

Alaris inVoice

User's Guide

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1 Terms and Acronyms

Term	Definition
Client	Carrier from which the System owner receives traffic
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
BSS	Business Support System
ACD	Average Call Duration
API	Application Programming Interface
ASR	Answer Seizure Ratio
CDR	Call Detail Record
CLI	Calling Line Identification
DNIS	Dialed Number Identification Service
EMA	Exponential Moving Average
GUID	Globally Unique Identifier
ISDN	Integrated Services Digital Network
LATA	Local Access & Transport Area
LOT	Level of Trust
NANP	North American Numbering Plan
NER	Network Efficiency Ratio, is calculated as: (Answers + User Busy + Ring No Answer + Terminal Rejects) / Total call attempts (seizures)
NPA	Numbering Plan Area

Term	Definition
NPI	Numbering Plan Indicator
NXX	Network Numbering Exchange
OCN	Operational Carrier Number
OLAP	Online Analytical Processing
PDD	Post Dialing Delay (period between the start of the call and the moment the phone of the called party starts ringing).
POI	Point of Interconnection
SIP	Session Initiation Protocol
SSU	Soft Switch Unit
TDM	Time Division Multiplex
TON	Type of Number

2 System overview

Alaris inVoice (further on referred to as “the System”) is a BSS solution intended for carriers working in the voice interconnect field. 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 traffic management:

- Propagate routing decisions to all switches that process traffic in the network. By default, the System provides routing decisions to VoIP and TDM switches in the network over the SIP real-time API suitable for this purpose. The switch sends a route request to the System and waits for response with the list of routes for call termination.
- Collect accounting information from these switches. The System gathers CDRs from all VoIP and TDM switches in the network, performing CDR mediation in order to bring all switch-specific CDR formats to a single format accepted by the System database.
- Authorize events and user registration attempts. To provide for prepaid balance control, the System authorizes every call in the network. As soon as the routing module detects the exhausted user’s balance/credit, it starts to reject all call attempts from this user.
- Bill clients and distribute invoices. The System provides for client account charging and invoice generation. Invoices can be automatically delivered to customers by email. The System owner also can track client payments and match them with issued invoices.
- Monitor statistical parameters related to traffic and System health. Detailed traffic statistics are calculated immediately after the CDR data gets into the System. Thus, all statistical layouts (any combination of any customer, vendor, dial code etc. for any period) are preliminarily calculated in the background. This allows for instant view of any statistical layout - no matter how large the requested amount of data is.

All configuration and control is performed in a single web interface. Access to the System is controlled by a set of permissions, which allows configuring functional roles for various company employees (such as sales managers, NOC engineers etc.). Along with Alaris inVoice, the company offers Alaris SMS Platform, a BSS solution for SMS interconnect carriers. For more details on Alaris SMS Platform, refer to www.alarislabs.com.

2.1 System architecture

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

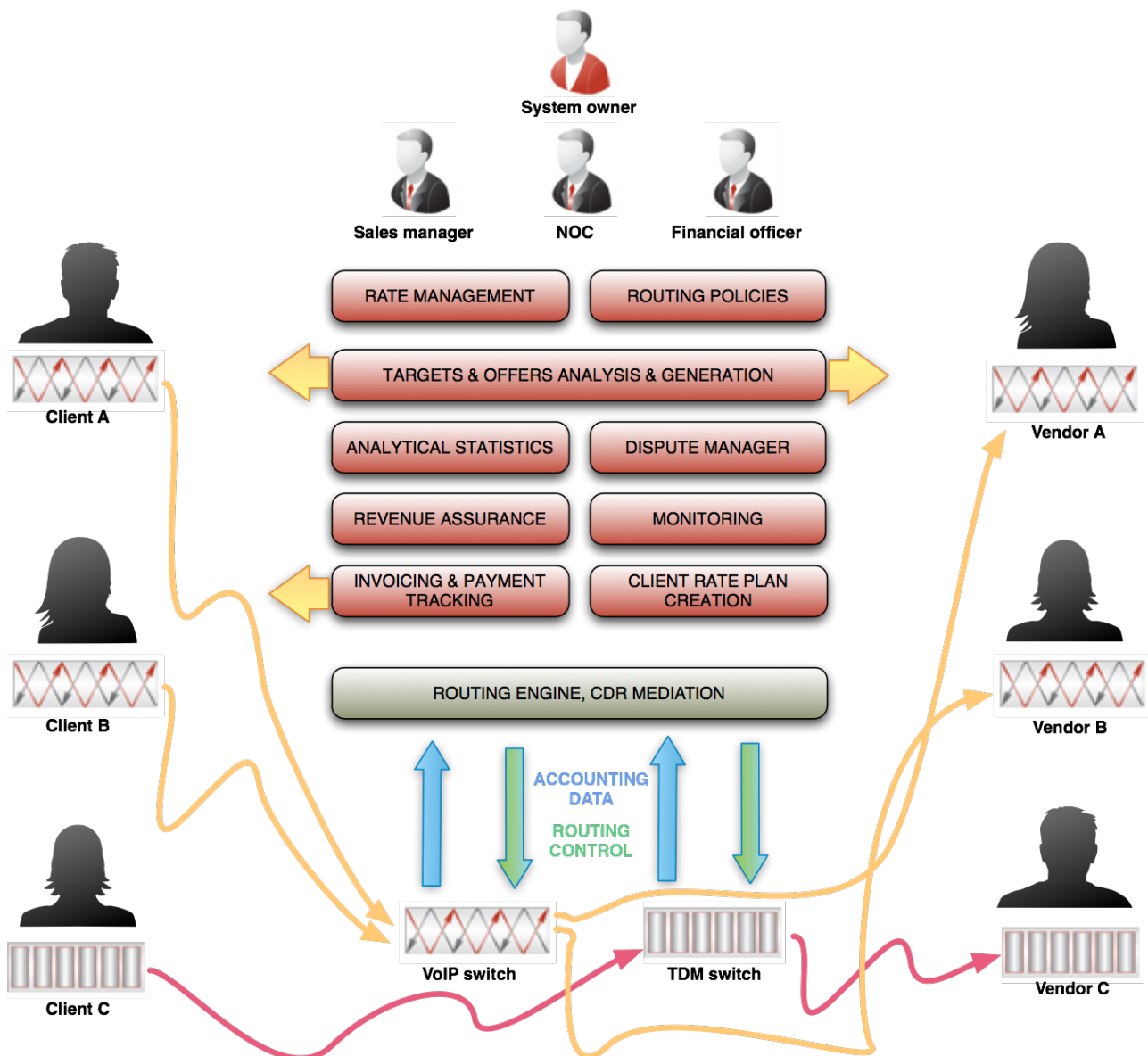
This chapter provides a detailed description of the System architecture both in terms of software modules that comprise the delivery package and the logical object structure. It also gives information about the way it interacts with third-party products, such as VoIP and TDM switches.

The System consists of the following modules:

- **Database.** The database module is the main repository of all data related to configuration, calls and the System’s logic. All the core intelligence of the product resides within the database stored procedures.
- **Routing module.** The routing module is a set of software modules responsible for interaction with the switching layer of the network. It provides for the following interfaces:
 - **SIP** – the SIP Redirect method provides routing instructions to the switching equipment. The softswitch that processes voice traffic sends a call initiation message (INVITE) to the routing module. In response, the routing module returns a SIP 300/302 message that contains information about the routes to be used for the call. The switch forwards the call to

the vendors specified in the response. The switch must be compliant with the SIP Redirect method.

- **CDR parser** is responsible for mediation of CDR files downloaded from the switch. Since every switch has its own format of call detail records, the CDR parser needs to be configured to comply with various formats. The output of the module is normalized call records ready for rating.
- **User Interface Dispatcher** serves as a gateway between the database and the front-end web interface. It also provides for security and permission control. To ensure security and consistency of the data, the System does not allow direct access to the database. Any request from the web interface is authorized based on a username, password and a set of access permissions. Therefore, no intruder is able to get control on behalf of a user.



The System structure

2.2 Statistics calculation

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

Call statistics calculated by the System is based on data received in CDR files from the switches. However, it is not very efficient to use raw CDR data to feed into report building, invoicing etc. All statistics-related functions in the System use a specific data source called analytical cubes (also known as OLAP cubes).

An analytical cube is a set of statistics (number of call attempts, traffic volume, ASR, ACD, margin etc.) within a certain period (minute/hour/day/week/month) for a specific combination of objects (for example, daily stats for traffic from a client to a country by supplier). There are dozens of different aspects in analytical cubes; also, the set of available aspects can be customized for any System owner.

Analytical cubes for a period are calculated almost immediately after the period is over and the System received most of the CDRs belonging to it (normally CDRs are delivered every one, five, 15 or 60 minutes). A certain delay is required so that all CDRs for that period hit the System and the calculation base is complete. Alternatively, the System starts calculating the analytical cube for the current period (for example, hour or day) as soon as a certain number of CDRs for that period is reached (for example, the threshold for the hourly cube is defined by the *Stats calculation threshold (CDR/hour)* parameter in the [Administration\System settings\Statistics module](#) .

NOTE: The stats initially calculated for the ongoing period in this case is not complete and final. The System needs to recalculate the current analytical cube after its timeframe is over and all CDRs are received. If the recalculation threshold is exceeded again before the end of the period, there will be another recalculation of the current period. During recalculation of the analytical cube for a period, the stats for that period may be displayed as zero.

Please be careful when setting or editing the cube calculation thresholds. If the thresholds are too low, it results in constant recalculation, and therefore – in lack of near-real-time statistics in the System. We recommend the following guidelines:

- Set the minutely cube threshold to a high value (higher than the typical amount of CDRs per minute), so that minutely cubes are only calculated after the respective minutes end (no intermediate recalculations required).
- Set the hourly cube threshold to 15-30% of the typical hourly amount of CDRs for peak hours, so that the stats for the current hour is refreshed 3-5 times during the hour.
- Set the daily cube threshold to the amount of CDRs that the System typically receives by 08-09 AM, so by beginning of regular office hours the System has already calculated the first version of the statistics for the current day.
- Set weekly and monthly cube thresholds to comparatively high values, so that no frequent recalculations are made for the current week or month.

Cube calculation is optimized in terms of the data source. By default, only minutely cubes are calculated on raw CDR data. Each longer cube type is calculated based on data from the nearest shorter one: hours are calculated based on minutes, days – based on hours etc.

NOTE: The necessary lower-level data must be available in the System. That depends on the value of the respective *Cube partition count* parameter in the [Administration\System settings\Statistics module](#) . For example, to recalculate a day that is 20 days in the past, while the *Hour cube partition count* is set to less than 24*20, the System has no other choice than calculate the required daily stats on raw CDR data, which may be a heavy job in case of high traffic.

To minimize delays in stats preparation, calculation of each cube type is done in a separate thread. Nevertheless, stats calculation is not an immediate process, so there often are queues of cubes waiting

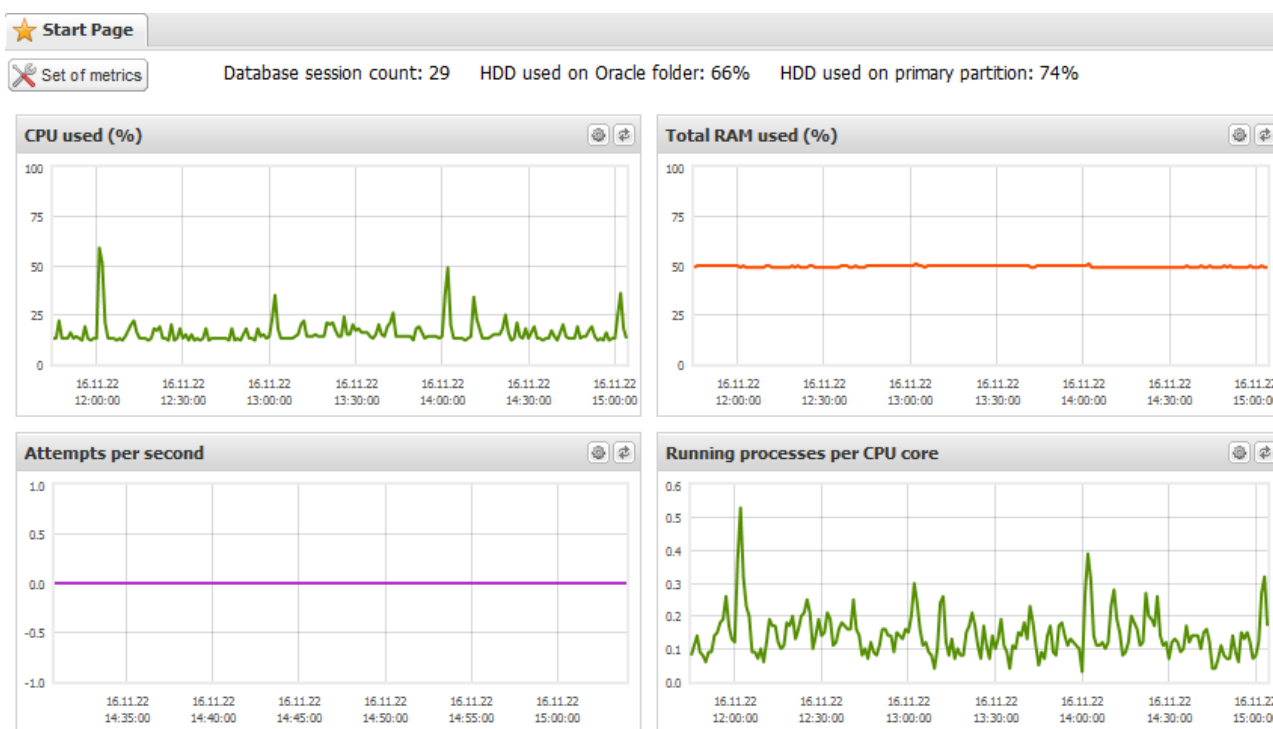
to be (re)calculated. The density of new/changed CDRs (new/changed CDRs per time unit) defines the priority of cubes in the queue. The most recent cubes (normally containing the largest amount of new data) are calculated ahead of older cubes with minor amounts of changed CDRs (typically because of rerating), while low-priority cubes are handled when the traffic through the System is not very high and the cube calculation queue shortens.

A typical situation when the stats displayed by the System seem wrong is when some rates for a past period are changed, and the respective CDR rerating procedure is running. The System cannot recalculate the affected analytical cubes before the rerating is finished, so until that the stats figures may seem wrong. This is a regular situation, and the System makes all necessary corrections as fast as possible.

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.



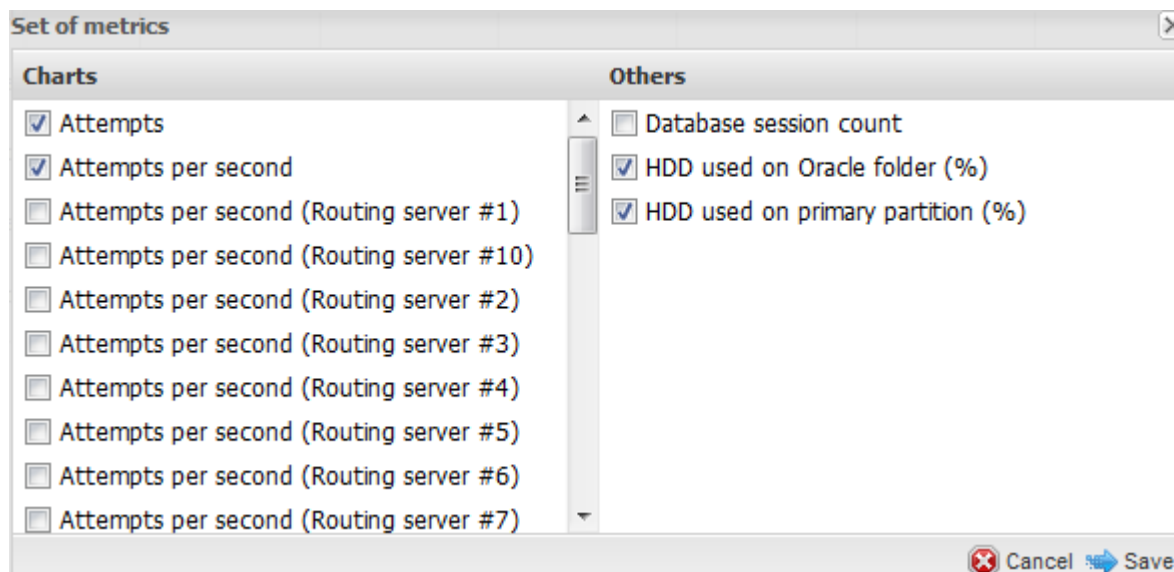
Start page

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**



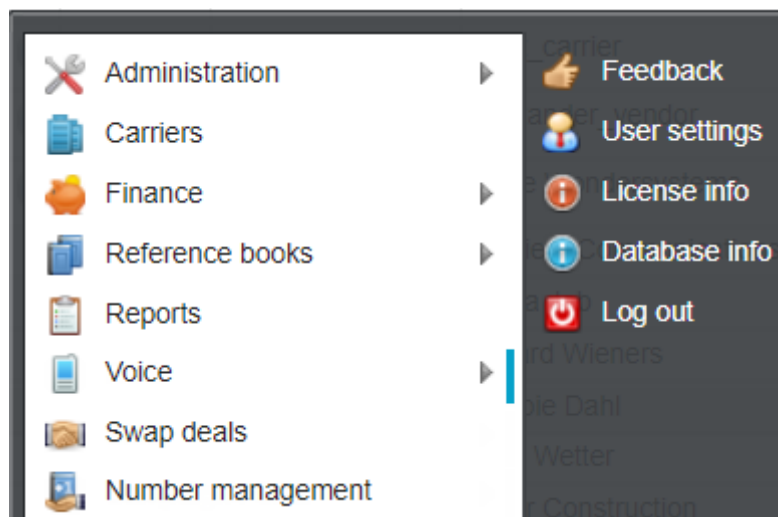
Set of metrics

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](#) ¹³² page.

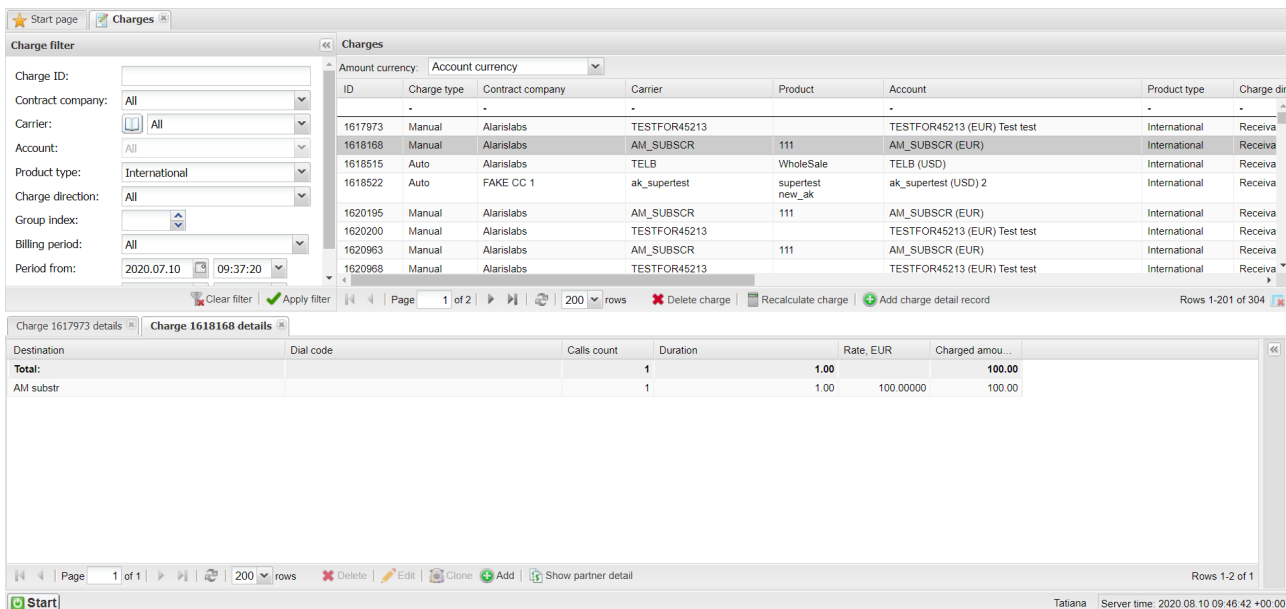
The menu includes the following items:

- Administration
- Carriers
- Finance
- Reference books
- Reports
- Voice
- Number management



Start menu

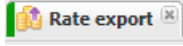
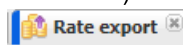
A typical page is illustrated below.



The screenshot displays the 'Charges' page in the Alaris Labs interface. It features a 'Charge filter' sidebar on the left with dropdowns for Contract company, Carrier, Account, Product type, Charge direction, Group index, Billing period, and Period from. The main area contains a table of charges with columns: ID, Charge type, Contract company, Carrier, Product, Account, Product type, and Charge dir. Below the table, there are tabs for 'Charge 1617973 details' and 'Charge 1618168 details'. The 'Charge 1618168 details' tab is active, showing a table with columns: Destination, Dial code, Calls count, Duration, Rate, EUR, and Charged amou. The bottom of the page includes a status bar with a 'Start' button, user name 'Tatiana', and server time '2020.08.10 09:46:42 +00:00'.

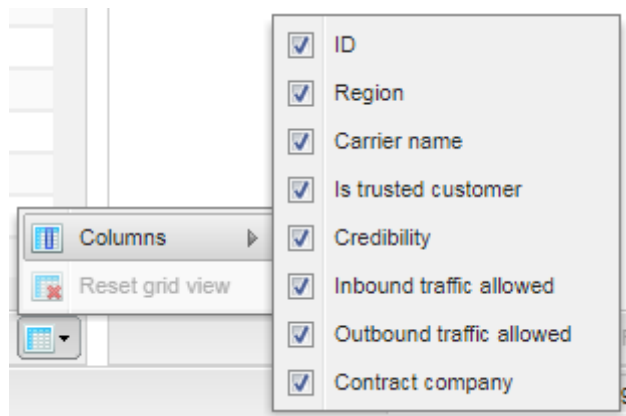
A typical page view (Finance\Charges)

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](#).

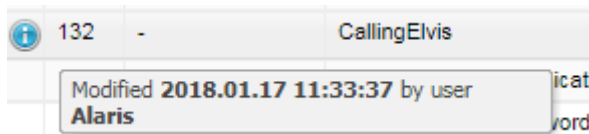
The user can modify the number of rows per page (the  control) and the column order. These settings are saved automatically in the browser's local storage. The bottom right corner of the page shows the user name and server time.

Most pages that show tables (for example, [Carriers](#)^[137], [Voice\Volume-based deals](#)^[420], 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](#)^[137] page.



Defining the columns to be displayed

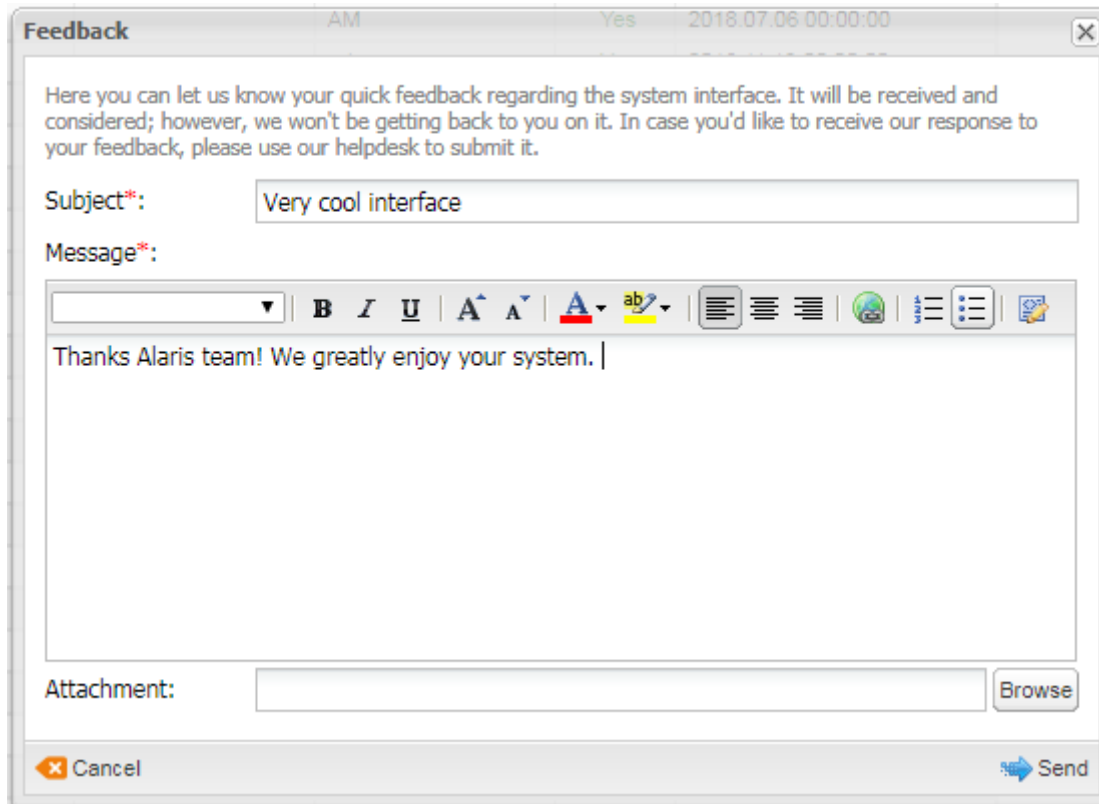
Table records in the [Carriers](#)^[137] and [Voice\Routing\Routing rules](#)^[389] sections contain the  icon. Point the mouse to the icon to view a pop-up window that shows the author and date of the latest modification. Objects that were not modified since creation have the grey icon .



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.

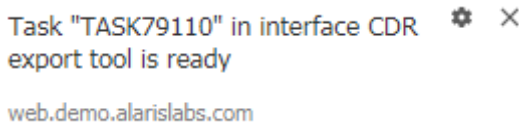


The screenshot shows a 'Feedback' dialog box with a title bar containing 'AM', 'Yes', and a timestamp '2018.07.06 00:00:00'. The main text area contains a message: 'Here you can let us know your quick feedback regarding the system interface. It will be received and considered; however, we won't be getting back to you on it. In case you'd like to receive our response to your feedback, please use our helpdesk to submit it.' Below this, there is a 'Subject*:' field with the text 'Very cool interface' and a 'Message*:' field with the text 'Thanks Alaris team! We greatly enjoy your system. |'. A rich text editor toolbar is visible above the message field. At the bottom, there is an 'Attachment:' field with a 'Browse' button, and 'Cancel' and 'Send' buttons.

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.



The screenshot shows a pop-up notification with the text: 'Task "TASK79110" in interface CDR export tool is ready'. Below the text is the URL 'web.demo.alarislabs.com'. There are settings and close icons in the top right corner.

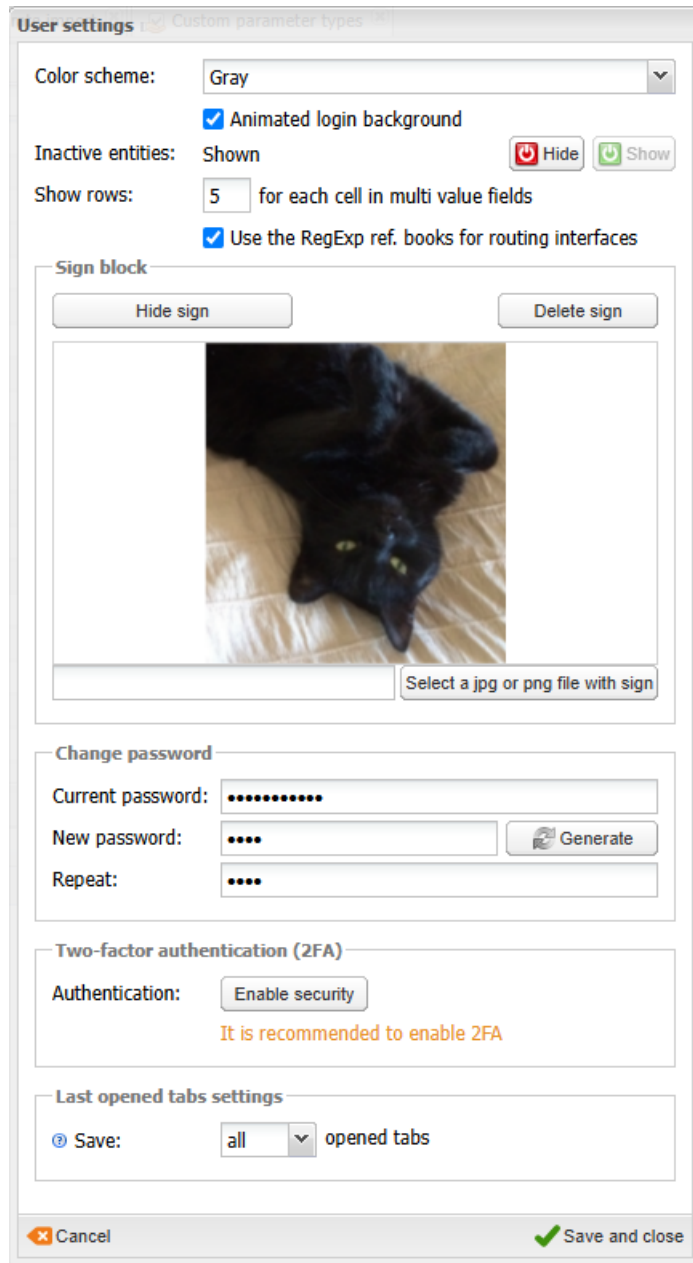
Pop-up notification

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: 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 authentication.



The screenshot shows the 'User settings' dialog box with the following sections:

- Color scheme:** A dropdown menu set to 'Gray'.
- Animated login background:** A checked checkbox.
- Inactive entities:** A dropdown menu set to 'Shown', with 'Hide' and 'Show' buttons.
- Show rows:** A text input field containing '5', followed by the text 'for each cell in multi value fields'.
- Use the RegExp ref. books for routing interfaces:** A checked checkbox.
- Sign block:** Contains 'Hide sign' and 'Delete sign' buttons, a preview image of a black cat, and a 'Select a jpg or png file with sign' button.
- Change password:** Includes fields for 'Current password:', 'New password:', and 'Repeat:', along with a 'Generate' button.
- Two-factor authentication (2FA):** Includes an 'Authentication:' label and an 'Enable security' button, with a note: 'It is recommended to enable 2FA'.
- Last opened tabs settings:** Includes a 'Save:' label, a dropdown menu set to 'all', and the text 'opened tabs'.

At the bottom, there are 'Cancel' and 'Save and close' buttons.

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.

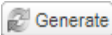
Inactive entities: when the *Hide*  **Hide** mode is activated, inactive carriers and all related entities (such as products and POIs) will be hidden in interfaces such as *Carriers*, *Routing Rules*, *Rate editor* and *Simulation*. Tasks for such entities (for example, in *Simulation* and *Rate import*) will be displayed, but the entity's name will be replaced with its ID. Click *Show*  **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:

- [Voice\Routing\Routing Rules](#) 
- [Voice\Routing\Blended routing](#) 
- [Voice\CDR management\CDR rerating](#) 
- [Voice\CDR management\CDR reconciliation](#) 

Use the *RegExp ref. books for routing interfaces*: 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](#)  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](#) ).

Use the  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 relogs. 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).

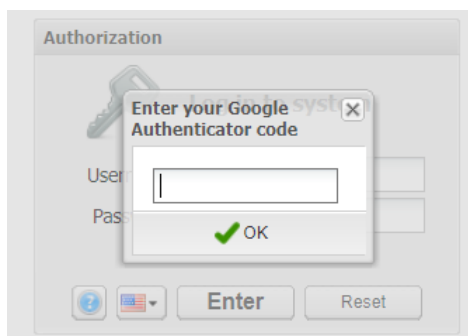
Two factor authentication (2FA): the section allows enabling two-factor authentication. Proceed as follows:

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.



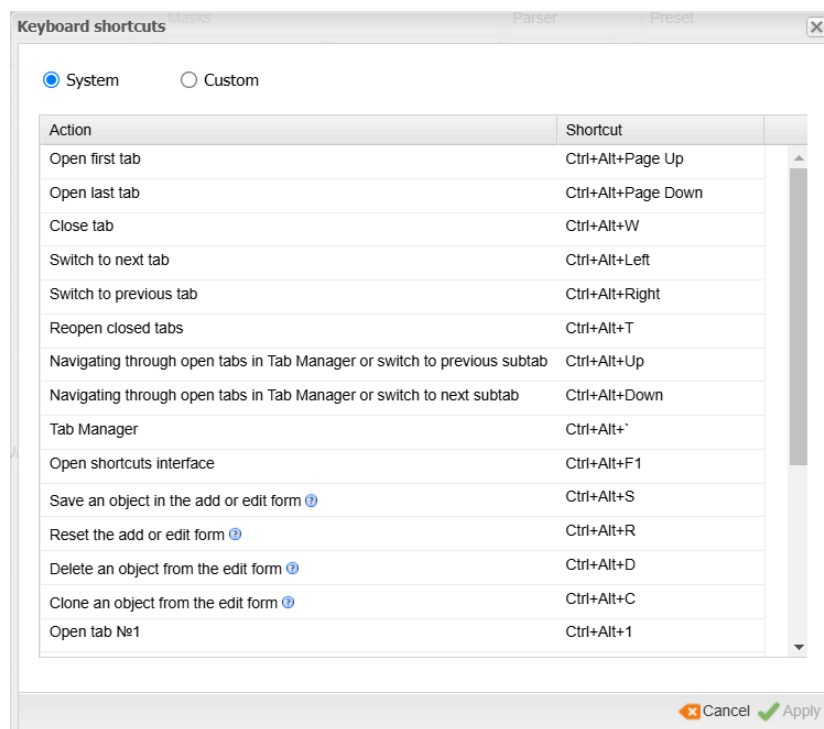
Google Authenticator code entry window

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](#)^[132].

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.

5 User shortcuts

The *User shortcuts* menu allows assigning 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.

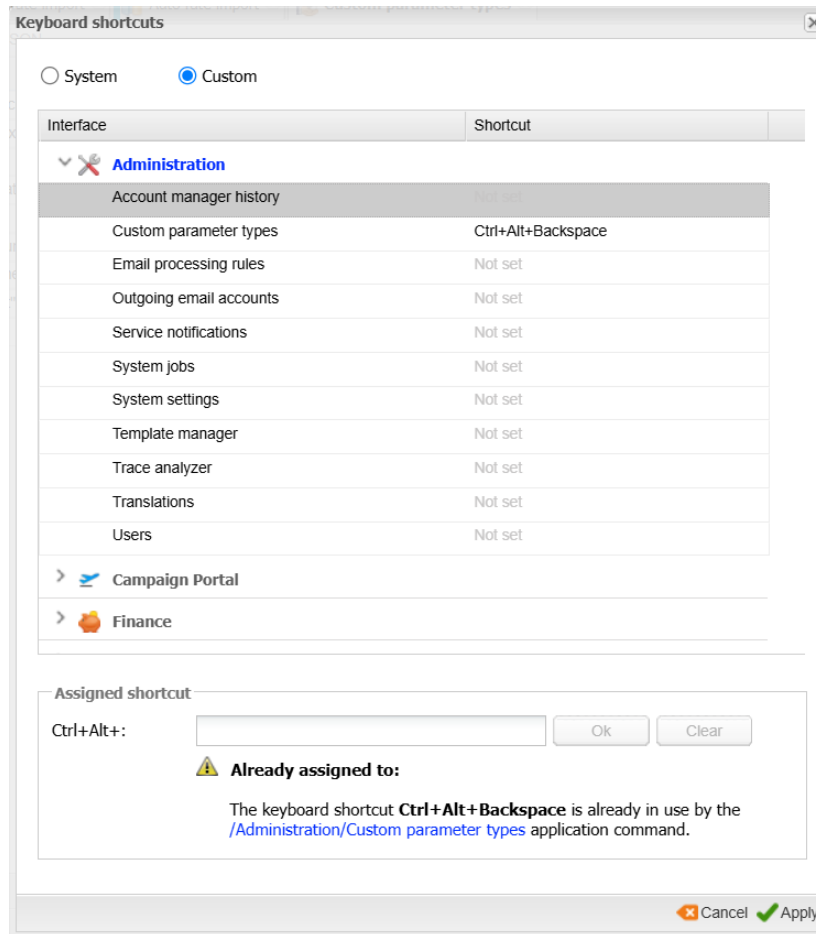


System shortcuts

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

- The Ctrl+Alt+T key combination restores the previously closed tabs of the System.
- The Ctrl+Alt+` combination works similarly to Ctrl+Alt (in Windows): it opens a window containing lists of open interfaces for quick navigation.
- 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).
- 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.
- 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.
- 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

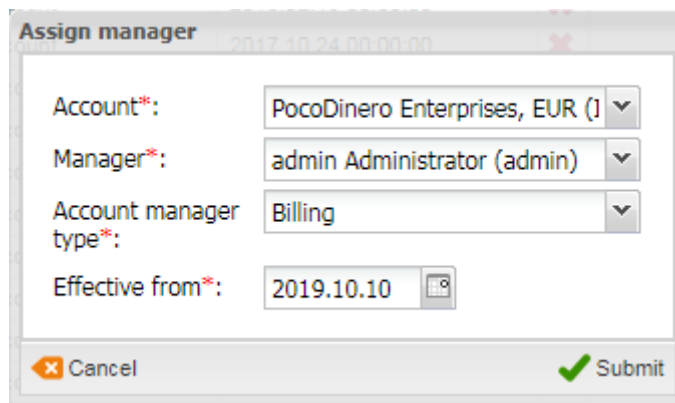
Check out the video tutorial on account manager history at the [Alaris YouTube channel](#).

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	$-\infty \leq X \leq \infty$	
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

Account*: PocoDinero Enterprises, EUR (I) ▼

Manager*: admin Administrator (admin) ▼

Account manager type*: Billing ▼

Effective from*: 2019.10.10 

 Cancel  Submit

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.

★ Start page Custom parameter types			
ID	Entity	Parameter name	Compiled JSON
	All	Text mask	
1003	Carrier	carrier code	{"xtype":"numberfield","value":"1"}
1002	Account	Tax reference number	{"xtype":"numberfield"}

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
Edit

Attention: All the changes done through this interface will become visible in Carriers after the tab is reopened.

Entity*: Account

Parameter name*: Tax reference number

Field parameters

Field type: Number

Default value:

☐ Required field

Minimum value:

Minimum value:

Field width:

Compiled JSON: {"xtype":"numberfield"}

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*, *Voice 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

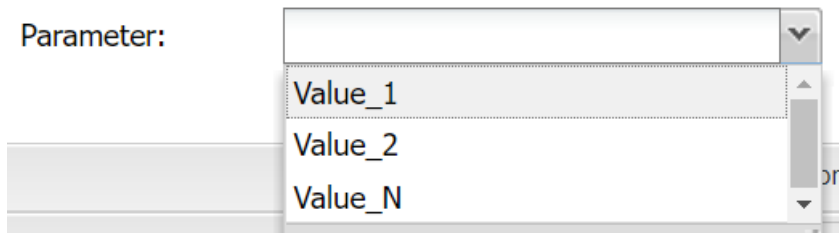
2|Value_2

...

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:

Custom parameters



Parameter:

List of values field type

- *Date*
- *Date & Time*
- *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 once the section is reopened.

+ Add
✎ Edit
🧪 Simulation

Mail from mask*:	*@lotofcash.com
Mail to/CC/BCC mask:	*@coucou.com
Mail subject mask:	*LCR*
Mail text mask:	*A-Z price*
File name mask:	*. *
Interface*:	Voice rate import ▼
	☒ Run auto import for attachments
Carrier*:	British Hairways ▼
Product*:	British Hairways - WholeSale (USD) - Client ▼
Rule description:	Wholesale A-Z rule
Owner notification:	Yes ▼
Carrier notification:	Yes ▼
Report recipients:	
	☒ Rule enabled ☐ Test rule ☐ Resume processing

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 *Voice 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  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.

+ Add
 ✎ Edit
 🏠 **Simulation**

Mail from:
 Mail to:
 Mail subject:
 Mail text:
 File name:
 Interface: **Voice rate import**
 Carrier: **Boring Enterprises**
 Product: **WholeSale (undefined) - Vendor**
 Rule description:

Simulation

Enter the appropriate parameters and click  **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).

Email rules
 Letters
 Files

ID	Delivered	Sender	Subject	Recipient	Source
3971	-- ∞ ≤ X ≤ ∞				
3 971	2024.05.26 16:24:44	sender@enterprise.com	Rate notification from Jojo Vendor	recipient@company.com	download

Page 1 of 1
 200 rows
 Delete

Sender: **sender@enterprise.com**
 Subject: **Rate notification from Jojo Vendor**
 Recipient: **recipient@company.com**
 Carbon copy:
 Blind carbon copy:
 Attachments: **RN_Jojo.xlsx**

Hello, Partner

 This is a rate notification from Jojo Vendor.

 Please find attachment.

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).

Select file					Message text
Interface	Carrier	Product	File name	Date	
☐ Voice rate imp	All	All			
☐ Voice rate import	AC_Client	Voice (USD) - Client	Voice_Rate_Voice_04.xlsx	201	Dear Partner, See attached rate update from Deel. Current notification DOES NOT COMPLETELY REPLACE all the rates you had before. All codes and rates, which are not indicated in this price list remain the same. Prefix is 11# Please confirm the receipt. --
☐ Voice rate import	ALARIS TEST	CLI (USD) - Client	AZ_Wholesale_1_updated.xls	201	
☐ Voice rate import	ALARIS TEST	CLI (USD) - Client	Sample Rate Sheet - A.xls	201	
☐ Voice rate import	Empresa Quebrada Pte.	Gold (EUR) - Client	Rate sheet soVIP.xlsx	201	
☐ Voice rate import	AC_Client	Voice (USD) - Client	CPL_VOICION-D_WHQ-201843-36469.xls	201	
☐ Voice rate import	Ahn Wee	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
☐ Voice rate import	AC_Client	Voice (USD) - Client	16.05.2018setup_full.xls	201	
☒ Voice rate import	Barbie Dahl	Premium (USD) - Client	Voice_Rate_04.xlsx	201	
☐ Voice rate import	ALARIS TEST	CLI (USD) - Client	Sample Rate Sheet - A.xls	201	
☐ Voice rate import	Boring Enterprises	WholeSale (USD) - Vendor	2-page_test.xls	201	
☐ Voice rate import	Boring Enterprises	WholeSale (USD) - Vendor	rate_import_vendor_price_list-premium.xls	201	
☐ Voice rate import	Cheapsy King	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
☐ Voice rate import	Beer Construction	CLI (USD) - Vendor	AZ_rates.xls	201	
☐ Voice rate import	Bed Wetter	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
☐ Voice rate import	Needles Horseman Net	WholeSale (USD) - Client	Rate sheet soVIP.xlsx	201	

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 *Voice rate import* to *No interface*, the file is removed from the *Voice rate import* interface. Similarly, when changing the value from *No interface* to *Voice rate import*, the file appears in the *Voice 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.

★ Start page		✖ Outgoing email accounts						
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
✎ Edit

Accounts:

✎ Edit list

All accounts

Server type*: Technical

Server IP*: 127.0.0.3

Port*: 25

EHLO cmd:

Secure conn. type:

Username: support

Password:

Sender address*: support@supercash.com

From name: Supercash Technical Support

Reply to:

Contract company: Breaking bad

OAuth credentials

OAuth type*: Google

OAuth offline token*:

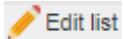
Client ID*: 578535445638-363dkncognofmOkd6uBa6c00dSi1vr di.anns.oooaleusercontent.com

Client secret*: GOCSPX+RvGoShPDFzbDBJuhjo1rXpmeMggN

↶ Reset
✓ Submit

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*  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](#) ³⁷)
 - *Reports*: reports generated by the *Report builder*
 - *Partner portal*: messages related to the [Wholesale portal](#) ⁴³³
 - *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](#) ³⁶ and [Obtaining accesses for Microsoft OAuth mail sending](#) ³⁶.

Click  *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* 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 secret* 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=AwABAAAaVPM1KaPIrEqdFSBzjqfTGBCmLdgfSTLEMPGYuNHSUYBr&state=12345](http://localhost?code=AwABAAAaVPM1KaPIrEqdFSBzjqfTGBCmLdgfSTLEMPGYuNHSUYBr&state=12345)

The code for this example is
AwABAAAaVPM1KaPIrEqdFSBzjqfTGBCmLdgfSTLEMPGYuNHSUYBr.

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.

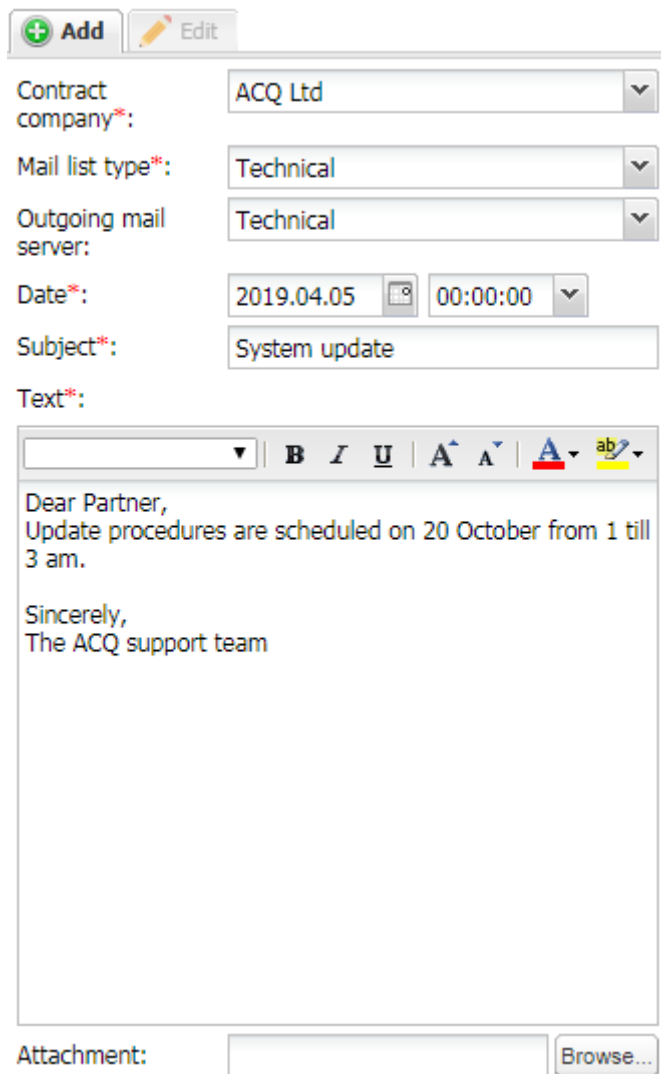
The page has two panels. The left panel is a table of scheduled notifications; the right panel contains the *Add* and *Edit* tabs.

★ Start page 📧 Service notifications					
☐	Contract company	Mail list type	Date	Status	Subject
☐	All	All	$-\infty \leq X \leq \infty$	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.



Contract company*:

Mail list type*:

Outgoing mail server:

Date*:

Subject*:

Text*:

B *I* U **A** **A** **A** **ab**

Dear Partner,
 Update procedures are scheduled on 20 October from 1 till 3 am.

 Sincerely,
 The ACQ support team

Attachment:

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](#) ³³ 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 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.

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

When launched, pending dial codes ([Voice\Reference books\Pending dial codes](#)^[373]) become effective if the *Effective date* is reached and the codes are added to the main reference book.

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](#)^[214]) 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](#)^[29] with the *Interface* set to *Payments* are added to the [Finance\Payments](#)^[185] 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*.

BAS_SEND_NOTIFICATIONS

The job is intended to generate scheduled service notifications in accordance with their schedules ([Administration\Service notifications](#)^[37]). 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

Applicable to Alaris SMS Platform only.

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 management](#)^[425].

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

Applicable to Alaris SMS Platform only.

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 CDR 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 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:

- 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*
- removing old voice rates from the internal table `rat_rate_archive` (with the dates older than the current month - N, where N is the value of the System parameter *Archive month count*).

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 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), *Rate export*.

RAT_ANA_CLEANUP

The job cleans obsolete rate analysis data ([Voice\Rates\Rate analysis](#)^[296]).

RAT_ANA_REFRESH_DCODE

The job refreshes dial code matching for rate analysis ([Voice\Rates\Rate analysis](#)^[296]).

RAT_MANAGE_PARTITIONS

The procedure manages partitions of the `rat_rate` table in order to move obsolete rates to the `rat_rate_archive` table. Obsolete rates are the ones that are older than the current month - N, where N is the number of months set in the System parameter *Rate history months count*.

RAT_RATE_LOG_JOB

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

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

The job inserts new B-numbers to the blacklist if the amount exceeds the number of attempts defined in the System parameter *Blacklist attempt threshold* based on CDRs for last *Blacklist update interval* minutes.

RUT_LIM_DISPATCHER

The job updates the current values of voice 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.

SANSAY_DWNLD_SWITCH_DATA_JOB

The job runs incremental updates of VoIP POIs and node data from Sansay's switch resources (e.g., Capacity, CPS limit, IP address). The updates are checked and done for those POIs (nodes) that have been created in the System. If the updates applied in the System do not coincide with the Sansay configuration, the System changes are re-written by the Sansay ones when the job launches.

SANSAY_QUERY_SWITCH_DATA_JOB

The job runs a full update (synchronization) of VoIP POIs and node data from Sansay's switch resources (e.g., Capacity, CPS limit, IP address). If there is any POI (node) that was created within the last 24 hours on the Sansay switch, it will be created in the System. If updates applied in the System do not coincide with the Sansay configuration, the System changes are re-written by the Sansay ones when the job launches.

SE_LOG_FILES_CLEANUP

Applicable to Alaris SMS Platform only

SMS_AUTO_FEATURES

Applicable to Alaris SMS Platform only.

SMS_AUTO_RATE_SEND

Applicable to Alaris SMS Platform only.

SMS_CHANNEL_RESOLVE_DOMAIN

Applicable to Alaris SMS Platform only.

SMS_EXPORT_REFBOOK

Applicable to Alaris SMS Platform only.

SMS_INIT_RERATE_TASKS

Applicable to Alaris SMS Platform only.

SMS_INIT_VBD_RERATE_TASKS

Applicable to Alaris SMS Platform only.

SMS_LOAD_CDRS

Applicable to Alaris SMS Platform only.

SMS_PROCESS_LIMITS

Applicable to Alaris SMS Platform only.

SMS_PROCESS_TEST_BILLINGS

Applicable to Alaris SMS Platform only.

SMS_PROCESS_TEST_TASKS

Applicable to Alaris SMS Platform only.

SMS_RATE_LOG_JOB

Applicable to Alaris SMS Platform only.

SMS_RECALC_CUBE

Applicable to Alaris SMS Platform only.

SMS_RTL_DISPATCHER

Applicable to Alaris SMS Platform only.

SMS_RTL_LOAD

Applicable to Alaris SMS Platform only.

SMS_RTL_MO_TEXT

Applicable to Alaris SMS Platform only.

SMS_RTL_UNLOCK

Applicable to Alaris SMS Platform only.

SMS_RUT_LIM_DISPATCHER

Applicable to Alaris SMS Platform only.

SMS_STATS_CHANGE

Applicable to Alaris SMS Platform only.

SMS_SYNC2REDIS

Applicable to Alaris SMS Platform only.

SMS_UPDATE_CDR_STATUS_JOB

Applicable to Alaris SMS Platform only.

SMS_UPDATE_DELIVERY_EMA

Applicable to Alaris SMS Platform only.

SMS_UPDATE_RULE_EMA

Applicable to Alaris SMS Platform only.

SMS_VBD2_DISP

Applicable to Alaris SMS Platform only.

STA_CLEAR_RESULT_CACHE

The procedure flush result_cache in order to avoid SGA memory overflow. The result cache may store the results of System functions or reports executions.

STA_CUBE_JOB

The procedure recalculates voice analytical cubes based on new CDR 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.

STA_INIT_RERATE_TASKS

The job creates voice auto rerating tasks based on the applied rate changes. The tasks will be launched at the hour specified in the System parameter *CDR rerating hour*.

The period for autorerating depends on the period the rate change affected - for example, if the rate's 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).

STA_LOAD_CDRS_JOB

This procedure imports CDR files prepared by the external CDR processor that fetches data from the switch into the database. Also it is responsible for direct CDR import from the softswitch database if it is enabled.

STA_RECALC_FIN_CUBE

The procedure recalculates voice financial cubes.

SWAP_DEAL2_DISP

Applicable to Alaris SMS Platform only.

TRD_BLEND_SELECT_VENDOR_JOB

The job finds vendors suitable for parameters of blended rules and adds them to the rules.

TRD_BLEND_UPDATE_RULE_JOB

The procedure updates quality and cost parameters of blended rules and updates routing rules created based on blended ones.

TRD_SWAP_UPDATE_JOB

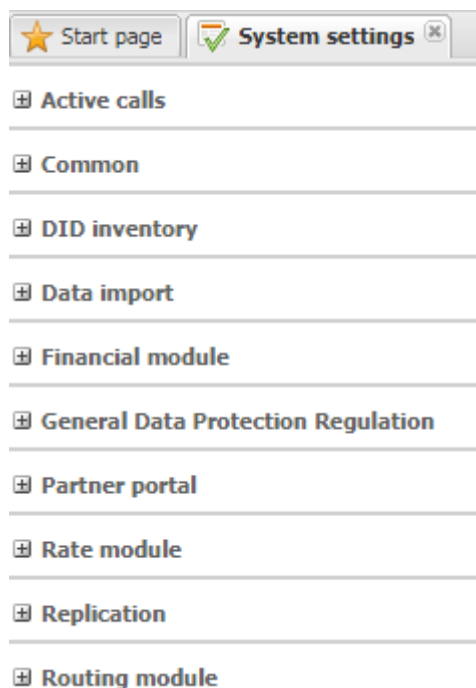
The procedure updates statistics of the swap deals for which the *Is active* flag is enabled.

VBD_DIAL_REFRESH_STATS

The job processes the current volumes and thresholds of [Voice\Volume-based deals](#) .

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*.

Parameter: 

Filter

6.7.1 Active calls

 Active calls	
Add leading zeroes to trunk groups for Sansay	0
Data outdated after, sec.	30
Last updated	2018.09.06 16:53:28

Active calls

This section contains the parameters related to [Voice\Active calls](#)^[265]:

- *Add leading zeroes to trunk groups for Sansay* - when enabled, the System automatically adds leading zeroes to the trunk_group field when importing active calls from the Sansay softswitch. This serves to ensure correct display of active calls from the Sansay switch in [Voice\Active calls](#)^[265]. Allowed values are 0 and 1.
- *Data outdated after, sec.:* period (in seconds) after which data in *Active calls* will be considered as outdated and will be refreshed using connection to softswitches
- *Last updated:* date of last data upload from softswitches. The parameter is non-editable and intended for informational purposes only

6.7.2 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
Automatic export of CDRs having a limitation rule (0 - no, ...	0
Automatic notification expiry period (hours)	4
Balance notifier url pattern	null
Blacklist attempt threshold	10000
Blacklist target tag name	blacklist
Blacklist update interval (mins, 1-99)	99
Blended routing license expiry date	2021.12.01 00:00:00
Block traffic exceeding license (1 - yes, 0 - no)	1
Build number	3.5.24-43524
Campaign Portal module enabled (1 - enabled, 0 - disabled)	1
Critical threshold for running processes per core	10
Currency update source (possible values - ECB, LCB, BN...	ECB
Current DB version	3.5.24
Current user ID	11094

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 export of CDRs having a limitation rule (0 - no, 1 - yes)*: automatically export CDR files with calls blocked by limitation rules to the active DB server (/u01/app/oracle/cdr.files/ext directory). Also, the name of generated files can be configured in the parameter *Format of the file name for upload CDRs having a limitation rule*
- *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
- *Blacklist attempt threshold*: number of attempts (integer value) to the same B-number within a period set in *Blacklist update interval (mins, 1-99)*. If the value is reached, the number is added to a tag with a name specified in *Blacklist target tag name*. The default value is 10000
- *Blacklist target tag name*: name under which the B-number is added to the [Reference books\Tags](#)^[201] interface (the default value is *blacklist*). Later the tag can be used in routing rules of the *Block* type (those that serve to block traffic)
- *Blacklist update interval (mins, 1-99)*: serves to specify the period within which B-numbers will be checked in CDRs - if the number of attempts to the same number within the period is greater than *Blacklist attempt threshold*, the number is added to a *Blacklist target tag name*
- *Blended routing license expiry date*: date and time when the blended routing license becomes obsolete. To prolong it, contact your account manager
- *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 (CDR recalculation, export of CDRs - from the Wholesale portal, Analytics and CDR 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](#)^[214]. 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 Wholesale 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](#)^[84]) - for example, reports.

- *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 [Voice\CDR management\CDR export tool](#)^[276], [Voice\Rates\Rate export](#)^[313])
- *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 voice 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 [Voice\CDR management\CDR export tool](#)^[276], [Voice\Rates\Rate export](#)^[313])
- *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 calls 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 CDR export (including CDR exports from the Wholesale 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 all exported spreadsheets

NOTE: When exporting CDRs from the [Voice\CDR management\CDR export tool](#)^[276] interface, the maximum number of rows allowed for export is 65000 for xls files and 1048576 for xlsx files.

- *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
 - Wholesale 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.).
- *Excel column width settings:* the width of columns in spreadsheets exported to MS Excel. Possible values are: *WT* - width from template ([Administration\Template manager](#)^[84]), *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
- *Format of the file name for upload CDRs having a limitation rule*: name format of files generated for exported CDRs with calls blocked by limitation rules. Export of such CDRs is configured by the System parameter *Automatic export of CDRs having a limitation rule (0 - no, 1 - yes)* described above
- *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 CDR per month*: allowed number of CDRs within one month. If the value is reached, an alert is sent to the account manager
- *Licensed number of minutes per month*: allowed number of minutes 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. 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 (CDR export/Rate export) and CDR 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](#)^[46] 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 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 CDR export from the Wholesale 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
- *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](#)^[132] >> 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 (3¹), 9 (3²), 27 (3³) 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](#)^[84] 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: Analysis*) 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](#)^[29] >> *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, 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
- *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](#)^[46]). The default value is 172800; it can be overridden on the report level
- *Report task results rows*: the maximum number of rows to be shown in the web interface (available through the *view* hyperlink in [Reports](#)^[46]). The limitation does not affect report exports to Excel/CSV. The default value is 30000; it can be overridden on the report level. 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](#)^[46]. 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
- *Report tasks count to store*: the number of report tasks created in [Reports](#)^[46] 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
- *Report tasks count to store(per single report)*: the number of tasks within the same report to be stored in [Reports](#)^[46]. The default value is 100. When the value is decreased, the excessive tasks are removed as soon as the system job PRV_CLEANUP_SCHEME runs
- *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

- *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](#)^[145] 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](#)^[145] interface) while creating an agreement or the *Timezone* field while importing the rates (*Rate import* interface)
- *Show Sansay settings*: specifies whether data synchronization between the Alaris System and Sansay switch must be enabled, to allow simplifying configuration and avoiding any data discrepancy. Possible values are 0 (disabled) and 1 (enabled). The data between the switch and the System is synchronized both in the 'partial' and 'full' modes that run at a certain interval (in accordance with System jobs SANSAY_QUERY_SWITCH_DATA_JOB and SANSAY_DWNLD_SWITCH_DATA_JOB). In the partial mode, the System updates information about the existing POIs, whereas in the full mode the System imports the full list of POIs from the switch. Once enabled, the fields *Resources login* and *Resources password* (auth data for the synchronization) are required to be completed in the [VoiceReference books\Soft switch editor](#)^[374] interface. Additionally, the *Sansay POI nodes* section becomes available in the [Carriers\Voice POI](#)^[163] interface

NOTE: To make the parameter available, a dedicated module must be installed by the Alaris technical support team.

- *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
- *Support end date*: serves for notification about the upcoming support end date. This information is also available at the *Start\License info* page
- *System currency code*: code of the System currency, also shown in [Reference books\Currency exchange rates](#)^[214]. 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](#)^[214]
- *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](#)^[2011] 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 WholesalePortal will be removed from the internal DB table and the email address used for registration can be re-used. The default value is 3.
- *Voice license exceeded*: if set to 1, calls will be rejected when exceeding the allowed monthly volume and in case the System parameter *Block traffic exceeding license* is set to 1 as well. The parameter can be modified only by the Alaris technical support team
- *Voice module enabled (1 – enabled, 0 – disabled)*: when the value is 1, the inVoice functionality is accessible; when the value is 0, only the SMS Platform functionality is accessible. The parameter can be modified only by the Alaris technical support team

- *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 (*CDR recalculation, export of CDR - from the Wholesale portal, Analytics and CDR 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

6.7.3 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](#)⁴²⁵). 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)*: applicable to Alaris SMS Platform only
- *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. If a call is supposed to be routed to a DID vendor, given that the prefix of the B-number is included in the list of prefixes, TFN rates (that are based on the A-number) will be used for billing. If the prefix is not in the list, DID rates are used for the billing purpose. The default list contains the following prefixes:
1800,1888,1877,1866,1855,1844,1833,1822
- *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 calls will not be calculated. If a vendor product ID is set, the margin will be checked for call 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 call will be blocked
- *Use DID/TFN management*: consider DID/TFN numbers in billing and 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](#) ⁴²⁵ 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 call 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 call 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)

6.7.4 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 ([Voice\Rates\Rate import](#)^[326] or [Finance\Payments](#)^[185]) to which the System sends files received for rate import/payments if no rules are found for the email in [Administration\Email processing rules](#)^[29]. 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](#)^[29] and [Voice\Rates\Auto rate import](#)^[292] 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

6.7.5 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 - yes)	0
Charge detail rounding digits (client leg)	2
Charge detail rounding digits (vendor leg)	2
Charge detail rounding function (client leg): 0 - floor, 1 - round	1
Charge detail rounding function (vendor leg): 0 - floor, 1 - round	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](#)^[145] 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](#)^[145]. 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 charge detail as the multiplication of volume and rate (0 - no, 1 - yes):* when the value is 1, the charge detail amount will be recalculated as volume * rate instead of aggregated cost sum of all calls, which can sometimes lead to a discrepancy due to agreement rounding settings (*In/Out rounding function* and *In/Out rounding precision* parameters). For example, suppose dial code 3451 has two calls with duration 79 and 71 seconds at the rate of 0.006, the agreement rounding: floor and three decimal places. As a result, the cost of both calls will be 0.007 (total 0.014) while the volume (1.317 + 1.183 = 2.5) * rate will be 0.015. So, if the charge cost rounding is set to three decimal places and the parameter set to 0, the charge detail amount will be different from the product of rate and volume
- *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](#)^[145]) 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](#)^[155] *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](#)^[169] >> *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](#)^[207] 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 CDR rerating (see [Voice\CDR management\CDR Rerating](#)^[288]) and invoice recalculation (see [Finance\Invoices\Editing invoices](#)^[187]) 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\Analytical cube status](#)^[244] 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](#)^[207]). 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](#)^[207]) 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](#)^[229] 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](#)^[214]) 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](#)^[84] >> *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*).

- *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](#)^[207] >> *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](#)^[207] >> *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 CDRs for long calls 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 [Analytical cube status \(Administration\)](#)^[244])

- *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](#)^[145])
 - [YYYYMMDD] or [YYMMDD] – the invoice generation date (displayed in the *Created* column of the [Finance\Invoices](#)^[175] page)
 - [PARAMX] - where X is the ID of a custom parameter defined in [Administration\Custom parameter types](#)^[27]

Additional configuration can be done on the contract company level ([Reference books\Contract companies](#)^[207] >> *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](#)^[185] for more details on draft payments). The email addresses are set in [Carriers\Agreements](#)^[145] (*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 CDR rerating is performed for a period later than a month ago, it will have no effect on financial data (balance, existing invoices, etc.)
- *Populate dest. raw duration with source duration (0 - no, 1 - yes)*: if set to 0, *Raw call duration (for vendor) = Call duration*; if set to 1, *Raw call duration (for vendor) = Raw call duration (for client)*
- *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 (set on the [Carriers](#)^[137] page), credit limit ([Carriers\Agreements](#)^[145]) 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](#)^[145] >> *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](#)^[142] 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](#)^[145], *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](#)^[142]
- *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](#)^[132] 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](#)^[145]). 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](#)^[185] for more details on draft payments). The email addresses are set in [Carriers\Agreements](#)^[145] (*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](#)¹⁴⁵. 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 CDR 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:
 - 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

6.7.6 General data protection regulation

☒ General Data Protection Regulation

Wipe personal data after, days of inactivity

General data protection regulation

- *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](#)^[145] 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](#)^[132] 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

6.7.7 Partner portal

Partner portal	
Allow Wholesale portal user registration (0 - no, 1 - yes)	1
Allow Wholesale portal users to edit POI (1 - yes, 0 - no)	1
Available currencies (null - All)	null
Available product IDs (null - All)	null

Partner portal settings

- *Allow portal user self-registration (0 - no, 1 - yes)*: defines whether Wholesale 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 Wholesale Portal in case the System setting *Wholesale portal access mode (1 - read/write, 2 - read only)* is set to 1
- *Allow Wholesale portal users to edit POI (1 - yes, 0 - no)*: defines whether Wholesale portal users can create and edit their POIs
- *Auto generate non-expiring token on user registration (0 - no, 1 - yes)*: applicable only to Alaris SMS Platform (Alaris Campaign Portal)
- *Available currencies (null – All)*: comma-separated list of currency codes defined in the System, which will be available in the Wholesale portal for new partner account creation. Note that the currency codes can be found in [Reference books\Currency exchange rates](#)^[214]. 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 Wholesale portal for new partner product creation. 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 portal correspondingly
- *CDR download file column set (1 - system default, 2 - Sansay custom)*: defines the format of CDR files exported from the [Wholesale portal](#)^[433]. The default value is 1, and when it is used, the format of CDR files exported from the Wholesale portal remains unchanged. When set to 2, the format is changed to the following:
 - *Carrier Name* - partner name
 - *Trunk ID* - POI trunk group
 - *Trunk ID Description* - POI description
 - *Product* - product name
 - *Date* - call date (in the format YYYYMMDD)
 - *Time* - call time (in the format HH24:MI:SS)

- *Authorized IP* - the IP address from which the call was made
- *Orig #* - A-number
- *Dialed #* - B-number in E164 format
- *LRN #* - LRN number
- *Rated #* - LRN number if the *Billing number options* (Products tab) is set to *B-number LRN*, otherwise - B-number
- *Rated Length* - rounded length in minutes
- *Total* - cost
- *Per Minute Rate* - rate
- *Destination Info* - destination taken from the rate
- *Usage Type* - call type (US/Canada/International/DID/TFN)
- *Client Portal default in billing period*: the billing period for a client registered at the Wholesale 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*
- *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
- *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
- *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
- *Limit CDR/EDR export, days*: the maximum period (in days) for which CDRs can be exported from the Wholesale 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 Wholesale Portal partners. 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

Filter permissions by key or name

☐ No restrictions

☒ Administration

☒ Account manager history

☒ Edit account manager history

☒ Outgoing email accounts

☒ Email rules

☒ Custom parameter types

☒ Edit custom parameter types

ROLE-ACC-MAN-MAP-HISTORY-EDIT

Database permission names

- *Mandatory Wholesale user positions (comma separated):* the parameter is intended to specify obligatory user positions that must be configured in the Wholesale portal. For example, if the parameter contains *Rates,Billing,NOC* - these roles will be required for setting in the Wholesale 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 Wholesale portal. If set to null, the number is not limited
- *Maximum number of DB sessions for Wholesale portal:* an integer value that defines how many simultaneous requests can be sent to the database from the web interface of the Wholesale portal
- *Number of parallel threads for REST API CDR\EDR export tasks:* the number of intervals to break down large CDR export tasks to subtasks. The parameter is intended to optimize export tasks from the Wholesale 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
- *Poi IP mask to hide in partner portal (null - show all):* subnet of IP addresses that should not be displayed at the Wholesale 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 Wholesale 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 CDR 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](#) through payment systems are registered as drafts. In this way, the new payment does not affect the client balance, 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
- *Send partner portal 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 Wholesale portal. If set to *null*, notifications are not sent
- *Show fully paid invoices (0 – no; 1 – yes):* defines whether the invoices settled by a partner should be displayed in the portal (not shown by default). Unsettled (not paid in full) invoices are always displayed
- *Show vendor product in the wholesale portal (0 - no, 1 - yes):* the parameter controls the display of vendor products in the Wholesale portal. The option is enabled by default
- *Spare database connection waiting timeout:* defines the keep alive time for the requests from the Wholesale 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

- *Wholesale portal URL*: web address of the [Wholesale portal](#)^[433]
- *Wholesale portal access mode* (1 - read/write, 2 - read only): defines access permissions to the [Wholesale portal](#)^[433]. 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 Wholesale portal is not allowed

6.7.8 Rate module

Rate module

Analyze implicit changes	1
Apply default effective date for the rows with the empty d...	1
Auto-import rate files archive folder (null - remove files)	/u01/app/oracle/invoice.files
Blocked rate value	999999
Default rating dial code	999
Effective from date for change type 'same' (0 - actual, 1 - ...	0
Enable auto rate import	1
Enable optimized range expanding (0 - no, 1 - yes)	1
List of recipients for rate export results	brokensilhouette@yandex.ru
List of recipients for rate import log	null
List of test recipients for rate import log	null
Max choices in auto generated rules (1-10)	3
Max rate to consider in rate generator	100
Max unzipped file size for rate export (mb)	5
Max unzipped file size for rate import results (mb)	6
Maximum rate analysis depth (days)	365
Maximum rate analysis look ahead (days)	365
Period for sending changes for voice products (seconds)	60
Prohibit cloning to vendor products (0 - no, 1 - yes)	0
Rate block markers (comma separated)	block,blocked,Blocked,-1

Rate module

- *Analyze implicit changes*: applicable to the old version of Rate import ([Voice\Rates\Rate import \(old\)](#)^[326]). When enabled, it invokes checks for hidden increases/decreases of rates. Possible values are 0 (do not show the changes) and 1 (show the changes). For example, suppose the old rate was 0.05 USD for dial code 79; the new rate sheet contains the rate 0.06 USD for dial code 791. When set to 1, the System will identify this implicit rate change
- *Apply default effective date for the rows with the empty date*: apply the default effective date (00:00:00 of the next day) to rates with empty *Effective from* if the rate sheet file does not contain the effective date ([Voice\Rates\Rate import](#)^[327])

- *Blocked rate value*: numeric value used by the System to identify rates that should be treated as blocked. Rates that are considered as blocked by the import module will be created with this value as the price. The parameter cannot be changed and it is shown for information purposes only
- *Default rating dial code*: numeric value that can be used as a default dial code for routing and billing if the System fails to find a rate for a specific dial code. The default value is null (the feature is disabled). The search logic for the default rate differs based on the rate inheritance mode:
 - If *Rate inheritance mode: longest match at child*: the System searches for a dial code rate in the child product, then searches for the default dial code rate in the child product; after that it searches for a dial code rate in the parent product and then for a default dial code rate in the parent product
 - If *Rate inheritance mode: global longest match*: the System searches for a dial code rate by longest match in both the parent and child products; then uses the default dial code rate from the child product, and after that the parent default dial code rate
- *Dialcode ignore markers*: the list of comma-separated markers (empty by default) which will be ignored during rate import if indicated in the second *Dial code* column (the first *Dial code* column will be imported)
- *Effective from date for change type 'same' (0 - actual, 1 - export date)*: defines the effective date for rates marked *same* in exported rate sheet files. When the value is 0, the date is taken from the source rate sheet; when the value is 1, the date is the export date. Note that for each export task the value can be specified in the drop-down list *Effective from date for change type "same"* in [Voice\Rates\Rate export](#)^[313]
- *Enable auto rate import*: possible values are 0 (auto rate import is disabled) and 1 (auto rate import is enabled). If set to 0, files received by email will be fetched in accordance with rules set in [Administration\Email processing rules](#)^[29] but auto import rules will not be triggered and the files will be shown in the [Voice\Rates\Rate import](#)^[326] interface in the *Not imported* status
- *Enable optimized range expanding (0 - no, 1 - yes)*: defines how the System will handle a range of dial codes in rate import. Example: suppose a rate sheet file contains a range of dial codes 34600-34699. If the value is 0, ten rates will be created in the System (for dial codes 34600-34699). If the value is 1, only one rate will be created (for dial code 346)
- *List of recipients for rate export results*: defines the list of recipients (comma-separated) that will be carbon copied to every email issued by the *Rate export* module
- *List of recipients for rate import log*: comma-separated list of emails for sending results of rate import operations (in case the import was not canceled)
- *List of test recipients for rate import log*: comma-separated list of emails for sending all import reports. Since the parameter is intended for test purposes, if it is set, import results will not be sent to any other emails (specified in System settings or in auto rate import rules)
- *Max choices in auto generated rules (1-10)*: the number of vendor choices created in [Voice\Routing rules](#)^[389] based on rate compilation result (if *Generate routing rules* in [Voice\Rates\Rate plan creation\Rate compilation](#)^[367] is used). The first n vendor products from *Involved vendor dial codes* will be chosen in case the parameter is exceeded, where n is the parameter value
- *Max rate to consider in rate generator*: the maximum vendor rate that the rate generator considers when creating rates in *Rate plan creation* ([Voice\Rates\Rate plan creation](#)^[367]). The parameter allows ignoring very high rate values used as block rates or in other specific cases

- *Max unzipped file size for rate export (mb)*: maximum size (in megabytes) of a rate import results file (sent to email) that is formed without archiving; if the size is greater than the specified value, the file will be archived. The parameter is used as the default value of *File size to archive* parameter (*Rate export* interface)
- *Max unzipped file size for rate import results (mb)*: maximum size (in megabytes) of the file that can be created without archiving as a result of auto rate import and rate import tasks. Once the size is greater than the specified value, the file will be archived. The file is sent to addresses specified in *Full report recipients* parameter ([Voice\Rates\Auto rate import](#)^[292]) - in case of auto import
- *Maximum rate analysis depth (days)*: the period for display of rates in the *Analysis* mode of rate import. The default value is 60 (days) which means that during rate import in the *Analysis* mode, all rates for dial codes from the rate sheet that were active for the past 60 days will be shown. Suppose there is a rate for dial code 34601 in the file with the period 2019.01.01-2100.01.01. If there is another rate in the product for the code 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
- *Maximum rate analysis look ahead (days)*: the default value is 365 days, which means that rates with *Start date* greater than the current date+365 days will not be present in the results of the *Choice* and *Analysis* modes
- *Override rate increments with dial code based increments (0 - no, 1 - yes)*: when enabled, the billing increment set for a specific dial code in [Voice\Reference books\Billing increments](#)^[367] (with account for its *Active from/till* dates) will have priority over the rate's billing increment in routing and billing. Longest-match search is used. If no billing increment is found for a dial code, the rate's billing increment will be used. Default value is 0 (the rate's billing increment has a priority if the *Force using default increments* flag is not enabled as well on the product level)
- *Period for sending changes for voice products*: the parameter defines the period in which rate changes will be sent out automatically (provided that the System parameter *Voice rate changes email auto send* has been turned on and the product option for auto send has been enabled). The default value is 3600
- *Prohibit cloning to vendor products: (0 - no, 1 - yes)*: when the value is 1, vendor products are hidden from the dropdown list in the *Clone rate group* window ([Voice\Rates\Rate groups](#)^[302])
- *Rate block markers (comma separated)*: markers used in imported rate sheet files to indicate rates to be blocked. For example, a file may contain *block* or *N/A* instead of the price (in the *Rate* column)
- *Rate close markers (comma separated)*: markers used in imported rate sheet files to indicate rates to be closed. For example, a file may contain the word 'close' and date instead of price
- *Rate export file name prefix*: 0 - carrier name, 1 - company registered name: defines the name of the partner in the exported file name. If the parameter set to 1, the company name will be taken from the agreement active at the moment of the export task
- *Rate history months count*: defines the storage period of rates in the active partition (default is 3 months, can be changed with the help of the Alaris technical support team). If the rate was closed more than 3 months ago, it will be moved to the archive partition
- *Rate inheritance mode (0 - longest match at child, 1 - global longest match)*: defines how the the System must operate in case there is a parent product. When the value is 0, the System searches for the longest dial code match in the child product and, if no match is found, proceeds to search for the parent rates. When the value is 1, the System searches for the longest dial code match both in the parent and child rates simultaneously with the child having priority over the parent

NOTE: For US Domestic products, this parameter only affects the vendor direction. For client US Domestic products, rates are selected by the global longest match, irrespective of the value set in the *Rate inheritance mode* parameter.

- *Rate rounding precision (displaying)*: the number of decimal points displayed for rates in the interface. Up to 10 places are allowed
- *Rate rounding precision (storing)*: the number of decimal points for rate storage 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 fields*: a list of symbols (with no separator) to be ignored during import for the *Rate* column. The default value is \$€. To activate the parameter, relogin to the interface
- *Use country-based System increment list (0 - No, 1 - Yes)*: if set to 1, the priority where the increment will be taken from is defined as follows (during rate import):
 - *Increment column from the imported price list*
 - *Destination increment* ([Voice\Rates\Rate import](#)^[326] >> *Add destination set picker*)
 - *Country increment* ([Voice\Reference books\Billing increments](#)^[367])
 - *Billing increment - default increment control* ([Voice\Rates\Rate import](#)^[326])

If set to 0, *Country increment* (step 3) will not be considered for definition of the increment. After the setting is changed, relogin is required.

- *Voice rate changes email auto send*: possible values are 0 (which is default, do not automatically send rate changes) and 1 (send). If a rate is changed for a product with a respective value in the *Send rate change notifications automatically* option and the System parameter is enabled, the change event is placed in queue. Changes will be sent after X seconds following the first change from the queue, where X is configured in the System parameter *Period for sending changes for voice products (seconds)*. If for some reason changes were not removed from the queue, they are stored in the queue for two periods set in the parameter *Period for sending changes for voice products (seconds)*.

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 \(Administration\)](#)^[251]. 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 Routing module

Routing module	
Call simulation router list	10.200.0.26:1730,10.200.0.26:1731
Call simulation username	invoice
Clear ACD in case ASR is lower than	10
Client number translation	null
Enable ANI translation (0 - no, 1 - per attempt, 2 - per route)	2
Loop detection timeout	6
Loop detection type (possible values: null, A, B, AB)	A
Max routes per request	16
Prohibit traffic going to products of the same carrier (0 - di...	1
Rate change max period, hours	24
Route testing POI ID	142257
Routing rules simulation ext. method	null
Use vendor dial codes for client stats calculation (Limitati...	0

Routing module

- *Call simulation router list*: list of routers available for selection in the *Router* drop-down list in [Voice/Routing/Simulation](#)^[410]. 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
- *Call simulation username*: OS username for connection to the routing server to copy the simulation log. The setting is maintained by the Alaris technical support team
- *Clear ACD in case ASR is lower than*: in case the ASR value is lower than a specified value (in %, the default is 0), the routing statistics based on ACD (for example, the metric *VProdDestACD*) will be set as 0. Once the ASR is higher than the threshold, the ACD will be calculated as usual (the number of total duration/successful calls)
- *Client number translation*: specifies the translation that will be applied to the B-number (client leg) in order to write the B-number (e.164) to the CDR. The translation can be applied only for the

client POIs with no *Carrier-specific number translation* set ([Carriers\Voice POI](#)^[163]). If set to null, no translation is applied on the System level

- *Enable ANI translation in System settings (0 - no, 1 - per attempt, 2 - per route)*: controls the ANI translation functionality ([Voice\Routing\ANI translation](#)^[413]). Possible values include: 0 - the feature is disabled; 1 - per attempt translation (change the *From* field in *SIP 300/302*. Also if selected, it is not possible to specify a vendor product for an ANI translation rule); 2 - per route translation (add *P-Assured-Identity* header to the *Contact* field)
- *Enable traffic exchange between the same carrier products (0 - disabled, 1 - enabled for all product names, 2 - enabled for different product names)*: the setting is intended to allow or restrict loops (when traffic is received from a client product and terminated to a vendor product within the same carrier). If set to 0, loops are not allowed, if set to 1, any loop is allowed. When set to 2, loops are allowed in case of different client/vendor product names (for example, traffic from a client product *X - Wholesale* cannot be terminated to a vendor product *X - Wholesale*, but it will be possible to terminate traffic to a vendor product *X - Premium*). Note that it is possible to enable checkbox *Allow routing to products of the same carrier* on the choice level ([Voice\Routing\Routing rules](#)^[369] interface). In that case, the behavior will be the same as if the System setting were set to 1
- *Loop detection timeout*: the period (in seconds) for storage of call data used for loop detection. When the timeout expires, the call will no longer be used for loop search. See also the [Alaris YouTube](#) video
- *Max routes per request*: maximum number of routes that the System can provide for a call (applies to the *Simulation* interface as well)
- *Loop detection type (possible values: null, A, B, AB)*: loop detection method (by A-number, by B-number or by A- and B-numbers combined). If the parameter value is null, empty or any other than A, B or AB, detection of loops is disabled. See also the [Alaris YouTube](#) video
- *Route testing POI ID*: serves to set the POI whose traffic will be handled by the routing module based on a predefined scenario if it comes from a specific DNIS. The System will search for the vendor's POI ID based on the part of the B-number preceding the # (hash) symbol. If the POI is found, it will be used as the only possible route. Also, the routing module will apply both System-wide and POI-based translations of A- and B-numbers. If the vendor POI is not found, the routing attempt will be rejected with the following error: "Voice traffic testing, vPoi :poild: not found".
- *Routing rules simulation ext. method*: serves to extend the functionality of the Simulation interface with the help of predefined DB methods. Do not set a value other than null as the parameter is intended for internal System logic
- *Rate change max period, hours*: rates that have been closed after the current date minus the value of this parameter (in days) will not be imported into the routing module
- *Use vendor dial codes for client stats calculation (Limitation rules)* allows using vendor dial codes for calculating client statistics. Suppose a user creates a rule for the destination Spain, Vodafone but the client has only one rate for dial code 34 (destination *Spain, proper*). Normally the limitation rule will not take into account the stats for the dial code. If the parameter is enabled, the System will consider vendor dial codes that may be longer than client code 34

6.7.11 Sansay

This section contains parameters for interconnection with the Sansay switch. Along with the System settings, the configuration must be performed in [Carriers\Voice POI](#)^[163] and [Voice\Reference books\Soft switch editor](#)^[374]. For more details on configuring interconnection refer to [Carriers\Voice POI](#)^[163].

☐ Sansay

Sansay dummy product for client	null
Sansay dummy product for vendor	null

Sansay

- *Sansay dummy product for client*: client product ID with which voice POIs will be associated if no associations were found in the System when the data was imported from the switch
- *Sansay dummy product for vendor*: vendor product ID with which voice POIs will be associated if no associations were found in the System when the data was imported from the switch

NOTE: To make the parameters available, a dedicated module must be installed by the Alaris technical support team.

6.7.12 Security

☐ Security

Allow password re-use	1
Allowed login attempts after password expiry	2
Forbidden character sequences	0
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	90
Password expiry reminder (days)	1
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](#)^[132] >> *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.

- *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 Wholesale Portal. 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 Wholesale Portal
- *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 Wholesale Portal

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
- $(\text{Minimum password length} - \text{Minimum mixed case letter count in password} - \text{Minimum digit count in password} - \text{Minimum non-alphanumeric symbol count in password}) = -1$

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](#)^[132]) 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/ Wholesale 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

6.7.13 Statistics module

Statistics module	
ACD display format	null
Active CDR table hour count	2200
Allow list of rates to be calculated in analytics (0 - no, 1 - ...	1
Analytics first currency	USD
Analytics parallel calculation degree	5
Analytics second currency	RUB
Analytics third currency	BAN
Apply billing increment to round raw duration in analytics ...	0
Archive month count	1
Auto rerate zero-duration CDRs (0 - no, 1 - yes)	1
Auto threshold calculation (0 - no, 1 - yes)	0
Break down bulky data in Analytics into (number of parts)	24
CDR mediation reject limit (null - unlimited)	50
CDR rerating hour	13

Statistics module

- *ACD display format*: when the value is 1, ACD is displayed as MI:SS, where MI is minutes and SS is seconds. When the value is 0, ACD is displayed in a decimal format (for example, ACD of 1 minute 15 seconds is displayed as 1.25). If any other value is specified, it is considered as 0 (decimal format)
- *Active CDR table hour count*: storage period (in hours) of CDRs in the System database, during which they are available for export using the [Voice\CDR management\CDR export tool](#)^[276]. Once the period is over, CDRs are moved to archive and are no longer available in the main web interface. If the value is lower than default, 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
- *Allow list of rates to be calculated in analytics (0 - no, 1 - yes)*: the default value is 1. The parameter defines whether to show the *Rate (C)* and *Rate (V)* columns in the *Analytics* interface. Hiding the columns can come handy in optimizing the interface workflow
- *Analytics first currency*: currency used in [Voice\Analytics](#)^[268] (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](#)^[214] interface
- *Analytics parallel calculation degree*: the default value is 1. The parameter defines the number of threads for calculation of analytics in order to optimize the calculation for high volumes of traffic
- *Analytics second, third currency*: when these two parameters are set, the [Voice\Analytics](#)^[268] section displays financial data (such as cost and margin) in the specified currencies. Can be null (no additional columns will be added to *Analytics* in this case). When the currencies are set for the first time or modified, they will only affect the current and subsequent days (periods) as this will require recalculation of analytical cubes. To recalculate a period in the past, contact the Alaris technical support team.
- *Archive month count*: CDR storage period in the database archive, in months, after which CDRs are deleted. If the value is decreased, the data is removed iteratively (run by the System job PRV_CLEANUP_SCHEME). Changing this value must be approved with the Alaris technical support team as the operation may require additional disk space or affect System performance. The period is calculated from the current date
- *Auto rerate zero-duration CDRs (0 - no, 1 - yes)*: defines whether zero duration CDRs are rerated in the daily auto-rerating procedure
- *Auto threshold calculation (0 - no, 1 - yes)*: enables/disables auto-adjustment of stats cube calculation thresholds based on the statistics of the previous day. Automatic threshold calculation starts every time when the latest analytical day cube is ready. The thresholds are calculated on the following conditions:
 - *Min threshold*: 150% of the average CDR volume per minute
 - *Hour threshold*: 30% of the average CDR volume per hour
 - *Day threshold*: CDR volume for the first eight hours of the day
 - *Week threshold*: 10% of the average CDR volume per week
 - *Month threshold*: 10% of the average CDR volume per month
- *Break down bulky data in Analytics into (number of parts)*: the parameter is intended to optimize the display time of the Analytics data if the requested period is more than a month. For example, if set to 24, twenty-four simultaneous tasks are created. Concurrent jobs are created within each

task . The number of these concurrent jobs can be up to N , where N is calculated as *Running processes per CPU threshold* * number of cores on the active database - the number of active requests to Analytics. Suppose the number of cores is 12, *Running processes per CPU threshold* is set to 1 and there is no active request to the Analytics, so the number of concurrent tasks will be 12 ($1 * 12 - 0$). Integer values are allowed (the minimum is 1 and the maximum is 128)

- *CDR mediation reject limit (null - unlimited)*: maximum amount of invalid rows in the CDR file to reject the imported CDR file
- *CDR rerating hour*: the hour when the daily CDR auto-rerating procedure runs
- *CDR rerating step, minute*: timeframe for processing traffic within one step of the rerating job. The value depends on the traffic amount – the more traffic the System has, the smaller value it is recommended to set
- *CDR source (1 - from files, 2 - from softswitch DB)*: source for the CDRs import to database – from the files stored in the *CDR exchange folder* (hidden System parameter) or directly from the softswitch database. Note that in both cases additional configuration is required. In case CDRs are taken from the DB, the corresponding record for the softswitch must be created in *Softswitch editor*. In case of using CDR files there must be key-based SSH access between the softswitch and DB server as well as internal configuration changes to be done by the Alaris technical support team. Value 5 can be set in order to process files both from DB and from files. This setup may come handy if different softswitches are used to obtain CDRs
- *Calculate statistics total values based on the detailed cube levels (0 - no, 1 - yes)*: if set to 1, the *Total* row in *Analytics* will be calculated based on client/vendor data which the user has permissions to view (user permissions are defined in the [Administration\Users](#)^[132] tab). Otherwise (if set to 0), *Total* will show values for all the traffic even if the user has limited permissions and has access only to its own managed accounts
- *Charge option (connect, disconnect or setup)*: serves to control the timestamp used for billing operations: which CDR date to use to search for the active rate. The value *setup* allows generating charges and collect data for both analytical and financial cubes based on the *setup_time* column. For example, if the parameter value is *setup* and the subscriber started the call setup on 2019.05.02 23:59, and the call started on 2019.05.03 00:01 and ended on 2019.05.03 01:05, it will be included in the stats for 2019.05.02. See also the [Alaris YouTube](#) video. Note that the parameter change will affect only new CDRs
- *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 465
- *DC description mapping source (1 - DC, 2 - EXTRA)*: defines the source from which the System will take the *Disconnect code* to match it with description that is stored internally and updated at client's request. When the value is 1, the exported *Disconnect code description* field contains the description of the *cdr_dc* field of the original CDR. When the value is 2, the *Disconnect code description* column contains the description of the *cdr_extra* field of the original CDR. It is recommended to use the value 1 to export the standard SIP/H.323 disconnect code descriptions, and the value 2 to match descriptions with the custom disconnect code that can be imported in the *extra* field
- *Default Analytics view*: serves to configure the statistics layer that is opened by default in the [Voice\Analytics](#)^[268] interface. The default value is SRC_CARRIER (*Client* layer). For example, the value SRC_PRODUCT_NOTE allows checking the data starting from the *Product notes* layer

- *Full rerating limit*: an integer value that specifies the number of 'product+dial code' pairs for which rates were changed by the moment when the auto rerating procedure is launched (the time is defined by the System parameter *CDR rerating hour*). If the value is reached, the System will perform a full rerating for the whole period, otherwise - only for the affected products and dial codes. If set to null, full rerating will not be triggered by rate changes. Note that by default the rerating can be triggered by the changes affecting the last 30 days only (defined by *Max rerating interval*)
- *Highlight swap deals in stats (0 - no, 1 - yes)*: if set to 1, traffic passed in accordance with swap deals ([Swap deals](#)^[195] interface) is marked with the icon (⇌) in [VoiceAnalytics](#)^[268]
- *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
- *LRN with tech prefix (0 - no, 1 - yes)*: defines the format of the local routed number in CDRs – with or without a technical prefix
- *List of vendor POI IDs to ignore zero duration attempts*: a comma-separated list of vendor POI IDs for which zero duration calls will not be imported in the System. The parameter is null (disabled) by default. When enabled, it allows saving space taken by such CDRs
- *Max parallel process count for CDR load*: an integer value that defines the maximum number of simultaneous threads created for CDR import
- *Max rerating interval*: defines the maximum period (in days) affected by the daily auto-rerating procedure. The value cannot be set greater than *Active CDR table hour count* (the value should be translated to days correspondingly). 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 *CDR 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
- *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

NOTE: The past few hours are calculated by minute cubes. The *Minute cube partition count* parameter sets the number of past hours. Suppose the parameter is set to 180 and the current time is 18:24. Minute cubes are available since 15:24, and the System will use minute cubes from 16:00 till 18:24 (as the hour 15:00 is not covered fully it will be calculated by hour cubes).

