

Alaris inVoice

User's Guide

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This document is intended to provide a detailed description of installation, operation and maintenance of the Alaris inVoice product (later in this document referred to as "the System"). It gives information about the structure of the product, interaction of the modules it consists of, the way it integrates into a carrier's network and the protocols used to interact with third-party products.

Table of Contents

1 Terms and Acronyms	9
2 System overview	11
2.1 System architecture	11
2.2 Statistics calculation	12
3 Interface structure	14
4 Administration	19
4.1 Account manager history	19
4.2 Custom parameter types	20
4.3 Data import	21
4.4 Email processing rules	23
4.5 Outgoing email accounts	27
4.6 Report schedule	29
4.7 Service notifications	33
4.8 System jobs	35
4.9 System settings	35
4.9.1 Active calls	36
4.9.2 Common	36
4.9.3 DID inventory.....	44
4.9.4 Data import.....	45
4.9.5 General data protection regulation.....	45
4.9.6 Financial module	46
4.9.7 Partner portal.....	51
4.9.8 Rate module.....	54
4.9.9 Replication.....	57
4.9.10 Routing module.....	57
4.9.11 Sansay	59
4.9.12 Security	59
4.9.13 Statistics module.....	60
4.9.14 Telegram	65
4.9.15 Trading tools.....	66
4.10 Template manager	66
4.10.1 Markers	69
4.11 Trace analyzer	82
5 Carriers	84
5.1 Carriers	84

5.2 Users	87
5.3 Accounts	93
5.4 Agreements	95
5.5 Products	103
5.6 Voice POI	108
6 Finance	114
6.1 Charges	114
6.2 Invoices	118
6.2.1 How it works.....	118
6.2.2 Invoices table.....	119
6.2.3 Invoice mapping.....	121
6.2.4 Editing invoices	122
6.3 Payments	126
6.3.1 Payments table.....	126
6.3.2 Payment mapping.....	128
6.3.3 Interface controls	129
6.4 Recurring fees	132
7 Reference books	135
7.1 Bank accounts	135
7.2 Tags	135
7.3 Tag import	137
7.4 Contract companies	139
7.4.1 Contract companies tab.....	140
7.4.2 Agreements defaults tab.....	143
7.4.3 Payment systems tab.....	143
7.5 Currency exchange rates	145
7.6 Product types	147
7.7 Countries and regions	148
7.7.1 Company region.....	148
7.7.2 Countries.....	149
7.7.3 Country groups.....	149
7.8 Units	151
8 Reports	152
8.1 Reports page overview	152
8.2 Analytical cube status (Administration)	155
8.3 Auto rate import change log (Administration)	156
8.4 CDR file status (Administration)	158
8.5 Change logs (Administration)	160
8.6 REST API changes (Administration)	160
8.7 System log (Administration)	161

8.8 System tasks (Administration)	162
8.9 User logon history (Administration)	163
8.10 Successful disconnect codes (Reference)	163
8.11 Voice Volume/ASR/ACD monitoring (Alert)	165
8.12 Negative margin (Stats)	166
8.13 Invoice generation delay (Finance, Voice)	167
8.14 Change rate on active destination (Rates)	168
8.15 Import statistics (Stats)	169
8.16 Reject traffic vendor Voice (Stats)	170
8.17 Report builder: creating a customized report	172
9 Voice	174
9.1 Active calls	174
9.2 Analytics	176
9.3 CDR management	183
9.3.1 CDR export tool.....	183
9.3.2 CDR reconciliation.....	188
9.3.3 CDR Rerating.....	193
9.3.3.1 Manual rerating	193
9.3.3.2 Autorerating	195
9.4 Rates	197
9.4.1 Auto rate import.....	197
9.4.2 Rate analysis.....	201
9.4.2.1 Analysis form	201
9.4.2.2 Analysis result	204
9.4.3 Rate editor.....	207
9.4.3.1 Rate groups	207
9.4.3.2 Rates	209
9.4.4 Rate export.....	216
9.4.4.1 Export	217
9.4.4.2 Column settings	221
9.4.5 Rate import (old).....	224
9.4.5.1 Rate import page overview	225
9.4.5.2 File upload	227
9.4.5.3 Import settings menu.....	227
9.4.5.4 Rate sheet parsing.....	228
9.4.5.5 Output of parsing information.....	233
9.4.5.6 Parsing of US Domestic ratesheets.....	236
9.4.6 Rate import.....	238
9.4.6.1 Rate import page overview	239
9.4.6.2 File upload	241
9.4.6.3 Import settings menu.....	242
9.4.6.4 Rate sheet parsing and import.....	243

9.4.6.5	Parsing of US Domestic ratesheets.....	250
9.4.7	Rate plan creation	252
9.4.7.1	Cost rules	252
9.4.7.2	Markup setup	257
9.4.7.3	Rate compilation	258
9.5	Reference books	264
9.5.1	Billing increments.....	264
9.5.2	Dial codes	265
9.5.3	Pending dial codes	268
9.5.4	Soft switch editor	269
9.6	Routing	271
9.6.1	Routing procedure description.....	271
9.6.2	Routing rules	271
9.6.3	Routing types.....	271
9.6.4	Routing interface.....	272
9.6.5	Blended routing.....	272
9.6.5.1	Blended routing usage example.....	279
9.6.6	Macro variables.....	283
9.6.7	Routing rules page	284
9.6.7.1	Statistical parameters in routing.....	296
9.6.8	Use of contexts	299
9.6.9	Routing configuration algorithm.....	300
9.6.10	Simulation.....	302
9.6.11	ANI translation.....	305
9.6.12	Limitation rules.....	308
9.7	Volume-based deals	312
10	Swap deals	316
11	DID management	322
11.1	Numbers	322
11.2	Billing scheme	324
11.3	History	325
11.4	Import	325
12	Wholesale portal	328
12.1	Overview	328
12.2	Invoices	331
12.3	Payments	331
12.4	VoIP Stats	332
12.5	VoIP rates	333
12.6	VoIP POIs	334
12.7	CDRs	335

13 Appendix 1. Formulas and conditions in routing	336
13.1 Operators	336
13.2 Routing metrics	338
13.2.1 Common metrics.....	338
13.2.2 Client product statistics.....	340
13.2.3 Client dial code statistics.....	341
13.2.4 Client POI statistics	343
13.2.5 Client POI code statistics	344
13.2.6 Vendor product statistics.....	345
13.2.7 Vendor dial code statistics.....	346
13.2.8 Vendor POI statistics	347
13.2.9 Vendor POI code statistics	348
13.2.10 Rule statistics.....	349
13.2.11 Rule code statistics.....	350
13.2.12 Client product destination statistics	351
13.2.13 Vendor product destination statistics	352
13.3 How to use (field 'Condition' in 'Routing Rules')	353
13.4 How to use (field 'Formula' in 'Routing Rules')	355
14 Appendix 2. User permissions	357
14.1 Active calls	357
14.2 Administration	358
14.3 Analytics	360
14.4 Carriers	362
14.5 CDR management	363
14.6 Partner portal	363
14.7 Delete file records	364
14.8 DID management	364
14.9 Edit rates/routing permissions	364
14.10 Finance	366
14.11 View/edit permissions	367
14.12 Post monitoring data	368
14.13 Rates	368
14.14 Reference	369
14.15 Reference	369
14.16 Reports	370
14.17 Routing	371
14.18 Show start page metrics	372
14.19 Translations	372
14.20 View swap deals	372
14.21 Volume-based deals	372
14.22 Examples	372

15 Appendix 3. REST API methods	374
15.1 REST API authorization and main information	374
15.2 Summary of REST API and permissions	375
15.3 REST methods	377
15.4 Examples of using REST methods	379
15.4.1 GET:carrier.....	380
15.4.2 POST:carrier.....	382
15.4.3 PUT:carrier.....	385
15.4.4 DELETE:carrier.....	386
15.5 Alaris REST methods	387
15.5.1 Main objects.....	387
15.5.1.1 carrier	387
15.5.1.2 account	387
15.5.1.3 agreement	390
15.5.1.4 product	394
15.5.1.5 voice_poi	398
15.5.1.6 voice_rate	401
15.5.1.7 voice_rule	403
15.5.1.8 invoice	409
15.5.1.9 payment	411
15.5.2 Voice statistics.....	413
15.5.2.1 voice_usage_stats.....	413
15.5.2.2 voice_usage_summary	415

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: $(\text{Answers} + \text{User Busy} + \text{Ring No Answer} + \text{Terminal Rejects}) / \text{Total call attempts (seizures)}$
NPA	Numbering Plan Area

Terms and Acronyms

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 is 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 detail 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](#).

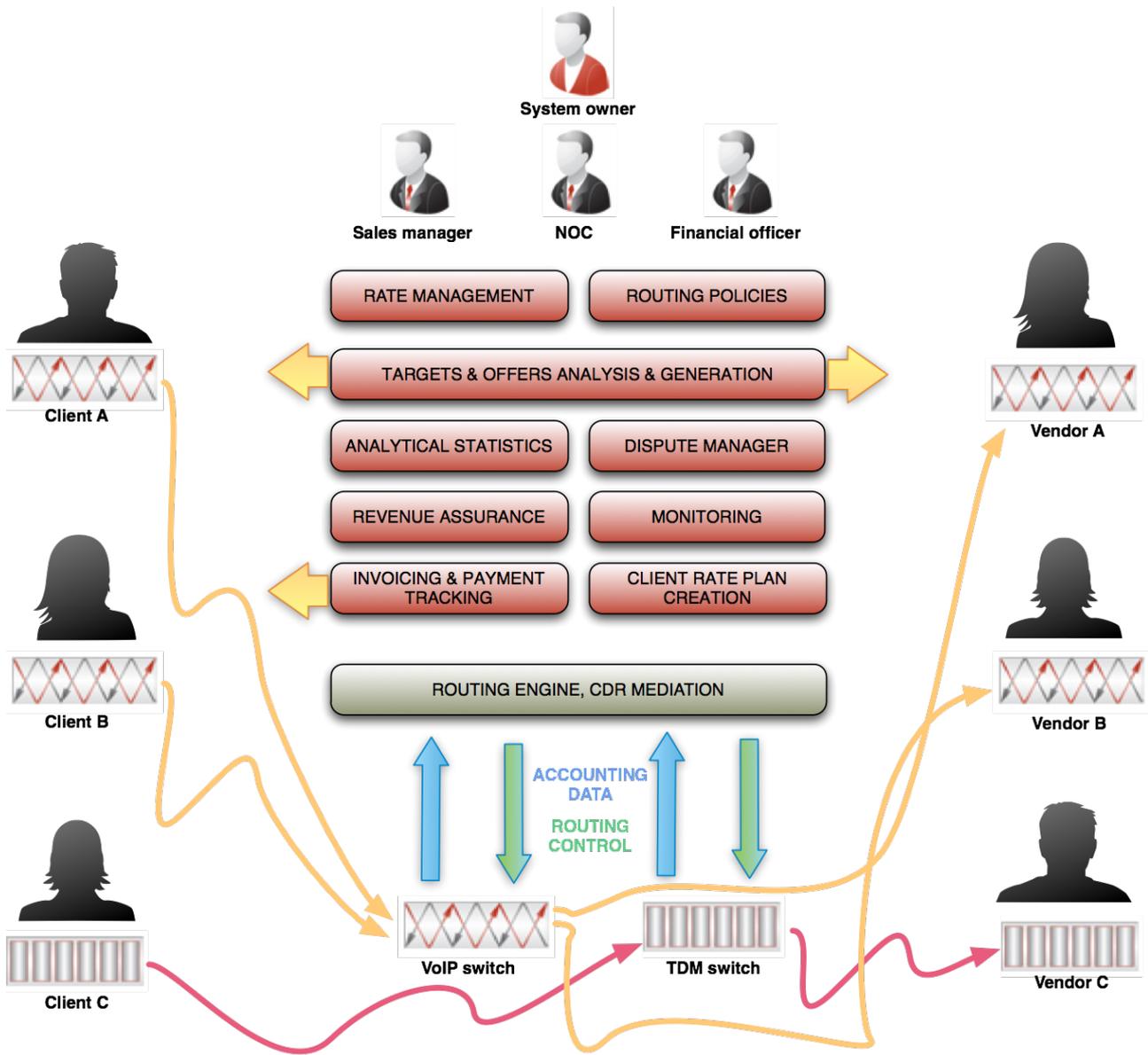
This chapter provides a detailed description of the System architecture both in terms of software modules that comprise the delivery package and the logical object structure. It also gives information about the way it interacts with third-party products, such as VoIP and TDM switches.

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).

System overview

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 (e.g. 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 (e.g. 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](#)^[60]).

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](#)^[60]. 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.

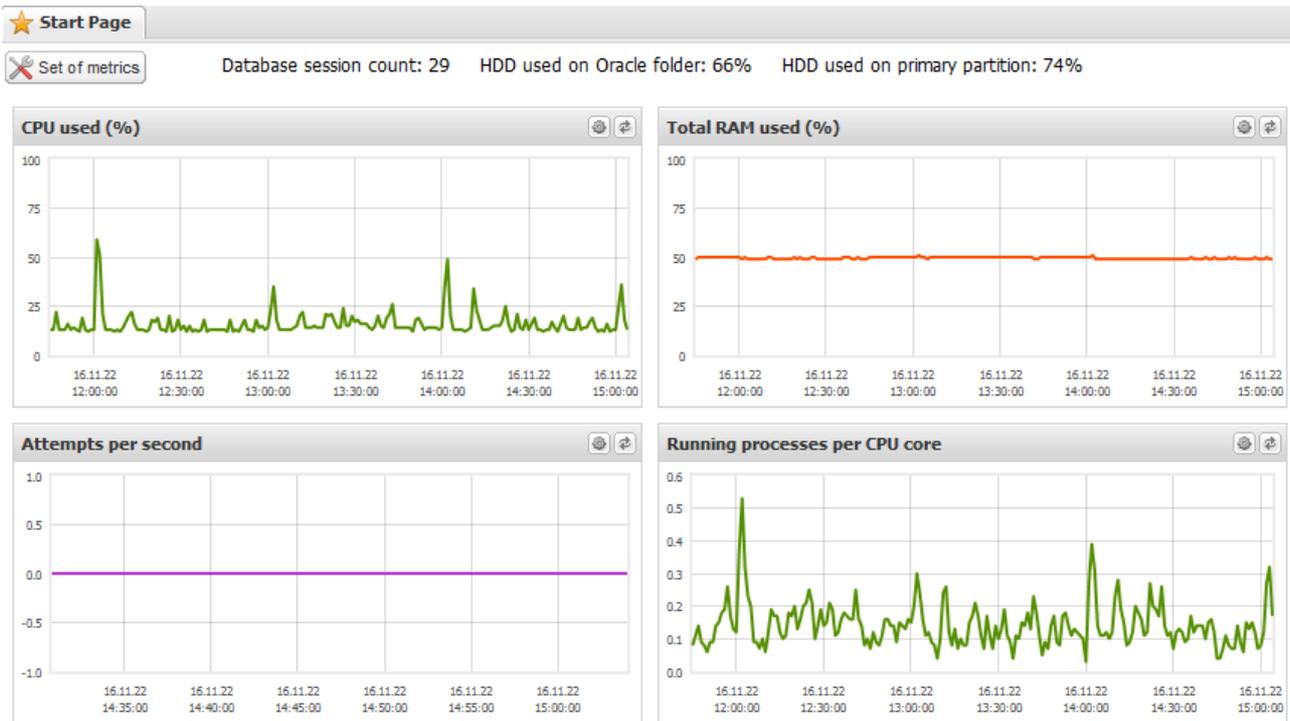
To minimize delays in stats preparation, calculation of each cube type is done in a separate thread. Nevertheless, stats calculation is not an immediate process, so there often are queues of cubes waiting to be (re)calculated. The density of new/changed CDRs (new/changed CDRs per time unit) defines the 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.

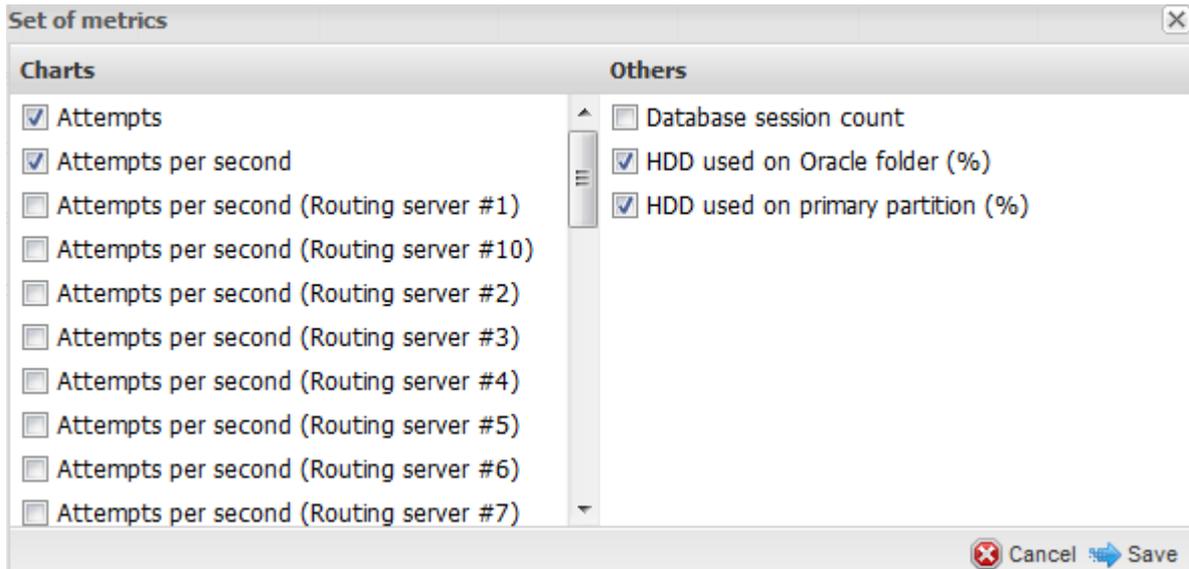


Start page

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* menu opened with the  **Set of metrics** button, located in the top left corner of the *Start* page. Select the appropriate checkboxes and click  **Save**.



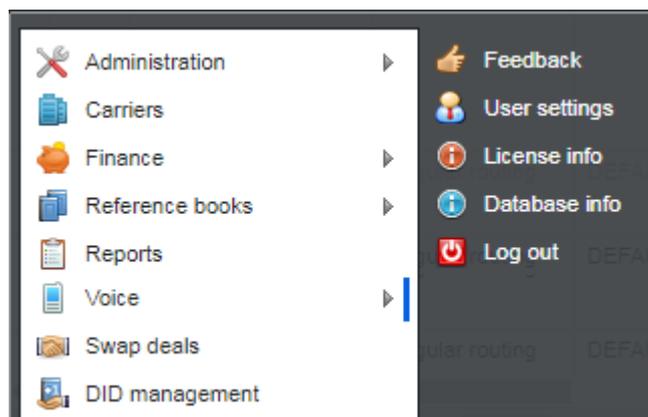
Set of metrics

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 [Carriers\Users](#)^[87] page.

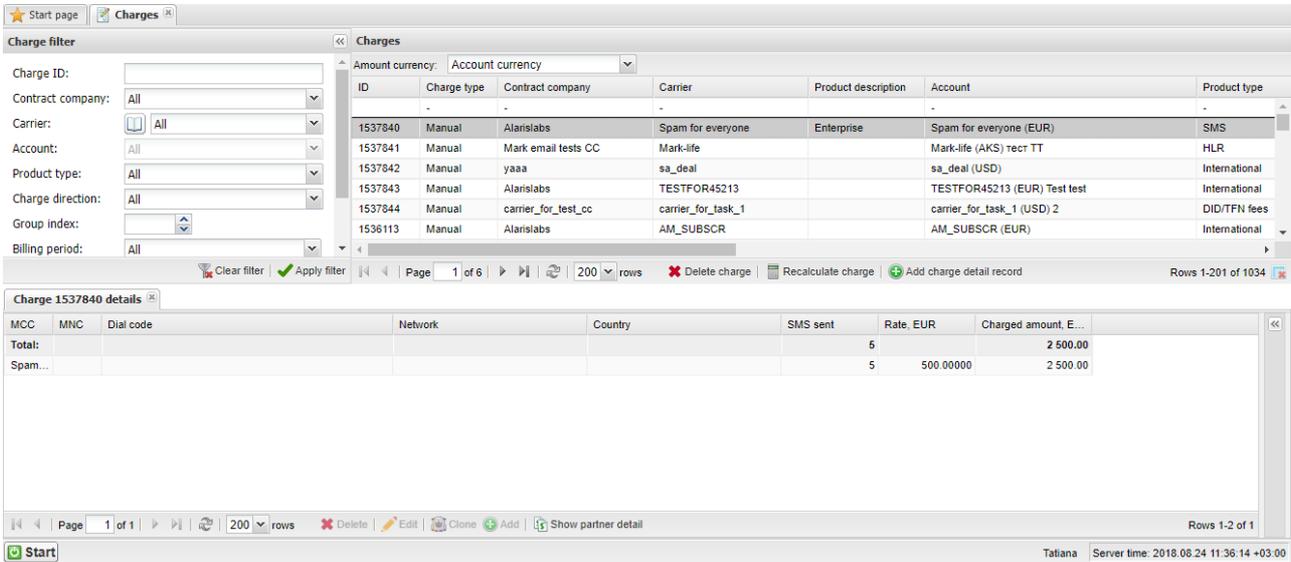
The menu includes the following items:

- Administration
- Carriers
- Finance
- Reference books
- Reports
- Voice
- Swap deals
- DID management



Start menu

A typical page is illustrated below.



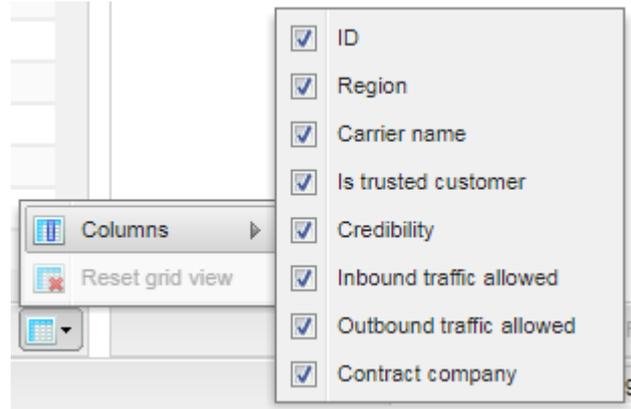
A typical page view (Finance\Charges)

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

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

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

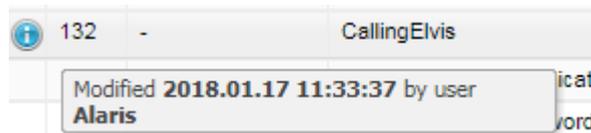
Most pages that show tables (for example, [Carriers](#)^[84], [Voice\Volume-based deals](#)^[312], and many others) contain the button that serves to unload the table to MS Excel format. Most tables also contain the button that serves to customize the current view by selecting columns to be displayed. The figure below illustrates selection of columns for the [Carriers\Carriers](#)^[84] page.



Defining the columns to be displayed

Table records in the [Carriers](#) [84] and [Voice/Routing/Routing rules](#) [27] 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.

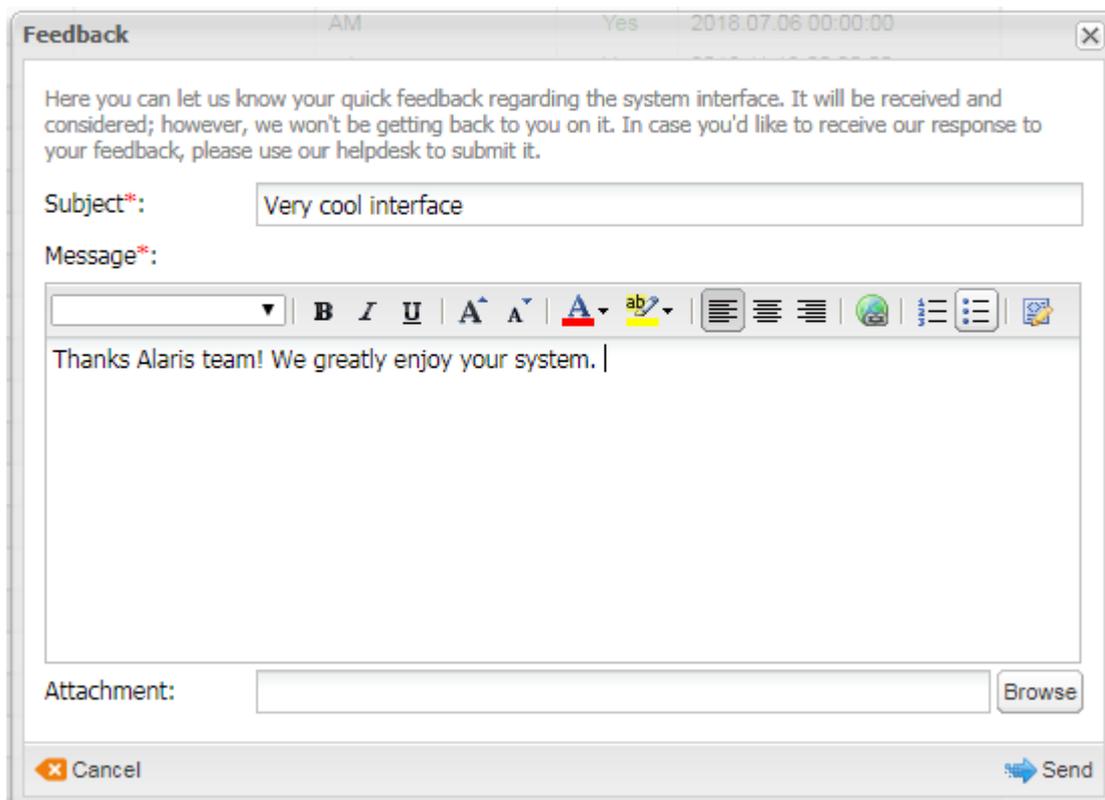
Objects that were not modified since creation have the grey icon .



Object modification history

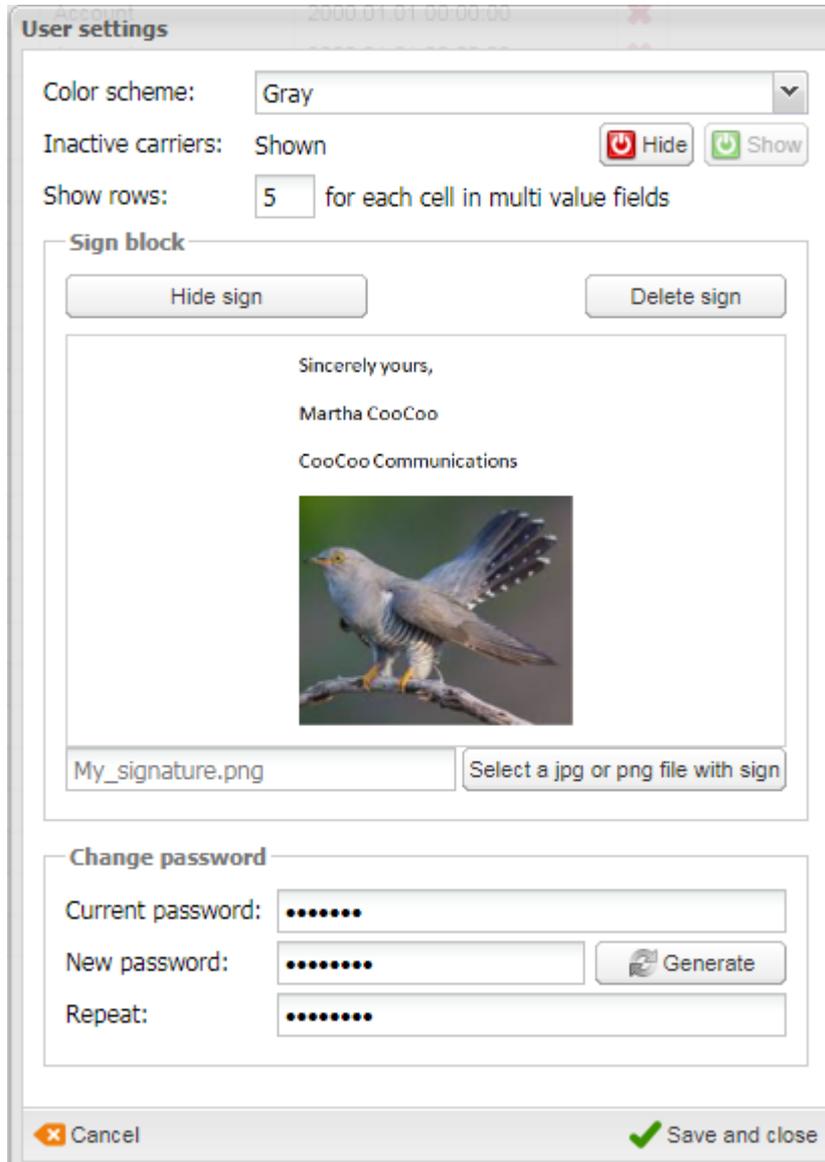
The **Feedback** menu opens the dialog that allows sending feedback regarding the interface. Use this form to tell us how we can improve the System.

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



Feedback

The **User settings** dialog allows changing the user password, hiding inactive carriers and changing the color scheme of the interface. 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 detail on templates and markers, refer to [Administration\Template manager](#)^[66]).



User settings

4 Administration

4.1 Account manager history

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

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

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

Account manager history

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

Assign manager

Account*: PocoDinero Enterprises, EUR (1) ▼

Manager*: admin Administrator (admin) ▼

Account manager type*: Billing ▼

Effective from*: 2019.10.10

Cancel

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.

4.2 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 the *Carriers* section: *Carriers*, *Users*, *Accounts*, *Agreements*, and *Products*.

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

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

 Add
 Edit

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

Entity*:

Parameter name*:

Field parameters

Field type:

Default value:

Required field

Minimum value:

Minimum value:

Field width:

Compiled JSON:

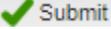
```
{"xtype":"numberfield"}
```

Add menu

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*
 - *Date*
 - *Date & Time*
- *Default value*:
 - *Required field*: select the checkbox to make the field required
 - *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)

Click  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.

4.3 Data import

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

The *Administration\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*, *Region*, *Type*. The Region column can be empty)
- *Countries*: list of countries supported by the System
- *Destination types*: mobile, proper etc.

Data import

Table*:
 ▼

Clear table before load

Note:
 Since dial codes reference book must be the most detailed list of dial codes in the system, the import logics will add dial codes for a given country that are not found in the imported list, but present in the rates table and will assign 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

CSV file*:

Separator*:
 ▼

File has column headers

 Import

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.
-

Administration

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:

lata	position(1:5)	char(5)
status	position(26:26)	char(1)
eff_date	position(27:32)	char(6)
npa	position(33:35)	char(3)
nxx	position(36:38)	char(3)
block_id	position(39:39)	char(1)
ocn	position(62:65)	char(4)
loc_state	position(78:79)	char(2)

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.

Task ID	Job created	Table	Clear table befo...	Status	Details	User name
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

4.4 Email processing rules

Check out the video tutorial on email processing rules at the [Alaris YouTube channel](#).

The *Administration\Email processing rules* page serves to configure rules for recognition of incoming emails that contain rate sheet files. The System analyzes the email parameters (address, subject, text, attachment

Administration

name etc.), identifies it as containing rate sheets and automatically imports the rate sheet file (based on auto rate import rules configured at [Voice\Rates\Auto rate import](#)^[197]).

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 [Carriers\Users](#)^[87]. Find out more about the feature in the [Alaris YouTube video](#).

The page has three tabs: *Email rules*, *Letters* and *Files*. The *Email rules* tab has two panels: the list of rules on the left and the *Add*, *Edit* and *Simulation* tabs on the right. The bottom of the *Email rules* tab contains the  button at the bottom that serves to export the rules table to a MS Excel file.

Email rules				
Letters				
Files				
ID	Mail masks	File name mask	Carrier	
	<input type="text"/>	Text mask	All	
10004	Mail from: *@coocoo.com Mail to: *@al.com Mail subject: *LCR* Mail text: *A-Z*	*rate*	Boring Enterprises	
10005	Mail from: *mo@alarislabs.com* Mail to: *rates@alarislabs.com* Mail subject: *Wholesale*		Ogorodnikov_Test	
10000	Mail from: *@nomoney.com Mail to: *@al.com Mail subject: *Premium* Mail text: *Premium*	*rate*	Barbie Dahl	

Email rules

The *Add* menu is illustrated below.

 Add
 Edit
 Simulation

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

Add menu

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 * as a wildcard) – at least one of the mask fields must be configured

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 "_").

- *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

Administration

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

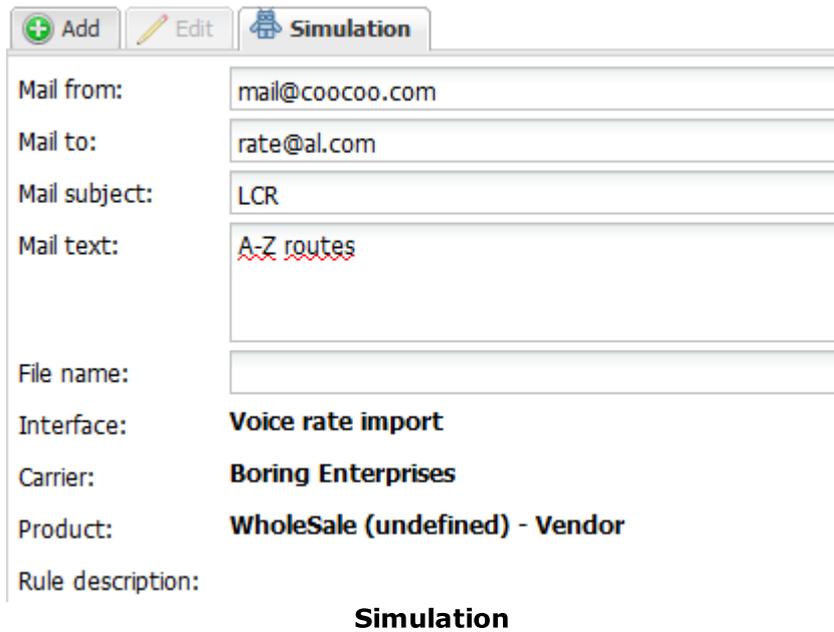
NOTE: Both *Rule enabled* and *Test rule* must be selected to enable simulation.

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

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

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

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



The screenshot shows a web interface with three tabs: '+ Add', 'Edit', and 'Simulation'. The 'Simulation' tab is active. Below the tabs are several input fields and labels:

- Mail from: mail@coocoo.com
- Mail to: rate@al.com
- Mail subject: LCR
- Mail text: A-Z routes
- File name: (empty field)
- Interface: **Voice rate import**
- Carrier: **Boring Enterprises**
- Product: **WholeSale (undefined) - Vendor**
- Rule description: (empty field)

At the bottom of the form, the word **Simulation** is displayed in bold.

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* menu 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).

Administration

ID	Delivered	Sender	Subject	Recipient	Source
2 047	2019.02.01 17:32:48	ac@ac11.ru	test3	vasia.loh@inbox.ru	download
2 045	2019.02.01 17:31:38	ac@ac11.ru	Test2	vasia.loh@inbox.ru	download
2 046	2019.02.01 17:30:21	ac@ac11.ru	Rate Update	vasia.loh@inbox.ru	download
2 044	2019.02.01 17:29:44	ac@ac11.ru	test	vasia.loh@inbox.ru	download
2 048	2019.02.01 16:48:32	ac@ac11.ru	Rate Update	vasia.loh@inbox.ru	download
2 043	2019.02.01 16:38:14	ac@ac11.ru	Auto Import	vasia.loh@inbox.ru	download
2 049	2019.02.01 16:36:35	ac@ac11.ru	Rate Update	vasia.loh@inbox.ru	download

Page 1 of 1 | 200 rows | Delete

Sender: **ac@ac11.ru**

Subject: **Test2**

Recipient: **vasia.loh@inbox.ru**

Attachments:

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.

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.

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

Select file	Carrier	Product	File name	Date	Message text	
<input type="checkbox"/>	Interface	All	All			
<input type="checkbox"/>	Voice rate import	AC_Client	Voice (USD) - Client	Voice_Rate_Voice_04.xlsx	201	<p>Dear Partner,</p> <p>See attached rate update from Deel.</p> <p>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.</p> <p>Prefix is 11#</p> <p>Please confirm the receipt.</p>
<input type="checkbox"/>	Voice rate import	ALARIS TEST	CLI (USD) - Client	A2_Wholesale_1_updated.xls	201	
<input type="checkbox"/>	Voice rate import	ALARIS TEST	CLI (USD) - Client	Sample Rate Sheet - A.xls	201	
<input type="checkbox"/>	Voice rate import	Empresa Quebrada Pte.	Gold (EUR) - Client	Rate sheet soVIP.xlsx	201	
<input type="checkbox"/>	Voice rate import	AC_Client	Voice (USD) - Client	CPL_VOICION-D_WHG-201843-36489.xls	201	
<input type="checkbox"/>	Voice rate import	Ahn Wee	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
<input type="checkbox"/>	Voice rate import	AC_Client	Voice (USD) - Client	16.05.2018stip_full.xls	201	
<input checked="" type="checkbox"/>	Voice rate import	Barbie Dahl	Premium (USD) - Client	Voice_Rate_04.xlsx	201	
<input type="checkbox"/>	Voice rate import	ALARIS TEST	CLI (USD) - Client	Sample Rate Sheet - A.xls	201	
<input type="checkbox"/>	Voice rate import	Boring Enterprises	WholeSale (USD) - Vendor	2-page_test.xls	201	
<input type="checkbox"/>	Voice rate import	Boring Enterprises	WholeSale (USD) - Vendor	rate_import_vendor_price_list - premium.xls	201	
<input type="checkbox"/>	Voice rate import	WholeSale (USD) - Vendor	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
<input type="checkbox"/>	Voice rate import	Cheapsy King	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
<input type="checkbox"/>	Voice rate import	Beer Construction	CLI (USD) - Vendor	A2_rates.xls	201	
<input type="checkbox"/>	Voice rate import	Bed Wetter	WholeSale (USD) - Vendor	Rate sheet soVIP.xlsx	201	
<input type="checkbox"/>	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.

4.5 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* menus.

Server type	Accounts	Server IP	Port	EHLO cmd	Use starttls
Default	PocoDinero Enterprises, E...	127.0.0.2	25		No
Default		127.0.0.1	25		No

Outgoing email accounts table

The *Add* menu is illustrated below.

Add
 Edit

Accounts:

Server type*:

Server IP*:

Port*:

EHLO cmd:

Use starttls

Username:

Password:

Sender address*:

From name:

Contract company:

Edit list

All accounts

Technical

127.0.0.3

25

Use starttls

support

.....

support@supercash.com

Supercash Technical Suppoer

Alarislabs Demo 3.4

Add menu

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](#)^[33])
 - *Reports*: reports generated by the *Report builder*
 - *Partner portal*: messages related to the [Wholesale portal](#)^[328]

Administration

- *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*

Click  to save the changes. The entry will appear in the *Outgoing email accounts* table. To check if the account configurations are correct, click  at the bottom of the page. The System will try to connect to the mail server. The result will appear in a dialog box.

4.6 Report schedule

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

The *Administration\Report schedule* page allows generation of a schedule for reports that are 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 page has two panels. The left panel is a table of configured schedules; the right panel has the *Add* and *Edit* menus.

ID	Description	Report	Mail to (TO)	Mail copy (CC)	Mail hidden cop..
	Text mask	All	Text mask	Text mask	Text mask
1	Rate Export Schedule	Rate Export			
2	Rate export	Rate view (Reference)			

Table of configured schedules

Suppose the user needs to generate and send a report on rates to recipients on the 1st of every month at 8:00.

Description*:

Report*:

SQL code:

```
1 select
2   p.product_id as "product_id|n",
3   "*" as "dial_code",
4   "p$mailto"
5   from bas_product_v p
6   left join
7   (
8     select distinct
9       a.acc_car_id,
10      agr_default_rate_change_email as "p$mai:
11   from has_agreement p
12
```

Schedule: Enable schedule

Cron format:

Explain:
Run at 00 minute;
at 08 Hour;
at 01 Day;
at 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

Add menu

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

- *Description*: name of the schedule
- *Report*: select the appropriate report from the list

- *SQL code*: SQL query that will return a table of the report parameters for each recipient

NOTE: The query must contain all the binds used in the report (their bind names should be used as column names) and 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.

- *Schedule*: select the checkbox to configure the report schedule. It can be set in the cron format or using the standard controls. For example, the figure above illustrates a report that is generated at 8-00 on the first day of every month

Mail to (TO):

Mail copy (CC):

Mail hidden copy (BCC):

Attached file type:

Add menu (continued)

- *Mail to (TO), Mail copy (CC), Mail hidden copy (BCC)*: specify the email addresses to which all the reports will be sent
- *Attached file type*

Click  **Submit** to save the changes. The entry will appear in the table of configured schedules.

 Add
 Edit

Description*:

Report*:

Contract company:

SQL code:

```

1 select
2     p.product_id as "p_product_id|n",
3     to_char(sysdate, 'yyyy.mm.dd hh24:mi:ss'
4     "p$mailto"
5 from bas_product_v p
6 left join
7 (
8     select distinct
9     a.acc_car_id,
10    'not@alarislabs.com' /*agr_default_rat
11    from bas agreement e
12
```

Schedule: Enable schedule

Report fields:

Field type	Name	Bind name
All SMS products	Product	p_product_id
Date	Actual date	p_act_date

Edit menu

The *Edit* menu additionally contains the following elements and controls:

- *Report fields*: the table shows the binds that are used in the report. This table serves as reference that helps the user create the SQL code.

-  **Test report** : serves to verify the SQL code as well as its consistency with the report.

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)*
- 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 and set the schedule to 8:00 on the 1st of every month as illustrated above.

- Configure the email fields as appropriate
- Click  **Submit** to save the changes

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:

Administration

MAILTO P_PRODUCT_IDP_DIALCODE

info@abc.com 2311 *

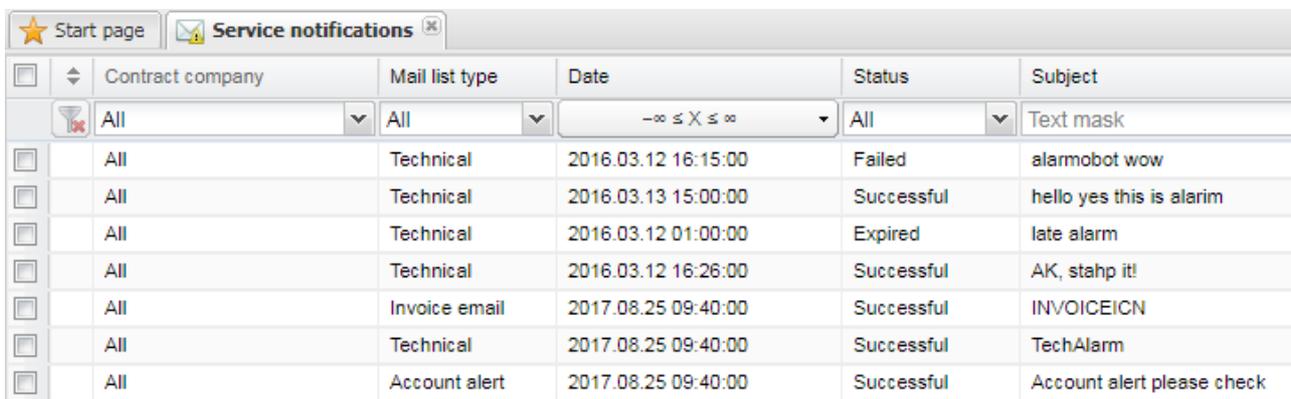
info@ddde.net 2312 *

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)*.

4.7 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 [Carriers\Agreements](#)^[95] (the *Default technical emails* parameter).

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



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

Service notifications table

The *Add* tab is illustrated below.

 Add
 Edit

Contract company*:

Mail list type*:

Outgoing mail server:

Date*:

Subject*:

Text*:








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*
 - *Account alert*
 - *Rate change notification*
 - *Invoice email*
- *Outgoing mail server*: mail server configured in [Administration\Outgoing email accounts](#)
- *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 to save the changes.

4.8 System jobs

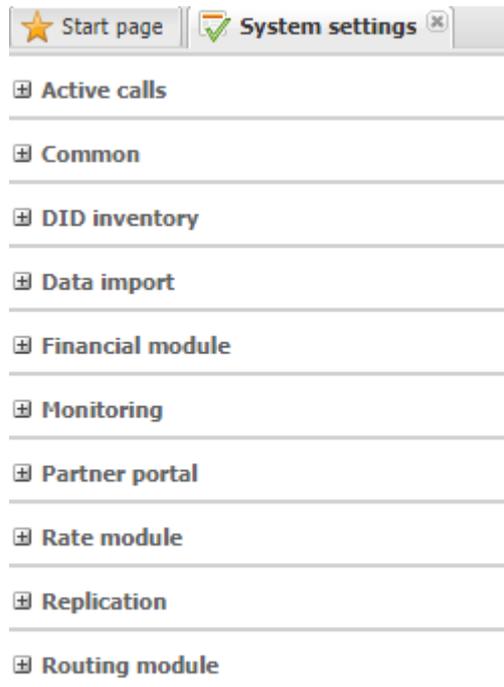
The *Administration\System jobs* page contains general information about standard processes running in the database. The page is intended for the Alaris support team.

Job name	Comments	Repeat interval	State	Last start date
BAS_APPLY_PENDING_DC_JOB	This job applies pending dial codes	freq=hourly;byminute=0;bysecond=1	SCHEDULED	2019.08.22 10:00:0...
BAS_CHECK_EXPIRE_PASSWORD	This procedure check expire password for user account.	freq=daily;byhour=0;byminute=10	SCHEDULED	2019.08.22 00:10:4...
BAS_CUR_UPDATE	This job updates currency rates	freq=hourly;byminute=1;bysecond=0	SCHEDULED	2019.08.22 10:01:0...
BAS_ETC_REF_SCO_CARR	This procedure refresh scoring carriers	freq=hourly;byminute=1;bysecond=0	SCHEDULED	2019.08.22 10:01:0...
BAS_IMP_DISP	Auto import job dispatcher	freq=minutely;bysecond=50	SCHEDULED	2019.08.22 10:10:5...
BAS_SEND_NOTIFICATIONS	This job sends scheduled notifications	freq=hourly;byminute=0,10,20,30,40...	SCHEDULED	2019.08.22 10:10:4...
BAS_WIPE_PERSONAL_DATA	This job wipes personal data by EU GDPR law	freq=daily;byhour=2;byminute=30	SCHEDULED	2019.08.22 02:30:4...
DOC_SEND_MESSAGES	This send email messages to users	freq=hourly;byminute=1;bysecond=20	SCHEDULED	2019.08.22 10:01:2...
FIN_CHECK_CREDIT_USAGE	This procedure checks credit limit usage and send appropriate alerts	freq=hourly;byminute=1,6,11,16,21,2...	SCHEDULED	2019.08.22 10:11:0...
FIN_HOURLY_ROUTINES	This job performs financial hourly routines	freq=hourly;byminute=25;bysecond=0	SCHEDULED	2019.08.22 09:25:0...

System jobs

4.9 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

4.9.1 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](#)^[174]:

- *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](#)^[174]
- *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

4.9.2 Common

Common

Add report info to file header (0 - no, 1 - yes). By default - 1	1
Allowed ORA error codes for report execution	ORA-08103,ORA
Allowed time-zone fraction types (times 15, 30 or 60 minu...)	60
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	2020.12.01 00:00:00
Block traffic exceeding license (1 - yes, 0 - no)	0
Build number	3.5.17-30397
Critical threshold for running processes per core	10
Currency update source (possible values - ECB, LCB, BN...)	ECB
Current DB version	3.5.17
Current user ID	11094

Common settings

- *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-06512. 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 four times in a row (note that the value cannot be changed), the *Is recurrent* (*Reports* interface) checkbox or *Enable schedule* checkbox ([Administration\Report schedule](#)^[29] interface) is disabled. The interval in which a report is be re-sent 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. Also the parameter affects *Export to Excel/Export to CSV* buttons - if a report cannot be generated and exported, the task will automatically restart. See also the [Alaris YouTube video](#)

- *Allowed time-zone fraction types (times 15, 30 or 60 minutes)*: used in cases when partners have time zones with irregular time offsets. For example, to include the Iran timezone (UTC + 3.5) set this parameter to 30, so that the statistics and invoicing are calculated correctly. Note that the parameter change will affect only new data - to apply it to the old data recalculation of financial cubes is required (performed by the Alaris technical support team).

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

- *Automatic notification expiry period (hours)*: fractional values are allowed; in case tasks created in service notifications interface have date of schedule earlier than current time - the parameter value, they will be considered expired and will not be sent. for example, if the current date and time is 01/01/2019 10:40 and the parameter is set to 3.5, all notifications created with date earlier than 01/01/2019 07:10 will have status: *expired* (once the system job `bas_send_notifications` is executed), otherwise the status will be *scheduled*
- *Balance notifier url pattern*: the link the System uses to send balance check notifications, for example: https://some_url?acc_id=%acc_id%&dcheck=%dcheck%&amount=%amount%, where:
 - *some_url* is a URL to the external service
 - *acc_id* - account ID
 - *dcheck* - time of balance change
 - *amount* - balance amount
- *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](#)¹³⁵ 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)

Administration

- *Currency update source* (possible values - ECB, LCB, BNR, NBU, NBRB, null - disabled) - the bank that provides the currency update. Possible values are:
 - ECB - [European Central Bank](#)
 - LCB - [Lithuania Central Bank](#)
 - BNR - [National Bank of Romania](#)
 - NBU - [National Bank of Ukraine](#)
 - NBRB - [National Bank of the Republic of Belarus](#)
- *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. (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](#)^[66]) - 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\Rates\Rate export\Column settings](#)^[22] >> *Date format*)
- *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 for periods used in the financial module (for example, for markers [InvoicePeriodInWords], [InvoiceSysPeriodInWords] etc)
- *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\Rates\Rate export\Column settings](#)^[22] >> *Date time format*)

- *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
- *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. In case of low server capacity the recommended value is 1. The parameter also regulates performance of the DID 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
- *Default System language*: default System language for new users (can be changed in the login window next to the *Enter* button).
- *Download directory*: directory (default value is */var/www/html/invoice/files/*) to which the database exports generated files (invoices, simulation logs, export tasks, rates). The parameter can be edited by the Alaris technical support team. Note that the web file server hostname is defined in the *Web-server hostname/IP* parameter
- *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 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 System will not return any message. In this way, a potential intruder that attempts to reset a password will not be able to check if a user exists in the System. Additionally the *Start\Database info* menu will be hidden. See also the [Alaris YouTube](#) video

- *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 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](#)^[66]), *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)
- *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](#)
- *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
- *List of forbidden characters for names:* list of characters that are not allowed in the main System web interface, Wholesale portal in the fields *Company name* ([Carriers](#)^[84] interface), *First name*, *Middle name*, *Last name* and *Position* (the [Carriers\Users](#)^[87] interface). The default value is <>V'""
- *Log store period, days:* the period to store the logs of different components (*Carriers*, *Products* and routing rules)

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 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 duration of report tasks (min)*: maximum duration of the report execution process. If the value is exceeded, the task is aborted. The default value is 60
- *Max numbers 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 500000
- *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 percent 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
- *Password expiry date*: password expiry date of the current user (can be also checked in [Carriers\Users](#)  *>> Expiry date*)
- *Period between report execution attempts in case of ORA errors (in min.)*: serves to set the timeout between report run and send attempts after receiving an error specified in the parameter *Allowed ORA error codes for report execution*. Note that the time is increased exponentially - for example, if set to 3, an attempt to resend the report will occur in 3 (3^1), 9 (3^2), 27 (3^3) minutes (in case every previous attempt fails)
- *Rate change log, days*: storage period for the rate change logs in the System
- *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](#)^[23] >> *Files*) are stored to be shown in the System
- *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
- *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 blind copy*: allowed values are 0 (do not send the notifications as BCC) and 1 (send the notifications as BCC). If set to 0, rate change notifications will be sent to addresses as specified in *Default rate change emails* ([Carriers\Agreements](#)^[95] interface) as CC, otherwise - as BCC. 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 CC or BBC 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. It also serves as the default value in some interfaces - for example, *In/Out time zone* parameters ([Carriers\Agreements](#)^[95] 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 [Voice\Reference books\Soft switch editor](#)^[269] interface. Additionally, the *Sansay POI nodes* section becomes available in the [Carriers\Voice POI](#)^[108] interface
- *Show start page watermark*: possible values are 0 (do not show the watermark) and 1 (show the watermark) on the *Start* page. To change the parameter, contact your account manager
- *System currency code*: code of the System currency, also shown in [Reference books\Currency exchange rates](#)^[145]. 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](#)^[145]
- *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 not be changed
- *System date/time format*: information field to show which date format (with 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 not be changed

Administration

- *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
- *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
- *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

4.9.3 DID inventory

☰ DID inventory

Batch format	YYYY-MM-DD HH24:MM:SS
Default aging period (days)	30
Last DID checkpoint	2018.04.01 00:25:46
List of products to check margin in the routing	null
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 ([DID management](#)³²²). Markers can be used as well - for example, `YYYY-MM-DD HH24:MM: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
- *Last DID checkpoint*: date of the last DID checkpoint (serves for generation of charges)
- *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 ([DID management](#)³²² 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*, 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)

4.9.4 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](#)^[224] or [Finance\Payments](#)^[126]) to which the System sends files received for rate import/payments if no rules are found for the email in [Administration\Email processing rules](#)^[23]. 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](#)^[23] and [Voice\Rates\Auto rate import](#)^[197] 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

4.9.5 General data protection regulation

☰ General Data Protection Regulation

Wipe personal data after, days of inactivity	0
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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](#)^[95] 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 [Carriers\Users](#)^[87] 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

4.9.6 Financial module

Financial module

Balance alarm threshold #1	100
Balance alarm threshold #2	50
Balance alarm threshold #3	20
Balance alarm threshold #4	0
Balance alarm threshold #5	null
Balance status reset threshold	10
Calculate charge detail amount as volume * rate (0 - no, 1 - ...)	0
Charge detail rounding digits (client leg)	2
Charge detail rounding digits (vendor leg)	2
Charge detail rounding function (client leg): 0 - floor, 1 - ro...	1
Charge detail rounding function (vendor leg): 0 - floor, 1 - ...	1
Credit alarm threshold #1, %	70
Credit alarm threshold #2, %	80
Credit alarm threshold #3, %	90
Credit alarm threshold #4, %	100
Credit alarm threshold #5, %	null

Financial module

- *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 for accounts with non zero credit limit* (0 - no, 1 - yes) must also be enabled to receive balance alerts. 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](#)^[95]. 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 amount as volume * 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. For example, suppose dial code 7910 has two calls with duration 79 and 71 seconds at the rate of 0.006, the agreement rounding: floor and four decimal places. As a result, the cost of the calls will be 0.0079 and 0.007

(total 0.0149) while the volume $(1.317 + 1.183 = 2.5) * \text{rate}$ will be 0.015. So, if the charge cost rounding is set to four decimal places and the parameter set to 0, the charge detail amount will be different from the product of rate and volume

- *Charge detail rounding digits (client/vendor leg)*: number of decimal places (integer value) in charge detail amount for client/vendor side correspondingly
- *Charge detail rounding function (client/vendor leg)*: defines the rounding method of the charge amount – downward (*floor*), mathematical rounding (*round*) or upward (*ceil*)
- *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\95\Agreements\95](#)) 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 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
- *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 status reset threshold*: same as *Credit status reset threshold, %*, but measured in the System currency instead of percentage
- *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 (e.g. 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\103](#) Add or Edit menu. 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
- *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](#)^[114] >> *Show partner details* >> *Compare*) and can be changed every time
- *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](#)^[139] 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 default value is *null*. The parameters are used for calculation of financial cubes in different currencies with the use of [invoice markers](#)^[69] (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 amount 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](#)^[193]) and invoice recalculation (see [Finance\Invoices\Editing invoices](#)^[122]) for the appropriate period, otherwise all amounts in the *Charges* table will be zero.

