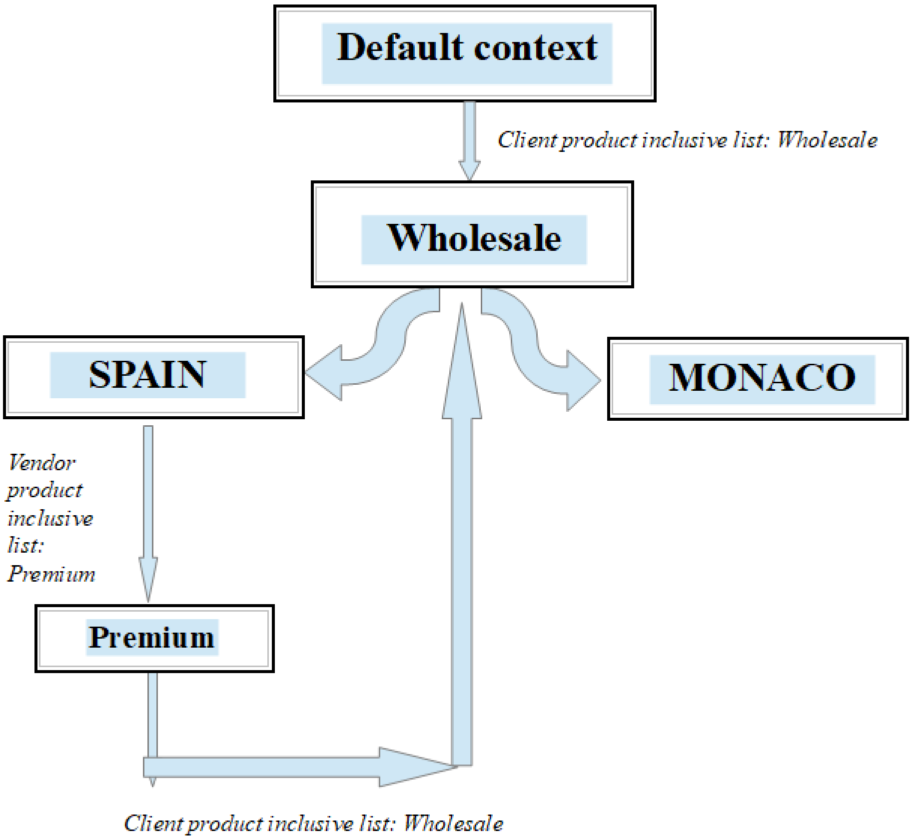


Using blocking rules to optimize the structure

Creation of block rules in order to decrease the number of routing rule checks will not improve the performance since the routing module checks all suitable rules in any case - for example, if a vendor specified in the choice of rule ID x has been blocked by routing rule ID y, the rule ID x will still be checked (on condition that the rule is in the corresponding context and the *Huntstop* option is not met before the check).

Switching to a previously checked context

Recurrent switches by any of the filters to an already checked context can lead to loops, for example:


Default context
Client product inclusive list: Wholesale
Wholesale
SPAIN
MONACO
Vendor product inclusive list: Premium
Premium
Client product inclusive list: Wholesale

31 Appendix 13. SMPP connection troubleshooting

The purpose of this document is to describe the most common connection issues that may emerge while establishing SMPP interconnection between Alaris SMS Platform and a partner's system. Information provided below contains a number of tips on the initial analysis of interconnection problems and their solution.

SMS channel statuses

- *empty* – indicates that the channel is either disabled or not linked to an active SMS POI

	ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
		All	All	All	Text mask	Text mask	Text ma		All
	904	Alaris Vendor	TR	No	Alaris Vendor Channel	163.172.233.88	2875	alcli	

- *bound* – indicates that the SMPP connection is established and channel can be used for message processing

	ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
		All	All	All	Text mask	Text mask	Text ma		All
	904	Alaris Vendor	TR	Yes	Alaris Vendor Channel	163.172.233.88	2875	alcli	bound

- *offline* – indicates that connection is not established

	ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
		All	All	All	Text mask	Text mask	Text ma		All
	904	Alaris Vendor	TR	Yes	Alaris Vendor Channel	163.172.233.88	2875	alcli	offline

- *rebind needed* – indicates that the vendor side has responded with an error to bind requests. This can be due to incorrect credentials (System ID - which is the login, password or System type).

	ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
		All	All	All	Text mask	Text mask	Text ma		All
	904	Alaris Vendor	TR	Yes	Alaris Vendor Channel	163.172.233.88	2875	alcli	rebind needed

- *connected* – indicates that only a TCP connection is established, and SMPP connection troubleshooting is required (status available only for Systems with SMS Switch 3)

	ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
		All	All	All	Text mask	Text mask	Text ma		All
	904	Alaris Vendor	TR	Yes	Alaris Vendor Channel	163.172.233.88	2875	alcli	connected

When 'offline', 'rebind needed', 'connected' or empty status is observed messages cannot be received or sent through the channel and problem investigation is required. Basic troubleshooting can be done by means of PCAP traces as they contain all incoming and outgoing packets. PCAP traces can be obtained in the Administration\Trace analyzer 155 interface and opened with any network protocol analyzer, for example, Wireshark.

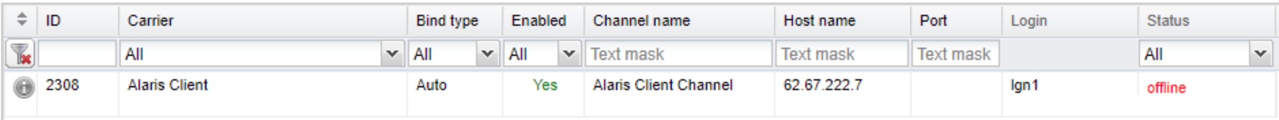
NOTE: Wireshark is a third-party software and not provided as a part of Alaris SMS Platform.

PCAP traces must always be captured for the period when the problem was observed. When troubleshooting a new connection traces must be captured after the SMS channel configuration is done. When troubleshooting an existing connection traces must be captured for the period when the channel went offline. Changes of channels statuses can be checked with the report Reports\Channel status updates (Reference) 304.

Step 1. Check configuration

If no status is displayed, the whole partner's Carriers chain should be checked. All the relevant entities must be created

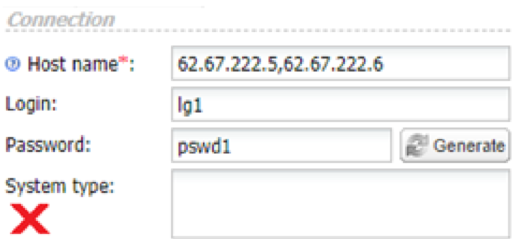
(Carrier->Account->Agreement->Product->SMS Channel->SMS POI).

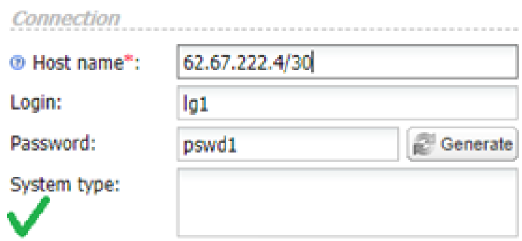


ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
	All	All	All	Text mask	Text mask	Text mask		All
2308	Alaris Client	Auto	Yes	Alaris Client Channel	62.67.222.7		lgn1	offline

Special attention must be paid to the SMS channel:

- the channel must be linked to a product with an SMS POI
- the host name of the client direction channel must be filled with a single IP address (dot-decimal notation) or a subnet mask
- the host name of the vendor direction channel must be filled with a single IP address (dot-decimal notation) or a domain