- *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
- *Postpone cube calculation due to new CDR's ([1] - yes, 0 - no)*: if set to 0, *Last change date* for analytical cubes will not be updated when new CDRs are inserted (if the cube was already queued for calculation). It can be handy if billing is based on call connect time (the System setting *Charge option*). If cubes are updated frequently, they may be calculated slowly, which leads to low ACD in [VoiceAnalytics](#)^[268] in case of a significant amount of long calls
- *Product list with 0 margin set in Analytics*: ID of products (comma-separated) that must be excluded from margin analysis (their margin is displayed as 0 in [VoiceAnalytics](#)^[268]). This parameter is used when margin for traffic from or to certain products must be disregarded – for example, when the

System owner uses internal equipment for processing calls, which makes rates and margin data irrelevant. In order to apply the change of the parameter retrospectively, analytical cubes must be recalculated

- *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 once the *Stats calculation threshold (CDR/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 (CDR/hour)* is reached
- *Rerating alert recipients*: email addresses (comma-separated) for the results of rerating tasks (both manual and automatic)
- *Rewrite B-number e.164 (1 - rewrite, 0 - keep original)*: defines how the System uses the number from the called e.164 number – either leave it as it was supplied in source CDRs or generate it based on client/vendor B-number applying *Carrier/System specific translation* from the POI
- *Rounding digits (client leg)*: number of decimal places in call cost on the client's side
- *Rounding digits (vendor leg)*: number of decimal places in call cost on the vendor's side. The parameter also has an effect on rounding applied during CDR reconciliation to the *Owner cost* and *Partner cost* columns
- *Rounding function (client leg)*: 0 – floor, 1 – round, 2 ceil: defines the rounding method of the cost – downward, mathematical rounding or upward (on the client's side), if the value *Default* is selected in the parameters *In/Out rounding function* in [Carriers\Agreements](#)^[145] (otherwise the System parameter is not applied)
- *Rounding function (vendor leg)*: 0 – floor, 1 – round, 2 ceil: defines the rounding method of the cost – downward, mathematical rounding or upward (on the vendor's side), if the value *Default* is selected in the parameters *In/Out rounding function* in [Carriers\Agreements](#)^[145] (otherwise the System parameter is not applied)
- *Short call length, seconds*: Call duration threshold. Any call with a smaller or equal duration is considered short. Stats for such calls is shown as *Short calls* on the [Voice\Analytics](#)^[268] page
- *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 the 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 45 minutes after CDR import for the day takes place even if the value of *Stats calculation threshold (CDR/day)* is not reached. Note that it is not recommended to change the values without consulting the Alaris technical support team first since it leads to almost constant recalculation of the same data. 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 144
- *Stats calculation threshold (CDR/day, CDR/hour, CDR/min, CDR/month, CDR/week, CDR/year)*: number of CDRs per day/hour/minute/month/year necessary to launch next cube recalculation. For example, if *Stats calculation threshold (CDR/day)* is set to 100, the corresponding daily cube will

be recalculated as soon as more than 100 new CDRs will be imported for this day. For *Stats calculation threshold (CDR/year)*, the default value is 10000

- *Store call type in CDRs (0 - no, 1 - yes)*: the parameter enables calculation of the *call_type* field stored in CDRs. The field is calculated based on the CDR file itself (provided that the vendor and country are defined) and can be added as an analytical layer. To add it, contact the Alaris technical support team and communicate the code BZ37940. The following call types are available:
 1. international (006) - the country of the call is not Canada or United States
 2. Canada (003) - the country of the call is Canada
 3. 911 (005) - the DNIS is 911 and the dial code belongs to Canada or United States
 4. Directory Assistance (004) - the country of the call is the United States and the DNIS format matches the pattern: 1xxx555..
 5. TFN (008) - the vendor product is of the DID type and the DNIS format matches the pattern: 1xxx.. where xxx is in ('800', '833', '844', '855', '866', '877', '888')
 6. DID (007) - the vendor product is DID
 7. Interstate (001) - the source state is the same as the destination state (in accordance with the LERG table)
 8. Intrastate (002) - the source state is not the same as the destination state (in accordance with the LERG table)
- *Traffic details days count*: number of days in financial cubes; indicates a period by the end of which the System will start to form a financial cube. Since increasing of the parameter requires additional server space (on databases), it can be modified only by the Alaris technical support team
- *Update is_last during CDR import from files (1 - Yes, 0 - No)*: when set to 1, all CDRs with the same *Call ID* are grouped within one file and the record with the highest *CDR attempt* value is marked with *Is last* flag. The setting is intended for cases when the softswitch does not provide such flag in CDRs, which may cause incorrect ASR/NER calculation
- *Use dial code for A-number (1 - country code, 2 - most detailed code)*: when set, more detailed dial codes are added to analytical cubes from the reference book table ([Voice\Reference books\Dial codes](#)^[370]). This allows displaying more accurate information in the *Calling country* layer in [Voice\Analytics](#)^[268]. Note that the parameter change will affect only current and future cubes. To recalculate cubes for past periods, contact the Alaris technical support team. See also the [Alaris YouTube video](#)
- *Use reference dial code as client's*: valid values are 0 and 1, default is 0. The parameter serves to show more detailed codes and country/region/type in the *Analytics* interface for the client side. If set to 1, new cubes will contain reference book dial codes instead of client dial codes in [Voice\Analytics](#)^[268] (to apply a change to cubes for a past period, their recalculation is required). Suppose traffic passed to 3451* through a client rate for dial code 345. If the parameter is set to 0, the call will be shown under *Client: Dial code* as 345. Otherwise (provided that there is a record for 3451 in the *Dial codes* reference book), the call will be shown under the code 3451
- *Very short call length, seconds*: call duration threshold. Any call with a smaller or equal duration is considered very short. Stats for such calls is shown as *Very short calls,%* on the [Voice\Analytics](#)^[268] page

- *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. Example: set this parameter to 3 to store 3 weekly cubes for 3 full weeks
- *Year cube partition count*: number of years for storage of year cubes; the default value is 10

6.7.14 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	null
Telegram bot token	null

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](#) 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).

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.

6.7.15 Trading tools

The section contains parameters related to [Voice\Routing\Blended routing](#) and [Swap deals](#).

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*: the period after which the System sends a repeated alert about the changed status of a blended rule (for example, if a rule was automatically disabled due to impossibility to meet the set thresholds). In case the parameter is not reached (the status has been changed less than *Repeated alerts buffering interval, min* after the previous change), the alert is not sent. The alerts are sent to *Alert recipients* specified in the blended rule
- *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*: the list of vendor product IDs (comma-separated) that will not be taken into account during automatic search of routes in case *Max auto-vendors* in a blended rule is greater than 0

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:

Start page		Template manager				
	Template	Contract company	Account	Product type	Template direction	Products
	All	Breaking bad	1-To-Allzz, EUR			
	 Balance alert letter (html)	All	All	-	-	-
	 Blended routing rule change letter (html)	All	All	-	-	-
	 Blended routing rule deactivation letter (html)	All	All	-	-	-
	 CDR Recalculating results letter (html)	All	All	-	-	-
	 CDR Rerating results letter (html)	All	All	-	-	-
	 CDR export letter (html)	All	All	-	-	-
	 Credit alert letter (html)	All	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)
- *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. The *Change template* view allows configuration of the following parameters:

- *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: *Rate export*, *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](#) )
- *Template file*: select a file to upload

Change template

Template type*:

Rate export

Contract company:

All

Accounts:

Selected: 1

Products:

Selected: All

File name mask:

tessss-[CompanyRegisteredName]

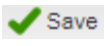
Template file:

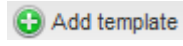
Browse

Select a new file to update the current template

Comments:

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.

Change template

Template type*:

Balance alert letter

Contract company:

General

Accounts:

Selected: 2

Template direction:

Client

Letter subject*:

Balance alert

Letter body:

←
→

B
/
U

Font

A
A²
A₂

Table
Image
Link

List

Text

Code

Dear Sirs,

This is to notify that the current balance of the [CompanyName] account has got below [BalanceOrCreditUsage]. Please top up your account to avoid service interruption.

The current balance of your account is [Balance].

Best regards,
The [SystemOwnerName] Team

Comments:

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](#)¹³². Available markers for the template:

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

Balance alert letter

Notifications are sent out when balance thresholds (if any) are reached for the accounts with non-empty credit limits ([Carriers\Agreements](#)^[145]). 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-empty 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](#)^[58], *Credit and balance alarms default email* - the *To* field.

[Carriers\Agreements\Account alert emails](#)^[145] and [Administration\Users](#)^[132], *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](#)^[132], *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

Marker	Description
[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 ^[26]) first name and last name (Administration\Users ^[132])
[BillingManagerMobilePhone]	billing manager mobile phone number (Administration\Users ^[132])
[BillingManagerOfficePhone]	billing manager office phone number (Administration\Users ^[132])
[BillingManagerEmail]	billing manager email address (Administration\Users ^[132])
[Remainder]	the balance remaining before exceeding the credit limit (calculated as: balance+credit limit)
[CompanyRegisteredName]	the agreement's Company registered name (Carriers\Agreements ^[145])

Blended routing rule change letter

The template is configured in order to notify the System owner in regard to changes in the routing rule. The alerts are triggered when vendor shares of a blended rule are changed (provided this enables or disables a corresponding routing rule or changes the rule type).

Note that the alerts will not be generated in case of the disabled *Routing rules auto-synchronization* flag.

The alerts are sent to the list of email addresses set in the *Alert recipients* field of blended rules.

Available markers for the template:

Marker	Description
[AlertCount]	the count of routing rule changes for the period between sending of the previous alert and the current time. The following changes are included: routing rule activation/deactivation (the change of the Is active flag); change of the routing rule type (Block/Regular routing)
[ProductName]	the client products specified in the blended rule (carrier name, product description, account currency)
[RouteID]	the blended rule ID
[ASRTarget]	the rule targets (ASR, ACR, cost)
[ASRThreshold]	the rule thresholds (ASR, ACR, cost)
[ASRPlanned]	the rule planned parameters calculated based on their weights (ASR, ACR, cost)
[ASRActual]	the rule's actual parameters (ASR, ACR, cost)
[BlendRuleDescr]	the Routing rule description of a corresponding blended rule
[BlendChangeLog]	table of changes of a corresponding routing rule for the period between the previous alert and the current one. The table contains 2 columns: [Log time] and [Rule state] (see below)
[Log time]	the change time
[Rule state]	the routing rule state ("Deactivated" if the rule is non-active or block; "Activated" - in case of an active or regular routing rule)

Blended routing rule deactivation letter

Notifications are sent out if a client product set in the blended rule has no active POIs.

The alerts are sent to the list of email addresses set in the *Alert recipients* field of blended rules.

Available markers for the template:

Marker	Description
[RouteID]	the blended rule ID
[ProductName]	the client products
[BlendRuleDescr]	the Routing rule description of a corresponding blended rule

CDR export letter

Template for CDR exports done from [Voice\CDR management\CDR export tool](#) with the *Export target: Send CDRs by email*.

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

Available markers for the template:

Marker	Description
[SystemOwnerName]	the name from the <i>System owner name</i> System parameter
[Link]	the link to upload the generated file
[Task]	task ID from the CDR export tool interface

CDR Recalculating results letter

The template defines the format for notifications when manual CDR rerating tasks finish and there are rerated CDRs (suitable for rerating filters). The list of recipients is set in the System parameter *Rerating alert recipients*.

Available markers for the template:

Marker	Description
[SystemOwnerName]	the name from the System owner name System parameter
[CurrentDate]	the current time in the System timezone
[CDRRerated]	total number of CDRs rerated
[PeriodRerated]	the rerated period

Marker	Description
[BreakoutsAffected]	the number of rerated dial codes
[TimeElapsed]	the time spent on recalculation (the difference between the current time and the task start time)

CDR Rerating results letter

The template helps configuring notifications that automatic CDR rerating tasks have been finished. The list of recipients is set in the System parameter *Rerating alert recipients*.

Available markers for the template:

Marker	Description
[SystemOwnerName]	the name from the System owner name System parameter
[CurrentDate]	the current time in the System timezone
[CDRRerated]	total number of CDRs rerated
[PeriodRerated]	the rerated period
[BreakoutsAffected]	the number of rerated dial codes
[TimeElapsed]	the time spent on recalculation (the difference between the current time and the task start time)

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](#)^[145]). 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](#)^[58], *Credit and balance alarms default email* - the *To* field;

[Carriers\Agreements\Account alert emails](#)^[145] and [Administration\Users](#)^[132], *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](#)^[132], 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 ^[26]) first name and last name (Administration\Users ^[132])
[BillingManagerMobilePhone]	billing manager mobile phone number (Administration\Users ^[132])
[BillingManagerOfficePhone]	billing manager office phone number (Administration\Users ^[132])
[BillingManagerEmail]	billing manager email address (Administration\Users ^[132])

Marker	Description
[Remainder]	the balance remaining before exceeding the credit limit (calculated as: balance+credit limit)
[CompanyRegisteredName]	the agreement's Company registered name (Carriers\Agreements ^[145])

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](#)^[46]) 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 ^[145])
[AgrBankInfo]	the agreement bank info
[AgrLegalAddress]	the agreement legal address (Carriers\Agreements ^[145])
[BankName]	bank name (Reference books\Bank accounts ^[201]) of the bank set in Carriers\Agreements ^[145] (<i>Default bank account</i>)
[BankRecipientName]	recipient name (Reference books\Bank accounts ^[201])
[BankAccount]	the <i>Account number</i> value (Reference books\Bank accounts ^[201])



Marker	Description
[BankSwiftCode]	SWIFT code (Reference books\Bank accounts ^[201])
[BankCorrAccounts]	the <i>Corr. account(s)</i> field value of the corresponding bank (Reference books\Bank accounts ^[201])
[BankComments]	the bank's <i>Comments</i> field value (Reference books\Bank accounts ^[201])
[BankAddress]	the bank's address (Reference books\Bank accounts ^[201])
[BillingManagerSignature]	signature of the billing manager. The signature can be added in <i>Start\User settings</i> (jpg or png format)
[CAR_ID]	the carrier ID (Carriers\Carriers ^[137])
[CAR_NAME]	the carrier name (Carriers\Carriers ^[137])
[CompanyName]	the carrier name (Carriers\Carriers ^[137])
[CompanyId]	the carrier ID (Carriers\Carriers ^[137])
[CompanyAddress]	the carrier address
[PARAM<PARAM_ID>]	value of the custom parameter created on Administration\Custom parameter types ^[27] (<PARAM_ID>: the ID of the custom parameter)
[CompanyVAT]	the agreement VAT (Carriers\Agreements ^[145])
[CompanyRegisteredName]	the agreement registered name (Carriers\Agreements ^[145])
[ContractCompanyName]	the name of the contract company
[CurrencyCode]	the account currency code

Marker	Description
[CurrencyCode1]	the first finance currency code (Administration\System settings ⁴⁴)
[CurrencyCode2]	the second finance currency code (Administration\System settings ⁴⁴)
[CurrencyCode3]	the third finance currency code (Administration\System settings ⁴⁴)
[CurrencyName]	the currency display name from Reference books\Currency exchange rates ²¹⁴
[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
[POIActiveCarTranslations]	a list of carrier-specific translations for the product's active voice POIs (active as of the export time); the list is limited by the 256 symbols
[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'
[YYMMDD]	invoice issue date timestamp in the format 'YYMMDD'
[Year]	year of the invoice issue date

Marker	Description
[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 <i>InWords</i> placeholders to be replaced properly, the System settings <i>Default format: date (period) in words</i> and <i>Default format: datetime (period) in words</i> 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 <i>In payment period, days/Out payment period, days</i> 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
[InvoiceSysPeriod]	invoice period in the System owner timezone

Marker	Description
[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 ¹⁴⁵)
[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 ⁴⁴) - the <i>System owner name</i> parameter)
[PreviousBalanceNum]	prepayment amount (without currency code), calculated as: least([EstimatedAmount], greatest([PreviousBalanceNum], 0))

Marker	Description
[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)
[EstimatedAmount3]	estimated amount in the third financial currency (with the currency code)

Marker	Description
[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)
[EstimatedAmountRevSignNum 1]	(-1 * estimated amount without currency code in the first financial currency)
[EstimatedAmountRevSignNum 2]	(-1 * estimated amount without currency code in the second financial currency)
[EstimatedAmountRevSignNum 3]	(-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)
[EstimatedAmountRevSign3]	(-1 * estimated amount without currency code in the third financial currency)

Marker	Description
[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 ¹⁴⁵). 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. Applicable to Alaris SMS Platform only
[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
[EstimatedAmountPlusTaxNum1]	estimated amount (in the first currency) plus tax without currency code

Marker	Description
[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
[TaxAmountRounded]	rounded tax amount with currency code

Marker	Description
[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
[EstimatedAmountPlusTaxRevSignNum1]	(-1*Estimated Amount) with tax excluded without currency code in the 1st financial

Marker	Description
	currency
[EstimatedAmountPlusTaxRev SignNum2]	(-1*Estimated Amount) with tax excluded without currency code in the 2nd financial currency
[EstimatedAmountPlusTaxRev SignNum3]	(-1*Estimated Amount) with tax excluded without currency code in the 3rd financial currency
[EstimatedAmountPlusTaxRev Sign]	(-1*Estimated Amount) with tax with currency code
[EstimatedAmountPlusTaxRev SignRounded]	(-1 * Rounded estimated amount) with tax with currency code
[EstimatedAmountPlusTaxRev Sign1]	(-1*Estimated Amount) with tax with currency code in the 1st financial currency
[EstimatedAmountPlusTaxRev Sign2]	(-1*Estimated Amount) with tax with currency code in the 2nd financial currency
[EstimatedAmountPlusTaxRev Sign3]	(-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
[TaxAmountRevSignNumRoun ded]	(-1 * rounded Tax Amount) without currency code
[TaxAmountRevSignNumRoun ded1]	(-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>
[EstimatedAmountPlusTaxIn<Currency Code>]	estimated amount with Tax with Currency Code in <Currency Code>

Marker	Description
[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
[InvoiceRefNumber]	invoice reference number; the format is defined in Reference books\Contract

Marker	Description
	companies ^[207] or Administration\System settings ^[44] - the <i>Invoice reference number format</i> field
[InvoiceRefNumberUE]	same as [InvoiceRefNumber]
[CorrSourceRefCode]	the code specified in the <i>Correction to invoice ref code invoice</i> field
[SumPeriodPayments]	amount (total sum) of payments received during the invoice's billing period
[VoiceDailyDate]	invoice statistics date
[VoiceDailyCharge]	charge in account currency
[VoiceDailyVolume]	duration in minutes
[SmsDailyDate]	invoice statistics date; applicable to Alaris SMS Platform only
[SmsDailyCharge]	charge in account currency; applicable to Alaris SMS Platform only
[SmsDailyVolume]	volume in SMS; applicable to Alaris SMS Platform only
[BillingManager]	billing manager's (assigned in Administration\Account manager history ^[26]) first name and last name (Administration\Users ^[132])
[BillingManagerMobilePhone]	billing manager mobile phone number (Administration\Users ^[132])
[BillingManagerOfficePhone]	billing manager office phone number (Administration\Users ^[132])
[BillingManagerEmail]	billing manager email address (Administration\Users ^[132])

Marker	Description
[ChargeDetProductDescr]	product name, similar to [ChargeProductDescr]
[ChargeDetailsDescr]	info from [ChargeProductDescr] plus the <i>Details</i> value of the recurring fee
[ChargeProductUnique]	grouped description of products (unique descriptions that contain the rate description and the product type, for example, VoIP traffic (International))
[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 call or service count
[ChargeCallCntRevSign]	(-1 * Charge Count)
[ChargeAmountRevSignNum]	(-1 * Charge Amount) without currency code
[ChargePeriod]	charge period

Marker	Description
[ChargeSysPeriod]	charge period in the System timezone
[ChargeDetVolumeRevSign]	(-1 * [ChargeDetVolume])
[ChargeDetEventRevSign]	(-1 * [ChargeDetEvent])
[ChargeDetAmountRevSign]	charge detail record amount rounded up to 2 digits with reversed sign
[ChargeDetMCCMNC]	6-digit MCCMNC; applicable to Alaris SMS Platform only
[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; applicable to Alaris SMS Platform only
[ChargeAggrCallCnt]	total call count
[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 ^[207] or Administration\System settings ^[44] - the <i>Invoice filename pattern</i> field. It is recommended to merge several cells in a template, otherwise the name may not fit in fully

Marker	Description
[DetailsFileName]	the generated file name of the traffic details. The format is defined in Reference books\Contract companies or Administration\System settings - the <i>Invoice details filename pattern</i> field. It is recommended to merge several cells in a template, otherwise the name may not fit in fully

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 System currency with currency code
[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

Marker	Description
[ChargeAggrAmount3]	total amount in the 3rd financial currency
[ChargeAggrProductDescr]	list of product descriptions (obtained from the <i>Product name</i> column of Carriers\Products ^[155]) 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
[CurrencyRateAverageReverse]	reverse average exchange rate of the account currency to System currency for the invoice period
[DetColumn1]	dial codes (if the value of the parameter <i>Rates based on</i> is <i>Dial codes</i> in Carriers\Products ^[155]) or destination if the value of <i>Rates based on</i> is <i>Destination</i>
[DetColumn2]	dial code if the value of [DetColumn1] is destination, or destination if the value of [DetColumn1] is dial code
[DetEventCount]	number of calls or service count
[DetRate]	rate
[DetAmount]	charged amount
[DetConnFeeRate]	connection fee rate
[DetVolume]	volume (of calls, SMS or other services)

Marker	Description
[DetVolumeInt]	duration of a call in the format of HH24:MI:SS. Applicable only for the products of the <i>International</i> type (replaced with a blank for the other types)
[DetConnFee]	connection fee
[DetCurrencyCode]	product's currency code
[DetProductDescr]	product name, similar to [ChargeProductDescr]
[DetTaxRate]	column in the charge detail record that shows the tax rate applied for a specific row
[DetTotalEventCount]	total event count
[DetTotalAmount]	total amount
[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

Marker	Description
	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)
[SmsSumPackTaxAmount]	total amount of taxes of SMS packs (applicable to Alaris SMS Platform only)
[SumChargeVolume]	total volume of minutes
[SumChargeSmsCount]	total volume of SMS; applicable to Alaris SMS Platform only
[SumChargeCallCnt]	total count of calls or messages. The value is obtained from the <i>Service count</i> field of Finance\Charges ¹⁶⁹ .

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

Marker	Description
[DetailsLink]	traffic details file link
[UILink]	URL link to the main System web-interface
[PortalLink]	URL link to wholesale customer portal
[ChargeDescription]	charge description
[ChargeUnit]	units
[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 <i>Service count</i> value if the <i>Use volume for charges</i> checkbox is selected for the <i>Product</i> type in Reference books\Product types ^[217]
[ChargeDetColumn1]	dial codes (if the value of the parameter <i>Rates based on</i> is <i>Dial codes</i> in Carriers\Products ^[155]) or destination if the value of <i>Rates based on</i> is <i>Destination</i>
[ChargeDetColumn2]	dial code if the value of [ChargeDetColumn1] is destination, or destination if the value of [ChargeDetColumn1] is dial code. For recurring fee details the marker will be replaced with a blank space
[ChargeDetVolume]	volume (of calls, SMS or other services)
[ChargeDetRate]	rate
[ChargeDetEvent]	number of calls
[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 ^[145])
[InvoiceRefNumber]	invoice reference number
[InvoicePeriod]	invoice period in the partner timezone
[InvoiceRegDate]	invoice confirmation date
[InvoiceTimezone]	invoice timezone name (Carriers\Agreements ^[145])

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 Wholesale 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.

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

Limitation rule letter

The template serves to configure a letter which is sent out when a voice 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 ticked (the *CC* field).

The following markers can be used:

Marker	Description
[ProductNotes]	the product notes
[Products]	the carrier name, product name and direction
[PeriodType]	the type of the rule period (hour, day, week, month)
[Destinations]	list of destinations for which the threshold was reached
[MetricName]	metric name
[Threshold]	threshold exceeded
[Limit]	value of the limit

Marker	Description
[SystemOwnerName]	the System owner's name
[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

New carrier notification letter

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

Notifications are sent out to the email addresses (in the *To* field) specified in the System parameter *Send partner portal 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 ^[137])
[UserFirstLastName]	the user's first name (Administration\Users ^[132])
[UserLoginName]	the user's last name (Administration\Users ^[132])
[UserPhoneNumber]	the phone number specified during user's registration on the Wholesale Portal

New payment notification letter

The template is to configure a notification in regard to a payment made through the Wholesale Portal. Notifications are sent out to the email addresses (in the *To* field) specified in the System parameter *Send partner portal 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 [137])
[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). 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 <i>System owner name</i>
[Link]	the link to the portal
[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 <i>System owner name</i>
[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 <i>System owner name</i>
[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
[PortalLink]	if the user is registered through the Wholesale Portal, the marker is replaced with the URL set either on the carrier's contract company or the System parameter <i>Wholesale portal URL</i>

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 <i>System owner name</i>

Marker	Description
[UserFirstLastName]	the user's first and last names
[UserLoginName]	the user's login
[Link]	the link to the portal
[PortalLink]	if the user is registered through the Wholesale portal, the marker is replaced with the URL set either on the carrier's contract company or the System parameter <i>Wholesale portal URL</i>

Partner portal register new user letter

The template is for sending emails with a link to activate a user registered in the Wholesale 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 <i>System owner name</i>
[Link]	the link to the portal

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 <i>System owner name</i>
[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 <i>System owner name</i>
[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 <i>Login link</i>
[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
[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 <i>Login link</i> • If the above is not applicable, the marker will be replaced with the <i>Wholesale Portal URL</i> parameter

Marker	Description
	The <i>Wholesale Portal URL</i> parameter is 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 Wholesale 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 <i>System owner name</i>
[UserFirstLastName]	the user's first and last names
[UserLoginName]	the user's login
[Link]	the link to the main web interface set in the System parameter <i>Login link</i>
[UILink]	the same as [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 <i>Manual</i>)
[BankStatementAmount]	the payment bank statement amount
[BankFee]	the payment fee
[CurrencyName]	the account currency
[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.

Rate confirmation letter

The template is to configure the mail text which will be sent when a partner receives a rate sheet (sent out from the [Voice\Rates\Rate export](#)^[313] interface) and clicks on the confirmation link. Emails are sent to the account manager email address (the *To* field), to the email addresses set in the contract company setting *Email address to CC rates updating* (the *CC* field) and the *Email address to BCC rates updating* (the *BCC* field).

The following markers can be specified in the template:

Marker	Description
[CompanyName]	the carrier name
[ProductName]	the product name
[Action]	the action selected by the partner by clicking on the confirmation link (<i>confirmed/rejected</i>)

Marker	Description
[Comments]	comments left by the partner carrier when clicking the confirmation link
[OwnerName]	the contract company name

Rate export

The file template to define the format of files for voice 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* given that the *send to partner emails* checkbox is selected during export. The carbon copy contains the email addresses from the System parameter *List of recipients for rate export results* and 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
[ExportType]	if the flag <i>Export as full replace</i> is selected during export, the marker is replaced by <i>Full replace</i> ; if all <i>Change types</i> are selected, the marker is replaced by <i>Full (A-Z)</i> , otherwise <i>Partial</i>
[ExportTypeDest]	<i>Full</i> if all destinations are exported, <i>Partial</i> if the destination filter is used
[Comments]	the comments to the export task
[EffectiveAt]	if the <i>Export type:rates effective at</i> , the marker is replaced by the task's <i>Start date</i>
[ProductCode]	the value of the product classifier with <i>Kind=PRODUCT</i> and <i>Type=CODE</i>
[CompanyName]	the carrier name
[CompanyRegisteredName]	the company registered name (Carriers\Agreements ^[145])
[CompanyAddress]	the company address (Carriers\Carriers ^[137])
[CurrencyCode]	the account currency

Marker	Description
[TimeZone]	the System timezone or partner's timezone from agreement (if the <i>Use agreement timezone</i> flag is enabled for the export task)
[ProductName]	the product name
[OwnerName]	the System owner name taken from the System parameter <i>System owner name</i>
[IssueDate]	rate notification issue date
[IssueDay]	issue date without indication of time
[CompanyNameUE]	the carrier name (urlencoded)
[CurrencyCodeUE]	the currency code (urlencoded)
[ProductNameUE]	the product name (urlencoded)
[IssueDateUE]	rate notification issue date (urlencoded)
[PricingValidDate]	the start date of the rate export task
[POIPrefixes]	list of tech prefixes (Carriers\Voice POI ¹⁶³) for the account (comma-separated)
[POIActivePrefixes]	list of active POI prefixes for the account (active as of the export time), comma-separated
[POIActiveCarTranslations]	a list of carrier-specific translations for the product's active POIs (active as of the export time)
[ExportDate]	the export date in the YYYYMMDDHH24MI format
[ContractCompanyName]	the name of the contract company
[DestSet]	the carrier destination configured for a rate in Voice\Rates\Rate editor ³⁰²

Marker	Description
[Timemask]	the timemask (schedule) configured for a rate in Voice\Rates\Rate editor ³⁰²

Rate update letter

The text that is sent during voice 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 *Rate export* template.

In addition to it, the following markers can be used:

Marker	Description
[Link]	link to download export results (available if the System parameter <i>Ratesheet delivery options</i> (1 - attachment, 2 - link, 3 - attachment and link) is set to 2 or 3)
[RateSnippet]	table with the rate changes (records with <i>Same</i> type are excluded). The maximum number of rows to be included in the table is defined by the System parameter <i>Rate snippet max number of rows</i>
[ConfirmationLink]	link to the web interface where the recipient (from the <i>Wholesale portal URL</i> parameter) can confirm or reject the rate file

The web interface link is set in the System parameter *Login link*; the confirmation link will have the following format: <URL>/price_confirmation/?confirmation_hash=<hash>

As soon as the partner follows the link and confirms or rejects the file, the Partner's feedback column of the rate export task will be set to one of the following values: *Confirmed* or *Rejected*. If the partner does not confirm or reject the changes, the notification will be resent 3 times.

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](#) ⁸³).

Available markers are as follows:

Marker	Description
[ReportName]	the report name
[ReportExecutionDate]	the report execution date

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

Voice auto rate import owner notification (full report)**Voice auto rate import owner notification (short report)****Voice auto rate import carrier notification (full report)****Voice 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

Marker	Description
[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
[ClosedRatesNum]	number of closed rates. It is replaced with 0 if <i>AutoRateImportStatus</i> is 0
[ValidRatesNum]	number of valid rates. It is replaced with 0 if <i>AutoRateImportStatus</i> is 0
[NewRatesNum]	the number of new rates. It is replaced with 0 if <i>AutoRateImportStatus</i> is 0
[ExistRatesExpndOrClosedNum]	the number of closed or expanded existing rates. It is replaced with 0 if <i>AutoRateImportStatus</i> 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

Marker	Description
[CloseType]	rate close type
[Link]	link to a file with updated rates

Wholesale portal CDR export failed letter

The notification is generated in case of a failed CDR 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

Wholesale portal CDR export letter

The template is to define notifications that will be sent out for CDR Wholesale portal exports. Notifications are sent to the user's email address.

The following markers can be used:

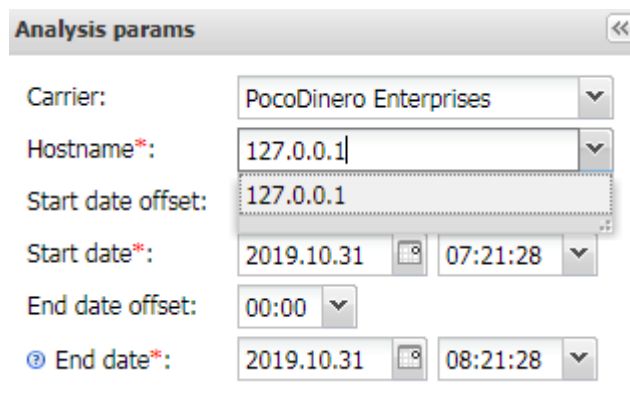
Marker	Description
[CarrierName]	the carrier name
[StartDate]	the export start date in the System timezone
[EndDate]	the export end date in the System timezone
[Link]	the link to download a file
[SystemOwnerName]	the contract company name

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

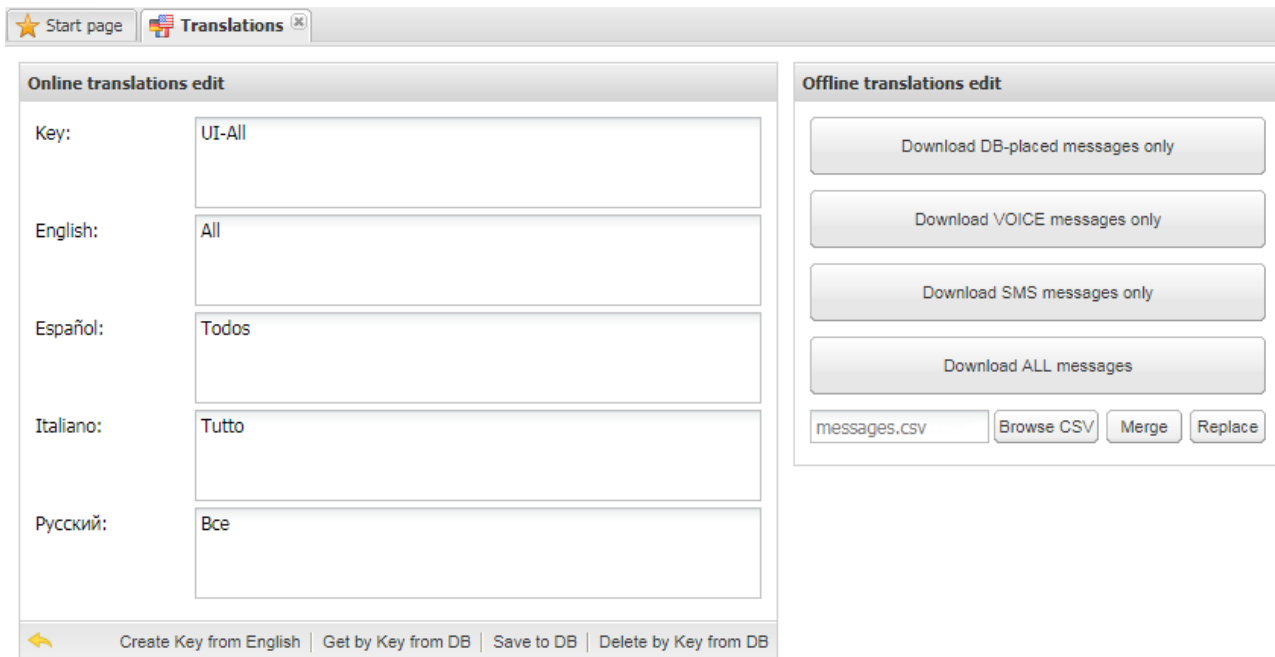
Table of tasks

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>.

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.



The screenshot shows the 'Translations' interface with two main panels: 'Online translations edit' and 'Offline translations edit'.

Online translations edit: This panel contains five text input fields for different languages:

- Key: UI-All
- English: All
- Español: Todos
- Italiano: Tutto
- Русский: Все

At the bottom of this panel are four buttons: 'Create Key from English', 'Get by Key from DB', 'Save to DB', and 'Delete by Key from DB'.

Offline translations edit: This panel contains four buttons for downloading messages:

- Download DB-placed messages only
- Download VOICE messages only
- Download SMS messages only
- Download ALL messages

Below these buttons are four more buttons: 'messages.csv', 'Browse CSV', 'Merge', and 'Replace'.

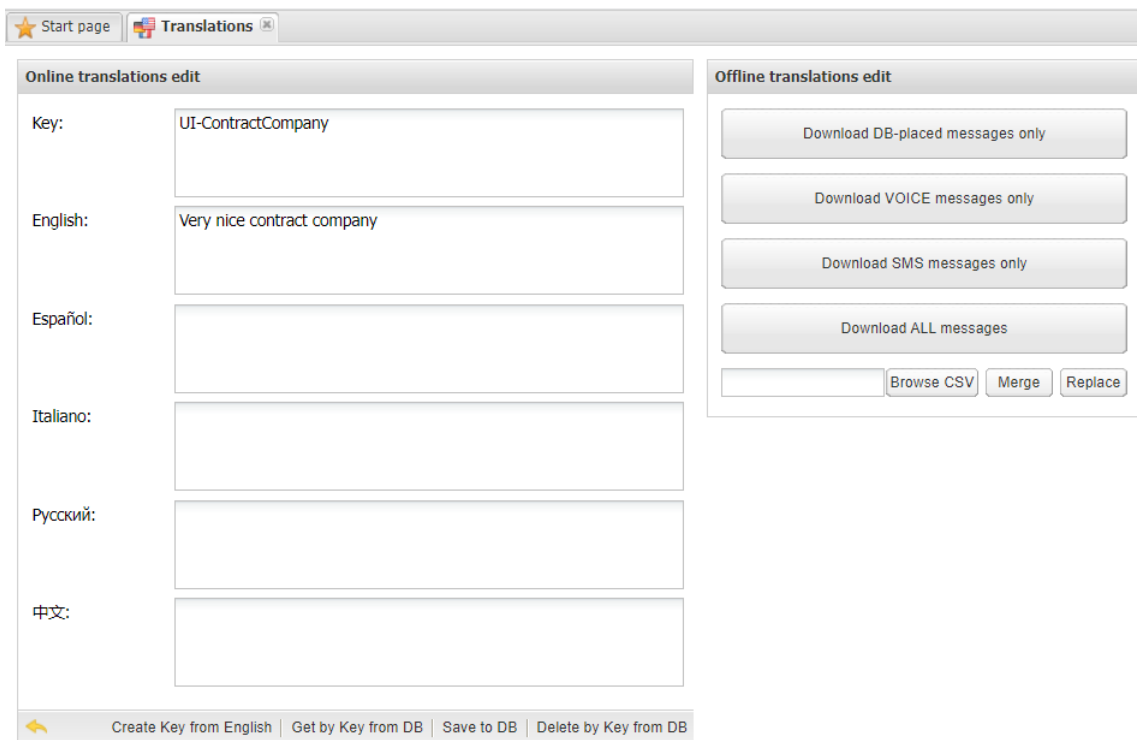
Translations

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 portal](#)¹³² 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

Edit

General

Carrier*:

System owner

Contract companies:

☐ AP contract company
☐ AbbA
☐ Alarislabs
☐ Alarislabs1
☒ Breaking bad
☐ CATCOMPANY

Login*:

SuperCom

Email*:

sc@sc.com

☒ Is active
☒ Enable two factor authentication

Allowed IP-addresses:

122.55.66.77

Expiry date*:

1993.04.17

User data

First name*:

Alex

Middle name:

Last name*:

Super

Position:

engineer

Birthday:

Language*:

English

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 portal](#)^[132] (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](#)^[21]. The setting does not have an effect on requests sent via REST or Enterprise API
- *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 and Wholesale 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 Portal) or "{"error_message": "Could not complete request due to error #-20104 please contact administrator for details"}" (for the API)
- *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

Preferences

- ☒ Send rate changes
- ☒ Send invoices
- ☒ Send alarms

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

Roles

Parent manager:

Inherit permissions from:

Filter permissions by key or name

☐ No restrictions

- ☒ Administration
 - ☒ Account manager history
 - ☒ Edit account manager history
 - ☒ Outgoing email accounts
 - ☒ Email rules management
 - ☒ Custom parameter types
 - ☒ Edit custom parameter types
 - ☒ Impersonate
 - ☒ Report schedule
 - ☒ Tags
 - ☒ Import of tags
 - ☒ System jobs
 - ☒ Service notifications
 - ☒ System parameter view
 - ☒ System parameter edit
 - ☒ Template manager
 - ☒ Trace analyzer
 - ☒ Translations
 - ☒ Users

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](#))

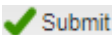
NOTE: Permissions can be inherited only from System owner users.

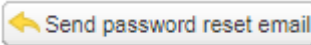
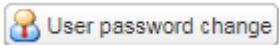
- *Filter permissions by key or name:* the field helps quickly find the appropriate permission. See also the [Alaris YouTube](#) video

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 2. User permissions](#)¹⁴⁶³.

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*, and *Voice 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*
- *Voice POI*: *Description*, *Tech prefix*, *Trunk group*

Learn more about the feature in the [Alaris YouTube video](#).

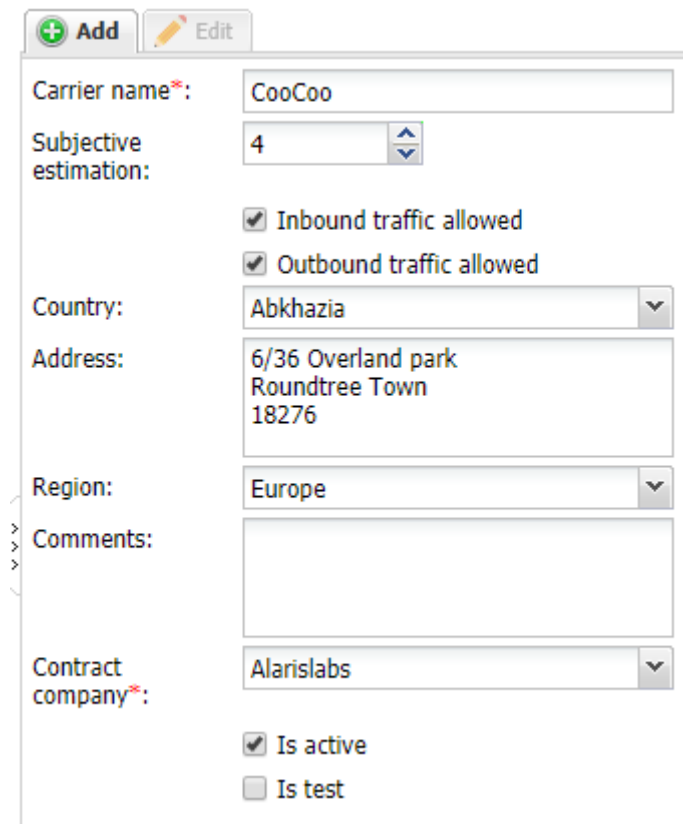
Once you select a carrier by highlighting it in the first tab sheet, all other tab sheets display only objects belonging to that carrier. The information on each page of the *Carriers* section can also be filtered irrespective of the carrier selected in the first page.

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.

- *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



+ Add Edit

Carrier name*:

Subjective estimation:

☒ Inbound traffic allowed
☒ Outbound traffic allowed

Country:

Address:

Region:

Comments:

Contract company*:

☒ Is active
☐ Is test

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
- *Subjective estimation*: personal estimation of a carrier for *Credibility* calculation
- *Inbound traffic allowed* / *Outbound traffic allowed*: select the checkboxes if your voice traffic is handled by the Alaris routing engine; if an external routing server is used, ignore the checkboxes
- *Country*: the carrier's country.
- *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 voice POIs, which stops the traffic flow. When enabling a carrier, voice POIs 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."

User settings ☒ Custom parameter types

Color scheme:

☒ Animated login background

Inactive entities:

Show rows: for each cell in multi value fields

☒ Use the RegExp ref. books for routing interfaces

Sign block



Change password

Current password:

New password:

Repeat:

Two-factor authentication (2FA)

Authentication:

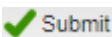
It is recommended to enable 2FA

Last opened tabs settings

Save:

User settings

To make a carrier record operative, at least one account must be created (see [Carriers\Accounts](#)¹⁴² 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.

7.2 Accounts

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

Start page Carriers Carriers Accounts Agreements Products Voice POI									
ID	Carrier	Currency	Balance	Balance updated	Account manager	Billing account mana...	Client credit	Vendor credit	
All	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](#)^[214]. 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](#)^[26] 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](#)^[145] 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
Edit

Carrier*: PocoDinero Enterprises

Currency*: EUR

☒ Inbound traffic allowed
☐ Outbound traffic allowed

Description:

☒ Send balance alerts

Account credit threshold#1: 50 %

Account credit threshold#2: 70 %

Account credit threshold#3: 100 %

Account credit threshold#4: %

Account credit threshold#5: %

Account balance threshold#1: EUR

Account balance threshold#2: EUR

Account balance threshold#3: EUR

Account balance threshold#4: EUR

Account balance threshold#5: EUR

Add tab

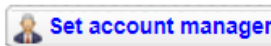
The Add tab contains the following parameters:

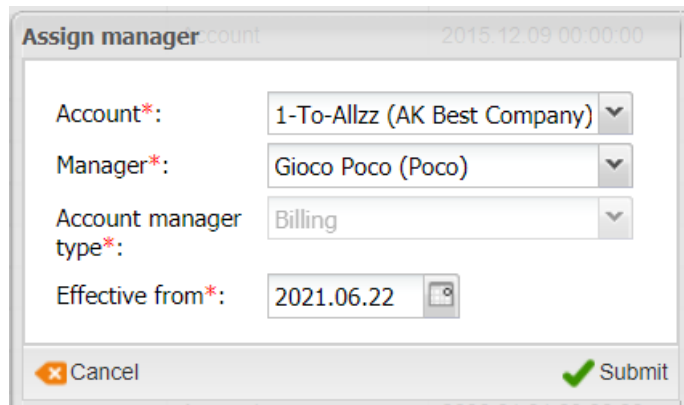
- *Carrier*
- *Currency*
- *Inbound traffic allowed / Outbound traffic allowed*: leave deselected to exclude carriers from routing on the account level
- *Description*
- *Send balance alerts*: select the flag to send the client automatic notifications on reaching the balance limit (with a CC to the account 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](#)⁵⁸). 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](#)^[58]. 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](#)^[26] page. The option is accessible to users having the *Edit account manager history* permission.



The *Assign manager* dialog box is shown with the following fields:

- Account*:** 1-To-Allzz (AK Best Company)
- Manager*:** Gioco Poco (Poco)
- Account manager type*:** Billing
- Effective from*:** 2021.06.22

Buttons:  **Cancel** and  **Submit**

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*.

★ Start page  Carriers 					
Carriers Accounts Agreements Products Voice POI					
↕ 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	
11212	Black-and-White & the Huntsman	EUR		1468772	
370	Boring Enterprises	USD		48470	
 11169	Brexit Telecom	EUR		1463139	
455	British Hairways	USD		59605	
11247	Business Plus Corporation	EUR		1473357	

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
 Edit

General

Carrier*: PocoDinero Enterprises

Account*: PocoDinero Enterprises, EUR

☒ Incoming
☐ Outgoing

Start date*: 2016.07.11 00:00:00

End date*: 2100.01.01 00:00:00

Legal info

Agreement code*: 1234987

Company registered name*: PocoDinero Enterprises, LLC

Bank info:

Bank Name:
 Branch:
 Account Number:
 ABA:
 SWIFT:
 Address:

Default bank account:

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](#) ^[201])
- Attachment link: link to an external document - for example, agreement with the partner

Incoming billing parameters

In time zone*: GMT-0 (GMT+0) ▼

In credit, USD: 35

DID In credit, USD: 0

ⓘ In billing period*: Monthly ▼

In - First day of month: 1 ▼

In rounding function: Default ▼

In duration rounding function: Increment only ▼

☒ ⓘ Use raw duration after first interval (In)

☒ Round charge detail volume less than 1 minute (In)

In payment period, days:

In minimum invoice amount, USD: 100

In maximum invoice billing periods: 5

In default dispute emails: manager@pocodiner.es

☒ Generate 1 invoice details file per product type (client)

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](#) ^[211] 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](#) ^[142] 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.

- *DID In/Out credit:* credit limits for the client and vendor sides for routing of DID calls (for client products, the *DID In credit field* will be verified and vice versa, provided that the *Reverse charge* option is enabled on the client product level). The fields can be viewed and edited by users with the permissions *View credit limits in agreements* and *Edit credit limits in agreements* respectively. The default values for the fields can be set in the [Reference books\Contract companies](#) ^[211] interface (the [Agreements defaults](#) ^[211] tab)

NOTE: This logic is applicable to products of the *DID* type; for *DID loop* products the *In credit* and *Out credit* fields will be verified (for client and vendor products respectively), irregardless of the enabled or disabled *Reverse charge option* parameter.

- *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 rounding function:* rounding method of the cost (on the client and vendor side respectively). Possible values are:
 - *Default:* as configured in *Rounding function (client/vendor leg)* in [Administration\System settings\Statistics module](#) ^[77]
 - *Floor:* downward rounding
 - *Round:* mathematical rounding
 - *Ceil:* upward rounding
- *In/Out rounding precision:* the number of decimal points of the final revenue/cost of the call (not available if *In/Out rounding function* is set to *Default*)
- *In/Out duration rounding function:* rounding method of call duration. Possible values are:
 - *Increment only:* no pre-rounding (before the increment)
 - *Floor:* downward rounding
 - *Round:* mathematical rounding
 - *Ceil:* upward rounding

Find out more about the feature in the [Alaris YouTube video](#).

- *Use raw duration after first interval (In)/Use raw duration after First interval (Out)*: serve for additional fine-tuning of duration rounding. When enabled, the original duration with no rounding will be used to bill the call (only the second and third parts of the increment are affected; the first part of the increment is applied irrespective of this checkbox). The following examples illustrate possible rounding schemes:
 1. 0/60/1
 - duration: 1, rounded to 60
 - duration: 22, rounded to 60
 - duration: 61, no rounding applied, duration remains 61
 - duration: 61.5, no rounding applied, duration remains 61.5
 - duration: 551.7912, no rounding applied, duration remains 551.7912
 2. 0/1/1 - irrespective of duration, the original (raw) duration is used. See also the [Alaris YouTube](#) video.
- *Round charge detail volume less than 1 minute (In/Out)*: when selected, the volume for the dial code/destination (depending on *Rates based on* product setting) is rounded to 1 minute in case it was less. The cost value is updated accordingly
- *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 amount* 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](#) ⁵⁸
- *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. The file template is configured using the template type *Invoice detail (multiple charges)* in [Administration\Template manager](#) ⁸⁴

Finance parameters

In tax scheme:	Tax included
Out tax scheme:	Tax included
In tax rate, %:	20
Out tax rate, %:	20
Cross-monthly invoice splitting:	Default
Min percent mismatch to invoke a dispute, %:	15
Min absolute mismatch to invoke a dispute:	30
Unconditional invoice dispute threshold:	15

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 $(Rate) \times (Volume)$
 - *Add tax % to estimated amount:* if the tax is not included in the rate, the invoice is calculated as a sum of $(Rate) \times (Volume) + (Rate) \times (Volume) \times (tax)$
 - *Document only tax inclusion:* the tax is included in the invoice but is not actually charged

NOTE: If the *In/Out tax scheme* value is changed in the middle of the billing period, no additional actions are required as the System will perform the necessary adjustments automatically.

- *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](#)
 - *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*)

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.

Rate notification periods

In increase notification, days*:	7
Out increase notification, days*:	7
In decrease notification, days*:	0
Out decrease notification, days*:	0
In new rate notification, days*:	0
Out new rate notification, days*:	0
In close rate notification, days*:	7
Out close rate notification, days*:	7

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

Notifications

Invoice delivery option:	Link
Payment alert:	System default
Default invoice emails:	fin@pocodinero.es
Default rate change emails:	fin@pocodinero.es
Default technical emails:	admin@pocodinero.es
Account alert emails:	man@pocodinero.es

Extra

Balance limit, EUR:	10000
Comments:	

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](#)^[58]
 - *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](#)^[58]. 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](#) ^[132] 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](#) ^[58]
 - 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](#) ^[207] 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](#) ^[132] 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](#) ^[37] 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](#) ^[58]

NOTE: The *Account alert emails* field can be automatically filled with the email address of a partner that has registered in Wholesale 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:

- *Balance limit:* this field is an extra opportunity to manage the balance level where the customer will be blocked. This comes handy for partners with large traffic volumes as the routing engine receives balance information with a delay and it is reasonable to block such partners slightly in advance.
- *Comments:* arbitrary comments

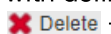
NOTE: If a user does not have one of the following permissions: *System owner: No restrictions / View all data / View and edit all data (except System owner parent rates)*, all agreements belonging to accounts of other managers will have their email data hidden.

Custom parameters

Client agreement manager:	admin
Document link:	
Vendor agreement manager:	admin

Custom parameters

- *Client agreement manager, Vendor agreement manager:* applicable to Alaris SMS Platform

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.

 Start page  Carriers (x)				
Carriers Accounts Agreements Products Voice POI				
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](#) ¹⁶.

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

+ Add
Edit

Carrier*: PocoDinero Enterprises

Account*: PocoDinero Enterprises, USD, test

Product type*: International

Direction*: Client

Product name*: 12345

Product notes: voice

Send rate change notifications automatically: Send partial price list

☐ Exempt from held duration
☐ Force using default increments
☒ Use ANI based billing

Rate dependencies

Parent product: -empty-

Bill US traffic via separate product: -do not bill via separate product-

Rates based on*: Dial codes

☐ Enable loop detection
☒ Send import results to account manager

Invoice group index*: ☒ Autovalue

☐ Reverse charge
☐ Don't consider in vendor stats calculation

Connection fee charging*: Charge zero duration attempts

List of rated disconnect codes: 400,404,406

Kind	Type	Class	
Europe	VIP	Group1	✖

+ Add feature values

☒ Is active
☐ Is test

Custom parameters

Product manager user ID:

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:
 - *DID*: *DID* (direct inward dialing) or *TFN* (toll-free numbers)

NOTE: In terms of routing, if the DID/TFN number has the status *Available*, *Aging* or *Archived* the call will be rejected. If a call is received from a client DID product, and the number is not in the *Number management* reference book, the call is routed based on the available rules, with account for the *Reverse charge* parameter set for the product.

- *DID loop*: a virtual product that allows redirection of DID calls to a B-number (which can also be a DID number). The rate structure is similar to the *International* product type. The product type can be configured for the client or vendor direction. The *Billing number option* value is *A-number* by default but can also be set to *B-number LRN* or *dialed B-number*. The *Reverse charge* option is enabled by default. The *Rates based on* option is required. for more details on call redirection, refer to [Number management\Numbers](#)^[425]
- *International*: international voice traffic
- *US domestic*: US domestic voice 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
- *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 [Voice\Rates\Auto rate export\How it works](#)^[324]

NOTE: To enable automatic rate change notifications, set the System parameter *Voice rate changes email auto send* to 1 (the default value is 0). For correct sending of attachments, set the System parameter *Ratesheet delivery options (1 - attachment, 2 - link)* to 1. If a rate is changed, the change event is placed in queue. Changes will be sent after X seconds following the first change from the queue, where X is configured in the System parameter *Period for sending changes for voice products (seconds)* (the default value is 3600). If for some reason changes were not removed from the queue, they are stored in the queue for two periods set in the parameter *Period for sending changes for voice products (seconds)*. To send notifications to child products if parent products are changed, enable the System parameter *Send changes to child products if the parent products are changed* (the default value is 0).

- *Exempt from held duration* (available when *Product type* = *International*, *US Domestic* or *DID* and *Direction* = *Client*): when selected, held duration (when the call is on hold) is excluded from the billed

call duration. The feature is activated on request. To enable it, contact the Alaris technical support team and communicate the code BZ25297

- *Force using default increments*: when enabled, the billing increment is searched by a combination of A-number (or its mask) and B-number (or its mask). The setting in the product takes precedence over the System parameter *Override rate increments with dial code based increments* (0 - no, 1 - yes) if the parameter is set to 0. When set to 1, the search will be performed by records from the interface [Voice\Referencebooks\Billing increments](#)^[367] (*Dial code based increments* table), and then by billing increments configured in rates
- *Use ANI based billing*: serves to enable billing by the A-number

NOTE: For products created before version 3.5.28 with the configured fields *Base product* and/or *Check ANI tags*, the *Base product* and *ANI tag* fields are displayed as read-only for reference purposes. It means that import, editing rates and some properties of tag products will be impossible.

NOTE: The parent and child products must have the same *Use ANI based billing* flag value. Vendor products cannot have parent products assigned if the *Use ANI based billing* flag is enabled. Also, the checkbox cannot be deselected if the product contains active rates with a completed *ANI dial code* field.

- *Parent product*: 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\Rate module](#)^[69]
 - *0 - longest match at child*: the System first searches for the child product and if there is no suitable rate, it searches for the parent product
 - *1 - global longest match*: the System searches for the most detailed rate in the parent and child product and uses it to charge the client
- *Bill US traffic via separate product* (available only for products whose *Product type* value is *International*): allows combining rate plans belonging to different product types (*International* and *US domestic*). Select one of the options:
 - *do not bill via separate product*: the option is disabled. If the System finds no suitable rates in the *International* product, the call attempt will be rejected (in case of a client product) or the vendor will be excluded from the list of possible routes (in case of a vendor product)
 - *select a US domestic product from the list*: in case the *International* product does not have rates for a US destination and the System recognizes a domestic profile (the A/B-number contains 11 digits and begins with 1 or consists of 10 digits) then both the billing and routing engines will continue searching for the rate in the selected product
- *Bill international via separate product* (available only for products whose *Product type* value is *DID* and *Product direction* value is *Client*): allows combining rate plans belonging to different product types (*International* and *DID*). Select one of the options:
 - *do not bill via separate product*: the option is disabled. If the System finds no suitable rates in the *DID* product, the call attempt will be rejected
 - *select an International product from the list*: in case the *DID* product does not have suitable rates, both the billing and routing engines will continue searching for the rate in the selected product

NOTE: No additional POIs must be created for the US Domestic (in case of the *Bill US traffic via separate product function*) and International (in case of the *Bill international via separate product function*) products.

- *Rates based on:* select *Dial codes*, *Destinations* or *Destinations with indices* to define how the System will group the traffic details in invoices for the selected carrier. The field is mandatory for product types *International*, *US Domestic* and *DID*
- *Send import results to account manager* (available for product types *International*, *US domestic*, *DID*): 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
- *Enable loop detection:* when selected, the product is checked for loops
- *Loop detection timeout, sec.* (available if *Enable loop detection checkbox* is selected): serves to set the timeout for a specific product. If left empty, the timeout is taken from the same parameter in [Administration\System settings\Routing module](#)^[73]
- *Loop detection type* (available if *Enable loop detection checkbox* is selected): the field is not editable; its value is taken from the same name parameter in [Administration\System settings\Routing module](#)^[73]

NOTE: When a call is received from a product with enabled loop detection, a special record is created for the call in the routing module memory. The record contains the following details: 1) the System date + X seconds (where X is the Loop detection timeout); 2) A/B/A+B number. If within the period 1) another call is received that has the same A/B/A+B number from the same product or any other product with the *Enable loop detection* checkbox selected, the call is rejected. When the period 1) expires, the record is removed. See also the [Alaris YouTube](#) video.

- *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](#)^[155], 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](#)^[175] 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](#)^[58])
- *Reverse charge:* select the checkbox in case of a negative price, that is, when you pay for incoming calls (toll-free numbers etc.)

NOTE: When the parameter is enabled for a product, the charge direction is changed - for example, a client leg charge assigned to a client product, will change its direction from client to vendor. Also, the parameter is only applied to the call leg that is associated to the product with the enabled parameter. DID products are created with the enabled parameter by default.

- *Don't consider in vendor stats calculation:* when the checkbox is selected, the stats for this product will not be included in routing statistics for the vendor. This checkbox may come handy when a client sends low quality traffic that can affect the routing stats of trusted vendors.

- *Connection fee charging*: the parameter allows charging the connection fee for zero-length calls. Possible values include:
 - *Charge non-zero calls*: the connection fee is charged for non-zero calls (default value)
 - *Charge zero duration attempts*: the connection fee is charged only for call attempts with zero duration
 - *Charge all attempts*: the connection fee is charged for all attempts
- *List of rated disconnect codes* (available if *Connection fee charging* is set to any value other than *Charge non-zero calls*): serves to specify disconnect codes that evoke connection fee charging (each voice switch has its own list of disconnect codes). The codes must be numeric and must be separated by comma. If the list is empty it is treated as 'any code'. The maximum field length is 3600 symbols.

NOTE: The *Connection fee charging*+*List of rated disconnect codes* feature works for *International*, *US* and *DID* product types. If a parent product is specified, and the rate (and connection fee) are taken from the parent product, the *Connection fee charging*+*List of rated disconnect codes* values are taken from the child product.

NOTE: If the call duration is greater than 0 and *Connection fee charging* is set to *Charge non-zero calls* or *Charge all attempts*, the parameter *List of rated disconnect codes* is not taken into consideration - that is, the connection fee is added for all codes irrespective of the parameter *List of rated disconnect codes*. Provided that the call duration is 0 and *Connection fee charging* is set to *Charge zero duration attempts* or *Charge all attempts*, the call disconnect code is verified to add the connection fee.

- *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

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 *Exclude from routing* checkbox for the POI associated with the product in [Carriers\Voice POI](#) ¹⁶³.

- *Is test*: when selected, the product record is displayed in orange font, and the *Carrier name* has the prefix [TEST]. Such labeling is intended to prevent using newly added records that are still being verified in production routing
- *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.

Products that have the *US Domestic* product type have the following additional parameters:

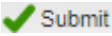
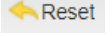
- *Check jurisdiction*: defines whether the System checks the jurisdiction of calls belonging to this product according to the data in the *LERG6* table or bills them at the default rate
- *Billing number options*: select the phone number to bill calls by – B-number LRN, dialed B-number or A-number

NOTE: For *US domestic* and *International* product types, the charged number is defined by the parameter *Billing number options* unless its prefix is included in the parameter *List of TFN prefixes* ([Administration\System settings\DID inventory](#) ⁵⁶).

- *Dip for LRN*: defines whether the routing module performs a real-time dip to an external service provider in order to get the LRN for the dialed B-number for each call belonging to this product. The deselected checkbox means that the routing module stops sending dipping requests to LRN servers.

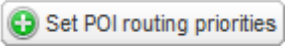
NOTE: With the checkbox deselected, no dipping is done for calls from such client, so no vendors are able to get the LRN data even if their traffic needs to be routed/billed basing on LRN.

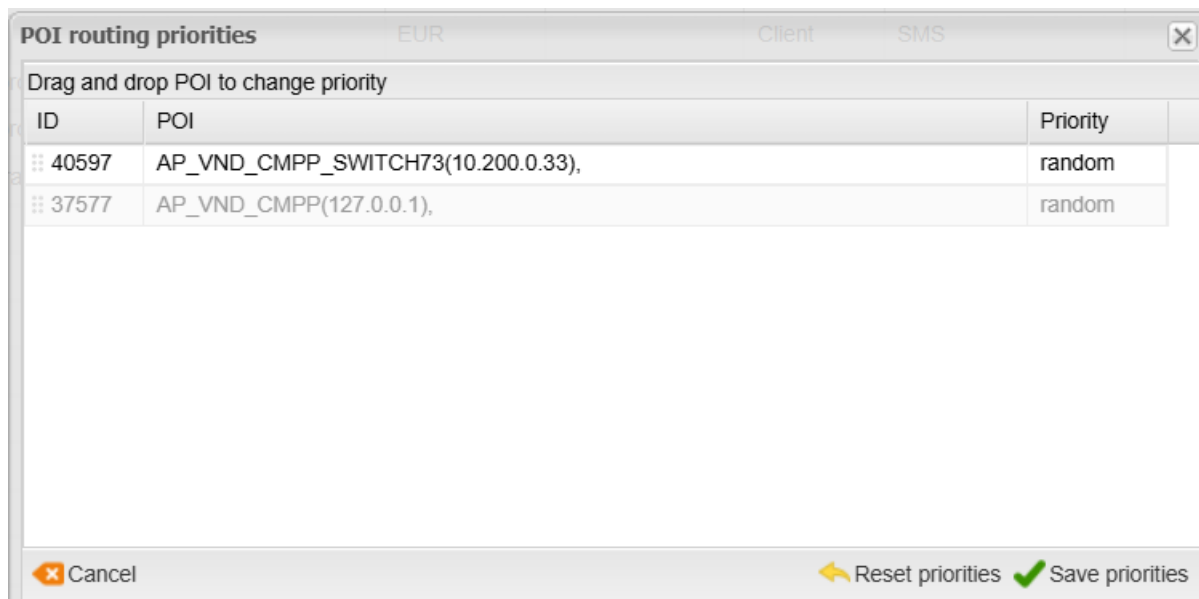
- *Block for no-LRN calls*: vendors' products billed by LRN are ignored in cases when no LRN data for the calls is received by the System
- *Use LATA-based rates*: defines whether the product contains LATA-dependent rates (or just state-dependent ones if the checkbox is unchecked)
- *Default price*: defines which domestic price type is used for calls with indeterminate jurisdiction (since in some cases there may be no indeterminate price explicitly specified in the product rate set, so one of other price types needs to be used in that capacity)
- *Rates based on*: defines how the System should group the traffic details in invoices for the selected carrier (by *Dial codes*, *LATA + OCN* or *State + OCN*)
- *Treat 10-digit A-number as US*: when the checkbox is selected, the System considers 10-digit A-numbers as US numbers. The option is designed for the benefit of US domestic billing as sometimes A-numbers are delivered to the System with the 1 country code stripped. The checkbox makes it possible for the System to define the US-related parameters such as *NPA*, *NXX*, *LATA*, *State* for correct billing. Note that enabling the flag for a US domestic product does not add a leading 1 to the A-number (even for the A-number billing) but adds it to the B-number. However, if the product type is DID, the Billing number option is 'A-number' and the option is selected, rate search is performed for the A-number's dial code with a leading 1. The original number will be kept in the CDR

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

EUR Client SMS

Drag and drop POI to change priority

ID	POI	Priority
40597	AP_VND_CMPP_SWITCH73(10.200.0.33),	random
37577	AP_VND_CMPP(127.0.0.1),	random

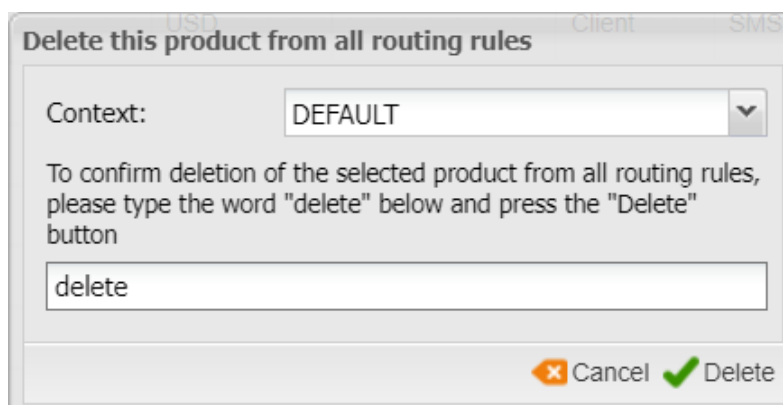
Cancel Reset priorities Save priorities

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.

- The **Open product rates in Rate Editor** button opens the [Voice/Rates/Rate editor](#) 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 this product from all routing rules

Context: DEFAULT

To confirm deletion of the selected product from all routing rules, please type the word "delete" below and press the "Delete" button

delete

Cancel Delete

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 Voice POI etc

-  **Delete** serves to delete the selected record. When using this button, the following types of warning messages can appear:
 - "Cannot delete product, as there are POIs in the database ([555666@33.22.11.99](#),31050) that depend on it" - appears if the product has POIs assigned to it
 - Cannot delete this object as it is used in some routing rules: voice: 20758,20790,20921,22087
 - Cannot delete product, as there are rates in the database (250,276,276555,289,289345,412,603) that depend on it

7.5 Voice POI

The *Voice POI* page contains information about configuration of voice points of interconnect with clients and vendors to perform authentication and CDR rating.

 Start page  Carriers 				
Carriers	Accounts	Agreements	Products	Voice POI
 ID	 Carrier	Product name	Direction	
	All	All	All	All
15040	Barbie Dahl	Premium (USD)	Client	
13390	Barbie Dahl	CLI (USD)	Vendor	
13380	Barbie Dahl	WholeSale (USD)	Vendor	
13570	Barbie Dahl	WholeSale (USD)	Client	

Voice POI

Each POI belongs to a product, and the carrier authentication data from the POI is used to assign a particular call (for routing) or CDR (for billing) to the correct product (and therefore to find the correct rate for it). By means of creating two or more POIs it is easy to distinguish between several types of traffic (e.g. *Premium* and *Wholesale*) coming in from the same client IP address – in such case the difference must be in the tech prefixes used in the POIs. The System can manage both VoIP and TDM POIs.

 Add
 Edit

General

Carrier*:

Product*:

RTP type*:

Active from*: 

00:00:00

Active till*: 

00:00:00

☐ Block incoming traffic

Description:

Connection

IP-address:

Mask:

Trunk group:

 Generate

Switch:

Port:

Protocol:

Tech prefix:

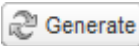
Add tab, General and Connection

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:

- *Carrier*: carrier to which a POI is associated
- *Product*: product to which a POI is associated
- *RTP type* (applicable only for the OpenSIPS voice switch; internal *responseMode* is specified as 17): possible values are as follows:
 - *Default*: the SIP 300 response does not contain RTP headers (the vendor's address is not transmitted in voice switch responses)
 - *Open RTP*: the header *Vendor RTP: open* is added to the SIP 300 response
 - *Close RTP*: the header *Vendor RTP: close* is added to the SIP 300 response
- *Active from / Active till*: date and time of the POI activation/deactivation
- *Block incoming traffic*: traffic from this POI is rejected and not used for routing. Additionally, such POI is not available for selection in [VoiceRoutingSimulation](#)⁴¹⁰
- *Description*: arbitrary comments

Connection:

- *IP address/Mask*: IP address and subnet mask of the POI
- *Trunk group*: ID of the trunk group associated with the client/vendor on the switch. Create it manually or use the  button (maximum field length is 128 symbols)
- *Switch*: indicates the switch used to interconnect with the client/vendor. The list of switches can be edited on the [Voice\Reference books\Soft switch editor](#) ^[374] page.

NOTE: This field can also be used to select only those vendors for routing that have the same switch. This feature is disabled by default. To enable it, contact the Alaris technical support team. Learn more about the feature in [Alaris YouTube video](#).

- *Port*: connection port (receiving for clients, sending for vendors)
- *Protocol*: select the signaling protocol of the POI from the drop-down list (*SIP* or *H.323*)
- *Tech prefix*: technical prefix for the B-number. The combination of IP address and tech prefix must be unique. It is possible to have the same combination of IP address and tech prefix for a client and vendor POI. If the tech prefix is not defined, the System performs authentication by the IP address only

Translations

Carrier-specific number translation:	0075
System-specific number translation:	

Geo routing

	☒ Rest of the world
Country groups:	☐ ☒ Best countries
Geo DNIS pattern:	

Add tab, CPS, Translations and Geo routing*CPS:*

- *Capacity*: maximum allowed number of simultaneous calls of the POI (not applicable for some softswitches)
- *CPS limit*: limitation of the call rate (calls per second) through the POI (not applicable for some softswitches)

Translations:

- *Carrier-specific number translation*: if the technical prefix is specified, the field is filled in automatically; it can also be modified manually

NOTE: The specified prefix for the client's POI is cut from the B-number for 164, while for the vendor's POI it is added to comply with the vendor's format. Example: Suppose a client sends a call with the B-number 123#002121234567 and it is necessary to convert that to a standard E164 USA number. Set the carrier-specific number translation field to 123#00 (to cut off the tech prefix) while the system-specific number translation must be 1 (to add the leading 1 after the client tech prefix is cut off). After the two translations, the B-number is converted to 12121234567. Note that for the vendor leg it works vice versa: first, the *System-specific number translation* is applied to cut symbols and then they are added with the help of the *Carrier-specific number translation*

- *System-specific number translation*: opposite from the previous field (prefix added for client's POI and cut from the vendor's one)

Geo routing:

- *Rest of the world*: the checkbox defines the way regions are used for call termination. Regions used for routing are configured in the [Reference books\Regions](#) ^[218] section. Suppose a vendor has three POIs. In the first POI a number of regions are set for call termination. If *Rest of the world* is selected, the traffic via second and third POIs flows only to regions, which are not used in first POI. If deselected, the traffic flows to any region
- *Country groups*: select the group of countries, for which this POI can be used. The groups are configured on the [Reference books\Regions\Country groups](#) ^[220] page.
- *Geo DNIS pattern*: number prefix (regexp-based) for which this POI can be used. For example, if the value is 3451.*, only this POI will be used to route calls having the 3451 prefix (provided the *Enable geo based checks for POIs* checkbox is selected in [Voice\Routing\Routing rules](#) ^[389])

Click the  **Clone** button to create a duplicate of the configured POI. This is helpful when you need to configure another POI 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.

NOTE: When deleting a Voice POI the System checks if the POI is used in any routing rules with the *rule type = block*. In that case, the POI cannot be deleted. Find out more about the feature in the [Alaris YouTube video](#).

The *Edit* tab contains the following additional parameters:

- *Exclude from routing* (vendors only): if selected, the vendor POI is not used for routing. If the POI is controlled by a gatekeeper and cannot accept calls directly without prior authorization, the System routes all calls to the gatekeeper that redirects them to one of the POIs it controls
- *Priority* (vendors only): indicates the routing priority of the POI (see the *Set POI routing priorities* parameter in [Carriers\Products](#) ^[155]).

If a POI associated with Sansay softswitch is selected for editing, the *Edit* tab contains the additional section - *Sansay switch settings*.

Sansay Switch Settings

Capacity:	100
CPS limit:	10
Service port:	11
Allow direct media:	No ▼
Remote port:	5060
Options polling:	Disable ▼
Group policy:	Top down ▼

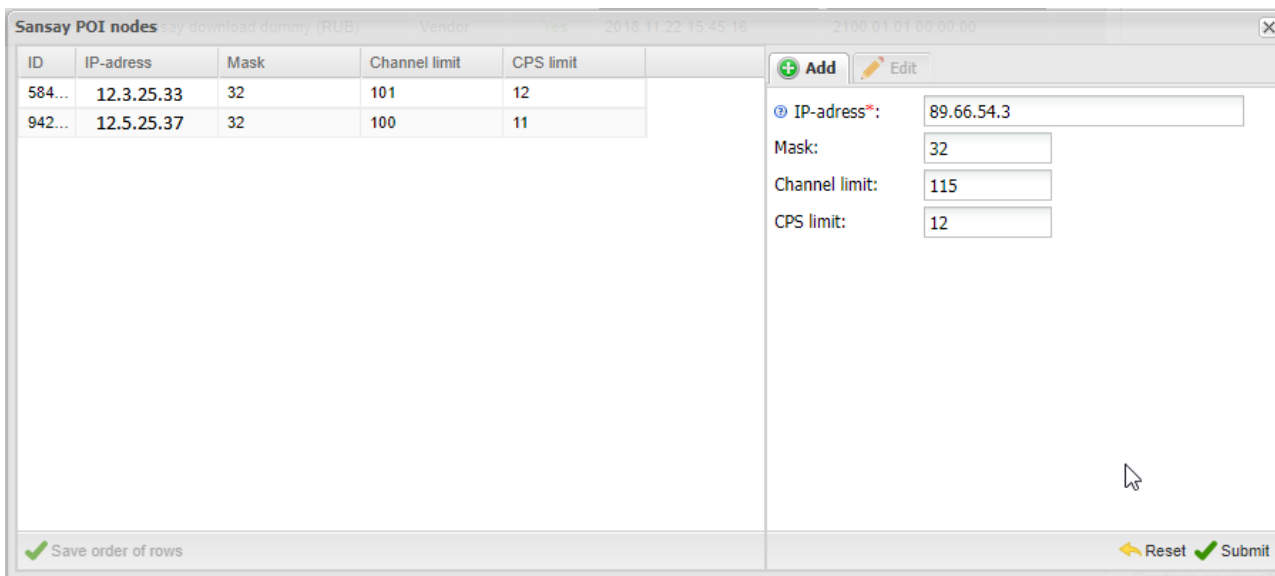
Sansay switch settings

It serves for partial data synchronization between the Sansay softswitch and Alaris inVoice, in order to simplify configuration and avoid any data discrepancy.

NOTE: The *Sansay switch settings* section is displayed only if the functionality is enabled. To enable it, activate the parameter *Show Sansay settings* in [Administration\System settings\Common](#)^[46]. (To make the parameter available, a dedicated module must be installed by the Alaris technical support team). Then open [Voice\Reference books\Soft switch editor](#)^[374] and in the *Resources login* and *Resources password* fields supply authentication data for connection to the softswitch. Additionally, the parameter *Sansay dummy product* in [Administration\System settings\Sansay](#)^[74] serves to specify the partner ID with which POIs will be associated if no associations were found in the System when the data was imported from the switch.

The *Sansay switch settings* panel contains the following parameters (the values must be taken from the Sansay switch):

- *Capacity*
- *CPS limit*
- *Service port*
- *Allow direct media*
- *Remote port*
- *Options polling*
- *Group policy*
- *Sansay POI nodes*: opens a table that serves to specify and edit the nodes that will be synchronized with the switch.



ID	IP-address	Mask	Channel limit	CPS limit
584...	12.3.25.33	32	101	12
942...	12.5.25.37	32	100	11

Add **Edit**

IP-address*: 89.66.54.3

Mask: 32

Channel limit: 115

CPS limit: 12

☒ Save order of rows

Reset **Submit**

Sansay POI nodes

The *Add/Edit* tabs contain the following fields:

- *IP address/Mask*: the IP address and mask of the POI node
- *Channel limit*: the maximum number of concurrent calls
- *CPS limit*: the node capacity (new calls per second)

The data between the Sansay switch and the Alaris inVoice System is synchronized both in the 'partial' and 'full' modes that run one after the other at a certain interval. In the partial mode, the System updates information about the existing POIs, whereas in the full mode the System imports the full list of POIs from the switch.

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](#) ^[217] page
- *Charge direction*: *Payable* or *Receivable*
- *Confirmed*: shows whether the charge is confirmed on the [Finance\Invoices](#) ^[175] page (Yes or No)
- *Group index*: the value of the *Group index* parameter in the [Carriers\Products](#) ^[155] 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
- *Service count*: number of service units (minutes)
- *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](#)^[58]. 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\Analytical cube status \(Administration\)](#)^[244]). After you configure the currencies in Finance first (second, third) currency, perform CDR rerating (see [Voice\CDR management\CDR Rerating](#)^[268]) and invoice recalculation (see [Finance\Invoices\Editing invoices](#)^[181]) for the appropriate period, otherwise all amounts in the *Charges* table will be zero.

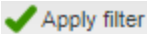
The amounts are calculated at the exchange rate as of the date of each charge. For example, the charge dated October, 12 will be calculated at the exchange rate as of October, 12. The exchange rates are taken from the [Reference books\Currency exchange rates](#)^[214].

The **>>>** button in the upper left corner of the page toggles the *Charge filter* view.

Charge filter

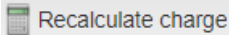
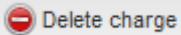
Charge ID:		
Contract company:	All	
Carrier:	All	All
Account:	All	
Product type:	International	
Charge direction:	All	
Group index:		
Billing period:	All	
Period from:	2018.06.25	12:41:00
Period to:	2018.07.25	12:41:00

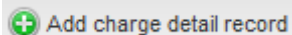
Charge filter

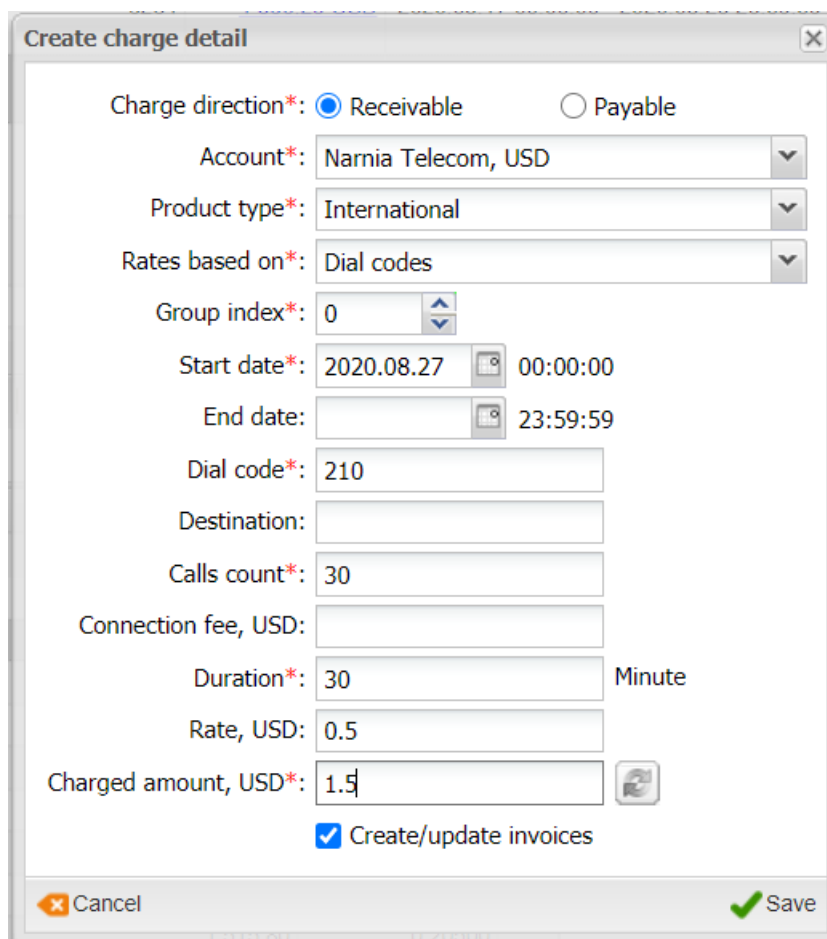
Enter the appropriate parameters and click  to filter the records in the *Charges* table. The  button opens the list of carriers that can be filtered by carrier name and region.

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  button for recalculation of the selected charge. Click  if you wish to delete the selected charge.

The  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](#)¹⁷⁵.



The *Create charge detail* window is a modal dialog box with the following fields and controls:

- Charge direction*:** Radio buttons for *Receivable* (selected) and *Payable*.
- Account*:** Dropdown menu showing *Narnia Telecom, USD*.
- Product type*:** Dropdown menu showing *International*.
- Rates based on*:** Dropdown menu showing *Dial codes*.
- Group index*:** Spin box set to *0*.
- Start date*:** Date picker showing *2020.08.27* and time *00:00:00*.
- End date:** Date picker showing *23:59:59*.
- Dial code*:** Text box containing *210*.
- Destination:** Empty text box.
- Calls count*:** Text box containing *30*.
- Connection fee, USD:** Empty text box.
- Duration*:** Text box containing *30*, with a *Minute* label.
- Rate, USD:** Text box containing *0.5*.
- Charged amount, USD*:** Text box containing *1.5*, with a refresh icon to its right.
- Create/update invoices:** Checked checkbox.
- Buttons:** *Cancel* (with a close icon) and *Save* (with a green checkmark icon).

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*

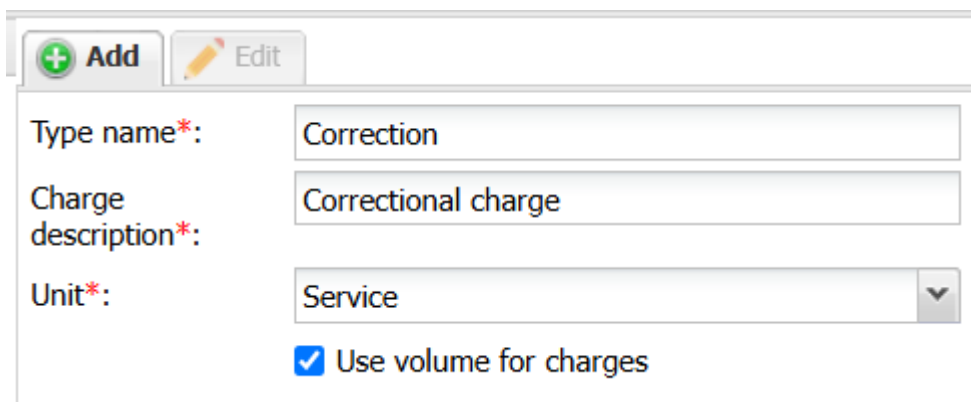
- *Rates based on:* Dial codes, Destination, Destination with indices
- *Group index:* index of the charge grouping
- *Start date, End date:* charged period

NOTE: The charged period is set in full days.

- *Dial code*
- *Destination:* name of a destination, for example *Vodafone, Spain*
- *Calls count:* number of calls
- *Connection fee:* connection fee in the account currency
- *Duration:* duration of calls in minutes
- *Rate:* rate in the account currency
- *Charged amount:* total amount of the charge (in the account currency) is calculated automatically as a derivative of $(Duration\ of\ calls) * (Rate)$. Click  to recalculate the amount if *Duration of calls* 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 types](#)^[217], 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.



Add tab in Reference books/Product types

Click on the link in the *Amount* column to open the *Charge details* table at the bottom of the page.

Charge 23709 details ✕					
Destination	Dial code	Calls count	Duration	Rate, USD	Charged amount...
Total:		725	8443.13333333		643.09535
Azerbaijan mobile Azercell	99451	38	530.6667	0.195	103.48
Azerbaijan mobile Azerfon	99470	43	546.45	0.195	106.55775
BOLIVIA-MOBILE-ENTEL	59171, 59173	65	690.3167	0.097	66.96072
BOLIVIA-MOBILE-TELCEL	59175, 59177	64	805.4333	0.097	78.12703
Kyrgyzstan,mobile	99655	39	553.5333	0.098	54.24627

Charge details

The table displays details of the selected charge: destinations, dial codes, call count, duration, rate and charged amount per destination.

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 amount...
Total:					80
Greece				0.03	50
Russia				0.05	30



 Page of 1
 
 200 rows
  Clear
  Import
  Compare

Charge partner details

To import charge details, click  **Import** and open the file parsing view.

File to import

Import settings

Active sheet*:

Start row: ☒ fix row

☒ Ignore errors

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.

★ Start page
📄 Charges

Partner charges

	Charged amount...	Rate, EUR	Country	
1	Charged amount	Rate	Destination	
[2]	30	0.05	Spain	
3	50	0.03	Greece	

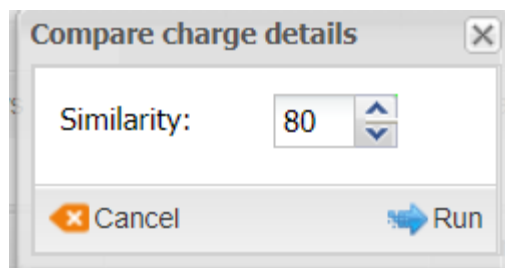
File preview

In the file preview tab assign the appropriate columns (the required columns are *Charge amount*, *Rate* and *Destination*). 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](#)^[58]). 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 *Destination* field for products of the *International* type, by the *Service description* field for products of the *DID/TFN* type, by the *State* field for products of the *US Domestic* 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 CDRs into a dedicated data pool. The pool is continuously updated at the rate of CDR arrival - usually once in 1, 5 or 15 minutes, depending on the softswitch configuration. 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](#)^[169] 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](#)^[58].

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](#)^[145]).

NOTE: The delay for invoice creation is configured by the parameter *Invoice generation delay, hours* in [Administration\System settings\Financial module](#)^[58].

The billing period and delays are configured in the partner time zone (defined in [Carriers\Agreements](#)^[145]). 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](#)^[169] page).

Confirmed invoices are delivered to the preset email addresses. The default address is set in [Carriers\Agreements](#)^[145] (optional parameter *Default invoice emails*). Invoice copies can also be sent to other recipients defined in [Administration\System settings\Financial module](#)^[58] (parameter *Email address list to CC finance-related emails*) or to specified System users if the *Send invoices* flag is set [Administration\Users](#)^[132] (*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](#)^[46]. 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](#)^[145] (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](#)^[58] and [Carriers](#)^[137] sections.

8.2.2 Invoices table

Invoices								
Clear mapping		Amount currency: Account currency		Recalculate period Close billing period and generate invoice				
	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

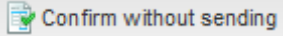
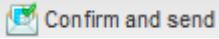
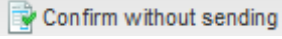
The *Invoices* table contains information on invoices registered in the System. Drop-down lists in the column headers allow ascending/descending sorting of the records. The *Columns* list allows hiding/unhiding columns. Invoices for which correctional charges are available, are highlighted in cursive 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](#)^[58]).

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](#)^[58] (parameter *Current invoice number*). The number format can be set in [Reference books\Contract companies](#)^[207] (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](#)^[137] 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  button)
 - *Sent* - status assigned to an invoice after its confirmation and dispatch ( 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  button
 - *Insignificant* - status assigned to an invoice with an estimated amount lower than defined in [Carriers\Agreements](#)^[145] (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 CDR 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](#)^[58]). 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 both of the following preset 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](#)^[58]. 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 CDR 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](#)^[180] 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](#)^[145] 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*

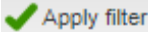
- *Presented amount*: total amount due according to partner estimation, if available; the value is introduced manually as *Presented amount* in the *Edit invoice* tab. A difference between *Estimated* and *Presented amount*, if any and if unfavorable for the System user, changes the invoice property *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](#)⁵⁸
- *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

Reference number:	
Direction:	All
Contract company:	All
Account manager:	All
Currency:	All
Carrier:	All
Account:	All
Product type:	All
Invoice status:	All
Disputed status:	All
State:	All
Due amount:	from Min. to Max.
Payment status:	All
Billing period:	All
Period between:	2022.02.01 and 2022.03.10
Issue date between:	2022.03.01 and 2022.03.10
Last updated between:	and

Invoice filter

The  button in the upper left corner of the *Invoices* page toggles the *Invoice filter* view.

Enter the appropriate parameters and click  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](#) ¹⁸⁵ 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.

Invoices 0000001: invoice mapping 			
Document	Covered amount	Manual/Auto	
Invoice from partner 2015.02.01-2015.02.28 405.58 U...	200	manual	

Invoice mapping page

The *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*:

Invoice to partner 2015.01.01-2015.01.31 390.48/390.48 USD

▼

Drop down list will show the document ref #, document amount, document dates and the amount left to be mapped after previous mapping operations

☐ Map full invoice amount

3278.24 USD

☒ Map full document amount

390.48 USD

☐ Specify amount to map

USD

 Cancel

 Add

Map document

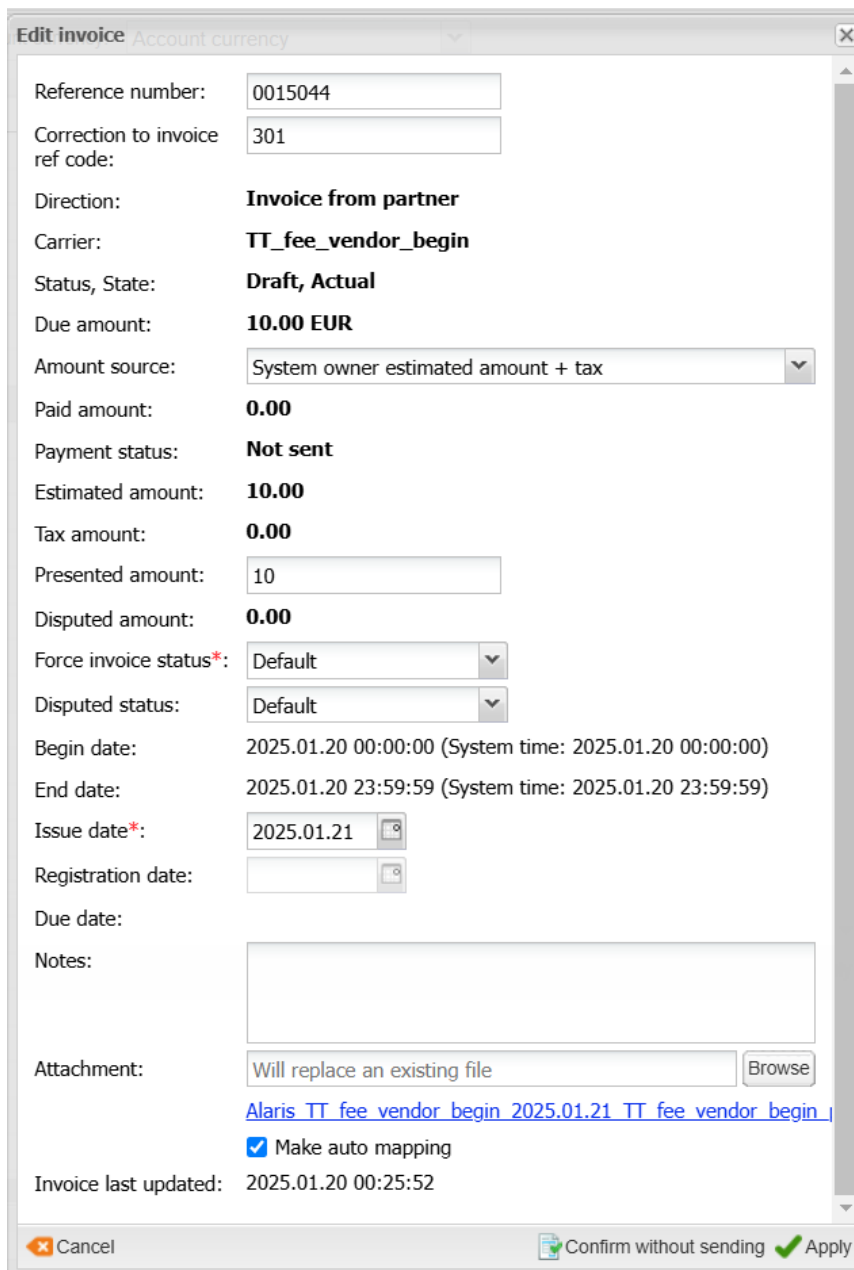
- *Non-mapped document*: drop-down list of available invoices. The list is formed automatically and displays the amount available for distribution for every charge or invoice (in case unallocated financial documents from a partner are registered in the System)
- *Map full invoice amount*: is active only 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 Account currency

Reference number: 0015044

Correction to invoice ref code: 301

Direction: **Invoice from partner**

Carrier: **TT_fee_vendor_begin**

Status, State: **Draft, Actual**

Due amount: **10.00 EUR**

Amount source: System owner estimated amount + tax

Paid amount: **0.00**

Payment status: **Not sent**

Estimated amount: **10.00**

Tax amount: **0.00**

Presented amount: 10

Disputed amount: **0.00**

Force invoice status*: Default

Disputed status: Default

Begin date: 2025.01.20 00:00:00 (System time: 2025.01.20 00:00:00)

End date: 2025.01.20 23:59:59 (System time: 2025.01.20 23:59:59)

Issue date*: 2025.01.21

Registration date:

Due date:

Notes:

Attachment: Will replace an existing file 

[Alaris TT fee vendor begin 2025.01.21 TT fee vendor begin](#)

☒ Make auto mapping

Invoice last updated: 2025.01.20 00:25:52

 Cancel  Confirm without sending  Apply

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

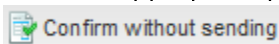
The *Forgotten* and *Bad debt* statuses can be set for invoices in the following statuses: *Confirmed*, *Registered*, *Sent* and *Delivered*. When a new status is assigned, the following fields become available:

- *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

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](#)⁵⁸). 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.