- *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). The minimum amount is 0.01. 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](#)^[139]). 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](#)^[139]) 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 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](#)^[152] interface. If set to *null*, no threshold is applied (except for *In/Out minimum invoice amount* on the agreement level). See also the [Alaris YouTube](#) video
- *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 correction type (1 - replace invoice, 2 - correct last invoice):* defines the method of sending invoice corrections. When the value is 1, the invoice is replaced and the partner receives a new version of the invoice. Note that in case the invoice has the *Sent/Delivered/Confirmed* status it will not be resent to the client. When the value is 2, the partner receives an additional credit note or new invoice
- *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](#)^[145]) 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, 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](#)^[66] >> *Invoice letter template*)
- *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](#)^[69]. A different format can be set on the contract company level ([Reference books\Contract companies](#)^[139] >> *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 (which is the date of the invoice confirmation)
- *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](#)^[69]. Additional configuration can be performed on the contract company level ([Reference books\Contract companies](#)^[139] >> *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. Note that the delay is applied to the date of the last cube change. 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)*)
- *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](#)^[95])
- [YYYYMMDD] or [YMMDD] – the invoice generation date (displayed in the *Created* column of the [Finance\Invoices](#)^[118] page)
- [PARAMX] - where X is the ID of a custom parameter defined in [Administration\Custom parameter types](#)^[20]

Additional configuration can be done on the contract company level ([Reference books\Contract companies](#)^[139] >> *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](#)^[126] for more detail on draft payments). The email addresses are set in [Carriers\Agreements](#)^[95] (*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](#)^[84] page), credit limit ([Carriers\Agreements](#)^[95]) and traffic volume stability

- *Send balance alerts for accounts with non-zero credit limit (0 - no, 1 - yes):* defines whether balance alerts must be sent to accounts having a credit limit ([Carriers\Agreements](#)^[95] >> *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](#)^[93] page
- *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 [Carriers\Users](#)^[87] 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](#)^[95]). 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 notifications of deferred payments coming due to client (1 - yes, 0 - no):* defines whether to notify partners about the expiry of draft payments (see [Finance\Payments\Payments table](#)^[126] for more detail on draft payments). The email addresses are set in [Carriers\Agreements](#)^[95] (*Default invoice emails* field)
- *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](#)^[95]. 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 document 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)
- *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

4.9.7 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 Wholesale portal user registration (1 - yes, 0 - no)*: 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 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
- *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](#)^[145]. 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](#)^[328]. 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)
- *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
- *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
- *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
- *Register external payments as drafts* - when enabled, new payments made in the [Wholesale portal](#)⁵¹ 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 Wholesale portal. Unsettled invoices are always displayed
- *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
- *Wholesale portal URL*: web address of the [Wholesale portal](#)³²⁸
- *Wholesale portal access mode (1 - read/write, 2 - read only)*: defines access permissions to the [Wholesale portal](#)³²⁸. 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

4.9.8 Rate module

☒ Rate module

Analyze implicit changes	1
Apply default effective date for the rows with the empty da...	1
Auto-import rate files archive folder (null - remove files)	/u01/app/oracle/invoice.files
Blocked rate value	999999
Effective from date for change type «same» (0 - actual, 1 ...	0
Enable auto rate import	1
Enable optimized range expanding (0 - no, 1 - yes)	0
List of recipients for rate export results	null
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)	10
Max rate to consider in rate generator	100
Max unzipped file size for rate export (mb)	99999
Max unzipped file size for rate import results (mb)	99999
Maximum rate analysis depth (days)	365
Maximum rate analysis look ahead (days)	365
Prohibit cloning to vendor products (0 - no, 1 - yes)	1
Rate block markers (comma separated)	block,blocked
Rate close markers (comma separated)	delete,deleted,close,closed
Rate export file name prefix: 0 - carrier name, 1 - compan...	0
Rate files auto-import results alert email (null - do not send)	null
Rate history months count	3
Rate inheritance mode (0 - longest match at child, 1 - glo...	0
Rate rounding precision (displaying)	5
Rate rounding precision (storing)	5
Ratesheet delivery options (1 - attachment, 2 - link)	1
Use country-based system increment list (0 - No, 1 - Yes)	1

Rate module

- *Analyze implicit changes*: applicable to the old version of Rate import ([Voice\Rates\Rate import \(old\)](#)^[224]). 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](#)^[225])
- *Auto-import rate files archive folder (null – remove files)*: the path to the archive folder for storing rate sheet files after auto import. When the field is empty, files will be removed

- *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
- *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](#)^[216]
- *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](#)^[231] but auto import rules will not be triggered and the files will be shown in the [Voice/Rates/Rate import](#)^[224] 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 790-799. If the value is 0, ten rates will be created in the System (for dial codes 790 – 799). If the value is 1, only one rate will be created (for dial code 79)
- *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](#)^[271] based on rate compilation result (if *Generate routing rules* in [Voice/Rates/Rate plan creation/Rate compilation](#)^[258] is used). The first n vendor products from *Involved vendor breakouts* 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](#)^[258]). 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](#)^[197]) - 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 7904 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 *Analysis / Choice* mode
- *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](#)^[207])
- *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 files auto-import results alert email (null - do not send)*: emails (comma-separated) for sending alerts on auto-import results of rate files (critical errors are configured in [Voice\Rates\Auto rate import](#)^[197] >> *Critical errors*)
- *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 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
- *Rate rounding precision (storing)*: the number of decimal points for rate storage in the System
- *Ratesheet delivery options (1 - attachment, 2 - link)*: defines how rate sheet files will be delivered when sent by email
- *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:
 - *Increment* column from the imported price list
 - *Destination increment* ([Voice\Rates\Rate import](#)^[224] >> *Add destination set picker*)
 - *Country increment* ([Voice\Reference books\Billing increments](#)^[264])
 - *Billing increment* - default increment control ([Voice\Rates\Rate import](#)^[224])

If set to 0, Country increment (step 3) will not be considered for definition of the increment

4.9.9 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
- *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 \(Administration\)](#)¹⁶¹. 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

4.9.10 Routing module

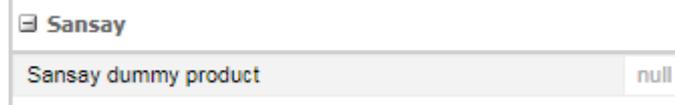
Routing module	
Call simulation router list	60.210.58.182:1730,60.210.47.182:1731
Call simulation username	invoice
Clear ACD in case ASR is lower than	10
Enable ANI translation (0 - no, 1 - per attempt, 2 - per route)	2
Hnd max routes per request	15
Loop detection timeout	6
Loop detection type (possible values: null, A, B, AB)	A
POI update script (null - disabled)	null
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](#)^[302]. 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 (e.g., a 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)
- *Enable ANI translation in System settings (0 - no, 1 - per attempt, 2 - per route)*: controls the ANI translation functionality ([Voice\Routing\ANI translation](#)^[305]). Possible values include: 0 - the feature is disabled; 1 - per attempt translation (change the *From* field in *SIP 300/302*); 2 - per route translation (add *P-Assured-Identity header* to the *Contact* field)
- *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". See also the [Alaris YouTube](#) video
- *Prohibit traffic going to products of the same carrier (0 - disabled, 1 - full block, 2 - block by product name)*: 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 allowed, if set to 1, no 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 traffic within the same partner products* on the choice level ([Voice\Routing\Routing rules](#)^[271] interface). In that case, the behavior will be the same as if the System setting were set to 0
- *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 *Russia, MTS, mobile* but the client has only one rate for dial code 7 (destination *Russia, 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 7. See also the [Alaris YouTube](#) video

4.9.11 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](#) and [Voice\Reference books\Soft switch editor](#). For more detail on configuring interconnection refer to [Carriers\Voice POI](#).



Sansay

- *Sansay dummy product*: 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

4.9.12 Security

Security	
Allow password re-use	0
Allowed login attempts after password expiry	5
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	8
Non-alphanumeric password symbols	!@#\$%^&*()-+=.,;_
Password expiry period, days	60
Password expiry reminder (days)	3
Password history period, days	90

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 ([Carriers\Users](#) >> *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
- *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 being used 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

- *Password expiry period, days:* default number of days after which the password expires. By default the *Expiry date* (`Carriers\Users\87`) 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

4.9.13 Statistics module

Statistics module	
ACD display format	null
Active CDR table hour count	480
Analytics first currency	USD
Analytics second currency	null
Analytics third currency	null
Apply billing increment to round raw duration in analytics (...)	0
Archive month count	6
Auto rerate zero-duration CDRs (0 - no, 1 - yes)	1
Auto threshold calculation (0 - no, 1 - yes)	1
Break down bulky data in Analytics into (number of parts)	24
CDR exchange folder	/u01/app/oracle/cdr.files
CDR mediation reject limit (null - unlimited)	50
CDR rerating hour	1
CDR rerating step, minute	30
CDR source (1 - from files, 2 - from softswitch DB)	1
Calculate statistics total values based on the detailed cub...	0
Charge option (connect, disconnect or setup)	disconnect
DC description mapping source (1 - DC, 2 - EXTRA)	1
Day cube partition count	62

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](#)^[183]. 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
- *Analytics first currency*: currency used in [Voice\Analytics](#)^[176] (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](#)^[145] interface
- *Analytics second, third currency*: when these two parameters are set, the [Voice\Analytics](#)^[176] 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. See also the [Alaris YouTube video](#)
- *Apply billing increment to round raw duration in analytics (1 - yes, 0 - no)*: if set to 1, *RawACD (C)* and *RawACD (V)* columns in [Voice\Analytics](#)^[176] are calculated as total duration rounded in accordance with the client/vendor billing increment correspondingly. If set to 0, the columns are calculated as client/vendor raw call duration
- *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
- *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 exchange folder* (non-editable): indicates the path to the folder for exchange of the mediated CDRs between the CDR processor and the database
- *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 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* 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
- *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
- *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
- *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
- *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 [VoiceAnalytics](#)^[176] 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](#)^[316] interface) is marked with the icon (⇌) in [VoiceAnalytics](#)^[176]
- *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
- *LRN with tech prefix (0 - no, 1 - yes)*: defines the format of the local routed number in CDRs – with or without a technical prefix
- *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

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
- *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](#)^[176] 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](#)^[176]). 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), e.g.: 10,50 (hourly cubes will be recalculated every hour on 10th and 50th minutes irrespective of the calculation threshold). In case *null* is specified, cube recalculation will happen once the *Stats calculation threshold (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
- *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^{\[95\]}](#) (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^{\[95\]}](#) (otherwise the System parameter is not applied)
- *Short call length, seconds*: Call duration threshold. Any call with a smaller duration is considered short. Stats for such calls is shown as *Short calls* on the [Voice\Analytics^{\[176\]}](#) page
- *Stats calculation delay, minutes (day/hour/min/month/week)*: the delays configured for each time increment (minute, hour, day, week, and month) 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)
- *Stats calculation threshold (CDR/day, CDR/hour, CDR/min, CDR/month, CDR/week)*: number of CDRs per day/hour/minute/month 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
- *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](#)^[265]). This allows displaying more accurate information in the *Calling country* layer in [VoiceAnalytics](#)^[176]. 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 [VoiceAnalytics](#)^[176] (to apply a change to cubes for a past period, their recalculation is required). Suppose traffic passed to 7910* through a client rate for dial code 79. If the parameter is set to 0, the call will be shown under *Client: Dial code* as 79. Otherwise (provided that there is a record for 7910 in the *Dial codes* reference book), the call will be shown under the code 7910
- *Very short call length, seconds*: call duration threshold. Any call with a smaller duration is considered very short. Stats for such calls is shown as *Very short calls, %* on the [VoiceAnalytics](#)^[176] 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

4.9.14 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, SO...	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](#)^[65] 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.

4.9.15 Trading tools

The section contains parameters related to [Voice\Routing\Blended routing](#)^[272] and [Swap deals](#)^[316].

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 is 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 is 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. See also the [Alaris YouTube video](#)
- 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

4.10 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	
	All	All	All			
	Balance alert letter (html)	All	All	-	-	-
	Balance alert letter (html)	Alarislabs Dem...	Belly Acres (USD)	-	-	-
	Blended routing rule change letter (html)	All	All	-	-	-
	Blended routing rule deactivation letter (html)	All	All	-	-	-
	CDR Rerating results letter (html)	All	All	-	-	-
	CDR export letter (html)	All	All	-	-	-
	Credit alert letter (html)	All	All	-	-	-
	Credit note (xls , pdf)	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*: *US Domestic* or *International* (for voice) or *SMS*
- *Comments*: arbitrary notes
- *Last updated*: the date of the template latest update

The button  in the first column activates the *Change template* menu on the right. The button  deletes the record. The *Change template* menu 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 *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*

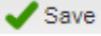
Administration

- *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*
- *Template file*: select a file to upload

Change template

Template type*:	<input type="text" value="Rate export"/>
Contract company:	<input type="text" value="All"/>
Accounts:	<input type="text" value="Selected: 1"/>
Products:	<input type="text" value="Selected: All"/>
File name mask:	<input type="text" value="tessss-[CompanyRegisteredName]"/>
Template file:	<input type="text"/> <input type="button" value="Browse"/>
Select a new file to update the current template	
Comments:	<input type="text"/>

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* menu. The configurable parameters are the same as in the *Change template* menu.

Add new template

Template type*:

Contract company:

Accounts:

Letter subject*:

Letter body:

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].

Your credit limit is set to [Credit].

Best regards,
The [SystemOwnerName] Team

Comments:

Add template menu

Below is a list of available markers for the templates.

4.10.1 Markers

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

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.

Invoice markers (cover letter and attachment)

General parameters

[AccountManager] - the account manager's first and last name

[AccountManagerFull] - the account manager's first and last name (as of the invoice issue date)

[AgrBankInfo] - content of the *Bank info* field in [Carriers\Agreements](#)^[95]

[AgrCode] – agreement code

[BankAccount] - the bank account

[BankName] - the bank name

[BankRecipientName] - the recipient's name

Administration

[BankSwiftCode] - the SWIFT code

[BillingManager] - billing manager first and last name

[BillingManagerEmail] - billing manager email address

[BillingManagerMobilePhone] - billing manager mobile phone number

[BillingManagerOfficePhone] - billing manager office phone number

[BillingManagerSignature] - billing manager signature

[CAR_ID] – carrier's identifier (same as [CompanyId])

[CAR_NAME] - carrier's name (same as [CompanyName])

[CompanyAddress] – company's address from the [Carriers](#)^[84] interface

[CompanyId] – carrier's identifier

[CompanyName] - carrier's name

[CompanyRegisteredName] – name of the partner's company as specified in the parameter *Company registered name* in [Carriers\Agreements](#)^[95]

[CompanyVAT] – partner's personal tax reference number

[CurrencyCode] – currency

[CurrencyName] - currency display name from [Reference books\Currency exchange rates](#)^[145]

[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. See also the [Alaris YouTube](#) video

[InvoiceId] – invoice identifier

[InvoicePeriod] – invoice period

[InvoicePeriodLong] – invoice period with time indication

[InvoiceSysPeriod] – invoice period in the System owner's time zone

[DetailsFileName] – name of the PDF file with traffic details

[FileName] – PDF file name

[InvDueDays] - value of the parameter *In payment period, days* from [Carriers\Agreements](#)^[95]

[InvNotes] - marker used in the *Invoice* and *Credit note* templates. It is substituted by the text filled in the template's *Comments* field.

[InvoiceCurrentOffset] - invoice timezone offset to GMT in the format: +/-HH:MI

[InvoiceDate] – invoice issue date

[InvoiceDateInWords] - Invoice issue date with month written in words

[InvoiceDateInWordsIn<LANGUAGE>] - Invoice issue date with month written in words in <LANGUAGE>

[InvoiceDueDate] - invoice due date

[InvoiceDueDateInWords] - invoice due date with month written in words

[InvoiceDueDateInWordsIn<LANGUAGE>] - invoice due date with month written in words in <LANGUAGE>

[InvoiceId] - invoice system ID

Administration

[InvoicePeriod] - invoice period in partner timezone

[InvoicePeriodInWords] - invoice period with month written in words

[InvoicePeriodInWordsIn<LANGUAGE>] - invoice period with month in written words in <LANGUAGE>

[InvoicePeriodLong] - invoice period in partner timezone with hours, minutes and seconds specified

[InvoicePeriodLongInWords] - invoice period in partner timezone with hours, minutes and seconds specified, with month written in words

[InvoicePeriodLongInWordsIn<LANGUAGE>] - invoice period in partner timezone with hours, minutes and seconds specified, with month written in words, in <LANGUAGE>

[InvoiceRefNumber] – invoice reference number

[InvoiceRegDate] - invoice confirmation date

[InvoiceRegDateInWords] - invoice confirmation date with month written in words

[InvoiceRegDateInWordsIn<LANGUAGE>] - invoice confirmation date with month written in words, in <LANGUAGE>

[InvoiceStartDate] - start date of the billing period

[InvoiceEndDate] - end date of the billing period

[InvoiceSysPeriod] - invoice period is System timezone

[InvoiceSysPeriodInWords] - invoice period is System timezone with month written in words

[InvoiceSysPeriodInWordsIn<LANGUAGE>] - invoice period is System timezone with month written in words, in <LANGUAGE>

[InvoiceTimezone] – name of the time zone according to which the invoice is generated

[OwnerName] – System owner's company name as set in the parameter Contract company name in [Carriers](#)⁸⁴

[PARAM<PARAM_ID>] - value of a custom parameter for the current document

[POIActivePrefixes] - comma-separated list of currently active POI prefixes

[POIPrefixes] – comma-separated list of POI prefixes pertaining to the account

[PrevPeriodEndDate] - invoice period start date minus 1 day

[ProductDescr] – list of unique product names (comma-separated)

[SingleProductDescr] - if the charge contains a single product, the marker is replaced with the product name; otherwise it is replaced with void

[YYMMDD] - invoice issue date in format YYMMDD

[YYYYMMDD] - invoice issue date in format YYYYMMDD

[Year] - year of the invoice issue date

[Month] - month of the invoice issue date

[Day] - day of the invoice issue date

Invoice totals

[<CURRENCY>InInvoiceCurrency] - cost of 1 unit of <Currency Code> in System currency

Administration

[AgrLegalAddress] - content of the *Legal address* field from [Carriers\Agreements](#)^[95]

[AmountInWord] – invoice amount written in words

[AmountInWordRevSign] - -1 * [AmountInWord]

[ChargeAmount1] - charge amount in currency 1 with currency code

[ChargeAmount2] - charge amount in currency 2 with currency code

[ChargeAmount3] - charge amount in currency 3 with currency code

[CompanyNameUE] – company name encoded for use in URL

[CurrencyCode1] – name of the currency set by the *Finance first currency* parameter ([Administration\System settings\Financial module](#)^[46])

[CurrencyCode2] – name of the currency set by the *Finance second currency* parameter ([Administration\System settings\Financial module](#)^[46])

[CurrencyCode3] - name of the currency set by the *Finance third currency* parameter ([Administration\System settings\Financial module](#)^[46])

[CurrencyCodeUE] – currency code (e.g. USD, EUR, etc.) encoded for use in URL

[EstAmountInWord] – [EstimatedAmount] written in words

[EstAmountInWordRevSign] - -1 * [EstAmountInWord]

[EstimatedAmount] – estimated amount with currency code

[EstimatedAmount1] - estimated amount in currency 1 with currency code

[EstimatedAmount2] - estimated amount in currency 2 with currency code

[EstimatedAmount3] - estimated amount in currency 3 with currency code

[EstimatedAmountIn<CURRENCY>] - estimated amount in <Currency Code>

[EstimatedAmountNum] – estimated amount without currency code

[EstimatedAmountNum1] - estimated amount in currency 1 without currency code

[EstimatedAmountNum2] - estimated amount in currency 2 without currency code

[EstimatedAmountNum3] - estimated amount in currency 3 without currency code

[EstimatedAmountPlusTax] - estimated amount with tax and currency code (the tax is added if the value of *In/Out tax scheme* in [Carriers\Agreements](#)^[95] is *Add tax % to estimated amount* or *Document only tax inclusion*)

[EstimatedAmountPlusTax1] - estimated amount in currency 1 with tax and currency code (the tax is added if the value of *In/Out tax scheme* in [Carriers\Agreements](#)^[95] is *Add tax % to estimated amount* or *Document only tax inclusion*)

[EstimatedAmountPlusTax2] - estimated amount in currency 2 with tax and currency code (the tax is added if the value of *In/Out tax scheme* in [Carriers\Agreements](#)^[95] is *Add tax % to estimated amount* or *Document only tax inclusion*)

[EstimatedAmountPlusTax3] - estimated amount in currency 3 with tax and currency code (the tax is added if the value of *In/Out tax scheme* in [Carriers\Agreements](#)^[95] is *Add tax % to estimated amount* or *Document only tax inclusion*)

Administration

[EstimatedAmountPlusTaxIn<CURRENCY>] - estimated amount with tax and currency code in <CURRENCY> (the tax is added if the value of In/Out tax scheme in [Carriers\Agreements](#)^[95] is Add tax % to estimated amount or Document only tax inclusion)

[EstimatedAmountPlusTaxNum] - estimated amount plus tax without currency code (the tax is added if the value of In/Out tax scheme in [Carriers\Agreements](#)^[95] is Add tax % to estimated amount or Document only tax inclusion)

[EstimatedAmountPlusTaxNum1] - Invoice amount in currency 1 plus tax without currency code (the tax is added if the value of In/Out tax scheme in [Carriers\Agreements](#)^[95] is Add tax % to estimated amount or Document only tax inclusion)

[EstimatedAmountPlusTaxNum2] - Invoice amount in currency 2 plus tax without currency code (the tax is added if the value of In/Out tax scheme in [Carriers\Agreements](#)^[95] is Add tax % to estimated amount or Document only tax inclusion)

[EstimatedAmountPlusTaxNum3] - Invoice amount in currency 3 plus tax without currency code (the tax is added if the value of In/Out tax scheme in [Carriers\Agreements](#)^[95] is Add tax % to estimated amount or Document only tax inclusion)

[EstimatedAmountPlusTaxRevSign] - -1 * [EstimatedAmountPlusTax]

[EstimatedAmountPlusTaxRevSign1] - -1 * [EstimatedAmountPlusTax1]

[EstimatedAmountPlusTaxRevSign2] - -1 * [EstimatedAmountPlusTax2]

[EstimatedAmountPlusTaxRevSign3] - -1 * [EstimatedAmountPlusTax3]

[EstimatedAmountPlusTaxRevSignIn<CURRENCY>] - -1 * [EstimatedAmountPlusTaxIn<CURRENCY>]

[EstimatedAmountPlusTaxRevSignNum] - -1 * [EstimatedAmountPlusTaxNum]

[EstimatedAmountPlusTaxRevSignNum1] - -1 * [EstimatedAmountPlusTaxNum1]

[EstimatedAmountPlusTaxRevSignNum2] - -1 * [EstimatedAmountPlusTaxNum2]

[EstimatedAmountPlusTaxRevSignNum3] - -1 * [EstimatedAmountPlusTaxNum3]

[EstAmntPlsTaxRoundedInWordMkd] - estimated amount with tax included in words in the Macedonian language

[EstimatedAmountPlusTaxRounded] - -1 * [EstimatedAmountPlusTaxRevSignRounded]

[EstimatedAmountPlusTaxRevSignRounded] - rounded estimated amount with tax and currency code

[EstimatedAmountRevSign] - -1 * [EstimatedAmount]

[EstimatedAmountRevSign1] - -1 * [EstimatedAmount1]

[EstimatedAmountRevSign2] - -1 * [EstimatedAmount2]

[EstimatedAmountRevSign3] - -1 * [EstimatedAmount3]

[EstimatedAmountRevSignIn<CURRENCY>] - -1 *

[EstimatedAmountRevSignNum] - -1 * [EstimatedAmountNum]

[EstimatedAmountRevSignNum1] - -1 * [EstimatedAmountNum1]

[EstimatedAmountRevSignNum2] - -1 * [EstimatedAmountNum2]

[EstimatedAmountRevSignNum3] - -1 * [EstimatedAmountNum3]

[EstimatedAmountWithoutTax] – estimated amount excluding tax with currency code

[EstimatedAmountWithoutTaxNum] – estimated amount excluding tax, without currency code

[EstimatedAmountWithoutTax1] - estimated amount in currency 1 excluding tax but with currency code

[EstimatedAmountWithoutTax2] - estimated amount in currency 2 excluding tax but with currency code

[EstimatedAmountWithoutTax3] - estimated amount in currency 3 excluding tax but with currency code

[EstimatedAmountWithoutTaxIn<CURRENCY>] - estimated amount in <Currency Code> excluding tax but with currency code

[EstimatedAmountWithoutTaxNum] - estimated amount without tax or currency code

[EstimatedAmountWithoutTaxNum1] - estimated amount in currency 1 without tax or currency code

[EstimatedAmountWithoutTaxNum2] - estimated amount in currency 2 without tax or currency code

[EstimatedAmountWithoutTaxNum3] - estimated amount in currency 3 without tax or currency code

[EstimatedAmountWithoutTaxRevSign] - -1 * [EstimatedAmountWithoutTax]

[EstimatedAmountWithoutTaxRevSign1] - -1 * [EstimatedAmountWithoutTax1]

[EstimatedAmountWithoutTaxRevSign2] - -1 * [EstimatedAmountWithoutTax2]

[EstimatedAmountWithoutTaxRevSign3] - -1 * [EstimatedAmountWithoutTax3]

[EstimatedAmountWithoutTaxRevSignIn<CURRENCY>] - -1 * [EstimatedAmountWithoutTaxIn<CURRENCY>]

[EstimatedAmountWithoutTaxRevSignNum] - -1 * [EstimatedAmountWithoutTaxNum]

[EstimatedAmountWithoutTaxRevSignNum1] - -1 * [EstimatedAmountWithoutTaxNum1]

[EstimatedAmountWithoutTaxRevSignNum2] - -1 * [EstimatedAmountWithoutTaxNum2]

[EstimatedAmountWithoutTaxRevSignNum3] - -1 * [EstimatedAmountWithoutTaxNum3]

[InvoiceCurrencyIn<CURRENCY>] - cost of 1 unit of System currency in <Currency Code>

[InvoiceDateUE] – invoice issue date encoded for use in URL

[InvoiceRefNumberUE] – invoice reference number encoded for use in URL

[PrepaymentAmountNum] – estimated prepayment total (the least of the two values is used: ([EstimatedAmount] or [PreviousBalanceNum]), without currency indication

[PrepaymentAmount] – [PrepaymentAmountNum] with currency code

[PrepaymentAmountRevSign] - -1 * [PrepaymentAmount]

[PrepaymentAmountRevSignNum] - -1 * [PrepaymentAmountNum]

[PreviousBalance] - account balance at the end of the invoice period, with currency code

[PreviousBalanceNum] – account balance at the end of the invoice period, without currency code

[PreviousBalanceRevSign] - account balance before the start of the invoice period with currency code with reverse sign

[PreviousBalanceNumRevSign] - account balance before the start of the invoice period without currency code with reverse sign

[SumChargeCallCnt] - total call count

[SumChargeVolume] - total volume of minutes

[SumPeriodPayments] - amount of payments received during the invoice billing period

Administration

[TaxAmount] - tax amount with currency code

[TaxAmount1] - tax amount in currency 1 with currency code

[TaxAmount2] - tax amount in currency 2 with currency code

[TaxAmount3] - tax amount in currency 3 with currency code

[TaxAmountIn<CURRENCY>] - same as [TaxAmountNumIn<CurrencyCode>] with currency code

[TaxAmountNum] – tax amount without currency code

[TaxAmountNum1] - tax amount in currency 1 without currency code

[TaxAmountNum2] - tax amount in currency 2 without currency code

[TaxAmountNum3] - tax amount in currency 3 without currency code

[TaxAmountNumIn<CURRENCY>] - tax amount in <Currency Code> without currency code

[TaxAmountNumRounded] - rounded tax amount without currency code

[TaxAmountNumRounded1] - rounded tax amount in currency 1 without currency code

[TaxAmountNumRounded2] - rounded tax amount in currency 2 without currency code

[TaxAmountNumRounded3] - rounded tax amount in currency 3 without currency code

[TaxAmountRevSign] - -1 * [TaxAmountNum]

[TaxAmountRevSign1] - -1 * [TaxAmountNum1]

[TaxAmountRevSign2] - -1 * [TaxAmountNum2]

[TaxAmountRevSign3] - -1 * [TaxAmountNum3]

[TaxAmountRevSignIn<CURRENCY>] - -1 * [TaxAmountIn<CURRENCY>]

[TaxAmountRevSignNum] - -1 * [TaxAmountNum]

[TaxAmountRevSignNum1] - -1 * [TaxAmountNum1]

[TaxAmountRevSignNum2] - -1 * [TaxAmountNum2]

[TaxAmountRevSignNum3] - -1 * [TaxAmountNum3]

[TaxAmountRevSignNumIn<CURRENCY>] - -1 * [TaxAmountNumIn<CURRENCY>]

[TaxAmountRevSignNumRounded] - -1 * [TaxAmountNumRounded]

[TaxAmountRevSignNumRounded1] - -1 * [TaxAmountNumRounded1]

[TaxAmountRevSignNumRounded2] - -1 * [TaxAmountNumRounded2]

[TaxAmountRevSignNumRounded3] - -1 * [TaxAmountNumRounded3]

[TaxAmountRevSignRounded] - -1 * [TaxAmountRounded]

[TaxAmountRevSignRounded1] - -1 * [TaxAmountRounded1]

[TaxAmountRevSignRounded2] - -1 * [TaxAmountRounded2]

[TaxAmountRevSignRounded3] - -1 * [TaxAmountRounded3]

[TaxAmountRounded] - rounded tax amount with currency code

[TaxAmountRounded1] - rounded tax amount in currency 1 with currency code

Administration

[TaxAmountRounded2] - rounded tax amount in currency 2 with currency code

[TaxAmountRounded3] - rounded tax amount in currency 3 with currency code

[TaxRate] – tax rate with the percent symbol (for example, 21%)

[TotalAmount] - total payable including balance (difference between PreviousBalance and EstimatedAmount, with currency code)

[TotalAmountNum] - total payable including balance (difference between [PreviousBalance] and [EstimatedAmount], without currency code)

[TotalAmountRevSign] - $-1 * [TotalAmount]$

[TotalAmountRevSignNum] - $-1 * [TotalAmountNum]$

Parameters processed by urlencode function

[CompanyNameUE] – company name encoded for use in URL

[CurrencyCodeUE] – currency code (e.g. USD, EUR, etc.) encoded for use in URL

[InvoiceDateUE] – invoice issue date encoded for use in URL

[InvoiceRefNumberUE] – invoice reference number encoded for use in URL

NOTE: The urlencode function transforms invoice parameters, replacing the corresponding markers listed in this section into a special format to be used within a URL-link.

Invoice letter body-specific markers

[DocumentLink] – download link to the invoice cover letter

[DetailsLink] – download link to the traffic summary details document

[UILink] - URL link to the System's main web interface

[PortalLink] - URL link to the Partner portal

Charges

[ChargeAmount] – charge amount

[ChargeAmount1] - charge amount in currency 1

[ChargeAmount2] - charge amount in currency 2

[ChargeAmount2] - charge amount in currency 3

[ChargeAmountNum] - charge amount without currency code

[ChargeAmountRevSign] - $-1 * [ChargeAmount]$

[ChargeAmountRevSign1] - $-1 * [ChargeAmount1]$

[ChargeAmountRevSign2] - $-1 * [ChargeAmount2]$

[ChargeAmountRevSign3] - $-1 * [ChargeAmount3]$

[ChargeAmountRevSignNum] - $-1 * [ChargeAmountNum]$

[ChargeCallCnt] – number of calls

Administration

[ChargeCallCntRevSign] - -1 * [ChargeCallCnt]

[ChargeCurrencyCode] – charge currency

[ChargeDescription] - charge description

[ChargeDescrWithProductDescr] - charge description and product description (for example, VoIP traffic, Wholesale)

[ChargeDirection] - direction of the charge (Payable/Receivable)

[ChargePeriod] – charge period

[ChargeProduct] - charge description (traffic type)

[ChargeProductDescr] - list of products that share the group index pertaining to the charge

[ChargeSysPeriod] – charge period in the System owner's time zone

[ChargeUnit] - unit

[ChargeVolume] - charge volume

[ChargeVolumeRevSign] - -1 * [ChargeVolume]

Charge details in cover letter

[ChargeDetAmount] – amount

[ChargeDetAmountRevSign] - -1 * [ChargeDetAmount]

[ChargeDetColumn1] – dial codes (if the value of the parameter *Rates based on* is *Dial codes* in [Carriers\Products](#)^[103]) or destination if the value of *Rates based on* is *Destination*

[ChargeDetColumn2] – dial code if the value of [ChargeDetColumn1] is destination, or destination if the value of [ChargeDetColumn1] is dial code

[ChargeDetEvent] – number of calls

[ChargeDetEventRevSign] - -1 * [ChargeDetEvent]

[ChargeDetRate] – rate

[ChargeDetVolume] – volume

[ChargeDetVolumeRevSign] - -1 * [ChargeDetVolume]

Charges aggregated by group_index

[ChargeAggrAmount] – total amount in the account currency

[ChargeAggrAmount1] – total amount in currency 1

[ChargeAggrAmount2] – total amount in currency 2

[ChargeAggrAmount3] – total amount in currency 3

[ChargeAggrCurrencyCode] – charges' currency code

[ChargeAggrProductDescr] – list of product descriptions separated by comma

[ChargeAggrUnit] – list of charge units (separated by comma)

[ChargeAggrVolume] – total duration

Administration

[ChargeAggrCallCnt] – total call count

[ChargeAggrDidFeeAmount]: the sum of all DID management charges

[ChargeAggrTotalFeeAmount]: the sum of all charges generated for recurring fees, DID management and created manually with the type not related to traffic

[ChargeAggrTrafficAmount]: the sum of all traffic-related charges (International/US domestic/DID)

Invoice daily stats

[VoiceDailyDate] - stats date

[VoiceDailyVolume] - duration in minutes

[VoiceDailyCharge] - charge in account currency

Markers for the invoice reference number

[CAR_ID] – carrier identifier

[AGR_CODE] – agreement code

[YYYYMMDD] – invoice issue date

[YYMMDD] – invoice issue date (another format)

[X*] - invoice number (if, for example, the value is set to XXXX, then numbers are 0001, 0002, ... 9999)

Balance and credit limit notification markers

[Balance] - account balance with currency code

[BalanceOrCreditUsage] - current percentage of credit limit usage

[CompanyName] - company registered name

[Credit] - credit limit with currency code

[CurrentDate]

[EstimUntilLimitReached] - estimated number of days until credit limit is reached. It is calculated using the formula: "(balance + credit limit) / previous day consumption"

[PrevDayConsumption] - balance consumption for the previous day

[SystemOwnerName] – name of the System owner

Markers for voice rate export (letter and rate file)

[Comments] - content of the field *Comments* ([Voice\Rate\Rate export](#)^[216]) in exported rate sheets)

[CompanyName] – partner name

[CompanyRegisteredName] – name of the partner's company as specified in the parameter *Company registered name* in [Carriers\Agreements](#)^[95]

[CompanyAddress] – partner address

Administration

[CurrencyCode] – currency of the partner's account

[ExportDate] - current date in YYYYMMDDHH24MI

[ExportTypeDest] - is replaced with *Full (A-Z)* if the radio button *All destinations* is selected in the *Rate export* filter, and is replaced with *Partial* if *system destinations* or *carrier specific destinations* radio buttons are selected in the *Rate export* filter

[IssueDate] – file generation date (rate export sheet for example)

[IssueDay] - issue date without indication of time (see also the [Alaris YouTube video](#))

[Link] – link to the file (only for body of a letter with rate update)

[OwnerName] – System owner's company name as set in the parameter *Contract company name* in [Carriers](#)⁸⁴

[POIPrefixes] – comma separated list of POI prefixes belonging to the account

[PricingValidDate] - pricing validity date

[ProductName] – name of the partner's product

[TimeZone] – time zone of the System owner

[CompanyNameUE] – URL encoded company name (for voice rate export only)

[CurrencyCodeUE] – currency edited by urlencode (for voice rate export only)

[ProductNameUE] – product name edited by urlencode (for voice rate export only)

[IssueDateUE] – date of the rate update edited by urlencode (for voice rate export only)

[RateSnippet] - shows rate changes in the message body

List of time masks and their schedules (for voice rate export only)

[DestSet] - destination set

[Timemask]

Invoice detail markers

[DetColumn1] - dial code

[DetColumn2] - destination / service description

[DetColumn3] - jurisdiction (US)

[DetColumn5] - dial code

[DetEventCount] - event count

[DetVolume] - volume

[DetRate] - rate

[DetAmount] - amount

[DetTotalEventCount] - total event count

[DetTotalAmount] - total amount

Administration

[DetConnFeeRate] - total connection fee amount

[DetConnFee] - connection fee rate

[DetProductDescr] - product names for each detail record

Markers used in the *Partner portal greeting letter template* (See also the [Alaris YouTube](#) video)

[UserLoginName] - user's login name

Markers used in emails containing the link that serves to reset the password (for the Main interface and Wholesale portal)

[SystemOwnerName] - name of the System owner

[UserFirstLastName] – user's first and last names

[UserLoginName] – user's login

[Link] - link to log in to the System owner web interface (if the user carrier id = System owner carrier id (id = 1))

[UILink] - URL link to the System's main web interface

[PortalLink] - login link to the Partner portal

[InterfaceNames] - list of interfaces for password reset separated by " , "

Markers used in emails containing the password change confirmation link (for the Main interface and Wholesale portal)

[SystemOwnerName] - name of the System owner

[UserFirstLastName] – user's first and last names

[UserLoginName] – user's login

[PasswordExpireDate] – password expiry date

[Link] - link to log in to the System owner web interface (if the user carrier id = System owner carrier id (id = 1))

[UILink] - URL link to the System's main web interface

[PortalLink] - login link to the Partner portal

[InterfaceNames] - list of interfaces for password reset separated by " , "

Markers used for payment registration notification (Learn more in [Alaris YouTube video](#))

[CompanyName] - carrier's name

[SystemOwnerName] - System owner's name

[Balance] - account balance

[PaymentSystem] - comments (payment system)

[BankStatementAmount] - total amount received

[BankFee] - fees

Administration

[CurrencyName] - payment currency

[PaymentAmount] - amount debited to the account

[CompanyRegisteredName] - carrier's registered name

Markers used for portal payment notification [\(Learn more in Alaris YouTube video\)](#)

[CompanyName] - carrier's name

[CompanyId] - carrier ID

[AccountId] - account ID

[PaymentSystem] - comments (payment system)

[PaymentCurrencyCode] - payment currency

[BankStatementAmount] - total amount received

[BankFee] - fees

[PaymentAmount] - amount debited to the account

[TotalAmount] - amount debited to the account

[CurrencyName] - payment currency

[ReferenceNumber] - payment reference number

Markers used in the limitation rule alert email

[Products] - the carrier name, product type and direction (see also the [Alaris YouTube video](#))

[Destinations] - list of destinations

[MetricName] - metric name

[Threshold] - threshold exceeded

[Limit] - value of the limit

[PeriodType] - the period type (Hour, Day, Week, Month) - see also the [Alaris YouTube video](#)

[SystemOwnerName] - System owner's name

[LimitRuleID] - rule ID

[RuleType] - rule type (Block or Alert)

[CurrentValue] - current value of the metric for a specific destination, for which the alert was generated. See also the [Alaris YouTube video](#)

[PeriodLength] - period for which the stats are gathered. See also the [Alaris YouTube video](#)

[BlockLength] - period for which the traffic is blocked. See also the [Alaris YouTube video](#)

Markers used in Wholesale portal CDR export letter

[Link] - Link to export result

Markers used in Blended routing rule letter templates

[BlendRuleDescr] - blended rule description (can be used in both the email subject and body). See also the [Alaris YouTube](#) video

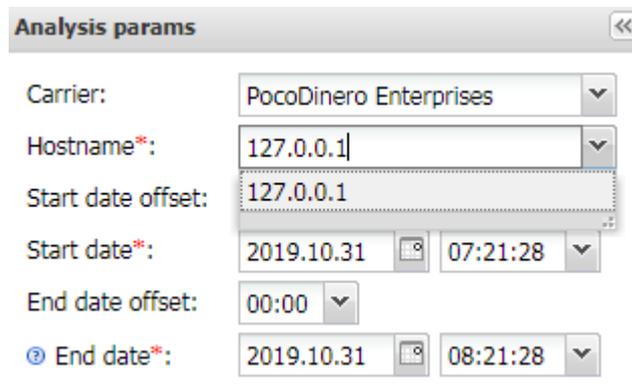
[BlendChangeLog] - table of changes in a blended routing rule

4.11 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 are not supported.

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 *sms.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
	-∞ ≤ X ≤ ∞	All	All	All				All
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.

5 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*, *Users*, *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
- *Users*: Login, First name, Middle name, Last 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* menus that allow adding new records or editing existing ones. To activate the *Edit* menu, click on the record in the table.

5.1 Carriers

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

Carriers								
Users Accounts Agreements Products Voice POI								
ID	Region	Carrier name	Is trusted customer	Credibility		Inbound traffic allowed		
	All	Text mask	All	Min.	Max.	All		
152	-	Wreckless Drivers	No	4.5		Yes		
269	-	Fani Couture	No	0.9		No		
280	-	Diogenes Capacity	No	1.9		Yes		
309	-	Unknown	No	3.6		Yes		
311	-	Pants Consultants	No	1.3		Yes		
337	-	MinnieNet	No	1.9		Yes		

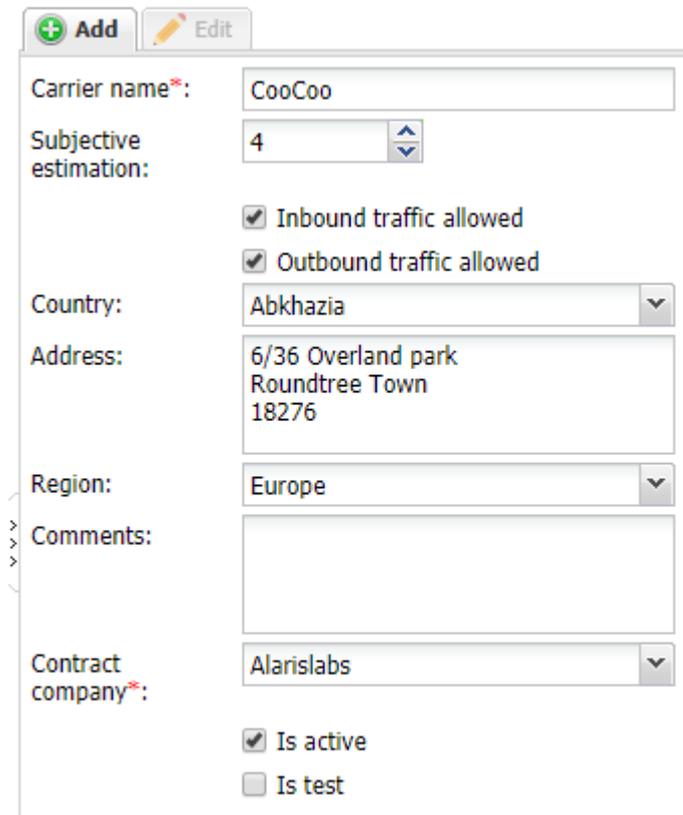
Carriers

Carriers

The table contains the following information:

- *ID*: internal identification number
- *Region*: region of the carrier (the regions are listed in the [Reference books\Regions](#)^[148] section)
- *Carrier name*: full name of the carrier's company
- *Country*: the carrier's country
- *Is trusted customer*: type of the credit control approach (if the *Is trusted customer* parameter is *Yes*, the carrier will not be disconnected irrespective of the account balance). The value depends on the *In credit* parameter in the [Carriers\Agreements](#)^[95] page
- *Credibility*: index of the partner's due diligence, automatically calculated based on the partner's payment stability, subjective estimation, credit limit and traffic volume stability
- *Inbound/Outbound traffic allowed*
- *Contract company* (the top of the column contains a filter to easily locate the appropriate value)
- *Account manager* (find out more in [Alaris YouTube video](#))

The bottom of the table contains the *hide inactive* checkbox. When selected, inactive records are hidden. The checkbox is only shown if the *Inactive carriers* option is set to *Show* in [Start\User settings](#)^[14]. See also the [Alaris YouTube](#) video.



The screenshot shows a web-based form for adding a new carrier. At the top, there are two buttons: a green '+ Add' button and a pencil 'Edit' button. The form fields are as follows:

- Carrier name***: Text input field containing 'CooCoo'.
- Subjective estimation**: Spin box containing the value '4'.
- Country**: Dropdown menu with 'Abkhazia' selected.
- Address**: Text area containing '6/36 Overland park', 'Roundtree Town', and '18276'.
- Region**: Dropdown menu with 'Europe' selected.
- Comments**: Empty text area.
- Contract company***: Dropdown menu with 'Alarislabs' selected.

Below the form fields, there are four checkboxes:

- Inbound traffic allowed
- Outbound traffic allowed
- Is active
- Is test

Add carrier menu

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

- *Carrier name*: full name of the carrier's company

Carriers

- *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 .

User settings

To make a carrier record operative, at least one account must be created (see [Carriers\Accounts](#)^[93] for more detail).

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** in the *Edit* panel.

5.2 Users

The *Carriers\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](#)^[87] interface.

Carriers						Users	Accounts	Agreements	Products	Voice POI
ID	Carrier	Login			First name					
	All	Text mask			Text mask					
10003	System owner	repin			Alex					
10030	PocoDinero Enterprises	bill@pocodinero.ent			John					
10005	System owner	eric			eric					

Users

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

Add
 Edit

General

Carrier*:

Contract companies: Anton_comp
 Example - Norway
 General

Login*:

Email*:

Is active

Allowed IP-addresses:

Expiry date*:

User data

First name*:

Middle name:

Last name*:

Position:

Birthday:

Language*:

Add menu, General and User data

The *Add* menu 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

Carriers

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](#)⁸⁷ (for users belonging to any other carrier)
- *Allowed IP addresses:* IP addresses allowed for logging in to the System. Several comma-separated IP addresses or a network mask can be entered
- *Expiry date:* specify the user account 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

Date format: ▼

Date time format: ▼

Send rate changes

Send invoices

Send alarms

Add menu, Preferences

Preferences:

- *Date format* (a filter can be used to easily locate the appropriate value)
- *Date time format:* the date format with an indication of the time (a filter can be used to easily locate the appropriate value)
- *Send rate changes, Send invoices, Send alarms:* define whether the System will send this information to the user's email address defined in the *Email* field

Contacts:

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

Roles

Parent manager: admin admin (admin) ▼

Inherit permissions from: Selected: None ✎

Filter permissions by key or name

System owner. NO restrictions

- Active calls
- Administration
 - Account manager history
 - Edit account manager history
 - User administration
 - Manual password change
- Data import
- 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

Add menu, 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 flag *System owner. NO restrictions* to grant all possible permissions to the user.

NOTE: Users that do not have the role *System owner. NO restrictions* 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):

Carriers

- 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

The following permissions may prove handy:

- *Administration:*
 - *Impersonate:* when selected, the user can log in to the main interface using another user's identity (adding its login to the username after #, in the format `yourlogin#otherusername`) with its own password. This feature allows checking up the statistics and other partner-related data as seen by the user (based on the user's rights) without knowing or resetting its password
 - *User administration\Manual password change:* when enabled, the user's *Edit* menu contains the  button that allows setting the password directly in the interface.
- *Analytics:*
 - *View all client data, View all vendor data:* when deselected, statistical layers of client or vendor objects respectively are completely hidden. For example, if a user does not have *View all client data permission* granted, layers like *Client product*, *Client channel*, *Client country* are not available in the dropdown list
- *Carriers:*
 - *View credit limits in agreements:* allows the user to view partners' credit limits (the *View/edit permissions* -> *View and edit all data (except System owner parent rates)* permission must also be enabled)
 - *Edit credit limits in agreements:* allows the user to edit partners' credit limits. The user can view and edit limits only if this permission and *View credit limits in agreements* are enabled
- *Carriers -> Products edit:*
 - *Delete products with dependencies:* allows the user to delete products that have associated rates, POI and volume-based deals
- *View/edit permissions* defines what kind of information can be viewed by the user:
 - *Edit parent products belonging to system owner:* when deselected (and the *View/edit all data* permission is not set either), the user cannot edit rates of the System owner's products (find out more in the [Alaris YouTube video](#))
 - *View and edit objects of managed accounts:* allows the user to view and edit data pertaining only to the accounts managed by the user. When the checkbox is selected, the user cannot see templates associated with other users' accounts (templates are configured at [Administration\Template manager](#)^[66]). See [Alaris YouTube video](#) for detail. Besides, the user can only see its own carriers in the [Voice\Active calls](#)^[174] section. Other managers' carriers are displayed as carrier IDs and their details such as IP addresses are shown as undefined. Find out more about the feature in the [Alaris YouTube video](#)
 - *View and edit objects of own contract companies:* allows the user to view and edit data pertaining only to the contract companies assigned to the user. When the checkbox is selected, the user cannot see templates associated with other users' contract companies (templates are

configured at [Administration\Template manager](#)^[66]). See [Alaris YouTube video](#) for detail. Besides, the user can only see carriers of its own contract company in the [Voice\Active calls](#)^[174] section. Other carriers are displayed as carrier IDs and their details such as IP addresses are shown as undefined. Find out more about the feature in the [Alaris YouTube video](#)

- *View and edit all data (except System owner parent rates), View all data:* allows the user to view and/or edit any data in the System

NOTE: A user with limited permissions (that is, having no role *System owner*. *NO restrictions* or no *View and edit all data (except System owner parent rates)* permission) can see only files available to the carriers that the user can access in sections [Voice\Rates\Rate import](#)^[239] and [Administration\Email processing rules](#)^[23].

- Rates
 - Edit rates
 - Edit client rates only
 - Edit vendor rates only
 - Edit client rates/routing for own accounts
 - Edit vendor rates/routing for own accounts

Add menu, Rates

- *Rates\Edit rates* defines rate edit permissions that serve to limit rate editing based on the direction of the rate product:
 - *Edit client rates only*
 - *Edit vendor rates only*
 - *Edit client rates/routing for own accounts:* allows the user to edit client rates and routing data referring only to the accounts managed by the user
 - *Edit vendor rates/routing for own accounts:* allows the user to edit vendor rates and routing data referring only to the accounts managed by the user

- Partner portal
 - Show rates tab
 - Show balance
 - Show finance info
 - Wholesale partner portal
 - Export CDRs/EDRs

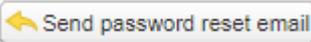
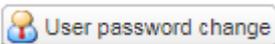
Partner Portal

- *Partner portal:* defines permissions for users having access only to the [Wholesale portal](#)^[87]. Users having access to the Wholesale portal must be created on behalf of a carrier other than the System owner
 - *Show financial tabs:* when disabled, the tabs *Invoices* and *Payments* are hidden from the [Wholesale portal](#)^[87]
 - *Show rates tab:* when disabled, the *Voice rates* tab is hidden from the Wholesale portal
 - *Show finance info:* when granted, it allows Wholesale portal users to view the *Cost* column in the *VoIP stats* page. See also the [Alaris YouTube](#) video

Carriers

- *Wholesale partner portal*: grants access to the Wholesale portal
- *Export CDRs/EDRs*: when disabled, the export menu will be hidden from the Wholesale portal interface
- *Show start page metrics*: when disabled, the *Start* page metrics are not displayed for the user. Learn more in the [Alaris YouTube video](#)

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

NOTE: The *Edit* menu contains the  button that sends a password reset link to the user's email, and the  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  to discard the settings. Click  to create a duplicate of the configured record. This is helpful in configuring another user with similar parameters. Click  to delete the selected record.

5.3 Accounts

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

Carriers		Users		Accounts		Agreements		Products		Voice POI	
ID	Carrier	Currency	Balance		Balance updated						
	All	All	Min.	Max.	-∞ ≤ X ≤ ∞						
11562	Ulysses Path	EUR	0.00	2016.07.11 23:18:31							
363	Narnia Telecom	USD	-32 196.27	2016.12.07 16:01:30							
413	Dolittle and Dalley	USD	0.00	2014.12.01 20:03:34							
30030	System owner	USD	0.00	2014.12.21 21:00:06							
303	Ketchum & Killum	USD	-14 075.18	2016.12.07 16:01:30							

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](#)¹⁴⁵. In order to integrate real-time update of exchange rates, contact the Alaris technical support team
- *Balance*: current balance of this account
- *Balance updated*: date and time of the latest balance update (is performed every minute)

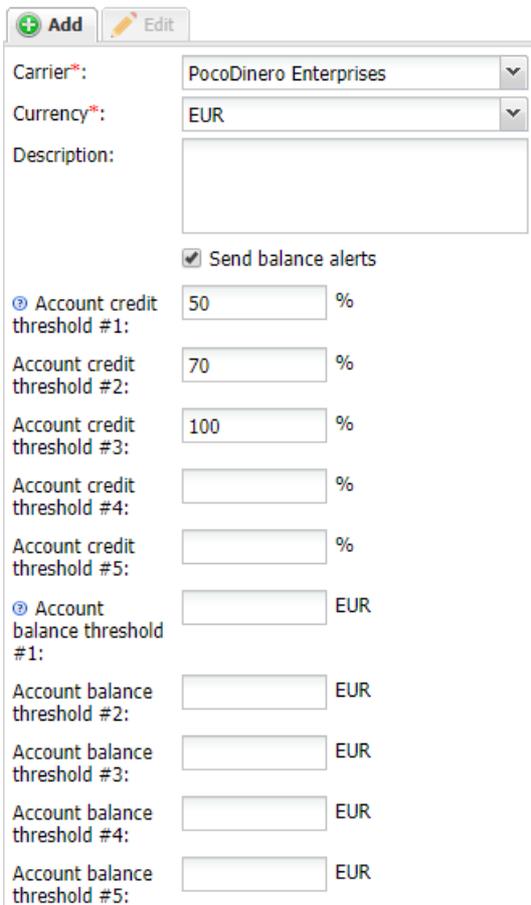
NOTE: As the balance is not updated in real time, the credit limit may be exceeded. However, in case of frequent (every minute) update, the overlimit is normally insignificant.

- *Manager*: manager responsible for this account on the side of the System owner. The manager is assigned in [Administration\Account manager history](#)¹⁹ once the account is created

Carriers

- *Client credit*: credit status on the client's side. The figure in brackets is the credit limit configured in the [Carriers\Agreements](#)^[95] 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 right panel contains the *Add* and *Edit* menus.



The screenshot shows a web form for adding a carrier account. At the top, there are 'Add' and 'Edit' buttons. The form fields are as follows:

- Carrier***: PocoDinero Enterprises (dropdown menu)
- Currency***: EUR (dropdown menu)
- Description**: (empty text area)
- Send balance alerts**
- Account credit threshold #1**: 50 %
- Account credit threshold #2**: 70 %
- Account credit threshold #3**: 100 %
- Account credit threshold #4**: (empty) %
- Account credit threshold #5**: (empty) %
- Account balance threshold #1**: (empty) EUR
- Account balance threshold #2**: (empty) EUR
- Account balance threshold #3**: (empty) EUR
- Account balance threshold #4**: (empty) EUR
- Account balance threshold #5**: (empty) EUR

Add menu

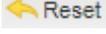
The *Add* menu contains the following parameters:

- *Carrier*
- *Currency*
- *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](#)^[46]). 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

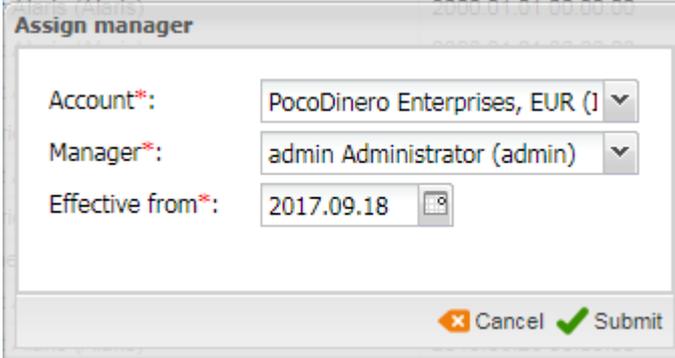
Carriers

- *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](#)^[46]. 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* menu additionally contains the button  **Set account manager** that allows assigning a manager to an account. The button opens the *Assign manager* dialog of the *Administration\Account manager history* page.



The dialog box titled "Assign manager" contains the following fields:

- Account*:** PocoDinero Enterprises, EUR (I) (dropdown menu)
- Manager*:** admin Administrator (admin) (dropdown menu)
- Effective from*:** 2017.09.18 (calendar icon)

Buttons at the bottom:  **Cancel**  **Submit**

Assign manager

5.4 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*.

Carriers Users Accounts Agreements Products Voice POI						
ID	Carrier	Acc. currency	Acc. description	Agreement code		
	All	All			Text mask	
357	Narnia Telecom	USD		46767		
406	Dolittle and Dalley	USD		53186		
11000	System owner	USD		1441000		
298	Ketchum & Killum	USD		39038		

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* menus.

 Add
 Edit

General

Carrier*:

Account*:

Incoming
 Outgoing

Start date*:

End date*:

Legal info

Agreement code*:

Company registered name*:

Bank info:

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

Default bank account:

Add menu, General and Legal info

The *Add* menu 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*

Carriers

- *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](#) ^[135])
- *Attachment link*: link to an external document - for example, agreement with the partner

Incoming billing parameters

In time zone*:

In credit, USD:

ⓘ In billing period*:

In rounding function:

In duration rounding function:

ⓘ In raw duration

Round charge detail volume less than 1 minute (In)

In payment period, days:

In maximum invoice billing periods:

In default dispute emails:

Generate 1 invoice details file per product type (client)

Add menu, 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.