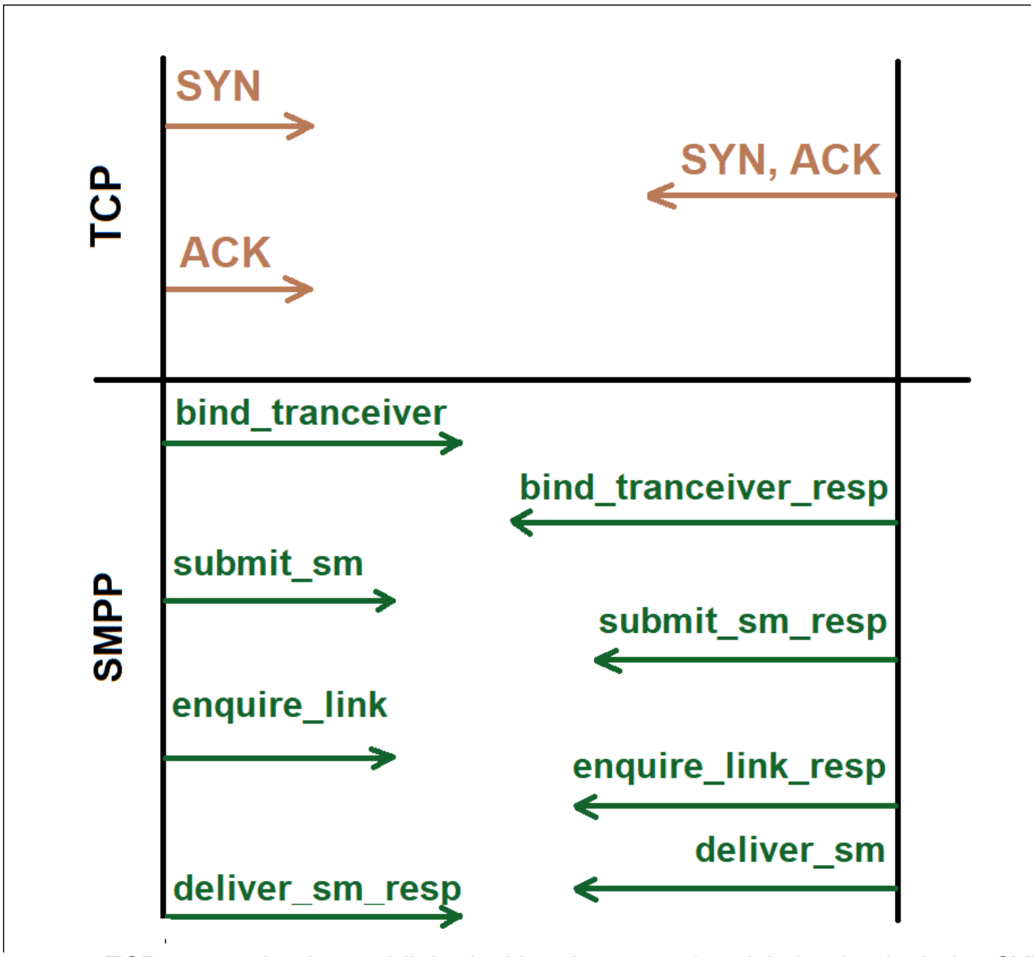




Starting from version 3.5.23, multiple IP addresses can be added for the client channel (comma-separated, in IPv4 format). The feature is available only for the new generation SMS switch.

Step 2. Check TCP connection

Since SMPP binds work over TCP protocol, the first thing that must be checked is whether TCP connection is established. A basic TCP/SMPP session sequence can be illustrated by the following scheme:



At the first stage a TCP connection is established with a three-way handshake that includes SYN and ACK packets.

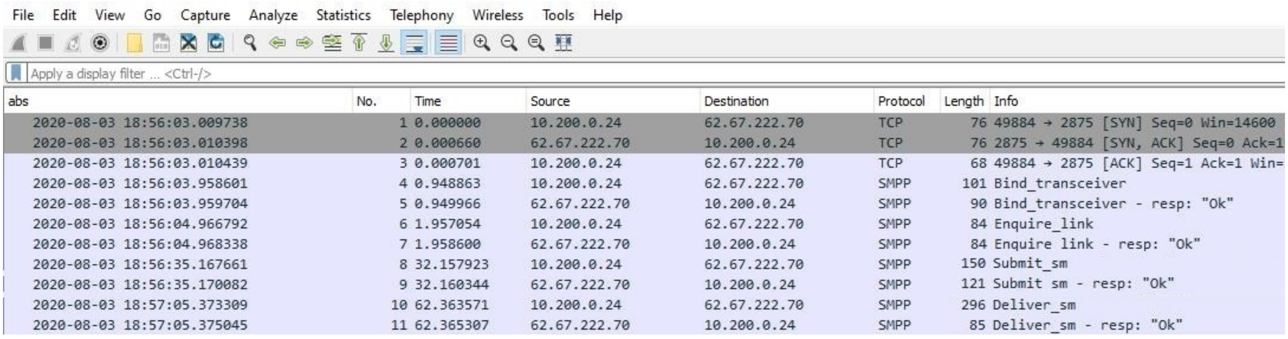
1. Host A initiates a TCP connection with SYN
2. Host B responds with ACK to received SYN and sends its own SYN
3. Host A responds with ACK to received SYN

At the second stage an SMPP bind session is established.

1. Host A initiates an SMPP connection with bind_tranceiver (transmitter/receiver)
2. Host B responds to bind_tranceiver with successful bind_tranceiver_resp

If both stages are completed, the channel status changes to ‘bound’ and messages can be sent through the channel.

The image below illustrates how the described sequence is shown in PCAP traces opened with Wireshark.



File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

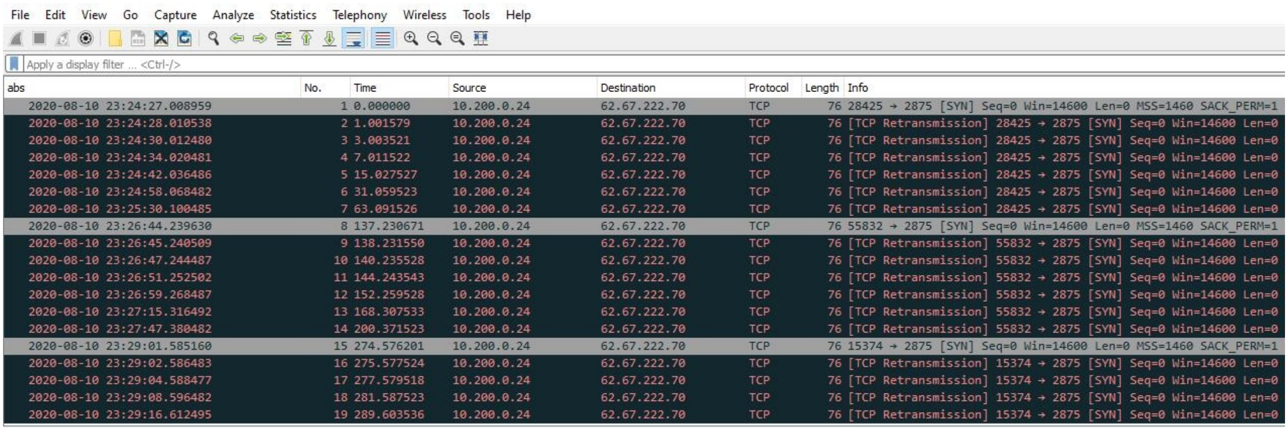
abs	No.	Time	Source	Destination	Protocol	Length	Info
2020-08-03 18:56:03.009738	1	0.000000	10.200.0.24	62.67.222.70	TCP	76	49884 → 2875 [SYN] Seq=0 Win=14600
2020-08-03 18:56:03.010398	2	0.000660	62.67.222.70	10.200.0.24	TCP	76	2875 → 49884 [SYN, ACK] Seq=0 Ack=1
2020-08-03 18:56:03.010439	3	0.000701	10.200.0.24	62.67.222.70	TCP	68	49884 → 2875 [ACK] Seq=1 Ack=1 Win=
2020-08-03 18:56:03.958601	4	0.948863	10.200.0.24	62.67.222.70	SMPP	101	Bind_transceiver
2020-08-03 18:56:03.959704	5	0.949966	62.67.222.70	10.200.0.24	SMPP	90	Bind_transceiver - resp: "Ok"
2020-08-03 18:56:04.966792	6	1.957054	10.200.0.24	62.67.222.70	SMPP	84	Enquire_link
2020-08-03 18:56:04.968338	7	1.958600	62.67.222.70	10.200.0.24	SMPP	84	Enquire_link - resp: "Ok"
2020-08-03 18:56:35.167661	8	32.157923	10.200.0.24	62.67.222.70	SMPP	150	Submit_sm
2020-08-03 18:56:35.170082	9	32.160344	62.67.222.70	10.200.0.24	SMPP	121	Submit_sm - resp: "Ok"
2020-08-03 18:57:05.373309	10	62.363571	10.200.0.24	62.67.222.70	SMPP	296	Deliver_sm
2020-08-03 18:57:05.375045	11	62.365307	62.67.222.70	10.200.0.24	SMPP	85	Deliver_sm - resp: "Ok"

Possible issues with TCP connection

1) No response to initiator's SYN packet from the recipient

TCP connection cannot be established if no response is received to a SYN request. If the SYN request remains without reply it will be resent several times.

This issue can be detected by numerous TCP Retransmission packets which the System is trying to push to the partner.



File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

abs	No.	Time	Source	Destination	Protocol	Length	Info
2020-08-10 23:24:27.008959	1	0.000000	10.200.0.24	62.67.222.70	TCP	76	28425 → 2875 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_PERM=1
2020-08-10 23:24:28.010538	2	1.001579	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 28425 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:24:30.012480	3	3.003521	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 28425 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:24:34.020481	4	7.011522	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 28425 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:24:42.036486	5	15.027527	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 28425 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:24:58.068482	6	31.059523	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 28425 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:25:30.100485	7	63.091526	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 28425 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:26:44.239630	8	137.230671	10.200.0.24	62.67.222.70	TCP	76	55832 → 2875 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_PERM=1
2020-08-10 23:26:45.240509	9	138.231550	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 55832 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:26:47.244487	10	140.235528	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 55832 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:26:51.252502	11	144.243543	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 55832 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:26:59.268487	12	152.259528	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 55832 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:27:15.316492	13	168.307533	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 55832 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:27:47.380482	14	200.371523	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 55832 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:29:01.585160	15	274.576201	10.200.0.24	62.67.222.70	TCP	76	15374 → 2875 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_PERM=1
2020-08-10 23:29:02.586483	16	275.577524	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 15374 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:29:04.588477	17	277.579518	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 15374 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:29:08.596482	18	281.587523	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 15374 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-10 23:29:16.612495	19	289.603536	10.200.0.24	62.67.222.70	TCP	76	[TCP Retransmission] 15374 → 2875 [SYN] Seq=0 Win=14600 Len=0

Most common reasons for the 'no response' issue are sending packets to wrong destination (IP address or Port) and incorrect whitelisting. To accept packets from each other, both peers must whitelist the partner's address. On Alaris side the partner's address is whitelisted as soon as the POI is linked to the channel. Whitelisting of the Alaris System address must be done on the partner's side as well.