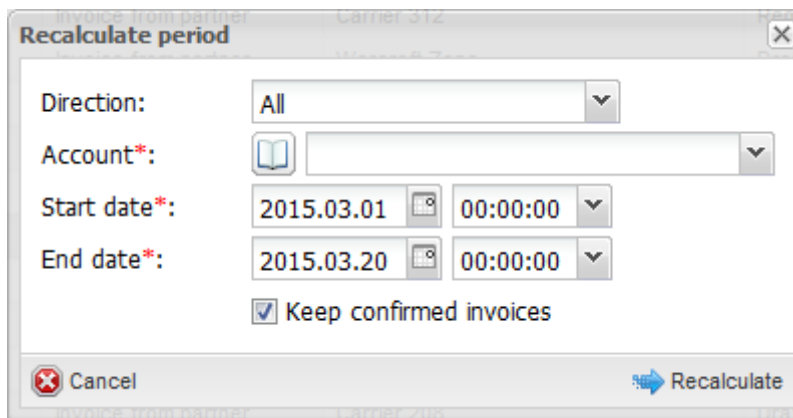
- *Begin date / End date*: invoiced period
- *Due date*: payment due date
- *Notes*: arbitrary comments
- *Attachment*: a confirming document. The supported formats are: .pdf, .xls, .xlsx, .png, .jpg, jpeg, .zip, .rar
- *Make auto mapping*: enables automatic synchronization of a registered payment with 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  to apply the settings. Click the

 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 CDR rerating to bring the invoicing information up to date. Refer to [Voice\CDR Management\CDR Rerating](#) ^[288] for more details.



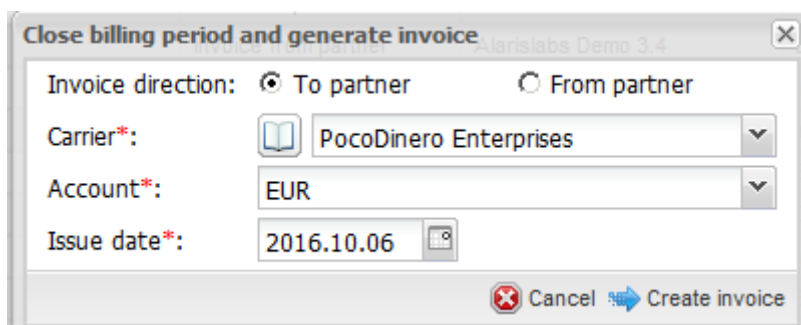
The **Recalculate period** dialog box contains the following fields and controls:

- Direction:** A dropdown menu set to **All**.
- Account*:** A dropdown menu with a book icon button to the left.
- Start date*:** A date field showing **2015.03.01** with a calendar icon and a time field showing **00:00:00** with a dropdown arrow.
- End date*:** A date field showing **2015.03.20** with a calendar icon and a time field showing **00:00:00** with a dropdown arrow.
- Keep confirmed invoices:** A checked checkbox.
- Buttons:** **Cancel** (with a red X icon) and **Recalculate** (with a blue arrow icon).

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 account from the drop-down 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)



The **Close billing period and generate invoice** dialog box contains the following fields and controls:

- Invoice direction:** Radio buttons for **To partner** (selected) and **From partner**.
- Carrier*:** A dropdown menu with a book icon button to the left, showing **PocoDinero Enterprises**.
- Account*:** A dropdown menu showing **EUR**.
- Issue date*:** A date field showing **2016.10.06** with a calendar icon.
- Buttons:** **Cancel** (with a red X icon) and **Create invoice** (with a blue arrow icon).

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.

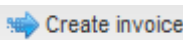
NOTE: Do not use this button to generate invoices for a completed billing period, when such invoices have not yet been created automatically (this normally happens when rates are imported retrospectively).

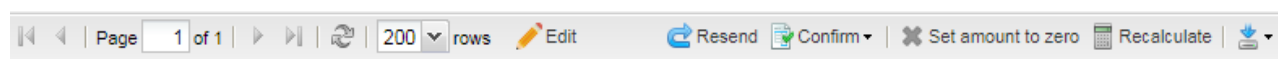
Enter the appropriate parameters in the window:

- *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

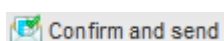
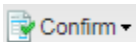
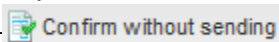
NOTE: The user can select clients with the enabled *reverse charge* checkbox for *Direction: From partner*, and vendors with the enabled *reverse charge* checkbox for *Direction: To partner*, because when the checkbox is enabled charges of the opposite direction are created.

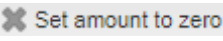
- *Account:* select the account from the drop-down list
- *Issue date:* date of the invoice generation

Click  to generate the invoice. The invoice will appear in the table with the *Draft* status.

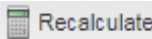


Bottom toolbar

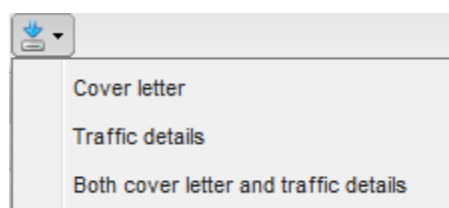
Click  on the bottom tool bar and then select  if you wish to confirm the selected invoice draft and send it to the partner (the invoice will be automatically sent to the e-mail defined in the [Carriers\Agreements](#) ¹⁴⁵ settings). Click  and select  to confirm the invoice without sending (for example, in case of backdate corrections).

The button  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  to resend the invoice to the partner.

Click  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
			$-\infty \leq X \leq \infty$	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](#)^[201]
- *Carrier*: client/vendor name, as per data in the [Carriers](#)^[137] section
- *Carrier's legal name*: the carrier's registered name taken from the *Company registered name* field of the [Carriers\Agreements](#)^[145] 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](#)^[58]). The email addresses are set in [Carriers\Agreements](#)^[145] (*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](#)^[187])
- *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 <<

Reference number:

Direction:

All

▼

Contract company:

All

▼

Bank account:

All

▼

Carrier:

 All

▼

Account:

All

▼

Date between:

2023.03.01



and

2023.03.14



Status:

All

▼

Currency:

All

▼

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

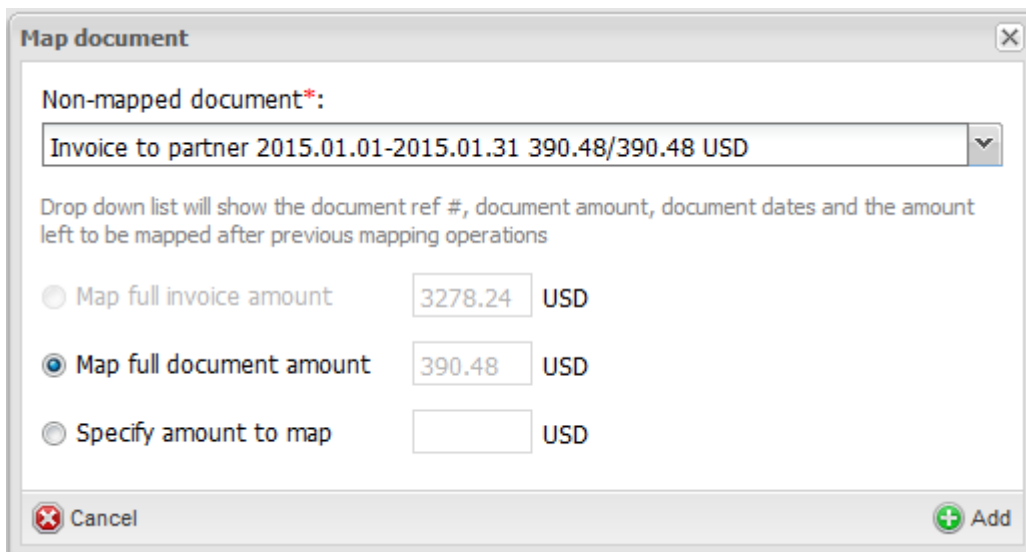
A click on the *Covered amount* column values opens the payment mapping page displaying correlation between payments made and invoices issued. The page is similar to the [Finance\Invoices\Invoice mapping](#) ¹⁸⁰ page detailed above. Mapping can be done on either page.

NOTE: Only confirmed payments are available for mapping.

Payments 21i3wek: payment mapping 			
Document	Covered amount	Manual/Auto	
Invoice from partner 2015.02.01-2015.02.28 405.58 USD	100	manual	

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:



Map document

Non-mapped document*:

Invoice to partner 2015.01.01-2015.01.31 390.48/390.48 USD

Drop down list will show the document ref #, document amount, document dates and the amount left to be mapped after previous mapping operations

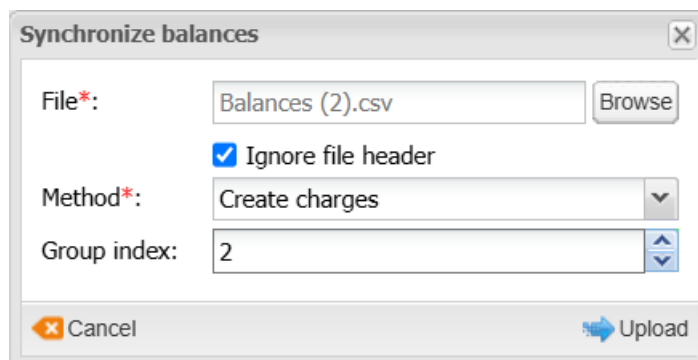
☐ Map full invoice amount 3278.24 USD
☒ Map full document amount 390.48 USD
☐ Specify amount to map [] USD

Payment mapping

8.3.3 Interface controls

The *Finance\Payments* page has the following controls.

The *Synchronize balances*  **Synchronize balances** button opens the same-name dialog:



Synchronize balances

File*: Balances (2).csv

☒ Ignore file header

Method*: Create charges

Group index: 2

Synchronize balances

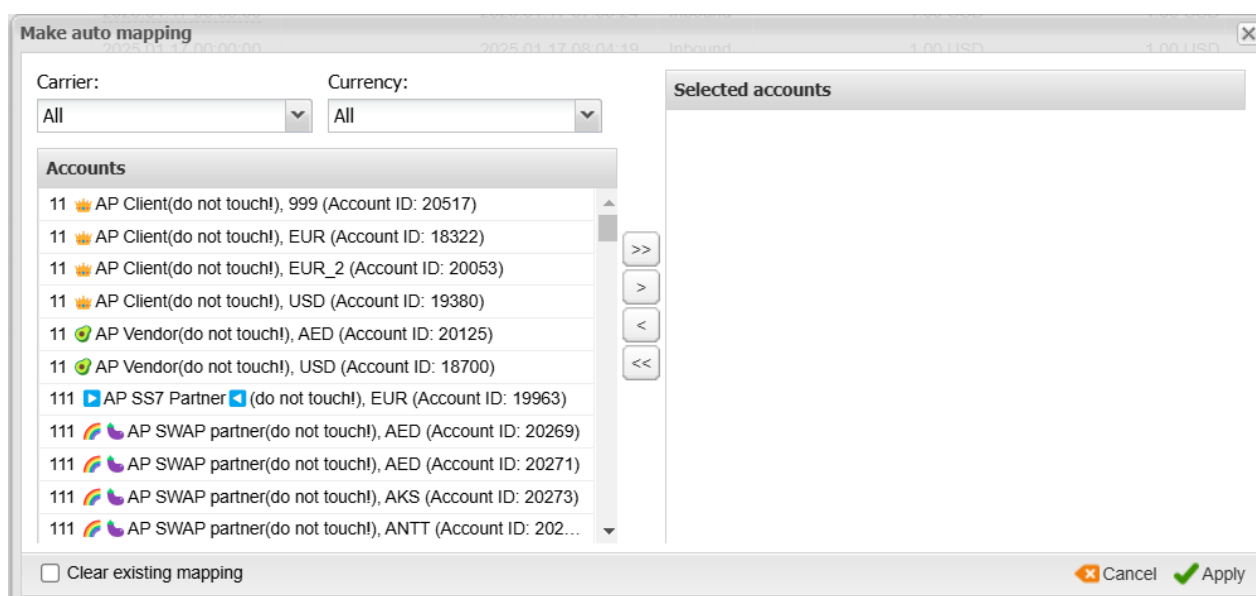
The dialog enables synchronization with external accounting systems through uploading data. It contains the following parameters:

- *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).

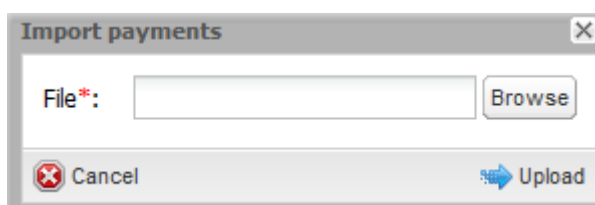
The  **Make auto mapping** button launches automatic allocation of payments to invoices for selected accounts:



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*  **Import payments** button opens the same-name window:

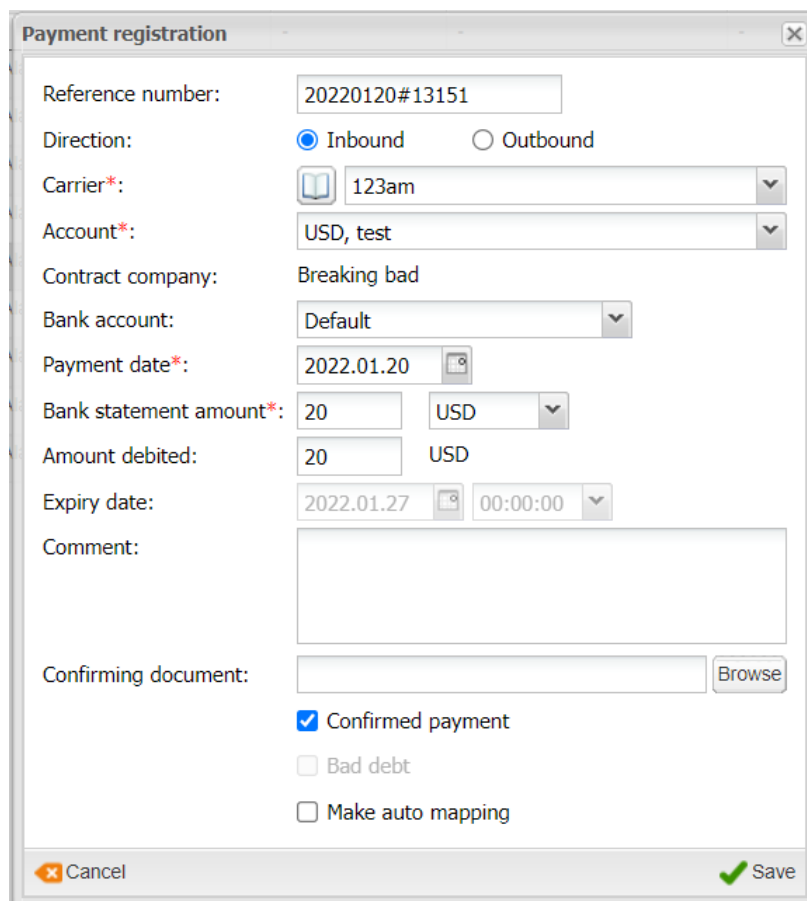


Import payments

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](#) 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:



The screenshot shows the 'Payment registration' window with the following fields and values:

- Reference number: 20220120#13151
- Direction: ☒ Inbound ☐ Outbound
- Carrier*: 123am
- Account*: USD, test
- Contract company: Breaking bad
- Bank account: Default
- Payment date*: 2022.01.20
- Bank statement amount*: 20 USD
- Amount debited: 20 USD
- Expiry date: 2022.01.27 00:00:00
- Comment: (empty text area)
- Confirming document: (empty text field with 'Browse' button)
- ☒ Confirmed payment
- ☐ Bad debt
- ☐ Make auto mapping

At the bottom, there are 'Cancel' and 'Save' buttons.

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](#) ^[137] 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](#) ^[142]
- *Contract company*
- *Bank account*: the bank account number from [Reference books\Bank accounts](#) ^[201]
- *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

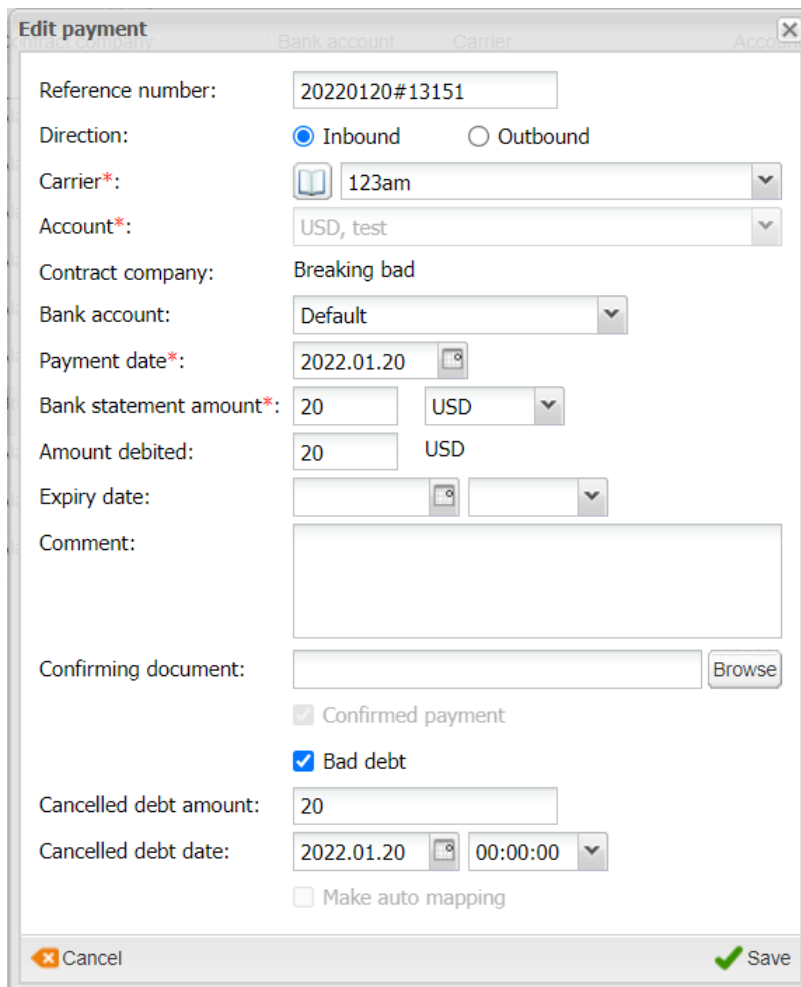
NOTE: The currency exchange rate is taken as of the payment date.

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.

ID	Details	Next start date	Next end date	Direction	Product type	Invoice group in...	Currency	Amount	Carrier
1424	KATE FEE	2025.04.05 00:00:00	2025.04.06 00:00:00	Client	Monkey business	0.00	EUR	10.00	CAT FEE2

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](#)^[217], create a new product type (for example, *Server rental*), and in the *Unit* field select *Service*.

+ Add
✎ Edit

Details*: Server rental

Direction*: Client

Product type*: Extra

Invoice group index*: ☐ ☒ Autovalue

Volume and rates

	Rate	Volume	Start date
✖	100	1	2025.01.23 00:00:00
+			

Account*: PocoDinero, \$

Start date*: 2025.01.24 00:00:00

End date*: 2100.01.01 00:00:00

Create charge at: end of the period

Product:

Volume Threshold:

Comments:

↶ Reset ✓ Submit

Add tab

The *Add* tab of the *Recurring fees* page contains the following parameters.

- *Details:* payment description

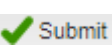
- *Direction:* Vendor or Client
- *Product type:* select a product type specifically created for this service
- *Invoice group index:* specify a unique value if you want this charge to be invoiced separately (decimal values are supported). To invoice this charge together with another product, select 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 module](#)).
- *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\Rate module](#).

- *Volume:* volume of the services (in units configured in [Reference books\Product types](#)).
- *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 $100/31 \times 10$ (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 minutes 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](#).
- *Comments*

Click  to save the changes. Click  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.

★ Start page 📄 Swap deals					
ID	Carrier	Manager	Planned balance, USD	Planned margin, U...	Actual balance, ...
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:

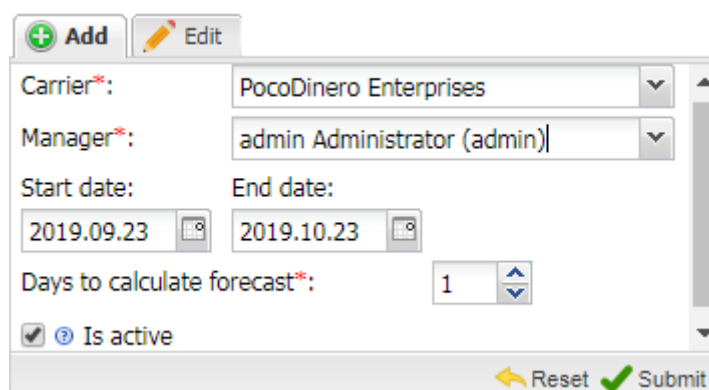
- *ID*: record identification number
- *Carrier*
- *Manager*: System user assigned to manage the swap deal
- *Planned balance*: the balance planned by the System owner

NOTE: The deal currency is set in the System parameter *Swap deals stats currency* ([Administration\System settings\Trading tools](#)^[83]). To change it, contact the Alaris technical support team.

- *Planned margin*: the margin planned by the System owner
- *Actual balance* (taken from [Voice\Analytics](#)^[268])
- *Actual margin* (taken from [Voice\Analytics](#)^[268])
- *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
- *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  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.

Type	Destinations/MCCMNC	Direction	Plan				Actual as of now						
			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)

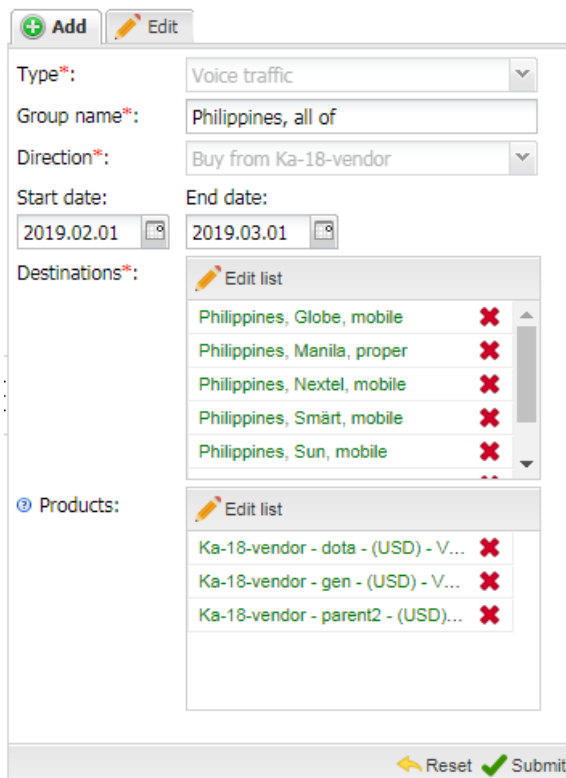
The middle section shows the destinations for a partner selected in the top table (calculated based on daily and hourly analytical cubes). It contains the following columns:

- *Type*: traffic type -  for Voice.
- *Destinations*
- *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 minutes; the volume for the previous day is 5,000. The *Volume* parameter will be calculated as $50,000 + 5,000 \cdot 15$.

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:

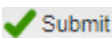
- *Type*: Voice or SMS

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
- *Destinations*
- *Products*: products whose traffic will be used for stats calculation. If empty, the statistics will be calculated for all products

Click  to confirm or  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 minutes (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 minutes will be charged at 0.03 USD. The 300,001 minute will be charged at *Rate #2* (0.02 USD), same as all further minutes 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 minutes (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 minutes will be charged at 0.03 USD. The 300,001 minute will be charged at *Rate #2* (0.02 USD), and all the previous 300,000 minutes will be recharged at *Rate #2* (0.02 USD), same as all subsequent minutes up to the next threshold (set by the parameter *Up to #2*). When the second threshold is reached, the subsequent minutes 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*

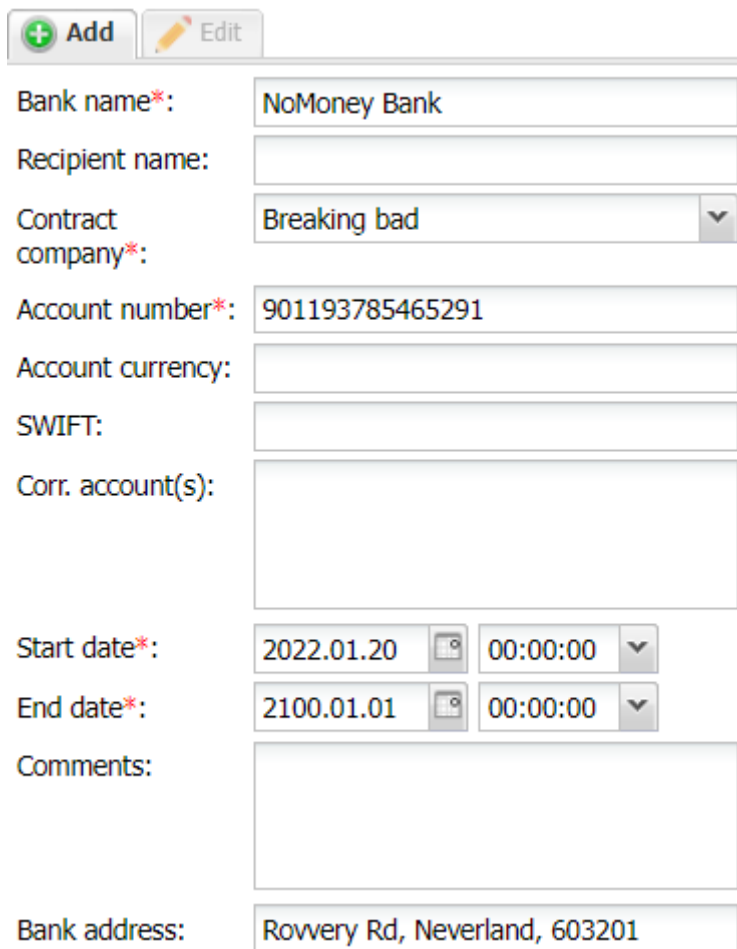
Click  **Apply changes** to save the changes; click  **Delete selected** to delete the record. Click  **Add new** to add a new destination.

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](#)^[145]) and payments (see [Finance\Payments](#)^[185]).

To create a new bank account record, use the *Add* tab as illustrated below.



The screenshot shows the 'Add' tab of a web form for creating a new bank account. The form includes the following fields and controls:

- Buttons:** '+ Add' (green) and 'Edit' (pencil icon).
- Bank name*:** Text input field containing 'NoMoney Bank'.
- Recipient name:** Text input field.
- Contract company*:** Text input field containing 'Breaking bad' with a dropdown arrow.
- Account number*:** Text input field containing '901193785465291'.
- Account currency:** Text input field.
- SWIFT:** Text input field.
- Corr. account(s):** Text input field.
- Start date*:** Date and time selection fields showing '2022.01.20' and '00:00:00'.
- End date*:** Date and time selection fields showing '2100.01.01' and '00:00:00'.
- Comments:** Text input field.
- Bank address:** Text input field containing 'Rowvery Rd, Neverland, 603201'.

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.

- **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

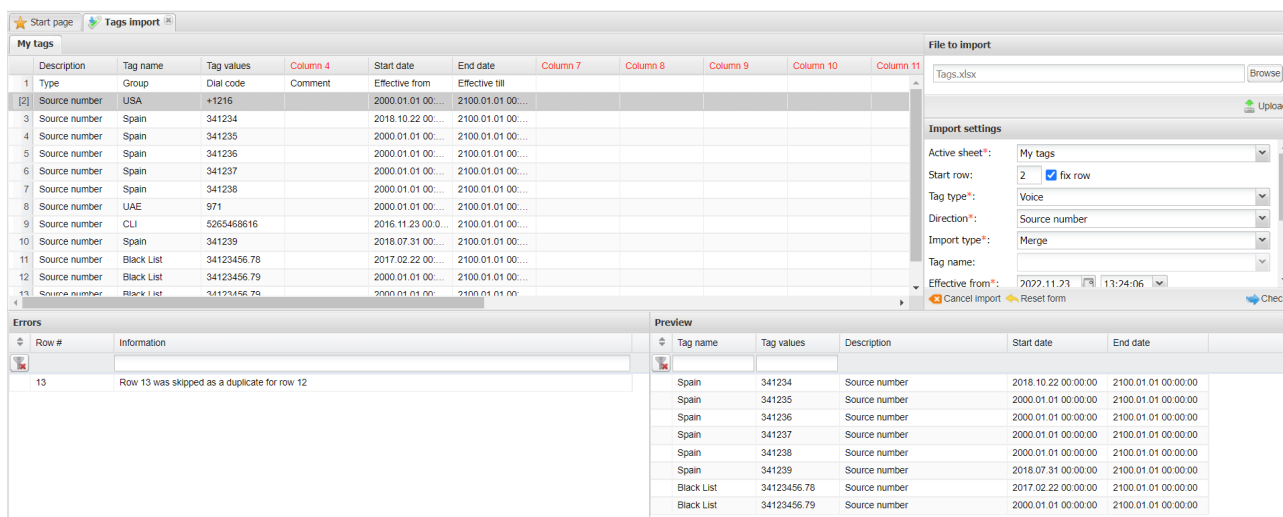
Click  **Submit** to save the changes.

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.



Description	Tag name	Tag values	Column 4	Start date	End date	Column 7	Column 8	Column 9	Column 10	Column 11
1 Type	Group	Dial code	Comment	Effective from	Effective till					
2 Source number	USA	+1216		2000.01.01 00:00:00	2100.01.01 00:00:00					
3 Source number	Spain	341234		2018.10.22 00:00:00	2100.01.01 00:00:00					
4 Source number	Spain	341235		2000.01.01 00:00:00	2100.01.01 00:00:00					
5 Source number	Spain	341236		2000.01.01 00:00:00	2100.01.01 00:00:00					
6 Source number	Spain	341237		2000.01.01 00:00:00	2100.01.01 00:00:00					
7 Source number	Spain	341238		2000.01.01 00:00:00	2100.01.01 00:00:00					
8 Source number	UAE	971		2000.01.01 00:00:00	2100.01.01 00:00:00					
9 Source number	CLI	5265468616		2016.11.23 00:00:00	2100.01.01 00:00:00					
10 Source number	Spain	341239		2018.07.31 00:00:00	2100.01.01 00:00:00					
11 Source number	Black List	34123456.78		2017.02.22 00:00:00	2100.01.01 00:00:00					
12 Source number	Black List	34123456.79		2000.01.01 00:00:00	2100.01.01 00:00:00					
13 Source number	Black List	34123456.79		2000.01.01 00:00:00	2100.01.01 00:00:00					

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

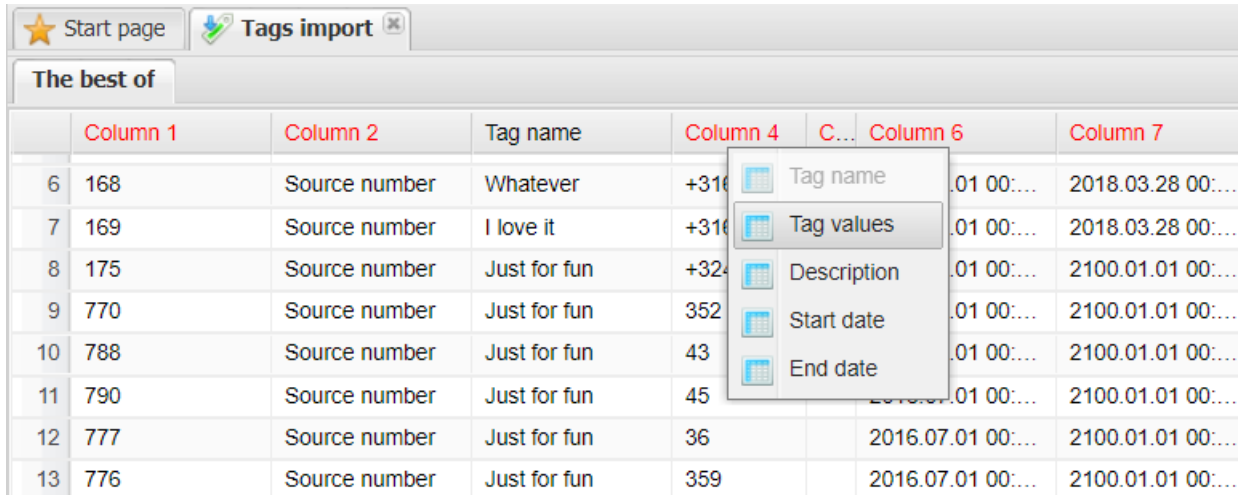
Tag import

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*.



	Column 1	Column 2	Tag name	Column 4	C...	Column 6	Column 7
6	168	Source number	Whatever	+316		01 00:...	2018.03.28 00:...
7	169	Source number	I love it	+316		01 00:...	2018.03.28 00:...
8	175	Source number	Just for fun	+324		01 00:...	2100.01.01 00:...
9	770	Source number	Just for fun	352		01 00:...	2100.01.01 00:...
10	788	Source number	Just for fun	43		01 00:...	2100.01.01 00:...
11	790	Source number	Just for fun	45		01 00:...	2100.01.01 00:...
12	777	Source number	Just for fun	36		2016.07.01 00:...	2100.01.01 00:...
13	776	Source number	Just for fun	359		2016.07.01 00:...	2100.01.01 00:...

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

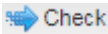
34% for the period 2020.02.02-2020.03.03

...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 .

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...	

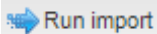
Errors panel

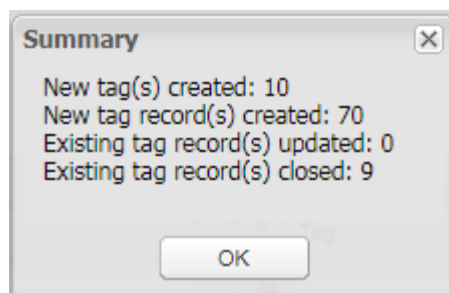
The *Errors* panel displays the list of parsing errors.

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.



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 [R]							
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, Inc.
Alaris Invoice title:	Hornes and Hooves
Invoice filename pattern:	[InvoiceDate]-[CompanyName].pdf
Invoice details filename pattern:	[CompanyName]-[InvoiceDate]_[ProductDescr
Invoice reference number format (inbound):	[XXXXXXX]
Invoice reference number format (outbound):	[CAR_ID]
Current invoice number (inbound):	6 267
Current invoice number (outbound):	6 200
Credit-note reference number format (inbound):	CN[XXXXXXX]
Credit-note reference number format (outbound):	CN[CAR_ID]
Current credit-note number (inbound):	1
Current credit-note number (outbound):	1
Email address list to CC finance-related emails:	invoice@hoho.com
Email address list to BCC finance-related emails:	secret_service@hoho.com
Email address to CC rates updating:	rates@hoho.com
Email address to BCC rates updating:	secret_service_rates@hoho.com
List of allowed domains (comma-separated):	www.campaigns-hoho.com,www.haha.com,www.hoho.com
☒ 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
- *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)
- *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 Wholesale and Campaign portals are allowed by the parameter *Allow portal user self-registration* (0 - no, 1 - yes) in [Administration\System settings\Partner portal](#).

Portals

Campaign Portal URL:	www.cportal-hoho.com
Campaign Portal title:	Hornes and Hooves
Wholesale portal URL:	www.hhaa.com
Wholesale portal title:	Hornes and Hooves Wholesale
Credit limit for new Campaign Portal clients:	10
Initial payment for new Campaign Portal clients:	15
Minimum payment amount for portal:	5
Segment billing mode for new Campaign Portal clients:	4. Bill and calculate routing rate by segmen v
☒ Use Authorize.net ☒ Use MobiMoney ☒ Use PayOnline ☒ Use PayPal ☒ Use PayU Latam ☒ Use PayU Pol ☒ Use Secure Trading ☒ Use Stripe ☒ Use Dimoco Payment	

Add tab, continued

- *Wholesale portal URL*
- *Wholesale portal title*: name of the Wholesale portal that can be used in emails about user registration, password change and the like
- *Minimum payment amount for portal*: minimum payment amount for the [Wholesale portal](#)^[207]
- *Use Authorize.net, Use Mobimoney, Use PayOnline, Use PayPal, Use PayU Latam, Use PayU Pol, Use Secure Trading, Use Stripe, Use Dimoco Payment*: select appropriate checkboxes to allow the respective payment systems in the [Wholesale portal](#)^[207]

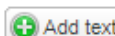
NOTE: As MobiMoney can only use Rubles, if Rubles are not configured as a currency in [Reference books\Currency exchange rates](#)^[214], the System will not allow using the payment platform and will return an error.

NOTE: The [Wholesale portal](#)^[207] supports the use of the following payment systems: [Authorize.net](#), [PayPal](#), [Payonline](#), [Stripe](#).

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](#)^[87].

NOTE: Prior to inserting markers in the *Add* tab fields, check that they are configured in [System settings\Financial module](#)^[58] (*Invoice reference number format* parameter) and [Administration\System settings\Template manager](#)^[84].

Click  to save the changes.

The *Edit* tab additionally contains the *Wholesale portal Terms & Conditions* field that allows adding the text of Terms and Conditions. The user is asked to agree with them when registering through the [Wholesale portal](#)^[207] or resetting the password through the password reset link. Click  to configure the text.

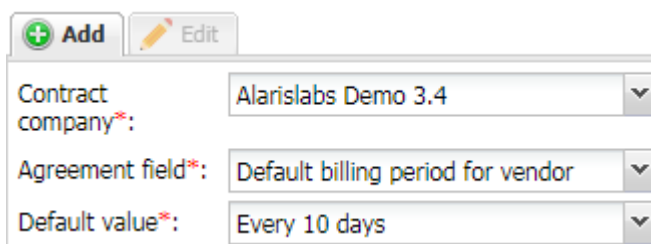
9.4.2 Agreements defaults tab

The *Agreement defaults* tab sheet allows setting default values for the [Carriers\Agreements](#)^[145] page parameters 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.



The form shows the 'Add' tab selected. It contains three fields with dropdown menus:

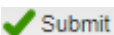
- Contract company*: Alarislabs Demo 3.4
- Agreement field*: Default billing period for vendor
- Default value*: Every 10 days

Add agreement default

Select the appropriate values in the following drop-down lists:

- *Contract company*
- *Agreement field*: field in the [Carriers\Agreements](#)^[145] 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*  to save the changes.

9.4.3 Payment systems tab

The *Payment systems* tab sheet contains information about the supported payment systems. The Wholesale 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](#).

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

Contract companies	Agreement defaults	Payment systems
Contract company	Paysystem name	
All	All	
Default	Payonline	
Default	Secure Trading	
Default	PayPal	
Default	Dimoco	
Default	Stripe	
Default	PayU Pol	
Default	Authorize.net	
Default	PayU Latam	
Default	MobilMoney	

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**

 **Edit**

Contract company:	General
Paysystem name:	PayPal
Deduct payment fee from partner:	1
Business:	null
URL:	https://www.paypal.com/cgi-bin/webscr
Payment notification protocol (http/https):	http

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 Wholesale 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 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

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.

System currency: [USD](#)

 Existing currencies: [\\$, 999, AED, AKS, ANTI, ARS, AUD, BAN, BYN, COP, CZK, EUR, EUR1, EUR_2, GBP, GZIP, JPY, KTZ, MAX, MO, NEW_CUR, PLN, RUB, RUR, SGD, TST, TT_curr, XUA, ZAR, ZER,](#)


Exchange rates

Currency:
 Rate relative to:
 Date from*:
 Date till*:

☐ Show actual rates

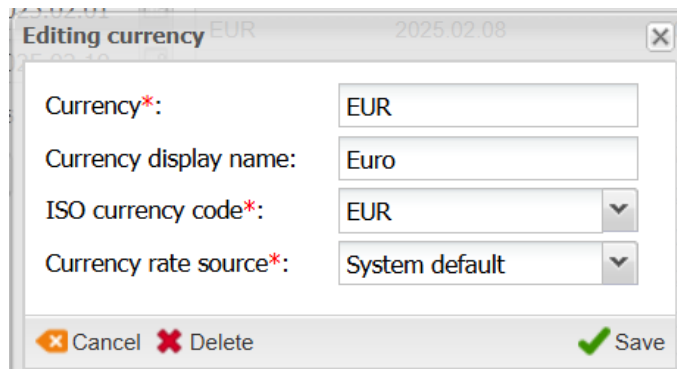
Currency	Date	Rate to USD	Source
GBP	2025.02.08	1.241400	CBR
AUD	2025.02.08	0.628400	CBR
EUR	2025.02.08	1.040586	CBR
JPY	2025.02.08	0.006613	CBR
AED	2025.02.08	0.272294	CBR
SGD	2025.02.08	0.740083	CBR
BYN	2025.02.08	0.294994	CBR
ZAR	2025.02.08	0.054264	CBR
PLN	2025.02.08	0.248009	CBR
CZK	2025.02.08	0.041222	CBR
RUB	2025.02.08	0.010280	CBR
EUR	2025.02.07	1.038847	CBR
CZK	2025.02.07	0.041444	CBR
BYN	2025.02.07	0.295247	CBR
AUD	2025.02.07	0.626300	CBR
AED	2025.02.07	0.272294	CBR
ZAR	2025.02.07	0.053623	CBR

Currency exchange rates

The page contains the following information:

- *System currency*: the actual System currency (configured in [Administration\System settings\Common\System currency code](#)⁴⁶⁾)
- *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])

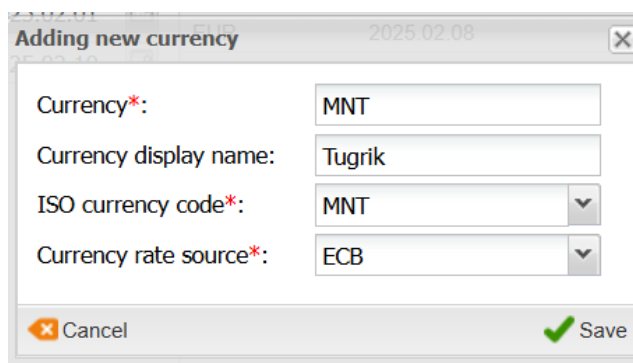
ISO currency code: the ISO code of the currency (used to handle payments via third-party payment systems, for example, *Stripe*)

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.

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](#)^[46]).

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 non-editable.

Product types can be used for the following purposes:

- In [Carriers\Products](#)^[155] 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](#)^[193] 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](#)^[169] 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](#)^[175] 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](#)^[84])

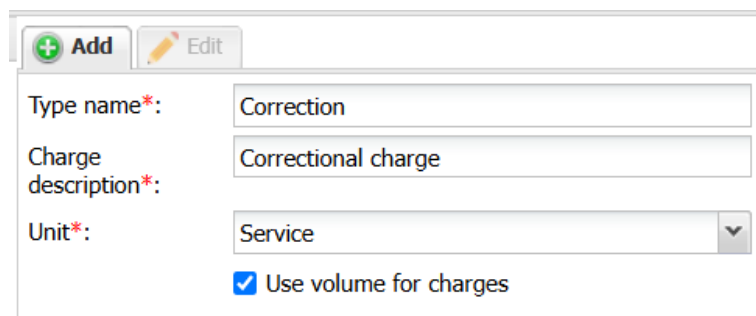
The page is divided in two sections. The left section is a table of product types. The table contains the following information:

★ 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](#)^[155] and cannot be used to create new products. They can only be used in [Finance\Charges](#)^[169] for creating charges and in [Finance\Invoices](#)^[175] 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](#)^[169]), 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 [Voice\Analytics](#)^[268] 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

Start page

Countries and regions

Company region

Countries

Country groups

ID	Region name	Manager
10107	Africa	poco (John Smith)
10024	America	Poco Loco (Mary Poppins)
10042	Asia	Chippolo (Chippo Lino)

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
✎ Edit

Region name*:

Manager*:

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

★ Start page

 Countries and regions ✕

Company region

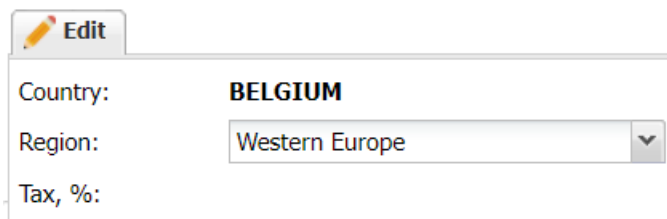
Countries

Country groups

ID	Country	Region	Tax, %
2	Antarctica	Polar	
3	Antigua	Caribbean	25.00
10298	Antigua and Barbuda	Caribbean	25.00
10299	Argentina	South America	
10300	Armenia	Asia	33.00

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

Country: **BELGIUM**

Region: Western Europe

Tax, %:

Edit tab, top section

Click *Submit*  *Submit* to confirm or *Reset*  *Reset* to discard the settings.

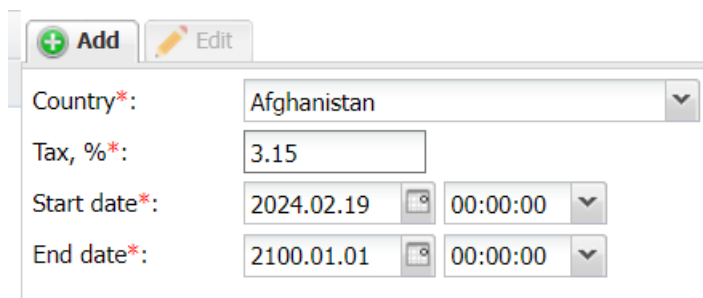
NOTE: If all records mentioning a country are removed from [Voice\Reference books\Dial codes](#)^[370], the country is removed from the System.

ID	Country	Tax, %	Start date	End date
	Afghanistan	Min. Max.	$-\infty \leq X \leq \infty$	$-\infty \leq X \leq \infty$
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**

Country*: Afghanistan

Tax, %*: 3.15

Start date*: 2024.02.19 00:00:00

End date*: 2100.01.01 00:00:00

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](#)^[145], applicable to Alaris SMS Platform only).

9.7.3 Country groups

The *Country groups* page allows grouping countries for configuration of the [Carriers\Voice POI](#)^[163].

The *Country groups* table contains the following information:

★ Start page			🌐 Countries and regions
Company region			Countries
			Country groups
⬆️	ID	Group name	Countries
🔍		Text mask	
	10000	CIS	ARMENIA, Belarus, Kazakhstan, Moldova
	10001	Group 1	Lesotho, Mexico, Papua New Guinea

Country groups

- *ID*: internal identification number
- *Group name*: name of the group
- *Countries*: comma-separated list of countries within the group

Use a text mask under the column header to filter the records in the table.

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

+

 Add

✎

 Edit

Group name*:

North

Countries*:

✎

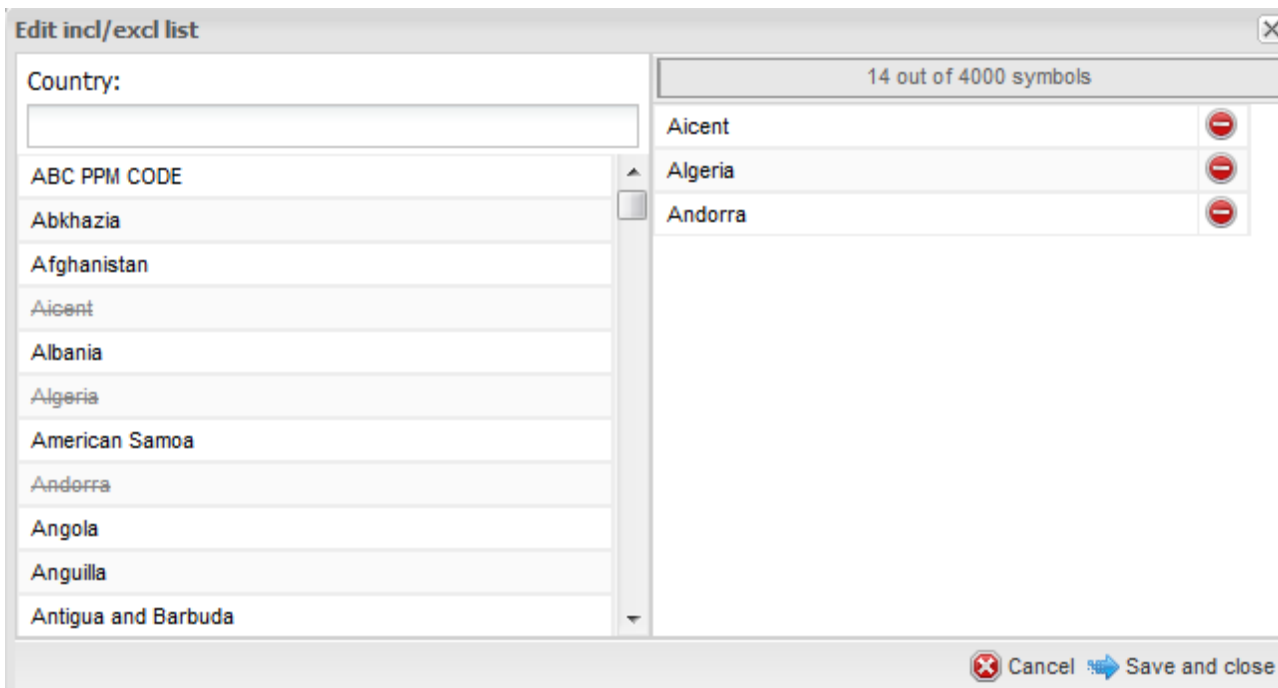
 Edit list

Netherlands

Sweden

Add tab

In the *Add* tab, supply an arbitrary name to the group. Click the  **Edit list** button to open the list of countries:



Edit incl/excl list

Country:

ABC PPM CODE

Abkhazia

Afghanistan

Aicent

Albania

Algeria

American Samoa

Andorra

Angola

Anguilla

Antigua and Barbuda

14 out of 4000 symbols

Aicent

Algeria

Andorra

Cancel Save and close

List of countries

Double click on a country name to add it to the group. Click the  button to remove a country from the group. Click  **Save and close** to save the changes.

When through with adding/editing a group, click  **Submit** to confirm or  **Reset** to discard the settings. Click  **Delete** to delete the selected group. The  **Clone** button allows creation of the new group with same parameters.

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:

ID	Unit name
1	Minute
2	SMS
3	Pcs
4	Service

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  Edit Mass edit	
Name:	Routing
Group*:	AP group
Pattern*:	\d{11}
Description:	For the Routing rules interface

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: Routing

Pattern: \d{11}

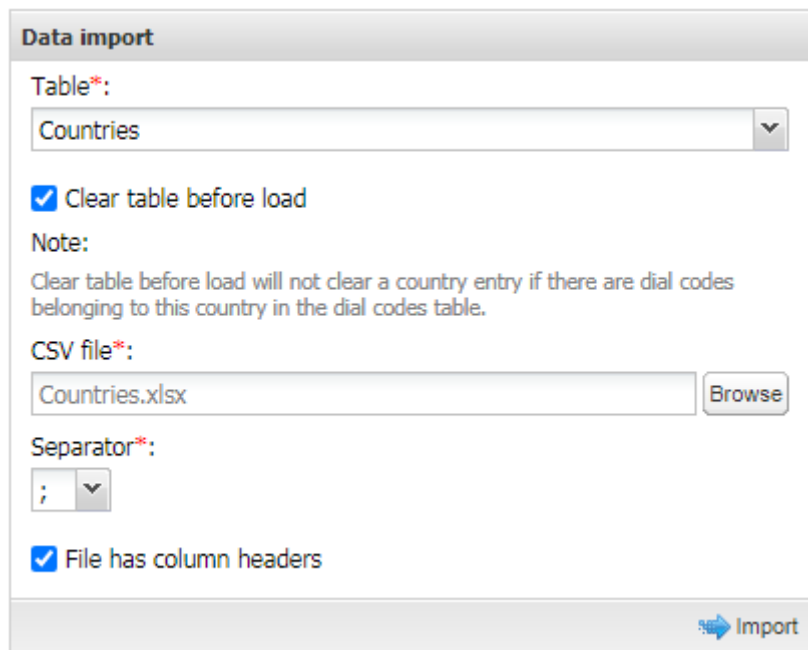
The user will be able to select *Routing* in the *ANI pattern* and *DNIS pattern* drop-down lists of the *Routing rules* interface. There will be no need to enter the regular expression.

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*: for US domestic traffic processing
- *Dial codes*: general System-wide dial code reference book (the .CSV file must contain the following mandatory columns: *Dial code*, *Country*, *Area*, *Type*. The *Area* column can be empty. The maximum length of the *Dial code* column is 16 symbols, of the *Country/Area/Type* columns - 256 bytes)
- *Countries*: names of countries supported by the System
- *Destination types*: the list of destination types that will be available after the dial code is added to [Voice\Reference books\Dial codes](#)^[370] (mobile, proper etc.)



Data import

Table*:
 ▼

☒ Clear table before load

Note:
 Clear table before load will not clear a country entry if there are dial codes belonging to this country in the dial codes table.

CSV file*:

Separator*:
 ▼

☒ File has column headers

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.

NOTES: The *Clear table before load* checkbox works as follows: if there is no rate for a dial code, the row containing the dial code is removed from the table. If there is a rate for a dial code, the current values of *Country*, *Region* and *Type* parameters are replaced with *Undefined*.

- This action directly affects routing based on the reference info. For example, if you have routing rules based on a destination list and during the data import with the selected checkbox *Clear table before load* you occasionally forget to include some countries' names used in those rules, the routing will work incorrectly as the rules are not used properly.
- Updating the *Dial code* table: since the dial codes reference book is the most detailed list of dial codes in the System, the import logic adds dial codes for a given country that are not in the imported list, but are present in the rates table, and assigns them the destination name from the closest parent code.

Example:

Imported code: +1 USA

Existing rates prefixes: +1201, +1202

Resulting dial code reference table: +1 USA, +1201 USA, +1202 USA

- Updating the *Countries* table: 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.

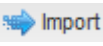
3) Select the csv file to upload using the button. *LERG6* data is usually supplied in a .DAT file supplied by a *LERG* provider and is expected to be in the following format:

Reference books

Name	Length	Notes
lata	char(5)	up to 5 bytes
status	char(1)	1 byte
eff_date	char(6)	date format: MMDDYY
npa	char(3)	3 bytes
nxx	char(3)	3 bytes
block_id	char(1)	1 byte
ocn	char(4)	4 bytes
loc_state	char(2)	Locked state value, 2 bytes
Prefix type	-	up to 20 bytes
numeric_blocks	-	Shows availability of numeric blocks (for A Block IDs only), only integer values are allowed

4) Select the separator (“;”, “,”, “/” or “\”) from the drop-down list.

5) Select the *File has column headers* checkbox if necessary.

6) Click  to import the requested data.

The import operation will appear in the table of tasks as shown below.

Tasks							
Task ID	Job created	Table	Clear table before...	Status	Details	User name	
	$-\infty \leq X \leq \infty$			All		All	
TASK736204	2018.05.30 10:22:18	Dial codes	Yes	ready	36682 records ...	ac	
TASK735796	2018.05.29 12:13:56	Dial codes	Yes	ready	36682 records ...	ac	
TASK735774	2018.05.29 11:37:47	Dial codes	Yes	ready	0 records succe...	ac	
TASK735686	2018.05.29 10:52:21	Dial codes	Yes	ready	Import failed. R...	ac	
TASK735668	2018.05.29 10:05:33	Dial codes	No	ready	0 records succe...	messy	
TASK735592	2018.05.28 18:58:21	Dial codes	No	ready	Import failed. R...	messy	
TASK734900	2018.05.28 10:01:54	Dial codes	Yes	ready	Import failed. R...	ac	
TASK730870	2018.05.24 18:34:13	Dial codes	Yes	ready	0 records succe...	ac	

Page 1 of 1 | 200 rows | Rows 1-14 of 14

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](#)^[227] and [CDR reconciliation](#)^[282] 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*:

Date type*:

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:



Reference books

MON DD YYYY HH12:MI AM
YYYY-MM-DD"T"HH24:MI:SS
YY-Mon-DD"T"HH24:MI:SS"+00:00"

MAY 01 2022 03:00 AM
2022-05-01"T"15:00:00
22-May-01"T"15:00:00"+00:00"

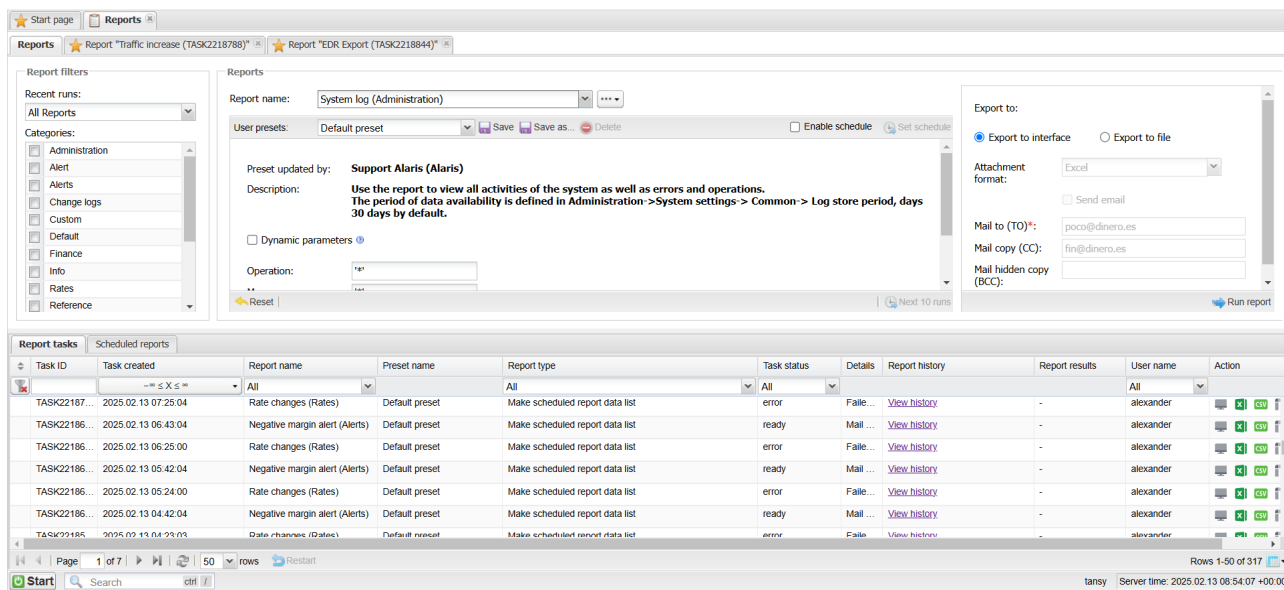
DD.MM.YY" at "HH24:MI" in GMT time zone: 0"

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* 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

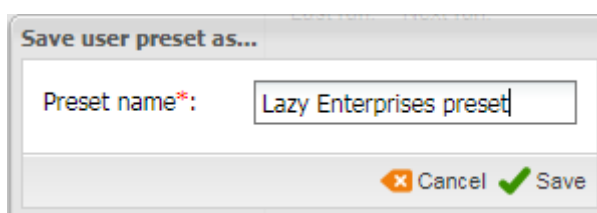
NOTE: To assign a category when creating or editing a report in the [Report builder](#) ²⁴⁷, specify the category in the *Report name* field before the report name and the colon mark. For example, *Administration: System log* implies that the category is *Administration*.

- 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:

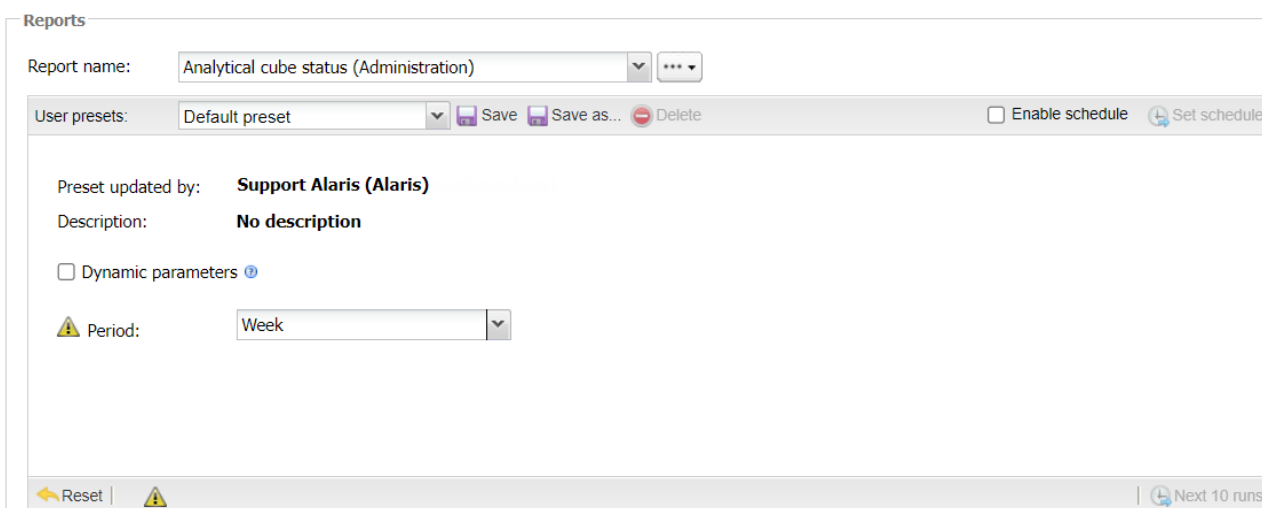
- *New report, Edit report:* opens the [Report builder](#)  that allows creating a new report or editing the selected one, respectively
- *Export SQL script:* serves to export the report's code to a file (may come in handy in installing the same report to different Systems)
- *Delete report:* remove 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...** In the dialog that appears enter the preset name and click  **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** 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**. Configure the time table as shown below.

Cron format:

0 8 1 1,2,3,4,5,6,7,8,9,10,11,12 *

Explain:

Run every 00 minute;

08 hour;

01 day;

January, February, March, April, May, June, July, August, September, October, November, December.

Minutes:

☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59

Hours:

☐	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐
00	01	02	03	04	05	06	07	08	09	10	11
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12	13	14	15	16	17	18	19	20	21	22	23

Days of month:

☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

Months:

☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Ja	Fe	Mr	Ap	Ma	Jn	Jl	Au	Se	Oc	No	De

Days of week:

☐	☐	☐	☐	☐	☐	☐
Mo	Tu	We	Th	Fr	Sa	Su

Sender:

Mail to (TO):

Mail copy (CC):

Mail hidden copy (BCC):

File type:

Telegram Chat ID:

Telegram message:

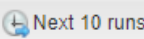
Report schedule

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](#) ³³)
- **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, refer to [How to configure report notifications by Telegram](#)^[237].

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.

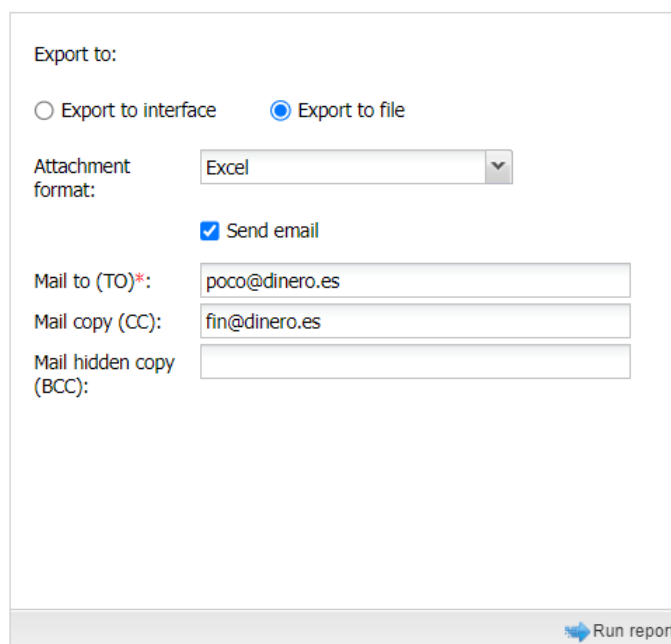
Click  **Save**. Once the schedule is saved, the bottom panel of the *Reports* table will show the values for *Last run* and *Next run*. Click  **Next 10 runs** to view the schedule of the next 10 runs of the report.

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](#)^[243] 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.

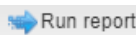
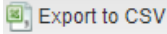
To verify the SQL code as well as its consistency with the report, click  **Test SQL code** *Test SQL code*.

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.

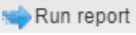


'Export to' panel

- **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*. 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:

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

Start Page Active calls (36)

Manual refresh Auto refresh: 5 secs Save filters

Count

A-number (client side)	B-number (client side)	B-number (e.164)	B-number (vendor side)	Call ID	Client IP	Client TG	Client balance	Client manager	Client product	Client rate	Conference ID	Connect time	Client	Connect time	B-number(e.164)	Is connected	Vendor	Setup time	Totals
													ALARIS TEST	2015.09.20 18:17:30	79780076108	Yes	Vendor 1	2015.09.20 18:17:14	1
														2015.09.20 18:22:40	79788530878	Yes	Vendor 1	2015.09.20 18:22:18	1
														2015.09.20 18:25:43	593958918556	Yes	Vendor 1	2015.09.20 18:25:30	1
													Ahn Wee	2015.09.20 18:01:25	97689191042	Yes	Vendor 1	2015.09.20 18:01:14	1
														2015.09.20 18:12:58	97699780306	Yes	Vendor 1	2015.09.20 18:12:40	1
														2015.09.20 18:21:39	97689451073	Yes	Vendor 1	2015.09.20 18:21:35	1
														2015.09.20 18:23:20	97699879474	Yes	Vendor 1	2015.09.20 18:22:56	1
														2015.09.20 18:23:34	97694674292	Yes	Vendor 1	2015.09.20 18:23:26	1
														2015.09.20 18:25:03	97688505672	Yes	Vendor 1	2015.09.20 18:24:51	1
													Carrier 91	2015.09.20 18:16:01	994516112577	Yes	Vendor 12	2015.09.20 18:15:43	1
														2015.09.20 18:18:52	994505253521	Yes	Vendor 12	2015.09.20 18:18:37	1
														2015.09.20 18:19:41	994506747168	Yes	Vendor 12	2015.09.20 18:19:27	1
														2015.09.20 18:24:41	992938130613	Yes	Vendor 12	2015.09.20 18:24:32	1
														2015.09.20 18:24:59	992935171380	Yes	Vendor 12	2015.09.20 18:24:45	1
														2015.09.20 18:25:00	992926104708	Yes	Vendor 12	2015.09.20 18:24:46	1
															992935805040	Yes	Vendor 12	2015.09.20 18:24:51	1
														2015.09.20 18:25:09	992926153783	Yes	Vendor 12	2015.09.20 18:24:47	1
														2015.09.20 18:25:36	992935236982	Yes	Vendor 12	2015.09.20 18:25:20	1

Pivot view of the Analytical cube status (Administration) 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.

List Unique Values

New CDR count (since recal)

Partition period type

New CDR count (since recal)

Partition period type

New CDR count (since recal)

MONTH

New CDR count (since recal) (3)

☒ (1)

☒ 0 (12)

☒ 1241460 (1)

Apply Cancel

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 tasks		Scheduled reports					
	Report name	User preset	Email recipients	Mail copy(CC)	Mail hidden c...	File type	Next run
	All						$-\infty \leq X \leq \infty$
	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.

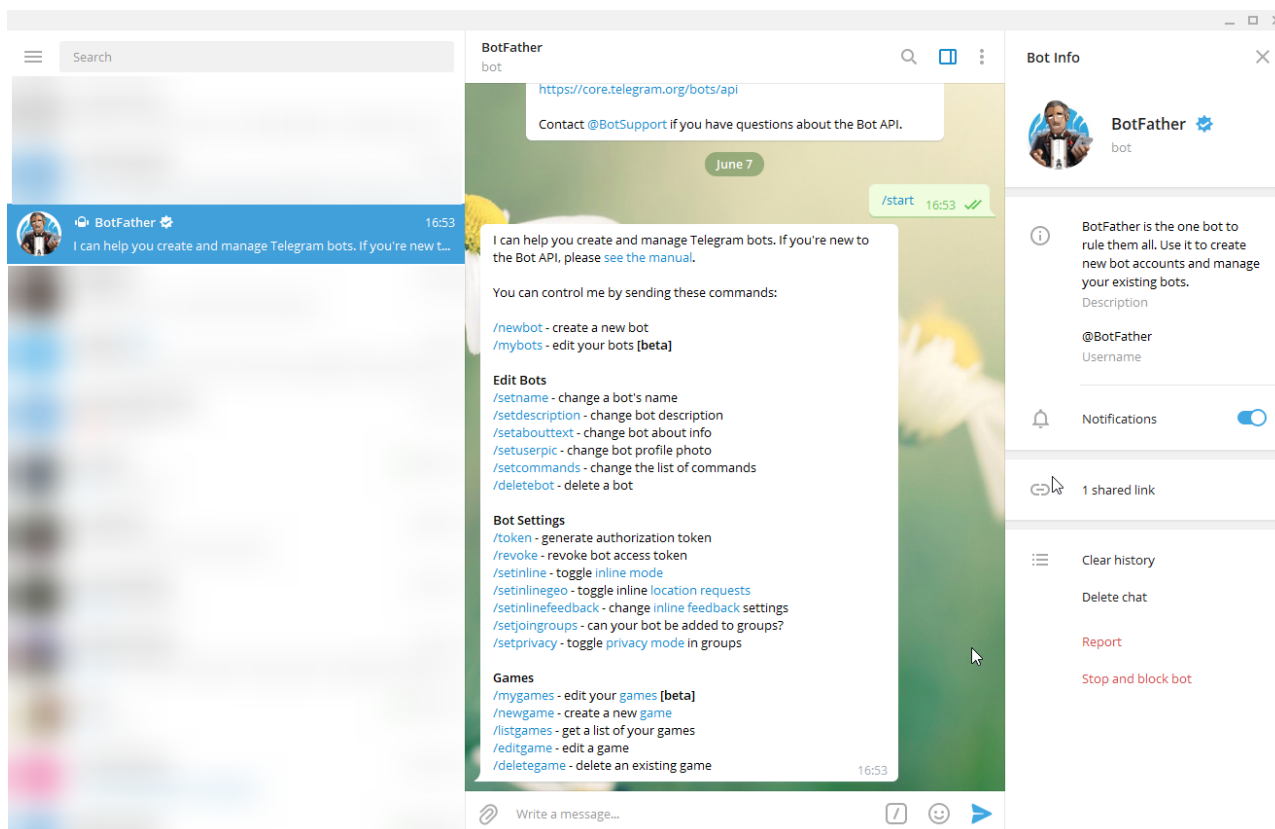
If access to specific data in the System DB is required for creating a report not available on the *Reports* page, refer to the *DB struct (Administration)* report. The most frequently used reports are described below.

10.2 How to configure report notifications by Telegram

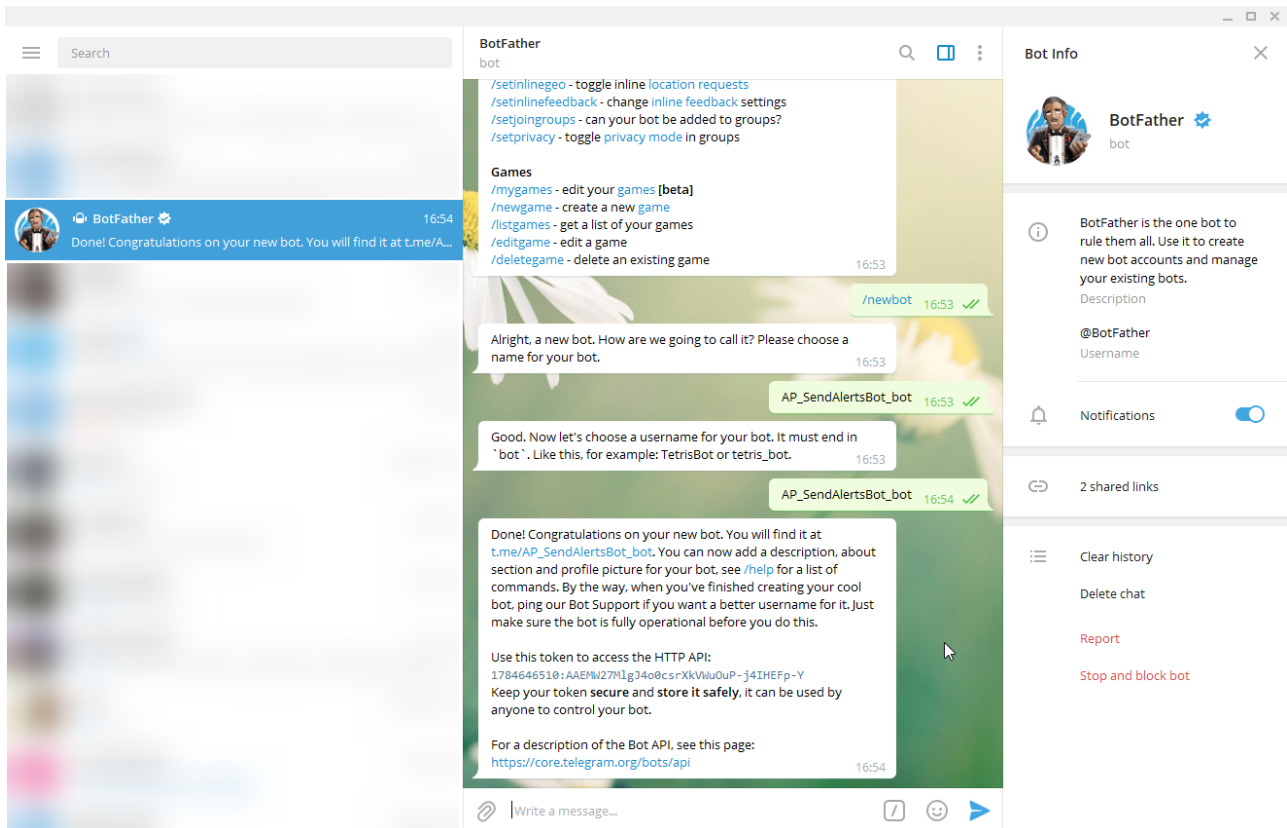
To configure report notifications by Telegram, the *Enable schedule* option must be on, the schedule is configured along with the recipients list as full results are sent by email only, while a notification that the report has been executed is sent out by Telegram.

The configuration of telegram notifications includes the following steps:

1. Register a bot at <https://telegram.me/BotFather> as illustrated below:

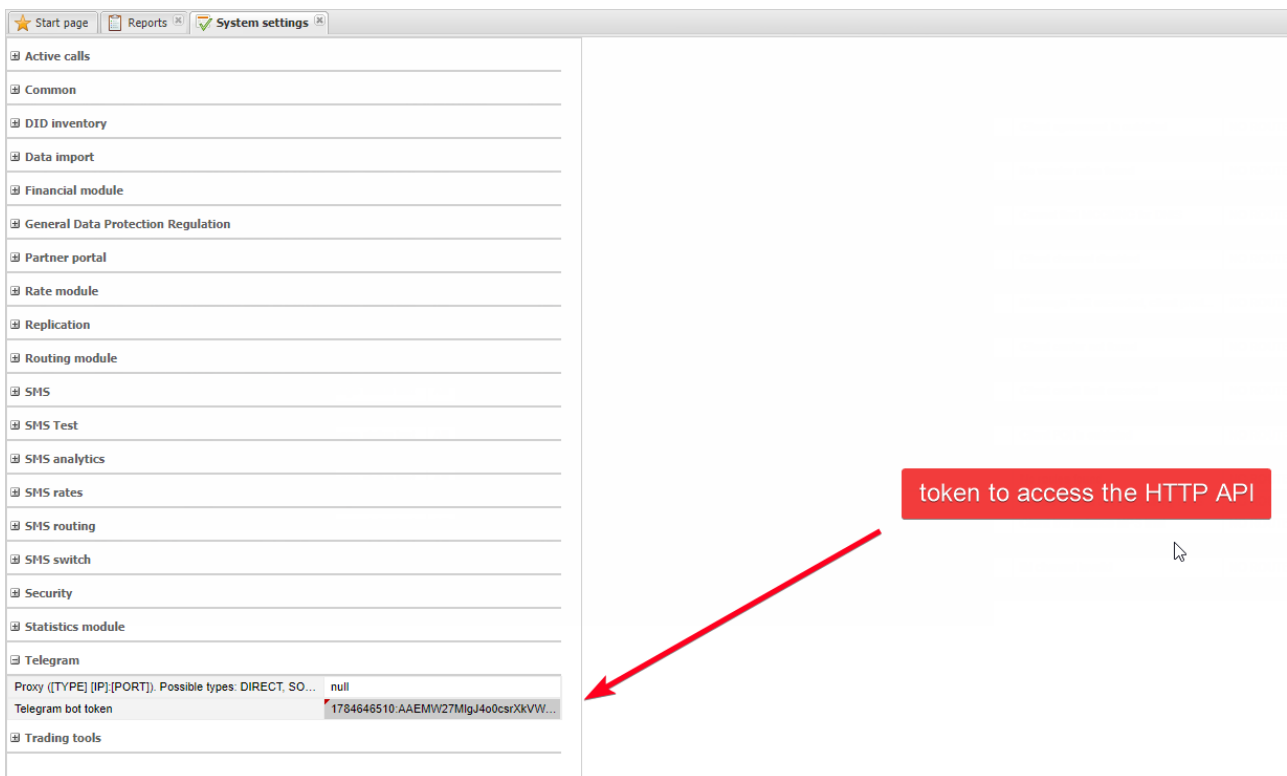


Register a bot (1)



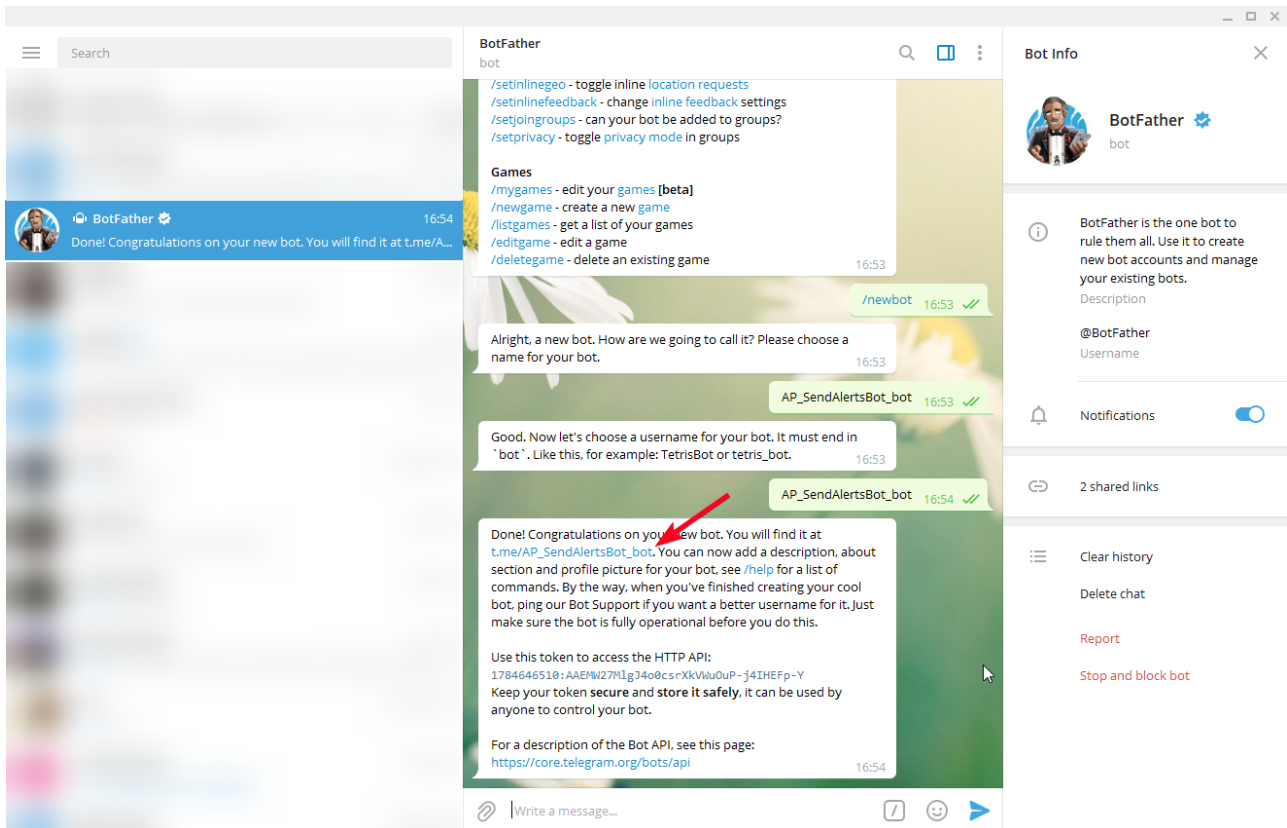
Register a bot (2)

2. Specify the Telegram bot token in the *Telegram bot token* System setting:

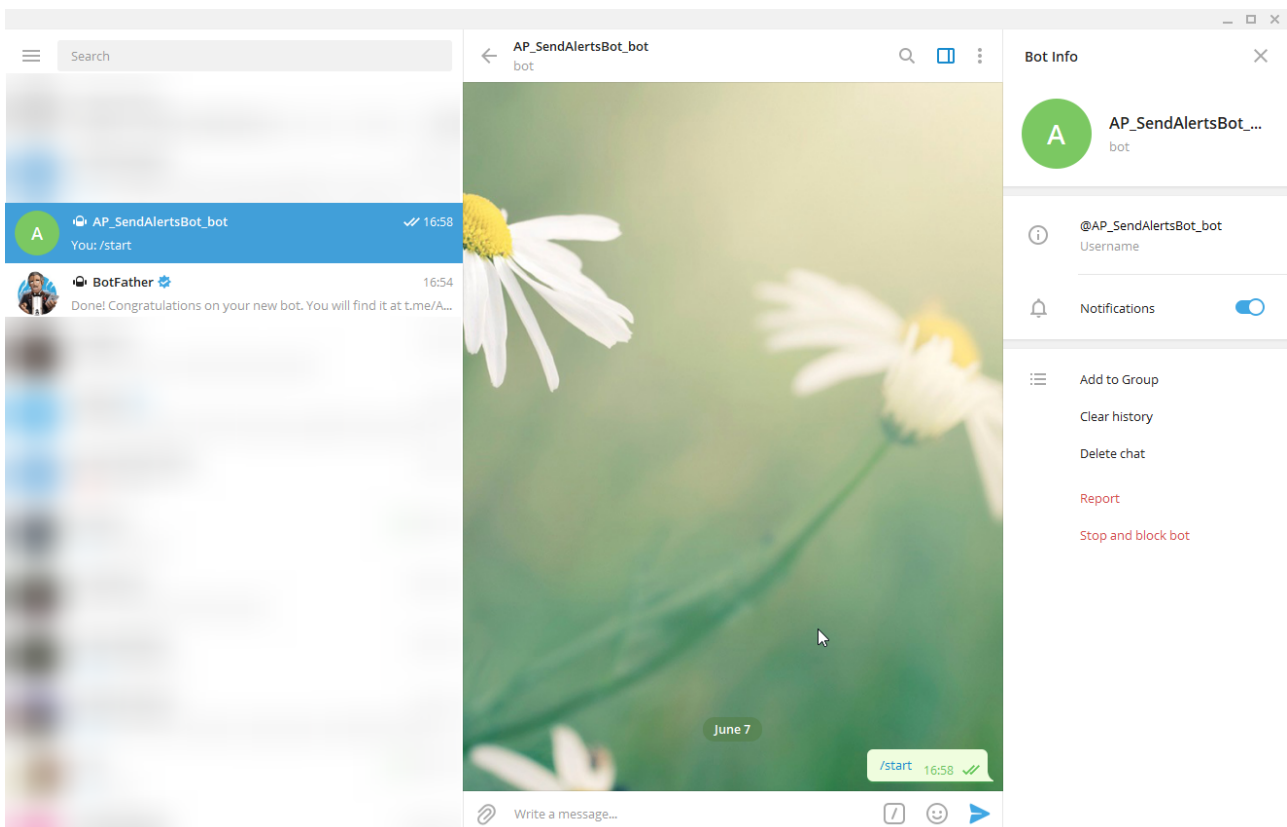


'Telegram bot token' System setting

3. Create a chat with the newly created bot:

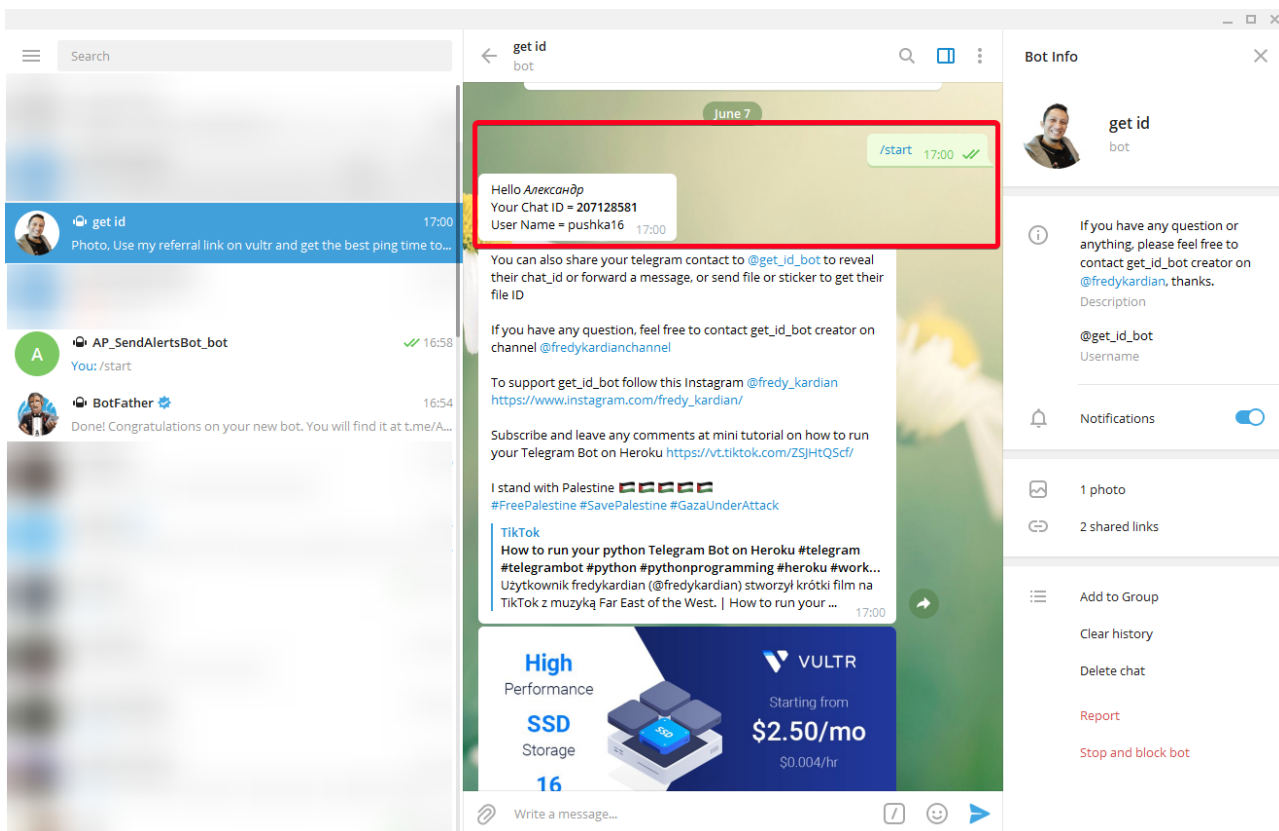


Create a chat with the bot (1)

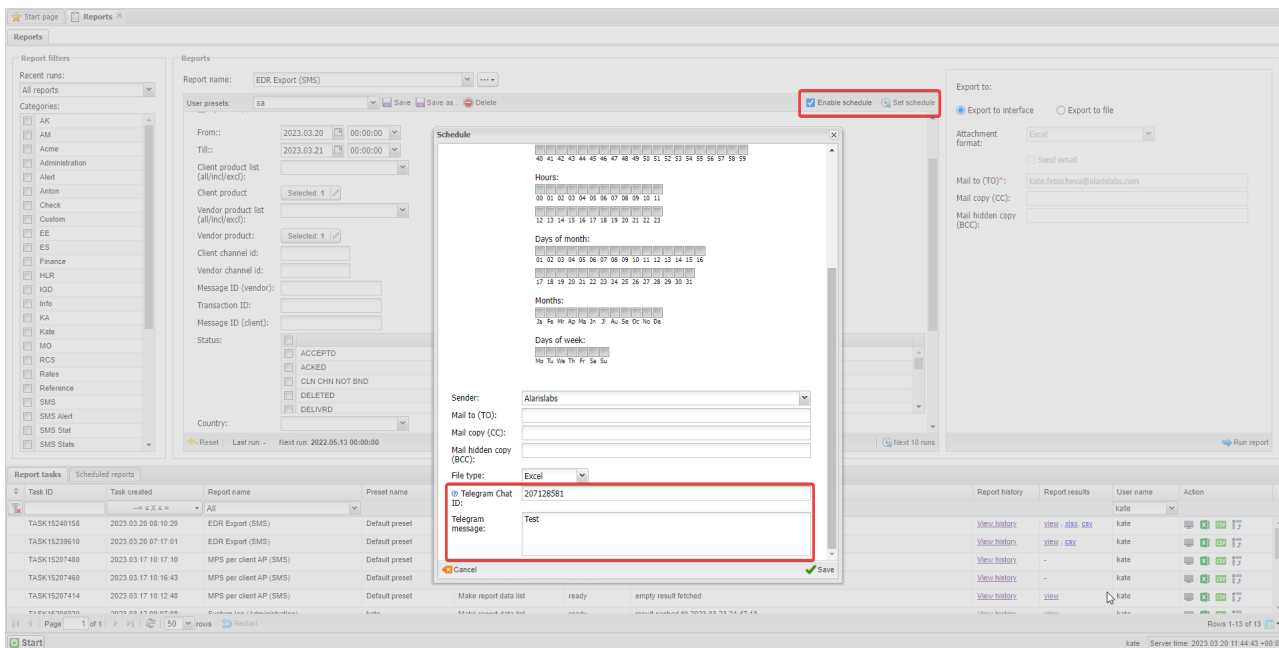


Create a chat with the bot (2)

4. Get chat ID and specify it in the *Telegram Chat ID* parameter:

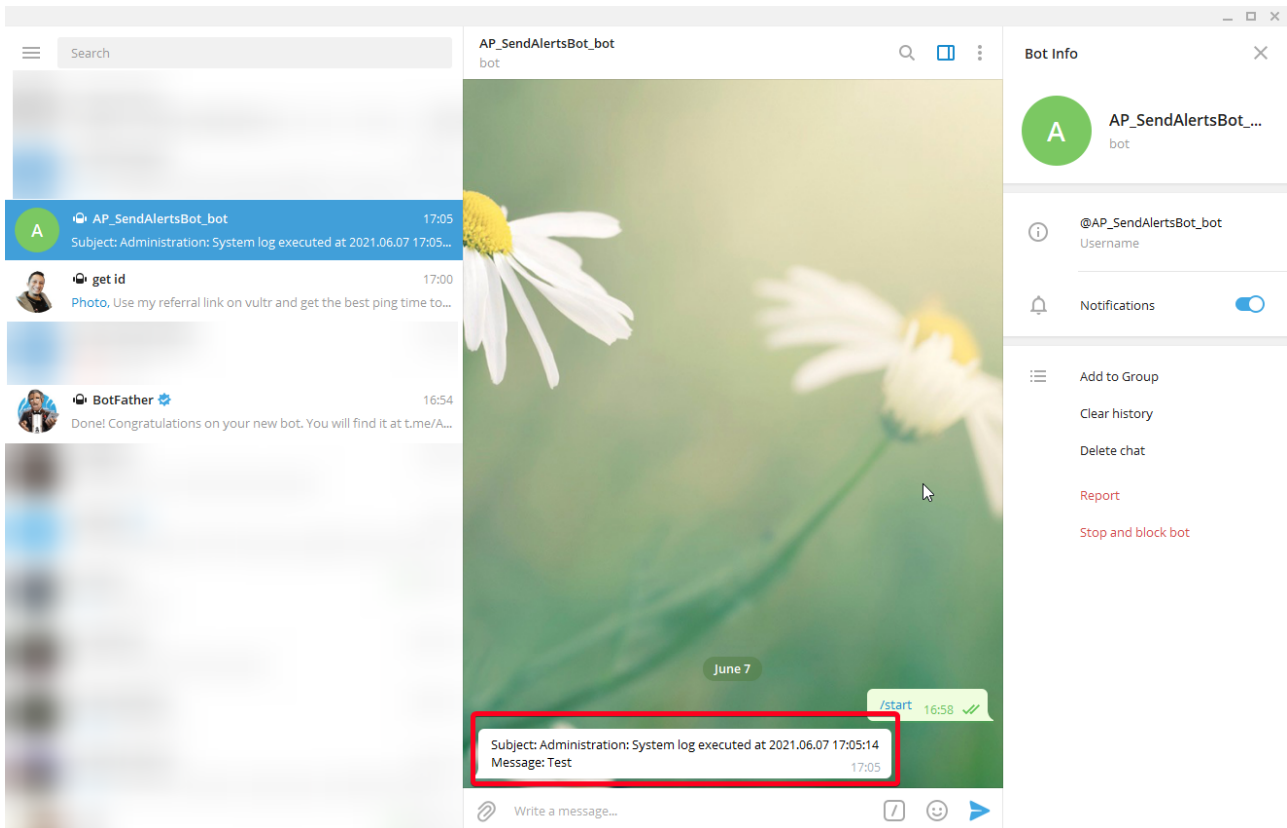


Get a chat ID



Specify the chat ID in the Telegram Chat ID parameter

5. The execution result will look as follows:



Execution result

10.3 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. To edit a report, select it in the *Report name* drop-down list, click  and

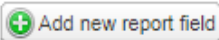
select  *Edit report*.

Editing a report

Complete the following fields:

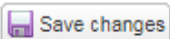
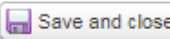
- *Template file*: an empty MS Excel file that contains the desired formatting for the new report (fonts, text alignment etc.). Click  *Browse* to upload a template.