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](#) ^[93] 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.

Carriers

- *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 billing day*. The parameter *Weekly (non-calendar)* means that invoices will be generated for the following periods: 1st – 7th, 8th – 15th, 16th – 23rd, 24th – 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](#)^[60]
 - *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](#).

- *In/Out raw duration*: 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. This parameter is used for monitoring invoices which are not paid in due time. Such invoices are marked as *Overdue*

Carriers

- *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 below). 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\Common](#)^[36]
- *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](#)^[66]

Finance parameters

In minimum invoice amount, USD:	<input type="text" value="50"/>
Out minimum invoice amount, USD:	<input type="text" value="50"/>
In tax rate, %:	<input type="text" value="20"/>
Out tax rate, %:	<input type="text" value="20"/>
In tax scheme:	<input type="text" value="Tax included"/>
Out tax scheme:	<input type="text" value="Tax included"/>
Cross-monthly invoice splitting:	<input type="text" value="Default"/>
Min percent mismatch to invoke a dispute, %:	<input type="text" value="15"/>
Min absolute mismatch to invoke a dispute:	<input type="text" value="30"/>
Unconditional invoice dispute threshold:	<input type="text" value="15"/>

Add menu, Finance parameters

Finance parameters:

- *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)

Carriers

- *In/Out tax rate, %*: if the invoice amount includes taxation, this parameter defines the percent of the tax (decimal numbers can be used)
- *In/Out tax scheme*:
 - *Tax included*: if the tax is included into the rate, the invoice is calculated as derivative of $(Rate) * (Volume)$
 - *Add tax % to estimated amount*: if the tax is not included in the rate, the invoice is calculated as a sum of $(Rate) * (Volume) + (Rate) * (Volume) * (tax)$
 - *Document only tax inclusion*: the tax is included in the invoice but is not actually charged
- *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](#)^[46]
 - Yes
 - No. See also the [Alaris YouTube](#) video
- *Min percent mismatch to invoke a dispute*: the minimum relative difference (in per cent) between the System owner's and partner's invoice amounts to start a dispute (*Presented amount* and *Due amount*). Both this parameter and the parameter *Min absolute mismatch to invoke a dispute* should be surpassed to change the invoice status to *Disputed*
- *Min absolute mismatch to invoke a dispute*: the minimum absolute difference between the System owner's and partner's invoice amounts to start a dispute (*Presented amount* and *Due amount*). Both this parameter and *Min percent mismatch to invoke a dispute* must be exceeded to change the invoice status to *Disputed*. In case one of the parameters is set to *null*, only the other one will be taken into account for assignment of the *Disputed* status. In case both parameters are null, the invoice status can be set to *Disputed* only manually
- *Unconditional invoice dispute threshold*: the minimum absolute difference between the System owner's and partner's invoice amounts to start a dispute, regardless of the parameter *Min absolute mismatch to invoke a dispute*. If set to *null*, the parameter is not used

NOTE: If any of the above three fields is left empty, the respective values will be taken from System settings. Additionally, the null value can be set in the System settings, in which case no disputes will be invoked. See also the [Alaris YouTube](#) video.

Rate notification periods

In increase notification, days*:	<input type="text" value="7"/>
Out increase notification, days*:	<input type="text" value="7"/>
In decrease notification, days*:	<input type="text" value="0"/>
Out decrease notification, days*:	<input type="text" value="0"/>
In new rate notification, days*:	<input type="text" value="0"/>
Out new rate notification, days*:	<input type="text" value="0"/>
In close rate notification, days*:	<input type="text" value="7"/>
Out close rate notification, days*:	<input type="text" value="7"/>

Add menu, Rate notification periods

Rate notification periods: the minimum number of days for notifying a vendor or customer about any upcoming rate changes. Notifications sent at shorter notice may be rejected by the recipient

- *In/Out increase notification, days:* number of days for an advance rate increase notice to be sent from vendor/to customer
- *In/Out decrease notification, days:* number of days for an advance rate decrease notice to be sent from vendor/to customer
- *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:	<input type="text" value="Link"/>
Payment alert:	<input type="text" value="System default"/>
Default invoice emails:	<input type="text" value="fin@pocodinero.es"/>
Default rate change emails:	<input type="text" value="fin@pocodinero.es"/>
Default technical emails:	<input type="text" value="admin@pocodinero.es"/>
Account alert emails:	<input type="text" value="man@pocodinero.es"/>

Extra

Balance limit, EUR:	<input type="text" value="10000"/>
Comments:	<input type="text"/>

Add menu, 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](#)⁴⁶¹
 - *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 a 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](#)⁴⁶¹. 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](#).

Carriers

- *Default invoice emails*: emails for sending invoices to. Several comma- or semicolon-separated addresses may be indicated. If the field is empty, invoices are sent to the carrier's user email addresses, defined:
 - on the [Carriers\Users](#)^[87] 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](#)^[46]
- *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:
 - If the *Default rate change emails* field is empty, rate change notifications are sent to the carrier's user email defined on the [Carriers\Users](#)^[87] 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](#)^[33] 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](#)^[46]
- *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.

5.5 Products

The *Carriers\Products* page contains information about products associated with carriers' accounts. A product is a rate plan, or, in other words, a type of service level agreement (SLA) offered to partners. Products allow grouping vendors and clients based on their SLA, and are then used for creation of routing rules for such groups.

Each product is linked to an account, so its currency is always the same as that of the account.

ID	Carrier	Product name	Product notes	Acc. currency	Acc. desc...	Direction
	All	SUPER SECRET CREMLIN L	All	All		All
171...	[TEST] 1912_vendor	SUPER SECRET CREMLIN LINE	-	RUB		Vendor
155...	ds1_vendor	SUPER SECRET CREMLIN LINE	-	RUB		Vendor
155...	Natalia_vendor	SUPER SECRET CREMLIN LINE	-	RUB		Vendor

Products

Carriers

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 carriers* option is set to *Show* in [Start>User settings](#) ¹⁴. See also the [Alaris YouTube](#) video.

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

+ Add
✎ Edit

Carrier*:

Account*:

Product type*:

Direction*:

Product name*:

Product notes:

Exempt from held duration

Parent product:

Rate inheritance mode:

Base product:

Bill US traffic via separate product:

Rates based on*:

Enable loop detection

Send import results to account manager

Invoice group index*: Autovalue

Reverse charge

Don't consider in vendor stats calculation

Check ANI tags

ANI tag:

Kind	Type	Class	
Partner service ...	Premium		✘

+ Add classifier

Is active

Is test

Custom parameters

Product manager user ID:

Add menu

The *Add* menu allows defining of the following parameters:

Carriers

- *Carrier*: select the carrier from the drop-down list
- *Account*: select the account from the drop-down list
- *Product type*: possible values include:
 - *Balance correction*
 - *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.

- *DID/TFN fees* (do not select; the product type is used for automatic generation of charges)
- *International*: international voice traffic
- *US domestic*: US domestic voice traffic
- *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
- *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](#)^[54]
 - *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
- *Base product*: select the base product from the drop-down list. A base product is a product of the same direction and associated with the same account that stores the basic rates (those not linked to A-number)
- *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

NOTE: No POIs have to be created for the US Domestic products. Create POIs only for the International 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*

Carriers

- *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](#)^[57]
- *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](#)^[57]

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.
- *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](#)^[46])
- *Reverse charge*: select the checkbox in case of a negative price, that is, when you pay for incoming calls (toll-free numbers etc.)
- *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.
- *Check ANI tags* (available only if *Base product* is not selected): the checkbox serves to look for A-numbers set as *ANI tags* in other products that have this product selected in the *Base product* list. It is relevant for EU/Non-EU billing. For example, calls within EU are cheaper than those from EU to non-EU countries. The System can identify intra-EU calls and route them accordingly. Suppose you have two vendor rate sheet files – one having no association with A-numbers and the other containing rates within EU. Both sets of rates are associated with the same POI. Create *Product 1* for rates having no association with A-numbers. Select *Check ANI tags* and create a *Voice POI* for *Product 1*. Then create *Product 2* for rates within the EU. In the *Base product* field select *Product 1*; in the *ANI tag* field select the tags containing EU dial codes (the ANI tags must be previously created in [Reference books\Tags](#)^[135]). No *Voice POI* must be created for *Product 2*.
- *ANI tag* (available only if *Check ANI tags* is deselected): select ANI tags if the product stores rates linked to A-numbers (in this case, *Base product* must also be selected)
- *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

Carriers

- *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](#) ¹⁰⁸.

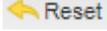
- *Is test*: when selected, the product record is displayed in orange font, and the *Carrier name* has the prefix [TEST]. Such labeling is intended to prevent using newly added records that are still being verified in production routing
- *Product manager user ID*: this parameter serves to assign the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

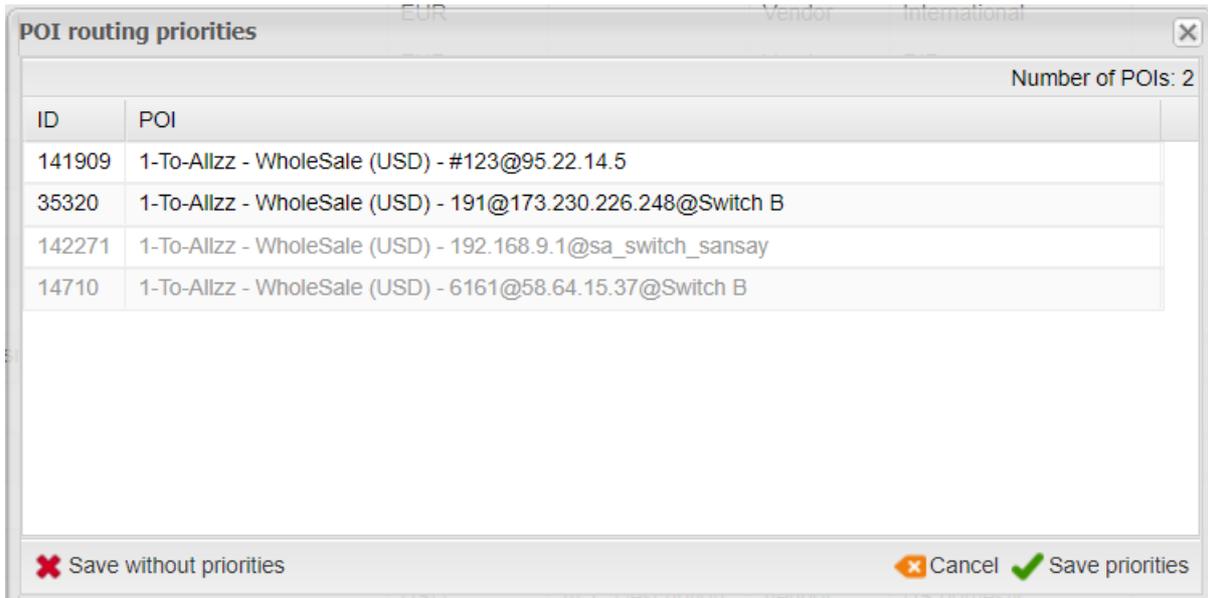
NOTE: With the checkbox deselected, no dipping is done for calls from such client, so no vendors are able to get the LRN data even if their traffic needs to be routed/billed basing on LRN.

- *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.

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

Click  to delete the selected record. The *Edit* menu additionally contains the following controls:

- *Number or 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)
- The  button opens the POI routing priorities menu. 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 or POIs* field, the exceeding POI records will be greyed out



POI routing priorities

Click Save priorities to save the configured sequence. Click Save without priorities to clear the sequence and use POIs in a random order.

- 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
- 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

5.6 Voice POI

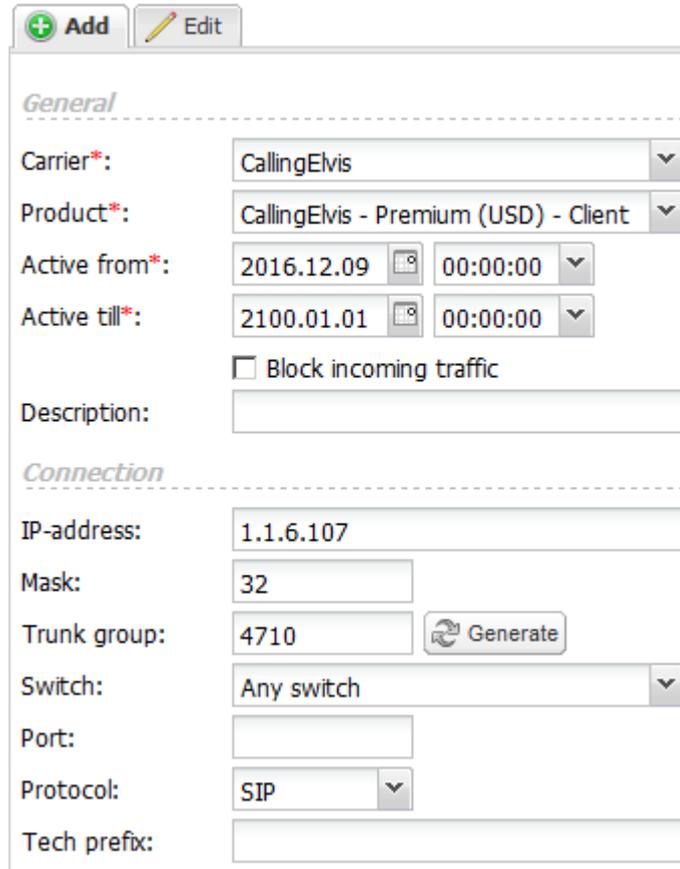
The *Voice POI* page contains information about configuration of voice points of interconnect with clients and vendors to perform authentication and CDR rating.

Carriers Users Accounts Agreements Products Voice POI				
ID	Carrier	Product name	Direction	
	All	All	All	
21130	Pane In The Glass	LCR (USD)	Client	
9690	CallingElvis	CLI (USD)	Client	
19600	British Hairways	WholeSale (USD)	Client	
15800	Ketchum & Killum	Premium (USD)	Vendor	
23210	Berried Alive	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.



The screenshot shows a web-based configuration form for a carrier. At the top, there are two buttons: a green '+ Add' button and a pencil 'Edit' button. The form is divided into two sections: 'General' and 'Connection', separated by dashed lines.

General Section:

- Carrier*:** A dropdown menu with 'CallingElvis' selected.
- Product*:** A dropdown menu with 'CallingElvis - Premium (USD) - Client' selected.
- Active from*:** A date and time selector showing '2016.12.09' and '00:00:00'.
- Active till*:** A date and time selector showing '2100.01.01' and '00:00:00'.
- Block incoming traffic:** An unchecked checkbox.
- Description:** An empty text input field.

Connection Section:

- IP-address:** A text input field containing '1.1.6.107'.
- Mask:** A text input field containing '32'.
- Trunk group:** A text input field containing '4710' and a 'Generate' button with a refresh icon.
- Switch:** A dropdown menu with 'Any switch' selected.
- Port:** An empty text input field.
- Protocol:** A dropdown menu with 'SIP' selected.
- Tech prefix:** An empty text input field.

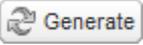
Add menu, General and Connection

The right panel contains the *Add* and *Edit* menus that allow adding new records or editing existing ones. To activate the *Edit* menu, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required. The *Add* menu contains the following parameters:

General:

- *Carrier:* carrier to which a POI is associated
- *Product:* product to which a POI is associated
- *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 [Voice\Routing\Simulation](#)^[302]
- *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)

Carriers

- *Switch*: indicates the switch used to interconnect with the client/vendor. The list of switches can be edited on the [VoiceReference books\Soft switch editor^{\[269\]}](#) 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:

System-specific number translation:

Geo routing

Rest of the world

Country groups:

-
- Best countries

Geo DNIS pattern:

Add menu, 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.

- *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](#)^[148] 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](#)^[149] page.
- *Geo DNIS pattern*: number prefix (regexp-based) for which this POI can be used. For example, if the value is 7910.*, only this POI will be used to route calls having the 7910 prefix (provided the *Enable geo based checks for POIs* checkbox is selected in [Voice\Routing\Routing rules](#)^[271])

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](#)^[103]).

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:

CPS limit:

Service port:

Allow direct media:

Remote port:

Options polling:

Group policy:

Sansay switch settings

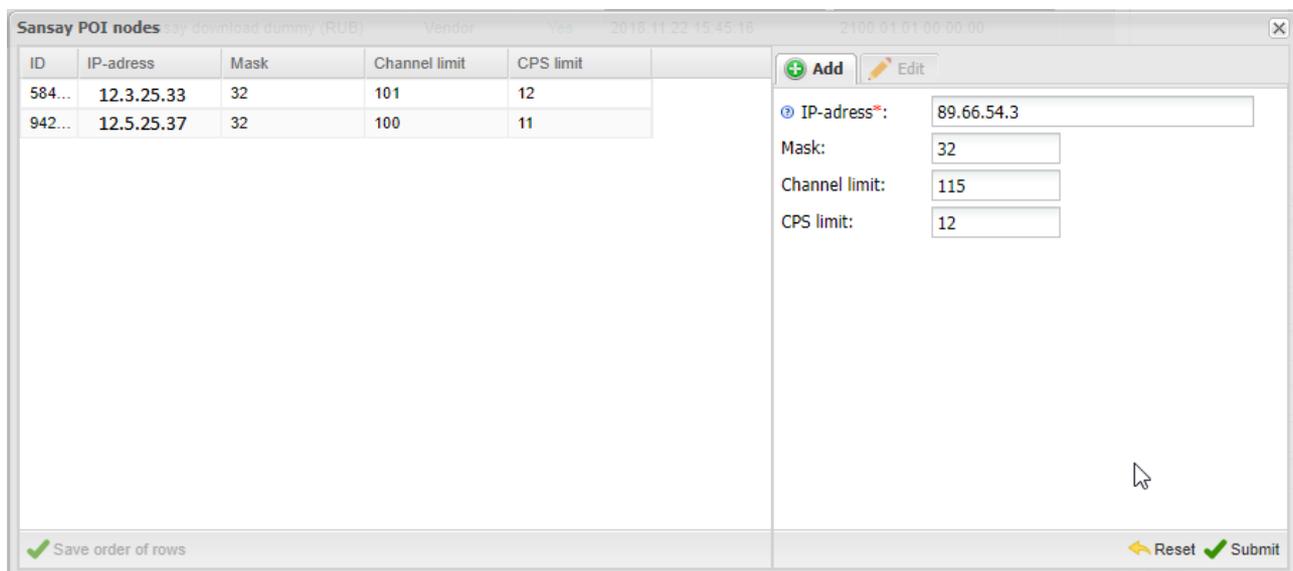
Carriers

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](#)^[36]. Then open [Voice\Reference books\Soft switch editor](#)^[269] 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](#)^[59] 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

IP-address*:
 Mask:
 Channel limit:
 CPS limit:

Save order of rows

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)

Carriers

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.

6 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*.

6.1 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*.

Charges				
Amount currency: <input type="text" value="Account currency"/>				
ID	Charge type	Contract company	Carrier	Account
-	-	-	-	-
22521	Manual	Alarislabs Demo 3.4	PocoDinero Enterprises	PocoDinero Enterprises (USD)
22522	Auto	Alarislabs Demo 3.4	MummyDoll Telecom	MummyDoll Telecom (USD)
22603	Auto	Alarislabs Demo 3.4	MummyDoll Telecom	MummyDoll Telecom (USD)
22523	Auto	Alarislabs Demo 3.4	MoreThanWords SMS	MoreThanWords SMS (USD)
22524	Auto	Alarislabs Demo 3.4	Ketchum & Killum	Ketchum & Killum (USD)
22525	Auto	Alarislabs Demo 3.4	Narnia Telecom	Narnia Telecom (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](#)^[147] page
- *Charge direction*: *Payable* or *Receivable*
- *Confirmed*: shows whether the charge is confirmed on the [Finance\Invoices](#)^[118] page (Yes or No)
- *Group index*: the value of the *Group index* parameter in the [Carriers\Products](#)^[103] page (products having the same index will be invoiced in a single file)
- *Volume*: volume of the provided services
- *Units*: measurement units
- *Service count*: number of service units (minutes)

Finance

- *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](#)^[46]. 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 detail on cubes, see [Reports\Analytical cube status \(Administration\)](#)^[155]). After you configure the currencies in Finance first (second, third) currency, perform CDR rerating (see [Voice\CDR management\CDR Rerating](#)^[193]) and invoice recalculation (see [Finance\Invoices\Editing invoices](#)^[122]) 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](#)^[145].

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

Charge filter

Charge ID:

Contract company:

Carrier: 

Account:

Product type:

Charge direction:

Group index:

Billing period:

Period from:

Period to:

Charge filter

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

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 detail on credit notes, see [Finance\Invoices\How it works](#)¹¹⁸.

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.

Finance

- *Dial code*
- *Destination*: name of a destination, for example Russia Moscow fixed
- *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](#) ¹⁴⁷, 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**
 **Edit**

Type name*:

Charge description*:

Unit*:

Add menu in Reference books/Product type

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
BOLVIA-MOBILE-ENTEL	59171, 59173	65	690.3167	0.097	66.96072
BOLVIA-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.

6.2 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.

6.2.1 How it works

By default all invoices, created automatically or manually (in the [Finance\Charges](#)^[114] 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 ( 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](#)^[46].

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](#)^[95]).

NOTE: The delay for invoice creation is configured by the parameter *Invoice generation delay, hours* in [Administration\System settings\Financial module](#)^[46].

The billing period and delays are configured in the partner time zone (defined in [Carriers\Agreements](#)^[95]). 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](#)^[114] page).

Confirmed invoices are delivered to the preset email addresses. The default address is set in [Carriers\Agreements](#)^[95] (optional parameter *Default invoice emails*). Invoice copies can also be sent to other recipients defined in [Administration\System settings\Financial module](#)^[46] (parameter *Email address list to CC finance-related emails*) or to specified System users if the *Send invoices* flag is set [Carriers\Users](#)^[87] (*Edit* menu).

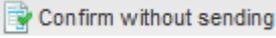
An invoice comprises two separate files: a PDF file containing general invoice information (cover letter) and a MS Excel file with traffic details (the MS Excel file is password-protected against editing, the password is set in the parameter *Invoice detail Excel password (not used if empty)* set in [Administration\System settings\Common](#)^[36]. 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](#)^[95] (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](#)^[46] and [Carriers](#)^[84] sections.

6.2.2 Invoices table

Invoices											
Clear mapping		Amount currency: Account currency		Recalculate period		Close billing period and generate in					
Ref. #	Direction	Contract c...	Carrier	Account	Status	State	Due amount	Paid amount	Unpaid am...	Cur...	
	Invoice to partner	Alarislabs	Xfone 018	Xfone 018 (USD)			0.83	0.00	0.83	USD	
	Invoice to partner	Alarislabs	Xfone 018	Xfone 018 (USD)			10.00	0.00	10.00	USD	
	Invoice to partner	Alarislabs	Lanck Telecom	Lanck Telecom (0.88	0.00	0.88	USD	
	Invoice to partner	Alarislabs	QuickDial	QuickDial (USD)	Draft	Actual	0.45	0.00	0.45	USD	
	Invoice to partner	Alarislabs	TelcoSec	TelcoSec (USD)	Draft	Actual	0.08	0.00	0.08	USD	
	Invoice to partner	Alarislabs	Breezecom	Breezecom (USD)	Draft	Actual	0.25	0.00	0.25	USD	
	Invoice from partner	Alarislabs	Breezecom	Breezecom (USD)	Draft	Actual	0.31	0.00	0.31	USD	
	Invoice to partner	Alarislabs	CCS	CCS (USD)	Draft	Actual	0.40	0.00	0.40	USD	

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. The table contains information on the following parameters:

- *Reference number*: 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](#)^[46] (parameter *Current invoice number*)
- *Direction*: Invoice to/from partner, Credit note to/from partner
- *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](#)^[84] section
- *Account*: account for which the invoice is generated
- *Status*:
 - *Draft* - status assigned to all generated non-confirmed invoices
 - *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
 - *Registered* - status assigned to an invoice after it is confirmed without sending to the client (the  button)
 - *Insignificant* - status assigned to an invoice with an estimated amount lower than defined in [Carriers\Agreements](#)^[95] (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
 - *Disputed* - status 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](#)^[46]
 - *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
- *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](#)^[127] 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
- *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](#)^[95] 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* menu. A difference between *Estimated* and *Presented amount*, if any and if unfavorable for the System user, changes the invoice 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](#)^[46]
- *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
- *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:

Contract company:

Account manager:

Currency:

Carrier:

Account:

Product type:

Invoice status:

State:

Due amount: from to

Payment status:

Billing period:

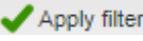
Period between: and

Issue date between: and

Last updated between: and

Invoice filter

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

Enter the appropriate parameters and click  to filter the records in the *Invoices* table.

6.2.3 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](#) 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.

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*: 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** to apply the settings.

6.2.4 Editing invoices

Double-click on any value in the *Invoices* table (except the links) to open the *Edit invoice* menu. The same menu can be opened by the **Edit invoice** button on the tool bar at the bottom of the table.

Edit invoice

Reference number:

Direction: **Invoice from partner**

Carrier: **Clara Sill**

Status, State: **Draft, Actual**

Due amount: **93 058.93 USD**

Amount source:

Paid amount: **0.00**

Payment status: **Not sent**

Estimated amount: **93 058.93**

Tax amount: **0.00**

Presented amount:

Disputed amount: **0.00**

Dispute status override*:

Begin date: 2019.12.09 00:00:00 (System time: 2019.12.09 00:00:00)

End date: 2019.12.15 23:59:59 (System time: 2019.12.15 23:59:59)

Issue date*:

Registration date:

Due date:

Notes:

Attachment:

[Clara Sill 2019.12.15.pdf](#)

Make auto mapping

Invoice last updated: 2019.12.16 04:26:38

Edit invoice menu

The menu contains the following parameters:

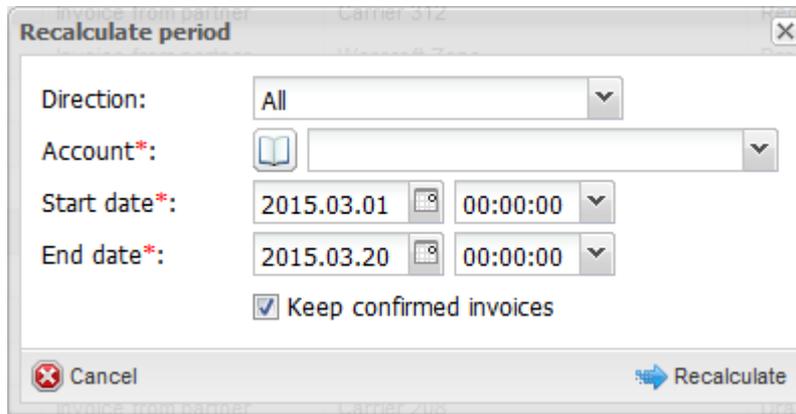
- *Reference number*
- *Amount source*: select *Amount presented by partner* or *System owner estimated amount + tax* to choose which amount is considered correct - *Estimated* (calculated by the System) or *Presented* (provided by the partner)
- *Disputed amount*: difference between Due amount and Presented 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

- *Dispute status override*: the drop-down list allows changing the invoice status overriding the current one. Possible values include:
 - *Default*: leave the current status unchanged
 - *Disputed*
 - *Non disputed*
- *Begin date / End date*: invoiced period
- *Due date*: payment due date
- *Notes*: arbitrary comments
- *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 button in the upper right corner of the *Invoices* page opens the *Recalculate period* menu, which allows recalculation of all invoices for the specified period, for example in case of billing period readjustments, outdated invoices etc.

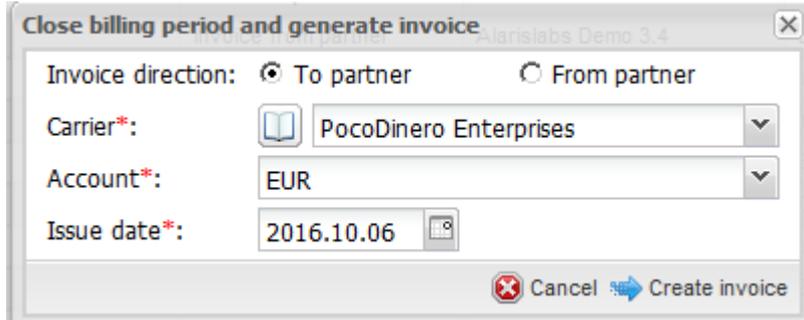
NOTE: Recalculation of invoices must be done after CDR rerating to bring the invoicing information up to date. Refer to [Voice\CDR Management\CDR Rerating](#)¹⁹³ for more detail.



Recalculate period

Enter the appropriate parameters in the menu and click 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)



Close billing period and generate invoice

The button 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 menu:

- *Invoice direction:* to/from partner
- *Carrier:* select the carrier from the drop-down list. The button opens the list of carriers that can be filtered by ID, region or carrier name
- *Account:* select the account from the drop-down list
- *Issue date:* date of the invoice generation

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



Bottom toolbar

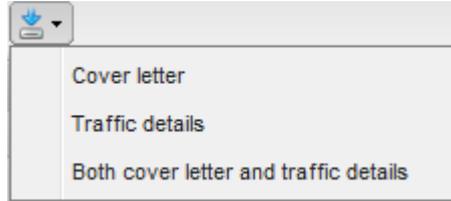
Click on the bottom tool bar and then select if you wish to confirm the selected invoice draft and send it to the partner (the invoice will be automatically sent to the e-mail defined in the [Carriers/Agreements](#) settings). Click and select to confirm the invoice without sending (for example, in case 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 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	
		-∞ ≤ X ≤ ∞	All		
TASK284010	Cover letter	2019.07.04 14:10:01	ready	download	
TASK281246	Cover letter, Traffic details	2019.06.25 08:43:17	ready	download	
TASK279832	Cover letter, Traffic details	2019.06.20 16:27:38	ready	download	
TASK275094	Cover letter, Traffic details	2019.06.06 02:20:38	ready	download	

Invoice files downloading list

Click to export the *Invoices* table to a MS Excel file.

6.3 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.

6.3.1 Payments table

The *Payments* table displays information about all payments registered in the System.

Ref. #	Contract company	Bank account	Carrier	Account	Payment date
201910280855#12367	AK Best Company	-	1-To-Allzz	1-To-Allzz (RUB) test!	2019.10.28.00:00:00
201910281008#12371	AK Best Company	-	1-To-Allzz	1-To-Allzz (RUB) test!	2019.10.28.00:00:00
201910281008#12370	AK Best Company	-	1-To-Allzz	1-To-Allzz (RUB) test!	2019.10.28.00:00:00
201910280719#12361	AK Best Company	-	1-To-Allzz	1-To-Allzz (EUR)	2019.10.28.00:00:00
201910280737#12363	AK Best Company	-	1-To-Allzz	1-To-Allzz (EUR)	2019.10.28.00:00:00
201910280736#12364	AK Best Company	-	1-To-Allzz	1-To-Allzz (EUR)	2019.10.28.00:00:00
201910280856#12368	AK Best Company	-	1-To-Allzz	1-To-Allzz (RUB) test!	2019.10.28.00:00:00

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. #*: reference number
- *Contract company*

- *Bank account*: the System owner's bank account number as configured in [Reference books\Bank accounts](#)^[135]
- *Carrier*: client/vendor name, as per data in the [Carriers](#)^[84] section
- *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](#)^[46]). The email addresses are set in [Carriers\Agreements](#)^[95] (*Default invoice emails* field).

- *Registration date*: date of the payment registration in the System
- *Ref.#*: internal System reference number of the payment record
- *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](#)^[128])
- *Status*: (*Draft*, *Registered*): 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 a record acquires the registered status only after additional confirmation and submission to the System. *Draft* payments have temporary impact on partner balance (until the *Expiry date*). *Registered* payments have a permanent impact on the partner balance
- *Document*: underlying document
- *Comment*: arbitrary comments

The  button in the upper left corner of the *Payments* page toggles the *Payments filter* menu.

Payments filter

Reference number:

Direction:

Contract company:

Bank account:

Carrier:

Date between: and

Status:

Currency:

Payments filter

Enter the appropriate parameters in the menu and click 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.

6.3.2 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](#) page detailed above. Mapping can be done on either page.

Document	Covered amount	Manual/Auto
Invoice from partner 2015.02.01-2015.02.28 405.58 USD	100	manual

Payment mapping page

The 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*:

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

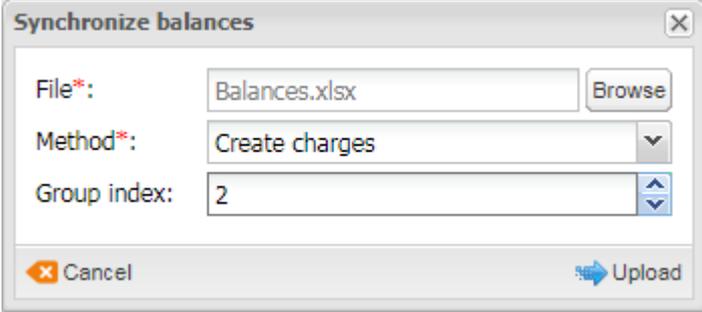
Map full invoice amount USD
 Map full document amount USD
 Specify amount to map USD

Payment mapping

6.3.3 Interface controls

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

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



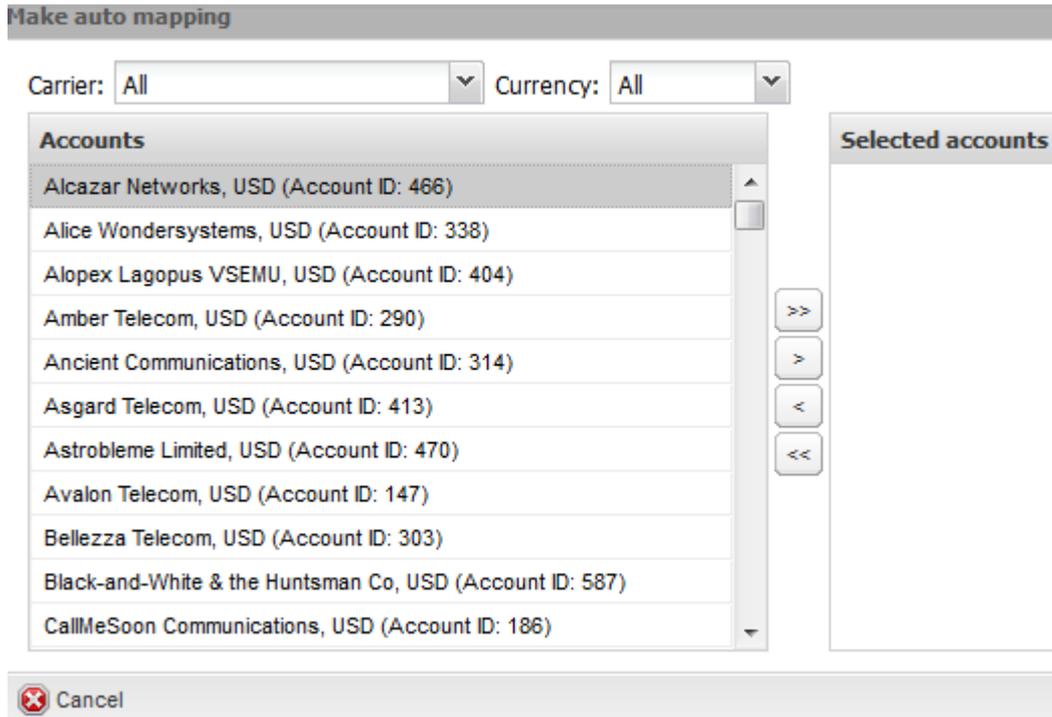
Synchronize balances

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

- *File*: select a CSV file separated with semicolon (;) with the following fields:
 - 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
- *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)

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

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



Make auto mapping

The Import payments button opens the same-name menu:



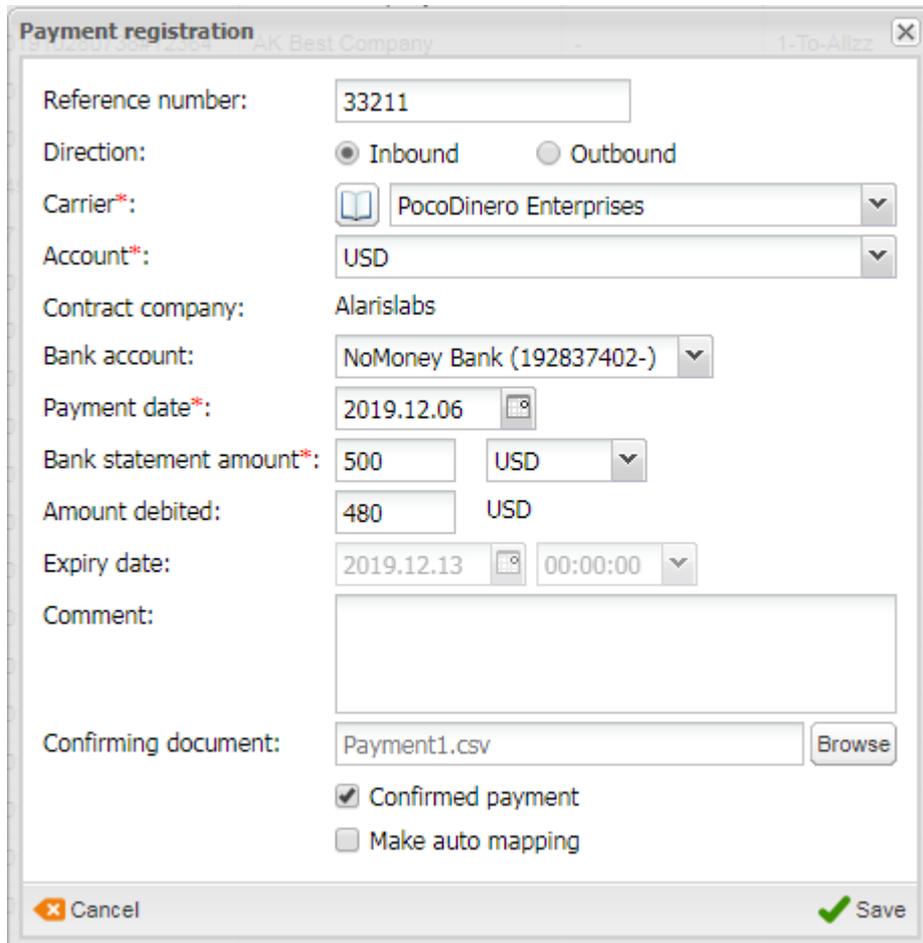
Import payments

The menu 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  **Register new payment** button opens the *Payment registration* menu:



Payment registration

The menu 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](#)^[84] 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](#)^[93]
- *Contract company*
- *Bank account*: the bank account number from [Reference books\Bank accounts](#)^[135]
- *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

Finance

- *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.

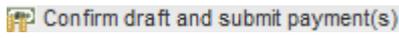
- *Comment*: arbitrary comments to payment
- *Confirming document*: underlying document
- *Registered payment*: if the checkbox is selected, the payment gets registered immediately. The selected checkbox shows that this payment is not a *Draft* and has no *Expiry date*
- *Make auto mapping*: enables 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

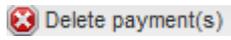
NOTE: The currency exchange rate is taken as of the payment date.

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

The  button creates a duplicate of the configured payment. This is helpful when configuring another payment with similar parameters.

Click  to refresh the page.

The button  allows payment confirmation and registration in the System.

The button  deletes the selected payment record.

Any payment record can be exported either to an CSV or XLS-file using the buttons  and  respectively.

6.4 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* menus.

 Details	Next start date	Next end date	Confirm...	Direction
 Text mask				
Recurrent fee	2016.11.01 00:00:00	2016.11.07 00:00:00	No	Client

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](#)^[147], create a new product type (for example, *Server rental*), and in the *Unit* field select *Service*.

+ Add
 ✎ Edit

Details*:

Confirm invoice

Direction*: Vendor ▼

Product type*: Server rental ▼

Invoice group index*: ▲ ▼ Autovalue

Rate*:

Volume*:

Account*: PocoDinero Enterprises, EUR ▼

Start date*: 2017.08.09 📅 00:00:00 ▼

End date*: 2100.01.01 📅 00:00:00 ▼

Create charge at: end of the period ▼

Comments:

Add menu

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

- *Details*: payment description
- *Confirm invoice*: when the checkbox is selected, invoices are confirmed automatically
- *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](#)^[46]^[132])
- *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](#)^[54].

- *Volume*: volume of the services (in units configured in [Reference books\Product types](#)^[147])
- *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

Finance

- *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*

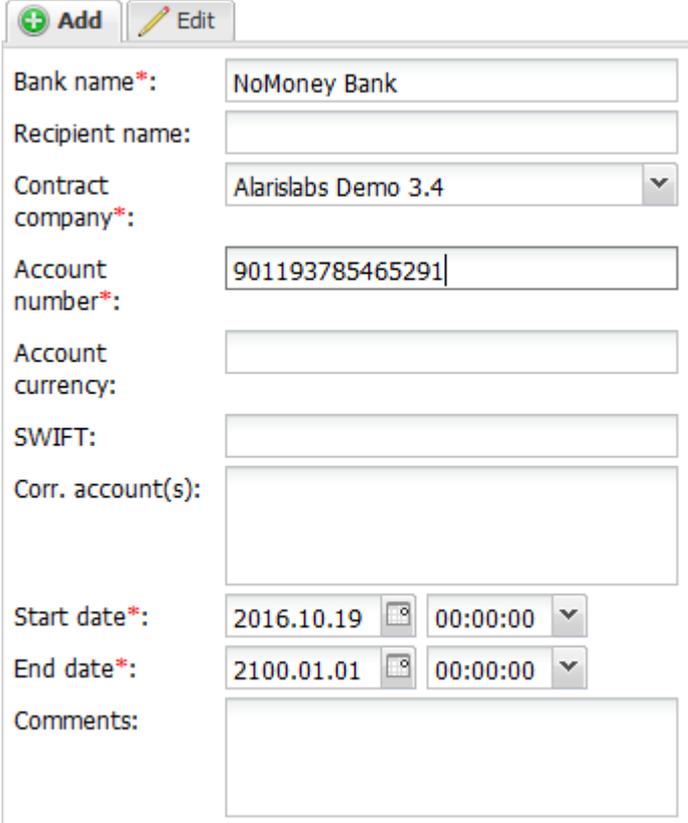
Click  to save the changes.

7 Reference books

7.1 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](#)^[95]) and payments (see [Finance\Payments](#)^[126]).

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



The screenshot shows a web form titled 'Add' with an 'Edit' button. The form contains the following fields:

- Bank name*:** Text input containing 'NoMoney Bank'.
- Recipient name:** Empty text input.
- Contract company*:** Dropdown menu showing 'Alarislabs Demo 3.4'.
- Account number*:** Text input containing '901193785465291'.
- Account currency:** Empty text input.
- SWIFT:** Empty text input.
- Corr. account(s):** Empty text input.
- Start date*:** Date and time input showing '2016.10.19' and '00:00:00'.
- End date*:** Date and time input showing '2100.01.01' and '00:00:00'.
- Comments:** Empty text input.

Add menu

7.2 Tags

Tags are marks assigned to source/destination-numbers or their masks. 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. Find out more in the [Alaris YouTube video](#).

The *Reference Books\Tags* page contains a table of tags and the *Add* and *Edit* menus.

Tag type	Direction	Tag name	Tag Values	Description	Start date	End date
Voice	All	Text mask	Text mask	Text mask	-- ≤ X ≤ --	-- ≤ X ≤ --
Voice	Source number	Russia	7910141231		2000.01.01 00:00:00	2100.01.01 00:00:00
Voice	Source number	AC_Test	7901		2018.10.22 00:00:00	2100.01.01 00:00:00
Voice	Source number	Russia	7911		2000.01.01 00:00:00	2100.01.01 00:00:00
Voice	Source number	Russia	7910		2000.01.01 00:00:00	2100.01.01 00:00:00
Voice	Source number	UAE	971		2000.01.01 00:00:00	2100.01.01 00:00:00
Voice	Source number	CLI	5265468616		2016.11.23 00:00:00	2100.01.01 00:00:00

Tags table

To create a new tag, use the *Add* menu as illustrated below.

Add
 Edit

Tag type*:

Direction*:

Tag name*:

Countries:

Edit list

Russia (7) ✖

Tag Values:

Description:

Start date*:

End date*:

Add menu

The menu contains the following parameters:

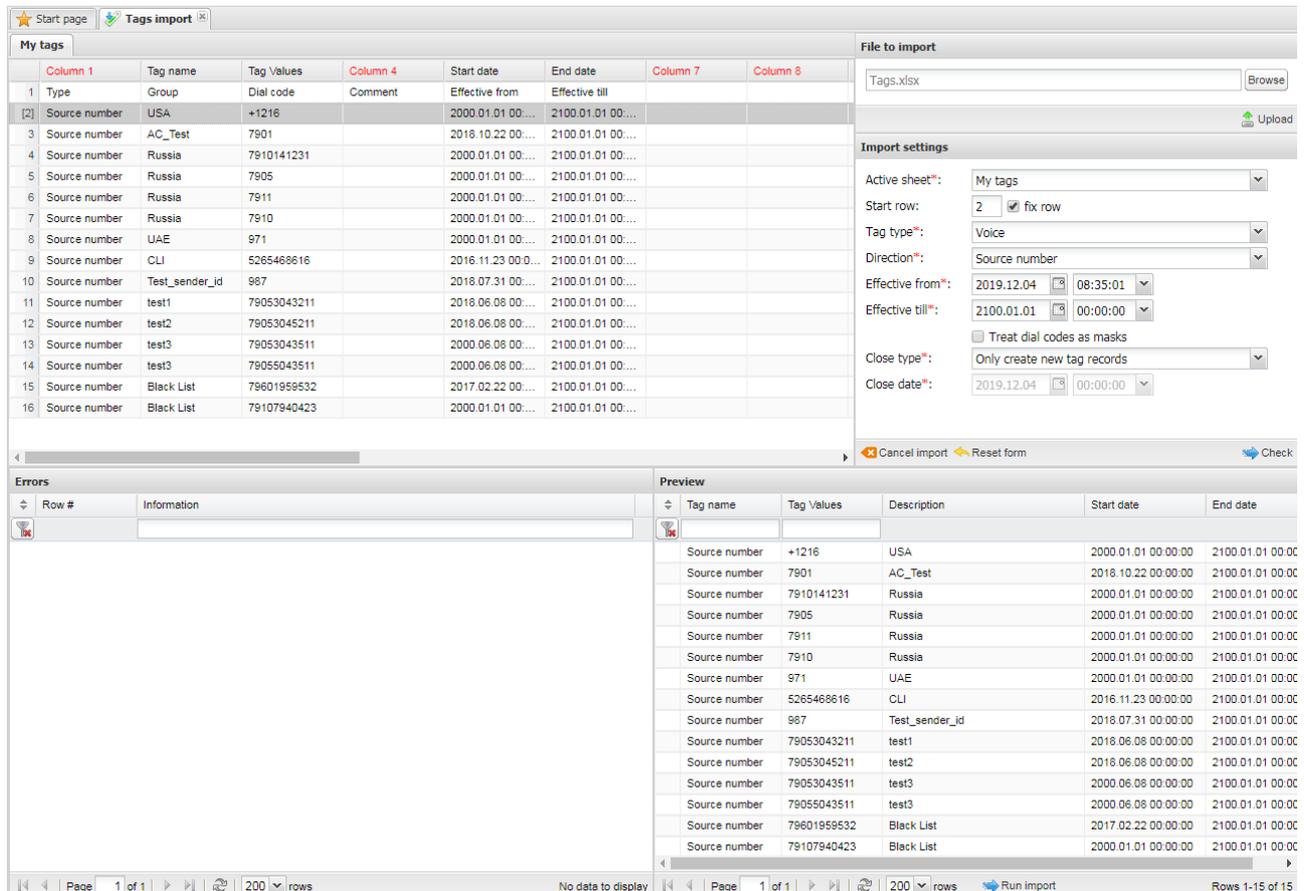
- *Tag type*: the tag type
- *Direction*: *Source number* (for A-numbers) or *Destination number* (for B-numbers)
- *Tag name*: the tag name. To create a new tag name, expand the drop-down list, type the name in the edit field and click the button.
- *Countries*: list of countries
- *Tag values*: the dial code (use % as a wildcard if necessary)
- *Description*: arbitrary comments
- *Start date, End date*: record validity date

Click **Submit** to save the changes.

7.3 Tag 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.



The screenshot displays the 'Tag import' interface. At the top left, there is a 'My tags' table with columns: Column 1, Tag name, Tag Values, Column 4, Start date, End date, Column 7, and Column 8. The table contains 16 rows of tag data. To the right, the 'File to import' section includes a file selection field (Tags.xlsx) and an 'Upload' button. Below that, the 'Import settings' panel allows configuration of 'Active sheet*', 'Start row', 'Tag type*', 'Direction*', 'Effective from*', 'Effective till*', 'Treat dial codes as masks', 'Close type*', and 'Close date*'. At the bottom, there are 'Cancel import', 'Reset form', and 'Check' buttons. The bottom section is split into 'Errors' and 'Preview' panels. The 'Preview' panel shows a table of the imported tag records with columns: Tag name, Tag Values, Description, Start date, and End date.

Tag import

To import a file with tags, proceed as follows:

- 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](#).

- 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*.

My tags						
	Column 1	Tag name	Column 3	Column 4	Start date	End date
1	Type	Group	Dia	ment	Effective from	Effective till
[2]	Source number	USA	+12		2000.01.01 00:...	2100.01.01 00:...
3	Source number	AC_Test	790		2018.10.22 00:...	2100.01.01 00:...
4	Source number	Russia	791		2000.01.01 00:...	2100.01.01 00:...
5	Source number	Russia	790		2000.01.01 00:...	2100.01.01 00:...
6	Source number	Russia	791		2000.01.01 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
- *Type*: select *Voice* for Alaris inVoice or *SMS* for Alaris SMS Platform
- *Direction*: *Source number* (for A-numbers) or *Destination number* (for B-numbers)
- *Effective from/Effective till*: specify the validity period for the tags
- *Treat dial codes 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 7910. With the option disabled, only numbers 7910 will be selected by the System. With the option enabled, the number will be treated as 7910% and all numbers having 7910 in them will be selected
- *Close type*: select how existing records must be treated if they contain the same tags as in the imported file:
 - *Only create new tag records*: add new tag records and leave all existing records as is
 - *Close all existing records*: close all existing records for the tags present in the file, and add new tag records
- *Close date* (active if *Close all existing records* is selected): the close date of existing records

Click  **Check** to view the parsing results and errors. To clear the *Import settings* panel click  **Reset**. To clear all panels, click  **Cancel import**.

Errors	
Row #	Information
101	Cannot add the record: it overlaps existing references for the same code 244, tag GP04 and type...
102	Cannot add the record: it overlaps existing references for the same code 994, tag GP04 and type...
103	Cannot add the record: it overlaps existing references for the same code 975, tag GP04 and type...
104	Cannot add the record: it overlaps existing references for the same code 856, tag GRPC and typ...
105	Cannot add the record: it overlaps existing references for the same code 87077, tag GRPD and t...
106	Cannot add the record: it overlaps existing references for the same code 882, tag GP04 and type...
107	Cannot add the record: it overlaps existing references for the same code 678, tag GP04 and type...
108	Cannot add the record: it overlaps existing references for the same code 1264, tag GP04 and typ...

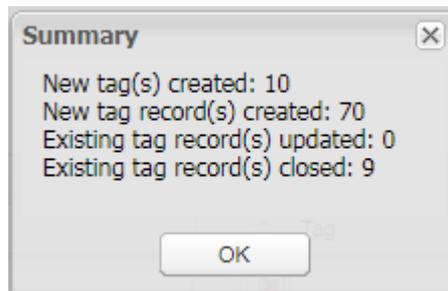
Errors panel

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

Preview					
Tag name	Tag Values	Description	Start date	End date	
Source number	+1216	USA	2000.01.01 00:00:00	2100.01.01 00:00:00	
Source number	7901	AC_Test	2018.10.22 00:00:00	2100.01.01 00:00:00	
Source number	7910141231	Russia	2000.01.01 00:00:00	2100.01.01 00:00:00	
Source number	7905	Russia	2000.01.01 00:00:00	2100.01.01 00:00:00	
Source number	7911	Russia	2000.01.01 00:00:00	2100.01.01 00:00:00	

Preview panel

5. The *Preview* panel shows the records that will be imported. Review the errors and preview records and click . Once the operation is complete, import summary will appear on the screen as shown below.



Import summary

7.4 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* menus in the right section of the page.

7.4.1 Contract companies tab

Contract companies					
		Agreement defaults	Payment systems		
ID	Contract company	Wholesale portal URL	List of allowed domains (comma-separated)		
 285	123123123555		*.alarislabs.com		
 347	ACQ Ltd	https://portal.test34-fr.alarislabs.com/	*.alarislabs.com, *.alarislabs.ru		
 328	AC_CL_0103		*.alarislabs.com		

Table of contract companies

To create a new contract company, open the *Contract companies* tab sheet and use the *Add* menu as illustrated below.

 Add
 Edit

Contract company*:	<input type="text" value="Hornes and Hooves, Inc."/>
Alaris Invoice title:	<input type="text" value="Hornes and Hooves"/>
Invoice filename pattern:	<input type="text" value="[InvoiceDate]-[CompanyName].pdf"/>
Invoice details filename pattern:	<input type="text" value="[CompanyName]-[InvoiceDate]_[ProductDescr]"/>
Invoice reference number format (inbound):	<input type="text" value="[XXXXXXX]"/>
Invoice reference number format (outbound):	<input type="text" value="[CAR_ID]"/>
Current invoice number (inbound):	<input type="text" value="6 267"/>
Current invoice number (outbound):	<input type="text" value="6 200"/>
Credit-note reference number format (inbound):	<input type="text" value="CN[XXXXXXX]"/>
Credit-note reference number format (outbound):	<input type="text" value="CN[CAR_ID]"/>
Current credit-note number (inbound):	<input type="text" value="1"/>
Current credit-note number (outbound):	<input type="text" value="1"/>
Email address list to CC finance-related emails:	<input type="text" value="invoice@hoho.com"/>
Email address list to BCC finance-related emails:	<input type="text" value="secret_service@hoho.com"/>
Email address to CC rates updating:	<input type="text" value="rates@hoho.com"/>
Email address to BCC rates updating:	<input type="text" value="secret_service_rates@hoho.com"/>
List of allowed domains (comma-separated):	<input type="text" value="www.campaigns-hoho.com,www.haha.com,www.hoho.com"/>
List of MCCs to be ignored during rate import:	<input type="text" value="101,102"/>

Default for self-registered partners

Add menu

The menu contains the following parameters:

Reference books

- *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)*
- *Current invoice number (inbound/outbound)*
- *Credit-note reference number format (inbound/outbound)*
- *Current credit-note number (inbound/outbound)*
- *Email address list to CC finance-related emails*
- *Email address list to BCC finance-related emails*
- *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
- *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 portal is allowed by the parameter *Allow Wholesale portal user registration* (1 - yes, 0 - no) in [Administration\System settings\Partner portal](#)^[51]

Portals

Campaign Portal URL:	<input type="text" value="www.cportal-hoho.com"/>
Campaign Portal title:	<input type="text" value="Hornes and Hooves"/>
Wholesale portal URL:	<input type="text" value="www.haha.com"/>
Wholesale portal title:	<input type="text" value="Hornes and Hooves Wholesale"/>
Credit limit for new Campaign Portal clients:	<input type="text" value="10"/>
Initial payment for new Campaign Portal clients:	<input type="text" value="15"/>
Minimum payment amount for portal:	<input type="text" value="5"/>
Segment billing mode for new Campaign Portal clients:	<input type="text" value="4. Bill and calculate routing rate by segmen"/> ▾
	<input checked="" type="checkbox"/> Use Authorize.net
	<input checked="" type="checkbox"/> Use PayOnline
	<input checked="" type="checkbox"/> Use PayPal
	<input checked="" type="checkbox"/> Use PayU
	<input checked="" type="checkbox"/> Use Secure Trading
	<input checked="" type="checkbox"/> Use Stripe

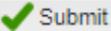
Add menu, continued

- *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](#)^[140]
- *Use Authorize.net, Use PayOnline, Use PayPal, Use PayU, Use Secure Trading, Use Stripe*: select appropriate checkboxes to allow the respective payment systems in the [Wholesale portal](#)^[140]

NOTE: The [Wholesale portal](#)^[140] supports the use of the following payment systems: *Authorize.net, PayPal* and *Payonline*.