The image above shows how the Alaris System (10.200.0.24) sends SYN packets to the vendor (62.67.222.70) to establish a TCP connection and gets no response.

How to resolve the issue

a) For the vendor connection it is necessary to contact the vendor and provide them with traces from our side in order to confirm that:

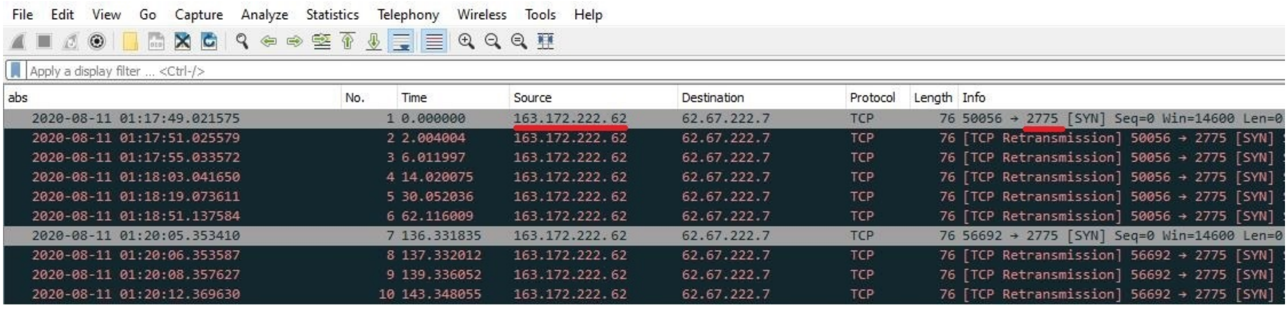
- SYN packets are sent to the right address + port from Alaris side
- Vendor whitelisted Alaris address on their side

b) For a client connection it is necessary to contact the client and request traces from their side in order to confirm that:

- SYN packets are sent to right address + port from the client's side
- SYN packets are sent from the address set in the SMS channels interface

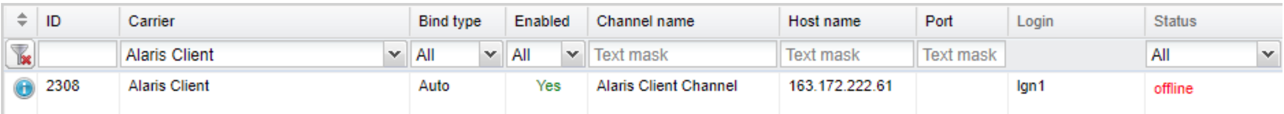
With traces from the client's side it is possible to check why their packets do not reach the Alaris System. The figures below demonstrate the example of traces received from the client and an SMS channel created in Alaris SMS Platform.

Traces on the Alaris side that are available in the trace analyzer can also be helpful in case the client sends packets to the right IP address but to the wrong port. If both the source and destination IP addresses are correct, the trace analyzer will show the client's packets, otherwise traces will be empty.



abs	No.	Time	Source	Destination	Protocol	Length	Info
2020-08-11 01:17:49.021575	1	0.000000	163.172.222.62	62.67.222.7	TCP	76	50056 → 2775 [SYN] Seq=0 Win=14600 Len=0
2020-08-11 01:17:51.025579	2	2.004004	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 50056 → 2775 [SYN]
2020-08-11 01:17:55.033572	3	6.011997	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 50056 → 2775 [SYN]
2020-08-11 01:18:03.041650	4	14.020075	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 50056 → 2775 [SYN]
2020-08-11 01:18:19.073611	5	30.052036	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 50056 → 2775 [SYN]
2020-08-11 01:18:51.137584	6	62.116009	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 50056 → 2775 [SYN]
2020-08-11 01:20:05.353410	7	136.331835	163.172.222.62	62.67.222.7	TCP	76	56692 → 2775 [SYN] Seq=0 Win=14600 Len=0
2020-08-11 01:20:06.353587	8	137.332012	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 56692 → 2775 [SYN]
2020-08-11 01:20:08.357627	9	139.336052	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 56692 → 2775 [SYN]
2020-08-11 01:20:12.369630	10	143.348055	163.172.222.62	62.67.222.7	TCP	76	[TCP Retransmission] 56692 → 2775 [SYN]

Traces received from the client



ID	Carrier	Bind type	Enabled	Channel name	Host name	Port	Login	Status
	Alaris Client	All	All	Text mask	Text mask	Text mask		All
2308	Alaris Client	Auto	Yes	Alaris Client Channel	163.172.222.61		lgn1	offline

SMS channel created in Alaris SMS Platform

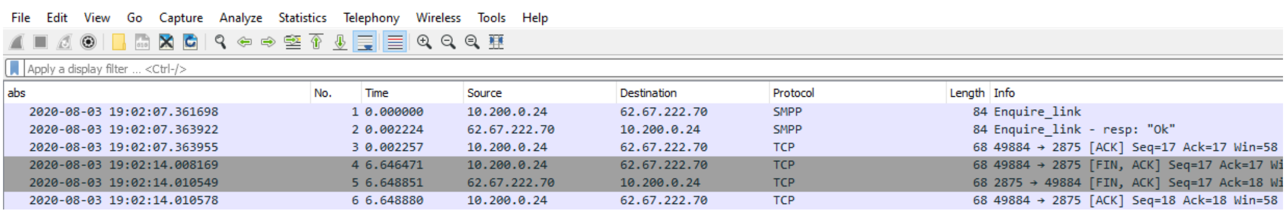
Trace analysis shows that the client is trying to establish the connection from 163.172.222.62 to 62.67.222.7 on port 2775 while Alaris SMS Platform is waiting for requests from 163.172.222.61 on port 2875. To accept packets from the client it is needed either to replace the hostname in the SMS channel with 163.172.222.62 or ask the client to send requests from 163.172.222.61. Additionally the client must send requests to port 2875.

2875 is the default port for SMPP connections; all incoming SMPP traffic should be sent to this port. The default SMPP port can be changed upon request by the Alaris technical support team. A change of the default SMPP port can be applied only System-wide, that is, the System will be listening to this port for all client SMPP connections.

2) TCP connection RESET after successful 3-way-handshake

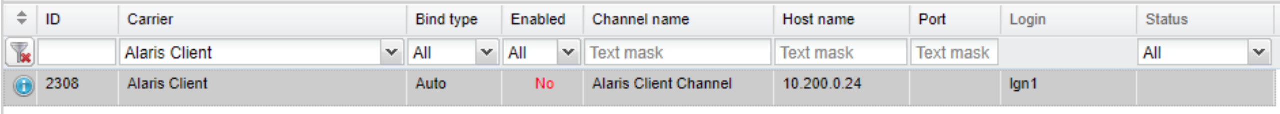
SMPP requires continuous TCP connection. Messages cannot be sent through the channel if one of the peers terminates the TCP connection. A TCP connection may terminate in two ways: (1) the normal TCP close sequence using a FIN handshake, and (2) an "abort" in which one or more RST segments are sent and the connection state is immediately discarded.

(1) Normal TCP connection termination occurs when one of the peers sends a FIN packet, thereby informing about the intention to close the connection. Connection becomes closed after the confirmation (ACK) sent back in response to FIN.



abs	No.	Time	Source	Destination	Protocol	Length	Info
2020-08-03 19:02:07.361698	1	0.000000	10.200.0.24	62.67.222.70	SMPP	84	Enquire_link
2020-08-03 19:02:07.363922	2	0.002224	62.67.222.70	10.200.0.24	SMPP	84	Enquire_link - resp: "Ok"
2020-08-03 19:02:07.363955	3	0.002257	10.200.0.24	62.67.222.70	TCP	68	49884 → 2875 [ACK] Seq=17 Ack=17 Win=58
2020-08-03 19:02:14.008169	4	6.646471	10.200.0.24	62.67.222.70	TCP	68	49884 → 2875 [FIN, ACK] Seq=17 Ack=17 Wi
2020-08-03 19:02:14.010549	5	6.648851	62.67.222.70	10.200.0.24	TCP	68	2875 → 49884 [FIN, ACK] Seq=17 Ack=18 Wi
2020-08-03 19:02:14.010578	6	6.648880	10.200.0.24	62.67.222.70	TCP	68	49884 → 2875 [ACK] Seq=18 Ack=18 Win=58

FIN packets are sent from the Alaris side when a channel is disabled by a user. If FIN packets are received from the client/vendor side, the reason for that must be requested from the partner.



(2) “Abort” TCP connection termination can be initiated when unexpected TCP packets are received. This kind of connection termination does not require any confirmation and can be detected by RST packets.