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.

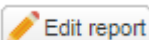
- *Available to*: select the appropriate permissions. Users that have those permissions can view the report. The permissions are set in [Administration\Users](#) .
- *Category*: the report category. It will be automatically added to the report name (in brackets)
- *Report name*
- *Description*: arbitrary 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*. 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

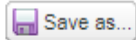
NOTE: Variables whose names start with x_ are replaced with plain text values; all other variables are interpreted as regular binds.

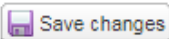
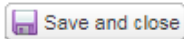
- *Param. size* (optional): size of the parameter (for example, number of symbols for a text field)
- *Default* (optional): default field value

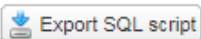
Click  *Save changes* to save the report. It will become available for selection in the *Reports* list in the *Reports* tab sheet. Click  *Save and close* to save the changes and close the tab sheet. Click  *Reset* to clear the form.

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*. 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...* 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* or  *Save and close* to save the changes and close the tab sheet.

The *Reports* tab sheet also contains the  *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* to remove a report from the System.

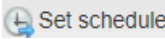
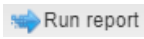
10.4 Schedule configuration example

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 *Rate view (Reference)*
- Select the *Dynamic parameters* checkbox
- In the *SQL code* field, enter the following code:

```
select
    p.product_id as "product_id|n",
    "*" as "dial_code",
    "p$mailto"
from bas_product_v p
left join
(
    select distinct
        a.acc_car_id,
        agr_default_rate_change_email as "p$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 = 1
and product_direction = 0
order by p.car_id
```

- Select the *Enable schedule* checkbox, click *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*  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 (*Rate view (Reference)*) 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)*.

10.5 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, 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 CDR threshold is reached (whichever happens first).

The cube updating parameters are configured in [Administration\System settings\Statistics module](#)  section illustrated below.

Stats calculation delay, minutes (day)	72
Stats calculation delay, minutes (hour)	29
Stats calculation delay, minutes (min)	6
Stats calculation delay, minutes (month)	144
Stats calculation delay, minutes (week)	144
Stats calculation threshold (CDR/day)	25900
Stats calculation threshold (CDR/hour)	1080
Stats calculation threshold (CDR/min)	90
Stats calculation threshold (CDR/month)	259400
Stats calculation threshold (CDR/week)	60500
Total extra field name (null - hide field)	null
Traffic details days count	62
Very short call length, seconds	5
Week cube partition count	26

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:* 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 (CDR/day)*
- *Stats calculation threshold:* the threshold (in CDR/min, CDR/hour, CDR/day, CDR/week, CDR/month). When reached, the statistics will be recalculated even if the increment is not yet complete

10.6 Auto rate import rule change log (Change logs)

The *Auto rate import rule change log (Administration)* report shows changes of auto import rules.

Reports

Report name: Auto rate import rule change log (Administration)

User presets: Default preset
Save
Save as...
Delete
Enable schedule
Set schedule

Preset updated by: **Support Alaris (Alaris)**
 Description: **Auto rate import rule change log.**
 The period of data availability is defined in Administration->System settings-> Common-> Log store period, days 30 days by default

☐ Dynamic parameters ⓘ

Rule ID:

From: 2023.04.03 00:00:00

To: 2023.04.04 09:11:20

Reset | Last run: 2023.03.24 14:36:44 | Next run: - | Next 10 runs

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									
Nº	Author	LOG_ID	LOG_TIME	LOG_ACTION	SESSION_ID	EXEC_ID	RULE_ID	CAR_ID	PRODUCT_ID
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

10.7 CDR export (Administration)

The *CDR export (Administration)* report shows CDR data similar to the [Voice\CDR management\CDR export tool](#) interface.

Reports

Report name: CDR Export (Voice) [v] [⋮]

User presets: Default preset [v] [Save] [Save as...] [Delete] [Enable schedule] [Set sch]

Preset updated by: **Support Alaris (Alaris)**

Description: **No description**

☐ Dynamic parameters ⓘ

Event time from: 2023.04.05 [📅] 14:00:00 [v]

Event time to: 2023.04.05 [📅] 15:00:00 [v]

A number: [text box]

B number: [text box]

⚠ Client filter: All [v]

Client product(s): Selected: All [✏]

⚠ Vendor filter: All [v]

Vendor product(s): Selected: All [✏]

Country: Selected: All [✏]

Destination(s): Selected: All [✏]

Client dial code (mask): [text box]

Vendor dial code (mask): [text box]

Min. volume: 0 [text box]

Max. volume: [text box]

DC code: [text box]

[Reset] | [Next 10]

CDR export (Administration) report parameters

Define the report parameters:

- *Event time from/to*: the period for which the data is gathered
- *A number, B number*
- *Client filter*: type of the *Client product(s)* list: *All*, *Exclusive* or *Inclusive*
- *Client product(s)*
- *Vendor filter*: similar to *Client filter*
- *Client product(s)*
- *Country*
- *Destinations(s)*
- *Client/Vendor dial code (mask)*
- *Min volume*: minimum call duration
- *Max volume*: maximum call duration
- *DC code*: dial code as per [Voice\Reference books\Dial codes](#) [370]

An example of the report is illustrated below.

Reports ★ Report "Voice: CDR Export (TASK15454158)"										
Country: not specified ; Client product(s): not specified ; Vendor product(s): not specified ; Event time from: 2023.03.23 00:00:00 ; Event time to: 2023.04.05 16:00:00 ; Max. volume: not specified ; Destination(s): not specified ; Client dial code (mask): not specified ; Vendor dial code (mask): not specified ; A number: not specified ; B number: not specified ; DC code: not specified										
No	Attempt number	B-number (e.164)	Call id	Conference call id	Connect time	CDR arrival date	Disconnect cod...	Dial code	Disconnect time	Vendor billing in...
Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	0	5551100000000...	70a7c396 f9b74...	811b9897 e198...	2023.03.23 07:...	2023.03.23 08:...	34	55511	2023.03.23 07:...	
2	1	6972000000000...	c72c019d 7a80...	6dfc182a 364e1...	2023.03.23 07:...	2023.03.23 08:...	47	7972	2023.03.23 07:...	10115

CDR export (Administration) report

10.8 CDR file status (Administration)

The *CDR file status (Administration)* report shows the queue of CDR files that were uploaded into the database or are in line to be uploaded.

Reports

Report name: CDR file status (Administration)

User presets: Default preset
 Save
Save as...
Delete
Enable schedule
Set schedule

Preset updated by: Support Alaris (Alaris)

Description: The report shows the queue of CDR files that were uploaded into the database or are in line to be uploaded.

Report fields:

IMP_File_Name: the name of the file after it was processed by the CDR processor

IMP_Status: the result of import

New: file not imported yet

Ok: file successfully imported

Error: file not imported for some reason

IMP_Create_Date: the date and time when the file was put into the directory to be uploaded to the database

IMP_Done_Date: the date and time the file was rejected or imported into the database successfully

IMP_Original_File_Name: the name of the CDR file as it came from the switch

IMP_Raw_Csv_Count, IMP_Filtered_Csv_Count, IMP_Final_Csv_Count, IMP_Parsed_Cnt, IMP_Inserted_Cnt, IMP_Is_Last_Cnt, IMP_With_Duration_Cnt: the number of CDRs of a particular type from the file

Reset
Next 10 runs

CDR file status (Administration) report settings

An example of the report is shown in the figure below.

Reports ★ Report "CDR file status (Administration)"							
No	IMP_FILE_NAME	IMP_STATUS	IMP_CREATE_...	IMP_DONE_DA...	IMP_ORIGINAL...	IMP_RAW_CS...	IMP_FILTERED...
Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	mvtspiro_av_20...	Ok	2019.02.25 11:0...	2019.02.25 11:0...	sip_cdr_fake_si...	967	967
2	mvtspiro_av_20...	Ok	2019.02.25 11:0...	2019.02.25 11:0...	sip_cdr_fake_si...	2630	2630
3	mvtspiro_av_20...	Error	2019.02.25 10:...	2019.02.25 15:...			
4	mvtspiro_av_20...	Error	2019.02.25 10:...	2019.02.25 15:...			

CDR file status (Administration) report

The report contains the following columns:

- *IMP_File_Name*: the name of the file after it was processed by the CDR processor
- *IMP_Status*: the result of import

- *New*: file not imported yet
- *Ok*: file successfully imported
- *Error*: file not imported for some reason
- *IMP_Create_Date*: the date and time when the file was put into the directory to be uploaded to the database
- *IMP_Done_Date*: the date and time the file was rejected or imported into the database successfully
- *IMP_Original_File_Name*: the name of the CDR file as it came from the switch
- *IMP_Raw_Csv_Count*, *IMP_Filtered_Csv_Count*, *IMP_Final_Csv_Count*, *IMP_Parsed_Cnt*, *IMP_Inserted_Cnt*, *IMP_Is_Last_Cnt*, *IMP_With_Duration_Cnt*: the number of CDRs of a particular type from the file
- *IMP_Period_Start*: date and time of the start of the earliest call in the CDR file
- *IMP_Period_End*: date and time of the end of the call that ended the latest in the CDR file
- *IMP_Spent_time*: time spent to import the CDR file into the database (in seconds)
- *IMP_Last_Error*: if the file could not be loaded, the field contains the last error of those that prevented the file from loading
- *IMP_Loading_Attempt*: if the System is unable to import the file it stores it and tries to import it again once every hour. The field contains the number of reupload attempts

The data storage period of the report is controlled by the parameter *Log store period, days* ([Administration\System settings\Common](#)^[46]).

10.9 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](#)^[46]). 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
- Past rate change log

- POI change log
- Product change log
- Rate change log (when Author=invoice_uidisp/unknown it normally means that the changes are made through auto rate import/rate compilation)
- Report change log (Administration): shows changes applied to reports
- System settings change log
- *User change log*
- *User roles change log*
- Voice limitation rule change log

An example of the *POI change log (Change logs)* is shown below.

Reports

★ Report "POI change log (Administration)"

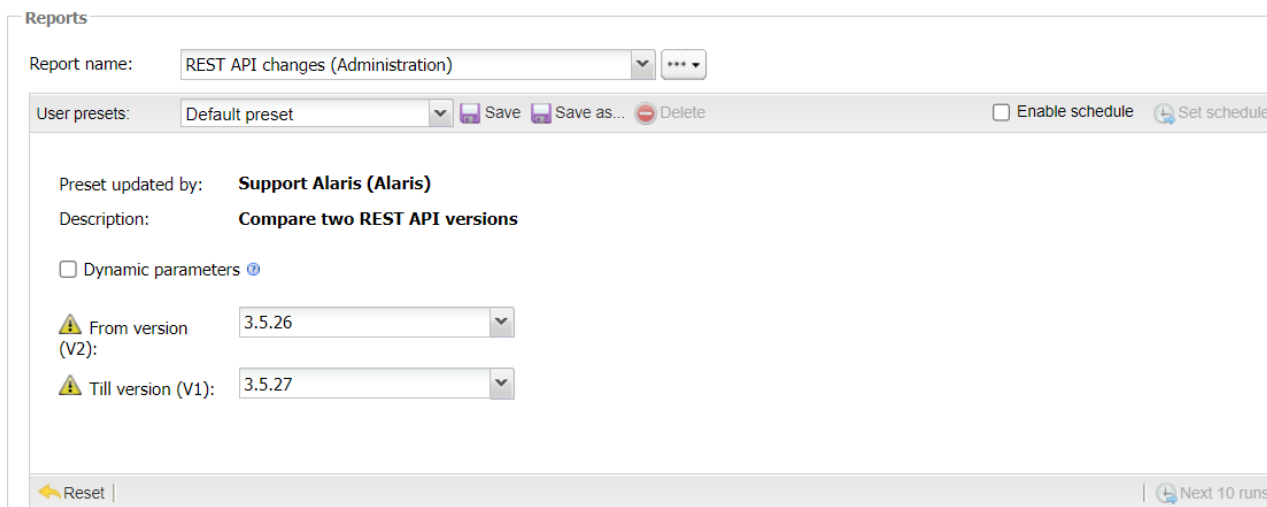
POI: not specified; Start log ID: not specified; End log ID: not specified

№	Author	Log ID	Action time	Action description	POI ID	Product ID
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	Alaris (10.146.2...	37531112	2016.11.23 09:5...	Updated (old value)	90019	99020
2	Alaris (10.146.2...	37531112	2016.11.23 09:5...	Updated (new value)	90019	99020
3	Alaris (10.146.2...	37531114	2016.11.23 09:5...	Updated (old value)	90039	99020
4	Alaris (10.146.2...	37531114	2016.11.23 09:5...	Updated (new value)	90039	99020
5	Alaris (10.146.2...	37531116	2016.11.23 09:5...	Updated (old value)	90009	99020
6	Alaris (10.146.2...	37531116	2016.11.23 09:5...	Updated (new value)	90009	99020
7	Alaris (10.146.2...	37531118	2016.11.23 09:5...	Updated (old value)	90029	99020
8	Alaris (10.146.2...	37531118	2016.11.23 09:5...	Updated (new value)	90029	99020
9	Alaris (10.146.2...	39226929	2016.12.09 15:1...	New record	90059	698

POI change log (Change logs)

10.10 REST API changes (Reference)

The *REST API changes (Reference)* report serves to track changes in API methods between the versions.



Reports

Report name: REST API changes (Administration) [v] [⋮]

User presets: Default preset [v] [Save] [Save as...] [Delete] [Enable schedule] [Set schedule]

Preset updated by: **Support Alaris (Alaris)**

Description: **Compare two REST API versions**

☐ Dynamic parameters ⓘ

⚠ From version (V2): 3.5.26 [v]

⚠ Till version (V1): 3.5.27 [v]

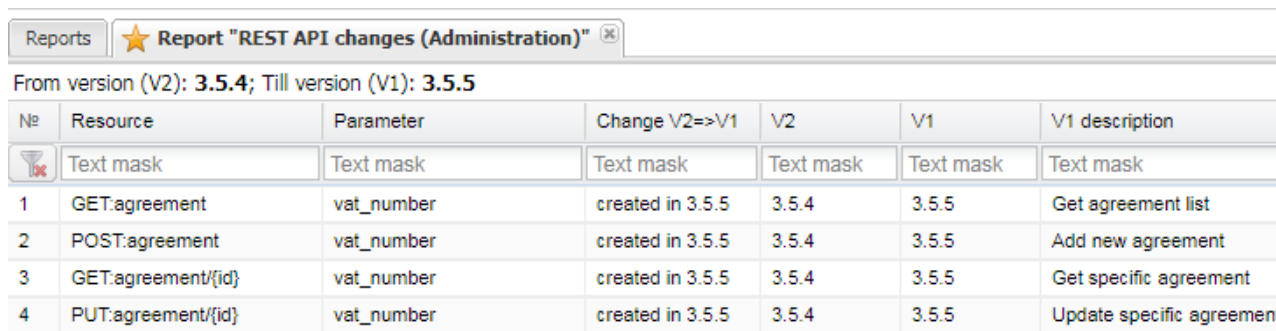
⏮ Reset | [Next 10 runs]

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)"** [x]

From version (V2): 3.5.4; Till version (V1): 3.5.5

Nº	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

10.11 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.

Reports

Report name: System log (Administration) [v] [...]

User presets: Default preset [v] [Save] [Save as...] [Delete] [Enable schedule] [Set schedule]

Preset updated by: **Support Alaris (Alaris)**

Description: **Shows all activities of the system as well as errors and operations.**
The period of data availability is defined in Administration->System settings-> Common-> Log store period, days 30 days by default

☐ Dynamic parameters ⓘ

Operation: *

Message: *

From: 2023.04.04 [8] 00:00:00 [v]

To: 2023.04.05 [8] 10:47:59 [v]

[Reset] [Next 10 runs]

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.

10.12 System tasks (Administration)

The *System tasks (Administration)* report contains details of scheduled tasks launched from all System interfaces.

Reports

Report name: System tasks (Administration) [v] [...]

User presets: Default preset [v] [Save] [Save as...] [Delete] [Enable schedule] [Set schedule]

Preset updated by: **Support Alaris (Alaris)**

Description: **No description**

☐ Dynamic parameters ⓘ

[Reset] [Next 10 runs]

System tasks (Administration) report settings

An example of the report is shown in the figure below.

Reports ★ Report "System tasks (Administration)"							
Nº	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 analysys	{"analysis":"9", "...
2	ratanatask5	Done	Ready. Time spent: +0 00:01:24	2015.06.02 09:...	Alaris	Rate analysys	{"analysis":"5", "...
3	ratanatask4	Done	Ready. Time spent: +0 00:00:56	2015.06.02 01:...	Alaris	Rate analysys	{"analysis":"4", "...
4	ratanatask3	Done	Ready. Time spent: +0 00:01:21	2015.03.27 15:...	Alaris	Rate analysys	{"analysis":"3", "...

System tasks (Administration) report

10.13 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 Wholesale Portal).

Reports

Report name: User logon history (Administration)

User presets: Default preset
Save Save as... Delete
☐ Enable schedule Set schedule

Preset updated by: **Support Alaris (Alaris)**
 Description: **User attempts to log in.**
The period of data availability is defined in Administration->System settings->Common-> Log store period, days
30 days by default

☐ Dynamic parameters

Reset
Next 10 runs

User logon history (Administration) report settings

An example of the report is shown in the figure below.

Reports ★ Report "User logon history (Administration)"								
Nº	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

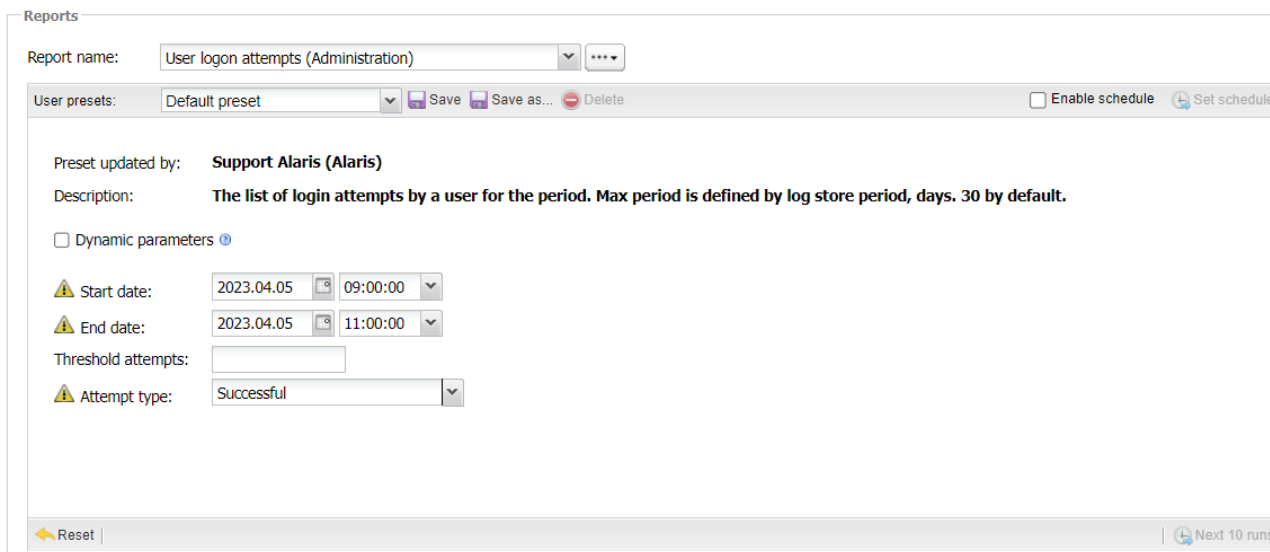
- *Action time*: login time
- *User*: user login
- *User IP address*
- *Session start time*: usually matches the *Action time* value
- *Session end time*: the time of logout. Please note that in case of a non-nominal logout from the System (for example, closing the browser), the session end time will 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).

10.14 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 Wholesale 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.

★ Start page Reports						
Reports ★ Report "Administration: User login attempts (TASK730626)"						
Threshold attempts: not specified ; End date: 2023.04.05 11:00:00 ; Attempt type: i ; Start date: 2023.04.05 09:00:00						
No	IP address	Successful	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 login 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*

10.15 Successful disconnect codes (Reference)

The *Successful disconnect codes (Reference)* report shows VoIP disconnect codes that are considered successful for NER calculation.

Reports

Report name:

Successful disconnect codes (Reference)

User presets:

Default preset

Save
 Save as...
 Delete

☐ Enable schedule
 Set schedule

Preset updated by: **Support Alaris (Alaris)**
 Description: **The list shows VoIP disconnect codes which are considered successfull for NER calculation. To adjust the list please create a TT to support.**
☐ Dynamic parameters ⓘ

Reset

Next 10 runs

Successful disconnect codes (Reference) report settings

An example of the report is shown in the figure below.

Reports			
★ Report "Successful disconnect codes (Reference)"			
Nº	Disconnect code	Is successful	Is accountable
	Text mask	Text mask	Text mask
1	1	Yes	Yes
2	2	Yes	Yes
3	3	Yes	Yes
4	6	Yes	Yes
5	7	Yes	Yes
6	10	Yes	Yes
7	16	Yes	Yes
8	17	Yes	Yes
9	18	Yes	Yes

Successful disconnect codes (Reference) report

The report contains the following fields:

- *Disconnect code*
- *Is successful*: shows whether the code is successful
- *Is accountable*: shows whether the code is used in NER calculation

10.16 Voice Volume/ASR/ACD monitoring (Alerts)

The *Voice Volume/ASR/ACD monitoring (Alerts)* report serves to monitor the dynamic of the traffic metrics.

Reports

Report name:

User presets:

☐ Enable schedule

Preset updated by: **Support Alaris (Alaris)**
 Description: **No description**
☐ Dynamic parameters

⚠ Previous period start:

2023.04.05 11:50:00

⚠ Previous period end:

2023.04.05 11:55:00

⚠ Current period start:

2023.04.05 11:55:00

⚠ Current period end:

2023.04.05 12:00:00

min. Δ Volume, %:

20

☒ negative
☐ positive

min. Δ ASR, %:

20

☒ negative
☐ positive

min. Δ ACD, %:

20

☒ negative
☐ positive

Voice Volume/ASR/ACD 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 ASR, % / ACD, %*: the minimum ASR / ACD delta (in percent) that will be included in the report
 - select *negative* to display the negative delta (decrease) or *positive* to show increase

An example of the report is shown below.

Report "Voice Volume/ASR/ACD monitoring (Alert)"												
Previous period start: 2017.09.18 05:35:00 ; Previous period end: 2017.09.18 05:40:00 ; Current period start: 2017.09.18 05:40:00 ; Current period end: 2017.09.18 05:45:00 ; min. Δ Volume, %: 0; negative; positive ; min. Δ ASR, %: 0; negative; positive ; min. Δ ACD, %: 0; negative; positive												
Nr	Client product	Vendor product	Destination	Vol. (prev)	Vol. (curr)	Δ Vol. %	ASR (prev), %	ASR (curr), %	Δ ASR, %	ACD (prev)	ACD (curr)	Δ ACD, %
Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	Melon Cauli - W...	C.O.W. Service...	Uzbekistan, Be...	0.00	20.02	451 373.68	50.00	23.08	-53.85	0.00	6.67	150 391.23
2	Melon Cauli - W...	Ill Advisors - Pr...	Ethiopia, proper...	0.02	2.82	15 612.27	50.00	12.50	-75.00	0.02	1.41	7 756.13
3	CallingElvis - Pr...	MoreThanWord...	South Africa, pr...	0.32	9.25	2 837.30	50.00	28.57	-42.86	0.32	4.63	1 368.65
4	CallingElvis - Pr...	Far Track - Pre...	Mauritius, mobile	0.80	6.99	769.23	75.00	20.00	-73.33	0.27	6.99	2 507.68
5	Melon Cauli - W...	MobyDIK Netw...	Finland, Premi...	0.12	2.45	1 972.05	100.00	25.00	-75.00	0.12	2.45	1 972.05
6	Melon Cauli - W...	MobyDIK Netw...	Guatemala, pro...	0.94	16.74	1 683.68	50.00	33.33	-33.33	0.94	8.37	791.84
7	MediocreWitch...	Beer Constructi...	Pakistan, Mobil...	0.43	7.00	1 519.30	14.29	12.50	-12.50	0.43	7.00	1 519.30
8	Unknown - CLI	Thai me Up - Pr...	Vietnam, VinaP...	1.15	8.18	611.51	22.22	16.67	-25.00	0.57	8.18	1 323.02
9	CallingElvis - Pr...	Diogenes Capa...	South Africa, m...	0.73	10.21	1 294.79	100.00	66.67	-33.33	0.73	5.10	597.39
10	Thai me Up - Pr...	CallingElvis - VIP	Nigeria, Mtn, m...	3.62	46.07	1 174.15	42.86	33.33	-22.22	1.21	5.76	377.81

Report example

10.17 Negative margin (Stats)

The *Negative margin (Stats)* report serves to provide information about the margin dropping below zero for the specified hour.

Reports

Report name:

User presets:

☐ Enable schedule

Preset updated by: **Support Alaris (Alaris)**

Description: **No description**

☐ Dynamic parameters

Hour:

Negative margin (Stats) report settings

Specify the hour for which the report must be generated.

An example of the report is shown in the figure below.

Reports ★ Report "Negative margin (Stats)"

Hour: 2018.03.01 00:00:00

Nº	Client	Client destination	Vendor	Vendor destinati...	Margin
	Text mask	Text mask	Text mask	Text mask	Text mask

Negative margin (Stats) report

The report contains the following columns:

- Client
- Client destination
- Vendor
- Vendor destination
- Margin

An empty table means that there were no negative margin instances in the selected hour.

10.18 Past session activity (Administration)

The *Past session activity (Administration)* report serves to show sessions that involved any activity in the System interfaces.

Reports

Report name:

User presets: Save Save as... Delete ☐ Enable schedule Set schedule

Preset updated by: -

Description: **No description**

☐ Dynamic parameters

From:

Reset | Next 10 runs

Past session activity (Administration) report settings

An example of the report is shown in the figure below.

★ Start page			
★ Reports			
★ Report "Administration: Past session activity (TASK19664102)"			
From: 2023.10.11 13:34:44			
No	Last active date	Idle period	Module
Text mask	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

10.19 Invoice generation delay Voice (Finance)

The *Invoice generation delay Voice (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](#)^[58]) has not passed yet

Reports

Report name: Invoice generation delay (Finance/Voice)

User presets: Default preset
 Save
Save as...
Delete
Enable schedule
Set schedule

Preset updated by: Support Alaris (Alaris)

Description: No description

☐ Dynamic parameters ⓘ

☐ Show only current pending charges

Reset
Next 10 runs

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.

Reports ★ Report "Invoice generation delay (Finance/Voice)" (X)							
Show only current pending charges							
Nº	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	67534	ALARIS TEST	USD	3	Client	2906.54594833...	2018.03.12 00:...
2	67492	Ahn Wee	USD	0	Client	21456.5470666...	2018.03.12 00:...
3	67504	Ahn Wee	USD	1	Vendor	10539.0321733...	2018.03.12 00:...
4	67539	Anita Job	USD	1	Vendor	22392.4582415	2018.03.12 00:...
5	67542	Barbie Dahl	USD	0	Client	1707.06462166...	2018.03.12 00:...
6	67514	Barbie Dahl	USD	1	Vendor	9874.196075	2018.03.12 00:...

Invoice generation delay report

10.20 Invoices (Finance)

The *Invoices (Finance)* report serves to generate a list of invoices that comply with the parameters illustrated in the figure below.

Description: **List of invoices**

☐ Partners of current financial manager

Contract company:

Billing period:

Financial manager:

Carrier:

Direction:

Invoice status:

Issue start date:

Issue end date:

Due start date:

Due end date:

Period start date:

Period end date:

☐ Show last billing period only

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 specified**; Due end date: **not specified**; Period start date: **not specified**; Period end date: **not specified**; Show last billing period only

Nº	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.

10.21 Change rate on active destination (Rates)

The *Change rate on active destination (Rates)* report provides a list of vendors and their dial codes that have rate changes made during a preset period (defined by the parameters *Log period from* and *Log period to*) for all destinations that are considered active (that is, having traffic during the period defined by the parameters *Stat period from* and *Stat period to*).

Reports

Report name: Change rate on active destination (Rates)

User presets: Default preset Save Save as... Delete Enable schedule Set schedule

Preset updated by: **Support Alaris (Alaris)**

Description: **No description**

☐ Dynamic parameters

Vendor: Selected: All

Destination:

Stat period from:

Stat period to:

Log period from:

Log period to:

Change period from:

Change period to:

Reset Next 10 runs

Change rate on active destination (Rates) report settings

Specify the following report parameters:

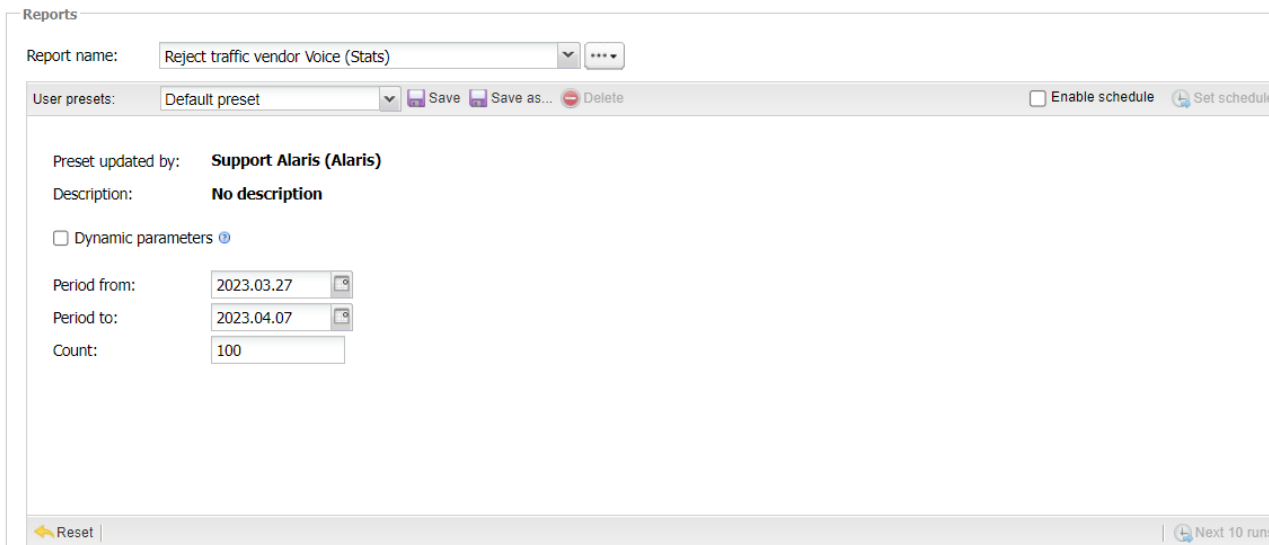
- *Vendor*
- *Destination*
- *Stat period from/to*: period during which the vendor must have traffic. Vendors having no traffic during the period are excluded from the report
- *Log period from/to*: period in which the System must look for rate changes
- *New rate start from/to*: period when the new rate becomes active

An example of the report is shown in the figure below.

- *Avg No of imports for 180d*: average daily number of import operations for the past 180 days
- *Volume for 30d*: traffic volume in minutes for the past 30 days
- *Gap between 30d and 180d*: the difference between the average daily number of import operations for the past 30 and 180 days

10.23 Reject traffic vendor Voice (Statistics)

The *Reject traffic vendor Voice (Statistics)* report shows vendors that reject more traffic than defined in the report parameters.

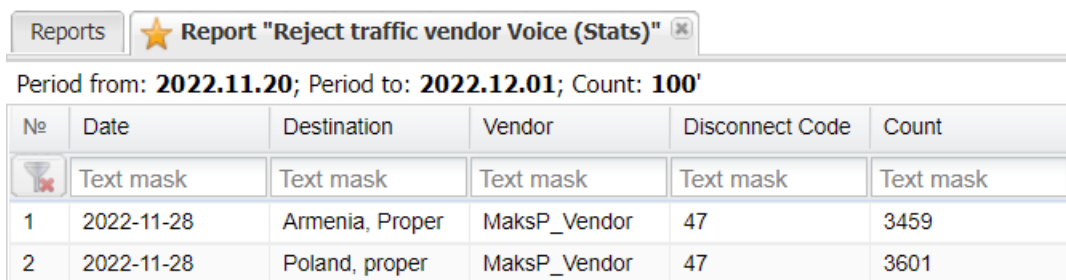


Reject traffic vendor Voice (Statistics) report settings

Configure the following parameters:

- *Period from/to*: report period
- *Count*: the number of connection attempts to a specific vendor destination. A vendor will be included in the report if this value is exceeded

An example of the report is shown in the figure below.



No	Date	Destination	Vendor	Disconnect Code	Count
1	2022-11-28	Armenia, Proper	MaksP_Vendor	47	3459
2	2022-11-28	Poland, proper	MaksP_Vendor	47	3601

Reject traffic vendor Voice (Statistics) report

10.24 User creation log (Change logs)

The *User creation log (Change logs)* report shows the history of user creation and the users that created them.

Reports

Report name: User creation log (Change logs) ...

User presets: Default preset Save Save as... Delete ☐ Enable schedule Set schedule

Preset updated by: -

Description: **No description**

☐ Dynamic parameters ⓘ

⚠ From: 2025.01.27 00:00:00

⚠ To: 2025.02.10 11:33:00

⚠ User Type: System owner user

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.

★ Start page Reports

Reports ★ Report "User creation log (TASK23405936)"

User Type: **2**; From: **2025.01.28 00:00:00**; To: **2025.02.10 11:57:00**

No	User ID	Creation date	Author	User Login	User Name	Carrier name	Full access
1	13512	2025.02.05 08:21:30	UNKNOWN (10...	sa+46@alarislabs.com	sa sa	sa_de	No

User creation log (Change logs) report

11 Voice

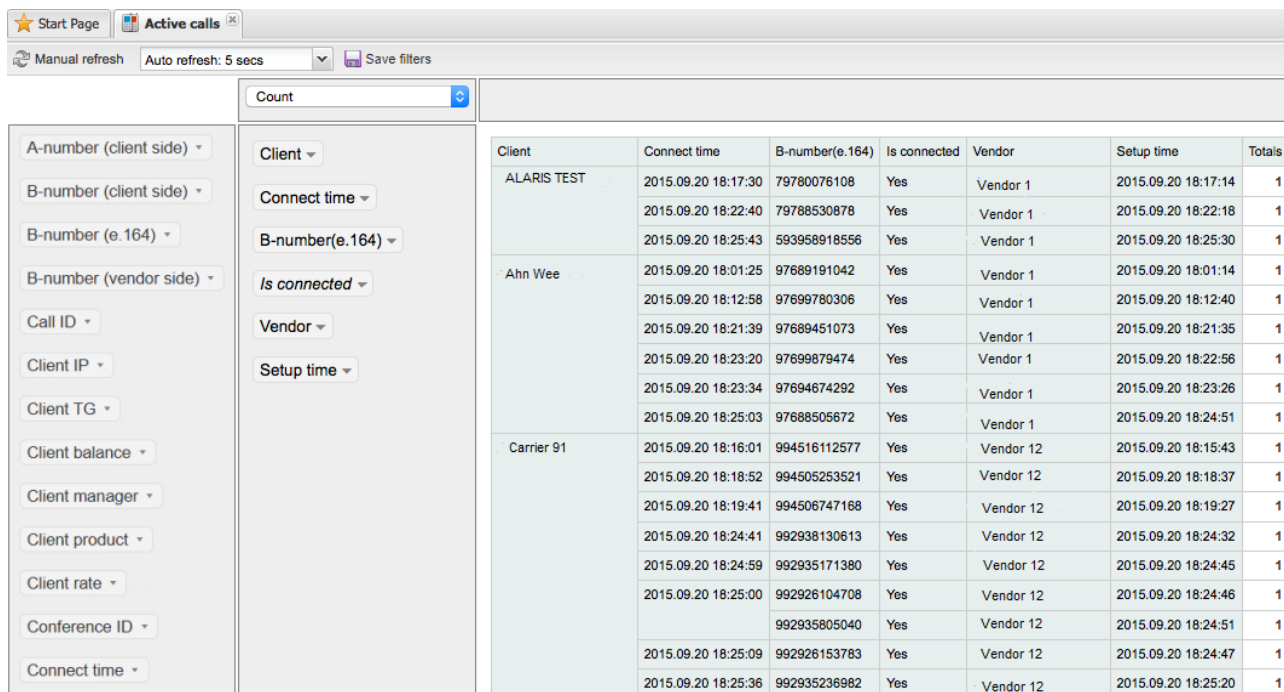
11.1 Active calls

The *Voice\Active calls* page allows real-time monitoring of current and newly connected calls.

NOTE: This feature works on networks managed by the MVTs Pro, Sonus, Sansay and OpenSIPS softswitches. Configurations must be applied in [Voice\Reference books\Soft switch editor](#)^[374].

The left section of the page contains a list of call parameters – *A-number*, *Client IP*, *Country* etc. 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 *Active calls* table in the right section of the page. Click the  **Save filters** button to save the current view (it remains the same after refresh and after re-entry to the

System). The  control on the left of the page toggles the list of parameters.



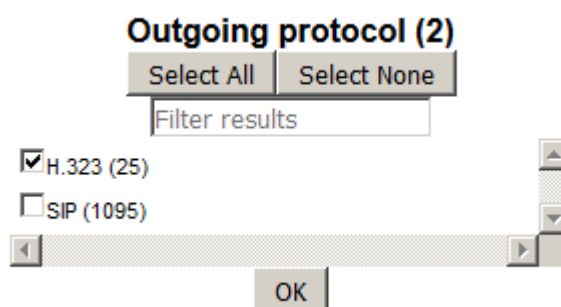
The screenshot shows the 'Active calls' page with a sidebar on the left containing a list of parameters to be added to the table. The main table displays call data with columns: Client, Connect time, B-number(e.164), Is connected, Vendor, Setup time, and Totals. The table is filtered by 'Client' and 'Connect time'.

Client	Connect time	B-number(e.164)	Is connected	Vendor	Setup time	Totals
ALARIS TEST	2015.09.20 18:17:30	79780076108	Yes	Vendor 1	2015.09.20 18:17:14	1
	2015.09.20 18:22:40	79788530878	Yes	Vendor 1	2015.09.20 18:22:18	1
	2015.09.20 18:25:43	593958918556	Yes	Vendor 1	2015.09.20 18:25:30	1
Ahn Wee	2015.09.20 18:01:25	97689191042	Yes	Vendor 1	2015.09.20 18:01:14	1
	2015.09.20 18:12:58	97699780306	Yes	Vendor 1	2015.09.20 18:12:40	1
	2015.09.20 18:21:39	97689451073	Yes	Vendor 1	2015.09.20 18:21:35	1
	2015.09.20 18:23:20	97699879474	Yes	Vendor 1	2015.09.20 18:22:56	1
	2015.09.20 18:23:34	97694674292	Yes	Vendor 1	2015.09.20 18:23:26	1
	2015.09.20 18:25:03	97688505672	Yes	Vendor 1	2015.09.20 18:24:51	1
	2015.09.20 18:25:03	97688505672	Yes	Vendor 1	2015.09.20 18:24:51	1
Carrier 91	2015.09.20 18:16:01	994516112577	Yes	Vendor 12	2015.09.20 18:15:43	1
	2015.09.20 18:18:52	994505253521	Yes	Vendor 12	2015.09.20 18:18:37	1
	2015.09.20 18:19:41	994506747168	Yes	Vendor 12	2015.09.20 18:19:27	1
	2015.09.20 18:24:41	992938130613	Yes	Vendor 12	2015.09.20 18:24:32	1
	2015.09.20 18:24:59	992935171380	Yes	Vendor 12	2015.09.20 18:24:45	1
	2015.09.20 18:25:00	992926104708	Yes	Vendor 12	2015.09.20 18:24:46	1
		992935805040	Yes	Vendor 12	2015.09.20 18:24:51	1
	2015.09.20 18:25:09	992926153783	Yes	Vendor 12	2015.09.20 18:24:47	1
	2015.09.20 18:25:36	992935236982	Yes	Vendor 12	2015.09.20 18:25:20	1

Active calls page

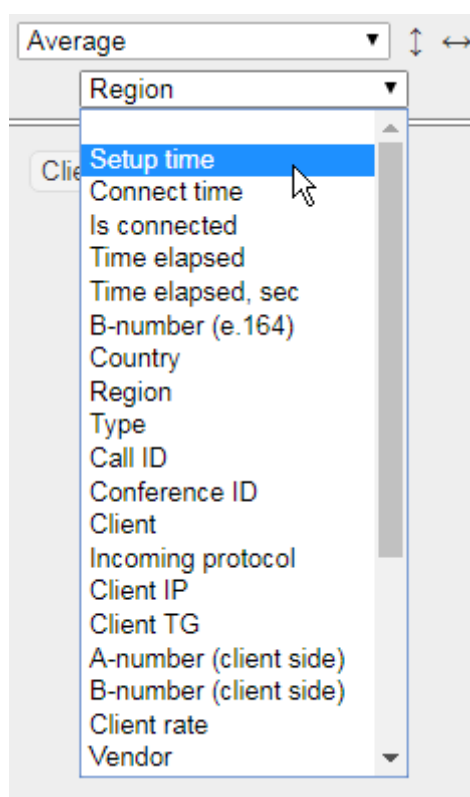
NOTE: Negative margin values are highlighted in red.

You can also select specific values to display within each call parameter. Click on the arrow  next to the parameter name to open the selection dialog as shown in the figure below, and select values to be displayed in the table.



Selection dialog

To refresh the table, click  **Manual refresh** in the top left corner of the page or select the auto refresh period in the drop-down list.



Drop-down lists (Aspects / Call parameters)

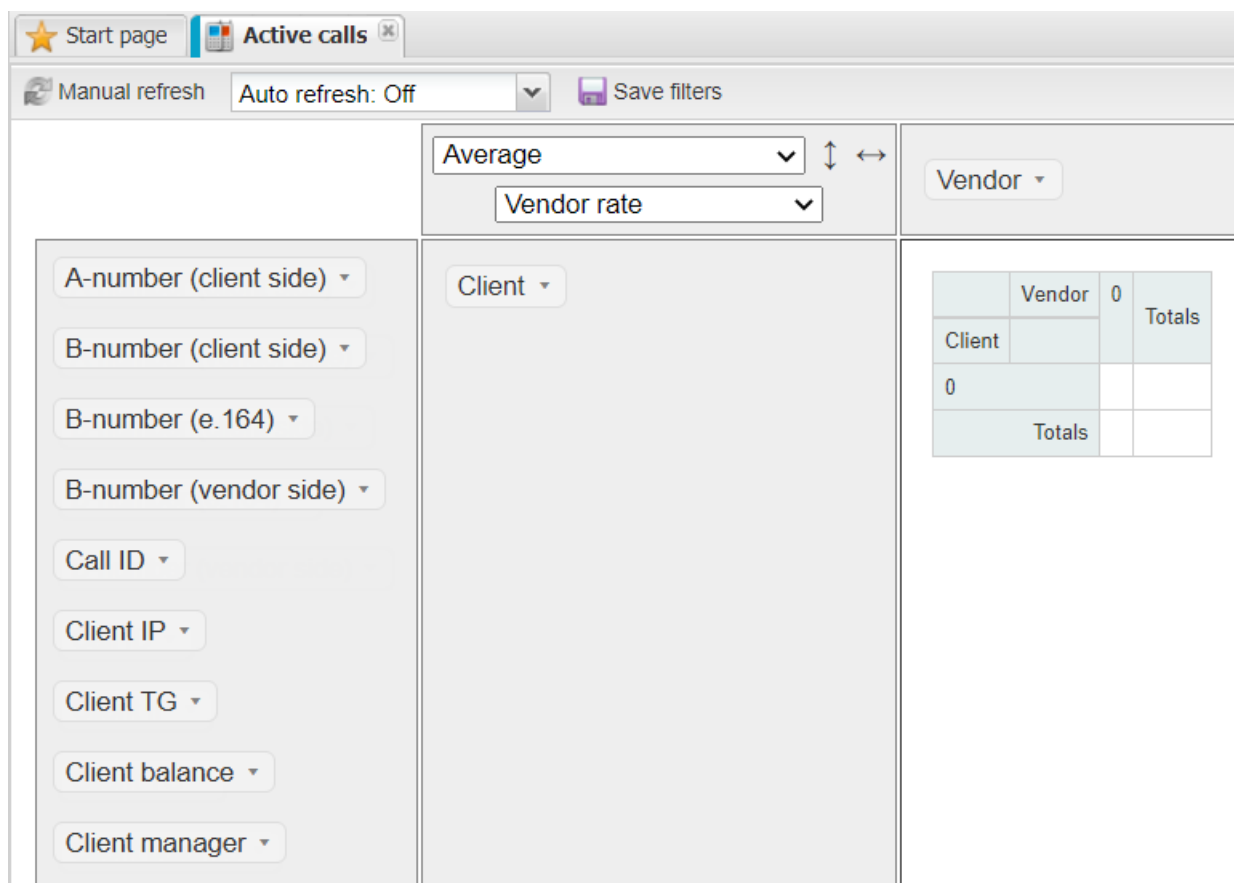
The drop-down lists at the top of the right column allow displaying various aspects of selected call parameters. The data is displayed in the *Totals* column of the *Active calls* table.

The following table shows some examples of how drop-down lists can be used. Suppose the parameter selected in the right table is *Client*.

Value in the upper list	Value in the lower list	Value in the <i>Totals</i> column
Count	N/A	Number of calls

Value in the upper list	Value in the lower list	Value in the <i>Totals</i> column
Count unique values	Call parameters	Number of unique records (for example, select <i>Country</i> to see the number of unique countries for each client)
List unique values	Call parameters	All unique records listed (for example, select <i>Country</i> to see a list of unique countries for each client)
Sum	Time elapsed, sec.	Total call duration for each client
Average	Call parameter, for example, vendor rate	The average of the selected call parameter for each client (for example, average vendor rate)

The figure below illustrates the average vendor rate breakdown by client.



The screenshot shows the 'Active calls' interface. At the top, there are tabs for 'Start page' and 'Active calls'. Below the tabs are controls for 'Manual refresh', 'Auto refresh: Off', and 'Save filters'. The main area is divided into three panels:

- Left Panel (Filters):** Contains dropdown menus for 'A-number (client side)', 'B-number (client side)', 'B-number (e.164)', 'B-number (vendor side)', 'Call ID', 'Client IP', 'Client TG', 'Client balance', and 'Client manager'.
- Middle Panel:** Contains a dropdown for 'Average' and a dropdown for 'Vendor rate'. Below these is a 'Client' dropdown.
- Right Panel (Summary Table):** Contains a table with columns 'Vendor' and 'Totals'. The table shows a single row for '0' and a 'Totals' row.

Active calls (Client/Average vendor rate)

The vertical arrow sorts by *Total*, the horizontal arrow sorts by *Total* for the vendor. If several columns are added to the horizontal panel, the data is sorted by the first column (by country as illustrated in the figure below).

Start page

Active calls

Manual refresh

Auto refresh: Off

Save filters

Count

Country

Vendor balance

A-number (client side)

B-number (client side)

B-number (e.164)

B-number (vendor side)

Call ID

Client IP

Client TG

Client balance

Client manager

Country	Qatar	Australia	Hungary	Ukraine	Turkey	Nepal	India	Portugal	Kenya	Malawi	Lebanon	Germany	China	Netherlands	Ukraine	Sudan	Ethiopia	Russia	Myanmar
Vendor balance	8975.41 USD	8975.41 USD	-5409.94 USD	2395.9 USD	-4473.8 USD	-1485.69 USD	9820.76 USD	5674.22 EUR	-30985.11 USD	-30985.11 USD	2740.35 USD	5674.22 EUR	3592.72 USD	-5409.94 USD	4019.54 EUR	-1889.98 USD	-667109.95 USD	-43.59 USD	-20449.94 USD
Totals	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Data sorting

11.2 Analytics

The *Voice\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 CDR 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.

NOTE: Please note that the calling country is not defined for alphanumeric numbers and numbers with the leading plus "+" symbol. To display more accurate information and define a country for a more detailed code, set 2 in the System parameter *Use dial code for A-number (1 - country code, 2 - most detailed code)*.

Additionally, the following categories may appear:

- *Unknown partner:* the partner POI cannot be defined
- *Deleted partner:* the partner POI was removed
- *Restricted partner:* records that hide the partner name and incoming and outgoing traffic if the user has not been granted permissions to view data of other contract companies or accounts (configured for a user on the [Administration\Users](#)^[132] tab). Financial data (for example, Margin, HLR cost or rates) are concealed for *Restricted partner* records
- *No routes:* no vendor leg; the client attempt was rejected

Find out more about the feature in the [Alaris YouTube video](#)

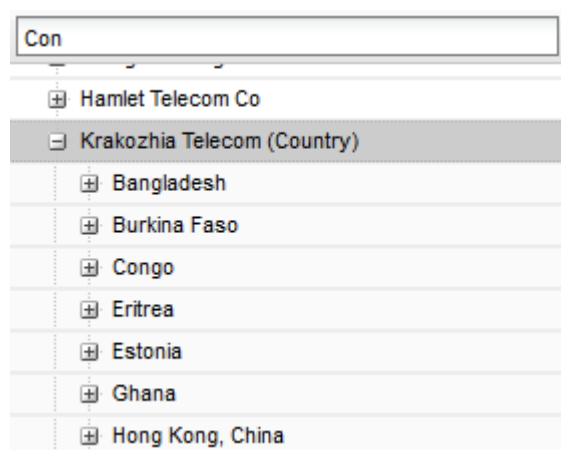
NOTE: The *Switch* layer illustrated in the figure above shows the employed switch if the field *Switch* of the [Carriers\Voice POI](#)^[163] section has the value *Any switch*. Otherwise it only will show the switch specified in the field; all other data are presented as 'undefined'. Find out more in the [Alaris YouTube video](#).

NOTE: The *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*.

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](#)^[137].

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.

★ Start page Analytics System timezone Export from grid CDR export by row in top grid						
	Attempts	Calls	Volume, min(s)	ASR, %	NER, %	ACD
Total (Client)	269 984	126 740	446 991.16	46.94	100.00	3.53
CallingElvis	69 167	32 305	114 686.62	46.71	100.00	3.55
Melon Cauli	56 174	26 068	92 749.29	46.41	100.00	3.56
Thai me Up	27 615	12 763	46 321.54	46.22	100.00	3.63
Pane In The Glass	8 875	4 023	14 644.31	45.33	100.00	3.64
Wreckless Drivers	8 162	3 899	13 735.11	47.77	100.00	3.52
The Human Bean	7 499	3 572	12 212.62	47.63	100.00	3.42
Sofa So Good	6 150	2 927	10 022.57	47.59	100.00	3.42
NeverPay LLC	5 471	2 658	9 202.20	48.58	100.00	3.46
MinnieNet	4 087	1 976	7 074.15	48.35	100.00	3.58
Ill Advisors	3 975	1 950	6 638.87	49.06	100.00	3.40
Unknown	4 113	1 831	6 474.29	44.52	100.00	3.54
Beer Construction	4 137	1 926	6 304.85	46.56	100.00	3.27

Analytics (top table)

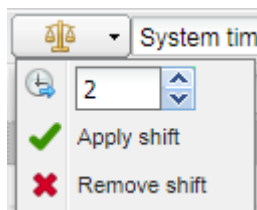
The top table contains information on the following parameters:

- *Attempts*: total number of attempted calls. For the client side the CDRs with *is_last=1* are taken into calculation
- *Calls*: total number of calls
- *Volume, min(s)*: total call duration
- *ASR, %*: successful to total attempts ratio
- *NER, %*: average network efficiency ratio

NOTE: The System can ignore certain error codes when calculating network efficiency ratio (NER). To enable the feature, provide a list of error codes that must be ignored (or those that must be considered successful) to the Alaris technical support team and communicate the code BZ27049. See also the [Alaris YouTube video](#).

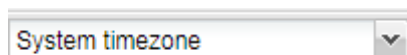
- *ACD*: average call duration
- *Min PDD*: minimum post dialing delay (PDD)
- *Aver. PDD*: average PDD
- *Max PDD*: maximum PDD

- *Short calls, %*: share of calls with a duration below the *Short call length* parameter configured at [System settings\Statistics module](#)^[77]
 - *Very short calls, %*: share of calls with a duration below the *Very short call length* parameter configured at [System settings\Statistics module](#)^[77]
 - *Margin*: total margin
 - *Revenue*: total charge for the traffic associated with the selected item chain that the System owner can bill to the clients
 - *Vendor cost*: total cost of traffic associated with the selected item chain that the *System owner* must pay to the vendors
 - *Client volume, min(s)*: total volume of traffic on the client side rounded according to the respective billing increment(s)
 - *Vendor volume, min(s)*: total volume of traffic on the vendor side rounded according to the respective billing increment(s)
 - *Aver. rate (C)*: weighted average rate on the client side (traffic shares through dial codes with different prices are taken into account)
 - *Aver. rate (V)*: weighted average rate on the vendor side
 - *Margin, %*: ratio of margin divided by *Revenue* if it is not negative, otherwise - by the absolute value of *Vendor cost*
 - *Relative markup*: markup calculated by the formula $(\text{Margin} / \text{Revenue} * 100)$. Find out more in the [Alaris YouTube video](#)
 - *Margin/min*: margin per minute
 - *Client aver. minute cost*: client average cost per minute
 - *Relative margin, %*: margin calculated as $(\text{Cavr} - \text{Vavr}) / \text{Cavr}$, where *Cavr* is client average rate and *Vavr* is vendor average rate.
 - *Client conn. fee*: client connection fee
 - *Rate (C)*: client rates that were in effect for selected destination(s) during the selected period. If the number of different client rates involved is three or less - all of them are displayed, otherwise the System shows the “...” symbols
 - *Rate (V)*: vendor rates that were in effect for selected destination(s) during the selected period. If the number of different vendor rates involved is three or less - all of them are displayed, otherwise the System shows the “...” symbols
-
- **NOTE**: Rates for year cubes are not calculated, in order to increase Analytics performance.
-
- *Raw ACD (C), Raw ACD (V)*: average raw call duration for client and vendor legs in case the CDR processor has the respective columns defined



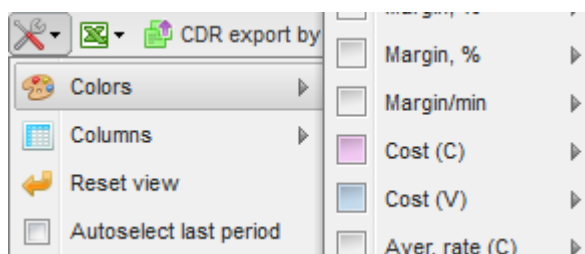
Offsets

- *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.



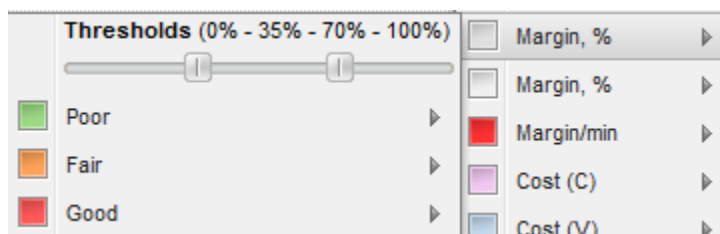
System timezone

- *View options*  contains the following parameters:



View options

- *Colors*: selection of colors for performance indicators. For the indicators *ASR*, *NER*, *Short calls*, *Very short calls*, *Margin, %* the control allows setting threshold values and assigning different colors to them:

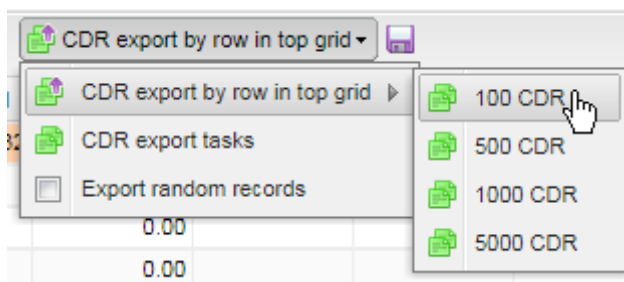


Assigning thresholds and colors

- *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

-  **Export from grid** *Export from grid* allows data export from the upper table to an XLS file
- The button  **CDR export by row in top grid** *CDR export by row in top grid* serves for CDR export. The *CDR export by row in top grid* allows exporting a specific number (100, 500, 1000 or 5000) of CDRs from the top table. The *CDR 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 CDR file contain only the most relevant parameters. The top row of the file contains information about the data period and the timezone. For export of all parameters refer to [Voice\CDR management\CDR export tool](#)^[276]. If the exported layers do not contain the vendor or its layers, the *CDR is last = 1* filter is applied. It means that only the last call attempt is exported, and all intermediate call attempts are ignored. Find out more about the feature in the [Alaris YouTube video](#).



CDR export button

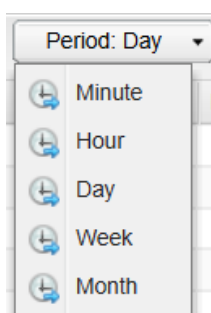
The bottom table contains the following controls:

- 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	51	100.00	92.16	92
From*:	2022.09.15		00:00:00	▼
To*:	2023.06.15		00:00:00	▼
Cancel Ok				

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 *VoiceAnalytics* 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](#) ¹³² (*Analytics* section).

11.3 CDR management

11.3.1 CDR export tool

The *CDR Export* tool allows exporting CDR 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

Period: from 2019.08.22 08:00:00 to 2019.08.22 09:00:00

Timezone: GMT-3 (GMT-3) ☒ system timezone
☐ convert timestamps
☐ show delayed CDRs only. Normal delay: 01:00:00

Volume: min. max seconds
☐ show CDRs with duration only

Client parameters

Products: Selected: All
IP addresses: Selected: All
Dial codes: Selected: All
Tech prefix:
Switch: All
Trunk group:

Vendor parameters

Products: Selected: All
IP addresses: Selected: All
Dial codes: Selected: All
Tech prefix:
Switch: All
Trunk group:

Important:

CDR records list for the export will be prepared based on all the conditions stipulated in the task parameters joined together (logical AND).

Call leg: All
CDR fields to export: Selected: 9
Dial code mask:
A-number mask:
Disconnect codes:
Destination: A: Selected: All B: Selected: All
Hunt attempt: min. max
Task start time*: 2019.08.22 09:20:25
Export target: ☐ Show here ☐ Export to file ☒ Send CDRs by email
Export limit: 100
File format: Excel

In case Excel format is selected and the result contains more than 65k records, exported file can be extremely big and contain truncated output.

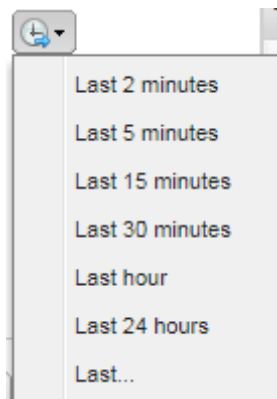
Send CDRs to*: poco@dinero.it
CC exported file to: fin@dinero.it
Comments:

Presets: Load Save Delete Clear filter Export

Export settings

The *Export settings* tab allows configuration of the following export parameters:

- Period*: timeframe of the CDR export based on the billing option selected in the System (either connect or disconnect time, configured in [Administration\System settings\Statistics module](#), the parameter *Charge option*)



"Show last" option

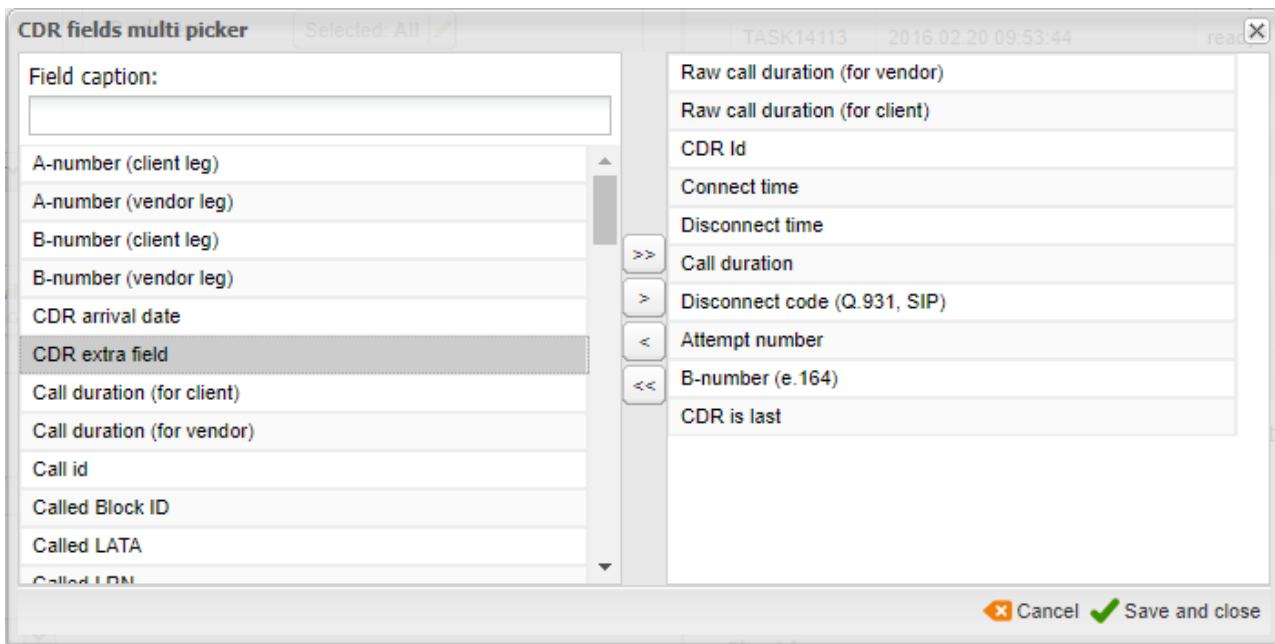
- *Show last*  button sets the export period to the last 2, 5, 15, 30 minutes, last hour, last 24 hours. The value *Last...* serves to select a custom period (minutes, hours and days) for CDR export. When selected, the *Last* parameter appears that allows selecting a customized period.

Period: from 2024.12.12  10:24:09  to 2024.12.12  10:54:09  

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 in the columns *Setup/Connect/Disconnect time* to the selected timezone (available if the *system timezone* checkbox is deselected). This is helpful if you need to provide your partners with CDRs in their specific timezone.
- *Show delayed CDRs only* checkbox allows exporting only CDRs that arrived in the database later than expected. It works together with the *Normal delay* parameter that defines the delay threshold. A CDR is considered delayed if it arrived to the System later than X (where X=Normal delay) minutes from the CDR time (connect or disconnect – depending on the billing option selected in the System)
- *Volume*: allows exporting CDRs based on call duration by setting the minimum and maximum values (in seconds)
- *Show CDRs with duration only*: select this checkbox to display only CDRs with duration
- The *Client/Vendor parameters* section allows sorting out CDRs for export – for example, all calls terminated by one of the vendors or calls only from one client's IP address to a certain destination
- *Call leg*: select the call leg from the drop-down list (*All*, *Client*, *Vendor*)

NOTE: If the *Client* leg is selected, the output contains the records with the parameter *CDR is last* = 1 only, meaning that only the last call attempt to the vendor is exported.



CDR field multi picker

- *CDR fields to export:* select from the CDR fields (including specific North American fields) available in the System. Most field names are self explanatory. Below are a few that may need explanation:
 - *Calling destination:* destination for the A-number
 - *Client ANI dial code:* dial code for the A-number
 - *Incoming switch host:* the identifier of the softswitch from which CDR files were obtained. To change to another static value, contact the Alaris technical support team and communicate the BZ36084 code
 - *Outgoing switch host:* the identifier of the outgoing softswitch. To obtain it from CDR files, contact the Alaris technical support team and communicate the BZ36084 code
 - *Setup time:* call setup time
 - *CDR is last:* flag that indicates the last attempt to send a call. For example, when the System tries to send the call to several vendors, the last vendor will receive the CDR is last = 1, and all the others receive CDR is last = 0
 - *Last rebill date:* the date of the latest call rating procedure. If the rates for the call were changed and its cost was recalculated, the date will change to the recalculation date
 - *Raw call duration (for client/vendor):* call duration as registered in the switch CDR (may differ based on the switch model)
 - *Source file index:* hash of the file name from which the CDR was downloaded. The index is generated by the Oracle function ora_hash
- *Dial code mask:* set a mask to export only CDRs for calls with certain dial codes. Use the “*” sign after the generic short dial code, so that all longer dial codes with any number of digits were included
- *A-number mask:* specify a mask to export only CDRs for calls with specific A-numbers.

NOTE: Multiple number search is supported in the *Dial code mask* and *A-number mask* fields. For example: 1210123%,1220011111. The fields are limited to 4000 bytes; attempting to enter more characters will result in an error.

- *Disconnect codes:* enumerate comma-separated disconnect codes to export only CDRs for calls with these codes
- *Destination:* select A- and B-number destinations
- *Hunt attempt (min, max):* set minimum and maximum number of vendor's call attempts
- *Task start time:* export task start time
- *Export target:*
 - *Show here:* export results are displayed in the web interface. Total number of displayed CDRs 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. The file format is defined by the System parameter *Default spreadsheet extension* (supported values: xls, xlsx). For xls files maximum 65000 rows can be exported, for xlsx files the limitation is 1048576 rows
 - *Send CDRs by e-mail:* export results are sent as an attachment by the email indicated in the *Send CDRs to* field (several comma-separated addresses may be indicated)
- *Export limit:* the maximum number of exported CDRs
- *File format* (active when *Export to file* or *Send CDRs by Email* is selected): *CSV* or *Excel*
- *Transaction ID:* message transaction ID (multiple values must be separated by commas)
- *Send CDRs to:* email to send the exported CDRs
- *CC exported file to* (active when *Export target* is *Send CDRs 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

NOTE: The *Period* field data is not saved to presets.

When through with defining the parameters, click  **Export** to start the task or  **Clear filter** to discard the settings.

Tasks grid						
Task ID	Task created	Comments	Task status	Details	User name	
	$-\infty \leq X \leq \infty$		All		All	
TASK10832...	2019.03.29 12:41:19	Strictly Conf	ready	view	Tatiana	
TASK10831...	2019.03.29 12:41:11	For Customer F	ready	view	Tatiana	
TASK10831...	2019.03.29 12:40:48	For PocoDinero	ready	view	Tatiana	
TASK10391...	2019.03.19 11:21:13		ready	view	messy	
TASK10170...	2019.02.26 18:11:10		ready	view	ace	
TASK10155...	2019.02.26 17:48:09		ready	view	ace	

Tasks grid

The *Task grid* displays the list of recent CDR 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 CDRs by email* is selected
 - error description, if any error occurred during the CDR export
- *User name*: name of the user that initiated the procedure

Export settings Result: TASK158214						
CDR Id	Incoming switch...	Connect time	Disconnect time	Call duration	Disconne...	Attempt n...
015aea743b5b6216231a2e4da57ec...	mvtspiro_av	2018.05.11 05:43:27	2018.05.11 05:43:27	0	17	0
0609691be7f68d0db654cd6925c77...	mvtspiro_av	2018.05.11 05:43:36	2018.05.11 05:43:36	0	34	0
0c6b0615849ce92bcf19df1f7d2c848c	mvtspiro_av	2018.05.11 05:43:40	2018.05.11 05:43:40	0	17	0
110ec5e4a1b1cf23b4a3a80aef8d5f0	mvtspiro_av	2018.05.11 05:43:35	2018.05.11 05:43:35	0	34	0
13643991121ac90202e13befe7dbb...	mvtspiro_av	2018.05.11 05:43:50	2018.05.11 05:43:50	0	34	0
189dc7c4dec56b41253f6f6b450147d5	mvtspiro_av	2018.05.11 05:44:15	2018.05.11 05:44:15	0	34	0
1caa1535af65415f9c57ad22feb5e278	mvtspiro_av	2018.05.11 05:40:59	2018.05.11 05:43:10	131.744	16	0
1e1ff574527520eb18111d20e8e0d959	mvtspiro_av	2018.05.11 05:43:58	2018.05.11 05:43:58	0	17	0
230f6f6a086de42285e395ac70594a86	mvtspiro_av	2018.05.11 05:41:51	2018.05.11 05:41:51	0	1	0
2379c12fbcf125081c07b15aae384c98	mvtspiro_av	2018.05.11 05:44:19	2018.05.11 05:44:19	0	1	0
23e95fd431f0b07714ea509888a532dc	mvtspiro_av	2018.05.11 05:43:33	2018.05.11 05:43:33	0	34	0
2406238987006ab972c5f33127acf6aa	mvtspiro_av	2018.05.11 05:43:21	2018.05.11 05:43:21	0	1	0

★ Start page  EDR export tool

Export settings Result: TASK1004090						
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-E053-01000...	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-E053-01000...	41799790773	8801819677878	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:49:25		13497BDD-C3CF-5D42-E053-01000...	41799790773	8801819677878	DELIVRD	Mensajes Largos Ltd. - LCR(EUR)
2023.04.20 16:49:27		13497BDD-C3DA-5D42-E053-01000...	CSIM UNIBEN	2347040199785	DELIVRD	Hamlet Telecom Co - Wholesale(EUR)
2023.04.20 16:49:27		13497BDD-C3DA-5D42-E053-01000...	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** button to run an export task again with the same export settings, which are displayed in the *Task details* view.

Task details

Period: From 2014.10.01 00:00:00 to 2015.04.25 08:00:00

Timezone: system timezone

Delayed CDRs only: No

Volume: Min --- max --- seconds

CDRs with duration only: No

Client leg

Products: Selected: All

IP addresses: Selected: All

Dial code list: Selected: All

Task details

11.3.2 CDR reconciliation

In case of a dispute, the *CDR reconciliation* tool performs verification of the CDR data stored in the System database against a partner version of CDRs (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 CDR 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 *Voice\CDR Management\CDR 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	$-\infty \leq X \leq \infty$			
TASK779758	ready	2018.08.20 18:26:49	2018.08.13 00:00:00 - 2018.08.20 00:00:00...	1-To-Allzz -	
TASK779756	ready	2018.08.20 18:24:57	2018.08.13 00:00:00 - 2018.08.20 00:00:00...	1-To-Allzz -	
TASK779754	ready	2018.08.20 18:23:42	2018.08.13 00:00:00 - 2018.08.20 00:00:00...	1-To-Allzz -	
TASK777400	ready	2018.08.20 08:14:09	2018.08.19 07:49:39 - 2018.08.20 07:49:39...	KA_retail - I	
TASK777378	ready	2018.08.20 07:51:24	2018.08.19 07:49:39 - 2018.08.20 07:49:39...	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

CDR 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

Matching column set: **B-number (e.164), Disconnect time**

Product type: **US domestic**

Product list:

Destinations:

Period from: **2013.04.30 00:00:00**

Period to: **2013.04.30 01:00:00**

File name: **cdrs_20130430000000_TASK3062.csv**

Start row: **3**

Include zero duration: **No**

Date format: **YYY.MM.DD HH24:MI:SS**

Time delta: **10**

Duration delta: **0**

Time offset: **00:00:00**

 Restart reconciliation

Task details (CDR reconciliation)

Click the  Restart reconciliation button to restart the selected task with the same previously configured settings.

Reconciliation summary				
Matching type	CDR count	Owner duration, min.	Partner duration...	Duration diff., ...
Partner CDR found only	3 427		27 926.0	-27 926.0
Owner CDR found only	1 429	11 283.0		11 283.0
Extra duration from owner (minor)	144	1 243.0	1 242.0	1.0
Same	2	26.0	26.0	0.0
Total	5 002	12 552.0	29 193.0	-16 641.0

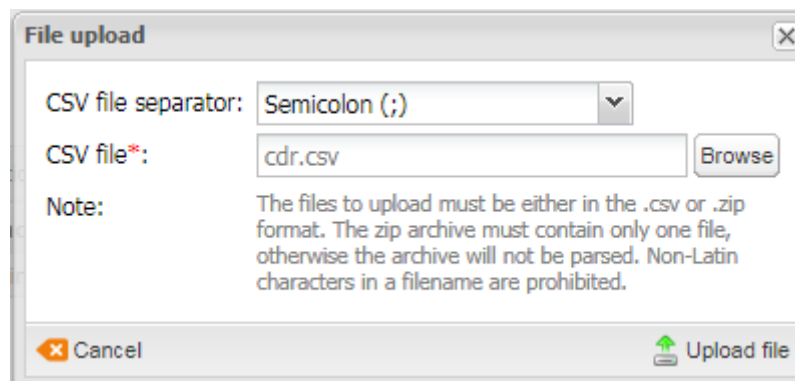
Reconciliation summary

The *Reconciliation summary* table displays the list of discovered matches and mismatches with the following information:

- *Matching type*: this column contains fully matched CDRs (Matching type: *Same*) or the nature of the discovered mismatches (Matching types: *Owner/Partner CDR found only*, *Overbilled by owner/partner*, *Extra duration from owner/partner* etc.)
- *CDR count*, *Owner/Partner duration*, *Owner/Partner cost*: each record (except for the Total line) in these columns is a link to the *Reconciliation details* window where CDRs related to the selected *Matching type* are displayed. The data from these columns can also be downloaded as a CSV file for reference or further analysis

NOTE: When calculating values for the *Partner cost* and *Owner cost* columns, rounding is applied with account for the *Rounding digits (vendor leg)* System parameter.

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 formats are .csv and .zip (the archive must contain a single file).

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.

★ Start Page 📄 CDR Reconciliation

Preview of "cdrs_20130702000000_TASK17616.csv"

	Connect time	Disconnect time	Duration, sec	B-number (e.164)	Column 5	Column 6	Column 7
1	CDRs for period...						
2	Connect time	Disconnect time	Call duration	B number (e.164)	A number (c		
[3]	2013-07-02 14:...	2013-07-02 14:...	12.854	7485313851581...	00000009		
4	2013-07-02 14:...	2013-07-02 14:...	4.616	6521918281554...	00000037		
5	2013-07-02 14:...	2013-07-02 14:...	39	166035738851075	00000005		
6	2013-07-02 14:...	2013-07-02 14:...	4.894	3329009504109...	00000042		
7	2013-07-02 14:...	2013-07-02 14:...	47	5214929493775...	00000020		
8	2013-07-02 14:...	2013-07-02 14:...	15	334037039189145	00000055		
9	2013-07-02 14:...	2013-07-02 14:...	60	3335539801695...	00000015		
10	2013-07-02 14:...	2013-07-02 14:...	50	4813492149946...	00000029		
11	2013-07-02 14:...	2013-07-02 14:...	16.41	380968899234112	00000064		
12	2013-07-02 14:...	2013-07-02 14:...	35	380964443690171	00000053		
13	2013-07-02 14:...	2013-07-02 14:...	39.324	796500576397	00000050		
14	2013-07-02 14:...	2013-07-02 14:...	16.402	795679704438	00000074		
15	2013-07-02 14:...	2013-07-02 14:...	48	7816265137118...	00000047		
16	2013-07-02 14:...	2013-07-02 14:...	73.842	213947299979689	00000024		
17	2013-07-02 14:...	2013-07-02 14:...	2.264	5214921304095...	00000096		
18	2013-07-02 14:...	2013-07-02 14:...	12.114	1937748728186...	00000087		

A-number
 Attempt num
 B-number
 B-number (e.164)
 Call ID
 Conf ID
 Connect time
 Cost
 Disconnect code
 Disconnect time
 Duration, sec
 IP address
 PDD
 Rate
 Rounded duration, sec

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 Call ID, A- and B-numbers etc. The available column types are shown in the figure above.

Settings panel

Presets:

Start row: 3 ☒ fix row

Matching column set*:

Call ID + Attempt num

ⓘ Required column for matching:

- B-number or B-number (e.164)
- One of the timestamps (Setup, Connect, Disconnect)
- Duration

Direction: Client

Product type*: International

Product list*: Selected: All

Destinations: Selected: All

Period from*: 2025.03.05 11:59:48

Period to*: 2025.03.06 11:59:48

☐ Include zero duration

Date format*: YYYY.MM.DD HH24:MI:SS

Connection/Disconnect/Setup time delta: 10 seconds

Duration delta: 3 seconds

ⓘ Partner time offset: 00:00:00

Settings panel

Once the column headers are defined, configure the parameters in the *Settings* panel:

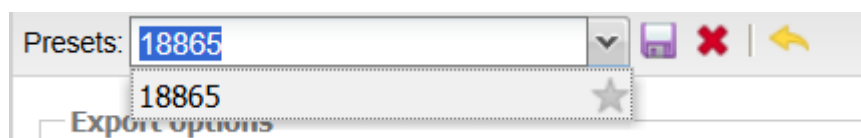
- *Start row*: the first row with the data in the file (to bypass headers and other irrelevant info). Click on the necessary row in the table and check *fix row* to prevent the *Start row* value from changing when you navigate between rows in the preview
- *Matching column set*: combination of the CDR fields for matching. The corresponding columns are defined in the *Preview window*
- *Traffic direction*: *Client* or *Vendor*
- *Product type*: *International*, *US domestic* or *DID*
- Lists of products and destinations for matching
- *Period to/from*: timeframe to compare CDRs for
- *Include zero duration CDR*: if selected, the CDRs for no-duration calls are used for matching
- *Date format*: select the date and time format from the drop-down list, or create a new one by entering the value in the edit box and clicking the  button

NOTE: The user can create a date format accurate to milliseconds, for example, YYYY-MM-DD HH24:MI:SS'.000000'.

- *Connect/Disconnect time delta:* defines the acceptable discrepancy in connect/disconnect time
- *Duration delta:* defines the acceptable discrepancy in duration (the calls with the duration discrepancy within this value have *Matching type: Extra duration from owner/partner(minor)*)
- *Partner time offset:* sets the max CDR time difference between your server and the partner's server, so that the CDRs are matched with the appropriate time adjustment. The offset will change the partner CDR 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** to launch reconciliation. Click  **Cancel reconciliation** to discard the settings and return to the previous page.

The CDR 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

11.3.3 CDR Rerating

The *Voice\CDR management\CDR rerating* section allows recalculation of call charges if some data for a past period (rates, dial codes, carrier interconnect information etc.) was added or changed. The section contains two tab sheets: *Manual rerating* and *Autorerating*.

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 more detail about permissions, see [Appendix 2. User permissions\View/edit permissions](#) ^[474].

11.3.3.1 Manual rerating

The *Manual rerating* tab sheet consists of three sections: the table of tasks, *CDR recalculation settings* and *Task details*.

The *CDR recalculation settings* view provides a set of filters for manual CDR rerating:

CDR recalculation settings

Period: from 2019.10.09 09:00:00 to 2019.10.10 09:00:00

Client leg

Products: Selected: All

IP addresses: Selected: All

Dial codes: Selected: All

Tech prefix:

Vendor leg

Products: Selected: All

IP addresses: Selected: All

Dial codes: Selected: All

Tech prefix:

Important: CDR records list for the rerating will be prepared based on all the conditions stipulated in the task parameters joined together (logical AND).

Dial code mask:

☒ Set task start time 2019.10.10 00:00:00

CDR recalculation settings

- *Period from/to:* timeframe of CDR recalculation
- *Products, IP addresses, Dial codes, Tech prefixes* on Customer and/or Vendor call legs
- *Dial code mask:* to rerate CDRs for a whole destination. Use the “*” sign after the generic short dial code for a destination, so that all longer dial codes with any number of digits are included in recalculation
- *Set task start time:* schedule the rerating task for any convenient time. For example, postpone it until the next off-peak period to avoid the System overload. When through with defining the parameters, click [Start CDR recalculation](#) to start the task or [Clear form](#) to discard the settings.

Once the CDR recalculation starts, it appears in the *Tasks grid* at the top of the page.

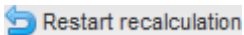
Tasks grid				
	Job created	Status	Details	User name
	$-\infty \leq X \leq \infty$	All		All
	2016.12.23 15:37:29	in progress: 6%		Alaris
	2015.08.29 12:08:59	aborted		Alaris
	2015.06.28 12:44:41	ready	ready	Alaris
	2015.04.25 10:47:08	ready	ready	Alaris

Tasks table

The *Tasks* table displays the list of recent CDR recalculation tasks with the following information:

- *Task ID*
- *Job created:* date and time of the task creation
- *Client products*
- *Vendor products*

- *Period*
- *Status*: status of the task. Possible values:
 - *in progress* (with the progress percentage specified)
 - *aborted* (if terminated manually by the operator)
 - *ready*
 - *error*
- *Details*: shows that the task is *ready*, contains the *Abort task*  button if the task is in progress or error description, if any error occurred during the recalculation
- *User name*: name of the user that initiated the procedure

Click the  *Restart recalculation* button to restart the selected task with the same previously configured settings, which are displayed in the *Task details* view. It also contains the *Statistics* table that shows the data on CDRs affected by recalculation. Click  *Details by product* to export the *Statistics* table to MS Excel.

Task details

Period: **From 2016.12.22 15:00:00 to 2016.12.23 15:00:00**

Products:	Selected: 4
IP addresses:	Selected: All
Dial codes:	Selected: 1
Tech prefix:	---

Products:	Selected: All
IP addresses:	Selected: All
Dial codes:	Selected: All
Tech prefix:	---

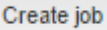
Dial code mask: ---

Scheduled start time: **2016.12.23 15:15:00**

Task details

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 [Reports\Analytical cube status \(Administration\)](#)²⁴⁴ and check the *State* column.

- *Affected start date / Affected end date*: validity period of the rate affected by the changed rate. *Affected start date* is limited by the *Max rerating interval* parameter in [Administration\System settings\Statistics module](#) ^[77]
- *Job*: name of the rerating job
- *Author username*: name of the user that initiated the procedure

The user can also manually schedule jobs in the *New* status for any convenient time by selecting the desired ones and clicking  *Create job*. The history of the recent jobs is displayed in the lower part of the page:

Job name	Job created	Job updated	Job status	Completed	Tasks in job
TASK200124	2018.10.09 09:22:23	2018.10.09 09:24:12	Succeeded	ready	8

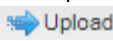
Recent jobs

- *Job name*: automatically assigned name of a job (for example, TASK3127)
- *Job created*: date and time of the task creation
- *Job updated*: date and time of the task completion. See also the [Alaris YouTube](#) video
- *Job status*: status of the job completion. If *Succeeded*, also shows the date and time of the job completion
- *Completed*: completion rate
- *Tasks in job*: number of jobs in the task

11.4 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.

11.4.1 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* button on the [Voice\Rates\Rate import](#) ^[341] 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](#) ^[132]. 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 *Voice\Rates\Auto rate import* section comprises three tab sheets: *Auto import rules*, *Critical errors* and *Error type levels (Rate import (old version))*.

Auto import rules					
Critical errors					
Error type levels (Rate import (old version))					
ID	Carrier	Product	Masks	Parser	Preset
10050	AM_ARI_TEST New	WholeSale (USD) - Client	File name: %HGC_% Mail from: am% Mail to: test34@alarislabs.com Mail subject: %price list% Mail text: %	Internal library	IDT (International, old)
10007	AM_ARI_TEST New	CLI (USD) - Vendor	File name: %test.%	Internal library	AM_ARI_TEST_1 (International)
10010	AM_ARI_TEST New	WholeSale (USD) - Client	File name: %priceadmin%	Internal library	tata (International, old)

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 *Critical errors* tab sheet to define errors critical for import.

Auto import rules		
Critical errors		
Error type levels (Rate import (old version))		
Step	Type name	Critical for auto import
All		All
Parsing	Rate type mismatch: non-US rates found in domestic ratesheet	No
Import	Rate delete	No
Parsing	No match in LERG6 found	No
Import	New billing increment added	No
Import	New timemask added	No
Parsing	Timemask overlap	No

Critical errors

The *Critical errors* page enables defining the criticality of errors in rate import. If an error is defined as critical for import, then its occurrence automatically blocks the import task.

The right panel contains the *Edit* tab that serves to define criticality of the selected error for auto import. To activate the *Edit* tab, click on the record in the table of errors.

 **Edit**

Category: **General**

Type name: **No match in LERG6 found**

☒ Critical for manual import

☐ Critical for auto import

Edit tab

Click  **Submit** to save the changes.

Rate sheet files containing the critical errors will not be imported. Select a record in the table and check the *Critical for auto import* flag when necessary.

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						Critical errors		Error type levels (Rate import (old version))	
						Direction: All			
⌵	ID	Carrier	Product	Masks	Parser	Preset			
		All	All		All	Text mask			
	10050	AM_ARI_TEST New	WholeSale (USD) - Client	File name: %HGC_% Mail from: am% Mail to: test34@alarislabs.com Mail subject: %price list% Mail text: %	Internal library	IDT (International, old)			
	10007	AM_ARI_TEST New	CLI (USD) - Vendor	File name: %test.%	Internal library	AM_ARI_TEST_1 (International)			
	10010	AM_ARI_TEST New	WholeSale (USD) - Client	File name: %priceadmin%	Internal library	tata (International, old)			

Auto import rules

The table columns contain the parameters that are configured in the right-hand panel.

+ Add
Edit
Simulation

Carrier*: Boring Enterprises
Product*: WholeSale (USD) - Vendor
File name mask: *premium*
Mail from mask: *boring*
Mail to mask:
Mail subject mask: *rates*
Mail text mask:
Parser*: Internal library
Preset version*: International (current rate import)
Preset*: am
Owner notification: Full report
Carrier notification: Full report
Short report recipients:
Full report recipients:
☐ Do not send reports to external recipients
☒ Rule enabled
☐ Test rule

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

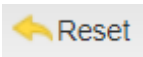
NOTE: Comma (,) is treated as a separator for masks. For example, if the *File name mask* field is specified as %file1%,%file2%, the System interprets it as 2 separate masks.

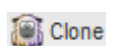
NOTE: The System can receive up to 4000 bytes in the *To* field when getting mail. Emails with over 4000 bytes in the field will not be processed.

- *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 [Voice\Rates\Rate import](#)^[327]
- *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 or the addresses from the System parameter *List of recipients for rate import log*. If this parameter has a value other than null, emails will be sent ONLY to the addresses specified in the parameter
- *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 *Voice auto rate import owner notification (short report)*, *Voice auto rate import owner notification (full report)*, *Voice auto rate import carrier notification (short report)* and *Voice auto rate import carrier notification (full report)* templates in [Administration\Template manager](#)^[84].

- *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.

+ Add
Edit
Simulation

Carrier*:
Product*:
File name*:
Mail from:
Mail to:
Mail subject:
Mail text:

Parser: **Internal library**
Template: **client**
Owner notification: **Full report**
Carrier notification: **Not sent**
Short report recipients:
Full report recipients:

Simulation

Enter the appropriate parameters and click  **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.

Error type levels tab sheet (Rate import (old version))

This tab sheet is similar to the *Critical errors* tab sheet and is designed for the old version of rate import ([Voice\Rates\Rate import \(old\)](#)³²⁶). The user can mark errors as critical for manual and/or auto import.

Auto import rules				
Critical errors				
Error type levels (Rate import (old version))				
Category	Type name	Critical for manual import	Critical for auto import	
All	Text mask	All	All	
General	Parsing error	No	Yes	
General	Dial code missing	Yes	Yes	
General	No match in LERG6 found	No	Yes	
General	There is block_id=A in lerg for suitable npanxx	Yes	No	
General	Rate type mismatch: non-US rates found in domestic ratesheet	No	No	
General	Dial code duplicates	Yes	Yes	

Edit

Category: **General**
Type name: **Dial code missing**
☒ Critical for manual import
☒ Critical for auto import

Error type levels (Rate import (old version))

11.4.2 Rate analysis

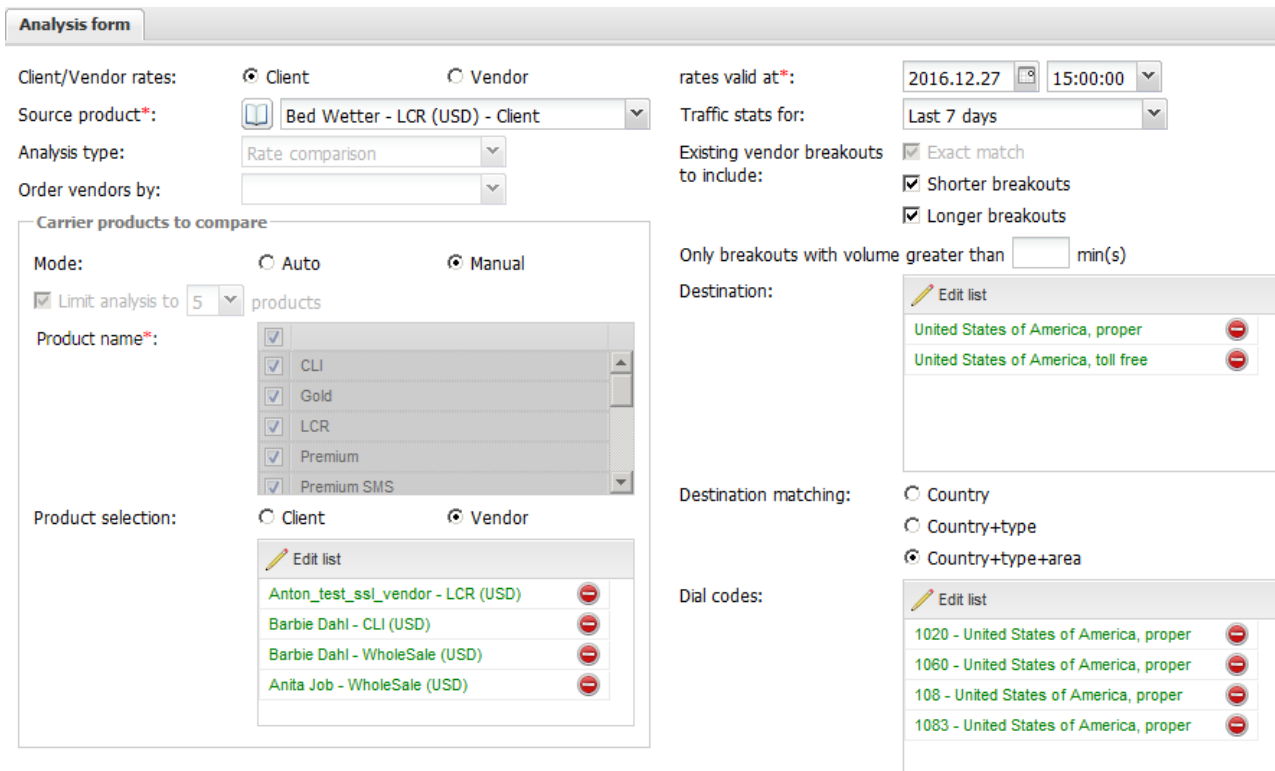
The *Voice\Rates\Rate analysis* section serves for generation of the *Rate comparison* report. This report helps the System owner to evaluate the rates offered or requested by partner carriers.

To generate a report, the System runs through the rates of a customer or vendor product and checks what rates are available for the same or similar dial codes in other vendor (or customer) products in the database. The report shows, for example, for which destinations a new partner has a better or worse offer/target compared with dial codes existing in the System. Based on this information, the System owner makes a decision whether it is profitable to deal with the partner.

The *Rate analysis* section contains two tab sheets – *Analysis form* and *Analysis result*.

11.4.2.1 Analysis form

The *Analysis form* page consists of two parts: *Analysis form* and *Tasks*. The *Analysis form* allows configuration of parameters for report generation.



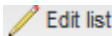
The screenshot shows the 'Analysis form' tab. It includes several sections for configuration:

- Client/Vendor rates:** Radio buttons for 'Client' (selected) and 'Vendor'.
- Source product*:** A dropdown menu showing 'Bed Wetter - LCR (USD) - Client'.
- Analysis type:** A dropdown menu showing 'Rate comparison'.
- Order vendors by:** A dropdown menu.
- Carrier products to compare:**
 - Mode:** Radio buttons for 'Auto' and 'Manual' (selected).
 - Limit analysis to:** A dropdown menu showing '5'.
 - Product name*:** A list of products with checkboxes: CLI, Gold, LCR, Premium, Premium SMS.
 - Product selection:** Radio buttons for 'Client' and 'Vendor' (selected).
 - Edit list:** A list of products with red minus buttons: Anton_test_ssl_vendor - LCR (USD), Barbie Dahl - CLI (USD), Barbie Dahl - WholeSale (USD), Anita Job - WholeSale (USD).
- rates valid at*:** A date and time picker showing '2016.12.27' and '15:00:00'.
- Traffic stats for:** A dropdown menu showing 'Last 7 days'.
- Existing vendor breakouts to include:** Checkboxes for 'Exact match', 'Shorter breakouts', and 'Longer breakouts' (all selected).
- Only breakouts with volume greater than:** A text input field followed by 'min(s)'.
- Destination:** An 'Edit list' button and a list of destinations with red minus buttons: United States of America, proper, United States of America, toll free.
- Destination matching:** Radio buttons for 'Country', 'Country+type', and 'Country+type+area' (selected).
- Dial codes:** An 'Edit list' button and a list of dial codes with red minus buttons: 1020 - United States of America, proper, 1060 - United States of America, proper, 108 - United States of America, proper, 1083 - United States of America, proper.