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\System settings\Template manager\Markers](#)^[69].

NOTE: Prior to inserting markers in the *Add* menu fields, check that they are configured in [System settings\Financial module](#)^[46] (*Invoice reference number format* parameter) and [Administration\System settings\Template manager](#)^[66].

Click  to save the changes.

The *Edit* menu 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](#)^[140] or resetting the password through the password reset link. Click  to configure the text.

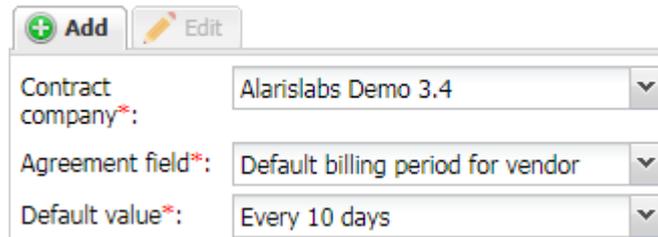
7.4.2 Agreements defaults tab

The *Agreement defaults* tab sheet allows setting default values for the [Carriers\Agreements](#)^[95] 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

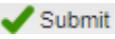
To add a new default value, use the *Add* menu as illustrated below.



Add agreement default

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

- *Contract company*
- *Agreement field*: field in the [Carriers\Agreements](#)^[95] page
- *Default value*

Click  to save the changes.

7.4.3 Payment systems tab

The *Payment systems* tab sheet contains information about the supported payment systems. The following payment systems are supported: PayPal, PayOnline, Authorize.net, PayU, Stripe and Secure Trading.

NOTE: Prior to configuring payment systems, an account must be registered at the respective payment system.

NOTE: The [Wholesale portal](#)^[143] supports the use of the following payment systems: *Authorize.net*, *PayPal* and *Payonline*.

Contract companies		Agreement defaults		Payment systems	
Contract company		Paysystem name			
All	▼	All	▼		
Default		PAY_ONLINE			
Default		AUTHORIZE_NET			
Default		PAYU			
Default		PAYPAL			
Alarislabs		PAYPAL			
Alarislabs		AUTHORIZE_NET			

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:

Paysystem name:

PAYPAL_BUSINESS:

PAYPAL_DEDUCT_FEE:

PAYPAL_URL:

Add payment system

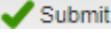
Configure the following fields:

- *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:
 - *AUTHORIZE_API_LOGIN_ID*
 - *AUTHORIZE_TRANSACTION_KEY*
 - For Paypal:
 - *PAYPAL_BUSINESS*: authorization parameter for the accounts belonging to Paypal (e-mail address)
 - *PAYPAL_DEDUCT_FEE*: 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)
 - *PAYPAL_URL*: URL used for confirmation of Paypal payments
 - For PayU: authorization parameters for the service:

Reference books

- *PAYU_ACCOUNT_ID*
- *PAYU_API_KEY*
- *PAYU_MERCHANT_ID*
- For PayOnline: authorization parameters for the service:
 - *PAYONLINE_MERCHANT_ID*
 - *PAYONLINE_PRIVATE_SECURITY_KEY*
- For Stripe: authorization parameters for the service:
 - *Publishable key*
 - *Secret key*
- For Secure Trading: authorization parameters for the service:
 - *Secure site reference*
 - *Secure merchant email*
 - *Secure 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*, *siteference*, *version*, *stprofile*, *ruleidentifier*, *stdefaultprofile*, *merchantemail*, *allurlnotification*, *stextraurlnotifyfields*, *sitecuritytimestamp*, *password*.

Click  to save the changes.

7.5 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, AUD, BAN, BYN, COP, EUR, EUR_ECB, GZIP, JPY, KTZ, NEW_CUR, RUB, Teesr, ZAR, ZBV, ZER, test](#) 

Exchange rates

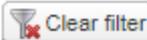
Currency: 

Rate relative to: 

Date from*: 

Date till*: 

Show actual rates

Currency	Date	Rate to USD
RUB	2019.12.09	0.015692
JPY	2019.12.09	0.009207
EUR	2019.12.09	1.109908
BYN	2019.12.09	0.472724
AUD	2019.12.09	0.684599
999	2019.10.28	1.550000
ZAR	2019.06.28	0.070668
AED	2019.06.28	0.272294

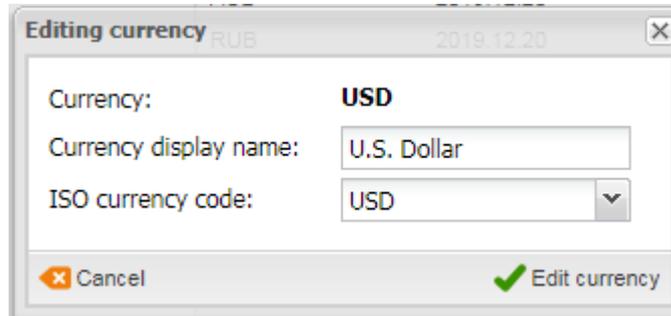
Currency exchange rates

Reference books

The page contains the following information:

- *System currency*: the actual System currency
- *Existing currencies*: other currencies configured in the System

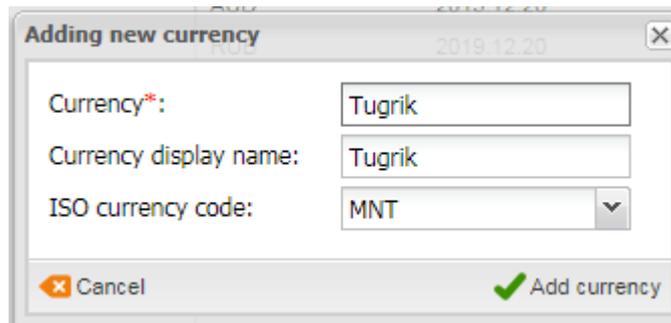
Click the link with the currency code to open the *Editing currency* menu:



Editing currency

Enter the appropriate parameters in the corresponding fields. Click  **Edit currency** to confirm or  **Cancel** to discard the settings. Click  **Delete** to delete the currency.

The  button opens the *Adding new currency* menu:



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. Contact the Alaris technical support team for configuration.

7.6 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](#)^[103] 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](#)^[132] 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](#)^[114] 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](#)^[118] 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](#)^[66])

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

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](#)^[103] and cannot be used to create new products. They can only be used in [Finance\Charges](#)^[114] for creating charges and in [Finance\Invoices](#)^[118] 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* menus.

The screenshot shows a form with the following fields:

- Type name*:** Correction
- Charge description*:** Correctional charge
- Unit*:** Service

Add menus

Enter the above listed parameters in the appropriate fields. When through with defining the parameters, click to confirm or to discard the settings. Click to delete the selected record.

7.7 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 [VoiceAnalytics](#) ¹⁷⁶ page as a statistical layer component (*Client/Vendor Managers, Client/Vendor Region*).

7.7.1 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

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* menus in the upper right corner of the page allow assigning managers to regions. To activate the *Edit* menu, click on the record in the table. Enter the parameters in the corresponding fields. Fields marked with an asterisk (*) are required.

The screenshot shows a form with the following fields:

- Region name*:** Asia
- Manager*:** Poppins Mary (Poco Loco)

Add and Edit menus

When through with defining the parameters, click to confirm or to discard the settings. Click to delete the selected record.

7.7.2 Countries

The *Countries* table contains the following information:

- *ID*: internal identification number
- *Country*: name of the country
- *Region*: name of the region
- *Tax, %*: the applicable tax rate

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* menu in the upper right corner allows assigning countries to regions and specifying the applicable tax rate (correct to the second decimal place).

Edit

Country: **Antarctica**

Region:

Tax, %:

Edit menu

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

7.7.3 Country groups

The *Country groups* page allows grouping countries for configuration of the [Carriers\Voice POI](#)¹⁰⁸.

The *Country groups* table contains the following information:

ID	Group name	Countries
10000	CIS	ARMENIA, Belarus, Kazakhstan, Moldova
10001	Group 1	Lesotho, Mexico, Papua New Guinea

Country groups

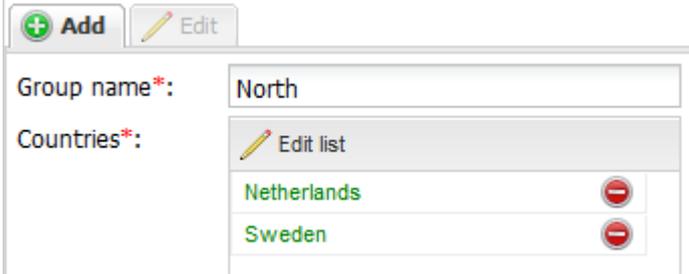
- *ID*: internal identification number

Reference books

- *Group name*: name of the group
- *Countries*: comma-separated list of countries within the group

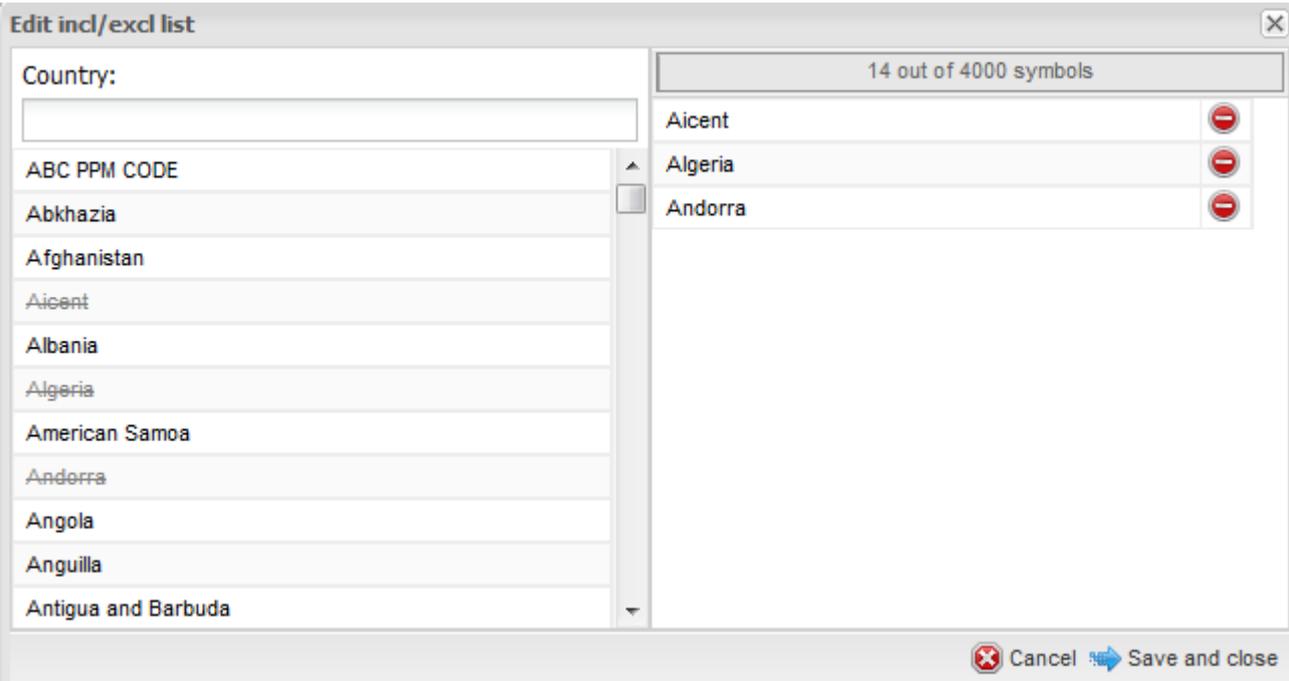
Use a text mask under the column header to filter the records in the table.

The right panel contains the *Add* and *Edit* menus. To activate the *Edit* menu, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



Add menu

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



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.

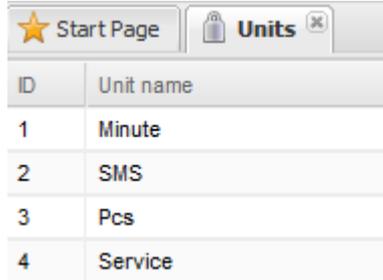
When through with adding/editing a group, click  *Submit* to confirm or  *Reset* to discard the settings.

Click  *Delete* to delete the selected group. The  *Clone* button allows creation of the new group with same parameters.

7.8 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* menus. 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* menus allow adding new records or editing existing ones. To activate the *Edit* menu, click on the record in the table. Enter the unit name in the corresponding field.



Unit name*:

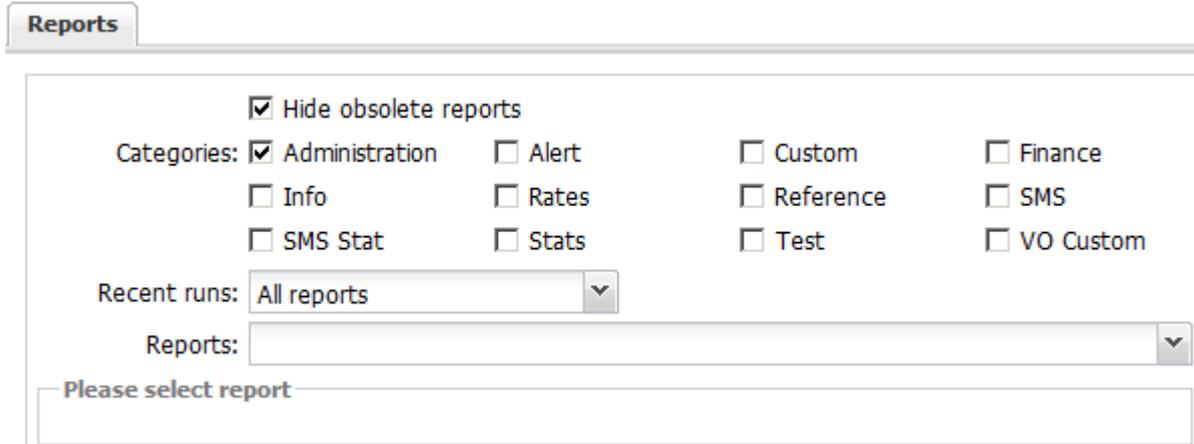
Add menu

When through with defining the parameters, click to confirm or to discard the settings. Click to delete the selected record.

8 Reports

8.1 Reports page overview

The *Reports* page enables creating custom reports based on any table in the System database.



The screenshot shows the 'Reports' page interface. At the top left, there is a tab labeled 'Reports'. Below it, there is a section with a checkbox for 'Hide obsolete reports' which is checked. Underneath, there are several categories listed with checkboxes: 'Administration' (checked), 'Alert', 'Custom', 'Finance', 'Info', 'Rates', 'Reference', 'SMS', 'SMS Stat', 'Stats', 'Test', and 'VO Custom'. Below the categories, there is a 'Recent runs:' dropdown menu currently set to 'All reports'. Underneath that is a 'Reports:' dropdown menu. At the bottom of the form area, there is a text box with the placeholder text 'Please select report'.

Reports page

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 *Reports* page allows generating a report based on an existing template and contains the following parameters:

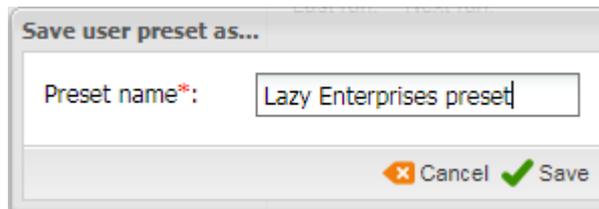
- *Categories*: the report category. When several categories are selected, the *Reports* drop-down list shows all reports included at least in one of the groups
- *Recent runs*: shows the reports generated for the past 24 hours, 3 days, week, 2 weeks or a month. Use this drop-down list for easy access to frequently used reports
- *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

In the right hand panel check the flag *Is recurrent* if the report must be created regularly. Configure the time table as shown below.

NOTE: The System only sends the results of recurrent reports if they are not void.

Click to view the schedule of the next 10 runs of the report.

The user can save the current report and schedule parameters as well as a list of recipients. In the *User presets* field located above the report parameters click . In the dialog that appears specify the preset name and click .



Save preset dialog

To generate a report, click at the bottom of the left panel. The generated report will open in a new tab as illustrated in the figure below. Click on the tab to close the report or cancel the report generation if still in progress. Click or to export the file to MS Excel or a .CSV file respectively.

Reports ★ Report "Analytical cube status (Administration)"

Period: **Week**

Nº	Partition period ...	Partition date	State	Last change	Row count
	Text mask	Text mask	Text mask	Text mask	Text mask
1	WEEK	2017.12.04 00:...	Must be recalcu...	2017.11.27 00:0...	0
2	WEEK	2017.11.27 00:0...	Must be recalcu...	2017.11.30 07:2...	311211
3	WEEK	2017.11.20 00:0...	Ready	2017.11.27 02:3...	1333235
4	WEEK	2017.11.13 00:0...	Ready	2017.11.20 02:3...	585148
5	WEEK	2017.11.06 00:0...	Ready	2017.11.13 02:3...	416590

Report example

You can select the number of rows displayed per page by using the control at the bottom of the page. The setting is saved in the browser's local storage and will be applied to all reports you open.

Click to view the report in a configurable summary table

Start Page Active calls

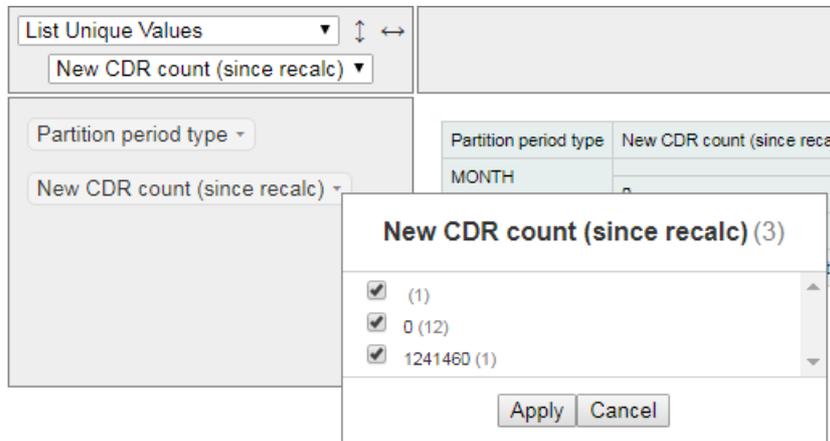
Manual refresh Auto refresh: 5 secs Save filters

Count

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.



Selection dialog

If access to specific data in the System DB is required for creating a report not available on the *Reports* page, contact the Alaris support team for a description of the necessary DB tables and/or views. The most frequently used reports are described below.

8.2 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](#) ⁶⁰¹ 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

8.3 Auto rate import change log (Administration)

The *Auto rate import rule change log (Administration)* report shows changes of auto import rules. To access the report, in the *Categories* section select *Administration*; in the *Reports* drop-down list select *Auto rate import rule change log (Administration)* or simply type the name of the report.

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs:

Reports:

User presets:

Params of report "Administration: Auto rate import rule change log"

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

Rule ID:

From:

To:

Auto rate import change log (Administration) report settings

Configure the following parameters:

- *Rule ID*: ID of the auto import rule
- *From/To*: the period of changes

Click **Run report** to execute the report.

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

Reports ★ Report "Auto rate import rule change log (Administration)"

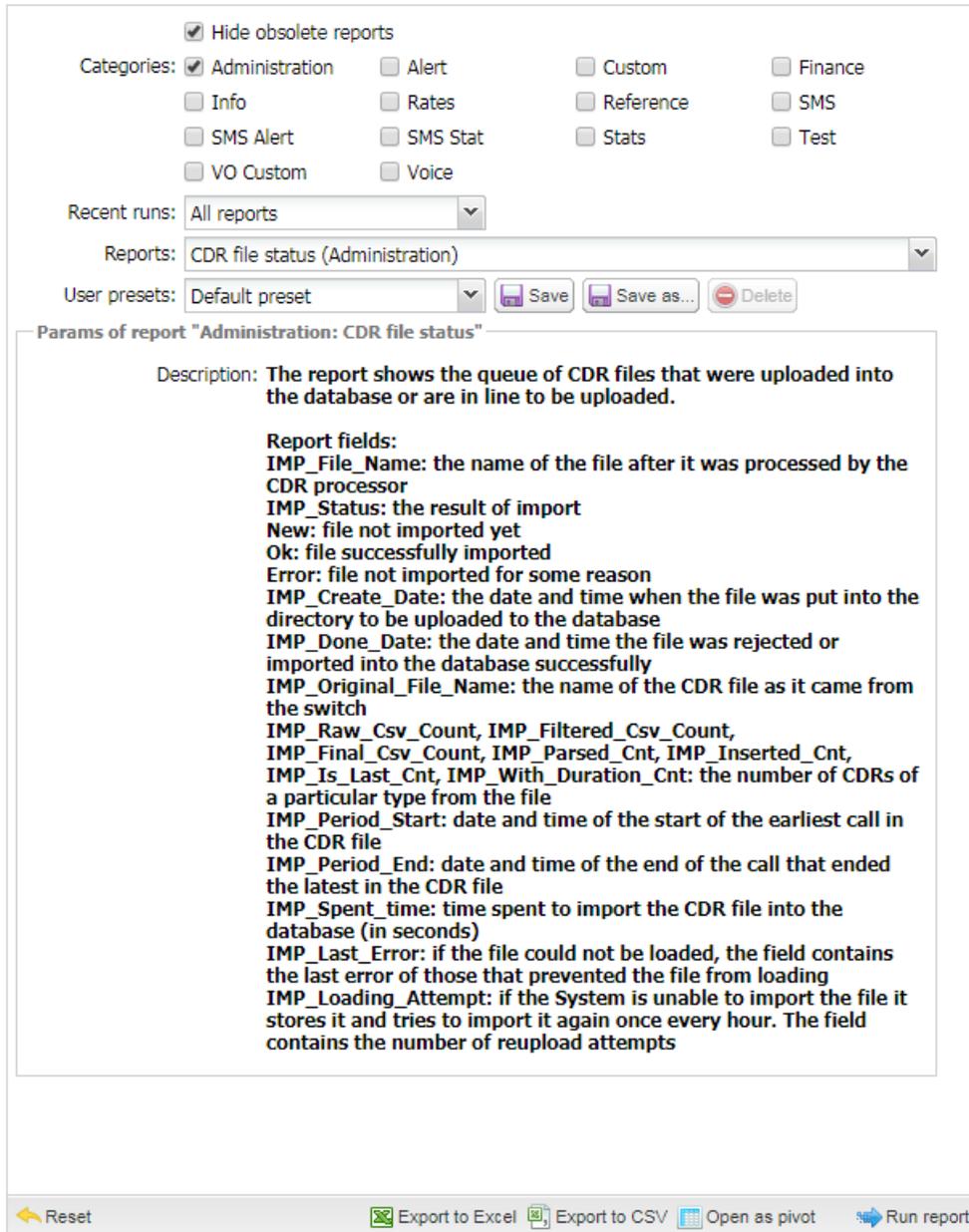
Rule ID: **10006**; From: **2019.10.13 00:00:00**; To: **2019.10.14 09:30:00**

Nº	Author	LOG_ID	LOG_TIME	LOG_ACTION	SESSION_ID	EXEC_ID	RULE_ID	CAR_ID	PRODUCT_ID
	<input type="text" value="Text mask"/>								
1	Alaris (50.7.93....	95162747	2019.10.14 06:...	ud	134857369	505997617	10006	1412	99869
2	Alaris (50.7.93....	95162747	2019.10.14 06:...	ui	134857369	505997617	10006	1412	99869
3	Alaris (50.7.93....	95163003	2019.10.14 06:...	ud	134857369	505999095	10006	1412	99869
4	Alaris (50.7.93....	95163003	2019.10.14 06:...	ui	134857369	505999095	10006	1412	99869
5	Alaris (50.7.93....	95163005	2019.10.14 06:...	ud	134857369	505999126	10006	1412	99869
6	Alaris (50.7.93....	95163005	2019.10.14 06:...	ui	134857369	505999126	10006	1412	99869
7	Alaris (50.7.93....	95163027	2019.10.14 06:...	ud	134857369	505999550	10006	1412	99869
8	Alaris (50.7.93....	95163027	2019.10.14 06:...	ui	134857369	505999550	10006	1412	99869
9	Alaris (50.7.93....	95163029	2019.10.14 06:...	ud	134857369	505999594	10006	1412	99869
10	Alaris (50.7.93....	95163029	2019.10.14 06:...	ui	134857369	505999594	10006	1412	99869

Auto rate import change log (Administration) report

8.4 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.



Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs: All reports

Reports: CDR file status (Administration)

User presets: Default preset

Params of report "Administration: CDR file status"

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
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

CDR file status (Administration) report settings

To access the report, in the *Categories* section check *Administration*; in the *Reports* drop-down list select *CDR file status (Administration)*. Click [Run report](#).

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

Reports ★ Report "CDR file status (Administration)"

№	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
1	mvtsp..._av_20...	Ok	2019.02.25 11:0...	2019.02.25 11:0...	sip_cdr_fake_si...	967	967
2	mvtsp..._av_20...	Ok	2019.02.25 11:0...	2019.02.25 11:0...	sip_cdr_fake_si...	2630	2630
3	mvtsp..._av_20...	Error	2019.02.25 10:...	2019.02.25 15:...			
4	mvtsp..._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](#) ³⁶).

8.5 Change logs (Administration)

Change logs keep track of all the changes made by the System owner to System objects for the past 30 days (the period is configured by the parameter *Log store period, days* at [Administration\System settings\Common](#)^[36]). These logs allow identifying the user that made the changes (when fixing something that went wrong, for example).

To view the log, in the *Categories* section select *Administration*; in the *Reports* drop-down list select the appropriate log. In the *Params of report* section select appropriate parameters. Click  **Run report**.

The following change logs exist in the System (available in the *Administration* section):

- Agreement change log
- Balance change log
- Carrier change log
- Past rate change log
- Permission change log
- POI change log
- Product change log
- Rate change log
- System settings change log

An example of the *POI change log (Administration)* 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 (Administration)

8.6 REST API changes (Administration)

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

To access the report, in the *Reports* drop-down list select *REST API changes (Administration)*.

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs: All reports

Reports: REST API changes (Administration)

User presets: Default preset Save Save as... Delete

Params of report "Administration: REST API changes"

Description: **Compare two REST API versions**

From version (V2): 3.5.4

Till version (V1): 3.5.5

Parameters of REST API changes (Administration)

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)

To generate the report, click at the bottom of the left panel. An example of the report is shown in the figure below.

Reports ★ Report "REST API changes (Administration)"

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

№	Resource	Parameter	Change V2=>V1	V2	V1	V1 description
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	GET:agreement	vat_number	created in 3.5.5	3.5.4	3.5.5	Get agreement list
2	POST:agreement	vat_number	created in 3.5.5	3.5.4	3.5.5	Add new agreement
3	GET:agreement/{id}	vat_number	created in 3.5.5	3.5.4	3.5.5	Get specific agreement
4	PUT:agreement/{id}	vat_number	created in 3.5.5	3.5.4	3.5.5	Update specific agreement

REST API changes (Administration) report

8.7 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 is calculated correctly, detect critical database errors etc.

Params of report "Administration: System log"

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**

Operation:

From:

To:

Parameters of System log (Administration)

To view the log, in the *Categories* section select *Administration*; in the *Reports* drop-down list select *System log (Administration)*. In the *Params of report* section in the *Operation* field specify the database operation (use the * mask symbol if necessary). In the *From* and *To* fields specify the period for the report. Click [Run report](#).

8.8 System tasks (Administration)

The *System tasks (Administration)* report contains details of scheduled tasks launched from all System interfaces. To access the report, in the *Categories* section select *Administration*; in the *Reports* drop-down list select *System tasks (Administration)* or simply type the name of the report.

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs:

Reports:

User presets:

Params of report "Administration: System tasks"

Description: **No description**

System tasks (Administration) report settings

Click [Run report](#) to execute the report.

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
1	ratanatask9	Done	Ready. Time spent: +0 00:01:10	2015.08.07 17:...	Alaris	Rate analysys	{"analysis": "19", "...
2	ratanatask5	Done	Ready. Time spent: +0 00:01:24	2015.06.02 09:...	Alaris	Rate analysys	{"analysis": "15", "...
3	ratanatask4	Done	Ready. Time spent: +0 00:00:56	2015.06.02 01:...	Alaris	Rate analysys	{"analysis": "14", "...
4	ratanatask3	Done	Ready. Time spent: +0 00:01:21	2015.03.27 15:...	Alaris	Rate analysys	{"analysis": "13", "...

System tasks (Administration) report

8.9 User logon history (Administration)

The *User logon history (Administration)* report shows active and completed user sessions. The default storage period is 30 days (can be changed by the parameter *Log store period, days* in [Administration\System settings\Common](#) ³⁶⁾)

Parameters of User logon history (Administration)

To view the log, in the *Categories* section select *Administration*; in the *Reports* drop-down list select *User logon history (Administration)* . Click **Run report** . A report example is illustrated below:

Reports ★ Report "User logon history (Administration)"								
Nº	Log ID	Session ID	Action time	User	User IP ad...	Session start time	Session end time	Session duratio...
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	41846321	27704542	2017.12.25 08:...	Alaris	163.172.2...	2017.12.25 08:...		
2	41842167	27699907	2017.12.25 06:...	Alaris	163.172.2...	2017.12.25 06:...		
3	41667430	27526932	2017.12.23 10:...	Alaris	163.172.2...	2017.12.23 10:...	2017.12.23 17:...	7.54
4	41659325	27517971	2017.12.23 07:...	Alaris	163.172.2...	2017.12.23 07:...	2017.12.23 12:...	4.75
5	41582771	27445798	2017.12.22 13:...	Alaris	163.172.2...	2017.12.22 13:...	2017.12.22 15:...	2.87

User logon history (Administration) report

8.10 Successful disconnect codes (Reference)

The *Successful disconnect codes (Reference)* report shows VoIP disconnect codes that are considered successful for NER calculation. To access the report, in the *Categories* section select *Reference*; in the *Reports* drop-down list select *Successful disconnect codes (Reference)* or simply type the name of the report.

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs:

Reports:

User presets:

Params of report "Reference: Successful disconnect codes"

Description: **The list shows VoIP disconnect codes which are considered successfull for NER calculation. To adjust the list please create a TT to support.**

Successful disconnect codes (Reference) report settings

Click Run report to execute the report.

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

No	Disconnect code	Is successful	Is accountable
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

8.11 Voice Volume/ASR/ACD monitoring (Alert)

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

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Stat Stats Test VO Custom

Recent runs:

Reports:

Params of report "Alert: Voice Volume/ASR/ACD monitoring"

Description: **No description**

Previous period start:

Previous period end:

Current period start:

Current period end:

min. Δ Volume, %:

negative
 positive

min. Δ ASR, %:

negative
 positive

min. Δ ACD, %:

negative
 positive

Voice Volume/ASR/ACD monitoring (Alert)

To access the report, in the *Reports* drop-down list select *Voice Volume/ASR/ACD monitoring (Alert)*.

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

Reports

To generate the report, click at the bottom of the left panel. An example of the report is shown below.

Reports ★ 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**

Nº	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
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, Premiu...	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, Mobili...	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

8.12 Negative margin (Stats)

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

Reports

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs: All reports

Reports: Negative margin (Stats)

User presets: Default preset

Params of report "Stats: Negative margin"

Description: No description

Hour: 2018.03.01 00:00:00

Negative margin (Stats) report settings

To access the report, in the *Categories* section check *Stats*; in the *Reports* drop-down list select *Negative margin (Stats)*. Specify the hour for which the report must be generated. Click .

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

Reports

The report contains the following columns:

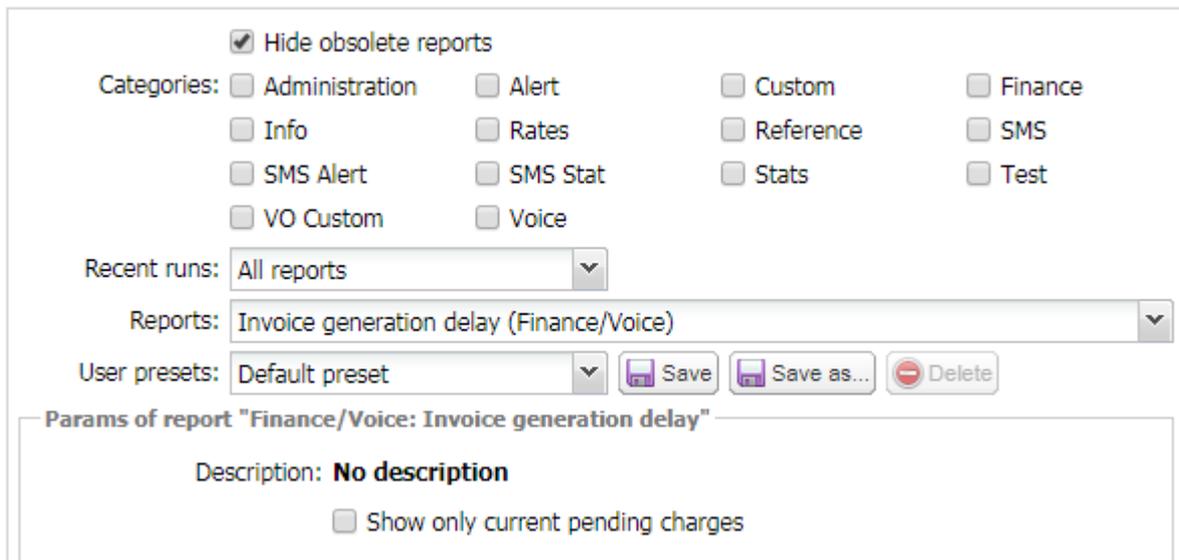
- Client
- Client destination
- Vendor
- Vendor destination
- Margin

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

8.13 Invoice generation delay (Finance, Voice)

The *Invoice generation delay (Finance, Voice)* 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](#)^[46]) has not passed yet



Invoice generation delay report settings

To access the report, in the *Categories* section check *Finance*; in the *Reports* drop-down list select *Invoice generation delay (Finance, Voice)*. Select the checkbox *Show only current pending charges* to display only charges that were generated within the past 60 days. Click [Run report](#).

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

8.14 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*).

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs: All reports

Reports: Change rate on active destination (Rates)

User presets: Default preset Save Save as... Delete

Params of report "Rates: Change rate on active destination"

Description: **No description**

Vendor: Selected: All

Destination: *

Stat period from: 2018.03.06

Stat period to: 2018.03.16

Log period fom: 2018.03.06

Log period to: 2018.03.17

New rate start from: 2018.03.16

New rate start to: 2018.03.22

Change rate on active destination (Rates) report settings

To access the report, in the *Reports* drop-down list select *Change rate on active destination (Rates)*. Specify the following report parameters:

- *Vendor*

Reports

- *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

Click  **Run report**. An example of the report is shown in the figure below.

Reports ★ Report "Change rate on active destination (Rates)" (x)						
Vendor: All ; Destination: * ; Stat period from: 2018.03.06 ; Stat period to: 2018.03.16 ; Log period fom: 2018.03.06 ; Log period to: 2						
Nº	Vendor product	Destination	Dial code	Volume	ASR	ACD
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	CallingElvis - VIP	Dominican Republic, mobi...	18093	103 502.07	15.57	3.48

Change rate on active destination (Rates) report

8.15 Import statistics (Stats)

The *Import statistics (Stats)* report shows the number of rate import operations carried out in the past 30 and 180 days as well as their average periodicity.

Hide obsolete reports

Categories: Administration Alert Custom Finance
 Info Rates Reference SMS
 SMS Alert SMS Stat Stats Test
 VO Custom Voice

Recent runs: ▼

Reports: ▼

User presets: ▼  Save  Save as...  Delete

Params of report "Stats: Import statistics"

Description: **No description**

Import statistics (Stats) report settings

To access the report, in the *Categories* section check *Stats*; in the *Reports* drop-down list select *Import statistics (Stats)*. Click  **Run report**.

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

Period from: 2019.02.04; Period to: 2019.03.15; Count: 10

№	Date	Country	Net	MCCMNC	Vendor	Status	Error Code	Count
	Text mask	Text mask	Text mask	Text mask	A*	Text mask	Text mask	Text mask
1	2019-02-05	Russian Federa...	MTS	250001	ACQ_Vendor1	VND CHN TCP ...	1000024	12
2	2019-02-06	Russian Federa...	MegaFon	250002	AM_SMS_VENDOR	VND CHN TCP ...	1000024	20
3	2019-02-06	Russian Federa...	MegaFon	250002	Anton_smpp_V	VND CHN NOT...	2147483649	44
4	2019-02-06	Russian Federa...	MegaFon	250002	as_d34_vnd	VND CHN NOT...	2147483649	65
5	2019-02-07	Russian Federa...	MegaFon	250002	AM_SMS_VENDOR	VND CHN TCP ...	1000024	36
6	2019-02-07	Russian Federa...	MegaFon	250002	Anton_smpp_V	VND CHN NOT...	2147483649	69
7	2019-02-07	Russian Federa...	MegaFon	250002	as_d34_vnd	VND CHN NOT...	2147483649	97
8	2019-02-08	Russian Federa...	All networks	250	Anton_smpp_V	VND CHN NOT...	2147483649	18
9	2019-02-08	Russian Federa...	All networks	250	as_d34_vnd	VND CHN NOT...	2147483649	29
10	2019-02-08	Russian Federa...	MegaFon	250002	AM_SMS_VENDOR	VND CHN TCP ...	1000024	31
11	2019-02-08	Russian Federa...	MegaFon	250002	Anton_smpp_V	VND CHN NOT...	2147483649	64
12	2019-02-08	Russian Federa...	MegaFon	250002	as_d34_vnd	VND CHN NOT...	2147483649	97
13	2019-02-11	Russian Federa...	MTS	250001	ACQ_Vendor1	VND CHN TCP ...	1000024	13

Import statistics (Stats) report

The report contains the following columns:

- *Product*
- *Last import date*: the date when rates were last imported into the product
- *Avg delay btw imports for 30d*: average periodicity of import operations (in days)
- *No of imports for 30d*: number of import operations for the past 30 days
- *Avg No of imports for 30d*: average daily number of import operations for the past 30 days
- *No of imports for 180d*: number of import operations for the past 180 days
- *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

8.16 Reject traffic vendor Voice (Stats)

The *Reject traffic vendor Voice (Stats)* report shows vendors that reject more traffic than defined in the report parameters. To access the report, in the *Categories* section check *Stats*; in the *Reports* drop-down list select *Reject traffic vendor Voice (Stats)*.

Reports

Hide obsolete reports
 Categories:
 Administration
 Alert
 Custom
 Finance
 Info
 Rates
 Reference
 SMS
 SMS Alert
 SMS Stat
 Stats
 Test
 VO Custom
 Voice

Recent runs: All reports

Reports: Reject traffic vendor Voice (Stats)

User presets: Default preset

Params of report "Stats: Reject traffic vendor Voice"

Description: **No description**

Period from: 2019.03.03

Period to: 2019.03.14

Count: 100

Reject traffic vendor Voice (Stats) 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

Click Run report to execute the report.

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

Reports
★ Report "Reject traffic vendor Voice (Stats)"

Period from: **2019.01.04**; Period to: **2019.03.15**; Count: **100**

№	Date	Destination	Vendor	Disconnect Code	Count
	Text mask	Text mask	ACQ*	Text mask	Text mask
1	2019-01-11	Russia, MTS, mobile	ACQ_Vendor1	47	1012
2	2019-01-11	Russia, Megafon, mo...	ACQ_Vendor1	47	1896
3	2019-01-11	Russia, mobile, mobile	ACQ_Vendor1	47	1061
4	2019-01-11	Undefined, Undefined...	ACQ_Vendor1	47	1059
5	2019-01-11	United States of Ame...	ACQ_Vendor1	47	8051
6	2019-01-15	Russia, Megafon, mo...	ACQ_Vendor1	47	223
7	2019-01-15	Russia, mobile, mobile	ACQ_Vendor1	47	107
8	2019-01-15	Undefined, Undefined...	ACQ_Vendor1	47	106
9	2019-01-15	United States of Ame...	ACQ_Vendor1	47	539

Reject traffic vendor Voice (Stats) report

Reports

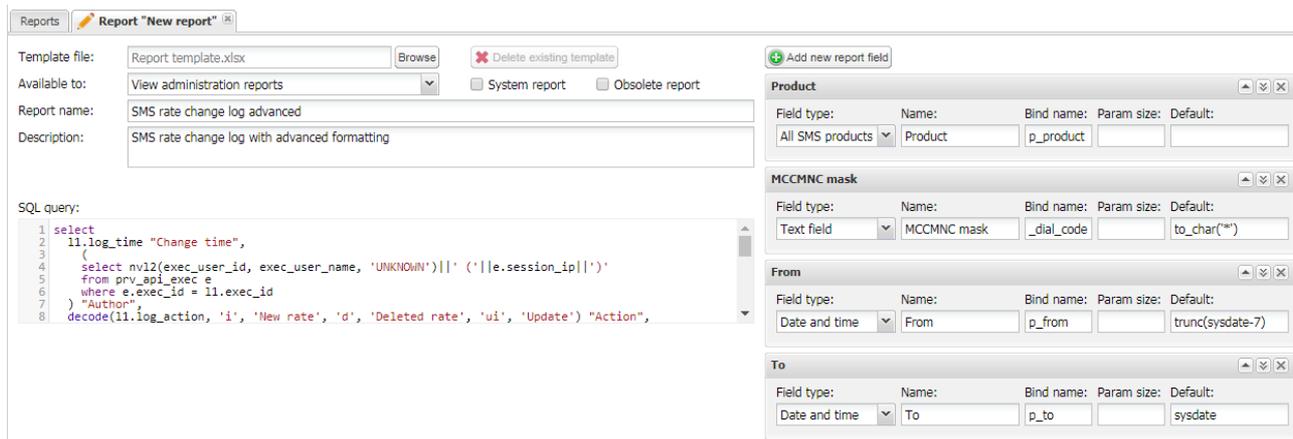
See also the [Alaris YouTube](#) video.

8.17 Report builder: creating a customized report

The System allows creation of 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 MySQL queries.

To create a new report, open the *Reports* section and click .



The screenshot shows the 'Report "New report"' configuration window. It includes a 'Template file' field with a 'Browse' button and a 'Delete existing template' button. The 'Available to' dropdown is set to 'View administration reports'. The 'Report name' is 'SMS rate change log advanced' and the 'Description' is 'SMS rate change log with advanced formatting'. The 'SQL query' field contains a MySQL query. On the right, there are four 'Add new report field' sections: 'Product', 'MCCMNC mask', 'From', and 'To', each with dropdowns for 'Field type', 'Name', 'Bind name', 'Param size', and 'Default'.

Creating a new 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  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 10 columns but the formatting is only applied to 5 columns, the remaining 5 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 [Carriers\Users](#) [87].
- *Report name*
- *Description*: arbitrary report description
- *SQL query*: write the query that will be used to generate the report
- Configure the report fields. Click . 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

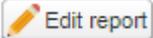
NOTE: Variables whose names start with x_ are replaced with plain text values; all other variables are interpreted as regular binds.

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

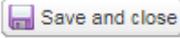
Reports

Click  to save the report. It will become available for selection in the Reports list in the Reports tab sheet. Click  to save the changes and close the tab sheet. Click  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 . Modify the report parameters. Select or deselect the checkboxes *System report* and *Obsolete reports* as appropriate. When the *Obsolete report* checkbox is selected, the report is not shown in the *Reports* drop-down list.

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  button.

3. Once through with the edits, click  or  to save the changes and close the tab sheet.

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

9 Voice

9.1 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 softswitch and Sansay softswitch. To enable support of Sansay, perform the following configurations in [Voice\Reference books\Soft switch editor](#)²⁶⁹:
 1) In the *Software manufacturer* field select *Sansay* 2) Select the checkbox *Use in active calls* 3) Configure the other parameters as appropriate. Find out more in the [Alaris YouTube video](#).

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).

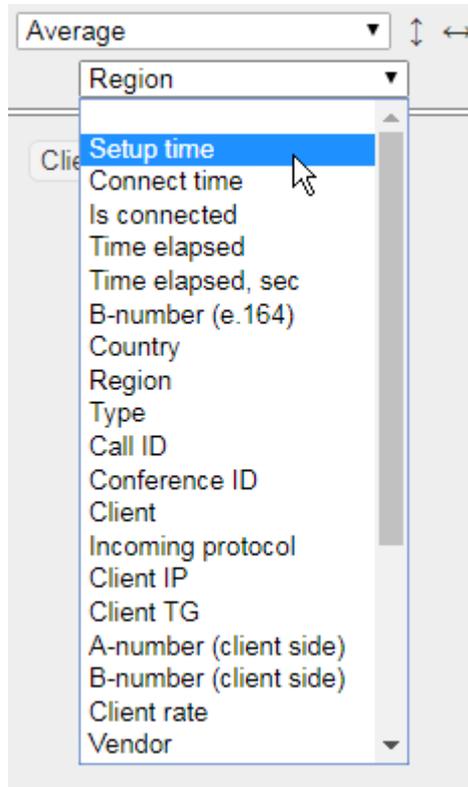
Client	Connect time	B-number(e.164)	Is connected	Vendor	Setup time	Totals
ALARIS TEST	2015.09.20 18:17:30	79780076108	Yes	Vendor 1	2015.09.20 18:17:14	1
	2015.09.20 18:22:40	79788530878	Yes	Vendor 1	2015.09.20 18:22:18	1
	2015.09.20 18:25:43	593958918556	Yes	Vendor 1	2015.09.20 18:25:30	1
Ahn Wee	2015.09.20 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	

Active calls page

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.



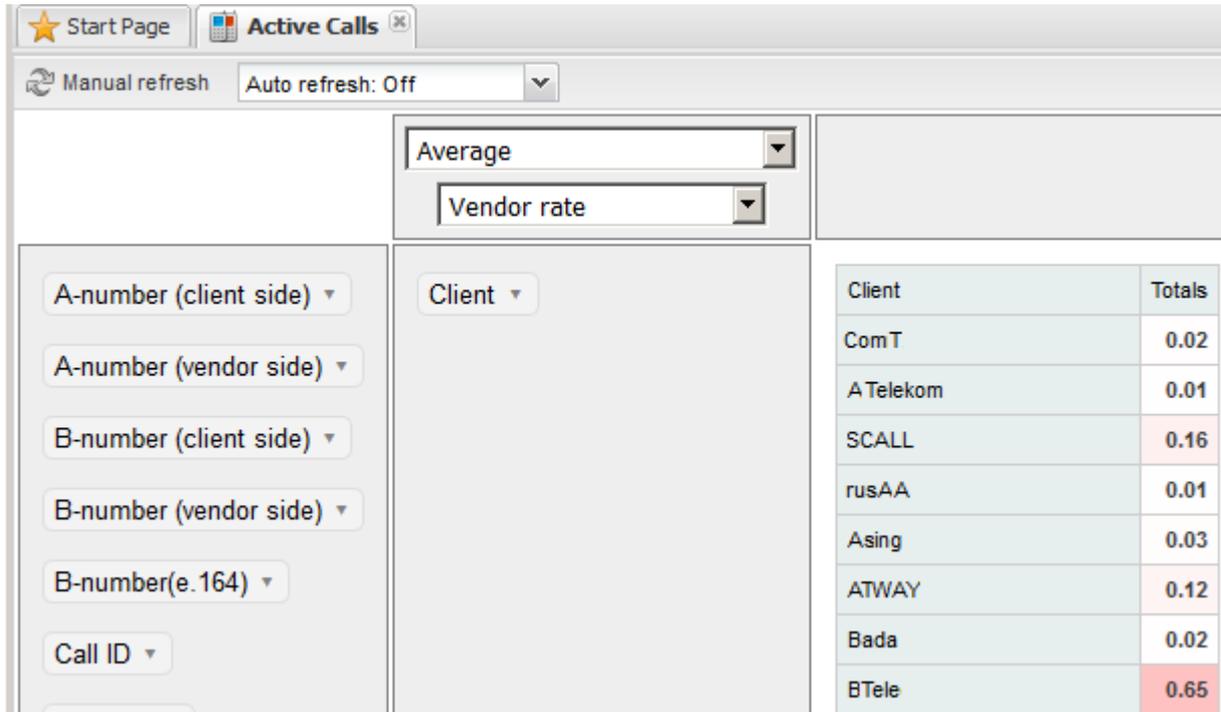
Drop-down lists (Aspects / Call parameters)

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
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.



Active calls (Client/Average vendor rate)

9.2 Analytics

The *VoiceAnalytics* 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.

System timezone [v] Export from grid CDR export by row in top grid [v]

	Attempts	Calls	Volume, min(s)	ASR, %	NER, %
Total (Client)	449 808	210 510	745 177.86	46.80	100.00
CallingElvis	115 279	53 780	188 376.21	46.65	100.00
Melon Cauli	93 910	43 834	156 059.73	46.68	100.00
Thai me Up	46 294	21 851	76 189.18	47.20	100.00
Pane In The Glass	14 797	7 097	26 103.71	47.96	100.00
Wreckless Driv	13 657	6 400	23 379.43	46.86	100.00
The Human Be		5 874	21 751.95	46.88	100.00
Sofa So Good		4 637	15 919.17	45.66	100.00
NeverPay LLC		4 111	14 134.60	45.75	100.00
Beer Construction		3 290	13 043.32	48.85	100.00
Microseizure Telecom		3 339	11 447.05	49.03	100.00
Ill Advisors		3 309	11 403.12	48.31	100.00
Ahn Wee		3 142	10 911.47	46.51	100.00
MinnieNet		3 085	10 625.80	45.45	100.00
Unknown		2 977	10 442.87	44.64	100.00
Tiring Specialists		2 602	9 683.55	46.51	100.00
Clara Sill		2 623	9 500.52	45.74	100.00
Diogenes Capacity		2 552	9 377.03	45.24	100.00
MediocreWitch Solutions		2 591	9 231.07	45.79	100.00
British Hairways		2 548	8 632.64	45.51	100.00
Far Track		2 110	7 536.57	46.84	100.00
Narnia Telecom		2 126	7 359.01	46.29	100.00
Dumbar Enterprises		1 548	6 019.63	46.60	100.00
Handy Caps		1 610	5 764.46	48.26	100.00
Berried Alive		1 128	4 257.59	50.18	100.00
Miss Behavior's		1 055	4 216.80	47.69	100.00
Mass Acre		1 091	4 097.06	48.15	100.00

Context menu options: Calling country, Client, Vendor, Area, Billing period, Client carrier and product, Contract company, Country, Country, type, Destination, Destination Type, Global Region, Global Region Manager, Home Region, Manager, POI, POI description, Product, Product note, Regional Manager, Switch

Page 1 of 1 | 50 rows | 2019.09.25 — 2019.10.08 | Period: Day

Total (Client) / Pane In The Glass	Attempts	Calls	Volume, min(s)	ASR, %	NER, %
Total	11 678 499	5 442 109	19 111 076.05	46.60	100.00
2019.10.08 by hours by minutes	449 808	210 510	745 177.86	46.80	100.00
2019.10.07 by hours by minutes	863 721	401 077	1 408 608.62	46.44	100.00
2019.10.06 by hours by minutes	863 684	402 080	1 412 098.62	46.55	100.00
2019.10.05 by hours by minutes	863 673	402 877	1 407 737.07	46.65	100.00

Selecting the level of detail in the context menu

Along with parameters illustrated in the figure above, it is possible to calculate and view statistics based on the following parameters:

- *Rule ID*: the rule used to terminate the traffic (to enable the option, contact the Alaris technical support team)
- *Calling country* (country codes must be previously configured in [Voice\Reference books\Dial codes](#))

Additionally, the following categories may appear:

Voice

- *Unknown partner*: the partner POI cannot be defined
- *Deleted partner*: the partner POI was removed
- *No routes*: no vendor leg; the client attempt was rejected

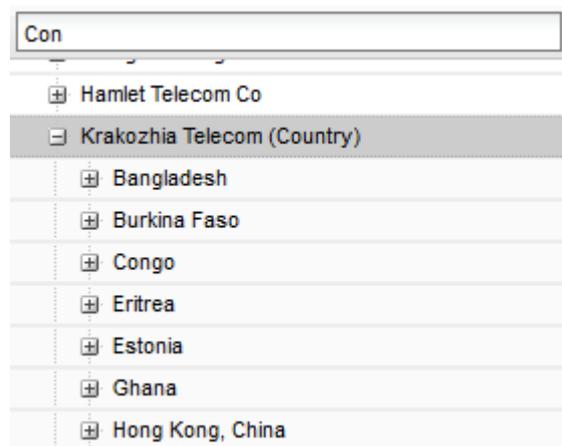
Find out more about the feature in the [Alaris YouTube video](#)

NOTE: The *Switch* layer illustrated in the figure above shows the employed switch if the field *Switch* of the [Carriers\Voice POI](#)^[108] 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](#).

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 *Consider as test carrier* checkbox selected in [Carriers\Carriers](#)^[84].

When a user adds a new detail level to the selected aspect, the System includes the items that have stats for the combination of previously selected objects. Example: select *Client* and *Country* in the context menu. The System will display countries to which the selected client was forwarding traffic over the periods selected in the bottom table.

	Attempts	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
- *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](#)
- *Very short calls, %*: share of calls with a duration below the *Very short call length* parameter configured at [System settings\Statistics module](#)
- *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

Voice

- *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*
- *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
- *Aver. minute cost*: 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.
- *Conn. fee*: 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)*: supplier 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
- *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

Total (Client)	Attempts	Calls	Volume, min(s)	ASR, %
Total	11 501 957	5 366 384	18 846 369.89	46.66
2019.02.04 by hours by minutes	269 984	126 740	446 991.16	46.94
2019.02.03 by hours by minutes	864 045	403 822	1 419 202.08	46.74
2019.02.02 by hours by minutes	864 011	403 962	1 417 828.97	46.75
2019.02.01 by hours by minutes	863 900	402 755	1 414 101.88	46.62
2019.01.31 by hours by minutes	864 047	401 937	1 407 731.79	46.52
2019.01.30 by hours by minutes	863 986	401 808	1 407 324.73	46.51

Analytics (bottom table)

The bottom area presents the same performance indicators arranged by periods for the item selected in the top table. The top line always shows total values for each parameter of the selected statistical layer within the defined timeframe – e.g. if the user specifies four days in the *Timeframe selector* (see below), the *Total* line in the bottom table will show the summary for the selected four days. It is convenient when you need to see the totals for a custom period (not equal to the System defaults – hours, days etc.)

NOTE: To view the stats recalculation progress, see the [Analytical cube status \(Administration\)](#) ¹⁵⁵ report.



Chart view (bottom table)

Data in the bottom table can be displayed either in a table format or as a chart by switching the *Chart/Table switch* button in the mid-page tool bar. The chart view allows creating three different profiles in separate tabs sheets. Select appropriate parameter boxes in the left panel that will appear as charts in the right panel.

The top table contains the following controls:

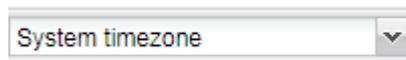
- *Offsets* : this control allows comparison of current data for some period to the same period in the past, registered a preset number of periods ago. For example, to compare the current month stats with the data of 2 months ago, select *month* in the *Period* control, enter 2 in the edit box as shown below, and click *Apply shift*. Click to open the chart view for more convenient data representation.

NOTE: The past data appears dimmed both in the table and chart views.



Offsets

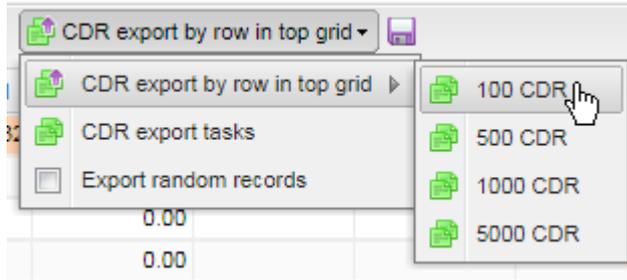
- *System timezone*: select the timezone for display of data in the tables (available only if the selected period is *Day*)



System timezone

- *Export from grid* allows data export from the upper table to an XLS file
- The button *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](#)¹⁸³. 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:

- *Page navigation* : statistics in the top table will be arranged in two or more pages if the specified layer contains more than 25 items.

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, or Month*);

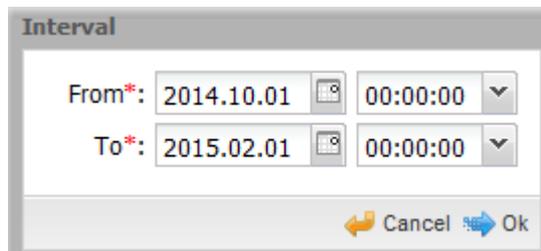


Period

- *Timeframe selector:* a tool for defining the time interval for which statistics is generated. The interval can be set either by dragging the left or right margin of the scale, or by selecting the period in the pop-up window (pencil button). Click to apply the timeframe:



Timeframe selector



Interval

- *Export from grid* allows data export from the upper 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 *Voice\Analytics* page the next time

For better visualization the length of the colored bar correlates with the parameter value. Colors for *ASR* and *Margin* parameters can be set to differentiate between *poor*, *fair* or *good* performance. Selection of columns with performance indicators (technical and commercial) can be defined individually for each user by checking *View financial details* and/or *View technical details* boxes in [Carriers\Users](#)  (*Analytics* section).