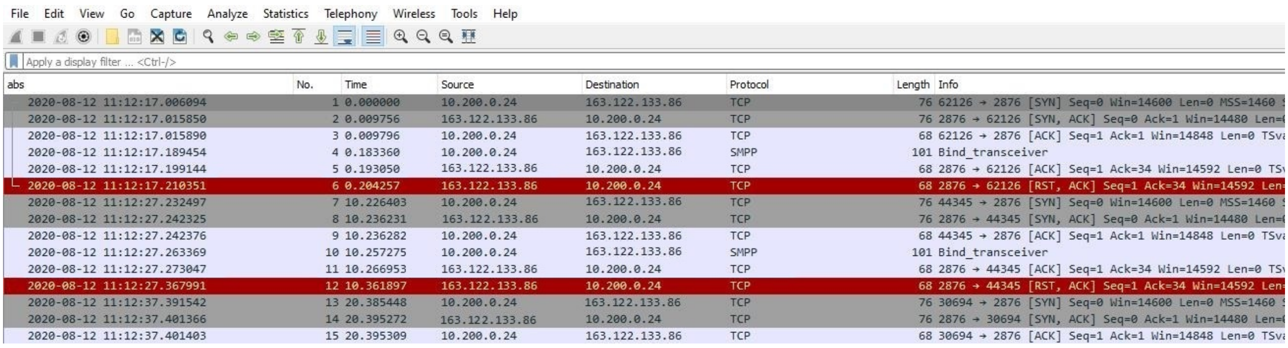
The most common reason for the ‘TCP RST’ issue is sending SSL/TLS traffic to a partner who does not expect secure connection or vice versa, sends insecure traffic to an SSL/TLS partner’s port.

SMPP over SSL

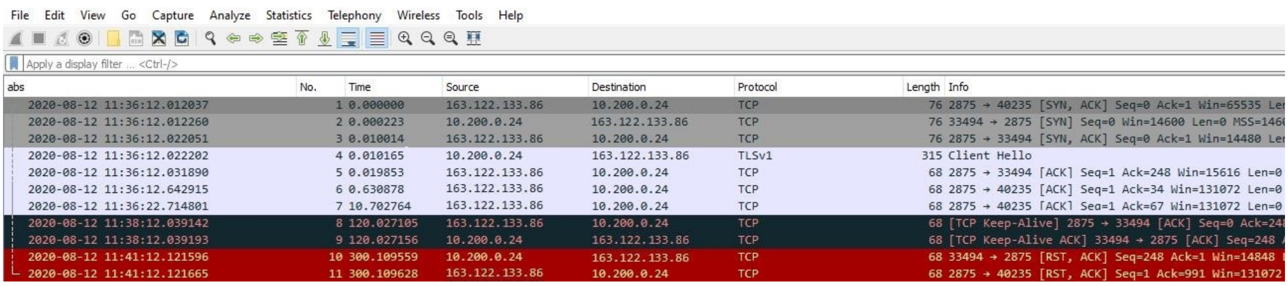
To enable it for the client side, an SSL certificate must be obtained for the domain name (pointed to the IP address where the SMS switch is installed). Certificate installation is performed by the Alaris technical support team. To have the certificate applied provide the Alaris technical support team with an SSL Certificate bundle containing the root, intermediate and site-specific or wildcard certificate along with the matching private key. Once the certificate is installed by the support team, clients can send their requests to the domain name and SSL port (2876 by default).

No SSL certificate is required for the vendor side. To enable outgoing secure traffic, specify a required value in the *SSL type* parameter in the vendor channel.

1) If insecure traffic is sent to the host which expects secure connection, RST packets will be received (as shown in the figure below).



2) In case secure traffic is sent to the host that does not expect secure connection, RST packets will be received as well. Secure traffic can be detected by TLS Protocol packets (see figure below).



How to resolve the issue

a) For the vendor connection:

- Configure the *SSL type* parameter in the vendor channel as necessary (specify *Non secure* for non-secure connections, and another option for a secure connection)

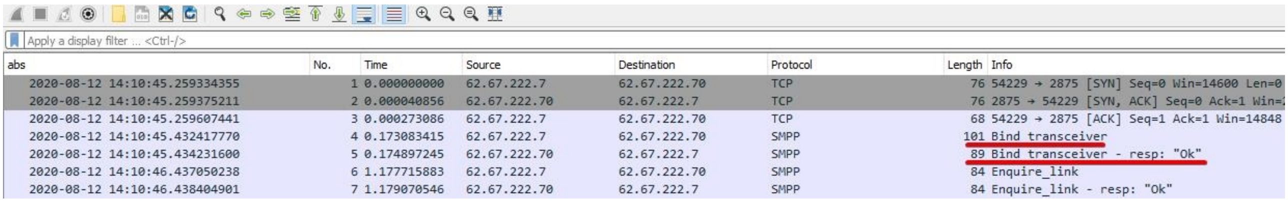
b) For the client connection:

- If secure connection is not required contact your client and request them to send unsecure traffic to Alaris non-TLS/SSL port (2875 by default)
- If secure connection is required contact your client and request them to send secure traffic to Alaris TLS/SSL port (2876 by default). A valid SSL certificate should be installed

Step 3. Check SMPP connection

1. Mismatched bind parameters

In case no TCP issues from the first step are detected and the channel is still 'offline' or 'rebind needed' SMPP connection must be checked. SMPP connection becomes established after a successful bind_tranceiver(receiver/transmitter)_resp packet is sent by the recipient in response to the initiator's bind_tranceiver(receiver/transmitter) packet.

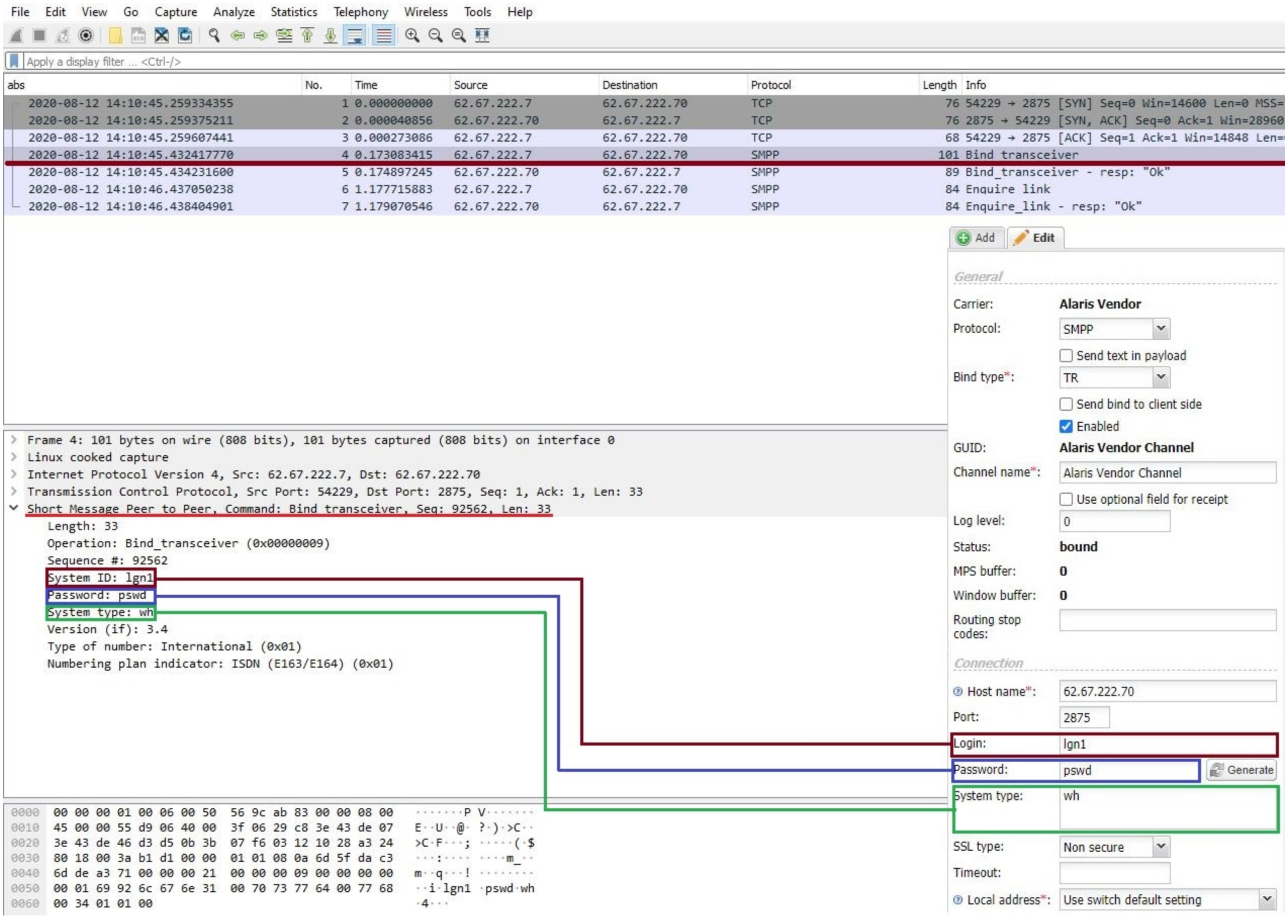


abs	No.	Time	Source	Destination	Protocol	Length	Info
2020-08-12 14:10:45.259334355	1	0.000000000	62.67.222.7	62.67.222.70	TCP	76	54229 → 2875 [SYN] Seq=0 Win=14600 Len=0
2020-08-12 14:10:45.259375211	2	0.000040856	62.67.222.70	62.67.222.7	TCP	76	2875 → 54229 [SYN, ACK] Seq=0 Ack=1 Win=
2020-08-12 14:10:45.259607441	3	0.000273086	62.67.222.7	62.67.222.70	TCP	68	54229 → 2875 [ACK] Seq=1 Ack=1 Win=14848
2020-08-12 14:10:45.432417770	4	0.173083415	62.67.222.7	62.67.222.70	SMPP	101	Bind_transceiver
2020-08-12 14:10:45.434231600	5	0.174897245	62.67.222.70	62.67.222.7	SMPP	89	Bind_transceiver - resp: "Ok"
2020-08-12 14:10:46.437050238	6	1.177715883	62.67.222.7	62.67.222.70	SMPP	84	Enquire_link
2020-08-12 14:10:46.438404901	7	1.179070546	62.67.222.70	62.67.222.7	SMPP	84	Enquire_link - resp: "Ok"