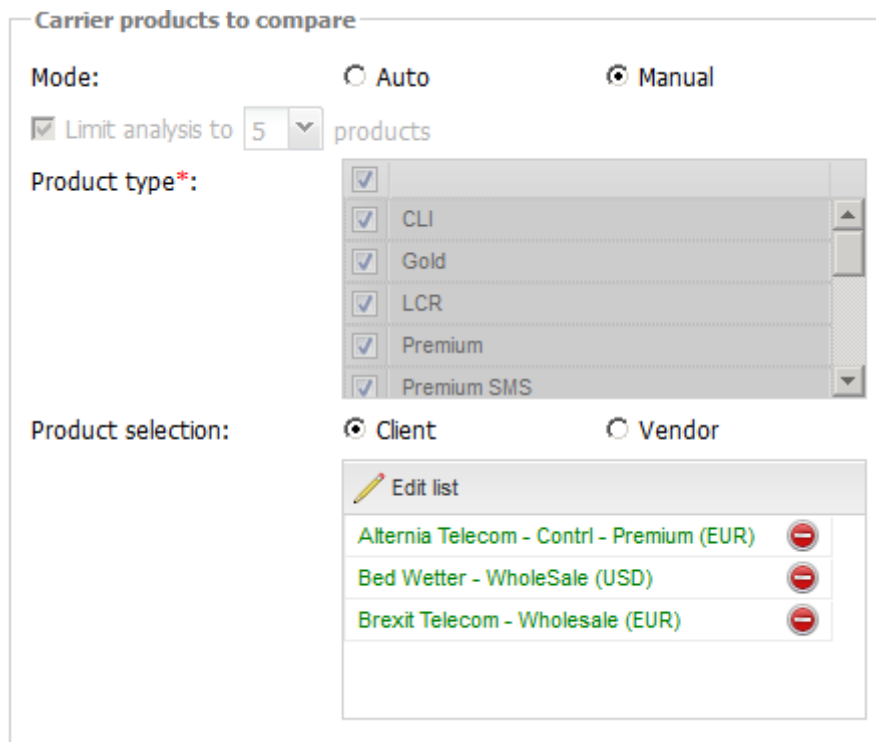
Analysis form

The configurable parameters are:

- *Client/Vendor rates:* select *Client* or *Vendor* rates for comparison. This choice defines the contents of the *Source product* table - if the *Client* radio button is selected, the list contains only client products, and vice versa
- *Rates valid at:* select the date and time of the rates validity
- *Source product:* select the product from the drop-down list or click  to open the *Source product* table
- *Traffic stats for:* currently out of use
- *Analysis type:* in the current version, only the *Rate comparison* mode is available. The *Potential margin* mode that automatically reveals the potential buy and sell opportunities based on recent traffic patterns is currently under development
- *Order vendors by:* this parameter is reserved for future use in the *Potential margin* analysis
- *Existing vendor dial codes to include:* currently out of use (*same+shorter+longer* values are used)
- *Only dial codes with volume greater than X (mins):* currently out of use
- *Destination:* define a list of destinations for which the dial codes will be compared. Click the  **Edit list** button to open the *Destination* multi-picker.

- *Destination matching*: currently out of use (the *Country* value is used)
- *Dial codes*: this parameter allows defining a list of particular dial codes to analyze. Click the  button to open the *Dial codes* multi-picker.

The section *Carrier products to compare* defines the list of existing products for rate comparison:



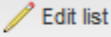
Carrier products to compare

Mode: ☐ Auto ☒ Manual

☒ Limit analysis to 5 products

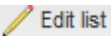
Product type*: ☒ CLI ☒ Gold ☒ LCR ☒ Premium ☒ Premium SMS

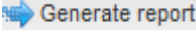
Product selection: ☒ Client ☐ Vendor

 Edit list

Alernia Telecom - Contrl - Premium (EUR)	
Bed Wetter - Wholesale (USD)	
Brexit Telecom - Wholesale (EUR)	

Carrier products to compare

- *Auto mode*: the vendor or client product under consideration is compared with all existing vendor products. The total number of vendors involved into analysis is not limited. For each dial code, the System brings in every vendor product having the dial codes that satisfy the configured parameters. Select the *Limit analysis to* checkbox and select the number of vendors per dial code using the  products drop-down list. The default value is five best vendors per dial code. The *Product name* list allows comparison only among the products of the selected type – e.g. only *Premium*.
- *Manual mode*: this mode allows making a list of partner products considered in the comparison. The contents of the list depends on the flag selected in the *Product selection* parameter: if the *Client* flag is selected, only client products are shown in the *Product* multi-picker - and vice versa. Click the  button to open the *Product* multi-picker.

When through with defining the parameters, click  to start the report generation. The newly configured task will appear in the *Tasks* table.

The *Tasks* table contains the information about current and recently completed analysis jobs:

- *ID*: internal identification number of the job
- *Job created*: date and time of the job creation
- *Status*: ready or aborted
- *Details*: contains a link to the analysis results or the *Abort* button when the task is in progress

- *User name*: name of the user that initiated the procedure

Tasks				
ID	Job created	Status	Details	User name
3	2015.03.27 15:17:41	ready	view	Alaris
2	2015.03.12 15:20:19	ready	view	repin
1	2015.03.12 15:17:57	aborted		repin

Tasks (Rate Analysis)

Click the  button on the lower toolbar to refresh the table.

Click the  button to restart the task. The *Analysis* form uses the parameters originally used for the restarted task, so you can make some changes or start the task again without any modifications.

Click the view link in the *Details* column to open the *Analysis result* page.

11.4.2.2 Analysis result

To open the *Analysis result* tab sheet, click on the *view* link in the *Tasks* table (*Analysis form* tab sheet). The tab sheet contains two panels – the left panel is a filter, and the right panel is a table of results. The table has two sections – the left section is the list of dial codes and rates from the product under evaluation, and the right section is the list of products used for comparison: either manually picked by the user or automatically selected by the System (the total number of compared products may vary between one and five).

The  button in the upper left corner of the page toggles the *Filter*.



Filter

Supplier`s rank up to:

Country: ▼

Area: ▼

Type: ▼

Destination:

Edit list

Dial codes:

Edit list

State:

LATA:

OCN:

NPA:

NXX:

Block ID:

Filter at the Analysis result page

Records in the *Analysis result* table can be filtered by the following parameters:

- *Supplier`s rank up to*: display only rates where the product under consideration (also referred to as the Source product) is ranked among the number of products defined by this filter value. For example, if you compare some rates for a particular destination and would like to see only those where the source product has a price among the best 5 prices for that destination in the System, set the filter to 5
- *Country, Area, Type* – select the necessary value from the drop-down lists
- *Destination and Dial codes* - click the *Edit list* button to open the corresponding multi-pickers

For the US domestic rates in is also possible to filter the results by *State, LATA, OCN, NPA, NXX* and *Block ID*.

When through with defining the filtering parameters, click *Apply filter* *Apply filter* to confirm or *Clear filter* *Clear filter* to discard the settings. The records in the *Analysis result* table will be displayed according to the applied filter.

For each report line (which contains one dial code from the product on the left side) the System sorts the products on the right side ascending by price – pretty much the same as the LCR report, but with a smarter dial code mapping. The most important column for evaluation of the left-side product rates is the *Rank* column – it shows where the evaluated product rate stands in the LCR list of rates available for that dial code (or other dial codes mapped to it) in the System.

Each table cell (each product on the right side) may contain multiple dial codes inside. The dial code mapping may link one dial code on the left side with several dial codes in each product on the right side. The top level of the report only shows the product name and the minimum rate from that product (but not the dial code). If a product on the right side has more than one rate (dial code) mapped to the left-side dial code, the System uses the least expensive of them to determine the comparison result.

ALARIS TEST - CLI (Client)			Rank 1			
Dial code	Rate,...	Rank	Product	Min rate	Gain, USD	Gain, %
1 (United States of Ame...	0.0114	19	CallingElvis - VIP (...)	USD 0.0012	-0.0102	-89.47
1204 (Canada, proper)	0.0072	20	CallingElvis - VIP (...)	USD 0.001	-0.0062	-86.11
1226 (Canada, proper)	0.0072	21	CallingElvis - VIP (...)	USD 0.001	-0.0062	-86.11
1242 (Bahama, proper)	0.028	3	Diogenes Capacit...	USD 0.018	-0.01	-35.71
1242357 (Bahama, mobile)	0.028	1	Diogenes Capacit...	USD 0.028	0	0
1242359 (Bahama, mobile)	0.028	1	Diogenes Capacit...	USD 0.028	0	0
1242375 (Bahama, mobile)	0.028	1	Diogenes Capacit...	USD 0.028	0	0
1242376 (Bahama, mobile)	0.028	1	Diogenes Capacit...	USD 0.028	0	0

Analysis result page

Alongside with the product name and the minimum rate, for each right-side product the System also shows the result of the comparison with the left-side rate – in two formats: absolute (*Gain, USD*) and relative (*Gain, %*). The System uses red and green colors to highlight the comparison results. If the result of the rates comparison is in the System owner's favor, the respective table cells on the right are colored green; otherwise, the cells are colored red. Examples of the favorable comparison:

- In case of the vendor-vendor comparison, the rate on the left side is lower
- In case of the client-vendor comparison, the rate on the right side is lower

Click on a carrier product on the right side to see the available groups of the dial codes from that vendor product involved into comparison.

Details for dial code 1086 - Melon Cauli - WholeSale (Vendor)			
Groups	Best price, USD	Gain, USD	Gain, %
United States of America	0	-0.01303	-100
United States of America, proper	0	-0.01303	-100
1 (United States of America, proper)	0	-0.01303	-100

Details for dial code

For international products, rates are grouped by *Country*, *Destination* and *Dial Code*, while US Domestic rates are grouped by jurisdiction-related parameters. In this way, the System keeps the output format of the dial code lists as readable as possible. You can drill down to separate dial codes without expanding the entire dial code list for that carrier (which may get extremely large in some cases – e.g. if you compare an *International* product on the left side that has just one rate for the entire US, and a *US Domestic* product with over 100K US rates on the right side).

Use the  **Export** and the  **Export page** buttons on the bottom toolbar to export the analysis results as an MS Excel file.

11.4.3 Rate editor

The *Voice\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*.

11.4.3.1 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

Presets:

Group by:

☒ Country
 ☒ Type

☒ Area
 ☐ Product

☐ Effective interval
 ☐ Carrier destination

☐ Dial code
 ☐ Rate notes

☒ A-number group

Carrier region:

Manager:

Carrier:

Client/Vendor:

Product name:

Product:

☐ Show rates from inactive products

☐ Show rates from parent product

☐ Show inherited rates

Dial code:

Dial code longest-match:

A-number group:

ANI dial code:

Country:

Area:

Type:

Carrier destination:

☒ rates valid at

☐ effective interval

start date between: and

end date between: and

Rate currency:

Rate value: from to

☒	Rate notes
☒	Empty value
☒	CLI
☒	Client Rate v1
☒	Client Rate v1 without ANI
☒	Code Change

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*, *Area*, *Effective interval*, *Dial code*, *A-number group*, *Type*, *Product*, *Carrier destination*, or *Rate notes*. 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 **Selected: All**  button for multiple selection

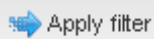
NOTE: If the parameter *Inactive entities* in *User settings* has the value *Hide* (see [Interface structure](#) ¹⁶), inactive products will be hidden in the *Product name* drop-down list and *Product* multipicker.

- *Show rates from inactive products*: when selected, the filter displays all rates, including products that have the *Is active* checkbox deselected
- *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.
- *Dial code*: allows searching by exact match or by mask (symbols * or % at the end)
- *Dial code longest-match*
- *A-number group* (applicable to rates for products with the enabled checkbox *Use ANI based billing*): the A-number group as configured in [Voice\Reference books\A-number groups and codes](#) ³⁷⁶
- *ANI dial code* (applicable to rates for products with the enabled checkbox *Use ANI based billing*): the A-number dial code
- *Country*
- *Area*
- *Type*: fixed, mobile, etc.

NOTE: The routing logic for searching the suitable rate is as follows: the rate is first searched by longest B-number match (*Dial code longest-match* field), and then by A-number match (*ANI dial code* field). The

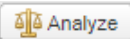
A-number dial code may be left blank in the rate, which corresponds to the lowest priority. The vendor rate is defined based on the translated A-number.

- *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.

Click  *Apply filter* to display the rates complying to the filter parameters. Click  *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*, *Type*, and *Area*.

Rate groups						
Check row and go to next tab						
Country	Type	Area	A-number group	Currency	Rate	Rate count
Egypt	Egypt		AGRoup306 (ID...	USD	1.166	1
Germany	Mobile	Eplus	AGRoup306 (ID...	USD	0.36	1

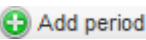
Rate groups table

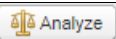
Click  *Analyze* to open the [Voice\Rates\Rate analysis](#) page with pre-set filters for the selected rates (all rates must belong to the same product)

Click  *Close* to modify the *Active till* date of the rate group.

Click  *Edit* 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 the  *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*, 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  *Analyze*,  *Close*,  *Clone*,  *Add period* are only active if a single product is selected in the *Product* multipicker in the *Rate filter*.

11.4.3.2 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								
☐	Dial code	Own destination	Carrier de...	Currency	Price	Price (USD)	Increment	Connection fee	Active from	Active till
☐	21396192	Algeria, Telecom, mobile		USD	0.195	0.195	0/1/1	1 694 259 31...	2020.10.19 21:00:...	2099.12.31 21:00:...
☐	21396191	Algeria, Telecom, mobile		USD	0.195	0.195	0/1/1	1 694 259 31...	2020.10.19 21:00:...	2099.12.31 21:00:...
☐	21396190	Algeria, Telecom, mobile		USD	0.195	0.195	0/1/1	1 694 259 31...	2020.10.19 21:00:...	2099.12.31 21:00:...
☐	2139619	Algeria, Telecom, mobile		USD	0.195	0.195	0/1/1	1 694 259 31...	2020.10.19 21:00:...	2099.12.31 21:00:...

Rates table

The *Rates* table shows the following information:

- *Dial code*: dial code the rate is applicable to
- *Own destination*: description of the dial code (*Country – Area – Type*) taken from [Voice\Reference books\Dial Codes](#) ^[370]
- *Carrier destination*: a carrier-specific description of the dial code. If there is no carrier-specific description for the given dial code, the System reference book is used (double click the *Own destination* field to automatically fill the *Carrier destination* field with the destination name from the System reference book)
- *Currency*: filled according to the selected product's currency
- *Price*
- *Price (system currency)*
- *Increment*: billing increment of the rate
- *Connection fee*
- *Active from / Active till*: period of the rate's validity

NOTE: Rates with the *Active till* date older than 3 months are archived into a dedicated table. To restore them, contact the Alaris Technical support team and communicate the code BZ9227.

- *Product*: a carrier product the rate belongs to
- *Rate notes*: carrier notes on the rate (typically regarding the offered quality)
- A-number group (applicable to rates for products with the enabled checkbox *Use ANI based billing*): the A-number group configured in [Voice\Reference books\A-number groups and codes](#) ^[376]. A click on the link opens this interface

Click the  button on the bottom toolbar to refresh the table.

Double-click on a rate to open a window with the rate details.

Dial code:	23897
Own destination:	Cape Verde Islands, mobile
Carrier destination:	Cape Verde - Mobile
Product:	British Hairways - Wholesale
Currency:	USD
Active from:	2014.04.04 00:00:00
Active till:	2100.01.01 00:00:00

All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								
Sun																								

Price	Value
☐ Not set	
☒ Peak	0.20200

Connection fee:

Notes:

Rate details

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						
History status	Carrier destination	Price	Connection fee	Increment	Active from	Active till
selected	Argentina - Mobile	0.1388		0/1/1	2013.03....	2100.0...

Page 1 of 1 | 200 rows | No data to display

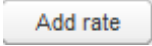
Rate history

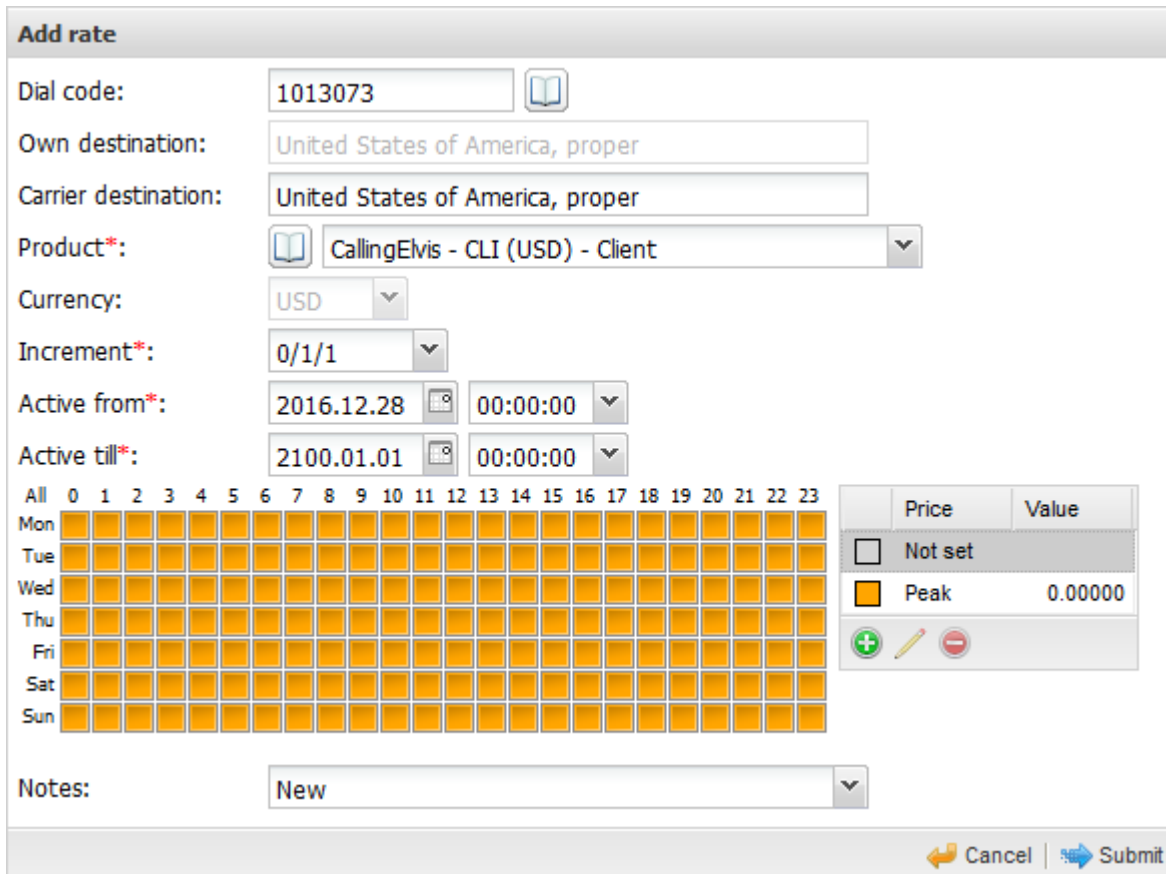
Below is a list of available actions with rates. They are invoked by appropriate buttons located on the instrument panels above and below the *Rate history* table.

- Add rate
- Add rate to group
- Close/Edit/Clone rate group
- Roll back rates
- Add period
- Edit

- Close
- Clone

Add rate: add a new rate

Click the  button to open the *Add rate* dialog.



Add rate

Dial code: 

Own destination:

Carrier destination:

Product*:  ▼

Currency: ▼

Increment*: ▼

Active from*:  ▼

Active till*:  ▼

	All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

	Price	Value
☐ Not set		
☒ Peak		0.00000

Notes: ▼

 Cancel |  Submit

Add rate dialog

The dialog allows adding a new dial code to the carrier's product selected in the *Rate groups* table.

NOTE: If the dial code already exists in the System for the given carrier name/carrier product, the System will overwrite the old rate or part of it with the new rate. For example, if the active period of the old rate is between 2016.01.01 and 2100.01.01 and the new rate period is between 2017.01.01 and 2100.01.01, the old rate will be closed starting from 2017.01.01. If the active period of the old rate is between 2017.01.01 and 2017.02.01, and the new rate period is between 2016.10.01 and 2018.01.01, the old rate will be completely overwritten (removed).

It is possible to create a relative client rate (for example, vendor rate + 0.01 USD). For this purpose, open the *Add rate* dialog, in the *Notes* field select *Vendor-based rate* and in the *Price/Value* fields specify the markup. The price for the client will be calculated as the sum of the markup and the vendor price. The feature is supported only for products with the *Product type* = *International*.

Add rate

Dial code: 

Own destination:

Carrier destination:

Product*:

Currency:

Increment*:

Active from*:

Active till*:

	Price	Value
☐ DID		0.0000...
☒ TFN		

Notes:

 Cancel  Submit

Add rate dialog for DID products

Products of the *DID* product type have their own rate structure that allows for two types of pricing: DID (direct inward dialing) and TFN (toll-free number), which is set in the *Type* parameter in [Number management\Numbers](#)^[425]. TFN induces reverse charging and uses the A-number to find the dial code: the vendor is charged and pays for the call to the client. DID billing is the same as usual – the prefix is defined by the B-number; the client is charged for the call and pays for it to the vendor.

To add a new code, click the  button to open the *Dial code picker* or start entering the code in the *Dial code* field. The System checks the code in the dial code table and prompts the needed code. It is impossible to enter a dial code that is not present in the dial code table. Once the dial code is entered, the *Own destination* field is automatically filled with the description of the dial code.

Dial code picker

Dial code	Country	Area	Type
0	Undefined		Undefined
1	United States of America		proper
1013073	United States of America		proper
1016	United States of America		proper
1020	United States of America		proper
1035	United States of America		proper
1060	United States of America		proper
1061	United States of America		proper

Page 1 of 3033 | 200 rows | Rows 1-200 of 606406

Dial code picker

The configurable parameters of the *Add rate* dialog are:

- *Dial code* and *Own destination* (see above)
- *Carrier destination*: carrier-specific destination name for the dial code
- *Product*: the carrier product the rate belongs to. Select the product from the drop-down list of click the  button to open the *Product* table
- *ANI dial code* (applicable to rates for products with the enabled checkbox *Use ANI based billing*): the A-number dial code
- *ANI carrier destination* (applicable to rates for products with the enabled checkbox *Use ANI based billing*): carrier-defined destination for the A-number
- *Currency* and *Increment*: select the required values from the drop-down list
- *Price*: the user can specify up to three different price types for international product rates (peak, off-peak, weekend) and set the activity intervals for each price type. Use the graphical control to indicate the interval for the price activity. Use the  button to add a new price, button  to edit the existing prices or button  to delete the selected price. The peak price type is set by the  control, while the off-peak type is set by the  control. In case of a US Domestic product, the user can specify up to 4 (STATE-based rates) or 6 (LATA-based rates) prices (here it is impossible to set the activity interval for each price type or add/delete the price types)
- *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 or increment) 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
- *Notes*: 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 (such rates can still be overwritten by the *Rate generator* functionality)

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

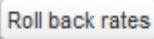
Add rate to group

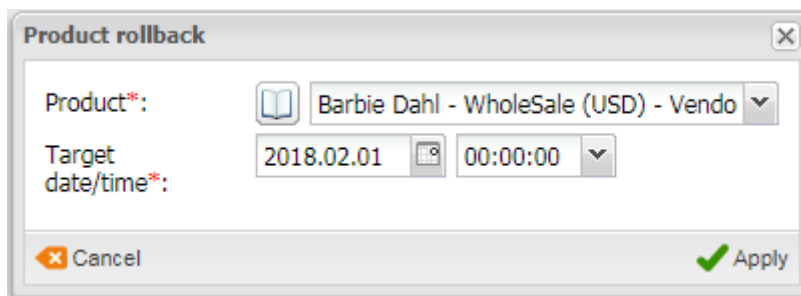
Click the  **Add rate to group** *Add rate to group* button to add a new dial code directly to the selected rate group, i.e. the fields in the *Add rate* window that correlate with the selected *Group by* filters will be filled automatically.

Close selected/Edit/Clone rate group

Click the  **Close rate group** *Close rate group* button to close all rates in the selected rate group using the *Effective till* parameter. Use the  **Edit rate group** *Edit rate group* button to edit the rate group, and the  **Clone rate group** *Clone rate group* button to create an exact copy of the selected rate group, so that a new rate group can be created by means of changing one or several parameters of the clone. A new rate group without any changes is not added to the System.

Roll back rates

Click the  *Roll back rates* button to open the *Product rollback* dialog.



Product rollback

Product*:  Barbie Dahl - WholeSale (USD) - Vendo

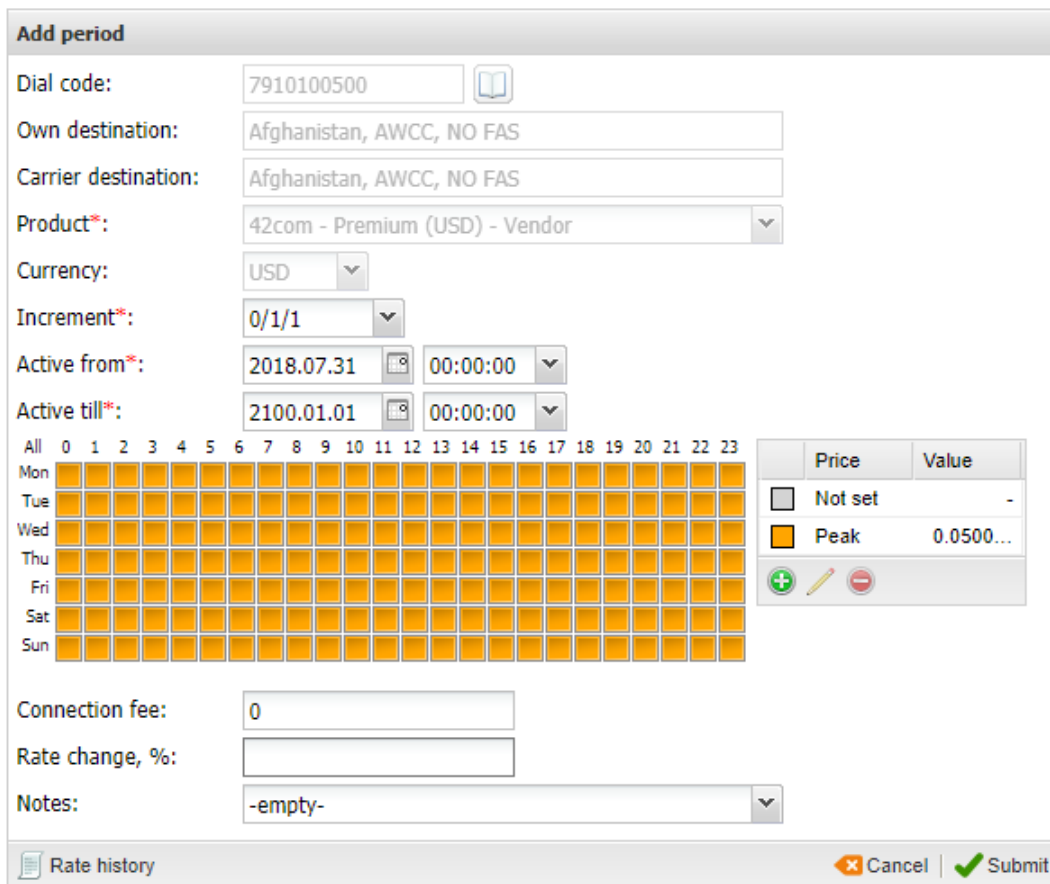
Target date/time*: 2018.02.01  00:00:00

 Cancel  Apply

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  *Apply* to confirm or  *Cancel* to discard the settings



Add period

Dial code: 7910100500 

Own destination: Afghanistan, AWCC, NO FAS

Carrier destination: Afghanistan, AWCC, NO FAS

Product*: 42com - Premium (USD) - Vendor

Currency: USD

Increment*: 0/1/1

Active from*: 2018.07.31  00:00:00

Active till*: 2100.01.01  00:00:00

All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								
Sun																								

Price	Value
☐ Not set	-
☒ Peak	0.0500...

Connection fee: 0

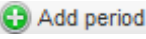
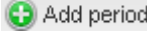
Rate change, %:

Notes: -empty-

 Rate history  Cancel  Submit

Add period

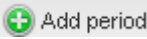
Add period

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 , 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. The *Add period* form contains the *Rate change, %* field that allows changing the rate by a certain percentage. It can take both positive or negative values. When filled, the edited rates are changed by the per cent specified in the field.

NOTE: When adding a new period, the *Active till* date of the new period will overwrite that of the old period, even if the previous date was later than the new date. For example, if the *Active till* date of the previous period was 2100.01.01, and that of the new period is 2023.01.01, the *Active till* date will be overwritten to 2023.01.01.

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.

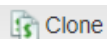
NOTE: Rates for the period between June 16 and June 20 will be removed from routing. This control is recommended for correcting erroneous new rates. In other cases it is recommended to use  **Add period** rather than .

The *Modify period* form contains the *Rate change, %* field that allows changing the rate by a certain percentage. It can take both positive or negative values. When filled, the edited rates are changed by the per cent specified in the field.

Close

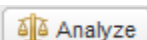
Click the  **Close** button to close one or several rates after a certain date/time. Once you choose this option, only the *Active till* field is editable. Set the *Active till* value to close the rates by that date-time stamp. All intervals of the rate history that are later in time than that point 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.

NOTE: Any changes in old rates that have already been applied to traffic (the System already calculated call costs according to them) will result in rerating of ALL calls to which these changed rates are applicable. Be careful while modifying rates for the past periods, since rerating is a very resource- and time-consuming procedure.

The instrument panel also contains the following action buttons not related to rate editing:

-  **Export** *Export*: this button opens the [Voice\Rates\Rate export](#)³¹³ page with pre-set filters for the selected rates
-  **Analyze** *Analyze*: this button opens the [Voice\Rates\Rate analysis](#)²⁹⁶ page with pre-set filters for the selected rates (all rates must belong to the same product)

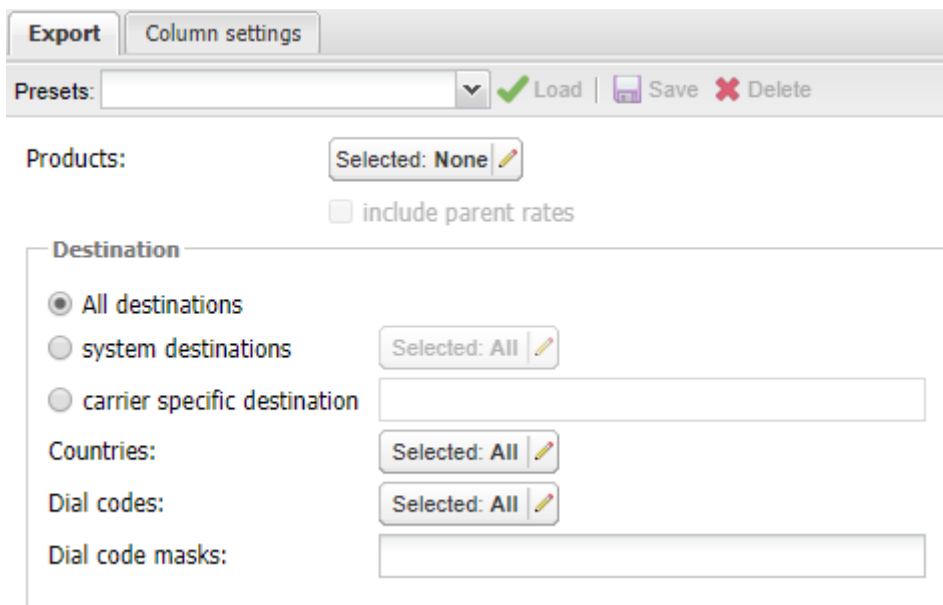
-  **Check routing** *Check routing*: opens the [Voice\Routing\Simulation](#) page to run a call simulation session for the selected rate (works for single client rates only; the button is available only if the product has an active POI)

11.4.4 Rate export

The *Voice\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*.

11.4.4.1 Export

The *Export* tab sheet is split into three parts: *Export settings*, *Tasks* and *Task details*.



The screenshot shows the 'Export' tab in a software interface. At the top, there are two tabs: 'Export' (selected) and 'Column settings'. Below the tabs is a 'Presets' dropdown menu, followed by 'Load', 'Save', and 'Delete' buttons. Under 'Products', there is a 'Selected: None' button and a checkbox labeled 'include parent rates'. The 'Destination' section contains three radio buttons: 'All destinations' (selected), 'system destinations', and 'carrier specific destination'. To the right of these are 'Selected: All' and an edit button. Below this are 'Countries:', 'Dial codes:', and 'Dial code masks:', each with a 'Selected: All' button and an edit button. The 'Dial code masks' field has a text input box.

Export settings

The *Export settings* view serves to select the rates for export by applying the following filters:

- *Products*: carrier product(s) associated with the exported rates. Open the *Products multi picker* by the  button. Select product(s) from the list in the left section of the view
- *include parent rates*: select this checkbox to include rates of the parent product(s) into the resulting export file

NOTE: With this option enabled, the System takes into account the value of the System parameter *Rate inheritance mode* ([Administration\System settings\Rate module](#)). However, for client US Domestic products, rates are selected by the global longest match, irrespective of the value set in the *Rate inheritance mode* parameter.

- *Destination*: select the appropriate destinations. Choose between *All destinations*, *system destinations* (taken from [Voice\Reference books\Dial codes](#)) or *carrier specific destination* (taken from rate sheets)
- *Countries*
- *Dial codes*: dial codes associated with the exported rates. Open the *Dial code multi picker* by the  button. Select code(s) from the list in the left section of the view
- *Dial code masks*: set one or several dial code masks separated by commas, e.g. 93*, 5234, 79*

Export options

Export type: ☒ changes pending at
☐ rates effective at
☐ rate history between

Start date*: 2025.01.31 00:00:00
 End date*:

☒ Use agreement timezone

Change types*: ☒ Same
☒ New
☒ Close
☒ Increase

☐ Export as full replace

Effective from date for change type «same»: Actual

Grouping: ☒ by code ☐ by destination

Grouping for list with ANI groups: ☒ by code ☐ by destination

Grouping for list without ANI groups: ☒ by code ☐ by destination

☐ Show destination changes

☐ Use system destinations

File format: Excel

File size to archive: 5

ANI rate export type: Multiple pages

Export options

Define export parameters in the *Export options* section:

- *Export type*:
 - *changes pending at*: summary of scheduled rate changes for the parameters *Increase/Decrease/New/Close notification, days* (configured in [Carriers\Agreements](#)^[145]) starting with the selected date. In the exported file rates are marked in compliance with pending changes: *increase, decrease, new, close, same*

NOTE: For products with the selected checkbox *Use ANI based billing*, changes related to A- and B-number dial codes will also be exported.

- *rates effective at*: export rates as of the date indicated in the *Start date* parameter
- *rate history between*: summary of rate changes made during the selected period (each step in the history on a separate line)
- *Start date/End date*: timeframe of rates for export. *End date* is enabled only if type *rate history between* is selected

- *Use agreement zone*: export rates in the partner timezone rather than your System timezone. This parameter serves to eliminate problems with partners whose billing systems are unable to have rates in increments of hours – only in increments of days
- *Change types*: select types of rate changes that need to be exported. Blocked type is assigned to the rate value from the *Blocked rate value* System parameter
- *Export as full replace*: all updated rates will have the value *New* in the *Status* column of the exported MS Excel file (the checkbox is active only when the checkbox *Include same* is deselected)
- *Effective from date for change type "same"*: defines the effective date for rates marked *same* in exported rate sheet files. When the value is *Actual*, the date is taken from the source rate sheet; when the value is *Export date*, the date is the export date. When not set, the System uses the value of the identical System parameter
- *Grouping*: select how the exported rates will be grouped - by code or by destination

NOTE: Grouping is not applicable for US Domestic products.

- *Grouping for list with ANI groups, Grouping for list without ANI groups* (available if *ANI rate export type* is set to *Multiple pages*): select how exported rates will be grouped in the *Rates without ANI groups* and *Rates with ANI groups*, respectively
 - *Show destination changes*: when the checkbox is selected, the tab sheet *Destination changes* of the exported file contains all the pending country/region/type changes planned for the destinations taking effect within the 7 days following the *Start date*. If no changes are planned, the sheet is still present in the file
 - *Use system destinations*: when the checkbox is selected, the System uses destinations from [Voice\Reference books\Dial codes](#)^[370]. When the checkbox is deselected, destinations are taken from the rate sheet. If the rate sheet contains no information on destinations, the System takes them from the reference book
- *File format*: select the format of the exported file – xls or csv
- *File size to archive*: files exceeding the specified size will be zip-archived
- *ANI rate export type* (available if at least one product with the enabled option *Use ANI based billing* is selected in the *Products* field): serves for greater customizability of the pages to be exported when selecting A-number based products. Possible options are *Single page* and *Multiple pages*. For the multi-page format (selected by default) the pages *Rates without ANI groups*, *Rates with ANI groups* and *A-number codes* will be exported (columns for the pages are customized on the [Column settings](#)^[318] tab). For the single-page mode the *Main* and *A-number codes* pages will be exported. If the *Multiple pages* type is selected, the options of grouping by code or by destination for pages with and without ANI groups become available (*Grouping for list with ANI groups* and *Grouping for list without ANI groups* parameters)

Export target: ☒ Send via email ☐ Export to file

☒ check file before sending

Send exported file to:

☐ send to partner emails

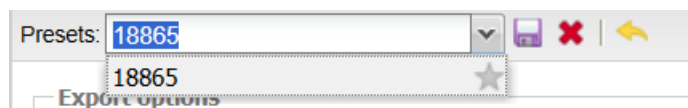
CC exported file to:

Comments:

Export, continued

- *Export target*: select *Export to file* or *Send via e-mail* options to make a choice between exporting data to a file and emailing it
- *Check file before sending* (available if *Export target* is set to *Send via email*): when selected, the user can download the file once it is generated, check it and confirm its sending by clicking the *waiting* link, which opens a window that asks the user to confirm sending the rates. Similarly, the user can cancel sending. In this case, the file status will change to *Sending cancelled*, and the *Task status* to *ready*
- *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](#)^[313] (*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](#)^[207]
 - the account manager
- *CC exported file to* (active when *Export target* is *Send via email*): set comma-separated emails for sending a copy of the exported files (find out more in the [Alaris YouTube video](#))
- *Comments*: leave any information for your partner and it will be placed to the exported file (if the corresponding marker [Comments] is configured in the rate export template in the [Administration\Template manager](#)^[84])

The *Presets* toolbar at the top of the *Export settings* view enables the user to create, upload and delete 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** *Export* to start export or  **Clear filter** *Clear filter* to discard the settings.

Tasks

The *Tasks* table displays a list of recent rate export tasks with the following information:

Tasks					
Job created	Product	Status	Details	User name	
 $-\infty \leq X \leq \infty$	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** button located at the bottom toolbar.

Direction: 
 Product type*: 
 Billing type*: 
 Page: 
 Product: 
 Check LATA: 
 Rates based on: 
 Export type*: 
 Export grouping: 

System column	User column name	
RATE_ANI_CSCD	ANI carrier destination	✗
RATE_ANI_DIAL_CODE	Rate ANI dial code	✗
START_DATE	Start date	✗
END_DATE	End date	✗

ⓘ Add column:  
 Date format:
 Date time format:
 ⓘ Rate format:

Adding a new rule

Configure the following parameters:

- *Direction: Any, Client, Vendor*
- *Product type: Any, International, US Domestic*
- *Billing type.* Possible values include:
 - *ANI + DNIS based:* for A-number based billing (applicable for products with the *Use ANI based billing* checkbox selected in product settings)
 - *DNIS based:* for other *International* products
- *Page* (available if *Product type: International* is selected, and allows configuring column settings for export of A-number based rates). The following values are available:

- *Main page*: serves for output of a standard set of columns
- *A-number code page*: serves for listing of A-number dial codes
- *Rates with ANI groups*: added to the exported file for ANI-based products if the rate export task is created with *ANI rate export type: Multiple pages* to reflect rates with ANI dial codes (groups)
- *Rates without ANI groups*: added to the exported file for ANI-based products if the rate export task is created with *ANI rate export type: Multiple pages* to reflect rates without ANI dial codes (groups)
- *Product*
- *Check lata*: Any, Use LATA, Without LATA
- *Rates based on*: Any, Dial codes, LATA+OCN, State+OCN, Destination, Destination with indices
- *Export type*:
 - *Between* is for the *Rate history between* parameter in *Export settings*
 - *Effective at* is for the *Rates effective at*
 - *Pending at* is for the *Changes pending at*
- *Export grouping*: by code (one dial code per line) or by destination (all dial codes within the same destination grouped in one line)
- *System column*: configure the set of columns for the rate export file.

System column	User column name		
DIAL_CODES_PACKED	Dial codes		
RATE_START_DATE	Effective from		
RATE_END_DATE	Effective till		

Add column: 

Destination
 Dial codes (comma separated)
 Rate 1
 Rate 2
 Rate 3
 Rate 4
 Change type
 Billing terms
 Week schedule
 Notes

Effective till 

Configuring a set of columns

Select the required parameter from the *Add column* drop-down list and click the  button.

It is possible to use control structures for column values. The following control structures are supported:

|B - highlight the cell with a border line of medium thickness

|BX - highlight the cell with a border line of predefined thickness, where X is the thickness (1 - thin, 2 - medium thickness, 3 - thick)

|NR - show negative values in red font

|NS - separate groups of three orders by a blank space (for example, 1 234 567 890.123)

|NX - round the value to X decimal places (X must be replaced with the number of decimal places). Negative values m, -2 - round to hundreds)

|WX - fixed column width where X is the number of pixels

|WT - take the column width from a template. If no template is selected when creating the document, the System will use the value from the System parameter "Excel column width settings ('WT' - Width from Template, 'E' - external, 'I' - internal)"

|WE - the column width is defined automatically by means of the Apache POI library (method sheet.autoSizeColumn)

|WI - the column width is defined by an internal algorithm: the maximum width of the inserted value; the value can not exceed 50 pixels

|H0 - define the column height automatically (if the structure is not used, the height is defined as per template)

|F - MS Excel auto filter; the structure must be set in multiple columns, and the filter will be applied to the columns between them

|T - treat the value as text and not try to translate it to a number

|WR - use word wrap for the cell

Example: Rate|B3

Based on the selected page, the following columns are available when the user clicks the *Add column* button:

For the main page: all values illustrated on the figure above are available.

For the A-number code page the following columns are available:

- *ANI carrier destination*
- *Rate ANI dial code*
- *ANI effective from*
- *ANI effective till*
- *Date format; Date time format:* set the date and time format for each product. By default, the System uses the values set in the parameters *Default format: date* and *Default format: datetime* (document export, Java) in [Administration\System settings\Common](#)⁴⁶. See also the [Alaris YouTube video](#)
- *Rate format:* configure the format of rates that is supported by MS Excel. Suppose the rate value is 1,6:

- if the format is # ##0, the rate will be displayed as 2
- \$#,##0.00_);[Red](\$#,##0.00) will be displayed as \$1,60
- \$ 0.0000 will be displayed as \$ 1,6000

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

Click on a record in the table. The right section of the page displays information on the selected rule.

Click the  *Edit* button on the bottom toolbar to edit the rule. Click the  *Clone* button to create a duplicate of the configured rule. This is helpful when you wish to configure another rule with similar parameters.

Direction: **Any**
 Product type: **US domestic**
 Product: **Any**
 Check LATA: **Any**
 Rates based on: **LATA + OCN**
 Export type: **Between**
 Export grouping: **Any**

System column	User column name
LATA	LATA
OCN	OCN
RATE_START_DATE	Effective from
RATE_END_DATE	Effective till
RATE1	Rate 1
RATE2	Rate 2
RATE3	Rate 3
RATE4	Rate 4
RATE5	Rate 5
RATE6	Rate 6
RATE_NOTES	Notes
BILL_INC	Billing terms
CHANGE_TYPE	Change type

Date format: **dd.MM.yyyy**
 Date time format: **yyyy.MM.dd HH:mm:ss**
 Rate format: **Default**

Configured rule

If several rules have the same settings, the first rule in the list is used.

If there are other rules with the same settings but a different set of columns, a new rule is not created, and the corresponding notification is displayed.

11.4.5 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.

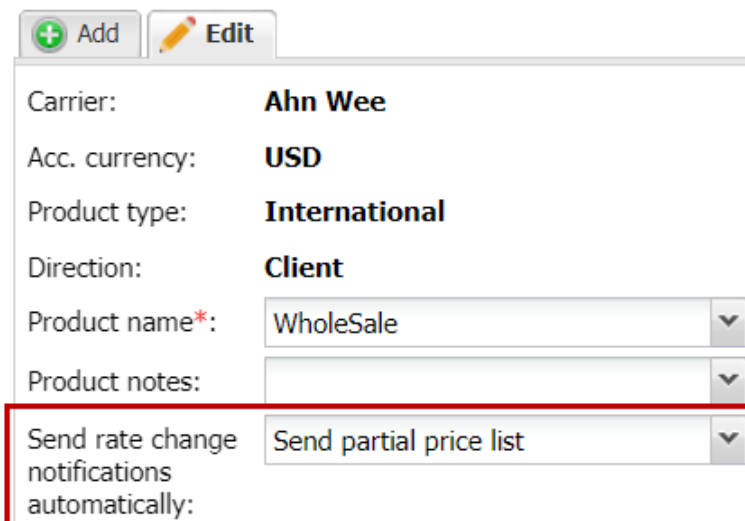
Auto rate export tasks are created as regular export tasks in the [Voice\Rates\Rate export](#) ^[313] interface.

11.4.5.1 How to configure auto rate export

In order to enable the functionality, the System parameter *Voice rate changes email auto send* must be set to 1.

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 meet the agreement notification period terms
- *Send full price list*: send a complete rate sheet including the changes



 	
Carrier:	Ahn Wee
Acc. currency:	USD
Product type:	International
Direction:	Client
Product name*:	WholeSale
Product notes:	
Send rate change notifications automatically:	Send partial price list

'Send rate change notifications automatically' field in Carriers\Products

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).

Notifications

Invoice delivery option:	System default
Payment alert:	System default
Default invoice emails:	n.coward@bigdoughcom.com
Default rate change emails:	norm.coward@bigdoughcom.com, forgetr
Default technical emails:	norm.c@bigdoughcom.com
	☒ Include in service notifications
Account alert emails:	norm.coward@bigdoughcom.com

'Default rate change emails' field in Carriers\Agreements

The notification will be sent from the mail server defined in the [Administration\Outgoing email accounts](#)^[33] 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 [Voice\Rates\Rate editor](#)^[302] and [Voice\Rates\Rate import](#)^[323]. 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.

11.4.5.2 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 recently. If a rate change is suitable for export, it's put to an internal queue for sending. Changes will be sent after X seconds following the first change from the queue, where X is configured in the parameter *Period for sending changes for voice products (seconds)*.

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 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 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).

An auto rate export task will have the parameters as follows:

Presets: a custom preset is applied if any suitable preset is configured for the product on the *Column settings* tab

Products: the client product

Include parent rates: selected

All destinations: selected

Voice

Countries: All

Dial codes: All

Export type: changes pending at

Start date: the current date 00:00:00

Use agreement timezone: deselected

Change types: All (for partial price list sending, changes with the same type are excluded from export)

Export as full replace: deselected

Show destination changes: deselected

Use system destinations: deselected

Grouping: by code

File format: Excel

Export target: Send via email

send to partner emails: selected

A task will be created only if the analysis returns any change in the [Voice\Rates\Rate export](#)^[313] 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](#)^[145]).

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 and the *In new rate notification, days* is set to 7, the System 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 [Voice\Rates\Rate export](#)^[313] interface.

Tasks					
Task created	Product	Task status	Details	User name	
 $-\infty \leq X \leq \infty$	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

If a change was made that does not meet the agreement terms, no task is created.

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\Rate module](#)^[69]). 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).

11.4.5.3 Examples

All scenarios imply that 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 new rate notification, days: 0

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 or the rate must be active from 2021.12.15 00:00:00).

2. In new rate notification, days: 1

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 00:00:00-2021.12.16 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 new rate notification, days: 1

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 new rate notification, days: 7

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).

11.4.6 Rate import (old)

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 *Voice\Rates\Rate import (old)* 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 [Voice\Rates\Auto rate import](#) ²⁹²)

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 *Voice\Rates\Rate import (old)* page
3. In case of auto rate import, the files are imported in the System automatically

- 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 [Voice\Rates\Rate import \(old\)\Rate sheet parsing](#) ^[330] for more details)
- 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:

- Go to *Voice\Rates\Rate import (old)*
- Select a file in the *Select file* table
- Supply appropriate values in the *Import settings* panel
- Click  *Continue* to proceed to rate sheet parsing

Below is a detailed overview of the *Voice\Rates\Rate import (old)* page.

11.4.6.1 Rate import page overview

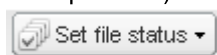
The *Voice\Rates\Rate import (old)* page contains two sections: file import queue and *Import settings*. The top left section is a file import queue that displays files both received to the email address and uploaded by the System owner.

 Start Page  Rate Import ✕				
Select file				
☒	Status	Carrier	Product	File name
	All ▾	All ▾	All ▾	
☐	Canceled	ALARIS TEST	CLI (USD) - Client	Mexico.xls
☒	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls
☐	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls
☐	Not imported	Beer Construction	CLI (USD) - Vendor	Sample Rate Sheet - C.xls
☐	Imported	Boring Enterprises		2-page test.xls
☐	Not imported	Boring Enterprises		Sample Rate Sheet - C.xls

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*



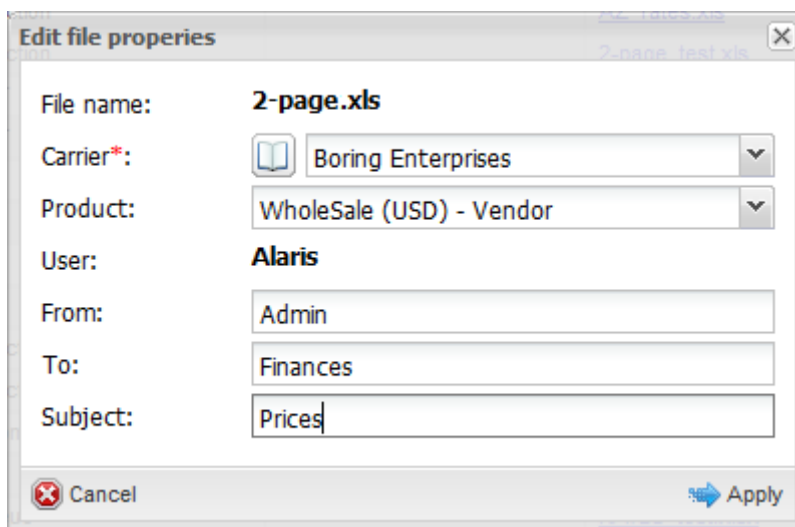
Set file status below the table to change the status of selected records

- Carrier*
- Product*
- File name*: click on the file name to open the rate sheet file
- Mail parameters*: *Mail from*, *Mail to* and *Mail subject*
- Import history*: contains the view link that opens the import history of the file

2-page_test.xls			
Carrier	Product	Import result	Start time
Boring Enterprises	WholeSale (USD) - Vendor	Cancelled	2016.06.01 10:28:05
Boring Enterprises	WholeSale (USD) - Vendor	Cancelled	2016.05.26 11:43:03
Boring Enterprises	WholeSale (USD) - Vendor	Cancelled	2016.05.25 10:33:02

Import history

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

File name: **2-page.xls**

Carrier*:  Boring Enterprises

Product: WholeSale (USD) - Vendor

User: **Alaris**

From: Admin

To: Finances

Subject: Prices

 Cancel  Apply

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; *Convert*  **Convert** - convert the file from a carrier-specific to the standard format (currently the only available option is *TATA*). Select *TATA* when a file contains several rows with multiple rate changes for a single dial code. For example:

346021 - 0.1 - 2024.09.01

346021 - 0.2 - 2024.10.01

346021 - 0.3 - 2024.11.01

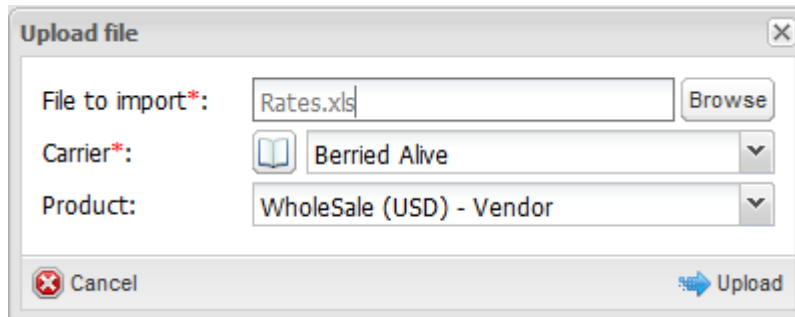
346022 - 0.1 - 2024.09.01

346022 - 0.2 - 2024.10.01

When *TATA* is selected, three files will be generated and appear in the file import queue: one with the rate 0.1 (for dial codes 346021 and 346022), one with the rate 0.2 (for dial codes 346021 and 346022) and one with the rate 0.3 (for dial code 346021)."

11.4.6.2 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).

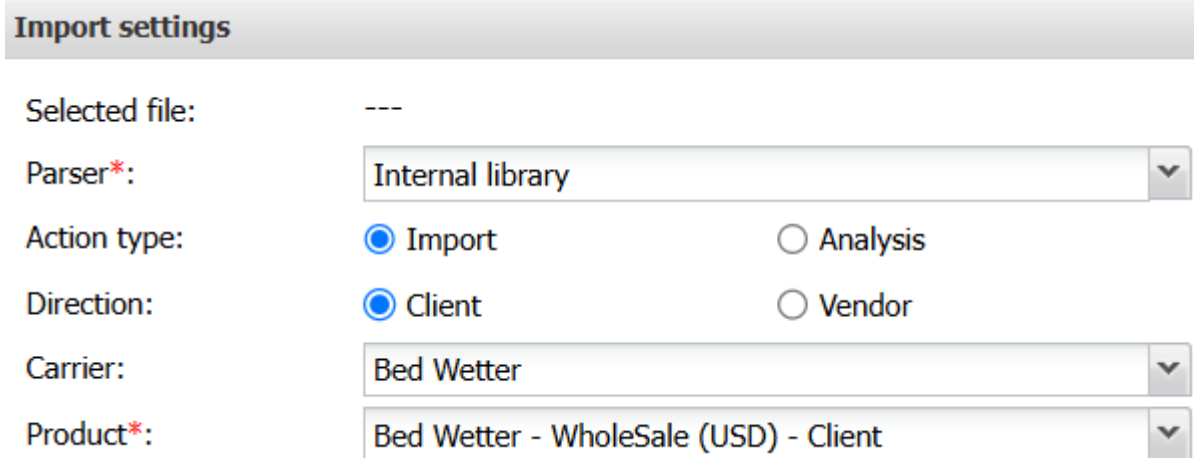


Upload file window

When through with defining the imported file, click  **Upload** *Upload* to upload the file or  **Cancel** *Cancel* to discard the settings.

11.4.6.3 Import settings panel

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:

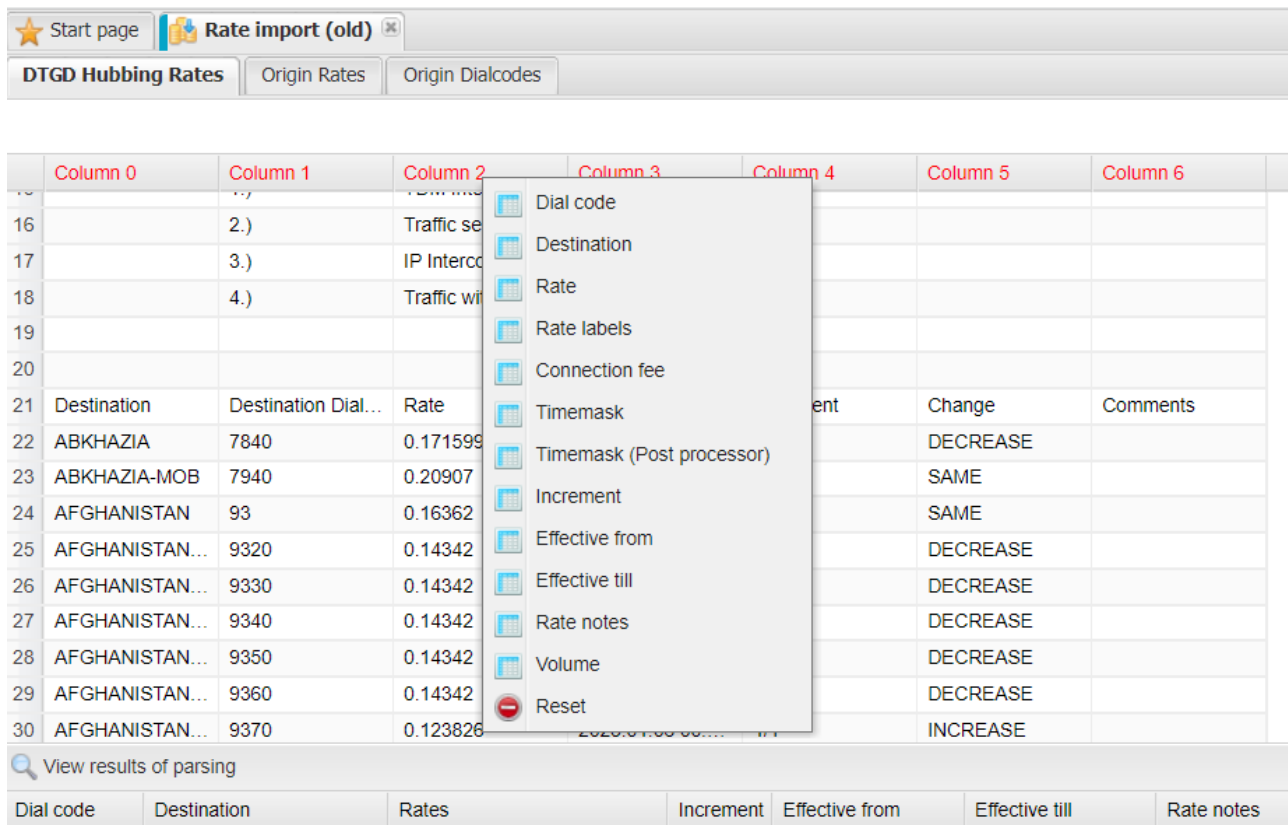
- *Selected file* (not editable): indicates the name of the selected uploaded ratesheet
- *Parser*: parser for converting of the source file into the System structure. The default (and recommended) value is *Internal library*; try other values only if the output file is illegible
- *Direction* (*Client* or *Vendor*): defines whether to import the selected ratesheet to a client or vendor product
- *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* 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.

11.4.6.4 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.



The screenshot shows the 'Rate import (old)' window with tabs for 'DTGD Hubbing Rates', 'Origin Rates', and 'Origin Dialcodes'. A table preview is displayed with columns labeled 'Column 0' through 'Column 6'. A context menu is open over the table, listing available column types: Dial code, Destination, Rate, Rate labels, Connection fee, Timemask, Timemask (Post processor), Increment, Effective from, Effective till, Rate notes, Volume, and Reset. Below the table, there is a 'View results of parsing' section with a table showing parsed data: Dial code, Destination, Rates, Increment, Effective from, Effective till, and Rate notes.

Column 0	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
16	2.)	Traffic se				
17	3.)	IP Interco				
18	4.)	Traffic wi				
19						
20						
21	Destination	Destination Dial...	Rate	ent	Change	Comments
22	ABKHAZIA	7840	0.171599		DECREASE	
23	ABKHAZIA-MOB	7940	0.20907		SAME	
24	AFGHANISTAN	93	0.16362		SAME	
25	AFGHANISTAN...	9320	0.14342		DECREASE	
26	AFGHANISTAN...	9330	0.14342		DECREASE	
27	AFGHANISTAN...	9340	0.14342		DECREASE	
28	AFGHANISTAN...	9350	0.14342		DECREASE	
29	AFGHANISTAN...	9360	0.14342		DECREASE	
30	AFGHANISTAN...	9370	0.123826		INCREASE	

Dial code	Destination	Rates	Increment	Effective from	Effective till	Rate notes

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:

- *Dial code*: dial codes (one or two columns; maximum dial code length is 16 digits; longer codes will be trimmed)
- *Destination*: destination names (up to 3 columns)
- *Rate*: prices (up to 3 columns: Rates, Rates (Off-Peak), Rates (Weekend))

- *Rate labels*: price types (e.g. peak/offpeak)
- *Connection fee*
- *Timemask*: peak/offpeak schedule (up to 4 columns)
- *Timemask (Post processor)*: peak/offpeak schedule for rate sheets handled by a postprocessor
- *Increment*: billing increment
- *Effective from*: date and time the rates become effective at
- *Effective till*: date and time of the rates' expiration

NOTE: The *Effective till* date set in the *Settings* panel is not converted irrespective of the *Timezone* field value. However, if the *Effective till* date is added as a column in the file, it will still be converted to the specified *Timezone*.

- *Rate notes*: any information for your reference (saved as the *Rate notes* parameter of the rates)
- *Volume*: indication of the volume per dial code (for rate analysis)
- *Reset*: select to clear the column heading

The right panel contains the parser settings.

Product: **TT_Voice_ANI_client_V2 - TT_Voice_ANI_client_V2_prod1 (USD) - Client**

First rows:

☒ Fix selected rows

Rate merging options*: ☐ Close all rates

☒ Update only rates for fully matching dial codes

☒ Close non-matching dial codes

☐ Close rates for entire destinations

☐ Close rates for entire countries

☐ Do not affect dial codes from the price list

☐ Do not close rates without price

Close date*:

Close days after ratesheet received

Effective from:

Effective till:

Increase date:

Ratesheet received on*:

Time zone*:

Billing increment: - default increment

Timemask You must specify the "Timemask" column formats:

Rates in columns: You must specify at least two Rate columns

Rates in rows: You must specify the "Rate" and "Rate labels" columns

Parser settings

The *Presets* toolbar on top of the view enables the user to create, upload and delete pre-set parsing templates:



Presets toolbar

If a file in a particular format was manually parsed before and the settings were saved as a preset, further operations with files in the same format will be confined to selecting the right preset and checking if the results are correct (i.e. whether there has been a format change requiring an adjustment of the parser settings).

The *Parser settings* view allows configuring of the following parameters (some of them are hidden by default and shown only in certain cases – like the peak/off-peak scheduler):

- *Product* (not editable): general details of the product being updated

- *First rows*: the first row with the rate data in the file (to bypass headers and other extra information irrelevant for the import procedure). Click on the necessary row in the table with the source file data and check the *Fix selected rows* checkbox. If the file contains multiple worksheets, the parameter has several edit boxes – one for each worksheet. If a worksheet has no rate data on it (e.g. it provides the peak/off-peak schedule) – do not set the first row for it, so that it can be skipped
- *Rate merging options*: the parameter defines how existing rates are joined with the newly imported rates. Possible options include:
 - *Close all rates*: close all active rates, so that only the fresh rates exist in the product
 - *Update only rates for fully matching dial codes*: update existing rates only for the dial codes present in the imported file, leaving the rest of the active rates intact. The rate closure date/time will be the same as the effective date/time of the new rates. Select the *Close non-matching dial codes* checkbox if you wish to close non-matching dial codes at desired date and time (specified in the *Close date* field)
 - *Close rates for entire destinations*: similar to the previous option, but with a wider scope. The System will close all existing rates for the whole System destination in case there is at least one rate for that destination in the imported file. Example: if the selected product contains three active rates for *Vodafone, Spain* – 34600, 346024 and 346025 - and there is at least one rate from the ratesheet belonging to the System destination *Vodafone*, all the three existing rates for *Vodafone, Spain* will be closed. The closure date for these three rates is calculated in one of the following ways: either the earliest effective date of the new rates, or the *Effective from* date taken from the *Parser settings* view. All rates for fully matching dial codes are modified with the effective dates of the new rates
 - *Close rates for entire countries*: the System will close all existing rates for the whole System country in case there is at least one rate for that destination in the imported file
- *Do not affect dial codes from the price list* (active when *Close rates for entire destinations/countries* is selected): do not close rates for the dial codes that are present both in the imported file and the product
- *Do not close rates without price* (available only if the *Rate merging options* field is set to *Update only rates for fully matching dial codes*): do not close product rates whose *Rate* column in the rate sheet is empty
- *Close date*: date of the rate closure
- *Close ... days after ratesheet received*: alternative to the previous parameter; close the rate the specified number of dates after the ratesheet is received to the System email
- *Effective from*: effective date/time for the imported rates. Can be either defined manually or taken from a column in the file
- *Effective till*: effective date/time for the imported rates. Can be either defined manually or taken from a column in the file. By default set to 00:00:00 Jan 1, 2100

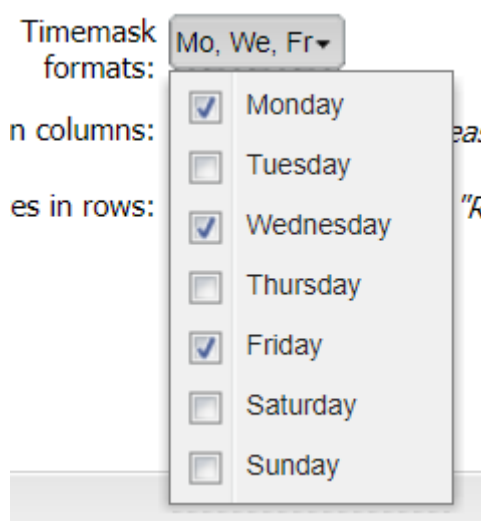
NOTE: The *Effective till* date set in the *Settings* panel is not converted irrespective of the *Timezone* field value. However, if the *Effective till* date is added as a column in the file, it will still be converted to the specified *Timezone*.

- *Increase date*: effective date/time for increased rates from the imported file. Optional (if not set explicitly in the parser settings, the *Effective from* parameter is used for all rates in the file)
 - *Ratesheet received on*: date and time of the ratesheet receipt (by default set to the current time)
-

- *Time zone*: the partner's time zone (automatically taken from the partner's agreement). The System uses this parameter to adjust the rate effective date/time and peak/off-peak schedules from the ratesheet to the time zone of the System owner.

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

- *Billing increment*: the billing increment in the x/y/z format. Set manually or by reference to a column in the file. It is possible to manually define a special increment for a group or groups of destinations by the [Add destination set](#) *Add destination set* button)
- *Timemask formats* (if the *Timemask* column is specified): select the days of week when the rate is active during the hours indicated in the *Timemask* column(s) (in 07:00-12:00 format, for example):



Timemask formats

- *Rates in columns*: set up parsing rules and schedule for peak/offpeak/weekend rates that are given in two or three columns in the file. The option becomes available if two or three *Rate* columns are specified (*Rate*, *Rate (Off-Peak)* and *Rate (Weekend)*). The peak/offpeak schedule is defined by the *Week scheduler* control. It is possible to define one or several groups of destinations with a special peak/offpeak schedule with the [Add destination set](#) *Add destination set* button)

Rates in columns:

Default

	Price	Value
☐	Not set	-
☐	Peak	{..}
☐	Off-Peak	{..}
☐	Weekend	{..}

	All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

Add destination set

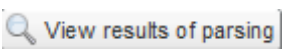
Rates in columns

- *Rates in rows*: set parsing rules when the schedule for peak/offpeak rates is given in a single column in the file (each dial code may be specified in multiple rows). The option becomes available if one *Rate* column and the *Rate labels* column are specified. The System tries to get the rate labels from it to map with the System rate types. The peak/offpeak schedule and destination sets with different schedules are defined as described in the *Rates in columns* section

If you wish to link two worksheets by a parameter (dial codes or destinations), specify the appropriate column name on both worksheets, and the System will join the data automatically.

The System reads the following ways of representation of dial code sequences in a single MS Excel cell: 111[1,3-5, 6-7, 9], 1144, 1145; 222[45..47, 40] (spaces do not matter).

The details that cannot be set by reference to a column can be manually specified in the respective fields in the parser settings. If a parameter is already set by linking to a column, the respective field for manual input is disabled.

Click  *View results of parsing* button. The table in the bottom left part of the page will display a preview of parsing results. The preview allows correcting mistakes in the parser settings (if any) and then run the import procedure.

NOTE: The preliminary rate import result displays the *Effective from* date of a new rate in case its period overlaps with the existing rate period.

View results of parsing						
Dial code	Destination	Rates	Increment	Effective from	Effective till	Rate notes
93	Afghanistan	0.2205	0/1/1	2022.12.01 21:00:...	2099.12.31 21:00:...	
9375	Afghanistan Cellular-AT	0.2	0/1/1	2022.12.01 21:00:...	2099.12.31 21:00:...	
9370	Afghanistan Cellular-A...	0.1385	0/1/1	2022.12.01 21:00:...	2099.12.31 21:00:...	
9373	Afghanistan Cellular-Eti...	0.145	0/1/1	2022.12.01 21:00:...	2099.12.31 21:00:...	
9378	Afghanistan Cellular-Eti...	0.145	0/1/1	2022.12.01 21:00:...	2099.12.31 21:00:...	
9376	Afghanistan Cellular-MTN	0.118	0/1/1	2022.12.01 21:00:...	2099.12.31 21:00:...	

View results of parsing

When through with defining the parsing settings, click the  **Continue** button on the bottom toolbar. Use the  **Reset** button to discard the parsing settings. To cancel and return to the previous page, click  **Cancel**.

11.4.6.5 Output of parsing information

When the  **Continue** button is pressed, the System parses the rate data from the file and shows a list of messages concerning the parsing results. 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  Rate import 					
Abrogate Communications - Platinum					
Line #	Message	Dial code	Destination	Error info	
	All messages 	Text mask	Text mask	Text mask	
	Rate change notification period violated	All in file	All in file		
127	Dial code duplicates	324750	Belgium-Mobile Direct		
130	Dial code duplicates	324750	Belgium-Mobile Proximus II		

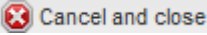
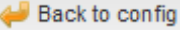
Messages on parsing results

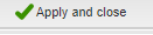
List of possible messages:

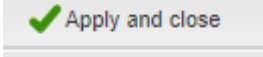
- Cannot update rate of a volume-based deal
- Rate deleted
- Rate type mismatch: non-US rates found in domestic ratesheet
- There is block_id=A in lerg for suitable npanxx
- No match in LERG6 found
- New billing increment added
- New timemask added
- Timemask not full
- Timemask overlap
- Timemask missing
- Duplicate schedule found
- Rate < 0
- Duplicate rate label found
- Too many rate_label or schedule values for one dial code (max 3)
- Dial code duplicates
- Duplicate record found, duplicate disregarded
- Parsing error
- Dial code missing

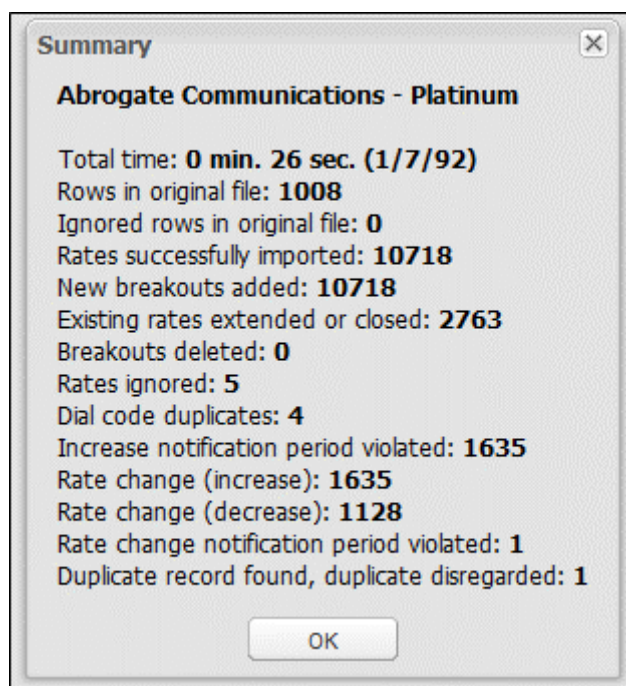
- Rate change notification period violated
- Increase notification period violated
- New dial code added to System code reference book
- Rate closed
- New rate added
- Past rate closed
- Past new rate added
- Rate change (increase)
- Rate change (decrease)
- Billing increment missing or invalid
- Past rate change (increase)
- Past rate change (decrease)
- Blocked rate
- Rate unblocked
- Same
- Past rate change (billing increment)
- Rate change (billing increment)
- Past same
- Past blocked rate
- Past unblocked rate
- Past blocked rate added
- Blocked rate added
- Past rate deleted
- Past rate closed with implicit increase
- Rate closed with implicit increase
- Past rate closed with implicit decrease
- Rate closed with implicit decrease
- Past rate closed with implicit same
- Rate closed with implicit same
- Past rate closed with implicit block
- Rate closed with implicit block

- Past rate closed with implicit unblock

Click the  **Cancel and close** button to cancel the import,  **Export to Excel** to export the table to MS Excel format, or  **Back to config** button to return to the *Parser settings* page.

As the final step, click the  **Apply and close** button to apply the new rates to the selected product (all lines with errors will be ignored).

NOTE: If the list of errors contains critical errors, the  **Apply and close** button is available only for users with the *No restrictions* role. To check which errors are considered critical, refer to the tab sheet *Error type levels* tab sheet (Rate import (old version)) of [Voice\Rates\Auto rate import](#)^[292].



Import results

After the rates are imported, you will see the summary with the task information.

11.4.6.6 Parsing of US Domestic ratesheets

Rates for destinations within the North American region (World Zone 1) often have a number of specific details as compared with standard international rates; so they require a different set of parsing options.

rate_import_vendor_price_list - premium.xls

Templates:

Product: **Ahn Wee - Gold (USD) - Client**

First rows:

☐ Fix selected rows

Rate merging options*: ☒ Close all rates

☐ Update only rates for fully matching breakouts

☐ Close non-matching breakouts

☐ Do not affect breakouts from the price list

☐ Do not close breakouts without price

Close date*: 2018.03.06 00:00:00

Close days after ratesheet received

Rates based on:

☐ Add World Zone 1 code

Effective from:

Effective till: 2100.01.01 00:00:00

Increase date:

Ratesheet received on*: 2018.03.06 08:59:38

Time zone*:

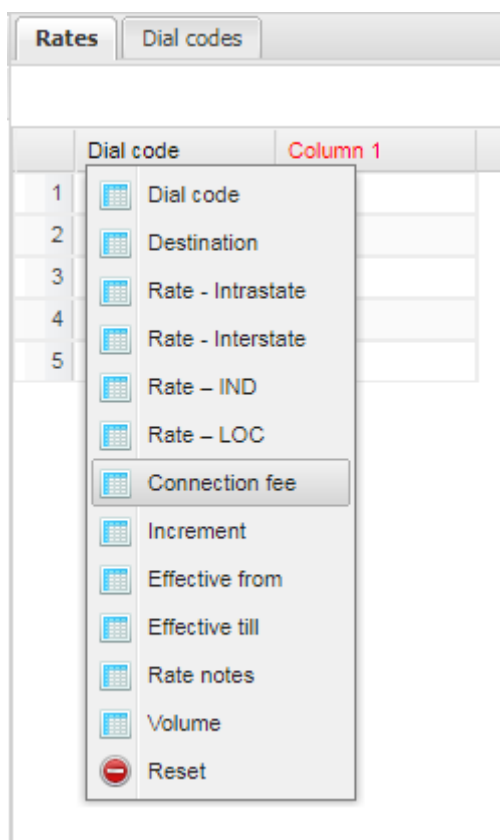
Billing increment:

Parser settings view

Below are the parsing parameters available for US Domestic products:

- *Product*: same as for International products
- *First rows*: same as for International products
- *Rate merging options*:
 - *Close all rates*: same as for International products
 - *Update only rates for fully matching dial codes; Close non-matching dial codes*: same as for International products
- *Do not affect dial codes from the price list* (active when *Close rates for entire destinations/countries* is selected): do not close rates for the dial codes that are present both in the imported file and the product
- *Do not close rates without price*: do not close product rates whose *Rate* column in the rate sheet is empty
- *Rates based on*: this parameter defines what the rates in the file are based on: dial codes (*Dial codes*), LATA+OCN combinations (*LATA+OCN*) or state+OCN combinations (*State+OCN*)

- *Add World Zone 1 code*: this parameter defines whether the digit 1 is added at the beginning of all the dial codes in the file (for cases when the dial codes are in the NPANXX(Y) format, i.e. there is no country code)
- *Effective from*: same as for International products
- *Effective till*: same as for International products
- *Increase date*: same as for International products
- *Ratesheet received on*: same as for International products
- *Time zone*: same as for International products
- *Billing increment*: same as for International products



Available column types

Available column types:

- *Dial code*: same as for International products
- *Destination*: same as for International products
- *Rate - Intrastate*: intrastate rate (if the *Use LATA-based rates* flag in the product properties is not set)
- *Rate - Interstate*: interstate rate (if the *Use LATA-based rates* flag in the product properties is not set)
- *Rate - Intrastate/IntraLATA*: intrastate/intraLATA rate (if the *Use LATA-based rates* flag in the product properties is set)

- *Rate - Interstate/IntraLATA*: interstate/intraLATA rate (if the *Use LATA-based rates* flag in the product properties is set)
- *Rate - Intrastate/InterLATA*: intrastate/interLATA rate (if the *Use LATA-based rates* flag in the product properties is set)
- *Rate - Interstate/InterLATA*: interstate/interLATA rate (if the *Use LATA-based rates* flag in the product properties is set)
- *Rate-IND*: indeterminate rate (jurisdiction cannot be determined)
- *Rate-LOC*: local rate (special price set by the carrier within some segment of the network)
- *Connection fee* (learn more in [Alaris YouTube video](#))
- *Increment*: same as for International products
- *Effective from*: same as for International products
- *Effective till*: same as for International products
- *Rate notes*: same as for International products
- *Volume*: same as for International products

11.4.7 Rate import

11.4.7.1 Rate import page overview

The *Voice\Rates\Rate import* page is a new and enhanced version of the rate import tool. As compared with the older [Voice\Rates\Rate import \(old\)](#)^[326], it works faster, offers more flexible analysis and allows multitasking, that is performing several import tasks in the background mode. Also, import of A number-based rates is only available in this interface (and not the old one). The old import tool is also available for convenience of transition, however the use of the new *Voice\Rates\Rate import* is recommended.

The *Voice\Rates\Rate import* page consists of three sections: the file import queue, the *Tasks* table and *Import settings* panel. The top left section is a file import queue that displays files both received to the email address and uploaded by the System owner.

★ Start page  Rate import					
Select file					
☐	Status	Carrier	Product	File name	Date
	Imported	All	All		
☐	Imported	Ahn Wee	WholeSale (USD) - Vendor	Ratesheet.xlsx	2017.01.
☐	Imported	Anita Job	WholeSale (USD) - Vendor	Ratesheet.xlsx	2017.01.
☐	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls	2016.08.
☐	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls	2016.07.
☐	Imported	Boring Enterprises	-	2-page test.xls	2016.05.
☐	Imported	CallingElvis	CLI (USD) - Client	az.xls	2017.02.

File import queue

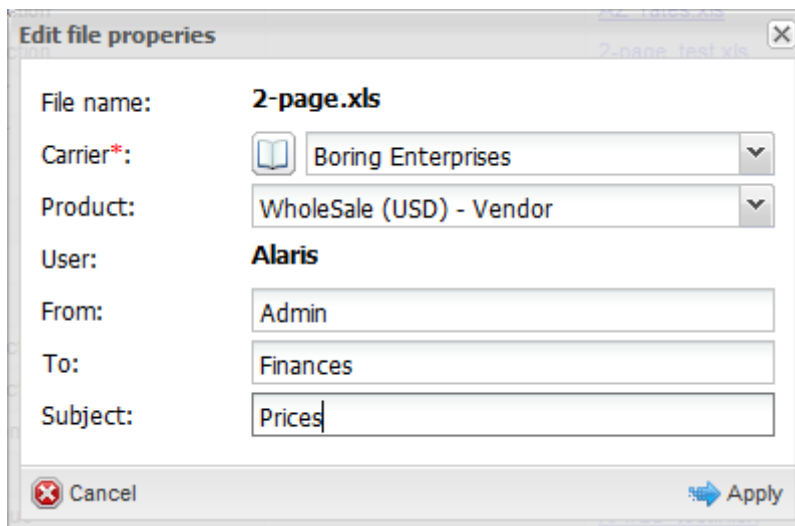
The table contains the following columns (self-explanatory columns are not described below):

- *Status*: displays one of the following values: *Not imported* (has not been parsed, or no rule was found in auto rate import - see [Voice\Rates\Auto rate import](#)^[292]), *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* below the table to change the status of selected records

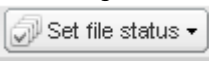
- *File name*: click on the file name to open the rate sheet file
- *Mail parameters*: *Mail from*, *Mail to* and *Mail subject*

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 the selected record;

 *Upload file* - upload a file for import;  *Set file status* - change the file status;  *Auto import selected file*

- perform automatic import of the file.  *Convert* - convert the file from a carrier-specific to the standard format (currently the only available option is *TATA*). Select *TATA* when a file contains several rows with multiple rate changes for a single dial code. For example:

346021 - 0.1 - 2024.09.01

346021 - 0.2 - 2024.10.01

346021 - 0.3 - 2024.11.01

346022 - 0.1 - 2024.09.01

346022 - 0.2 - 2024.10.01

When *TATA* is selected, three files will be generated and appear in the file import queue: one with the rate 0.1 (for dial codes 346021 and 346022), one with the rate 0.2 (for dial codes 346021 and 346022) and one with the rate 0.3 (for dial code 346021)."

The bottom section of the page is the *Tasks* table containing import tasks (for both manual and auto import).

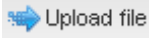
Tasks							
Task ID	Task created	Product	Import m...	Status	Summary	Details	User name
TASK663824	2023.03.23 12:35:28	alexander_vendor - Premium (USD) - Vendor	choice	aborted	Canceled by user	view	alexander
TASK663664	2023.03.23 11:55:31	alexander_vendor - Premium (USD) - Vendor	choice	aborted	Canceled by user	view	alexander
TASK662628	2023.03.23 08:02:18	alexander_vendor - Premium (USD) - Vendor	choice	aborted	Canceled by user	view	alexander
TASK662766	2023.03.23 07:57:08	alexander_vendor - Premium (USD) - Vendor	choice	ready	Rates closed: 0; Valid rates found in file: 152; New rates ad...	view	alexander
TASK662738	2023.03.23 07:54:53	Ancient Communications - Gold (EUR) - Client	choice	ready	Rates closed: 0; Valid rates found in file: 152; New rates ad...	view	alexander
TASK662658	2023.03.23 07:37:02	Alteria Telecom - Contri - Wholesale (EUR) - ...	choice	aborted	Timed out - canceled automatically	view	alexander
TASK657690	2023.03.21 15:41:16	alexander_vendor - Premium (USD) - Vendor	choice	aborted	Canceled by user	view	Alaris

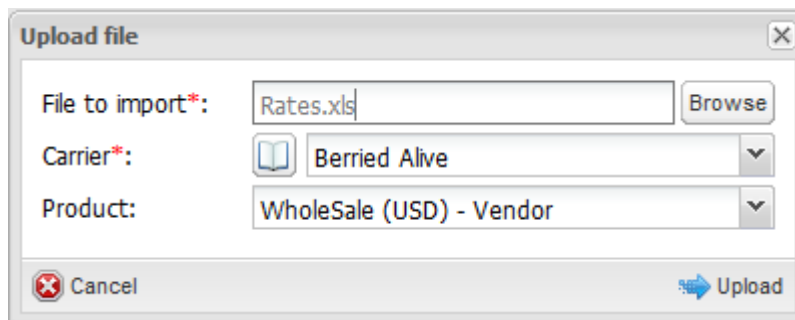
Tasks

The table contains the following columns:

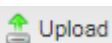
- *Task ID*
- *Job created*: task creation date and time
- *Product*
- *Import mode*: possible values are:
 - *auto*: import without preview, using the *Error type level* settings of the *Auto rate import* (see [Voice\Rates\Auto rate import](#)²⁹² for more details)
 - *import*: import without a preview of results
 - *choice*: manual import with a preview of results
 - *analysis*: preview of import results without the actual import
- *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)
- *Details*: contains the view hyperlink that opens a preview of rates (for the *choice* and *analysis* import modes).

11.4.7.2 File upload

To upload a new file for rate import, click the  **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).

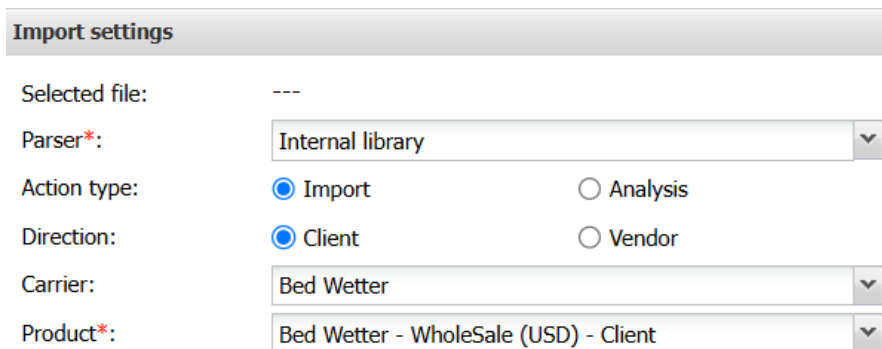


Upload file window

When through with defining the imported file, click  *Upload* to upload the file or  *Cancel* to discard the settings.

11.4.7.3 Import settings menu

Click on the uploaded file in the *Select file* table to activate the *Import settings* panel located to the right of the table.



Import settings panel

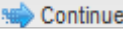
The *Import settings* panel contains the following parameters:

- *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
- *Action type* (*Import* or *Analysis*): defines the type of the activity - import or analysis. *Analysis* enables in-depth comparison between existing and new rates, The results become available at [Voice\Rates\Rate analysis](#)
- *Direction* (*Client* or *Vendor*): defines whether to import the selected ratesheet to a client or vendor product
- *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

If *Analysis* is selected, the following parameters are available:

- *Client/Vendor rates*: *Vendor offer* or *Client targets*
- *Product type*: *International*, *US domestic* or *DID*

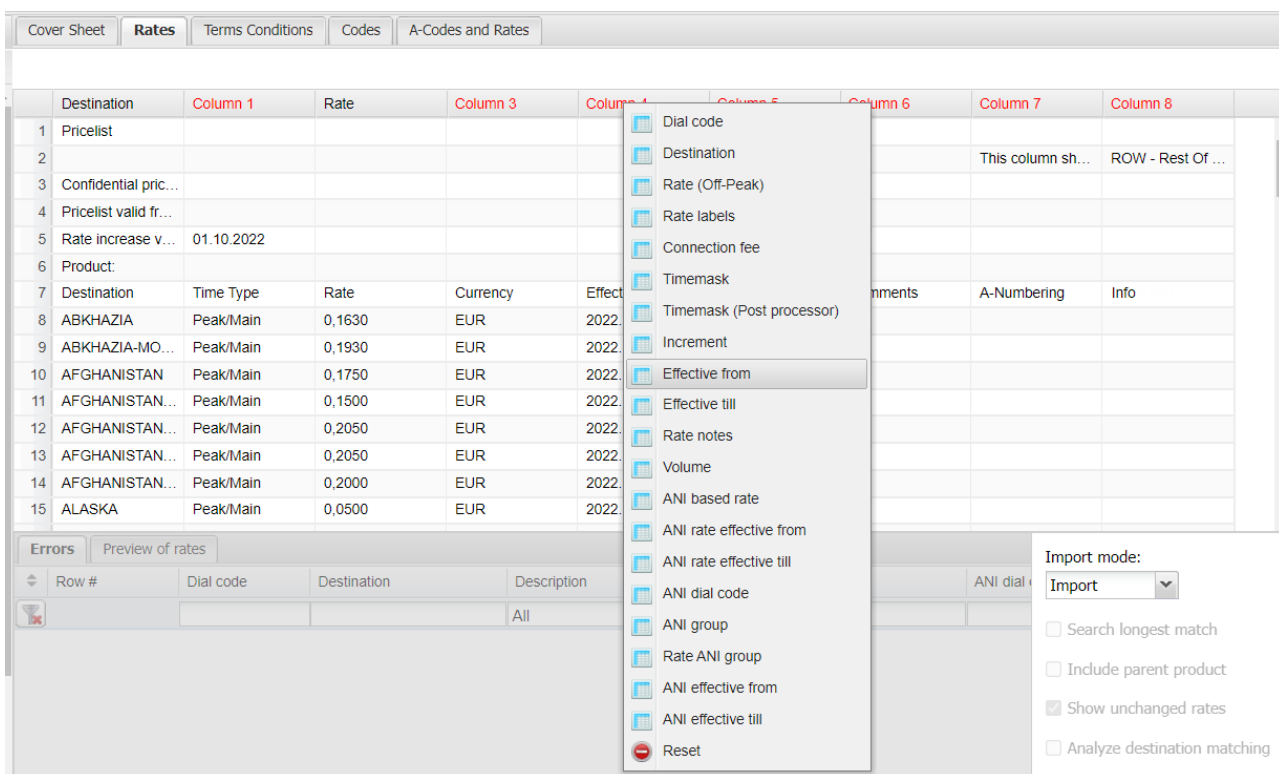
- If *US domestic* is selected, *Use LATA (Yes/No)* radio buttons are active

When through with defining the import settings, click  *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.

11.4.7.4 Rate sheet parsing and import

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 original file may contain several tab sheets as illustrated in the figure above. The columns must be defined for all of them.

The following column types are available:

- *Dial code*: dial codes (one or two columns; maximum dial code length is 16 digits; longer codes will be trimmed)
- *Destination*: destination names (up to 3 columns)
- *Rate*: prices (up to 3 columns: Rates, Rates (Off-Peak), Rates (Weekend))

- *Rate labels*: price types (e.g. peak/offpeak)
- *Connection fee*
- *Timemask*: peak/offpeak schedule (up to 4 columns)
- *Timemask (Post processor)*: peak/offpeak schedule for rate sheets handled by a postprocessor
- *Increment*: billing increment
- *Effective from*: date and time the rates become effective at
- *Effective till*: date and time the rates are effective till
- *Rate notes*: any information for your reference (saved as the *Rate notes* parameter of the rates)

NOTE: The field is checked for markers defined in the parameters *Rate block/close markers* in [Administration\System settings\Rate module](#)^[69]. If these markers are found in the *Rate notes* field, the rate is blocked or closed respectively.

- *Volume*: indication of the volume per dial code (for rate analysis)
- *ANI based rate*: rate for a specific A-number dial code (the *Rate* column is used for those sheets of the rate file that do not employ A-number based billing, that is, the ANI dial code is empty)
- *ANI rate effective from*: rate start date for the A-number dial code (the *Effective from* column is used for those rate file sheets that do not use A-number based billing, that is, the *ANI dial code* field is empty)
- *ANI rate effective till*: rate end date for the A-number dial code (the *Effective till* column is used for those rate file sheets that do not use A-number based billing, that is, the *ANI dial code* field is empty)
- *ANI dial code*: A-number dial code
- *ANI group*: group of A-number dial codes that can be specified on every sheet of the rate file to ensure connectivity between dial codes and rates. The column value is saved to the rate's ANI carrier destination field
- *Rate ANI group*: A-number dial code group. It is available if *ANI group* is set
- *ANI effective from*: A-number dial code start date (optional). If not set or specific rows have no values, the *Effective from* value is used. If set, the greatest value of *ANI rate effective from* and *ANI effective from* is used as the rate start date
- *ANI effective till*: A-number dial code end date (optional). If not set or specific rows have no values, the *Effective till* value is used as the rate end date. If set, the least value of *ANI rate effective till* and *ANI effective till* is used as the rate end date
- *Reset*: select to clear the column heading

The left panel contains the panel of parser settings.

Product: **TT_Voice_ANI_client_V2 - TT_Voice_ANI_client_V2_prod4 (USD) - 0**

First rows:

☒ Fix selected rows

Rate merging options*:

- ☐ Close all rates
- ☐ Update only rates for fully matching dial codes
 - ☐ Close non-matching dial codes
- ☐ Close rates for entire destinations
- ☐ Close rates for entire countries
- ☐ Do not affect dial codes from the price list
- ☐ Do not close rates without price

Close date*:

Close days after ratesheet received

☐ Use latest "effective from" date as "close date"

Effective from:

Effective till:

Increase date:

Ratesheet received on*:

Time zone*:

Block rates higher than:

Default dial code:

☒ Remove leading zeroes

Billing increment: - default increment

Timemask formats: *You must specify the "Timemask" column*

Rates in columns: *You must specify at least two Rate columns*

Rates in rows: *You must specify the "Rate" and "Rate labels" columns*

Parser settings panel

The *Presets* toolbar on top of the panel enables the user to create, upload and delete pre-set parsing templates.



Presets toolbar

If a file in a particular format was manually parsed before and the settings were saved as a template, further operations with files in the same format will be confined to selecting the right template and checking if the results are correct (i.e. whether there has been a format change requiring an adjustment of the parser settings).