9.3 CDR management

9.3.1 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	Vendor parameters
Products: Selected: All	Products: Selected: All
IP addresses: Selected: All	IP addresses: Selected: All
Dial codes: Selected: All	Dial codes: Selected: All
Tech prefix: <input type="text"/>	Tech prefix: <input type="text"/>
Switch: All	Switch: All
Trunk group: <input type="text"/>	Trunk group: <input type="text"/>

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* menu 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](#)⁶⁰, 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.

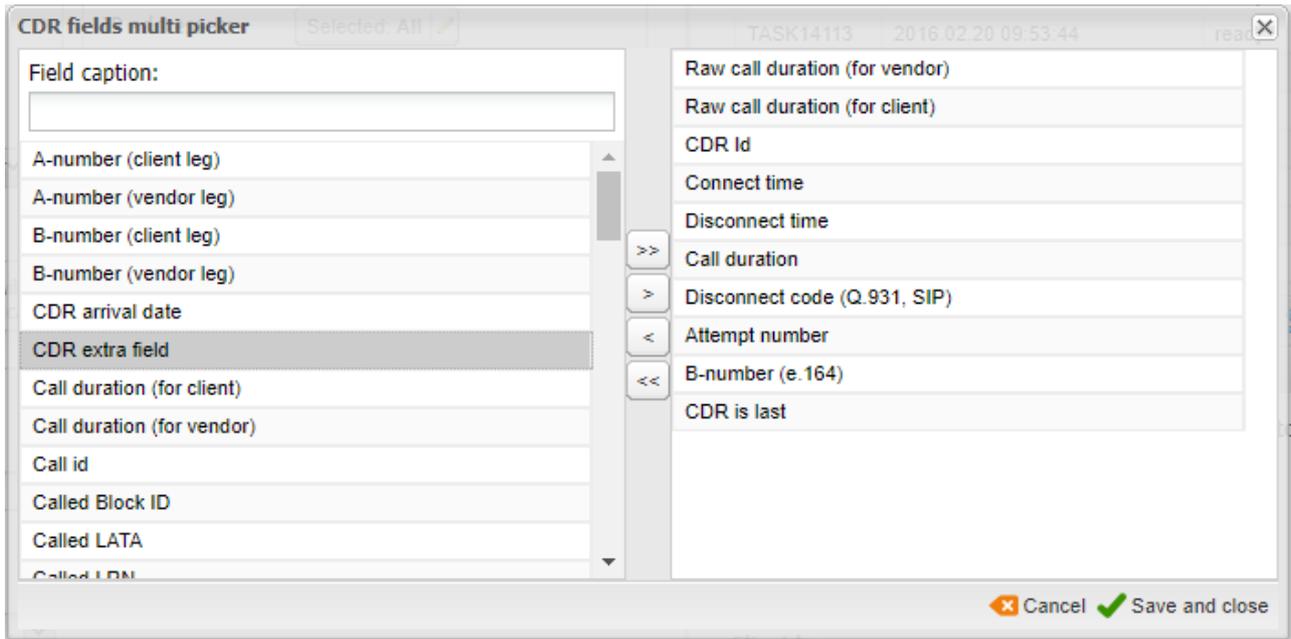
Period: from to 

Last: Minutes: Hours: Days:

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 CRDs based on call duration by setting the minimum and maximum values (in minutes)
- *Show CDRs with duration only*: select this checkbox to display only CDRs with duration
- The set of Client/Vendor parameters 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
 - *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.
- *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.

Voice

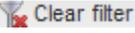
- *Export to file*: export results are downloaded from the web interface as a csv-file
- *Send CDRs by e-mail*: export results are sent as a CSV attachment by the email indicated in the *Send CDRs to* field (several comma-separated addresses may be indicated)
- *Export limit*: the maximum number of exported CDRs
- *File format* (active when *Export to file* or *Send CDRs by Email* is selected): *CSV* or *Excel*
- *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:



Presets toolbar

NOTE: The *Period* dates are not saved into the preset.

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
- *Job created*: date and time of the task creation
- *Comments*: the content of the *Comment* field if it was filled when a task was created. If the field was left empty, but a user preset was applied, the System displays the name of the preset. If both the field was filled and the preset used, the column will contain the value manually specified by the user during export. See also the [Alaris YouTube](#) video
- *Status*: status of the task. Possible values:
 - *in progress* (with the progress percentage specified)
 - *aborted* (if terminated manually by the operator)
 - *ready*
 - *error*

Voice

- **Details:** this column can contain:
 - a link to the export results window, if *Export target: Show here* is selected
 - a link to the CSV 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 (x)						
CDR Id	Incoming switch...	Connect time	Disconnect time	Call duration	Disconne...	Attempt n...
015aea743b5b6216231a2e4da57ec...	mvtsp..._av	2018.05.11 05:43:27	2018.05.11 05:43:27	0	17	0
0609691be7f68d0db654cd6925c77...	mvtsp..._av	2018.05.11 05:43:36	2018.05.11 05:43:36	0	34	0
0cfb0615849ce92bcf19df1f7d2c848c	mvtsp..._av	2018.05.11 05:43:40	2018.05.11 05:43:40	0	17	0
110ec5e4a1b1cf23b4a3a80aef8d5f0	mvtsp..._av	2018.05.11 05:43:35	2018.05.11 05:43:35	0	34	0
13643991121ac90202e13befe7dbb...	mvtsp..._av	2018.05.11 05:43:50	2018.05.11 05:43:50	0	34	0
189dc7c4dec56b41253f6f6b450147d5	mvtsp..._av	2018.05.11 05:44:15	2018.05.11 05:44:15	0	34	0
1caa1535af65415f9c57ad22feb5e278	mvtsp..._av	2018.05.11 05:40:59	2018.05.11 05:43:10	131.744	16	0
1e1ff574527520eb18111d20e8e0d959	mvtsp..._av	2018.05.11 05:43:58	2018.05.11 05:43:58	0	17	0
230f6f6a086de42285e395ac70594a86	mvtsp..._av	2018.05.11 05:41:51	2018.05.11 05:41:51	0	1	0
2379c12fbcf125081c07b15aae384c98	mvtsp..._av	2018.05.11 05:44:19	2018.05.11 05:44:19	0	1	0
23e95fd431f0b07714ea509888a532dc	mvtsp..._av	2018.05.11 05:43:33	2018.05.11 05:43:33	0	34	0
2406238987006ab972c5f33127acf6aa	mvtsp..._av	2018.05.11 05:43:21	2018.05.11 05:43:21	0	1	0

Export results view

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:

IP addresses:

Dial code list:

Task details

9.3.2 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 task is *ready* or contains the *Abort task*  button if the task is in progress
- *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: **YYYY.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.

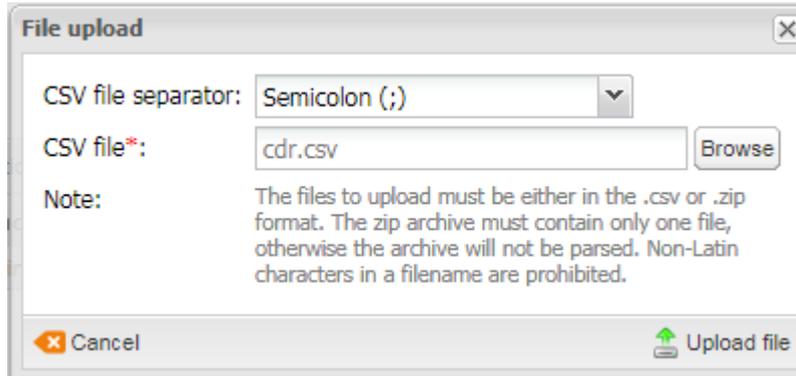
Reconciliation summary				
Matching type	CDR count	Owner duration, min.	Partner duration...	Duration diff., ...
Partner CDR found only	3 427		27 926.0	-27 926.0
Owner CDR found only	1 429	11 283.0		11 283.0
Extra duration from owner (minor)	144	1 243.0	1 242.0	1.0
Same	2	26.0	26.0	0.0
Total	5 002	12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

To start a new reconciliation task click the **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** 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
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	

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: fix row

Matching column set*:

Direction:

Product type*:

Product list: ✎

Destinations: ✎

Period from*: 📅 ▼

Period to*: 📅 ▼

Include zero duration

Date format*: ▼

Connect/Disconnect time delta: seconds

Duration delta: seconds

ⓘ Partner time offset: ▼

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* or *US domestic*
- 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
- *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

Click to launch reconciliation. Click 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 .



Presets toolbar

9.3.3 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 the permission *View and edit all data (except System owner parent rates)* is granted to the user. For mode detail about roles, see [Carriers\Users](#) [87].

9.3.3.1 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/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 to start the task or to discard the settings.

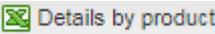
Once the CDR recalculation starts, it appears in the *Tasks grid* at the top of the page.

Tasks grid			
Job created	Status	Details	User name
 <input type="text" value="-∞ ≤ X ≤ ∞"/>	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:

IP addresses:

Dial codes:

Tech prefix: ---

Products:

IP addresses:

Dial codes:

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 \(Administration\)](#)^[155] and check the *Recalculation status* column.

Period: **Week**

No	Partition period t...	Partition date	State	Last change	Row count	New CDR count...
	Text mask	Text mask	Text mask	Text mask	Text mask	Text mask
1	WEEK	2016.09.26 00:0...	Must be recalculated	2016.09.19 00:0...	0	
2	WEEK	2016.09.19 00:0...	Must be recalculated	2016.09.21 14:2...	72843	4481
3	WEEK	2016.09.12 00:0...	Ready	2016.09.19 02:2...	79346	0
4	WEEK	2016.09.05 00:0...	Ready	2016.09.12 02:2...	79525	0

Recalculation status report

After CDR recalculation, perform recalculation of invoices for the same period to bring the invoicing information up to date. Refer to [Finance\Invoices](#)^[118] for instructions.

9.3.3.2 Autoreating

Along with manual recalculation, the System performs automatic rerating once a day. It starts at the hour defined in [Administration\System settings\Statistics module](#)^[60] (*CDR rerating hour* parameter). The automatic rerating procedure checks the rate changes that occurred during the period defined in the [Administration\System settings\Statistics module](#)^[60] (parameter *Max rerating interval*, field value = *n*, where *n* is the number of days prior to the current date).

According to the found changes, rerating jobs are created in the *CDR Rerating* table. To refresh the table click the button. Use text masks or drop-down lists under the column headers to filter the records in the table. To clear the filter click the *Clear filter*

ID	Task status	Change type	Log time	Product caption	
<input checked="" type="checkbox"/>	127...	New	New rate created or rate validity period increased	2017.03.03 10:08:08	TAG - TAG_Wholesale
<input checked="" type="checkbox"/>	127...	New	New rate created or rate validity period increased	2017.03.03 10:08:08	TAG - TAG_Wholesale
<input checked="" type="checkbox"/>	127...	New	New rate created or rate validity period increased	2017.03.03 10:08:08	TAG - TAG_Wholesale
<input type="checkbox"/>	127...	New	New rate created or rate validity period increased	2017.03.03 10:08:08	TAG - TAG_Wholesale

Autorerating

The table contains the following information:

- *ID*: internal identification number
- *Task status*: status of the rerating task (*New*, *Scheduled*, *Completed*)
- *Change type*: type of the rate change that triggered the rerating (new expiration date, amended price etc.)
- *Log time*: rerating record creation time
- *Product caption*: name of the product with changed rates
- *Rate dial code*: dial code from the changed rate
- *Affected dial code*: dial code from the rate affected by the changed rate
- *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](#)
- *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

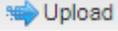
Recent jobs

- *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

9.4 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.

9.4.1 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  button on the [Voice\Rates\Rate import](#)^[239] 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 [Carriers\Users](#)^[87]. 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 two panels: the left panel displays the *Auto import rules* and *Error type levels* tab sheets; the right panel contains the *Add, Edit* and *Simulation* tab sheets. The *Auto import rules* tab sheet contains the  button at the bottom that serves to export the rules table to a MS Excel file.

Auto import rules		Error type levels
Carrier	Product	Masks
All	All	
Empresa Quebrada Pte.	Premium (EUR) - Vendor	File name: *Premium* Mail from: *@empres
PocoDinero Enterprises	Wholesale (EUR) - Vendor	

Auto import rules

Error type levels tab sheet

Open the *Error type levels* tab sheet to define errors critical for import.

★ Start Page		Auto Rate Import		
Auto import rules		Error type levels		
Category	Type name	Critical for manual...	Critical for auto import	
All	Text mask	All	All	
General	Parsing error	No	Yes	
General	Dial code missing	No	Yes	
General	No match in LERG6 found	No	Yes	
General	There is block_id=A in leg for suitable npa...	Yes	No	
General	Rate type mismatch: non-US rates found in...	No	No	
General	Dial code duplicates	Yes	Yes	
General	Rate <= 0	No	Yes	

Error type levels

The *Error Type levels* page enables defining the criticality of errors in rate import. If an error is defined as critical for manual or auto import, then its occurrence automatically blocks the import task. Only a user with the role “System owner (NO restrictions)” can ignore the blocking errors in manual rate import.

The right panel contains the *Edit* menu that serves to define criticality of the selected error for manual and/or auto import. To activate the *Edit* menu, 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 menu

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* or *Critical for manual 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 page is divided in two panels. The left panel is a table of configured import rules.

Start Page		Auto Rate Import			
Auto import rules		Error type levels			
ID	Carrier	Product	Masks	Parser	
10008	British Hairways	Premium (USD) - Vendor	File name: *premium* Mail from: *@bh.co.uk	Internal library	
10000	Boring Enterprises	WholeSale (USD) - Ven...	File name: *wholesale* Mail from: *@boringenterprises.com	Internal library	

Auto import rules

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

+ Add
Edit
Simulation

Carrier*:

Product*:

File name mask:

Mail from mask:

Mail to mask:

Mail subject mask:

Mail text mask:

Parser*:

Template*:

Owner notification:

Carrier notification:

Short report recipients:

Full report recipients:

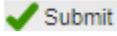
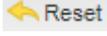
Do not send reports to external recipients
 Rule enabled
 Test rule

Add menu

The right panel contains the *Add* and *Edit* menus that allow adding new rules or editing existing ones. To activate the *Edit* menu, 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
- *Parser*: parsing rule for processing of the ratesheet files (default value – Internal library)
- *Template*: template for parsing a certain format of the ratesheet file (*.xls, *.xlsx etc.). Templates are created in the rate file import settings panel at [Voice\Rates\Rate import](#) ²²⁵.
- *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
- *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
- *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
- *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. Rules with the selected checkbox will not be imported

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.

Use the  button to delete the selected rule.

To test the rule, open the *Simulation* menu.

+ Add ✎ Edit 🔍 Simulation	
Carrier*:	Boring Enterprises
Product*:	WholeSale (USD) - Vendor
File name*:	wholesale
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 . The test results will appear on the *Simulation* panel. Once the tests are completed, return to the *Edit* menu and check the *Rule enabled* flag to activate the rule.

9.4.2 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 breakouts 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*.

9.4.2.1 Analysis form

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

Analysis form

Client/Vendor rates: Client Vendor

Source product*: Bed Wetter - LCR (USD) - Client

Analysis type: Rate comparison

Order vendors by:

Carrier products to compare

Mode: Auto Manual

Limit analysis to 5 products

Product name*:

<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	CLI
<input checked="" type="checkbox"/>	Gold
<input checked="" type="checkbox"/>	LCR
<input checked="" type="checkbox"/>	Premium
<input checked="" type="checkbox"/>	Premium SMS

Product selection: Client Vendor

✎ Edit list

Anton_test_ssl_vendor - LCR (USD) ✖

Barbie Dahl - CLI (USD) ✖

Barbie Dahl - WholeSale (USD) ✖

Anita Job - WholeSale (USD) ✖

rates valid at*: 2016.12.27 15:00:00

Traffic stats for: Last 7 days

Existing vendor breakouts to include: Exact match
 Shorter breakouts
 Longer breakouts

Only breakouts with volume greater than min(s)

Destination: ✎ Edit list

United States of America, proper ✖

United States of America, toll free ✖

Destination matching: Country
 Country+type
 Country+type+area

Dial codes: ✎ Edit list

1020 - United States of America, proper ✖

1060 - United States of America, proper ✖

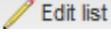
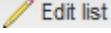
108 - United States of America, proper ✖

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*: select the period of statistics to be used in report (*Last day*, *Last 7 days* etc.). The System collects breakout stats (such as ASR, ACD and traffic volume), so it is useful to consider these stats during the analysis. For example, a carrier has a better price for some destination but shows low ASR/ACD on the route
- *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 breakouts to include*: defines how to handle breakouts with a different number of digits (i.e. whether to include into report longer or shorter breakouts of the existing partner products, or just breakouts of equal length). For example, to map a short breakout (e.g. 79) and a longer sub-breakout of that short code (e.g. 7910) in a product, select the *Longer breakouts* checkbox). When checking a certain dial code, the System also checks other related breakouts on the left and right sides of the comparison to avoid incorrect mapping. For example, if the product under analysis contains 79 and 7910, and one of the existing products has 79 and 791, the straightforward (and incorrect) mapping would look like 79 → 79, 791 and 7910 → 791, while the correct way to map in this case is 79 → 79 and 7910 → 791.

- *Only breakouts with volume greater than X (mins):* specify the volume of breakouts for the period defined by the *Traffic stats for* parameter
- *Destination:* define a list of destinations for which the breakouts will be compared. Click the  button to open the *Destination* multi-picker.
- *Destination matching:* this parameter helps select the most appropriate mode of destination name matching (required to prevent a mix-up of proper and mobile codes having very different pricing, so that a check of the destination name is required if different-length breakouts are matched between the new vendor and some of the existing ones). For example, if the *Longer breakouts* option is selected in the dial code mapping settings, the System will map codes like 7 (Russia proper) and 79 (Russia mobile); so it is important to set the *Destination matching* parameter to *Country + Type* (or *Country + Type + Area*) to avoid that.
- *Dial codes:* this parameter allows defining a list of particular breakouts 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 products

Product type*:

<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	CLI
<input checked="" type="checkbox"/>	Gold
<input checked="" type="checkbox"/>	LCR
<input checked="" type="checkbox"/>	Premium
<input checked="" type="checkbox"/>	Premium SMS

Product selection: Client Vendor



Alterna Telecom - Contri - 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 breakout, the System brings in every vendor product having the breakouts 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  **Generate report** 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.

9.4.2.2 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 menu, 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* menu.

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** to confirm or **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 a MS Excel file.

9.4.3 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*.

9.4.3.1 Rate groups

The *Rate groups* page contains the *Rate filter* menu 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* menu.

Rate filter menu

The *Presets* toolbar at the top of the *Rate filter* menu enables the user to create, upload and delete preconfigured filtering presets:



Presets toolbar

In the *Group by* field, select one or several checkboxes to define grouping parameters: *Country*, *Area*, *Effective interval*, *Dial code*, *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  button for multiple selection
- *Show rates from inactive products*: when selected, the filter displays all rates, including products that have the *Is active* checkbox deselected. See also the [Alaris YouTube video](#)
- *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*
- *Country*
- *Area*
- *Type*: fixed, mobile, etc.
- *Carrier destination*
- *Rates valid at*: rates effective at the specified date/time
- *Effective interval*: rates effective in the specified period
- *Rate currency*
- *Rate value from... to...*: price range for more precise filtering
- *Rate notes*: the table containing comments available in the *Rate note* field (editable only if *Grouping by rate notes* is set). Select rate notes by setting appropriate flags or remove a note from all rates by clicking 

NOTE: System notes such as *BLOCKED* and *Volume-based deal* do not contain the  button and cannot be removed.

Click to display the rates complying to the filter parameters. Click 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		Rates			
Check row and go to next tab					
Country	Type	Area	Currency	Rate	Rate count
ABC PPM CODE	mobile		USD	0.15	1
Abkhazia	mobile	Aquaфон	USD	{..}	33
Abkhazia	mobile	A-mobile	USD	{..}	32
Abkhazia	mobile	mobile	USD	{..}	24
Abkhazia	proper	proper	USD	{..}	26
Afghanistan	proper	Uruzgan	USD	blocked	1
Afghanistan	proper	Herat	USD	{..}	3
Afghanistan	mobile	AWCC	USD	{..}	78
Afghanistan	proper	Kandahar	USD	{..}	3
Afghanistan	mobile	MTN (Areeba)	USD	{..}	135

Rate groups table

Click at the bottom of the page to export the rate group (the button opens the [Voice/Rates/Rate export](#) page).

Click to open the [Voice/Rates/Rate analysis page](#).

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

Click to edit the rate group.

Click the 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.

NOTE: The button is only active if a single product is selected in the *Product* multipicker in the *Rate filter*.

Click to export the table to a MS Excel file.

Click the 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 , 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 period for the rate group can be modified only if all rates within the group belong to a single product.

9.4.3.2 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						
<input type="checkbox"/>	Dial code	Own destination	Carrier destinat...	Currency	Price	Price (USD)	Incr...
<input type="checkbox"/>	7840	Abkhazia, proper, proper	Russia - Abkha...	USD	0.1297	0.1297	0/1/1
<input type="checkbox"/>	7840	Abkhazia, proper, proper	Russia,Abkhazia	USD	0.155	0.155	0/1/1
<input type="checkbox"/>	7840	Abkhazia, proper, proper	RUSSIA ABKH...	USD	0.14656	0.14656	0/1/1
<input type="checkbox"/>	7840	Abkhazia, proper, proper	Abkhazia Proper	USD	0.1494	0.1494	0/1/1
<input type="checkbox"/>	7840	Abkhazia, proper, proper	Abkhazia	USD	0.0001	0.0001	0/1/1

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](#) ^[265]
- *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 *Effective till* date older than 3 months are archived into a dedicated table. To restore them, contact the Alaris Technical support team.

- *Product*: a carrier product the rate belongs to
- *Rate notes*: carrier notes on the rate (typically regarding the offered quality)

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 with code BZ9227.

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	Peak																							
Tue	Peak																							
Wed	Peak																							
Thu	Peak																							
Fri	Peak																							
Sat	Peak																							
Sun	Peak																							

Price	Value
<input type="checkbox"/> Not set	
<input checked="" type="checkbox"/> 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
- Modify period

Voice

- Close selected
- Clone rate

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	<input checked="" type="checkbox"/>																							
Tue	<input checked="" type="checkbox"/>																							
Wed	<input checked="" type="checkbox"/>																							
Thu	<input checked="" type="checkbox"/>																							
Fri	<input checked="" type="checkbox"/>																							
Sat	<input checked="" type="checkbox"/>																							
Sun	<input checked="" type="checkbox"/>																							

Price	Value
<input type="checkbox"/>	Not set
<input checked="" type="checkbox"/>	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
<input type="checkbox"/> DID	0.0000...
<input checked="" type="checkbox"/> 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 [DID management\Numbers](#)³²². 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:

Voice

- **Product:** the carrier product the rate belongs to. Select the product from the drop-down list or click the  button to open the *Product* table
- **Carrier destination:** carrier-specific destination name for the dial code
- **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 new price types, button  to edit the existing types or button  to delete the selected price type. 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 breakout (*CLI, Premium* etc.). If the field value is *Swap deal*, such rate will not be overwritten during rate import.

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

Add rate to group

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

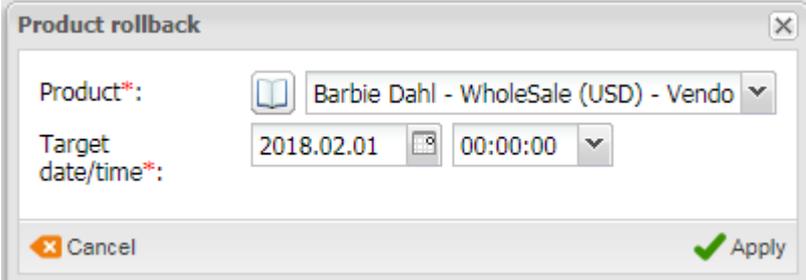
Close/Edit/Clone rate group

Click the  button to close all rates in the selected rate group using the *Effective till* parameter.

Use the  button to edit the rate group, and the  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  button to open the *Product rollback* dialog.



The dialog box titled "Product rollback" contains the following fields and controls:

- Product*:** A dropdown menu with a book icon on the left and a downward arrow on the right. The selected value is "Barbie Dahl - Wholesale (USD) - Vendo".
- Target date/time*:** A date field showing "2018.02.01" with a calendar icon, followed by a time field showing "00:00:00" with a downward arrow.
- Buttons:** "Cancel" (with a red X icon) and "Apply" (with a green checkmark icon).

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 or use the button to open the *Products* table
- Set the target date and time
- Click **Apply** to confirm or **Cancel** to discard the settings

Add period

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
<input type="checkbox"/>	Not set	-
<input checked="" type="checkbox"/>	Peak	0.0500...

Connection fee:

Rate change, %:

Notes:

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 **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. 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.

Modify period

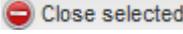
Click the **Modify period** button to modify the rate *Active from* and/or *Active till* dates; the rates whose dates do not overlap with the new period are removed from routing. For example, the original rate period is June 10 – June 20; the corrected period is June 10 – June 15.

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 **Modify period**.

Voice

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 selected

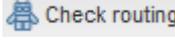
Click the  **Close selected** button to close one or several rates after a certain date/time. Once you choose this option, only the *Active till* field is editable. Set the *Active till* value to close the rates by that date-time stamp. All intervals of the rate history that are later in time than that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

Clone rate

Click the  **Clone rate** 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:

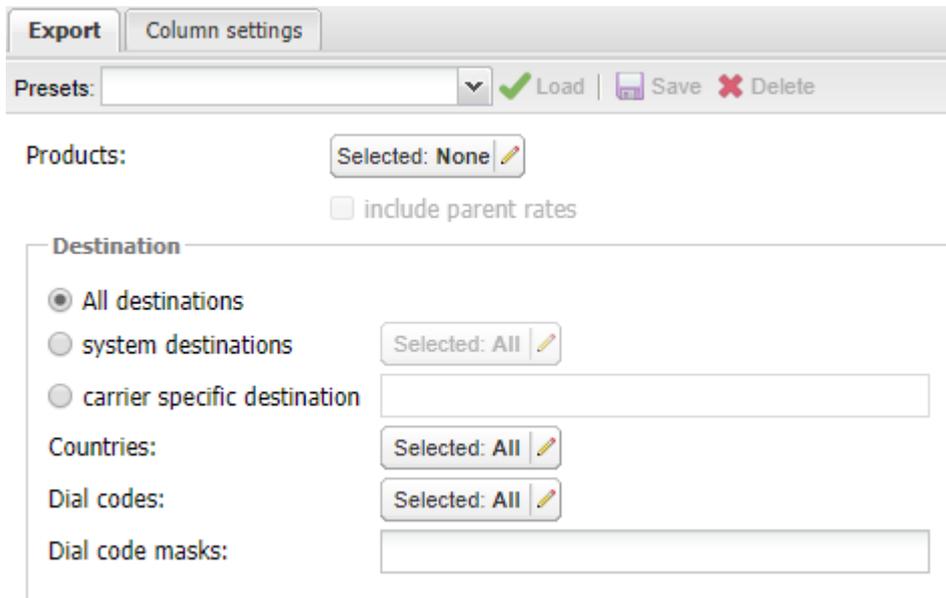
-  **Export**: this button opens the [Voice/Rates/Rate export](#)^[216] page with pre-set filters for the selected rates
-  **Analyze**: this button opens the [Voice/Rates/Rate analysis](#)^[207] page with pre-set filters for the selected rates (all rates must belong to the same product)
-  **Check routing**: opens the [Voice/Routing/Simulation](#)^[302] page to run a call simulation session for the selected rate (works for single client rates only)

9.4.4 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*.

9.4.4.1 Export

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



Export settings

The *Export settings* menu 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 menu.
- *include parent rates*: select this checkbox to include rates of the parent product(s) into the resulting export file

3.5.18 NOTE: With this option enabled, the System takes into account the value of the System parameter *Rate inheritance mode* ([Administration\System settings\Rate module](#)^[54]). 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](#)^[265]) 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 menu
- *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*: 2019.12.27 00:00:00
End date*:

Use agreement timezone

Change types*: Same
 New
 Close
 Increase
 Decrease

Export as full replace

Effective from date for change type «same»: Actual

Grouping: by code by destination
 Show destination changes
 Use system destinations

File format: Excel

File size to archive: 99 999

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](#) ⁽⁹⁵⁾) starting with the selected date. In the exported file rates are marked in compliance with pending changes: *increase, decrease, new, close, same*
 - *rates effective at:* export rates as of the date indicated in the *Start date* parameter
 - *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 type:* select types of rate changes that need to be exported
- *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)

Voice

- *Effective from date for change type "same"*: 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. 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

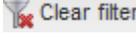
NOTE: Grouping is not applicable for US Domestic products.

- *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](#). 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
- *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. If the *Send via email* option is selected, indicate comma-separated target emails in the *Send exported file to* field or select the *Send to partner emails* checkbox (or both). In the latter case, rate data is sent to emails indicated in the *Default rate change emails* field in [Carriers\Agreements](#)^[95] and in the *Email* field in [Carriers\Users](#)^[87] if the *Send rate changes* checkbox is selected. A copy is also sent to:
 - the address specified in the field *Email address to CC rates updating* in [Reference books\Contract companies](#)^[139]
 - 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](#)^[66])

The *Presets* toolbar at the top of the *Export settings* menu enables the user to create, upload and delete pre-set export templates:



Presets toolbar

When through with defining the parameters, click  **Export** to start export or  **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:
 - *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* > *In progress* > *Queued* > *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* status if the *Send via email* option is selected
 - 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.

By default, created tasks remain in the System for the period of 30 days, and the list of tasks has no length restrictions.

Task details

The *Task details* table provides an overview of parameters for the task selected in the *Tasks* table.

Voice

Task details

Product:	Carrier_x - child_vendor_int (USD) - Vendor	Include parent rates:	Yes
Parent product:	Carrier_x - parent_vendor_int	Rate inheritance mode:	1 - global longest match
Destination filter type:	All destinations		
Countries:	<input type="text" value="Selected: All"/>	Dial code list:	<input type="text" value="Selected: All"/>
Export type:	Rate history between	Dial code masks:	---
Start date:	2019.01.10 00:00:00	End date:	2019.01.20 00:00:00
Use agreement timezone:	No	Grouping:	by destination
Show destination changes:	No	Use system destination:	Yes
File format:	Excel	File size to archive:	5
Export target:	Export to file	Comments:	---
Change types:	<input checked="" type="checkbox"/> Same <input checked="" type="checkbox"/> New <input checked="" type="checkbox"/> Close <input checked="" type="checkbox"/> Increase <input checked="" type="checkbox"/> Decrease	Effective from date for change type «same»:	Export date
		All products in task:	Carrier_x - child_client_int, Carrier_x - child_vendor_int

Task details

Export can be configured for several grouped products. For every product in a group a separate task is created. The *Task details* table shows all products within one task.

9.4.4.2 Column settings

The *Column settings* page stores the list of rules that define the column set used for a rate export session. Such sets of rules define the format of MS Excel files with the export results.

The page consists of two parts. The left part is a table of configured rules. Use 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 export					
Export		Column settings					
↕	Direction	Product type	Product	Export type	Export grouping	Rates based on	Check lata
	Any	Any	Any	Any	Any	Any	Any
	Vendor	International	Any	Between	Any	Any	Any
	Any	US domestic	Any	Pending at	Any	Any	Any
	Any	US domestic	Any	Between	Any	State + OCN	Any
	Any	US domestic	Any	Between	Any	LATA + OCN	Any

Column settings table

To create a new rule, click the  Add new button.

Direction:

Product type*:

Product:

Check LATA:

Rates based on:

Export type*:

Export grouping:

System column	User column name	
RATE_DESTINATION	Destination	✘
DIAL_CODES_LIST	Dial codes (comma separated)	✘
RATE_START_DATE	Effective from	✘
RATE_END_DATE	Effective till	✘

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*
- *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.

- *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](#)^[36]. 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

See also the [Alaris YouTube video](#).

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.

9.4.5 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](#)^[197])

Voice

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  button. The rate sheet files are displayed at the *Voice\Rates\Rate import (old)* page

NOTE: The System can process attached ZIP archives, including those containing subfolders.

3. In case of auto rate import, the files are imported in the System automatically
4. In case of manual rate import, the System owner performs rate sheet parsing in order to translate the file in the format that can be processed by the System (see [Voice\Rates\Rate import \(old\)\Rate sheet parsing](#)^[228] for more detail)
5. The System owner analyzes the import results, makes corrections if necessary and applies the new rates to the System (or cancels the import)

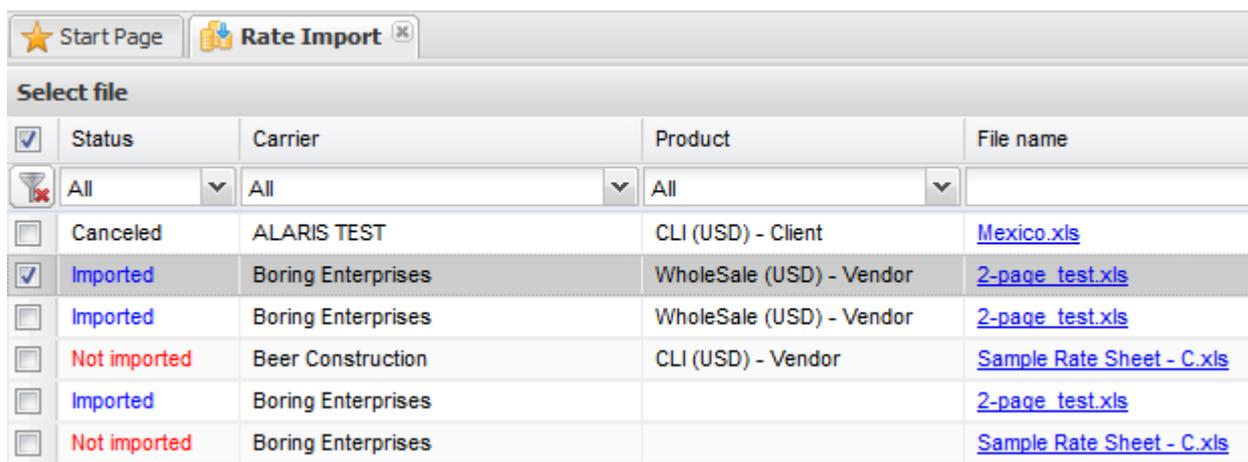
To start rate import:

1. Go to *Voice\Rates\Rate import (old)*
2. Select a file in the *Select file* table
3. Supply appropriate values in the *Import settings* panel
4. Click  to proceed to rate sheet parsing

Below is a detailed overview of the *Voice\Rates\Rate import (old)* page.

9.4.5.1 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.



<input checked="" type="checkbox"/>	Status	Carrier	Product	File name
<input type="checkbox"/>	Canceled	ALARIS TEST	CLI (USD) - Client	Mexico.xls
<input checked="" type="checkbox"/>	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls
<input type="checkbox"/>	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls
<input type="checkbox"/>	Not imported	Beer Construction	CLI (USD) - Vendor	Sample Rate Sheet - C.xls
<input type="checkbox"/>	Imported	Boring Enterprises		2-page test.xls
<input type="checkbox"/>	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  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*
- *Import history*: contains the view link that opens the import history of the file

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

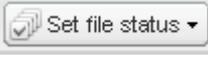
To: Finances

Subject: Prices

 Cancel
  Apply

Edit file properties

The panel below the table contains the following buttons:  - delete the selected record;

 - upload a file for import;  - change the file status;  - perform automatic import of the file;  - convert the file from a carrier-specific to the standard format (currently available options are: Beneton Group, Deutsche Telekom AG, Telekom Austria Group and TATA)

Select *Beneton Group* if the ratesheet contains prices for multiple products with the *Techprefix* column that serves to split the rates into several files one for each Techprefix. New files are added into the list with the same receive date and assigned to a respective product.

Select *TATA conversion* when a file contains several rows with multiple rate changes for a single dial code. For example:

7910 - 0.1 - 2017.09.01

7910 - 0.2 - 2017.10.01

Voice

7910 - 0.3 - 2017.11.01

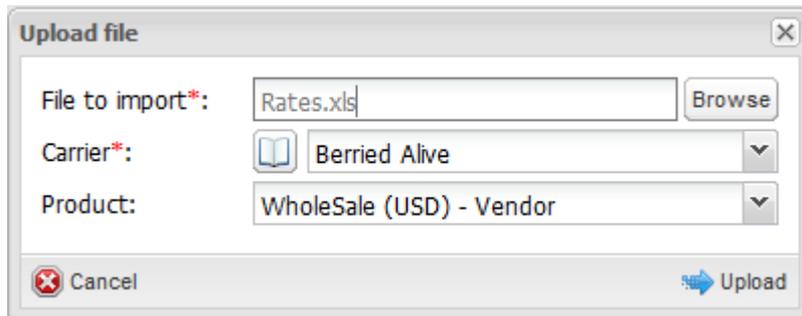
7911 - 0.1 - 2017.09.01

7911 - 0.2 - 2017.10.01

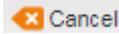
When *TATA conversion* is selected, three files will be generated and appear in the file import queue: one with the rate 0.1 (for dial codes 7910 and 7911), one with the rate 0.2 (for dial codes 7910 and 7911) and one with the rate 0.3 (for dial code 7910).

9.4.5.2 File upload

To upload a new file for rate import, click the  button on the bottom toolbar of the *Rate import* page. In the *Upload file* menu, 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).

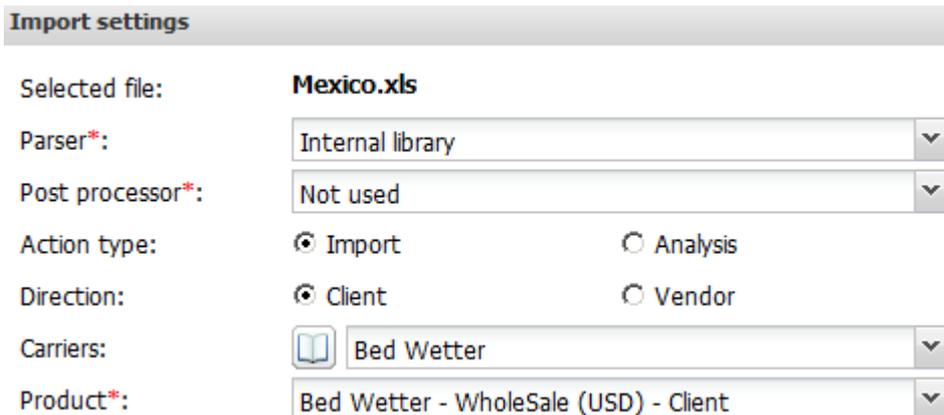


Upload file menu

When through with defining the imported file, click  to upload the file or  to discard the settings.

9.4.5.3 Import settings menu

Click on the uploaded file in the *Select file* table to activate the *Import settings* menu located to the right of the table.



Import settings menu

The *Import settings* menu 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

Voice

- *Post processor*: parser for converting of the peak/off-peak schedules into a unified format. Available values are:
 - *Not used*: select if the schedule in the file is already in a standard format
 - *Orange Polska, Deutsche Telekom, BICS, BICS2016*: select the appropriate value if the schedule is made in the format of one of the carriers
- *Action type (Import or Analysis)*: defines the type of the activity - import or analysis. *Analysis* opens the [Voice\Rates\Rate analysis](#) ²⁰¹¹ page
- *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.

9.4.5.4 Rate sheet parsing

Once the selected rate sheet file is opened for parsing, the System shows a preview of its contents the way it looks in MS Excel. Everything is shown "as is" – all cell contents and the overall file structure (sequence and naming of columns and worksheets) is preserved at this stage.

Classic Pricelist Aggregator

	Dial code	Effective from	Effective till	Destination	Column 4	Column 5
1	Dial Code	Effective from	Effective till	Dial code	ation Ope...	Comments
2	1	2017.01.01 00:0...	2018.01.01 00:0...	Destination	n Telecom...	N/A
3	173	2017.01.01 00:0...	2018.01.01 00:0...	Rate	n Wireles...	N/A
4	1234	2017.01.01 00:0...	2018.01.01 00:0...	Rate labels	nistan	Afghanistan Op...
5	1892	2017.01.01 00:0...	2018.01.01 00:0...	Connection fee	t Afghani...	N/A
6	1214	2017.01.01 00:0...	2018.01.01 00:0...	Schedule	fghanista...	N/A
7	16780	2017.01.01 00:0...	2018.01.01 00:0...	Time mask	m Develo...	N/A
8	2343	2017.01.01 00:0...	2018.01.01 00:0...		a	Albania Operato...

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)

Voice

- *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*
- *Schedule*: peak/offpeak schedule (up to 4 columns)
- *Time mask*: activity period of the rate
- *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 breakout (for rate analysis)
- *Reset*: select to clear the column heading

The right panel contains the menu of parser settings.

Rate sheet_soVIP.xlsx

Presets: Load Save Delete

Product: **Ahn Wee - Wholesale (USD) - Vendor**

First rows:

Fix selected rows

Rate merging options*: Close all rates

Update only rates for fully matching breakouts

Close non-matching breakouts

Close rates for entire destinations

Close rates for entire countries

Do not affect breakouts from the price list

Do not close breakouts without price

Close date*:

Close days after ratesheet received

Effective from:

Effective till:

Increase date:

Ratesheet received on*:

Time zone*:

Billing increment: - default increment

Parser settings menu

The *Presets* toolbar on top of the menu enables the user to create, upload and delete pre-set parsing templates:

Presets: Load Save Delete

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* menu 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

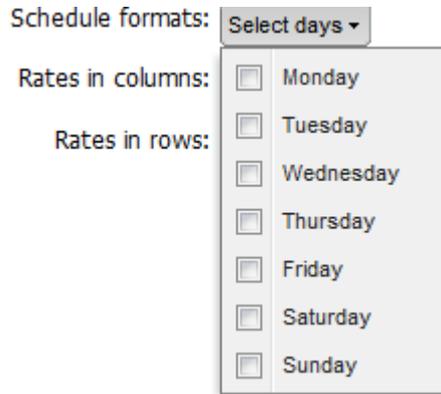
- *Rate merging options*: the parameter defines how existing rates are joined with the newly imported rates. Possible options include:
 - *Close all rates*: close all active rates, so that only the fresh rates exist in the product
 - *Update only rates for fully matching breakouts*: update existing rates 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 breakouts* checkbox if you wish to close non-matching breakouts 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 *Russia, mobile – 79, 7908 and 7910* - and there is at least one rate from the ratesheet belonging to the system destination *Russia, mobile*, all the three existing rates for Russia 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* menu. All rates for fully matching breakouts 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 breakouts 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 breakouts without price*: 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 button)
- *Schedule formats* (if the *Schedule* column is specified): select the days of week when the rate is active during the hours indicated in the *Schedule* column(s) (in 07:00-12:00 format, for example):



Schedule 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 button)

Rates in columns:

Default

	Price	Value
<input type="checkbox"/>	Not set	-
<input type="checkbox"/>	Peak	{..}
<input type="checkbox"/>	Off-Peak	{..}
<input type="checkbox"/>	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																									

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

Voice

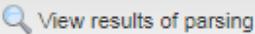
If you wish to link two worksheets by a parameter (dial codes or destinations), specify the appropriate column name on both worksheets, and the System will join the data automatically.

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  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.



Dial code	Destination	Rates	Increment	Effective from	Effective till
7903	Russia Beeline	0.001	0/1/1	2019.04.13 00:00:...	2100.01.01 00:00:...
7910	Russia MTS	0.004	0/1/1	2019.04.13 00:00:...	2100.01.01 00:00:...
7920	Russia Megafon	0.002	0/1/1	2019.04.13 00:00:...	2100.01.01 00:00:...

View results of parsing

When through with defining the parsing settings, click the  button on the bottom toolbar. Use the  button to discard the parsing settings. To cancel and return to the previous page, click .

9.4.5.5 Output of parsing information

When the  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. Click the  button if you wish to export the filtered or full table to an Excel file.

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:

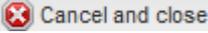
- Cannot update rate of a volume-based deal
- Rate deleted
- Rate type mismatch: non-US rates found in domestic ratesheet
- There is block_id=A in lerg for suitable npanxx

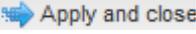
Voice

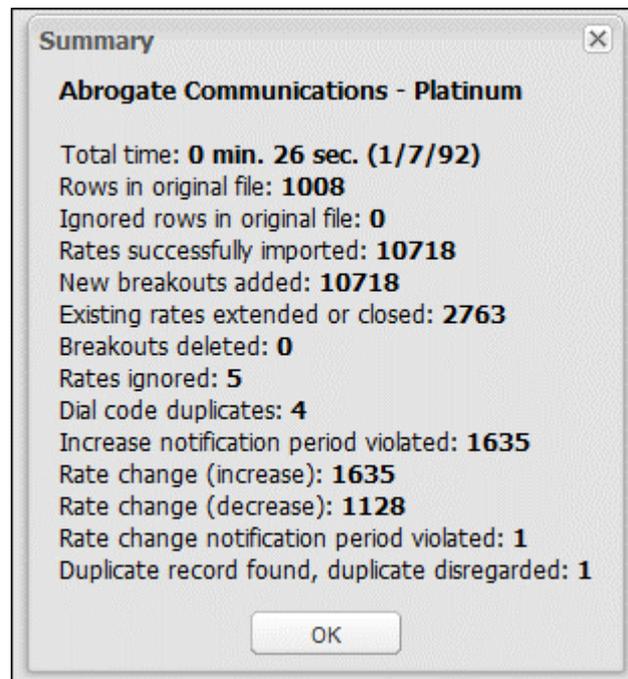
- No match in LERG6 found
- New billing increment added
- New timemask added
- Timemask not full
- Timemask overlap
- Timemask missing
- Duplicate schedule found
- Rate ≤ 0
- Duplicate rate label found
- Too many rate_label or schedule values for one dial code (max 3)
- Dial code duplicates
- Duplicate 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 breakout added
- Past rate closed
- Past new breakout added
- Rate change (increase)
- Rate change (decrease)
- Billing increment missing or invalid
- Past rate change (increase)
- Past rate change (decrease)
- Blocked breakout
- Breakout unblocked
- Same
- Past rate change (billing increment)
- Rate change (billing increment)
- Past same

Voice

- Past blocked breakout
- Past unblocked breakout
- Past blocked breakout added
- Blocked breakout 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).



Import results

After the rates are imported, you will see the summary with the task information.

9.4.5.6 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: Load | Save Delete

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: Dial codes

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*: GMT (GMT+0)

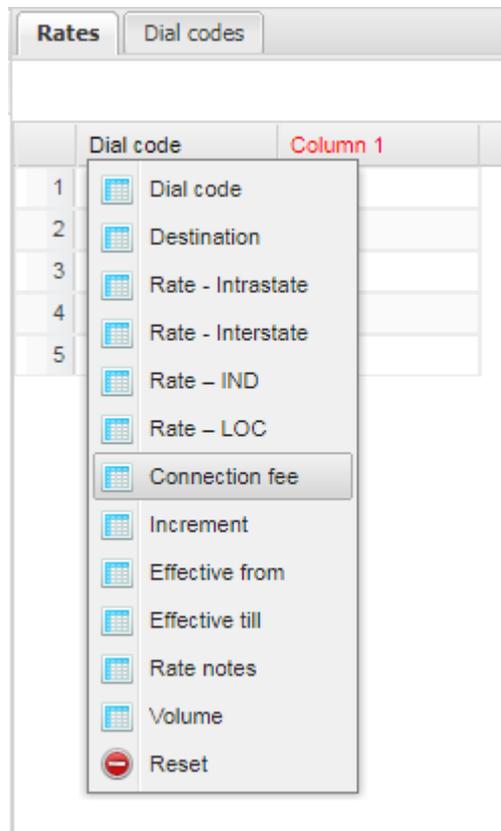
Billing increment: 0/1/1

Parser settings menu

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 breakouts; Close non-matching breakouts*: same as for International products
- *Do not affect breakouts 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 breakouts 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

9.4.6 Rate import

Uploading of supplier ratesheets is probably the most common everyday task for any carrier. The key challenge of automatic rate upload is the diversity of ratesheet file formats used by carriers. Besides, it is important to automatically check the imported data for integrity, syntax and compliance of the rate details (increase dates in particular) with the interconnect agreement terms. Another significant parameter is the import speed. So we designed a tool for MS Excel ratesheet parsing that is robust, efficient and at the same time easy to understand and convenient to use.

The *VoicelRates\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 [VoicelRates\Auto rate import](#)^[197])

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  button. The rate sheet files are displayed at the *VoicelRates\Rate import (old)* page

NOTE: The System can process attached ZIP archives, including those containing subfolders.

3. In case of auto rate import, the files are imported in the System automatically
4. In case of manual rate import, the System owner performs rate sheet parsing in order to translate the file in the format that can be processed by the System (see [VoicelRates\Rate import \(old\)\Rate sheet parsing](#)^[228] for more detail)
5. The System owner analyzes the import results, makes corrections if necessary and applies the new rates to the System (or cancels the import)

Voice

To start rate import:

1. Go to *Voice\Rates\Rate import (old)*
2. Select a file in the *Select file* table
3. Supply appropriate values in the *Import settings* panel
4. Click  to proceed to rate sheet parsing

Below is a detailed overview of the *Voice\Rates\Rate import (old)* page.

9.4.6.1 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 \(old\)](#)²²⁴, it works faster, offers more flexible analysis and allows multitasking, that is performing several import tasks in the background mode. 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					
<input type="checkbox"/>	Status	▲ Carrier	Product	File name	Date
<input type="checkbox"/>	Imported	All	All		
<input type="checkbox"/>	Imported	Ahn Wee	WholeSale (USD) - Vendor	Ratesheet.xlsx	2017.01.
<input type="checkbox"/>	Imported	Anita Job	WholeSale (USD) - Vendor	Ratesheet.xlsx	2017.01.
<input type="checkbox"/>	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls	2016.08.
<input type="checkbox"/>	Imported	Boring Enterprises	WholeSale (USD) - Vendor	2-page test.xls	2016.07.
<input type="checkbox"/>	Imported	Boring Enterprises	-	2-page test.xls	2016.05.
<input type="checkbox"/>	Imported	CallingElvis	CLI (USD) - Client	az.xls	2017.02.

File import queue

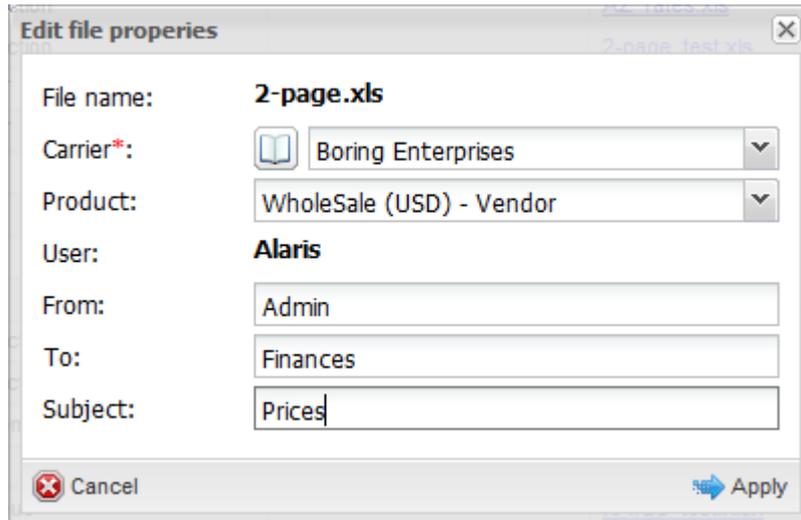
The table contains the following columns (self-explanatory columns are not described below):

- *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](#)¹⁹⁷), *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  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 the selected record;

 - upload a file for import;  - change the file status;  - perform automatic import of the file;  - convert the file from a carrier-specific to the standard format (currently available options are: Beneton Group, Deutsche Telekom AG, Telekom Austria Group and TATA)

Select *Beneton Group* if the ratesheet contains prices for multiple products with the *Techprefix* column that serves to split the rates into several files one for each *Techprefix*. New files are added into the list with the same receive date and assigned to a respective product.

Select *TATA conversion* when a file contains several rows with multiple rate changes for a single dial code. For example:

7910 - 0.1 - 2017.09.01

7910 - 0.2 - 2017.10.01

7910 - 0.3 - 2017.11.01

7911 - 0.1 - 2017.09.01

7911 - 0.2 - 2017.10.01

When *TATA conversion* is selected, three files will be generated and appear in the file import queue: one with the rate 0.1 (for dial codes 7910 and 7911), one with the rate 0.2 (for dial codes 7910 and 7911) and one with the rate 0.3 (for dial code 7910).

The bottom section of the page is the *Tasks* table containing import tasks (for both manual and auto import).

Tasks						
Product	Import mode	Status	Summary	Details	User name	
All		All			All	
Boring Enterprises - Retail (USD) - Vendor	auto	ready	Valid rates found in file: 10...	view	Alaris	
ALARIS TEST - LCR (USD) - Client	choice	aborted	Timed out - canceled autom...		Alaris	
Boring Enterprises - Retail (USD) - Vendor	choice	ready	completed		Alaris	
Boring Enterprises - Retail (USD) - Vendor	analysis	ready	Analysis performed	view	Alaris	
Boring Enterprises - Retail (USD) - Vendor	analysis	ready	Analysis performed	view	Alaris	
ALARIS TEST - LCR (USD) - Client	auto	ready	Rates closed: 3; Valid rate...		Alaris	
ALARIS TEST - LCR (USD) - Client	choice	aborted	Canceled by user		Alaris	
Mensajes Largos Ltd. - LCR (EUR) - Client	choice	error	ORA-29532: Java call term...		Alaris	

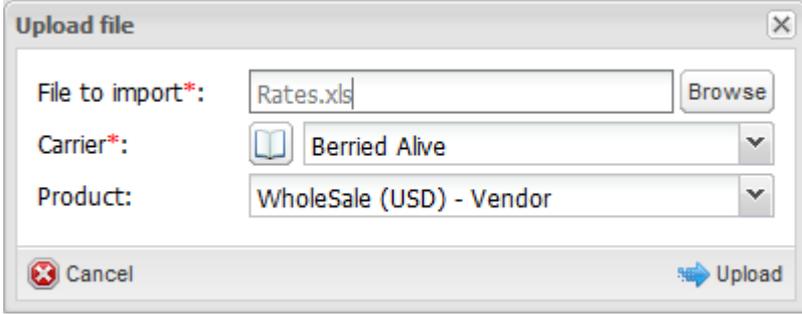
Tasks

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 [VoiceRatesAuto rate import](#)^[197] for more detail)
 - *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).

9.4.6.2 File upload

To upload a new file for rate import, click the  button on the bottom toolbar of the *Rate import* page. In the *Upload file* menu, 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).

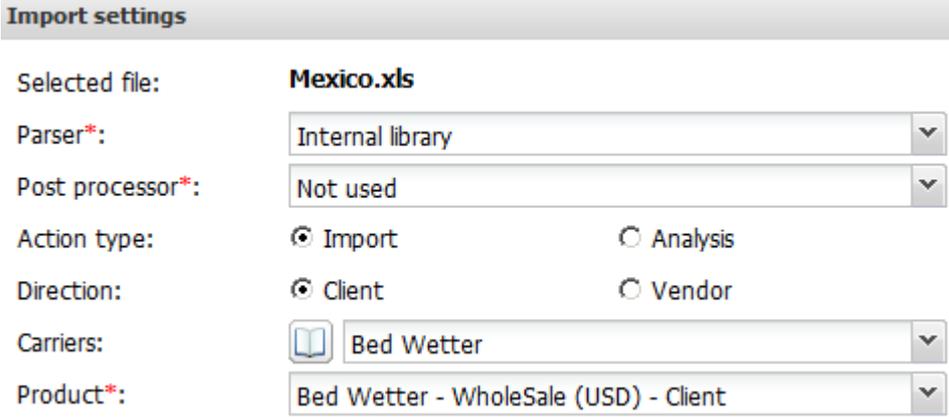


Upload file menu

When through with defining the imported file, click  to upload the file or  to discard the settings.

9.4.6.3 Import settings menu

Click on the uploaded file in the *Select file* table to activate the *Import settings* menu located to the right of the table.