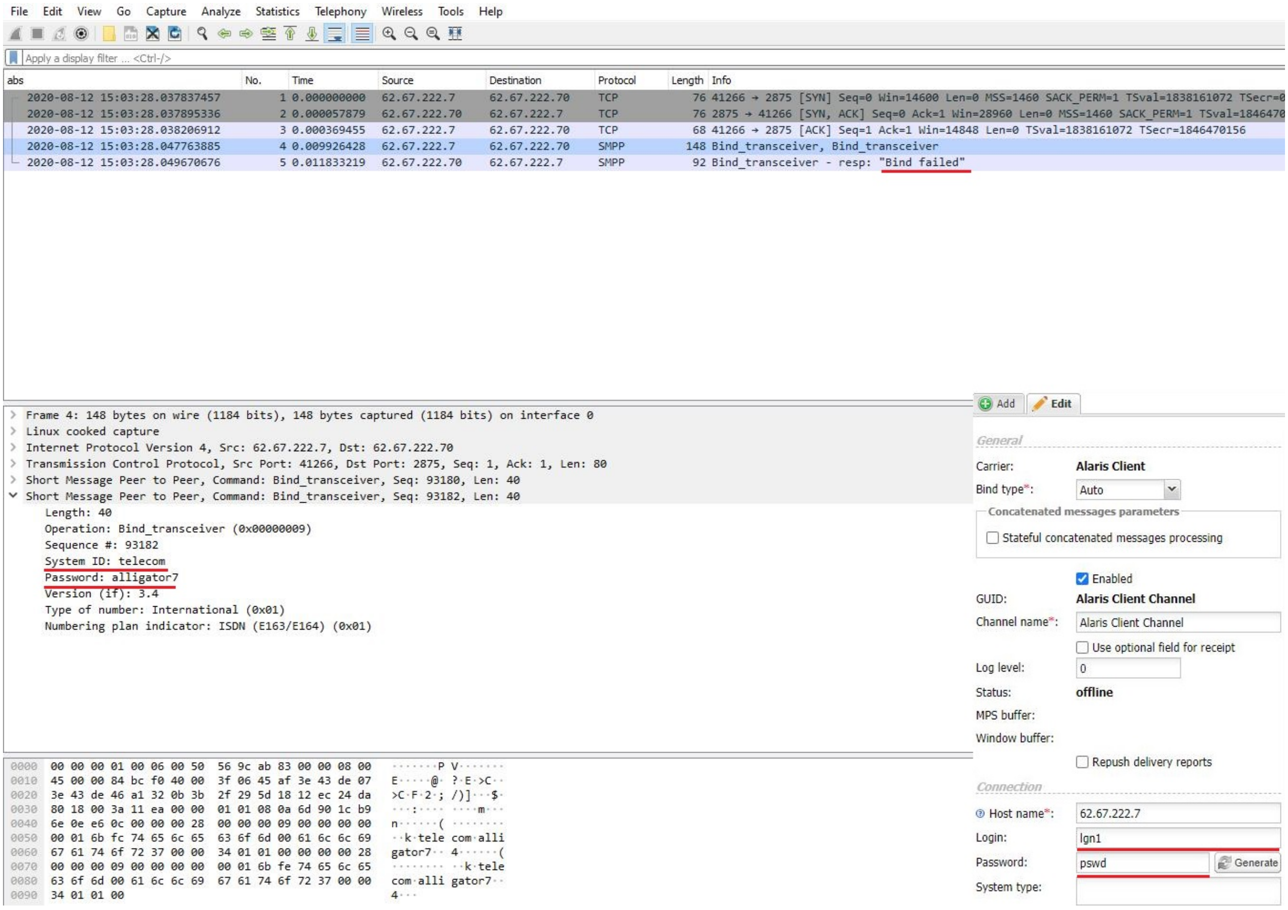
SMPP connection can be established only if bind parameters are the same on both sides. The list of matching bind parameters is as follows:

- System_id (case-sensitive, cannot be empty)
- Password (case-sensitive, cannot be empty)
- System_type (case-sensitive, can be empty)

All of these parameters can be set in Alaris SMS channel and found in PCAP traces as shown in the figure below.



If any of the mentioned parameters do not match on both sides, unsuccessful **bind_tranceiver_resp** will be sent and the channel will remain ‘rebind needed’ for a vendor channel and ‘offline’ for a client channel (see figure below). If no submit or submit_resp is received from the partner the channel will remain ‘offline’.



How to resolve the issue

In case “Bind failed” is observed in PCAP traces

a) For the vendor connection:

- contact the vendor to confirm that the correct login(system_id), password, system_type are sent from the Alaris side

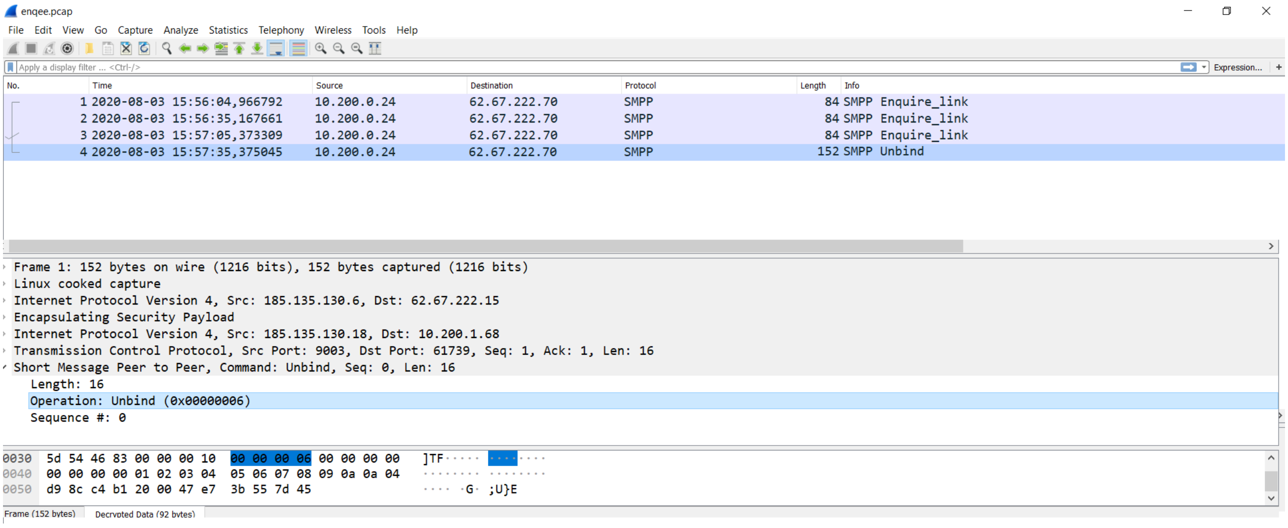
b) For the client connection:

- find the discrepancy in the login(system_id), password, system_type which are sent in the client’s bind_tranceiver*
- provide the client with correct parameters or change them in the SMS channel settings

NOTE: In order to avoid any possibility of a typo in the bind parameters it is useful to copy the value from the traces and compare it to the value in the channel settings using the browser ‘search’ function (Ctrl + F).

2. Unbind due to no response to enquire_link

For successful message processing, SMPP connection must always be up. According to SMPP specification enquire_link packets are used to keep the connection alive. Enquire_link packets are sent by the bind initiator every 30 seconds and must be answered with enquire_link_resp. In case no enquire_link_resp are received for 3 Enquire_links in a row the SMS switch terminates the SMPP connection sending the unbind packet (see figure below).



After ‘unbind’ termination SMS switch will try to establish a new bind session sending a bind_tranceiver(receiver/transmitter) packet.

How to resolve the issue

- For the vendor connection it is necessary to contact the partner and request the reason for not answering enquire_link packets
- For the client connection it is necessary to contact the Alaris technical support team for further investigation

If none of the mentioned actions resulted in successful SMPP connection please contact the Alaris technical support team and provide all the information gathered including PCAP traces.

32 Appendix 14. Alaris SS7 Suite

32.1 Introduction

Alaris SS7 Suite is built as a modern expandable middleware platform and offers easy integration with various GSM telecom platforms. It combines the classic core SMSC logic, P2A and A2P scenarios with the Alaris SMS Platform and is fully SMS-Hubbing compliant. It may also be used as an SMS firewall node with the co-operation of Alaris SMS Firewall Platform.

This guide provides detailed information about supported protocols, current scenarios and general features. Diagrams and workflows as well as basic information can be found in the User Guide. Configuration of the SS7 Suite (along with installation) is done by the Alaris team.