The *Parser settings* panel allows configuring of the following parameters: (some of them are hidden by default and shown only in certain cases – like the peak/off-peak scheduler):

- *Product* (not editable): general details of the product being updated
- *First rows*: the first row with the rate data in the file (to bypass headers and other extra information irrelevant for the import procedure). Click on the necessary row in the table with the source file data and check the *Fix selected rows* checkbox. If the file contains multiple worksheets, the parameter has several edit boxes – one for each worksheet. If a worksheet has

no rate data on it (e.g. it provides the peak/off-peak schedule) – do not set the first row for it, so that it can be skipped

- *Rate merging options*: the parameter defines how existing rates are joined with the newly imported rates. Possible options include:
 - *Close all rates*: close all active rates, so that only the fresh rates exist in the product
 - *Update only rates for fully matching dial codes*: update existing rates only for the dial codes present in the imported file, leaving the rest of the active rates intact. The rate closure date/time will be the same as the effective date/time of the new rates. Select the *Close non-matching dial codes* checkbox if you wish to close non-matching dial codes at desired date and time (specified in the *Close date* field)
 - *Close rates for entire destinations*: similar to the previous option, but with a wider scope. The System will close all existing rates for the whole System destination in case there is at least one rate for that destination in the imported file. Example: if the selected product contains three active rates for *Vodafone, Spain* – 34600, 346024 and 346025 - and there is at least one rate from the ratesheet belonging to the System destination *Vodafone, Spain*, all the three existing rates for *Vodafone* will be closed. The closure date for these three rates is calculated in one of the following ways: either the earliest effective date of the new rates, or the *Effective from* date taken from the *Parser settings* panel. All rates for fully matching dial codes are modified with the effective dates of the new rates
 - *Close rates for entire countries*: the System will close all existing rates for the whole System country in case there is at least one rate for that destination in the imported file
- *Do not affect dial codes from the price list* (active when *Close rates for entire destinations/countries* is selected): do not close rates for the dial codes that are present both in the imported file and the product
- *Do not close rates without price* (available if the *Rate merging options* field is set to *Update only rates for fully matching dial codes*): do not close product rates whose *Rate* column in the rate sheet is empty
- *Close date*: date of the rate closure
- *Close ... days after ratesheet received*: alternative to the previous parameter; close the rate the specified number of dates after the ratesheet is received to the System email
- *Effective from*: effective date/time for the imported rates. Can be either defined manually or taken from a column in the file

NOTE: If the field is left empty or cannot be parsed, the value of the *Ratesheet received on* field will be used as the effective from date.

- *Effective till*: effective date/time for the imported rates. Can be either defined manually or taken from a column in the file. By default set to 00:00:00 Jan 1, 2100
- *Increase date*: effective date/time for increased rates from the imported file. Optional (if not set explicitly in the parser settings, the *Effective from* parameter is used for all rates in the file)
- *Ratesheet received on*: date and time of the ratesheet receipt (by default set to the current time)
- *Time zone*: the partner's time zone (automatically taken from the partner's agreement). The System uses this parameter to adjust the rate effective date/time and peak/off-peak schedules from the ratesheet to the time zone of the System owner.

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

- *Block rates higher than:* imported rates that are higher than the value defined in the parameter are blocked. The condition is not strict, for example, to exclude the rates with value 1, specify the setting value as 0.99
- *Default dial code:* the B-number dial code that will be used if the *Dial code* column is not set in the file or some rows have no B-number dial code
- *Remove leading zeros:* select to remove leading zeros for *Dial code* and *ANI dial code* values
- *Billing increment:* the billing increment in the x/y/z format. Set manually or by reference to a column in the file. It is possible to manually define a special increment for a group or groups of destinations by the [Add destination set](#) *Add destination set* button)
- *Timemask formats* (if the *Timemask* column is specified): select the days of week when the rate is active during the hours indicated in the *Timemask* column(s) (in 07:00-12:00 format, for example):

Timemask formats: Mo, We, Fr

n columns: 1

es in rows: 1

☒	Monday
☐	Tuesday
☒	Wednesday
☐	Thursday
☒	Friday
☐	Saturday
☐	Sunday

Timemask formats

- *Rates in columns:* set up parsing rules and schedule for peak/offpeak/weekend rates that are given in two or three columns in the file. The option becomes available if two or three *Rate* columns are specified (*Rate*, *Rate (Off-Peak)* and *Rate (Weekend)*). The peak/offpeak schedule is defined by the *Week scheduler* control. It is possible to define one or several groups of destinations with a special peak/offpeak schedule with the [Add destination set](#) *Add destination set* button)

Rates in columns:

Default

	Price	Value
☐	Not set	-
☐	Peak	{..}
☐	Off-Peak	{..}
☐	Weekend	{..}

	All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

Add destination set

Rates in columns

- *Rates in rows*: set parsing rules when the schedule for peak/offpeak rates is given in a single column in the file (each dial code may be specified in multiple rows). The option becomes available if one *Rate* column and the *Rate labels* column are specified. The System tries to get the rate labels from it to map with the System rate types. The peak/offpeak schedule and destination sets with different schedules are defined as described in the *Rates in columns* section

If you wish to link two worksheets by a parameter (dial codes or destinations), specify the appropriate column name on both worksheets, and the System will join the data automatically.

The System reads the following ways of representation of dial code sequences in a single MS Excel cell: 111[1,3-5, 6-7, 9], 1144, 1145; 222[45..47, 40] (spaces do not matter).

The details that cannot be set by reference to a column can be manually specified in the respective fields in the parser settings. If a parameter is already set by linking to a column, the respective field for manual input is disabled.

Click **Check**  **Check** at the bottom of the left panel for a list of errors and preview of rates, which are displayed at the bottom right section of the page.

Errors					Preview of rates	
Row #	Dial code	Destination	Description	Information		
			All			
Pricelist:1			Parsing error	Not all mandatory columns defined.		
Pricelist:2			Parsing error	Not all mandatory columns defined.		
Pricelist:3	Exatel S.A. ...		Dial code missing			
Pricelist:3	Exatel S.A. ...		Rate start date not found	Default effective date used.		
Pricelist:4	Codes		Rate start date not found	Default effective date used.		
Pricelist:4	Codes		Rate parsing error	Rate value is not numeric		
Pricelist:5	840		Rate start date not found	Default effective date used.		
Pricelist:5	840		Dial code duplicates			

Import mode:

Import

☐ Search longest match☐ Include parent product☒ Show unchanged rates

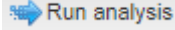
Run import

Errors and preview of rates

NOTE: If the imported rate sheet contains a rate whose *Effective from* date is past the agreement start date, the following message appears in the *Errors* tab sheet: "Rate effective from is past the agreement

start date". During import the *Effective from* date is automatically changed to the date after the current one.

NOTE: If the rate file contains multiple rows for the same dial code, the rate with the maximum price will be chosen for import.

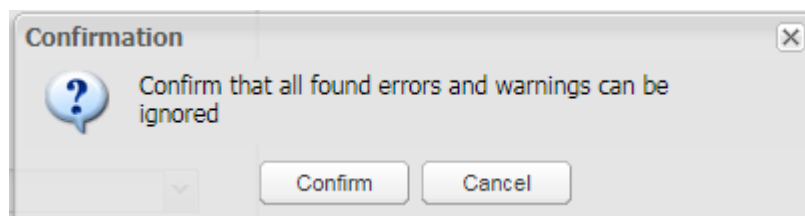
If the *Analysis* option was selected in the *Import settings* page, click *Run analysis* . In the *Tasks* table (see below) click the analysis link in the *Details* column. You will be directed to the [Voice\Rates\Rate analysis](#) ^[296] page.

If the *Import* option was selected in the *Import settings* page, select the appropriate mode in the *Import mode list*:

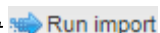
- *Auto*: import without preview, using the *Error type level* settings of the *Auto rate import* (see [Voice\Rates\Auto rate import](#) ^[292] for more details)
- *Import*: import without a preview of results
- *Choice*: analysis with possibility to import rates into the product
- *Analysis*: preview of import results without the actual import

NOTE: All errors and warnings will be ignored in the preview and imported file.

- When appropriate, select the following checkboxes (available in every option except *Import*):
 - *Search longest match*: enables additional checks for implicit changes (for example, a rate for dial code 34511120 at the price 0.2 was added while the product already had a rate for 34 at the price of 0.1 – as a result there is no direct increase but the traffic cost can change)
 - *Include parent product*: use a combined price list from the existing child and parent product to compare with the rates to be imported
 - *Show unchanged rates*: deselect to hide rates not affected by the operation from the analysis results (learn more about this functionality in [Alaris YouTube](#) video)
 - *Analyze destination matching* (available for *Analysis* and *Choice* options, and only if the *Destination* column is set in the rate file): when selected, the System will compare the destinations of dial codes available in the System with those in the rate file. If the destinations differ significantly, the following warning will appear: "Partner destination to dial code consistency is different from System reference book (system : , partner :)".



Confirmation dialog

Click *Run import* . A dialog illustrated above will appear. Click *Confirm* . The user is then returned to the [Voice\Rates\Rate import](#) ^[341] page; the task appears in the *Tasks* panel as shown in the figure below.

Tasks						
Task ID	Job created	Product	Import mode	Status	Sum...	Details
 $-\infty \leq X \leq \infty$		All		All		
TASK108130	2017.11.23 10:23:16	Cheapsy King - WholeSale (USD)...	analysis	ready	Analy...	view
TASK108128	2017.11.23 10:22:16	Cheapsy King - WholeSale (USD)...	import	ready	Impor...	
TASK108124	2017.11.23 10:15:07	Cheapsy King - WholeSale (USD)...	import	ready	Impor...	

Tasks panel

To view the import results:

- For the *Analysis* option: click the *view* link in the *Details* column
- For the *Choice* option: click the *waiting* link in the *Status* column

★ Start page  Rate import 							
Rates.xlsx (Product: Boring Enterprises - WholeSale(USD) - Vendor)							
 $-\infty \leq X \leq \infty$	Critical point	Dial code	Destination	Rate before		Rate after	
				Min.	Max.	Min.	Max.
	2017.01.01 00:00:00	1	United States of America, ...	0.00556		0.17500	
	2017.01.01 00:00:00	1	United States of America, ...	0.00556		0.17500	
	2017.01.01 00:00:00	1	United States of America, ...	0.00556		-	
	2018.01.01 00:00:00	1	United States of America, ...	0.00556		-	
	2018.01.01 00:00:00	1	United States of America, ...	0.00556		-	
	2100.01.01 00:00:00	1	United States of America, ...	-		-	
	2022.12.02 00:00:00	1086	United States of America, ...	0.01303		-	
	2022.12.02 00:00:00	1086	United States of America, ...	0.01303		-	

Import results (for *Analysis* and *Choice* options)

The bottom of the page contains the  **Export to Excel** *Export to Excel* button that allows exporting the results to an MS Excel file. If the *Choice* option was selected, the  **Cancel import** *Cancel import* and  **Apply rates** *Apply rates* buttons are also available at the bottom of the page. Click *Apply rates*  **Apply rates** to import the rates or  **Cancel import** *Cancel import* to return to the previous page. The status in the *Tasks* table will change to *ready* and the *Details* column will contain the *view* link for displaying the import results.

11.4.7.5 Parsing of US Domestic ratesheets

Rates for destinations within the North American region (World Zone 1) often have a number of specific details as compared with standard international rates; so they require a different set of parsing options.

rate_import_vendor_price_list - premium.xls

Templates:

Product: **Ahn Wee - Gold (USD) - Client**

First rows:

☐ Fix selected rows

Rate merging options*: ☒ Close all rates

☐ Update only rates for fully matching breakouts

☐ Close non-matching breakouts

☐ Do not affect breakouts from the price list

☐ Do not close breakouts without price

Close date*: 2018.03.06 00:00:00

Close days after ratesheet received

Rates based on:

☐ Add World Zone 1 code

Effective from:

Effective till: 2100.01.01 00:00:00

Increase date:

Ratesheet received on*: 2018.03.06 08:59:38

Time zone*:

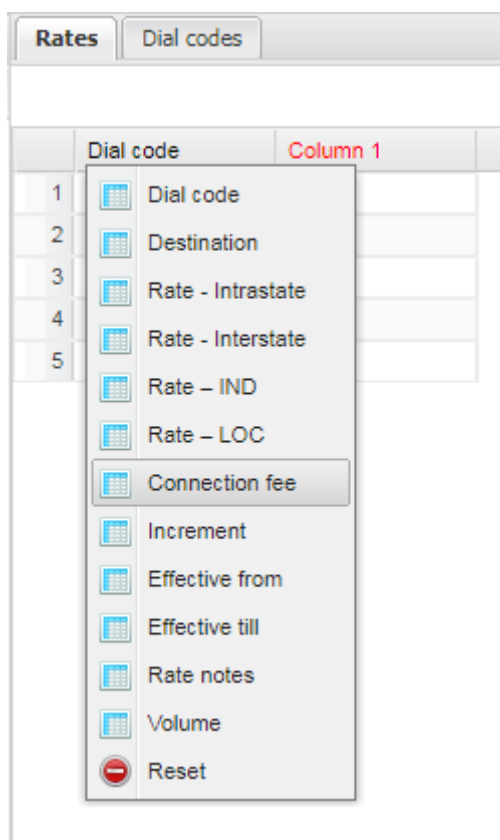
Billing increment:

Parser settings view

Below are the parsing parameters available for US Domestic products:

- *Product*: same as for International products
- *First rows*: same as for International products
- *Rate merging options*:
 - *Close all rates*: same as for International products
 - *Update only rates for fully matching dial codes; Close non-matching dial codes*: same as for International products
- *Do not affect dial codes from the price list* (active when *Close rates for entire destinations/countries* is selected): do not close rates for the dial codes that are present both in the imported file and the product
- *Do not close rates without price*: do not close product rates whose *Rate* column in the rate sheet is empty
- *Rates based on*: this parameter defines what the rates in the file are based on: dial codes (*Dial codes*), LATA+OCN combinations (*LATA+OCN*) or state+OCN combinations (*State+OCN*)

- *Add World Zone 1 code*: this parameter defines whether the digit 1 is added at the beginning of all the dial codes in the file (for cases when the dial codes are in the NPANXX(Y) format, i.e. there is no country code)
- *Effective from*: same as for International products
- *Effective till*: same as for International products
- *Increase date*: same as for International products
- *Ratesheet received on*: same as for International products
- *Time zone*: same as for International products
- *Billing increment*: same as for International products



Available column types

Available column types:

- *Dial code*: same as for International products
- *Destination*: same as for International products
- *Rate - Intrastate*: intrastate rate (if the *Use LATA-based rates* flag in the product properties is not set)
- *Rate - Interstate*: interstate rate (if the *Use LATA-based rates* flag in the product properties is not set)
- *Rate - Intrastate/IntraLATA*: intrastate/intraLATA rate (if the *Use LATA-based rates* flag in the product properties is set)

- *Rate - Interstate/IntraLATA*: interstate/intraLATA rate (if the *Use LATA-based rates* flag in the product properties is set)
- *Rate - Intrastate/InterLATA*: intrastate/interLATA rate (if the *Use LATA-based rates* flag in the product properties is set)
- *Rate - Interstate/InterLATA*: interstate/interLATA rate (if the *Use LATA-based rates* flag in the product properties is set)
- *Rate-IND*: indeterminate rate (jurisdiction cannot be determined)
- *Rate-LOC*: local rate (special price set by the carrier within some segment of the network)
- *Connection fee* (learn more in [Alaris YouTube video](#))
- *Increment*: same as for International products
- *Effective from*: same as for International products
- *Effective till*: same as for International products
- *Rate notes*: same as for International products
- *Volume*: same as for International products

11.4.8 Rate plan creation

The *Voice\Rates\Rate plan creation* section provides a tool for automatic generation of customer rate plans based on available vendor offers and recent traffic statistics.

The section comprises three pages – *Cost rules*, *Markup setup* and *Rate compilation*.

11.4.8.1 Cost rules

The *Cost rules* page allows selection of vendor rates to calculate customer pricing for specific destinations.

Generation of a precise client rate plan requires flexible compilation (sometimes on the level of separate dial codes or – more frequently – destinations) of the list of vendors whose rates will be used for rate calculation, as well as the algorithm for such calculation. It is especially important in creating products for quality-sensitive clients.

The System applies customized approaches for customer rate calculation depending on the nature of every customer dial code – presence/absence of client traffic within a recent time interval, availability of vendors with sufficient route quality etc. Below is the gradation of client dial codes (*Route type* parameter):

- *Active*: the client whose rate plan is being created (in case of a product belonging to the System owner – all clients with products inherited from this product) has sent a substantial amount of traffic (defined by the *Inactivity threshold* parameter in [Voice\Rates\Rate plan creation\Rate compilation](#) ^[36]) to the dial code under evaluation within a recent time period (defined in the rate compilation parameters)
- *Inactive*: the recent volume of traffic from the client (clients) is less than the *Inactivity threshold* value in the rate compilation parameters
- *Default*: a dial code not affected by any other rules, irrespective of the recent traffic presence

Route type is the primary parameter to define a cost rule. Every dial code from the source client product is checked and classified as one of the above-mentioned types. After that, the System checks if there are any cost rules for that route type, and if it finds at least one, it takes the specified vendor list and

- *Actual cost*: the calculation is made on the basis of the rates of the vendors who actually have taken the client traffic within the last X days or have valid rates for the client dial code; the formula looks as follows: $C = ((R_{\text{supp1}} * V_{\text{supp1}}) + (R_{\text{supp2}} * V_{\text{supp2}}) + \dots + (R_{\text{suppX}} * V_{\text{suppX}})) / V_{\text{total}}$, where C is the resulting dial code cost, R_{suppX} is the rate of vendor X, V_{suppX} is the volume of traffic for the dial code that has been handled by vendor X, V_{total} is the system-wide volume of traffic to the dial code
- *Average cost*: an average of rates of X least-cost vendors, where X is defined by the *Vendor products to analyze* parameter
- *Worst of analyzed active vendors* (for rules with *Route type = Active*): rate of active supplier #X on the list of least-cost active suppliers, where X is defined by the *Vendors products to analyze* parameter (if you need to take the rate of the cheapest active vendor, the *Vendors products to analyze* parameter must be set to 1)
- *Worst of analyzed vendors*: same as the previous item, but instead of just active vendors all vendors with valid rates are eligible for selection, no matter whether or not they have processed any traffic from that customer recently
- *Destinations*: one or several destinations from the source client product to be covered by the rule (if you need to treat a group of destinations in a special way, different from all other dial codes of the same type)
- *Dial codes*: one or several dial codes (out of the list of the client dial codes included into the selected destination) that the rule only applies to. This parameter narrows the scope of the rule for higher precision. Dial code masks with the “*” symbol at the end are allowed in this field
- *Vendors*: manually defined list of vendor products (not) used for rate calculation – can be inclusive or exclusive. Default value is *All*
- *Product name*: set a list of vendor product internal names (for example, *Premium*, *Gold* etc.), so that only products matching one of these names will be used for cost calculation. If no name is selected, all vendor products will be filtered out

NOTE: the *Vendors* and *Product name* filters are both verified following the **AND** condition

Default vendors:

 Edit list

Alice Wondersystems - Wholesale (EUR)	
British Hairways - WholeSale (USD)	
Hungry Telecom - Meat - LCR (EUR)	

ASR, %*:

ACD, mins*:

NER, %*:

PDD, secs*:

Vol., mins*:

☒ Increase

☒ Decrease

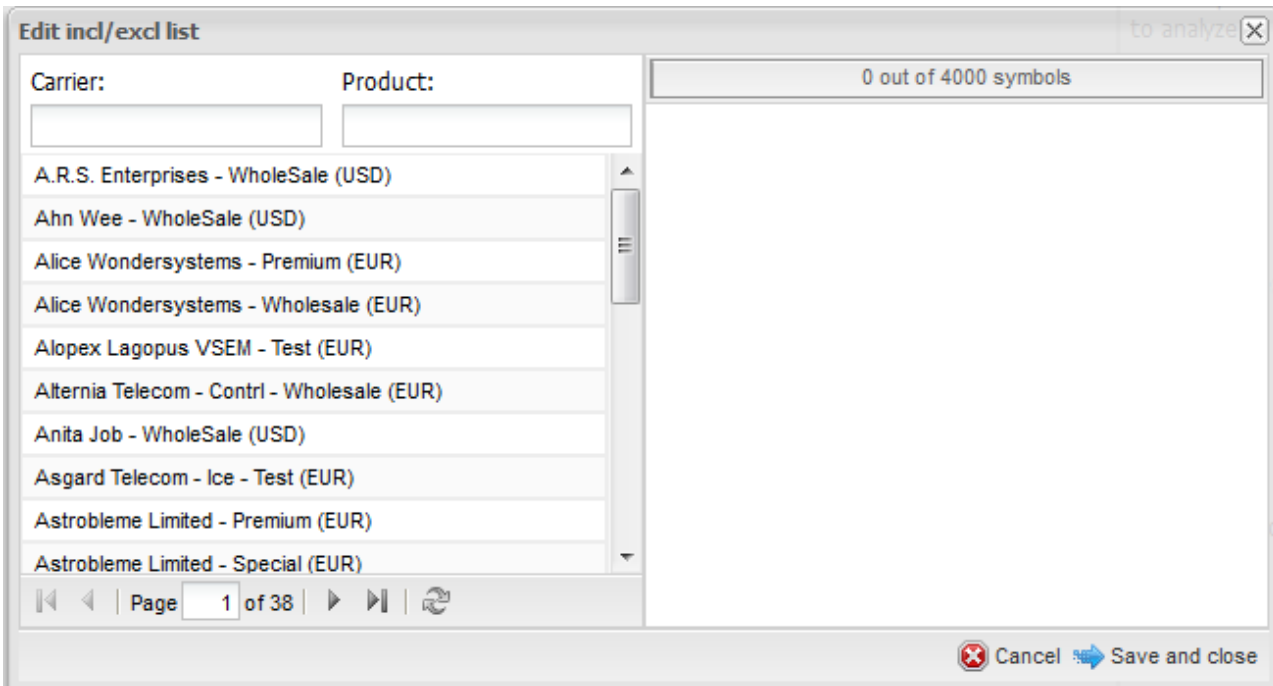
Markup scheme: ▼

Destination rate: ▼

 Reset  Submit

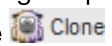
Add tab (Part 2)

- Default vendors:* one or several vendors to be used in case the System fails to find any vendor matching the filters stipulated in the rule (e.g. if the ASR threshold is too high etc.). Such vendors need to be stipulated to fill in the gaps in the customer product – so typically these vendors are big expensive carriers able to provide termination to any. Click the  Edit list button to open the multi-picker.



Default vendors multi-picker

- *ASR, %*: ASR threshold to apply as a filter to the vendor list
- *ACD, mins*: ACD threshold to apply as a filter to the vendor list
- *NER, %*: NER threshold to apply as a filter to the vendor list
- *PDD, secs*: post-dial delay threshold to apply as a filter to the vendor list
- *Vol., mins (increase, decrease)*: the traffic volume threshold to apply as a filter to the vendor list (the System will take only vendors with a traffic share of not less than X% of the total volume for the dial code)
- *Increase*: defines whether the System is allowed to increase the current customer rate for a given dial code
- *Decrease*: defines whether the System is allowed to decrease the current customer rate for a given dial code
- *Markup scheme*: the name of the markup scheme from the [Voice\Rates\Rate plan creation\Markup setup](#) page that will be used for the client rate calculation in this rule
- *Pick vendor rate within the same destination as*: defines how to treat cases when there are multiple rates on the side of a particular vendor matching one client dial code - e.g. if a client has 3460 (Spain) and a vendor has 34606 (Movistar Spain) and 34605 (Amena Spain). There are two options – either blend all these vendor rates (the *Average* option) or take the highest of them (the *Maximum* option)

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.

11.4.8.2 Markup setup

The System provides a flexible way of setting the markup level to be added to the route cost. The user can specify absolute or relative values for the markup and make them different for different cost intervals – for example, if the cost is less than USD 0.03, the markup can be 10%, while for costs between USD 0.03 and USD 0.10 it must be absolute and equal to USD 0.005. It is also possible to combine single rules into schemes and then refer to a scheme when setting a cost rule.

The configured markup setup rules are displayed in the table:

★ Start Page Markup Setup										
ID	Rate start		Rate end		Type	Value		Scheme		
	Min.	Max.	Min.	Max.	All	Min.	Max.	All		
10000	0		0.05		Absolute	0.01				Default
10020	0.05		0.1		Relative	20				Default
10021	0.1		0.2		Relative	10				Default
10022	0.2		10		Relative	8				Default

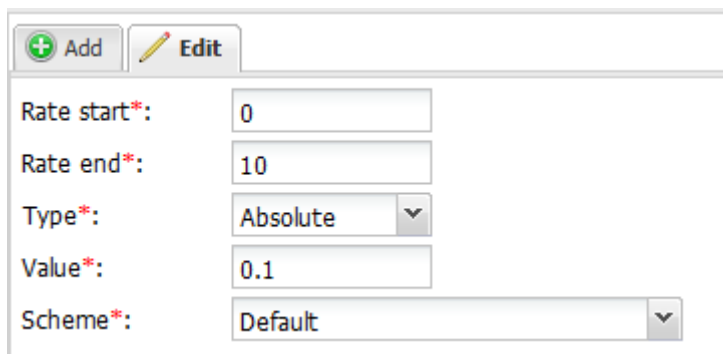
Markup setup rules

To refresh the table, click the  button on the bottom toolbar. 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
- *Rate start*: left border of the cost interval (inclusive)
- *Rate end*: right border of the cost interval (exclusive)
- *Type*: type of the markup value (absolute or relative)
- *Value*: markup value – in percent or in the base System currency (depending on the value of the *Type* parameter)
- *Scheme*: the name of the markup scheme (may be referred to in a cost rule)

NOTE: The cost ranges defined in different markup rules within one scheme do not overlap or leave gaps. Do not create rules for cost ranges like 0 – 0.1 and 0 – 0.08 for the same markup scheme (there will be a conflict between them) or like 0 – 0.1 and 0.15 – 0.2 (if you just create these two rules in a scheme, there will be a gap between 0.1 and 0.15 that will not have a markup rule defined).

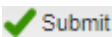
The right panel contains the *Add* and *Edit* tabs that serve to add new rules or edit existing ones. To activate the *Edit* tab, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



+ Add Edit

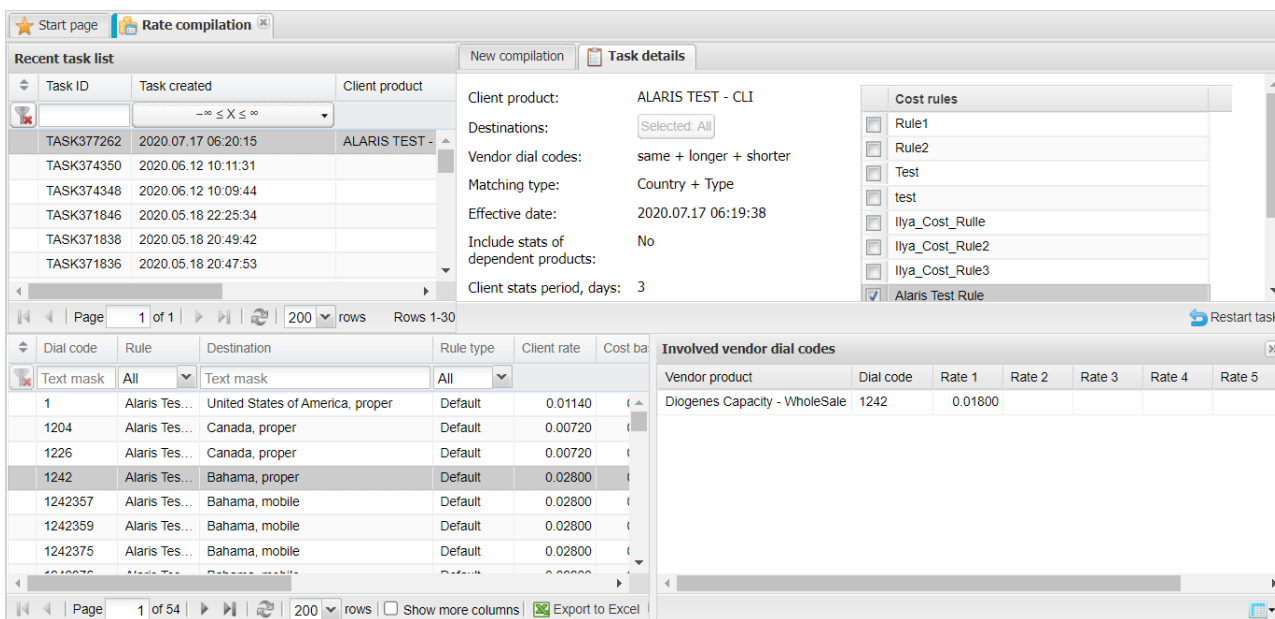
Rate start*: 0
 Rate end*: 10
 Type*: Absolute
 Value*: 0.1
 Scheme*: Default

Add/Edit tab

When through with defining the parameters, click  Submit to confirm or  Reset to discard the settings.

11.4.8.3 Rate compilation

The *Voice\Rates\Rate plan creation\Rate compilation page* serves to update client rates in order to adjust to fluctuations of vendor rates. The page cannot be used to create rate plans "from scratch"; it comes handy in calculating dial code prices according to user-defined rules. If these are the first rates created for a client product, the user must import a ratesheet with the right set of dial codes (and any arbitrary prices) in advance, and the System will calculate the right pricing for them.



Start page Rate compilation

Recent task list

Task ID	Task created	Client product
TASK377262	2020.07.17 06:20:15	ALARIS TEST -
TASK374350	2020.06.12 10:11:31	
TASK374348	2020.06.12 10:09:44	
TASK371846	2020.05.18 22:25:34	
TASK371838	2020.05.18 20:49:42	
TASK371836	2020.05.18 20:47:53	

New compilation Task details

Client product: ALARIS TEST - CLI
 Destinations: Selected: All
 Vendor dial codes: same + longer + shorter
 Matching type: Country + Type
 Effective date: 2020.07.17 06:19:38
 Include stats of dependent products: No
 Client stats period, days: 3

Cost rules

- ☐ Rule1
- ☐ Rule2
- ☐ Test
- ☐ test
- ☐ Ilya_Cost_Rule1
- ☐ Ilya_Cost_Rule2
- ☐ Ilya_Cost_Rule3
- ☒ Alaris Test Rule

Restart task

Dial code	Rule	Destination	Rule type	Client rate	Cost ba
Text mask	All	Text mask	All		
1	Alaris Tes...	United States of America, proper	Default	0.01140	
1204	Alaris Tes...	Canada, proper	Default	0.00720	
1226	Alaris Tes...	Canada, proper	Default	0.00720	
1242	Alaris Tes...	Bahama, proper	Default	0.02800	
1242357	Alaris Tes...	Bahama, mobile	Default	0.02800	
1242359	Alaris Tes...	Bahama, mobile	Default	0.02800	
1242375	Alaris Tes...	Bahama, mobile	Default	0.02800	

Involved vendor dial codes

Vendor product	Dial code	Rate 1	Rate 2	Rate 3	Rate 4	Rate 5
Diogenes Capacity - WholeSale	1242	0.01800				

Page 1 of 1 200 rows Rows 1-30

Page 1 of 54 200 rows Show more columns Export to Excel

Rate compilation

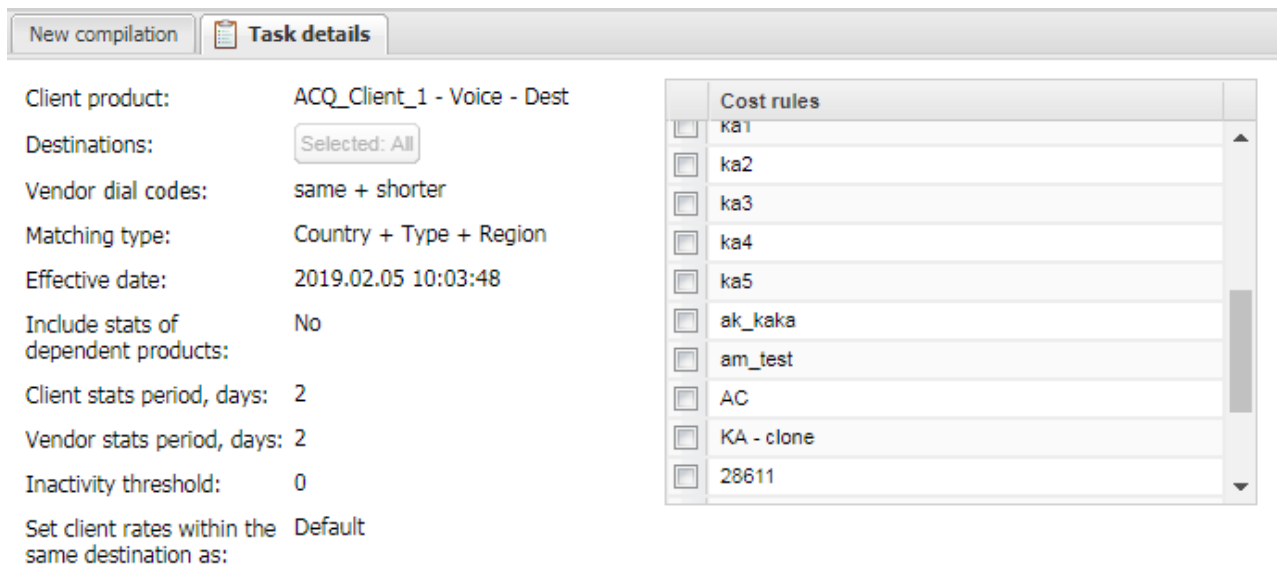
The top left panel of the page contains a table of recently created tasks with the following information:

- *Task ID*: internal identification number of the rate compilation task
- *Job created*: date and time of the task creation
- *Client product*: name of the client product whose rates were used for the compilation
- *Status*: intermediate or final status of the task (*ready*, *error* etc.)

- *Details*: displays time spent on running the task, short error description in case of an error or the *Abort task* button  for the running task
- *User name*: name of the user that initiated the procedure

NOTE: Only 200 latest tasks are available in the interface.

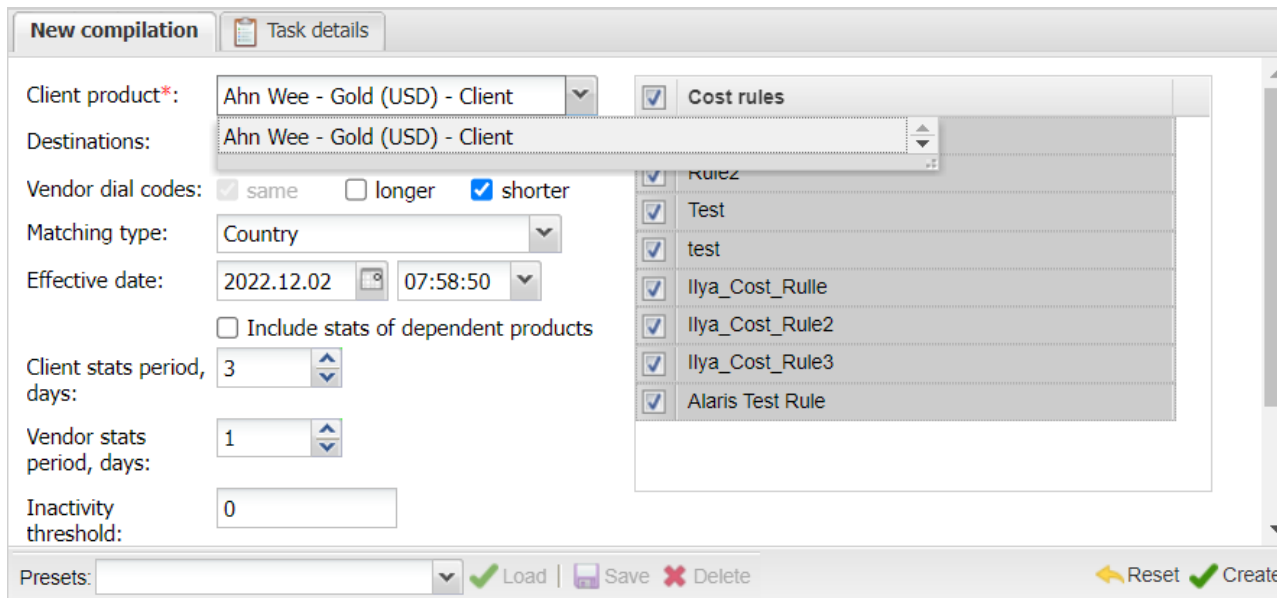
Click the  **Restart task** button to restart the selected task with the same previously configured settings, which are displayed in the *Task details* window in the top right section of the page:



The screenshot shows the **Task details** window. On the left, there are configuration fields: Client product (ACQ_Client_1 - Voice - Dest), Destinations (Selected: All), Vendor dial codes (same + shorter), Matching type (Country + Type + Region), Effective date (2019.02.05 10:03:48), Include stats of dependent products (No), Client stats period, days (2), Vendor stats period, days (2), Inactivity threshold (0), and Set client rates within the same destination as (Default). On the right, there is a list of **Cost rules** with checkboxes: ka1, ka2, ka3, ka4, ka5, ak_kaka, am_test, AC, KA - clone, and 28611.

Task details

The *New compilation* tab sheet is illustrated in the figure below.



The screenshot shows the **New compilation** window. On the left, there are configuration fields: Client product* (Ahn Wee - Gold (USD) - Client), Destinations (Ahn Wee - Gold (USD) - Client), Vendor dial codes (same, longer, shorter - shorter is selected), Matching type (Country), Effective date (2022.12.02 07:58:50), Include stats of dependent products (checkbox), Client stats period, days (3), Vendor stats period, days (1), and Inactivity threshold (0). On the right, there is a list of **Cost rules** with checkboxes: Rule2, Test, test, Ilya_Cost_Rulle, Ilya_Cost_Rule2, Ilya_Cost_Rule3, and Alaris Test Rule. At the bottom, there are buttons for Presets, Load, Save, Delete, Reset, and Create.

New compilation

The tab sheet allows configuration of the following parameters:

- *Client product*: name of the client product for the rate calculation

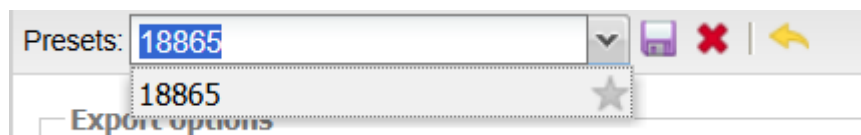
- *Destinations*: serves to select destinations for generation of rates. See also the [Alaris YouTube](#) video
- *Vendor dial codes (same; longer; shorter)*: defines which vendor dial codes are considered when searching for available vendor rates. By default the System takes totally matching dial codes on the vendor side (if the customer has the 3460 dial code, vendors also need to have exactly 3460). If the *longer* checkbox is selected, the System considers more detailed dial codes on the vendor side (involving dial codes like 34604 or 34605 in the example above). If the *shorter* checkbox is selected, the System considers shorter dial codes on the vendor side (like 346 in the same example)
- *Matching type*: this parameter is an add-on to the *Vendor dial codes*, refining the dial code mapping approach by bringing the destination name into comparison. For example, if matching by *Country* is selected, the System maps dial codes like 34 (Spain proper) and 346 (Spain mobile). It is recommended to use the *Country + Type* or *Country + Type + Region* options
- *Effective date*: date and time of the client and vendor rates
- *Include stats of dependent products*: when selected for a parent product, the System collects statistics for all of its child products. See also the [Alaris YouTube](#) video
- *Client stats period, days*: number of days before today to check the presence/absence of the client traffic. For example, if today is 30.04.2023, statistics for the period 23.04.2023-29.04.2023 will be considered if the last daily cube (for 29.04.2023) is in the *actual* state (that is, fully calculated). Suppose the client's dial code has a decent total amount of traffic within the past week, but the client stopped sending traffic to that code in the past few days. In such case, the System displays an alert in the table of compiled rates located in the bottom section of the page (*Warnings* column)
- *Vendor stats period, days*: similarly to *Client stats period, days*, the number of days before today to check the presence/absence of the vendor traffic

NOTE: The System counts only days with completely calculated analytical cubes.

- *Inactivity threshold*: minimum number of minutes for the period defined in the *Stats period, days* parameter for a client rate to be considered active
- *Set client rates with the same destination as*: define the destination rate:
 - *Default*: use original rates for each dial code within the destination
 - *Maximum, Minimum or Average destination rate*: use the maximum, minimum or average rate within the destination
- *Refresh dial code mapping*: select this checkbox if the global dial code mapping table needs to be refreshed (see the tooltip)
- In the right part of the tab sheet choose the cost rules out of the entire existing pool to be used in this compilation

When through with defining the parameters, click  **Create** to confirm or  **Reset** to discard the settings. The newly configured compilation will be added to the *Recent tasks list*.

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

The table of compiled rates located in the bottom left panel of the page displays detailed information on the compiled rates (only for successful compilations). Select the *Show more columns* checkbox on the bottom toolbar to open additional columns in the table. Use the  button to refresh the table.

NOTE: When rates are imported to the products, they are rounded based on the System parameter *Rate rounding precision (storing)* set in [Administration\System settings\Rate module](#)⁶⁹.

Dial code	Rule	Destination	Rule type	Client rate	Cost base	Markup
Text mask	All ▼	Text mask	All ▼			
880	Rule1	Bangladesh, proper, proper	Default	0.02380	0.00010	0.10000
8801	Rule1	Bangladesh, mobile, mobile	Default	0.02300	0.01300	0.10000
88011	Rule1	Bangladesh, Citycell, mobile	Default	0.05000	0.01300	0.10000
88017	Rule1	Bangladesh, GrameenPhone, mobile	Default	0.05000	0.01300	0.10000

Table of compiled rates

The table with the compilation results contains the following data (columns marked with “*” are shown when the *Show more columns* checkbox is selected):

- *Dial code*: dial code from the selected client product
- *Rule*: name of the cost rule that was triggered for the dial code
- *Destination*: name of the destination the dial code belongs to
- *Client CSCD**: client-specific destination name (if available) from the client rate for the dial code. May be different from the System destination name
- *Rule type*: type of the cost rule triggered (*active*, *inactive* or *default*)
- *Client rate*: current client rate for the dial code
- *Client volume**: total volume of the client traffic through the dial code over the period marked in the compilation properties (the *Vendor stats period*, *days* parameter)
- *Client vol. (last days)**: total volume of the client traffic through the dial code over the period marked in the compilation properties (the *Client stats period*, *days* parameter)
- *Minimum rate**: the lowest supplier rate available for a dial code matching the client dial code
- *Biggest vendor rate**: the rate of the supplier who took the biggest share of the client traffic through the dial code over the period marked in the compilation properties
- *Cost base*: cost base of the client dial code calculated according to the respective cost rule
- *Markup*: markup added to the cost base as set in the markup scheme linked to the cost rule that was triggered for the client dial code
- *New rate*: new client rate value

- *Change type*: direction of the rate change - *Increase*; *Decrease*; *Same*; *Mixed* – relevant for US Domestic rates where a single code can match several rates that have changed differently (for example, one increased and another decreased); *Undefined* – rate change could not be identified
- *Warnings*: one or several messages the System has for the dial code. The following messages may appear:
 - *Current route cost higher than previous client rate*
 - *Default vendor used*
 - *Inactive client destination*
 - *Just one qualifying vendor*
 - *No matching vendor*
 - *No qualified vendors*
 - *No traffic from client for last X days*
 - *No vendor statistics for destination*
 - *Rate change greater than allowed*
 - *Rate not compiled*
 - *Rate of vendor with biggest volume higher than compiled client rate*
 - *Final rate adjusted based on destination cost*: appears in case the parameter *Set client rates within the same destination as* is set to a value other than *Default* and the rate for a dial code has been modified to comply with that condition

The *Involved vendor dial codes* table in the bottom right part of the page shows all vendor dial codes involved in the mapping for the client dial code, for the rate selected in the bottom left table:

Involved vendor dial codes							
Vendor prod...	Dial code	Rate 1	Rate 2	Rate 3	Rate 4	Rat...	Volume
ID: 100503	35526363	0.15555					0.00000
ID: 100504	35526363	0.16555					0.00000

Involved vendor dial codes

The table contains the following details for each vendor dial code:

- *Vendor product*: name of the vendor product
- *Dial code*: vendor dial code
- *Rate 1-5*: prices for the vendor dial code (schedule-based for International products and jurisdiction-based for US domestic products)
- *Volume*: total volume of the client traffic through the vendor dial code over the period marked in the compilation properties

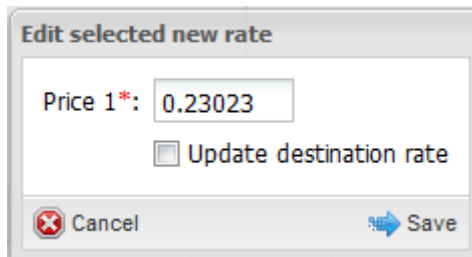
Rates listed in the table are sorted in ascending order. This sorting also affects the order in which routing rules are selected in case *Generate routing rules* button is applied.

NOTE: Inactive vendors (those who have the *Is active* flag disabled at the *Carrier* or *Product* level) are excluded from rate compilation and this list. If it is necessary to include inactive vendors in rate compilation, contact Alaris technical support team and communicate the code BZ63886.

Page 1 of 1 | 200 rows | Show more columns | Export to Excel | Export to CSV | Generate routing rules | Edit selected new rate | Apply generated rates

Bottom toolbar

After the rate generation process is over, use the  **Edit selected new rate** button at the bottom toolbar to correct the desired rates if needed. The button opens the rate-editing window:



Edit selected new rate

Price 1*: 0.23023

☐ Update destination rate

Cancel Save

Edit selected new rate

Use  **Export to Excel** *Export to Excel* or  **Export to CSV** *Export to CSV* buttons on the bottom toolbar to export the resulting rate table as an .xls or .csv file for further tweaking outside the System or for applying the new rates to the target customer product with the [Voice\Rates\Rate import](#)^[34] tool.

The button  **Generate routing rules** *Generate routing rules* at the bottom toolbar allows creating routing rules based on rates generated in the *Rate compilation* interface. In the dialog box that appears, specify the priority of the rules and select the *Rules are active* checkbox to enable them.



Generate routing rules

Priority*: 3

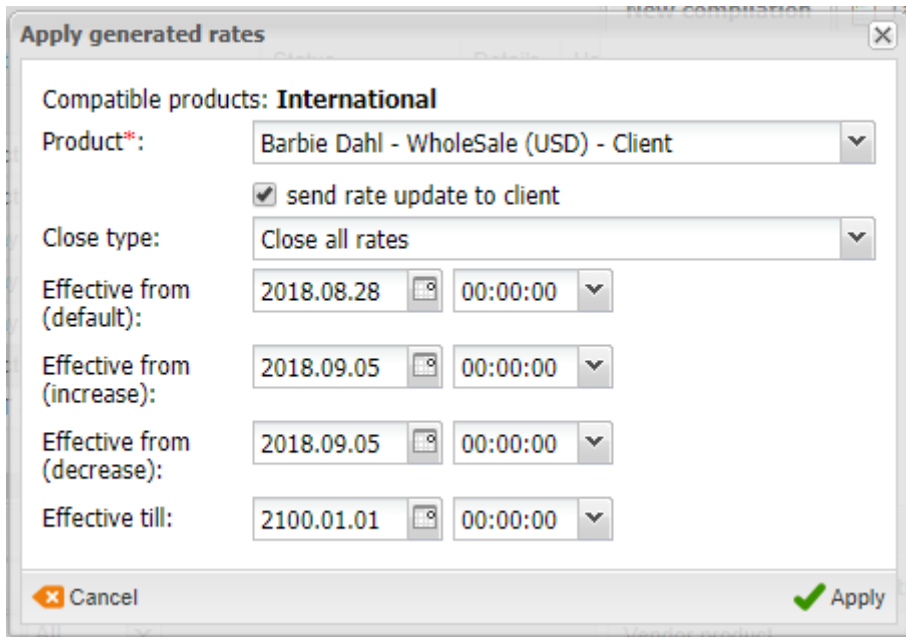
☒ Rules are active

Cancel Generate

'Generate routing rules' dialog

The rules will be created in a dedicated context (the context name is in the format *Next context % product_name% - Rate generator*). The number of vendor choices is controlled by the parameter *Max choices in auto generated rules (1-10)* in [Administration\System settings\Rate module](#)^[69]. See also the [Alaris YouTube](#) video.

Click the  **Apply generated rates** button on the bottom toolbar to apply the generated rates. The button opens the same-name window, which enables configuration of the rate import:

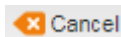


Apply generated rates

The following settings are defined in the window:

- *Compatible products*: product type (*International* or *Domestic*)
- *Product*: the target product to import the new generated rates to
- *send rate update to client*: when selected, a rate export task is created and the rate sheet is sent to the partner carrier to inform of the changes, with the activated parameter *changes pending at* and the date equal to the earliest of the following three dates: *Effective from (default)*, *Effective from (increase)*, and *Effective from (decrease)*. See also the [Alaris YouTube video](#)
- *Close type*: define how existing rates are joined with the newly imported rates (similar to *Rate merging options* on the [Voice\Rates\Rate import](#) page). Possible values are: *Update only rates for fully matching dial codes* (default), *Close all rates*, *Close rates for entire destinations*
- *Effective from (default/increase/decrease)/ Effective till*: validity period for the imported rates.

NOTE: *Effective from (default)* is used for applying rates that have the *Mixed* or *Same change* type in the *Table of compiled rates* (see figure above).

When through with defining the settings, Click  **Apply** to confirm or  **Cancel** to discard the settings.

11.5 Reference books

The *Voice\Reference books* section consists of four pages – *Billing increments*, *Dial codes*, *Pending dial codes* and *Soft switch editor*.

11.5.1 Billing increments

The *Voice\Reference books\Billing increments* page allows management of billing increments in rates. The user can add, delete or edit the existing billing increments in the *x/y/z/L/D* format (where *x* is the free of charge interval (*Free interval*), *y* is the first roundoff interval (*First interval*), *z* is the second and all the next roundoff intervals (*Next interval*), *L* is the *Limit interval*, and *D* is the free interval that is subtracted from the original call duration (*Deductable interval*)).

The page is divided in two sections, each containing two panels. The top section serves to view, edit and create general billing increments; the bottom section allows creation of increments for specific dial codes. For example, an increment for the 346 dialcode (Spain Mobile) will also apply to codes 34600, 34601 etc.

The left panel of both sections contains a table of previously configured increments:

ID	Free interval	First interval	Next interval	Deductable interval	Limit interval	Display value
10115	0	1	1	0.1	60	0/1/1/0.1/60
10127	0	1	1	0.1	120	0/1/1/0.1/120
10138	0	1	1	0.1		0/1/1/0.1
10135	0	1	1			0/1/1
10137	0	1	2	4		0/1/2/4.

Billing increments table (general)

Dial code based increments									
ID	Origin dial c...	Dest. dial c...	Free interval	First interval	Next interval	Dedu...	Li...	Active from	Active till
1		682*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
2		690*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
3		686*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
5		220*	0	60	1			1970.01.01 00:00:00	2100.01.01 00:00:00
6		52*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
7		674*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
8		675*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
9		676*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00
10		678*	0	60	60			1970.01.01 00:00:00	2100.01.01 00:00:00

Dial code-based increments

NOTE: The logic of dial code-based increments is detailed in the System parameter *Use country-based System increment list* (0 - No, 1 - Yes) - see [Administration\System settings\Rate module](#) ^[69].

The rounding procedure is as follows:

1. The System subtracts the deductible interval (D) from the original duration of the call. In case the result is less than zero, the call duration is considered as zero.
2. If the duration value from step 1 is less or equal to the free interval (x), the billed duration is taken as zero. Otherwise – see step 3.
3. If the duration value from step 2 is less or equal to the first rounded interval (y), the duration is rounded to the first rounded interval (y) accordingly. Otherwise – see step 4.
4. The duration value from step 3 is rounded up to the nearest whole number that equals to the y value plus a multiple of the z value.

NOTE: The values of the free interval (x) and the deductible interval (D) can be fractional. It is also possible to specify 0/0/0 increment when importing rates and entering the increment in the corresponding reference book.

Example.

The 0/15/15/0.1 billing increment gives the following roundoff results:

Raw duration (sec) => Rounded duration (sec)

Voice

0 => 0

0.099 => 0

0.1 => 0

0.101 => 15

10 => 15

15 => 15

15.1 => 15

15.2 => 30

The *Limit interval* field works as follows. It is empty (disabled) by default. When set to 0, the logic is disabled as well. When set to more than 0, the new increment logic is applied: call length exceeding the limit is cut down to the limit. For example, if the call length is 372 seconds but the invoice must be issued for 300 seconds (per second payment scheme), the increment will look as follows:

Free interval: 0

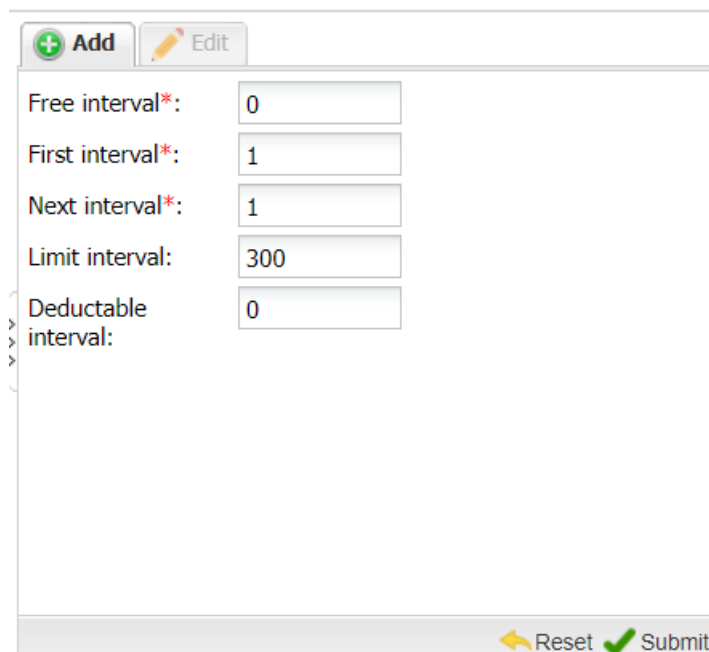
First interval: 1

Next interval: 1

Limit interval: 300

Deductable interval: 0

The right panel of both sections page contains the *Add* and *Edit* tabs that serve to add new records or edit 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.

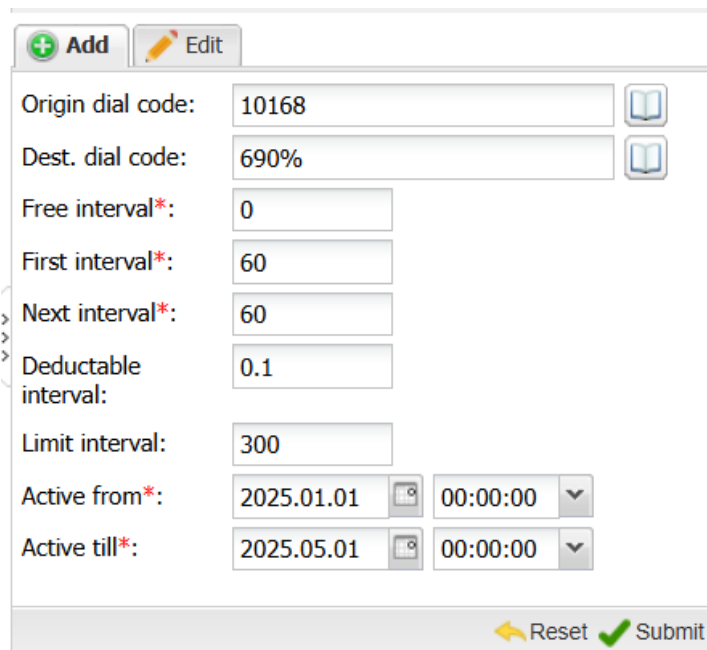


The form is titled 'Add/Edit tab (top)' and contains two tabs: 'Add' (active) and 'Edit'. Below the tabs are five input fields with labels and values:

Field Label	Value
Free interval*	0
First interval*	1
Next interval*	1
Limit interval:	300
Deductable interval:	0

At the bottom of the form are two buttons: 'Reset' (with a yellow arrow icon) and 'Submit' (with a green checkmark icon).

Add/Edit tab (top)



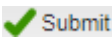
Add/Edit tab (bottom)

For the *Origin dial code* and *Dest. dial code* fields, the wildcard % is supported. Please note that if two similar records such as 1 and 1% are used, the record with no mask has priority.

NOTE: dial codes from corresponding rates are used for the search of dial code-based increments (given that the *Override rate increments with dial code based increments* (0 - no, 1 - yes) System parameter is enabled). The priority for record selection is as follows:

- full match of both *Origin dial code* and *Dest. dial code*
- mask for *Origin dial code* and full match of *Dest. dial code*
- full match of *Origin dial code* and mask for *Dest. dial code*
- masks for both *Origin dial code* and *Dest. dial code* (longest match logic for *Dest. dial code*)
- empty *Origin dial code* and full match of *Dest. dial code*
- full match of *Origin dial code* and empty *Dest. dial code*
- mask for *Dest. dial code* and empty *Origin dial code*
- mask for *Origin dial code* and empty *Dest. dial code*

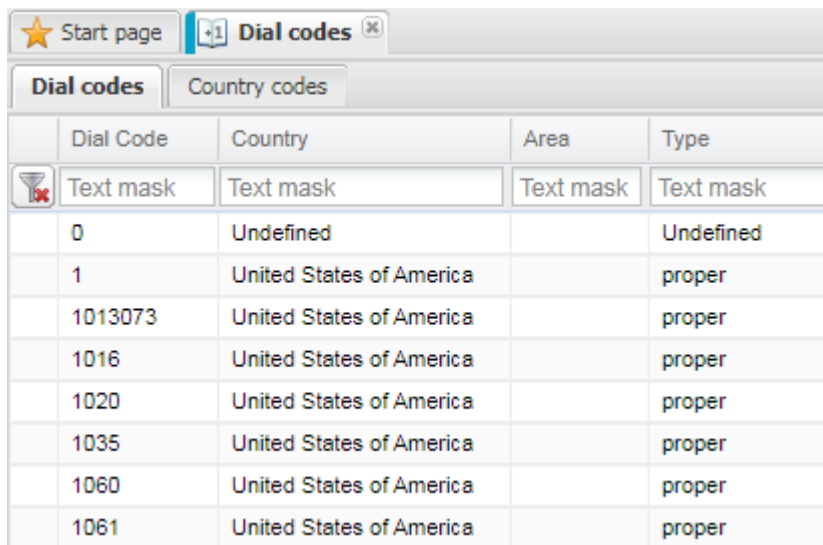
The *Active from**Active till* parameters of the bottom tab serve to ensure the consistency of dial code based increments and the priority of billing increments set in the rate and those configured in this interface. For this purpose, the System parameter *Override rate increments with dial code based increments* (0 - no, 1 - yes) is used (see how it works in [Administration\System settings\Rate module](#)^[69]).

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

11.5.2 Dial codes

The *Voice\Reference books\Dial codes* page provides access to the System dial code reference book. The interface enables the user to view existing dial codes, edit them one by one and add single dial codes to the database manually.

The page contains two tab sheets: *Dial codes* and *Country codes*. The *Dial codes* tab sheet contains the  button at the bottom that serves to export the table to an MS Excel file.

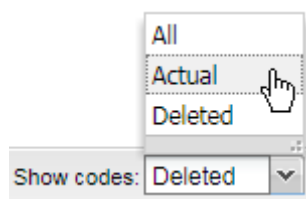


The screenshot shows a web application window with a 'Start page' button and a 'Dial codes' tab. Below the tab are two sub-tabs: 'Dial codes' (selected) and 'Country codes'. The 'Dial codes' sub-tab contains a table with four columns: 'Dial Code', 'Country', 'Area', and 'Type'. Each column has a 'Text mask' input field for filtering. A funnel icon with a red 'x' is on the left of the first row. The table contains the following data:

Dial Code	Country	Area	Type
0	Undefined		Undefined
1	United States of America		proper
1013073	United States of America		proper
1016	United States of America		proper
1020	United States of America		proper
1035	United States of America		proper
1060	United States of America		proper
1061	United States of America		proper

Dial codes

Use text masks under the column headers to filter the records in the table. Use the  button on the bottom toolbar to refresh the table.



Show codes control

The bottom of the table contains the *Show codes* control. It allows displaying actual or deleted dial codes. If a user removes a dial code from the reference book, the System checks if any rates are available for the dial code:

1. If rates are available, the dial code is marked as deleted. However, the routing module can still use them, and the calls can still be routed to the dial code. The user can view the codes by selecting *Deleted* in the *Show codes* control.
2. If there are no rates for the deleted dial code, such records will be removed permanently.

When dial codes are labeled as removed, the System will mark them as actual if:

1. A new record for the same dial code is added to the reference book
2. The user edits the record
3. A rate for the dial code is imported. See also the [Alaris YouTube](#) video.

The *Dial codes* table contains the following information on dial codes: *Country*, *Area* and *Type*.

The right panel contains the *Add*, *Edit* and *Multi edit* tabs that serve to add new dial codes or edit existing ones. To activate the *Edit* or *Multi edit* tab, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.

 Add  Edit  Multi edit	
Dial Code*:	1016
Country*:	United States of America
Area:	Americas
Type*:	Premium

Add/Edit/Multi edit tab

The *Multi edit* tab sheet enables editing and deleting multiple records in the table. Select records in the table to edit an inclusive list. To generate a list click  **Select all filtered**. The selected records will be excluded from editing. Records that will be edited will be specified after *Exclusive ID list*. Click

 **Deselect all selected**

Deselect all selected to clear the selection.

Click on the property name (*Country*, *Area* and *Type*) to group-edit it. It will turn from red strike-through to green. Properties highlighted in red strike-through font will not be edited.

 Add  Edit  Multi edit	
Step 1:	Use standard table filtering to select the objects which are subject to group editing (only the filtered objects will be edited).
Step 2:	Select the object properties that need to be group edited by clicking on the property name (strike through property name means it will not be edited).
Step 3:	You can fill the form by clicking on an object in the table.
 Select all filtered	
Inclusive ID-list:	1013073, 1016, 1020 , 1035
Country*:	United States of America
Area:	
Type*:	proper

Multi edit tab

When through with defining the parameters, click  **Submit** *Submit* to confirm or  **Reset** *Reset* to discard the settings.

To delete multiple entries, select them in the table; in the *Multi edit* tab sheet click  **Delete** *Delete*.

NOTE: When the user uploads rates with the dial codes not present in the System with the [Voice\Rates\Rate import](#) tool, the System adds them to the dial code database automatically. The message *New dial code added to system reference book* is displayed after the rate import session, so that the user can control the assigned destination names and correct them if necessary. The destination name is taken from the nearest shorter dial code match in the reference book.

For example, when importing a rate for 34600 (Spain mobile Vodafone) when the dial code reference book only contains 346 (Spain mobile), the System will add 34600 to the reference book as Spain mobile

too. That may become even more of a problem if in the same example you only have 34 (Spain proper) – that will result in a mobile dial code (34600) registered as proper.

Destination-specific routing rules directly depend on the dial code reference book, so it is very important that the dial codes get the right destination names when they are added to the System. Keep an eye on the messages after each rate import session and check all occurrences of *New dial code added to system reference book*. It is also important to avoid undefined destination names in the code reference book, so that the [Voice\Analytics](#) page only contains defined records, and the destination-based statistics are displayed correctly.

The *Country codes* tab sheet serves to add dial codes to the reference book. They will be used in the [Voice\Analytics](#) page to display the statistics by calling country.

NOTE: By default, the statistics by calling country is not displayed in [Voice\Analytics](#). After providing a list of country codes, contact the Alaris technical support team and specify the layers for which the statistics must be calculated. This is done in order to minimize the impact of stats calculation on System performance.

Dial codes	Country codes
Country	Dial Code
Text mask	Text mask
ABC PPM CODE	999
Abkhazia	7940
Abkhazia	7840

Country codes

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

 Add	 Edit
Country*:	American Samoa
Dial Code*:	1684

Add/Edit country code

11.5.3 Pending dial codes

The *Voice\Reference books\Pending dial codes* page contains planned updates to the dial code table in [Voice\Reference books\Dial codes](#). Dial codes may be introduced or changed by the government. The page is divided in two panels. The left panel contains the table of dial codes scheduled for change:

ID	Dial code	Effective date	Country	Area	Type	Error
5	375	2021.01.22 00:00:00	Armenia	Yerevan	mobile	
4	378	2021.01.22 00:00:00	Andorra		FAS	

Pending dial codes

The right panel contains the *Add* and *Edit* tabs that serve to add new dial codes or edit 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. In the *Effective date* field specify the date when the dial code must become valid.

 Add
 Edit

Dial code*:

Effective date*:

Country*:

Area:

Type*:

Add tab

When through with defining the parameters, click  **Submit** Submit to confirm or  **Reset** Reset to discard the settings.

11.5.4 Soft switch editor

The *Voice\Reference books\Soft switch editor* page allows configuration of connected voice softswitches. This page also serves to enable the [Voice\Active calls](#) ^[265] functionality for networks managed by the MVTs Pro, Sansay, Sonus and OpenSIPS softswitches.

The page consists of two panels.

★ Start page Soft switch editor [X]							
ID	Name	Software manufacturer	Type	IP-address	Switch sec...	Soft swi	
 Text mask	Text mask	All	All	Text mask			
103	pro_132	MVTs	SIP	103.254.155.140			
10058	s	-	RADIUS	111.1.1.1			
10000	12333	-	SIP	123.111.231.2	1234	123331	
10038	Switch A	-	SIP	13.22.12.45			
10039	Switch B	-	SIP	14.11.14.56			

Soft Switch editor

The left panel is a table of softswitches registered in the System. The table contains the following information:

- *ID*: internal identification number
- *Name*: name of the registered softswitch
- *Software manufacturer*: the switch manufacturer. Possible values are:
 - *Other*
 - *MVTs*
 - *Sansay*
 - *Sonus*
 - *OpenSIPS*
- *Type*: type of the soft switch (*SIP* or *RADIUS*)
- *IP address*: connection IP address of the softswitch

NOTE: The IP address specified in this field, serves to generate the service address for sending requests (for the Active calls functionality). The service address looks as follows:
`{IP}/service/service.php?soap` - for MVTs Pro switch and `{IP}:/8888/SSConfig/SansayWS?wsdl` for Sansay switch.

- *Switch secret* and *Softswitch parameters*: RADIUS settings, currently out of use
- *Use in active calls*: when selected, the calls handled by the switch are displayed in [Voice\Active calls](#)^[265]. This allows showing active calls from several switches at the same time.

NOTE: Identification of carriers for Sansay voice switch operates as follows. Since the switch works with trunk groups, carriers will be identified only by the voice POI with the correctly filled *Trunk group* field.

The following fields are made available when the *Use in active calls* feature is activated:

- *Active calls login/password*: login and password for connecting to the switch
- *Active calls table name*: name of the table from which data on active calls will be taken:
 - For MVTs Pro switch: name of the table from which the switch data is taken
 - For Sansay switch: name of the resource/table (by default, the resource name on the switch is *active_calls*)
 - For Sonus switch: name of an XML file (for example, 'sample.xml') that contains a table for active calls. The file must be located on a server with an active database in the directory `/u01/app/oracle/invoice.files`. The periodicity of the file update (and whether such update is necessary at all) is determined by the System owner. For the file format template, contact the Alaris technical support team and communicate the code BZ52086
 - For the OpenSIPS switch: *Active Calls URL*, *Active Calls JSON request*, *Active Calls port*

NOTE: For OpenSIPS the internal configuration must be set up in advance. For this purpose contact the Alaris Technical Support team and communicate the code BZ52027

If *OpenSIPS* is selected as the software manufacturer, the *enable IP whitelisting* checkbox is available. It serves to check the availability of the IP address from which the call comes, in existing POIs before routing. When enabled, the *MySQL IP*, *MySQL port*, *MySQL login*, *MySQL password*, *MySQL whitelist table* fields become available to determine access to the internal MySQL table where information on available IP addresses is stored. To fill the fields with correct values, contact the Alaris technical support service and provide the code BZ64021.

NOTE: If at least one of the following parameters: *IP address*, *Active calls login*, *Active calls password*, *Active calls table name* is not set, the System will send a request to the switch expecting to receive an error, and the following message will be written to the System log: "No value for parameter %s" (applicable for the Active calls functionality).

The right panel contains the *Add* and *Edit* tabs that serve to add new records or edit existing ones. To activate the *Edit* tab, click on the record in the table. Enter the above listed parameters in the corresponding fields. Fields marked with an asterisk (*) are required.

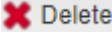
+ Add
 ✎ Edit

Name*:	Sansay switch
Software manufacturer*:	Sansay
Type*:	SIP
IP-address*:	109.200.133.131
Switch secret:	
Soft switch parameters:	
	☒ Use in active calls
Active calls login*:	mommy
Active calls password*:	
Active calls table name:	active_calls
	☒ Sansay Trunk Group Management
Resources login*:	daddy
> Resources password*:	

Add tab

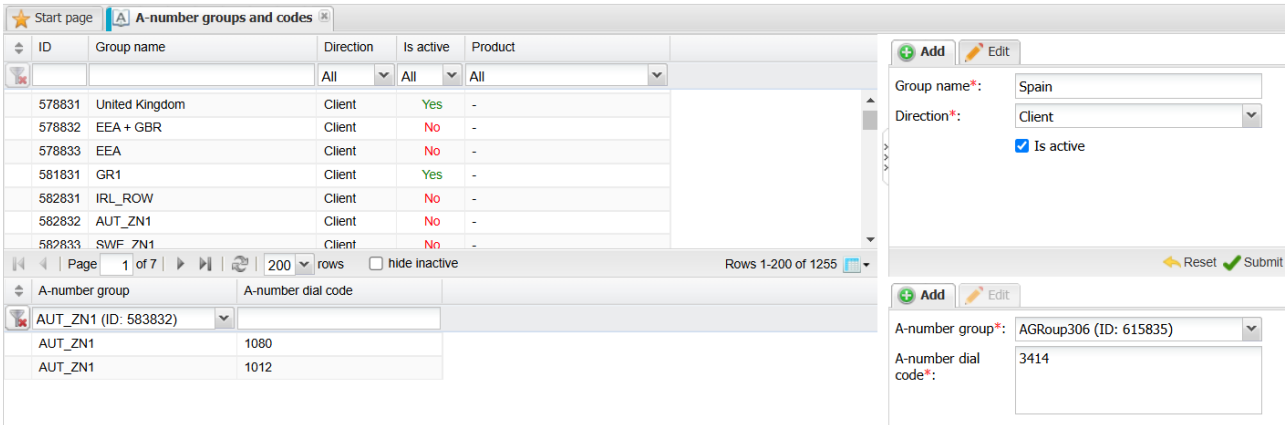
If the *Software manufacturer* is *Sansay*, the following additional parameters are displayed:

- *Sansay Trunk Group Management*: when selected, the following two parameters appear:
- *Resources login* / *Resources password*: authentication data for connection to the Sansay switch

When through with defining the parameters, click  *Submit* to confirm or  *Reset* to discard the settings. Click  *Delete* to delete the selected record.

11.5.5 A-number groups and codes

The *Voice\Reference books\A-number groups and codes* interface serves to create A-number group and A-dial codes associations. Such associations are then used in creating or editing [rates](#) ^[302].



ID	Group name	Direction	Is active	Product
578831	United Kingdom	Client	Yes	-
578832	EEA + GBR	Client	No	-
578833	EEA	Client	No	-
581831	GR1	Client	Yes	-
582831	IRL_ROW	Client	No	-
582832	AUT_ZN1	Client	No	-
582833	SWF_ZN1	Client	No	-

A-number group	A-number dial code
AUT_ZN1 (ID: 583832)	
AUT_ZN1	1080
AUT_ZN1	1012

A-number groups and codes

The interface consists of two sections. The top section shows a table of A-number groups and the *Add/Edit* panel for adding or editing a group. The bottom section contains a table of A-number group\A-number dial code associations and the *Add/Edit* panel for adding or editing such associations.

First create a new group in the top right panel, then create the group\dial code association in the bottom right panel. Alternatively, associate the dial code to an existing group.

11.6 Routing

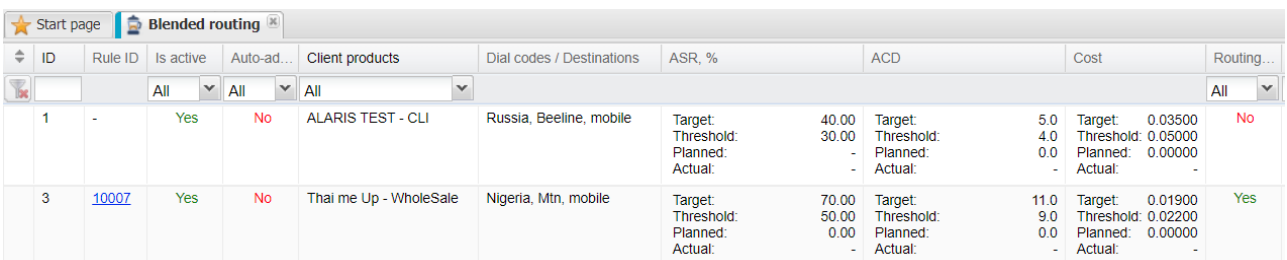
The Voice\Routing section allows managing the way calls are routed by the switch.

11.6.1 Blended routing

The *Blended routing* module helps the System owner to meet the needs of the client seeking high quality service and at the same time increase the margin earned on that traffic. The module calculates the optimal traffic distribution between several vendors offering the destination, to meet the quality metrics requested by the client and generate the highest margins possible. Typically the client traffic will be shared between vendors offering stable quality at high prices and vendors with more attractive rates but non-guaranteed quality. You only need to define minimum ASR and ACD values that your client expects and the weighted average cost that you are able to pay to the vendor side. The module will automatically control the stats on the client route in near-real-time manner and make the needed adjustments to the vendor mix in order to meet the defined ASR/ACD/COST combinations. Vendors can be specified manually or defined automatically by the System.

The top left part of the [Voice\Routing\Blended Routing](#) page contains a table of configured blended routing 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.

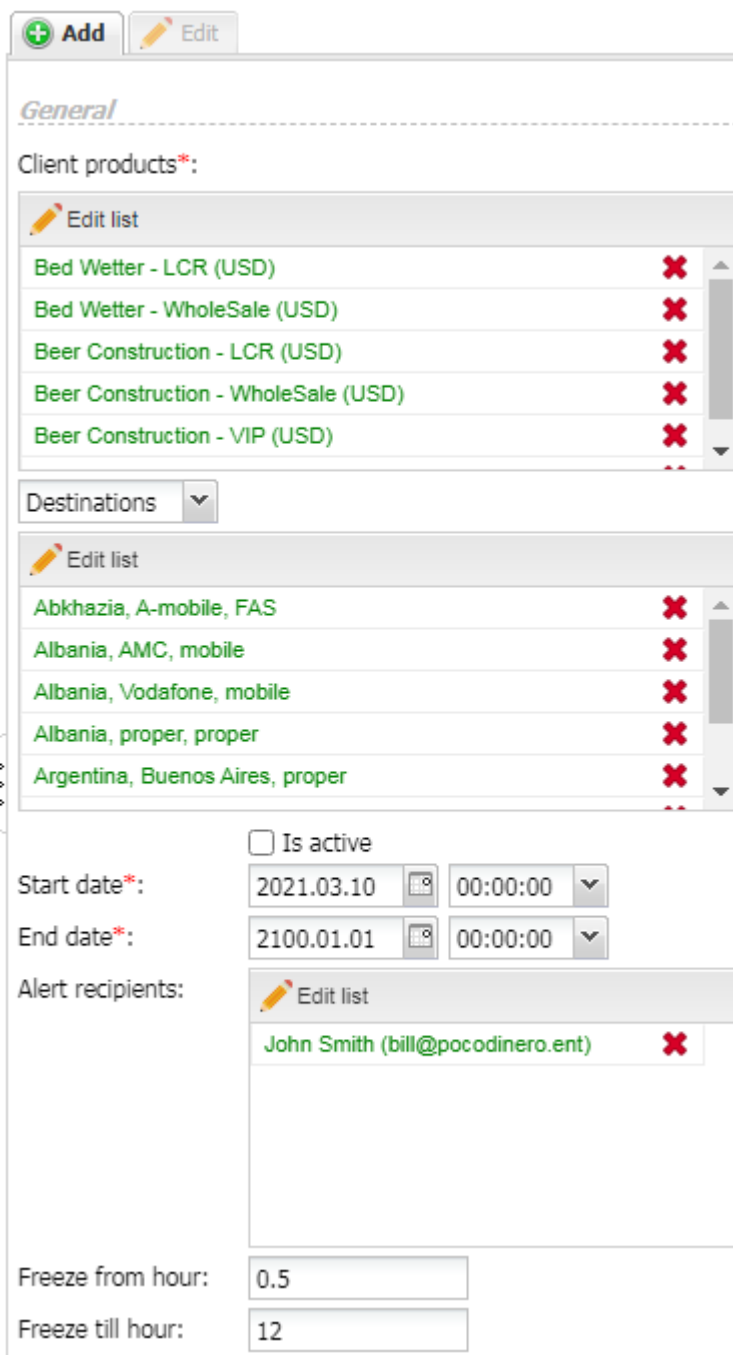
NOTE: Rules containing products belonging to other managers' carriers only are completely hidden in case a user is permitted to see its own partners only.



ID	Rule ID	Is active	Auto-ad...	Client products	Dial codes / Destinations	ASR, %	ACD	Cost	Routing...
1	-	Yes	No	ALARIS TEST - CLI	Russia, Beeline, mobile	Target: 40.00 Threshold: 30.00 Planned: - Actual: -	Target: 5.0 Threshold: 4.0 Planned: 0.0 Actual: -	Target: 0.03500 Threshold: 0.05000 Planned: 0.00000 Actual: -	No
3	10007	Yes	No	Thai me Up - WholeSale	Nigeria, Mtn, mobile	Target: 70.00 Threshold: 50.00 Planned: 0.00 Actual: -	Target: 11.0 Threshold: 9.0 Planned: 0.0 Actual: -	Target: 0.01900 Threshold: 0.02200 Planned: 0.00000 Actual: -	Yes

Blended routing rules

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 the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



+ Add **Edit**

General

Client products*:

 Edit list

Bed Wetter - LCR (USD)	×
Bed Wetter - WholeSale (USD)	×
Beer Construction - LCR (USD)	×
Beer Construction - WholeSale (USD)	×
Beer Construction - VIP (USD)	×

Destinations

 Edit list

Abkhazia, A-mobile, FAS	×
Albania, AMC, mobile	×
Albania, Vodafone, mobile	×
Albania, proper, proper	×
Argentina, Buenos Aires, proper	×

☐ Is active

Start date*: 2021.03.10 00:00:00

End date*: 2100.01.01 00:00:00

Alert recipients:

 Edit list

John Smith (bill@pocodinero.ent)	×
----------------------------------	---

Freeze from hour: 0.5

Freeze till hour: 12

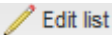
Add tab, General

The tab contains the following parameters:

General:

- Client products*: click  Edit list to select a client product(s) that will participate in the routing scheme. Traffic for the selected customer products will be summed, after that quality metrics will be calculated (based on the common traffic)

NOTE: The field displays only products that have POIs associated with them, as products with no associated POIs cannot be used for routing.

- *Destinations / Dial codes:* set up which destinations or dial codes will take part in the blended routing
- *Is active* checkbox toggles the routing rule
- *Start date / End date:* activity period of the rule
- *Alert recipients:* the list of users that will receive notifications about any changes in the blended routing rule – new vendors added into the mix, notifications that quality parameters cannot be met etc. For example, an alert is sent if the blended rule was disabled as it was not possible to meet thresholds - and then it became active when the possibility appeared). If no more than N minutes (set in the parameter *Repeated alerts buffering interval, min* in *Administration\System settings\Trading tools*) have passed since the last alert was sent, an alert is not sent again
- Use the  button to add new recipients
- *Freeze from/till hour:* period during which statistics in the blended rule will not be changed based on the current traffic throughput and quality parameters (for example, you can set this period for the night time when traffic is low, or when there is one blended routing rule for daytime and the other for nighttime). The values can be set starting from 0 to 23 and can be fractional. For example, if *Freeze from hour* is set to 0.5 and *Freeze till hour* is set to 12, the statistics will stop to be updated at 00:30 (server time) and start to be updated at 12:00 PM (server time as well)

<i>Qualitative indicators</i>	
ASR target, %:	70
ACD target:	11
Cost target*:	0.019
ASR threshold, %:	50
ACD threshold:	9
Cost threshold*:	0.022
Stats interval, sec.*:	3600
Number of attempts*:	100 
CLI threshold, %:	0 
Vendor min share (only manual vendors), %*:	0.5 
② ASR weight*:	1 
② ACD weight*:	1 

Add tab, Qualitative indicators

Qualitative indicators:

- *ASR target, %* and *ACD target*: define the quality of the route that blended routing will try to meet by blending together high cost high quality vendor routes with lower cost high-margin vendors
- *Cost target*: sets the ideal weighed average cost that blended routing should try to reach
- *ASR threshold, %:* and *ACD threshold*: lowest quality values that the blended rule can reach before *The Action when can't ensure quality situation* is triggered
- *Cost threshold*: highest weighed average cost of traffic termination
- *Stats interval, sec.:* define the interval in the past, based on which the System calculates quality and cost parameters of vendors to be included in the blended routing rule
- *Number of attempts*: minimum number of attempts a vendor should have to the destination or dial code in order to be automatically included into a rule

NOTE: The *Stats interval, sec* and *Number of attempts* parameters work together to define the interval that the System uses to calculate the parameters of the route and its weight in the routing rule. For example, suppose the *Stats interval, sec.* is 3600 (60 minutes), and the *Number of attempts* is 200. If the vendor has 200 attempts within 30 minutes, the 60-minute interval is taken by the System to calculate the route and its weight. If the vendor has less than 200 attempts within 60 minutes, the System also uses the 60-minute interval for the calculation.

NOTE: In case the thresholds cannot be reached, statistics (*ASR*, *ACD* and *Vendor min share*) is set to 0. The vendor should have at least *Number of attempts=N* for the period between the *Stats interval, sec.* and the 3 days. Statistics are calculated based on minute cubes (if there are not enough minute cubes, the calculation is based on hour cubes).

- *CLI threshold, %* (manually added vendors only): the minimum CLI value for vendors supporting CLI
- *Vendor min share (only manual vendors)*:* minimum allowed traffic share per vendor. The parameter allows vendors that were added manually and that do not have statistics for the period (*Stats interval* and *Number of attempts* parameters) to get a fixed share of traffic. The value specified in this parameter is automatically set in the parameter *Min share, %* (0.5 by default). If the vendor has no statistics (or has, for example, only 10 attempts for the *Stats interval, sec.* while the *Number of attempts* is set to 50), the *ASR* and *ACD* parameters will be set to 0, and the value for the *Min. share, %* parameter will be taken from the *Vendor min. share* parameter
- *ASR weight / ACD weight*: define how important these parameters are between themselves. In case there are two possible vendors to be included into routing, but one of them will increase the blended rule's *ASR*, while other will increase the rule's average *ACD*, the vendor with the parameter that has more weight will be automatically included into the rule

Routing rule settings

☐ Routing rules auto-synchronization

Action when can not ensure quality*: Block

Priority*: 10

Context*: DEFAULT

Routing rule description:

Auto-mode settings

Max auto-vendors*: 0

Max vendor share*: 0

Min. vendor ASR, %: 0

Min. vendor ACD: 0

Max vendor rate: 0

Add tab, Routing rule and Auto-mode settings

Routing rule settings:

- *Routing rules auto-synchronization* checkbox: if checked, the changes you make to the blended rule are immediately transferred to your regular routing scheme. If unchecked, you can create a blended routing rule, assign vendors and take their current quality parameters from [VoiceAnalytics](#) ^[268] - to see how much traffic each vendor will get and what the actual cost and quality will be (statistics and vendor shares will be updated - but the corresponding routing rule will be disabled so there will be no impact on actual traffic)
- *Action when cannot ensure quality*: defines what happens when it is impossible to meet the quality requirements of the rule. The System either blocks the traffic to the destination or dial code by creating a block routing rule (*Block*), or disables the regular routing rule created based on the blended rule and the traffic is handled via regular routing scheme (*Bypass to regular routing*). The System will also send out a notification to the manager responsible for blended routing
- *Priority*: defines the priority of the rule. Possible values are 1 to 100, 100 being the highest
- *Context*: routing context in which the routing rule will be created
- *Routing rule description*: name of the routing rule. If empty, the name will be displayed as *blended_rule_%ID%*

Auto-mode settings:

- *Max auto-vendors*: the maximum number of automatically selected vendors. If the value is 0, only manually added vendors take part in blended routing. The System job TRD_BLEND_SELECT_VENDOR_JOB is responsible for checking and selecting new vendors to the blended routing rule. The job is launched every day (at 2:30 AM by server time by default). The job checks all vendors (excluding manually added vendors) and filters them by the parameters *Max vendor share*, *Min vendor ASR/ACD*, and *Max vendor rate* - see description below. If a selected vendor has no statistics for some dial code(s) (destination(s)), the statistics

will be calculated based on existing stats. Suppose, the following dial codes are specified for a rule: 3460%, 380, 376, and the vendor has the following statistics:

- for code 346013 - 200 attempts, 100 successful attempts, 100 minutes, cost - 5USD
- for code 346014 - 300 attempts, 100 successful attempts, 400 minutes, cost - 25USD
- for code 380 - 1000 attempts, 400 successful attempts, 200 minutes, cost - 50USD

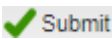
Then the quality and cost parameters are as follows:

- ASR: $(100+100+400)/(200+300+1000) = 40\%$
- ACD: $(100+400+200)/(100+100+400) = 1.17$
- Cost: $(5+25+50)/(100+400+200) = 0.11429$

If the number of selected vendors is greater than the value X specified in the *Max auto-vendors* parameter, the vendors will be sorted by ACD (descending) and then by cost (ascending) - and the first X vendors will be added to the blended routing rule. In case some (or all) automatically selected and added vendors cannot meet the quality and cost parameters when the job is launched next time, these vendors will be excluded from the rule.

If the *Max auto-vendors* parameter is set to 0 (and previously it was greater than 0), all automatically added vendors will be removed from the rule.

- *Max vendor share*: traffic share that auto-included vendors can take in the blended routing rule, in per cent
- *Min. vendor ASR, % / Min. vendor ACD*: minimum values of the quality parameters allowed for vendors in the rule
- *Max vendor rate*: highest cost a vendor should meet to be considered for automatic inclusion into the blended routing rule

When through with defining the parameters, click  to confirm or  to discard the settings. The  button creates a duplicate of the configured rule. This is helpful when you wish to configure another rule with similar parameters. Click  to delete the selected rule.

When the routing rule is set its effectiveness can be checked in one of the following ways:

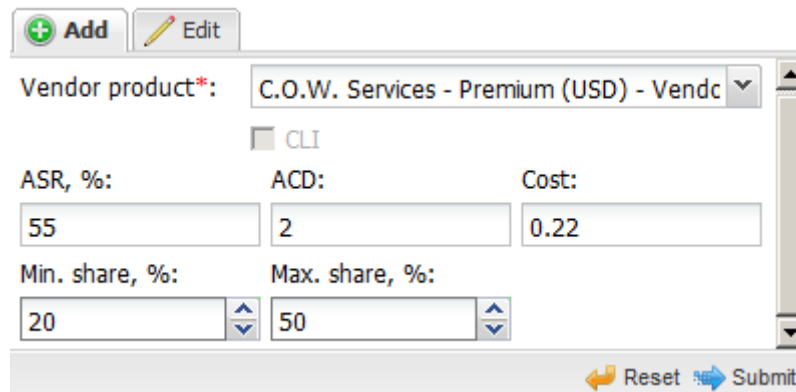
- 1) Check client margin to the dial code or destination on the [VoiceAnalytics](#) ²⁶⁸ page. If possible, the System will find the optimal proportions between premium vendors and low-cost routes. You will see the amount of margin growing on that destination or dial code.
- 2) Check if the actual *ASR/ACD* and *Cost* parameters come close or match the target parameters. The better parameters are matched, the better the routing results.

The bottom left table shows the vendor mix in a blended routing rule selected in the top table.

Vendor product	Auto-ad...	Vendor share, %	Min. share, %	Max. share, %	ASR, %	ACD	Cost
All	All						
Vendor 1 - US	No	15.99	3.00	25.00	55.00	0.60	0.00001
Vendor 2 - Standard	No	20.00	20.00	100.00	30.00	4.10	0.22500
Vendor 3	No	4.00	4.00	100.00	50.00	2.00	0.02000
Vendor 4	No	60.00	60.00	60.00	25.00	5.00	0.23000

Vendor mix

The *Add* and *Edit* panels in the bottom right corner of the page enable the user to add vendors to the rule and assign them initial quality parameters. When a vendor is included and the System job TRD_BLEND_UPDATE_RULE_JOB is launched (the job runs every 10 minutes), these quality and cost parameters will be recalculated (based on current traffic). If the parameters (*ASR, %, ACD, Cost*) are not set, the vendor statistics will be updated when the job (TRD_BLEND_UPDATE_RULE_JOB) is launched as well.



The screenshot shows a web form titled 'Add' with an 'Edit' button. The 'Vendor product*' dropdown is set to 'C.O.W. Services - Premium (USD) - Vendc'. Below it is a 'CLI' checkbox. The form includes input fields for 'ASR, %' (55), 'ACD' (2), 'Cost' (0.22), 'Min. share, %' (20), and 'Max. share, %' (50). At the bottom right are 'Reset' and 'Submit' buttons.

Add tab

- *Vendor product*: name of the vendor product included in the rule

NOTE: The field displays only products that have POIs associated with them, as products with no associated POIs cannot be used for routing.

- *CLI* (can be set only for manual vendors): the checkbox serves to indicate that the vendor is CLI (Calling Line Identification which guarantees delivery of original (not translated) A-number). If the vendor is marked as CLI, the vendor's share will be taken from the *CLI threshold, %* parameter
- *ASR, %*: the initial (if the vendor product was just added) or current (based on passing traffic) ASR value for a vendor to calculate the share (when traffic passes via the blended routing rule the parameter will be updated automatically)
- *ACD*: the initial ACD value for a vendor to calculate the share (as the traffic starts passing through the blended routing rule, the parameter is updated automatically)
- *Cost*: the initial cost value for a vendor to calculate the share (as the traffic starts passing through the blended routing rule, the parameter is updated automatically)
- *Min. share, %* / *Max. share, %*: the minimum and maximum traffic share that vendors can take in the blended routing rule. If the parameters are not set, vendor shares are calculated automatically to meet the ASR/ACD/Cost thresholds

Once the routing rule is set up there are 2 ways to check the effectiveness of blended routing:

- 1) Check the client margin in [VoiceAnalytics](#) ^[268] for a specific dial code or destination. The System will try to find the optimal proportions between premium vendors and low-cost routes, which will result in margin growth for destination or dial code
- 2) The other possibility to check if the blended routing works for the chosen destination or dial code is to check if the actual *ASR/ACD* and *Cost* parameters come close or match the target parameters – the better parameters are matched, the better the blended routing results will be.

After initial configuration, the System functions in an automatic way making the needed vendor mix changes based on the statistics for traffic that comes from the client to the destination affected by this

rule. If one of the vendors in the mix decreases quality or increases the price, the change is automatically considered in the next iteration of the mix update.

11.6.1.1 Blended routing usage example

Create an active blended routing rule for two client products (*test1 - client (USD)* and *test2 - client (USD)*) and destination *Bangladesh - mobile* with the parameters as shown in the figures below.

Qualitative indicators

ASR target, %:	35
ACD target:	6
Cost target*:	0.0185
ASR threshold, %:	10
ACD threshold:	3
Cost threshold*:	0.0208
Stats interval, sec.*:	1800
Number of attempts*:	100
CLI threshold, %:	0
Vendor min share (only manual vendors), %*:	0
③ ASR weight*:	5
③ ACD weight*:	5

Blended rule, Qualitative indicators

Routing rule settings

	☒ Routing rules auto-synchronization
Action when can not ensure quality*:	Bypass to regular routing
Priority*:	95
Context*:	DEFAULT
Routing rule description:	Blend test

Auto-mode settings

Max auto-vendors*:	0
Max vendor share*:	0
Min. vendor ASR, %:	
Min. vendor ACD:	
Max vendor rate:	

Blended rule, Routing rule settings and Auto-mode settings

Vendor's product name	ASR, %	ACD	Cost	Min. share, %	Max. share, %
v_test_1 (USD)	30	4	0.01756	0	100
v_test_2 (USD)	40	9	0.02002	0	100
v_test_3 (USD)	35	5	0.01821	0	100

After adding manual vendors (in the bottom table) with the initial parameters as in the table above, the System will check statistic for the combination 'client product - destination - vendor product' and calculate the shares every 10 minutes.

The calculation algorithm is described in paragraph II below - for the first-time calculation the System uses the statistics set in the initial settings. For further calculations the statistics will be calculated according to the logic described in paragraph I below.

I. The statistics (ASR, ACD and cost) is calculated based on passed traffic for the combinations 'client's product *test1* - client (USD) - vendor's product *v_test_1* (USD) - the destination' and 'client's product *test2* - client (USD) - vendor's product *v_test_1* (USD) - the destination' (in sum).

There must be at least 100 attempts for both combinations between the past 30 minutes and 3 days. The first hour is checked based on minute cubes.

Suppose for the first hour there are only 80 attempts (in total for both client products). In that case the second hour will be checked (based on hour cubes now) - suppose there are 25 attempts for the second hour, so now the thresholds are met and statistics can be calculated (it will be calculated based on 80+25 attempts for two hours).

Statistics for the other combinations will be calculated based on the logic described above.