Import settings menu

The *Import settings* menu 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
- *Post processor*: parser for converting of the peak/off-peak schedules into a unified format. Available values are:
 - *Not used*: select if the schedule in the file is already in a standard format
 - *Orange Polska, Deutsche Telekom, BICS, BICS2016*: select the appropriate value if the schedule is made in the format of one of the carriers
- *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](#)^[201]
- *Direction (Client or Vendor)*: defines whether to import the selected ratesheet to a client or vendor product

Voice

- *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* or *US domestic*
- 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.

9.4.6.4 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.

Classic Pricelist Aggregator

	Dial code	Effective from	Effective till	Destination	Column 4	Column 5
1	Dial Code	Effective from	Effective till	Dial code	ation Ope...	Comments
2	1	2017.01.01 00:0...	2018.01.01 00:0...	Destination	n Telecom...	N/A
3	173	2017.01.01 00:0...	2018.01.01 00:0...	Rate	n Wireles...	N/A
4	1234	2017.01.01 00:0...	2018.01.01 00:0...	Rate labels	nistan	Afghanistan Op...
5	1892	2017.01.01 00:0...	2018.01.01 00:0...	Connection fee	t Afghani...	N/A
6	1214	2017.01.01 00:0...	2018.01.01 00:0...	Schedule	fghanista...	N/A
7	16780	2017.01.01 00:0...	2018.01.01 00:0...	Time mask	m Develo...	N/A
8	2343	2017.01.01 00:0...	2018.01.01 00:0...		a	Albania Operato...

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))

Voice

- *Rate labels*: price types (e.g. peak/offpeak)
- *Connection fee*
- *Schedule*: peak/offpeak schedule (up to 4 columns)
- *Time mask*: activity period of the rate
- *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)
- *Volume*: indication of the volume per breakout (for rate analysis)
- *Reset*: select to clear the column heading

The left panel contains the menu of parser settings.

Rate sheet_soVIP.xlsx

Presets: Load Save Delete

Product: Ahn Wee - Wholesale (USD) - Vendor

First rows:

Fix selected rows

Rate merging options*:

Close all rates

Update only rates for fully matching breakouts

Close non-matching breakouts

Close rates for entire destinations

Close rates for entire countries

Do not affect breakouts from the price list

Do not close breakouts without price

Close date*:

Close days after ratesheet received

Effective from:

Effective till:

Increase date:

Ratesheet received on*:

Time zone*:

Billing increment: - default increment

Parser settings menu

The *Templates* toolbar on top of the menu enables the user to create, upload and delete pre-set parsing templates. It contains the  **Convert** button that serves to convert templates from the previous version of *Rate import*. For this purpose, select the template in the drop-down list and click .



Templates 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* menu 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 breakouts*: 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 breakouts* checkbox if you wish to close non-matching breakouts 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 *Russia, mobile* – 79, 7908 and 7910 - and there is at least one rate from the ratesheet belonging to the system destination *Russia, mobile*, all the three existing rates for Russia 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* menu. All rates for fully matching breakouts 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 breakouts 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 breakouts without price*: 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

Voice

- *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
- *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 button)
- *Schedule formats* (if the *Schedule* column is specified): select the days of week when the rate is active during the hours indicated in the *Schedule* column(s) (in 07:00-12:00 format, for example):

Schedule formats:

Rates in columns: Monday

Rates in rows: Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Schedule 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 button)

Rates in columns:

Default

	Price	Value
<input type="checkbox"/>	Not set	-
<input checked="" type="checkbox"/>	Peak	{..}
<input checked="" type="checkbox"/>	Off-Peak	{..}
<input checked="" type="checkbox"/>	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	Off-Peak	Peak																						
Tue	Off-Peak	Peak																						
Wed	Off-Peak	Peak																						
Thu	Off-Peak	Peak																						
Fri	Off-Peak	Peak																						
Sat	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend						
Sun	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend	Weekend						

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 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
			All
	Rates,Dial code...	Dial code	Destination
			Parsing error

Import mode: Import

Search longest match

Include parent product

Show unchanged rates

Analyze destination matching

Page 1 of 1 | 200 rows | Rows 1-1 of 1
[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. Find out more in the [Alaris YouTube video](#).

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](#) page.

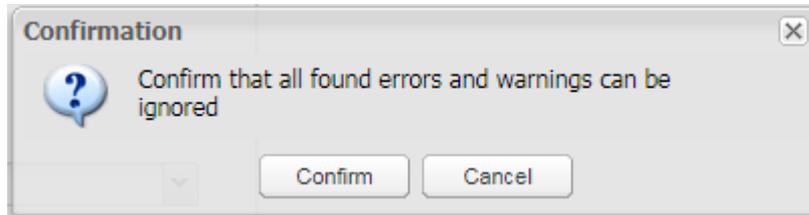
If the *Import* option was selected in the *Import settings* page, select the appropriate mode in the *Import mode list*:

- *Auto*: import without preview, using the *Error type level* settings of the *Auto rate import* (see [Voice\Rates\Auto rate import](#) for more detail)
- *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 79101 at the price 0.2 was added while the product already had a rate for 7910 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 . A dialog illustrated above will appear. Click . The user is then returned to the [Voice\Rates\Rate import](#) 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	
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

Rate sheet_soVIP.xlsx (Product: 1-To-Allzz - Premium(USD) - Vendor)							
Critical point	Dial code	Destination	Rate before		Rate after		
			Min.	Max.	Min.	Max.	
2018.08.28 08:55:55	375259	Belarus, BeST, mobile	0.40000	0.40000	0.40000	0.40000	
2018.08.28 08:55:55	375291	Belarus, Velcom, mobile	0.40000	0.40000	0.40000	0.40000	
2018.08.28 08:55:55	375292	Belarus, MTS, mobile	0.25000	0.25000	0.25000	0.25000	
2018.08.28 08:55:55	375295	Belarus, MTS, mobile	0.25000	0.25000	0.25000	0.25000	
2018.08.28 08:55:55	375297	Belarus, MTS, mobile	0.25000	0.25000	0.25000	0.25000	
2018.08.28 08:55:55	37544	Belarus, Velcom, mobile	0.40000	0.40000	0.40000	0.40000	
2018.08.28 08:55:55	37544705	Belarus, Velcom, mobile	0.40000	0.40000	0.40000	0.40000	

Import results (for *Analysis* and *Choice* options)

The bottom of the page contains the button that allows exporting the results to an MS Excel file. If the *Choice* option was selected, the and buttons are also available at the bottom of the page. Click to import the rates or 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.

9.4.6.5 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: Load | Save Delete

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: Dial codes

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*: GMT (GMT+0)

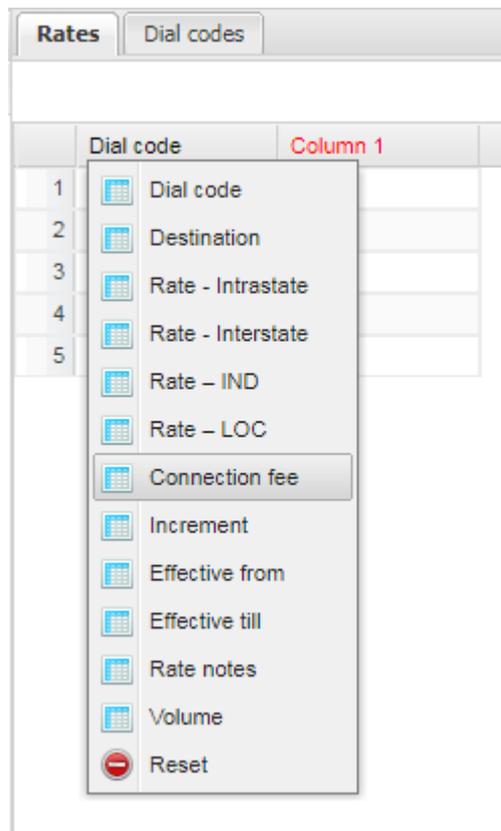
Billing increment: 0/1/1

Parser settings menu

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 breakouts; Close non-matching breakouts*: same as for International products
- *Do not affect breakouts 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 breakouts 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

9.4.7 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*.

9.4.7.1 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 breakouts 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 breakout – presence/absence of client traffic within a recent time interval, availability of vendors with sufficient route quality etc. Below is the gradation of client breakouts (*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](#)^[256]) 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 breakout not affected by any other rules, irrespective of the recent traffic presence

Route type is the primary parameter to define a cost rule. Every breakout 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 applies the

stipulated cost calculation logics. As a result, the System knows the cost of the breakout for the system owner. That way it is easy to define the cost calculation approach for all client breakouts belonging to the same type by means of a single rule. If there are multiple rules for the same route type, they have to be different in the destinations or dial codes they are valid for.

To calculate the rates, at least one cost rule must be specified – normally it is of the *default* type, to cover the entire scope of client breakouts irrespective of their type.

The configured cost rules are displayed in the *Cost 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. Use the  button on the bottom toolbar to refresh the table.

ID	Rule name	Route type	Cost rule	Vendors	Increase	Decrease
	Text mask	All	All	Text mask	All	All
10000	Rule1	Default	Worst of analyzed vendors	All	Yes	Yes
10020	Rule2	Inactive	Worst of analyzed vendors	All	Yes	Yes

Cost rules

The right panel contains the *Add* and *Edit* menus that serve to add new rules or edit existing ones. To activate the *Edit* menu, click on the record in the table.

 Add
 Edit

Rule name*:

Route type:

Vendor products to analyze:

Cost rule*:

Destinations:

Dial codes:

Vendors:

Product type:

-
- CLI
- Gold
- LCR
- Nadya
- Premium

Add menu (Part 1)

Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.

- *Rule name*: name of the cost rule (it is recommended to use self-explanatory names)
- *Route type*: the client breakout type the rule applies to (see above)
- *Vendor products to analyze*: total number of least-price vendors to be taken into account when calculating the cost base
- *Cost rule*: the algorithm to calculate the cost of the breakout for the System owner:
 - *Actual cost* (for rules with *Route type* = *Active*): 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 (for *Active* breakouts) or have valid rates for the client breakout (for other route types); 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 breakout cost, R_{suppX} is the rate of vendor X, V_{suppX} is the volume of traffic for the breakout that has been handled by vendor X, V_{total} is the system-wide volume of traffic to the breakout

- *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 breakouts of the same type)
- *Dial codes*: one or several dial codes (out of the list of the client breakouts 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 type*: set a list of vendor product internal names (e.g. *Premium*, *Gold* etc.), so that only products matching one of these names will be used for cost calculation

Default vendors: 

Alice Wondersystems - Wholesale (EUR)	
British Hairways - WholeSale (USD)	
Hungry Telecom - Meat - LCR (EUR)	

ASR, %*:

ACD, mins*:

NER, %*:

PDD, secs*:

Vol., mins*:

Increase

Decrease

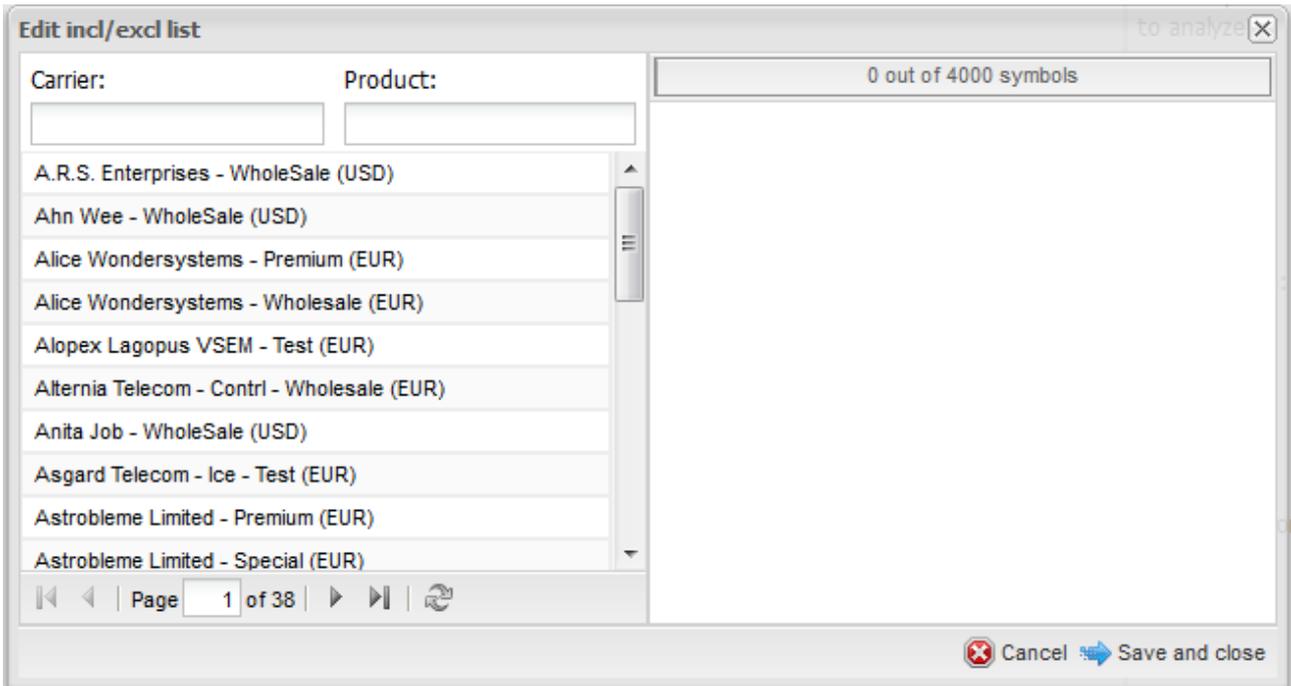
Markup scheme:

Destination rate:

 Reset  Submit

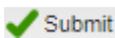
Add menu (Part 2)

- *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 breakout)
- *Increase*: defines whether the System is allowed to increase the current customer rate for a given breakout
- *Decrease*: defines whether the System is allowed to decrease the current customer rate for a given breakout
- *Markup scheme*: the name of the markup scheme from the [Voice\Rates\Rate plan creation\Markup setup](#)^[257] page that will be used for the client rate calculation in this rule
- *Destination rate*: defines how to treat cases when there are multiple rates on the side of a particular vendor matching one client breakout - e.g. if a client has 79 (Russia mobile) and a vendor has 7905 (Russia mobile Beeline), 7910 (Russia mobile MTS), 7920 (Russia mobile Megafon). 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.

9.4.7.2 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* menus that serve to add new rules or edit existing ones. To activate the *Edit* menu, 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*:

Rate end*:

Type*:

Value*:

Scheme*:

Add/Edit menu

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

9.4.7.3 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 breakout 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.

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

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:

Voice

New compilation		Task details											
Client product:	ACQ_Client_1 - Voice - Dest	<table border="1"> <thead> <tr> <th>Cost rules</th> </tr> </thead> <tbody> <tr><td><input type="checkbox"/> ak_kaka</td></tr> <tr><td><input type="checkbox"/> am_test</td></tr> <tr><td><input type="checkbox"/> AC</td></tr> <tr><td><input type="checkbox"/> KA - clone</td></tr> <tr><td><input type="checkbox"/> 28611</td></tr> <tr><td><input type="checkbox"/> 29575_US_Bah_Barb</td></tr> <tr><td><input checked="" type="checkbox"/> 29575_All_from_list</td></tr> <tr><td><input type="checkbox"/> 29575_All_3990</td></tr> <tr><td><input type="checkbox"/> 29575_All</td></tr> <tr><td><input type="checkbox"/> 29575_None</td></tr> </tbody> </table>	Cost rules	<input type="checkbox"/> ak_kaka	<input type="checkbox"/> am_test	<input type="checkbox"/> AC	<input type="checkbox"/> KA - clone	<input type="checkbox"/> 28611	<input type="checkbox"/> 29575_US_Bah_Barb	<input checked="" type="checkbox"/> 29575_All_from_list	<input type="checkbox"/> 29575_All_3990	<input type="checkbox"/> 29575_All	<input type="checkbox"/> 29575_None
Cost rules													
<input type="checkbox"/> ak_kaka													
<input type="checkbox"/> am_test													
<input type="checkbox"/> AC													
<input type="checkbox"/> KA - clone													
<input type="checkbox"/> 28611													
<input type="checkbox"/> 29575_US_Bah_Barb													
<input checked="" type="checkbox"/> 29575_All_from_list													
<input type="checkbox"/> 29575_All_3990													
<input type="checkbox"/> 29575_All													
<input type="checkbox"/> 29575_None													
Destinations:	Selected: All												
Vendor breakouts:	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												
Set client rates within the same destination as:	Default												

Task details

The *New compilation* tab sheet is illustrated in the figure below.

New compilation	Task details											
Client product*:	1-To-Allzz - 7328 (USD) - Client											
Destinations:	Selected: All											
Vendor breakouts:	<input checked="" type="checkbox"/> same <input type="checkbox"/> longer <input checked="" type="checkbox"/> shorter											
Matching type:	Country											
Effective date:	2019.03.12 10:57:19											
	<input type="checkbox"/> Include stats of dependent products											
Client stats period, days:	3											
Vendor stats period, days:	1											
Inactivity threshold:	0											
Set client rates within the same destination as:	Default											
	<input type="checkbox"/> Refresh dial code mapping											
	<table border="1"> <thead> <tr> <th>Cost rules</th> </tr> </thead> <tbody> <tr><td><input checked="" type="checkbox"/> ak_kaka</td></tr> <tr><td><input checked="" type="checkbox"/> am_test</td></tr> <tr><td><input checked="" type="checkbox"/> AC</td></tr> <tr><td><input checked="" type="checkbox"/> KA - clone</td></tr> <tr><td><input checked="" type="checkbox"/> 28611</td></tr> <tr><td><input checked="" type="checkbox"/> 29575_US_Bah_Barb</td></tr> <tr><td><input checked="" type="checkbox"/> 29575_All_from_list</td></tr> <tr><td><input checked="" type="checkbox"/> 29575_All_3990</td></tr> <tr><td><input checked="" type="checkbox"/> 29575_All</td></tr> <tr><td><input checked="" type="checkbox"/> 29575_None</td></tr> </tbody> </table>	Cost rules	<input checked="" type="checkbox"/> ak_kaka	<input checked="" type="checkbox"/> am_test	<input checked="" type="checkbox"/> AC	<input checked="" type="checkbox"/> KA - clone	<input checked="" type="checkbox"/> 28611	<input checked="" type="checkbox"/> 29575_US_Bah_Barb	<input checked="" type="checkbox"/> 29575_All_from_list	<input checked="" type="checkbox"/> 29575_All_3990	<input checked="" type="checkbox"/> 29575_All	<input checked="" type="checkbox"/> 29575_None
Cost rules												
<input checked="" type="checkbox"/> ak_kaka												
<input checked="" type="checkbox"/> am_test												
<input checked="" type="checkbox"/> AC												
<input checked="" type="checkbox"/> KA - clone												
<input checked="" type="checkbox"/> 28611												
<input checked="" type="checkbox"/> 29575_US_Bah_Barb												
<input checked="" type="checkbox"/> 29575_All_from_list												
<input checked="" type="checkbox"/> 29575_All_3990												
<input checked="" type="checkbox"/> 29575_All												
<input checked="" type="checkbox"/> 29575_None												
Reset 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 breakouts (same; longer; shorter)*: defines which vendor breakouts are considered when searching for available vendor rates. By default the System takes totally matching breakouts on the vendor side (if the customer has the 791 dial code, vendors also need to have exactly 791). If the

longer checkbox is selected, the System considers more detailed breakouts on the vendor side (involving breakouts like 7910 or 7915 in the example above). If the *shorter* checkbox is selected, the System considers shorter dial codes on the vendor side (like 79 in the same example)

- *Matching type*: this parameter is an add-on to the *Vendor breakouts*, 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 7 (Russia proper) and 79 (Russia 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. Example: 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 breakout 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 *Resent tasks list*.

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](#)^[54].

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
- *Route 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 *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 *Recent 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 *Vendor destination rate* 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 breakouts* table in the bottom left part of the page shows all vendor breakouts involved in the mapping for the client dial code, for the rate selected in the bottom left table:

Involved vendor breakouts							
Vendor product	Dial code	Rate 1	Rate 2	Rate 3	Rate 4	Rate 5	Volume
CallingElvis - VIP	7902156	0.01600					0.00000
NeverPay LLC - WholeSale	79	0.03200					62.00000
MoreThanWords SMS - WholeSale	7902156	0.03130					0.00000
Far Track - Premium	7902156	0.03470					0.00000
The Human Bean - WholeSale	790	0.03180					124.00000

Involved vendor breakouts

The table contains the following details for each vendor breakout:

- *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



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 menu:

Edit selected new rate

Price 1*:

Update destination rate

Cancel Save

Edit selected new rate

Use  **Export to Excel** or  **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](#)^[239] tool.

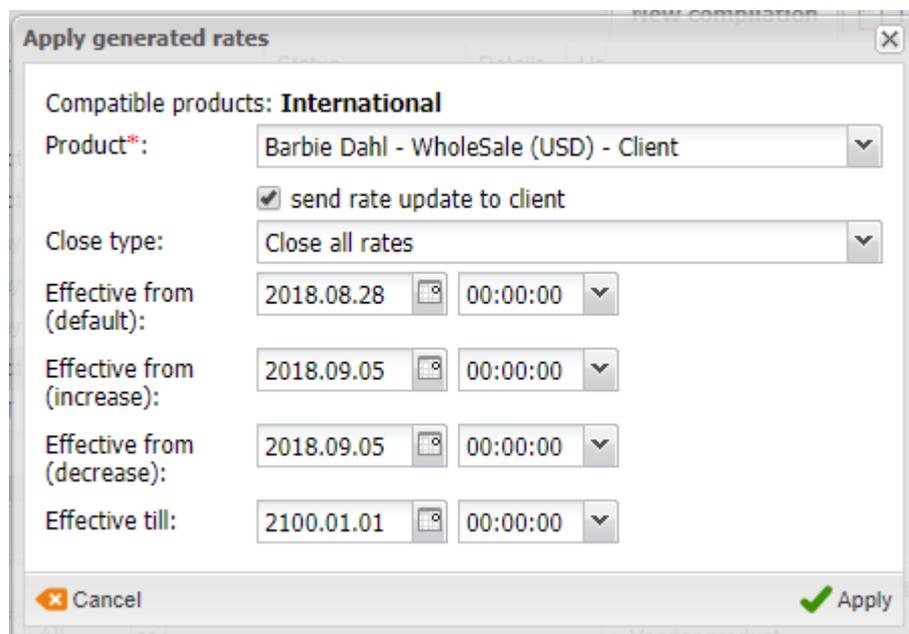
The button  **Generate routing rules** at the bottom toolbar allows creating routing rules based on rates generated in the *Rate compilation* interface. In the dialog box that appears, specify the priority of the rules and select the *Rules are active* checkbox to enable them.



'Generate routing rules' 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](#)^[54]. 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 menu, which enables configuration of the rate import:



Apply generated rates

The following settings are defined in the menu:

- *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 (Close all rates, Update only rates for fully matching breakouts, Close rates for entire destinations)*: define how existing rates are joined with the newly imported rates (similar to *Rate merging options* on the [Voice\Rates\Rate import](#) page)
- *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.

9.5 Reference books

The *Voice\Reference books* section consists of three pages – *Billing Increments*, *Dial Codes*, *Pending Dial Codes* and *Soft Switch editor*.

9.5.1 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/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*) 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 and dialcode-related breakouts. For example, an increment for the 79 dialcode (Russia Mobile) will also apply to codes 7910, 7906 etc.

The left panel of both sections contains a table of previously configured increments:

ID	Free interval	First interval	Next interval	Deductable inter...	Display value
1	0	1	1		0/1/1
10000	0	60	1		0/60/1
10001	0	60	60		0/60/60

Billing increments table (general)

Task ID	Job created	Comments	Status	Details	User name
TASK883538	2018.11.13 13:26:30		ready	view	mo
TASK883536	2018.11.13 13:26:06		aborted		mo
TASK881052	2018.11.09 19:16:28		ready	downl...	gv
TASK881050	2018.11.09 18:18:10		ready	view	ac
TASK881048	2018.11.09 17:05:25		ready	view	ac

Dialcode-based increments

The rounding procedure is as follows:

Voice

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.

Example.

The 0/15/15/0.1 billing increment gives the following roundoff results:

Raw duration (sec) => Rounded duration (sec)

0 => 0

0.099 => 0

0.1 => 0

0.101 => 15

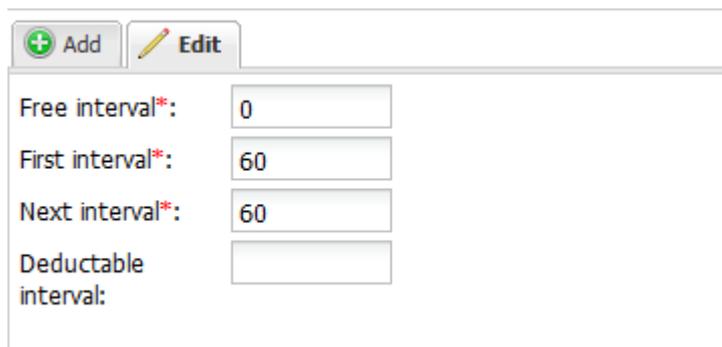
10 => 15

15 => 15

15.1 => 15

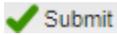
15.2 => 30

The right panel of both sections page contains the *Add* and *Edit* menus that serve to add new records or edit existing ones. To activate the *Edit* menu, click on the record in the table. Enter the required parameters in the corresponding fields. Fields marked with an asterisk (*) are required.



The screenshot shows a form titled 'Add/Edit menu'. At the top, there are two buttons: a green '+' button labeled 'Add' and a yellow pencil icon labeled 'Edit'. Below the buttons, there are four input fields with labels: 'Free interval*:' with a value of '0', 'First interval*:' with a value of '60', 'Next interval*:' with a value of '60', and 'Deductable interval:' which is empty. The asterisk (*) indicates that the first three fields are required.

Add/Edit menu

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

9.5.2 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.

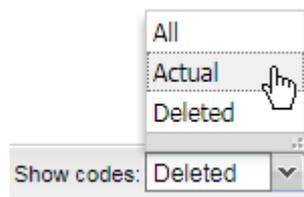
The page is divided in two panels. The left panel contains two tab sheets: *Dial codes* and *Country codes*.

The *Dial codes* tab sheet contains the button at the bottom that serves to export the table to a MS Excel file.

Dial Code	Country	Region	Type
Text mask	Text mask	Text ma:	Text mask
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

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:

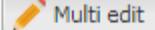
1. If rates are available, the dial code is marked as deleted. However, the routing module can still use them, and the calls can still be routed to the dial code. The user can view the codes by selecting Deleted in the Show codes control.
2. If there are no rates for the deleted dial code, such records will be removed permanently.

When dial codes are labeled as removed, the System will mark them as actual if:

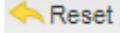
1. A new record for the same dial code is added to the reference book
2. The user edits the record
3. A rate for the dial code is imported. See also the [Alaris YouTube](#) video.

The *Dial codes* table contains the following information on dial codes: *Country*, *Region* and *Type*.

The right panel contains the *Add*, *Edit* and *Multi edit* menus that serve to add new dial codes or edit existing ones. To activate the *Edit* or *Multi edit* menu, 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*:	<input type="text" value="1016"/>
Country*:	<input type="text" value="United States of America"/>
Region:	<input type="text" value="Americas"/>
Type*:	<input type="text" value="Premium"/>

Add/Edit/Multi edit menu

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 an exclusive list click  **Select all filtered** to select all records in the table and deselect the records that will be excluded from editing. Click  **Reset** to clear the selection.

Click on the property name (*Country*, *Region* and *Type*) to group-edit it. 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:	
Country*:	<input type="text" value="United States of America"/>
Region:	<input type="text"/>
Type*:	<input type="text" value="proper"/>

Multi edit menu

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

To delete multiple entries, select them in the table; in the *Multi edit* tab sheet click  **Delete**.

NOTE: When the user uploads rates with the dial codes not present in the System with the [Voice\Rates\Rate import](#) ²³⁹ 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 7910 (Russia mobile MTS) when the dial code reference book only contains 79 (Russia mobile), the System will add 7910 to the reference book as Russia mobile too. That may become even more of a problem if in the same example you only have 7 (Russia proper) – that will result in a mobile breakout (7910) registered as proper.

Voice

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 [VoiceAnalytics](#) page only contains defined records, and the destination-based statistics is displayed correctly.

The *Country codes* tab sheet serves to add dial codes to the reference book. They will be used in the [VoiceAnalytics](#) page to display the statistics by calling country.

NOTE: By default, the statistics by calling country is not displayed in [VoiceAnalytics](#). After providing a list of country codes, contact the Alaris technical support team and specify the [VoiceAnalytics](#) 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	Country	Dial Code
Text mask	Text mask	ABC PPM CODE	999
Abkhazia	7940	Abkhazia	7840
Abkhazia	7840		

Country codes

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

Add		Edit		Multi edit	
Dial Code:	1013073	Country*:	United States of America	Region:	
Type*:	proper				

Add/Edit country code

9.5.3 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	Region	Type
2	378	2017.02.17 00:00:00	Andorra		FAS
1	375	2017.02.17 00:00:00	Armenia		mobile

Pending dial codes

The right panel contains the *Add* and *Edit* menus that serve to add new dial codes or edit existing ones. To activate the *Edit* menu, 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*:

Region:

Type*:

Add menu

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

9.5.4 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](#)^[174] functionality for networks managed by the MVTS Pro softswitch and Sansay softswitch.

The page consists of two panels.

ID	Name	Software manufacturer	Type	IP-address	Switch sec...	Soft swi
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
- *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.

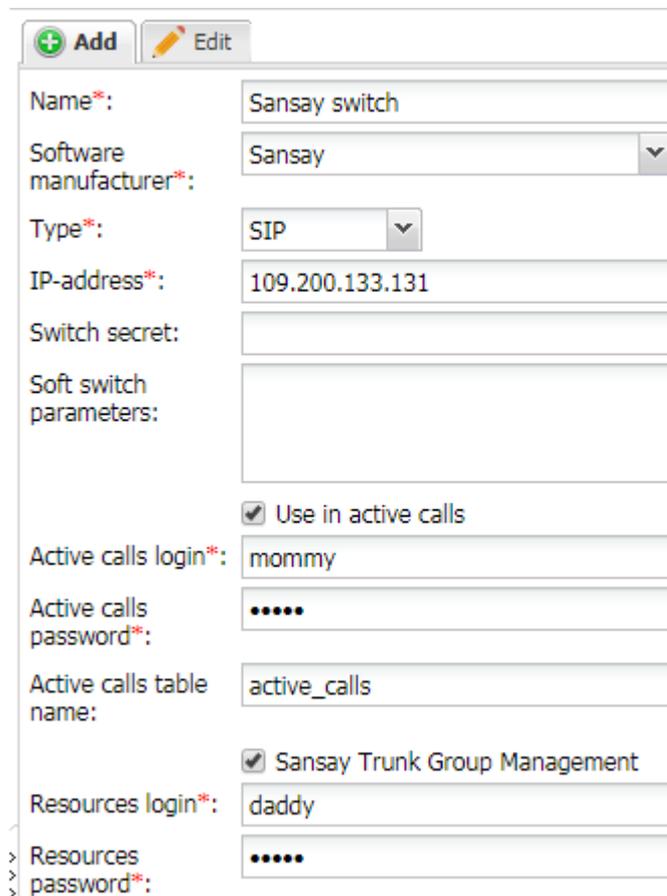
- *Switch secret* and *Softswitch parameters*: RADIUS settings, currently out of use
- *Use in active calls*: when selected, the calls handled by the switch are displayed in [Voice\Active calls](#)^[174]. This allows showing active calls from several switches at the same time. The following fields are made available when the 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*)

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).

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

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.



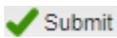
The screenshot shows a configuration form with the following fields and values:

- Name***: Sansay switch
- Software manufacturer***: Sansay
- Type***: SIP
- IP-address***: 109.200.133.131
- Switch secret**: (empty)
- Soft switch parameters**: (empty)
- Use in active calls
- Active calls login***: mommy
- Active calls password***: (masked with dots)
- Active calls table name**: active_calls
- Sansay Trunk Group Management
- Resources login***: daddy
- Resources password***: (masked with dots)

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  to confirm or  to discard the settings. Click  to delete the selected record.

9.6 Routing

The Voice\Routing section allows managing the way calls are routed by the switch.

9.6.1 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](#)^[103]).

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 page](#)^[284]). Unless the maximum number of routes per call is reached (the *Hnd max routes per request* parameter in the *Administration\System settings\Routing module*), 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\Use of contexts](#)^[299]).

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.

9.6.2 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.

9.6.3 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.

9.6.4 Routing interface

The *Routing* section comprises the following pages – *Blended routing*, *Macro Variables*, *Routing rules and Simulation*.

9.6.5 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.

Blended routing						
Is active	Auto...	Products	Dial codes / Desti...	ASR, %	ACD	Cost
All	All	All				
Yes	No	ALARIS TEST - CLI	Russia, Beeline, m...	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: -
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: -

Blended routing rules

The right panel contains the *Add* and *Edit* menus that serve to add new rules or edit existing ones. To activate the *Edit* menu, 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

Products*:

Edit list

Bed Wetter - LCR (USD)	✘
Beer Construction - LCR (USD)	✘
Belly Acres - VIP (USD)	✘

Destinations ▼

Edit list

Abkhazia, A-mobile, mobile	✘
Albania, Vodafone, mobile	✘
Albania, OLO, mobile	✘
Argentina, proper	✘

Is active

Start date*: ▼

End date*: ▼

Alert recipients:

Edit list

John Smith (bill@pocodinerio.ent)	✘
-----------------------------------	---

Freeze from hour:

Freeze till hour:

Add menu, General

The menu contains the following parameters:

General:

- *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)

Qualitative indicators

ASR target, %:	<input type="text" value="70"/>
ACD target:	<input type="text" value="11"/>
Cost target:	<input type="text" value="0.019"/>
ASR threshold, %:	<input type="text" value="50"/>
ACD threshold:	<input type="text" value="9"/>
Cost threshold:	<input type="text" value="0.022"/>
Stats interval, sec*:	<input type="text" value="3600"/>
Number of attempts*:	<input type="text" value="200"/> 
CLI threshold, %:	<input type="text" value="0"/> 
Vendor min share (only manual vendors)*:	<input type="text" value="0.5"/> 
ASR weight*:	<input type="text" value="1"/> 
ACD weight*:	<input type="text" value="1"/> 

Add menu, 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 1: The *Stats interval, sec* and *Number of attempts* parameters work together (whichever happens first) 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 30-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 uses the 60-minute interval for the calculation.

NOTE 2: 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 is 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*:

Priority*:

Context*:

Routing rule description:

Auto-mode settings

Max auto-vendors*:

Max vendor share*:

Min. vendor ASR, %:

Min. vendor ACD:

Max vendor rate:

Add menu, 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 [VoiceAnalytics¹⁷⁶](#) - 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 regular routing 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: 7910%, 380, 376, and the vendor has the following statistics:
 - for code 791011 - 200 attempts, 100 successful attempts, 100 minutes, cost - 5USD
 - for code 791012 - 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

Voice

- *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 [Voice Analytics](#) ¹⁷⁶ 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.

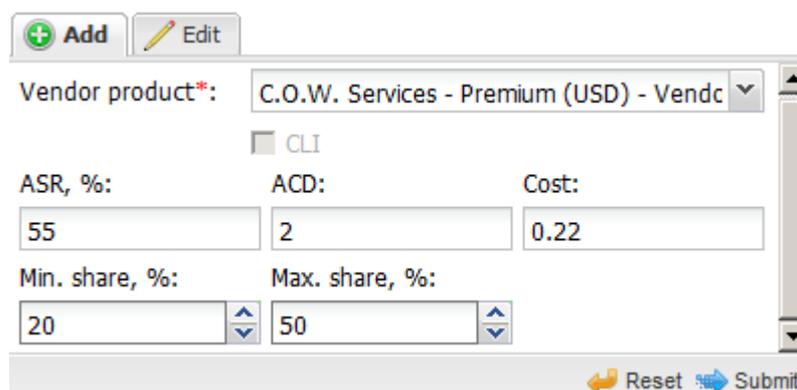
2) Check if the actual *ASR/ACD* and *Cost* parameters come close or match the target parameters. The better parameters are matched, the better the routing results.

The  button in the bottom left corner of the page toggles the table of 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.



Add menu

- *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](#)^[176] 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.

9.6.5.1 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, %:	<input type="text" value="35"/>
ACD target:	<input type="text" value="6"/>
Cost target:	<input type="text" value="0.0185"/>
ASR threshold, %:	<input type="text" value="10"/>
ACD threshold:	<input type="text" value="3"/>
Cost threshold:	<input type="text" value="0.0208"/>
Stats interval, sec.*:	<input type="text" value="1800"/>
Number of attempts*:	<input type="text" value="100"/>
CLI threshold, %:	<input type="text" value="0"/>
Vendor min share (only manual vendors)*:	<input type="text" value="0"/>
ASR weight*:	<input type="text" value="5"/>
ACD weight*:	<input type="text" value="5"/>

Blended rule, Qualitative indicators

Routing rule settings

Routing rules auto-synchronization

Action when can not ensure quality*:

Priority*:

Context*:

Routing rule description:

Auto-mode settings

Max auto-vendors*:

Max vendor share*:

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).

Voice

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:

$v1_ASR * v1_share + v2_ASR * v2_share + v3_ASR * v3_share = ASR$

$v1_ACD * v1_share + v2_ACD * v2_share + v3_ACD * v3_share = ACD$

$v1_cost * v1_share + v2_cost * v2_share + v3_cost * v3_share = cost$

For example, for the combination '50-33.33-16.67' the statistics will be calculated as:

Voice

$$\text{ASR} = 30 \cdot 0.5 + 40 \cdot 0.3333 + 35 \cdot 0.1667 = 34.1665$$

$$\text{ACD} = 4 \cdot 0.5 + 9 \cdot 0.3333 + 5 \cdot 0.1667 = 5.8332$$

$$\text{cost} = 0.01756 \cdot 0.5 + 0.02002 \cdot 0.3333 + 0.01821 \cdot 0.1667 = 0.01848$$

4) The weight is calculated by the formula below:

$$f(\text{ASR}, \text{ACD}, \text{Cost}) = \text{ASR}^{W_{\text{ASR}}} \cdot \text{ACD}^{W_{\text{ACD}}} \cdot \text{cost}^1,$$

where W_{ASR} and W_{ACD} are ASR weight and ACD weight respectively.

For this example the weight will be calculated as follows:

$$f(\text{ASR}, \text{ACD}, \text{Cost}) = 0.3417^5 \cdot 5.8332^5 \cdot 0.01848^1 = 0.0046 \cdot 6753,58 \cdot 0.01848 = 0.5741$$

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:

$$(\text{ASR threshold} \wedge \text{ASR weight}) \cdot (\text{ACD threshold} \wedge \text{ACD weight}) \cdot (\text{cost threshold} \wedge 1) = 0.1^5 \cdot 3^5 \cdot 0.0208^1 = 0.00032 \cdot 243 \cdot 0.0208 = 0.0016 \text{ (weight threshold)},$$

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)

$$(\text{ASR target} \wedge \text{ASR weight}) \cdot (\text{ACD target} \wedge \text{ACD weight}) \cdot (\text{cost target} \wedge 1) = 0.35^5 \cdot 6^5 \cdot 0.0185^1 = 0.07776 \cdot 7776 \cdot 0.0185 = 11.1862 \text{ (weight target)},$$

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

Voice

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.

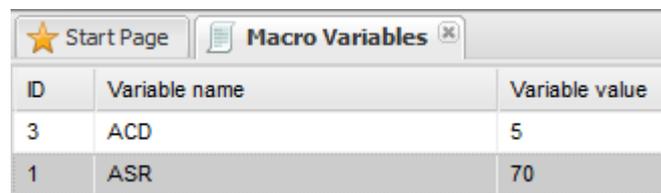
If the current maximum weight is greater than the previous one, partitioning to intervals happens for the new combination (as described in paragraph 7)

The algorithm operates until the solution (or its absence) is found.

9.6.6 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 valuable 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.



ID	Variable name	Variable value
3	ACD	5
1	ASR	70

Table of macro variables

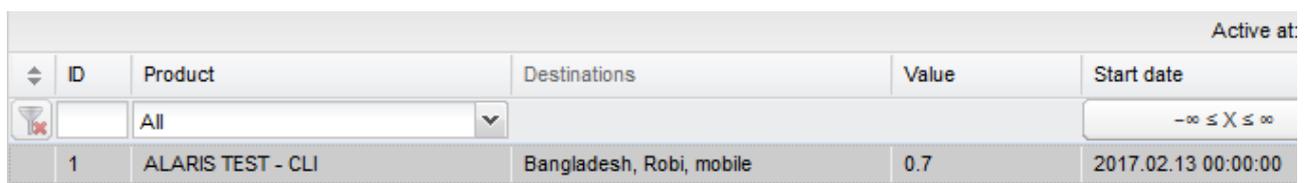
The top left section of the page is a table of macro variables.

The top right section contains the *Add* and *Edit* menus that serve to add and edit macro variables. The *Add* menu 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 interface\Statistical parameters in routing](#)^[296]).

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



ID	Product	Destinations	Value	Start date
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.

Add products and destinations

The bottom right section contains the *Add* and *Edit* menus that serve to add and edit products and destinations. The *Add* menu contains the following parameters:

- *Product*
- *Destinations*: click 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 menu to indicate inactive days and time. Similarly, specify the active periods.

Click to confirm or to discard the settings.

9.6.7 Routing 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
10000	Test	Regular routing	DEFAULT	DEFAULT	Yes	100	All products
10001	998	Regular routing	DEFAULT	Huntstop	Yes	3	ALARIS TEST - CLI (USD) Ahn Wee - WholeSale (USD) Anita Job - WholeSale (USD) Barbie Dahl - Premium (USD) Barbie Dahl - WholeSale (USD) ...
10002	998 - clone	Regular routing	PREMIUM	PREMIUM	Yes	3	ALARIS TEST - CLI (USD) Ahn Wee - WholeSale (USD) Anita Job - WholeSale (USD) Barbie Dahl - Premium (USD) Barbie Dahl - 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:

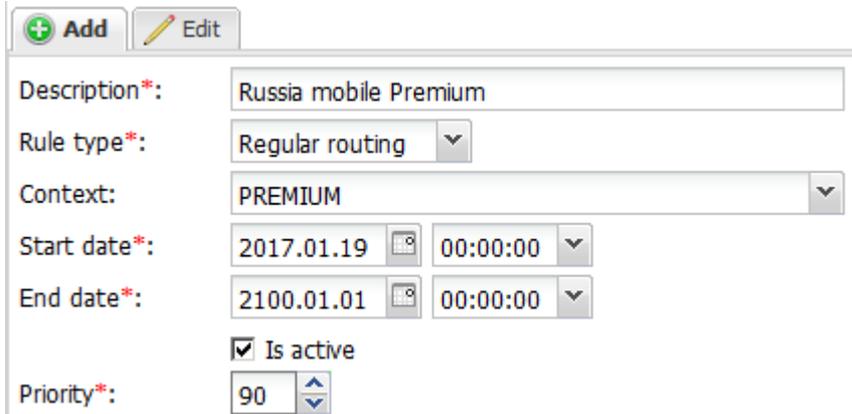
- *Vendor products*: filter that allows specifying one or more vendor products used in the choices of the routing rules or excluded from the choices (for rules that have the *Rule type* = *Block*). Click to open the multipicker. The vendor products can be filtered by *Direction*, *Region*, *Product description* (LCR, Premium etc.) and *Product name*

Product multipicker

- *Source tags, Destination tags*: filter by A- and B-number tags included in the routing rule

- *B-number*: filter by called number
- *Active at*: filter by the activity period

The *Add* and *Edit* menus in the top right corner of the page serve to create new rules and edit existing ones.



Add menu

The following parameters are available for configuration in the *Add* menu:

- *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. *Russia 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 predefined a small predefined portion of traffic going through the System among many or all active vendors in the System, in order to keep their stats up-to-date. The statistics is calculated based on ASR, DLR(s) and delivery delay.
- *Context*: user-defined group, to which the given rule is assigned (see [Voice\Routing\Use of contexts](#)^[295])
- *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](#)^[302] page

NOTE: If several rules have the same priority, static choices will always 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 several rules (static vendors cannot be sorted by weight, as they have no weight assigned). To avoid ambiguity, it is not recommended to create two rules with the same priority.

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: ▼

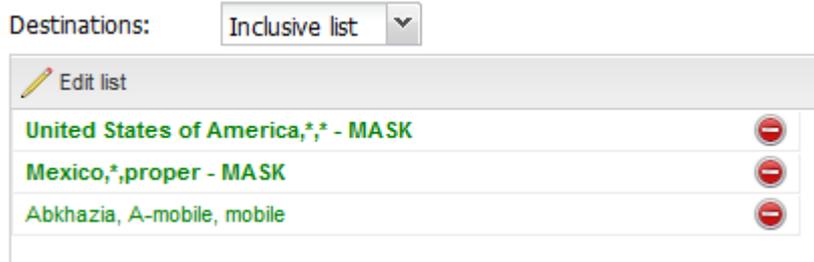
 Edit list	
CLI	✘
Premium	✘
Retail	✘
VIP	✘
WholeSale	✘

Add menu, 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 detail refer to [Voice\Routing\Use of contexts](#)^[299]
- *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)

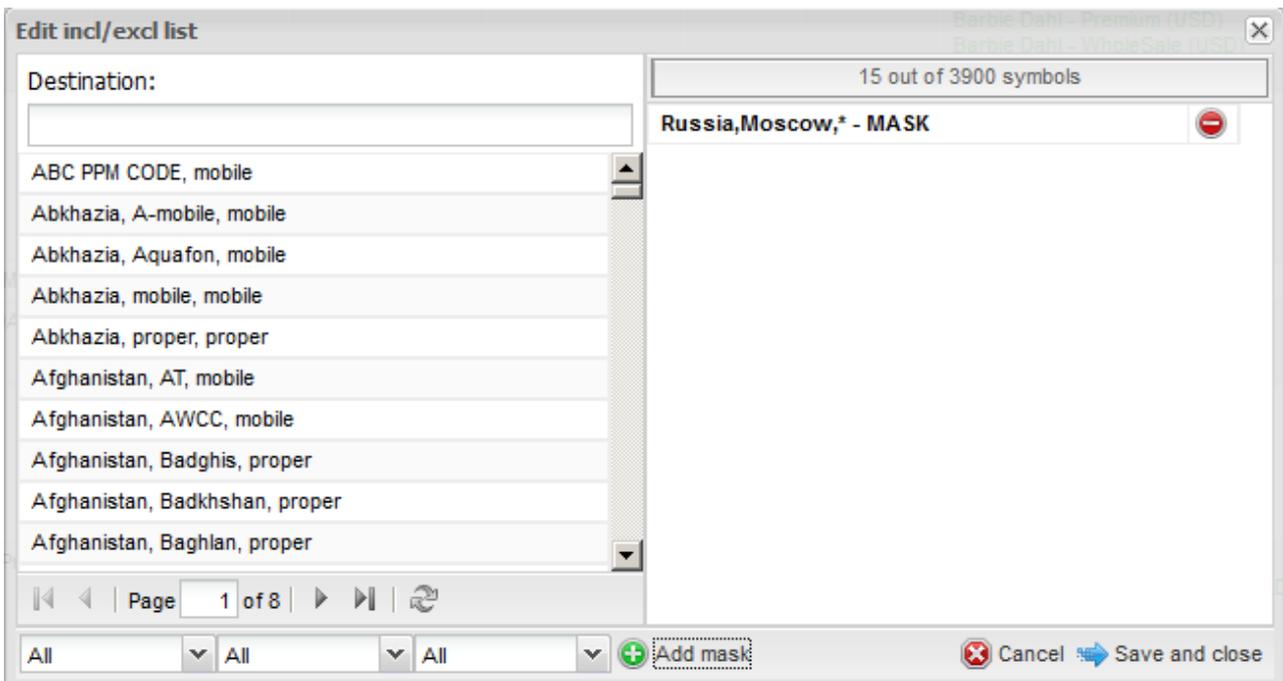
NOTE: The field displays only products that have POIs associated with them, as products with no associated POIs cannot be used for routing.

- *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 route selection. Can be handy when the user, for example, wants to limit the possible routing options to vendors whose products are called *Premium* and *Platinum* without enumerating all such vendors one by one



Add menu, 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](#)^[265]. 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. *Russia, Moscow, **): select Russia in the left list, Moscow 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: ▼

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	
<input type="checkbox"/> Not active	-
<input checked="" type="checkbox"/> 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			
Tue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			
Wed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			
Thu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			
Fri	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			
Sat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Reset Submit

Add menu, 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

Dial Code: Country: Region:

4 out of 4000 symbols

1020 - United States of America, proper	
---	--

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

Page 1 of 3036

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: Inclusive list ▼

Edit list

Russia ✖

Destination tags: All ▼

ANI pattern: (205|215)[0-9]{3}

DNIS pattern: [0-9]{10}

Condition: BNumLen == 12

Choice list: Add new choice

Add menu (continued 4)

- *Source/Destination tags*: tags used for routing by A-number and B-number respectively. Tags are configured in [Reference books\Tags](#)^[135]. 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. Find out more in the [Alaris YouTube video](#)

Choice 1 ▲ ▼ ✕

Add product Add formula

Ⓢ Condition:  

Enable geo based checks for POIs
 Allow traffic within the same partner products

Select routes by: products POIs

Ⓢ Vendor products:  Edit list

Anita Job - WholeSale (USD)	✕	
Barbie Dahl - CLI (USD)	✕	
Barbie Dahl - Retail (USD)	✕	

Formula:

Templates: ▼ Save Delete

Test share, %:  Formula values  Check syntax

Share, %:

Max routes: Rate notes: 0 Remove this formula

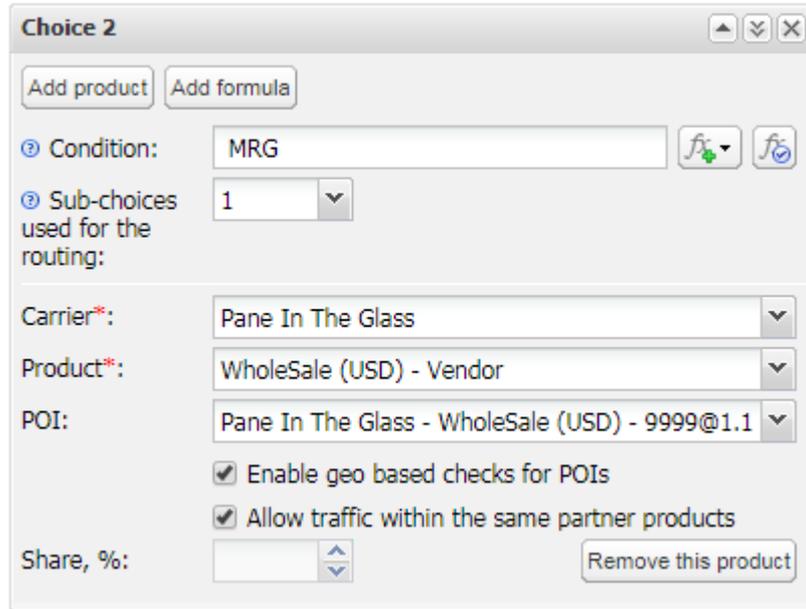
Add menu, Choice list

- *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* menu. 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

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 page\Statistical parameters in routing](#)²⁹⁸ 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 [Add product](#) 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 not exceed the number of specified vendors. The probability is calculated as follows. Suppose three vendors are configured, and the parameter *Sub-choices used for routing* is set to 3, with respective *Share, %* values of 50%, 40% and 10%. Suppose the second vendor is selected for routing. Then the probability of selection of the remaining two will be calculated as $50/(10+50)$ and $10/(10+50)$ respectively. See also the [Alaris YouTube](#) video
- *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.

- *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_{\(108\)}](#))
- *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 ▲ ▼ ✕

Add product Add formula

Ⓢ Condition: f₊ ▼ f_Ⓢ

Enable geo based checks for POIs

Allow traffic within the same partner products

Select routes by: products POIs

Ⓢ Vendor products:

✎ Edit list

Ahn Wee - Wholesale (USD)	✕	🌐
Barbie Dahl - Retail (USD)	✕	🌐

Formula:

Templates: ▼ Save Delete

Test share, %: ▲ ▼ f₊ Formula values ▼ f_Ⓢ Check syntax

Share, %: ▲ ▼

Max routes: ▲ ▼ Rate notes: 1 ▼ Remove this formula

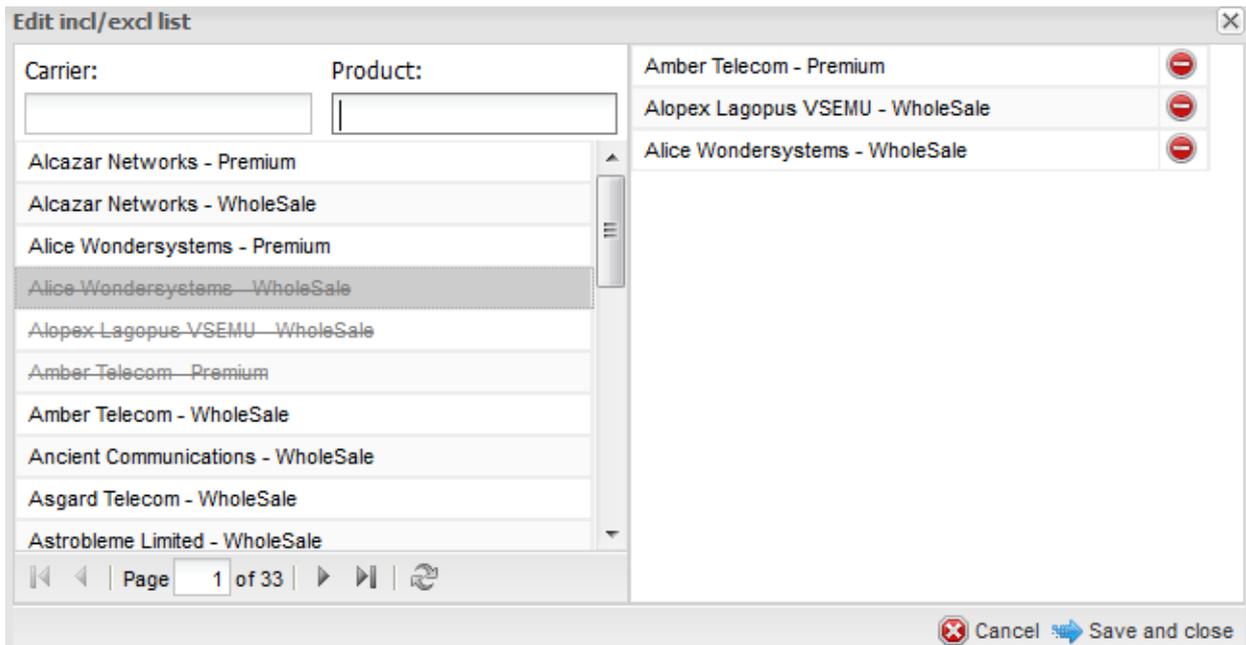
Add new choice (dynamic)

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](#)^[108])
- *Allow traffic within the same partner products*: when this checkbox is selected, loops are enabled (when traffic is received from a client product and terminated to a vendor product within the same carrier)

NOTE: Loops can also be configured on the System level by the parameter *Prohibit traffic going to products of the same carrier* (0 - disabled, 1 - full block, 2 - block by product name) in [Administration\System settings\Routing module](#)^[57].

- *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 ✎ Edit list button to open the menu 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 menu. 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.

- *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 page\Statistical parameters in routing](#) ²⁹⁶ 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.

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:

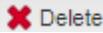
Next and Rule comments

- *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\Use of contexts](#) for more detail.
- *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)

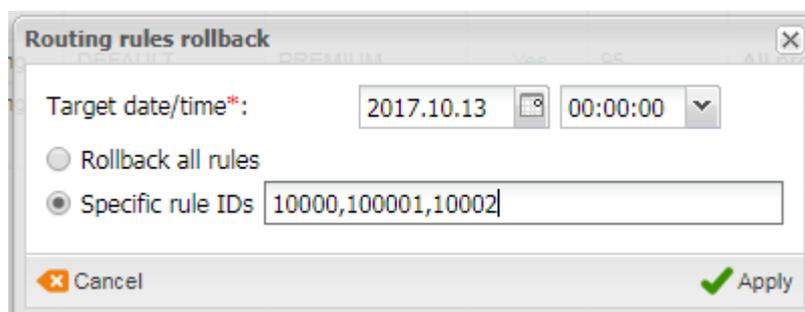
NOTE: If a rule contains both static and dynamic options, static choices will be checked earlier than dynamic ones, even if dynamic choices are placed earlier in the list.

When through with defining the parameters, click  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.

Use the  button to delete the selected rule.

Use the  button at the bottom of the rules table to roll back all or specific routing rules.