32.2 Glossary

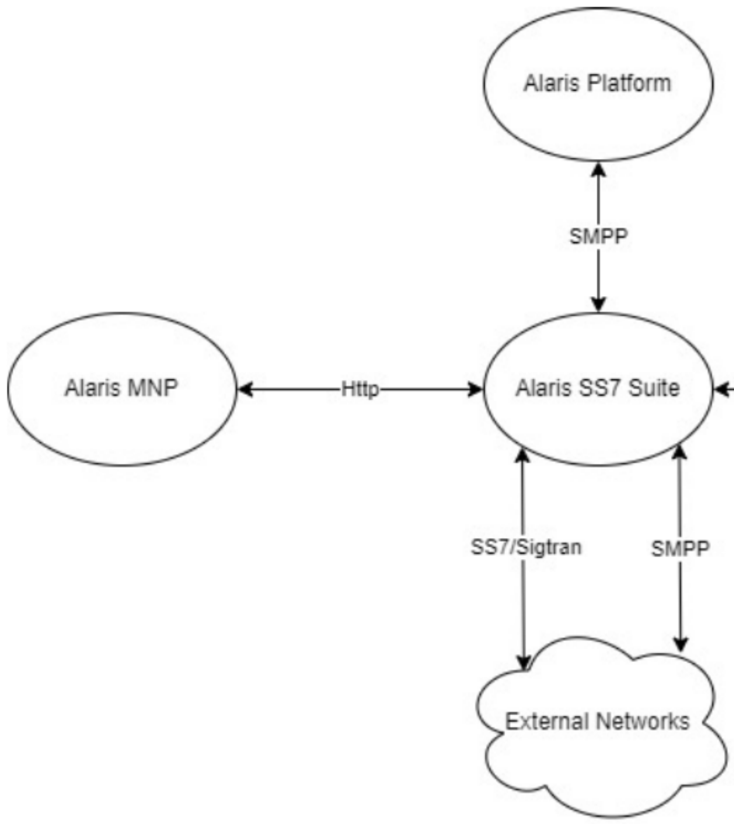
Term	Definition
CDR	Call Detail Record
CLI	Command Line Interface
ESME	External Short Messaging Entity
FSM	SS7 MAP Forward short message
GT	Global Title
HLR	Home Location Register
IP	Internet Protocol
MAP	Mobile Application Part
MNO	Mobile Network Operator
MNP	Mobile Number Portability
MSC	Mobile Switching Center
MSISDN	Mobile Subscriber Integrated Services Digital Number M3UA MTP-3 User Adaptation Layer
SCCP	Signaling Connection Control Part
SCTP	Stream Control Transmission Protocol
SMPP	Short Messages Peer–to–Peer Protocol
SMSC	Short Message Service Center
SRI	Send Routing Information for Short Message
SS7	Signaling System Number 7, protocol used by telephony equipment STP Signal Transfer Point
TCAP	Transaction Capabilities Application Part
TCP	Transmission Control Protocol

VLR Visitor Location Register

32.3 Alaris network

Alaris Network is a family of network nodes which are tightly integrated with Alaris SS7 Suite and the external network. At the same time, the Alaris SS7 Suite can be used as an independent node and be integrated as a classical node in the network of the operator in hub mode.

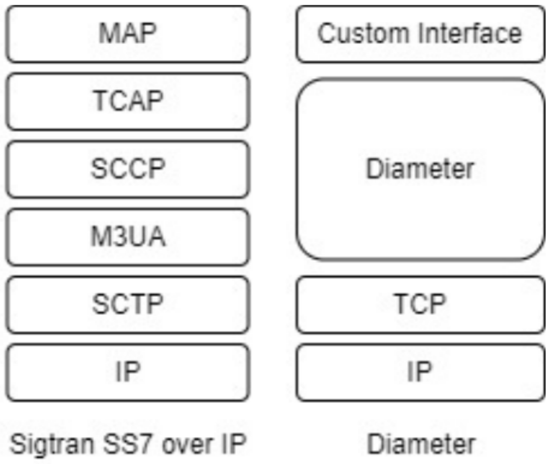
Alaris SS7 Suite uses one or more different interfaces according to the chosen scenario and business logic. The schematic below describes the high-level architecture of the Alaris network:



Alaris Network

32.4 Supported interfaces

Alaris SS7 Suite implements the major signaling interfaces used in 3G and 4G networks: Diameter Base Protocol and SS7 Sigtran stack that supports SCTP, SCCP, TCAP, MAP protocols.



Signaling interfaces

The SMPP protocol is used to communicate with the Alaris platform and simultaneously acts as an interface between external networks via ESME links. Alaris SS7 Suite can accept SMPP (incoming BIND) from ESMEs or can also initiate SMPP (outgoing BIND) to third party SMSC and Alaris Platform. HTTP is used for connecting the MNP and Command Line Interface (CLI) is used for configuration needs and to manage and monitor the SS7 Stack. For storing and delivering SMS, Alaris SS7 Suite has an internal connection with Cassandra DB.

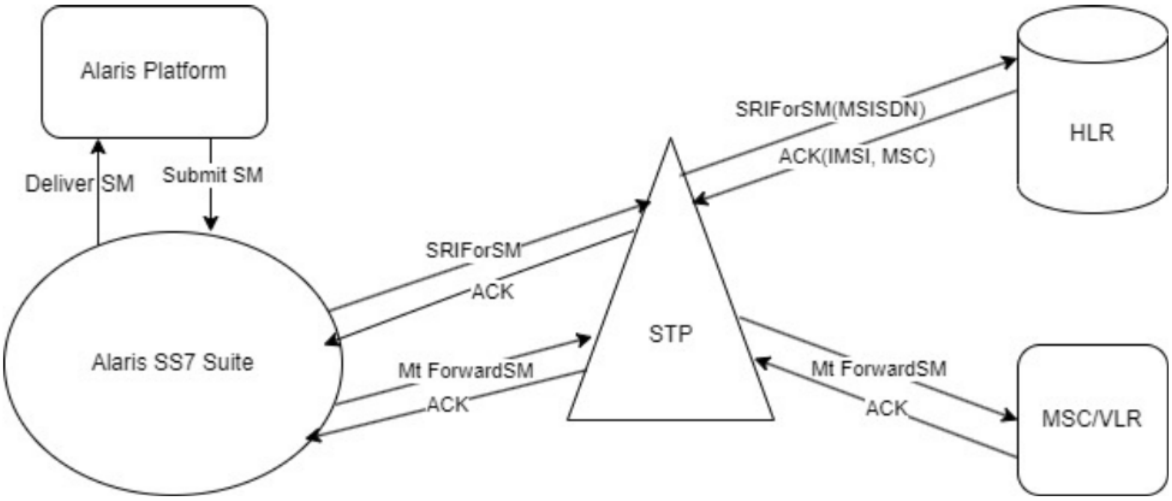
32.5 Alaris SS7 Suite modes

In this chapter, we will look at the main operating modes of Alaris SS7 Suite and describe the main scenarios and features.

32.5.1 SS7 adaptor mode

In the SS7 mode adapter, Alaris SS7 Suite plays the role of SMSC with VHLR, VMSC, VSMSC services. In all scenarios, it interacts closely with the Alaris platform via the SMPP interface.

For incoming messages from Alaris Platform messages Alaris SS7 Suite supports "Transactional" and "StoreAndForward" modes. For Transactional modes, it will try to deliver the message to a destination immediately and will also return a delivery result (success/failure) to the Alaris Platform. Such messages are not stored in the Cassandra database. In case of delivery failure the message will be dropped and no more delivery attempts will be made. For "StoreAndForward" (or default) mode, more than one attempt will be made to deliver the message (if the first attempt fails). Such messages will be stored in the Cassandra database.

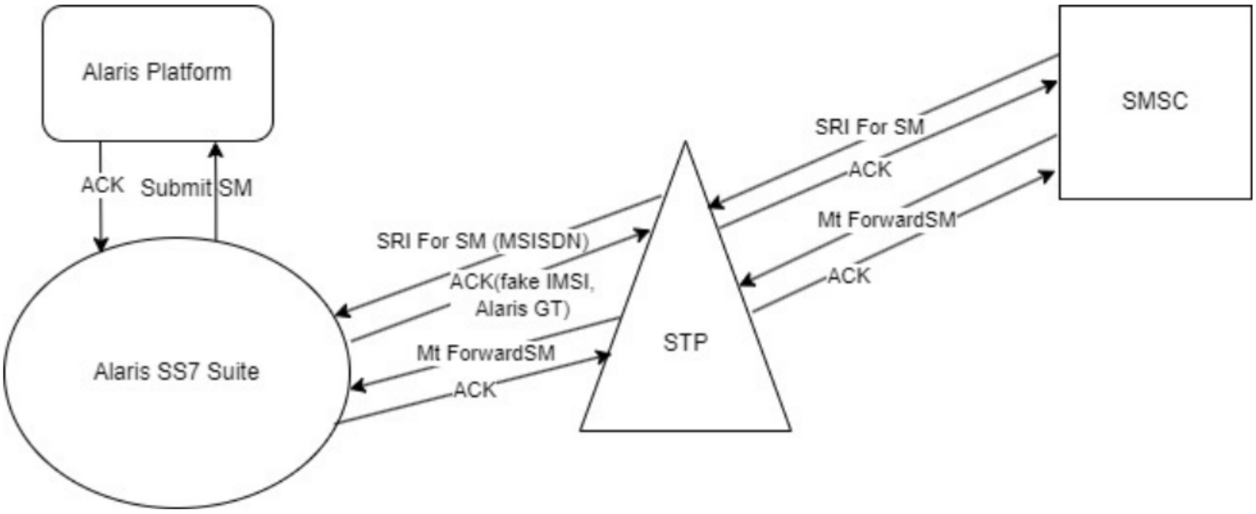


SMPP→SS7 scenario

Stage	Description
0	The customer generates SMS via Alaris Platform. It leads to sending a **Submit SM** message to Alaris SS7 Suite
1	Alaris SS7 Suite sends **sendRoutingInfoForSM** (SRI) message to remote HLR with **MSISDN** of recipient
2	HLR sends **SRI ACK** with GT address of needed MSC and IMSI of recipient
3	Alaris SS7 Suite sends **MT forwardSM** to MSC
4	MSC replies back with **ACK** message and the status of delivery
5	Alaris SS7 Suite notifies Alaris Platform regarding the delivery status

Table 1. Alaris SS7 Suite inter-working with incoming SMPP message

Messages originating from the SS7 network to Alaris SS7 Suite are handled the same as "StoreAndForward'' by default. A message processing mode may be set up as "Transactional". The logic of processing requires us to be able to work as vHLR and vMSC. Actually, the call flow is divided into 2 scenarios with real MNP service and virtual MNP. A simple scenario must first be described.

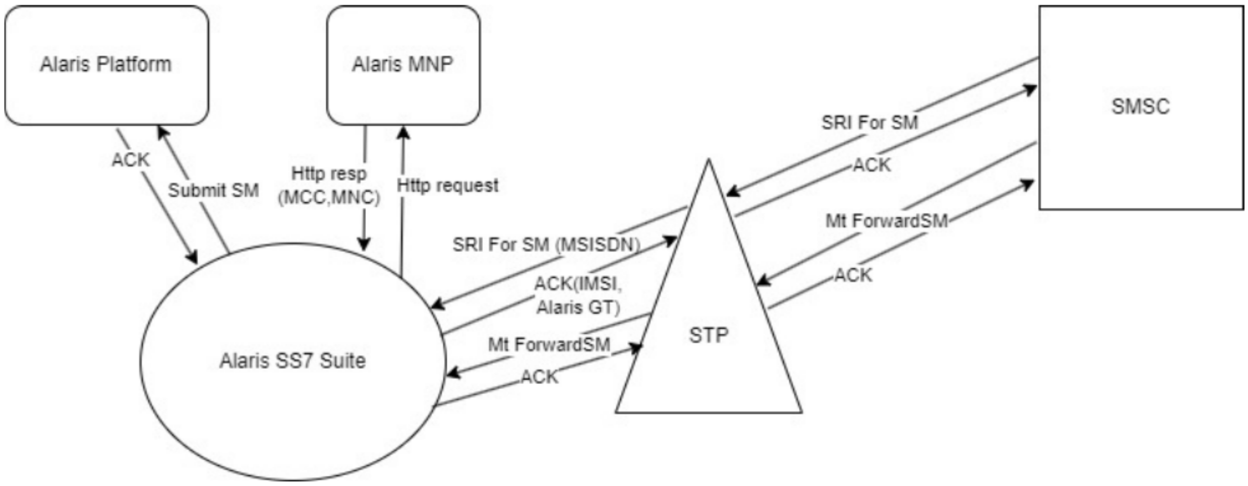


SS7→SMPP scenario

Stage	Description
0	Remote MNO sends SMS via SMSC. It leads to sending an **SRI** message to Alaris SS7 Suite with MSISDN of the recipient.
1	Alaris SS7 Suite replies back with **SRI ACK** with fake(some preconfigured) IMSI of the recipient and its own GT address instead of MSC address.
2	Remote node sends **MT forwardSM** to Alaris SS7 Suite.
3	Alaris SS7 Suite delivers SMS to Alaris platform.
4	Alaris Platform routed the SMS to the recipient and responded with an **ACK** message with the status of delivery.
5	Alaris SS7 Suite notifies Remote MNO with the delivery status via **ACK** message

Table 2. Alaris SS7 Suite inter-working with incoming SS7 message without real MNP

Increasingly, operational scenarios require Alaris SS7 Suite in order for a true MNP service to provide the remote node with information about the recipient's true IMSI. It is implemented using integration with Alaris MNP through the HTTP interface and REST queries.



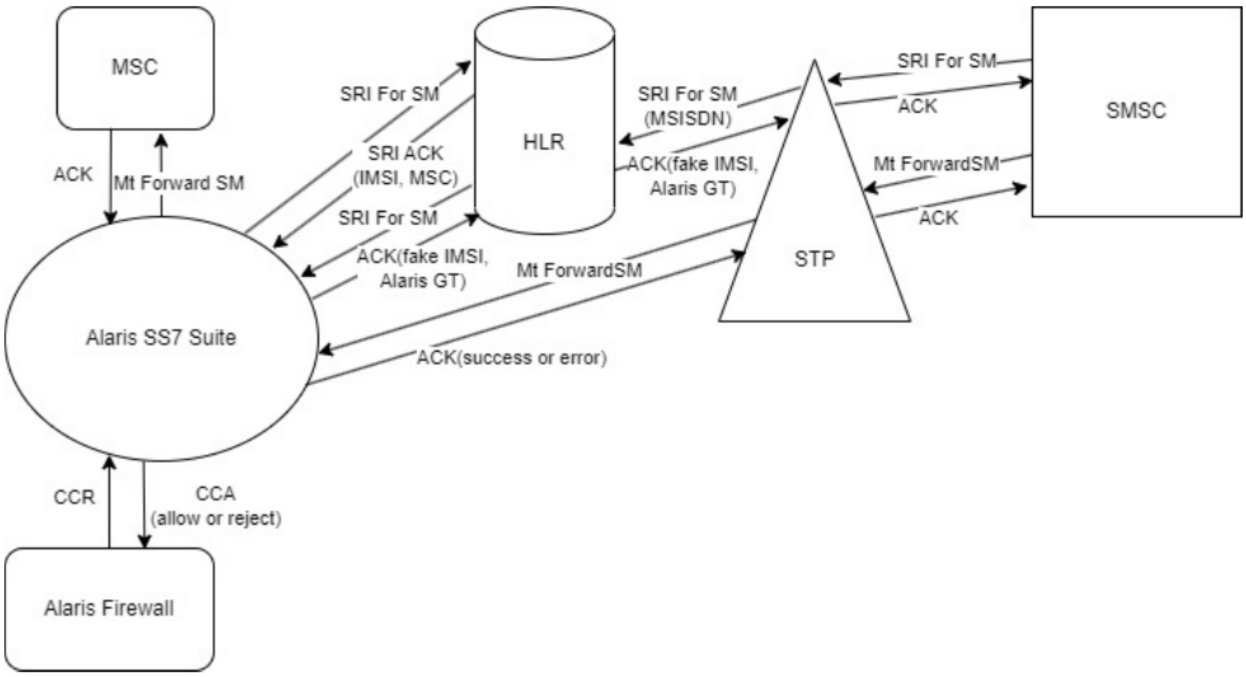
SS7→SMPP with MNP scenario

Stage	Description
0	Remote MNO sends SMS via SMSC. It leads to sending **SRI** message to Alaris SS7 Suite with MSISDN of recipient
1	Alaris SS7 generates REST request with the recipient's **MSISDN** and sends it Alaris MNP
2	Alaris MNP responds with **MCC**, **MNC** information of recipient and ported status
3	Alaris SS7 Suite replies to remote MNO node with **SRI ACK** with IMSI of the recipient and its own GT address instead of MSC address.
4	Remote node sends **MT forwardSM** to Alaris SS7 Suite.
5	Alaris SS7 Suite delivers SMS to Alaris platform.
6	Alaris Platform routed the SMS to the recipient and responded with an **ACK** message with the status of delivery.
7	Alaris SS7 Suite notifies Remote MNO with the delivery status via **ACK** message

Table 3. Alaris SS7 Suite inter-working with incoming SS7 message with true MNP case

32.5.2 SMS firewall mode

In the firewall mode, Alaris SS7 Suite interacts with Alaris Firewall. The anti-fraud logic is implemented in Alaris Firewall, the Alaris SS7 suite relays messages to it and awaits the decision whether to deliver SMS to the recipient. The "Mobile Termination" scenario is rather complicated, Alaris SS7 Suite interacts with HLR, MSC, SMSC nodes.

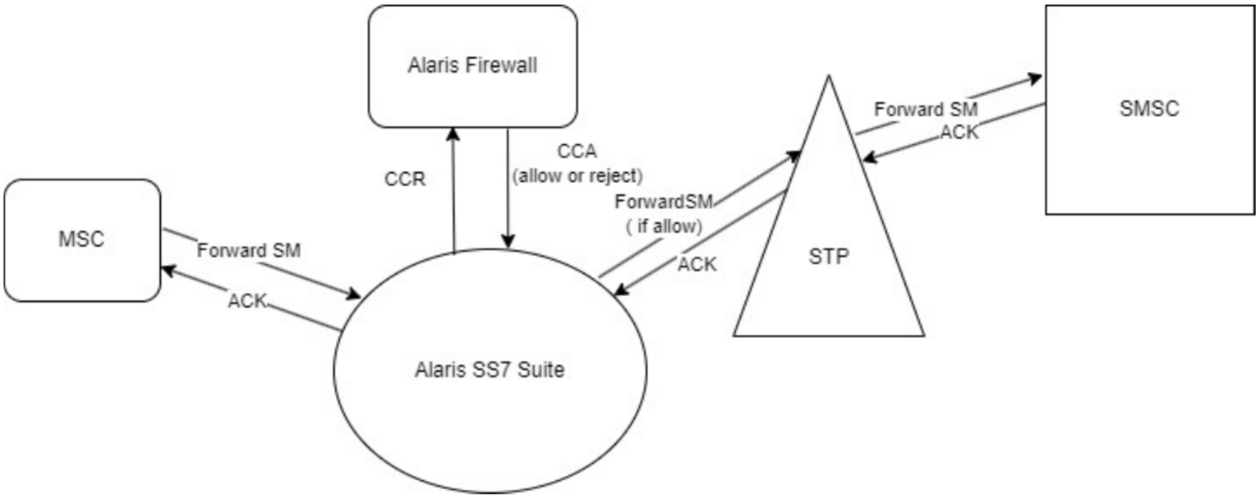


Firewall scenario for MT message

Stage	Description
0	Remote SMSC node sends **SRI** message to HLR which relays it to Alaris SS7 Suite
1	Alaris SS7 Suite replies back with **SRI ACK** with fake(some preconfigured) **IMSI** of the recipient and its own GT address instead of MSC address.
2	Remote SMSC node sends **MT forwardSM** to Alaris SS7 Suite.
3	Alaris SS7 Suite generates **CCR** message for Alaris Firewall via diameter interface
4	Alaris Firewall checks the message and answers with an allow or reject decision with **CCA**.
5	In case of rejection, Alaris SS7 Suite directly responds to SMSC with a special error code otherwise if the message is allowed then initiates call sending HLR **SRI** with **MSISDN** of the recipient.
6	HLR node replies back with **SRI ACK** with true IMSI of recipient and MSC GT address.
7	Alaris SS7 Suite sends **MT forwardSM** to MSC
8	MSC replies back with **ACK** message and the status of delivery

Table 4. Alaris SS7 Suite inter-working in Firewall mode with MT scenario

In the mobile originated scenario, Alaris SS7 Suite stands directly after the MSC node and sends the SMS to SMSC if the firewall accepts the delivery.



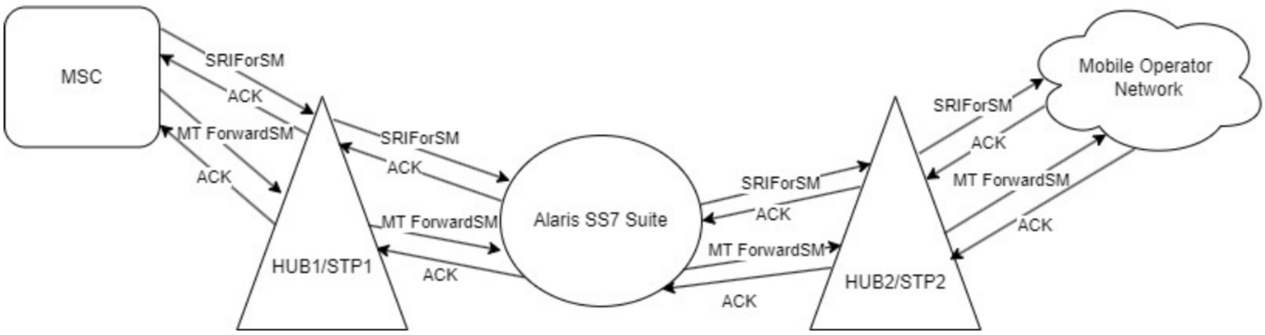
Firewall scenario for MO message

Stage	Description
0	MSC node sends **Forward SM** to Alaris SS7 Suite
1	Alaris SS7 Suite generates **CCR** message for Alaris Firewall via diameter interface
2	Alaris Firewall checks the message and answers with an allow or reject decision with **CCA**.
3	In case of rejection, Alaris SS7 Suite directly responds to MSC with a special error code otherwise if the message is allowed then relays **Forward SM** to the remote SMSC node.
4	Remote SMSC node tries to deliver SMS to recipient and replies back with the status of delivery
5	Alaris SS7 notifies the MSC node with the status of delivery.

Table 5. Alaris SS7 Suite inter-working in Firewall mode with MO scenario

32.5.3 Hub mode

Alaris SS7 Suite is implemented for IR.75 GSMA Open Connectivity SMS Hubbing compatibility. The whole logic and scenarios are described in the specification. According to the requirements Alaris SS7 Suite might work in 3 sub-modes: hub ss7, hub ip and hub relay. In this document we illustrate basic scenarios in hub ss7 mode.

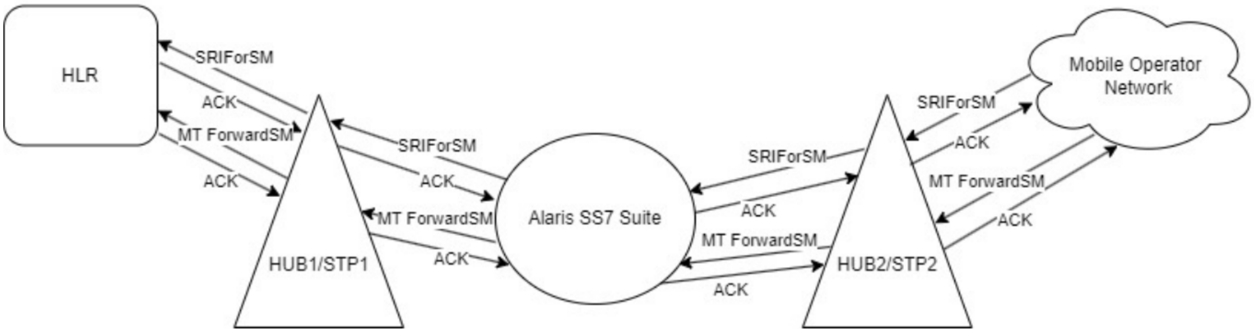


HUB scenario with outgoing SRI

Stage	Description
0	MSC node sends **SRI** message to remote HLR node belonging to remote Mobile operator network.
1	The message goes through the HUB1/STP1 node which implements some changes. In SCCP part it replaces calling GT address on its own GT, in MAP part it converts ServiceCenterAddress (SCA) according to a special scheme, where the first 9 digits of HUB's GT + the last 6 digits of original SCA.
2	Alaris SS7 Suite gets the **SRI** message and applies the same changes using Alaris SCCP GT. Then it relays **SRI** to HUB2/STP2. In this step Alaris node may convert MAP protocol message to another version if needed.
3	The HUB2/STP2 node executes the changes and sends the **SRI** message to the remote mobile network.
4	In the success scenario, the remote HLR answers with **SRI ACK** to HUB2/STP2 with the necessary IMSI and MSC GT information to launch the **FSM** message.
5	The HUB2/STP2 implements some changes. In SCCP part it replaces calling GT address on its own GT, called GT with Alaris GT, in MAP part it replaces NetworkNodeNumber with its own GT address
6	Alaris SS7 Suite relays **SRI ACK** to HUB1/STP1 with similar modifications using Alaris GT for calling GT address and NetworkNodeNumber and HUB1/STP1 for called GT.
7	HUB1/STP1 applies changes the same way and **SRI ACK** reaches MSC node.
8	MSC node initiates **Forward SM** through HUB1/STP1 node which implements some changes. In SCCP part it replaces calling GT address on its own GT, in MAP part it converts ServiceCenterAddress (SCA) according to special scheme, where the first 9 digits of HUB's GT + the last 6 digits of original SCA and also called party GT set to Alaris GT node.
9	Alaris SS7 Suite gets the Forward SM message and applies the same changes using Alaris SCCP GT. Then it relays SRI to HUB2/STP2. In this step Alaris node may convert MAP protocol message to another version if needed.
10	The HUB2/STP2 node executes the changes and sends the Forward SM message to the remote mobile network.
11	The HUB2/STP2 implements some changes in the SCCP part and replaces the calling GT address on its own GT, called GT with Alaris GT.
12	Alaris SS7 Suite relays **ACK** to HUB1/STP1 with similar modifications using Alaris GT for calling GT address and HUB1/STP1 for called GT
13	HUB1/STP1 applies changes the same way and **ACK** reaches MSC node

Table 6. Alaris SS7 Suite inter-working in HUB mode with with outgoing SRI

With incoming SRI message the logic is similar, adjacent hub nodes perform modification on SCCP and MAP layers.



HUB scenario with incoming SRI

32.6 Log and reports

Alaris SS7 Suite has multiple log capabilities. It is configured to generate detailed EDR logs in a plain text file located at /var/log/alaris/smsc/cdr folder. The EDR can also be viewed on the Alaris platform side in SS7 adapter mode.

Alaris SS7 Suite uses tshark to analyze incoming and transmitted packages. It is implemented using the Linux tcpdump toolkit. It saves the pcap files to the /var/log/alaris/traffic_dump directory.

Alaris SS7 Suite writes their own logs into the/var/log/alaris/smsc directory. System performance can be impacted with low debugging levels, which is why it’s recommended to use them only during problematic periods. These log options are configurable in runtime.