The combinations are as follows:

client's product *test1* - client (USD) - vendor's product *v_test_2* (USD) - the destination

client's product *test2* - client (USD) - vendor's product *v_test_2* (USD) - the destination

client's product *test1* - client (USD) - vendor's product *v_test_3* (USD) - the destination

client's product *test2* - client (USD) - vendor's product *v_test_3* (USD) - the destination

II. 1)

The interval between *Min share, %* and *Max share, %* specified for the corresponding vendor's product is partitioned into 6 equal parts - now we have 7 points (how much traffic (in %) can be sent to each of the products:

0-16.67-33.33-50-66.67-83.33-100

0-16.67-33.33-50-66.67-83.33-100

0-16.67-33.33-50-66.67-83.33-100

2) All possible combinations of shares distribution are analyzed (NOTE: the sum of the shares must be equal to 100%). For example, the following combinations are possible:

50-50-0

50-0-50

0-50-50

83.33-16.67-0

83.33-0-16.67

16.67-0-83.33

16.67-83.33-0

33.33-33.33-33.33

16.67-16.67-66.67

16.67-66.67-16.67

66.67-16.67-16.67

50-33.33-16.67

etc.

3) Statistics for each combination is calculated based on the following formulas:

$$v1_ASR \cdot v1_share + v2_ASR \cdot v2_share + v3_ASR \cdot v3_share = ASR$$

$$v1_ACD \cdot v1_share + v2_ACD \cdot v2_share + v3_ACD \cdot v3_share = ACD$$

$$v1_cost \cdot v1_share + v2_cost \cdot v2_share + v3_cost \cdot v3_share = cost$$

For example, for the combination '50-33.33-16.67' the statistics will be calculated as:

$$ASR = 30 \cdot 0.5 + 40 \cdot 0.3333 + 35 \cdot 0.1667 = 34.1665$$

$$ACD = 4 \cdot 0.5 + 9 \cdot 0.3333 + 5 \cdot 0.1667 = 5.8332$$

$$cost = 0.01756 \cdot 0.5 + 0.02002 \cdot 0.3333 + 0.01821 \cdot 0.1667 = 0.01848$$

4) The weight is calculated by the formula below:

$$f(ASR, ACD, Cost) = ASR^{W_ASR} \cdot ACD^{W_ACD} \cdot cost^1,$$

where W_ASR and W_ACD are ASR weight and ACD weight respectively.

For this example the weight will be calculated as follows:

$$f(ASR, ACD, Cost) = 0.3417^5 \cdot 5.8332^5 \cdot 0.01848^1 = 0.0046 \cdot 6753,58 \cdot 0.01848 = 0.5741$$

5) Once weight has been calculated for each of the combinations, the one with maximum weight is chosen and it is being checked if the weight fits boundaries.

Let's say, maximum weight is achieved with a combination '50-33.33-16.67'

6) The value of the function must be within values from 0.0016 to 11.1862:

$$(\text{ASR threshold} \wedge \text{ASR weight}) * (\text{ACD threshold} \wedge \text{ACD weight}) * (\text{cost threshold} \wedge 1) = 0.1^5 * 3^5 * 0.0208^1 = 0.00032 * 243 * 0.0208 = 0.0016 \text{ (weight threshold),}$$

where ASR/ACD/cost threshold and ASR/ACD weight are the parameters of the blended routing rule (the cost weight is equal to 1 by default and cannot be changed)

$$(\text{ASR target} \wedge \text{ASR weight}) * (\text{ACD target} \wedge \text{ACD weight}) * (\text{cost target} \wedge 1) = 0.35^5 * 6^5 * 0.0185^1 = 0.07776 * 7776 * 0.0185 = 11.1862 \text{ (weight target),}$$

where ASR/ACD/cost target and ASR/ACD weight are parameters of the blended routing rule (cost weight is equal to 1 by default)

If the weight does not fit within the boundaries, it is considered that there is no solution for the blended rule.

If the weight fits the boundaries, the granularity level is increased and combination areas are to be checked.

7) For the combination '50-33.33-16.67' for each of share (50%, 33.33%, 16.67%) partitioning to interval $\pm 16.67\%$ happens: for the first vendor the product interval from 33.33% to 66.67% will be considered, for the second one - from 16.67% to 50%, for the third one - from 0 to 33.33%. Every interval (now it is equal to 33.33%) is partitioned to 6 equal parts - and new points are built again.

For the first vendor product the points are as follows:

33.33-38.885-44.44-49.995-55.55-61.105-66.66

For the second vendor's product the points are:

16.67-22.225-27.78-33.335-38.89-44.445-50

For the third vendor's product the points are:

0-5.555-11.11-16.665-22.22-27.775-33.33

All possible solutions are built for the combinations, with the sum of the shares equal to 100%.

Statistics and weight are calculated based on the logic described in paragraphs 3) and 4) above - the maximum weight is chosen.

If the weight does not fit the boundaries (paragraph 6), the solution does not exist.

If the current maximum weight is less than the previous one, the previous combination (according to which the maximum weight was calculated) is chosen as the solution of the rule.

If the current maximum weight is equal to the previous one, the current combination (according to which the new maximum weight was calculated) is chosen as the solution of the rule.

If the current maximum weight is greater than the previous one, partitioning to intervals happens for the new combination (as described in paragraph 7)

The algorithm operates until the solution (or its absence) is found.

11.6.2 Macro variables

The *Voice\Routing\Macro variables* page serves to create custom quality indicators and assign them to specific partners to enable more flexible routing. Example: suppose you need to accept traffic from clients with an ASR $\geq 70\%$ and at the same time allow a specific client to have ASR below this value, for example ASR $\geq 60\%$. Create a macro variable ASR with the value 70, and then associate it with a product/destination with the value 65. Then create a routing rule and use the macro variable ASR as a condition.

The *Voice\Routing\Macro variables* page consists of two parts: the top part serves to display and create macro variables; the bottom part allows associating macro variables with specific products and destinations.

★ Start Page		
Macro Variables		
ID	Variable name	Variable value
3	ACD	5
1	ASR	70

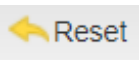
Table of macro variables

The top left section of the page is a table of macro variables.

The top right section contains the *Add* and *Edit* tabs that serve to add and edit macro variables. The *Add* tab displays the following parameters:

- Variable name
- Variable value

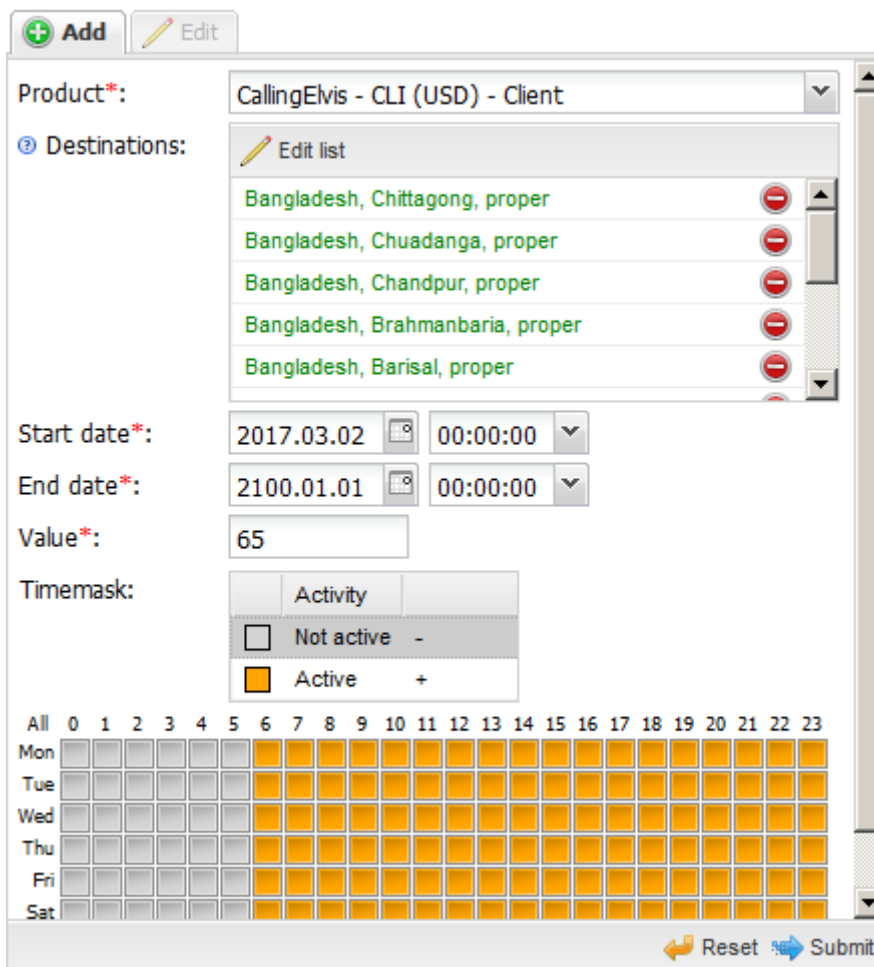
NOTE: Check that the macro variable name does not coincide with the name of a regular variable (see [Voice\Routing\Routing rules\Statistical parameters in routing](#) ^[405]).

Click  **Submit** to confirm or  **Reset** to discard the settings.

					Active at:
⬆	ID	Product	Destinations	Value	Start date
		All			$-\infty \leq X \leq \infty$
	1	ALARIS TEST - CLI	Bangladesh, Robi, mobile	0.7	2017.02.13 00:00:00

Products and destinations associated with macro variable

The bottom left section contains a table of products and destinations that are associated with the macro variable selected in the top table.



Product*: CallingElvis - CLI (USD) - Client

Destinations:  Edit list

- Bangladesh, Chittagong, proper
- Bangladesh, Chuadanga, proper
- Bangladesh, Chandpur, proper
- Bangladesh, Brahmanbaria, proper
- Bangladesh, Barisal, proper

Start date*: 2017.03.02 00:00:00

End date*: 2100.01.01 00:00:00

Value*: 65

Timemask:

Activity	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
☐ Not active -																								
☒ Active +																								

Reset Submit

Add products and destinations

The bottom right section contains the *Add* and *Edit* tabs that serve to add and edit products and destinations. The *Add* tab contains the following parameters:

- *Product*
- *Destinations*: click  *Edit list* to add new destinations
- *Start date, End date*: the validity period of the product and destination
- *Value*: enter the value associated with the product and destination
- *Timemask*: set the activity days and time for the product/destination. Select *Not active* and click on the appropriate cells in the table at the bottom of the tab to indicate inactive days and time. Similarly, specify the active periods.

Click  *Submit* to confirm or  *Reset* to discard the settings.

11.6.3 Routing rules

Routing rules define all the routing logic. Each rule is an instruction from a user to the System - which vendors 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.

11.6.3.1 Routing procedure description

SIP 300/302 is the default API providing the switching layer with real-time routing instructions. For every call that hits the switch, it immediately sends a SIP INVITE request to the routing module. The request contains the authentication data of the calling party (the client IP address or the trunk group ID, as well as the technical prefix in the B-number) and the call destination (the called party number). Based on this data, the routing module identifies the client (i.e. tries to find a client POI that matches the calling party data provided in the INVITE; if the POI is found, the respective product, account and carrier are also identified) and extracts the E164 B-number (by means of stripping off the client technical prefix, if present).

When the client and the E164 B-number are identified, the routing module searches for a valid rate for that B-number in the client product. The search is based on the “longest match” principle. If a rate is found, the same kind of search is performed in all vendor products. The “longest match” principle is also used here, so the search result may contain only one rate per vendor product. In case of US domestic calls, the System also makes another pass to collect vendor rates for the LRN number (while during the first pass it gets the rates for the actually dialed B-number). From each vendor product, the System selects just one of the two rates – either the one for the dialed B-number or the LRN – depending on the value of the *Billing number options* parameter of the respective vendor product (see [Carriers\Products](#)^[155]).

On the next step of routing, the System goes through the list of found vendor rates and applies account- or agreement-related restrictions, if any. For example, a vendor needs to be excluded from routing because there is no active agreement, or the credit limit is exceeded, or no POIs are created for that vendor. After this step of routing, the vendor list normally gets shorter and contains only vendors that do not have any configuration issues or formal reasons to reject the call.

As soon as the vendor list is ready, the System goes through the list of routing rules to find the applicable rule for the given customer and B-number. If such rules are found, it picks the vendor routes stipulated there (for more details see [Voice\Routing\Routing rules\Rules page](#)^[391]). Unless the maximum number of routes per call is reached (the *Max routes per request* parameter in [Administration\System settings\Routing module](#)^[73]), or the current rule contains the instruction to stop further route search, the System goes on checking other routing rules to find more vendors for the call.

The rules are checked according to their priority; also by default only rules within a particular context are tried, unless the user stipulates context changing logic (for more details see [Voice\Routing\Routing rules\Use of contexts](#)^[404]).

When the route search is over, the System returns the ordered sequence of the selected vendors to the switch in a *SIP 300* or *SIP 302* message. The switch then tries to terminate the call to the vendors according to the order defined by the routing module.

11.6.3.2 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. In case the vendor product has more than one POI, POI priority for this product is calculated dynamically, based on ASR/NER/ACD (same for the dynamic and combined routing).
- *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 $MRG \geq 0$

- **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 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.

11.6.3.3 Rules page

The *Voice\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 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.

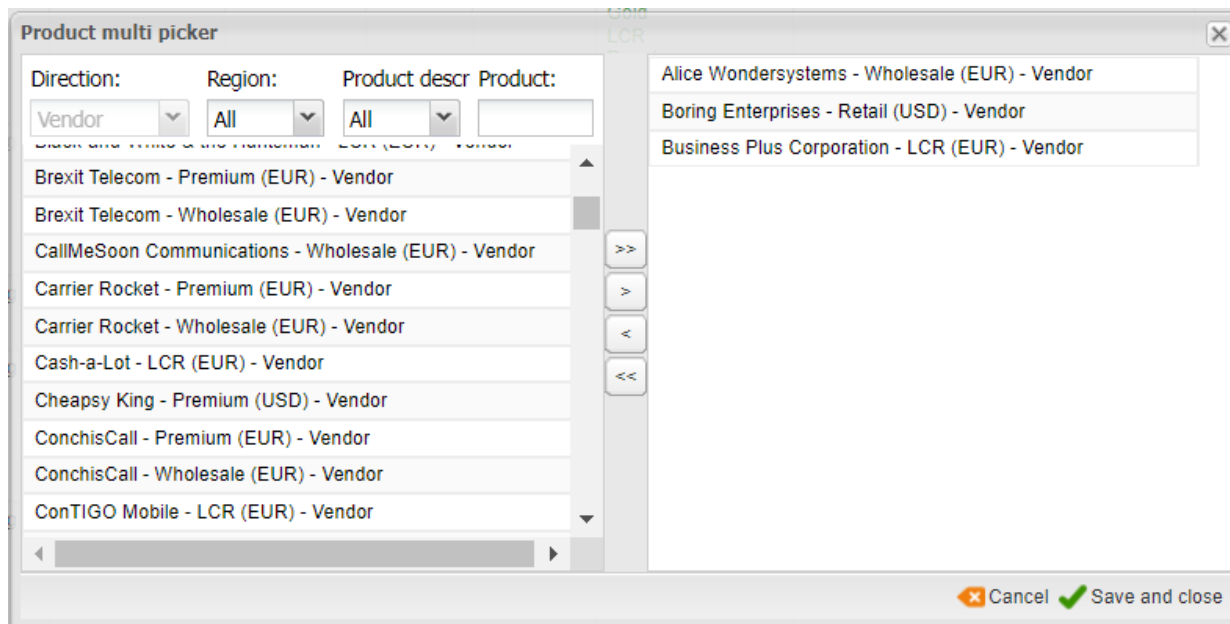
ID	Description	Rule type	Context	Next	Is active	Priority	Client products	Destinations	Choice list
10000	Test	Regular rout...	DEFAULT	DEFAULT	Yes	100	All products	All destinations	Choice 1 MRG+100
10001	998	Regular rout...	DEFAULT	Huntstop	Yes	5	ALARIS TEST - CLI (USD) Ahn Wee - WholeSale (USD) Anita Job - WholeSale (USD) Barbie Dahl - Premium (USD) Barbie Dahl - WholeSale (USD) ...	Hong Kong, proper	Choice 1 Dewey, Cheatam & Howe - WholeSale (USD) Choice 2 Ahn Wee - Whole
10002	998 - clone	Regular rout...	PREMIUM	PREMIUM	Yes	3	ALARIS TEST - CLI (USD) Ahn Wee - WholeSale (USD) Anita Job - WholeSale (USD) Barbie Dahl - Premium (USD) Barbie Dahl - WholeSale (USD)	Abkhazia, A-mobile, mobile Mexico,*proper United States of America,*	Choice 1 Senior Moments - WholeSale (USD)

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 multi picker

Direction: Region: Product descr: Product:

Vendor All All

Search and filter the list of products

Brexit Telecom - Premium (EUR) - Vendor
 Brexit Telecom - Wholesale (EUR) - Vendor
 CallMeSoon Communications - Wholesale (EUR) - Vendor
 Carrier Rocket - Premium (EUR) - Vendor
 Carrier Rocket - Wholesale (EUR) - Vendor
 Cash-a-Lot - LCR (EUR) - Vendor
 Cheapsy King - Premium (USD) - Vendor
 ConchisCall - Premium (EUR) - Vendor
 ConchisCall - Wholesale (EUR) - Vendor
 ConTIGO Mobile - LCR (EUR) - Vendor

Alice Wondersystems - Wholesale (EUR) - Vendor
 Boring Enterprises - Retail (USD) - Vendor
 Business Plus Corporation - LCR (EUR) - Vendor

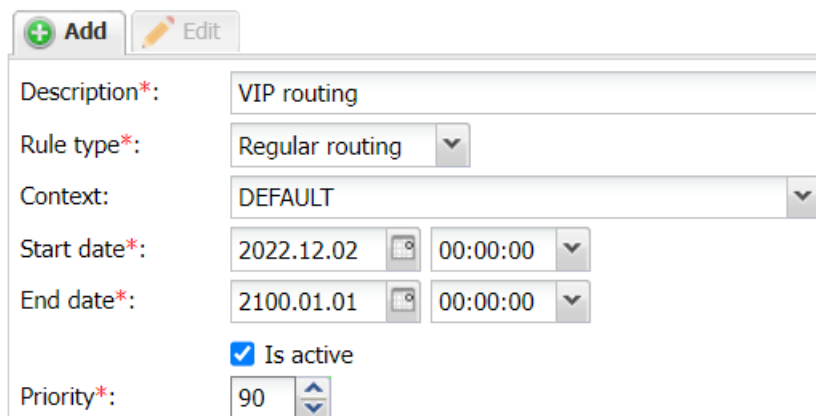
>>
 >
 <
 <<

Cancel Save and close

Product multipicker

- *Source tags, Destination tags*: filter by A- and B-number tags included in the routing rule
- *B-number*: filter by called number (exact match search is used)
- *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 **Edit**

Description*: VIP routing

Rule type*: Regular routing

Context: DEFAULT

Start date*: 2022.12.02 00:00:00

End date*: 2100.01.01 00:00:00

☒ Is active

Priority*: 90

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
- *Context*: user-defined group, to which the given rule is assigned (see [Voice\Routing\Routing rules\Use of contexts](#)^[404])
- *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 [Voice\Routing\Simulation](#)^[410] 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, contact the Alaris support technical team and share the code BZ6615.

Client product names:

 Edit list

CLI	✗
Premium	✗
Retail	✗
VIP	✗
WholeSale	✗

Client products:

 Edit list

C.O.W. Services - WholeSale (USD)	✗
CallingElvis - CLI (USD)	✗
CallingElvis - Premium (USD)	✗
CallingElvis - Standard (USD)	✗
CallingElvis - WholeSale (USD)	✗

Client POI:

 Edit list

Ahn Wee - WholeSale (USD) - 1.1.10.35	✗
Anita Job - WholeSale (USD) - 1.1.10.97	✗

Vendor product names:

 Edit list

CLI	✗
Premium	✗
Retail	✗
VIP	✗
WholeSale	✗

Add tab, continued

- *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 [Voice/Routing/Routing rules/Use of contexts](#)^[404]
- *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.

- *Client POI*: allows filtering traffic by specific points of interconnection. Either an *Inclusive list* or an *Exclusive list* can be specified in the field. See also the [Alaris YouTube](#) video
- *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

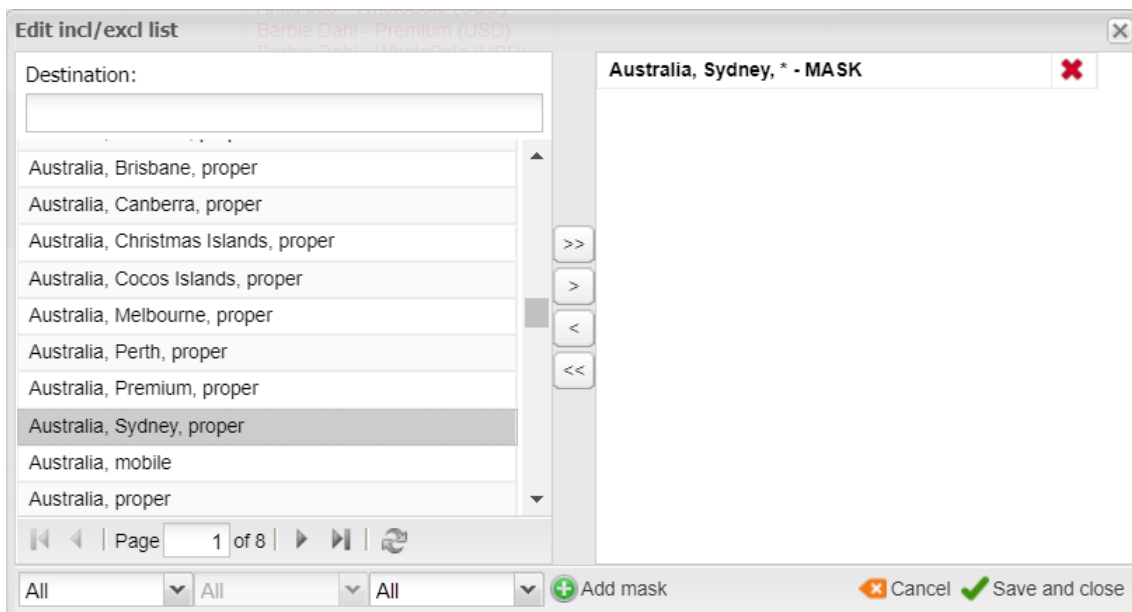
Destinations: Inclusive list ▼

Edit list

United States of America,*,* - MASK	
Mexico,* ,proper - MASK	
Abkhazia, A-mobile, mobile	

Add tab, continued (2)

- *Destinations*: list of destinations, for which the rule will be effective. Can be inclusive or exclusive. The destination names are taken from the [Voice\Reference books\Dial codes](#)^[370]. It is possible to use text masks. Click to open the multipicker, select appropriate values at the bottom of the form as shown below, and click **Add mask**. For example:
 - *Country, *, ** (e.g. *United States of America, *, **): select *United States of America* in the left drop-down list and click **Add mask**
 - *Country, Region, ** (e.g. *Australia, Sydney, **): select *Australia* in the left list, *Sydney* in the middle list and click **Add mask**
 - *Country, *, type* (e.g. *Mexico, *, mobile*): select *Mexico* in the left list, *mobile* in the right list and click **Add mask**



Destinations multipicker

Dial codes: Inclusive list ▼

 Edit list

1020 - United States of America, proper	
1013073 - United States of America, proper	
1060 - United States of America, proper	
1070 - United States of America, proper	

Timemask:

Activity

☐ Not active -

☒ Active +

	All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									

 Reset  Submit

Add tab, continued (3)

- Dial codes*: list of E164 codes, for which the rule will be effective. The filter is applied to the list of vendor rates to single out only those that match the dial code(s) in the filter. Can be inclusive or exclusive. It is possible to type or paste dial codes and/or dial code masks (with a star at the end) through a delimiter (a comma or a semicolon), e.g.: 7, 79, 7831*. Enter the masks in the field at the bottom of the multipicker form illustrated below, and click  Paste

Edit incl/excl list

Barbie Dahl - Premium (USD) Premium

Barbie Dahl - WholeSale (USD)

Dial Code: Country: Region:

0 - Undefined, Undefined

1 - United States of America, proper

1013073 - United States of America, proper

1016 - United States of America, proper

1020 - United States of America, proper

1035 - United States of America, proper

1060 - United States of America, proper

1061 - United States of America, proper

1070 - United States of America, proper

108 - United States of America, proper

4 out of 4000 symbols

1020 - United States of America, proper

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Example: 111, 22, 3*, 456

 Paste  Cancel  Save and close

Dial codes incl/excl list

- *Timemask*: set the activity period of the rule. Use *active/not active* controls to mark in the calendar the days of the rule's activity

Source tags: ▼

 Edit list

USA 

Destination tags: ▼

ANI pattern: ▼

DNIS pattern: ▼

Condition:  

Choice list:

Add tab (continued 4)

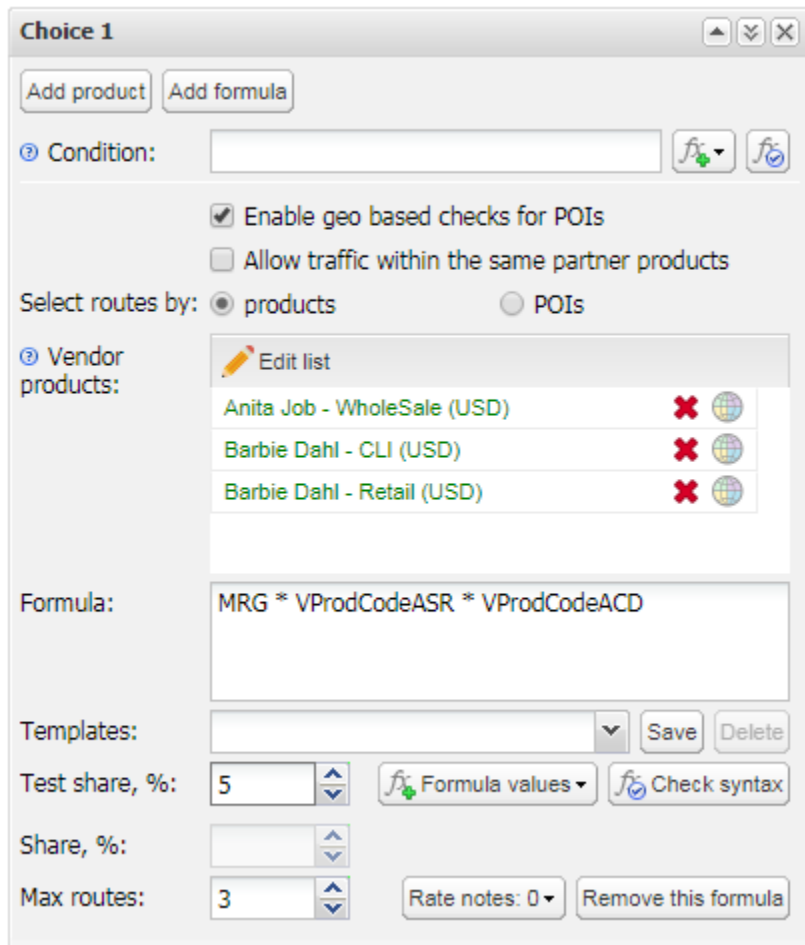
- *Source/Destination tags*: tags used for routing by A-number and B-number respectively. Tags are configured in [Reference books\Tags](#)^[201]. Can be inclusive or exclusive

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.

- *ANI 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}`
- *DNIS pattern*: regular expression that configures a group of B-numbers. For example, for 10-digit B-numbers use the regular expression `[0-9]{10}`

NOTE: The use of double pipe symbols (`||`) is not allowed in regular expressions in the fields *ANI pattern* and *DNIS pattern*. If double pipes are used the following message will be displayed: "Sorry, not allowed to use double pipe in this regular expression".

- *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.



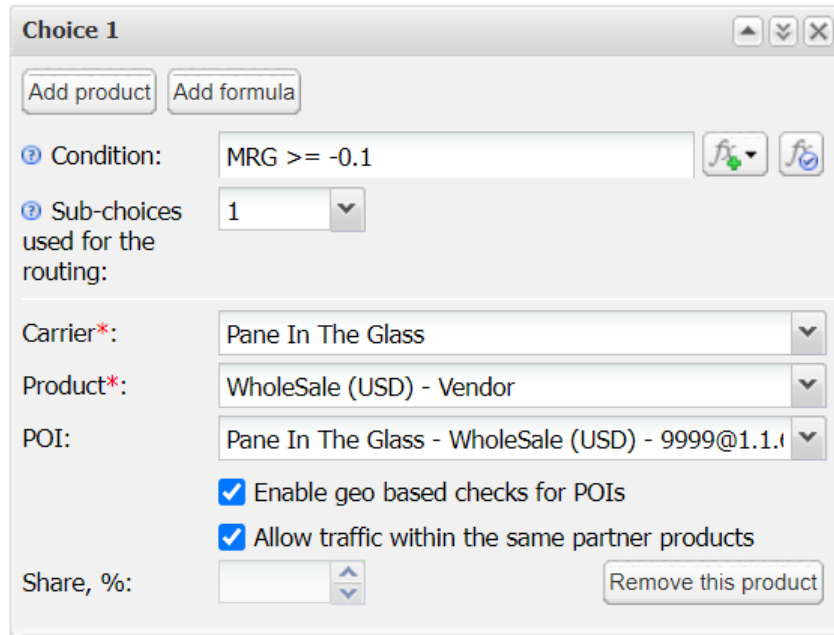
Add tab, Choice list

- *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 $MRG \geq 0$ condition)

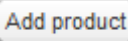
NOTE: This field helps reject vendors that are not suitable for traffic termination based on the predefined condition. If the field is empty, the System checks for negative margin and rejects vendors that offer rates higher than client rates.

Click the  button to open the drop-down list of conditions. The System metrics available as condition parameters are listed in the [Voice\Routing\Routing rules\Statistical parameters in routing](#)^[405] section below. The use of standard mathematical and logical operations (*and/or, if/then/else* etc.) is allowed. Click the  button to verify the syntax of the conditional expression.

NOTE: If a formula or condition (in the fields *Condition*, *Formula*) is verified as incorrect, the routing rule cannot be saved.



Add product (static options)

Static options (available for each vendor product added by the  button):

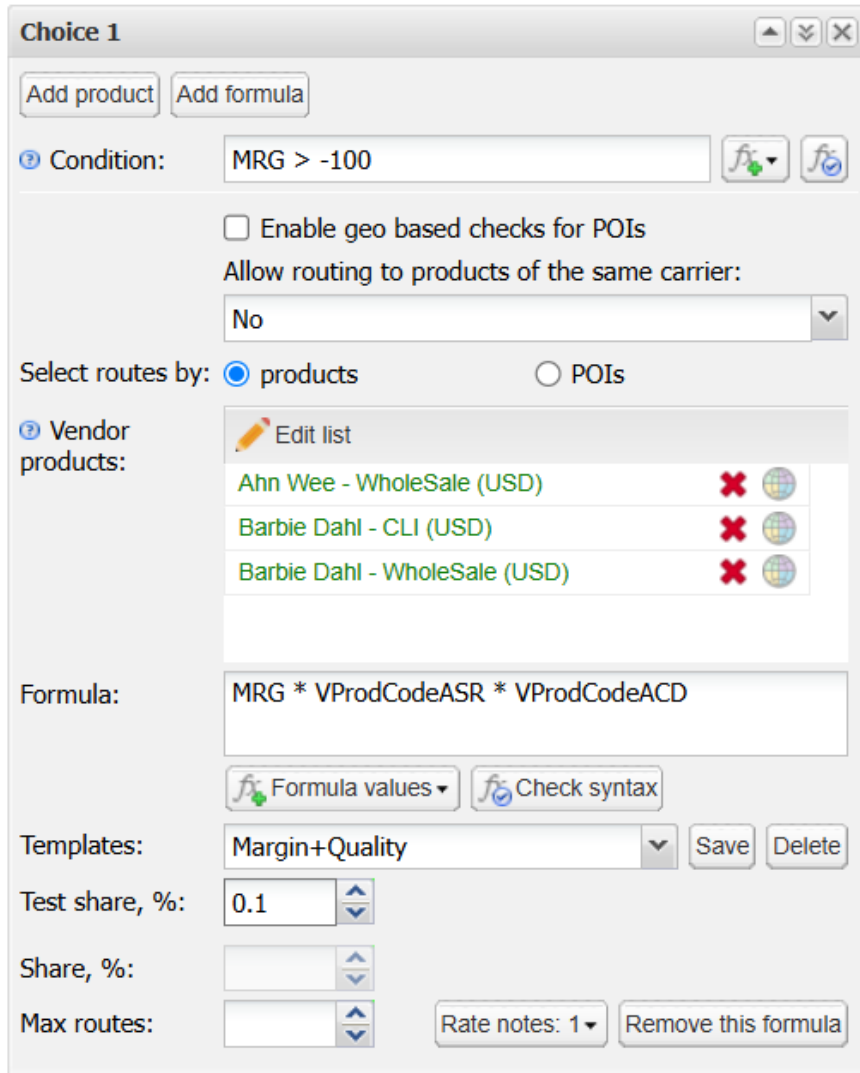
- *Condition* (see above)
- *Sub-choices used for routing*: indicates the number of vendors that can be used by the routing module (the *Share, %* parameter must be filled) from the same choice. The parameter value must be less than the number of specified vendors. If it equals to the number of vendors, all the vendors will be added to routing irrespectively of the configured shares. The probability is calculated as follows. Suppose three vendors are configured, and the parameter *Sub-choices used for routing* is set to 2, with respective *Share, %* values of 50%, 40% and 10%. When a random number (from 0 to 100) is generated, the sub-choice's share is subtracted from it. Suppose the generated number is 63 and the result is 13 (63-50). If the result is a negative value, the sub-choice is added to the routing list, otherwise the same check applies to the rest of the sub-choices (in random order) deducting the sub-choice's share - until a negative value can be received. Thereby for the 2nd sub-choice it will be 13-40=-27 and the choice will be selected for routing. Once a sub-choice is added, the check reiterates for the rest of the sub-choices but a random value is generated excluding the share of the added sub-choice (from 0 to 60 for this example as the 2nd sub-choice has the *Share: 40%*). Suppose 5 is generated, therefore the condition for the 1st sub-choice is met (5-50=-45) and the final routing list will include the 2nd and 1st sub-choices (in this exact order)
- *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. Only *International* and *US domestic* vendor products are available in the field.

- *POI*: the POI that will be used for routing
- *Enable geo based checks for POIs*: when this checkbox is selected, calls to preset number prefixes or selected regions are routed through a specific POI (the number prefixes are configured in the *Geo DNIS* parameter, and the regions in the *Country groups* parameter in [Carriers\Voice POI](#) ⁽¹⁶³⁾)

- *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

Click the **Remove this product** button to exclude the added product from the vendor selection.



Choice 1

Condition:

☐ Enable geo based checks for POIs
 Allow routing to products of the same carrier:

Select routes by: ☒ products ☐ POIs

Vendor products:

Ahn Wee - WholeSale (USD)	X	f
Barbie Dahl - CLI (USD)	X	f
Barbie Dahl - WholeSale (USD)	X	f

Formula:
 Formula values
 Check syntax

Templates:

Test share, %:

Share, %:

Max routes:

Add new choice (dynamic)

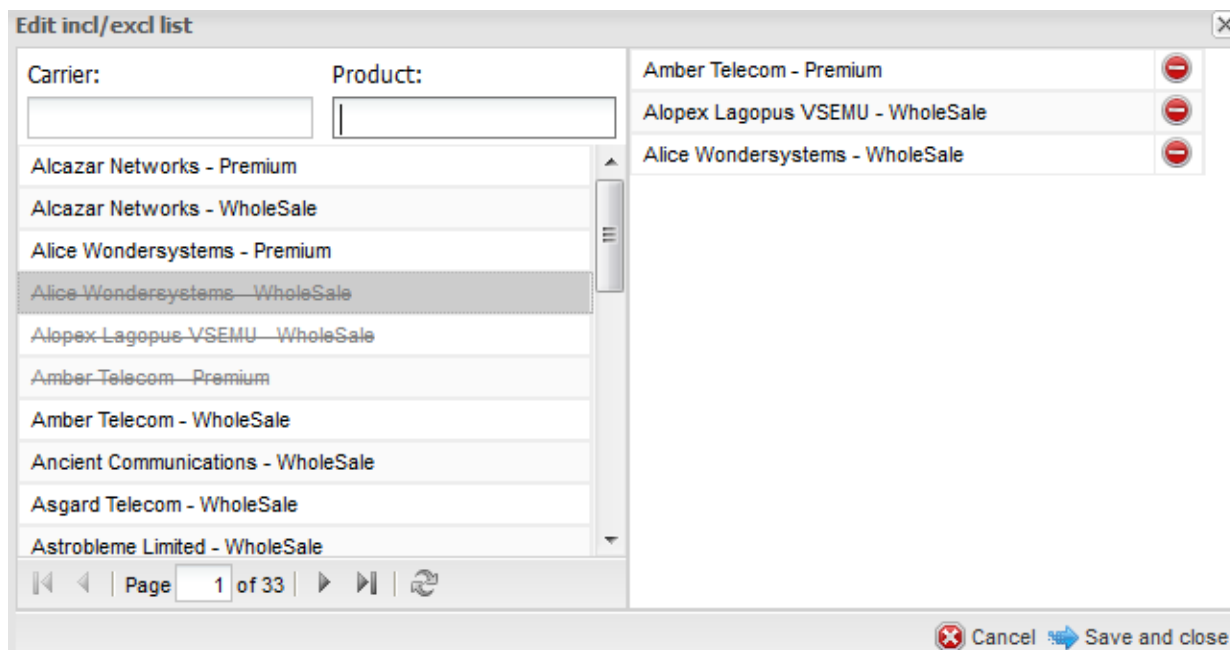
Dynamic options (available for each formula added by means of the *Add formula* button):

- *Condition*
- *Enable geo based checks for POIs*: when this checkbox is selected, calls to preset number prefixes or selected regions are routed through a specific POI (the number prefixes are configured in the *Geo DNIS* parameter, and the regions in the *Country groups* parameter in [Carriers\Voice POI](#)^[163])
- *Allow routing to products of the same carrier*: serves to allow loops (when traffic is received from a client product and terminated to a vendor product within the same carrier). Possible values include:

- No
- Yes, for all product names
- Yes, for different product names
- System setting (as in the System parameter *Enable traffic exchange between the same carrier products* (0 - disabled, 1 - enabled for all product names, 2 - enabled for different product names))

NOTE: Loops can also be configured on the System level by the parameter *Enable traffic exchange between the same carrier products* (0 - disabled, 1 - enabled for all product names, 2 - enabled for different product names) in [Administration\System settings\Routing module](#) ⁷³.

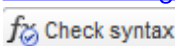
- *Select routes by* (available values - *products*, *POIs*): select either products or POIs to which the routing formula will be applied
- *Vendor products* (shown if *products* is selected in the *Select routes by* parameter): optional list of vendor products to apply the routing formula to (no other vendor products will be considered in this case). The default value is empty, which means that all vendors with valid rates and POIs is going to take part in the routing process. Click the  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. Only *International* and *US domestic* vendor products are available in the field.

- *Vendor POIs* (shown if *POIs* is selected in the *Select routes* by parameter): optional list of points of interconnection (POIs) to which traffic will be routed. This allows sending calls only to preset POIs from which the partner wishes to receive traffic
- *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  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 [Voice\Routing\Routing rules\Statistical parameters in routing](#) ^[405] section below. Click the  button to verify correctness of the formula. Click the  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)

NOTE: Alternatively, instead of using a formula to calculate each vendor's weight, routes can be considered in the order as set in the *Vendor products* list. To enable this option, contact the Alaris technical support team.

- *Templates*: drop-down list of preset formula templates allowing difficult-to-type formulas to be reused in new rules. Use  and  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
- *Rate notes*: it is possible to set up a special routing instruction for the System to use only those vendors whose rates contain one of the enlisted rate notes (for example, to make the System use only routes with declared CLI delivery)
- *Share, %*: share of traffic to be routed by the formula out of the total scope of traffic affected by the rule
- *Max routes*: the maximum number of routes to be returned by the routing choice with the formula. The parameter allows setting the maximum possible routes quantity from a dynamic choice

Next*:

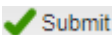
Rule comments:

Next and Rule comments

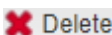
- *Next*: this parameter defines whether the routing must:
 - stop after the current rule (*Huntstop*)
 - continue in the current context (*Continue search within same context*) or
 - switch over to another context (*Switch to context*). See [Voice\Routing\Routing rules\Use of contexts](#) ^[404] for more details.
- *Rule comments*: arbitrary comments on the configured routing rule

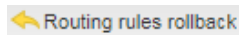
- *Probability, %*: the share of traffic processed by the test rule (applicable only for rules with the value *Test* in the *Rule type* parameter)

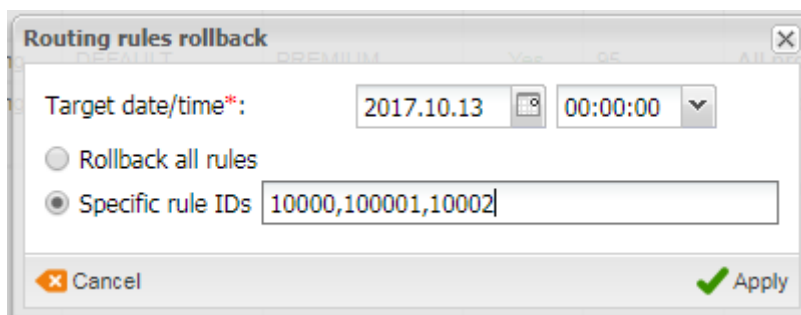
NOTE: If a rule contains both static and dynamic options, static choices will be checked earlier than dynamic ones, even if dynamic choices are placed earlier in the list.

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.

Use the  **Routing rules rollback** button at the bottom of the rules table to roll back all or specific routing rules.

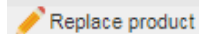


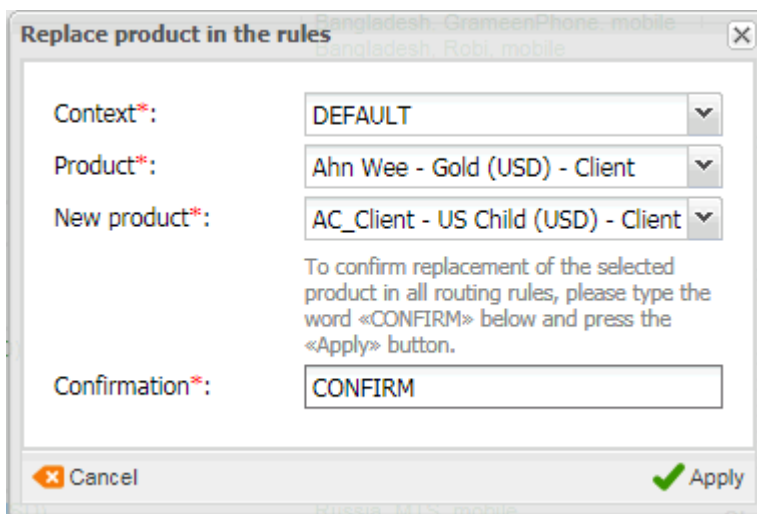
The dialog box titled "Routing rules rollback" contains the following fields and controls:

- Target date/time*:** A date and time selector showing "2017.10.13" and "00:00:00".
- Rollback options:** Two radio buttons: "Rollback all rules" (unselected) and "Specific rule IDs" (selected).
- Specific rule IDs:** A text input field containing "10000,100001,10002".
- Buttons:** "Cancel" (with a red X icon) and "Apply" (with a green checkmark icon).

Routing rules rollback

In the *Routing rules rollback* dialog, specify the date and time to which the rules must be rolled back and select either *Rollback all rules* or *Specific rule IDs* (comma-separated). Click  **Apply**.

The  **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. See also the [Alaris YouTube](#) video.



The dialog box titled "Replace product in the rules" contains the following fields and controls:

- Context*:** A dropdown menu showing "DEFAULT".
- Product*:** A dropdown menu showing "Ahn Wee - Gold (USD) - Client".
- New product*:** A dropdown menu showing "AC_Client - US Child (USD) - Client".
- Confirmation*:** A text input field containing "CONFIRM".
- Buttons:** "Cancel" (with a red X icon) and "Apply" (with a green checkmark icon).
- Text:** "To confirm replacement of the selected product in all routing rules, please type the word «CONFIRM» below and press the «Apply» button."

Replace product in the rules

The *Choice* sections of *Edit* tab additionally contain the *Vendor rate* field. If the vendor has no rate, the parent product rate is displayed. Find out more in the [Alaris YouTube video](#).

NOTE: It is possible to disable the checkup of vendor products belonging to the same client. By default the checkup is enabled, meaning that if the vendor product belongs to the client's carrier, it will be excluded from routing. When disabled, it is possible to route traffic from a client to a vendor belonging to the same carrier. To disable the checkup, contact the Alaris technical support team and communicate the code BZ27200.

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.

11.6.3.4 Use of contexts

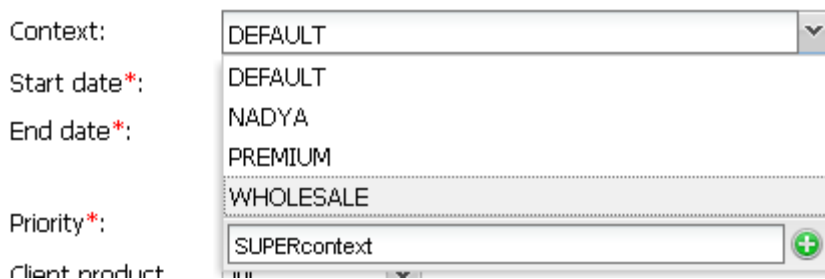
A context is a user-defined group of routing rules. Each rule is assigned to a context. There may be as many contexts in the System as the user needs. The only context that must be there at all times is DEFAULT – that is where routing of every call always starts.

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

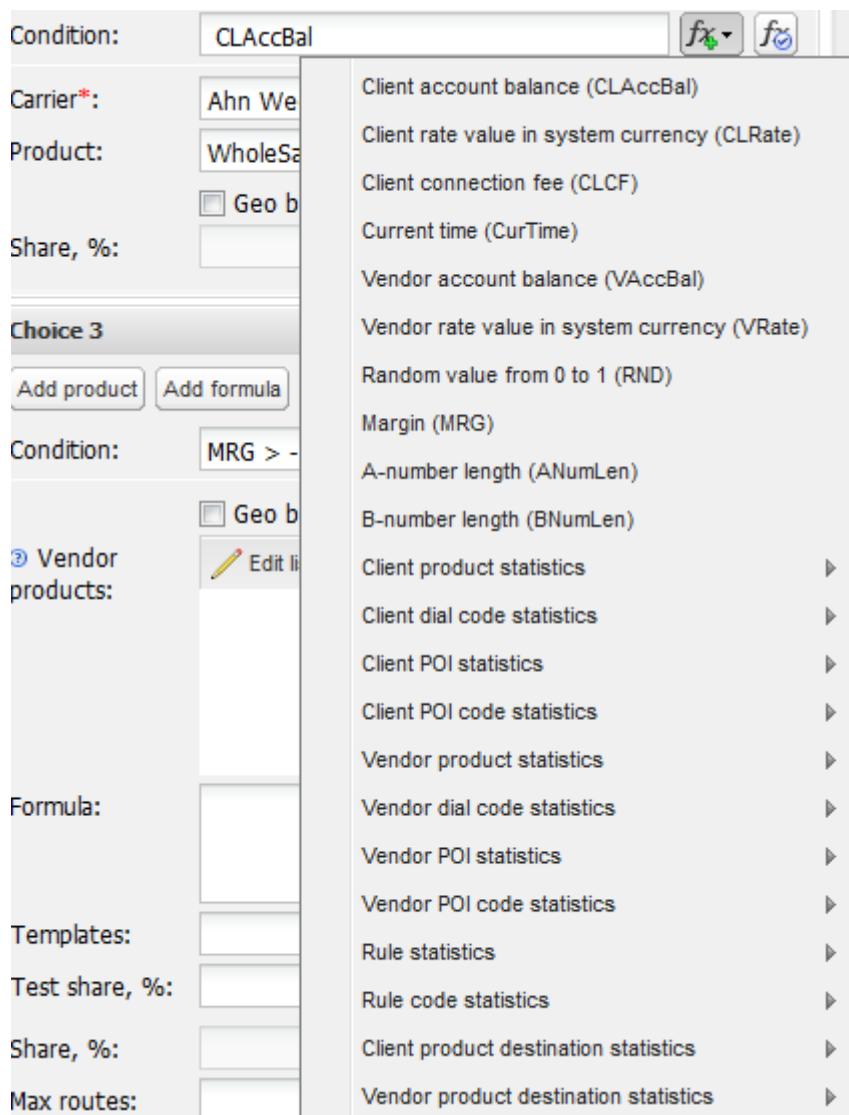
To remove a context, delete all rules in this context.

NOTE: If no suitable routes are found and the last checked rule does not have the *Next: Huntstop* option, rules from FINAL context are checked (the FINAL context is a final one for voice routing and switch to the

context takes place unconditionally - meaning there is no need in creation of an additional 'switching' rule).

11.6.3.5 Statistical parameters in routing

The following metrics can be used as parameters in the *Condition* or *Formula* expressions in [Voice\Routing\Routing rules](#) ³⁹¹:



Statistical parameters in routing

- *CurTime*: current time in seconds starting from 01.01.1970
- *RND*: random value between 0 and 1
- *ANumLen*: number of digits in the A-number
- *BNumLen*: number of digits in the B-number
- *LERGA*: A-number is presented in LERG6 table (applicable to US domestic traffic only)
- *LERGB*: B-number is presented in LERG6 table (applicable to US domestic traffic only)

NOTE: The *LERGA* and *LERGB* metrics return the 'true' value if the A- or B-number respectively has been found in the LERG6 table; otherwise they return the 'false' value. The metrics are applicable to US domestic traffic only. See also the [Alaris YouTube](#) video.

- *Rule statistics:* *RuleASR*, *RuleACD*, *RuleNER*, *RuleMRG*, *RuleTV*, *RuleLCT*, *RuleCnt* - ASR, ACD, NER, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the routing rule
- *Rule code statistics:* *RuleCodeASR*, *RuleCodeACD*, *RuleCodeNER*, *RuleCodeMRG*, *RuleCodeTV*, *RuleCodeLCT*, *RuleCodeCnt* - ASR, ACD, NER, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the combination of the client dial code and the routing rule
- *CLAccBal:* client account balance in the System currency
- *CLRate:* client rate in the System currency
- *CLCF:* client connection fee
- *VaccBal:* vendor account balance in the System currency
- *VRate* - vendor rate in the System currency
- *VRateOrig* - vendor rate value in account currency
- *MRG* – margin in the System currency
- *Client product statistics:* *CLProdASR*, *CLProdACD*, *CLProdNER*, *CLProdPDD*, *CLProdMRG*, *CLProdTV*, *CLProdLCT*, *CLProdCnt* – ASR, ACD, NER, PDD, margin, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the client product
- *Client dial code statistics:* *CLProdCodeASR*, *CLProdCodeACD*, *CLProdCodeNER*, *CLProdCodePDD*, *CLProdCodeMRG*, *CLProdCodeTV*, *CLProdCodeLCT*, *CLProdCodeCnt* - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the dial code in the client product
- *Client POI statistics:* *CLPOIASR*, *CLPOIACD*, *CLPOINER*, *CLPOIPDD*, *CLPOIMRG*, *CLPOITV*, *CLPOILCT*, *CLPOICnt* - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the client POI
- *Client POI code statistics:* *CLPOICodeASR*, *CLPOICodeACD*, *CLPOICodeNER*, *CLPOICodePDD*, *CLPOICodeMRG*, *CLPOICodeTV*, *CLPOICodeLCT*, *CLPOICodeCnt* - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the combination of the client dial code and the client POI
- *Vendor product statistics:* *VProdASR*, *VProdACD*, *VProdNER*, *VProdPDD*, *VProdMRG*, *VProdTV*, *VProdLCT*, *VprodCnt* - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the vendor product
- *Vendor dial code statistics:* *VProdCodeASR*, *VProdCodeACD*, *VProdCodeNER*, *VProdCodePDD*, *VProdCodeMRG*, *VProdCodeTV*, *VProdCodeLCT*, *VProdCodeCnt* - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the vendor dial code

- *Vendor POI statistics:* VPOIASR, VPOIACD, VPOINER, VPOIPDD, VPOIPMRG, VPOITV, VPOILCT, VPOICnt - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the vendor POI
- *Vendor POI code statistics:* VPOICodeASR, VPOICodeACD, VPOICodeNER, VPOICodePDD, VPOICodeMRG, VPOICodeTV, VPOICodeLCT, VPOICodeCnt - ASR, ACD, NER, PDD, average margin per minute, total traffic volume, timestamp of the most recent call (in seconds starting from 01.01.1970), total number of calls for the combination of the vendor dial code and the vendor POI
- *Client product destination statistics:* CLProdDestASR, CLProdDestACD, CLProdDestNER, CLProdDestPDD, CLProdDestMRG, CLProdDestCnt - ASR, ACD, NER, PDD, average margin per minute, total number of calls for the client product destination
- *Vendor product destination statistics:* VProdDestASR, VProdDestACD, VProdDestNER, VProdDestPDD, VProdDestMRG, VProdDestCnt - ASR, ACD, NER, PDD, average margin per minute, total number of calls for the vendor product destination

Statistical values used in routing are calculated in the following two ways:

- *ASR, ACD, NER, and PDD:* calculated as an exponential moving average based on a frame of 200 calls (for clients) or 200 attempts (for vendors). Statistical data older than 2 days (no calls for the considered entity for the last 48 hours) is considered obsolete and is not used for routing
- *PDD, total volume, total number of calls:* calculated on a monthly basis (starting on the 1st day of each calendar month)

NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).

The routing module updates account balances based on the CDR data that it takes from the CDR mediation layer. Additionally, every 10 seconds the routing module checks the database for updated balance info, so that the routing module can verify (and if necessary – correct) the balances it has calculated on its own.

11.6.3.6 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](#) ^[155] page.

Two routing setup procedures are possible:

Procedure 1 (recommended).

1. Create two contexts: *wholesale* and *premium* (refer to [Voice\Routing\Routing rules\Use of contexts](#) ^[404] 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* 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

Edit list

Premium	✖
---------	---

Client products: All

Client POI: All

Vendor product names: Inclusive list

Edit list

Premium	✖
VIP	✖

Destinations: All

Dial codes: All

Timemask:

Activity

☐ Not active -

☒ Active +

All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon																								
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								
Sun																								

Source tags: All

Destination tags: All

ANI pattern:

DNIS pattern:

Condition:

Choice list: Add new choice

Next*: Switch to context

Next context: PREMIUM

Rule comments:

"Context-switching rule" settings

Procedure 2.

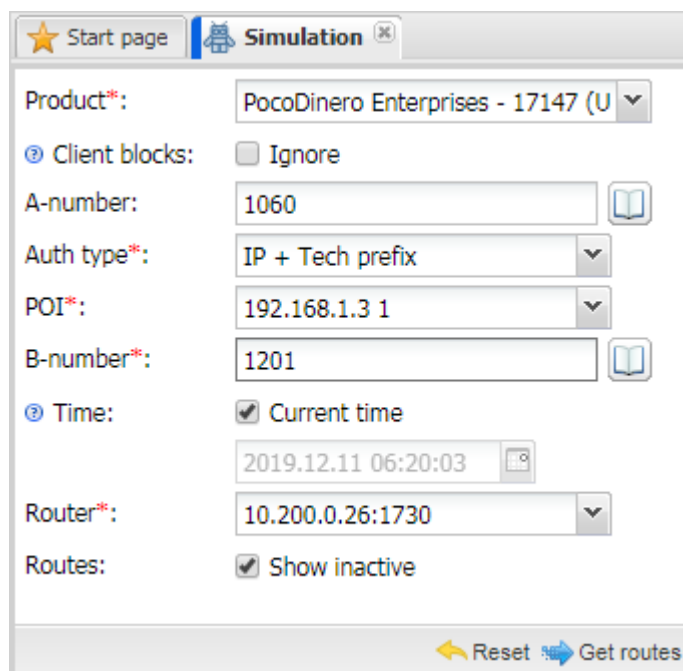
1. Create the routing rules as necessary. In the *Context* field of all the rules select *DEFAULT*.
2. In the *Client product names* list select *Premium* for premium clients and *Wholesale* for wholesale clients.

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.

11.6.4 Simulation

The *Voice\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 *Simulation* tab shown below.



★ Start page Simulation

Product*: PocoDinero Enterprises - 17147 (U)

Client blocks: ☐ Ignore

A-number: 1060

Auth type*: IP + Tech prefix

POI*: 192.168.1.3 1

B-number*: 1201

Time: ☒ Current time
 2019.12.11 06:20:03

Router*: 10.200.0.26:1730

Routes: ☒ Show inactive

Reset Get routes

Simulation tab

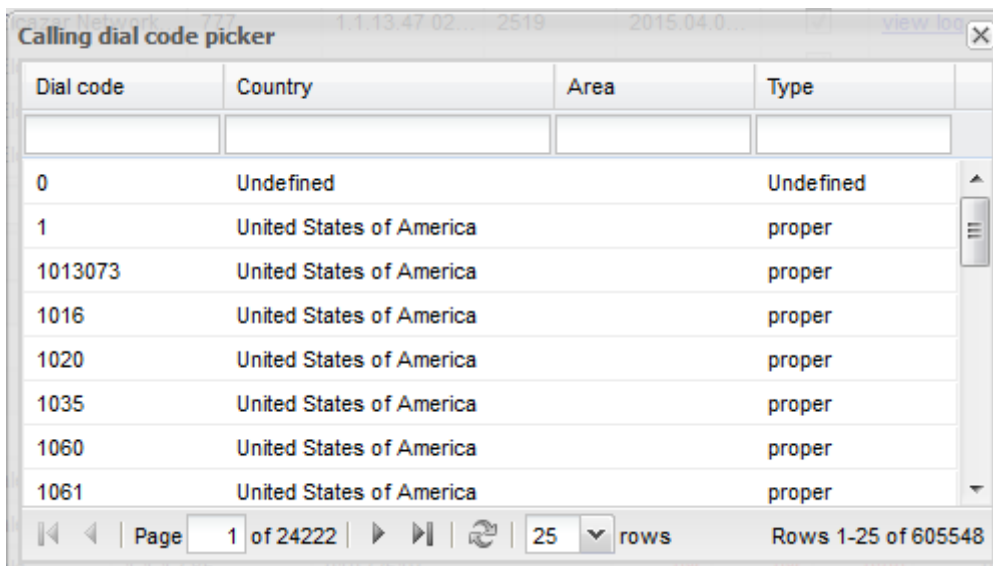
To perform the simulation, configure the following parameters:

- *Product* (only active products having active POIs are displayed)
- *Client blocks - Ignore*: when selected, call simulation from blocked clients will be performed (so there is no need to unblock a partner to perform simulation). The following will be ignored:
 - whether the POI is active (as defined by the *Active from/till* fields)
 - whether the client POI is active
 - whether the inbound traffic is prohibited

- client POI capacity
- negative client balance
- client product blocked by a block rule (to various destinations)
- whether the rates are active (as defined by the *Start/end date*) - both for Domestic and International products
- a block rule will also be ignored if the destination check is passed

Besides, the client rate will receive an 'indefinite' value that will allow getting all possible routes even if the actual client rate has a negative MRG value and the routing rule does not accept negative margin. The MRG value will be indefinitely high for all routes and the displayed value will equal to 1. See also the [Alaris YouTube](#) video.

- *A-number*: optional, relevant for US domestic calls because of the call jurisdiction. Click the  button to open the *Calling dial code picker*:



Dial code	Country	Area	Type
0	Undefined		Undefined
1	United States of America		proper
1013073	United States of America		proper
1016	United States of America		proper
1020	United States of America		proper
1035	United States of America		proper
1060	United States of America		proper
1061	United States of America		proper

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Calling dial code picker

- *Auth type*: IP + Tech prefix; trunk group ID + switch ID; trunk group ID+IP
- *POI*
- *B-number*: B-number has to be in the E164 format without a tech prefix – it will be added by the System automatically. Click the  button to open the *Called dial code picker*:

Called dial code picker

Dial code	Country	Area	Type
0	Undefined		Undefined
1	United States of America		proper
1013073	United States of America		proper
1016	United States of America		proper
1020	United States of America		proper
1035	United States of America		proper
1060	United States of America		proper
1061	United States of America		proper

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Called dial code picker

- *Time*: current by default; when a date and time are selected, they are considered when searching for rules with a configured schedule
- *Router*: routing module used for simulation
- *Routes: show inactive*: when selected, the *Vendor routes* table displays vendors that have not been included in the list of routes (due to high rates, low ASR and other reasons). Inactive vendors have an empty Rule ID value and are greyed out in the simulation results table. Additionally, they are displayed at the bottom of the simulation log in the *Inactive vendors* table. See also the [Alaris YouTube video](#)

NOTE: It is possible to limit the number of unsuccessful routes that are displayed if the *show inactive* checkbox is selected. The default value is 100. To change it, contact the Alaris technical support team and communicate the code BZ28714.

When through with defining the parameters, click  **Get routes** to confirm or  **Reset** to discard the settings.

The table in the top right corner of the page displays the results of recently performed call simulations:

Task created	Product	A-nu...	POI	B-number	Time	Router	Inac...	Details	User name
2020.06.15 09:31:16	Ketchum & Killum - Premium (USD) - Client		1.1.1.219 777	55126	2020.06.15 09:31:17	127.0.0.1:17...	☐	view log	Alaris
2020.06.15 07:43:58	Ketchum & Killum - Premium (USD) - Client		1.1.1.219 777	55126	2020.06.15 07:41:26	127.0.0.1:17...	☐	view log	Alaris

Recent simulations table

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. The upper (zero) row shows the details of the client route on behalf of which the simulation is performed.

#	Context	Weight	Carrier	Product	IP	Called
0			Client Training	WholeSale (USD) - Client	15.15.15.15	123#790422
1	DEFAULT		Vendor training	WholeSale (USD) - Vendor	10.10.10.10	783#790422

Vendor routes

The table displays the following parameters:

- *#*: 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
- *IP*: vendor IP address
- *Called*: B-number with the vendor tech prefix
- *ASR, NER, ACD*
- *Rate*: vendor rate
- *Margin/min*: margin per minute
- *Margin, %*
- *ANI dial code*: A-number dial code
- *Dial code*: dial code from the vendor rate
- *Rule ID*: ID of the routing rule triggered for a vendor. A link in this column opens the [Voice/Routing/Routing rules](#) page with this rule in the *Edit* mode

Click the  button to start the call simulation again.

11.6.5 ANI translation

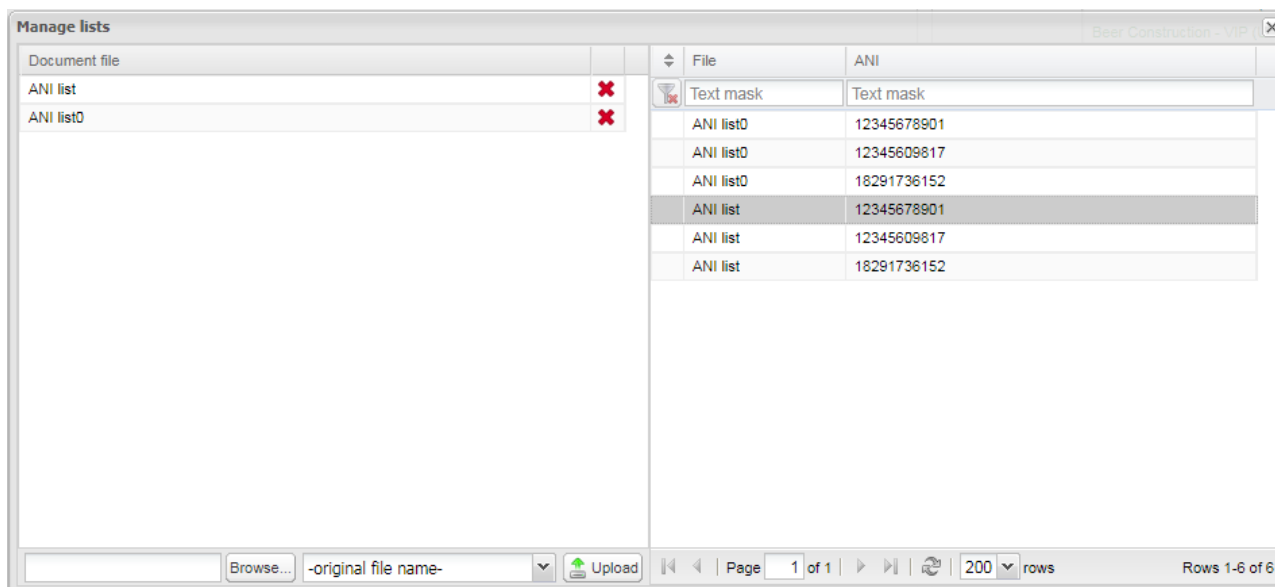
The *Voice/Routing/ANI translation* page serves to configure A-number translation rules as a call is transferred from one carrier to another. The translation functionality is enabled by the parameter *Enable ANI translation* in [Administration/System settings/Routing module](#).

The page consists of the table of translation rules and the *Add* and *Edit* tabs.

★ Start page ANI translation						
ID	Start date	End date	Priority		Client products	Vendor products
	$-\infty \leq X \leq \infty$	$-\infty \leq X \leq \infty$	Min.	Max	All	All
1	2017.10.09 00:00:00	2100.01.01 00:00:00	100		Bed Wetter - LCR (USD) Barbie Dahl - Premium (USD) Bed Wetter - WholeSale (USD) Barbie Dahl - WholeSale (USD) Beer Construction - WholeSale (USD) ...	All
2	2017.10.09 00:00:00	2100.01.01 00:00:00	100		ALARIS TEST - CLI (USD) Ahn Wee - Gold (USD) Ahn Wee - WholeSale (USD) Anita Job - WholeSale (USD) Barbie Dahl - Premium (USD) ...	All

Table of translation rules

The user can upload lists of ANI numbers. To upload a new list, click  **Manage lists** at the bottom of the page.



ANI list dialog

Click  **Upload** to upload a new file. The file must contain a column of numbers in .CSV format. The left section of the dialog contains a list of uploaded files. The right section is a list of ANI numbers contained in the file(s).

+

 Add

✎

 Edit

Start date*: 2024.09.12 00:00:00

📅

⌵

End date*: 2100.01.01 00:00:00

📅

⌵

Priority*: 100

⬆

⬇

⬆

⬇

Client products:

✎ Edit list

Ahn Wee - Gold (USD)	✖
Ahn Wee - WholeSale (USD)	✖
Anita Job - WholeSale (USD)	✖
Barbie Dahl - Premium (USD)	✖
Barbie Dahl - WholeSale (USD)	✖
Bed Wetter - LCR (USD)	✖

Vendor products:

✎ Edit list

ANI pattern: 34*

⌵

DNIS pattern: 34*

⌵

Type: Replace list

⌵

List*: ANI list

⌵

Comments:

Add tab

The Add tab contains the following parameters:

- *Start date, End date*: the period during which the rule is valid
- *Priority*: serves to set the priority for several rules with overlapping parameters, where 100 is the highest priority
- *Client products, Vendor products*: specify the products to which the rule will apply

NOTE: The *Vendor products* field is unavailable if the parameter *Enable ANI translation* in [Administration\System settings\Routing module](#) is set to 1 (attempt-wise translations - changing the *From* field in SIP 300/302).

- *ANI pattern*: sender ID pattern (regular expressions)
- *DNIS pattern*: B-number pattern (regular expressions). Use this field if the rule must apply only to the B-numbers complying to the specified DNIS pattern.
- *Type*: select the translation type:
 - *To regexp*: replace with a regular expression
 - *Replace list*: replace with numbers from the list

NOTE: Numbers are replaced in a round-robin way.

- *Translation* (available when *Type: To regexp* is selected): the regexp-based translation rule
- *List* (available when *Type: Replace list* is selected): the list of numbers uploaded to the System

Click  to save the changes. The entry will appear in the table.

Below are some examples of translation rules.

- Translate A-number to 34600XXXXX in case B-number begins with 34:
 - *DNIS pattern*: 34.*
 - *Translation*: 34600RAND(5)
 - *Type*: *To regexp*

NOTE: The RAND(X) marker serves to generate X random digits.

- Replace A-number 4-digit prefix with 8800 if it begins with 34600:
 - *ANI pattern*: 34([0-9]{3})(.*)
 - *Translation*: 8800\g<2>
 - *Type*: *To regexp*
- Fully replace A-number with one from the list in case traffic is coming from and to Spain (country code is 34):
 - *ANI pattern*: 34.*
 - *DNIS pattern*: 34.*
 - *Type*: *Replace list*

11.6.6 Limitation rules

The *Voice\Routing\Limitation rules* page serves to control traffic metrics. It enables creating triggers to block traffic and alert the account manager or the partner about reaching preset thresholds of both technical and financial traffic parameters.

The page contains two tab sheets - *Rule list* and *Thresholds*. The *Rule list* tab sheet serves to manage the triggers while the *Thresholds* serves to set intermediate limits for the blocking and alerts (for example, 15 percent of the limit reached). The *Rule list* table contains the  button that serves to export the table to an MS Excel file.

Rule list										
ID	Active from	Active to	Rule type	Metric	Limit	Period type	Period length	Product notes d...	Product notes	Client product
1000	2017.12.07 00:00:00	2017.12.28 00:00:00	Alert	Volume, min	10 000	hour	5	Client	-	-
1001	2017.12.13 00:00:00	2018.01.02 00:00:00	Alert	ASR, %	60	hour	3	Client	-	Bed Wetter - LCR (USD) - Client

Limitation rule list

The *Rule list* tab sheet consists of three sections: the top section is the table of limitation rules, the bottom section shows the statistics of the selected rule. The right section contains the *Add* and *Edit* tabs.

Most columns in the table are self-explanatory. The *Lock statistics* column displays two rows: how many destinations have been locked (*Locked* counter) and how many destinations have been unlocked (*Unlocked* counter).

Rule stats				
Destination mask	Last threshold	Last threshold change	Current value	Destination locked
Bangladesh, Bagerhat, proper		2017.12.07 12:28:03	0.00000	No
Bangladesh, Banglalink GSM, mobile		2017.12.07 12:28:03	0.00000	No
Bangladesh, Barisal, proper		2017.12.07 12:28:03	0.00000	No
Bangladesh, Brahmanbaria, proper		2017.12.07 12:28:03	0.00000	No
Bangladesh, Chandpur, proper		2017.12.07 12:28:03	0.00000	No
Bangladesh, Chittagong, proper		2017.12.07 12:28:03	0.00000	No

Stats for the rule selected in the top table

 Add
 Edit

☒ Is active

Active from*: 2025.01.28  00:00:00 

Active to*: 2025.02.08  00:00:00 

Rule type*: Block and alert 

Metric*: Margin, % 

② Limit*: 10

Period type*: hour 

② Period length*: 10  

② Block length*: 5  

Product notes direction*: Vendor 

Product notes*: Any 

Client product*: Berried Alive - WholeSale (USD) - Cl 

Vendor products: Inclusive list  Selected: 3 

Destination list:  Edit list

Abkhazia, A-mobile, FAS	✖
Abkhazia, mobile, mobile	✖
Afghanistan, Badghis, proper	✖
Afghanistan, Kunarha, proper	✖
Afghanistan, Kunduz, proper	✖

Send alerts to: partner@dinero.com

☒ Send alerts to account manager

Limitation rules, Add tab

The Add tab contains the following parameters:

- *Is active*: select to make the rule active. Once deselected for an existing rule, blocked products (in case of any) are unlocked
- *Active from/to*: activity period of the rule
- *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*: select the technical or financial metric. Possible values are:

418

- *Volume, min*
 - *ASR, %*
 - *ACD, min*
 - *Margin, system currency (greater than):* serves to block a destination if the margin exceeds the preset limit
 - *Margin, %*
 - *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
 - *NER, %:* network efficiency ratio (check out the [Alaris YouTube video](#))
 - *Margin, system currency (less than):* serves to block a destination if the margin is below the limit
- *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:* select *hour*, *day*, *week* or *month*. If *month* is selected, calculation starts from the current day minus the number of months specified in the *Period length* field if the System has enough daily cubes to calculate an incomplete month
 - *Period length:* specify the length of the *Period type*
 - *Block length* (available if the *Rule type* value is *Block and alert*): when the limit is exceeded, the traffic for the specified products will be blocked for X periods, where X is the block length. The block length is calculated from the start of the current period. For example, if the period is set to 'day', and block length to 2, the block that started at 11:05:00 on 2018.09.03 will be active till 2018.09.05 00:00:00. See also the [Alaris YouTube](#) video.
 - *Product notes direction:* specify the direction for the product notes (*Client* or *Vendor*). In this way, a limitation rule can be triggered for the client or vendor product notes as well - the displayed *Product notes* list will be filtered by direction
 - *Product notes* (active when both *Client product* and *Vendor products* are not set): the field serves to specify a product note. This allows creating a rule applicable to several products (those associated with the product note) and in this way, blocking entire destinations in a single rule
 - *Client product* (active when the *Product notes* field is not set): the client product
 - *Vendor products* (*Inclusive list* or *Exclusive list*, active when the *Product notes* field is not set): select *Inclusive list* or *Exclusive list* and specify the list of vendor products to track the limitations for the client-vendor product association
 - *Destination list* (masks are supported)
 - *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  to save the rule or  to clear the form.

Proceed to the *Thresholds* tab sheet 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
Volume, min	10.10	25.00	50.00	75.00	100.00
ASR, %	90.00	75.00	50.00	25.00	10.00
ACD, min	100.00	75.00	50.00	25.00	10.00
Margin, system currency (greater than)	10.00	25.00	50.00	75.00	75.00
Margin, %					
Cost, system currency	10.00	25.00	50.00	90.20	
NER, %	100.00	90.00	60.00	50.00	30.00
Margin, system currency (less than)	90.00	75.00	50.00	25.00	10.00

Thresholds

The available metrics are:

- *Volume, min* (defined in ascending order)
- *ASR, %* (defined in descending order)
- *ACD, min* (defined in descending order)
- *Margin, system currency (greater than)* - defined in ascending order
- *Margin, system currency (less than)* - defined in descending order
- *Margin, %* (defined in descending order)
- *Cost, system currency* (defined in ascending order)
- *NER, %*: network efficiency ratio (check out the [Alaris YouTube video](#)). Only accountable codes are used for calculation of NER. Check the list of accountable codes in the [Successful disconnect codes \(Reference\)](#) ⁽²⁵⁵⁾ report

NOTE: The total sum of the percentage points defined as thresholds of a single metric must not exceed 100.

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*.

Click  to save the changes or  to clear the form.

11.7 Volume-based deals

The *Voice\Volume-based deals* page enables creation of flexible rating schemes for destinations based on the total volume of processed traffic within a pre-defined period. The statistics are calculated based on financial cubes.

 Add
 Edit

Description*: MegaDeal

Direction: Client

Product*: Brilliant - WholeSale (USD) - Client

Deal type*: Back to 1st minute

Period*: Weekly

Number of periods*: 5

Start date*: 2022.02.17

End date*: 2022.03.24

Partner time zone*: GMT+0 (GMT+0)

Timezone offset: **System time 0 hours**

Billing increment*: 0/1/1

Destinations: All

Dial codes: All

Volume intervals*: ☐

Beginning	End	Rate/...	Total cost	Is default	
		0.01000	-	☒	

  Add interval

Add/Edit tabs

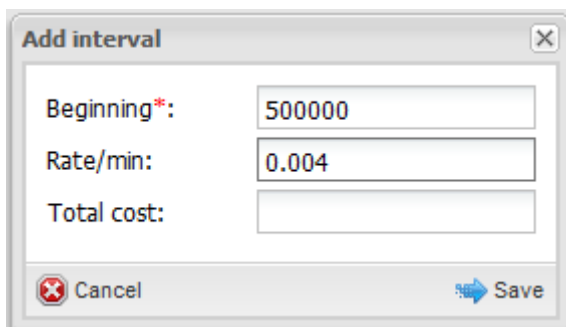
- *Description*: arbitrary description of the deal
- *Direction*: Client or Vendor
- *Product* (required): partner carrier's product
- *Deal type*:
 - *Stepping scale*: when a threshold is bypassed, price per minute changes only for the exceeding traffic
 - *Back2first*: when a threshold is bypassed, new price is applied to all traffic, starting from the very first minute
- *Period*: 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. Note that each period is recurring. That is, if *Period* is *Monthly* and *Number of periods* is 3, the counter of volumes will be reset every month

- *Start date / End date*: activity period of the deal. The *End date* is available only if *Deal type* is *Single deal*, otherwise the end date is calculated automatically from the deal start date, based on the selected number of periods
- *Partner time zone*: time zone of the partner carrier
- *Timezone offset*: difference between the partner time zone and the System time
- *Billing increment*: rounding step for rates within the deal (0/1/1, 0/60/1 or 0/60/60)
- *Destination*: default value – *All*. If you wish to indicate a list of destinations to be included in the deal, select *Inclusive list* in the drop-down list and click the  *Edit list* button to open the *Destination* multipicker

NOTE: If a deal is created for specific destinations, the rates will be added only for the least detailed codes (e.g. if the reference book contains dial codes 37525 and 37525[0-9] – only the dial code 37525 will be selected) while all the other rates belonging to the same destination will be closed by the date specified in the *Start date* parameter.

- *Dial codes*: default value – *All*. If you wish to indicate a list of dial codes to be included in the deal, select *Inclusive list* in the drop-down list and click the  *Edit list* button to open the *Dial code* multipicker
- *Volume intervals*: set up to 6 intervals of the traffic amount, prices for them (or total cost of the traffic within the interval(s)) and select the prices that will be used for preliminary calculation:
 - *Beginning*: initial amount of traffic, must be set for every interval except the first one
 - *End*: highest threshold of the interval is set automatically for all intervals. It is equal to the *Beginning* value of the next ascending interval
 - *Rate/min*: price per minute within the interval
 - *Total cost*: total cost of the traffic within the interval (is set instead of the price per minute)
 - *Is default*: if selected, the price per minute within this interval will be used for preliminary calculation (before the deal's expiration)

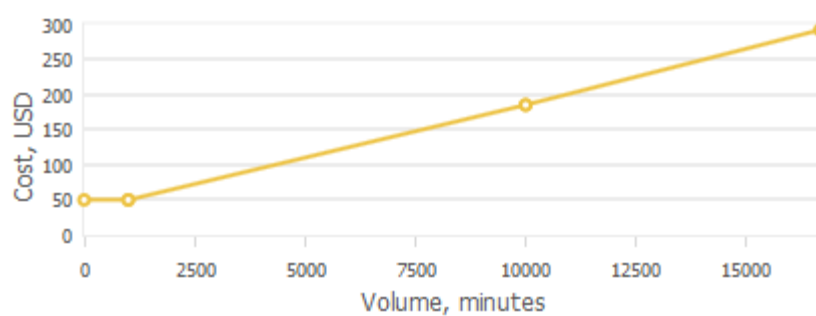
To set an interval, click  *Add interval* and specify the appropriate values in the *Add interval* window.



The dialog box titled "Add interval" contains three input fields: "Beginning*" with the value "500000", "Rate/min:" with the value "0.004", and "Total cost:" which is empty. At the bottom, there are "Cancel" and "Save" buttons.

Add interval

The chart below the intervals table displays the dependence of the total cost on the traffic volume (the data is shown for the billing period as defined in the *Period* field. See also the [Alaris YouTube](#) video):

**Volume/Cost chart**

When through with defining the parameters, click **Submit** *Submit* to confirm or **Reset** *Reset* to discard the settings.

12 Number management

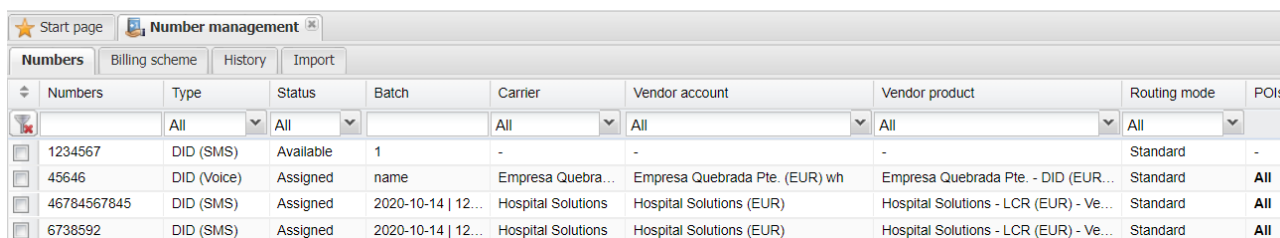
The *Number management* page allows the user to work with DID (Direct Inward Dialing) and TFN (Toll Free Numbers) numbers:

- 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 calls instead of incurring charges to the originating telephone subscriber.

The page contains four tabs: [Numbers](#)^[425], [Billing scheme](#)^[429], [History](#)^[430] and [Import](#)^[430].

12.1 Numbers



Numbers	Type	Status	Batch	Carrier	Vendor account	Vendor product	Routing mode	POIs
☐ 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](#)^[132]). 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

NOTE: In terms of routing, if the DID/TFN number has the status *Available*, *Aging* or *Archived* the call 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](#)^[430] 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](#)^[56]
- *Carrier*
- *Vendor account*
- *Vendor product, POIs*: the vendor product and POI to which the call 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](#)^[429] 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](#)^[430] tab sheet
- *Forward product*: product to which the call will be redirected
- *Forward DNIS*: B-number for redirection

NOTE: The bottom right corner of the table contains the *Export to .CSV*  button that allows exporting the table records.

Editor

ⓘ Action*: Add ▼

Numbers*: 150012340987

Type*: DID (Voice) ▼

Batch: Wuteva

Vendor product: BTS - WholeSale (USD) - Vendor ▼

Routing mode: Standard ▼

POIs: ✎ Edit list

Vendor billing scheme*: NRC 5, MRC 10 ▼

Client account: ▼

Client product: KA_cli - did (USD) - Client ▼

Client billing scheme*: NRC 6, MRC 9 ▼

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. A closed number disappears from the table and cannot be restored
- *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 call to the client. DID billing is the same as usual – the prefix is defined by the B-number; the client is charged for the call and pays for it to the vendor
- *Batch*: name of the group of numbers
- *Vendor product*
- *Routing mode*: the routing mode of the number(s). It allows configuring redirection of calls to a B-number. Possible values are:
 - *Standard* (the original DID handling logic; the routing module generates a list of routes based on the configured POIs list)
 - *Forward* (redirection from a DID number to the B-number configured in the System, which can also be included in the DID numbers list)
 - *Failover* (call redirection to another B-number in case of an unsuccessful call attempt to a DID number)

NOTE: Redirection is processed by the voice switch (currently Sansay only). For this, a call goes from a 'vendor loop' product (a virtual product of a kind) and then arrives from the voice switch from the 'client loop' product to be further routed to a non-DID number. The *DID loop* product type serves to enable the feature, which is available to both the client and vendor directions, with the *Reverse charge* option enabled by default. Also, the default value for the *Billing number options* field is *A-number (Carriers\Products^[155])*. The rate structure of this product type is similar to *International rates*.

- *POIs* (available if *Routing mode* is *Standard* or *Failover*): a list of the product POIs. For the *Failover* routing mode, POIs will be used as an additional choice (the list of routes consists of POIs and forward POIs)
- *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^{\[429\]}](#) tab sheet
- *Client account* (available if *Type* is *DID (Voice)* or *TFN (Voice)*): account for charging NRC/MRC
- *Client product*: (available if *Type* is *DID (Voice)* or *TFN (Voice)*): product for charging NRC/MRC
- *Client billing scheme* (available if *Client product* and/or *Client product* is selected and *Type* is *DID (Voice)* or *TFN (Voice)*)

NOTE: Client charges are generated as reverse charges (vendor direction). The charge grouping index is defined by product or, if not set, by the System 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). The data remains associated to the number when its status is changed from *Assigned* to *Aging* (*Deassign* action); however, MRCs are no longer charged.

- *Forward product* (available if *Routing mode* is *Forward* or *Failover*; only vendor DID loop products can be selected): product to which the call will be redirected
- *Forward POI* (available if *Routing mode* is *Forward* or *Failover*): list of POIs associated with the selected product
- *Forward DNIS* (optional; available if *Routing mode* is *Forward* or *Failover*): B-number for redirection; only numeric values are allowed
- *Forward ANI* (optional; available if *Routing mode* is *Forward* or *Failover*): A-number for redirection; only numeric values are allowed

NOTE: Routing of DID numbers is effected as follows. In case the routing module detects that a call 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](#).

12.2 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.

Number management							
Billing scheme							
ID	Name	Currency	NRC	MRC	Issue NRC charges i...	Always charge full MRC	
1	NRC 5, MRC 10	USD	5	10	No	No	
2	NRC 0, MRC 5 ...	USD	0	5	No	No	

Billing scheme

+ Add
Edit

Name*: Spain

Currency*: EUR

NRC: 0

MRC: 30

☐ Issue NRC charges immediately

☒ Always charge full MRC

Add tab

The *Add* tab contains the following fields:

- *Name*: name of the billing scheme
- *Currency*
- *NRC*: amount of the non-recurring charge (one-time payment for the number). The amount is subtracted 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 irrespective of the number assignment date

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.

12.3 History

The *History* tab sheet serves to view a history of operations performed on numbers.

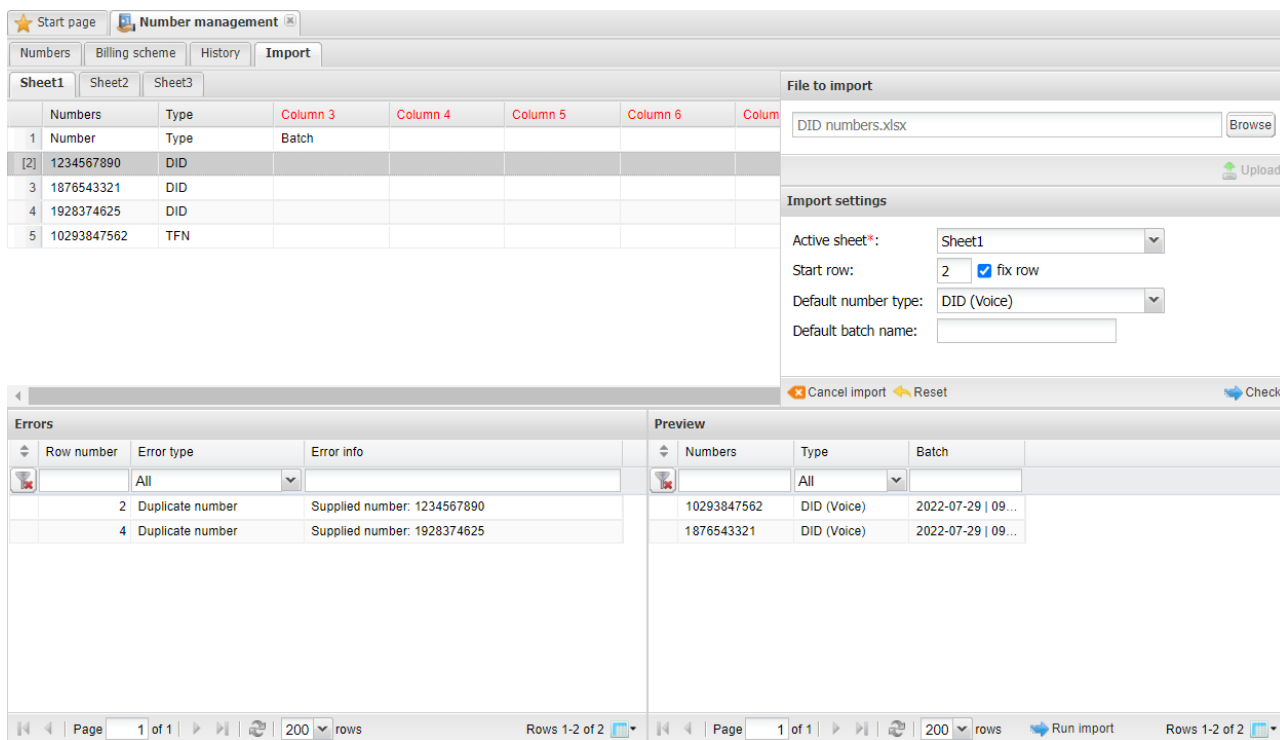
Number management								
Numbers Billing scheme History Import								
Change date	Change type	Batch	Carrier	Vendor account	Numbers	Vendor product	Routing mode	
 $-\infty \leq X \leq \infty$	All		All	All		All	All	
2021.11.29 11:42:45	Created	batch123456	-	-	0	-	Standard	
2022.05.20 09:23:13	Modified	12321321	-	-	0	-	Standard	
2022.05.20 09:23:29	Assigned	12321321	18732_test	18732_test (USD) test	0	18732_test - 149411252552f (USD) ...	Standard	
2020.10.14 14:09:34	Created	2020-10-14 14...	-	-	1	-	Standard	
2020.10.14 14:09:35	Assigned	2020-10-14 14...	KateTestClient	KateTestClient (EUR) test	1	KateTestClient - client_loop (EUR) ...	Standard	
2021.05.19 16:39:24	Deassigned	2020-10-14 14...	-	-	1	-	Standard	
2021.05.24 01:45:08	Modified	2020-10-14 14...	-	-	1	-	Standard	

History tab sheet

12.4 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](#)^[203].

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:

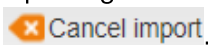
1. In the *File to import* section at the top right corner of the page select the file with numbers that need to be imported. The file must contain numbers and optionally their type and batch name (the type and batch can be also specified in *Import settings*)
2. Click  **Upload**. The file preview will 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**.

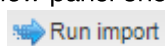
Errors			
Row number	Error type	Error info	
	All		
6	Number is not numeric	Supplied number: some stuff	

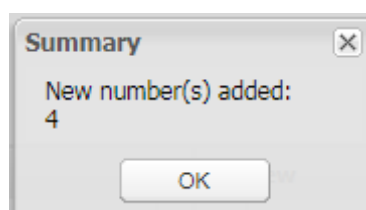
Errors panel

- 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

- 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

13 Wholesale portal

13.1 Overview

The Wholesale 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 VoIP POIs.

User accounts and access rights for the Wholesale portal are configured by the System owner in [Administration\Users](#)^[132]. User rights are configured in the *Roles* section of the *Add* tab (*Roles >> Partner portal*).

- ☒ Partner portal
 - ☒ Show rates tab
 - ☒ Show balance
 - ☒ Show finance info
 - ☒ Wholesale partner portal
 - ☒ Export CDRs/EDRs

Roles (Add tab, [Administration\Users](#)^[132])

Once the user account is created, the user will receive an email with account activation instructions. See also the [Alaris YouTube](#) video.

Please register

Tati	B	Pancakes
Pocodiner Enterprises Please enter your real company name. You will not be able to change this name later and you will always be identified with us with this name.		103123
127000	2 Bee Street Nowhere city	
Albania (+355)	+35512345678	EUR
pancakes@poco.com Use email address from your company domain for registration.	 Enter your new password.	 UjhYU

[Back to login](#)

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.

Info
User profile
Invoices
Payments

VoIP stats
VoIP rates
VoIP POIs
CDRs
SMS stats

EDRs

User profile

Company details
Contacts

Please make sure the following user roles are defined for your company (otherwise the service may be blocked): **Rates, Billing, NOC.**

+ Add new person

Rates
Jose
Ignacio

fin@pocodinero.ent
+74561237890

☒ Send rate changes
☒ Send invoices
☒ Send alarms

☒ Save
* All fields are required.

Billing
John
Smith

bill@pocodinero.ent
+74561237891

☒ Send rate changes
☒ Send invoices
☒ Send alarms

☒ Save
* All fields are required.

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*, *VoIP Stats*, *VoIP Rates*, *VoIP POIs* and *CDRs*
- *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

User: **Tansy Panncakes**[Reset password](#)Valid till: **2025.05.19**Carrier name: **PocoDinero**Timezone: **GMT 0****Balance**

PocoDinero (\$)



100.00 \$ 

 25





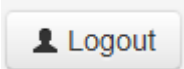


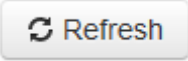


Account details and Balance sections

- *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](#)^[142]. 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\Partner portal](#)^[66]. The user must have the *Show purchase tab* permission enabled in [Administration\Users](#)^[132].

- The top right corner of the page contains the  button and the session expiry timer . 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  button that serves to update the page, and the

 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.

13.2 Invoices

The *Invoices* page contains a list of the carrier's invoices.

Pending invoices						
Show	10	entries	Search:			
ID	Reference code	Start date	End date	Issue date	Due date	Amount
SA_life USD	AL_0005651_9379...	2020.07.01 00:00:00	2020.08.01 00:00:00	2020.07.31 00:00:00		
SA_life USD	AL_0005528_9379...	2020.05.01 00:00:00	2020.06.01 00:00:00	2020.05.31 00:00:00		
SA_life USD	AL_0005502_9379...	2020.04.01 00:00:00	2020.05.01 00:00:00	2020.04.30 00:00:00		
SA_life AED	AL_0003022_2545...	2019.07.01 00:00:00	2019.08.01 00:00:00	2019.07.31 00:00:00		
SA_life AED	AL_0004832_2545...	2019.06.01 00:00:00	2019.07.01 00:00:00	2019.06.30 00:00:00		
Showing 1 to 5 of 5 entries						
		← Previous 1 Next →				

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.

13.3 Payments

The *Payments* page contains a list of the carrier's payments.