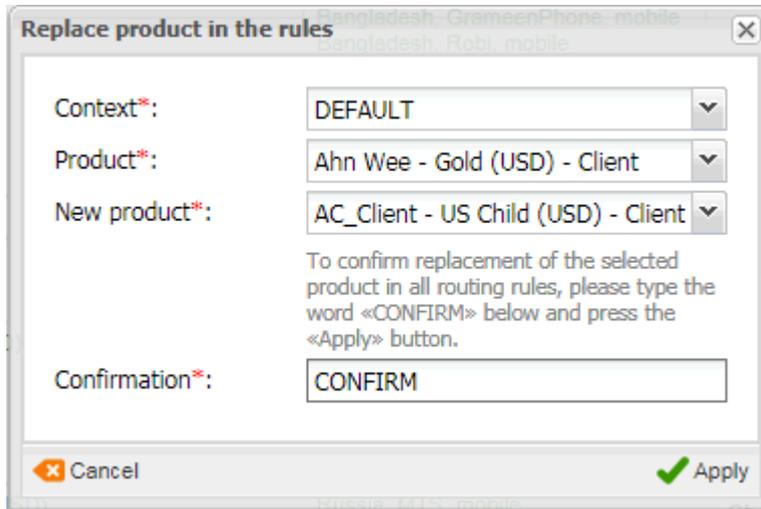
The dialog box titled "Routing rules rollback" contains the following fields and options:

- Target date/time*:
- Rollback all rules
- Specific rule IDs
- Buttons:  

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 .

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.



Replace product in the rules

The *Choice* sections of *Edit* menu 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. Find out more in the [Alaris YouTube video](#).

9.6.7.1 Statistical parameters in routing

The following metrics can be used as parameters in the *Condition* or *Formula* expressions in [Voice\Routing\Routing rules](#)^[284]:

Condition: CLAccBal

Carrier*: Ahn We

Product: WholeSa

Geo b

Share, %:

Choice 3

Add product Add formula

Condition: MRG > -

Geo b

Vendor products: Edit li

Formula:

Templates:

Test share, %:

Share, %:

Max routes:

- Client account balance (CLAccBal)
- Client rate value in system currency (CLRate)
- Client connection fee (CLCF)
- Current time (CurTime)
- Vendor account balance (VAccBal)
- Vendor rate value in system currency (VRate)
- Random value from 0 to 1 (RND)
- Margin (MRG)
- A-number length (ANumLen)
- B-number length (BNumLen)
- Client product statistics ▶
- Client dial code statistics ▶
- Client POI statistics ▶
- Client POI code statistics ▶
- Vendor product statistics ▶
- Vendor dial code statistics ▶
- Vendor POI statistics ▶
- Vendor POI code statistics ▶
- Rule statistics ▶
- Rule code statistics ▶
- Client product destination statistics ▶
- Vendor product destination statistics ▶

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 B-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)

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.

9.6.8 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* menu 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  to save the changes.

Context:	DEFAULT
Start date*:	DEFAULT
End date*:	NADYA
	PREMIUM
	WHOLESALE
Priority*:	SUPERcontext 
Client product	

Adding a new context

To remove a context, delete all rules in this context.

9.6.9 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](#)^[103] page.

Two routing setup procedures are possible:

Procedure 1 (recommended).

1. Create two contexts: *wholesale* and *premium* (refer to [Voice\Routing\Use of contexts](#)^[299] 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	
<input type="checkbox"/> Not active	-
<input checked="" type="checkbox"/> 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: fx fx

Choice list:

Next*:

Next context:

Rule comments:

“Context-switching rule” settings

Procedure 2.

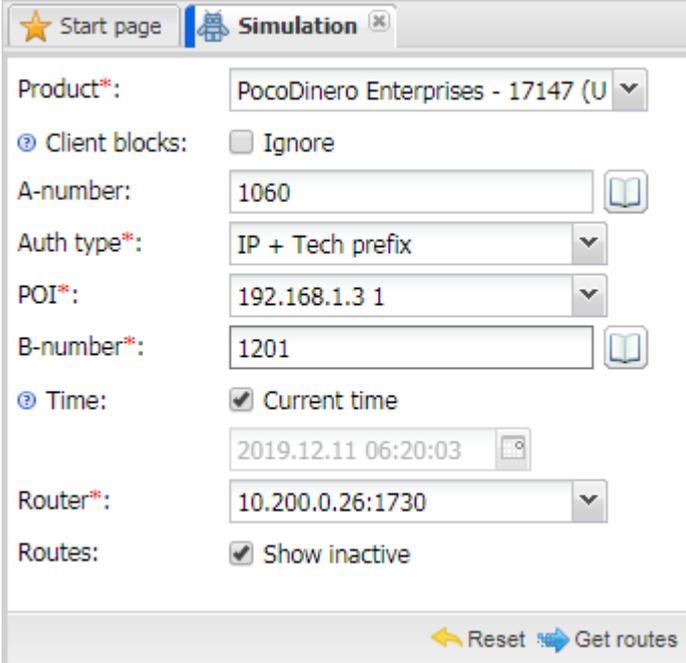
1. Create the routing rules as necessary. In the *Context* field of all the rules select *DEFAULT*.
2. In the *Client product names* list select *Premium* for premium clients and *Wholesale* for wholesale clients.

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.

9.6.10 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* menu shown below.



The screenshot shows a web application window titled "Simulation". The interface includes the following fields and controls:

- Product*:** A dropdown menu showing "PocoDinero Enterprises - 17147 (U)".
- Client blocks:** A radio button labeled "Ignore" is selected.
- A-number:** A text input field containing "1060".
- Auth type*:** A dropdown menu showing "IP + Tech prefix".
- POI*:** A dropdown menu showing "192.168.1.3 1".
- B-number*:** A text input field containing "1201".
- Time:** A checked radio button labeled "Current time" is selected, with a date/time field showing "2019.12.11 06:20:03".
- Router*:** A dropdown menu showing "10.200.0.26:1730".
- Routes:** A checked radio button labeled "Show inactive" is selected.

At the bottom of the form, there are two buttons: "Reset" (with a left-pointing arrow) and "Get routes" (with a right-pointing arrow).

Simulation menu

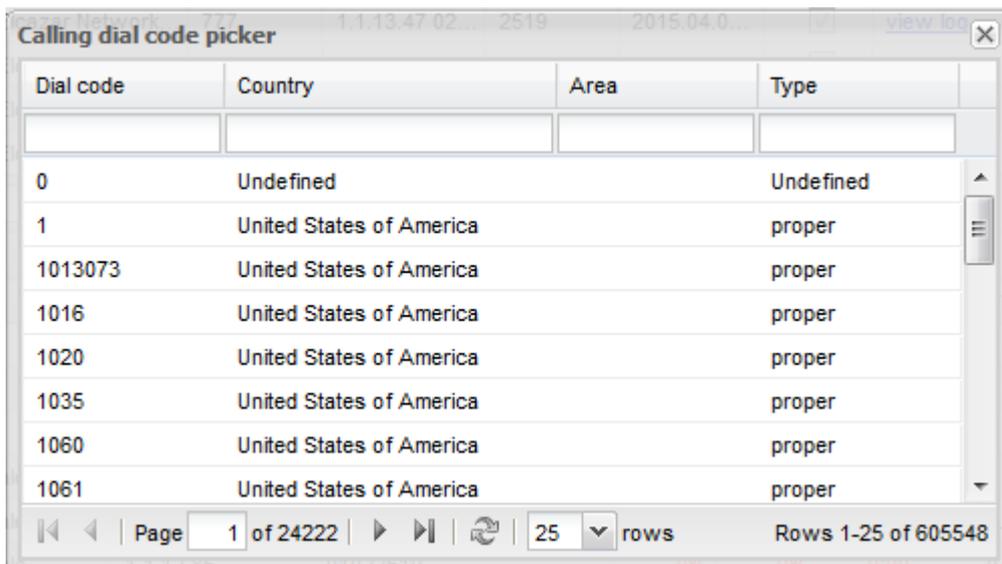
To perform the simulation, configure the following parameters:

- *Product*
- *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

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

- *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:

Job created	Product	A-number	POI	B-number	Time	Inactiv...	Details
2015.04.23 ...	Elcazar Network...	7911	1.1.13.47 02...	2519	2015.04.2...	<input checked="" type="checkbox"/>	view log
2015.04.02 ...	Elcazar Network...	7911	1.1.13.47 02...	2519	2015.04.0...	<input checked="" type="checkbox"/>	view log
2015.04.02 ...	Elcazar Network...	777	1.1.13.47 02...	2519	2015.04.0...	<input checked="" type="checkbox"/>	view log
2015.04.02 ...	Elcazar Network...	777	1.1.13.47 02...	2519	2015.04.0...	<input checked="" type="checkbox"/>	view log

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.

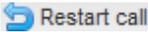
Voice

#	Context	Weight	Carrier	Product	IP	Called
<input type="checkbox"/> Min. Max. All			All	All		
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
- *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  **Restart call** button to start the call simulation again.

9.6.11 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* menus.

ID	Start date	End date	Priority	Client products	Vendor products
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.

Manage lists Beer Construction - VIP

Document file	File	ANI
ANI list ✘	Text mask	Text mask
ANI list0 ✘	ANI list0	12345678901
	ANI list0	12345609817
	ANI list0	18291736152
	ANI list	12345678901
	ANI list	12345609817
	ANI list	18291736152

Page 1 of 1 | 200 rows | Rows 1-6 of 6

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*: 2017.10.09 00:00:00

End date*: 2100.01.01 00:00:00

Priority*: 100

Client products:

✎ Edit list

Barbie Dahl - WholeSale (USD)	✘
Bed Wetter - LCR (USD)	✘
Bed Wetter - WholeSale (USD)	✘
Beer Construction - LCR (USD)	✘
Beer Construction - VIP (USD)	✘

Vendor products:

✎ Edit list

ANI pattern: 7.*

DNIS pattern: 7.*

Type: Replace list

List*: ANI list

Comments:

Add menu

The *Add* menu 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](#)^[57] 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 7910XXXXX in case B-number begins with 7:
 - *DNIS pattern:* 7.*
 - *Translation:* 7910RAND(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 7910:
 - *ANI pattern:* 7([0-9]{3})X.*)
 - *Translation:* 8800\g<2>
 - *Type:* *To regexp*
- Fully replace A-number with one from the list in case traffic is coming from and to Russia (country code is 7):
 - *ANI pattern:* 7.*
 - *DNIS pattern:* 7.*
 - *Type:* *Replace list*

9.6.12 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. Learn more about this functionality in [Alaris YouTube video](#).

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 a MS Excel file.

Rule list		Thresholds							
ID	Active from	Active to	Rule type	Metric	Limit	Period type	Period length	Product notes	Proc
			All	All		All		All	All
1063	2018.11.19 00:00:00	2018.11.20 00:00:00	Alert	Volume, min	100	Hour	1	-	ACC
1083	2019.02.05 00:00:00	2019.02.28 00:00:00	Block and alert	Margin, system ...	-300	Hour	1	-	Ka-1
1056	2018.08.24 00:00:00	2019.01.29 00:00:00	Block and alert	Volume, min	2 000	Day	1	-	Ka-1
1066	2018.11.26 00:00:00	2019.02.07 00:00:00	Block and alert	Volume, min	0	Hour	1	-	Ka-1
1061	2018.10.31 00:00:00	2100.01.01 00:00:00	Block and alert	Volume, min	5 500	Day	4	-	AM_
1070	2018.11.25 00:00:00	2018.12.29 00:00:00	Block and alert	NER, %	20	Day	5	-	Ka-1
1049	2018.01.15 00:00:00	2018.04.01 00:00:00	Alert	Volume, min	100 000	Day	1	-	Con
1050	2018.01.15 00:00:00	2018.04.01 00:00:00	Alert	Volume, min	100 000	Month	1	-	Con
1051	2018.01.15 00:00:00	2018.05.09 00:00:00	Alert	Volume, min	70 000	Hour	1	-	Con
1036	2018.01.15 00:00:00	2018.05.12 00:00:00	Block and alert	Volume, min	50 000	Hour	1	-	Con
1041	2018.03.01 00:00:00	2018.04.01 00:00:00	Alert	ASR, %	50	Day	1	-	1-To

Limitations 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* menus.

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*: 2019.04.01 📅 00:00:00 ▼

Active to*: 2019.04.22 📅 00:00:00 ▼

Rule type*: Block and alert ▼

Metric*: Margin, % ▼

Limit*: 10

Period type*: Hour ▼

ⓘ Period length*: 10 ▲▼

ⓘ Block length*: 5 ▲▼

Product notes*: - ▼

Product*: 1-To-Allzz - 7328 (USD) - Client ▼

Destination list:

✎ Edit list

Belgium, Orange, mobile	✖
Belgium, Mobistar, mobile	✖
Belgium, Brussels, proper	✖
Belgium, Belgacom, mobile	✖

Send alerts to: partner@allzz.com

Send alerts to account manager

Limitation rules, Add menu

The *Add* menu contains the following parameters:

- *Is active*: select to make the rule active
- *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:
 - *Volume, min*
 - *ASR, %*
 - *ACD, min*
 - *Margin, system currency (greater than)*: serves to block a destination if the margin exceeds the preset limit

Voice

- *Margin, %*
- *Cost, system currency*
- *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*
- *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* (active when the *Product* field is 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. See also the [Alaris YouTube](#) video
- *Product* (active when the *Product notes* field is not set):
- *Destination list*
- *Send alerts to*: comma-separated list of email recipients.
- *Send alert to account manager*: select to send the alert to the account manager

Click  **Submit** to save the rule or  **Reset** 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* menu. 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	25	50	75	100
ASR, %	90	75	50	25	10
ACD, min					
Margin, system currency					
Margin, %					
Cost, system currency	60	61	61	61	61
NER, %	90	60	50	30	10

Thresholds

The available metrics are:

- *Volume, min* (defined in ascending order)
- *ASR, %* (defined in descending order)

Voice

- *ACD, min* (defined in descending order)
- *Margin, system currency* (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](#))

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.

9.7 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.

A typical volume-based deal requires one or several thresholds of the traffic amount. Bypassing the threshold decreases the price per minute, to make it lower than the average market price. If the lowest of the thresholds is not reached before the deal's expiration, the default price per minute (higher than average) is applied. In this way, failure to perform traffic delivery obligations makes the deal unprofitable for the partner carrier.

It is also possible that a carrier agrees to pay a fixed sum for the possibility to send some amount of traffic to a partner's destination within a pre-defined period. The sum is not subject to change, even if the source carrier did not send the full allowed amount of traffic before the agreement expiration.

Another popular scenario is a two-way deal, where two carriers exchange pre-defined amounts of traffic to different destinations (for example, one million minutes to Russia mobile in exchange to 300,000 minutes to Myanmar mobile). Pre-defined prices for both destinations are used for rating if the obligation on the traffic delivery is fulfilled. If one of the carriers did not fulfill the obligation, then its traffic is priced with a penalty. In fact, this scenario comprises two interlinked volume-based deals.

The *Voice\Volume-based deals* page is divided into two panels. The left panel is a table of registered volume-based deals. Use text masks or drop-down lists under the column headers to filter the records in the table. To clear the filter, click the *Clear filter*  button in the upper left corner of the table.

Description	Carrier	Direction	Product na	Currency	Cost calculation	Partner time zone
 Text mask	All 	All 	All 	All 	All 	
Test -20150603	Anita Job	Client	WholeS...	USD	Back to 1st mi...	GMT (GMT+0)
Test Stepping ...	Balls Grinding	Client	CLI	USD	Stepping scale	GMT+0 (GMT+0)

Volume-based deals

The *Add* and *Edit* menus that serve to add new deals or edit existing ones. To activate the *Edit* menu, 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

Description*:

Direction:

Product*:

Cost calculation*:

Period*:

Start date*: 

End date*: 

Partner time zone*:

Timezone offset: **System time 0 hours**

Billing increment*:

Destinations:

Dial codes:

Volume intervals*:

Beginning	End	Rate/min	Total cost	Is default	
		0.01000	-	<input checked="" type="checkbox"/>	

 Add interval

Add/Edit menus

- *Description*: arbitrary description of the deal
- *Direction*: Client or Vendor
- *Product*: partner carrier's product
- *Cost calculation*:
 - *Stepping scale*: when a threshold is bypassed, price per minute changes only for the exceeding traffic
 - *Back to first minute*: 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.)
- *Start date / End date*: activity period of the deal
- *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

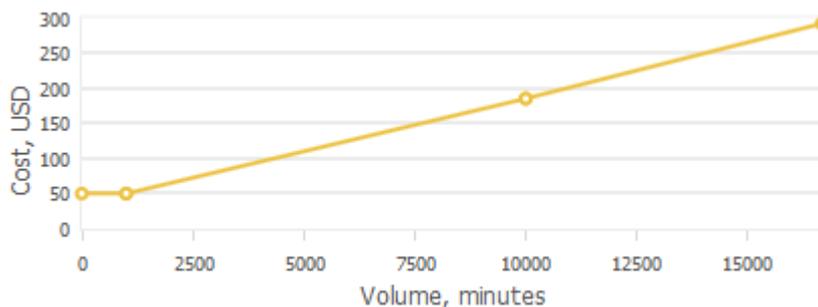
NOTE: If a deal is created for specific destinations, the rates will be added only for the least detailed codes (e.g. if the reference book contains dial codes 37525 and 37525[0-9] – only the dial code 37525 will be selected) while all the other rates belonging to the same destination will be closed 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)

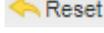
To set an interval, click *Add interval* and specify the appropriate values in the *Add interval* menu.

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

10 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.

Код	Оператор	Менеджер	Планир. балан...	Планир. маржа...	Текущий балан...
5	AC_Vendor	abison abison (abison)	0	0	0.00
4	Beer Construction	wong eric (eric)	200 000	-28 100	2 576.27
3	ALARIS TEST	-	1 000	15 600	379.23
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, USD*: the balance planned by the System owner

NOTE: The account currency is set in the System parameter *Swap deals stats currency* ([Administration\System settings\Trading tools](#)^[176]). To change it, contact the Alaris technical support team.

- *Planned margin, USD*: the margin planned by the System owner
- *Actual balance, USD* (taken from [VoiceAnalytics](#)^[176])
- *Actual margin, USD* (taken from [VoiceAnalytics](#)^[176])
- *Forecast balance, USD*: estimated balance by the end of the swap deal
- *Forecast margin, USD*: 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 is updated automatically every 24 hours; otherwise click  **Refresh statistics**. To change the column value, use the *Is active* checkbox in the *Edit* menu

NOTE: Statistics for closed deals can also be updated. Partner destination groups that do not have statistics are marked with the icon  (find out more in the [Alaris YouTube video](#)).

Click  **Clone** to create a copy of the deal (find out more in the [Alaris YouTube video](#))

Add
 Edit

Carrier*:

Manager*:

Start date:

End date:

Days to calculate forecast*:

Is active

Reset
 Submit

Add menu (table of partners, top section)

The top right section contains the *Add* and *Edit* menus that serve to add and edit swap deals. The *Add* menu 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, EUR	Margin, EUR	Volume	Charge, EUR	Margin, EUR	Aver. sell rate, EUR	Aver. buy rate, EUR	Volume, %
	Total		12 111	433	0	4 541	55 511	-487.67	3 133.41			
	Russia	Buy	11 111	397	0	148	55 511	-487.67	3 133.41	0.06488	0.00879	499.60
	Russia, proper	Buy					55 511	-487.67	3 133.41	0.06488	0.00879	499.60
	r1	Buy	1 000	36	0	4 393	0	0.00	0.00	0.00000	0.00000	0.00
	Russia, proper	Buy					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. It contains the following columns:

- *Type*: traffic type - for Voice.
- *Destinations*
- *Direction*: Sell or Buy
- *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](#)

Swap deals

- *Charge, USD*: the total cost of traffic
- *Margin, USD*: 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, USD*: the current cost of traffic
 - *Margin, USD*: the actual margin
 - *Aver. sell rate, USD*
 - *Aver. buy rate, USD*
 - *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, USD*
 - *Margin, USD*

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 $50,000 + 5 \cdot 15$.

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* menus that serve to add and edit destinations. The *Add* menu 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)

Swap deals

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*)
 - *Back to first minute*: 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

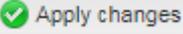
Rates for source traffic (bottom section)

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

Swap deals

- *Start date*
- *Currency*
- *Rate to USD*: exchange rate of the selected currency to the US Dollar
- *Volume*
- *Rate*

Click  to save the changes; click  to delete the record. Click  to add a new destination.

11 DID management

The *DID management* page allows the user to work with DID and TFN 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
- 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](#)^[322], [Billing scheme](#)^[324], [History](#)^[325] and [Import](#)^[325].

11.1 Numbers

Numbers								
Number	Type	Status	Batch	Product	POIs	Billing scheme	Added	
<input type="checkbox"/>	111111111111	DID	Assigned	test_batch_bulk...	AM_DID - TFN (USD) - Vendor	AM_DID - TFN ... AM_DID - TFN ...	NRC 5, MRC 10	2018.03.23 10:58:
<input type="checkbox"/>	11112221234	TFN	Assigned	test_batch_bulk...	AM_DID - TFN (USD) - Vendor	AM_DID - TFN ...	NRC 0, MRC 5	2018.02.07 09:32:
<input type="checkbox"/>	11112221235	DID	Assigned	test_batch_bulk...	AM_DID - TFN (USD) - Vendor	AM_DID - TFN ...	NRC 0, MRC 5	2018.02.18 11:33:
<input type="checkbox"/>	11112221236	DID	Assigned	rrr	AM_DID - DID (USD) - Vendor	AM_DID - DID (...)	NRC 5, MRC 10	2018.02.18 11:33:
<input type="checkbox"/>	155566612346	TFN	Assigned	test_batch_bulk...	AM_DID - DID (USD) - Vendor	AM_DID - DID (...)	NRC 0, MRC 5	2018.03.22 07:06:
<input type="checkbox"/>	155566612347	DID	Assigned	test_batch_bulk...	AM_DID - DID (USD) - Vendor	AM_DID - DID (...)	NRC 5, MRC 10	2018.03.22 07:06:
<input type="checkbox"/>	1800003	TFN	Assigned	test_batch_bulk...	AM_DID - DID (USD) - Vendor	AM_DID - DID (...)	NRC 5, MRC 10	2018.02.18 11:33:
<input type="checkbox"/>	1800005	TFN	Assigned	test_batch_bulk...	AM_DID - DID (USD) - Vendor	AM_DID - DID (...)	NRC 5, MRC 10	2018.02.18 11:33:
<input type="checkbox"/>	190090012345	DID	Assigned	2018-03-27 06...	AM_DID - DID (USD) - Vendor	All	NRC 5, MRC 10	2018.03.27 06:02:
<input type="checkbox"/>	5000	DID	Assigned	2018-03-29 19...	AM_DID - DID (USD) - Vendor	All	NRC 5, MRC 10	2018.03.29 19:55:
<input type="checkbox"/>	5001	TFN	Assigned	2018-03-29 19...	AM_DID - TFN (USD) - Vendor	All	NRC 5, MRC 10	2018.03.29 19:56:
<input type="checkbox"/>	5002	DID	Assigned	2018-03-29 19...	AM_DID - DID (USD) - Vendor	All	NRC 0, MRC 5	2018.03.29 19:56:
<input type="checkbox"/>	99999998	TFN	Assigned	2018-03-28 19...	AM_DID - TFN (USD) - Vendor	All	NRC 5, MRC 10	2018.03.28 19:17:
<input type="checkbox"/>	99999999	DID	Assigned	2018-03-28 19...	AM_DID - DID (USD) - Vendor	All	NRC 5, MRC 10	2018.03.28 19:16:

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
- *Number*
- *Type* (DID/TFN)
- *Number 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

DID management

- *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 *DID management\Override DID statuses* can change the status manually at any time (permissions are configured in the *Roles* section of [Carriers\Users](#)^[87]). 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 [DID management\Import](#)^[325] 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](#)^[44]
- *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
- *Billing scheme*: the scheme that can be configured on the [DID management\Billing scheme](#)^[324] 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
- *History*: link to the [DID management\History](#)^[325] tab sheet

Editor

ⓘ **Action***:

Number*:

Type*:

Batch:

Product*:

POIs:

Billing scheme*:

Editor

The *Editor* panel contains the following parameters:

- *Action*: serves to perform the following operations:

DID management

- *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*). 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*)
 - *Number*: the telephone number
 - *Type*: the parameter defines the type of pricing. Possible values are *DID* (direct inward dialing) and *TFN* (toll-free number). *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
 - *Product*
 - *POIs*
 - *Billing scheme*: available options are configured in the [DID management\Billing scheme](#)³²⁴ tab sheet

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](#)⁴⁴.

11.2 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* menu.

Numbers		Billing scheme	History	Import				
ID	Name	Currency	NRC	MRC				
	Text mask		Min.	Max.	Min.	Max.		
1	NRC 5, MRC 10	USD	5		10			
2	NRC 0, MRC 5	USD	0		5			

Billing scheme

Add
 Edit

Name*:

Currency: ▼

NRC:

MRC:

Add/Edit menu

The *Add/Edit* menu contains the following fields:

- *Name*: name of the billing scheme
- *Currency*
- *NRC*: amount of the non-recurring charge (one-time payment for the number)
- *MRC*: amount of the monthly recurring charge (monthly fee)

Click **Submit** to save the changes.

11.3 History

The *History* tab sheet serves to view a history of operations performed on numbers.

Numbers Billing scheme History Import						
Change date	Change type	Batch	Number	Product	Billing scheme	
--∞ ≤ X ≤ ∞	All			All	All	
2018.03.23 10:58:19	Created	2018-03-23 10...	1111111111111111	-	-	
2018.03.23 10:58:19	Assigned	2018-03-23 10...	1111111111111111	AM_DID - TFN (USD) - Vendor	NRC 5, MRC 10	
2018.03.26 18:18:08	Modified	test_batch_bulk	1111111111111111	AM_DID - TFN (USD) - Vendor	NRC 5, MRC 10	
2018.03.26 18:18:22	Modified	test_batch_bulk...	1111111111111111	AM_DID - TFN (USD) - Vendor	NRC 5, MRC 10	
2018.03.26 18:18:51	Modified	test_batch_bulk...	1111111111111111	AM_DID - TFN (USD) - Vendor	NRC 5, MRC 10	
2018.03.27 05:57:29	Modified	test_batch_bulk...	1111111111111111	AM_DID - TFN (USD) - Vendor	NRC 5, MRC 10	

History tab sheet

11.4 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](#)^[137].

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*.

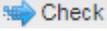
Numbers			
Billing scheme			
History			
Import			
Sheet1			
Sheet2			
Sheet3			
	Number	Type	Column 3
1	Number	Type	Batch
[2]	1234567890	DID	
3	9876543321	DID	
4	1928374625	DID	
5	10293847562	TFN	

Source file preview

3. Configure the parameters at the *Import settings* panel:

DID management

- *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* or *TFN* 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 .

Errors		
Row number	Error type	Error info
	All	
6	Number is not numeric	Supplied number: some stuff

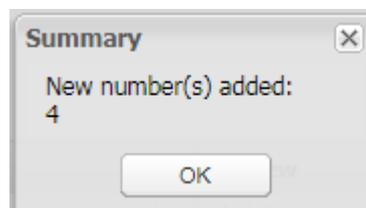
Errors panel

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

Preview			
Number	Type	Batch	
	All		
10293847562	TFN	2018-04-06 10...	
1234567890	DID	2018-04-06 10...	
1928374625	DID	2018-04-06 10...	
9876543321	DID	2018-04-06 10...	

Preview panel

5. The *Preview* panel shows the records that will be imported. Review the errors and preview records and click  **Run import**. Once the operation is complete, import summary will appear on the screen as shown below.



Import summary

12 Wholesale portal

12.1 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 [Carriers\Users](#)^[87]. User rights are configured in the *Roles* section of the *Add* menu (*Roles >> Partner portal*).

- Partner portal
 - Show rates tab
 - Show balance
 - Show finance info
 - Wholesale partner portal
 - Export CDRs/EDRs

Roles (Add menu, [Carriers\Users](#)^[87])

Once the user account is created, the user will receive an email with account activation instructions. See also the [Alaris YouTube](#) video.

Please register

The registration form contains the following fields and values:

- First Name: Tatiana
- Last Name: B
- Company Name: Pancakes
- Company Address: Pocodiner Enterprises
- Phone Number: 127000
- City: 2 Bee Street Nowhere city
- Country: Albania (+355)
- Phone Prefix: +35512345678
- Currency: EUR
- Email: pancakes@poco.com
- Password: UjhYU

Additional text in the form includes: "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." and "Use email address from your company domain for registration." A "Back to login" link is located at the bottom left, and a "Register" button is at the bottom right.

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	<input checked="" type="checkbox"/> Send rate changes <input checked="" type="checkbox"/> Send invoices <input checked="" type="checkbox"/> Send alarms
Save	* All fields are required.	

Billing	John	Smith
bill@pocodinero.ent	+74561237891	<input checked="" type="checkbox"/> Send rate changes <input checked="" type="checkbox"/> Send invoices <input checked="" type="checkbox"/> 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: **Tatiana**
[Reset password](#)

Valid till: **2018.07.06**

Carrier name: **Tatiana B**

Timezone: **GMT 3**

Balance

0.00 USD 

 **5.00 EUR**
+0.00 EUR 

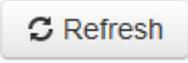
\$ 25  

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). 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 or  to use PayOnline

NOTE: Prior to using this function, an account must be created at Paypal, Authorize.net and PayOnline respectively and configured in [Administration\System settings\Partner portal](#)^[51]. The user must have the *Show purchase tab* permission enabled in [Carriers\Users](#)^[87].

- 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.

12.2 Invoices

The *Invoices* page contains a list of the carrier's invoices.

Pending invoices

Reference code	Start date	End date	Issue date	Due date	Amount
0000215	2016.11.07 00:00:00	2016.11.14 00:00:00	2016.11.13 00:00:00	2016.11.20 00:00:00	300 USD xls
0000176	2016.11.01 00:00:00	2016.11.07 00:00:00	2016.11.06 00:00:00	2016.11.13 00:00:00	300 USD xls
0000103	2016.10.01 00:00:00	2016.11.01 00:00:00	2016.10.31 00:00:00	2016.11.10 00:00:00	-511.32 EUR xls
0000097	2016.10.31 00:00:00	2016.11.01 00:00:00	2016.10.31 00:00:00	2016.11.07 00:00:00	300 USD xls
0000057	2016.10.24 00:00:00	2016.10.31 00:00:00	2016.10.30 00:00:00	2016.11.06 00:00:00	300 USD xls
0000020	2016.10.17 00:00:00	2016.10.24 00:00:00	2016.10.23 00:00:00	2016.10.30 00:00:00	300 USD xls

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).

12.3 Payments

The *Payments* page contains a list of the carrier's payments.

Payments

Acc. currency	Reference code	Date	Amount
EUR	Test payment	2015.10.14 00:00:00	1500 EUR
USD	Acc ID:11534	2015.06.29 19:41:30	1 USD
EUR	201506291920#10017	2015.06.29 00:00:00	1000 EUR

Payments

12.4 VoIP Stats

The *VoIP Stats* page contains the carrier's statistics on calls.

VoIP usage statistics

Switch to chart
fake (USD) - client
2019.01.31 — 2019.04.03

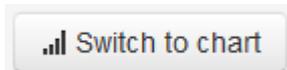
Search:

Date	Country	Destination	Trunk/IP list	Trunk/IP description	At
	Total	Total	127.3.1.2		
2019.03.27 00:00:00	Russia	Russia, proper	127.3.1.2		
2019.03.25 00:00:00	Russia	Russia, proper	127.3.1.2		
2019.02.22 00:00:00	Sri Lanka	Sri Lanka, Dialog, mobile	127.3.1.2		
2019.02.12 00:00:00	Ukraine	Ukraine, Kyivstar, mobile	127.3.1.2		
2019.02.07 00:00:00	Belarus	Belarus, MTS, mobile	127.3.1.2		
2019.02.07 00:00:00	Russia	Russia, Beeline Moscow, mobile	127.3.1.2		
2019.02.07 00:00:00	Belarus	Belarus, Minsk, proper	127.3.1.2		
2019.02.07 00:00:00	Ukraine	Ukraine, UMC, mobile	127.3.1.2		
2019.02.07 00:00:00	Malaysia	Malaysia, mobile	127.3.1.2		
2019.02.07 00:00:00	Sri Lanka	Sri Lanka, Mobiltel, mobile	127.3.1.2		
2019.02.07 00:00:00	Tajikistan	Tajikistan, Indigo, mobile	127.3.1.2		
2019.02.07 00:00:00	Ukraine	Ukraine, Kyivstar, mobile	127.3.1.2		
2019.02.06 00:00:00	Russia	Russia, Beeline, mobile	127.3.1.2		
2019.02.06 00:00:00	Russia	Russia, Megafon, mobile	127.3.1.2		
2019.02.05 00:00:00	Russia	Russia, Beeline, mobile	127.3.1.2		
2019.02.05 00:00:00	Russia	Russia, Megafon, mobile	127.3.1.2		
2019.02.04 00:00:00	Sri Lanka	Sri Lanka, Mobiltel, mobile	127.3.1.2		
2019.02.04 00:00:00	Tajikistan	Tajikistan, Indigo, mobile	127.3.1.2		
2019.02.04 00:00:00	Russia	Russia, Beeline, mobile	127.3.1.2		
2019.02.04 00:00:00	Russia	Russia, Beeline Moscow, mobile	127.3.1.2		
2019.02.04 00:00:00	Belarus	Belarus, MTS, mobile	127.3.1.2		
2019.02.04 00:00:00	Belarus	Belarus, Minsk, proper	127.3.1.2		
2019.02.04 00:00:00	Ukraine	Ukraine, UMC, mobile	127.3.1.2		
2019.02.04 00:00:00	Afghanistan	Afghanistan, Beeha, mobile	127.3.1.2		

Showing 1 to 24 of 33 entries
Refresh xlsx-file

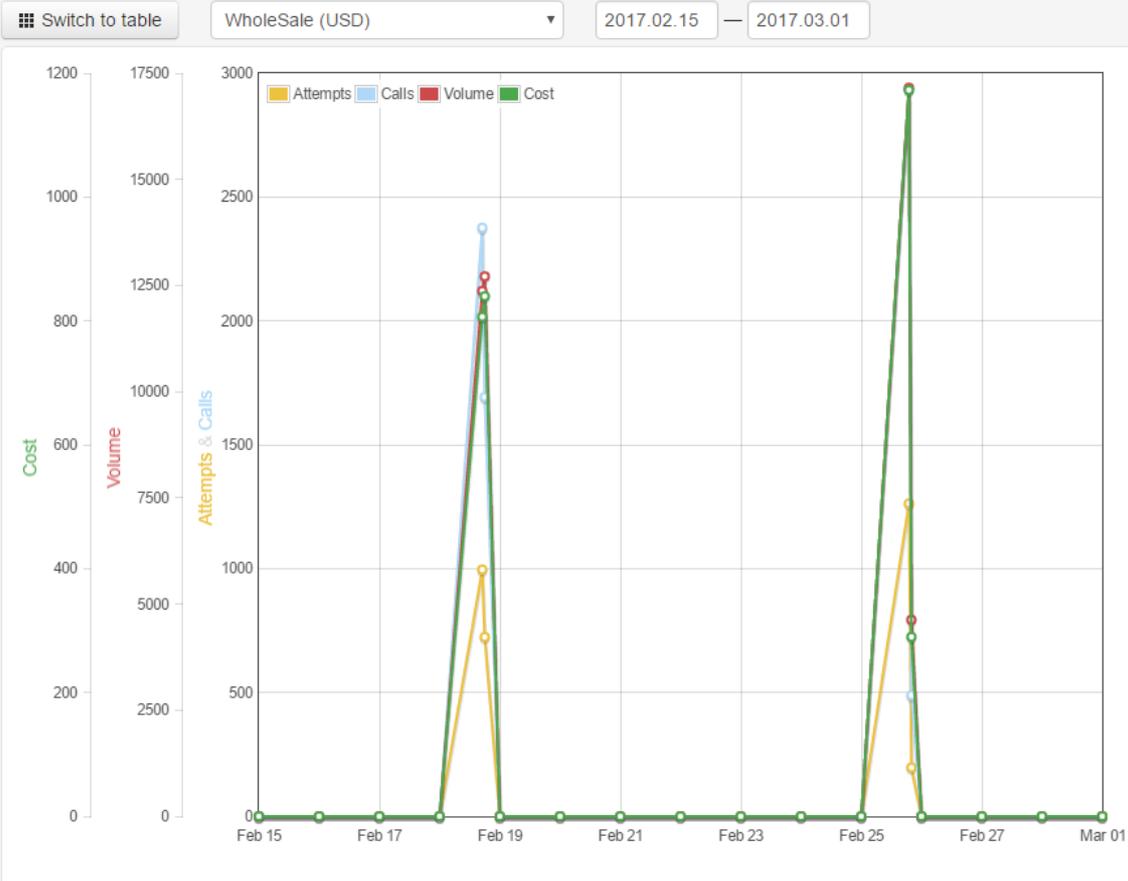
VoIP usage statistics

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.

VoIP usage statistics



VoIP usage statistics chart view

12.5 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	
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

12.6 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 rights are configured in [Carriers/Users](#)^[87], *Add* menu, *Roles* >> *Carriers* >> *VoIP POI edit*)

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:

* IP:

Add new VoIP POI

12.7 CDRs

The *CDRs* page serves to download CDRs for a specified period.

Download CDRs ×

Product

Date range

File format

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](#)^[87]).

13 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).

13.1 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 <i>(Note: one of the operands cannot be equal to zero – otherwise the formula expression cannot be executed).</i>
%	Value1 % Value2	Division of the operands by modulus (division of the left operand to the right one and returning a remainder)	Operands: numeric values <i>(Note: one of the operands cannot be equal to zero – otherwise the formula expression cannot be executed).</i>
**	Value1 ** Value2	Exponentiation of operand	Operands: numeric values
//	Value1 // Value2	Return integer part of operands' division	Operands: numeric values

Appendix 1. Formulas and conditions in routing

Operator	Code	Description	Allowed 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 values
!=	Value1 != Value2	Check if the operands are not equal to each other	Operands: numeric values
<>	Value1 <> Value2	Check if the operands are not equal to each other	Operands: numeric 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

13.2 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 \(field 'Condition' in 'Routing Rules'\)](#)^[353] and [How to use \(field 'Formula' in 'Routing Rules'\)](#)^[338].

NOTE 2:

The statistics is 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 is empty.

13.2.1 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)
CLCF	Client connection fee	In system currency	CLCF == 0.1 (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

Appendix 1. Formulas and conditions in routing



Variable	Description	Note	How to use
			(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)
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-point) from 0 to 1	Generated for every vendor product which choice is being applied to	RND > 0.3 (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 0.000009, 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)

Appendix 1. Formulas and conditions in routing

13.2.2 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)
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: sum(margin)/sum(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>	CLProdMRG > 0.1 (the vendor is added to routing if the margin is greater than 0.1)

Variable	Description	Note	How to use
		<p>2)if the value has been calculated previously, the last CDR file is checked according to the following logic:</p> <p>a) if the volume is greater than 1000 minutes, the value is equal to $\text{sum}(\text{margin})/\text{sum}(\text{volume})$</p> <p>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</p>	
CLProdTV	Total volume	The metric value (in minutes) is reset according to the internal configuration : daily or monthly (monthly by default)	<p>CLProdTV > 300</p> <p>(the vendor is added to routing if the total volume of traffic for the client product is greater than 300 minutes)</p>
CLProdLCT	Last call time	In seconds starting from 01.01.1970	<p>CLProdLCT < (CurTime : 60)</p> <p>(the vendor is added to routing if the last call from the client product was more than 1 minute ago)</p>
CLProdCnt	Call count	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	<p>CLProdCnt > 1</p> <p>(the vendor is added to routing if there are more than 1 calls for the client product)</p>

13.2.3 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	<p>CLProdCodeASR > 0.1</p> <p>(the vendor is added to routing if ASR for the set 'client product : dial code' is greater than 10%)</p>

Appendix 1. Formulas and conditions in routing

Variable	Description	Note	How to use
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)
CLProdCodeMRG	Average margin per minute	In system currency Calculation of the metric is similar to the logic for <i>CLProdMRG</i>	CLProdCodeMRG > 0.1 (the vendor is added to routing if the margin for the set 'client product : dial code' is greater than 0.1)
CLProdCodeTV	Total volume in minutes	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	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 according to the internal configuration : daily or monthly (monthly by default)	CLProdCodeCnt > 1 (the vendor is added to routing if there are more than 1 calls for the set 'client product : dial code')

Appendix 1. Formulas and conditions in routing

13.2.4 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 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOIPDD < 10 (the vendor is added to routing if the client POI PDD is less than 10 seconds)
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 is reset according to the internal configuration : daily or monthly (monthly by default)	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	The parameter is equal to 0 if there is no statistics for the POI and equal to 1 in the opposite case	CLPOICnt == 0

Variable	Description	Note	How to use
	through the POI		(the vendor is added to routing if there was no call passed through the client POI previously)

13.2.5 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 Calculation of the metric is similar to the logic for <i>CLProdASR</i>	CLPOICodeNER == 1 (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)
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 is reset according to the internal configuration : daily or monthly (monthly by default)	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)

Appendix 1. Formulas and conditions in routing

Variable	Description	Note	How to use
			(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 according to the internal configuration : daily or monthly (monthly by default)	CLPOICodeCnt > 1 (the vendor is added to routing if there are more than 1 calls for the set 'client POI : dial code')

13.2.6 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%)
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)
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 is reset according to the internal configuration : daily or monthly (monthly by default)	VProdTV > 300

Variable	Description	Note	How to use
			(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 according to the internal configuration : daily or monthly (monthly by default)	VProdCnt > 1 (the vendor is added to routing if there are more than 1 calls for its product)

13.2.7 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 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdCodeASR > 0.1 (the vendor is added to routing if ASR for the set 'vendor product : dial code' is greater than 10%)
VProdCodeACD	ACD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdCodeACD > 120 (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 Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdCodeNER == 1 (the vendor is added to routing if NER for the set 'vendor product : dial code' is equal to 100%)
VProdCodePDD	PDD	In seconds Calculation of the metric is similar to the logic for <i>VProdASR</i>	VProdCodePDD < 60 (the vendor is added to routing if PDD for the set 'vendor product : dial code' is less than 1 minute)
VProdCodeMRG	Average margin per minute	In system currency	VProdCodeMRG > 0.3 (the vendor is added to routing if the margin for the set 'vendor

Appendix 1. Formulas and conditions in routing

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 0.3)
VProdCodeTV	Total volume in minutes	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	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 according to the internal configuration : daily or monthly (monthly by default)	VProdCodeCnt < 200 (the vendor is added to routing if there are less than 200 calls for the set 'vendor product : dial code')

13.2.8 Vendor POI statistics

The metrics shows statistics for the vendor POI.

Variable	Description	Note	How to use
VPOIASR	ASR	From 0 to 1	VPOIASR > 0.1 (the vendor is added to routing if ASR for its POI is greater than 10%)
VPOIACD	ACD	In seconds	VPOIACD > 100 (the vendor is added to routing if ADD for its POI is greater than 100 seconds)
VPOINER	NER	From 0 to 1	VPOINER == 1 (the vendor is added to routing if NER for its POI is equal to 100%)
VPOIPDD	PDD	In seconds	VPOIPDD < 50 Calculation of the metric is similar to the logic for <i>VProdASR</i>

Appendix 1. Formulas and conditions in routing

Variable	Description	Note	How to use
			(the vendor is added to routing if PDD for its POI is less than 50 seconds)
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 is reset according to the internal configuration : daily or monthly (monthly by default)	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)
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)

13.2.9 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	VPOICodeNER == 1

Appendix 1. Formulas and conditions in routing

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 NER for the set 'vendor POI : dial code' is equal to 100%)
VPOICodePDD	PDD	In seconds	VPOICodePDD < 75
		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 POI : dial code' is less than 75 seconds)
VPOICodeMRG	Average margin per minute	In system currency	VPOICodeMRG > 0.1
		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 POI : dial code' is greater than 0.1)
VPOICodeTV	Total volume in minutes	The metric value is reset according to the internal configuration : daily or monthly (monthly by default)	VPOICodeTV > 30 (the vendor is added to routing if the total volume of traffic for the 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 according to the internal configuration : daily or monthly (monthly by default)	VPOICodeCnt > 10 (the vendor is added to routing if there are more than 10 calls for the set 'vendor POI : dial code')

13.2.10 Rule statistics

The metrics show routing rule statistics.

Variable	Description	Note	How to use
RuleASR	ASR	From 0 to 1	RuleASR > 0.1
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	(the vendor is added to routing if ASR for the routing rule is greater than 10%)
RuleACD	ACD	In seconds	RuleACD > 60

Appendix 1. Formulas and conditions in routing

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 ACD for the routing rule is greater than 1 minute)
RuleNER	NER	From 0 to 1	RuleNER == 1
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	(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)

13.2.11 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	RuleCodeACD > 60

Appendix 1. Formulas and conditions in routing

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 ACD for the set 'routing rule : dial code' is greater than 1 minute)
RuleCodeNER	NER	From 0 to 1	RuleCodeNER == 1
		Calculation of the metric is similar to the logic for <i>CLProdASR</i>	(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)
RuleCodeLCT	Last call time	In seconds starting from 01.01.1970	RuleCodeLCT < (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)	RuleCodeCnt > 0 (the vendor is added to routing if there is at least 1 call for the set 'rule : dial code')

13.2.12 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

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 ACD for the set 'client product : 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)
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 according to the internal configuration : daily or monthly (monthly by default)	CLProdDestCnt > 100 (the vendor is added to routing if there are more than 100 calls for the set 'client product : destination')

13.2.13 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 :

Appendix 1. Formulas and conditions in routing

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)
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 according to the internal configuration : daily or monthly (monthly by default)	VProdDestCnt > 100 (the vendor is added to routing if there are more than 100 calls for the set 'vendor product : destination')

13.3 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.

Appendix 1. Formulas and conditions in routing

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

Appendix 1. Formulas and conditions in routing

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.

13.4 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:

Appendix 1. Formulas and conditions in routing

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: $(MRG*100 + 0.01) * (VProdDestACD/60) + 0.01 = 25.1251$

14 Appendix 2. User permissions

This Appendix provides a detailed description of permissions that are configured in [Carriers\Users](#)^[87]. 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 ([Carriers\Users](#)^[87] -> *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](#)^[84] 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](#)^[27] interface. Suppose the user has only *View and edit objects of own contract companies* permission granted and the user's contract company is test ([Carriers\Users](#)^[87] -> *Contract companies*). In this case none of the mail servers created for different contract companies ([Administration\Outgoing email accounts](#)^[27] -> *Contract company* field) will not be shown to the user. An example of VPD-independent interface is [Voice -> Routing -> Routing rules](#)^[27] - 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*).

14.1 Active calls

- Active calls
 - Show other managers' vendor information
 - Show other managers' client information

Active calls

The section allows viewing the [Voice\Active calls](#)^[174] interface. *VPD restricted*.

- *Show other managers' vendor information:* the permission allows viewing vendor names of other managers in the [Voice\Active calls](#)^[174] interface
- *Show other managers' client information:* the permission allows viewing client names of other managers in the [Voice\Active calls](#)^[174] interface

14.2 Administration

- Administration
 - Account manager history
 - Edit account manager history
 - User administration
 - Manual password change
 - Data import
 - 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

Administration

If no child permission is granted under the section, only the *Administration\Translations* interface will be shown to the user (if the permission *Translations* is granted). Otherwise the tab *Administration* will be hidden entirely.

- *Account manager history*: the permission must be enabled in order to view the [Administration\Account manager history](#)^[19] interface. *VPD restricted*
 - *Edit account manager history*: the permission allows to edit records in [Administration\Account manager history](#)^[19] interface (assign an account manager or delete records). In case the permission is not granted, the *Set account manager* button is hidden from [Carriers\Accounts](#)^[93]
- *User administration*: when granted, it allows the user to change permissions of other users ([Carriers\Users](#)^[87] -> *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 ([Carriers\Users](#)^[87] -> *User password change*). Otherwise it is allowed to change the password only by email ([Carriers\Users](#)^[87] -> *Send password reset letter*)
- *Data import*: the permission defines if the user is allowed to import data over the [Administration\Data import](#)^[21] interface
- *Outgoing email accounts*: the permission makes it possible for the user to view/edit data in [Administration\Outgoing email accounts](#)^[27]. *VPD restricted*
- *Email rules management*: the permission grants possibility to view/edit data in [Administration\Email processing rules interface](#)^[23]. *VPD restricted*
- *Custom parameter types*: the permission defines if the user is allowed to view data in [Administration\Custom parameter types](#)^[20] interface
 - *Edit custom parameter types*: the permission defines if the user is allowed to edit data in

[Administration\Custom parameter types](#)^[20] 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)
- *Report schedule*: the permission makes it possible to manage data in the [Administration\Report schedule](#)^[29] interface. Note that viewing the names of reports that the user is not allowed to run is restricted. For example, the report *System log (Administration)* requires the user permission *View administration reports* (can be checked in *Reports -> Edit report -> Available to*). If this permission is not granted for the user and if there is a schedule for the report in the [Administration\Report schedule](#)^[29] interface, the report name will be replaced by the report ID (for example, ID: 66 will be shown instead of *System log (Administration)*). The same principle applies to permissions from the *View/edit permissions* section ([Carriers\Users](#)^[87] tab): suppose the user has contract companies A and B and a schedule for the report *System log (Administration)* has been created for *Contact company: test*. In this case the user will be allowed to view the data in the [Administration\Report schedule](#)^[29] interface except for the contract company name (it will be replaced by the contract company ID as well)
- *Tags*: the permission defines if user is allowed to view data in the [Reference books\Tags](#)^[135] interface. The user must have the *Routing rules edit* permission enabled in order to edit tags (located under the Routing rules view permission)
- *Import of tags*: the permission grants possibility to if the user is allowed to import tags via [Reference books\Tag import](#)^[137] interface
- *System jobs*: the permission defines if the user is allowed to view/edit data in the [Administration\System jobs](#)^[35] interface
- *Service notifications*: the permission makes possible to view data in the [Administration\Service notifications](#)^[33] 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](#)^[35] interface
 - *System parameter edit*: the permission makes it possible to view and edit data in [Administration\System settings](#)^[35] interface
- *Template manager*: the permission grants the possibility to view/edit data in the [Administration\Template manager](#)^[66] 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*
- *Trace analyzer*: the permission defines if the user is allowed to access the [Administration\Trace analyzer](#)^[82] 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*
- *View administration reports*: the permission allows checking reports in the [Reports](#)^[358] interface with *Available to: View administration reports*. If the permission is not enabled, the reports will be hidden from the drop-down list

14.3 Analytics

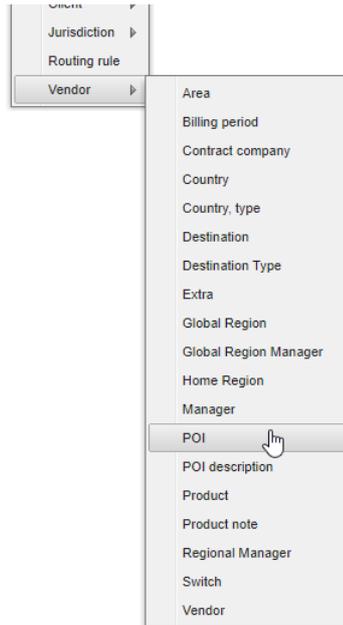
- Analytics
 - Full analytics view
 - Show other managers' client traffic
 - Show other managers' vendor traffic
 - Show other managers' vendor names and POIs
 - Show other managers' client names and POIs
 - View all client data
 - View all vendor data
 - View financial details
 - View technical details

Analytics

The section allows viewing the [VoiceAnalytics](#)^[176] 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](#)^[60]), 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.

- *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 [VoiceAnalytics](#)^[176] 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 [VoiceAnalytics](#)^[176] interface
- *View all client data*: the permission allows viewing client data based on permissions given in the [View/edit permissions](#)^[367] 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](#)³⁶⁷ 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](#)¹⁷⁶ only after recalculation of analytical cubes. Therefore traffic must be recalculated if a past period is involved.

14.4 Carriers

- Carriers
 - Accounts edit
 - Agreements edit
 - View contact emails in agreements
 - View credit limits in agreements
 - Edit credit limits in agreements
 - Carriers edit
 - Products edit
 - Delete products with dependencies
 - Users edit
 - Voice POI edit

Carriers

The section is intended to grant permissions of editing main entities of the [Carriers](#)^[84] interface. VPD restricted.

- *Accounts edit*: the permission allows editing accounts ([Carriers\Accounts](#)^[93]). Note that to delete an account and dependent objects (*Delete this account and all child components* button) the user must have the *System owner. NO restrictions permission*
- *Agreements edit*: the permission allows editing agreements ([Carriers\Agreements](#)^[95])
- *View contact emails in agreements*: if the permission is enabled, notification emails will be shown, otherwise - hidden as shown below. Note that the permission works together with *View all data* and *View and edit all data* permissions

Default invoice emails:	<input type="text" value="*** hidden ***"/>
Default rate change emails:	<input type="text" value="*** hidden ***"/>
Default technical emails:	<input type="text" value="*** hidden ***"/>
	<input checked="" type="checkbox"/> Include in service notifications
Account alert emails:	<input type="text" value="*** hidden ***"/>

Notification emails hidden

- *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](#)^[84]). Note that to delete a carrier and dependent objects (*Delete this carrier and all child components* button) the user must have the *System owner. NO restrictions permission*
- *Products edit*: the permission allows editing products ([Carriers\Products](#)^[103]). Note that to change the vendor voice POIs priorities in routing (*Set/Change POI routing priorities* button), the user must have

Appendix 2. User permissions

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](#)^[103])
- *Users edit*: the permission allows editing users ([Carriers\Users](#)^[87]). Note that setting the user password manually is possible without the *Users edit* permission in case the permission *Manual password change* is granted
- *Voice POI edit*: the permission allows editing Voice POIs ([Carriers\Voice POI](#)^[108])

14.5 CDR management

- CDR management
 - Export CDRs
 - CDR reconciliation
 - CDR rerating

Caption

The section opens access to the [Voice\CDR management](#)^[183] interfaces.

- *Export CDRs*: the permission allows exporting CDRs in [Voice\CDR management\CDR export tool](#)^[183] and from the [Voice\Analytics](#)^[176]. 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](#)^[367] 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](#)^[367] 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

14.6 Partner portal

- Partner portal
 - Show rates tab
 - Show balance
 - Show finance info
 - Wholesale partner portal
 - Export CDRs/EDRs

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 -

Appendix 2. User permissions

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. In case the permission is disabled, the *Rates* tab is hidden 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](#)^[139]) of the corresponding contract company for successful login
 - *Export CDRs/EDRs*: the permission allows to create export tasks in the Wholesale portal

14.7 Delete file records

- *Delete file records*: the permission allows removing files from [Voice\Rates\Rate import](#)^[224], [Voice\Rates\Rate import \(old\)](#)^[224], and [Administration\Email processing rules](#)^[23] (both the *Letters* and *Files* tabs).

14.8 DID management

- DID management
 - Edit DID records
 - Override DID statuses

DID management

The section opens access to the [DID management](#)^[322] 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 changing the status to archived/aging records

14.9 Edit rates/routing permissions

- Edit rates\routing permissions
 - Edit client rates
 - Edit vendor rates
 - Edit client rates/routing for own accounts
 - Edit vendor rates/routing for own accounts

Edit rates/routing permissions

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)

- *Edit client rates*: if the permission is granted, the user is allowed to edit client rates through the [Voice\Rates\Rate editor](#)^[207] interface. If the permission is granted together with *Edit client rates/routing for own accounts*, the user is allowed to edit client rates only of its own account. If the

Appendix 2. User permissions

permission *Edit client rates/routing for own accounts* is not granted while *Edit client rates* 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*: if the permission is granted, the user is allowed to edit vendor rates through the [Voice\Rates\Rate editor](#)²⁰⁷ interface. If the permission is granted together with the *Edit vendor rates/routing for own accounts* permission, the user is allowed to edit vendor rates only of own account. If the permission *Edit vendor rates/routing for own accounts* is not granted while *Edit vendor rates* 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/routing for own 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/routing for own accounts* - granted
 - *Edit vendor rates/routing for own 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/routing for own 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/routing for own accounts* - granted
 - *Edit vendor rates/routing for own 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

14.10 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](#)^[114] 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](#)^[118] 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](#)^[114] interface), edit invoices from partner and credit notes to partner and recalculate period for accounts with the vendor direction ([Finance\Invoices](#)^[118] 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](#)^[114] interface), edit invoices to partner and credit notes from partner and recalculate the invoice period for accounts with the client direction ([Finance\Invoices](#)^[118] 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. 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](#)^[114] 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](#)^[126] interface. *VPD restricted*

Appendix 2. User permissions

- *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*)
- *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
 - *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](#)^[132] interface. *VPD restricted*
 - *Recurring fees edit*: the permission allows editing data in the [Finance\Recurring fees](#)^[132] interface

14.11 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 pare
 - 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](#)^[84], [Reference books\Contract companies](#)^[138]) but records in some interfaces will be shown with hidden carrier/product/contract company names (for example, [Voice\Routing\Routing rules](#)^[284], [Administration\Report schedule](#)^[29]).

- *Edit parent products belonging to system owner*: the permission allows editing products created on behalf of the System owner carrier and its rates
- *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 ([Carriers\Users](#)^[87] -> *Contract companies* field)

Appendix 2. User permissions

- *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

14.12 Post monitoring data

- *Post monitoring data:* if the permission is enabled, it is possible to use POST:monitoring_data method in REST API

14.13 Rates

- Rates
 - Edit rates
 - Rate analysis
 - Rate editor
 - Rate export
 - Edit column settings
 - Edit task templates
 - Rate plan creation
 - Rate import (old)
 - Rate import

Rates

The section opens access to rate management interfaces ([Voice\Rates](#)^[197]). If no child permission is granted, the *Rates* menu is hidden.

- *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](#)^[207] interface. Note that the user is still allowed to change rates using the [Voice\Rates\Rate import](#)^[224] interface based on the [View/edit permissions](#)^[367] 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](#)^[201] 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](#)^[367]).
- *Rate editor:* the permission allows access to the [Voice\Rates\Rate editor](#)^[207] 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](#)^[367])
- *Rate export:* the permission allows access to the [Voice\Rates\Rate export](#)^[216] 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

Appendix 2. User permissions

- *Rate plan creation*: the permission allows access to the [Voice\Rates\Rate plan creation\Rate compilation](#)^[258] interface. Note that data on the *Cost rules* and *Markup setup* tabs is available irrespective of the [View/edit permissions](#)^[367] while the *Rate compilation* interface is VPD restricted. The user will be able to apply generated rates if the permission *Edit rates* is granted
- *Rate import (old)*: the permission allows access to the [Voice\Rates\Rate import \(old\)](#)^[224] interface. If the permission is granted, the [Voice\Rates\Auto rate import](#)^[197] interface is accessible as well. *VPD restricted*
- *Rate import*: the permission allows access to the [Voice\Rates\Rate import](#)^[224] interface. if the permission is granted, the [Voice\Rates\Auto rate import](#)^[197] interface is accessible as well. *VPD restricted*

14.14 Reference

The section opens access to [Voice\Reference books](#)^[264] interfaces. If no child permission is granted, the *Reference books* menu is hidden.

- Reference
 - Billing increments edit
 - Dial codes view
 - Dial codes edit
 - Pending dial codes
 - Soft switch editor

Reference

- *Billing increments edit*: the permission allows viewing and editing data in the [Voice\Reference books\Billing increments](#)^[264] interface
- *Dial codes view*: the permission allows viewing data in the [Voice\Reference books\Dial codes](#)^[265] interface on both tabs - *Dial codes* and *Country codes*
 - *Dial codes edit*: the permission allows editing data in the [Voice\Reference books\Dial codes](#)^[265] 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](#)^[268] interface
- *Soft switch editor*: the permission allows viewing and editing data in the [Voice\Reference books\Soft switch editor](#)^[269] interface

14.15 Reference

- Reference
 - Contract company
 - Currency rates view
 - Currency rates edit
 - Product types
 - Company region
 - Units

Reference

The section allows specifying which tabs of the [Reference books](#)^[369] section can be shown to the user. Note that if no child permission is selected, only *Bank accounts*, *Tags*, +++++*Tags import* tabs are shown. The latter two tabs are shown if *Tags* and *Import of tags permissions* are enabled correspondingly.

Appendix 2. User permissions

- *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](#)^[145]
 - *Currency rates edit*: the permission allows editing data in [Reference books\Currency exchange rates](#)^[145]
- *Product types*: the permission allows viewing/editing data in the [Reference books\Product types](#)^[147] interface. Note that the System product types (such as *International*, *SMS*, *DID* etc) cannot be edited and deleted from the web interface
- *Company region*: the permission allows viewing data in the [Reference books\Regions](#)^[148] interface. VPD restricted
- *Units*: the permission allows to viewing/editing data in the [Reference books\Units](#)^[151] interface

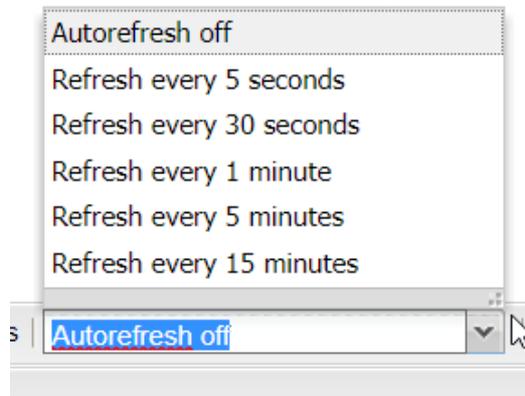
14.16 Reports

- Reports
 - Auto-refresh reports
 - Create and edit reports

Reports

The section gives permissions to view, launch and export reports in the [Reports](#)^[370] 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

14.17 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](#)^[271]).

- View blended routes: the permission allows viewing rules in the [Blended routing](#)^[272] interface in accordance with granted roles in the [View/edit permissions](#)^[367] section
 - *Edit blended routes*: the permission allows editing rules in the [Blended routing](#)^[272] interface in accordance with granted permissions in the [View/edit permissions](#)^[367] 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](#)^[308] interface in accordance with granted permissions in the [View/edit permissions](#)^[367] 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](#)^[367] section
- *View macro variables*: the permission allows viewing data in the [Macro variables](#)^[283] interface. *VPD restricted*
 - *Edit macro variables*: the permission allows editing data in the [Macro variables](#)^[283] interface. If the permission is granted but only the view permission is given in the [View/edit permissions](#)^[367] 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](#)^[367]) 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](#)^[135]) 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 [Edit rates\routing permissions](#)^[364] 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](#)^[103]). 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](#)^[367] section. *VPD restricted*

Appendix 2. User permissions

- *Routing rules rollback*: the permission allows using the *Routing rules rollback* button
- *Call simulation*: the permission allows simulating calls from the [Simulation](#)^[302] 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](#)^[305] 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](#)^[367]). Note that even if only *View all data* is granted, the user will still be able to modify translations

14.18 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

14.19 Translations

- *Translations*: the permission makes it possible to show/hide the *Administration\Translations* interface

14.20 View swap deals

The section allows viewing swap deals. *VPD restricted*.

- *Edit swap deals*: the permission allows editing swap deals. *VPD restricted*

14.21 Volume-based deals

- *Volume-based deal*: the permission allows viewing and editing volume-based deals ([Voice\Volume-based deals](#)^[312]). *VPD restricted*

14.22 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](#)^[367] section must be granted depending on the requirements.

Permissions	System administrator	Finance department	Rates department	Routing department	Sales department	NOC
Accounts edit	+	+	-	-	+	-
Agreements edit	+	+	-	-	+	-
Products edit	+	-	-	+	-	-
Carriers	+	-	-	-	+	+
Edit rates\routing permissions	+	-	+	+	+	+
CDR management	+	-	-	-	-	+
Finance	+	+	-	-	-	-
Reports	+	+	-	-	+	+

Appendix 2. User permissions

Analytics	+	-	-	-	+	+
Rates	+	-	+	-	+	-
Routing	+	-	-	+	+	+
Call simulation	+	-	-	+	+	+

15 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.

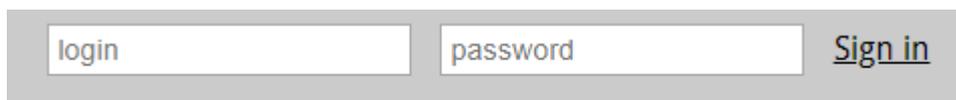
REST API allows users to get information based on predefined parameters (ID, name, etc). Additionally it allows the System owner to provide its partners with URLs to execute queries with pre-defined parameters so they can extract data without having access to the main web interface.

NOTE: To use REST API provide the Alaris support team with a domain name assigned to the web server IP address.

15.1 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 (*Carriers\Users*)



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 provided 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.eyJyYXJyaWVyX2lkIjoiaSIzInJlbW90ZV9hZGRyIjoiaMTYzLjE3MjIyNDkuNTU1LCJsb2dpbiI6IiI6IjY3YXJpcyIsImV4cC"
}
```

Token

Authorization through Basic is possible using the cURL:

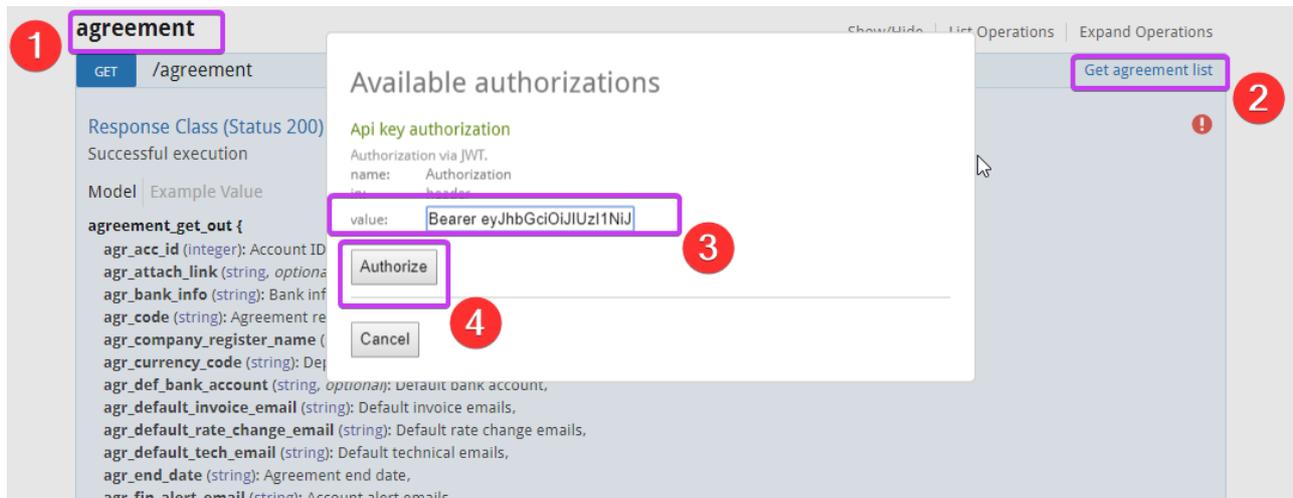
```
curl -u login:password 'https://test.api.com/rest/auth'374
curl -H 'Authorization: Basic <username:password encoded in base64>'
```

Once the token is received, it can be used in methods, for example:

```
curl -H 'Authorization: Bearer token' 'https://test.api.com/rest/374method'
```

Appendix 3. REST API methods

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.

15.2 Summary of REST API and permissions

Methods	Method description	Is VPD restricted	List of permissions
GET:carrier	Get list of carriers	+	-
POST:carrier	Create a new carrier	-	Carriers edit
PUT:carrier	Create a carrier	+	Carriers edit
DELETE:carrier	Delete a carrier	+	Carriers edit
GET:account	Get list of account	+	-
POST:account	Create a new account	-	-
PUT:account	Update an account	+	Accounts edit
DELETE:account	Delete an account	+	Accounts edit

GET:agreement	Get list of agreements	+	Carriers, View contact emails in agreements, View credit limits in agreements
POST:agreement	Create a new agreement	-	Agreements edit
PUT:agreement	Update an agreement	+	Agreements edit
DELETE:agreement	Delete an agreement	+	-
GET:product	Get list of products	+	Carriers
POST:product	Create a new product	-	Products edit
PUT:product	Update a product	+	Products edit
DELETE:product	Delete a product	+	Products edit
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:voice_rule	Get list of voice rules	-	Routing rules view
POST:voice_rule	Create a new voice rule	+	Routing rules edit, Edit rates\routing permissions
PUT:voice_rule	Update a voice rule	+	Routing rules edit, Edit rates\routing permissions
DELETE:voice_rule	Delete a voice rule	+	Routing rules edit
GET:invoice	Get list of invoices	+	Invoicing
PUT:invoice	Update an invoice	+	Generate client invoice, Confirm client invoice,

Appendix 3. REST API methods

			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)	-	-

15.3 REST methods

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

PUT: user_password method

The correct default date format 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 (*Carriers\Users\permissions*) to restrict access for certain companies or partners. For example, if the user has *View all data* granted only, using the method **DELETE:product** which is **VPD restricted** it will not be possible to delete a product - and a corresponding message will be shown (e.g., { "error_message": "No rows were really affected: object access is restricted or it has already been deleted" }). 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.

15.4 Examples of using REST methods

Let's examine how to use these 4 method types for the object '[carrier](#)'³⁷⁹:

carrier		Show/Hide	List Operations	Expand Operations
GET	/carrier			Get carrier list
POST	/carrier			Create new carrier
DELETE	/carrier/{id}			Delete specific carrier
GET	/carrier/{id}			Get specific carrier
PUT	/carrier/{id}			Update specific carrier

Object 'carrier'

15.4.1 GET:carrier

The method will return a list of carriers once the user logs in to the API and clicks the *Try it out* button.

GET /carrier
Get carrier list

Response Class (Status 200)
Successful execution

Model | Example Value

```

carrier_get_out {
  address (string): Address,
  cc_id (integer): Contract company ID,
  comments (string, optional): Comments,
  country (string, optional): Carrier registration country,
  id (integer): Carrier ID,
  inbound_allowed (integer): Inbound traffic allowed (1 - yes, 0 - no),
  is_active (integer): Active flag (1 - active, 0 - not active),
  name (string): Carrier name,
  outbound_allowed (integer): Outbound traffic allowed (1 - yes, 0 - no),
  region_id (integer, optional): Region ID,
  test (integer): Test carrier flag (0 - general carrier, 1 - for testing purpose),
  trusted_customer (integer): Trusted customer (1 - yes, 0 - no)
}

```

Response Content Type

Parameters

Parameter	Value	Description	Parameter Type	Data Type
first_rec	<input type="text"/>	Pagination: first record	query	integer
orderby_clause	<input type="text" value="2"/>	Sort expression: list of column numbers separated by comma (1 - id, 2 - name, 3 - address, 4 - trusted_customer, 5 - inbound_allowed, 6 - outbound_allowed, 7 - cc_id, 8 - region_id, 9 - comments, 10 - is_active, 11 - test, 12 - country)	query	string
rec_count	<input type="text"/>	Pagination: maximum number of records	query	integer

Response Messages

HTTP Status Code	Reason	Response Model	Headers
400	Invalid input		
401	Authorization failed		

Try it out!

[Hide Response](#)

Try it out button

The response will contain JSON array, for example:

```

[[
  "id": 1,
  "name": "AlarisTest",
  "address": "88005553535",
  "trusted_customer": 1,
  "inbound_allowed": 1,

```

Appendix 3. REST API methods

```
"outbound_allowed": 1,
"cc_id": 1,
"is_active": 1,
"test": 0
},
{
  "id": 2,
  "name": "Golden Telecom",
  "address": "Singapore 068589",
  "trusted_customer": 1,
  "inbound_allowed": 1,
  "outbound_allowed": 1,
  "cc_id": 1,
  "is_active": 1,
  "test": 0
},
.....
{
  "id": 10,
  "name": "Mobile Communications",
  "address": "Moscow, Russia",
  "trusted_customer": 1,
  "inbound_allowed": 1,
  "outbound_allowed": 1,
  "cc_id": 1,
  "is_active": 1,
  "test": 0
}]
```

VPD restricted.

cURL pattern will be as follows:

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer <token>'
'http://<domain_name>/rest/<method>
```

Appendix 3. REST API methods

cURLs of this specific example will be as follows:

```
curl -X GET -H 'Authorization: Basic username:password_in_base64' 'https://test.api.com/rest/carrier'
```

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1Ni' 'https://test.api.com/rest/carrier'
```

15.4.2 POST:carrier

The method will create a new carrier once the user authorizes to the API, inserts the body and clicks the *Try it out* button. An example of the body can be reviewed either by the *Model* link or *Example value*.

POST
/carrier
Create new carrier

Response Class (Status 200) !

Successful execution

Model | Example Value

```
carrier_post_out {
  id (integer): Carrier ID
}
```

Response Content Type:

Parameters

Parameter	Value	Description	Parameter Type	Data Type
body			body	<div style="border: 2px solid purple; padding: 2px;"> Model Example Value </div> <pre>carrier_post_in { address (string, optional): Address, cc_id (integer, optional): Contract company ID, comments (string, optional): Comments, country (string, optional): Carrier registration country, inbound_allowed (integer, optional): Inbound traffic allowed (1 - yes, 0 - no), is_active (integer, optional): Active flag (1 - active, 0 - not active), name (string): Carrier name, outbound_allowed (integer, optional): Outbound traffic allowed (1 - yes, 0 - no), region_id (integer, optional): Region ID, test (integer, optional): Test carrier flag (0 - general carrier, 1 - for testing purpose) }</pre>

Parameter content type:

Response Messages

HTTP Status Code	Reason	Response Model	Headers
400	Invalid input		
401	Authorization failed		

Try it out!

Model link



Example value

To insert the template of the body click the *Example value* body.

```
{
  "address": "xx",
  "cc_id": 1,
  "comments": "-",
  "country": "Russia",
  "inbound_allowed": 1,
  "is_active": 1,
  "name": "Client",
  "outbound_allowed": 0,
  "test": 0
}
```

An active non-test carrier with name *Client* and client direction will be created. In this example the *region* parameter is missing - so it will be specified as *empty* in the main web interface.

The only obligatory field is *name* - by default the *Inbound/Outbound traffic allowed* options are enabled (if not specified in the body), the carrier is marked active and assigned to the contract company marked *Default for self-registered partners* in *Reference books\Contract companies*.

The successful response will return the ID of the created entity:

```
{ "id": "7102" }
```

If it is impossible to add a carrier due to a non-unique name, response code 500 will be returned and the response body will be as:

```
{ "error_message": "Cannot create or modify carrier. Carrier with such name already exists." }
```

Appendix 3. REST API methods

Response code 400 will be given if one of the obligatory parameters is missing:

```
{ "error_message": "Parameter name required"}
```

Response code 401 means *Authorization failed*.

To use the method, the permission *Carriers edit* 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 '{
  "address": "xx",
  "cc_id": 1,
  "comments": "-",
  "country": "Russia",
  "inbound_allowed": 1,
  "is_active": 1,
  "name": "Client",
  "outbound_allowed": 0,
  "test": 0
}' 'https://test.api.com/rest/carrier'
```

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJI' -d '{
```

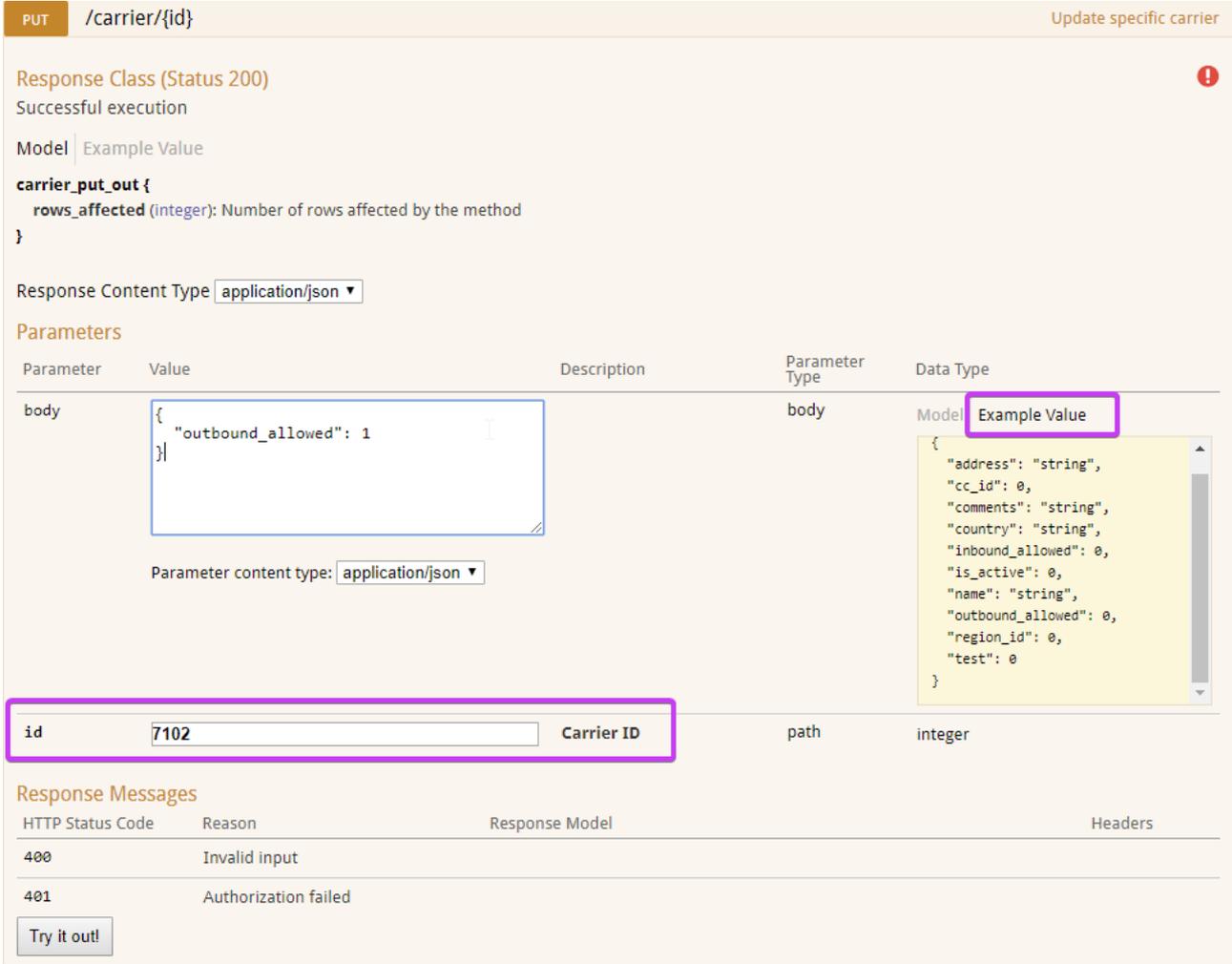
```
  "address": "xx",
  "cc_id": 1,
  "comments": "-",
  "country": "Russia",
  "inbound_allowed": 1,
  "is_active": 1,
  "name": "Client",
  "outbound_allowed": 0,
  "test": 0
```

Appendix 3. REST API methods

```
} 'https://test.api.com/rest/carrier'
```

15.4.3 PUT:carrier

The method will update parameters of the existing carrier based on the inserted ID. Let's allow outgoing traffic for carrier ID 7102:



PUT /carrier/{id} Update specific carrier

Response Class (Status 200) !
Successful execution

Model | Example Value

```
carrier_put_out {
  rows_affected (integer): Number of rows affected by the method
}
```

Response Content Type: application/json

Parameters

Parameter	Value	Description	Parameter Type	Data Type
body	<pre>{ "outbound_allowed": 1 }</pre>		body	Model Example Value
id	7102	Carrier ID	path	integer

Parameter content type: application/json

```
{
  "address": "string",
  "cc_id": 0,
  "comments": "string",
  "country": "string",
  "inbound_allowed": 0,
  "is_active": 0,
  "name": "string",
  "outbound_allowed": 0,
  "region_id": 0,
  "test": 0
}
```

Response Messages

HTTP Status Code	Reason	Response Model	Headers
400	Invalid input		
401	Authorization failed		

[Try it out!](#)

Put:carrier

Response body will contain a record:

```
{ "rows_affected": "1" }
```

which means that parameters of one carrier has been updated. Note that if some parameters are not sent through the method, they will remain the same.

To use the method, the permission *Carriers edit* must be granted. **VPD restricted.**

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>'
```

Appendix 3. REST API methods

The cURLs of this specific example will be as follows:

```
curl -X PUT -H 'Authorization: Basic username:password_in_base64' -d '{
  "outbound_allowed": 1
}' 'https://test.api.com/rest/carrier/7102'
```

```
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header
'Authorization: Bearer eyJhbGciOi' -d '{
  "outbound_allowed": 1
}' 'https://test.api.com/rest/carrier/7102'
```

15.4.4 DELETE:carrier

The method will delete the existing carrier based on the inserted ID:

DELETE
/carrier/{id}
Delete specific carrier

Response Class (Status 200) !

Successful execution

Model Example Value

```
carrier_delete_out {
  rows_affected (integer): Number of rows affected by the method
}
```

Response Content Type application/json

Parameters

Parameter	Value	Description	Parameter Type	Data Type
cascade	<input type="text"/>	Cascade delete (1 - yes, [0] - no)	query	integer
id	<input type="text" value="7104"/>	Carrier ID	path	integer

Response Messages

HTTP Status Code	Reason	Response Model	Headers
400	Invalid input		
401	Authorization failed		

Try it out!

DELETE:carrier

Response body will contain the record:

```
{ "rows_affected": "1" }
```

which means that one carrier has been deleted. It is only possible to delete one entity in a row.

To use the method, the permission *Carriers edit* must be granted. **VPD restricted.**

The cURL pattern will be as follows:

```
curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer <token>'
'http://<domain_name>/rest/<method>'
```

Appendix 3. REST API methods

cURLs of this specific example will be as follows:

```
curl -X DELETE -H 'Authorization: Basic username:password_in_base64' 'https://test.api.com/rest/carrier/7104'
```

```
curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ'  
'https://test.api.com/rest/carrier/7104'
```

15.5 Alaris REST methods

15.5.1 Main objects

Creation of a chain of main objects in the System is possible through the methods listed below.

15.5.1.1 carrier

The description is available in the Examples of using REST methods section.

15.5.1.2 account

Fetching the list of accounts is possible through the **GET:account** method. **VPD restricted**.

The response body is as follows:

```
{  
  "id": 10030,  
  "car_id": 1,  
  "balance_updated": "2019.08.16 13:17:31",  
  "manager_user_id": 10000,  
  "currency_code": "USD",  
  "balance": -241.75,  
  "descr": "10030",  
  "in_credit_limit": 9999999999,  
  "acc_send_balance_alerts": 0  
},  
....  
{  
  "id": 10031,  
  "car_id": 1,  
  "balance_updated": "2017.03.31 08:45:13",  
  "manager_user_id": 10000,  
  "currency_code": "USD",  
  "balance": 0,  
  "in_credit_limit": 9999999999,  
  "acc_bal_threshold3": 3,  
  "acc_send_balance_alerts": 0
```

Appendix 3. REST API methods

```
}]
```

Additional filters such as *car_id*, *descr*, *direction* can be set:

car_id: carrier ID which the account(s) belong(s) to;

descr: Description field from Carriers\Accounts tab;

direction: 0 - client, 1 - vendor.

cURL example is:

```
curl -X GET --header 'Accept: application/json' 'https://test.api.com/rest/account?car_id=1'
```

Method **POST:account** is intended for account creation and does not require any user permission to be granted. The obligatory parameter is *currency_code* - note it must be specified as an existing currency (*Reference books\Currency exchange rate*), the list can be found using the method **GET:currency**. If no *car_id* is specified, the account is created under the System owner carrier. By default the account is created under the user's carrier with enabled *Send balance alerts*. The body can be as follows:

```
{  
  "acc_bal_threshold1": 1000,  
  "acc_bal_threshold2": 500,  
  "acc_bal_threshold3": 0,  
  "acc_bal_threshold4": 0,  
  "acc_bal_threshold5": 0,  
  "acc_cr_threshold1": 90,  
  "acc_cr_threshold2": 0,  
  "acc_cr_threshold3": 0,  
  "acc_cr_threshold4": 0,  
  "acc_cr_threshold5": 0,  
  "acc_send_balance_alerts": 0,  
  "car_id": 7432,  
  "create_def_dst_agreement": 0,  
  "create_def_src_agreement": 0,  
  "currency_code": "EUR",  
  "descr": "test"  
}
```

where

acc_bal_threshold1 - *acc_bal_threshold5*: the account balance thresholds, in the account's currency. Just

Appendix 3. REST API methods

one threshold may be specified but it must be the first one, not the last or one in the middle.

acc_cr_threshold1 - acc_cr_threshold5: the account credit thresholds (relevant for postpaid carriers), in %. Just one threshold may be specified but it must be the first one, not the last or one in the middle.

acc_send_balance_alerts: if set to 0, *Send balance alerts* is disabled; if set to 1 - enabled.

car_id: carrier ID to assign account to. Only System owner's users are allowed to specify the parameter, the following message will be shown to non-System owner's users:

```
{ "error_message": "Insufficient privilege for carrier ID: 7432"};
```

create_def_dst_agreement/create_def_src_agreement: if both set to 0, the relevant account agreement is not created; if one of the parameters is set to 1 - the relevant agreement is created with enabled outgoing/incoming direction correspondingly.

cURL example is:

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJjYX' -d '{
  "currency_code": "EUR"
}' 'https://test.api.com/rest/account'
```

Method **PUT:account** is intended for update of an existing account. The following parameters can be updated:

```
{
  "acc_bal_threshold1": 1000,
  "acc_bal_threshold2": 900,
  "acc_bal_threshold3": 0,
  "acc_bal_threshold4": 0,
  "acc_bal_threshold5": 0,
  "acc_cr_threshold1": 50,
  "acc_cr_threshold2": 60,
  "acc_cr_threshold3": 70,
  "acc_cr_threshold4": 80,
  "acc_cr_threshold5": 100,
  "acc_send_balance_alerts": 1,
  "descr": "test"
}
```

acc_send_balance_alerts: if set to 0, *Send balance alerts* is disabled; if set to 1 - enabled.

Accounts edit permission should be granted. **VPD restricted.**

cURL example is:

```
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{
  "acc_bal_threshold1": 90,
  "acc_cr_threshold5": 10,
  "acc_send_balance_alerts": 0
}' 'https://test.api.com/rest/account/15081'
```

Removing an account is possible by means of the **DELETE:account** method - the account ID must be specified as a required parameter. If the user either is not allowed to edit any objects or does not have the permission *Accounts edit* granted, or there is no account with the inserted ID, the message will be shown:

```
{ "error_message": "No rows were really affected: object access is restricted or it has already been deleted"}
```

If the account has product(s) assigned to it, the warning will be shown:

```
{ "error_message": "Cannot delete account, as there is a product (test_kate_clproduct) in the database that depends on it"}
```

To delete all related entities, the parameter *cascade* must be set to 1. Important note: for cascade deletion, the user must have the *System owner. NO restriction* permission otherwise the message will be given:

```
{ "error_message": "No permission to complete the action. System Owner permissions required"}
```

The successful removal of the account will be reported as follows:

```
{ "rows_affected": "1"}
```

VPD restricted.

cURL example is:

```
curl -X DELETE --header 'Accept: application/json' 'https://test.api.com/rest/account/2?cascade=1'387
```

15.5.1.3 agreement

Getting of list of accounts is possible via **GET:agreement** method. **VPD restricted.**

Note that *Carriers* permission must be granted - and in case the user doesn't have the permission *View contact emails in agreements* granted, the fields *Default invoice emails*, *Default rate change emails*, *Default technical emails*, *Account alert emails*, *In default dispute emails*, *Out default dispute emails* will be hidden in the response. If the *View credit limits in agreements* permission is not specified, the user will not be able to view *In credit/Out credit* information:

```
[
  {
    "agr_id": 10114,
    "agr_code": "12344",
```

Appendix 3. REST API methods

```
"agr_acc_id": 10015,  
"agr_incoming": 1,  
"agr_outgoing": 1,  
"agr_start_date": "2015.12.07 00:00:00",  
"agr_end_date": "2100.01.01 00:00:00",  
"agr_bank_info": "Bank Name:\nBranch:\nAccount Number:\nABA:\nSWIFT:\nAddress:",  
"agr_company_register_name": "123",  
"agr_currency_code": "EUR",  
"agr_default_invoice_email": "**** hidden ****",  
"agr_default_rate_change_email": "**** hidden ****",  
"agr_default_tech_email": "**** hidden ****",  
"agr_fin_alert_email": "**** hidden ****",  
"agr_in_billing_period": 3,  
"agr_in_rate_add_period": 0,  
"agr_in_rate_close_period": 7,  
"agr_in_rate_decrease_period": 0,  
"agr_in_rate_increase_period": 7,  
"agr_in_rounding_digits": 15,  
"agr_in_tax_scheme_id": 1,  
"agr_in_timezone_name": "Europe/Moscow",  
"agr_out_billing_period": 3,  
"agr_out_rate_add_period": 0,  
"agr_out_rate_close_period": 7,  
"agr_out_rate_decrease_period": 0,  
"agr_out_rate_increase_period": 7,  
"agr_out_rounding_digits": 15,  
"agr_out_tax_scheme_id": 1,  
"agr_out_timezone_name": "Europe/Moscow",  
"agr_in_dispute_email": "**** hidden ****",  
"agr_out_dispute_email": "**** hidden ****",  
"include_in_notifications": 1  
}  
]
```

where

Appendix 3. REST API methods

agr_incoming/agr_outgoing: 0 - direction is disabled, 1 - enabled;

agr_in_billing_period/agr_out_billing_period: 1 - daily; 3 - every 3 days; 4 - twice a week; 7 - weekly; 8 - weekly (non-calendar); 15 - twice a month; 30 - monthly; 60 - every 2 months; 90 - every 3 months; 120 - every 4 months;

agr_inv_deliv_option: invoice delivery option, null - system default, 0 - do not send, 1 - attachment, 2 - link, 3 - separate emails, 4 - attachment link;

agr_in_dur_rounding_func/agr_out_dur_rounding_func: rounding function (client/vendor leg correspondingly), 0 - floor, 1- round, 2 - ceil (voice-related parameters, not applicable to Alaris SMS Platform);

agr_in_rounding_func/agr_out_rounding_func: CDR cost rounding function for client/vendor correspondingly, 0 - floor, 1- round, 2 - ceil (voice-related parameters, not applicable to Alaris SMS Platform);

agr_in_tax_scheme_id/agr_out_tax_scheme_id: 1 - Tax included; 2 - Add tax % to estimated amount; 3 - Document only tax inclusion;

include_in_notifications: 0 - *Include in service notifications* option is enabled, 1 - *Include in service notifications* option is disabled.

If a parameter is missing from the output, it is not specified in the agreement.

To fetch a list of agreements with the enabled *Incoming/Outgoing* flag, the corresponding filter can be used. *effective_at* can be specified in the default date format to obtain agreements valid on a specific date.

cURL example is:

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGci'
'https://test.api.com/rest/agreement'
```

Adding a new agreement is possible by using the method **POST:agreement** - the *Agreements edit* permission must be granted. The obligatory parameters are *agr_acc_id*, *agr_code*, *agr_company_register_name*, *start_date*, *end_date*, *incoming_allowed*, *outgoing_allowed*. In case *incoming_allowed* and/or *outgoing_allowed* are set to 1, *agr_in_billing_period/agr_out_billing_period* should be specified respectively:

```
{
  "agr_acc_id": 10015,
  "agr_code": test,
  "agr_company_register_name": Test,
  "start_date": "2013.01.01 03:00",
  "end_date": "2013.01.01 04:00",
  "incoming_allowed": 0,
  "outgoing_allowed": 1,
  "agr_out_billing_period": 10
}
```

No data found error will be shown if there is no account with *acc_id*, *Incorrect dates* error - if *start_date* is set greater than *end_date* or incorrect date format is set in the parameters.

Appendix 3. REST API methods

The correct *agr_in_timezone_name/agr_out_timezone_name* can be found through **GET:timezone_list** method.

Trying to add a new agreement that overlaps with an existing one (i.e. trying to add an incoming agreement for the period from 2020.01.01 to 2100.01.01 for the account that already has an incoming agreement active from 2019.01.01) will result in an error:

```
{ "error_message": "Cannot create or modify agreement. There is already another agreement for the selected carrier with the same traffic direction in the database." }
```

If *agr_in_billing_period/agr_out_billing_period* are specified incorrectly, the following error will be given:

```
{ "error_message": "ORA-02291: integrity constraint (INVOICE.BAS_AGR_OUT_BILL_PERIOD_FK) violated - parent key not found" }
```

cURL example is:

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1Ni' -d '{
```

```
  "agr_acc_id": 10015,
```

```
  "agr_code": test,
```

```
  "agr_company_register_name": Test,
```

```
  "start_date": "2013.01.01 03:00",
```

```
  "end_date": "2013.01.01 04:00",
```

```
  "incoming_allowed": 0,
```

```
  "outgoing_allowed": 1,
```

```
  "agr_out_billing_period": 10
```

```
}' 'https://test.api.com/rest/agreement' }
```

To update parameters of an existing agreement, the **PUT:agreement** method should be used. The permission *Agreements edit* must be granted. To edit the *agr_in_credit/agr_out_credit* permission, *Edit credit limits in agreements* must be given as well. **VPD restricted.**

The mandatory parameter is the agreement ID - *no data found* will be returned if agreement with such ID does not exist or the user does not have enough permissions to change the data.

cURL example is:

```
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1Ni' -d '{"incoming_allowed": 1 }' 'https://test.api.com/rest/agreement/1006742'
```

Removal of an agreement is possible through the **DELETE:agreement** method - the obligatory parameter is

Appendix 3. REST API methods

the agreement ID. **VPD restricted.**

The successful removal will be shown as follows:

```
{ "rows_affected": "1" }
```

If a non-existent ID is set, no records will be deleted.

cURL example is:

```
curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJyYXJyaWV5' 'https://test.api.com/rest/agreement/1006720'
```

15.5.1.4 product

Method **GET:product** returns the list of available products. The *Carriers* permission must be granted to get the list. **VPD restricted.**

Additional filters - such as *car_id*, *acc_id*, *direction* (0 - client, 1 - vendor), *notes* (case-sensitive, one value can be set) can be set. The output will be as follows:

```
[{  
  "id": 15956,  
  "car_id": 435,  
  "acc_id": 10033,  
  "direction": 0,  
  "type": 3,  
  "check_jurisdiction": 0,  
  "dip_for_lm": 0,  
  "billable": 1,  
  "notes": "AC_product_notes",  
  "invoice_group_index": 0,  
  "ignore_stats": 0,  
  "block_for_lm_calls": 0,  
  "ten_digit_calling_as_us": 1,  
  "check_lata": 1,  
  "reverse_charge": 0,  
  "check_ani_tags": 0,  
  "bill_delivered_only": 0,  
  "billing_mode": 4,  
  "is_active": 1,  
  "hlr_prefix_list": "1",  
  "exempt_from_held_duration": 0,  
}
```

Appendix 3. REST API methods

```
"use_sender_mccmnc_rates": 1 ()
```

```
}]
```

where *type*: product type (1 - International, 2 - US domestic, 3 - SMS, 4 - Unsorted, 5 - Balance correction, 6 - DID, 7 - HLR, 8 - DID/TFN fees, 9 - SMS pack, 10 - IM);

check_jurisdiction: applicable for products of *US domestic* type (0 - *Check jurisdiction* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

dip_for_lrn: applicable for products of *US domestic* type (0 - *Dip for LRN* checkbox is disabled; 1 - enabled) and *SMS* type (0 - *Dip HLR* checkbox is disabled; 1 - enabled);

rates_based_on: applicable for products of *International* type (1 - Dial codes; 4 - Destination; 5 - Destination (with indices) and *International* type (2 - LATA + OCN; 3 - State + OCN) - voice-related parameter, not applicable to Alaris SMS Platform;

ignore_stats: applicable for products of *International* type and *US domestic* - client direction (0 - *Don't consider in vendor stats calculation* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

block_for_lrn_calls: applicable for products of *US domestic* type - vendor direction (0 - *Block for no-LRN calls* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

ten_digit_calling_as_us: applicable for products of *US domestic* type (0 - *Treat 10-digit A-number as US* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

check_lata: applicable for products of *US domestic* type (0 - *Use LATA-based rates* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

reverse_charge: applicable for products of *International* type (0 - *Reverse charge* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

check_ani_tags: applicable for products of *International* type (0 - *Check ANI tags* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform;

bill_delivered_only: billing preset ID (product billing mode), applicable for products of *SMS* type (0 - Bill by submitted; 1 - Bill by delivered; 2 - Bill by attempts; 3 - Bill by reported) - SMS-related parameter, not applicable to the Voice system (Alaris inVoice);

billing_mode: product billing mode, applicable for products of *SMS* type, client direction (1 - Bill by messages, exclude vendors with segment billing; 2 - Bill by messages, include vendors with segment billing; 3 - Bill by segments, calculate routing rate by message; 4 - Bill and calculate routing rate by segments; 5 - Bill by messages/segments depending on vendor mode) and vendor direction (6 - Bill by messages; 7 - Bill by segments) - SMS-related parameter, not applicable to the Voice system (Alaris inVoice);

hlr_prefix_list: shown if product type is *SMS* and *HLR prefixes* is set in the System - SMS-related parameter, not applicable to the Voice system (Alaris inVoice);

exempt_from_held_duration: applicable for products of *US domestic* type - client direction (0 - *Exempt from held duration* checkbox is disabled; 1 - enabled) - voice-related parameter, not applicable to Alaris SMS Platform.

use_sender_mccmnc_rates: SMS-related parameter, not applicable to the Voice part of the System (Alaris inVoice)

cURL example is:

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1Ni'
```

Appendix 3. REST API methods

<https://test.api.com/rest/product?notes=mitto>³⁹⁴

The same can be achieved for a specific product ID using **GET:product{id}** method where the obligatory parameter is the product ID.

The method **POST:product** is intended for adding a new product - the permission *Products edit* must be given to the user. The obligatory parameters are *acc_id* (existing account ID - if it doesn't, an error will be given), *descr*, *direction* (either 0 or 1, otherwise an error will be given), *is_active* (either 0 or 1, otherwise an error will be given), *type*. If *type* is set to either 1, or 2, or 6, *rates_based_on* must be specified too.

If inappropriate *rates_based_on* is set (e.g., *type* is 1 and *rates_based_on* - 2 that is for US Domestic products), the following message will be given:

```
{ "error_message": "Only US domestic products can have parameter 'Rates based on' set as LATA + OCN or State + OCN" }
```

Example of the body can be as follows:

```
{
  "acc_id": 10942,
  "direction": 1,
  "type": 6,
  "is_active": 0,
  "rates_based_on": 1,
  "descr": "test"
}
```

The successful response contains the ID of the created product:

```
{ "id": "22549" }
```

Additional parameters can be set while launching the method - most of them are self-explanatory and have restrictions. For example, if a text value is inserted to a field where a boolean value is expected, an error will be given.

hlr_prefix_list: list of space-separated prefixes, e.g.: "1 2 3" - SMS-related parameter, not applicable to the Voice part of the System (Alaris inVoice);

def_indeterminate_price: can be set as

- 1 - intrastate/intraLATA (SL)
- 2 - intrastate (S); intrastate/interLATA (SLL) - if *Use LATA-based rates* is enabled
- 3 - interstate/intraLATA (SSL)
- 4 - interstate (SS); interstate/interLATA (SSLL) - if *Use LATA-based rates* is enabled

Appendix 3. REST API methods

5 - indeterminate (IND) - voice-related parameter, not applicable to Alaris SMS Platform;

parent_product_id - parent product ID. Note that the parent product must be created under an account of the same currency of the System owner carrier and be both of the same type and direction;

sibling_product_id: product set in the *Bill US traffic via separate product* drop-down list. Note that the sibling product ID must belong to the same account and be if of the same direction (voice-related parameter, not applicable to Alaris SMS Platform).

cURL example is:

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1I' -d '{
```

```
"acc_id": 10942,
```

```
"direction": 1,
```

```
"type": 6,
```

```
"is_active": 0,
```

```
"rates_based_on": 1,
```

```
"descr": "test"
```

```
}' 'https://test.api.com/rest/product'
```

If the change was applied, the result will be shown:

```
{ "rows_affected": "1" }
```

The list of parameters that can be changed using the method is mentioned in the [Model/Example](#)³⁹⁴ sections. The restriction for the values are the same as in the **POST:product** method.

cURL example is:

```
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9' -d '{
```

```
"bill_delivered_only": 2
```

```
}' 'https://test.api.com/rest/product/22595'394
```

To remove a product the method **DELETE:product** can be used - the permission *Products edit* must be granted. **VPD restricted.**

If a product is used in routing rules, the following error will be given:

```
{"error_message": "Cannot delete this object as it is used in some routing rules: voice:150"}
```

If there are either active or non-active rates in a product, the message will be shown:

```
{"error_message": "Cannot delete product, as there are rates in the database (7908) that depend on it"}
```

Appendix 3. REST API methods

To delete a product with dependencies (rates, POIs) the permission *Delete products with dependencies* must be granted - and the filter *cascade* must be set to 1.

The successful response will be as follows:

```
{ "rows_affected": "1" }
```

cURL example is:

```
curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.'  
'https://test.api.com/rest/product/17755?cascade=1'
```

15.5.1.5 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:

Appendix 3. REST API methods

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJyYXJyaWVyeX2lkIjoiMS' 'https://test.api.com/rest/voice_poi?product_id=11682'398
```

```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIUzI1NiJ9' 'https://test.api.com/rest/voice_poi/141305'398
```

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:

```
curl -X POST -header 'Content-Type: application/json' -header 'Accept: application/json' -header 'Authorization: Bearer eyJhbGciOi' -d '{ "product_id": 11682, "start_date": "2010.01.01", "end_date": "2011.01.01", "gw_ip": "30.30.30.30", "gw_mask": "32" }' https://test.api.com/rest/voice\_poi
```

Update of a POI (**PUT:voice_poi**) requires having the permission *Voice POI edit* granted. **VPD restricted.**

If the POI ID does not exist or is not available to the user, the following error will be shown:

```
{ "error_message": "POI ID:1 not found" }
```

Parameters that can be used and their limitations are the same as for **POST:voice_poi** method (except for *product_id* since the product cannot be changed).

The successful response will be { "rows_affected": "1" }

cURL example is:

```
curl -X PUT -header 'Content-Type: application/json' -header 'Accept: application/json' -header 'Authorization: Bearer eyJhbGciOi' -d '{ }' https://test.api.com/rest/voice\_poi/142765
```

Deletion of a voice POI (**DELETE:voice_poi**) requires the permission *Voice POI edit*. **VPD restricted.**

If the user is not allowed to delete the POI or there is no POI with such IP, the message will be shown:
{ "error_message": "POI ID:142750 not found" }

The successful response is: { "rows_affected": "1" }

cURL example is:

```
curl -X DELETE -header 'Accept: application/json' -header 'Authorization: Bearer eyJhbGciOi' https://test.api.com/rest/voice\_poi/142750
```

Appendix 3. REST API methods

15.5.1.6 voice_rate

To get a list of all voice rates the permission *Rates* must be granted - to use the **GET:voice_rate** method. **VPD restricted** - if the user is not allowed to view rates of a certain product, the message `{ "error_message": "Product not found" }` will be given. If the user has several products available but did not specify the exact ID in the filters, the message `{ "error_message": "More than one product found" }` will be shown. If the product does not contain any rates, an empty response will be returned.

The following input filters can be set: `product_id` (of an existing product ID), `product_descr` (which equals to the Product name column), `start_date` and `end_date` in the default format.

The successful response will be as follows:

```
{  
  "id": 45088792,  
  "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:

Appendix 3. REST API methods

```
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**.

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:

Appendix 3. REST API methods

```
"client_product_type_scope": 1,  
"vendor_product_type_scope": 0,  
"tag_list_scope": 0,  
"user_last_updated": 10680,  
"last_updated_date": "2017.06.12 21:17:03"  
}]
```

where

id: routing rule ID;

descr: its description;

type: 1 - regular, 2 - test, 4 - block;

status: 0 - inactive, 1 - active;

client_product_type_list: client product names list;

client_product_scope: client product names scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

client_poi_scope: client POI scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

destination_scope: destination scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

dialcode_scope: dial codes scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

vendor_product_scope: vendor product names scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

vendor_poi_scope: vendor POI scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

client_product_list: client product ID list

timemask: rule schedule. The mask contains 168 symbols (7days x 24 hours) - 0 is for the period when the rule is not active and 1 - when active;

choice_list_original: choice list in JSON format;

next: Next option (1 - Huntstop, 2 - Switch to context, 3 - Continue search within same context);

next_context: Next context;

source: rule generation source. For example, *Blended* means that the routing rule was created when a blended rule with *Routing rules auto-synchronization* checkbox enabled was created;

client_product_type_scope: client product names list scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

vendor_product_type_scope: vendor product names list scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

tag_list_scope: source tags scope type (-1 - exclusive list, 0 - all, 1 - inclusive list);

user_last_updated: user ID who updated the rule last;

last_updated_date: the rule's last update date.

cURL example is

Appendix 3. REST API methods

where

priority: from 0 to 100;

status: 0 or 1;

type: 1 (regular), 2 (test) or 4 (block);

start_date: cannot be set later than *end_date*;

end_date: cannot be set less than the current date;

timemask: must contain 168 symbols, only 0 and 1 are allowed;

next: 1 (huntstop), 2 (switch to context) or 3 (continue search with the same context)

For a test routing rule the parameter *probability* must be set (from 0 to 100). Additional parameters that can be set during creation are:

ani_pattern: regular expression for *ANI pattern*;

dnis_pattern: regular expression for *DNIS pattern*;

rule_condition: *Condition* field - finding possible metrics is possible through the [link](#)⁴⁰³;

destination_list: list of destinations; several values must be pipe-separated;

dialcode_list: dial codes; possible values can be found through the *GET:dial_code* method; several values must be pipe-separated;

dest_tag_list: Destination tags - only tags created in the System are allowed; several values must be pipe-separated, *tag1/tag2*;

tag_list: *Source tags* - possible values can be found using *GET:caller_id_tag* method. Several values must be pipe-separated, *tag1/tag2*;

client_poi_list: client POI IDs for *Client POI* list; several values must be pipe-separated;

client_product_list: client product IDs for *Client product* list; several values must be pipe-separated;

client_product_type_list: client product names. Only available in the System names can be specified (for which products are created). Several values must be pipe-separated;

vendor_product_type_list: vendor product names. Only names available in the System can be specified (those for which products are created). Several values must be pipe-separated;

vendor_product_list: vendor product IDs for *Vendor products* list (relevant for block rules); several values must be pipe-separated;

vendor_poi_list: vendor POI IDs for *Vendor POI* list (relevant for block rules); several values must be pipe-separated;

choice_list_original: list of choices in JSON format. Example with 2 (static and dynamic correspondingly) choices is:

```
"["
```

```
  {"choice_items\":
```

```
    [
```

Appendix 3. REST API methods

```

    {"type":"product","carrier_id":167,"product_id":229,"poi_id":null,"geo_based":1,"allow_loop":0,
    "share":50},
    {"type":"product","carrier_id":2236,"product_id":11943,"poi_id":null,"geo_based":0,
    "allow_loop":0,"share":50}],{"condition":"","multiple_choices":1},
    {"choice_items":
    [
    {"type":"formula","value":"RND+1","rate_notes":[],"vendor_product_ids":[],"vendor_poi_ids":
    [[35250]],"share":"","test_share":5,"max_routes":"","geo_based":0,"allow_loop":1}
    ]
    ,"condition":"","multiple_choices":1}
    ]"

```

where each *choice_items* means a separate choice - *type:product* stands for static routing, *type:formula* - dynamic routing (*value* stands for the *Formula* field);

carrier_id, *product_id*, *poi_id* specify which carrier ID, product ID and POI ID are set in the static choice, *null* means *All*;

geo_based: if *Enable geo based checks for POIs* flag is checked in the choice;

allow_loop: if *Allow traffic within the same partner products* flag is checked in the choice;

share: share within the choice;

test_share: *Test share* set in the dynamic choice;

multiple_choices: set *Sub-choices used for the routing*;

condition: the condition in the choice;

rate_notes: selected rate notes in the dynamic choice;

vendor_product_ids/vendor_poi_ids: vendor product/POIs IDs of the dynamic choice; one of them must be empty *[]* value - depending on the *Select routes by* option.

cURL example is:

```

curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' --header
'Authorization: Bearer eyJhbGciOiJI' -d '{

```

```

  "priority": 50,

```

```

  "status": 0,

```

```

  "type": 1,

```

```

  "context": "RESTTEST",

```

```

  "descr": RESTTEST,

```

```

  "start_date": "2018.01.01",

```

```

  "end_date": "2020.01.01",

```


Appendix 3. REST API methods

Successful execution

Model | Example Value

```
voice_rule_put_out {
  rows_affected (integer): Number of rows affected by the method
}
```

Response Content Type

Parameters

Parameter	Value	Description	Parameter Type	Data Type
body	<pre>{ "type": 1 }</pre> <p>Parameter content type: <input type="text" value="application/json"/></p>		body	<div style="border: 2px solid green; padding: 2px;"> Model Example Value </div> <pre>voice_rule_put_in { ani_pattern (string, optional): ANI filter pattern, choice_list_original (string, optional): Choice list in JSON format, client_poi_list (string, optional): Client POI list separated by (pipe), client_poi_scope (integer, optional): Client POI scope: 1 - inclusive, -1 exclusive, 0 - all, client_product_list (string, optional): List of client product IDs separated by (pipe), client_product_scope (integer, optional): Client product scope: 1 - inclusive, -1 exclusive, 0 - all, client_product_type_list (string, optional): List of client product types separated by (pipe), client_product_type_scope (integer, optional): Client product type scope: 1 - inclusive, -1 exclusive, 0 - all, comments (string, optional): Rule comments, context (string, optional): Rule context, descr (string, optional): Rule description, dest_tag_list (string, optional): B-number tag list separated by (pipe), dest_tag_list_scope (integer, optional): B-number tag scope: 1 - inclusive, -1</pre>

Model window

cURL example is:

```
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJIJIA' -d '{ "type": 1 }' 'https://test.api.com/rest/voice_rule/189'
```

To delete a rule using **DELETE:voice_rule** method, permission *Routing rules edit* must be granted. **VPD restricted.**

The mandatory filter parameter is the rule ID. If the specified rule ID does not exist, a corresponding message will be shown.

cURL example is:

```
curl -X DELETE --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiI' 'https://test.api.com/rest/voice_rule/202'
```

15.5.1.8 invoice

To get a list of invoices (**GET:invoice**) the user must have *Invoicing* permission granted. **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.

Appendix 3. REST API methods

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'
```

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.

Updating an existing invoice is possible through **PUT:invoice** - corresponding permissions from the *Invoicing* section must be granted (e.g. to change a client invoice, the permission *Generate client invoice* is required). To confirm an invoice (*send_mode* is either 1 or 2), the permission *Confirm client invoice* must be given. The same applies to the vendor side correspondingly. **VPD restricted**.

Obligatory parameters are *car_id*, *currency_code*, *period_from*, *period_to* and *reg_date*. If *direction* is not set, it is considered as 1 (outgoing/vendor invoices).

Parameters such as *file_id*, *file_name*, *make_auto_mapping*, *presented_amount*, *send_mode*, *ref_code*, *reg_date* can be changed:

```
{
  "car_id": 2487,
  "currency_code": "AKS",
```

Appendix 3. REST API methods

```
"period_from": "2019.10.01",  
"period_to": "2019.10.04",  
"reg_date": "2019.10.03",  
"direction": 0,  
"ref_code": "resttest"  
}
```

If there is no invoice found based on the provided *car_id*, *currency_code*, *period_from*, *period_to* (exact match is required), the message *Invoice not found* will be returned. If the invoice is already confirmed, the message *Invoice is not a draft* will be shown

The successful response will contain the invoice ID that was updated:

```
{ "inv_id": "257664",  
  "rows_affected": "1"}
```

cURL example is:

```
curl -X PUT --header 'Content-Type: application/json' --header 'Accept: application/json' --header  
'Authorization: Bearer eyJhbGciOi' -d '{ "car_id": 2487, "currency_code": "AKS", "period_from":  
"2019.10.01", "period_to": "2019.10.04", "reg_date": "2019.10.03", "direction": 0, "ref_code": "resttest" }'  
'https://test.api.com/rest/invoice'
```

15.5.1.9 payment

To get a list of payments is possible through **VPD restricted** method **GET:payment**.

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;

Appendix 3. REST API methods

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' 411
```

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;

Appendix 3. REST API methods

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'
```

15.5.2 Voice statistics

15.5.2.1 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 (*Carriers/Users*). 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

Appendix 3. REST API methods

- *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": "Russia",
  "destination": "Russia, 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",
```

Appendix 3. REST API methods

```
"destination": "Total",  
"attempts": 263060,  
"calls": 195839,  
"volume": 490908.7,  
"cost": 95626.68,  
"is_total": 1  
}]
```

where

dcheck: specific day;

cost: cost in the first analytics currency (can be configured in *System settings\Analytics first 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=2018.10.09'413
```

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'
```

15.5.2.2 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  
},
```

Appendix 3. REST API methods

```
{
  "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 is 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'
```