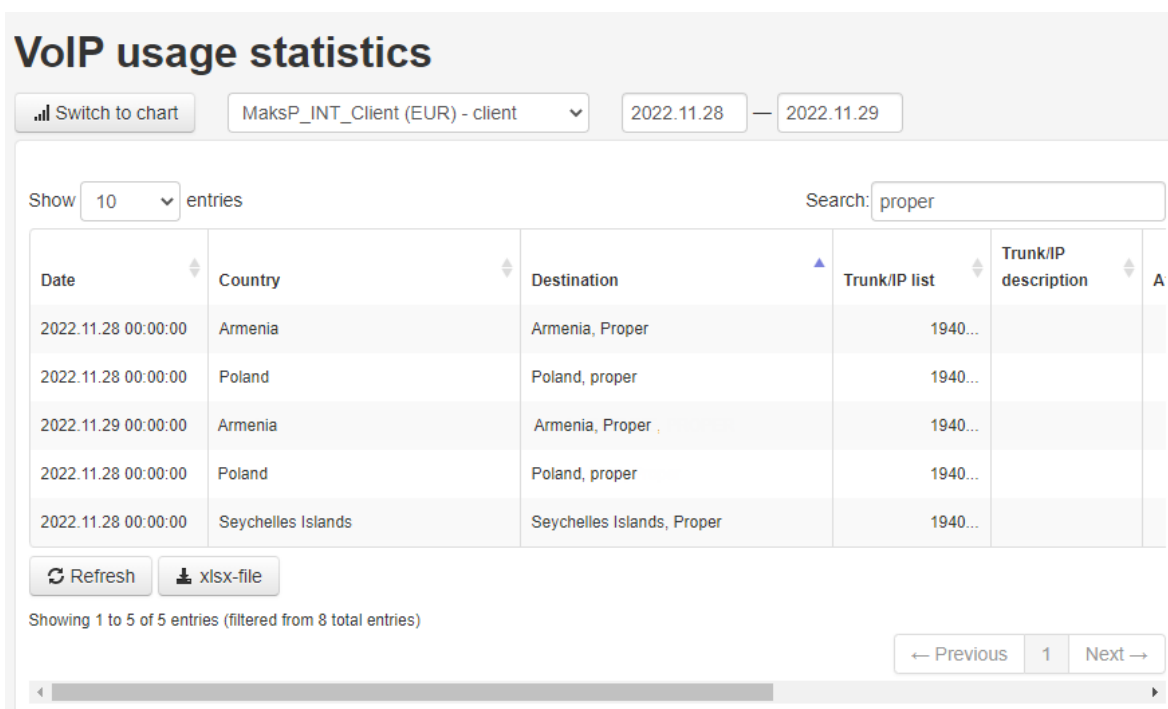
Payments				
Show	10	entries	Search:	
Account	Acc. currency	Reference code	Date	Amount
Peas or peace? That ...	USD	202008191517#12862	2020.08.19 15:17:56	15
Peas or peace? That ...	USD	202008191526#12875	2020.08.19 00:00:00	1000
Showing 1 to 2 of 2 entries				
		← Previous 1 Next →		

Payments

The *Account* field shows the content of the *Description* field in [Carriers\Accounts](#)^[142]. 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.

13.4 VoIP Stats

The *VoIP Stats* page contains the carrier's statistics on calls.



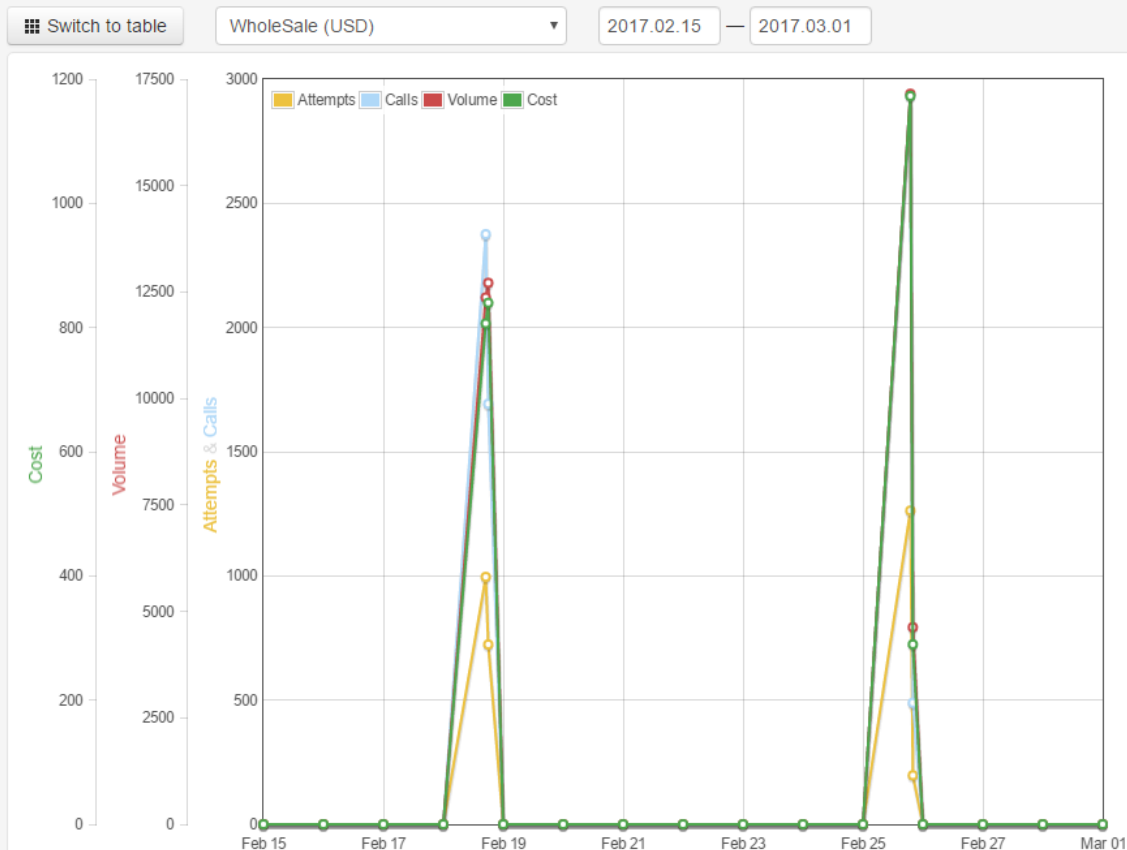
VoIP usage statistics

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.

NOTE: The displayed data is built on financial cubes with daily grouping, therefore the Wholesale portal statistics may differ from the System (Analytics) stats.

VoIP usage statistics



VoIP usage statistics chart view

13.5 VoIP rates

The *VoIP 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.

Current VoIP rates

WholeSale (USD)

Active at: 2017.03.01

Search:

Destination	Start date	End date	Increment	Schedule	Note
Abkhazia, mobile, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Abkhazia, mobile, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Abkhazia, proper, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	In
Afghanistan, AT, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Afghanistan, AT, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Afghanistan, AWCC, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Afghanistan, Etisalat, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Afghanistan, MTN (Areeba), ...	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Afghanistan, Premium	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Afghanistan, Roshan, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, AMC, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, Eagle, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, OLO, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, Plus, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, Tirana, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, Tirana, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, Tirana, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, Vodafone, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, proper, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, proper, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, proper, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Albania, proper, proper	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Algeria, Mobilis, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	
Algeria, Orascom, mobile	2013.03.25 01:00:00	2100.01.01	0/1/1	Flat	

Current VoIP rates

13.6 VoIP POIs

The *VoIP POIs* page contains two tab sheets: *List of VoIP POIs* and *Add new VoIP POI* (displayed if the user has the rights to create/edit VoIP POIs; the permissions are configured in [Administration/Users](#)^[132] (*VoIP POI edit*). Additionally access can be managed with the help of the System parameters *Allow Wholesale portal users to edit POI* (1 - yes, 0 - no) and *Wholesale portal access mode* (1 - read/write, 2 - read only) in [Administration\System settings\Partner portal](#)^[66].

VoIP POIs

ID	Product	Currency	IP/Trunk	Prefix
6510	VIP (vendor)	USD	127.127.0.0	
2060	VIP (vendor)	USD	127.127.0.8	
19070	VIP (vendor)	USD	127.127.0.3	
19080	VIP (vendor)	USD	127.127.0.1	
20500	VIP (vendor)	USD	127.127.0.2	
32930	VIP (vendor)	USD	127.127.0.6	
35770	VIP (vendor)	USD	123.123.213.213	19800#

VoIP POIs

To add a new *VoIP POI*, open the *Add new VoIP POI*, select the product and enter the IP address.

[POIs](#) [Add new VoIP POI](#)

* Product:

CONV. INTERNATIONAL CLI ( 

* IP:

31.63.248.252

Save

Add new VoIP POI

13.7 CDRs

The *CDRs* page serves to download CDRs for a specified period.

Download CDRs



Product

Large (EUR) - client 

Date range

2019.02.11 00:00 - 2019.02.11 23:59

File format

CSV 

Close

Create export task

Download CDRs

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](#) ).

14 Appendix 1. 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).

14.1 Operators

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).
**	Value1 ** Value2	Exponentiation of operand	Operands: numeric values

Operator	Code	Description	Allowed 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 <i>Condition1</i> is true and <i>Condition2</i> 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 <i>For example,</i> (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 <i>For example,</i> (Value1 % Value2 ==0) or (Value3 == 0)
in	Value1 in (Value2, ..., Valuen)	Checks if <i>Value1</i> is equal to one of the values from the list (<i>Value2</i> , ..., <i>Valuen</i>)	Routing metrics can be used as <i>Value1</i>
if else	Result1 if (Condition) else Result2	If <i>Condition</i> is true, return <i>Result1</i> , if <i>Condition</i> is false, return <i>Result2</i>	Operands: more complex constructions composed of the above mentioned operands that serve as conditions <i>For example,</i> MRG if (MRG > 0) else 0

Operator	Code	Description	Allowed values
not	not Value1	Returns the opposite result of the Value1	Routing metrics can be used as Value1. For example, not PORTED

14.2 Routing metrics

NOTE 1:

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 \(field 'Condition' in 'Routing Rules'\)](#)^[459] and [How to use \(field 'Formula' in 'Routing Rules'\)](#)^[443].

NOTE 2:

The statistics are calculated separately from analytics based on CDR files generated by the softswitch. If fetching of files is configured directly from the softswitch database, the statistics are empty.

NOTE 3:

Routing metrics to calculate the total volume (*TV*) and count of calls (*Cnt*), such as *VProdCodeTV* or *VProdCodeCnt*, are reset given that there was traffic for the set (for the provided example: for 'code + product') within 2 days.

14.2.1 Common metrics

Variable	Description	Note	How to use
CLAccBal	Client balance	In account currency	CLAccBal > 10 (the vendor is added to routing if the client balance is greater than 10)
CLRate	Client rate	In System currency	CLRate > 0.5 (the vendor is added to routing if the client rate is greater than 0.5)
CLRateIncr	Client billing increment	Billing increment ID. For its value refer to Voice\Reference books\Billing increments ^[367]	The feature allows building routes only through client rates with a specific billing increment. Also, it allows verifying the match of client and vendor billing increments by setting the condition of the following type: VNDRateIncr == CLRateIncr
CLCF	Client connection	In System currency	CLCF == 0.1

Appendix 1. Formulas and conditions in routing

Variable	Description	Note	How to use
	fee		(the vendor is added to routing if the client connection fee is equal to 0.1)
CurTime	Current time in seconds since 01.01.1970		(CurTime % 3600) < 300 (choice is selected for routing every 5 minutes of every hour)
LERGA	A-number presented in the LERG6 table	The metric is only applicable to US Domestic traffic	LERGA == False (the vendor is added to routing if there is no record in the table for the A-number)
LERGB	B-number presented in the LERG6 table	The metric is only applicable to US Domestic traffic	LERGB == False (the vendor is added to routing if there is no record in the table for the B-number)
VAccBal	Vendor balance	In account currency	VAccBal > 100 (the vendor is added to routing if its balance is greater than 100)
VRate	Vendor rate	In System currency	VRate < 0.3 (the vendor is added to routing if its rate is less than 0.3 in System currency)
VNDRateIncr	Vendor billing increment	Billing increment ID. For its value refer to Voice\Reference books\Billing increments ^[367]	The feature allows building routes only through vendor rates with a specific billing increment. Also, it allows verifying the match of client and vendor billing increments by setting the condition of the following type: VNDRateIncr == CLRateIncr
VRateOrig	Vendor rate	In account currency	VRateOrig < 0.3 (the vendor is added to routing if vendor rate is less than 0.3 in its account's currency)
VNDCF	Vendor connection fee	In System currency	VNDCF <= 0.1 (the vendor is added to routing if its connection fee is less than 0.1 or equal to 0.1)
RND	Random value (floating-	Generated for every vendor product which choice is being applied to	RND > 0.3

Variable	Description	Note	How to use
	point) from 0 to 1		(the vendor is added to routing if random value is greater than 0.3)
MRG	Margin (the difference between client rate and vendor rate)	In System currency. If margin is less than 0.0000009, it is still considered as 0	MRG > 0.1 (the vendor is added to routing if the margin is greater than 0.1)
ANumLen	A-number length		ANumLen > 9 (the vendor is added to routing if A-number is longer than 9 symbols)
BNumLen	B-number length		BNumLen == 11 (the vendor is added to routing if B-number is equal to 11 digits)

14.2.2 Client product statistics

The following metrics show client product statistics:

Variable	Description	Note	How to use
CLProdASR	ASR	The metric is calculated according to the last CDR file – the window frame for 200 calls is taken into consideration. if there are less than 200 calls in the file for the product, the EMA algorithm is applied for calculation	CLProdASR > 0.1 (the vendor is added to routing if the client product ASR is greater than 10%)
CLProdACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdACD > 60 (the vendor is added to routing if the client product ACD is greater than 1 minute)
CLProdNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdNER == 1 (the vendor is added to routing if the client product NER is equal to 100%)
CLProdPDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdPDD < 10 (the vendor is added to routing if the client product PDD is less than 10 seconds) NOTE: The PDD calculation formula for routing metrics takes into account all call



Variable	Description	Note	How to use
			attempts (successful and unsuccessful).
CLProdMRG	Average margin per minute	In System currency Logic of calculation: <i>Information about margin and traffic volume (based on client product) is taken from the last CDR file</i> <i>1)if the value for the metric was not calculated previously, the following formula is used for calculation: $\text{sum}(\text{margin})/\text{sum}(\text{volume})$. if the volume is less than 1000 minutes (this window is set by default in internal configuration), the volume is considered as 1000, in the opposite case the current value from the file is taken for calculation.</i> <i>2)if the value has been calculated previously, the last CDR file is checked according to the following logic:</i> <i>a) if the volume is greater than 1000 minutes, the value is equal to $\text{sum}(\text{margin})/\text{sum}(\text{volume})$</i> <i>b) if the volume is less than 1000 minutes, the value is equal to $(\text{prev_avg_mrg} * \text{prev_vol} + \text{new_mrg}) / (\text{prev_vol} + \text{new_vol})$, where <i>prev_avg_mrg</i> : previously calculated value of CLProdMRG; <i>prev_vol</i> : previous value of traffic volume; <i>new_vol</i> : new value of traffic volume; <i>new_mrg</i> : new value of margin</i>	CLProdMRG > 0.1 (the vendor is added to routing if the margin is greater than 0.1)
CLProdTV	Total volume	The metric value (in minutes) is reset monthly	CLProdTV > 300 (the vendor is added to routing if the total volume of traffic for the client product is greater than 300 minutes)

Variable	Description	Note	How to use
CLProdLCT	Last call time	In seconds starting from 01.01.1970	CLProdLCT < (CurTime : 60) (the vendor is added to routing if the last call from the client product was more than 1 minute ago)
CLProdCnt	Call count	The metric value is reset monthly	CLProdCnt > 1 (the vendor is added to routing if there are more than 1 calls for the client product)

14.2.3 Client dial code statistics

The metrics shows statistics for the set of 'client product : dial code'.

Variable	Description	Note	How to use
CLProdCodeASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdCodeASR > 0.1 (the vendor is added to routing if ASR for the set 'client product : dial code' is greater than 10%)
CLProdCodeACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdCodeACD > 50 (the vendor is added to routing if ACD for the set 'client product : dial code' is greater than 50 seconds)
CLProdCodeNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdCodeNER == 1 (the vendor is added to routing if NER for the set 'client product : dial code' is equal to 100%)
CLProdCodePDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdCodePDD < 75 (the vendor is added to routing if PDD for the set 'client product : dial code' is less than 75 seconds) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
CLProdCodeMRG	Average margin per minute	In System currency	CLProdCodeMRG > 0.1 (the vendor is added to routing if the margin for the set 'client

Variable	Description	Note	How to use
		Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	product : dial code' is greater than 0.1)
CLProdCodeTV	Total volume in minutes	The metric value (in minutes) is reset monthly	CLProdCodeTV > 300 (the vendor is added to routing if the total volume of traffic for the set 'client product : dial code' is greater than 300 minutes)
CLProdCodeLCT	Last call time	In seconds starting from 01.01.1970	CLProdCodeLCT < (CurTime : 60) (the vendor is added to routing if last call for the set 'client product : dial code' was more than 1 minute ago)
CLProdCodeCnt	Call count	The metric value is reset monthly	CLProdCodeCnt > 1 (the vendor is added to routing if there are more than 1 calls for the set 'client product : dial code')

14.2.4 Client POI statistics

The metrics show statistics for the client POI.

Variable	Description	Note	How to use
CLPOIASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOIASR > 0.1 (the vendor is added to routing if the client POI ASR is greater than 10%)
CLPOIACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOIACD > 600 (the vendor is added to routing if the client POI ACD is greater than 10 minutes)
CLPOINER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOINER == 1 (the vendor is added to routing if the client POI NER is equal 100%)
CLPOIPDD	PDD	In seconds	CLPOIPDD < 10

Variable	Description	Note	How to use
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	(the vendor is added to routing if the client POI PDD is less than 10 seconds) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
CLPOIMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	CLPOIMRG > 0.25 (the vendor is added to routing if the margin from client POI is greater than 0.25)
CLPOITV	Total volume in minutes	The metric value (in minutes) is reset monthly	CLPOITV > 30 (the vendor is added to routing if the total volume of traffic for client POI is greater than 30 minutes)
CLPOILCT	Last call time	In seconds starting from 01.01.1970	CLPOILCT < (CurTime : 60) (the vendor is added to routing if the last call for client POI was more than 1 minute ago)
CLPOICnt	Flag that shows if there is any call passed through the POI	The parameter is equal to 0 if there is no statistics for the POI and equal to 1 in the opposite case	CLPOICnt == 0 (the vendor is added to routing if there was no call passed through the client POI previously)

14.2.5 Client POI code statistics

The metrics show statistics for the set of 'client POI : dial code'.

Variable	Description	Note	How to use
CLPOICodeASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOICodeASR > 0.1 (the vendor is added to routing if ASR for the set 'client POI : dial code' is greater than 10%)
CLPOICodeACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOICodeACD > 60 (the vendor is added to routing if ACD for the set 'client POI : dial code' is greater than 1 minute)
CLPOICodeNER	NER	From 0 to 1	CLPOICodeNER == 1

Variable	Description	Note	How to use
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	(the vendor is added to routing if NER for the set 'client POI : dial code' is equal to 100%)
CLPOICodePDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOICodePDD < 60 (the vendor is added to routing if PDD for the set 'client POI : dial code' is less than 1 minute) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
CLPOIMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	CLPOIMRG > 0.2 (the vendor is added to routing if the margin for the set 'client POI : dial code' is greater than 0.2)
CLPOICodeTV	Total volume in minutes	The metric value (in minutes) is reset monthly	CLPOICodeTV > 30 (the vendor is added to routing if the total volume of traffic for the set 'client POI : dial code' is greater than 30 minutes)
CLPOICodeLCT	Last call time	In seconds starting from 01.01.1970	CLPOICodeLCT < (CurTime : 60) (the vendor is added to routing if the last call for the set 'client POI : dial code' was more than 1 minute ago)
CLPOICodeCnt	Call count	The metric value is reset monthly	CLPOICodeCnt > 1 (the vendor is added to routing if there are more than 1 calls for the set 'client POI : dial code')

14.2.6 Vendor product statistics

The metrics show statistics for the vendor product.

Variable	Description	Note	How to use
VProdASR	ASR	The metric is calculated according to the last CDR file : window frame for 200 attempts is taken into consideration. if there are less than 200 attempts in the file for the product, then EMA algorithm is being applied for calculation.	VProdASR > 0.1 (the vendor is added to routing if ASR for its product is greater than 10%)

Variable	Description	Note	How to use
VProdACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdACD > 120 (the vendor is added to routing if the ACD for its product is greater than 2 minutes)
VProdNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdNER == 1 (the vendor is added to routing if NER for its product is equal to 100%)
VProdPDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdPDD < 60 (the vendor is added to routing if PDD for its product is less than 1 minute) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
VProdMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	VProdMRG > 0.1 (the vendor is added to routing if the margin for its product is greater than 0.1)
VProdTV	Total volume in minutes	The metric value (in minutes) is reset monthly	VProdTV > 300 (the vendor is added to routing if the total volume of traffic for its product is greater than 300 minutes)
VProdLCT	Last call time	In seconds starting from 01.01.1970	VProdLCT < (CurTime : 60) (the vendor is added to routing if the last call for its product was more than 1 minute ago)
VProdCnt	Call count	The metric value is reset monthly	VProdCnt > 1 (the vendor is added to routing if there are more than 1 calls for its product)

14.2.7 Vendor dial code statistics

The metrics shows statistics for the set of 'vendor product : dial code'.

Variable	Description	Note	How to use
VProdCodeASR	ASR	From 0 to 1	VProdCodeASR > 0.1

Variable	Description	Note	How to use
		Calculation of the metric is similar to the logic for <i>VProdASR</i>	(the vendor is added to routing if ASR for the set 'vendor product : dial code' is greater than 10%)
VProdCodeACD	ACD	In seconds	VProdCodeACD > 120
		Calculation of the metric is similar to the logic for <i>VProdASR</i>	(the vendor is added to routing if ACD for the set 'vendor product : dial code' is greater than 2 minutes)
VProdCodeNER	NER	From 0 to 1	VProdCodeNER == 1
		Calculation of the metric is similar to the logic for <i>VProdASR</i>	(the vendor is added to routing if NER for the set 'vendor product : dial code' is equal to 100%)
VProdCodePDD	PDD	In seconds	VProdCodePDD < 60
		Calculation of the metric is similar to the logic for <i>VProdASR</i>	(the vendor is added to routing if PDD for the set 'vendor product : dial code' is less than 1 minute) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
VProdCodeMRG	Average margin per minute	In System currency	VProdCodeMRG > 0.3
		Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	(the vendor is added to routing if the margin for the set 'vendor product : dial code' is greater than 0.3)
VProdCodeTV	Total volume in minutes	The metric value (in minutes) is reset monthly	VProdCodeTV > 30 (the vendor is added to routing if the total volume of traffic for the set 'vendor product : dial code' is greater than 30 minutes)
VProdCodeLCT	Last call time	In seconds starting from 01.01.1970	VProdCodeLCT < (CurTime : 60) (the vendor is added to routing if last call for the set 'vendor product : dial code' was more than 1 minute ago)
VProdCodeCnt	Call count	The metric value is reset monthly	VProdCodeCnt < 200 (the vendor is added to routing if there are less than 200 calls for

Variable	Description	Note	How to use
			the set 'vendor product : dial code')

14.2.8 Vendor POI statistics

The metrics shows statistics for the vendor POI.

Variable	Description	Note	How to use
VPOIASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOIASR > 0.1 (the vendor is added to routing if ASR for its POI is greater than 10%)
VPOIACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOIACD > 100 (the vendor is added to routing if ADD for its POI is greater than 100 seconds)
VPOINER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOINER == 1 (the vendor is added to routing if NER for its POI is equal to 100%)
VPOIPDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOIPDD < 50 (the vendor is added to routing if PDD for its POI is less than 50 seconds) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
VPOIMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	VPOIMRG > 0.3 (the vendor is added to routing if the margin for its POI is greater than 0.3)
VPOITV	Total volume in minutes	The metric value (in minutes) is reset monthly	VPOITV > 30 (the vendor is added to routing if the total volume of traffic for its POI is greater than 30 minutes)
VPOILCT	Last call time	In seconds starting from 01.01.1970	VPOILCT < (CurTime : 60) (the vendor is added to routing if last call for its POI was more than 1 minute ago)

Variable	Description	Note	How to use
VPOICnt	Flag that shows if there is any call passed through the POI	The parameter is equal to 0 if there is no statistics for the POI and equal to 1 in the opposite case	VPOICnt == 1 (the vendor is added to routing if there was at least one call passed through its POI previously)

14.2.9 Vendor POI code statistics

The metrics shows statistics for the set of 'vendor POI : dial code'.

Variable	Description	Note	How to use
VPOICodeASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOICodeASR > 0.1 (the vendor is added to routing if ASR for the set 'vendor POI : dial code' is greater than 10%)
VPOICodeACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOICodeACD > 50 (the vendor is added to routing if ACD for the set 'vendor POI : dial code' is greater than 50 seconds)
VPOICodeNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOICodeNER == 1 (the vendor is added to routing if NER for the set 'vendor POI : dial code' is equal to 100%)
VPOICodePDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VPOICodePDD < 75 (the vendor is added to routing if PDD for the set 'vendor POI : dial code' is less than 75 seconds) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
VPOICodeMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	VPOICodeMRG > 0.1 (the vendor is added to routing if the margin for the set 'vendor POI : dial code' is greater than 0.1)
VPOICodeTV	Total volume in minutes	The metric value (in minutes) is reset monthly	VPOICodeTV > 30 (the vendor is added to routing if the total volume of traffic for the

Variable	Description	Note	How to use
			set 'vendor POI : dial code' is greater than 30 minutes)
VPOICodeLCT	Last call time	In seconds starting from 01.01.1970	VPOICodeLCT < (CurTime : 60) (the vendor is added to routing if the last call for the set 'vendor POI : dial code' was more than 1 minute ago)
VPOICodeCnt	Call count	The metric value is reset monthly	VPOICodeCnt > 10 (the vendor is added to routing if there are more than 10 calls for the set 'vendor POI : dial code')

14.2.10 Rule code statistics

The metrics show statistics for the set of 'dial code : routing rule'.

Variable	Description	Note	How to use
RuleCodeASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	RuleCodeASR > 0.1 (the vendor is added to routing if ASR for the set 'routing rule : dial code' is greater than 10%)
RuleCodeACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	RuleCodeACD > 60 (the vendor is added to routing if ACD for the set 'routing rule : dial code' is greater than 1 minute)
RuleCodeNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	RuleCodeNER == 1 (the vendor is added to routing if NER for the set 'routing rule : dial code' is equal to 100%)
RuleCodeMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	RuleCodeMRG > 0.2 (the vendor is added to routing if the margin for the set 'routing rule : dial code' is greater than 0.2)
RuleCodeTV	Total volume in minutes	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	RuleCodeTV > 30 (the vendor is added to routing if the total volume of traffic passed according to the set 'rule : dial code' is greater than 30 minutes)

Variable	Description	Note	How to use
RuleCodeLCT	Last call time	In seconds starting from 01.01.1970	$\text{RuleCodeLCT} < (\text{CurTime} : 60)$ (the vendor is added to routing if last call for the set 'routing rule : dial code' was more than 1 minute ago)
RuleCodeCnt	Call count	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	$\text{RuleCodeCnt} > 0$ (the vendor is added to routing if there is at least 1 call for the set 'rule : dial code')

14.2.11 Rule metrics

The metric shows routing rule statistics.

Variable	Description	Note	How to use
PAIPresent	The metric serves to verify if the P-Asserted-Identity header contains the A-number, with further acceptance or rejection of the traffic.	This metric allows avoiding extra expenses, because in some cases, if the P-Asserted-Identity header has no number, the carrier may add extra charges for the call. The metric will equal <i>True</i> if: 1. A special mode is used to extract the number (contact the Alaris technical support team to find out which mode is currently employed). 2. The A-number is taken from this header (that is, the <i>From</i> field contains letters or is empty and considered inapplicable). Also, if the <i>From</i> and <i>P-Asserted-Identity</i> fields are empty, the PAIPresent metric will return the <i>True</i> value.	$\text{PAIPresent} \text{ or } \text{PAIPresent} == \text{True}$ (the vendor is added to routing if the ANI is obtained from the P-Asserted-Identity field of the call)

14.2.12 Rule statistics

The metrics show routing rule statistics.

Variable	Description	Note	How to use
RuleASR	ASR	From 0 to 1	$\text{RuleASR} > 0.1$ (the vendor is added to routing if ASR for the routing rule is greater than 10%)
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	

Variable	Description	Note	How to use
RuleACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	RuleACD > 60 (the vendor is added to routing if ACD for the routing rule is greater than 1 minute)
RuleNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	RuleNER == 1 (the vendor is added to routing if NER for the routing rule is equal to 100%)
RuleMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdASR</i>	RuleMRG > 0.1 (the vendor is added to routing if the margin for routing rule is greater than 0.1)
RuleTV	Total volume in minutes	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	RuleTV > 300 (the vendor is added to routing if the total volume of traffic passed through to the rule is greater than 300 minutes)
RuleLCT	Last call time	In seconds starting from 01.01.1970	RuleLCT < (CurTime : 60) (the vendor is added to routing if last call passed through the rule was more than 1 minute ago)
RuleCnt	Call count	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	RuleCnt >= 1 (the vendor is added to routing if there is at least one (or more) call passed through the rule)

14.2.13 Client product destination statistics

The metrics show statistics for the set of 'client product : destination'.

Variable	Description	Note	How to use
CLProdDestASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdDestASR > 0.1 (the vendor is added to routing if ASR for the set 'client product : destination' is greater than 10%)
CLProdDestACD	ACD	In seconds	CLProdDestACD > 60 (the vendor is added to routing if ACD for the set 'client product :

Variable	Description	Note	How to use
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	destination' is greater than 1 minute)
CLProdDestNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdDestNER == 1 (the vendor is added to routing if NER for the set 'client product : destination' is equal to 100%)
CLProdDestPDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLProdDestPDD < 75 (the vendor is added to routing if PDD for the set 'client product : destination' is less than 75 seconds) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
CLProdDestMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	CLProdDestMRG > -1 (the vendor is added to routing if the margin for the set 'client product : destination' is greater than -1)
CLProdDestCnt	Call count	The metric value is reset monthly	CLProdDestCnt > 100 (the vendor is added to routing if there are more than 100 calls for the set 'client product : destination')

14.2.14 Vendor product destination statistics

The metrics show statistics for the set of 'vendor product : destination'.

Variable	Description	Note	How to use
VProdDestASR	ASR	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdDestASR > 0.1 (the vendor is added to routing if ASR for the set 'vendor product : destination' is greater than 10%)
VProdDestACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdDestACD > 60 (the vendor is added to routing if ACD for the set 'vendor product :

Variable	Description	Note	How to use
			destination' is greater than 1 minute)
VProdDestNER	NER	From 0 to 1 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdDestNER == 1 (the vendor is added to routing if NER for the set 'vendor product : destination' is equal to 100%)
VProdDestPDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdDestPDD < 120 (the vendor is added to routing if PDD for the set 'vendor product : destination' is less than 2 minutes) NOTE: The PDD calculation formula for routing metrics takes into account all call attempts (successful and unsuccessful).
VProdDestMRG	Average margin per minute	In System currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	VProdDestMRG > 0.3 (the vendor is added to routing if the margin for the set 'vendor product : destination' is greater than 0.3)
VProdDestCnt	Call count	The metric value is reset monthly	VProdDestCnt > 100 (the vendor is added to routing if there are more than 100 calls for the set 'vendor product : destination')

14.3 How to use (field 'Condition' in 'Routing Rules')

MRG > n,

Where *n* is a negative or positive number.

The condition returns *True* if *MRG* (client rate minus vendor rate) is greater than *n*, in the opposite case *False* is returned.

Example

Condition: *MRG > 5*

System checks what margin can be theoretically obtained in case the traffic is sent to the vendor. If the margin is greater than 5, the condition returns *True*, if the margin is equal or less than 5 - *False*.

(MRG > 0) or (VRate < 0.4)

The condition returns *True* if the margin is positive **or** the vendor's rate is less than *n*. Otherwise *False* is returned.

Checking of condition:

1) Checks if theoretical margin (from sending traffic to the vendor) is positive. If the condition is true, *True* is returned.

In the opposite case step 2 is checked.

2) Checks if the vendor rate is less than 0.4. If the condition is true, *True* is returned. In the opposite case the condition returns *False*.

(MRG > 0 or VRate > 0.2) and (VProdASR > 0.5)

The condition returns *True* if:

1) the margin is positive **or** the vendor's rate is greater than 0.2

and

2) the vendor product ASR is greater than 0.5

In the opposite case *False* is returned.

Checking of condition:

1) Checks if theoretical margin (from sending traffic to the vendor) is positive. If the condition is true, step 3 is checked, in the opposite case step 2 is checked.

2) Checks if the vendor rate is greater than *n*. If the condition is true, step 3 is checked, in the opposite case the condition returns *False*.

3) Checks if the ASR is greater than *n*. If the condition is true, the *True* result is being returned, in the opposite case the condition returns *False*.

8 < BNumLen < 12

The condition returns *True* if the B-number contains 9 to 11 (inclusive) digits. In the opposite case *False* is returned.

(CLRate > 0.2) and (VRate / CLRate < 0.5)

The condition returns *True* if:

1) the client's rate is greater than 0.2

and

2) the vendor's rate is half as large as the client's one

In the opposite case *False* is returned.

(MRG > 0) or (CLProdTV < 6000)

The condition returns *True* if:

1) the margin is positive

or

2) the total volume for the client's product is greater than 100 hours

In the opposite case *False* is returned.

(VRate < 0.42) and (MRG > -0.42) and (VProdDestACD/60 > 4)

The condition returns *True* if all the following conditions are true:

1) the vendor's rate is less than 0.42

2) the margin is greater than -0.42

3) ACD for the set 'vendor product - destination' is greater than 4 minutes.

In the opposite case *False* is returned.

(RuleTV < 10) and (MRG > -0.5)

The condition returns *True* if:

1) the total volume of traffic passed through the rule is less than 10 minutes

and

2) the margin is greater than -0.5

In the opposite case *False* is returned.

(VRateOrig < 0.0211) and (MRG > -0.0211)

The condition returns *True* if:

1) the vendor's rate (in the account currency) is less than 0.0211

and

2) the margin (in System currency) is greater than -0.0211

In the opposite case *False* is returned.

14.4 How to use (field 'Formula' in 'Routing Rules')

MRG

This formula can be used in case it is needed to sort the vendors by margin.

Example

The routing list contains 3 vendors:

Vendor1: MRG = 0.5

Vendor2: MRG = 0.25

Vendor3: MRG = 0.26

When MRG metric is set in the Formula field, vendors will be sorted in the following way:

Vendor1: MRG = 0.5

Vendor3: MRG = 0.26

Vendor2: MRG = 0.25

MRG+1

This formula can be used in case it is needed to sort the vendors by margin.

1 is added to ensure that vendors with a negative margin can also participate in routing as vendors with negative weight are excluded.

Example

The routing list contains 3 vendors:

Vendor1: MRG = -0,1

Vendor2: MRG = -1,1

Vendor3: MRG = 0.1

When MRG+1 is set in Formula field, vendors will be sorted in following way:

Vendor3 - MRG+1 = 1.1

Vendor1 - MRG+1 = 0,9

NOTE: *Vendor2 has MRG+1 = -0,1 and does not take part in routing.*

MRG/CLRate

This formula can be used in case it is needed to sort the vendors by ratio of margin to the client rate.

Example

The routing list contains 3 vendors:

Vendor1: $MRG = 0.2$, $CLRate = 0.5$

Vendor2: $MRG = 0.1$, $CLRate = 0.6$

Vendor3: $MRG = 0.3$, $CLRate = 0.5$

When $MRG/CLRate$ is set in the Formula field, vendors will be sorted in following way:

Vendor3: $MRG/CLRate = 0.6$

Vendor1: $MRG/CLRate = 0.4$

Vendor2: $MRG/CLRate = 0.17$

VProdASR

This formula can be used in case it is needed to sort the vendors by vendor product ASR

Example

The routing list contains 3 vendors:

Vendor1: $ASR = 0.8$

Vendor2: $ASR = 0$

Vendor3: $ASR = 0.1$

When $VProdASR$ in the Formula field is set, vendors will be sorted in following way:

Vendor1: $ASR = 0.8$

Vendor3: $ASR = 0.1$

$(MRG*100 + 0.01) * (VProdDestACD/60) + 0.01$

This formula can be used in case it is needed to sort the vendors by value of multiplication of margin (multiplied by 100) and ACD (based on the set 'vendor's product - destination').

Example

The routing list contains 2 vendors:

Vendor1: $VProdDestACD = 150$, $MRG = 0.1$

Vendor2: $VProdDestACD = 180$, $MRG = 0.15$

When the mentioned formula is set in the Formula field, vendors will be sorted in the following way:

Vendor2: $(MRG*100 + 0.01) * (VProdDestACD/60) + 0.01 = 45.1801$

Vendor1: $(MRG*100 + 0.01) * (VProdDestACD/60) + 0.01 = 25.1251$

15 Appendix 2. User permissions

This Appendix provides a detailed description of permissions that are configured in [Administration\Users](#)^[132]. 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](#)^[132] -> *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](#)^[137] 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](#)^[33] 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](#)^[132] -> *Contract companies*). In this case none of the mail servers created for different contract companies ([Administration\Outgoing email accounts](#)^[33] -> *Contract company* field) will not be shown to the user. An example of VPD-independent interface is [Voice\Routing\Routing rules](#)^[389] - 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*).

15.1 Active calls

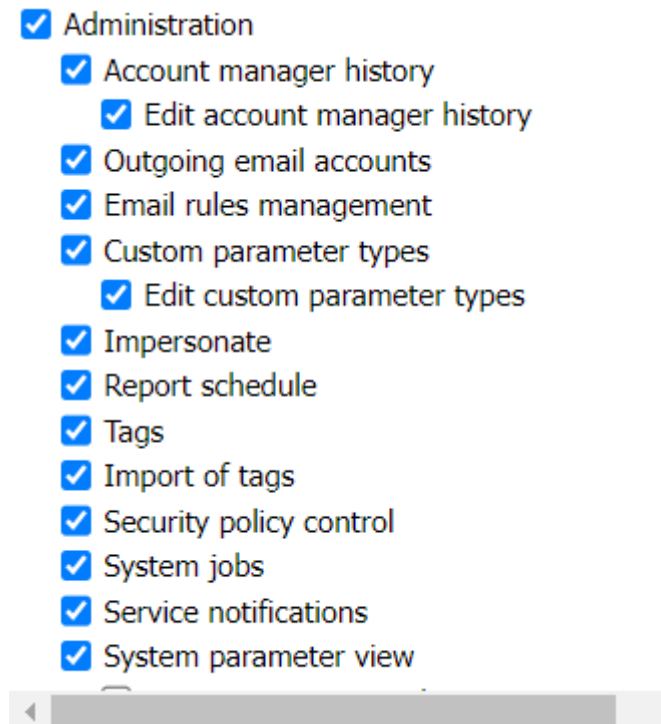
- ☒ Active calls
- ☒ Show other managers' vendor information
- ☒ Show other managers' client information

Active calls

The section allows viewing the [Voice\Active calls](#)^[265] interface. *VPD restricted*.

- *Show other managers' vendor information:* the permission allows viewing vendor names of other managers in the [Voice\Active calls](#)^[265] interface
- *Show other managers' client information:* the permission allows viewing client names of other managers in the [Voice\Active calls](#)^[265] interface

15.2 Administration



Administration

- *Account manager history*: the permission must be enabled in order to view the [Administration\Account manager history](#)^[26] interface. *VPD restricted*
 - *Edit account manager history*: the permission allows to edit records in [Administration\Account manager history](#)^[26] 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](#)^[142]
- *Outgoing email accounts*: the permission makes it possible for the user to view/edit data in [Administration\Outgoing email accounts](#)^[33]. *VPD restricted*
- *Email rules management*: the permission grants possibility to view/edit data in [Administration\Email processing rules interface](#)^[29]. *VPD restricted*
- *Custom parameter types*: the permission defines if the user is allowed to view data in [Administration\Custom parameter types](#)^[27] interface
 - *Edit custom parameter types*: the permission defines if the user is allowed to edit data in [Administration\Custom parameter types](#)^[27] interface
- *Impersonate*: when the permission is granted, the user can login to the main web interface, get authorized via REST API interface 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 Wholesale portal if it is not used for 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](#)^[201] interface. The user must have the *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](#)^[203] 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](#)^[21].
- *System jobs*: the permission defines if the user is allowed to view/edit data in the [Administration\System jobs](#)^[39] interface
- *Service notifications*: the permission makes possible to view data in the [Administration\Service notifications](#)^[37] 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](#)^[44] interface
 - *System parameter edit*: the permission makes it possible to view and edit data in [Administration\System settings](#)^[44] interface
- *Template manager*: the permission grants the possibility to view/edit data in the [Administration\Template manager](#)^[84] 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](#)^[130] 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](#)^[132] 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](#)^[132] -> *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](#)^[132] -> *User password change*). Otherwise it is allowed to change the password only by email ([Administration\Users](#)^[132] -> *Send password reset letter*)
 - *Users edit*: the permission allows editing or removing users ([Administration\Users](#)^[132]). 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](#)^[464] interface with *Available to: View administration reports*. If the permission is not enabled, the reports will be hidden from the drop-down list

15.3 Analytics

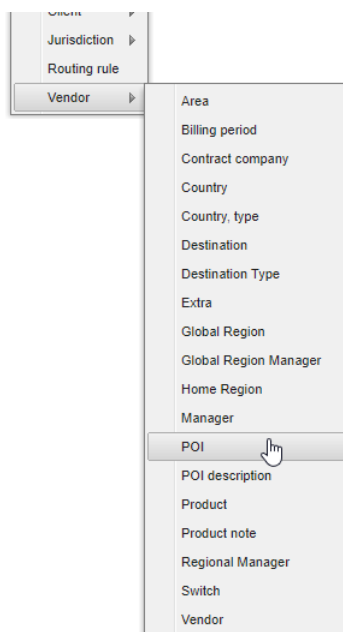
- ☒ Analytics
 - ☒ Full analytics view
 - ☒ Show other managers' client traffic
 - ☒ Show other managers' vendor traffic
 - ☒ Show other managers' vendor names and POIs
 - ☒ Show other managers' client names and POIs
 - ☒ View all client data
 - ☒ View all vendor data
 - ☒ View financial details
 - ☒ View technical details

Analytics

The section allows viewing the [Voice\Analytics](#)^[268] interface. If no child permission is granted under the section, the user will be available to check only the *Total* info without a possibility to drill down.

Note that there is a System parameter *Calculate statistics total values based on the detailed cube levels* (0 : no, 1 : yes) ([Administration\System settings\Statistics module](#)^[77]), which, if set to 1, affects the *Total* display: the row will be calculated based on client/vendor data which the user is allowed to view. Otherwise (if set to 0), *Total* will show values for all the traffic even if the user has limited permissions and has access only to its own managed accounts.

- *Full analytics view*: all analytics data is shown with no restriction. The permission is disabled by default
- *Show other managers' vendor names and POIs*: the permission allows viewing vendor names and vendor POI info (tech prefix, IP address or trunk group) of other managers in the [Voice\Analytics](#)^[268] interface
- *Show other managers' client names and POIs*: the permission allows viewing client names and client POI info (tech prefix, IP address or trunk group) of other managers in [Voice\Analytics](#)^[268] interface
- *View all client data*: the permission allows viewing client data based on permissions given in the [View/edit permissions](#)^[474] 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 other contract companies. However, the client names will be replaced with the account manager name + carrier ID. If *Show other managers' client names and POIs* is granted additionally, the user will be able to view client names. If the permission *View all vendor data* is granted as well, the user will be able to check [vendor-related layers](#) (see figure below)



Vendor-related layers

- *View all vendor data*: the permission allows viewing vendor data based on permissions given in [View/edit permissions](#) ^[474] section
- *View financial details*: the permission allows checking finance info as margin, revenue, cost, rates (client/vendor), connection fee, client/vendor volume. If neither this permission nor *View technical details* is granted, the user will be able to check only the following info: *Attempts*, *Calls*, *Volume*, and *Raw ACD* (client/vendor side)
- *View technical details*: the permission allows viewing such technical info as ASR, NER, ACD, minimum/average/maximum PDD, short and very short calls (in %)
- *Show other managers' client traffic* (not available by default, to activate the feature contact the Alaris technical support team and communicate the code BZ29532): when enabled, the user can view generalized data on other managers' client traffic with no financial details (only the name and technical info)
- *Show other managers' vendor traffic* (not available by default, to activate the feature contact the Alaris technical support team and communicate the code BZ29532): when enabled, the user can view generalized data on other managers' vendor traffic (vendor names and prices and the technical details such as the number of attempts, ASR etc.) All the other financial information is concealed

NOTE: The above two parameters affect the display of statistics in [VoiceAnalytics](#) ^[268] only after recalculation of analytical cubes. Therefore traffic must be recalculated if a past period is involved.

15.4 Carriers

- ☒ Carriers
 - ☒ Accounts edit
 - ☒ Edit "Inbound/Outbound traffic allowed" flags
 - ☒ Agreements edit
 - ☒ View contacts of all partners
 - ☒ View contacts of own partners
 - ☒ View credit limits in agreements
 - ☒ Edit credit limits in agreements
 - ☒ Carriers edit
 - ☒ Products edit
 - ☒ Delete products with dependencies
 - ☒ Show SMS Channels/SMS POI tabs
 - ☒ Voice POI edit
 - ☒ SS7 identifiers edit

Carriers

The section is intended to grant permissions of editing main entities of the [Carriers](#)^[137] interface. VPD restricted.

- *Accounts edit*: the permission allows editing accounts ([Carriers\Accounts](#)^[142]). 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](#)^[137]
- *Agreements edit*: the permission allows editing agreements ([Carriers\Agreements](#)^[145])
 - *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](#)^[137]). 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](#)^[155]). Note that to change the vendor voice POIs priorities in routing (*Set/Change POI routing priorities* button), the user must have the *Voice POI edit* permission enabled
 - *Delete products with dependencies*: the permission allows using the *Delete this product and all child components* button ([Carriers\Products](#)^[155])
- *Voice POI edit*: the permission allows editing Voice POIs ([Carriers\Voice POI](#)^[163])

15.5 CDR management

- ☒ CDR management
 - ☒ Export CDRs
 - ☒ CDR reconciliation
 - ☒ CDR rerating

CDR management

The section opens access to the [Voice\CDR management](#)^[276] interfaces.

- *Export CDRs*: the permission allows exporting CDRs in [Voice\CDR management\CDR export tool](#)^[276] and from the [Voice\Analytics](#)^[268]. 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 its rights from the [View/edit permissions](#)^[474] section
- *CDR reconciliation*: the permission allows comparing System CDRs with partner CDRs in Voice\CDR management\CDR reconciliation. Note that the user with the granted permission will be able to view tasks if either *View and edit all data* or *View and edit all data (except System owner parent rates)* is granted as well
- *CDR rerating*: the permission allows scheduling CDR rerating tasks in the corresponding interface. The user is allowed viewing tasks and their details (the bottom grid) based on permissions from the [View/edit permissions](#)^[474] section. The user is allowed rerating CDRs if at least one edit permission from this section is enabled. For example, if the permission *View all data* is granted, the user will be able to view 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 that are available based on the granted permissions

15.6 Partner portal

- ☒ Partner portal
 - ☒ Show Blacklist tab
 - ☒ Campaign portal user administration
 - ☒ Show MO reply templates
 - ☒ Show purchase tab
 - ☒ Show rates tab
 - ☒ Show balance
 - ☐ Show credit
 - ☒ Show finance info
 - ☒ Show message content
 - ☒ Show graphs
 - ☒ Show Statistics tab
 - ☒ Wholesale partner portal
 - ☒ Export CDRs/EDRs
 - ☒ Get SMS POI
 - ☒ Edit SMS POI

Partner portal

If the permission is granted with no specification of child permissions, the user will not be able to login to the Wholesale portal and check the portal data.

- *Show purchase tab*: the permission affects whether the user can view the *Invoices* and *Payments*

tabs of the Wholesale 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 rates tab*: defines whether non-applied rate plans will be shown. Also, when disabled, *Voice rates* tab is hidden from the Wholesale portal (which is usually shown if the user is subscribed to any rate plan).
- *Show credit*: enables hiding the credit limit configured in agreements from the Wholesale portal
- *Show finance info*: the permission grants the possibility to hide the *Balance* info from the Wholesale portal.
- *Wholesale partner portal*: the permission allows to login to the Wholesale portal. Note that the portal domain name must be added to the field *List of allowed domains* ([Reference books\Contract companies](#)^[207]) of the corresponding contract company for successful login
 - *Export CDRs/EDRs*: the permission allows to create export tasks in the Wholesale portal
 - *Get SMS POI* (applicable to Alaris SMS Platform only): when disabled, the SMS POI tab is hidden in the Wholesale portal
 - *Edit SMS POI* (applicable to Alaris SMS Platform only): the permission allows the user to edit SMS POI.

NOTE: The ability to edit POIs is also controlled by the System parameters *Wholesale portal access mode* (1 - read/write, 2 - read only) and *Allow Wholesale portal users to edit POIs* (1 - yes, 0 - no).

15.7 Delete file records

- *Delete file records*: the permission allows removing files from [Voice\Rates\Rate import](#)^[326], [Voice\Rates\Rate import \(old\)](#)^[326], and [Administration\Email processing rules](#)^[29] (the *Files* tab).

15.8 Number management

- ☒ Number management
- ☒ Edit DID records
- ☒ Override DID statuses

Number management

The section opens access to the [Number management](#)^[425] 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

15.9 View/edit rates and routing

- ☒ View/edit rates and routing
 - ☒ Edit client rates and routing
 - ☒ Edit vendor rates and routing
 - ☒ Edit client rates and routing of managed accounts
 - ☒ Edit vendor rates and routing of managed account

View/edit rates and routing

The section grants permissions for editing rates and routing rules. Additional restrictions are set in the following sections: *Edit rates* section and *Routing rules edit/Edit blended routes* (for routing rules/blended rules correspondingly)

- *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 [Voice\Rates\Rate editor](#)^[302] 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 [Voice\Rates\Rate editor](#)^[302] 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/blended 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
 - *Edit blended routes* - granted
 - *View and edit all data (except System owner parent rates)* - not granted

the user will be able to modify a blended rule that does not contain the System owner's products in the *Products* list

15.10 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.

15.11 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 reports. Export of reports is allowed by the *Export to CSV/Excel from reports* permission.

15.12 Finance

- ☒ Finance
 - ☒ Charges
 - ☒ Invoicing
 - ☒ Confirm vendor invoice
 - ☒ Confirm client invoice
 - ☒ Register vendor invoice
 - ☒ Generate client invoice
 - ☒ Payments
 - ☒ Confirm vendor payment
 - ☒ Delete registered vendor payments
 - ☒ Confirm client payment
 - ☒ Delete registered client payments
 - ☒ Register payments to vendor
 - ☒ Register payments from client
 - ☒ Recurring fees
 - ☒ 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](#)^[169] 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](#)^[175] 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](#)^[169] interface), edit invoices from partner and credit notes to partner and recalculate period for accounts with the vendor direction ([Finance\Invoices](#)^[175] 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](#)^[169] interface), edit invoices to partner and credit notes from partner and recalculate the invoice period for accounts with the client direction ([Finance\Invoices](#)^[175] 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](#)^[169] 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](#)^[185] and [Reference books\Bank accounts](#)^[201] interfaces. *VPD restricted*
- *Bank accounts*: the permission allows accessing [Reference books\Bank accounts](#)^[201]
- *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](#)^[193] interface. *VPD restricted*
 - *Recurring fees edit*: the permission allows editing data in the [Finance\Recurring fees](#)^[193] interface

15.13 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

15.14 View/edit permissions

- ☒ View/edit permissions
 - ☒ Edit parent products belonging to system owner
 - ☒ View and edit objects of managed accounts
 - ☒ View and edit objects of own contract companies
 - ☒ View and edit all data (except System owner parel
 - ☒ View system owner objects
 - ☒ View all data
 - ☒ Manage objects of same carrier

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](#)^[137], [Reference books\Contract companies](#)^[207]) but records in some interfaces will be shown with hidden carrier/product/contract company names (for example, [Voice\Routing\Routing rules](#)^[391]). 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](#)^[132] -> *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

15.15 Post monitoring data

- *Post monitoring data*: if the permission is enabled, it is possible to use POST:monitoring_data method in REST API

15.16 Rates

- ☒ Rates
 - ☒ Edit rates
 - ☒ Rate analysis
 - ☒ Rate editor
 - ☒ Rate export
 - ☒ Edit column settings
 - ☒ Edit task templates
 - ☒ Rate plan creation
 - ☒ Rate import (old)
 - ☒ Auto rate import
 - ☒ Rate import
 - ☒ Import client rates
 - ☒ Import vendor rates

Rates

The section opens access to rate management interfaces ([Voice\Rates](#)^[292]). 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 to 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).

- *Edit rates*: a parent permission for the *Edit client/vendor rates* permissions. If the permission is granted, the user is allowed to edit rates using the [Voice\Rates\Rate editor](#)^[302] interface. Note that the user is still allowed to change rates using the [Voice\Rates\Rate import](#)^[326] interface based on the [View/edit permissions](#)^[474] even if the permission *Edit rates* is not given. For example, if the user is allowed to edit objects of managed accounts and the *Rate import* permission is granted, the user can import rates to the products of managed accounts
- *Rate analysis*: the permission allows access to the [Voice\Rates\Rate analysis](#)^[296] interface. Note that the user will be able to launch tasks for client/vendor products that are available to the user (based on [View/edit permissions](#)^[474]).
- *Rate editor*: the permission allows access to the [Voice\Rates\Rate editor](#)^[302] interface. If the user does not have the *Edit rates* permission granted, the user can only view rates available to it (based on [View/edit permissions](#)^[474])
- *Rate export*: the permission allows access to the [Voice\Rates\Rate export](#)^[313] interface. *VPD restricted*
 - *Edit column settings*: the permission gives a possibility to modify column settings (*Rate export* -> *Column settings*)
 - *Edit task templates*: the permission grants a possibility to save/delete rate export presets
- *Rate plan creation*: the permission allows access to the [Voice\Rates\Rate plan creation\Rate compilation](#)^[361] interface. Note that data on the *Cost rules* and *Markup setup* tabs is available irrespective of the [View/edit permissions](#)^[474] while the *Rate compilation* interface is *VPD restricted*. The user will be able to apply generated rates if the permission *Edit rates* is granted and the user will be allowed to generate routing rules given that the *Routing rules edit* permission has been granted
- *Rate import (old)*: the permission allows access to the [Voice\Rates\Rate import \(old\)](#)^[326] interface. *VPD restricted*
- *Auto rate import*: the permission allows access to the [Voice\Rates\Auto rate import](#)^[292] interface. *VPD restricted*
- *Rate import*: the permissions allow access to the [Voice\Rates\Rate import](#)^[326] interface. *VPD restricted*:
 - *Import client rates*: the permission defines if a user can import client rates
 - *Import vendor rates*: the permission defines if a user can import vendor rates

15.17 Reference

The section allows specifying which tabs of the [Reference books](#)^[476] and [Voice\Reference books](#)^[367] sections can be shown to the user. To allow access to the [Reference books\Bank accounts](#)^[201] 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](#)^[474] section (for example, *View and edit (system owner rates)*). To access the [Reference books\Tags](#)^[201] and [Reference books\Tag import](#)^[203] interfaces, permissions *Tags* and *Import of tags* are required respectively.

- ☒ Reference
 - ☒ Billing increments edit
 - ☒ Contract company
 - ☒ Currency rates view
 - ☒ Currency rates edit
 - ☒ Data import
 - ☒ Dial codes view
 - ☒ Dial codes edit
 - ☒ Pending dial codes
 - ☒ Product types
 - ☐ Regular expressions
 - ☒ Company region
 - ☒ Soft switch editor
 - ☒ Units

Reference

- *Billing increments edit*: the permission allows viewing and editing data in the [Voice\Reference books\Billing increments](#) ^[367] interface
- *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](#) ^[214]
 - *Currency rates edit*: the permission allows editing data in [Reference books\Currency exchange rates](#) ^[214]
- *Data import*: the permission defines if the user is allowed to import data over the [Reference books\Data import](#) ^[224] interface
- *Dial codes view*: the permission allows viewing data in the [Voice\Reference books\Dial codes](#) ^[370] interface on both tabs - *Dial codes* and *Country codes*
 - *Dial codes edit*: the permission allows editing data in the [Voice\Reference books\Dial codes](#) ^[370] interface on both tabs - *Dial codes* and *Country codes*
- *Pending dial codes*: the permission allows viewing and editing data in the [Voice\Reference books\Pending dial codes](#) ^[373] interface
- *Product types*: the permission allows viewing/editing data in the [Reference books\Product types](#) ^[217] 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](#) ^[223] interface
- *Company region*: the permission allows viewing data in the [Reference books\Countries and regions](#) ^[218] interface. VPD restricted
- *Soft switch editor*: the permission allows viewing and editing data in the [Voice\Reference books\Soft switch editor](#) ^[374] interface
- *Units*: the permission allows to viewing/editing data in the [Reference books\Units](#) ^[222] interface

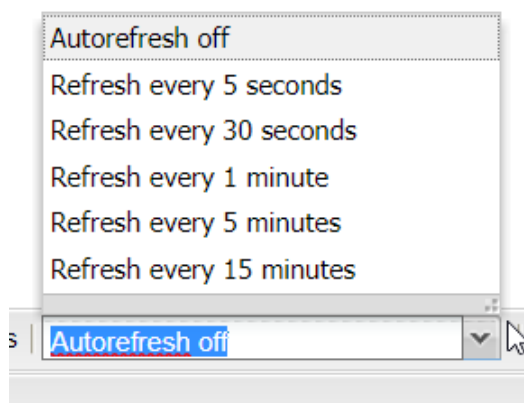
15.18 Reports

- ☒ Reports
 - ☒ Auto-refresh reports
 - ☒ Create and edit reports
 - ☒ Export to CSV/Excel from reports
 - ☒ View change log reports

Reports

The section gives permissions to view, launch and export reports in the [Reports](#) ⁴⁷⁸ 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.

15.19 Routing

- ✓ Routing
 - ✓ View blended routes
 - ✓ Edit blended routes
 - ✓ Limitation rules
 - ✓ View macro variables
 - ✓ Edit macro variables
 - ✓ Routing rules view
 - ✓ Routing rules edit
 - ✓ Routing rules rollback
 - ✓ Call simulation
 - ✓ ANI translation

Routing

The section allows management of routing interfaces ([Voice\Routing](#)^[377]).

- View blended routes: the permission allows viewing rules in the [Blended routing](#)^[377] interface in accordance with granted roles in the [View/edit permissions](#)^[474] section
 - *Edit blended routes*: the permission allows editing rules in the [Blended routing](#)^[377] interface in accordance with granted permissions in the [View/edit permissions](#)^[474] section. For example, if a user has the permission granted but only the *View all data* permission is given, the user will not be able to modify/create a blended rule. Note that the user will be allowed to create a corresponding routing rule even if the permission *Routing rules edit* is not granted but a corresponding edit permission from the *View/edit permissions* section is given. *VPD restricted*
- *Limitation rules*: the permission allows viewing and editing rules in the [Limitation rules](#)^[416] interface in accordance with granted permissions in the [View/edit permissions](#)^[474] section. For example, if *View and edit objects of contract companies* is granted, the user will be able to view all rules, but the *Product* column will show the product ID instead of product name if the product belongs to another contract company. Note that if this permission is granted, the user will be able to edit data on the *Thresholds* tab even if there is no edit permission granted from the [View/edit permissions](#)^[474] section
- *View macro variables*: the permission allows viewing data in the [Macro variables](#)^[388] interface. *VPD restricted*
 - *Edit macro variables*: the permission allows editing data in the [Macro variables](#)^[388] interface. If the permission is granted but only the view permission is given in the [View/edit permissions](#)^[474] section (for example, *View all data*), the user will be allowed to edit the data in the top grid but not the data in the bottom grid. *VPD restricted*
- *Routing rules view*: the permission allows viewing routing rules. Note that for products restricted to the user (the list is defined by [View/edit permissions](#)^[474]) their names will be replaced by IDs (for the *Client products* list and vendor choices)
 - *Routing rules edit*: the permission allows editing routing rules including the *Replace product* option as well as editing tags ([Reference books\Tags](#)^[207]) of the *Voice* type. In order to edit rules the user must have the permissions *Edit client/vendor rates/routing for own accounts* correspondingly. The logic how the permissions apply is described in the [View/edit rates and routing](#)^[477] section of the document. If *Routing rules edit* is not granted, user is not allowed

to use the *Delete this product from all routing rules* button ([Carriers\Products](#)^[155]). Note that the user can modify rules using the button even if the permission *Routing rules edit* is granted while only *View all data* is given from the [View/edit permissions](#)^[474] section. *VPD restricted*

- *Routing rules rollback*: the permission allows using the *Routing rules rollback* button
- *Call simulation*: the permission allows simulating calls from the [Simulation](#)^[410] interface. Note that the *Product* and *POI list* will contain only allowed products/POIs as possible values
- *ANI translation*: the permission allows checking and editing data in the [ANI translation](#)^[413] interface. Note that Client/Vendor products which the user is not allowed to view will be hidden. Besides, the user will be allowed to add only those client/vendor products to which the user has access (based on [View/edit permissions](#)^[474]). Note that even if only *View all data* is granted, the user will still be able to modify translations

15.20 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

15.21 View swap deals

The section allows viewing swap deals. *VPD restricted*.

- *Edit swap deals*: the permission allows editing swap deals. *VPD restricted*

15.22 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.

15.23 Volume-based deals

- *Volume-based deal*: the permission allows viewing and editing volume-based deals ([Voice\Volume-based deals](#)^[420]). *VPD restricted*

15.24 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](#)^[474] 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	+	-	-	+	-	-

Appendix 2. User permissions

Carriers	+	-	-	-	+	+
View/edit rates and routing	+	-	+	+	+	+
CDR management	+	-	-	-	-	+
Finance	+	+	-	-	-	-
Reports	+	+	-	-	+	+
Analytics	+	-	-	-	+	+
Rates	+	-	+	-	+	-
Routing	+	-	-	+	+	+
Call simulation	+	-	-	+	+	+

16 Appendix 3. 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.

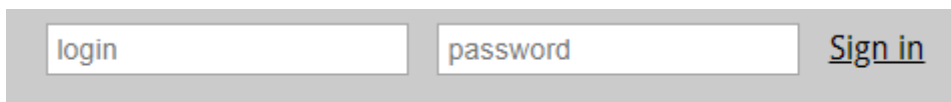
REST API allows users to get information based on predefined parameters (ID, name, etc). Additionally it allows the System owner to provide its partners with URLs to execute queries with pre-defined parameters so they can extract data without having access to the main web interface.

NOTE: To use REST API provide the Alaris support team with a domain name assigned to the web server IP address.

16.1 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](#)¹³²⁾)



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.

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.

Response Body

```
{
  "token": "eyJhbGciOiJIUzI1NiJ9.eyJYXJyaWVyX2lkIjoiaMSIsInJlbW90ZV9hZGRyIjoiaMTYzLjE3Mi4yNDkuNTUuLCJsb2dpb1I6IkFsYXJpcyIsImV4cC"
}
```

Token

Authorization through Basic is possible using the cURL:

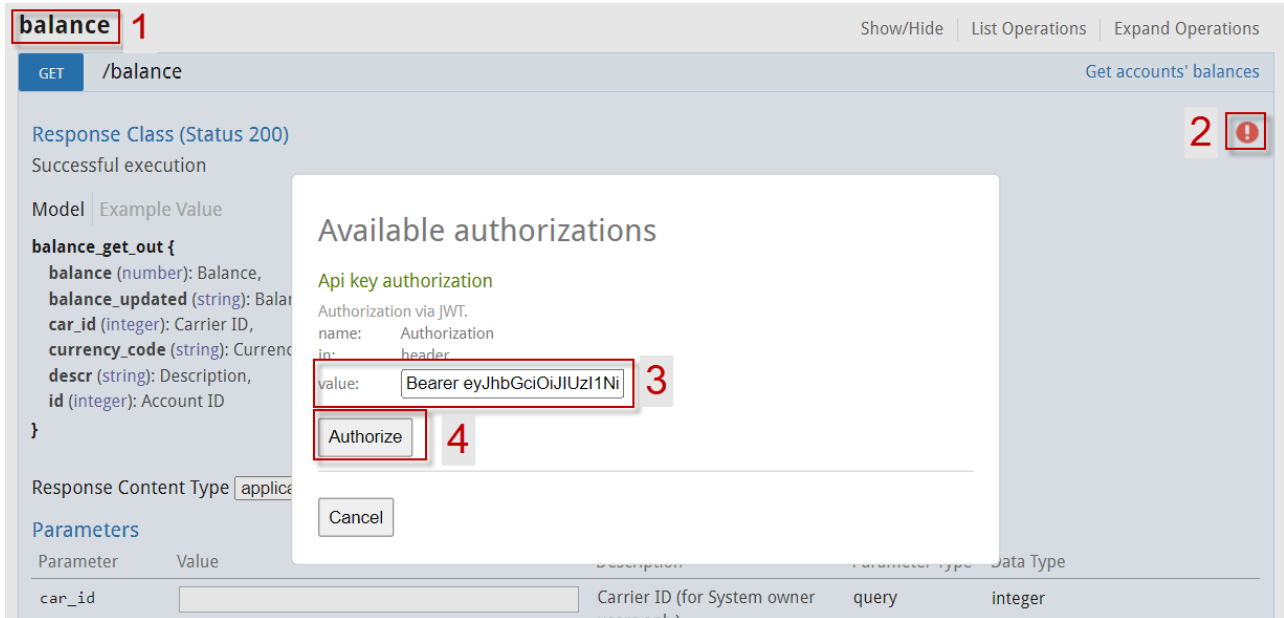
```
curl -u login:password 'https://test.api.com/rest/auth'1482)
```

```
curl -H 'Authorization: Basic <username:password encoded in base64>'
```

Once the token is received, it can be used in methods, for example:

```
curl -H 'Authorization: Bearer token' 'https://test.api.com/rest/482/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. All REST API methods can be launched using basic authorization. Note that some methods (example is **GET:info**) do not require authorization.

16.2 Summary of REST API and permissions

Methods	Method description	Is VPD restricted	List of permissions
GET:balance	Retrieve the account balance	+	-
GET:voice_poi	Get list of voice POIs	+	Carriers
POST:voice_poi	Create a new voice POI	+	Voice POI edit
PUT:voice_poi	Update a voice POI	+	Voice POI edit
DELETE:voice_poi	Delete a voice POI	-	Voice POI edit
GET:voice_rate	Get list of voice rates	+	Rates

POST:voice_rate	Add a new voice rate	+	Rate editor
GET:invoice	Get list of invoices	+	-
PUT:invoice	Update an invoice	+	Generate client invoice, Confirm client invoice, Register vendor invoice, Confirm vendor invoice
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:voice_usage_stats	Shows daily statistics (voice daily/financial cubes)	+	-
GET:voice_destination_stats	Shows daily statistics (voice daily/analytical hourly cubes)	+	-
GET:voice_usage_summary	Shows summary of voice daily statistics (financial cubes)	+	-
GET:voice_traffic_summary	Shows daily statistics (voice daily/analytical hourly cubes)	-	-

16.3 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):

user		Show/Hide List Operations Expand Operations
GET	/user	Get user list
POST	/user	Add new user
DELETE	/user/{id}	Delete specific
GET	/user/{id}	Get specific user
PUT	/user/{id}	Update specific user

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):

user_password		Show/Hide List Operations Expand Operations
PUT	/user_password	Change user password

user_role		Show/Hide List Operations Expand Operations
-----------	--	---

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 **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](#)¹³²[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.

16.4 Examples of using REST methods

Let's examine how to use these 4 method types for the object 'payment':

payment		Show/Hide	List Operations	Expand Operations
GET	/payment			Get payment list
POST	/payment			Create new payment
DELETE	/payment/{id}			Delete specific payment
GET	/payment/{id}			Get specific payment
PUT	/payment/{id}			Update payment

Object 'payment'

16.4.1 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 eyJhbGciOiJIUzI1Ni'
'https://test.api.com/rest/payment'

```

16.4.2 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'
```

16.4.3 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 eyJhbGciOiJI' -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>'
```

16.4.4 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'
```

16.5 Alaris REST methods

16.5.1 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.

16.5.1.1 voice_poi

To list all available voice POIs, the method **GET:voice_poi** can be used. Note that the *Carriers* permission must be granted. **VPD restricted**.

product_id can be specified as an optional filter - note that if there are no POIs assigned to the product ID or the product itself does not exist, an empty response will be returned.

The successful response will be as follows:

```
[{
  "id": 141305,
  "product_id": 11682,
  "start_date": "2017.08.01 00:00:00",
  "end_date": "2100.08.14 00:00:00",
  "capacity": 100,
  "gw_ip": "3.3.3.34",
  "gw_mask": 32,
  "trunk_code": "58016",
  "switch_id": 10001,
  "port": 1521,
  "trans_rule_car": "123",
  "trans_rule_sys": "456",
  "excl_from_routing": 0,
  "rest_world": 1
}]
```

The same works for **GET:voice_poi{id}** where the obligatory parameter is the voice POI ID.

Corresponding cURL examples are:

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJjYXJyaWVyaX2lkljoiMS' 'https://test.api.com/rest/voice_poi?product_id=11682'491
```

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9' 'https://test.api.com/rest/voice_poi/141305'491
```

Creation of a new POI (**POST:voice_poi**) requires having the *Voice POI edit* permission - and the following mandatory fields must be specified in the body - *product_id*, *start_date*, *end_date*, and either both *gw_ip* and *gw_mask* or both *switch_id* and *trunk_code* must be set:

```
{
```

```
"product_id": 11682,  
"start_date": "2010.01.01",  
"end_date": "2011.01.01",  
"gw_ip": "30.30.30.30",  
"gw_mask": "32"  
}
```

where

start_date/end_date: start and end dates of the POI in the default format. If *start_date* is past the *end_date* (or vice versa) or the format is incorrect, the message will be shown: { "error_message": "Incorrect dates" };

gw_ip: POI IP - if the format is incorrect, the following message will be shown: { "error_message": "Wrong ip 300.300.300.300 specified" };

gw_mask: POI mask - must be specified in the range 1-32, otherwise the warning will be shown;

switch_id: ID of the *Switch* - if non-existent ID is set, the error will be given. The list of IDs can be found using **GET:voice_switch** method which requires *Soft switch editor* permission to be granted.

trunk_code: POI *Trunk group*;

capacity: POI capacity - available if a Sansay switch is selected;

called_pattern: POI tech prefix;

cps_limit: POI CPS limit - available if a Sansay switch is selected;

excl_from_routing: is *Block incoming traffic* (for client side) or *Exclude from routing enabled* (0 - no, 1 - yes);

port: must be set within the range 0-65535 otherwise an error appears;

proto: Protocol (1 - SIP, 2 - H.323);

rest_world: is *Rest of the world* enabled (0 - no, 1 - yes);

trans_rule_car: *Carrier-specific number translation* - up to 256 symbols are allowed;

trans_rule_sys: *System-specific number translation* - up to 256 symbols are allowed.

A POI of the same direction as the product will be created: { "id": "142754" }

Note that it is not allowed to create a POI with the same pair of either IP address+tech prefix or Switch+Trunk ID as an existing POI with an overlapping POI period.

VPD restricted.

cURL example is:

Update of a POI (**PUT:voice poi**) requires having the permission *Voice POI edit* granted. **VPD restricted.**


```

"product_id": 11543,
"dial_code": "6691709",
"start_date": "2017.02.28 21:00:00",
"end_date": "2099.12.31 21:00:00",
"bill_inc": "0/1/1",
"timemask": "Rate1: Mo-Fr 9:00-19:00 Rate2: Mo 0:00-1:00; Sa 1:00-24:00; Su 0:00-24:00 Rate3: Mo
1:00-9:00; Mo-Fr 19:00-24:00; Tu-Fr 0:00-9:00; Sa 0:00-1:00",
"cscd": "Thailand Mobile True Move",
"rate1": 0.03074,
"rate2": 0.02996,
"rate3": 0.03074,
"conn_fee": 0
}}

```

where

id: unique rate ID;

cscd: carrier destination (not present if not specified);

timemask: peak/offpeak/weekend price schedule;

It's possible to set up to 6 different prices:

rate1,rate2,rate3 - peak/off-peak/weekend price (for International products); DID/TFN price for DID products

rate2/rate4/rate5 - S(intrastate)/SS(interstate)/IND(indeterminate) for US domestic products with *Use LATA-based rates* checkbox disabled.

cURL example is:

```

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGc'
'https://test.api.com/rest/voice_rate'

```

The mandatory permission to use **POST:voice_rate** (to create a new rate) is *Rate editor*. **VPD restricted**.

NOTE: The method is hidden from REST API, however it can be called from a third-party software, such as Postman.

The obligatory body parameters are *bill_inc*, *dial_code*, *start_date/end_date*, *product_id*, *timemask*. *bill_inc* must be set to one of the existing billing increments in the System (*Reference books\Billing increments*); *dial_code* can be set to any code (even if the code doesn't exist in *Reference books\Dial codes*); *start_date* must be less than *end_date* - both dates must be in the default format.

```

{
"bill_inc": "0/1/1",
"dial_code": 123,

```

```
"start_date": "2019.01.01",
"end_date": "2019.02.01",
"product_id": 14566,
"timemask": "Flat",
"rate1": 0.1
}
```

Additionally it is possible to set *conn_fee* (connection fee - positive integer), *cscd* (carrier destination), *notes* (rate notes) - and up to 6 prices.

The successful response is:

```
{
  "deleted_count": "0",
  "extended_count": "0",
  "inserted_count": "0",
  "rows_affected": "1"
}
```

where

deleted_count: number of deleted rows;

extended_count: number of rows for which the rate period was extended;

inserted_count: number of new rows;

rows_affected: number of rows to which any change was applied.

For example, if there is *rate1* = 0.5 for period 2019.01.01 00:00:00 - 2019.02.01 00:00:00 and dial code 123 in the database - and a user is posting *rate1* 0.3 for period 2019.01.01 01:00:00 - 2019.03.01 00:00:00, 1 row will be affected - as well as 1 row will be extended and 1 row will be inserted. As a result there will be 2 rows for the code:

- price 0.5 for 2019.01.01 00:00:00 - 2019.01.01 01:00:00
- price 0.3 for 2019.01.01 01:00:00 - 2019.03.01 00:00:00

cURL example is:

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header
'Authorization: Bearer eyJhbGciOiJIUg' -d '{ "bill_inc": "0/1/1", "dial_code": 123, "start_date": "2019.01.01",
"end_date": "2019.02.01", "product_id": 14566, "timemask": "Flat" }' https://test.api.com/rest/voice\_rate
```

16.5.1.3 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=745'4951'
```

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.

16.5.1.4 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 eyJhbGciOi'
'https://test.api.com/rest/payment'
```

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'
```

16.5.2 Voice statistics

16.5.2.1 voice_usage_stats

The method returns voice statistics based on financial cubes that are grouped by days.

Note that the method returns statistics based on the permissions granted from *View/edit permissions* section ([Administration\Users](#)^[132]). E.g., if a user is granted with the *View and edit objects of own contract companies* permission, the result will be shown only if the product indicated in the *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 only statistics belonging to their carriers.

The obligatory parameters are *start_date*, *end_date* and *product_id*. If a 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).

The parameter *filter* (case-insensitive) serves to show only those records which are suitable for the filter based on either destination, type or region. For example, if the response body contains *Canada*, *Proper*, *USA*, *ALABAMA*, *PROPER* and *USA*, *Mobile* and the *filter* is set as

- *proper* - records for *Canada*, *Proper* and *USA*, *ALABAMA*, *PROPER* will be shown
- *usa*- results for *USA*, *ALABAMA*, *PROPER* and *USA*, *Mobile* will be shown
- *obi* - results for *USA*, *Mobile* will be shown

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: the 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)

orderby_clause: list of column numbers separated by commas

Response body will be as follows:

```
[{
  "dcheck": "2019.06.04 00:00:00",
  "country": "Spain",
  "destination": "Spain, proper",
  "attempts": 58596,
  "calls": 45567,
  "volume": 113944.8,
  "cost": 227889.57,
  "is_total": 0
},
.....
{
  "dcheck": "2019.07.26 00:00:00",
```



```

"country": "MegaTest",
"destination": "MegaTest, proper",
"attempts": 11721,
"calls": 0,
"volume": 0,
"cost": 0,
"is_total": 0
},
{
  "country": "Total",
  "destination": "Total",
  "attempts": 263060,
  "calls": 195839,
  "volume": 490908.7,
  "cost": 95626.68,
  "is_total": 1
}]

```

where

dcheck: specific day;

cost: cost in the account currency;

is_total: set to 0 if the data is for a specific day, set to 1 if returns *Total* result for the specified period.

cURL example is:

```

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci'
'https://test.api.com/rest/voice_usage_stats?
end_date=2019.10.09&filter=proper&product_id=14723&start_date=2018.10.09'

```

A similar method is **GET:voice_destination_stats** - the main difference is that the method is based on the analytical hourly cubes. cURL example is:

```

curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci'
'https://test.api.com/rest/voice_destination_stats?
end_date=2019.10.10&product_id=14723&start_date=2019.10.09'

```

16.5.2.2 voice_usage_summary

To get voice statistics summary by date is possible through **VPD restricted** method **GET:voice_usage_summary**.

The obligatory parameters are *start_date*, *end_date* (including the specified day) and *product_id* - note that if the product ID is not correct or the product does not belong to the user, the response will contain a

corresponding warning. If *end_date* is set is less than the *start_date*, an empty result will be returned - and if there are no financial stats for the specified period, all fields in the result will contain 0 as a value.

The successful response body will be as follows:

```
[{
  "dcheck": "2019.03.27 00:00:00",
  "attempts": 24,
  "calls": 6,
  "volume": 8,
  "cost": 1.31
},
{
  "dcheck": "2019.03.27 00:30:00",
  "attempts": 19,
  "calls": 3,
  "volume": 3.6,
  "cost": 0.58
},
.....
{
  "dcheck": "2019.03.28 23:30:00",
  "attempts": 16,
  "calls": 5,
  "volume": 3.6,
  "cost": 0.58
}]
```

where *dcheck* is the cube's date, *cost* - cost in the partner account's currency

Note that the summary will be separated by time fractions based on the System parameter *Allowed time-zone fraction types* - for the example provided above the setting is specified as 30 - so statistics are given for each half an hour.

cURL example is:

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.e'
'https://test.api.com/rest/voice_usage_summary?
end_date=2019.07.11&product_id=10130&start_date=2019.07.09'
```

A similar method is **GET:voice_traffic_summary** - the main difference is that the method is based on the analytical hourly cubes. cURL example is:

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci'  
'https://test.api.com/rest/voice_traffic_summary?  
end_date=2019.10.10&product_id=14723&start_date=2019.10.09'
```

17 Appendix 4. Supported voice switches

The System supports the following voice softswitches:

- Asterisk
- Cataleya
- Dialogic
- FreeSWITCH
- MVTs-Pro
- Sansay
- Sonus

To implement support of a new switch, provide its API to the technical support team.

18 Appendix 5. Routing: best practices

This document contains guidelines for building an optimum routing scheme.

18.1 How can a routing scheme optimized?

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); 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. All rules (*Test*, *Regular*, *Block* types) in the DEFAULT context are checked in accordance with their priority (from highest to lowest)
2. If switching to a different context takes place, rules in that context are checked according to their priority (in case of the same priority the rule with a greater ID is checked first) irrespective of the type
3. If no suitable routes are found and the last checked rule does not have the 'Next: Huntstop' option, rules from the FINAL context are checked (FINAL context is a final one for voice routing and switch to the context takes place unconditionally - it means there is no need in creation of an additional 'switching' rule)

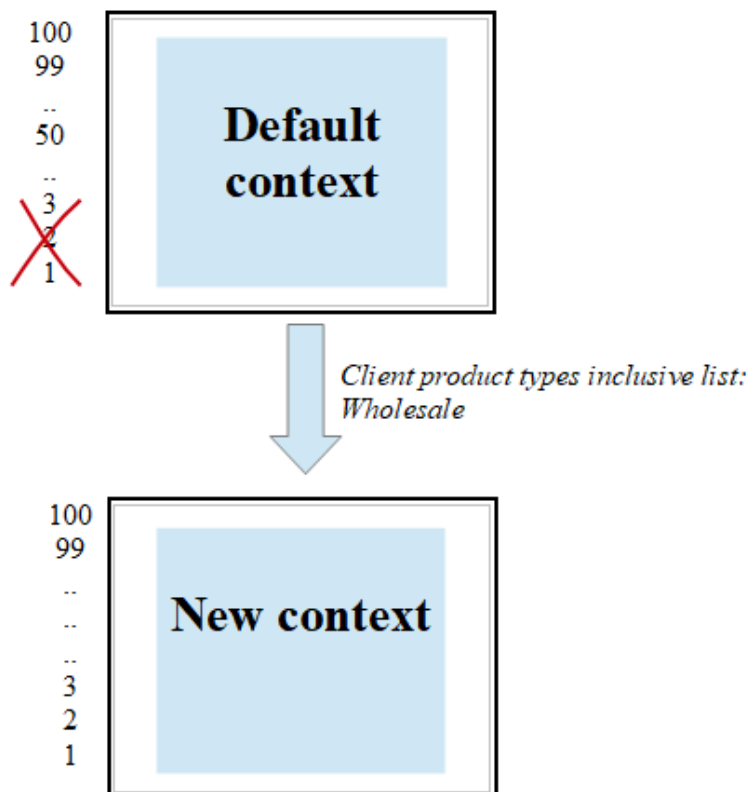
When the number of routing rules (within the same context) in the System is over 300-500, it is advisable to reduce it (since the routing module can be overloaded). This can be done by restructuring the routing scheme: allocating rules based on their common filters into dedicated contexts. This way, 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*.

There is also an additional FINAL context that is checked if no routes are found and the last checked rule does not have 'Next: Huntstop' option.

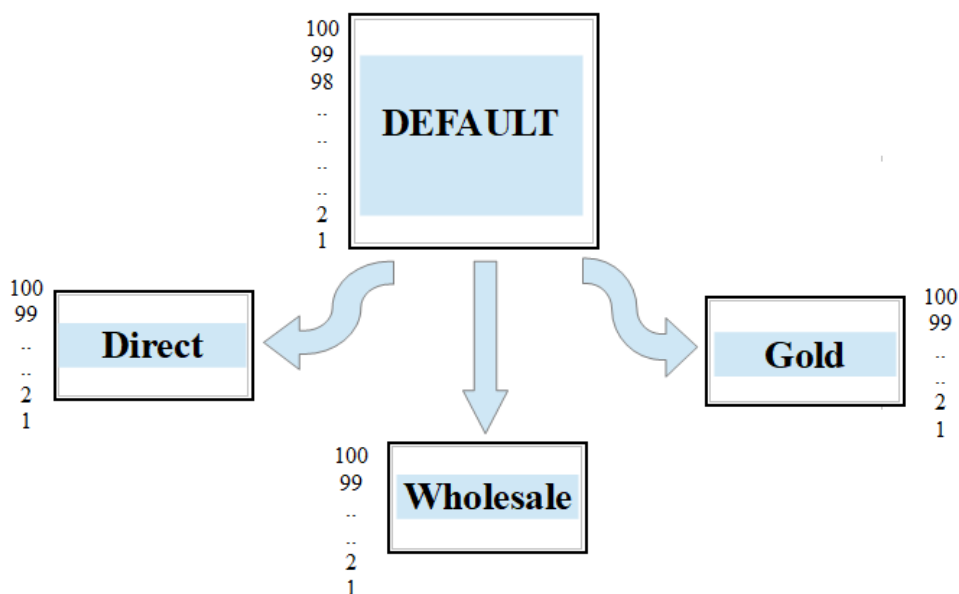
Once the System switches to a user context (happens by *Next: Switch to context* action), rules from DEFAULT and other contexts are not checked (if there is no additional switch) - thus the number of steps required to get a route list is reduced.



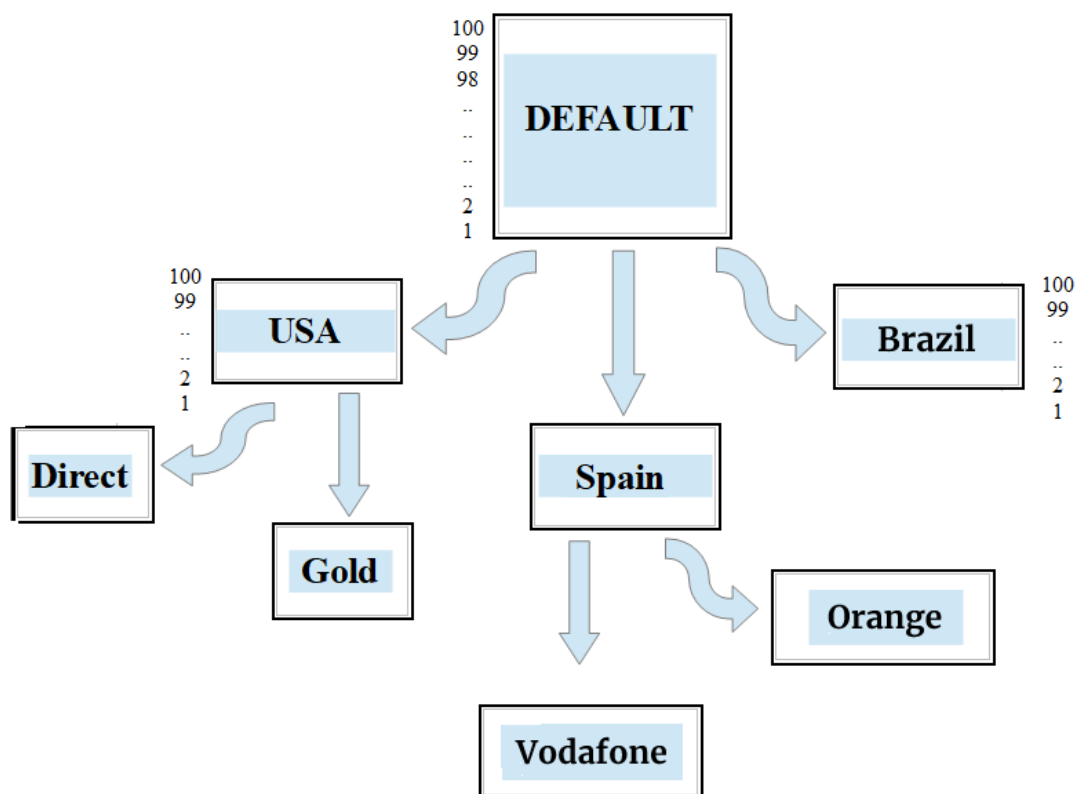
Concepts of rule distribution

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*. 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 and/or by product types as illustrated below:



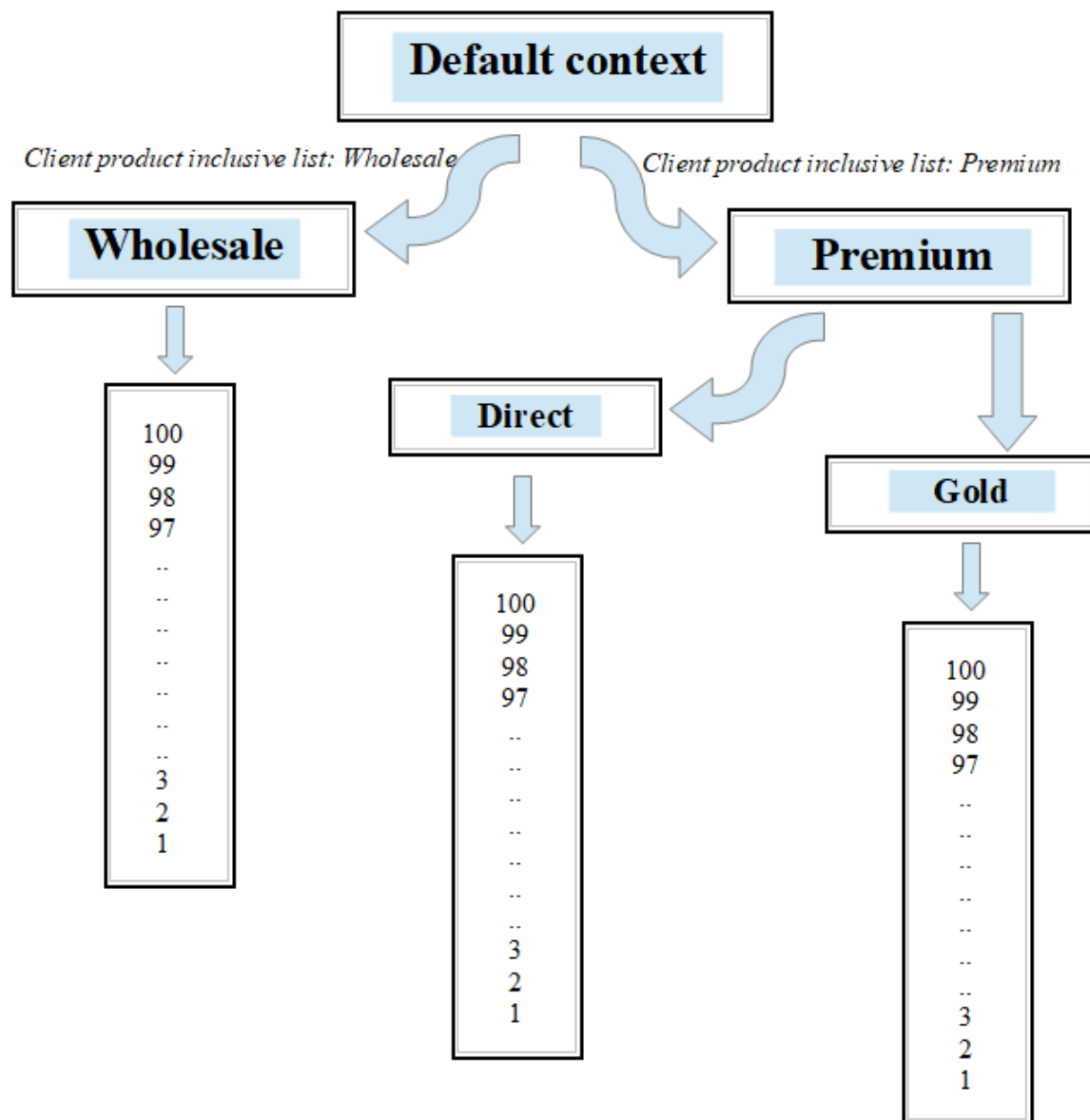
Example of rule distribution by context (for initial configuration)

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 *Destinations* 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

Destinations exclusive list: Kazakhstan, proper, proper

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).

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

Destinations inclusive list: Spain, proper, proper

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

Next: Switch to context

Next context: Spain Wholesale

Rule comments: Rule for switching traffic to Spain (Orange network) for Wholesale client products

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).

18.2 Common issues

No proper structure/poor optimization

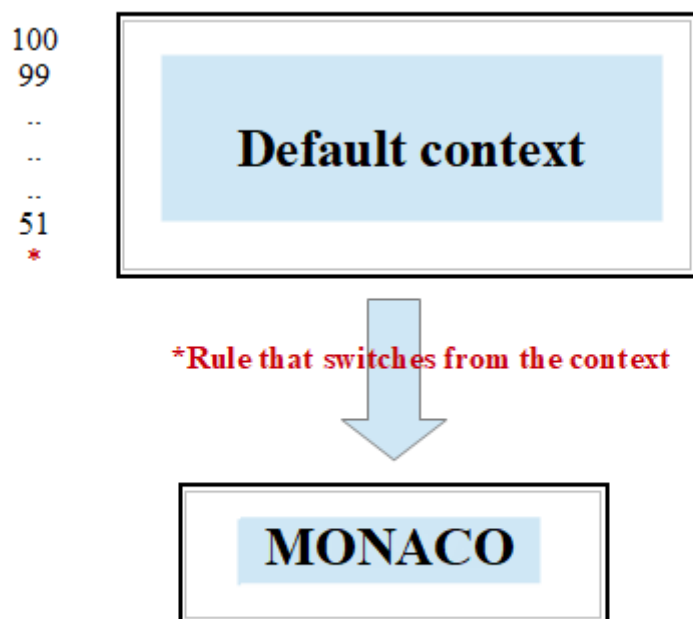
In case the rules (or their most part - at least 80% of them) are in the same context (e.g., in the DEFAULT) routing module checks them one by one according to their priority. This can result in poor performance of the routing module causing rejections in case of peak traffic volumes.

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).

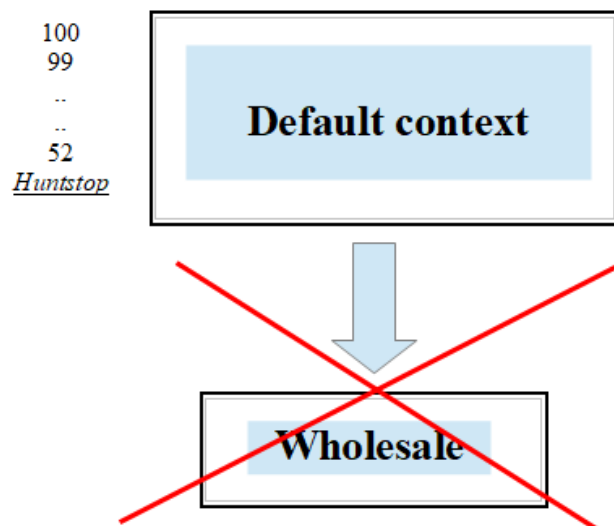


Creating excess rules

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:

