



JERASOFT

USER GUIDE

FOR VERSION 3.17

www.jerasoft.net



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User Guide

Welcome to JeraSoft VCS User Guide

This is the Telecom Billing Software that we think is **a quantum leap** to develop the VoIP telephony services. This guide provides a general **overview** of the **VCS interface, key features** and useful information regarding its usage. We hope to make **the process of using** our application as painless as possible.

Please check the categories on the left navigation bar to get started or use search toolbar to find an answer to your questions.

- [Interface Basics](#)
- [Management](#)
- [Retail](#)
- [Statistics](#)
- [Tools](#)
- [Routing](#)
- [Configuration](#)
- [System](#)
- [Client Panel](#)
- [System Shell Tools](#)
- [APIs](#)

Interface Basics

In this article

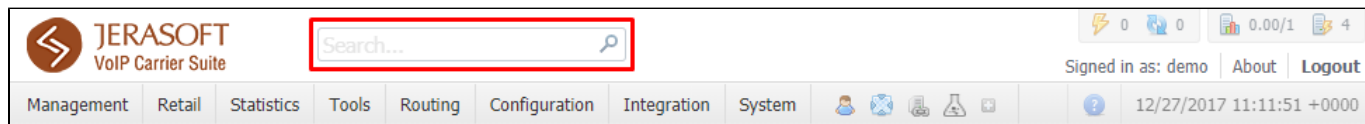
- [Global Search Bar](#)
- [SmartBar](#)
- [InfoBar](#)
- [Change Password](#)
- [About](#)
- [Page Load Time](#)
- [Rows per Page](#)
- [Delete Confirmation](#)
- [System Logout](#)
- [Section Tabs](#)

Prior to jumping straight to system sections, it's advisable to take a look at basic interface elements that user comes across from section to section. By getting used to common VCS features, navigation throughout the system becomes easier and faster. Despite the fact that not every interface feature, mentioned in this article, is present in all VCS sections, all of them are pretty common for the majority of system sections. The full list of interface basics is as follows:

Global Search Bar

This tool is used to globally search for items within the entire system, as well as find elements within a current section. For example, you can search for **clients, accounts, packages, rate tables, DIDs, code decks, routing plans, etc.** This bar is located on the top of the system, and it's designed to predict a user's search and show results while you type. It is a time-saving feature. The items found as a result of your search are placed on the drop-down list as links and headings. You can click on the item to open respective settings.

Screenshot: Global search bar

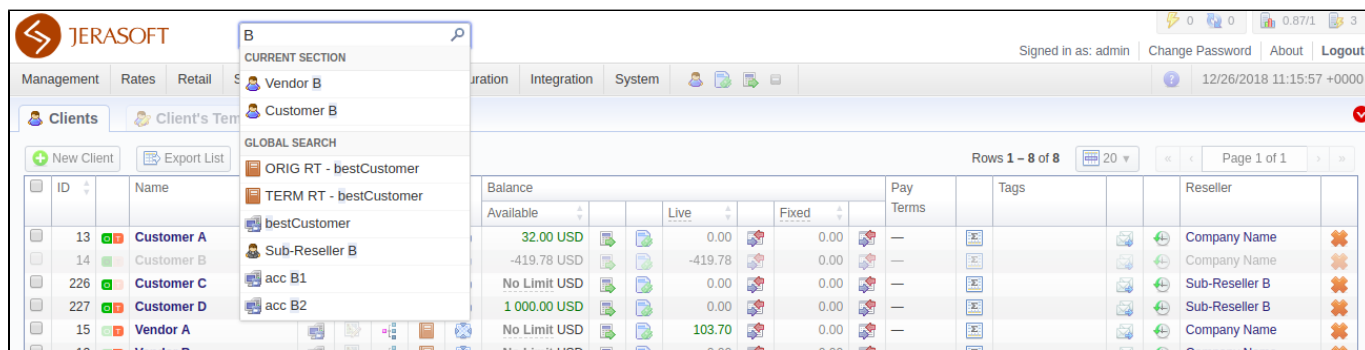


This search bar displays two parts of results: from the **current section** and **global search** in the system. Therefore, it shows a drop-down list with 10 first items matching your keyword from the current section and from a whole system at all (see screenshot below).

Tip

1. When you fill in the field and press **ENTER**, the search will be applied to the current section.
2. If you search in the section with no list of items to select from and press **ENTER**, the system will redirect to the **Clients** section and show results.
3. To open the edit form of the entity, click on it.
4. You can use the search bar for **filtering items in the section**, for example, clients or DIDs.



Screenshot: Global search bar



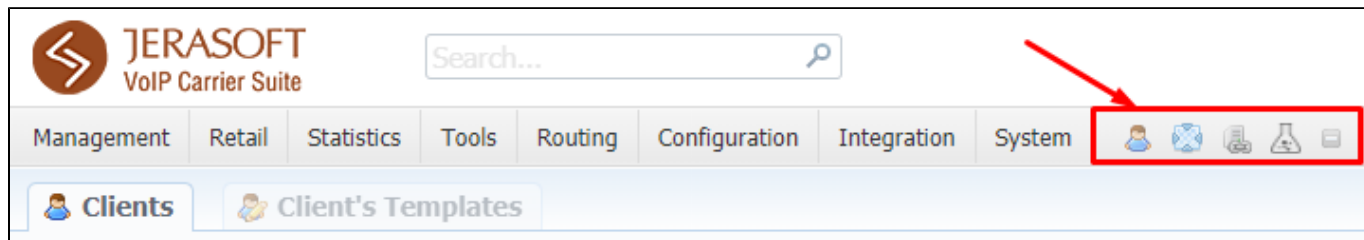
Several VCS sections have advanced search settings. To open these settings, click on downwards arrow icon on the toolbar of a respective section. Red downwards arrow icon on the toolbar means that the data is sorted by default (see screenshot above).

SmartBar

There is a **SmartBar** shortcut panel to provide quick access to frequently used sections. You can add any number of sections to the panel.

To add the shortcut, open a respective section and then click the plus sign  on the panel. As a result, a corresponding icon will be the rightmost on the panel. To remove the shortcut, click the minus sign  at the same location.

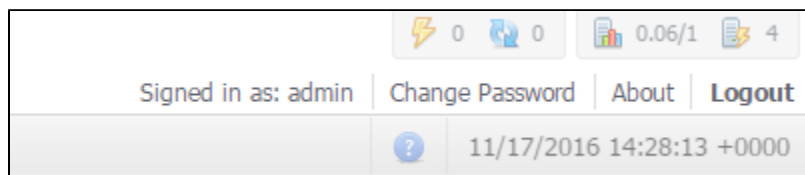
Screenshot: SmartBar panel










InfoBar

To have access to fast-changing system information, JeraSoft VCS features the information panel – **InfoBar**. You can find this panel in the top-right corner of the system and it is available from any section.

Screenshot: InfoBar settings

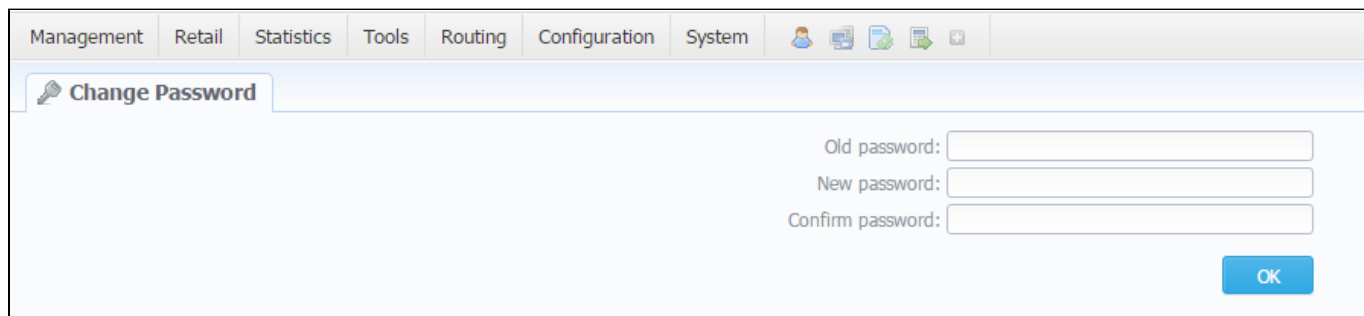


Icon	Description
	CDR queue
	CDRs in queue for rerating
	CDRs in queue for parsing
	Information about system alerts
	Load average on server / Number of CPU cores
	Number of running billing services
	Shortcut to a relevant article regarding certain section on Documentation Portal

Change Password

You can change current password by using **Change Password** menu (see screenshot below):

Screenshot: Change Password settings



To change a password, enter current password in **Old Password** field, and a new one in **New Password** and **Confirm Password** fields. Then, click **OK**.

About

To get more details about the VCS system, current version, license number, limits, and other components, click **About** either on the **InfoBar** or in the bottom-left corner of the system.

Page Load Time

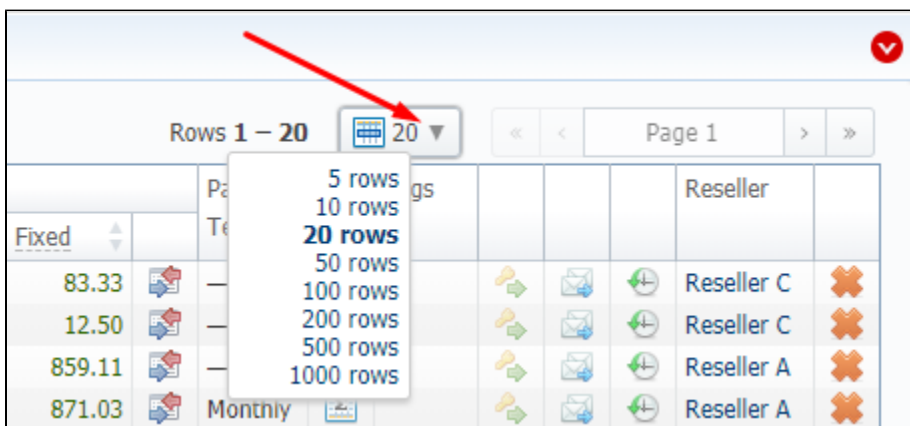
To provide the user with relevant information about the system, in the bottom-left corner of any page next to **About** button **Page Load Time** is displayed.



Rows per Page

In sections that are presented in the form of a table, JeraSoft VCS allows customizing the number of rows displayed on a page. To do so, click on **Rows Per Page** drop-down button and set the required quantity (see screenshot below).

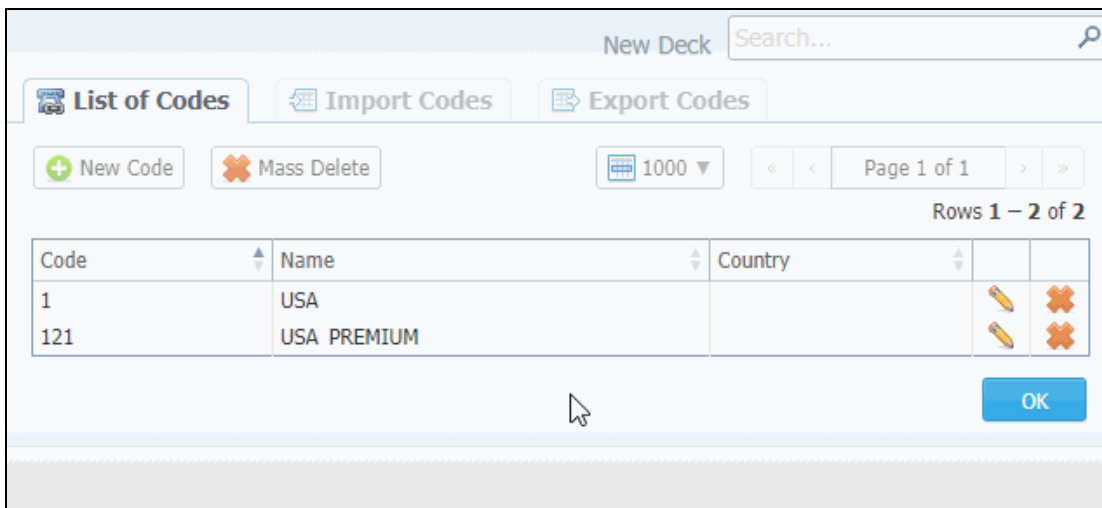
Screenshot: Rows Per Page dropdown button



Delete Confirmation

To prevent a situation when you delete an entity from the system by accident, in the majority of cases after hitting **Delete** icon / **Mass Delete** button, a **Delete Confirmation** dialog window will appear, requiring to confirm your action. To proceed with the deletion, press **OK**, and an entity will be removed from the system. The whole process is illustrated in the animation below.

Animation: Delete confirmation



System Logout

You can log out from the system by clicking **Logout** on the **InfoBar**.

Section Tabs

Several sections in the system have respective tabs for making the work with billing much more easier and comfortable.
 Screenshot: *Clients section settings/tabs*

ID	Name	Balance			Pay Terms	Tags	Reseller
		Available	Live	Fixed			
13	Customer A	32.00 USD	0.00	0.00	—	Company Name	
14	Customer B	-419.78 USD	-419.78	0.00	—	Company Name	
226	Customer C	No Limit USD	0.00	0.00	—	Sub-Reseller B	
227	Customer D	1 000.00 USD	0.00	0.00	—	Sub-Reseller B	
15	Vendor A	No Limit USD	103.70	0.00	—	Company Name	

Management

This chapter outlines how **the main components of the JeraSoft VCS** could be used to provide various management capabilities through the system.

Take a note that while navigating throughout the **system**, you will come across find plenty of tooltips to provide a better understanding of the system mechanisms. It's easy to determine, whether there is one or not. All tooltips in the system are shown as the text with a dotted underline, for example,

ORIGINATOR SETTINGS

. All you need is to hover over it, and an additional information becomes visible.

The list of management section includes:

- [Clients](#)
- [Accounts](#)
- [Rate Tables](#)
- [Invoices](#)
- [Transactions](#)
- [Balance Report](#)
- [Resellers](#)
- [Client Packages](#)
- [Traffic Processing](#)

Clients

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding New Client](#)
- [Mass Edit](#)
- [Clients Templates](#)
- [Knowledge Base Articles](#)

Section overview

Beyond any doubts, clients are a cornerstone and the most valuable asset of any type of business. Hence, **Clients** section is rightfully considered as a core element of the whole **JeraSoft VoIP Carrier Suit**. In the section, user can manage personal information of any client on the list, trace customer's balances, review resellers a particular client belongs to, etc. The section is presented in a form of a table with the following columns:

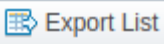
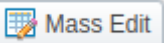















Screenshot: *Clients section*

ID	Name	Balance			Pay Terms	Tags	Reseller
		Available	Live	Fixed			
13	Customer A	32.00 USD	0.00	0.00	—	Company Name	
14	Customer B	-419.78 USD	-419.78	0.00	—	Company Name	
226	Customer C	No Limit USD	0.00	0.00	—	Sub-Reseller B	
227	Customer D	1 000.00 USD	0.00	0.00	—	Sub-Reseller B	
15	Vendor A	No Limit USD	103.70	0.00	—	Company Name	
12	Vendor B	No Limit USD	0.00	0.00	—	Company Name	
19	Vendor C	78.27 USD	78.27	0.00	—	Company Name	
11	Voxbone	7.03 USD	-2.97	-1.60	7/7	Company Name	


Column Name	Description
ID	Client's identification number
Name	Client's name
Balance	Client's balance values
	<ul style="list-style-type: none"> • Available 'Live' client's balance including allowed credit
	<ul style="list-style-type: none"> • Live Client's balance calculated on a basis of performed payments and processed calls
<ul style="list-style-type: none"> • Fixed Client's balance calculated on a basis of the outstanding invoices and performed payments	
Pay Terms	Payment terms of each client
Tags	List of tags, applied to a client
Reseller	Name of the reseller's company respective client belongs to

Functional buttons and icons, presented in the section, are as follows:

Button/Icon	Description
	Allows adding a new client to the system

 Export List	Allows exporting a list of user's clients in a .csv file	
 Mass Edit	Allows management of last invoice date of a client	
	Identifies the Orig client	
	Identifies the Term client	
	Identifies the Orig/Term client	
	Allows accessing the list of client's accounts in the Accounts section (icon will be colored if any account is assigned)	
	Allows accessing client's current routing plan (icon will be colored if a plan is assigned)	
	Allows accessing the Traffic Processing section for dynamic routing management	
	Allows viewing client's rates (icon will be colored if a rate table is assigned)	
	<ul style="list-style-type: none"> • ORIG 	Rate tables for origination calls
	<ul style="list-style-type: none"> • TERM 	Rate tables for termination calls
	Allows accessing the Client Packages section for new clients packages management	
	Allows accessing the Transactions section for management of client's balance	
	Allows accessing the Invoices section for client's invoices management.	
	Allows accessing the Balance Report section to manage client's balance report (Live or Fixed)	
	Allows accessing the Summary Report section to manage client's summary report	
	Allows accessing the Mail Queue section to view sent emails history	
	Allows accessing the Audit Log section to view change history	
	Allows deleting a client from the system	

Warning

When you **delete the client** by changing the status to **deleted** or click a respective icon , the Client Panel of this client will be disabled and origination/termination settings of its accounts will be turned off. However, its accounts will not be deleted from the system.

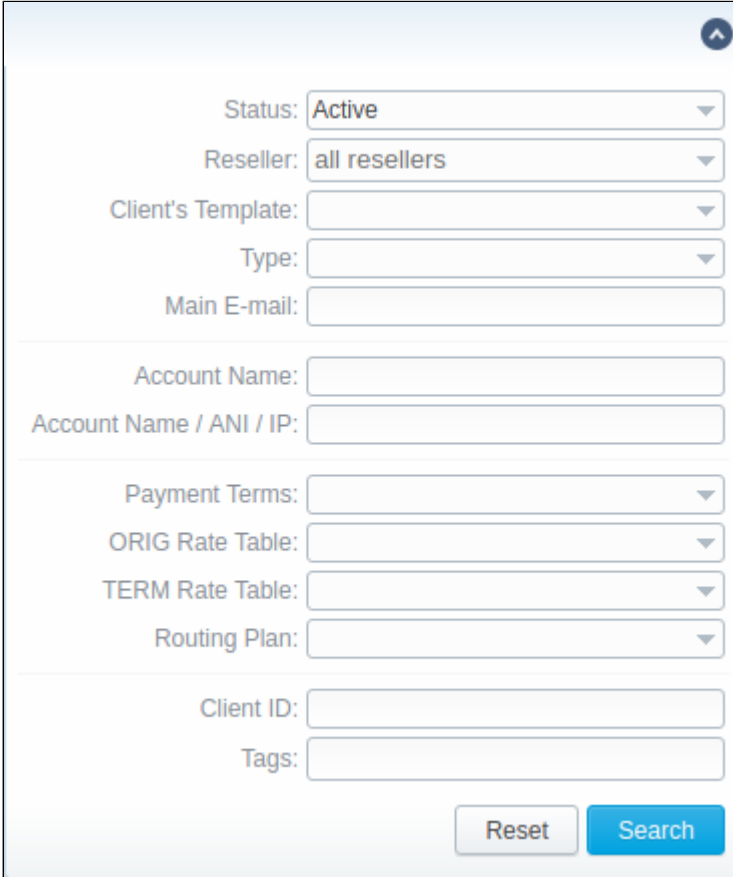
Helpful Tip

- If the prepaid mode is enabled, calls will be subject to balance check on a stage of call authorization (when RADIUS Authorization is used). If the postpaid mode is enabled, calls duration will be limited to **Max all length** setting in **Configuration > Settings**.
- You can search through clients by **Name** and only by first letters (**start with** rule). To find all clients with specified main email, use * (asterisk) in the **Main Email** field.

Advanced Search

In the top right corner of the section above the table, the **Advanced Search** drop-down menu is located. By clicking on a red downwards arrow icon (clients in the section are filtered by **Active** status by default), the following drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu



The screenshot shows a search filter form with the following fields and controls:

- Status: Active (dropdown)
- Reseller: all resellers (dropdown)
- Client's Template: (dropdown)
- Type: (dropdown)
- Main E-mail: (text input)
- Account Name: (text input)
- Account Name / ANI / IP: (text input)
- Payment Terms: (dropdown)
- ORIG Rate Table: (dropdown)
- TERM Rate Table: (dropdown)
- Routing Plan: (dropdown)
- Client ID: (text input)
- Tags: (text input)
- Reset button (light blue)
- Search button (dark blue)

To apply the specified search criteria, press the **Search** button; to cancel the applied parameters, press the **Reset** button.

Adding New Client

To add a new customer to the system, click the **New client** button in a top-left corner of the section. A pop-up window with the following fields will show up:


Screenshot: Adding new client

Clients

GENERAL SETTINGS Name: <input type="text" value="Customer A"/> Reseller: <input type="text"/> Currency: <input type="text" value="USD"/> Timezone: <input type="text" value="Default (UTC)"/> Status: <input type="text" value="Active"/> Client's Template: <input type="text"/> Tags: <input type="text"/> Tax Profile: <input type="text"/> Bill Events by: <input type="text" value="Setup time"/> <input type="checkbox"/> Hidden Numbers <input type="checkbox"/> CLIENT'S PANEL Login: <input type="text"/> Password: <input type="text"/> TERMINATOR SETTINGS Rate Table: <input type="text"/> Capacity: <input type="text"/> Channels	ORIGINATOR SETTINGS Postpaid: <input type="checkbox"/> <input type="text"/> USD Payment Terms: <input type="text"/> Rate Table: <input type="text"/> Routing Plan: <input type="text"/> Capacity: <input type="text"/> Channels LOW BALANCE CONTROL Notify Client: <input type="text"/> USD Notify Admin: <input type="text"/> USD Threshold: <input type="text"/> USD Capacity: <input type="text"/> Channels <input type="checkbox"/> AUTOINVOICING Template: <input type="text"/> Last Invoiced: <input type="text"/> <input type="checkbox"/> RATE NOTIFICATION Format: <input type="text" value="CSV"/> Notify type: <input type="text" value="All rates"/>	COMPANY INFO Name: <input type="text"/> Main E-mail: <input type="text"/> NOC E-mail: <input type="text"/> <input type="checkbox"/> Notify about Factor Watcher blocks Billing E-mail: <input type="text"/> Rates E-mail: <input type="text"/> Address: <input style="height: 40px;" type="text"/> ZIP Code: <input type="text"/> Tax ID: <input type="text"/> Reg ID: <input type="text"/> Account Details: <input style="height: 40px;" type="text"/> Locale: <input type="text"/>
--	--	---

Information block	Fields & Description
General Settings	General information about client
	<ul style="list-style-type: none"> • Name Indicate client's name
	<ul style="list-style-type: none"> • Reseller Select a reseller new client belongs to (this name will be used in invoices)
	<ul style="list-style-type: none"> • Currency Define preferred currency (will be used in invoices)
	<ul style="list-style-type: none"> • Timezone Choose the timezone from a drop-down list of all available. This timezone will be used in invoices by default. UTC is a default parameter for a timezone <div style="background-color: #ffff00; padding: 5px; border: 1px solid #ccc;"> <p>⚠ Attention</p> <p>If this parameter is not indicated, the timezone of the database will be automatically applied to the client's settings of the zone. It could lead to some problems while working with packages, rate tables, or time profiles.</p> </div>
	<ul style="list-style-type: none"> • Status Select respective status for the client: <ul style="list-style-type: none"> • active • stop • deleted
	<ul style="list-style-type: none"> • Client's Template Here you can apply the required template from the list to a new customer
<ul style="list-style-type: none"> • Tags You can indicate tag(s) here that will be applied to a new customer. The tag doesn't need to be pre-existent in the system. You can provide unlimited number of tags for each client. 	

<ul style="list-style-type: none"> • Tax Profile 	<p>You can specify a tax profile, which will be reflected in invoices (refers to the Taxes Profiles section).</p> <ul style="list-style-type: none"> • SureTax is a tax, levied on top of another tax. It allows to manage your compliance with tax law. This profile is used for further calculation in invoices. To get more details, check out the article "How to set SureTax profile?". <div style="background-color: #ffffcc; padding: 5px;"> <p>⚠ Attention</p> <p>For proper usage of SureTax, the Invoice Number should contain only Latin and numeric characters. Max length is 40 symbols. Dst and Src Numbers should be in the NPANXXNNNN (10 digits) format.</p> </div>												
<ul style="list-style-type: none"> • Bill Events by 	<p>Select how the system should bill events of a new client – by setup time, by connect time or by disconnect time (most switch models use disconnect time)</p>												
<ul style="list-style-type: none"> • Hidden Numbers c checkbox 	<p>When checked, it allows you to hide some part of client's destination numbers in invoices, xDR's reports, and during export.</p> <div style="background-color: #e0ffe0; padding: 5px;"> <p>✔ Tip</p> <p>If the client has the Hidden Numbers option enabled and the code appears in the code deck from the invoice template, the number, code and code name become hidden. If the code doesn't appear in the code deck, then the last *n characters of the number are hidden. The code deck from the rate table is only used to identify code names.</p> </div>												
<p>Client Panel c checkbox</p>	<p>Activates/deactivates the login procedure to the client's control panel for this client. Customer can get access to this control panel by using the following link: http://vcs_address/clients/, after filling in the following fields:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td> <ul style="list-style-type: none"> • Login </td> <td>Client's login</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Password </td> <td>Client's password</td> </tr> </table>	<ul style="list-style-type: none"> • Login 	Client's login	<ul style="list-style-type: none"> • Password 	Client's password								
<ul style="list-style-type: none"> • Login 	Client's login												
<ul style="list-style-type: none"> • Password 	Client's password												
<p>Originator Settings</p>	<p>Settings for your customers, who send events to your switch. Clients' origination settings are as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td> <ul style="list-style-type: none"> • Postpaid c checkbox </td> <td>Here you can set needed paid mode for a client. If you enable the postpaid mode, the client will have unlimited credit. It is disabled by default.</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Credit </td> <td>Additional field next to the Postpaid checkbox. Here you can set the credit limit allowed for a client. You could fill this field with any positive or negative numbers, but no more than 9 digits. If Postpaid checkbox is marked, this field becomes inactive.</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Payment Terms </td> <td>Select the payment terms template from the general list of all available ones in the Payment Terms section</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Rate Table </td> <td>From the list of all rate tables in the Rate Tables section, select an origination one for this client</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Routing Plan </td> <td>Select the appropriate routing plan that will be used to route all calls of this customer (but it may be overridden for any of customer's accounts in <i>Accounts</i> tab). The full list of routing plans is presented in the Routing Plans section</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Capacity </td> <td>Indicate origination capacity of channels for this client. For unlimited amount, leave empty</td> </tr> </table>	<ul style="list-style-type: none"> • Postpaid c checkbox 	Here you can set needed paid mode for a client. If you enable the postpaid mode, the client will have unlimited credit. It is disabled by default.	<ul style="list-style-type: none"> • Credit 	Additional field next to the Postpaid checkbox. Here you can set the credit limit allowed for a client. You could fill this field with any positive or negative numbers, but no more than 9 digits. If Postpaid checkbox is marked, this field becomes inactive .	<ul style="list-style-type: none"> • Payment Terms 	Select the payment terms template from the general list of all available ones in the Payment Terms section	<ul style="list-style-type: none"> • Rate Table 	From the list of all rate tables in the Rate Tables section, select an origination one for this client	<ul style="list-style-type: none"> • Routing Plan 	Select the appropriate routing plan that will be used to route all calls of this customer (but it may be overridden for any of customer's accounts in <i>Accounts</i> tab). The full list of routing plans is presented in the Routing Plans section	<ul style="list-style-type: none"> • Capacity 	Indicate origination capacity of channels for this client. For unlimited amount, leave empty
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<ul style="list-style-type: none"> • Routing Plan 	Select the appropriate routing plan that will be used to route all calls of this customer (but it may be overridden for any of customer's accounts in <i>Accounts</i> tab). The full list of routing plans is presented in the Routing Plans section												
<ul style="list-style-type: none"> • Capacity 	Indicate origination capacity of channels for this client. For unlimited amount, leave empty												
<p>Terminator Settings</p>	<p>Settings for your vendors, whom you send events from your switch. Clients' termination settings are as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td> <ul style="list-style-type: none"> • Rate Table </td> <td>From the list of all rate tables, select a termination one for this client</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Capacity </td> <td>Define termination capacity of channels for this client. For unlimited amount, leave empty</td> </tr> </table>	<ul style="list-style-type: none"> • Rate Table 	From the list of all rate tables, select a termination one for this client	<ul style="list-style-type: none"> • Capacity 	Define termination capacity of channels for this client. For unlimited amount, leave empty								
<ul style="list-style-type: none"> • Rate Table 	From the list of all rate tables, select a termination one for this client												
<ul style="list-style-type: none"> • Capacity 	Define termination capacity of channels for this client. For unlimited amount, leave empty												

Low Balance Notifications	Here you can setup whether the system should make low balance notifications or not when the client's Available balance is lower than a set threshold	
	• Notify Client	When clients' balance + credit is below entered value, the system will send a notification to email, specified in the clients' Billing e-mail field
	• Notify Admin	When clients' balance + credit is below entered value, the system will send a notification to administrator via Events Log
	• Threshold	Available balance threshold, below which the special capacity setting will be applied
	• Capacity	Origination capacity limit that will be applied when available balance is below threshold
Autoinvoicing checkbox	Activates/deactivates the automatic invoice generation feature for the current client. Information block parameters are:	
	• Template	Select an invoice template for this customer
	• Last Invoiced	Specify the last date when the client was invoiced
Rate Notification checkbox	Here you can enable or disable automatic rates notification for the current client	
	• Format	Select the desirable format of rate notification (.xls or .csv)
	• Notify Type	<p>Specify a type of notification:</p> <ul style="list-style-type: none"> • All rates - full rates list will be sent • Only changed rates - only changed rates will be sent • All rates have unique mode - if there are two or more new rates with different effective dates for the same code, several files will be sent, each containing all unchanged rates and only one unique rate for this code <div style="background-color: #e0ffe0; padding: 5px; margin-top: 10px;"> <p> Tip</p> <p>1. The system will push a notification after new rates were added. Please note, if the user changes the Effective Date field of current rates manually, it won't activate notifications.</p> <p>2. We recommend using this type of notification for testing purposes. It doesn't cancel a regular notification and doesn't change the last export date.</p> </div>
Auto Payment checkbox	Activates/deactivates the automatic charge from customer's credit card registered in the Authorize.net electronic payment service. Please note that you can register a credit card via the Refill balance section on the Client Panel .	
	• Extra Amount	Define a payment amount
Company Info	Some additional information about a client can be entered here	
	• Name	Company name
	• Main Email	Company email for general inquiries. Use only Latin characters.
	• NOC Email	Company email for technical related questions. Use only Latin characters.

<ul style="list-style-type: none"> • Notify about Factors Watcher blocks checkbox 	This tool watches over different parameters and generates alerts if some conditions are met. This function is optional: i.e., you can enable or disable them in the Clients form
<ul style="list-style-type: none"> • Billing Email 	Automatically generated invoices and notifications will be sent to this email address. Use only Latin characters.
<ul style="list-style-type: none"> • Rates Email 	Company email for rates related questions. Use only Latin characters.
<ul style="list-style-type: none"> • Address 	Physical company address
<ul style="list-style-type: none"> • Zip Code 	Postal code for SureTax integration
<ul style="list-style-type: none"> • Tax ID 	Customer's tax ID
<ul style="list-style-type: none"> • Reg ID 	Customer's registration ID
<ul style="list-style-type: none"> • Account Details 	Reference information about client's bank account or payment details
<ul style="list-style-type: none"> • Locale 	Preferred locale, that will be sent as a reply to RADIUS Authorization. It is used for IVR platforms to define the language

Attention

Autoinvoicing tool sends rates in separate files for each time profile used in a certain Rate Table.

Please note, an **email address should contain only Latin characters** for proper work of email notifications and invoices.

Warning

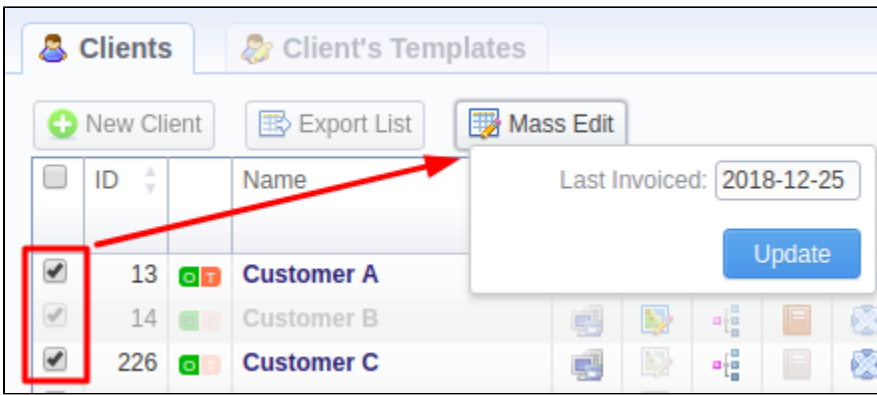
The **Full Delete** button can be used to permanently remove a client from the system, disregarding any statistics or rate tables data connections. Please, use this feature with care – deleted client cannot be restored by any means

Mass Edit

If there is a need to **change last invoice date** (*i.e. the day that the client has already been invoiced for*) for more than one client, you can use **Mass Edit** functionality. Follow the next steps:

- Select target Clients;
- Press the **Mass Edit** button and specify date in the **Last Invoiced** field;
- Press the **Update** button.

Screenshot: Mass edit functionality



Clients Templates

This section allows you to create a client template, where you can specify the main information about a client, originator settings, etc. Further, this template can be used to set the billing and tariffication parameters for customers, managers, or resellers in a few clicks. For more details, check out a related article: [Clients Templates](#).

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Clients Templates

In this article

- [Tab overview](#)
- [Advanced Search](#)
- [Creating New Client's Template](#)
- [Interface properties](#)
- [Functional properties](#)
- [Reports](#)

Tab overview


This tab allows you to create a client template where you can specify the main information about a client, originator settings, etc. Moreover, this template can be used to set the billing and tariffication parameters for Customers, Managers or Resellers in several clicks.

Screenshot: *Client's Templates List*



Column Name	Description
ID	Client's template identification number
Name	Client's template name
Credit	Credit volume in a template
ORIG Rate Table	Origination rate table, assigned to this client's template
Routing Plan	Routing plan, assigned to this client's template
Tags	List of client's templates tags
Reseller	Name of reseller's company respective client's template belongs to

Advanced Search

To navigate effectively in the tab, user is advised to use **Advanced Search** drop-down menu by pressing blue downwards arrow  icon in the top right corner of the page.

Screenshot: *Advanced Search drop-down menu*

Creating New Client's Template

To create a new template you need to press **New Client Template** button. A new pop-up window with the following fields will appear:

Screenshot: New Client Template settings

Information block	Fields Description
System Information	General information regarding client's template settings
	<ul style="list-style-type: none"> • Name Indicate the title of client's template
	<ul style="list-style-type: none"> • Reseller Select reseller that will be assigned to this template (this name will be used in invoices)
	<ul style="list-style-type: none"> • Currency Indicate preferred currency (will be used in invoices)
Originator Settings	<ul style="list-style-type: none"> • Tags Specify tags that will belong to a current client
	Billing settings and tariffication parameters for customers, who send the calls to your switch
	<ul style="list-style-type: none"> • Credit Credit limit allowed for client
	<ul style="list-style-type: none"> • Rate table Select the origination rate table
Low Balance Notifications	<ul style="list-style-type: none"> • Routing Plan Select an appropriate routing plan that will be used to route all calls for this customer
	<ul style="list-style-type: none"> • Capacity Summary origination capacity for the client
	Here you can setup whether system should make low balance notifications or not when client's Available balance is lower than a set threshold
	<ul style="list-style-type: none"> • Notify Client When clients' balance+credit is below entered value, system will send a notification to email, specified in clients' Billing email field
	<ul style="list-style-type: none"> • Notify Admin When clients' balance+credit is below entered value, system will send a notification to administrator via Events Log
	<ul style="list-style-type: none"> • Threshold Available balance threshold below which the special capacity setting will be applied

<ul style="list-style-type: none"> • Capacity 	Origination capacity limit that will be applied when available balance is below threshold
---	---

Tip

Client's Templates allows you to fill out customer's settings with **standard default values**. If you do not specify the values (*i.e Credit, Rate Table, Routing Plan, Capacity, Notify Client, Notify Admin*) in the *Client form*, the **Client's Templates** allows to take the following values from templates (during authorization).

Please note: the system can fill only empty fields with standard default values overridden from assigned template. For example, if the client has *0* (specified by default) in the **Credit** field near the **Postpaid** checkbox, you need to clear it manually, otherwise, this value will not be taken from the template. But these values **will not be shown** in the **Client form**.

Sample: When there are no values in the Client form, the system will take them from assigned template. When there are no values in the template assigned to the Client, they will be taken from **Manager/Reseller's settings**.

Interface properties

The process of applying a template to the client is pretty simple. All you need to do:

- Go to **Clients** list, click on **New Client** button or select the needed client;
- Fill in the **Client's Template** field by selecting a needed template from the drop-down list;

In **Reseller** section, there is an option for Manager/Reseller to set a **Client's Template**, i.e. this template will be used under this Reseller or Manager by default. All you need to do:

- Go to **Reseller** section and select the needed **Manager/Reseller** (configuration window will pop-up)
- Fill in the **Client's Template** field by selecting a template from the drop-down list

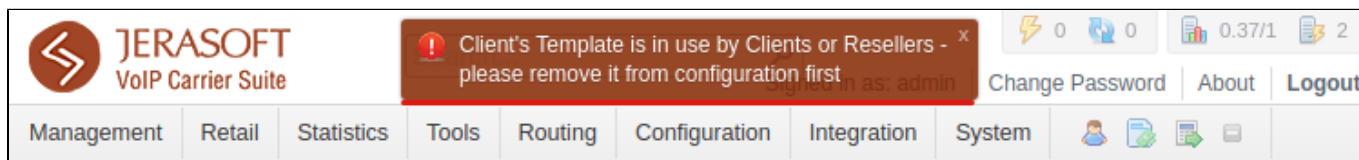
Tip

Please be advised that values overridden from templates, i.e. **Routing Plan, Rate Table, Credit** are displayed only on the Client list. They **will not be shown** on the Client's account.

Functional properties

1. If there are no indicated values (such as **Credit, Rate Table, Routing Plan, Capacity, Notify Client, Notify Admin**) in the **Client's Settings**, it will automatically override these values from the closest template.
2. The closest template is considered a first template found by the following chain: **Client his Manager his Reseller**
3. If there are no found values mentioned above in the closest template, a further search stops and values are not defined.

When you remove the template, there is a validation of use this template by Client, Manager or Reseller. The pop-up window with notification will appear.
Screenshot: Removing template



Reports

1. If you want to **change the Reseller**, you will proceed without any application checks of this template by the **Client/Manager/Reseller**.
2. The **currency** indicated in the **Client Template** and the currency of the customer to which it applies should be the same to work properly.
3. All **Managers**, regardless of their nesting level, have a possibility to **see the full list of templates that belong only to their Reseller**.

Custom Fields

This tab represents the list of **Custom Fields** that have already been added and assigned to the respective client by its reseller. The data specified in these fields will be used in invoice templates as custom functions.

Screenshot: Custom Fields tab

You can add these fields in **Management > Resellers** section by clicking **Add Custom Field** button, then you need to specify field key and title.

Screenshot: Custom Fields Reseller section

Field	Description
Field Key	Specify unique custom key for using the created field in invoice templates. Please note that only characters, number or underscore are allowed for this field. No blank spaces.
Title	Create the title of the clients Custom Fields form. Please note that it is obligatory to specify the title.

DIDs

This tab allows assigning already existing DID numbers to a certain clients' account.

Screenshot: DIDs section

DID	Status	Assigned to	Package
1111	Active	rose_term	2 Package DID

Column	Description
DID	List of DID numbers
Status	Status of current DID
Assigned to	Shows clients' accounts whom the current DID number is assigned to
Package name	List of packages

Icon	Description
	Allows activating the DID
	Allows blocking the DID
	Allows holding the DID

Add DID Button

To assign a DID number, click the **Add DID** button, then specify an account, package and a DID number.

The **Add DID** button is **visible only if a client has at least one account and activated package**. You can assign only defined number of DIDs, which you previously specified during package creation.

Tip

Detailed instructions on how to create a DID number you can find in the DID Management section, chapter **Creating DID Number**.

1. Go to **Retail > DID Management > Operators List** tab. Create one or more operators (DID providers).
2. Open the **DID Management** section, add one or more DID numbers with tags.
Make sure that these DID's have **in stock** status. You can also use the **Import DID's** button.
3. Go to **Retail > Packages** section. Create a package, that will include tags specified in DID's settings and number of allowed DID's to be picked from it.
4. Assign respective Package to the customer in the **Client Packages** section.
5. Open the **DIDs** tab in the **Clients** section. Here, pick one or more DID numbers

This will effectively assign a DID number to one of the customer's accounts. Please note that this functionality is switch dependent, and additional development or testing may be required.

Please contact JeraSoft Support team for help, if you have any doubts or questions.

Screenshot: Add DID button

Client Info Custom Fields **DIDs** Notes Cli_2


+ Add DID Rows 1 - 1 of 1 20 Page 1 of 1


Account:	Status	Assigned to	Package		
Acc2	Active	Acc2	TESTPackages		■

Package: DID: Add DID

Notes

This tab represents a notebook for saving different additional information concerning current client. For example, this may be used by managers to share relevant info regarding particular customer.

To add a new note, open the **Note** tab of respective client, click the **Add Note** button on the toolbar, enter the message or select a file and click **OK**. Also, you can edit or remove notes associated with respective client. **To change an existing note**, hover over the comment you'd like to edit and click on edit  icon . Then, a new pop-up window with settings appears.

To quickly **remove a note**, hover over the comment you'd like to cancel and click delete  icon .

Screenshot: Notes tab



Updated by	Comments		
admin 04/11/2018 14:42:01 +0000	Notes on client accessibility File: clients_list_6-03-2018.csv		

Accounts

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding New Account](#)
- [Knowledge Base Articles](#)

Section overview

This section is designed to create and manage all clients' accounts in the system. Any clients can have unlimited amount of unique accounts. Accounts are a key tool for clients' identification in JeraSoft VCS. The section is presented in a form of a table with the following columns:

Screenshot: Accounts section

ID	Client	Account	Name / ANI / IP	Tech Prefix	Orig Details	Term Details
176	Rose orig	rose_orig	Name: rose_orig		RT: RT ORIG - Rose RP: DR: Complex LCR	RT: TC: — Protocol: — / Proxy: 1 / Port: —
177	Rose term	rose_term	Name: rose_term		RT: OC: —	RT: TC: — Protocol: — / Proxy: 1 / Port: —



Column Name	Description
ID	Account's identification number
Client	Client's name
Account	Account's name
Name/ANI/IP	The way of clients identification
Tech Prefix	Technical prefix for users identification
Orig Details	Settings of the Originator
Term Details	Settings of the Terminator

⚠ Attention


- It's possible to add multiple accounts with the same IP address and different protocols/ports.
- When you **delete an account** from the system, all **associated statistics will be removed, amounts will be refunded, and client's balance will increase**. We recommend deactivating useless accounts instead of completely deleting from the system. You can deactivate an account simply disabling **Originator/Terminator Settings** checkboxes.

The section contains the respective list of functional buttons and icons.

Button/Icon	Description
	Allows creating a new client's account
	Allows filtering accounts by a specified client
	Allows viewing specified client's profile in the Clients section
	Allows viewing client's change history in the Audit log section

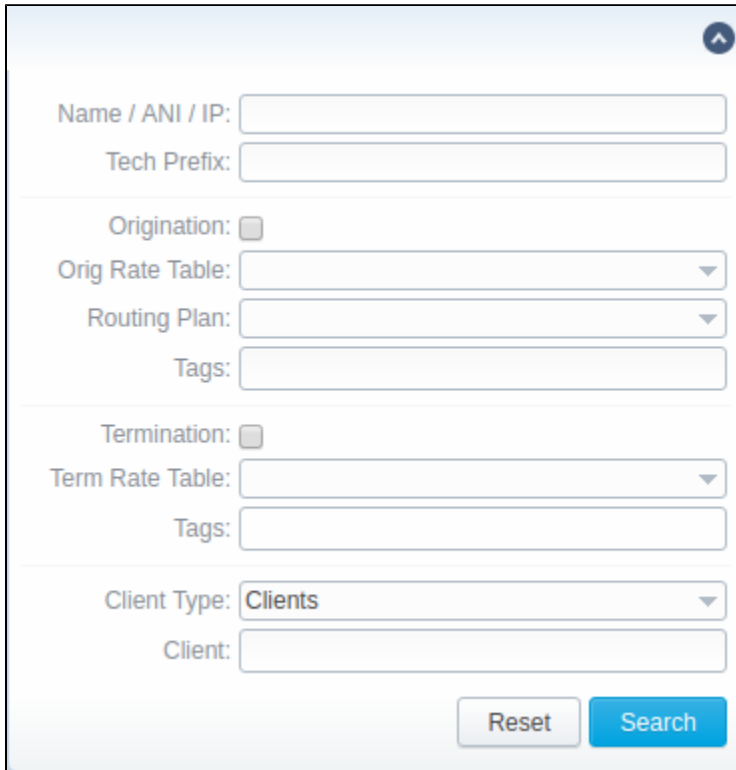
	Indicates, which Orig/Term rate table or routing plan is assigned to an account
	Allows deleting an account from the system

Advanced Search

Use the **Advanced Search** drop-down menu for fast navigation in the section (for instance, displaying accounts belonging to a certain client) by clicking on the red downwards arrow  icon.

You can start a quick search by typing your keywords into a target field and pressing the **Search** button.

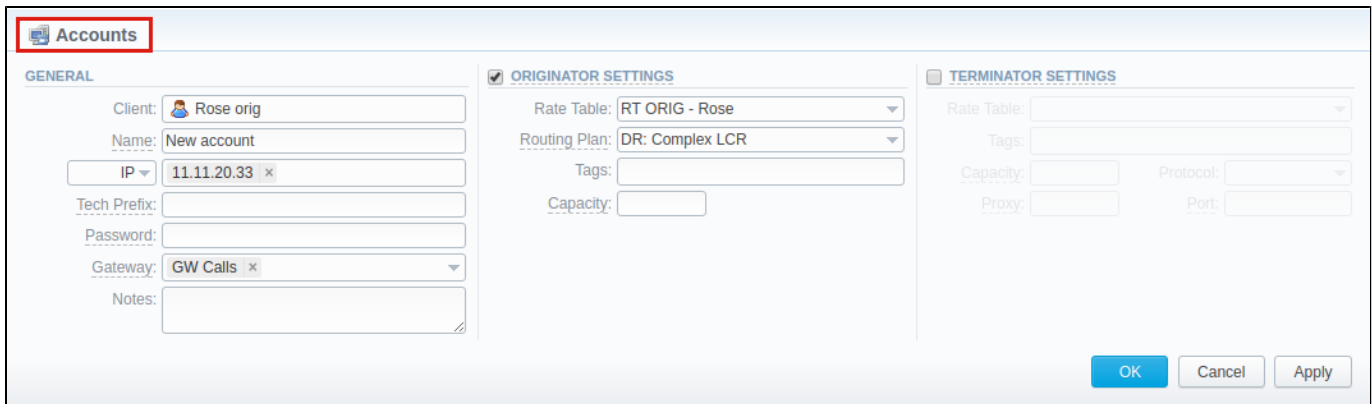
Screenshot: Advanced Search drop-down menu





Adding New Account

To add a new account, press the **New Account** button and fill in the respective fields. Then, press **OK**. The list of fields is as follows:

Screenshot: Adding new account



Information block	Fields and Description
General	General information about new client's account
	<ul style="list-style-type: none"> • Client Specify a client whom this account belongs to
	<ul style="list-style-type: none"> • Name Define a name of an account for JeraSoft VCS
	<ul style="list-style-type: none"> • Ident by The VCS system allows client identification in 3 different ways. You need to select one of the below-mentioned: <ul style="list-style-type: none"> • IP – gateway IP-address. You can specify multiple addresses, by dividing them with “;”. Moreover, you can specify the subnet with mask here in CIDR-format: e.g., 10.0.0.0/24, 200.200.200.208/28 • Name – gateway name or user login, used for identification • ANI (Automatic Number Identification) – callee or caller phone number
	<ul style="list-style-type: none"> • Tech Prefix Define a technical prefix, that is used to identify users, when multiple clients use the same gateway
	<ul style="list-style-type: none"> • Password Set a user's password that is used with login/password identification on a switch. Also, it can be used through default authentication mechanism. For more info, please consult your switch system manuals. Note that you can automatically generate a password or show it by clicking on the  or  icon, respectively.
	<ul style="list-style-type: none"> • Gateway Specify a gateway for the account, which will be in use only when billing this host calls. It is possible to assign more than one gateway to one account.
	<ul style="list-style-type: none"> • Notes Additional information about current account
Originator Settings	Settings for your customers, who send calls to your switch
	<ul style="list-style-type: none"> • Rate Table Select a rate table for current origination account (it will have higher priority than a rate table set for the whole client)
	<ul style="list-style-type: none"> • Routing Plan Indicate a routing plan for a current origination account
	<ul style="list-style-type: none"> • Tag Specify a tag for a current origination account
<ul style="list-style-type: none"> • Capacity Set limitation for the number of simultaneous calls within this account	
Terminator Settings	Settings for your vendors, whom you send calls from your switch
	<ul style="list-style-type: none"> • Rate Table Select a rate table for a current termination account (it will have higher priority than a rate table set for the whole client)
	<ul style="list-style-type: none"> • Tag Specify a tag for a current termination account
<ul style="list-style-type: none"> • Capacity Indicate capacity for respective traffic direction	

• <i>Protocol</i>	Select respective protocol for current termination gateway
• <i>Proxy</i>	Define proxy for a current termination gateway
• <i>Port</i>	Set port for a current termination gateway

 **Attention**

- You can add an **unlimited** number of accounts for **each client**
- It's possible to add multiple accounts with the **same IP** address and **different protocols/ports** or **different gateways**

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Rate Tables

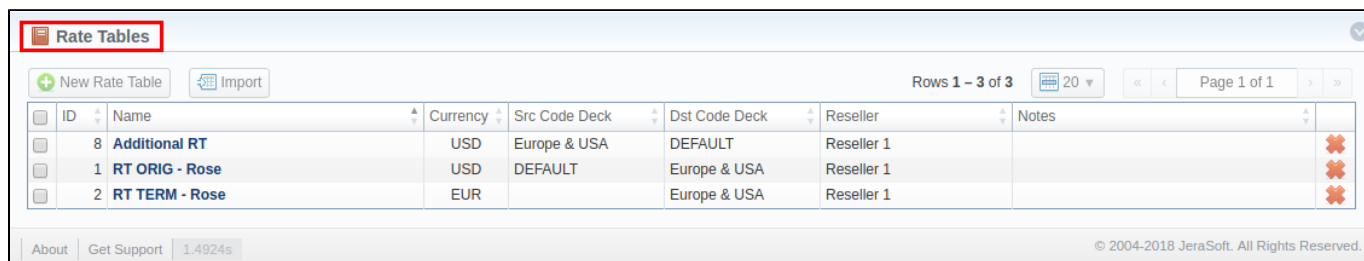
In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding New Rate Table](#)
- [Configuring Rates](#)
- [Rate Import](#)
- [Knowledge Base Articles](#)

Section overview

Rate Table is one of the three core elements of the entire JeraSoft VCS system. Its purpose is to contain determined rates (prices) for each code (destination) on the list. This section provides you with a full scope of tools for managing your rate tables. The section is presented in a form of a table with the following fields:

Screenshot: Rate Tables section



Column Name	Description
ID	Rate table's identification number
Name	Name of a rate table
Currency	Currency of a rate table
Src Code Deck	Name of a source code deck, where names for Src codes are taken from
Dst Code Deck	Name of a destination code deck that contains Dst code names
Reseller	Name of a reseller respective rate table belongs to
Notes	Additional information about a rate table

Functional buttons and icons, presented in the section, are as follows:

Button/Icon	Description
	Allows adding a new rate table to the system
	Allows importing a list of user's clients in a .csv file
	Allows deleting a client from the system

Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on a red downwards arrow icon (clients in the section are filtered by **Active** status by default), the following drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu

Reseller:

Src Code Deck:

Dst Code Deck:

Currency:

Adding New Rate Table

In order to add a new rate table, press **New Rate Table** button and in a pop-up window define respective values:

Field	Description
Name	The title of a respective rate table
Reseller	The Reseller to whom this rate table belongs to
Parent Rate Table	<p>The rate table to inherit rates from. Codes with the same length in the current rate table will have the priority. However, longer codes from the parent rate table will override the codes in this rate table</p> <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <ol style="list-style-type: none"> Please note that the currencies of a parent and current rate tables should be the same. The working method with a Parent Rate Table could be applied for origination only. </div> <p>For example, you can create a <i>Child Rate Table</i> for some destinations and add special rates. Then, specify a respective <i>Parent Rate Table</i> (that includes all standard rates) in the <i>Child Rate Table</i> settings. And assign this <i>Child Rate Table</i> to the Client.</p>
Src Code Deck	Indicate a code deck that contains source codes and code names
Dst Code Deck	The deck that consists of a list of destination codes and destination names
Currency	Preferred currency (will be used in invoices)
Rates with taxes checkbox	Tax settings. It's disabled by default. If you enable it, all rates will include above tax in their values. When it is disabled, the tax value will be added as an additional invoice parameter.
Description	Additional information

Screenshot: *New rate table window*

Rate Tables

GENERAL SETTINGS

Name:

Reseller: Reseller 1 ▼

Parent Rate Table: RT ORIG - Rose ▼

Src Code Deck: Europe & USA ▼

Dst Code Deck: DEFAULT ▼

Currency: USD ▼

Rates Include Taxes

Description:

This section will also store all rate tables that you plan to analyze via the **Rates Analysis** section. You will be able to change these settings later by using the **Parameters** tab. After everything is entered, press **OK**. New rate table will appear on the list.

Configuring Rates

You can configure the rates by clicking on the respective name of the rate in the full list. The rate management has a panel with the following tabs:

Tab	Description
Rates	Rates configuration
Simulate	Call simulation tool
Import	Rates importing from .csv or .xls files
Export	Rates exporting to .csv or .xls files
Parameters	Here you can change some parameters that you've specified during rate table creation

Rate Import

In general, you can **import all existing rate tables** from this section of the VCS. To **import multiple rates**: first, select rates and then click the **Import** button on the toolbar at the top left of the rate tables to launch the import wizard.

Screenshot: Rate Tables section main window

Rate Tables

Rows 1 – 3 of 3 20 ▼ Page 1 of 1

ID	Name	Currency	Src Code Deck	Dst Code Deck	Reseller	Notes
8	Additional RT	USD	Europe & USA	DEFAULT	Reseller 1	✖
1	RT ORIG - Rose	USD	DEFAULT	Europe & USA	Reseller 1	✖
2	RT TERM - Rose	EUR		Europe & USA	Reseller 1	✖

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For additional information about the import process, see [Rates Import tab](#) article.

Knowledge Base Articles

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Rates Tab

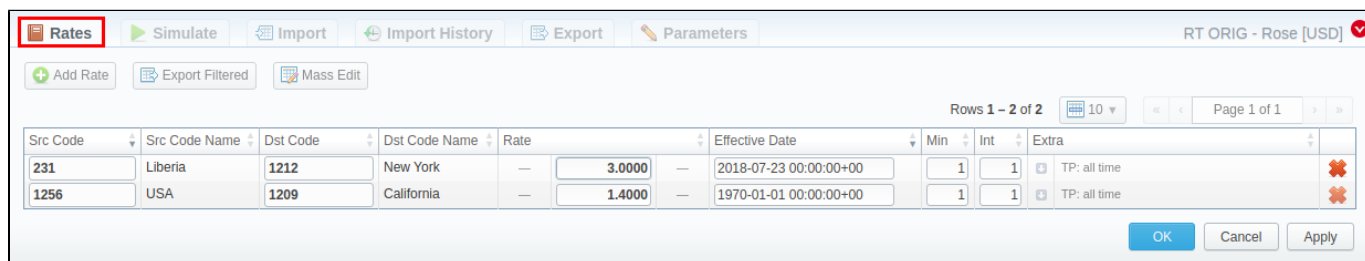
In this article

- [Tab Description](#)
- [Adding New Rate](#)
- [Mass Rate Edit](#)
- [Advanced Search](#)
- [Stashed rates](#)

Tab Description


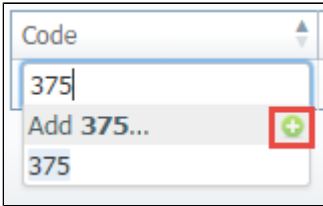
This tab is a corner stone of the whole section, containing the list of all codes with indication of personal parameters of each of it. Tab allows adding new rates, as well mass its mass editing and export.


Screenshot: Rates tab settings




Adding New Rate

To create a new rate for a target code, you need to press **Add Rate** and the following fields will appear:

Field	Description
Src Code	<p>Specify a source code for a new rate.</p> <p>You can add a code to already chosen code deck while creating a new rate. To do it, while indicating a new one for a rule, click on the plus  icon next to the respective code (see screenshot below). The plus icon will be visible if there is code deck specified previously</p>  <p>Attention</p> <p>Please note that rates with Src Codes are not used when termination tariffs are chosen for Dynamic Routing. This functionality is going to be reworked in the upcoming releases.</p>
Src Code Name	Indicate a source code name in case source code is not specified (available if code deck is attached). If Src Code Name is specified, Src Code field becomes disabled and vice versa
Dst Code	Indicate a destination code for a new rate.
Dst Code Name	Name of a destination code group (available if code deck is attached)
Rate	Price per unit of a servie. Here you can see changes (how current rate differs from previously effective on) by clicking up/down arrows

Effective Date	Rate start date (newest available rate for a particular destination)
Min	Minimal time of call that will be tariffed. For example, if total call time was 20 seconds and Min is 30 , then client will pay for 30 seconds of call
Int	Tariffication interval. This parameter is used, when Min Time expires. For instance, if call time is 26 seconds, Min is 25 and Int is 8 , client will pay for 33 seconds
Extra Fields	Additional parameters are stored under gray downwards arrow  icon.
	<ul style="list-style-type: none"> • Tag Specify a tag for respective rates. If it's not applicable, assign a (@) tag as default.
	<ul style="list-style-type: none"> • Policy This option allows selecting a rate type for a code: regular rate or an additive (extra) rate: <ul style="list-style-type: none"> ◦ regular rate - this policy signifies a usual rate definition for the event; ◦ additive (extra) rate - this policy signifies that this rate will be added to a regular rate for the event. <p>During billing, the system takes one regular rate and all additive (extra) rates that are appropriate for the call. Please note, a regular/additive rate table will be determined by accessible dynamic and static tags, used for the call.</p>
	<ul style="list-style-type: none"> • Profile Time profile that will be used for a current rate, for example, business time, non-business time, weekends, etc.
	<ul style="list-style-type: none"> • End Date After specified date, target rate will not be used
	<ul style="list-style-type: none"> • Setup Fee Setup fee (charged when event duration is longer than 0 seconds)
	<ul style="list-style-type: none"> • Grace Volume Time interval that will not be tariffed (free time). For instance, if you specified 5 sec as a Grace Time, all calls with duration up to 5 seconds (including calls with session time of 5 seconds) will be free of charge
	<ul style="list-style-type: none"> • Number Length Specify a minimum and maximum length of destination number. For example, if you have a rate of 3 USD for 123 Dst Code with indicated number length from 6 to 9, and another rate of 5 USD for the same 123 Dst Code without specified number length, all calls with a Dst Number between 6 and 9 digits will be billed by 3 USD, otherwise, by 5 USD.
<ul style="list-style-type: none"> • Notes Additional information about current rate 	

After you finish filling in all fields, press  button.

Also, you can quick export the rates by pressing **Export Filtered** button or opening the **Export** tab.

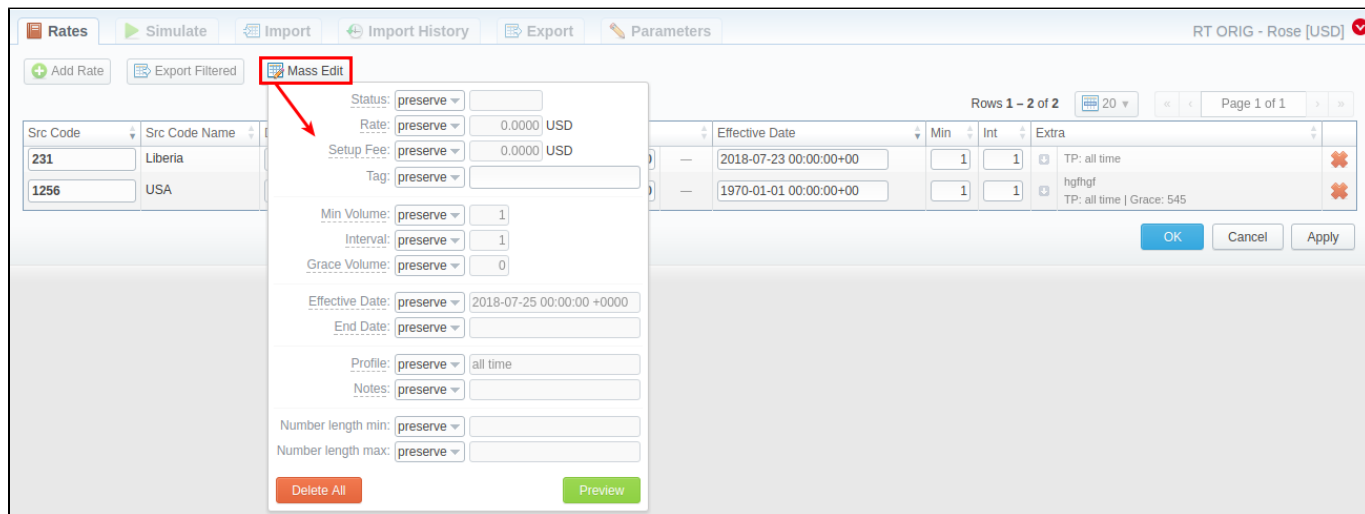
Mass Rate Edit

It's possible to make a mass update of the rates by clicking on Mass Edit for the drop-down menu to appear. Then, you need to fill in the fields according to your needs. There are four general parameters that can be applied to a field.

- **preserve** - the default configuration that saves the rate not edited. Leave this parameter unchanged if required;
- **set to** - it allows to edit rates, for example, specify the same effective date for all rates at once, regardless of previous configurations;
- **inc for** - here you can indicate how the original value increased;
- **dec for** - here you can indicate how the original value decreased.

The list of mass edit fields is as follows:

Screenshot: Mass Edit button




Field	Description
Status	Change rates statuses. Available options: preserve, set to
Rate	Change rates values. Available options: preserve, set to, inc for, dec for . You can increase or decrease the value either by fixed number or percent. To increase or decrease by percent enter % sign after desired number. <div style="background-color: #f8d7da; padding: 5px; border: 1px solid #f5c6cb;"> <p>Warning</p> <p>Do not enter non-numeric symbols.</p> </div>
Setup Fee	Change setup fee value. Available options: preserve, set to, inc for, dec for . You can increase or decrease the value either by fixed number or percent. To increase or decrease by percent enter % sign after desired number. <div style="background-color: #f8d7da; padding: 5px; border: 1px solid #f5c6cb;"> <p>Warning</p> <p>Do not enter non-numeric symbols.</p> </div>
Tag	Change rates tag. Available options: preserve, set to
Min. Volume	Change minimal volume value. Available options: preserve, set to
Interval	Change tariffication interval value. Available options: preserve, set to
Grace Volume	Change grace volume value. Available options: preserve, set to
Effective Date	Change rate start date value. Available options: preserve, set to
End Date	Change rate end date value. Available options: preserve, set to
Profile	Change rate profile. Available options: preserve, set to
Notes	Change rates note. Available options: preserve, set to
Number Length Min	Change minimum length of destination number. Available options: preserve, set to
Number Length Max	Change maximum length of destination number. Available options: preserve, set to

After indicating necessary fields, press **Preview** button. You will be displayed a new rate table with edited details, where you can choose one of the following options:

- By pressing **Insert As New** button, edited rates will be added as new ones that will replace existent under specified conditions (for example, change of rate and effective date);
- By pressing **Update Current** button, edited rates will have their values updated with the new ones;

To delete all displayed rates press **Delete All** button in a Mass Edit menu.

Advanced Search

Use the **Advanced Search** drop-down menu (see screenshot) by clicking on red downwards arrow  icon in the top right corner of the tab. To open additional settings, press **Advanced** button.

Screenshot: Rates tab search settings

Field	Description
State	Search by the period of a rate during which the rate is active, expired, etc., as compared to data specified in the next field. The following states are available to choose from a drop-down list: <ul style="list-style-type: none"> • current on - search includes rates that are active for specified data • old for - search rates that are expired for specified data • future for - the future rates compared with specified data • current/new - includes current and future rates • all - includes all rates
Code/Name	Search by the title or code
Tag	Search by an assigned tag
Imported File	Search by the title of an imported file , choose a file from the drop-down list of all available. If the list is empty, there is no imported files.
Difference Status	Search by the cost changes of the rate . The following types are available to choose from drop-down list: <ul style="list-style-type: none"> • Decreased • Increased • Not changed • New
Status	Search by the state of the rate: <ul style="list-style-type: none"> • active • stashed (<i>not confirmed</i>). This state means that the rate is not used for the billing or routing process.
Rate	Search by the rate , the price interval could be specified
Setup Fee	Search by the setup fee of the rate , the interval could be specified
End Date	Search by the expiration date of the rate
Min Volume	Search by the minimal volume of every that will be tariffed
Interval	Search by the tariffication interval
Profile	Search by the time profile of the rate

Grace Volume	Search by the interval of the free time
Number Length	Search by the length of destination number

Attention

When you filter rates by the state (for example, **current/new, future for, current on**), **stashed** (not-confirmed) rates will not show up in the search results. To include these rates, choose **all** from the drop-down list.

Stashed rates

If you see the rate rows colored in yellow, it means these rates are in pending state and you need to confirm them all (press **Confirm Filtered Rates** button). Not confirmed rates appears while import process.

Screenshot: Rates tab settings

The screenshot shows the 'Rates' tab interface. At the top, there are navigation buttons: Rates, Simulate, Import, Import History, Export, and Parameters. On the right, it says 'RT ORIG [USD]' with a red checkmark. Below the navigation, there are buttons for 'Add Rate', 'Export Filtered', and 'Mass Edit'. A summary bar shows: 'New: 6', 'Unchanged: 1', 'Decreased: 1', 'Increased: 1'. Below this, it says 'Rows 1 - 9 of 9' and 'Page 1 of 1'. The main table has columns: Src Code, Src Code Name, Dst Code, Dst Code Name, Rate, Effective Date, Min, Int, Extra, and a status column. The status column contains 'Stashed' for all rows, which are highlighted in yellow. A red box highlights the first column (Src Code) and the status column. At the bottom left, a green button 'Confirm Filtered Rates' is highlighted with a red arrow. At the bottom right, there are 'OK', 'Cancel', and 'Apply' buttons.

Src Code	Src Code Name	Dst Code	Dst Code Name	Rate	Effective Date	Min	Int	Extra	Status
902	Canada	1210	United States	0.9900	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
782	Canada	1212	United States	2.0000	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
778	Canada	1205	United States	0.8700	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
709	Canada	1209	United States	2.0000	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
604	Canada	1203	United States	0.8700	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
506	Canada	1207	United States	0.9900	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
431	Canada	1201	United States	1.0000	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
250	Canada	1202	United States	0.9900	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed
236	Canada	1206	United States	0.8700	2018-12-12 00:00:00+00	1	1	TP: all time	Stashed

Rates Management

Recommended rates management practice includes a few tips that can make routine job easier.

Tip 1: If you received an update for your rate table, do not delete or edit already existing information. Simply import updated price list on top of your current one, this will update your rates with new effective dates, while no longer actual rates will be hidden. Read more about importing process in [Import](#) article.

Tip 2: If an existing rate was changed and **Effective From** field specifies a date that have passed, then all calls will not be automatically rerated using this new rate. You must rerate them manually with [xDRs Rerating](#) section.

Tip 3: As an example of calculation, let's imagine that **Rate** = 1, **Min Time** = 30, **Interval** = 1, **Grace Time** = 2, **Setup Fee** = 0,3, where:

- **Rate** – is a price per unit of a servie.
- **Min Time** – minimal time of call that will be tarified.
- **Interval** – tarification interval which is used, when **Min Time** time expires.
- **Grace Volume** – time interval that will not be tarified (free time). For instance, if you specified 5 sec as **Grace time**, it means that all calls with duration up to 5 seconds (including calls with session time of 5 seconds) will be free of charge.
- **Setup Fee** – call fee, which is charged when call duration is longer than 0 seconds, and there is no specified grace time.

So, according to the given data if call duration was less than 2 seconds, then total call cost will be 0 currency units. If call duration was between 3 and 30

$$\text{Setup fee} + \frac{\text{Rate}}{60 \text{ seconds}} \cdot \text{Min Time}$$

seconds, then total call cost will be

which is 0,8 currency units regarding the presented data. If call

$$\text{Setup fee} + \frac{\text{Rate}}{60 \text{ seconds}} \cdot \text{quantity of call seconds}$$

duration was more than 30 seconds, then total call cost will be

currency units.

Tip 4: You can change rate tables' currency in **Parameters** tab.

Tip 5: All rate fields that define time have time format in seconds, while in **Rate** field you specify the cost for 1 [full minute](#) of call.

Tip 6: If you require to perform bulk update or edit of your rates, you can use **Mass Edit** feature. Please be advised that mass edit will be applied only to **current / future** rates. So, prior to editing, make sure you filtered target rates accordingly.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Simulate

Simulate tab gives you possibility to see the exact rate which will be used for specified destination number, and also resulting cost, if such event would take place. To simulate an event, fill in the following fields and press **Process** button:

Screenshot: *Simulate tab*

Field	Description
Number	Specify Dst number of the event
Date	Indicate the event date
Tags	Fill in this field if you wish to specify certain rate tags
Service	Specify a type of service
Volume	Specify event volume (seconds, bytes, events, etc.)

⚠ Attention

Note that from now on **only** rates with **Active** status can be used to simulate rates. Rates with **Stashed** status will not be displayed.

The results of simulated event are presented in a table with the following structure (see screenshot below):

Screenshot: *Event simulating results*

Column	Description
Info icon	Hover over this icon to view additional parameters (setup fee, profile, end date , etc.)
Code	Destination code
Cost	Cost of an event
Effective Date	Rate start date
Rate	Event price for a specified unit. Units ratings are configured in Services section. For instance, for call service indicated rate may be a price for 1 second, 1 minute, 1 hour or 1 day .
Parameters	Information of minimal time of call that will be tariffed, tariffication interval and time interval below which event is not tariffed (grace volume), separated by /

Billed Time	Billed time (minimal time of billing increment)
--------------------	---

Import

In this article

- [Import Tab](#)
 - [Step 1. Selecting File and Specifying Additional Parameters](#)
 - [Step 2. Import Settings](#)
 - [Step 3. Import Errors](#)
 - [Confirming Rates](#)
- [Import History Tab](#)

Import Tab

The tab is designed to provide user with a possibility to import rate to VCS by uploading **.csv** or **.xls** file. The whole process can be divided in the following steps:

Screenshot: *Import tab*

The screenshot shows the 'Import' tab interface. At the top, there are navigation tabs: Rates, Simulate, **Import** (highlighted with a red box), Import History, Export, and Parameters. The current view is for 'RT ORIG - Rose [USD]'. The interface is divided into two main sections: 'STEP 1: FILE SETTINGS' and 'STEP 2: IMPORT SETTINGS'.

STEP 1: FILE SETTINGS

On the left, there is a file selection area with a checkmark icon and the text: 'Selected file: new_rts.csv. Choose a file or drag it here'. On the right, there are three dropdown menus for 'Import Template:', 'Delimiter: autodetect', and 'Auto Confirm: Disabled'.

STEP 2: IMPORT SETTINGS

This section includes a 'Sheet 1' dropdown and a table of import settings. The table has columns for Dst Code, Service, Effective Date, Profile, Min, Int, Extra, and Skip. Below the table is a 'More rows' link.

Dst Code	Service	Effective Date	Profile	Min	Int	Extra	Skip
1201	United States	0,99	01/10/2018 00:00:00 +0000				<input type="checkbox"/>
1202	United States	0,99	01/10/2018 00:00:00 +0000				<input type="checkbox"/>
1203	United States	0,87	01/10/2018 00:00:00 +0000				<input type="checkbox"/>
1205	United States	0,87	01/10/2018 00:00:00 +0000				<input type="checkbox"/>
1206	United States	0,87	01/10/2018 00:00:00 +0000				<input type="checkbox"/>

Below the table is a 'CODE RULES' section with a table:

Dst Code	Service	Effective Date	Profile	Min	Int	Extra
*	Calls	2018-07-26 00:00:00+0000	all time	1	1	regular

At the bottom, there is a 'New Import Template' input field, a 'Save Template' button, and an 'Import' button.


Step 1. Selecting File and Specifying Additional Parameters

First, you need to select a file for import. Additionally, you can specify the following parameters:

Screenshot: *Step 1. File Settings*

Rates Simulate **Import** Import History Export Parameters RT ORIG - Rose [USD]

STEP 1: FILE SETTINGS



Selected file: **File not selected**
Choose a file or drag it here

Import Template:
 Delimiter:
 Auto Confirm:

STEP 2: IMPORT SETTINGS

Field	Description
Import template	Select a target template for rates importing
Delimiter	Specify here a delimiter symbol. Possible options are: <ul style="list-style-type: none"> • autodetect • , • ; • tab By default, autodetect option is chosen.
Auto Confirm	Select whether the system must confirm imported rates automatically or not

Warning

- It's not possible to import a file into the **Rate Table** with the **Min Time and Interval = 0**. These fields must have at least 1 second.
- While specifying the **Effective Date** and **End Date** keep in mind that by default **Time zone** is **UTC (+0000)**.

Step 2. Import Settings

The system will recognize the file and display first 5 rows of the first sheet. To switch from one sheet with rates to another, click on respective tab: **Sheet 1**, **Sheet 2**, etc.

Starting from **VCS 3.17.0**, user has a possibility to specify a type for each sheet of an imported file. Each sheet type has its own list of column. Currently, there are 3 sheet types:

- Rates** type - an equivalent to a importing page from earlier version. While importing, **at least 1 sheet must be of Rates type**. For this type, the following columns are mandatory:
 - Dst Code/Code Name** - indicate at least one of them
 - Rate**
 - Effective Date** - if you don't indicate this column, the Effective Date, specified in the Code Rules information block, will be applied to imported rates.
- Src Codes** type - this type allows user to indicate source codes / code names and has two columns: **Src Code** and **Src Code Name**. If selected, both columns must be specified.
- Dst Codes** type - this type allows user to indicate destination codes / code names and has two columns: **Dst Code** and **Dst Code Name**. If selected, both columns must be specified.

Screenshot: Sheet types


STEP 2: IMPORT SETTINGS

Sheet 1 | Sheet 2

Dst Code Name	Dst Code		Rate	Changes	
1201	United States	1	12/12/2018 00:00:00 +0000	431	
1202	United States	0,99	12/12/2018 00:00:00 +0000	250	<input type="checkbox"/>
1203	United States	0,87	12/12/2018 00:00:00 +0000	604	<input checked="" type="checkbox"/>
1205	United States	0,87	12/12/2018 00:00:00 +0000	778	<input checked="" type="checkbox"/>
1206	United States	0,87	12/12/2018 00:00:00 +0000	236	<input checked="" type="checkbox"/>

"Rates" sheet type
 "Rates" sheet type
 "Src Codes" sheet type
 "Dst Codes" sheet type

On the second step, you can also save the importing rate table as a template for further usage in importing process. To do so, in the bottom left corner of the tab, specify a template title and press **Save Template** button.

To open advanced configurations, click on grey downwards arrow  icon next to the **Step 2: Import Settings**. Advanced settings contain the following fields

Screenshot: Step 2. Import Settings

Field	Description
On Duplicates	<p>Determines billing behavior if it finds duplicate rate row. Duplicates are checked by Code + Effective Date pair of columns.</p> <ul style="list-style-type: none"> Update with the latest value - if multiple duplicates were found, the last value is stored Skip duplicate rows - if there are multiple duplicates, only first value will be stored Alert me about duplicates - if duplicates are detected, VCS will alert you about their presence <div style="background-color: #ffffcc; padding: 5px;"> <p>⚠ Attention</p> <p>Alert limitation about rate duplicates during import process. It means that the import process cannot proceed if you get more than 1,000 duplicate alerts. This limitation applies while the Alert me about duplicates option is enabled in the On duplicate rates field in the Import tab</p> </div>
On Errors	<p>Determines billing behavior if an inconsistency or error was found in importing file (data inconsistency, incorrect symbols, etc.)</p> <ul style="list-style-type: none"> Import correct rows and show all found errors - import error-free rows and display the list of errors, if any If errors are found, abort import and show all errors - if any error is found, stop import and display a list of errors
Date Format	<p>Specify date format of imported file. Please note, the auto-detection of date and time can be performed with files that contain one of the date and time formats, listed below:</p> <ul style="list-style-type: none"> DD-MM-YYYY (%d-%m-%Y) = 28-12-2018 YYYY-MM-DD (%Y-%m-%d) = 2018-12-28 MM/DD/YYYY (%m/%d/%Y) = 12/28/2018 DD.MM.YYYY (%d.%m.%Y) = 28.12.2018 YYYY/MM/DD (%Y/%m/%d) = 2018/12/28 YYYYMMDD (%Y%m%d) = 20181228 YYYY-MM (%Y-%m) = 2018-12
Custom format	<p>If defined, this format will be used for date parsing instead of Date Format field</p>
Optimize Codes	<p>This option allows to make shorter codes of importing code range. For example, code range 4400-4409 will be shortened to 440. Please note, a single code 44001 will not be shortened to 440, it only works for code ranges specified with dash "-".</p> <div style="background-color: #e0ffe0; padding: 5px;"> <p>✔ Tip</p> <p>Therefore, when you make an import with enabled Optimize codes option and your importing file consists of code 440 and code range 4400-4409 at the same time, the import result will depend on the On duplicate rates settings.</p> </div>

Billing Increment	<p>Billing Increment defines the way events are billed and combines two parameters: minimum volume and tariffication interval or three parameters: minimum volume, tariffication interval and grace volume. Indicate the order of parameters recognition in Billing Increment column:</p> <ul style="list-style-type: none"> • Min Volume / Interval • Interval / Min Volume • Min Volume / Interval / Grace Volume • Interval / Min Volume / Grace Volume <p>For example, if Billing Increment column in your import file is 1, 5, and you selected Min Volume / Interval value in this field, system will recognize 1 as Minimum Volume and 5 as a Tarrification Interval for a target rate.</p>
Remove Dash	<p>Select whether dash in codes must be skipped or not:</p> <ul style="list-style-type: none"> • Enabled - codes, written as 1201-1205, will be imported as a single 12011205 code • Disabled - 1201-1205 codes will be imported as separate 1201, 1202, 1203, 1204, 1205 codes
Split Src Code Name	<p>This option is used only in case source code names contain underscore symbol. Choose one of the following:</p> <ul style="list-style-type: none"> • Disabled - if Src Code Name is, for instance, USA_Columbia, it will be preserved as it is after import. • By underscore - if selected, USA_Columbia Code Name will be changed to Columbia after import.
Update Code Deck	<p>Select the way you want both Src and Dst code decks to be updated with new/existing code names from current rates file:</p> <ul style="list-style-type: none"> • Disabled - leave selected code decks unchanged • Import only not existing codes - code decks will be updated with codes and their names if they are missing • Import all codes (update existing) - code decks and codes will be updated with code names taken from file, overwriting of existing ones • Import all codes (purge code deck first) - code decks are fully cleared and then all codes and code names are imported from file <div style="background-color: #ffffcc; padding: 5px;"> <p>⚠ Attention</p> <p>If Src Code and/or Dst Code sheet type are selected, you need to enable this feature</p> </div>
Dst Code Deck	<p>Dst Code Deck that will be used for Update Code Deck option. Select a destination code deck that you want to update with the above-mentioned settings (note that code deck specified settings here will only be available if you are importing file which contains Code Names in addition to Codes)</p>
Src Code Deck	<p>Src Code Deck that will be used for Update Code Deck option. Select a source code deck that you want to update with the above-mentioned settings (note that code deck specified settings here will only be available if you are importing file which contains Code Names in addition to Codes)</p>
Notificat or Code Deck	<p>Specify code decks that will be used for the next rates notification</p>
AZ Mode	<p>A special mode that determines system behavior regarding active/future rates:</p> <ul style="list-style-type: none"> • Disabled - leave active/future rates unchanged. Selected by default • Simple mode - active rates from current Rate Table will be closed on the specified AZ close date if they aren't present in this import. • Extended mode - all existing future rates will be marked as stashed. Currently active rates (not presented in this import) will be closed by the date specified below.
AZ codes	<p>Available if AZ Mode is active. Specify the exact code(s), AZ Mode is going to be applied to. By default, field value is * (all codes)</p>
AZ interval (days)	<p>Available if AZ Mode is active. It consists of two fields where time and date of rates closure are specified:</p> <ol style="list-style-type: none"> 1. Time - select from a drop-down list: <ul style="list-style-type: none"> • Beginning of the day - active/future rates will be closed at 00:00 of the specified day • Import time - active/future rates will be closed at the exact time of import on the specified day 2. Day - specify the interval of days after which rates will be closed <div style="background-color: #e0ffe0; padding: 5px;"> <p>✔ Tip</p> <p>For a detailed explanation, check out our Knowledge Base article</p> </div>
AZ close date	<p>Available if AZ Mode is active. Field displays the time and date of rates closure based on the AZ interval (day) parameters</p>

Code Rules Information Block


For adding a new code rule, click on the plus  icon next to information block name.

When you add a rule and set the value in the fields, it will overwrite parameters specified the respective columns of the file. If you leave fields empty, it will take the parameters from the file.

If you add a rule with * **code** for a certain service, not specified columns of the imported rates will be filled in with respective field values of this code rule. You can add rules with * **code** for all services. The list of code rules fields is as follows:

Screenshot: Rates import - Code Rules settings

Code	Service	Effective Date	Profile	Min	Int	Extra
*	Calls	2018-01-12 00:00:00+0000	all time	1	1	regular
1201	Calls	2018-01-12 00:00:00+0000	all time	60	45	regular

Field	Description
Code	Indicate a destination code. For all codes, use * (asterisk)
Service	Select a service for rate
Effective Date	Specify a start date of a rate
Profile	Indicate time profile that will be used for current rate, for example business time , non-business time , weekends , etc.
Min	Minimal time of call that will be tariffed. For example, if total call time was 20 seconds and Min is 30 , then client will pay for 30 seconds of call
Int	Tariffication interval. This parameter is used, when Min Time time expires.
Extras	Additional parameters are stored under downwards arrow  icon. <ul style="list-style-type: none"> • Tag - specify a tag for respective rates. If it's not applicable, assign a (@) tag as default. • Grace Volume - volume that will not be tariffed (i.e. it's free). • Policy - rate's type for a code: regular rate or an additive (extra) rate. • Setup Fee - an initial fee that is charged. • End Date - final date after which the rate will expire. • Notes - additional information.

After specifying all additional parameters, press **Import** button.

Step 3. Import Errors

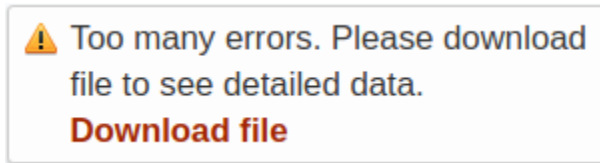
Provided a non-critical error(s) occurred, you will be displayed a table, where exact sheet, line and error description are specified (see screenshot). In this case, you need to start the whole import procedure from the beginning.

Screenshot: Step 3. Import Errors

Sheet	Line	Errors
1	4	Can not parse effective date

In case numerous errors occurred while **importing** rates, you will be displayed the respective notification:

Screenshot: Error notification



By clicking on **Download file**, a .csv file with the following columns is downloaded:

Column	Description
Sheet	Index number of the sheet, where error occurred
Line	Line of the sheet, where error occurred
Errors	Description of the error that occurred

Screenshot: .csv file with detailed error data

	A	B	C	D
1	Sheet	Line	Errors	
2	1	1	Incorrect rate specified	
3	1	2	Incorrect rate specified	
4	1	3	Incorrect rate specified	
5	1	4	Incorrect rate specified	
6	1	5	Incorrect rate specified	
7	1	6	Incorrect rate specified	
8	1	7	Incorrect rate specified	
9	1	8	Incorrect rate specified	
10	1	9	Incorrect rate specified	
11	1	10	Incorrect rate specified	

Confirming Rates

When the procedure has been executed, you will be forwarded to **Rates** tab where all imported rates will be displayed. They are divided into the following types: **Unchanged, Increased, Decreased, New**. By clicking on respective buttons in the top right corner of the tab, you can filter rates by the type (see screenshot).

Attention

Imported rates will be marked as **Unchanged, Increased, or Decreased** only if their Effective Date value (e.g. **04.25.2018**) is higher than Effective Date of a current rate (e.g. **04.10.2018**)

If **Auto-Confirm** option is disabled, you need to press **Confirm Filtered Rates** button (see screenshot) to change rates status from **stashed** to **active**.

Screenshot: Confirming Rates




The screenshot shows the 'Rates' tab interface. At the top right, there are filters for rate status: **New: 6**, **Unchanged: 1**, **Decreased: 1**, and **Increased: 1**. Below this is a table with columns: Src Code, Src Code Name, Dst Code, Dst Code Name, Rate, Effective Date, Min, Int, Extra, and a status column. The status column shows 'Stashed' for all entries, each with a red 'X' icon. At the bottom left, a green button labeled 'Confirm Filtered Rates' is highlighted with a red arrow. Other buttons at the bottom right include 'OK', 'Cancel', and 'Apply'.

Import History Tab

The tab contains information about all executed imports to this rate table. It is presented in a form of table with the following columns:

Screenshot: *Import History tab*

Rates												Simulate		Import		Import History		Export		Parameters		RT ORIG [USD]	
Rows 1 – 1 of 1										20		Page 1 of 1											
Date	User Login	File	Total	New	Increased	Decreased	Unchanged	A-Z Closed	A-Z Stashed	Status	Error File												
2018-07-27 08:37:29+00	admin	 new_rts_2018.xlsx	9	6	1	1	1	0	0	done													

Column	Description
Date	Time and date of import execution
User Login	Login of a user who executed import
File	Import file. By clicking on  icon, the file will be downloaded
Total	Total amount of imported rates
New	Total amount of rates with New type
Increased	Total amount of rates with Increased type
Decreased	Total amount of rates with Decreased type
Unchanged	Total amount of rates with Unchanged type
A-Z Closed	Number of rates, closed by A-Z import
A-Z Stashed	Number of rates, stashed by A-Z import
Status	Status of import procedure (done/failed)
Error File	File that contains description of all errors, occurred during import. By clicking on  icon, the file will be downloaded
 icon	When clicked on, deletes respective import data from the system

Export

In this article

- [Tab overview](#)
- [Rates Exporting Process](#)
 - [Step 1. Specifying Filter Parameters](#)
 - [Step 2. Specifying Date And Format Options](#)
 - [Step 3. Selecting Columns To Export](#)

Tab overview

Export tab provides great flexibility in configuring the way rates will be exported in **.csv** or **.xls** file (see screenshot below).

You can use same advanced search tool as provided on Rates tab, to choose which rates you would like to export (including **all**, **old**, **current**, **future** or **current/future**).

Screenshot: Rates exporting window

The screenshot shows the 'Export' tab in the software interface. At the top, there are navigation tabs: Rates, Simulate, Rate Formulas, Import, **Export** (highlighted with a red box), and Parameters. The currency is set to 0 [USD].

TEMPLATE SETTINGS

Export Template: [dropdown] Save

STEP 1: SPECIFY FILTER PARAMETERS

current / future | 2016-11-22 10:43:11 | Code: [input] | Code Name: [input]
 Status: [dropdown] | Policy: [dropdown] | Tag: [input] @ x
 Import File: [dropdown] | Prev Diff Status: [dropdown] | Next Diff Status: [dropdown]
 Join Parent

Rate: [input] — [input] USD | Min Time: [input] — [input] sec | Profile: [dropdown]
 Setup Fee: [input] — [input] USD | Interval: [input] — [input] sec | Grace Time: [input] — [input] sec
 End Date: [input]

STEP 2: SPECIFY DATE AND FORMAT OPTIONS

Last export date: [input] | Date Format: %m/%d/%Y %H:%M:%S %z
 Code Deck: [dropdown] | Codes Output: separate rows
 Data format: CSV | Fields Delimiter: ,
 with headers row
 codes from code deck

STEP 3: SELECT COLUMNS TO EXPORT

Column #1: Code
 Column #2: Code Name
 Column #3: Rate
 Column #4: [dropdown]
 Column #5: [dropdown]
 Column #6: [dropdown]
 Column #7: [dropdown]
 Column #8: [dropdown]
 Column #9: [dropdown]
 Column #10: [dropdown]
 Column #11: [dropdown]
 Column #12: [dropdown]
 Column #13: [dropdown]
 Column #14: [dropdown]
 Column #15: [dropdown]
 Column #16: [dropdown]

Process Cancel

Rates Exporting Process

Whole export process is logically divided in three steps.

Step 1. Specifying Filter Parameters

Here you need to fill in next fields:

Field	Description
-------	-------------

Type	Indicate a rate type: <ul style="list-style-type: none"> • current / future • current on • future for • past for • all and respective effective date
Code / ode Name	Specify code / code name of exporting file
Service	Specify a target service
Policy	Select the policy of the rate: <ul style="list-style-type: none"> • additive - this policy signifies a usual rate definition for the event; • regular - this policy signifies that this rate will be added to a regular rate for the event.
Tag	Indicate a respective label
Imported File	Select target imported file
Join Parent checkbox	Enable this checkbox if you need to include rates from the parent rate table
Prev Diff Status	Indicate how current rates differ from the previous ones by choosing: <ul style="list-style-type: none"> • Decreased • Increased • Unchanged • New
Next Diff Status	Indicate how should differ a next rate table from a current one: <ul style="list-style-type: none"> • Decreased • Increased • Unchanged • New
Rate	Specify price interval
Setup Fee	Specify setup fee interval
Min Volume	Specify minimal volume interval of tariffed events
Interval	Specify tariffication interval
Profile	Select time profile (all time, business time, non-business time, weekends)
Grace Volume	Specify grace volume interval
End Date	Indicate a final date
Status	Determine rate status: <ul style="list-style-type: none"> • stashed means that the rate will not be used for billing or routing process; • active means that the rate is confirmed and used for billing.

Step 2. Specifying Date And Format Options

On this step, fill in the following fields:

Field	Description
Last Export Date	Parameter that affects <i>Rate changes</i> field (depending on it exported rates will be marked as new, changed, deleted , etc.)
Date Format	Date format in your export file. Syntax is following: for example, if you indicate %d-%m-%Y here, your date will look like 25-03-2018
Code Deck	Select a code deck here to rewrite code names in export file if needed
Codes Output	Specify how codes must be displayed. The options are:

	<ul style="list-style-type: none"> • Separate rows 	Each code is placed into a single row
	<ul style="list-style-type: none"> • Delimited list 	Codes are grouped by code name in a row, for example: 5510, 5511, 5512
	<ul style="list-style-type: none"> • Ranges list 	Codes are grouped by code name into ranges plus delimiter, for example: 5510-5512, 5515
Data Format	Specify output file format, .xls or .csv	
Fields Delimiter	Set delimiter for fields if you've chosen .csv	
With headers row checkbox	Include column names into the file	
Codes from code deck checkbox	Allows you to additionally filter the export by selecting only codes which are present in specified Code Deck	
Header text / Footer text	Allows you to additionally put some text into exported file as header and footer, respectively	



Tip

You may save settings as a template of Rate Notification. But note that reseller's rate notification template will be overridden by existing rate export template.

Step 3. Selecting Columns To Export

Here you can select from the drop-down list of maximum 16 columns to export:

Field	Description
Code / ode Name	Code / code name of rates
Effective Date	Start date before which the rate will not be used
Rate	Price per unit, specified in respective service settings
Min Volume	Minimal time interval of tariffed calls
Interval	Tariffication interval
Grace Volume	Free of charge unit
Setup Fee	An initial fee that is charged when event duration is longer than 0 seconds
Profile	Time profile (<i>all time, business time, non-business time, weekends</i>)
End Date	Final date after which the rate will expire
Previous Rate	Last rate in usage
Prev Diff	Cost changes of the rates
Prev Diff Status	Difference between current rate and the previous one
Prev Diff Status (export)	Rate's changes after the last export. Shows the status how current rate differs from previous one. The rate will have an unchanged status if the Effective Date of rate is lower than the Last Notification Date

Step 1: Notification type: All rates unique mode - First Notification: 07/07/2017						
Code	Rate	Effective Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	10	07/01/2017 00:00:00 +0000	-	-	new	unchanged
2	10	07/01/2017 00:00:00 +0000	-	-	new	unchanged
3	10	07/01/2017 00:00:00 +0000	-	-	new	unchanged
Step 2: Added new rates with effective date 07/21/2017 - Second Notification: 07/14/2017						
Code	Rate	Effective Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
2	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
3	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
Step 3: Rate with code 1 was edited and the increase was canceled - Third Notification: 07/21/2017						
Code	Rate	Effective Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	10	07/21/2017 00:00:00 +0000	10	0	unchanged	unchanged
2	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
3	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
Step 4: Rate with code 2 was edited and added a new rate for code 3 - Fourth Notification: 07/28/2017						
Code	Rate	Effective Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	10	07/21/2017 00:00:00 +0000	10	0	unchanged	unchanged
2	20	07/21/2017 00:00:00 +0000	10	10	increased	unchanged
3	20	07/31/2017 00:00:00 +0000	15	5	increased	increased (5.0000)
Notes	Additional information about rate					
Tag	Tag, assigned to a respective rate					
Policy	Rate policy (<i>additive</i> or <i>regular</i>)					
Status	Rate status					

Click on **Process** button and save exporting file when you finish configuring the parameters.

 **Tip**

Rates sorting will be made by the very first column. For example, if you want rates to be sorted by A-Z destination name than make **Code Name** your first column.

Please note that for reseller's rate notification existing rate export template settings have higher priority than personal .

Parameters

This tab allows you to modify settings that you entered while creating a current Rate Table. Moreover, you can enable **Automatic Email Import** checkbox for an automatic rate tables import from emails.

Screenshot: Parameters tab

Information block	Fields description	
General Settings	General rate table information	
	<ul style="list-style-type: none"> • Name 	Name of the rate table
	<ul style="list-style-type: none"> • Reseller 	Reseller whom this rate table belongs to
	<ul style="list-style-type: none"> • Src Code Deck 	Indicate a code deck that contains source codes and code names
	<ul style="list-style-type: none"> • Dst Code Deck 	The deck that consists of a list of destination codes and a destination names
	<ul style="list-style-type: none"> • Currency 	Currency, specified for this rate table
	<ul style="list-style-type: none"> • Rates Include Taxes checkbox 	If the field is checked, taxes are already included in rate value. Otherwise, taxes will be added to rate value as an additional invoice item
<ul style="list-style-type: none"> • Description 	Additional information concerning the current rate table	
Automatic Email Import checkbox	Data used for automatic rates import into current rate table (see Automatic Email Import article)	
Extra	Information concerning the date of the rate table creation and last editing	

Automatic Email Import

In this article

- [Automatic Email Import](#)
- [Creating Import Template](#)

Automatic Email Import

This option allows user to import rate tables from automatically emails. It means that the rate table data will be automatically updated by the data, taken from specified email-box, using a defined template. To activate this tool, go to the **Rate tables > Parameters** tab, enable the **Automatic Email Import** checkbox and fill in all fields.

Screenshot: Automatic Email Import checkbox

Field	Description
Data Source	Specify a data source (IMAP connection type only), where import files are located
Sender Match	Specify a sender name or email address for searching
Subject Match	Define a regular expression for searching of specific mail titles
Import Template	Specify an import template

Creating Import Template

Attention

Please note that **Automatic Email Import** will not work without specified **Import Template**


The process of creating an **Import Template** is quite simple. Firstly, you should import at least one rate table.

Secondly, during importing a rate table on the second step of importing process, you need to specify template name and press **Save Template** button (see screenshot below). After the importing process will be finished, a new rate table template will be added and seen in templates list in respective field.

Screenshot: Rates importing process. Step 2

Rates
Simulate
Import
Import History
Export
Parameters
RT ORIG - Rose [USD]

STEP 1: FILE SETTINGS



Selected file: **new_rts.csv**
Choose a file or drag it here

Import Template:
 Delimiter: **autodetect**
 Auto Confirm: **Disabled**


STEP 2: IMPORT SETTINGS

Sheet 1 ▼

1201	United States	0,99	01/10/2018 00:00:00 +0000		<input type="checkbox"/>
1202	United States	0,99	01/10/2018 00:00:00 +0000		<input type="checkbox"/>
1203	United States	0,87	01/10/2018 00:00:00 +0000		<input type="checkbox"/>
1205	United States	0,87	01/10/2018 00:00:00 +0000		<input type="checkbox"/>
1206	United States	0,87	01/10/2018 00:00:00 +0000		<input type="checkbox"/>

[More rows](#)

CODE RULES

Dst Code	Service	Effective Date	Profile	Min	Int	Extra	
*	Calls	2018-07-26 00:00:00+0000	all time	1	1	regular	


New Import Template
Save Template
Import

Invoices

In this article

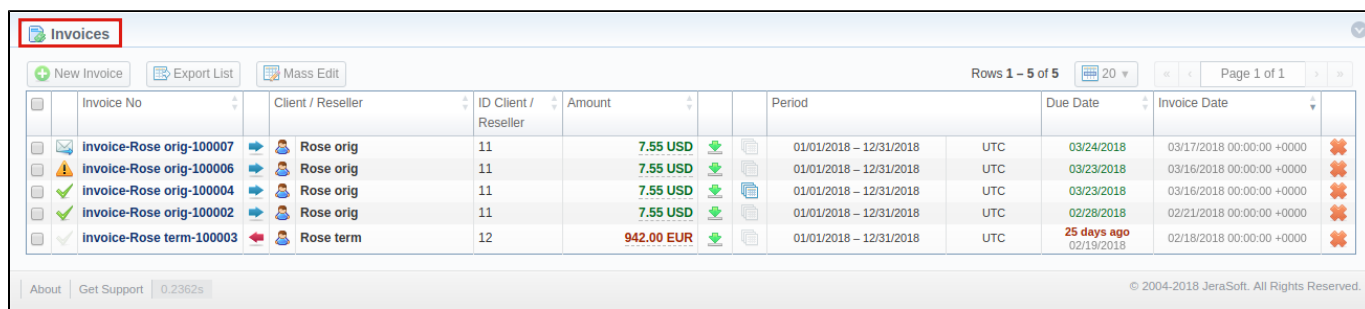
- [Invoices List](#)
- [Advanced Search](#)
- [Creating New Invoice](#)
- [Mass Editing](#)
- [Differences in totals](#)

Invoices List



Since an invoice is an ultimate tool for controlling the volumes of provided services and their prices, the **Invoices** section of JeraSoft VCS is a staple instrument for managing your business. It allows you to create and administer all outgoing and incoming invoices. By clicking on the **Download**  icon, you can export and view respective invoice. By using the **Export List** option, you can download a currently stored list of invoices in a **.csv** format.

The section is presented in a form of a table of all invoices with the following columns:

Screenshot: Invoices section main window














Invoice No	Client / Reseller	ID Client / Reseller	Amount	Period	Due Date	Invoice Date
invoice-Rose orig-100007	Rose orig	11	7.55 USD	01/01/2018 – 12/31/2018	03/24/2018	03/17/2018 00:00:00 +0000
invoice-Rose orig-100006	Rose orig	11	7.55 USD	01/01/2018 – 12/31/2018	03/23/2018	03/16/2018 00:00:00 +0000
invoice-Rose orig-100004	Rose orig	11	7.55 USD	01/01/2018 – 12/31/2018	03/23/2018	03/16/2018 00:00:00 +0000
invoice-Rose orig-100002	Rose orig	11	7.55 USD	01/01/2018 – 12/31/2018	02/28/2018	02/21/2018 00:00:00 +0000
invoice-Rose term-100003	Rose term	12	942.00 EUR	01/01/2018 – 12/31/2018	25 days ago 02/19/2018	02/18/2018 00:00:00 +0000


Column Name	Description
Invoice No	Number of invoice
Client /Reseller	Name of a respective Client or Reseller. <div style="background-color: #e0ffe0; padding: 5px; border: 1px solid #c0ffc0;"> <p> Tip You can create an invoice for a root Reseller</p> </div>
ID Client/Reseller	Client or Reseller identification number
Amount	Total sum of invoice
Period	Invoice period
Due Date	Determined due date of invoice
Invoice Date	Date of the invoice creation <div style="background-color: #e0ffe0; padding: 5px; border: 1px solid #c0ffc0;"> <p> Tip When you leave the Invoice Date field empty, it will be identical to the time of an invoice creation. In case you determine it, the system sets the midnight of a specified day</p> </div>

Functional buttons and icons, presented in the section are as follows:

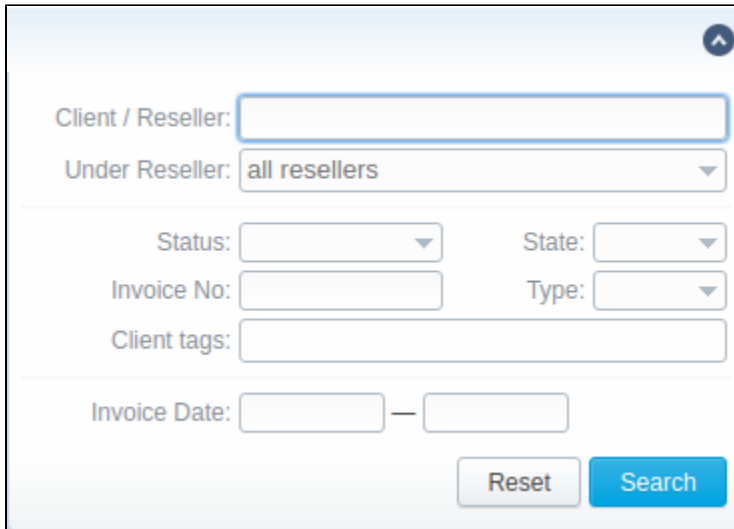
Buttons/Icon	Description
--------------	-------------

 New Invoice	Allows creating a new invoice in the system
 Export List	Allows exporting a list of invoices in a .csv file
 Mass Edit	Allows management of state for the selected invoices on the list
	Indicates normal state meaning that respective invoice was paid in full. If the invoice is not fully paid, this icon will be grey
	Defines to verify state meaning that this invoice is waiting to be checked before it is sent to a client
	Defines to send state meaning that invoice is in sending queue
	Indicates outgoing invoice
	Indicates incoming invoice
	Allows downloading respective invoice file in .csv format
	Allows downloading an xDR file, if one is attached to the invoice. If there is no attached xDR file, this icon will be grey
	Allows deleting a respective invoice from the list

Advanced Search

To filter data in the section, use the Advanced Search drop-down menu, which can be accessed by pressing a blue downwards arrow  icon in the top right corner of the screen.

Screenshot: Advanced Search drop-down menu



The screenshot shows an Advanced Search form with the following fields and controls:

- Client / Reseller:** A text input field.
- Under Reseller:** A dropdown menu currently showing "all resellers".
- Status:** A dropdown menu.
- State:** A dropdown menu.
- Invoice No:** A text input field.
- Type:** A dropdown menu.
- Client tags:** A text input field.
- Invoice Date:** Two date input fields separated by a hyphen.
- Reset:** A button to clear the search filters.
- Search:** A blue button to execute the search.

Creating New Invoice

Invoices are created through the **New Invoice** button. When you click on it, a pop-up window shows up:

Screenshot: Create Invoice window

Invoices

Client / Reseller:

Period: —

Type:

Currency:

Invoice No:

State:

Invoice Date:

Due: days

Included Charges:

Comments:

Action:

Template:

Field	Description
Client /Reseller	Name of the <i>client</i> or <i>reseller</i>
Period	Define period of statistics that will be included into an invoice
Type	Specify the type of invoice: outgoing or incoming
Currency	Select an invoice currency from a drop-down menu
Invoice	Number of Invoice. The number length can't exceed 200 symbols
State	Select the state for a new invoice: <ul style="list-style-type: none"> • normal - use this state to indicate that an invoice is paid • to send - use this state to indicate that an invoice is paid, but not verified yet • to verify - use this state to indicate that an invoice is created but has not been sent to a client yet
Invoice Date	Specify the actual invoicing date
Due (days)	Define a number of days when an invoice is expected to be paid
Included Charges	<p>Select the type of charges for invoices:</p> <ul style="list-style-type: none"> • uncovered - all charges that are not included in any previous invoice; • covered - all charges already included in the previous invoice; • pending - all pending charges. <p>Please note, these charges don't include calls. Therefore, <i>call</i> charges will be added to any invoice regardless the Included Charges settings.</p> <div style="background-color: #e0ffe0; padding: 5px; margin-top: 10px;"> <p> Tip</p> <p>It's not possible to include a charge twice with standard settings. To re-include already used charge in the invoice, you need to combine uncovered + covered parameters in the Included Charges field.</p> </div>
Comments	Specify additional information if necessary
Action	Select one of two available actions:

<p>Generate new invoice</p>	<p>A new invoice will be generated, based on predefined templates in the Invoices Templates section. To select a target template, select it from the drop-down menu in the Template field</p>
<p>Attach existing invoice</p>	<p>If this option is selected, the following additional fields are displayed:</p> <ul style="list-style-type: none"> • Attach Invoice - allows user to attach an additional invoice • Attach xDR - allows to attach an additional xDR file in .csv format • Events Amount - indicate a total amount, charged for services (calls, SMS, data, etc.) traffic • Other Amount - indicate a total amount, charged for any other events (e.g., package fees)

Tip

All automatically created invoices will have **to verify** state. To send an invoice to a client, you will need to change the state to **to send manually!**

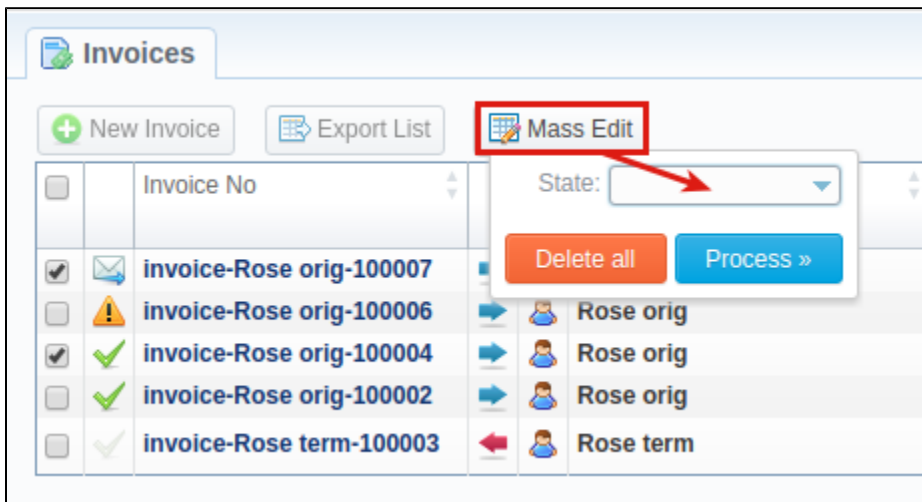
Warning

When generating invoices under **one reseller** for **different clients**, it is recommended to wait till the invoice for one client will be generated and only after that start generating the other one (avoid generating them simultaneously). That is important to avoid the situation of having **invoices with an identical number** in the system.

Mass Editing

To change invoices **state** easily, use the **Mass Edit** button (screenshot below). First of all, you need to select invoices, for which state should be changed, then specify a state from a drop-down list, and press **Process** for applying the change. Also, using the following window, you may delete all marked invoices by pressing the **Delete all** button.

Screenshot: Mass Edit button



Attention

Please note:

1. While generating invoices, the system sorts packages in invoices by numbers. The names of packages could include numerical symbols. Please use numerical symbols like **001 name, 002 name, etc.** in names of packages, and avoid names with special symbols like **%001 name, -001 name**.
2. Currency rate of extra charges will be taken on the **date of charge, not on the date of invoicing**.

You can **include specific charges by ID** in the invoices (only for API). You can check the ID for extra charges and packages in the **Transactions section**. Then you need to add the variable **charges_list** with respective values in the **Parameters** field of the **API Testbed** section (see screenshot below):

Screenshot: API Testbed settings

API Testbed

API SERVER

JSON-RPC URL:

API METHOD

Module: Management / Invoices

Action: make

AUTHENTICATION

Login: admin

Password:

PARAMETERS

```
{
  "charges_list": {
    "0": "437",
    "1": "428",
    "2": "390",
    "3": "370",
  },
  "descr": "",
  "make_type": "generate",
  "id_invoices_templates": "12",
  "attach": "",
  "total_stats": "0",
  "attach_cdr": ""
}
```

Send Request

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Differences in totals

You may have noticed, while creating different reports, like the [Summary report](#), [xDRs list](#), etc., and then generating an invoice, you can get different totals. Here is a little background on what makes those differences.

Due to the **Included Calls** (*Attach xDRs list to the invoice* settings in the **Invoice Templates**, you can create an invoice based on different types of calls :

- **All payable** - includes calls with any duration that have non-zero costs and use packages
- **Non-zero payable** - includes calls with non-zero duration that have any cost and use packages

Therefore, invoice totals depend on the selected parameters and settings. For example, whether to include calls with any cost/duration/package or not. However, when you generate a report, the statistics is usually based on all calls. As the result, a difference between invoice and report totals appears; even when an invoice has completely another totals vs report data.

⚠ Attention

The invoice and report totals could differ if you made a re-rating for a previous invoice period or the statistics were updated.

You may also need to know how **totals are rounded and calculated** in invoices. To get more information, follow this [link](#) or read about the general principals of rounding in VCS in [this article](#).

Besides, take a note of **currency settings**: there you may specify number of symbols that will be displayed in all reports with cost and rate values in the statistics. Also, it will be shown in the invoices, except total values (totals **always have 2 decimal places** in invoices).

- **Rates precision** - the number of decimal places for rates formatting.
- **Details precision** - the number of decimal places for detailed monetary values formatting. This precision is used for all reports except xDR report.
- **Totals precision** - the number of decimal places for total monetary values formatting.

Error rendering macro 'contentbylabel'

parameters should not be empty

Transactions

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding New Payment/Charge](#)
- [Exporting and Importing of Transactions](#)

Section overview

This section allows a user to perform and trace all the financial operations regarding client's/reseller's balances. The section offers an overview of every single transaction performed in the system regardless of whether it's a payment or charge, and provides a wide variety of functionality for transactions management. Since the transactions section is a key tool for managing client's/reseller's balances, it's inseparable from the following sections of the system: [Clients](#), [Invoices](#), [Resellers](#), etc.

Transaction charges will be created according to the **configurations of Tax Profiles, Rate Tables** (including tax or not) and the **next parameters**:

- invoice time (transaction date);
- client ID;
- currency ID;
- positive or negative amount.

✓ Tips

- In case you change one of the parameters listed above and the rerating is done, you might have additional transactions (with zero or non-zero taxes).
- When a customer has calls with and without taxes for the same hour, two charges will be listed in the transactions section: one charge with taxes and second one without taxes.
- If you see a transaction with a tax represented as a dash (), it means that all taxes were included in rate tables.

The section is presented in a form of a table of all conducted transaction with the following columns:

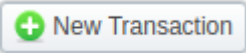
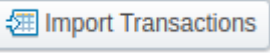
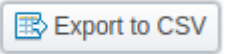






Screenshot: Transactions section main window

ID	Payment Account	Client / Reseller	Client ID	Amount	Taxes	Description	Transaction Date	Author
74	Payment: General	Rose orig	11	20.00 USD	—		02/20/2018 16:37:06 +0000	admin
10	Charge: Services	Rose orig	11	-7.55 USD	0.00 USD		02/19/2018 14:00:00 +0000	
2	Payment: General	Rose orig	11	50.00 USD	—	PAYMENT FOR Rose Orig	02/19/2018 00:00:00 +0000	
6	Charge: Products Fees	Rose orig	11	-15.00 EUR	-1.50 EUR	Package activation payment: Package EUR Calls money	12/31/2016 23:59:59 +0000	
7	Charge: Products Fees	Rose orig	11	-10.00 USD	-1.00 USD	Package activation payment: Package USD Calls money	12/31/2016 23:59:59 +0000	


Column Name	Description
ID	A payment through ID number
Payment Account	Shows respective payment account, related to a performed payment or respective charge type, such as <i>calls</i> , <i>products</i> , <i>extra charges</i> (each type has visual representation in a form of respective icon)
Client / Reseller	Displays the name of a client or reseller that was engaged in payment operation
Client ID	Customer's identity
Amount	The respective payment operation sum
Taxes	Amount of taxes

Description	Comments about a respective payment
Transaction Date	Displays respective payment date, related to a performed payment
Author	Name of the user who performed the latest transaction (regardless whether it's a payment or charge)

The list of **functional buttons/icons** is as follows:

Button/Icon	Description
	Allows to create a new transaction
	Allows to import user's transactions into the system
	Allows to download a list of transactions in a .csv file
	Indicates the type of transaction - payment
	Indicates the type of transaction - extra charges
	Indicates the type of transaction - services charges
	Indicates the type of transaction - packages fees
	Indicates that transaction is approved
	Allows to delete a transaction from the system. Requires confirmation


Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on a blue downwards arrow  icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu

Attention

Author column is going to be filled only if a transaction has been added **manually** by a user through the **Transactions** section in **JeraSoft VCS** or the **Refill Balance** page on **JeraSoft Client Portal**. In case a transaction is automatically generated by the system, the **Author** column will be empty.



Client:

Payment Account:

Type:

Status:

State:

Date: -

Field	Description
Client	Indicate a client you wish the section to be filtered by

Payment Account	Select from the list of all payment accounts in the system
Type	Select a type of transaction: <ul style="list-style-type: none"> • Payment • Charge
Status	Select from the list of transaction statuses: <ul style="list-style-type: none"> • Pending • Approved
State	Indicate whether you wish payments covered by the invoices to be displayed by selecting from the list: <ul style="list-style-type: none"> • Covered • Uncovered
Date	Specify the date in the date picker Alter filling in the fields, press Search to filter section data or Reset to clear search results.

Adding New Payment/Charge

To add a payment, press the **New Transaction** button. In the appeared pop-up window, specify the following parameters and click **Apply**.

Screenshot: New transaction settings

Field name	Description
Client	Indicate a target client
Type	Specify a type of transaction. For incoming transactions, select the Payment operation type, for outgoing – select Charge .

Payment Account	<p>Choose a respective account from the drop-down list of all available payment accounts. For a charge type, you can select:</p> <ul style="list-style-type: none"> • extra charges outgoing; • extra charges incoming. <p>⚠ Attention</p> <p>Please note that you will have the same type of payment account in invoices. So, you can choose where the following charge will be shown in an outgoing/incoming invoice.</p> <p>For example, if you want to give a refund to the client, please select an extra charges outgoing, it will guarantee that this charge will be visible in the invoice.</p>
Amount	<p>Insert an amount of the transaction, which can be positive or negative:</p> <ul style="list-style-type: none"> • positive amount is credited to a client; • negative amount is debited from a client. <p>✔ Tip</p> <p>Transaction amounts could be specified with a comma as a decimal delimiter. For example, 2,45.</p> <p>If your transaction type is Charge, you can choose whether a specified amount includes a tax or not by choosing a respective value in the drop-down list:</p> <ul style="list-style-type: none"> • no taxes; • including taxes; • excluding taxes. <p>The TAX rate is based on the tax profile of the client's reseller.</p>
Transaction Date	Indicate the actual date of the transaction in a date picker
Description	Notes for a new transaction
System Info	Here you can add system information for transactions. Also, it's possible to add a variable in the invoices templates. Then, the variable will display this info for extra charges.
Status	<p>Define the state of the transaction:</p> <ul style="list-style-type: none"> • pending • approved <p>✔ Tip</p> <p>If you change transaction status in the respective field from Approved to Pending when adding a payment, this payment will have to pass additional approval check by a billing operator</p>

⚠ Attention

When a customer has 2 calls (with and without taxes) for the same hour, **two charges** will be listed in the transactions: *one charge with taxes* and a *second one - without taxes*. In case you change one of the parameters listed above and the re-rating is done, you might have additional transactions.

If you see a transaction with a **tax represented as a dash ()**, it means that all taxes were included in rate tables.

When the **Reseller owns a payment account**, transactions for this account can be created for Clients and Sub-Resellers belonging to this Reseller. However, transactions of this Reseller (owner of the account) can not be assigned to this payment account.

Exporting and Importing of Transactions

By clicking the **Export to CSV** button, you will be able to export all currently stored payments in a **.csv** file.

You can easily perform an import of payments by clicking **Import Transactions** and following on-screen instructions:

Step 1: Selecting a File and Specifying Additional Parameters

Upload a file from your computer, indicate such default parameters as: **Transaction Date, Currency, Payment Account, Date and Time Format**, and click the **Process** button.

Screenshot: Transactions importing process. Step 1

Transactions

SELECT FILE (STEP 1 OF 3)

Select file to import: Choose File No file chosen

DEFAULT VALUES

Transaction Date:

Currency:

Payment Account:

Date Format:

Time Format:

Close
Process

Step 2: Recognizing The File

The system will recognize the file and you need to select 3 mandatory columns: **Client Info, Amount, and Transaction Date**. Following this, click **Process** >> again.

Screenshot: Transactions importing process. Step 2

SELECT COLUMNS (STEP 2 OF 3)

ID	Transaction Date	Client / Reseller	Client ID	Client Info	Amount	Taxes	Currency	Description	Status	Author	Skip
129	02/21/2018 16:00:11 +0000	Rose term	12	Client Info Amount	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
128	02/21/2018 15:50:07 +0000	Rose term	12	Description Transaction Date	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
124	02/21/2018 15:10:07 +0000	Rose term	12	Charge: Products Fees	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
123	02/21/2018 15:00:06 +0000	Rose term	12	Charge: Products Fees	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
121	02/21/2018 14:56:19 +0000	Rose orig	11	Charge: Extra Charges Outgoing	20,00	2,00	USD		approved	admin	<input type="checkbox"/>
119	02/21/2018 14:53:38 +0000	Rose orig	11	Charge: Extra Charges Incoming	12,00	1,20	USD		approved	admin	<input type="checkbox"/>
122	02/21/2018 14:50:06 +0000	Rose term	12	Charge: Products Fees	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
117	02/21/2018 14:41:09 +0000	Rose orig	11	Charge: Extra Charges Outgoing	18,18	1,82	USD		approved	admin	<input type="checkbox"/>
118	02/21/2018 14:40:07 +0000	Rose term	12	Charge: Products Fees	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
115	02/21/2018 14:38:50 +0000	Rose orig	11	Payment: General	-10,00	0,00	USD		approved	admin	<input type="checkbox"/>
116	02/21/2018 14:30:07 +0000	Rose term	12	Charge: Products Fees	-6,00	0,00	EUR	Package periodical payment: Package DID	approved		<input type="checkbox"/>
113	02/21/2018 14:26:03 +0000	Rose orig	11	Charge: Extra Charges Outgoing	-13,00	0,00	USD		approved	admin	<input type="checkbox"/>

« Return
Process »

Step 3: Checking The Rows

Having specified the required columns, you need to check the rows to make sure that no mistake has been made. On doing it, click **Process**>> to finish the importing process.

Screenshot: Transactions importing process. Step 3

Transactions									
CHECK ROWS (STEP 3 OF 3)									
	Identified by	Transaction Date		Client Info		Amount			Skip
		Original	Parsed	Original	Parsed	Original	Parsed	Currency	
✓	Client Name	2018-02-21 16:00:11+0000	2018-02-21 16:00:1	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 15:50:07+0000	2018-02-21 15:50:0	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 15:10:07+0000	2018-02-21 15:10:0	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 15:00:06+0000	2018-02-21 15:00:0	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:56:19+0000	2018-02-21 14:56:1	Rose orig	Rose orig	20	<input type="text" value="20"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:53:38+0000	2018-02-21 14:53:3	Rose orig	Rose orig	12	<input type="text" value="12"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:50:06+0000	2018-02-21 14:50:0	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:41:09+0000	2018-02-21 14:41:0	Rose orig	Rose orig	18.18	<input type="text" value="18.18"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:40:07+0000	2018-02-21 14:40:0	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:38:50+0000	2018-02-21 14:38:5	Rose orig	Rose orig	-10	<input type="text" value="-10"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:30:07+0000	2018-02-21 14:30:0	Rose term	Rose term	-6	<input type="text" value="-6"/>	USD	<input type="checkbox"/>
✓	Client Name	2018-02-21 14:26:03+0000	2018-02-21 14:26:0	Rose orig	Rose orig	-13	<input type="text" value="-13"/>	USD	<input type="checkbox"/>

« Return

Process »

Balance Report

In this article

- [Section overview](#)
- [reating New Balance Report](#)
- [Simple scheme: how to generate a balance report](#)
- [Creating Query Template](#)
- [Export Generated Report](#)


Section overview








Balance report section is a helpful balance analysis tool aimed at making the control over your funds as painless as it can possibly be. It shows a full history of client's charges and payments for the selected period and provides a possibility to export the report data to **.csv**, **.xls** or **.xlsx** files depending on your preferences.

Screenshot: Balance Report query form

reating New Balance Report

To create a new summary report, you need to fill in the following parameters in the form and press **Query** button:

Information block	Field Description
Filters	On the Filters menu, select required parameters for the report. To cancel any filter, click on the delete  sign next to the filter. You can start a quick search by typing filters' names in the bar at the top of drop-down menu with filters.
	Period Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Mode Select a balance mode to show a respective set of data <ul style="list-style-type: none"> • Accountant - this mode is compiled by invoices and payments, it shows fixed balance • Live balance - this report mode is compiled by payments and charges, it shows live balance
	Client Type Choose the system entity for the report from the following <ul style="list-style-type: none"> • Client • Reseller • Calling Card • Call Shop
	Group By Select from the list of following accessible options to group the data in reports: <ul style="list-style-type: none"> • Time: Month, Date. • Document: Client ID, Payment Account ID.
	Additional Filters
	Client Define an origination client for the report
Payment Account Enter a target payment account for the report	

Output	<p>This form contains settings of the output data of the report.</p> <p>Click plus  sign next to Columns and select required columns in order to add them to Output information block. Also, you can cancel any chosen item.</p>	
	<p>Accessible columns in the report</p>	
	<p>There are following columns to add in the report:</p> <p><i>Client, Client ID, Payment Account, Document Icon, Document Info, Start Balance, Debit, Credit, End Balance, Type, NO, Notes, Date.</i></p>	
	<p>Document</p>	
	Client	Name of the client / reseller / calling card / call shop for that current operation is assigned to
	Client ID	Client identification number that is also present in the full list of Transactions and Invoices .
	Payment Account	Respective payment account, used for the indicated transactions
	Document Icon	<p>File icons that generally display a type of the document in the report:</p> <ul style="list-style-type: none"> • This icon  shows different payments in the system. • This icon  defines extra incoming/outgoing charges. • This icon  means different charges or payments of the calls. • This icon  represents payments of the packages. • This icon  displays service charges. • This icon  represents the invoices in the system.
	Document Info	The document that an operation corresponds to (charge, payment, invoice, etc.)
	Type	Indicated type of document
	NO	Number of transactions
	Notes	Notes indicated in the comments of transactions or in invoices
	Date	An operation date
	<p>Amount</p>	
	Start Balance (report)	Start client's balance prior to respective operation, displayed in report currency
	End Balance (report)	Final client's balance after respective operation, displayed in report currency
	Debit (report)	Operation sum that has positive income (incoming payment / invoice), displayed in report currency
	Credit (report)	Operation sum that has negative income (outgoing payment / invoice), displayed in report currency
	Start Balance (client)	Start client's balance prior to respective operation, displayed in client currency
	End Balance (client)	Final client's balance after respective operation, displayed in client currency
	Debit (client)	Operation sum that has positive income (incoming payment / invoice), displayed in client currency
	Credit (client)	Operation sum that has negative income (outgoing payment / invoice), displayed in client currency
	Client Currency	Currency, indicated in client's profile
	<p>Other output settings</p>	

<p>Type</p>	<p>Choose a format of the report from a drop-down list: Web / CSV / Excel XLS / Excel XLSx.</p> <p>Also, a kind of table view:</p> <ul style="list-style-type: none"> • Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse it <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>Please note that Grouped type of table view is available only for Excel XLSx and Web formats, it doesn't work with CSV and Excel XLS.</p> </div>
<p>Send to</p>	<p>You can send generated reports via email. Also, it is possible to specify several emails.</p> <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV / Excel XLS / Excel XLSx formats of the report, although it doesn't work with Web.</p> </div>
<p>Currency</p>	<p>Specify a currency for the report. And all values will be automatically converted in the report to the specified currency.</p>

Screenshot: Balance Report section

Balance Report

Document

- Client
- Payment Account

FILTERS

Period: ▼ This Month | 2018-04-01 00:00:00 — 2018-04-30 23:59:59 | UTC ▼

Mode: Accountant ▼

Client Type: Client ▼

Group By: ▼

Save Query Query

OUTPUT

Type: Web ▼ | Plain ▼

Currency: USD ▼

Export to CSV
Export to XLSx
⌵

Client	Client ID	Payment Account	Document Info	Start Balance (report)	Debit (report)	Credit (report)	End Balance (report)	Start Balance (client)	Client Currency	Debit (client)	Credit (client)	End Balance (client)
N/A	N/A	N/A		0.0000 USD		125.0000 USD	-125.0000 USD	0.0000	N/A			0.0000
Rose orig	11	General	Payment 2 PAYMENT FOR Rose Orig	0.0000 USD		50.0000 USD	-50.0000 USD	0.0000 USD	USD		50.0000 USD	-50.0000 USD
Rose term	12	General	Payment 1 PAYMENT FOR Rose Term	-50.0000 USD		75.0000 USD	-125.0000 USD	-50.0000 EUR	EUR		150.0000 EUR	-200.0000 EUR

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⚠ Warning

Please note, the system shows rounded values in the reports. But while calculating the system takes an exact value. Hence, the procedure of the rounding is following:



- system rounds currency values according to the settings of a respective currency;
- other parameters are rounded to the nearest ten thousandth. For example, 3.879256 to 3.8793.

Simple scheme: how to generate a balance report

In order to create a simple report you need to:

- On the **Filters** menu, select target parameters for the report.
- Enter the interval and specify a timezone
- Select the **Mode** and **Client Type**.
- Specify parameters in the **Group By** field, for example, **Client ID**.
- Then, choose columns in the **Output** form, for example, **Client, Payment Account, Document Icon, Document Info, Start Balance, Debit, Credit, End Balance, Date**.
- Specify **Type** field or leave its default settings (Web / Grouped)
- Click the **Query** button.


Tip

- If the data is grouped in the report, it will be shown initially collapsed. To expand or collapse data in your report, click the  plus or  minus signs.
- Please note, the **Order By** option is active when the **Type** of the Output form is **Plain**. When it is **Grouped**, the data is only sorting by values specified in the **Group By** field.

Creating Query Template

To create a template for reports and save specified parameters, click on **Save Query** button. A pop-up window with settings will appear, and you need to fill in the following form:

Screenshot: New Query Template form

Information block	Description
Balance Report	Here you can specify parameters for the template that will be used while running reports
	Title Specify a name of the template
	Reseller Indicate a Reseller for the report template
	Visibility Define who can review this template: <ul style="list-style-type: none"> • Public - anyone can view this template • Private - only template owner can view it
Watch	This tool allows to automatically generate reports at the appropriate time and send the results to the list of emails.
	 Attention Please note that this tool is not available for Web output type, only for CSV / Excel XLS / Excel XLSx .
	Recipients Specify recipients: it can be your own email, other users of the system or even 3rd parties
	Run Time Define an appropriate time to automatically generate a report. It could be several times, for example: 10:00, 12:00, 18:00
	Days of Week Indicate days of the week to automatically generate a report. For example, you can run a report only on Monday or each day of week
Report Query	Here you need to specify filters that will be used for generating a correct report and choose the output type to view the report.

To load already existing templates while generating statistic reports, click **Load Query** button.

Export Generated Report

You can export data to **XLSx** or **CSV** file, which contains currently presented data by pressing **Export to XLSx** or **Export to CSV** button, respectively. Please note that **Export to CSV** is available only when the **Type** of the output is **Plain**.

Screenshot: Balance Report section

Balance Report

Document

Client

Payment Account

FILTERS

Period: This Month | 2018-04-01 | 00:00:00 — 2018-04-30 | 23:59:59 | UTC

Mode: Accountant

Client Type: Client

Group By:

Save Query
Query

OUTPUT

Type: Web | Plain

Currency: USD

Export to CSV
Export to XLSx
Info

Client	Client ID	Payment Account	Document Info	Start Balance (report)	Debit (report)	Credit (report)	End Balance (report)	Start Balance (client)	Client Currency	Debit (client)	Credit (client)	End Balance (client)
N/A	N/A	N/A		0.0000 USD		125.0000 USD	-125.0000 USD	0.0000	N/A			0.0000
Rose orig	11	General	Payment 2 PAYMENT FOR Rose Orig	0.0000 USD		50.0000 USD	-50.0000 USD	0.0000 USD	USD		50.0000 USD	-50.0000 USD
Rose term	12	General	Payment 1 PAYMENT FOR Rose Term	-50.0000 USD		75.0000 USD	-125.0000 USD	-50.0000 EUR	EUR		150.0000 EUR	-200.0000 EUR

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Attention

- You can check an **actual date interval** of the report by clicking on **Info** icon, and it could be different from **the Interval** specified above if there is no date for the period.
- When you export the file from the Balance Report in **Excel XLS/CSV** formats, values will be displayed in the report currency. The client and transaction currencies will not be shown in the exported file.

Error rendering macro 'contentbylabel'

parameters should not be empty

Resellers

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding New Reseller](#)
- [Adding New Manager](#)
- [Reseller Removal](#)
- [Custom Fields](#)
- [Rates Notifications](#)
- [Configuration Syntax](#)
- [Knowledge Base Articles](#)

Section overview

Reseller in JeraSoft VCS, in the majority of cases, is a company who has a certain amount of [clients](#) and governs their activities in the system. As any company, it can have a range of managers, each responsible for a certain group of company clients. Manager has a limited functionality: doesn't have his own balance, therefore, cannot perform any transactions; neither origination, nor termination rate table cannot be assigned to him, etc. **Resellers** section is designed to provide a user with a possibility to **track and manage his company information and activity, build hierarchy of company affiliates, or assign its managers**. Section is presented in a form of table with the following columns:







Screenshot: Resellers section

ID	Name	Available Balance	Clients	Cards	Call Shops
3	Reseller 1	No Limit USD	3	114	0
20	Manager 1		0	0	0
21	Sub-manager 1		0	0	1
15	Reseller 2	0.00 USD	1	0	0

Column name	Description
ID	Reseller's/manager's identification number
Name	Name of reseller/manager
Available Balance	Reseller's available balance (live balance + credit)
Clients	Total amount of a respective reseller's/manager's clients
Cards	Total amount of a respective reseller's/manager's calling cards
Call Shops	Total number of a respective reseller's/manager's call shops

The following functional buttons and icons are present in the section:

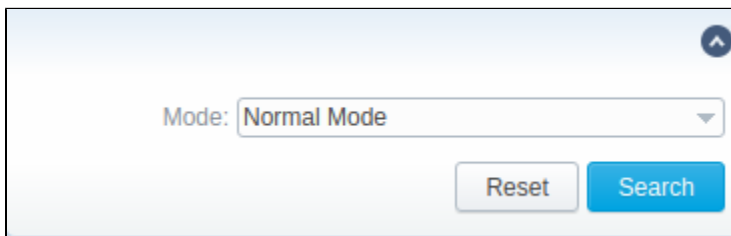
Button/Icon	Description
	Allows creating a new reseller
	Allows creating a new manager
	Allows assigning an origination rate table to a respective reseller
	Allows assigning a termination rate table to a respective reseller

	Allows viewing a list of a following reseller's/manager's users
	Allows viewing a history of changes for a respective reseller/manager in Audit log section
	Allows viewing reseller's balance operations in Transactions section
	Allows viewing a list of reseller's/manager's clients in Clients section
	Allows viewing a list of reseller's/manager's calling cards in Calling Cards section
	Allows viewing a list of reseller's/manager's call shops for a current reseller/manager in Call Shops section

Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on blue downwards arrow icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu



Field	Description
Mode	Select a mode for resellers display: To apply the specified search criteria, press Search button; to cancel the applied parameters, press Reset button. <ul style="list-style-type: none"> Normal Mode - only resellers with Active status will be displayed Archive Mode - all resellers regardless of the status will be displayed

Adding New Reseller

To add a company, you need to:



- press **New Company** button;
- fill in all required fields in the appeared pop-up window (see below) and press **OK** button.

Screenshot: Adding new company

Resellers

<p>SYSTEM INFORMATION</p> <p>Name: <input type="text" value="Reseller A"/></p> <p>Parent: <input type="text" value="...root..."/></p> <p>Currency: <input type="text" value="USD"/></p> <p>Status: <input type="text" value="Active"/></p> <p>Client's Template: <input type="text"/></p> <p>Tax Profile: <input type="text"/></p> <p>Gateways: <input type="text" value="GW Calls x"/></p> <p>TERMINATOR SETTINGS</p> <p>TERM Rates: <input type="text"/></p> <p>TERM Capacity: <input type="text"/></p> <p><input type="checkbox"/> FRAUD PROTECTION</p> <p>Notification frequency: <input type="text" value="0"/></p> <p>Skip digits: <input type="text" value="0"/></p> <p>MAIL TEMPLATE: INVOICE</p> <p>MAIL TEMPLATE: INVOICE UNPAID REMINDER</p> <p>MAIL TEMPLATE: OVERDUE REMINDER</p> <p>MAIL TEMPLATE: LOW BALANCE NOTIFICATION</p> <p>MAIL TEMPLATE: RATES NOTIFICATOR</p> <p>MAIL TEMPLATE: FACTORS WATCHER</p> <p>MAIL TEMPLATE: REPORTS WATCHER</p>	<p>ORIGINATOR SETTINGS</p> <p>Postpaid: <input type="checkbox"/> <input type="text" value="0"/> USD</p> <p>ORIG Rates: <input type="text"/></p> <p>ORIG Capacity: <input type="text"/></p> <p>INVOICING INFORMATION</p> <p>Date: <input type="text" value="Real date"/></p> <p>Template: <input type="text" value="default PDF"/></p> <p>No Tpl: <input type="text"/></p> <p>Last No: <input type="text" value="10000"/></p> <p>SURETAX SETTINGS</p> <p>Client Number: <input type="text"/></p> <p>Validation Key: <input type="text"/></p>	<p>CONTACT INFORMATION</p> <p>E-mail: <input type="text"/></p> <p>Postal Address: <input type="text"/></p> <p>Tax ID: <input type="text"/></p> <p>Reg ID: <input type="text"/></p> <p>Bank Account: <input type="text"/></p> <p>COMPANY LOGO</p> <p><input type="button" value="Choose File"/> No file chosen</p>
--	--	---

Information block	Fields Description
System Information	General information about a company
	<ul style="list-style-type: none"> • Name Specify the name of one of your companies (or affiliates). This field is mandatory.
	<ul style="list-style-type: none"> • Parent Indicate a parent for a reseller or make it a root one. By default, field value is set to root
	<ul style="list-style-type: none"> • Currency Select a preferred currency for rates and invoices from the drop-down list of available ones (see Currencies section)
	<ul style="list-style-type: none"> • Status Define a status of reseller: <ul style="list-style-type: none"> • Active • Deleted
	<ul style="list-style-type: none"> • Client Template Select a template that will be used for all clients belonging to this reseller or manager by default (see Clients Template section)
	<ul style="list-style-type: none"> • Tax Profile Indicate a tax profile that will be used for this reseller and reflected in invoices (refers to Taxes Profiles section). <ul style="list-style-type: none"> • SureTax is a tax, levied on top of another tax. It allows to manage your compliance with tax law. This profile is used for further calculation in invoices. To get more details, check out the article "US Taxation". <div style="background-color: yellow; padding: 5px; margin-top: 10px;"> <p>⚠ Attention</p> <p>For proper usage of SureTax, Invoice Number should contain only Latin and numeric characters. Max length is 40 symbols. Dst and Src Numbers should be in NPANXXNNNN (10 digits) format.</p> </div>

	<ul style="list-style-type: none"> • Gateways 	Select gateway(s) for this reseller
Terminator Settings	Reseller's billing settings for outgoing calls	
	<ul style="list-style-type: none"> • TERM Rates 	Rates for outgoing events from customers under current reseller. Enables resellers billing mode <div style="background-color: #e0ffe0; padding: 5px;">  Tip For more information about resellers billing mode, address this article </div>
	<ul style="list-style-type: none"> • TERM Capacity 	Termination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity
Fraud Protection checkbox	Enables/disables administrator notification in case of multiple simultaneous calls made to the same number from the current Reseller. <div style="background-color: #ffff00; padding: 5px;">  Attention Please note that all notifications can be found in System > Events Log. If you want to receive them on exact email, go to Configuration tab of Events Log section, and add a new rule with the indication of target email and aaa.fraud value in Tag field. </div>	
	Here you need to specify the following:	
	<ul style="list-style-type: none"> • Notification frequency 	Set minimum time in seconds between sent notifications (minimum interval must be 0 sec)
	<ul style="list-style-type: none"> • Skip digits 	Define amount of the last number digits which will be ignored when determining a destination number. For instance, with one digit for ignoring, the numbers 123456 and 123457 will be considered as the same number
Origination Settings	Current Reseller's billing settings for incoming calls	
	<ul style="list-style-type: none"> • Postpaid checkbox 	Here you can set specific paid mode for a client. Postpaid mode means that client will have unlimited credit. Otherwise, client's Balance + Credit value will be checked on RADIUS or SIP authorization. When this field is checked, Credit field become unavailable.
	<ul style="list-style-type: none"> • Credit 	Additional field next to Postpaid checkbox. User can indicate an amount of reseller's credit
	<ul style="list-style-type: none"> • ORIG Rates 	Specify rates for incoming events from customers under current reseller. Enables resellers billing mode
	<ul style="list-style-type: none"> • ORIG Capacity 	Indicate origination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity
Invoicing Information	Current Reseller's invoicing settings	
	<ul style="list-style-type: none"> • Date 	Allows you to select how system sets invoicing date: <ul style="list-style-type: none"> • Real date – sets invoicing date to actual invoicing date • Last day – sets invoicing date to date of last day of invoicing period

	<ul style="list-style-type: none"> • Templ ate 	Select an invoice template that will be assigned to reseller
	<ul style="list-style-type: none"> • No Tpl 	Allows to define default format of invoice's name
	<ul style="list-style-type: none"> • Last No 	Define last used invoice number
SureTax Settings		SureTax profile settings. SureTax is a third-party tax calculation engine. This tax calculation is based on the location of the customer's taxing jurisdiction. This profile is used for further calculation in invoices. To get more details, check out the article " US Taxation ".
	<ul style="list-style-type: none"> • Client Number 	Specify a unique number that identify an individual in the SureTax service
	<ul style="list-style-type: none"> • Validation Key 	Defien a unique validation key of the SureTax service.
Contact Information		Some additional information
	E-mail	Company's email (it is required to specify email in order to receive notifications). Use only Latin characters. This field is mandatory
	<ul style="list-style-type: none"> • Postal Address 	Company's postal address
	<ul style="list-style-type: none"> • Tax ID 	An ID of tax paying entity
	<ul style="list-style-type: none"> • Reg ID 	Company's registration ID
	<ul style="list-style-type: none"> • Bank Account 	Company's bank account info
Company Logo		Here you can add a file with company's logo. To delete the company logo, open the edit form of a respective Reseller with logo, then click the delete icon to remove the old logo.
Mail Templates		A detailed description of all Mail Templates and their configuration is presented at the end of the article

 **Attention**

- hanges of Resellers' settings will not be applied instantly. They will be automatically reloaded at the next run of **Cache Manager** service.
- **Parent Reseller** has access to all information of his **Sub-Resellers** and also can assign **any routing plan and rate table** to his **Sub-Resellers**.

 **Attention**

Email Rates Import Settings infomation block has been removed from **Resellers** settings in **VCS 3.16.0** due to introduction of **Data Source** section.

Adding New Manager

To add a manager, press **New Manager** button and after specifying required fields press **OK**.

Screenshot: Adding new manager.

Information block	Fields Description	
System Information	General information about Manager	
	• Name	Here you can specify the name of a manager. This field is mandatory.
	• Parent	Select a parent for a manager
Contact Information	Some additional information	
	• E-mail	Manager's email. Use only Latin characters.
	• Postal Address	Manager's postal address

Reseller Removal

To delete a Reseller/Manager from the system you need to **change the status** from **Active** to **Deleted** in Reseller's/Manager's profile editing form.

Screenshot: Editing reseller's status

Resellers Manager 1

SYSTEM INFORMATION

Name:

Parent:

Status:

Client's Template:

CONTACT INFORMATION

E-mail:

Postal Address:

Please note, that in fact Reseller/Manager **will not be deleted fully**, it will be put to **Archive**. To display them, use **Advance Search** (see above). To delete a profile completely, you need to press **Full Delete** bottom in this very profile editing window.

Custom Fields

- **Custom Field** is used as custom variables that will be represented as readable text in invoice templates. Custom Field allows to add an information about client.
- **Custom Package Field** is also used as as custom variables that allows adding information about package.

To add new field follow next steps:

1. Click the **Add Custom Field** button.
2. Specify **Field Key** and **Title** fields for custom item: for example: **voip_phone_sell** as Key and **VoIP Phone** as common Title which will be visible for all clients. Please note that the **Field Key must contain word characters only**.
3. Add respective notes **VoIP Phone** field in **Client's settings/Package settings > Custom Fields** tab.
4. Create an invoice template and assign it to a target reseller. Then, **Clients Custom Fields** and **Package Custom Fields** tables will appear in the **Invoice Template** settings. You simply need to add those tables in the invoice template.
5. Finally, you can generate an invoice.

Screenshot: Custom Fields

Reseller 1

CUSTOM FIELDS

Field Key	Title
voip_phone_sell	VoIP Phone

CUSTOM PACKAGE FIELDS

Field Key	Title

Rates Notifications

Rates Notification settings in **Resellers** profile allows to create **default rate notification** for clients that belong to a target reseller.

Attention

- If any rate table (**child**) in the system has the assigned **parent** rate table, clients will be notified through **Rate Notification** service about changes in **both tables**.
- If child and parent rate tables both have the rule for the same code, priority is given to a **child one**. However, if the rule in a child rate table has expired due to **End date** field value, and a parent rule is still active, notifications will regard the latter one.

Screenshot: Rates Notifications

The screenshot shows the 'Rates Notifications' configuration window for 'Reseller 1'. The window has three tabs: 'Edit Reseller', 'Custom Fields', and 'Rates Notifications' (which is highlighted with a red box). The main area is titled 'STEP 2: SPECIFY DATE AND FORMAT OPTIONS'. On the left, there are input fields for 'Date Format', 'Code Deck', 'Codes Output' (set to 'separate rows'), 'Data format' (set to 'CSV'), and 'Fields Delimiter'. There are also checkboxes for 'with headers row' (checked) and 'codes from code deck' (unchecked). Below these are sections for 'HEADER TEXT' and 'FOOTER TEXT'. On the right, there are 13 dropdown menus labeled 'Column #1' through 'Column #13'. 'Column #1' is set to 'Code', 'Column #2' to 'Code Name', and 'Column #3' to 'Rate'. At the bottom right, there are 'OK', 'Cancel', and 'Apply' buttons.

To configure these settings, open **Rate Notifications** tab in reseller profile. The structure of the tab is as follows:

Field	Description
Date Format	Specify date format in your export file. Example of field syntax: if you enter “%d-%m-%Y” here, your date will look like 25-02-2018
Code Deck	Select a code deck here to rewrite code names in export file if needed
Codes Output	Select a way, codes must be displayed
	<ul style="list-style-type: none"> • Separate rows Each code is placed into single row
	<ul style="list-style-type: none"> • Delimited list Codes are grouped by code name in a row, for example, 5510, 5511, 5512
	<ul style="list-style-type: none"> • Ranges list Codes are grouped by code name into ranges plus delimiter, for example, 5510-5512, 5515
Data Format	Specify an output file format, .xls or .csv
Fields Delimiter	Set delimiter for fields if you've chosen .csv . For .xls format this field is unavailable
With headers row checkbox	Include into the file a row with column names
Codes from code deck check box	Include only codes which are present in a specified Code Deck
Header text / Footer text	Allows you to specify additional text into exported file as header and footer, respectively

Description of all columns that could be selected for rate notification is provided below:


Column Name	Description					
Code / Code Name	Code or Code Name of respective rate					
Effective Date	Date on which a rate to be applied					
Rate	Price					
Min Volume	Minimum volume of chargeable events					
Interval	Chargeable interval					
Grace Volume	Free of charge interval					
Setup Fee	Interval of setup fee					
Profile	Time profile (<i>all time, business time, non-business time, weekends</i>)					
End Date	Date on which the rate ends					
Previous Rate	Rate used before the present time					
Prev Diff	Shows how current rate differs from a previous one after import					
Prev Diff Status	Shows how current rate's status changed in comparison to a previous one (unchanged, increased, decreased)					
Prev Diff (export)	Shows how current rate differs from a previous one after export					
Prev Diff Status (export)	Rate's changes after the last export. Shows the status how differs current rate from previous. The rate will have an unchanged status if the Effective date of rate is lower than the Last Notification Date					
Step 1: Notification type: All rates unique mode - First Notification: 07/07/2017						
Code	Rate	Effective From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	10	07/01/2017 00:00:00 +0000	-	-	new	unchanged
2	10	07/01/2017 00:00:00 +0000	-	-	new	unchanged
3	10	07/01/2017 00:00:00 +0000	-	-	new	unchanged
Step 2: Added new rates with effective date 07/21/2017 - Second Notification: 07/14/2017						
Code	Rate	Effective From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
2	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
3	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
Step 3: Rate with code 1 was edited and the increase was canceled - Third Notification: 07/21/2017						
Code	Rate	Effective From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	10	07/21/2017 00:00:00 +0000	10	0	unchanged	unchanged
2	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
3	15	07/21/2017 00:00:00 +0000	10	5	increased	increased (5.0000)
Step 4: Rate with code 2 was edited and added a new rate for code 3 - Fourth Notification: 07/28/2017						
Code	Rate	Effective From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	10	07/21/2017 00:00:00 +0000	10	0	unchanged	unchanged
2	20	07/21/2017 00:00:00 +0000	10	10	increased	unchanged
3	20	07/31/2017 00:00:00 +0000	15	5	increased	increased (5.0000)
Notes	Additional information					
Tag	Tags that are assigned to respective rate					
Policy	Indicated policy of the rate					
Status	Define a current rate status					

Configuring Mail Templates

Also, there are different mail templates you can configure in your company's profile:

Screenshot: Mail Templates

MAIL TEMPLATE: INVOICE
MAIL TEMPLATE: INVOICE UNPAID REMINDER
MAIL TEMPLATE: OVERDUE REMINDER
MAIL TEMPLATE: LOW BALANCE NOTIFICATION
MAIL TEMPLATE: RATES NOTIFICATOR
MAIL TEMPLATE: FACTORS WATCHER
MAIL TEMPLATE: REPORTS WATCHER

Template Name	Description
Mail Template: Invoice	Used when sending invoice to the customer
Mail Template: Invoice Unpaid Reminder	Used when sending payment notification to a customer (sending notification on "Notify Days(Before)")
Mail Template: Overdue Reminder	Used when sending payment notification to a customer (sending notification on "Notify Days(After)")
Mail Template: Low Balance Notification	Used when sending low balance notification to a customer <div style="background-color: #e0ffe0; padding: 5px; margin-top: 5px;"> <p> Tip</p> <p>You can add a rounding rule for client's balance while low balance notification. For example, to round up to 2 decimal places you need to add the variable <code>#{client['balance']}</code> in the Mail template: Low balance notification in reseller's settings and specify the number of rounding decimals in Totals precision field in Currencies section.</p> </div>
Mail Template: Rates Notificator	Used when sending rate changes notification to a customer
Mail Template: Factors Watcher	Used when sending notification to a customer once Preset by Factors Watcher has been added
Mail Template: Reports Watcher	Used when sending reports by email

The structure of all mail templates is identical and has the following structure:

Screenshot: Reseller/ Mail Template:Factors Watcher form

[MAIL TEMPLATE: FACTORS WATCHER](#)

From: "`#{company['name']}`" <`#{company['c_email']}`>

BCC:

Subject: Factors watcher notification `#{company['name']}`

Direction `#{direction}` blocked by: `#{reason}`

--

Autogenerated by JeraSoft VCS

Field	Description
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From	Specify name and email of company	
BCC	Specify who will receive a blind copy of an email	
Subject	Indicate email subject that may contain company name, invoice number, etc.	
Mail body	Content of the letter. On the screenshot above the following information is specified:	
	<ul style="list-style-type: none"> • Direction {direction} 	Code or Code name that will be automatically filled in by the system
	<ul style="list-style-type: none"> • Reason {reason} 	Values specified in Factors Watcher settings (for example: <i>calls_total >0</i>).

To configure any of these templates, simply click on its name. Below, you will find full list templates configuration syntax used almost in all kinds of configured mails concerning Clients and Resellers data and configuration syntax which is used in foregoing list of mail templates.

Configuration Syntax

General Configuration Syntax Concerning Client Data

Templates Configuration Syntax	Description
<code>#{client['status']}</code>	A client status: <ul style="list-style-type: none"> • Active • Deleted
<code>#{client['name']}</code>	lient's name
<code>#{client['balance']}</code>	lient's live balance
<code>#{client['balance_accountant']}</code>	lient's fixed balance
<code>#{client['credit']}</code>	lient's available credit
<code>#{client['c_company']}</code>	lient's official company name
<code>#{client['c_address']}</code>	Post address of a client's company
<code>#{client['c_email']}</code>	lient's email
<code>#{client['locale']}</code>	Client's location
<code>#{client['currencies_id']}</code>	urrency ID, used by a client
<code>#{client['tz']}</code>	Time zone of a client
<code>#{client['taxes_profiles_id']}</code>	Taxes profile's ID, used by a client
<code>#{client['tax_id']}</code>	Customers tax ID of a client's company
<code>#{client['reg_id']}</code>	Registration ID of a client's company

General Configuration Syntax Concerning Company/Reseller Data

Templates Configuration Syntax	Description
<code>#{company['status']}</code>	Company's status: <ul style="list-style-type: none"> • Active • Deleted
<code>#{company['balance']}</code>	Company's current balance
<code>#{company['balance_accountant']}</code>	Company's fixed balance
<code>#{company['credit']}</code>	Company's available credit
<code>#{company['c_address']}</code>	Company's post address

<code>\${company['c_email']}</code>	Email of a company
<code>\${company['locale']}</code>	Company's location
<code>\${company['currencies_id']}</code>	Company's currency ID
<code>\${company['tz']}</code>	Company's time zone
<code>\${company['taxes_profiles_id']}</code>	Company's taxes profiles
<code>\${company['name']}</code>	Name of a company
<code>\${company['tax_id']}</code>	Company's customers tax ID
<code>\${company['reg_id']}</code>	Company's registration ID

Configuration Syntax for Mail Template: Invoice and Payment Reminder Notification

Templates Configuration Syntax	Description
<code>\${invoice['c_dt']}</code>	Invoice date
<code>\${invoice['type']}</code>	Invoice type
<code>\${invoice['amount']}</code>	Invoice total sum
<code>\${invoice['period_start']}</code>	Invoice period start
<code>\${invoice['period_finish']}</code>	Invoice period end
<code>\${invoice['due_date']}</code>	Invoice due date
<code>\${invoice['no']}</code>	Invoice number
<code>\${invoice['descr']}</code>	Invoice comments
<code>\${invoice['tz']}</code>	Invoice time zone
<code>\${invoice['state']}</code>	Invoice state
<code>\${invoice['name']}</code>	Invoiced client name
<code>\${client['currency']}</code>	Client's currency

Configuration Syntax for Mail Template: Low Balance Notification

Templates Configuration Syntax	Description
<code>\${client['balance_avail']}</code>	Client's available balance: live balance + credit
<code>\${client['currency']}</code>	Client's currency
<code>\${client['alert_threshold']}</code>	Notification for a client regarding reaching a balance limit
<code>\${client['alert_athreshold']}</code>	Notification for an administrator regarding reaching a balance limit

Configuration Syntax for Mail Template: Rates Notificator

Templates Configuration Syntax	Description
<code>\${msg['rt_name']}</code>	Rate table name
<code>\${msg['lastedit_dt']}</code>	Date when rate table was last time edited
<code>\${date}</code>	Date when the notification was sent

Configuration Syntax for Mail Template: Reports Watcher

Templates Configuration Syntax	Description
<code>\${report["title"]}</code>	Title of report template
<code>\${report["interval"]}</code>	Actual report period of time
<code>\${report["title-full"]}</code>	Title of report template with indication of actual report period of time
<code>\${report["webUrl"]}</code>	URL to view report on the web portal
<code>\${report["id"]}</code>	ID of report template

 **Tip**

If you want the date of sending letter to be present, you can add the **`$(date)`** variable in any mail template.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Client Packages

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Assigning New Package](#)
- [Editing Clients Package](#)

Section overview

































This section is designed to provide a wide variety of functions to control and manage clients' packages. First and foremost, in this section user can assign relevant package to a respective client or client's account, edit and cancel it, ect. Moreover, there is a detailed information regarding all the limits that have been used over a set period. Section is presented in a form of a table with the following columns (see screenshot below):

Screenshot: *Client Packages list*


ID	Client	Account	Package	Limits	Current period start/stop	Package start/stop
3	Rose orig		Package USD Calls money	1201 2.00 USD	04/10/2018 09:02:33 05/10/2018 09:02:33	01/01/2017 00:00:00 01/01/2020 00:00:00
2	Rose term		Package DID		04/10/2018 12:22:08 04/10/2018 12:23:08	01/01/2017 00:00:00 01/01/2020 00:00:00

Column	Description
ID	Package identification number
Client	Name of client whom package is assigned to
Account	Name of account whom package is assigned to
Package	Name of assigned package
Limits	Shows, if respective package has some volume limits and time or money left 1. On the left side of the bar it shows the destinations, code or code names . 2. On the right side of the bar it shows a specified limit .
Current period start/stop	A date of package's activation for respective client/account A date of package's deactivation for respective client/account
Package start/stop	Effective start and stop date of the package

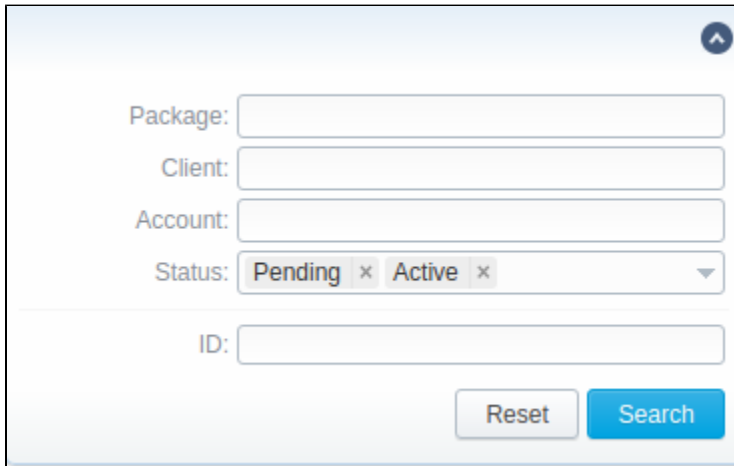
Button/Icon	Description
	Allows assigning a package to corresponding client/account
	Shows the full list of packages that were assigned to this client/account
	Marks package, that was successfully activated and will renew itself due to the package settings
	Marks package, that is new for current user and not activated yet
	Marks package, that is in the archive

	Allows editing client's package
	Allows a user to stop the package at the beginning of the current period (<u>with balance rollback</u>).
	Allows a user to stop the package at the end of the current period.
	Allows a user to stop the package at the end of the current period.
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	Allows a user to stop the package at the end of the current period.

Advanced Search

By default, information in a section is filtered by **Pending** and **Active** statuses. To open **Advanced Search** drop-down menu, click on red downwards arrow  icon and fill in the following fields with required information:

Screenshot: Advanced Search drop-down menu




Field	Description
Package	Indicate a name of a target package
Client	Specify a target client
Account	Specify a client's target account
Status	Select a status of a client's package: <ul style="list-style-type: none"> • Pending • Active • Archive
ID	Specify respective client's package ID

To apply the specified search criteria, press **Search** button; to cancel the applied parameters, press **Reset** button.

Assigning New Package

Click **Assign Package** button for a new pop-up window with settings to appear. Then, fill in the form and click **Apply** button. You can assign any number of packages. They will be activated when **Package Manager** service runs, and if a customer has enough balance for activation+subscription fees.

Screenshot: Client Packages form

 **Client Packages**

Client:

Account:

Package:

Start date:

End date:

Quantity:



Activate in the past:

Field	Description
Client	Name of client whom package is assigned to
Account	Name of account whom package is assigned to
Package	Name of assigned package
Start Date	Package's limits and discounts are only effective after specified date
End Date	Package's limits and discounts are disabled after specified date
Quantity	Number of packages to be assigned.
Activate in the past checkbox	If checked and Start Date field value is in the past, package will be activated on the specified date


Warning

If you click the delete icon (**remove an archived package entirely**) in the **Client Packages** section, you will delete a package with all transactions from the system.

To delete the package completely you need to do the following:

- press  icon opposite a respective package on the section list
- filter the list of packages by **Archive** status
- find a respective package and click  icon to delete it entirely from the system.

Editing Clients Package

When clicking on edit  icon, a detailed information on client's package is displayed. In **System information** data block, user can view general info regarding the package including client himself, start date, status and so on. What is more important, user can change package's **End date** in a respective field.

To make it easier for a user to keep records of package limits, a new **Limits History** information block on an **Edit Client's Package** (see screenshot below) page has been introduced in **VCS 3.15.0**. It provides a detailed view of package limits for each specified period.

Screenshot: *Limits History information block*

Client Packages

SYSTEM INFORMATION

Client: **Orig Client**

Account: All Accounts

Package: **Test Package with volume and credit limits**

Status: **Active**

Charge on Event: No

Charged: Yes

Reactivations: 4

Align to Payment Terms: No

Recalculate to Period: No

Start date: 10/01/2017 00:00:00 +0000

End date:

LIMITS HISTORY

Rows 1 - 4 of 4 20 ▾
« <
Page 1 of 1
> »

	Limits	Current period start	Current period stop
●	380 100.0000 USD 38044 100.00 min	01/01/2018 00:00:00	02/01/2018 00:00:00
○	380 100.0000 USD 38044 100.00 min	12/01/2017 00:00:00	01/01/2018 00:00:00
○	380 100.0000 USD 38044 100.00 min	11/01/2017 00:00:00	12/01/2017 00:00:00
○	380 100.0000 USD 38044 100.00 min	10/01/2017 00:00:00	11/01/2017 00:00:00

OK
Cancel
Apply

⚠ Attention

When you change the **name of the package** in the **Retail > Packages**, it will be automatically changed it in **Management > Client Packages** section as well, even if this package is already assigned. As a result, in **Invoices** and **Transactions** sections, an **old** name of the package will be specified. **We do not recommend to edit the name of already assigned package in the Retail > Packages.**

Traffic Processing

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Creating a New Traffic Processing Rule](#)
- [Rules Import](#)
- [Rules Export](#)

Section overview

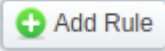









This section allows a user to configure and perform number translations. Here, you can add and remove rules for traffic processing. The section is presented in a form of a table of traffic processing rules with the following columns:

Screenshot: *Traffic Processing section*


ID	Type	General	Client	Prefixes	Action	User	Order
5	After Routing		Account: rose_orig	Src P Any: 1201, 1202, 1209		admin 04/18/2018	1
3	Initial	Service: SMS		Src Match: ^0(.*?)\$	Src: 2341 Tags: New Rule	admin 04/18/2018	1
4	After Rate	Service: Calls	Client: Rose orig	Dst Match: ^1201({3}).*	Dst: 12021test\$md(100-233)\$	admin 04/18/2018	1

Column Name	Description
ID	Rules identification number
Type	Type of a rule
General	Depending on rule parameters, a table can display the following scope of details: <ul style="list-style-type: none"> • Name of service, the rule is created for • Gateway, specified in a rule • Tag(s), indicated in a rule
Client	Depending on rule parameters, a table can display the following scope of details: <ul style="list-style-type: none"> • Client's name, specified in a rule • Client's account, defined in a rule • Indicated Code
Prefixes	Depending on rule parameters, a table can display the following scope of details: <ul style="list-style-type: none"> • POSIX regular expression for Src number (Src Match) • POSIX regular expression for Dst number (Dst Match) • Src Prefixes (Src P Any/Src P Not) • Src Prefixes Names (Src PN Any/Src PN Not) • Dst Prefixes (Dst P Any/Dst P Not) • Dst Prefixes Names (Dst PN Any/Dst PN Not)
Action	Depending on rule parameters, a table can display the following scope of details: <ul style="list-style-type: none"> • Replacement for a matched rule for Src number (Src) • Replacement for a matched rule for Dst number (Dst) • List of tags, added during traffic processing rule execution
User	User name and time, when a rule was created/edited
Order	Specified order for rule execution

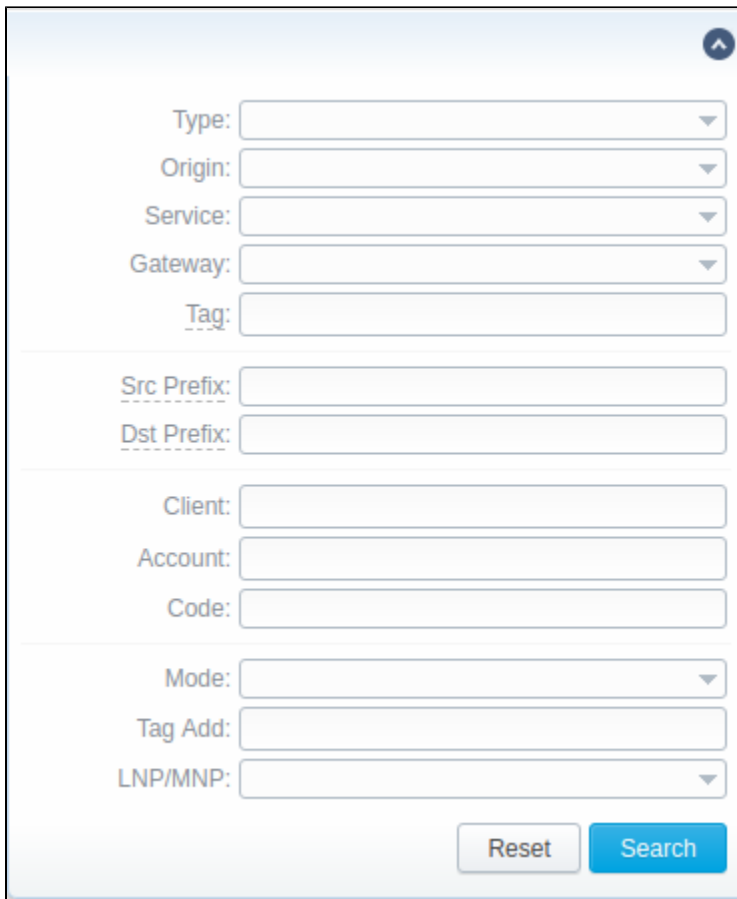
Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows creating a new traffic processing rule
	Allows importing a .csv file with a traffic processing rule(s)
	Allows exporting a current list of rules in a .csv format
	Indicates that a rule origin is origination
	Indicates that a rule origin is termination
	Indicates the Allow action of a rule
	Indicates the Allow and Continue action of a rule
	Indicates the Deny action of a rule
	Allows editing existing rules in a section list
	Allows deleting a traffic processing rule from the system

Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on a blue downwards arrow  icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu



The screenshot shows a search form with the following fields and controls:

- Type:
- Origin:
- Service:
- Gateway:
- Tag:
- Src Prefix:
- Dst Prefix:
- Client:
- Account:
- Code:
- Mode:
- Tag Add:
- LNP/MNP:

At the bottom right of the form are two buttons: a grey "Reset" button and a blue "Search" button.

To apply the specified search criteria, click **Search**; to cancel the applied parameters, click **Reset**.

Creating a New Traffic Processing Rule

To perform a number translation, click the **Add Rule** button and fill in the following fields:

Screenshot: New Traffic Processing rule

Traffic Processing

GENERAL

Type: Origin:

Src Code Deck: Notes:

Dst Code Deck:

Order: Expiration Date:

MATCH

▼

General

Service

Gateway

Tags (Any)

Tags (All)

Tags (Not)

Src Party ID

ACTION




Mode: Tags Add:

Src Replace: LNP/MNP:

Dst Replace: LNP Direction:

Set Service:

Information block	Field	Description
General	Type	<p>Specifies, at what stage a current translation rule will be applied:</p> <ul style="list-style-type: none"> Initial - execute this rule before a Client is identified After Client - execute this rule after client identification but before rate identification After Rate - execute this rule after rate identification but before routing After Routing - execute this rule after routing
	Src Code Deck	Identify a code deck that will be used for Src codes or code names filtering
	Dst Code Deck	Identify a code deck that will be used for Dst codes or code names filtering

Order	<p>Sets rules ordering that works within the same rule Type.</p> <div style="background-color: #ffff00; padding: 5px;"> <p> Attention</p> <p>Note that this field indicates the order of rules execution only within a specified type. It means that a rule with the Initial type and order 1 will be executed before any other rule of the same type with order 2. However, such rule will be executed prior to a rule with the After Rate type and order 0, even though the latter has a higher order, due to the fact that Initial is the 1st on the types list.</p> </div>
Origin	<p>Specify the event origin:</p> <ul style="list-style-type: none"> • Origination • Termination
Notes	<p>Specify additional informational about a rule</p>
Expiration Date	<p>Define a date when this rule will expire and will be removed from the system</p>
Match	<p>On the Match menu, select required parameters for a traffic processing rule. To cancel any filter, click on the delete  sign next to its name.</p> <p>You can start a quick search by typing filters' names in the field at the top of the Match menu.</p> <div style="background-color: #c8e6c9; padding: 5px;"> <p> Tip</p> <p>If, for instance, the Client filter is empty, it means that this rule will implicate all clients.</p> </div>
General	
Service	<p>Select a target from the drop-down list of all services, presented in the Services section of your VCS</p>
Gateway	<p>Select a respective VoIP gateway, for which rule is applied, from the drop-down list</p>
Tags (Any)	<p>A rule will work if event has at least one of the tags, specified in this field</p>
Tags (All)	<p>A rule will work if event has all tags, specified in this field</p>
Tags (Not)	<p>A rule will work if event has no tags, specified in this field</p>
Src Party ID	
Src (Match)	<p>In this field, you may indicate POSIX regular expressions syntax, by which a number will be analyzed. If an expression matches the number, the translation will occur in respective settings in the SRC Replace field</p>
Src Prefixes (Any)	<p>A rule will work if an event has at least one of the Src prefixes (e.g., 010, 810), specified in this field</p>
Src Prefixes (Not)	<p>A rule will work if an event has no Src prefixes (e.g., 010, 810), specified in this field</p>
Src Prefixes Names (Any)	<p>A rule will work if an event has at least one of the Src prefixes names (e.g., vodafone), specified in this field</p>

Src Prefixes Names (Not)	A rule will work if an event has no Src prefixes names (e.g., vodafone), specified in this field	
Dst Party ID		
Dst (Match)	In this field, you may indicate POSIX regular expressions syntax (see best practice example below), by which a number will be analyzed. If an expression matches the number, the translation will occur in respective settings in the Dst Replace field	
Dst Prefixes (Any)	A rule will work if an event has at least one of the Dst prefixes (e.g., 010, 810), specified in this field	
Dst Prefixes (Not)	A rule will work if an event has no Dst prefixes (e.g., 010, 810), specified in this field	
Dst Prefixes Names (Any)	A rule will work if an event has at least one of the Dst prefixes names (e.g., vodafone), specified in this field	
Dst Prefixes Names (Not)	A rule will work if an event has no Dst prefixes names (e.g., vodafone), specified in this field	
Client		
Client	Specify a respective client <div style="background-color: yellow; padding: 5px; border: 1px solid black;"> <p>⚠ Attention</p> <p>Please be advised that any traffic processing rule can have either the Client or Account field.</p> </div>	
Account	Specify a respective account	
Code	Specify a destination code (use * as a wildcard)	
Action	Mode	Defines an action that will be executed if a traffic rule matches: <ul style="list-style-type: none"> • Allow - allow a current event to proceed. Stop further traffic processing rules within this type of rule; • Allow and Continue - allow a current event to proceed. Search for the next traffic rule; • Deny - deny a current event.
	Src Replace	Replacement for a matched rule. For this field to work, the Src Match filter must be used in the Match information block.
	Dst Replace	Replacement for a matched rule. For this field to work, the Dst Match filter must be used in the Match information block.
	Set Service	Allows to change a specified service to another one while processing them
	Tags Add	Here you can add tags that will be added for events matching this rule

LNP /MNP	<p>Define a provider for the LNP/MNP service, which will be dipped for translation</p> <div style="background-color: #ffffcc; padding: 10px; border: 1px solid #ccc;"> <p>⚠ Attention</p> <p>In the VCS 3.17.0, a new feature regarding TJA database has been added. Starting from this version, while creating a new rule, in the LNP/MNP field, a user can select either tja.ee (Routing Number) or tja.ee (Owner). The difference is as follows:</p> <ul style="list-style-type: none"> • tja.ee (Routing Number) - if a traffic processing rule executes, 372+Original Number will be substituted by 372+Routing Number, specified in the TJA database. • tja.ee (Owner) - if a traffic processing rule executes, 372+Original number will remain unchanged. Instead, a Dynamic Tag indicating an owner of the number will be added to the call. <p>Please find more about TJA database here.</p> </div>
LNP Direction	<p>Define, which Party ID(s) (Src, Dst, or both) will be used for LNP dipping. To enable this feature, you need to specify the LN P/MNP field.</p>

✔ Best Practice Example

To get a better understanding of how the **Src/Dst Match** and **Src/Dst Replace** fields work, let's consider the following example:

If our Src/Dst number is **123#456**, the **Src/Dst Match** field is **^123#(.*)\$** and the **Src/Dst Replace** field is **789\1**, the resulting number will be **789456**. That's because the **^123#(.*)\$** expression tells the system that from **123#456** number it must remember only the **(.*)** part, which stands for **456**. Now, in the **Src/Dst Replace** field we have **789\1**, which means that instead of **123#456**, it must insert **789** + add **\1** that equals **(.*)**. Therefore, our resulting number will be **789+456=789456**. These **translation rules use the PostgreSQL regular expressions syntax** (based on POSIX regex with some extensions). For more information, please refer to the [PostgreSQL documentation portal](#).

In addition, in the **Src/Dst Replace** field you can insert random number with fixed digit length using the **\$rnd(xxx-yyy)\$** variable, where **xxx** - start number and **yyy** - end number of the range. For example, **\$rnd(050-950)\$** will be replaced by a **3-digit random number from 50 to 950**.

Rules Import

Now, a user can import a **.csv** file containing a list of traffic processing rules. To do so, click the **Import** button and a pop-up window with the following structure will appear:

Screenshot: Traffic processing rule import

Traffic Processing

FILE PROCESS

Select file for import: traffic_rules_list_7-04-2018.csv

Fields Delimiter:

IMPORT CONFIG

Import Mode:

Information block	Field	Description
File Process	Select a file for import	Select a .csv file to import a traffic processing rule from
	Fields Delimiter	<p>Specify a delimiter symbol here. The possible options are:</p> <ul style="list-style-type: none"> • Autodetect • , • ; • Tab <p>By default, the Autodetect option is selected.</p>

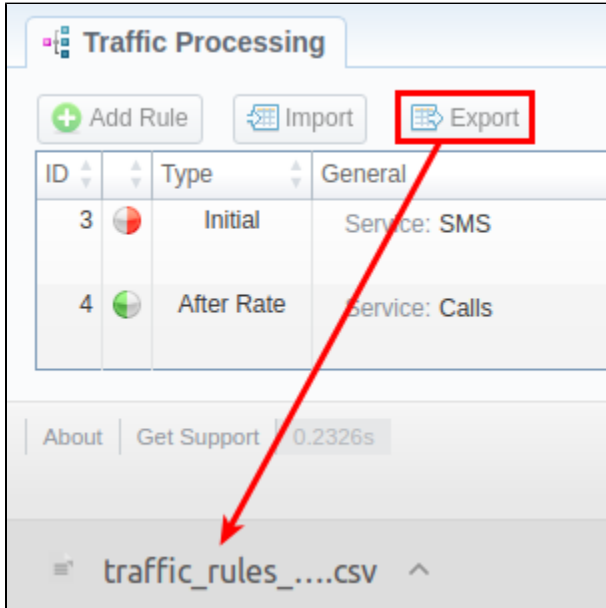
Import Config	Import Mode	Specify what to do with the current traffic processing rules: <ul style="list-style-type: none"> • Keep previous data - new rules will be added to the old ones • Purge all other rules - old rules will be deleted and substituted by the new ones. By default, the Purge all other rules option is selected.
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When all fields are filled in, click **Process>>**. You will be transferred to the second step to indicate the default values in respective fields and specify rows and columns. To finish importing, click **Process>>** again.

Rules Export

By clicking on the **Export** button, you can download a current list of rules in a **.csv** file.

Screenshot: Rules export



Retail

This chapter digs into the **retail functions of JeraSoft VoIP Carrier Suite**. Please be advised that for all these functions are available if your JeraSoft VCS installation includes **the Retail Module**.

In addition to vast wholesale functionality, JeraSoft VCS offers the retail module described in below sections of this chapter. Each section describes an important aspect of retail-based VoIP business such as Calling Cards, Payment Gateways, Subscription Packages, Top-Up Cards and Call Shops. All of these options are grouped within the **Retail** section of your JeraSoft VCS solution.

The list of sections is as follows:

- [Packages](#)
- [DID Management](#)
- [Calling Cards](#)
- [Top-up Cards](#)
- [Call Shops](#)

Packages

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding a New Package](#)
- [Knowledge Base Articles](#)

Section overview

The Packages section helps to add and manage any one-time or regular supplementary services that your company may provide in addition to VoIP. For example, you can create a package with rent of some equipment or create a free minutes promotional package. The section is designed in a form of a table that displays all currently available packages and has the following structure:

Screenshot: Packages section main window

ID	Status	Name	Activation Fee	Subscription Fee	Period	Reseller
4	Active	Extra Package	2.00 USD	10.00 USD	1 month(s)	Reseller 1
3	Disabled	Package 1	0.00 USD	0.00 USD	1 month(s)	Reseller 1
2	Active	Package 2	0.00 USD	0.00 USD	1 month(s)	Reseller 1

Column	Description
ID	ID of a package
Status	Status of a package
	Active Package is in use by a customer
	Disabled Package is not used
	Archived Package is not used and not available anymore
Name	Title of a package
Activation fee	Fee that will be charged upon package activation
Subscription fee	Fee that will be charged upon package renewal
Period	Package renewal period
Reseller	Name of a reseller, to which a target package belongs

List of functional **buttons/icons** in the section includes:

Button/Icon	Description
	Allows to create a new package
	Allows to delete a package from the list. Requires confirmation

Advanced Search

By default, information in a section is filtered by **Active** statuses. To open an **Advanced Search** drop-down menu, click on a red downwards arrow icon and fill in the following fields with required information:

Screenshot: Advanced Search drop-down menu

Reseller:

Status:

Dynamic Tag:

Allowed DID Tags:

Field	Description
Reseller	Indicate a name of a target reseller
Status	Select a status of a package: <ul style="list-style-type: none"> • Active • Disabled • Archive
Dynamic Tag	Indicate a target dynamic tag of a package
Allowed DID Tags	Indicate target DID tags of a package

To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click **Reset**.

Adding a New Package

You can add a new package by clicking the **New Package** button. A pop-up window with settings contains the following information:

Screenshot: New package creation form

Packages

GENERAL SETTINGS

Name:

Reseller: Company Name ▼

Status: Active ▼

Type: Customer ▼

FEES +

Fee Type	Fee Name	Fee Note	Rate, USD
Activation	Activation Fee		0
Subscription	Subscription Fee		0

PERIOD SETTINGS

Period: month(s) ▼

Advance Renew: hour(s) ▼

Renew Due: month(s) ▼

DID LIMITS

DIDs Quantity: On Hold: day(s)

Allowed Tags:

BILLING SETTINGS

Currency: USD ▼

Fees include taxes

Align to Payment Terms

Recalculate to Period

Charge on Event

Setup fee: Charge if billed by volume limit ▼

Client balance: Deny activate if negative ▼

Create charge on: Pre-activation time ▼

LIMITS +

Code Deck:

i No Volume Limits

PACKAGE APPLICATION

Priority:

Dynamic Tag:

Start Date:


End Date:



DISCOUNTS +

i No Discounts

OK
Cancel
Apply

Information block	Field and Description								
General Settings	General information about a package								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Name</td> <td>Determine a name of your package</td> </tr> <tr> <td>Reseller</td> <td>Specify an owner of this package</td> </tr> <tr> <td>Status</td> <td>Select a current status for the package: active/disabled/archive</td> </tr> <tr> <td>Type</td> <td> Specify the package type: <ul style="list-style-type: none"> Customer - this type indicates that services are provided to customers by a user's company. Vendor - this type indicates that services are provided to a user's company by vendors. <div style="background-color: #ffff00; padding: 5px; margin-top: 5px;"> ⚠ Attention This option has been added in version 3.16.0. </div> </td> </tr> </table>	Name	Determine a name of your package	Reseller	Specify an owner of this package	Status	Select a current status for the package: active/disabled/archive	Type	Specify the package type: <ul style="list-style-type: none"> Customer - this type indicates that services are provided to customers by a user's company. Vendor - this type indicates that services are provided to a user's company by vendors. <div style="background-color: #ffff00; padding: 5px; margin-top: 5px;"> ⚠ Attention This option has been added in version 3.16.0. </div>
	Name	Determine a name of your package							
	Reseller	Specify an owner of this package							
Status	Select a current status for the package: active/disabled/archive								
Type	Specify the package type: <ul style="list-style-type: none"> Customer - this type indicates that services are provided to customers by a user's company. Vendor - this type indicates that services are provided to a user's company by vendors. <div style="background-color: #ffff00; padding: 5px; margin-top: 5px;"> ⚠ Attention This option has been added in version 3.16.0. </div>								
Settings regarding a package period									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Period</td> <td>Specify a period for current package if it's renewable</td> </tr> <tr> <td>Advance Renew</td> <td>Next renewal will be made within a specified period in advance (before renewal date)</td> </tr> </table> <div style="background-color: #e0ffe0; padding: 5px; margin-top: 5px;"> ✔ Tip Renew intervals of packages will be converted to the smallest units. For example, 1 day + 1 hour = 25 hours. </div>	Period	Specify a period for current package if it's renewable	Advance Renew	Next renewal will be made within a specified period in advance (before renewal date)					
Period	Specify a period for current package if it's renewable								
Advance Renew	Next renewal will be made within a specified period in advance (before renewal date)								

	Renew Due	Indicate a period, during which the system will try to renew a package. If no value is specified, attempts to renew a package will be endless.
Billing Settings		List of settings concerning a billing feature
	Currency	Define a currency for this package
	Fees Include Taxes checkbox	If enabled, taxes are included in package prices, if disabled – taxes will be calculated regarding a customer's respective Tax Profile
	Align to Payment Terms checkbox	Allows the system to align a package period to customer's Payment Terms, equalizing Package billing with actual invoicing
	Recalculate to Period checkbox	Allows recalculation of days up to the Payment Terms period if the package was activated somewhere in the middle of it
	Charge on Event checkbox	If enabled, a package subscription fee will be applied when the first call within this package is made. Otherwise, a package would be free.
	Setup Fee	Select from a list of available options of setup fee settings: <ul style="list-style-type: none"> • Charge if billed by volume limit - setup fee will be charged when an event is billed by volume limit • Don't charge if billed by volume limit - setup fee won't be charged when limit by volume is used for the event billing
	Client Balance	Choose one of the following options: <ul style="list-style-type: none"> • Allow activate if negative - client's package will be activated regardless of client's balance; however, package limits will be used only when it's not negative • Deny activate if negative - client's package will be activated only if there are sufficient funds on the balance
Create Charge on	Determine when the charge should be created: <ul style="list-style-type: none"> • Pre-activation time - create charge at the moment of period creation • Period start time - create charge at the moment of a new period start 	
Package Application		Information on package application
	Priority	If there are multiple packages that satisfy a call, a package with the highest priority will be used (i.e. priority 2 < priority 1). <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>Please note that packages with minutes will always be used before packages with money regardless of the priority.</p> </div>
	Dynamic Tag	Add a tag for the events, billed by this package
	Start Date	Indicate an effective start date of a package. This feature is used for temporary packages.
	End Date	Determine an effective end date of a package. This feature is used for temporary packages.
Fees		Information block is used for package fees indication and presented in a form of a table. To add a new fee type, you need to click on a  icon next to its name.
	Fee Type	Select the type of a fee. There are two possible types: <ul style="list-style-type: none"> • Activation – a fee that will be charged upon package activation • Subscription – a fee that will be charged upon package renewal
	Fee Name	Specify a name of a fee
	Fee Note	Here you may enter additional information about a fee

	Rate	Indicate the price for a free. Price is indicated in the package currency
DID Limits		Specify how many DIDs and from which group can be assigned to a customer with this package
	DIDs Quantity	How many DIDs can be assigned to client's accounts
	Allowed tags	Specify tags that are used while creating DIDs
	On hold	Indicate for how many days a DID is kept on hold after the package is deactivated
Limits		Here you can create promotional minute packets that will be included in the package. To add a new limit, click on a  icon next to Limits .
	Code Deck	Specify a Code Deck if you plan to create limits by using Code Names
	Service	Define a service this limit will be used for
	Type	Select a limitation type from the drop down list: <ul style="list-style-type: none"> • Money • Volume <p>You can set both types within the same package</p>
	Code	Specify a code. Please note that package limits are working only for the exact code. I.e., if a short code like 121 was added, package limits will work only for this code and won't automatically work for longer codes like 12157 . To make volume limits work for long codes, you must add * (for example, 121* code). If the Code Name field is specified, this one will be inactive.
	Code Name	Specify a code name from a selected Code Deck. If the Code field is specified, this one will be inactive.
	Limit	Enter the amount of free minutes or bonus money (depends on a selected limitation type) that will be used for a specified code or code name
Discounts		A promotional discount of the package subscription fee. To add a new discount, click on the  icon next to Discounts .
	Activation Count	Specify the sequence number of the reactivation when the package will trigger the discount. For example: if the Activation Count is 2 , the discount will be applied for the second package reactivation and further.
	Discount	Specify the amount of subscription fee cut. Discount is indicated in the package currency

 **Tip**

1. If the **client doesn't have enough money for a package activation**, a respective pending charge will appear. This charge includes all amounts needed for package activation. Also, you can add this charge to the invoice.
2. You can **assign the package in the past** and add package minutes backdated.
For example, you assign the **Canada 200 minutes** package on April 12th, but you want the package to be used since April 1st. Then, apply package rerating to recalculate the tariffication during the period. Please, run rerating after the assignment of the package for a current month
3. **Volume Limits** will be recalculated according to payment terms if the period is specified and both **Align to payment terms** and **Recalculated to Period** checkboxes are enabled.
4. Package reactivation will be stopped after the **Renew Due** period. However, a DID for this package will be expired after the **On Hold** period. Therefore, we recommend to set the same values for DID **On Hold** and Package **Renew Due** parameters.

Please keep in mind that:

1. When **two similar packages** (for example, with the same destinations) are **assigned to a client**, the system takes the package with the highest priority or earlier expiration date. Thus, only one package is used for one established call. The second package will be applied right after the first one is fully used.
2. If the **client doesn't have enough funds** for the package (with a DID number) reactivation and DID hold date has already expired, attempts for package reactivation will be stopped.

 **Attention**

When you change the **name of the package** in **Retail > Packages**, it will be automatically changed in the **Management > Client Packages** section as well, even if this package is already assigned. As a result, in **Invoices** and **Transactions** sections, an **old** name of the package will be specified. We **do not recommend** to edit the name of an already assigned package in **Retail > Packages**.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

DID Management

In this article

- [Section overview](#)
- [DID Management Tab](#)
 - [Advanced Search](#)
 - [Creating a DID Number](#)
 - [Mass Edit of DIDs](#)
 - [DIDs Importing](#)
 - [DIDs Exporting](#)
- [Operators tab](#)
 - [Creating a New Operator](#)

Section overview

This section allows to create the DID numbers, which later may be assigned to one of the packages and finally provided to a customer under the Package terms. The section consists of two tabs:

- **DID Management;**
- **Operators.**

DID Management Tab

The tab contains a list of all existing DID(s) and is presented in a form of a table with the following columns:

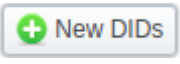
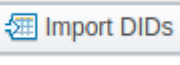
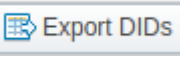
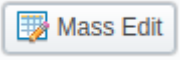


Screenshot: *DID Management section*

ID	Status	Operator	DID	Tag	Notes	Client	Reseller
5	Archive	DID Operator	12567			—	Reseller 1
1	Reserved	DID Operator	12568			—	Reseller 1
4	Hold	DID Operator	2563			Rose Orig rose_orig	Reseller 1
3	Active	DID Operator	2567			Rose Orig rose_orig	Reseller 1
2	Blocked	DID Operator	2568			Rose Orig rose_orig	Reseller 1
6	In Stock	DID Operator	256999			—	Reseller 1

Column	Description
ID	ID of a current DID number
Status	Status of a current DID number
• Active	DID is in use by a customer
• In Stock	DID is in stock and available for usage
• Blocked	DID is temporarily not available for usage
• Reserved	DID is not used but at the same time not available for purchase yet
• Hold	DID is on hold after usage
• Archive	DID is not used and not available anymore

Operator	Current DID's operator, an owner of a current DID number
DID	Current DID number
Tag	Specify the tag for a respective DID number you would like to be tagged in the future
Notes	Additional information about a certain DID
Client	Shows the client and account, which a current DID belongs to
Reseller	Name of a reseller, under which the respective DID's operator was created

Functional buttons, presented in the tab are as follows:

Button/Icon	Description
	Allows creating a new DID(s)
	Allows importing DIDs from .csv or .xls files
	Allows exporting currently displayed DIDs in a .csv file
	Allows editing the selected DIDs.
	Allows viewing a history of DID changes in the Audit Log section
	Allows deleting a DID from the system

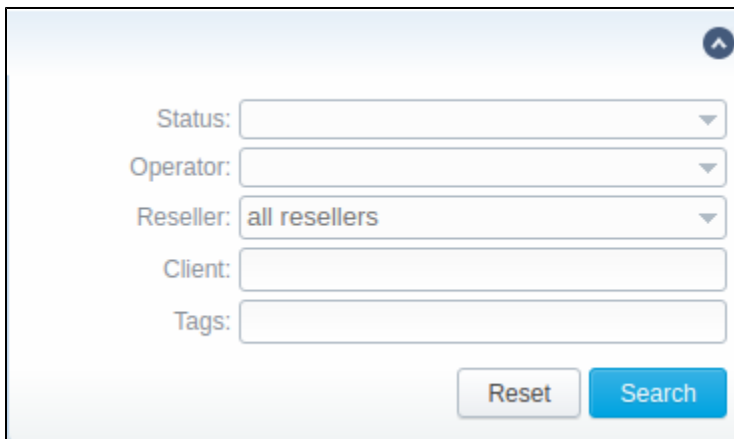
Attention

When a package with the **assigned DID number** is not active, this DID number will be in **Hold** and a routing destination will be unreachable.

Advanced Search

In the top right corner of the section above the table, the **Advanced Search** drop-down menu is located. To filter section data, fill in the following drop-down menu and press **Search**:

Screenshot: Advanced Search drop-down menu



The screenshot shows a search interface with the following elements:

- Status:** A dropdown menu.
- Operator:** A dropdown menu.
- Reseller:** A dropdown menu with the text "all resellers" displayed.
- Client:** A text input field.
- Tags:** A text input field.
- Reset:** A button to clear the search filters.
- Search:** A blue button to execute the search.

Creating a DID Number

The whole process of creating a DID number can be described in a few steps:

1. Go to the **Retail > DID Management > Operators** tab. Create one or more operators (DID providers).

- Open the **DID Management** tab, add one or more DID numbers.
Make sure that these DIDs have the **In Stock** status. You can also use the **Import DIDs** button.

Field	Description
DID(s)	Indicate one or multiple DID numbers <div style="background-color: #e0ffe0; padding: 5px;"> <p>Tip</p> <p>Also, you can set the range of DID numbers here. Specify the range using the upper and lower numbers and the dash (-) to separate them. For example, 111-222. Therefore, the system will create a range of DIDs from 111 to 222 (included).</p> </div>
Operator	Specify a target DID provider
Status	Choose one of the statuses a DID can acquire: <ul style="list-style-type: none"> Reserved In Stock Archive
After Hold	Define what status a DID is going to acquire after being in Hold status. The Hold status is acquired after Package, this DID is assigned to, is deactivated
Tag	Specify an additional tag for better division of DIDs in certain groups. Useful when clients have multiple DIDs
Notes	Define additional info regarding DIDs

- Go to the **Retail > Packages** section. Create a package, where a number of allowed DID's to be picked from will be specified.
- Assign a respective Package to a target customer in the **Client Packages** section.
- Open the **DIDs** tab in the target client settings. Here, pick one or more DID numbers to assign.

For more details, look through the [How to configure DIDs scheme](#) article in our Knowledge Base.

This will effectively assign a DID number to one of the customer's accounts. Please note, this functionality is very switch dependent, and additional development or testing may be required. Please contact JeraSoft Support team for help, if you have any doubts or questions.

Tip

We recommend using **tags** to make navigation between a great deal of DIDs easier and more effective.

Mass Edit of DIDs

You easily can change the status of multiple selected DIDs, specify tags and a number of hold days using the **Mass Edit** button. To do so, you need to select DIDs (for which the status must be changed), then click the **Mass Edit** button and in a pop-up window specify the status from the drop-down list in a respective **Set Status to** field, then, click the **Update** button to confirm the change. Also, using the **Mass Edit** button, you can add a tag and notes. If you click the **Delete** button, only selected DIDs will be deleted.

Screenshot: Mass Edit window

The screenshot shows the 'DID Management' interface. At the top, there are buttons for 'New DIDs', 'Import DIDs', 'Export DIDs', and 'Mass Edit'. Below these is a table with columns: ID, Status, Operator, DID, Client, and Reseller. The table contains 13 rows of data. A red box highlights the 'Mass Edit' button in the top toolbar and the 'Mass Edit' pop-up window that appears over the table. The pop-up window has the following fields: 'Set Status to:' (a dropdown menu), 'After Hold:' (a dropdown menu), 'Tag:' (a text input field), and 'Notes:' (a text area). At the bottom of the pop-up window are two buttons: 'Delete' (orange) and 'Update' (blue). The table data includes DIDs with statuses like 'Reserved', 'Archive', 'Active', 'Blocked', 'In Stock', and 'Hold'.

DIDs Importing

The process of DIDs importing is pretty simple:

1. Click the **Import DIDs** button
2. In a pop-up window, you need to attach a **.csv** file you wish to be imported and fill in the respective fields
3. Click the **Process>>** button
4. Specify columns names from a drop-down list, and once again click **Process>>**
5. All imported DIDs will be displayed in a section table

Screenshot: Importing DIDs

DID Management

Select the file to import: Choose File No file chosen

Fields delimiter: autodetect

Operator: DID Operator

Status: Reserved

After Hold: Reserved

Tag:

Notes:

Process »

Screenshot: Rows and Columns Select

DID Management

ROWS AND COLUMNS SELECT

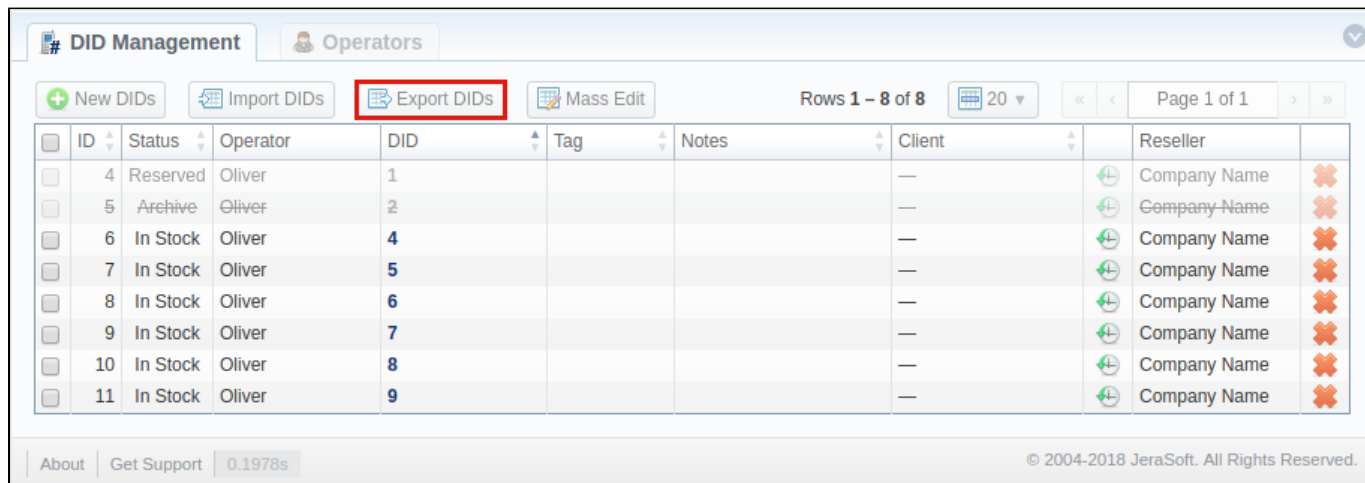
	Status		DID	Tag	Notes							Skip
ID	Status	Operator	DID	Tag	Notes	Client	Account	Package	After Hold	Reseller		<input checked="" type="checkbox"/>
11	reserved	Op 1	1						reserved	Company Name		<input type="checkbox"/>
12	active	Op 2	10			Client 0 Orig	acc_0_orig	Pack	reserved	Company Name		<input type="checkbox"/>
13	archive	Op 2	2						reserved	Company Name		<input type="checkbox"/>
14	instock	Op 2	4						reserved	Company Name		<input type="checkbox"/>
15	instock	Op 2	5						reserved	Company Name		<input type="checkbox"/>
16	instock	Op 2	6						reserved	Company Name		<input type="checkbox"/>
17	instock	Op 2	7						reserved	Company Name		<input type="checkbox"/>
18	instock	Op 2	8						reserved	Company Name		<input type="checkbox"/>
19	instock	Op 2	9						reserved	Company Name		<input type="checkbox"/>

« Return
Cancel
Process »

DIDs Exporting

DIDs export allows a user to download a .csv file that contains information currently displayed in a section table. Apart from all the columns, the file contains an extra Package column, where a respective package name, if any of the DIDs is assigned to the package, will be displayed.

Screenshot: Export DIDs button



Screenshot: Package column in an exported file

	A	B	C	D	E	F	G	H	I	J	K
1	ID	Status	Operator	DID	Tag	Notes	Client	Account	Package	After Hold	Reseller
2	4	reserved	Oliver	1						reserved	Company Name
3	5	archive	Oliver	2						reserved	Company Name
4	6	instock	Oliver	4						reserved	Company Name
5	7	instock	Oliver	5						reserved	Company Name
6	8	instock	Oliver	6						reserved	Company Name
7	9	instock	Oliver	7						reserved	Company Name
8	10	instock	Oliver	8						reserved	Company Name
9	11	instock	Oliver	9						reserved	Company Name
10											

Operators tab

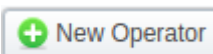


This section shows the list of operators who are owners of DID numbers. The tab is presented in a form of a table with the following columns:

Screenshot: Operators tab



Column	Description
ID	ID of an operator
Name	Operator's name
DID's count	The amount of DID numbers owned by the current operator
Reseller	Current operators' reseller

The functional buttons/icons in the tab are:

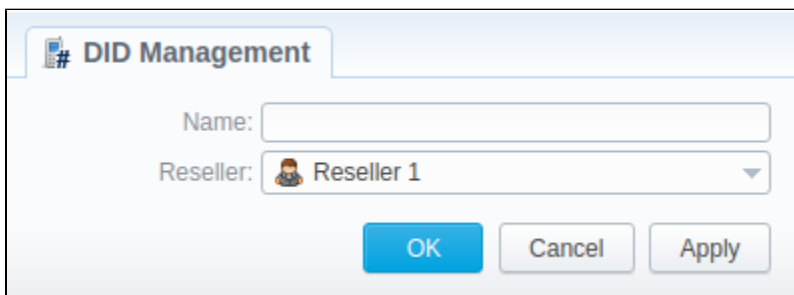
Button/Icon	Description
	Allows creating a new operator
	Allows filtering DID numbers in the DID Management tab by a target operator
	Allows deleting a respective operator

You can filter tab data by Resellers using Advanced Search in the top right corner of the page.

Creating a New Operator

To add a new operator, click on the **New Operator** button and specify an operator's name and target reseller in the pop-up window. Then, click **OK** for confirmation.

Screenshot: New Operator creation form



The screenshot shows a pop-up window titled "DID Management". It contains the following elements:

- A "Name:" text input field.
- A "Reseller:" dropdown menu with a person icon and the text "Reseller 1".
- Three buttons at the bottom: "OK" (highlighted in blue), "Cancel", and "Apply".

Calling Cards

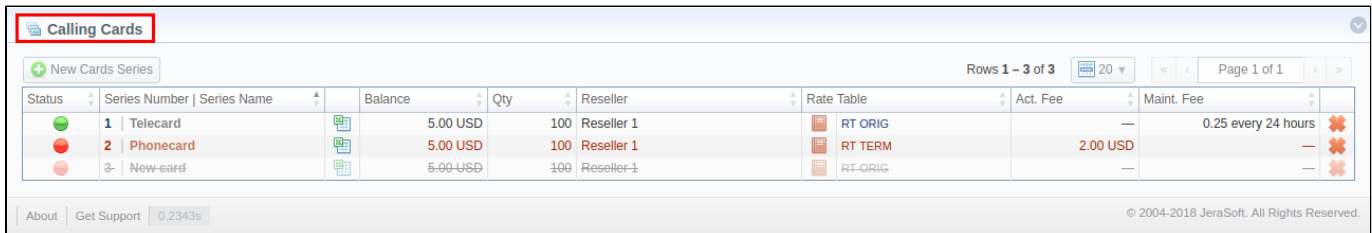
In this article




- [Section overview](#)
- [Advanced Search](#)
- [Creating a Card Series](#)
- [Calling Cards Series Properties](#)

Section overview


This section represents a built-in calling cards generator that allows you to create or change cards series for prepaid customers. Each generated card is considered a billing client, so a customer can perform calls, log in to their client panel to browse statistics and other relevant information.

Screenshot: Calling Cards section main window



Column	Description
Status	A name that describes current cards series
	 Indicates that cards series is active
	 Indicates that cards series is stopped
	 Indicates that cards series is deleted
Number of Series Name of Series	A code of cards series and its name (if indicated). This code will prepend a serial number (only numeric, up to 100,000,000)
Balance	Cards balance value within a current series
Qty	Quantity of cards within a series
Reseller	Name of a reseller, who owns a cards series
Rate Table	Rate table, applied to respective cards series
Act. Fee	Price of cards series activation fee
Maint. Fee	Fixed charge for activated cards within a series

Advanced Search

In the top right corner of the section above the table, the **Advanced Search** drop-down menu is located. By clicking on a red downwards arrow  icon (calling cards in the section are filtered by **Active** status and **All resellers** by default), the following drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu

A search filter panel with the following fields:

- Status: Active
- Reseller: all resellers
- Rate Table: (empty)
- Routing Plan: (empty)
- Buttons: Reset, Search

To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click **Reset**.

Creating a Card Series

To create a card series, click the **New Cards Series** button and a new window with settings will pop-up:

Screenshot: Generate cards series window

Calling Cards

SYSTEM INFORMATION

- Series Name: (empty)
- Series Number: 4
- Balance: 5 USD
- Quantity: 100
- PIN length: 12 digits
- Status: Active
- Control Panel

NOTES

(Empty text area)

BILLING SETTINGS

- Rate Table: (empty)
- Tax Profile: (empty)
- Routing Plan: (empty)
- Activation Fee: 0 USD
- Maintenance Fee: 0 USD every (empty) hours

EXPIRATION SETTINGS

- Expire date: (empty)
- Expire period: (empty) day(s)

Buttons: OK, Cancel, Apply

Field	Description
Series Name	Indicate a name for a cards series
Series Number	Define a code of a cards series. This code will prepend a serial number (only numeric, up to 100 000 000). For example, if the Series Number is 45 , the cards number will start with 45: 45-001122333, 45-001122334 and so on.
Balance	Specify the cards balance value within a current series
Quantity	Set the number of calling cards within a current series
PIN Length	Specify a PIN-code length for a current calling cards series (it can be no less than 8 digits)
Status	Define an initial status of created calling cards within a series. Can be changed later in cards series settings
Control Panel checkbox	Defines whether calling cards users can log in to their control panels or not. If enabled, a user can log in to the control panel by using the card serial number as login and a PIN-code as password

Notes	Indicate additional information regarding a cards series (optional)
Rate Table	Define a rate table for all cards within a series. This field is mandatory
Tax Profile	Select a respective tax profile that will be used for billing settings
Routing Plan	Select a routing plan for a current cards series
Activation Fee	Enter an activation fee in this field (if necessary)
Maintenance Fee	Define a charged fee each X hours for all activated cards
Expiration date	Current calling cards series will be expired on a specified date
Expiration period	When a specified number of days passes, starting from activation date, a current calling cards series will be expired



After specifying all necessary fields, click **OK** and a new cards series will be created.

Calling Cards Series Properties

To open series properties, click **Series Number**, and you will be displayed a table of calling cards with the following columns:

Screenshot: *Cards List tab*

Column	Description
Status	Status of a card within a current series. There are 4 possible statuses: activated, pending, expired, used
Number	Number of a card within a current series
Balance	Balance of a respective calling card
PIN	Respective calling card PIN-number

1. You can export the whole card series to an **.xls** file by clicking the **Download XLS**  icon (see screenshot above).
2. You can use the **Advanced Search** drop-down menu to find a card by clicking on a blue downwards arrow  icon in the right-hand corner of the page (see screenshot above).

To change the previously entered parameters while creating a series, please open the **Edit Cards Series** tab.

Screenshot: *Edit Cards Series tab*

Cards List
Edit Cards Series
#1 Telecard [USD]

SYSTEM INFORMATION

Series Number: **1**

Balance: **5 USD**

Quantity: **100**

Series Name:

Status:

Control Panel

NOTES

BILLING SETTINGS

Rate Table:

Tax Profile:

Routing Plan:

Activation Fee: USD

Maintenance Fee: USD every hours

EXPIRATION SETTINGS

Expire date:

Expire period: day(s)

⚠ Attention

The Calling Cards feature works only via RADIUS-protocol, so to make use of it, you need to have RADIUS enabled. Also, you would like to use a specific platform that is able to handle calling card series authorization, for example, **Mera IP Centrex** or **Quintum Tenor DX** (class 5 switch).

Top-up Cards

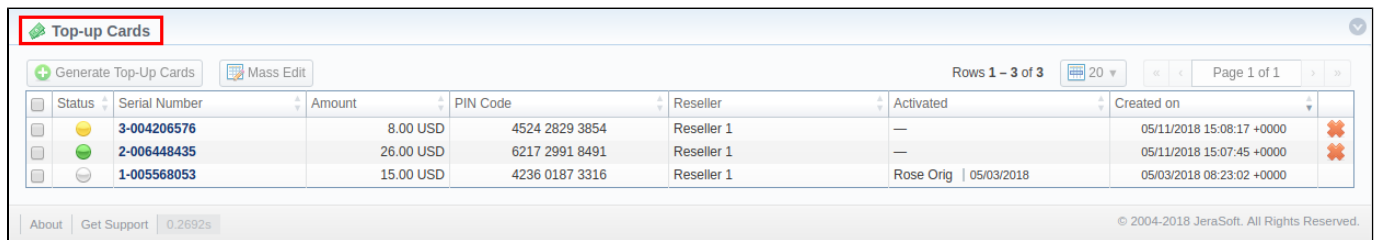
In this article




- [Section overview](#)
- [Advanced Search](#)
- [Creating New Top-Up Cards](#)
- [Mass Top-up Cards Edit](#)

Section overview

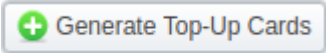
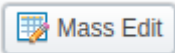
This section allows generating series of top-up cards for your customers. These cards can be used to recharge the balance. The section is presented in a form of a table with the following columns:

Screenshot: Top-Up Cards section



Column	Description
Status	Status of a respective top-up card
	 Indicates that the current card is new
	 Indicates that the current card is activated
	 Indicates that the current card is expired
Serial Number	Identifying a number of a card
Amount	Amount of money, stored on a card
PIN Code	Card PIN code
Reseller	Name of a reseller, a respective card belongs to
Activated	Identification of a date and client who activated a card (if card status is activated)
Created on	Time and date when a card was created in the system

The following functional buttons are presented in the section:

Button	Description
	Allows creating new top-up card(s)
	Allows mass editing of top-up cards

Advanced Search

In the top right corner of the section above the table, the **Advanced Search** drop-down menu is located. To filter section data, fill in the following drop-down menu and click **Search**:

Screenshot: Advanced Search drop-down menu

Creating New Top-Up Cards

To create new top-up cards, you need to:

1. Click the **Generate Top-Up Cards** button;
2. In the opened pop-up window, fill in respective fields (see table below);
3. Confirm creation by clicking **OK**.

Screenshot: *New Top-up Cards window*

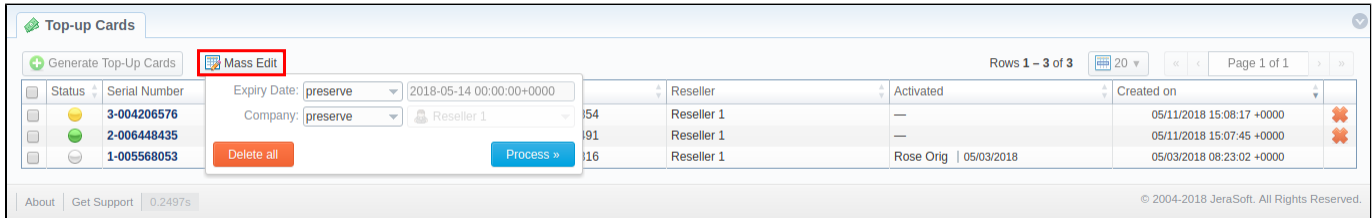
Field	Description
Amount	Indicate the cards balance value. This amount will be added to a customer's balance on activation.
Quantity	Specify the number of cards you wish to be created.
Series	Set a code identifier of a cards series. This code will prepend a serial number. For example, if the Series is 101 , the full card number will be 101-23423423 .
PIN Length	Specify the desired PIN-code length for a current calling cards series (it can be no less than 5 digits)
Reseller	Defines the reseller that owns a current calling card(s)
Expiration date	Specify the date when a current calling card(s) will be expired

After a top-up card(s) is created, customers will be able to enter respective PINs in their client panel in the **Redeem Voucher** section to recharge their balance (respective rights for users are required).

Mass Top-up Cards Edit

Also, you may delete cards or change some settings for already existent top-up cards using the **Mass Edit** button. In the following window, you can specify the expiration date of cards by changing the **Expiration Date** field value to **set to** and select data and time, or define a reseller who will be the owner of these cards by changing the **Company** field value to **set to** and select a reseller from a drop-down list, then click the **Process** button and all changes will be applied. The **Delete all** button will wipe out all existing top-up cards.

Screenshot: Top-up cards Mass Edit window



Field	Description
Optional Parameters	<ul style="list-style-type: none"> preserve - the default configuration that saves the rate not edited. Leave this parameter unchanged if required; set to - it allows to edit rates, for example, specify the same expiration date for all rates at once, regardless of previous configurations.
Expiration Date	Final date, after which the rate will expire
Company	Name of one of your companies (or affiliates) that you can add in the Reseller section

Call Shops

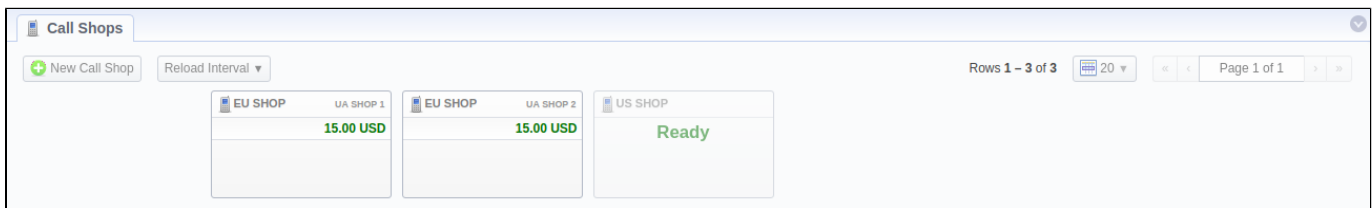
In this article

- [Section overview](#)
- [Advanced Search](#)
- [Creating a New Call Shop](#)
- [Steps to activate a call shop](#)
- [Interval Reload](#)
- [Finalize/Reactivate a Call Shop](#)

Section overview

The Call Shops section allows you to create and manage call shops networks. Each call shop is a **RADIUS-based** customer. That's why for correct work of the Call Shops section, RADIUS must be enabled. The section consists of all existing call shops, each containing such details as name, balance, rate table, etc. (see screenshot below).

Screenshot: Call Shops section main window



Advanced Search

In the top right corner of the section above the table, the **Advanced Search** drop-down menu is located. To filter section data, fill in the following drop-down menu and click **Search**:

Screenshot: Advanced Search drop-down menu

Creating a New Call Shop

To create a new call shop, click the **New Call Shop** button and fill in the following details in a pop-up window:

Screenshot: Creating new call shop / Clients form

Field	Description
Name	Enter a name for a call shop
Reseller	Select a reseller that will be an owner of this call shop
Currency	Specify preferred currency
Timezone	Choose a preferred timezone
Status	Select a status for this call shop: <ul style="list-style-type: none"> • active • stop • deleted
Allowed Credit	Specify the credit value here
Rate Table	Choose a rate table this call shop will be using
Tax Profile	Specify a Tax Profile this call shop will be using
Routing Plan	Select a routing plan, if you wish to use dynamic routing for this call shop
Capacity	You can limit origination capacity for this call shop in this field

When all information is entered, click **OK** and a call shop will appear on the list.

Steps to activate a call shop

When a call shop is created, you will be forwarded to the **Accounts** section. To activate a call shop, you need to follow these steps:

1. In the **Accounts** section, create an account for your call shop's account. Specify a rate table here, if you didn't indicate it in call shop's settings.
2. Return to the **Call Shops** section. Your call shop will be marked as Ready. To proceed, click on its name.
3. Fill in the respective form (see screenshot below) and click the **Activate** button. Now, your call shop is ready.

Screenshot: Call shop settings

Interval Reload

Also, you may **set an interval** for call shops list **reloading**. To do this, click the **Reload Interval** button and select the value from the drop-down list.

Attention

Please note, that the **Calculator** tool must be in a **real time mode** for correct Call Shops work.

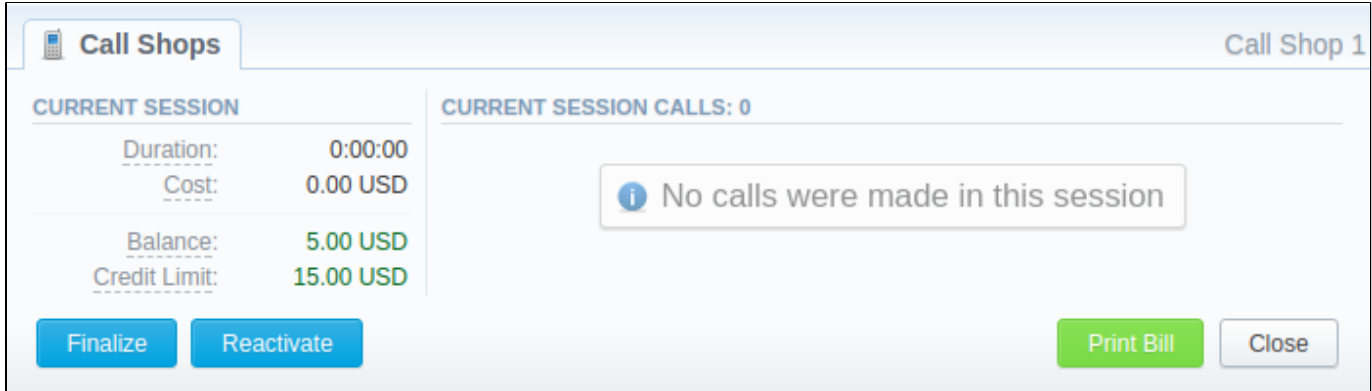
Finalize/Reactivate a Call Shop

According to your demands, you can change an active period of the call shop.

Therefore, you may finish the call shop activities by clicking the **Finalize** button. Or you can reactivate the same call shop when it's over by clicking **Reactivate** on the toolbar.

To open the window with respective settings, click on the name of the call shop when it's already activated.

Screenshot: *Call Shop settings*



The screenshot shows a window titled "Call Shops" with a sub-header "Call Shop 1". The window is divided into two main sections. On the left, under "CURRENT SESSION", there is a table with the following data:

Duration:	0:00:00
Cost:	0.00 USD
Balance:	5.00 USD
Credit Limit:	15.00 USD

On the right, under "CURRENT SESSION CALLS: 0", there is a message box with an information icon and the text "No calls were made in this session". At the bottom of the window, there are four buttons: "Finalize" (blue), "Reactivate" (blue), "Print Bill" (green), and "Close" (grey).

Also, you can print the bill of the following call shop by using the **Print Bill** button. To close the window, click a respective button.

Statistics

This chapter of our Guide is dedicated to **figures and various statistical reports in JeraSoft VCS**. Here, a user can monitor their customer's activities or form different reports. For more details, please check the related sections:

- [Dashboard](#)
- [Customer Dynamics](#)
- [Summary Report](#)
- [Orig-Term Report](#)
- [Profit Report](#)
- [LCR Lists](#)
- [Invoicing Report](#)
- [xDRs List](#)
- [Mismatches Report](#)
- [xDRs Rerating](#)
- [Reports Templates](#)
- [Archive Management](#)

Dashboard

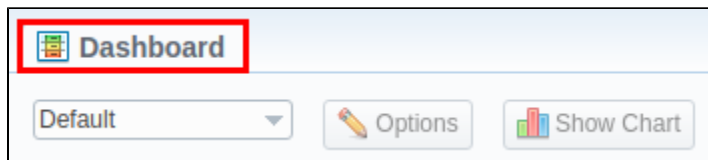
Dashboard is the customizable section with charts that provide a vivid visual representation of the most relevant report data in one place.

It allows you to monitor your customer's activities in real-time by providing visual charts on some most crucial information. Here you can find all the charts that were created in the **Summary Report**, **Orig-Term Report** and **Active Calls** sections, and exported to the **Dashboard**.

To know more about charts, visit our ["How to create a statistic chart?"](#) article in Knowledge Base.

To start working with this section, please use the quick access toolbar (see the screenshot below):

Screenshot: Dashboard toolbar

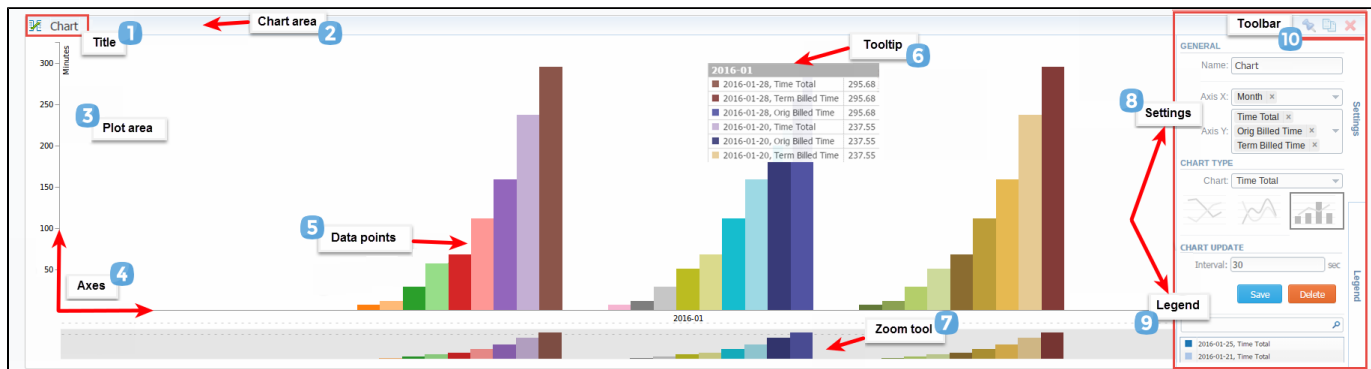


- In the section, you can have **several dashboards**. To pick a target dashboard, click on the respective field and select a relevant dashboard (for example, **Default**) from the drop-down list.
- To view the advanced settings, press the **Options** button on the toolbar.
 - You can **change the name** of the respective dashboard, specify a new name in the **Dashboard name** field, click **Save**, and reload the page.
 - To **copy the dashboard**, click **Copy** and reload the page. Then, you select it in the list of available dashboards.
 - Also, you can **remove any dashboard**. Simply select it, open settings, and click the **Delete** button.
- To add a relevant chart to the dashboard, press click the **Show Chart** button. Then choose the category of the chart (i.e., **Summary report/Orig-Term report/Active Calls**) and select the respective chart from the drop-down list. You could add several charts and use the vertical scrolling to browse the dashboard.

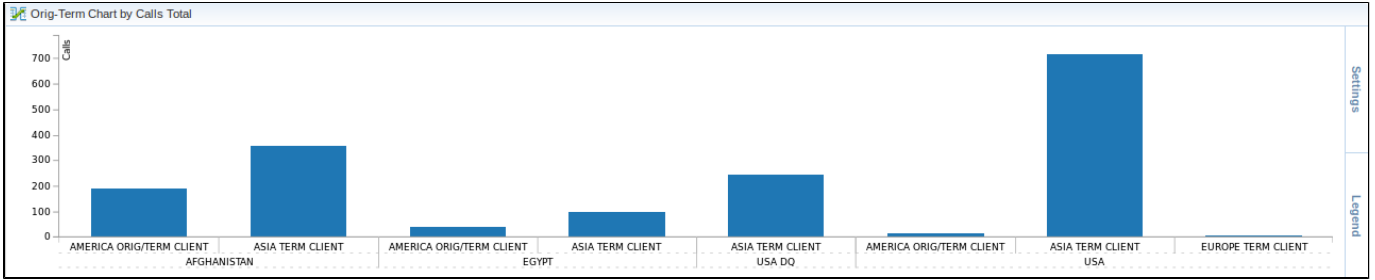
Attention

- Resellers and administrators** have their own dashboards. The created dashboards while logged in the system as respective Reseller will be visible **only** for this Reseller.
- You can **plot in the chart only existing statistics** in the report. It doesn't show time periods where there is no data. You can check an actual date interval by clicking the **Info** icon and it could be different from the specified interval if there is no data for the period.
- When you choose the **Time parameters for the X-Axis** (i.e., Year, Month, Date, Time) and there is only one period, the **line chart** will not display the data. For example, if you choose the **Month** option on **X-Axis** and the statistics is only presented for January, the **line chart** will be empty in this case.

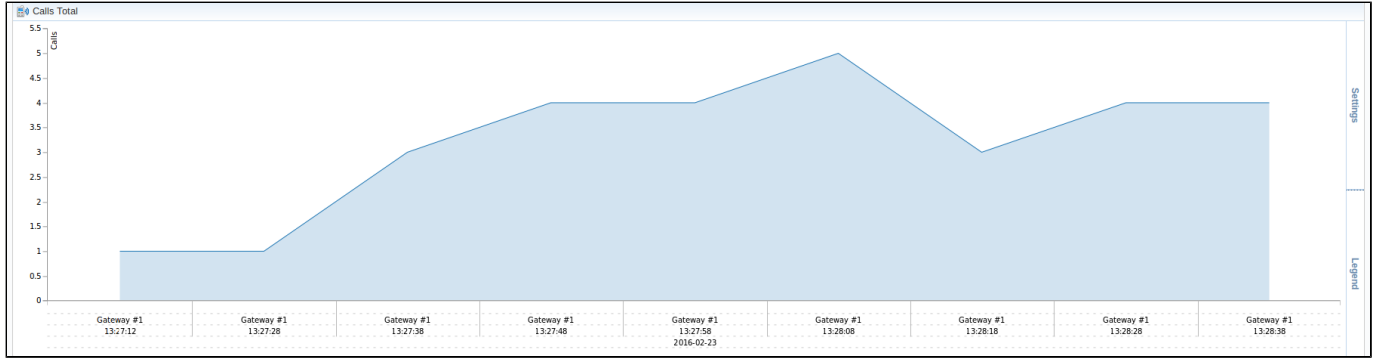
Screenshot: General example of chart



Screenshot: Orig-Term chart



Screenshot: Active calls chart



Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Customer Dynamics

In this article

- [Section overview](#)
- [Creating a New Report](#)
- [Customer Dynamics buttons: export, chart.](#)


Section overview

The **Customer Dynamics** section is designed to illustrate the data for analyzing and improving efficiency easily. Here, reports are presented in the form of the table. However, you can create a chart to interpret key information effectively and facilitate the decision-making process.

Screenshot: *Customer Dynamics section/query form*

Creating a New Report

To generate a report, you need to fill in the form and click the **Query** button. The query form consists of the following parameters:

Information Block	Field Description
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.
	Period Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Client Type Select a client type from a drop-down list of the following options: <ul style="list-style-type: none"> • Client • Reseller • Calling Card • Call Shop
	Additional Filters
	There are the following accessible additional filters: <ul style="list-style-type: none"> • By clients: <i>Client Tags, Owner.</i> • Extras: <i>Package.</i>
	Client Tags Specify certain tags to filter clients and show more detailed results in the report
	Owner Define a reseller for the report
	Package Enter a package for the report
Group by	There are the following accessible options to group the data in reports: <ul style="list-style-type: none"> • Time: <i>Year, Month, Date.</i> • Extras: <i>Package Name.</i>
Output	This form contains settings for the output data of the report.
	Type Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx

Send to	You can send generated reports via email. Also, it is possible to specify several emails. <div style="background-color: yellow; padding: 5px; border: 1px solid black;"> <p>⚠ Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.</p> </div>
Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
Active Duration	Determine the period (in months). If the customer has used any paid services within this period, (s)he will be considered an active client.

A generated Customer Dynamics report is demonstrated on a screenshot below:

Screenshot: Customer Dynamics report

Customer Dynamics

FILTERS

Period: ▼ This Year 2018-01-01 00:00:00 — 2018-12-31 23:59:59 UTC ▼

Client Type: ▼ Client

Group By: ▼ Month

Save Query Query

OUTPUT

Type: ▼ Web

Currency: ▼ USD

Active Duration: ▼ 3 month(s)

Export to CSV Export to XLSx Show Chart ?

	01/2018	02/2018	03/2018	04/2018	05/2018	06/2018	07/2018	08/2018	09/2018	10/2018	11/2018	12/2018
Clients - Active												
Qty	0	0	1	1	1	1	0	0	0	0	0	0
Balance Pos	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Balance Neg	N/A	N/A	-809.50	-809.50	-809.50	-809.50	N/A	N/A	N/A	N/A	N/A	N/A
Balance	N/A	N/A	-809.50	-809.50	-809.50	-809.50	N/A	N/A	N/A	N/A	N/A	N/A
Clients - Overall Active												
Qty	0	0	2	2	2	2	2	2	2	2	2	2
Balance Pos	N/A	N/A	30.75	30.75	30.75	30.75	30.75	30.75	30.75	30.75	30.75	30.75
Balance Neg	-33.75	-33.75	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50
Balance	-33.75	-33.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75
Clients - All												
Qty	0	0	2	2	2	2	2	2	2	2	2	2
Balance Pos	N/A	N/A	30.75	30.75	30.75	30.75	30.75	30.75	30.75	30.75	30.75	30.75
Balance Neg	-33.75	-33.75	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50	-809.50
Balance	-33.75	-33.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75	-778.75
Balance Refill												
Qty	0	0	1	0	0	0	0	0	0	0	0	0
Total	N/A	N/A	125.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Avg	N/A	N/A	125.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pay As You Go												
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Active Avg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Packages												
Activation Qty	0	0	0	0	0	0	0	0	0	0	0	0
Activation Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Renew Qty	0	0	1	0	0	0	0	0	0	0	0	0
Renew Total	N/A	N/A	-870.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Title	Description
Clients - Active	<p>This subdivision shows statistical data of customers that actively use services according to the period specified in the Active Duration field</p> <ul style="list-style-type: none"> Qty - Overall number of clients that used any paid services within the last Active Duration period. Balance Pos - Total of all positive balances for the clients that used any paid services within the last Active Duration period. Balance Neg - Total of all negative balances for the clients that used any paid services within the last Active Duration period. Balance - Total of all balances for the clients that used any paid services within the last Active Duration period.
Clients - Overall Active	<p>Here a statistic data of customers that actively used paid services at any time is displayed</p> <ul style="list-style-type: none"> Qty - Total quantity of clients that used any paid services at any time.

	<ul style="list-style-type: none"> • Balance Pos - Total of all positive balances for the clients that used any paid services at any time. • Balance Neg - Total of all negative balances for the clients that used any paid services at any time. • Balance - Total of all balances for the clients that used any paid services at any time.
Clients - All	<p>It presents all customers according to the filter settings</p> <ul style="list-style-type: none"> • Qty - Total quantity of clients according to current filters. • Balance Pos - Total of all positive balances for the clients according to current filters. • Balance Neg - Total of all negative balances for the clients according to current filters. • Balance - Total of all balances for the clients according to current filters.
Balance Refill	<ul style="list-style-type: none"> • Qty - Number of balance refills during the specified period. • Total - Total amount of balance refills during the specified period. • Avg - Average amount of each refill during the specified period.
Pay As You Go	<ul style="list-style-type: none"> • Total - Total amount spent on any services out of package subscription plans. • Active Avg - Average amount of Pay as you Go services usage per currently active customers.
Packages	<ul style="list-style-type: none"> • Activation Qty - Number of packages activations during the specified period. • Activation Total - Total amount charged for all activations of the packages. • Renew Qty - Number of packages renewals during the specified period, including initial renew within activation of the package. • Renew Total - Total amount charged for packages renewals, during the specified period, including initial renew within activation of the package.

Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button. A pop-up window with settings will appear and you need to fill in the following form:

Screenshot: New Template form

Tip

To find more details about templates, please refer to the *Report Templates* article in our **User Guide**.


Customer Dynamics buttons: export, chart.

You can export data to a **CSV** and **XLSx** file, which contains only currently displayed data, with no automatic request to update data while exporting. Also, it is possible to create charts for illustrating a crucial information easily:

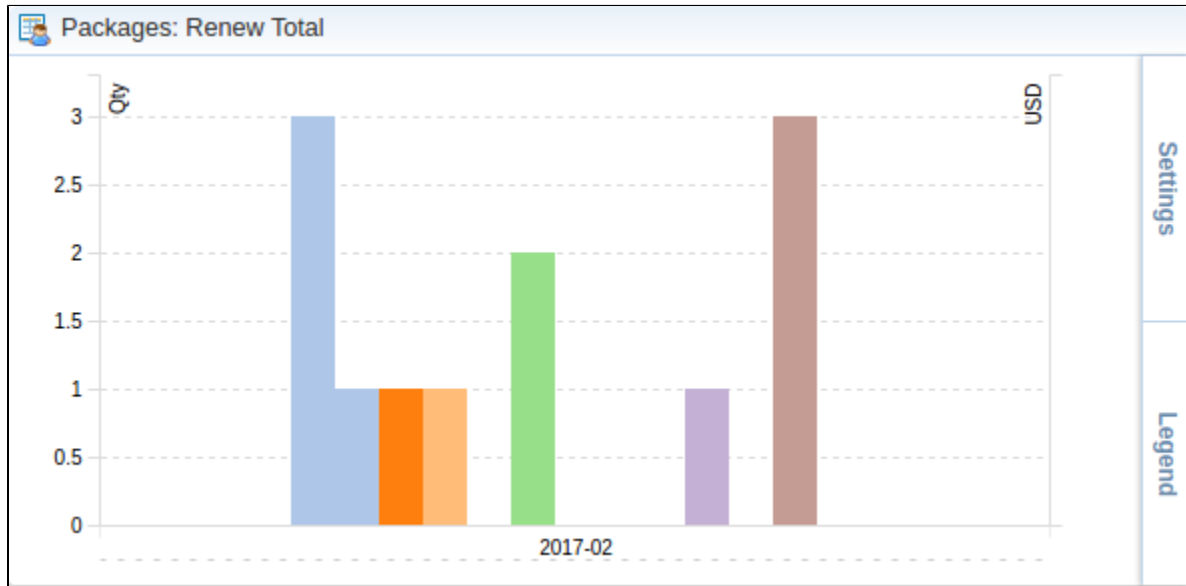
1. To download a report in **.csv**, click on the **Export to CSV** button above the report.
2. To download a **.xlsx** file, click on the **Export to XLSx** button above the report
3. To create a **visual chart**, click on the **Show Chart** button above the report. There is more information available on this topic in the article **How to create a statistic chart?** in our Knowledge Base. From the drop-down list on this option, you can find the next pre-configured templates for the chart:

- **Clients - Active: Qty**
- **Balance Refill: Total**
- **Pay as you Go: Total**
- **Packages: Renew Total**
- **Blank Chart**

Therefore, you can create a new chart or select **Blank Chart** to have a new empty worksheet for configuring a custom chart

4. You can check an actual date interval by clicking on the **Info**  icon. The displayed data could be different from the Interval specified above if there is no data for the period.

Screenshot: Customer Dynamics chart



Summary Report

In this article

- [Section overview](#)
- [Creating a New Summary Report](#)
- [Simple scheme: how to generate a summary report](#)
- [Creating a Query Template](#)
- [Summary Report buttons: reports, export, chart.](#)
- [Side-by-side report](#)
- [Knowledge Base Articles](#)



Section overview

This section is designed to help users create a report that would contain summary information regarding all existing services from the perspective of both origination and termination sides. Not only can it provide a general overview of total services cost and billed volumes of service units, but it can be customized to outline even more detailed information regarding different client types, ASR / ACD Current, etc.

Screenshot: *Summary Report query form*


Creating a New Summary Report

To create a new summary report, you need to fill in the following parameters in the form and click the **Query** button:

Information block	Field Description
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.
	Period (1) Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Period 2 Accessible when you enable the Compare Period option by clicking on the plus  icon next to the Period . Specify the second interval for the report.
	Group by Select from the list of the following accessible options to group the data in reports: <ul style="list-style-type: none"> • Time: Year, Month, Day, Hour • Clients: Client Type, Client, Account, C Series, Owner, Package Name • Events: Code, Code Name, Currency, Rate, Additive Rate, Origin, Result Code, Gateway • Totals: Setup Fee • Extras: Gateway Tag, Service Name. <div style="background-color: #ffffcc; padding: 10px; margin-top: 10px;"> <p>⚠ Attention</p> <ul style="list-style-type: none"> • The Group by field is mandatory, it couldn't be empty in order to generate the report. • If you group by Client, and his/her Timezone differs from the system Timezone, the latter will be used in the respective report. </div>
Additional Filters	The accessible additional filters are: <ul style="list-style-type: none"> • Clients: Client Tags, Client Type, Client, Account, Account Tags, Cards Serial, Package. • Events: Code, Code Name, Cost Total, Origin, Result Code, Gateway.

- **Extras:** Owner, Total Volume, Total records, Not Zero Records, ASR Current, ACD Current, Service Name.

Client Type	Select a client's type for the report: Client, Reseller, Calling Card or Call shop
Client	Define a client for the report
Account	Enter an account for the report
Client /Account Tags	Define a client's or account's tag
Cards Serial	Indicate cards serial for the report
Package	Enter a package for the report
Code	Specify a code of needed destination
Code Name	Specify a code name of a desired destination
Cost Total	Enter the range of total call cost
Origin	Indicate an origin - origination or termination of the event
Result Code	Define a result code as a filtering parameter
Gateway	Specify a gateway
Owner	Indicate the owner
Total Volume	Enter the range of total duration
Total Records	Enter the range of total records
Not Zero Records	Define the range of records that have duration equal to or more than 1 unit
ASR Current	Specify the range of ASR Cur for records you would like to display
ACD Current	Specify the range of ACD Cur for records you would like to display
Service Name	Determine the name of service for the report

Output	This form contains settings of the report output data.	
	Click the plus  icon next to Columns and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.	
	Accessible columns in the report	
	<p>The list of additional columns include:</p> <p>Columns for the main period:</p> <p><i>Cost Total, Average Rate, Package Credit, Total Volume, Billed Volume, Package Volume, Total Records, Not Zero Records, Success Records, Busy Records, No Channel Records, Error Records, ASR Std, ASR Cur, ACD Srd, ACD Cur, PDD Avg, SCD Avg, xDRs List.</i></p> <p>Columns for the comparative period are the same as for the main period. Moreover, all parameters could be selected expressed in percentage.</p>	
Rate	Avg. Rate - an average cost calculated	
Totals	<ul style="list-style-type: none"> • Cost Total - the full price of all services including additional services • Total Volume - a whole volume of the events in units (specified in the Services settings "Reports" field) • Billed Volume - a whole billed volume of events. It could differ from the total volume due to the rates settings, for example, grace volume, min volume, and interval. • Package Volume - a volume within a respective package that is billed according to the package limits • Package Credit - a volume of credit that has been charged within the respective package • Total Events - the entire quantity of events • Not Zero Records - the quantity of records that have the volume equal to or more than 1 • Success Records - the quantity of records that have a duration equal to or more than 1 and a successful end code, records with Q.931 disconnect cause 16 or 31 	

	<ul style="list-style-type: none"> • Busy Records - busy records quantity with Q.931 disconnect cause 17 • No Channel Records - no circuit/channel available, records quantity with Q.931 disconnect cause 34
Statistics	<p>ASR - Average success rate (successful records percentage)</p> <ul style="list-style-type: none"> • Std - value calculated on the base of records with status "success" divided by the total number of records minus all records with "no channel available" status • Cur - value calculated on the base records with volume > 0 divided by total number of records <p>ACD - Average call duration in minutes</p> <ul style="list-style-type: none"> • Std - Sum of all records duration divided by the number of records with status "success" • Cur - Sum of all records duration divided by the number of records with duration > 0 <p>PDD Avg - Average post-dial delay in seconds</p> <p>SCD Avg - Average session connect delay in seconds</p>
Extras	xDRs List - list of detailed records statistics
Other output settings	
Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.
Type	<p>Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx</p> <p>Also, select a look of a table view next to the Type field:</p> <ul style="list-style-type: none"> • Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse it <div style="background-color: #ffffcc; padding: 5px;"> <p>⚠ Attention</p> <p>Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV and Excel XLS.</p> </div>
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by the chosen parameter. It is available only for the Plain report type.
Send to	<p>You can send generated reports via email. Also, it is possible to specify several emails.</p> <div style="background-color: #ffffcc; padding: 5px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report; it doesn't work with Web.</p> </div>
Currency	Specify a currency of the report. All values will be automatically converted to the specified currency in the report.
Code Deck	Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck.

The example of a generated summary report is presented on a screenshot below:

Screenshot: Summary Report section

If the data in the report is grouped, it will be shown initially collapsed. To expand or collapse data in your report, click the plus or minus icons. To expand all data in the report, please click Ctrl + the icon.

Warning

Please note, the system shows rounded values in the reports. But while calculating, the system takes an exact value. Hence, the procedure of the rounding is as follows:

- the system rounds currency values according to the settings of a respective currency
- all types of events (e.g., not zero, success, busy, as well as total quantity) are not rounded
- such parameters as **Setup Fee Cost, Package Credit, Average Rate, Cost Total** are rounded to the nearest ten-thousandth. For example, 3.879256 to 3.8793
- others are rounded to the nearest hundredth. For example, 4.8763 to 4.88

Simple scheme: how to generate a summary report

To create a simple summary report, you need to:

- Select desired parameters for the report on the **Filters** menu
- Enter the interval and specify a timezone
- Select parameters in the **Group by** field, for example, **Currency, Origin**, etc.
- Select **Columns** in the Output form, for example, **Average Rate, ASR Std, ASR Cur, ACD Std, ACD Cur, Total Records**, etc.
- Specify the **Type** field or leave its default settings (Web/Grouped)
- Specify the currency and select a code deck (if applicable).
- Click the **Query** button.

Tip

- If you want to sort already grouped data in columns, select respective parameters in the **Order by** field. Also, you can sort from highest to lowest values (or vice versa).
- Please note, the **Order by** option is active when the **Type** of the Output form is **Plain**. When it is **Grouped**, the data is only sorted by values specified in the **Group by** field.

Creating a Query Template

Also, you can create a template for reports and save specified parameters by clicking on the **Save Query** button. A pop-up window with settings will appear, and you will need to fill in the following form.

Screenshot: *New Template form*

To load already existed templates while generating statistic reports, click the **Load Query** button in the **Summary Report** section.

Tip

To find more details about templates, please refer to the [Report Templates](#) article in our **User Guide**.




Summary Report buttons: reports, export, chart.

You can export data to a **CSV** or **XLSx** file, which contains only currently displayed data, with no automatic request to update data while exporting. Also, it is possible to create charts for illustrating crucial information easily. You can generate a report using the same criteria in the **Orig-Term report** and the **xDRs list** sections.


1. To download a report in **.csv**, click on the **Export to CSV**  button above the report.



Attention

Please note, this button will be visible only when the **Type** of the output is **Plain**. For the **Grouped** output type it is not available.



2. To download an **.xlsx** report file, click the **Export to XLSx**  button above the report.
3. To create a **visual chart**, click the **Show Chart**  button above the report. There is more information available on this topic in the article **How to create a statistic chart?** in our Knowledge Base.
4. You can generate a detailed report using the same criteria in the **xDRs list** section by clicking the **xDRs list**  icon above the report.

Tip


When you make a report based on two periods, **two xDRs list**  icons appear:

- the first xDRs list  icon allows generating an xDR's report based **on the first period**;
- the second xDRs list  icon allows generating data based **on the second period** in the xDRs list.

When you make a report and filter data by **Client/Client Tags/Account/Code/Code Name/Owner** parameters, two Orig-Term icons appear. They allow generating reports with **origination** and **termination** data separately.

- this Orig-Term icon  allows generating a report **based on origination data**;
- this Orig-Term icon  allows generating a report **based on termination data**.

5. It is possible to generate a report using the same criteria in the **Orig-Term** section by clicking the **Orig-Term**  icon on the toolbar.

6. You can check an actual date interval by clicking on the **Info**  icon. The displayed data could be different from the Interval specified above if there is no data for the period.

Screenshot: *Summary Report* section

The screenshot shows the 'Summary Report' interface. The 'FILTERS' section includes 'Period 1' (Last Year, 2017-01-01 00:00:00 to 2017-12-31 23:59:59 UTC) and 'Compare Period 2' (Last Year, 2017-01-01 00:00:00 to 2017-12-31 23:59:59). The 'OUTPUT' section shows 'Order By: Total Volume', 'Limit: No limit', 'Type: Web', 'Grouped', 'Currency: USD', and 'Code Deck'. A bar chart titled 'Total Volume, ACD Std' compares 'Calls', 'Data orig', and 'SMS' for 'Data term' and 'Data orig'. Below the chart is a table with columns for Origin, Service Name, Unit, Cost Total, Billed Volume, Average Rate, Package Volume, Total Volume, Package Credit, Total Events, Not Zero, Success, Busy, ACD Std, SCD Avg, and xDRs List. The table shows data for 'origination' and 'termination'.

Origin	Service Name	Unit	Cost Total		Billed Volume		Average Rate		Package Volume		Total Volume		Package Credit		Total Events		Not Zero		Success		Busy		ACD Std		SCD Avg		xDRs List
			P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	
origination			343.56	343.56	1 413.41	1 413.41	0.2431	0.2431	608.60	608.60	1 916.25	1 916.25	0.0000	0.0000	889	889	886	886	889	889	0	0	2.16	2.16	2.61	2.61	
termination			-307.75	-307.75	2 220.06	2 220.06	0.1386	0.1386	0.00	0.00	1 916.25	1 916.25	0.0000	0.0000	889	889	886	886	889	889	0	0	2.16	2.16	2.61	2.61	

Side-by-side report

This tool allows building a report with side-by-side sub-reports. Use it to run a comparative analysis on the same page. It's helpful for reviewing multiple parameters, totals, and compare results at different time intervals. The **Compare Period** option is designed to create a report that shows two sub-reports side-by-side.

To enable this option, click on the plus icon next to the **Period** field and specify both intervals (**Period 1/Period 2**) for the report.

Screenshot: Summary Report section

The screenshot shows the 'Summary Report' interface with a red arrow pointing to the plus icon next to the 'Period' field in the 'FILTERS' section. The 'OUTPUT' section shows 'Order By: Total Volume', 'Limit: No limit', 'Type: Web', 'Plain', 'Currency: USD', and 'Code Deck'.

Then, choose columns for a main and comparative period in the report Output form. When all required parameters are specified, click the **Query** button.

To remove this filter, please click the delete icon.

You can modify a comparative mode by changing periods and columns. For example, to compare how different the cost total of the two periods is in percentage terms. To do this, choose the **Cost Total (%)** value from the Columns. Therefore, the final report splits **Cost Total (%)** into separate columns (see screenshot below).

Screenshot: Summary Report section

Summary Report

FILTERS **OUTPUT** COLUMNS (13)

Origin: _____
 Result Code: _____
 Gateway: _____
 Extras: _____
 Owner: _____

Columns for main period: Cost Total x Billed Volume x Average Rate x Package Volume x Total Volume x Package Credit x Total Events x Not Zero x Success x Busy x ACD Std x SCD Avg x xDRs List x

Columns for comparative period: Average Rate x Cost Total x Total Volume x Billed Volume x Package Volume x Package Credit x Total Events x Not Zero x Success x Busy x ACD Std x SCD Avg x

Save Query Load Query... Query Code Deck: _____

Export to XLSx Show Chart

Origin	Service Name	Unit	Cost Total		Billed Volume		Average Rate		Package Volume		Total Volume		Package Credit		Total Events		Not Zero		Success		Busy		ACD Std		SCD Avg		xDRs List
			P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	
origination			343.56	343.56	1 413.41	1 413.41	0.2431	0.2431	608.60	608.60	1 916.25	1 916.25	0.0000	0.0000	889	889	886	886	889	889	0	0	2.16	2.16	2.61	2.61	
termination			-307.75	-307.75	2 220.06	2 220.06	0.1386	0.1386	0.00	0.00	1 916.25	1 916.25	0.0000	0.0000	889	889	886	886	889	889	0	0	2.16	2.16	2.61	2.61	

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Attention

- When you use the **Compare Period** option in the **Summary Report** and **Orig-Term Report** sections, default chart templates will not be accessible.
- When you select one of the **Time** parameters (**Year, Month, Week**) for the **Group by** field, the **End date** of the **Period 2** will be set automatically to make intervals of **Period 1** and **Period 2** equal. Moreover, the **End Date** field of **Period 2** becomes non editable.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Orig-Term Report

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Section overview

This section is designed to provide a user with a possibility to generate a report and trace all call routes from a **Client** to any **Provider** with orig-term cost and profit. Here you can create a report based on an existing template or generate a new one. Also, you can get the information sorted by clients, events, profit, etc.

Screenshot: *Orig-Term Report query form*

Creating a New Orig-Term Report

To create a new summary report, you need to fill in the following parameters in the form and click the **Query** button:

Information Block	Field Description
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.
	Period (1) Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Period 2 Accessible when you enable the Compare Period option by clicking on the plus  icon next to the Period . Specify the second interval for the report.
	 Tip When you select one of the Time parameters for Group by , the end date of the Period 2 will be set automatically to make equal intervals of Period 1 and Period 2 .
Group by	There are the following accessible options to group the data in reports: <ul style="list-style-type: none"> • Time: Year, Month, Date, Hour. • Clients: Orig Client, Orig Account, Orig Code, Orig Code Name, Orig Rate, Term Client, Term Account, Term Code, Term Code Name, Term Rate • Extras: Service Name, Orig Serial, Orig Client Type, Orig Owner, Orig Time profile, Term Client Type, Term Owner, Term Time profile <div style="background-color: #ffffe0; padding: 5px;">  Attention Please note, the Group by field is mandatory, it couldn't be empty in order to generate the report. </div>
Additional Filters	There are the following accessible additional filters:

- **Clients:** *Orig Client/ Orig Account/ Orig Code/ Orig Code Name/ Orig Serial/ Orig Owner/ Orig Client's Tags/ Orig Account's Tags/ Term Client/ Term Account/ Term Code/ Term Code Name/ Term Owner/ Term Client's Tags/ Term Account's Tags*
- **Events:** *Total/ Profit/ Volume, Total/ Events Not Zero/ ASR Cur/ ACD Cur*
- **Extras:** *Service Name/ Orig Time profile/ Term Time profile*

Clients Settings



Orig Client	Define an origination client for the report
Orig Account	Enter an origination account for the report
Orig Code	Specify an origination code for the report
Orig Code Name	Indicate an origination code name
Orig Serial	Define an origination serial
Orig Owner	Define an origination Reseller for the report
Orig Client's Tags	Determine tags that belong to an origination client
Orig Account's Tags	Specify tags determined for an origination account
Term Client	Define a termination client for the report
Term Account	Enter a termination account for the report
Term Code Name	Indicate a termination code name
Term Owner	Define a Reseller for the report
Term Client's Tags	Determine tags that belong to a termination client
Term Account's Tags	Specify tags determined for a termination account
Term Code	Specify a termination code for the report

Events Settings

Total	Enter the range of total events
Profit	Enter the range of the revenue you would like to display
Events Not Zero	Define the range of events, that have duration greater than 0
ASR Current	Specify the range of ASR Cur for events you would like to display
ACD Current	Specify the range of ACD Cur for events you would like to display
Volume, Total	Enter the range of total volume of services

Extra Settings

Orig Time Profile	Select an orig time profile that will be used as filter criteria
Term Time Profile	Specify a term time profile that will be used as filter criteria
Service	Determine the name of service for the report

Name	
Output	<p>This form contains settings of the output data of the report.</p> <p>Click the plus  icon near the Columns to select respective columns to output a report data. Also, you can cancel any chosen item.</p>
Accessible columns in the report	
<p>Columns for the main period are:</p> <p><i>ASR Std, ASR Cur, ACD Std, ACD Cur, Total Volume, Error, Profit, Profit (%), Orig Billed Volume, Orig Cost, Orig Avg Rate, Term Billed Volume, Term Cost, Term Avg Rate, Total Events, Not Zero, Busy, No Channel, Success.</i></p> <p>Columns for the comparative period are the same as for the main period. Moreover, all parameters could be selected expressed in percentage.</p>	
Orig	<p><i>Origination information:</i></p> <ul style="list-style-type: none"> • Billed Volume - Billed event volume • Cost - Price of the event • Avg. Rate - Average event rate
Term	<p><i>Termination information:</i></p> <ul style="list-style-type: none"> • Billed Volume - Billed event volume • Cost - Event cost • Avg. Rate - Average event rate
Profit	<ul style="list-style-type: none"> • Profit - Revenue in respective currency, for example, USD (in fact, any system currency can be specified here) • Profit (%) - Revenue in percent value
Total Volume	Total volume of services
ASR	<p><i>Average successful rate (successful events percentage):</i></p> <ul style="list-style-type: none"> • Std - Number of events with success status divided by total number of events minus all events with no channel available status • Cur - Number of events with duration > 0 divided by total number of events
ACD	<p><i>Average call duration:</i></p> <ul style="list-style-type: none"> • Std - Sum of all event duration divided by the number of events with success status • Cur - Sum of all event duration divided by the number of events with a duration > 0
Events	<p><i>Quantity of events in a database</i></p> <ul style="list-style-type: none"> • Total Events - Total events quantity • Not Zero - Quantity of events that have a duration equal to or more than 1 second • Success - Quantity of events that have a duration equal to or more than 1 second and a successful end code, events with Q.931, disconnect cause 16 or 31 • Error - Quantity of declined events • Busy - Busy events quantity • No Channel - No circuit/channel available. Events with Q.931, disconnect cause 34
Other output settings	
Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.
Type	<p>Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx</p> <p>Also, select a look of a table view next to the Type field:</p> <ul style="list-style-type: none"> • Grouped - a table view with grouped data and possibility to collapse it • Plain - a simple table view • Plain with total - a simple table view with an additional Total row at the beginning of the report <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p> Attention</p> </div>

	Please note, that the Grouped type of table view is available only for Excel XLSx and Web formats; it doesn't work with CSV .
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by the chosen parameter. It is available only for plain and plain with total types of the report.
Send to	You can send generated reports via email. Also, it is possible to specify several emails. <div style="background-color: yellow; padding: 5px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report; it doesn't work with Web.</p> </div>
Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
Code Deck	Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck.

A generated orig-term report is demonstrated on a screenshot below:

Screenshot: *Orig-Term Report section*

The screenshot shows the 'Orig-Term Report' interface. It includes a 'FILTERS' section with a date range from 2018-01-01 to 2018-12-31, a 'Group By' dropdown set to 'Service Name', and an 'OUTPUT' section with 'Order By' set to 'Orig Cost', 'Limit' set to 'No limit', 'Type' set to 'Web', 'Currency' set to 'USD', and 'Code Deck' set to an empty field. Below these are buttons for 'Export to CSV', 'Export to XLSx', and 'Show Chart'. The main data table has columns for Service Name, Unit, Orig Client, Term Client, Orig Billed Volume, Orig Cost, Orig Avg Rate, Term Billed Volume, Term Cost, Term Avg Rate, Profit, Profit (%), Total Volume, Total Events, Not Zero, Success, Busy, No Channel, Error, ASR Std, ASR Cur, ACD Std, and ACD Cur. The 'Total' row shows values for each column, with Profit and Term Cost highlighted in red. The 'Calls' row shows 'min' for Unit and 'Orig Client' and 'Term Client #1' for the client columns.

If the data is grouped in the report, it will be shown initially collapsed. To expand or collapse data in your report, click the plus or minus icons. To expand all data in the report, please click **Ctrl** and .

⚠ Warning

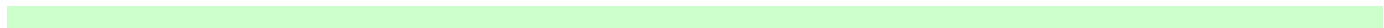
Please note, the system shows rounded values in the reports. However, while calculating, the system takes an exact value. Hence, the procedure of the rounding is as follows:

- the system rounds currency values according to the settings of a respective currency
- all types of events (e.g., not zero, success, busy, as well as total quantity) are not rounded
- such parameters as **Orig Avg Rate**, **Term Avg Rate**, **Profit**, **Term Cost** are rounded to the nearest ten-thousandth. For example, 3.879256 to 3.8793
- others are rounded to the nearest hundredth. For example, 4.8763 to 4.88

Simple scheme: how to generate an orig-term report


An easy way to generate a simple orig-term report is:

- Select the desired parameters for the report on the **Filters** menu.
- Enter the period.
- Select some parameters in the **Group by** field, for example, *Orig Client*, *Service Name*.
- Select **Columns** in the Output form, for example, *ASR Std*, *ASR Cur*, *ACD Std*, *ACD Cur*, *Success*, *Error*, *Profit (%)*.
- Specify the **Type** field or leave its default settings (Web/Grouped)
- Specify the currency and choose the code deck (if applicable).
- Click the **Query** button.



Tip

- If you want to sort already grouped data in columns, select the respective parameters in the **Order by** field. Also, you can sort from highest to lowest values (or vice versa).
- Please note, the **Order by** option is active when the **Type** of the Output form is **Plain** or **Plain with Total**. When it is **Grouped**, the data is only sorting by values specified in the **Group by** field.

Also, you can sort data in a report manually using special arrows  next to the name of the respective columns.

Screenshot: Orig-Term Report

Orig Code	ASR Std	ASR Cur
	100.00	100.00
38067	100.00	100.00
	100.00	100.00
1111	100.00	100.00
	42.42	100.00
3333	42.42	100.00

Creating Reports Templates

Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button. A pop-up window with settings will appear and you will need to fill out the following form:

Screenshot: New Template creation form

Tip

To find more details about templates, please refer to the [Report Templates](#) article in our **User Guide**.

Orig-Term Report buttons: reports, export, chart.





You can export data to a **CSV** or **XLSx** file, which contains only currently displayed data, no automatic request to update data while exporting. Also, it is possible to create charts for illustrating crucial information easily. And you can generate a report using the same criteria in the **Summary report** and the **Rs list** sections.

1. To download a report in .csv, click the **Export to CSV**  button on the toolbar.

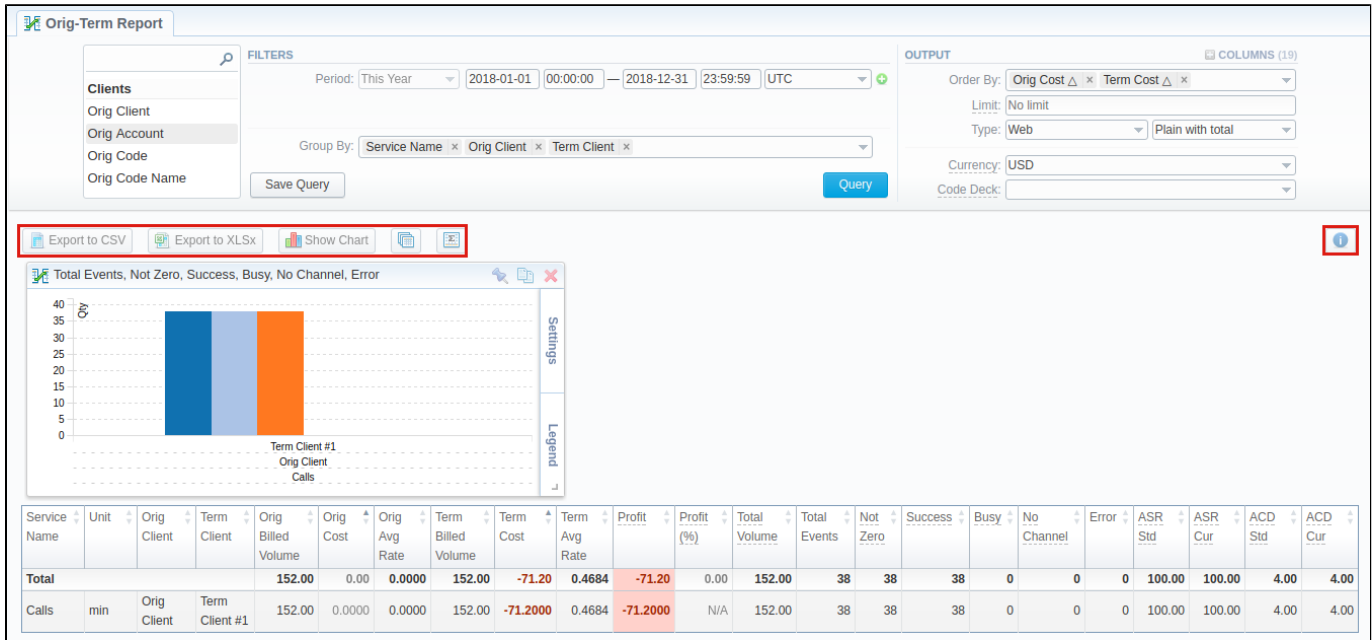
Attention

Please note, this button will be visible only when the **Type** of the output is **Plain**. For the **Grouped** output type it is not available.

2. To download an .xlsx file, click the **Export to XLSx**  button on the toolbar.

- To create a **visual chart**, click the **Show Chart**  button on the toolbar. There is more information available on this topic in the article "**How to create a statistic chart?**" in our Knowledge Base.
- You can generate a detailed report using the same criteria in the **xDRs list** section by clicking the **xDRs list**  icon on the toolbar.
- And it is possible to generate a report using the same criteria in the **Summary report** section by clicking the **Summary**  icon on the toolbar.
- You can check an **actual date interval** of the report by clicking the **Info**  icon and it could be different from *the Interval* specified above if there is no data for the period.

Screenshot: Orig-Term Report section/ chart



The screenshot shows the 'Orig-Term Report' interface. At the top, there are filters for 'Period' (This Year, 2018-01-01 00:00:00 to 2018-12-31 23:59:59 UTC) and 'Group By' (Service Name, Orig Client, Term Client). The 'OUTPUT' section shows 'Order By' (Orig Cost, Term Cost), 'Limit' (No limit), 'Type' (Web, Plain with total), and 'Currency' (USD). A toolbar includes 'Export to CSV', 'Export to XLSx', 'Show Chart', and 'Info' icons. A bar chart titled 'Total Events, Not Zero, Success, Busy, No Channel, Error' shows data for 'Term Client #1' and 'Orig Client Calls'. Below the chart is a data table with columns for Service Name, Unit, Orig Client, Term Client, Orig Billed Volume, Orig Cost, Orig Avg Rate, Term Billed Volume, Term Cost, Term Avg Rate, Profit, Profit (%), Total Volume, Total Events, Not Zero, Success, Busy, No Channel, Error, ASR Std, ASR Cur, ACD Std, and ACD Cur.

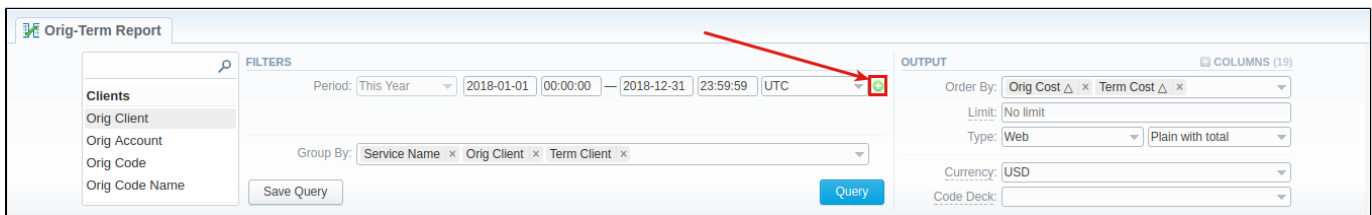
Service Name	Unit	Orig Client	Term Client	Orig Billed Volume	Orig Cost	Orig Avg Rate	Term Billed Volume	Term Cost	Term Avg Rate	Profit	Profit (%)	Total Volume	Total Events	Not Zero	Success	Busy	No Channel	Error	ASR Std	ASR Cur	ACD Std	ACD Cur
Total				152.00	0.00	0.0000	152.00	-71.20	0.4684	-71.20	0.00	152.00	38	38	38	0	0	0	100.00	100.00	4.00	4.00
Calls	min	Orig Client	Term Client #1	152.00	0.0000	0.0000	152.00	-71.2000	0.4684	-71.2000	N/A	152.00	38	38	38	0	0	0	100.00	100.00	4.00	4.00

Side-by-side report

This tool allows building a report with side-by-side sub-reports. Use it to run a comparative analysis on the same page. It's helpful for reviewing multiple parameters, totals, and compare results at different time intervals. The **Compare Period** option is designed to create a report that shows two sub-reports side-by-side.


To enable this option, click the plus icon next to the **Period** field and specify both intervals (**Period 1/Period 2**) for the report.

Screenshot: Orig-Term Report query form



The screenshot shows the 'Orig-Term Report' query form. A red arrow points to the plus icon next to the 'Period' field, which is currently set to 'This Year' (2018-01-01 00:00:00 to 2018-12-31 23:59:59 UTC). The 'OUTPUT' section is visible, showing 'Order By' (Orig Cost, Term Cost), 'Limit' (No limit), 'Type' (Web, Plain with total), and 'Currency' (USD).

Afterwards, choose columns for the main and comparative period in the report output form. When all required parameters are specified, click the **Query** button.

To remove this filter, please click the delete  icon.

You can modify a comparative mode by changing periods and columns. For example, to compare how different the cost total of the two periods is in percentage terms. To do this, choose the **Cost Total (%)** value from the Columns. Therefore, the final report splits **Cost Total (%)** into separate columns (see screenshot below).

Screenshot: Orig-Term Report example

Orig-Term Report

FILTERS OUTPUT COLUMNS (19)

Clients
 Orig Client
 Orig Account
 Orig Code
 Orig Code Name

Columns for main period:
 Orig Billed Volume x Orig Cost x Orig Avg Rate x Term Billed Volume x Term Cost x Term Avg Rate x Profit x Profit (%) x Total Volume x Total Events x Not Zero x Success x Busy x No Channel x Error x ASR Std x ASR Cur x ACD Std x ACD Cur x

Columns for comparative period:
 Orig Billed Volume x Orig Cost x Orig Avg Rate x Term Billed Volume x Term Cost x Term Avg Rate x Profit x Profit (%) x Total Volume x Total Events x Not Zero x Success x Busy x No Channel x Error x ASR Std x ASR Cur x ACD Std x ACD Cur x

Export to CSV Export to XLSx Show Chart

Service Name	Unit	Orig Client	Term Client	Orig Billed Volume	Orig Cost	Orig Avg Rate	Term Billed Volume	Term Cost	Term Avg Rate	Profit	Profit (%)	Total Volume	Total Events	Not Zero	Success	Busy	No Channel	Error	ASR Std	ASR Cur	ACD Std	ACD Cur
Total				152.00	0.00	0.0000	152.00	-71.20	0.4684	-71.20	0.00	152.00	38	38	38	0	0	0	100.00	100.00	4.00	4.00
Calls	min	Orig Client	Term Client #1	152.00	0.0000	0.0000	152.00	-71.2000	0.4684	-71.2000	N/A	152.00	38	38	38	0	0	0	100.00	100.00	4.00	4.00

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parameters should not be empty

Profit Report

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Section overview

This section allows generating the profit report, which analyzes profitability data and defines profits between **Reseller** parties (companies and managers) and **Clients** belonging to the respective Reseller/Manager.




For example, when **Manager_1** executes a profitability report, it allows to see their origination customers sending traffic to **Manager_2**, who owns the actual terminator vendors. In this case, Reseller's permissions apply to every query, which guarantees that **Manager_1** will **not** be able to see any actual name of a client belonging to another manager, or another party that restricts such access.

Screenshot: Profit Report query form

Creating a Profit Report

To generate a profit report, you need to fill in the required parameters in the form and click the **Query** button. To get information sorted, use the **Group by** option and choose respective values from the drop-down list.

The list of query fields is as follows:

Information block	Field Description	
Filters	On the Filters menu, select required parameters for the report. To cancel any filter, click the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of drop-down menu with filters.	
	Period (1)	Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Period 2	Accessible when you enable the Compare Period option by clicking on the plus  icon next to the Period . Specify the second interval for the report. <div style="background-color: #e0ffe0; padding: 5px; border: 1px solid #c0ffc0;"> <p> Tip</p> <p>When you select one of the Time parameters for Group by, the end date of the Period 2 will be set automatically to make equal intervals of Period 1 and Period 2.</p> </div>
	Reseller	Specify the name of a target Reseller.
	Mode	Choose the mode of the report: <ul style="list-style-type: none"> • All visible - all represented visually. • Hide External Originators - all external originators of the selected manager will not be displayed. • Hide External Clients - only events made solely between clients of the chosen manager will be shown. <p>By default, the field value is set to All visible</p>
	Group by	Select a grouping option. Here you can choose and swap columns, as well as change their order. There are the following accessible options to group data in reports:

- **Time:** Year, Month, Day, Hour.
- **Clients:** Income Client, Income Account, Income Code, Income Code Name, Orig Rate, Outcome Client, Outcome Account, Outcome Code, Outcome Code Name.
- **Extras:** Service Name, Income Series.

 **Attention**

Please note, the **Group by** field is mandatory, it couldn't be left empty to generate the report.

Additional Filters


There are the following accessible filters:

- **Clients:** Income Client, Income Client's Tag, Income Account, Income Account's Tag, Income Code, Income Code Name, Income Serial, Income Reseller, Outcome Client, Outcome Client's Tag, Outcome Account, Outcome Account's Tag, Outcome Code, Outcome Code Name.
- **Extras:** Package

Income Client	Specify an origination client(s) for the report
Income Client's Tag	Specify a tag(s) assigned to origination clients
Income Account	Determine an origination client's account(s)
Income Account's Tag	Indicate origination account's tags
Income Code	Define an incoming code
Income Code Name	Specify an incoming code name
Income Serial	Indicate a serial number of the originator's calling card
Income Reseller	Specify a target reseller(s) for the report
Outcome Client	Define a termination client(s)
Outcome Client's Tag	Define a termination client's tag(s)
Outcome Account	Indicate an account(s) of the termination client(s) for the report
Outcome Account's Tag	Specify termination account's tags if any
Outcome Code	Specify a termination code of the client
Outcome Code Name	Indicate a termination code name
Package	Determine a name of the used package

Output

This form contains settings of the report output data.

Click a plus  sign next to **Columns** and select required columns to add them to the Output information block. Also, you can cancel any chosen item.

Accessible columns in the report

Additional columns of the report are:

Columns for the main period:

Volume Total, Income Cost, Income Avg Rate, Income Billed Time, Outcome Cost, Outcome Avg Rate, Outcome Billed Time, Profit, Profit (%).

Columns for the comparative period:

Total time, min; Income Rate, Outcome Rate, Income Cost, Income Avg Rate, Income Billed Time, Outcome Cost, Outcome Avg Rate, Outcome Billed Time, Profit, Profit (%), Profit Difference.

And it's possible to choose each parameter expressed in percentage.

Volume Total	Total time of calls in minutes
Rate	The call rate <ul style="list-style-type: none"> • Income Avg Rate - an average call rate that is used for origination • Outcome Avg Rate - an average call rate that is used for termination
Profit	The revenue <ul style="list-style-type: none"> • Profit - a revenue in a respective currency (in fact, any system currency can be specified here) • Profit (%) - a revenue in percent value
Time	The billed time <ul style="list-style-type: none"> • Income Billed Volume - the whole billed time for origination • Outcome Billed Volume - the whole billed time for termination
Cost	The call cost <ul style="list-style-type: none"> • Income Cost - a call cost that is used for origination • Outcome Cost - a call cost that is used for termination
Other output settings	
Order by	Select parameters to sort already grouped data in columns. There are the following accessible options to order the data: by Time, Clients, Extras . Here you can sort data from highest to lowest values (or vice versa) and select different values.
Type	Choose a report format from a drop-down list: Web/CSV/Excel XLS/Excel XLSx Also select a table view next to the Type field: <ul style="list-style-type: none"> • Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse/expand it <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p>⚠ Attention</p> <p>Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV.</p> </div>
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by a chosen parameter. It is available only for the plain type of the report.
Send to	You can send generated reports via email. Also, it is possible to specify several emails. <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV, Excel XLS, Excel XLSx formats of the report, it doesn't work with Web.</p> </div>
Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
Code Deck	Using a drop-down list, select a respective code deck. All code names will be rewritten and presented according to the specified code deck. If there is no value specified, the code deck assigned to the Client or Rate Table will be in usage.

A generated profit report is demonstrated on a screenshot below:

Screenshot: Profit report section

If the data is grouped in the report, it will be shown initially collapsed. To expand or collapse data in your report, click the plus or minus icons.

Warning

Please note, the system shows rounded values in the reports. However, while calculating the system takes an exact value. Hence, the procedure of the rounding is as follows:

- the system rounds currency values according to the settings of a respective currency;
- other parameters are rounded to the nearest ten thousandth. For example: 3.879256 to 3.8793.


Creating a Query Template

A user can create a template for profit reports and save specified parameters by clicking the **Save Query** button. A pop-up window with settings will appear and you will need to fill out the following form:



Screenshot: New Template form

Section	Description						
Profit Report	Here you can specify parameters for the template that will be used while running reports						
	<table border="1"> <tr> <td>Title</td> <td>Specify a name of the template</td> </tr> <tr> <td>Reseller</td> <td>Indicate a Reseller of the report template</td> </tr> <tr> <td>Visibility</td> <td> It allows controlling visibility of respective reports templates. Whether you want to keep templates private or leave them visible for users under a specified Reseller. To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> • Public - available for users according to the settings of the Reseller field; • Private - accessible strictly for a creator. </td> </tr> </table>	Title	Specify a name of the template	Reseller	Indicate a Reseller of the report template	Visibility	It allows controlling visibility of respective reports templates. Whether you want to keep templates private or leave them visible for users under a specified Reseller. To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> • Public - available for users according to the settings of the Reseller field; • Private - accessible strictly for a creator.
	Title	Specify a name of the template					
Reseller	Indicate a Reseller of the report template						
Visibility	It allows controlling visibility of respective reports templates. Whether you want to keep templates private or leave them visible for users under a specified Reseller. To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> • Public - available for users according to the settings of the Reseller field; • Private - accessible strictly for a creator. 						
Watch	This tool allows to generate reports automatically at the appropriate time and send the results to the list of e-mails						


<p>⚠ Attention</p> <p>Please note, this tool is not available for Web output type, only for CSV/Excel XLS/Excel XLSx.</p>	
Recipients	Specify recipients: it can be your own email, other users of the system or even 3rd parties
Run Time	Define an appropriate time to generate a report automatically. It could be several times, for example: 10:00, 12:00, 18:00
Days of Week	Indicate days of the week to generate a report automatically. For example, you can run a report only on Monday or each day of week
Report Query	Here you need to specify filters that will be used for generating a correct report and choose the output type to view the report.

To preview or load already existing templates while generating statistic reports, click the **Load Query** button and click on a template name or a  icon, respectively.

Export a Generated Report

You can export data to **XLSx** or **CSV** file, which contains currently presented data by clicking the **Export to XLSx** or **Export to CSV**  button respectively. Please note that **Export to CSV**  is available only when the **Type** of the output is **Plain**.

⚠ Attention

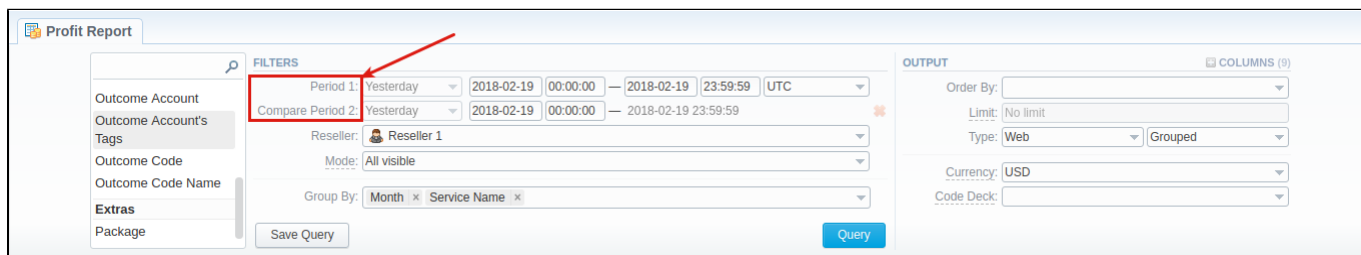
You can check an **actual date interval** of the report by clicking the **Info**  icon, and it could be different from **the Interval** specified above if there is no data for the period.

Side-by-side report


This tool allows building a report with side-by-side sub-reports. Use it to run a comparative analysis on the same page. It's helpful for reviewing multiple parameters, totals and compare results at different time intervals. The **Compare Period** option is designed to create a report that shows two sub-reports side-by-side.

To enable this option, click on the plus  icon next to the **Period** field and specify both intervals (**Period 1/Period 2**) for the report.

Screenshot: Profit Report query form



Then, choose columns for main and comparative period in the report Output form. When all required parameters are specified, click the **Query** button.

To remove this filter, please click the delete  icon.

You can modify a comparative mode by changing periods and columns. For example, to compare how different the profit of the two periods is, choose the **Profit** value from the Columns. Therefore, the final report splits **Profit** into separate columns (see screenshot below).

Screenshot: Profit Report query form

Profit Report
OUTPUT
COLUMNS (9)

FILTERS

Columns for main period: Total Time, min × Profit × Profit (%) × Income Cost × Income Avg Rate × Income Billed Time × Outcome Cost × Outcome Avg Rate × Outcome Billed Time ×

Columns for comparative period: Income Cost × Income Avg Rate × Income Billed Time × Outcome Cost × Outcome Avg Rate × Outcome Billed Time × Profit × Profit (%) ×

Group By: Month × Code Deck:

Export to XLSx
?

Month		Total Time, min	Profit		Profit (%)		Income Cost		Income Avg Rate		Income Billed Time		Outcome Cost		Outcome Avg Rate		Outcome Billed Time	
P1	P2		P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
07/2016	07/2016	19.65	3.0	3.0	0.00	0.00	3.0	3.0	0.152	0.152	19.65	19.65	0.0	0.0	0.000	0.000	0.00	0.00
08/2016	08/2016	293.97	-73.1	-73.1	-40.82	-40.82	106.0	106.0	2.853	2.853	37.13	37.13	-179.0	-179.0	1.557	1.557	114.97	114.97
06/2016	06/2016	0.00	79.8	79.8	260.24	260.24	110.5	110.5	0.000	0.000	0.00	0.00	-30.7	-30.7	0.000	0.000	0.00	0.00
05/2016	05/2016	0.00	120.7	120.7	0.00	0.00	120.7	120.7	0.000	0.000	0.00	0.00	0.0	0.0	0.000	0.000	0.00	0.00

Invoicing Report

In this article

- [Section overview](#)
- [Creating a New Invoicing Report](#)
- [Invoicing Report buttons: export, chart.](#)

Section overview

This section allows a user to build a report, based on information from the issued invoices with a possibility to export data (.xls, .xlsx, and .csv). Since the **Invoicing Report** generates statistics according to invoices, if you delete an invoice, the data will be no longer present in the report. The report shows data according to the variables determined in the [Invoices Template](#) section.

Screenshot: Invoicing Report section

The screenshot shows the 'Invoicing Report' interface. On the left, there is a sidebar with a search icon and a list of filter categories: Clients, Client Type, Client, Extras, and Invoice. The main area is divided into 'FILTERS' and 'OUTPUT' sections. The 'FILTERS' section includes:


- Period: This Month (dropdown), 2018-03-01 00:00:00 - 2018-03-31 23:59:59 UTC (range)
- Owner: Reseller 1 (dropdown)
- Invoice Type: outgoing (dropdown)
- Buttons: Save Query, Query


 The 'OUTPUT' section includes:

- Type: Web (dropdown), Plain (dropdown)
- Currency: (dropdown)
- COLUMNS (15) (dropdown)

Creating a New Invoicing Report

To create a new invoicing report, fill in a following query form:

Information Block	Field and Description						
Filters	<p>On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete  sign next to the filter.</p> <p>You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.</p>						
	<table border="1"> <tr> <td>Period</td> <td>Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.</td> </tr> <tr> <td>Owner</td> <td>Define a reseller for the report</td> </tr> <tr> <td>Invoice Type</td> <td>Select the type of invoice from the drop-down list: <ul style="list-style-type: none"> • outgoing • incoming </td> </tr> </table>	Period	Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.	Owner	Define a reseller for the report	Invoice Type	Select the type of invoice from the drop-down list: <ul style="list-style-type: none"> • outgoing • incoming
	Period	Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.					
	Owner	Define a reseller for the report					
	Invoice Type	Select the type of invoice from the drop-down list: <ul style="list-style-type: none"> • outgoing • incoming 					
	<p>Additional Filters</p> <p>The accessible additional filters are:</p> <ul style="list-style-type: none"> • Clients: Client, Client Type. • Extras: Invoice, Payment Account 						
	<table border="1"> <tr> <td>Client Type</td> <td>Choose a respective parameter for statistics data: <ul style="list-style-type: none"> • Client • Reseller • Calling Card • Call Shop </td> </tr> </table>	Client Type	Choose a respective parameter for statistics data: <ul style="list-style-type: none"> • Client • Reseller • Calling Card • Call Shop 				
	Client Type	Choose a respective parameter for statistics data: <ul style="list-style-type: none"> • Client • Reseller • Calling Card • Call Shop 					
	<table border="1"> <tr> <td>Client</td> <td>Define a client for the report</td> </tr> </table>	Client	Define a client for the report				
	Client	Define a client for the report					
<table border="1"> <tr> <td>Invoice</td> <td>Specify the name/number of a target invoice</td> </tr> </table>	Invoice	Specify the name/number of a target invoice					
Invoice	Specify the name/number of a target invoice						
<table border="1"> <tr> <td>Payment Account</td> <td>Select from the drop-down list of predefined system payment accounts: <ul style="list-style-type: none"> • Services </td> </tr> </table>	Payment Account	Select from the drop-down list of predefined system payment accounts: <ul style="list-style-type: none"> • Services 					
Payment Account	Select from the drop-down list of predefined system payment accounts: <ul style="list-style-type: none"> • Services 						

	<ul style="list-style-type: none"> • Products Fees • Extra Charges Outgoing • Extra Charges Incoming • SureTax • Calling Cards Fees • Accounts Receivable • Accounts Payable • General <p>and all manually created accounts from the Payment Accounts section</p>																																								
Output	<p>This form contains settings of the report output data</p> <p>Click a plus  icon next to Columns and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th colspan="2" style="text-align: left; padding: 5px;">Accessible columns in the report</th> </tr> </thead> <tbody> <tr> <td style="width: 20%; padding: 5px;">Client</td> <td style="padding: 5px;">Name of a client</td> </tr> <tr> <td style="padding: 5px;">Date</td> <td style="padding: 5px;">The date when an invoice was generated</td> </tr> <tr> <td style="padding: 5px;">Payment Account</td> <td style="padding: 5px;"> Type of a payment account: <ul style="list-style-type: none"> • services • packages </td> </tr> <tr> <td style="padding: 5px;">Invoice Number</td> <td style="padding: 5px;">Number of an invoice, used in the report</td> </tr> <tr> <td style="padding: 5px;">Service</td> <td style="padding: 5px;">Type of services</td> </tr> <tr> <td style="padding: 5px;">Description</td> <td style="padding: 5px;">Details specified in invoice templates, for example, quantity of services, country code, code name, package name, etc.</td> </tr> <tr> <td style="padding: 5px;">Volume</td> <td style="padding: 5px;">Volume of the service, for example, duration of the event</td> </tr> <tr> <td style="padding: 5px;">Unit</td> <td style="padding: 5px;">Unit that was used for rates and packages limits</td> </tr> <tr> <td style="padding: 5px;">Rate</td> <td style="padding: 5px;">Price per 1 rating unit that was used</td> </tr> <tr> <td style="padding: 5px;">Cost</td> <td style="padding: 5px;">Total price of used services/products</td> </tr> <tr> <td style="padding: 5px;">Tax</td> <td style="padding: 5px;">Financial charge for services/products used in an invoice</td> </tr> <tr> <td style="padding: 5px;">Currency</td> <td style="padding: 5px;">Currency used in invoices</td> </tr> <tr> <td style="padding: 5px;">Period Start</td> <td style="padding: 5px;">Start period of an invoice</td> </tr> <tr> <td style="padding: 5px;">Period Finish</td> <td style="padding: 5px;">End period of an invoice</td> </tr> <tr> <td style="padding: 5px;">TZ</td> <td style="padding: 5px;">Timezone of invoices</td> </tr> <tr style="background-color: #f2f2f2;"> <th colspan="2" style="text-align: left; padding: 5px;">Other output settings</th> </tr> <tr> <td style="padding: 5px;">Type</td> <td style="padding: 5px;">Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx</td> </tr> <tr> <td style="padding: 5px;">Send to</td> <td style="padding: 5px;"> You can send generated reports via email. Also, it is possible to specify several emails. <div style="background-color: #ffff00; padding: 10px; margin-top: 10px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.</p> </div> </td> </tr> <tr> <td style="padding: 5px;">Currency</td> <td style="padding: 5px;">Specify an output currency for the report. All values will be automatically converted to the specified currency in the report</td> </tr> </tbody> </table>	Accessible columns in the report		Client	Name of a client	Date	The date when an invoice was generated	Payment Account	Type of a payment account: <ul style="list-style-type: none"> • services • packages 	Invoice Number	Number of an invoice, used in the report	Service	Type of services	Description	Details specified in invoice templates, for example, quantity of services, country code, code name, package name, etc.	Volume	Volume of the service, for example, duration of the event	Unit	Unit that was used for rates and packages limits	Rate	Price per 1 rating unit that was used	Cost	Total price of used services/products	Tax	Financial charge for services/products used in an invoice	Currency	Currency used in invoices	Period Start	Start period of an invoice	Period Finish	End period of an invoice	TZ	Timezone of invoices	Other output settings		Type	Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx	Send to	You can send generated reports via email. Also, it is possible to specify several emails. <div style="background-color: #ffff00; padding: 10px; margin-top: 10px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.</p> </div>	Currency	Specify an output currency for the report. All values will be automatically converted to the specified currency in the report
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Currency	Specify an output currency for the report. All values will be automatically converted to the specified currency in the report																																								

After selecting all needed parameters, click the **Query** button and the system will generate a report:

Screenshot: Invoicing Report

Invoicing Report

CLIENTS

- Client
- Client Type
- Extras
- Invoice

FILTERS

Period: This Month | 2018-03-01 00:00:00 — 2018-03-31 23:59:59 | UTC

Owner: Reseller 1

Invoice Type: outgoing

Save Query Query

OUTPUT

Type: Web | Plain

Currency:

Export to CSV
Export to XLSx
Info

Client	Date	Invoice Number	Payment Account	Service	Description	Volume	Unit	Rate	Cost	Tax	Currency	Period Start	Period Finish	TZ
Rose term	03/28/2018	invoice-Rose term-100001	Products	N/A	Name: Package DID, Details: Subscription Fee	328.00	N/A	N/A	984.0000	0.0000	USD	01/01/2018	12/31/2018	UTC
Rose term	03/29/2018	invoice-Rose term-100002	Products	N/A	Name: Package DID, Details: Subscription Fee	23.00	N/A	N/A	69.0000	0.0000	USD	01/01/2018	12/31/2018	UTC

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Moreover, you can create a template for reports and save specified parameters by clicking the **Save Query** button. Then, fill in the required fields in a pop-up window with settings, and confirm template creation.

Tip

To find more details about templates, please refer to the [Report Templates](#) article in our **User Guide**.

Invoicing Report buttons: export, chart.

You can export data to a **CSV** or **XLSx** file, which contains only currently displayed data, with no automatic request to update data while exporting.

1. To download a report in **.csv**, click the **Export to CSV**  button above the report.
2. To download an **.xlsx** file, click the **Export to XLSx**  button above the report.
3. You can check an actual date interval by clicking the **Info**  icon. The displayed data could be different from the Interval specified above if there is no data for the period.

LCR Lists

In this article

- [Section overview](#)
- [Creating an LCR Report](#)
- [Export generated report](#)


Section overview


This section provides a user with a possibility to generate a report with a focus on actual traffic over the specified period. The report allows customizing a display of routes limits, vendors, total records, etc.

Screenshot: LCR Lists query form

Creating an LCR Report

To create a new *LCR report*, go to the **Statistics** section and open the **LCR Lists**. Then, you will need to fill out the search form with the next parameters:

Information Block	Field Description
Filters	<p>On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete  icon next to the filter.</p> <p>You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.</p>
Period	Specify an interval for the report and a timezone. Please note that the Period field is mandatory.
Group by	<p>Select from the list of the following accessible options to group the data in reports:</p> <ul style="list-style-type: none"> • Code • Code Name <p>This option is intended to simplify the grouping option, the system will automatically group data in specified columns.</p> <div style="background-color: #ffffcc; padding: 10px; margin-top: 10px;"> <p>⚠ Attention</p> <ul style="list-style-type: none"> • Please note, the Group by field is mandatory, it couldn't be empty to generate the report. Grouping by code is a default output. • When you select the grouping by code name, please be aware that simulation marks will not be shown and an effective date, also the next rate, may not be accurate. This data is taken from one of the codes of the group. </div>
Service	Specify a target service (calls, data, SMSs)
Additional Filters	
<p>There are the following accessible additional filters:</p> <ul style="list-style-type: none"> • Clients: <i>Owner, Client Tags</i> • Events: <i>Code/ Code Name</i> • Extras: <i>Routes Limit</i> 	
Owner	Specify a target reseller

Client Tags	Indicate client tags that will be used for the report	
Code	Enter the code of a target destination	
Code Name	Define the code name you would like to be displayed in a report	
Routes Limit	Indicate the limit of routes that will be shown. To display all possible routes, leave this field empty .	
Output	This form contains settings of the report output data. Click the plus  icon next to Columns and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.	
	Accessible columns in the report	
	There are the following columns to add to the report: <ul style="list-style-type: none"> • Code • Code Name • Total Volume 	
	Other output settings	
	Type	Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx . The table view of the report is Plain by default.
	Send to	You can send generated reports via email. For example, it is useful when it takes a lot of time to run the report. Also, it is possible to specify several emails. ⚠ Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web .
	Currency	Specify a currency of the report. All values will be automatically converted to the specified currency in the report.
	Code Deck	Select a code deck from a drop-down list. All code decks in the following report will be presented according to the specified code deck. All data will be unified by code names. ⚠ Warning 1. Please be aware that if you do not specify the code deck, the system will use the code decks assigned to each pulled client or rate table. 2. Code deck must contain code names and codes used for calls. Otherwise, the LCR report would not show results for missing codes and code names in the code deck.
	Show Vendors checkbox	Specify whether you need vendor (terminator) names to be displayed in the report or not.
	Show Total Calls checkbox	Check if you want total calls amount to be shown.

The LCR report has the following look:

Screenshot: LCR report


The screenshot shows the 'LCR Lists' interface. It includes a left sidebar with navigation options like 'Client Tags', 'Owner', 'Events', 'Code', and 'Code Name'. The main area is divided into 'FILTERS' and 'OUTPUT' sections. The 'FILTERS' section has dropdowns for 'Period' (Last 30 Days), date and time ranges, 'Group By' (code), 'Service' (Calls), and a 'Routes Limit' field. The 'OUTPUT' section has dropdowns for 'Order By' (Code), 'Type' (Web), 'Currency' (USD), and 'Code Deck'. There are checkboxes for 'Show Vendors' and 'Show Total Records'. Below these are 'Export to CSV' and 'Export to XLSx' buttons. A table displays data for code '123' with columns for 'Code', 'Code Name', 'Total Volume', and 'Route #1'. The table also shows detailed metrics for the route, such as 'Name', 'Volume, min', 'Rate, USD', 'ASR, %', and 'ACD, min'. At the bottom, there are links for 'About' and 'Get Support', and a copyright notice for JeraSoft.

Code	Code Name	Total Volume	Route #1
123	Code 123	291.1167	Client 0 TERM 291.1167 2.0000 99.64% 1.06

Each route, presented in a report, besides total number of events and vendors (displayed when respective checkboxes are marked) has the following data specified (see screenshot above):



- **Event volume;**
- **Event rate;**
- **ASR;**
- **ACD.**

Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button. Visit our [Report Templates](#) article for detailed information.


To query by template, click the Load Query button and the  icon .

Export generated report

You can export data to a **CSV** or **XLSx** file, which contains only currently displayed data, with no automatic request to update data while exporting.

1. To download a report in **.csv**, click on the **Export to CSV**  button above the report.
2. To download an **.xlsx** report file, click on the **Export to XLSx**  button above the report.

Attention

You can check an actual date interval by clicking the **Info**  icon. The displayed data could be different from the Interval specified above if there is no data for the period.

xDRs List

In this article

- [Section overview](#)
- [Creating an xDR Report](#)
- [xDR Report export buttons](#)
- [Search by partial Session ID](#)
- [Knowledge Base Articles](#)


Section overview

This section allows you to form a detailed statistics on each client with a description of each event. Here you can create a report, based on an existing template or generate a new one. The section consists of a query form similar to those of other reports:

Screenshot: xDRs List query form

Creating an xDR Report


To create a new report, you need to fill in the following parameters in the form and click the **Query** button:

Information Block	Field Description
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.
	Period Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Additional Filters
	There are the following accessible additional filters:
	<ul style="list-style-type: none"> • Clients: <i>Client Type, Client, Client Tags, Account Tags, Cards Serial, Account, Package.</i> • Events: <i>Code, Code Name, Origin, Result Code, Tags, Gateway.</i> • Extras: <i>Service Name, Owner, Result Status, Rate, Setup Fee, DST Party ID, SRC Party ID, Session ID, XDR ID, Volume, Cost, Status, Match Clients, Match Codes, Currency.</i>
	Client Type Select a client's type for the report (<i>Client, Reseller, Calling Card or Call Shop</i>)
	Client Define a client for the report
	Client Tags Specify customer's tags
	Account Enter a client's account for the report
	Account Tags Determine account's tags
Cards Serial Indicate a cards serial for the report	
Package Enter a package name for the report	

Code	Specify a code of a target destination
Code Name	Specify a code name of a target destination
Origin	Indicate event origin
Result Code	Determine a disconnect code as a filtering parameter
Tags	Indicate tags for the report
Gateway	Specify a host as a filtering criterion
Service Name	Select a type of service (data, call, SMS) for the report
Owner	Indicate a reseller
Result Status	Choose a disconnect processing state: <ul style="list-style-type: none"> • Success (code = 16 or 31) • Busy (code = 17) • No channel (code = 34) • Error
Rate	Indicate the destination rate
Setup Fee	Specify a setup fee of an event
DST Party ID	Determine the DST Party ID (destination number or any other identification of destination) that is used for detection of destination and billing (after all translations)
SRC Party ID	Determine the SRC Party ID (source number or any other source identification)
Session ID	ID of the session, received from the gateway
xDR ID	xDR ID value
Volume	Volume of the service (e.g., call duration)
Cost	Enter the range of event cost
Status	Processing state (all/processed/in rerating)
Match Clients	Choose a respective state: <ul style="list-style-type: none"> • matched clients (identified), • mismatched clients (not identified).
Match Codes	Choose a respective state: <ul style="list-style-type: none"> • matched codes, • mismatched codes.
Currency	Indicate a respective currency

Output

This form contains settings of the report output data.

Click the plus  icon next to **Columns** and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.

Accessible columns in the report

There are the following columns to add to the report:

- **Clients:** *Client Type, Client ID, Client, Account, Account ID, CC Series, Owner, Owner ID, Package ID, Package Name.*
- **Events:** *Code, Code Name, Country Name, Currency, Rate, Setup fee, Origin, Result Status, Result Code, Gateway ID, Gateway*
- **Extras:** *Event time, Client Tags, Accounts Tags, Tags, Volume, Billed Volume, Package Volume, Package Credit, Cost, Taxes, Subscriber IP, Subscriber Name, Switch Code, Start Time, Connect Time, Finish Time, PDD, SCD, Session ID, x ID, Src Party*

ID, Dst Party ID, SCR Party ID EXT, DST Party ID EXT, SCR Party ID BILL, DST Party ID BILL, xDR Rource, xDR ID, Uniq Sign, Custom, Extra Data, Status, Service Name, Unit.

Other output settings

Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.
Type	Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx . The Plain type of view is set by default.
Send to	You can send generated reports via email. Also, it is possible to specify several emails. <div style="background-color: yellow; padding: 5px; border: 1px solid black;"> <p>! Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.</p> </div>
Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
Code Deck	Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck.

Below, you will find an example of a generated xDRs report:

Screenshot: xDRs report

Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button. Visit our [Report Templates](#) article for detailed information.

xDR Report export buttons

You can export data to a **CSV** or **XLSx** file, which contains only currently displayed data, with no automatic request to update data while exporting

1. To download a report in **.csv**, click on the **Export to CSV** button above the report.
2. To download an **.xlsx** report file, click on the **Export to XLSx** button above the report.

Search by partial Session ID

How to perform a search by partial Session ID:

For example, the Session ID of a respective call is *1647398901830024226688*. To filter calls by:

- **first digits of Session ID**, enter digits + asterisk (*): **16***.
- **middle digits of Session ID**, enter a search term by this formula: asterisk (*) + digits + asterisk (*): ***7398***. It will match any Session ID containing the 7398 string, even if it occurs in the middle of a large number.
- **last digits of Session ID**, enter asterisk (*) + digits: ***88**.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Mismatches Report

In this article

- [Section overview](#)
- [Creating a New Mismatches Report](#)
- [Knowledge Base Articles](#)

Section overview

This section allows you to find **unrecognized calls/clients** by the system due to unavailability of respective information. Here you can see the general info about unknown clients, unknown destinations, calls stats, the total number of mismatched calls. The section consists of a query form and 3 tables, each representing a specific type of mismatched data:

- **Unknown Clients** - calls with unrecognized clients.
- **Unknown Destinations (Known Clients)** - calls with unrecognized destinations.
- **Unknown Destinations in Resellers (Known Reseller)** - calls with unrecognized destinations or unknown destinations in Resellers.

Screenshot: Mismatches Report section

Mismatches Report

Period: This Year 2018-01-01 00:00:00 — 2018-12-31 23:59:59 UTC

Service: Calls

Query

UNKNOWN CLIENTS

	origination	termination	all
Total	1 229	1 776	3 005
Non Zero	630	788	1 418
Total Volume	1 019 min	1 257 min	2 276 min

UNKNOWN DESTINATIONS (KNOWN CLIENTS)

	origination	termination	all
Total	0	0	0
Non Zero	0	0	0
Total Volume	0	0	0

UNKNOWN DESTINATIONS IN RESELLERS (KNOWN RESELLERS)

	origination	termination	all
Total	0	0	0
Non Zero	0	0	0
Total Volume	0	0	0

Type: all

Duration: non-zero

Output: Web

Query xDR

Type: all

Duration: non-zero

Output: Web

Query xDR

Type: all

Duration: non-zero

Output: Web

Query xDR

About 0.1196s

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Creating a New Mismatches Report

To create a report, you need to follow the next steps:

- Filter the data for all tables. To do so, fill in the following fields of the query form and click the **Query** button.

Fields	Description
Period	Define the period for the mismatches report. You can customize it by selecting specific time and date or choose predefined options from the list like: This Year, Last Month, Yesterday , etc.
Timezone	Select a timezone from the list. By default, the field value is set to UTC .

Service Choose a desired service from the list (e.g. **Calls**, **SMS**, etc.).

Screenshot: Mismatches Report query form

- Once the data has been filtered, you need to fill in the fields to the right of a desired table and click a respective **Query xDR** button to create a report.

Fields	Description
Type	Choose the type of calls for generating the report: all/origination/termination .
Duration	Select the continuance of calls: all/non-zero/zero .
Output	Indicate the output type: Web/CSV/Excel XLSx/Excel XLS .

Screenshot: Creating a report

If you select **Web** in the **Output** field, you'll be forwarded to the **xDRs List** section with detailed information on a selected mismatched data. However, if in the **Output** field you select any file format from the list, a mismatched report of the chosen format will be downloaded to your computer.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

xDRs Rerating

In this article

- [Section overview](#)
- [Performing xDRs Rerating](#)
- [Knowledge Base Articles](#)

Section overview


This section allows to rerate calls, SMSs, data. It's useful when some changes were applied to the rates, currencies, client accounts, or you need to correct errors with a **Mismatches Report**.

Screenshot: xDRs Rerating section

Performing xDRs Rerating

The whole procedure consists of the following **3 steps**:

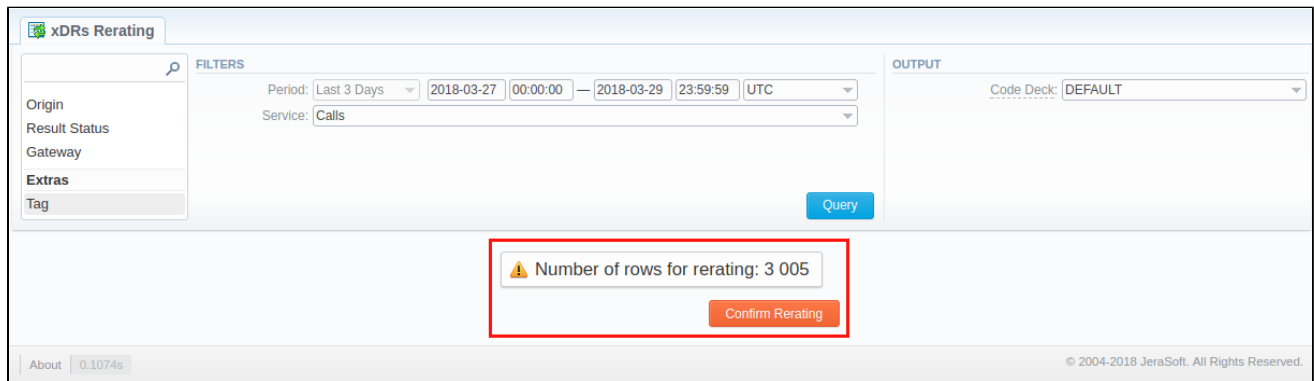
1. Choose filters, specify an interval and respective values in the query form, and click the **Query** button.

Information Block	Field Description
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.
	Period Specify the time interval for the report and a timezone. Please note that the Period field is mandatory.
	Service Indicate a target type of services from the Services section
	Additional Filters
	There are the following accessible additional filters: <ul style="list-style-type: none"> • Clients: <i>Client</i>. • Events: <i>Code, Code Name, Call Origin, Result Status, Gateway</i>. • Extras: <i>Tag, Match Clients, Match Codes, Duration</i>.
	Client Define a client for the report.
	Code Define a code of a needed destination.
	Code Name Enter a code name of a desired destination.
	Call Origin Specify a call origin for the report: <ul style="list-style-type: none"> • origination • termination
	Result Status Indicate the status of the call for the report: <ul style="list-style-type: none"> • success

	<ul style="list-style-type: none"> • busy • no channel • error
Gateway	Define a target gateway.
Tag	Specify target tags
Match Clients	Indicate a respective type: <ul style="list-style-type: none"> • matched (identified) • mismatched (not identified)
Match Codes	Choose an appropriate type: <ul style="list-style-type: none"> • matched • mismatched
Duration	Select the continuance of the call: <ul style="list-style-type: none"> • zero • non-zero (i.e., calls that have duration equal to or more than 1 second).
Output	This form contains settings of the output data of the report.
Code Deck	Select a respective code deck for the report from the drop-down menu. If you do not select it , code decks assigned to each specified client or rate table will be in use. If you select it , all code names will be rewritten according to the names from the selected code deck. Also, all data will be unified by code names.

2. Then, you will see a respective notification, and you will need to approve the process by clicking the **Confirm Rerating** button.

Screenshot: xDRs Rerating approval notification



3. Finally, the calls will undergo rerating, and you will need to wait for the system procedure to be completed. You can see the respective number of calls for the rerating on the toolbar at the top of the page.

Screenshot: xDRs in queue for rerating



Also, you will receive the following notification: **xDRs have been added to queue now. Please wait while system processes them.** Then, you need to run the **Calculator** in the **Task Scheduler** section.

Warning

The xDRs rerating is a time-requiring procedure. It's not recommended to create a rerating query with large chunks of information (for example, rerating 3 million calls at once).

Knowledge Base Articles

Error rendering macro 'contentbylabel'

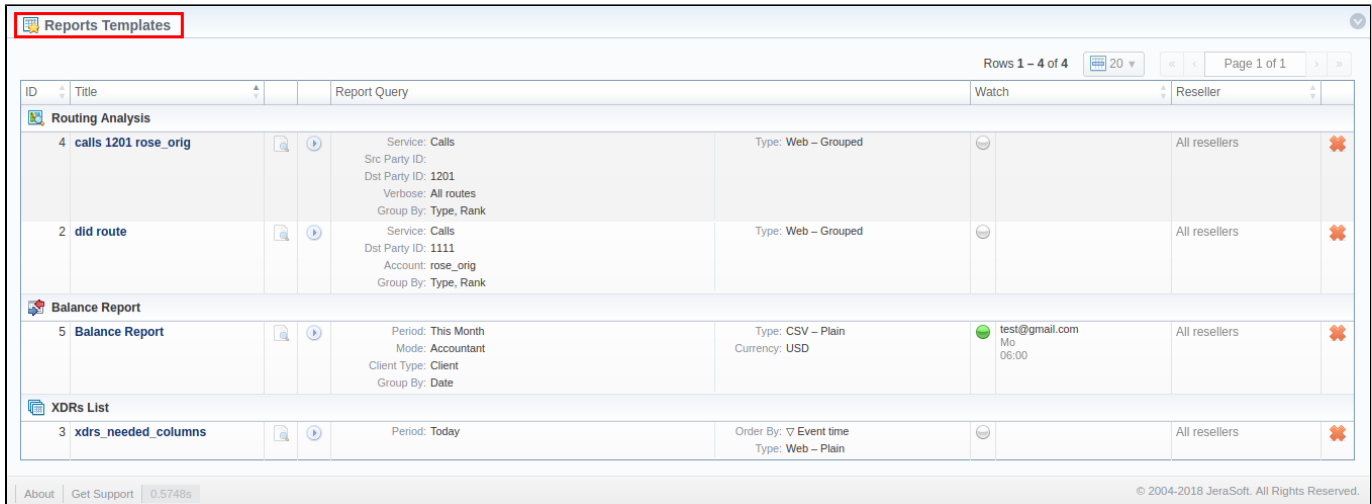
parameters should not be empty

Reports Templates

Reports Templates List

This section allows you to view, execute and manage the already existing templates of **Routing Analysis**, **Profit Report**, **xDR's List**, **Mismatches Report**, **Orig-Term Report**, and **Summary Report**. Moreover, you can send reports to email to keep yourself informed about the traffic status without the need to login to the system and request reports. The section structure is as follows:

Screenshot: Reports Templates section main window



Column	Description
ID	Template ID
Title	Name of the template
Report Query	Template details
Watch	Tool to run a report automatically at the exact time and send the results to the list of emails
Reseller	Name of the Reseller

The section contains the following functional icons:

Icon	Description
	Allows previewing a template
	Allows running a respective report by this template
	Indicates that To send a report via email watch option is enabled.
	Indicates that To send a report via email watch option is disabled.

To start managing, choose the respective template from the section and click on the name to open the settings.

Creating a Report Template

All reports templates are created from the respective sections while generating reports. To add a new template, you need to:

1. open the target report section;
2. fill in a query form with respective parameters;
3. click the **Save Query** button;
4. in a pop-up window with template settings, fill in all required fields (screenshot and field description is provided down below);
5. click **Apply** to save a template.

Screenshot: New Template form

Reports Templates

CDRS LIST

Title:

Reseller:

Visibility:

WATCH

Recipients:

Run Time:

Days of Week:

REPORT QUERY

CLIENTS

- Client Type
- Client
- Account
- Tags

FILTERS

Period: –

OUTPUT

Order By:

Type: |

Currency:

Code Deck:

Information Block	Description								
Report Name	Here you can specify parameters for the template that will be used while running reports								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Title</td> <td>Specify a name of the template</td> </tr> <tr> <td>Reseller</td> <td>Indicate a Reseller for the report template</td> </tr> <tr> <td>Visibility</td> <td> It allows controlling the visibility of respective reports templates whether you want to keep templates private or leave them visible for users under specified Reseller. To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> Public - available for users according to the settings of the Reseller field; Private - accessible strictly for creator. </td> </tr> </table>	Title	Specify a name of the template	Reseller	Indicate a Reseller for the report template	Visibility	It allows controlling the visibility of respective reports templates whether you want to keep templates private or leave them visible for users under specified Reseller. To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> Public - available for users according to the settings of the Reseller field; Private - accessible strictly for creator. 		
	Title	Specify a name of the template							
	Reseller	Indicate a Reseller for the report template							
Visibility	It allows controlling the visibility of respective reports templates whether you want to keep templates private or leave them visible for users under specified Reseller. To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> Public - available for users according to the settings of the Reseller field; Private - accessible strictly for creator. 								
Watch	This tool allows generating reports at the appropriate time and send results to specified emails.								
	Attention Please note that this tool is not available for Web output type, only for CSV/Excel XLS/Excel XLSx .								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Recipients</td> <td>Specify emails of recipients. Here you can indicate your own or other users' email, even those of 3rd parties.</td> </tr> <tr> <td>Run Time</td> <td>Determine an appropriate time to generate a report automatically, it could be several times, for example: 10:00, 12:00, 18:00</td> </tr> <tr> <td>Run Time Timezone</td> <td>Indicate a timezone for a selected report run time</td> </tr> <tr> <td>Days of Week</td> <td>Define days of a week to generate a report automatically. For example, you can run a report only on Monday or each day of week.</td> </tr> </table>	Recipients	Specify emails of recipients. Here you can indicate your own or other users' email, even those of 3rd parties.	Run Time	Determine an appropriate time to generate a report automatically, it could be several times, for example: 10:00, 12:00, 18:00	Run Time Timezone	Indicate a timezone for a selected report run time	Days of Week	Define days of a week to generate a report automatically. For example, you can run a report only on Monday or each day of week.
	Recipients	Specify emails of recipients. Here you can indicate your own or other users' email, even those of 3rd parties.							
	Run Time	Determine an appropriate time to generate a report automatically, it could be several times, for example: 10:00, 12:00, 18:00							
Run Time Timezone	Indicate a timezone for a selected report run time								
Days of Week	Define days of a week to generate a report automatically. For example, you can run a report only on Monday or each day of week.								
Report Query	Here you need to specify filters that will be used for generating a correct report and choose the output type to view the report								

Warning

- If you create the report template and the **Watch** option is enabled, the client will receive the file with a report even when there is no statistics for a specified period.
- Please be aware that the templates previously existing in the **Reports to email** section could not be restored automatically. Note that you can recreate them if needed.

Archive Management

In this article

- [Section overview](#)
- [Active Statistics Packages](#)
- [Archived Statistics Packages](#)
- [Knowledge Base Articles](#)

Section overview

This section represents an archive of the system statistics packages manager. The statistics package is a pack of billing entities, created during a respective day. The section is divided into 2 Information blocks: **Active Statistics Packages** and **Archived Statistics Packages**, presented in a form of tables:

Screenshot: Archive Management section

The screenshot displays the 'Archive Management' interface. At the top, there is a tab labeled 'Archive Management'. Below it, two main sections are visible: 'ACTIVE STATISTICS PACKAGES' and 'ARCHIVED STATISTICS PACKAGES'.

ACTIVE STATISTICS PACKAGES Table:

Date	Type	Total xDRs	Volume	Paid xDRs	New xDRs	New Volume	Re-Rating xDRs	Progress
2018, May (2)								
2018, April (2)								
2018, March (2)								
2018, February (2)								
2017, October (1)								
2017, September (1)								
2017, July (3)	Data Events Time	22 18 470	606 614 MB 178 Event 474 Min	22 18 462	0 0 0	0 MB 0 Event 0 Min	0 0 0	100.00%
2017, May (4)	Data Events Time	26 82 298	362 664 MB 66 783 506 420 Event 300 Min	14 82 157	0 0 0	0 MB 0 Event 0 Min	0 0 0	100.00%

ARCHIVED STATISTICS PACKAGES Table:

Date	Filename	Size
2018, April (14)		0.00 Mb
2018, March (48)		0.14 Mb
2018, February (33)		0.00 Mb
2017, October (129)		0.00 Mb
2017, September (204)		0.00 Mb
2017, July (12)		0.40 Mb
2017, May (537)		4.18 Mb
2017, March (412)		4.20 Mb
2016, November (42)		0.00 Mb
2016, October (132)		0.00 Mb
2016, September (108)		0.00 Mb
2016, July (8)		0.00 Mb
2016, June (28)		0.00 Mb
2016, May (2)		0.00 Mb
2011, December (4)		0.00 Mb

At the bottom of the screenshot, there is a note: "You can download these files from the billing server: ep@jerasoft@vcs-databasearchive" and a "Process" button.

Active Statistics Packages

The **Active Statistics Packages** information block contains information regarding statistics packages that are currently present in the database. All statistics packages are grouped by month. Click on the plus icon to expand all available active packages. Information about packages is presented in a form of a table with the following columns:

Screenshot: Active Statistics Packages

The screenshot shows the 'ACTIVE STATISTICS PACKAGES' table. The table has the following columns: Date, Type, Total xDRs, Volume, Paid xDRs, New xDRs, New Volume, Re-Rating xDRs, and Progress. The 'Progress' column contains green progress bars with percentage values.

Date	Type	Total xDRs	Volume	Paid xDRs	New xDRs	New Volume	Re-Rating xDRs	Progress
2018, May (3)	Time	30 870	19 371 Min	0	17 640	11 070 Min	0	42.86%
5 May, 2018								
4 May, 2018	Time	30 870	19 371 min	0	17 640	11 070 min	0	42.86%
3 May, 2018								
2018, April (2)								
2018, March (2)								
2018, February (3)								
2017, October (1)								
2017, September (1)								
2017, July (3)	Data Events Time	22 18 470	606 614 MB 178 Event 474 Min	22 18 462	0 0 0	0 MB 0 Event 0 Min	0 0 0	100.00%
2017, May (4)	Data Events Time	26 82 298	362 664 MB 66 783 506 420 Event 300 Min	14 82 157	0 0 0	0 MB 0 Event 0 Min	0 0 0	100.00%

At the bottom right of the screenshot, there is a "Process" button.

Column	Description
Date	System package creation date
Type	Type of package entity: time/events/data
Total xDRs	Total number of processed xDRs (origination/termination)
Volume	Total amount of processed events (origination/termination)
Paid xDRs	Total number of paid xDRs
New xDRs	Total number of xDRs that have not been processed yet
New Volume	Volume of events that have not been processed yet
Rerating xDRs	Quantity of events, queued for rerating
Progress	Overall data processing progress

Functional icons, presented in the information block, are as follows:

Icon	Description
	Updates a selected package to the latest database format (useful after a system update to a new version). All updated packages are marked with the icon.
	Shows the status of the package: <ul style="list-style-type: none"> icon indicates that the package is not archived for the respective day (month). icon indicates that the package is archived.
	Moves a package to archive and removes from database
	Deletes a package from database without performing balance rollback
	Deletes a package from database with balance rollback

To update, move or delete a package, you need to mark a respective checkbox and click the **Process** button. The operation itself will be executed after the next run of the **Statistics Manager** tool.

Archived Statistics Packages

The **Archive Statistics Packages** table displays statistics packages that are kept in the archive (the `/opt/jerasoft/vcs-data/archive` folder of your billing server). Click on the plus icon to view detailed information on archived packages.

Screenshot: *Archived Statistics Packages*



ARCHIVED STATISTICS PACKAGES			
Date	Filename	Size	
<input type="checkbox"/> 2018, April (14)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2018, March (48)		0.14 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2018, February (33)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2017, October (129)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2017, September (204)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2017, July (12)		0.40 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2017, May (537)		4.18 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2017, March (412)		4.20 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2016, November (42)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2016, October (132)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2016, September (108)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2016, July (8)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2016, June (28)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2016, May (2)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> 2011, December (4)		0.00 Mb	<input type="checkbox"/> <input type="checkbox"/>

You can download these files from the billing server:
/opt/jerasoft/vcs-data/archive

[Process](#)

Column	Description
Date	Package archive creation date
Filename	Name of the archived file, which contains a system package
Size	Size of an archived file

Information block function buttons include:

Icon	Description
	Restores a package from the archive to the database
	Removes an archived package from the database

To perform a target action, check the respective package and click the **Process** button.

 **Attention**

Moving or rotating the current day statistics package may result in errors! It is strongly recommended not to do any operations to current day's package.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Tools

This chapter describes how to **manage the rates, active calls, xDR disputes** and provides information regarding the factors watcher tool of **the JeraSoft VCS**.

For more details, please check the related sections of our Guide:

- [Rates Analysis](#)
- [Rates Generator](#)
- [Active Sessions](#)
- [Factors Watcher](#)
- [xDR Disputes](#)

Rates Analysis

In this article

- [Rates Analysis Form](#)
- [Creating a New Analysis Report](#)
- [Creating a New Template](#)
- [Export generated report](#)


Rates Analysis Form

Rates Analysis is an advanced feature of the **VCS Rates Management Module**. It allows you to analyze and compare rates within the VCS web interface without the usage of any third-party software.

Screenshot: Rates Analysis section

Creating a New Analysis Report

To analyze and compare different rates, you need to fill in the form with the next parameters:

Information Block	Field Description		
Filters	On the Filters menu, select required parameters for the report. To cancel any filter, click on the delete  icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.		
	<table border="1"> <tr> <td>Outlook</td> <td>Choose the form of the rate analysis report for data display. Please note that this field is mandatory and should be filled in to make a report. <ul style="list-style-type: none"> • Rates comparison - compares rates in general and particular rates assigned to certain Clients and Accounts. • Least costs list - shows the cheapest rate for each code in a particular rate table </td> </tr> </table>	Outlook	Choose the form of the rate analysis report for data display. Please note that this field is mandatory and should be filled in to make a report. <ul style="list-style-type: none"> • Rates comparison - compares rates in general and particular rates assigned to certain Clients and Accounts. • Least costs list - shows the cheapest rate for each code in a particular rate table
	Outlook	Choose the form of the rate analysis report for data display. Please note that this field is mandatory and should be filled in to make a report. <ul style="list-style-type: none"> • Rates comparison - compares rates in general and particular rates assigned to certain Clients and Accounts. • Least costs list - shows the cheapest rate for each code in a particular rate table 	
	<table border="1"> <tr> <td>Service</td> <td>Select a service for rates analysis</td> </tr> </table>	Service	Select a service for rates analysis
	Service	Select a service for rates analysis	
	<table border="1"> <tr> <td>Originators</td> <td>Specify origination clients for analysis</td> </tr> </table>	Originators	Specify origination clients for analysis
	Originators	Specify origination clients for analysis	
<table border="1"> <tr> <td>Terminators</td> <td>Indicate termination clients for analysis</td> </tr> </table>	Terminators	Indicate termination clients for analysis	
Terminators	Indicate termination clients for analysis		
<table border="1"> <tr> <td>Rate Tables</td> <td>Define rate tables for analysis</td> </tr> </table>	Rate Tables	Define rate tables for analysis	
Rate Tables	Define rate tables for analysis		
<table border="1"> <tr> <td>Group by</td> <td>Select a grouping option from the following list: <ul style="list-style-type: none"> • Dst Code - aggregation by default output. • Dst Code Name - grouping by rate rows with the same names and rates for all codes in each rate table. This option is intended to simplify grouping, the system will automatically group data in specified columns. </td> </tr> </table>	Group by	Select a grouping option from the following list: <ul style="list-style-type: none"> • Dst Code - aggregation by default output. • Dst Code Name - grouping by rate rows with the same names and rates for all codes in each rate table. This option is intended to simplify grouping, the system will automatically group data in specified columns.	
Group by	Select a grouping option from the following list: <ul style="list-style-type: none"> • Dst Code - aggregation by default output. • Dst Code Name - grouping by rate rows with the same names and rates for all codes in each rate table. This option is intended to simplify grouping, the system will automatically group data in specified columns.		
Additional Filters			
<p>The accessible additional filters are:</p> <ul style="list-style-type: none"> • Events: Dst Code, Dst Code Name, Country Name • Extras: Actual On, Master Table, Lowest Position, Get Margins For, Tag, Rate Age 			

Events settings	
Dst Code	Specify a code of needed destination.
Dst Code Name	Define a code name of the desired destination.
Country Name	Enter a name of the respective country.
Extra settings	
Actual on	Define the Effective Date of rates.
Master Table	Specify a rate table that all other rate tables will be compared to. <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>Please note that this field is active only during rate tables analysis</p> </div>
Lowest Position	Enter the number of the position from the full list of rates. For example, if you are looking for the cheapest destination in several rates, type 1 in this field. Please note that this feature only works with the Master Table option.
Tag	Indicate a tag, which relates to a specified rate table
Get margins for	Define a rate table, from which the respective margins will be taken. It is used to analyze margins.
Rate age	Specify the number of days
Output	This information block contains settings of the report output data.
	<p>Type</p> <p>Choose a format of the report from a drop-down list:</p> <ul style="list-style-type: none"> • Web • CSV • Excel XLS • Excel XLSx <p>If CSV, Excel XLS or Excel XLSx type has been selected, an additional Send to field will be displayed. In this field, you can specify emails of the clients, to which the current report in the selected format will be sent to.</p>
	<p>Currency</p> <p>Specify a currency of the report. All values will be automatically converted to the specified currency in the report.</p>
	<p>Code Deck</p> <p>Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck.</p>
	<p>Simulate long codes checkbox</p> <p>Check if a rate table does not have codes, which are presented in other tables for simulating them using shorter codes.</p> <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>If you check the Simulate long codes checkbox, the system will try to simulate the longest available code with the shorter one. For example, we analyze two rate tables, one of which has code 380, and the other has 380 and 38044 codes.</p> <p>When the mentioned checkbox is active, the first rate table will have unavailable 38044 code simulated with the price of available 380. Rates like these have the Simulated label when you hover the mouse pointer over them and are colored in light-red, light-green and grey respectively.</p> </div>

After clicking the **Query** button, the system will form a list of rates with prices for each destination. The highest rate available for the destination is colored in red, the lowest – in green, and middle rates are colored in black.

Screenshot: Rates Analysis section

The screenshot shows the 'Rates Analysis' interface. On the left is a sidebar with categories: Events, Code, Country name, Extras, Actual On, Master Table, Lowest Position, Get Margins For, Tag, and Rate Age. The main area is divided into 'FILTERS' and 'OUTPUT' sections.

FILTERS:

- Outlook: rates comparison
- Service: Calls
- Originators: Orig Client
- Terminators: Term Client #1
- Rate Tables: Rate Table Term 1, Parent Rate Norification
- Code Name: (empty)
- Group By: Code

OUTPUT:

- Type: Web
- Currency: USD
- Code Deck: DEFAULT
- Simulate Long:

Buttons: Save Query, Query, Export to CSV, Export to XLSx, and an Info icon (i).

Code	Code Name	Rate Table Term 1	Parent Rate Norification	Orig Client Orig	Term Client #1 term Term	Term Client #1 term2 Term	Term Client #1 term3 Term
1	-	-	-	-	-	-	-
120	-	0.3600	-	-	-	-	-
1201	United States	-	0.9900	-	-	-	-
12011	United States	0.3600	-	-	-	-	-
1202	United States	0.1600	0.9900	-	-	-	-
1203	United States	-	0.9900	-	-	-	-

Also, there is a possibility to **select all** values in the **Rates Analysis form** for the following fields: *Rate tables, Originators, Terminators.*

Screenshot: Rates Analysis section

This screenshot is similar to the first one, but the 'Originators', 'Terminators', and 'Rate Tables' fields in the 'FILTERS' section are set to 'ALL'. A red box highlights these three fields, and a red arrow points to the 'Originators' field.


FILTERS:

- Outlook: rates comparison
- Service: Calls
- Originators: ALL
- Terminators: ALL
- Rate Tables: ALL
- Code Name: (empty)
- Group By: Code

OUTPUT:

- Type: Web
- Currency: USD
- Code Deck: DEFAULT
- Simulate Long:

Buttons: Save Query, Query, and an Info icon (i).

By clicking the **Info**  icon above the report on the right, the **user's name** and **time/date**, when a report was generated, will be displayed in a pop-up window.

Screenshot: Info icon

Generated by: Administrator on 01/24/2018 16:17:47 +0000

Creating a New Template

Also, you can create a template and save specified parameters by clicking the **Save Query** button. A pop-up window with settings will appear, where you need to fill out the following form:

Screenshot: New Template form

Reports Templates
WATCH (NOT AVAILABLE FOR WEB OUTPUT TYPE)

RATES ANALYSIS

Title:

Reseller:

Visibility:

Recipients:

Run Time:

Run Time Timezone:

Days of Week:

REPORT QUERY

- Events
- Code
- Country name
- Extras
- Actual On
- Master Table
- Lowest Position
- Get Margins For
- Tag

FILTERS

Outlook:

Service:

Originators:

Terminators:

Rate Tables:

Code Name:

Group By:

OUTPUT

Type:

Currency:

Code Deck:

Simulate Long:

Section	Description
Rates Analysis	Here you can specify parameters for the template that will be used while running reports
	Title Specify a name of the template
	Reseller Indicate a Reseller for the report template
	<p>Visibility It allows controlling visibility of respective reports templates. You can set up whether you want to keep templates private or leave them visible for users under a specified Reseller.</p> <p>To enable this option, select one parameter from the drop-down list:</p> <ul style="list-style-type: none"> Public - available for users according to the settings of the Reseller field. Private - accessible strictly for creator.
Watch	This tool allows to generate the report automatically at the appropriate time and send the results to the list of emails.
	<p>! Attention</p> <p>Please note that this tool is not available for Web output type, only for CSV/Excel XLS/Excel XLSx</p>
	Recipients Specify recipients. You can indicate your own email, or other users of the system, or even 3rd parties
	Run Time Indicate an appropriate time to generate a report automatically, it could be several times, for example: 10:00, 12:00, 18:00
	Days of Week Indicate days of the week to generate a report automatically. For example, you can run a report only on Monday or each day of the week .
Report Query	Here you need to check filters and the output type. These values will be pre-selected by default according to the formed rate analysis query.

After a template has been created, a new **Load Query** button will be added to the section. By clicking it, you can select report settings to be filled in from a list of templates for rates analysis.

Export generated report

You can export report data either in .xls file or .csv that would contain currently presented data. Click the **Export to XLSx** or **Export to CSV** button to download a file of the respective format.

Rates Generator

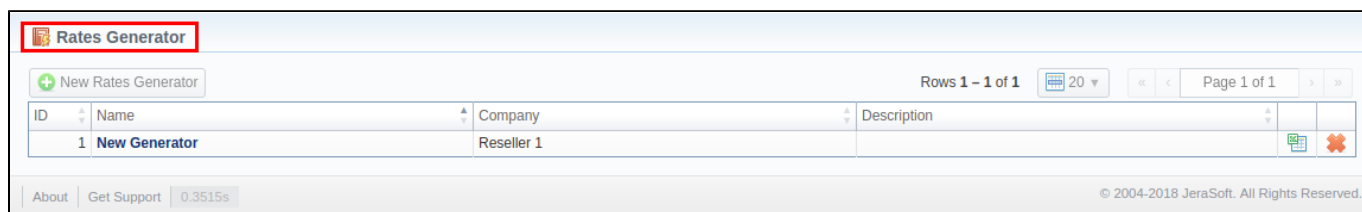
In this article

- [Section overview](#)
- [Creating a New Rates Generator](#)
 - [Optimization Options](#)
 - [Adjust Options](#)
 - [Advanced Options](#)
 - [Quality Options](#)
- [Rules List Tab](#)
- [Creating New Rules](#)

Section overview

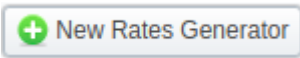


Rates Generator is a tool aimed at making rates management more flexible and versatile by allowing setting up specific rules that will be applied to codes and rate tables in general. Additionally, it allows both generating a new rate table for vendors or updating new ones. The section is presented in a form of a table with the following columns:

Screenshot: Rates Generator form



Column	Description
ID	Identification number of a rates generator
Name	Name of a rates generator
Reseller	Name of a reseller, whom a rates generator belongs to
Description	Additional information about a rates generator

Functional buttons/icons, presented in the section, are as follows:

Button/Icon	Description
	Allows creating a new rates generator
	Allows downloading a rate table with rates generator rules in .csv or .xls formats
	Allows deleting a rates generator from the system

Creating a New Rates Generator

To create a new rates generator, you need to click the New Rates Generator button and a pop-up creation form will appear. It consists of **general** and **additional** settings. The list of general settings includes the following fields:

Screenshot: General settings

The screenshot shows the 'Rates Generator' form with the following fields in the highlighted section:

- Name: Basic Generator
- Reseller: Reseller 1
- Service: Calls
- Code Deck: DEFAULT
- Currency: (empty)
- Description: (empty text area)

Other sections visible include:

- SIMPLE OPTIMIZATION**: Mode: min
- VERTICAL OPTIMIZATION**: Target < parent: 0%, Target > parent: 0%
- HORIZONTAL OPTIMIZATION**: Target < parent: 0%, Target > parent: 0%
- ADJUST RESULTS**: Tag: @, Policy: Regular, Rate: (empty), Setup Fee: 0, Min Volume: 1 sec, Interval: 1 sec, Grace Volume: 0 sec, Time Profile: all time
- ADVANCED OPTIONS**: Detect fake: 5, Skip distance: 10%, Rate position: 1
- QUALITY OPTIONS**: Analyze period: 24 hours, Code min volume: 60 min, Unmatched price: 100

Buttons: OK, Cancel, Apply

Field	Description
Name	Specify the name of a new rates generator
Reseller	Select the reseller, to whom a newly created rates generator should belong
Service	Choose the service to be applied for the respective rates generator (calls, SMSs, data, etc.).
Code Deck	Select the code deck that will be used to name destination codes in a new price list if the Adjust Results option is checked
Currency	Specify the currency of rates in a new price list
Description	Additional information about a current rates generator

To refine your results, you can use the following additional criteria:

Optimization Options

Screenshot: Rates Generator form/Optimization sub-panel

The screenshot shows the 'Rates Generator' form with the optimization options section highlighted:

- SIMPLE OPTIMIZATION**: Mode: min
- VERTICAL OPTIMIZATION**: Target < parent: 0%, Target > parent: 0%
- HORIZONTAL OPTIMIZATION**: Target < parent: 0%, Target > parent: 0%

Other sections visible include:

- ADJUST RESULTS**: Tag: @, Policy: Regular, Rate: (empty), Setup Fee: 0, Min Volume: 1 sec, Interval: 1 sec, Grace Volume: 0 sec, Time Profile: all time
- ADVANCED OPTIONS**: Detect fake: 5, Skip distance: 10%, Rate position: 1
- QUALITY OPTIONS**: Analyze period: 24 hours, Code min volume: 60 min, Unmatched price: 100

Buttons: OK, Cancel, Apply

Information Block	Description
Simple Optimization	It allows applying the same price for all codes inside the same code name by using three options:
	<ul style="list-style-type: none"> m in: minimum available price.
	<ul style="list-style-type: none"> m ax: maximum available price.
	<ul style="list-style-type: none"> a vg: average price of all available.
Example	For instance, if the USA code name consists of 3 codes with 1, 5, and 6 USD rates, respectively, depending on a chosen option, the results will be:

		<table border="1"> <thead> <tr> <th>Code</th> <th>Source Rate</th> <th></th> <th>Result Rate for <i>min</i></th> <th>Result Rate for <i>max</i></th> <th>Result Rate for <i>avg</i></th> </tr> </thead> <tbody> <tr> <td>1201</td> <td>1</td> <td rowspan="3">»</td> <td>1</td> <td>6</td> <td>4</td> </tr> <tr> <td>1202</td> <td>5</td> <td>1</td> <td>6</td> <td>4</td> </tr> <tr> <td>1203</td> <td>6</td> <td>1</td> <td>6</td> <td>4</td> </tr> </tbody> </table>	Code	Source Rate		Result Rate for <i>min</i>	Result Rate for <i>max</i>	Result Rate for <i>avg</i>	1201	1	»	1	6	4	1202	5	1	6	4	1203	6	1	6	4										
Code	Source Rate		Result Rate for <i>min</i>	Result Rate for <i>max</i>	Result Rate for <i>avg</i>																													
1201	1	»	1	6	4																													
1202	5		1	6	4																													
1203	6		1	6	4																													
Vertical Optimization		This option allows replacing the longer codes by the shorter ones within a Code Name.																																
	Target < Parent	If a current rate is less of an entered percent, then it will be optimized. The longest codes will be merged to the shorter codes within the same code name.																																
	Target > Parent	If a current rate price is above an entered percent, then it will be optimized. The longest codes will be merged to the shorter codes within the same code name.																																
	Example	<p>For instance, you have the USA code name that consists of 5 following codes: 120, 1201, 1202, 120345, 120456 with 1, 1.05, 0.98, 1.5, 0.6 USD rates, respectively.</p> <p>Then, you need to specify the Target < Parent and Target > Parent fields: let's say 10% for each field. The Parent code is the shortest sub-code within a Code Name (e.g., 120 is a sub-code for 1202, 1203, 1205 but not for 121, 1222, etc.). Thus, the boundaries for vertical optimization are 0.9 USD and 1.1 USD with parent's code rate of 1 USD. As a result, 1201 and 1202 codes will be merged into 120 code since they are located within the specified interval. On the other hand, 120345 and 120456 codes will remain unchanged. The resulting rate table with vertical optimization will have the following look:</p> <table border="1"> <thead> <tr> <th>Source Code</th> <th>Source Rate</th> <th>Target < Parent</th> <th>Target > Parent</th> <th></th> <th>Result Code</th> <th>Result Rate</th> </tr> </thead> <tbody> <tr> <td>120</td> <td>1</td> <td rowspan="5">10% (0.9)</td> <td rowspan="5">10% (1.1)</td> <td rowspan="5">»</td> <td>120</td> <td>1</td> </tr> <tr> <td>1201</td> <td>1.05</td> <td>120345</td> <td>1.5</td> </tr> <tr> <td>1202</td> <td>0.98</td> <td>120456</td> <td>0.6</td> </tr> <tr> <td>120345</td> <td>1.5</td> <td></td> <td></td> </tr> <tr> <td>120456</td> <td>0.6</td> <td></td> <td></td> </tr> </tbody> </table>				Source Code	Source Rate	Target < Parent	Target > Parent		Result Code	Result Rate	120	1	10% (0.9)	10% (1.1)	»	120	1	1201	1.05	120345	1.5	1202	0.98	120456	0.6	120345	1.5			120456	0.6	
Source Code	Source Rate	Target < Parent	Target > Parent		Result Code	Result Rate																												
120	1	10% (0.9)	10% (1.1)	»	120	1																												
1201	1.05				120345	1.5																												
1202	0.98				120456	0.6																												
120345	1.5																																	
120456	0.6																																	
Horizontal Optimization		This option allows applying the same rate to codes of the same lengths within a Code Name.																																
	Target < Parent	If a current rate price is less of an entered percent, then it will be optimized. The price will be set for all codes with the same length within a respective code name.																																
	Target > Parent	If a current rate price is above an entered percent, then it will be optimized. The price will be set for all codes with the same length within a respective code name.																																
	Example	<p>For instance, you have the USA code name that consists of 3 following codes: 120, 120345, 120456 with 1, 14, 15 rates, respectively.</p> <p>Then, you need to specify the Target < Parent and Target > Parent with 5% and 10%. For this type of optimization, the system will check each code that matches the optimization rule (be of the same length) as a parent one. In our case, 120345 and 120456 will be checked. Therefore, the boundaries for 120345 code will be 13.3 USD and 15.4 USD. Since 120456 code has 15 USD rate that matches the interval, its rate will be changed to 14 USD. As a result, the generated rate table will have the following look.</p> <table border="1"> <thead> <tr> <th>Source Code</th> <th>Source Rate</th> <th>Target < Parent</th> <th>Target > Parent</th> <th></th> <th>Result Code</th> <th>Result Rate</th> </tr> </thead> <tbody> <tr> <td>120</td> <td>1</td> <td rowspan="3">5%</td> <td rowspan="3">10%</td> <td rowspan="3">»</td> <td>120</td> <td>1</td> </tr> <tr> <td>120345</td> <td>14</td> <td>120345</td> <td>14</td> </tr> <tr> <td>120456</td> <td>15</td> <td>120456</td> <td>14</td> </tr> </tbody> </table>				Source Code	Source Rate	Target < Parent	Target > Parent		Result Code	Result Rate	120	1	5%	10%	»	120	1	120345	14	120345	14	120456	15	120456	14							
Source Code	Source Rate	Target < Parent	Target > Parent		Result Code	Result Rate																												
120	1	5%	10%	»	120	1																												
120345	14				120345	14																												
120456	15				120456	14																												

⚠ Attention

Please be advised that **we don't recommend** using all types of optimization within one rates generator. **Simple optimization** is designed to work solely, thus, no other type will work, if simple optimization is enabled. However, you can enable **vertical** and **horizontal optimization** within the same rates generator. Nevertheless, we recommend to enable only one type of optimization per rates generator.

Adjust Options

The **Adjust Results** checkbox enables results adjusting by data from a currently selected **Code Deck**. It means that the number of codes in your **source rate table** (specified in rules after a new rates generator is created) **must be equal** to the number of codes in your Code Deck. If your Code Deck has only 5 codes, but a rate table has 10, those extra codes, that are not specified in a selected Code Deck, will be removed from a generated rate table. On the other hand, if your Code Deck has 15 codes, but a rate table has only 5, 10 extra codes will be added to a generated rate table with parameters, specified in this information block. A detailed example is provided in the table below.

Screenshot: *Adjust Results information block*

Rates Generator

Name:

Reseller:

Service:

Code Deck:

Currency:

Description:

SIMPLE OPTIMIZATION

Mode:

VERTICAL OPTIMIZATION

Target < parent: %

Target > parent: %

HORIZONTAL OPTIMIZATION

Target < parent: %

Target > parent: %

ADJUST RESULTS

Tag:

Policy:

Rate: USD

Setup Fee: USD

Min Volume: sec

Interval: sec

Grace Volume: sec

Time Profile:

ADVANCED OPTIONS

Detect fake:

Skip distance: %

Rate position:

QUALITY OPTIONS

Analyze period: hours

Code min volume: min

Unmatched price:

Field	Description																						
Tag	Specify a tag that will be applied to new rates, if such were created by a rates generator. Let's leave the default @ tag																						
Policy	Select the policy (regular or additive) that will be applied to a code(s), presented in a code deck, but not in a source rate table. For example, Regular policy																						
Rate	Define a rate for codes, which are present in a code deck but missing in a rule's source rate table. For example, 7.5 USD																						
Setup Fee	Define a setup fee for a new rate(s). For example, 8 USD																						
Min Volume	Indicate minimum volume for a new rate(s). 6 sec , for instance																						
Interval	Specify the interval for a new rate(s). For example, 2 sec																						
Grace Volume	Determine grace volume for those rates. For example, 2 sec																						
Time Profile	Define a time profile for a new rate(s). For instance, leave the default all time profile																						
Example	<p>Let's say our DEFAULT code deck contains 5 codes: 1201, 1202, 1203, 1204, 1205. But our source rate table has 4: 1201, 1202, 1203, and 1205. If you enable Adjust Results and specify the above-mentioned fields with respective parameters, a new rate table, created by a rates generator, will consist of 5 codes: 1201, 1202, 1203, 1205 with their original parameters and a new 1204 code with the following ones (see screenshot above):</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 20%;">Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Code</td> <td style="text-align: right;">1204</td> </tr> <tr> <td>Code Name</td> <td>According to DEFAULT code deck</td> </tr> <tr> <td>Rate</td> <td style="text-align: right;">7.5</td> </tr> <tr> <td>Setup Fee</td> <td style="text-align: right;">8</td> </tr> <tr> <td>Min Volume</td> <td style="text-align: right;">6</td> </tr> <tr> <td>Interval</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Grace Volume</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Time Profile</td> <td style="text-align: right;">all time</td> </tr> <tr> <td>Tag</td> <td style="text-align: right;">@</td> </tr> <tr> <td>Policy</td> <td style="text-align: right;">Regular</td> </tr> </tbody> </table> <p>If a source rate table misses more than 1 code from the selected code deck, all added codes will have identical parameters, specified in the respective fields above.</p>	Field	Value	Code	1204	Code Name	According to DEFAULT code deck	Rate	7.5	Setup Fee	8	Min Volume	6	Interval	2	Grace Volume	2	Time Profile	all time	Tag	@	Policy	Regular
Field	Value																						
Code	1204																						
Code Name	According to DEFAULT code deck																						
Rate	7.5																						
Setup Fee	8																						
Min Volume	6																						
Interval	2																						
Grace Volume	2																						
Time Profile	all time																						
Tag	@																						
Policy	Regular																						

Attention

Please note, if you enable the **Adjust Results** option but don't specify the **Rate** field, new rates for missing codes **won't be added** to a new rate table

Advanced Options

The Advanced Options information block is designed to resolve cases when rates generator rules are created for different source rate tables that share certain identical codes. By specifying the following fields, you can configure what will the rate system use for these codes:

Screenshot: *Advanced Options information block*

Field	Description										
Detect Fake	Enable detection of fake rates if at least a specified number of rates is present in all source rate table, specified in generator rules.										
Skip Distance	A percentage value of difference between the average rate value and a particular rate from all rates, used for the Detect Fake operation.										
Rate Position	Define what rate from a total amount of rates left after Detect Fake operation will be used for a certain code. Rates are ordered from the cheapest to the most expensive. Thus, if you specify 1, The system will use the cheapest rate, if 2 - the second cheapest, and so on.										
Example	<p>Let's say we have 4 rules in our rates generator, each with a different source rate table. Each rate table has a rate for the 1201 code, but with different prices in USD:</p> <table border="1"> <thead> <tr> <th>Rate Table Name</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>RT 1</td> <td>0.98</td> </tr> <tr> <td>RT 2</td> <td>0.2</td> </tr> <tr> <td>RT 3</td> <td>1.1</td> </tr> <tr> <td>RT 4</td> <td>1.7</td> </tr> </tbody> </table> <p>In Advanced Options of rates generator settings, we've specified values, seen on the screenshot above. It means that the system will pick all 4 rates for the 1201 code and execute the following actions:</p> <ol style="list-style-type: none"> Count an average rate for all 4 rates that equals 0.99 USD. Count the interval of 15% for average rate of 0.99 USD that is between 0.85 USD and 1.13 USD. Then, the system will compare all rates and skip 1.7 USD rate from RT 4 and 0.2 USD rate from RT 2. Since the Rate position field value is 2, the system will pick the second cheapest rate for this code that is 1.1 from RT 3 and apply it as a basic rate for 1201 code in a new rate table, created by a rates generator. 	Rate Table Name	Rate	RT 1	0.98	RT 2	0.2	RT 3	1.1	RT 4	1.7
Rate Table Name	Rate										
RT 1	0.98										
RT 2	0.2										
RT 3	1.1										
RT 4	1.7										

Quality Options

The Quality Options information block contains additional parameters for more precise rate generation, based on the [Summary Report](#). The system will analyze the report taking into account a specified time interval, specified in a report, minimum event value for codes, specified in generator rules, as well replace rate values for unmatched codes, and will generate a new rate table or update an existing one including these parameters. The information block consists of the following fields:

Screenshot: *Quality Options information block*

Rates Generator

Name:

Reseller:

Service:

Code Deck:

Currency:

Description:

SIMPLE OPTIMIZATION

Mode:

VERTICAL OPTIMIZATION

Target < parent: %

Target > parent: %

HORIZONTAL OPTIMIZATION

Target < parent: %

Target > parent: %

ADJUST RESULTS

Tag:

Policy:

Rate: USD

Setup Fee: USD

Min Volume: sec

Interval: sec

Grace Volume: sec

Time Profile:

ADVANCED OPTIONS

Detect fake:

Skip distance: %

Rate position:

QUALITY OPTIONS

Analyze period: hours

Code min volume: min

Unmatched price:

Field	Description																								
Analyze Period	Define a number of hours to analyze the Summary Report for. For example, 24 hours																								
Code Min Volume	Define a minimum event volume for a certain code. For example, 60 min for the Calls service																								
Unmatched Price	Define a price for all codes that do not satisfy quality parameters (Code Min Volume value). For example, 100 USD																								
Example	<p>For example, you created a new rates generator and set up 3 rules for the following codes: 1201, 1202, 1205 with 1.5, 2.5, and 5.5 USD rates, respectively. In the Quality options, the respective parameters are the same as indicated in an example (see screenshot above). If you click either Generate To file, Create Rate Table or Update Rate Table buttons on May 16th, at, i.e., 3:25 PM, the rates generator will run a Summary Report with the following parameters:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Period</td> <td>May 15, 15.25 PM - May 16, 3:25 PM</td> </tr> <tr> <td>Code</td> <td>1201, 1202, 1205</td> </tr> <tr> <td>Total Volume</td> <td>60</td> </tr> </tbody> </table> <p>Subsequently, a report showed that the billed volume for 1201 code is 79 mins, 1202 - 49 mins, and 1205 - 61 mins. As a result, a newly generated rate table will contain the following data:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th>Code</th> <th>Old Rate</th> <th></th> <th>New Rate</th> </tr> </thead> <tbody> <tr> <td>1201</td> <td>1.5</td> <td></td> <td>1.5</td> </tr> <tr> <td>1202</td> <td>2.5</td> <td style="text-align: center;">»</td> <td>100</td> </tr> <tr> <td>1205</td> <td>5.5</td> <td></td> <td>5.5</td> </tr> </tbody> </table>	Field	Value	Period	May 15, 15.25 PM - May 16, 3:25 PM	Code	1201, 1202, 1205	Total Volume	60	Code	Old Rate		New Rate	1201	1.5		1.5	1202	2.5	»	100	1205	5.5		5.5
Field	Value																								
Period	May 15, 15.25 PM - May 16, 3:25 PM																								
Code	1201, 1202, 1205																								
Total Volume	60																								
Code	Old Rate		New Rate																						
1201	1.5		1.5																						
1202	2.5	»	100																						
1205	5.5		5.5																						

Attention

If you want to use **Quality Options** for Rates Generator, you have to define a **Terminator** as a Source for a Rates Generator's rule.

Rules List Tab

When your rates generator has been created, you need to specify its rules. The Rules List tab consists of all rules, created for a target rates generator and is presented in a form of a table with the following columns:

Screenshot: Rules List Tab

Columns	Description
Rates Filter	Code or Code Name, used in this rule
Sources	Rate Tables or Terminators Names that serve as sources for this rule
Margins	Amount of margin that will be applied to a rate if specified margin parameters are met
Force Rates Settings	Additional information on a rate: Setup Fee, Grace Volume , etc.

List of functional buttons, presented in the tab, includes:

Button/Icon	Description
	Allows creating new generator rules
	Allows downloading a new rate table in .csv or .xls formats
	Allows creating a new rate table with data from respective rules that will be added to the Rate Tables section
	Allows updating a target rate table(s) with data from respective rules

You can change an order of rules with the help of the icon. Simply click on it and drag-and-drop it to a desired place.

Creating New Rules

To create a new rule, you need to click the **Add Rule** button. In the opened creation form (see screenshot below), specify the respective fields and click **OK**. A new rule will be added at the top of the **Rules List** tab:

Screenshot: New rule creation form

Rates Generator
New Generator

RATES FILTER

Code:

Code Name:

Time Profile:

Tag:

Policy:

QUALITY FILTER

ASR: — %

ACD: — min

FORCE RATES SETTINGS

Min Volume: sec

Interval: sec

Grace Volume: sec

Setup Fee: USD

Time Profile:

SOURCES


Rate Tables:

Terminators:

MARGINS +

i No Margins

Information Block	Fields and Description
Rates Filter	Basic parameters of a new rule
	<ul style="list-style-type: none"> • Code Indicate a code for a current rule. Use the * (<i>asterisk</i>) symbol for all codes. If a code is specified, the Code Name field is inactive and vice versa
	<ul style="list-style-type: none"> • Code Name Specify a respective Code Name for this rule
	<ul style="list-style-type: none"> • Time Profile Select a time profile for codes that will be picked from sources
	<ul style="list-style-type: none"> • Tag Specify a tag for a current code of a rule
	<ul style="list-style-type: none"> • Policy Choose a respective policy (regular/additive)
Quality Filter	Set quality parameters of your rule here
	<p> Attention</p> <p>Please be advised that these parameters work in combination with Quality Options in generator settings. It means that if ASR, % is set to 85-95, when a rates generator creates a Summary Report, it will analyze codes not only by their volumes, indicated in the Code Min Volume field, but also if their ASR complies with the value, indicated in the ASR, % field. The same behavior is expected for the specified ACD, min field</p>
	Specify ASR ranges for target code that are checked in a Summary Report by the rates generator

	<ul style="list-style-type: none"> • ASR, % 	
	<ul style="list-style-type: none"> • ACD, min 	Specify ACD ranges for target code that are checked in a Summary Report by the rates generator
Force Rates Settings	Specify additional parameters that must be noted when picking destinations from sources: <ul style="list-style-type: none"> • Setup Fee • Min. Volume • Interval • Grace Volume • Time Profile 	
Sources	Select one or multiple sources for picking data for a new price list	
	<ul style="list-style-type: none"> • Rate Tables 	Specify source rate tables
	<ul style="list-style-type: none"> • Terminations 	Specify vendors (termination clients) for this rule
Margins	<p>By clicking on the  icon, you can add a margin to a respective rate.</p> <p>If the rate for an indicated code is within the range of rates, defined in the Rate> and Rate fields, a margin (specified in respective currency or %) will be applied to this rate. Add the % symbol to the Add Margin field value to indicate that a margin is in percent.</p>	

 **Tip**

Section rules abide the following priority: the top placed rule is picked first, and if some of the lower priority rules are able to provide the same codes, those codes will be ignored.

 **Attention**

Rates Generator generates **stashed rates** that must be confirmed. When you confirm rates and there are duplicate active rates, it changes the status of an active rate to **stashed**, and a new confirmed rate (created by a rates generator) becomes **active**. You can confirm rates in the **Rate Tables** section.

Active Sessions

In this article

- [Active Sessions Search Form](#)
- [Creating an active sessions report](#)
- [Query templates](#)
- [Active Sessions buttons: reports, export, chart.](#)
- [Knowledge Base Articles](#)

Active Sessions Search Form

This section provides an easy and convenient active sessions monitoring tool. Upon access, you can see the full list of active sessions that are currently being processed by your switch.

Screenshot: Active Sessions section

Active Sessions
This section is only for reference. It displays current active sessions but does not affect the billing or statistics processing.

FILTERS

Orig Client: Rose Orig

Group By: Gateway

OUTPUT

Order By: Duration

Limit: No limit

Type: Web | Plain

Reload options
Export to CSV
Export to XLSx
Show Chart

Gateway	Total	Info	Originator	Terminator	SRC Party ID	DST Party ID	Duration
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111131743	123111556	3 040
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111136702	123132512	3 042
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111111451	123137815	3 044
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111137435	123121708	3 047
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111141811	123133372	3 049
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111116468	123119674	3 050
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111125798	123125974	3 051
Gateway	1		Rose Orig / rose_orig / rose_orig	Rose Term / rose_term / rose_term	1111132275	123123564	3 095

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If the data is grouped in the report, it will be shown initially collapsed. To expand or collapse data in your report, click the plus or minus icons.

Attention



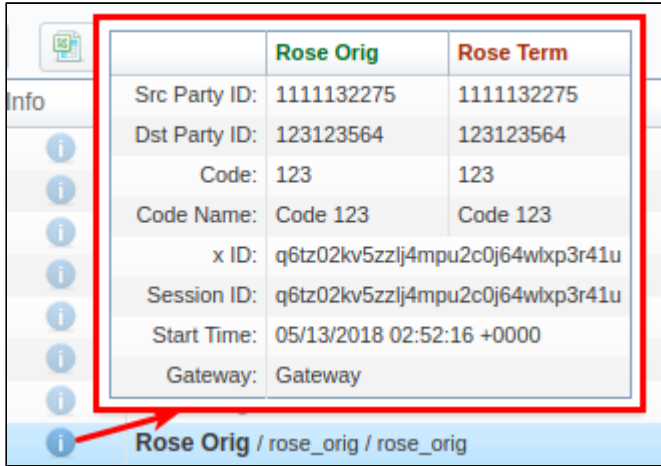

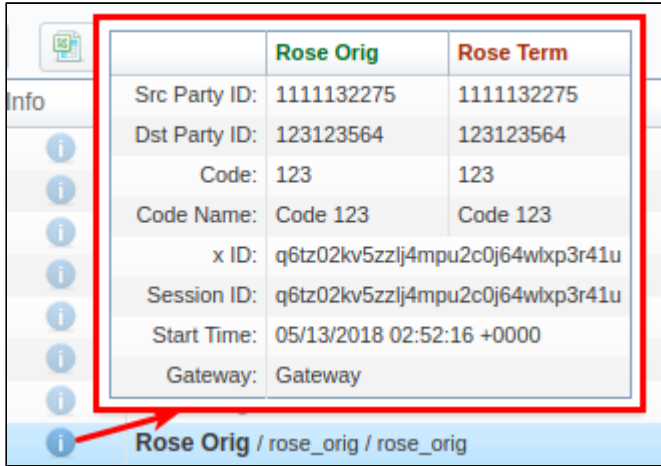

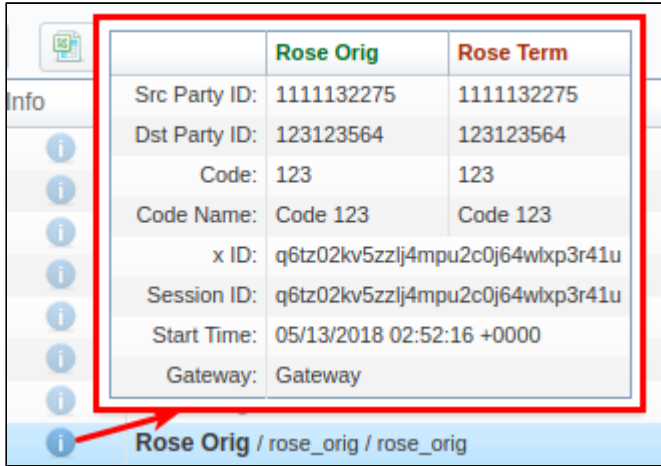
Please note, this function requires **RADIUS Accounting Start packets** to be sent from your Gateway and the **Track Active Events** option enabled in the [Gateways](#) section.

Be advised that the **Track Active Events** option **diminishes system performance**. Please, activate it only if you use capacity control by billing and/or require active sessions status monitoring.

Creating an active sessions report

To create a report, fill in the query form with the parameters specified below, and click the Query button. A screenshot of a generated report is presented above.

Information Block	Field Description
Filters	On the Filters menu, select required parameters for the report. To cancel any filter, click on the delete icon next to the filter.
	You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.
Group by	<p>Select a grouping option. Here you can choose and swap columns, or change their order. There are the following accessible options to group data in the report:</p> <ul style="list-style-type: none"> • Orig Client, Orig Account, Orig Code, Orig Code Name. • Term Client, Term Account, Term Code, Term Code Name. • Gateway.

Additional Filters							
<p>There are the following accessible additional filters:</p> <ul style="list-style-type: none"> ◦ <i>Orig Client, Orig Account, Orig Code, Orig Code Name.</i> ◦ <i>Term Client, Term Account, Term Code, Term Code Name.</i> 							
Orig Client	Define an origination client for the report						
Orig Account	Enter an origination account for the report						
Orig Code	Specify an origination code for the report						
Orig Code Name	Indicate an origination code name						
Term Client	Define a termination client for the report						
Term Account	Enter a termination account for the report						
Term Code	Specify a termination code for the report						
Term Code Name	Indicate a termination code name						
Output	<p>This form contains settings of the report output data.</p> <p>Click the plus  icon next to Columns and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.</p> <p>Accessible columns in the report</p> <p>There are the following columns to add in the report:</p> <ul style="list-style-type: none"> • <i>Total, Info, Originator, Terminator, Src Number, Dst Number, Duration.</i> <table border="1"> <tr> <td>Total</td> <td>Total quantity of sessions in the database.</td> </tr> <tr> <td>Info</td> <td> <p>By hovering over the Info  icon, additional data about sessions will be displayed (see screenshot below):</p> <ul style="list-style-type: none"> • <i>Src and Dst Party ID</i> • <i>Code and Code Name</i> • <i>x ID</i> • <i>Session ID</i> • <i>Start Time and Gateway</i> <p>Screenshot: <i>Info</i></p>  <p>The screenshot shows a tooltip with a table of session details. The table has two columns: 'Rose Orig' and 'Rose Term'. The rows include Src Party ID, Dst Party ID, Code, Code Name, x ID, Session ID, Start Time, and Gateway. A red box highlights the table content, and a red arrow points to the 'Rose Orig' header.</p> </td> </tr> <tr> <td>Originator</td> <td>The name of the originator, orig gateway, account IP, Name or ANI.</td> </tr> </table>	Total	Total quantity of sessions in the database.	Info	<p>By hovering over the Info  icon, additional data about sessions will be displayed (see screenshot below):</p> <ul style="list-style-type: none"> • <i>Src and Dst Party ID</i> • <i>Code and Code Name</i> • <i>x ID</i> • <i>Session ID</i> • <i>Start Time and Gateway</i> <p>Screenshot: <i>Info</i></p>  <p>The screenshot shows a tooltip with a table of session details. The table has two columns: 'Rose Orig' and 'Rose Term'. The rows include Src Party ID, Dst Party ID, Code, Code Name, x ID, Session ID, Start Time, and Gateway. A red box highlights the table content, and a red arrow points to the 'Rose Orig' header.</p>	Originator	The name of the originator, orig gateway, account IP, Name or ANI.
Total	Total quantity of sessions in the database.						
Info	<p>By hovering over the Info  icon, additional data about sessions will be displayed (see screenshot below):</p> <ul style="list-style-type: none"> • <i>Src and Dst Party ID</i> • <i>Code and Code Name</i> • <i>x ID</i> • <i>Session ID</i> • <i>Start Time and Gateway</i> <p>Screenshot: <i>Info</i></p>  <p>The screenshot shows a tooltip with a table of session details. The table has two columns: 'Rose Orig' and 'Rose Term'. The rows include Src Party ID, Dst Party ID, Code, Code Name, x ID, Session ID, Start Time, and Gateway. A red box highlights the table content, and a red arrow points to the 'Rose Orig' header.</p>						
Originator	The name of the originator, orig gateway, account IP, Name or ANI.						

Terminator	The name of the terminator, term gateway, account IP, Name or ANI.
Src Party ID	The source number.
Dst Party ID	The destination number.
Duration	Session duration, specified in seconds.
Other output settings	
Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.
Type	<p>Choose a format of the report from a drop-down list: Web / CSV / Excel XLS / Excel XLSx</p> <p>Also, select next to the Type field a look of table view:</p> <ul style="list-style-type: none"> • Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse it <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV and Excel XLS.</p> </div>
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by a chosen parameter. It is available only for the Plain type of the report.
Send to	You can send generated reports via email. Also, it is possible to specify several emails.
	<div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.</p> </div>

Query templates

Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button in the form. A pop-up window with settings will appear, and you will need to fill in the form. Detailed description on creating a template can be found in the [Report Templates](#) article in our **User Guide**.

To load already existing templates while generating statistic reports, click the **Load Query** button and the  icon opposite a target template on the list.

Active Sessions buttons: reports, export, chart.

You can export data to a **CSV** or **XLSx** file, which contains only currently displayed data, with no automatic request to update data while exporting. Also, it is possible to create charts for illustrating crucial information easily. And you can generate a report using the same criteria in the **Orig-Term Report** and the **xDRs List** sections.

1. To set a reload interval of the report, click the respective **Reload options** button and select needed values in the **Interval** and **Show Last** fields.

Tip


The **Show Last** field defines the period, for which data is generated in a report. For example, if you want to display the data for 1 day, specify it in the **Show last** field.

2. To download a report in **.csv**, click on the **Export to CSV**  button above the report.

Attention

Please note, this button will be visible only when the **Type** of the output is **Plain**. For the **Grouped** output type it is not available.

3. To download an **.xlsx** report file, click the **Export to XLSx**  button above the report.

4. To create a **visual chart**, click the **Show Chart**  button above the report. There is more information available on this topic in the article **How to create a statistic chart?** in our Knowledge Base.

 **Tip**

If you want to create a proper **Line chart** for **different clients**, please follow these steps:

- choose the **Orig Client** parameter in the **Group by** field.
- click the **Show Chart** button and open the chart settings.
- select the **Date** and **Time** parameters on the **X Axis**, and the **Calls Total** parameter on the **Y Axis**.
- specify a **line type** of the chart and click on the **Save** button.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Factors Watcher

In this article

- [Factors Watcher List](#)
- [Creating a New Factors Watcher](#)
- [Configuring Watch Rules](#)

Factors Watcher List

This section represents a built-in tool to monitor statistics and generate alerts, as well as block numbers, codes/code names, destinations, clients, or accounts, if some conditions are met. The section is presented in a form of a table with the following columns:

Screenshot: *Factors Watcher main section*

Column	Description
ID	Identification number of a factors watcher
Name	Name of a factors watcher
Watch Rule	Total number of watch rules within a factors watcher
Presets	Total amount of traffic rules, created by a factors watcher
Query	Factors watcher query

Functional buttons/icons, presented in the section, are as follows:

Icon	Description
	Allows editing existing watch rules
	Allows viewing traffic rules, created by a factors watcher
	Allows editing a factors watcher
	Allows deleting a factors watcher

Creating a New Factors Watcher

The tool is based on periodical queries in the [Summary](#) or [xDRs List](#) sections. To create a new query, click the **New Factors Watcher** button and specify parameters in the following form:

Screenshot: *Adding a New Factors Watcher*

Factors Watcher

Name:

Analyze by:

Report Template:

Analyze interval of:

Period Offset:

Check every:

Period Start:

Time Zone:

Time Profile:

QUERY

Client:

Code Name:

Company:

Group By #1:

Account:

Code:

Code Deck:


Group By #2:

Gateway:

Group By #3:


Field	Description
Name	Factors watcher's name. This field is mandatory. The name must be no longer than 128 symbols.
Analyze by	Select a report (Summary or xDRs List), a new factors watcher will be based on Different reports provide a different set of parameters that are available for monitoring. For instance, xDRs List allows you to work with service sources (phone numbers, data) while Summary report allows such operations with ACD and ASR.
Report Template	Specify the template for further usage (optional) <div style="background-color: #ffff00; padding: 5px; border: 1px solid #ccc;"> <p>⚠ Attention</p> <p>Please note that the system enables to set a limited number of parameters overridden from the assigned template. For example: If there are 2 or more clients assigned to the respective template, the system will use the first client for Factors Watcher settings, all others will be ignored.</p> </div>
Analyze Interval of, min	Interval of time to check. Please note, this option checks a current period, not the past hour .
Period Offset	This period is used to compare results of different intervals. It deducts a specified period from the Period Start date, then takes the statistics according to the Analyze interval of value and the date calculated above.
Check Every, min	Frequency of checks, performed by a factors watcher
Period Start	Enter the specific time to set a factors watcher starting date
Timezone	Specify a timezone that will be used for reports queries/blocking routes
Time Profile	When you choose the time profile, it will use the statistics in the factors watcher according to the chosen value, for example, at peak times. However, if you click on Test Query , it will display the statistics without the selected time profile.
Query information block	Indicate the query fields that will be used for generating a selected type of report
Client	Select a client. You can specify multiple clients. <div style="background-color: #ffff00; padding: 5px; border: 1px solid #ccc;"> <p>⚠ Attention</p> <p>If you specify a client(s), the Account field becomes unavailable and vice versa.</p> </div>
Account	Select a target client's account

Code Name	Indicate a code name <div style="background-color: yellow; padding: 5px;">⚠ Attention The Code and Code Name fields are mutually exclusive</div>
Code	Define the code
Company	Specify a Reseller
Code Deck	Indicate a target code deck
Gateway	Select a respective gateway
Group by #	Group query by a selected parameter (<i>client, account, code name, code or gateway</i>). Pay attention that based on selected parameters, respective Action options will be available. For instance, if you group by Code , in the rule settings you will have the Block Code option and so on.
Test Query button	Click on this button to perform a test query in the Summary or xDRs List Report for the period, specified in the Check Every and Analyze Interval of fields


When you click **OK**, the new factors watcher will be created. You can edit properties of this watcher later by clicking the edit  icon.


Configuring Watch Rules

Next, you need to configure the watcher rules – parameters, under which conditions are monitored. To do this:

1. choose the already existed Factors Watcher from the list or create a new rule;
2. click on the name of the Factors Watcher or the **watch rule**  icon;
3. in the appeared window, click the **Add Rule** button and fill in the following fields:

Screenshot: *Editing Factors Watcher rules*

 **Factors Watcher**
Watcher 1


 Add rule
Rows 1 - 0 of 1



Priority	Match					Factors	Action	Lock Period	Periodic lock	Expiration Date
	Service	Origin	Gateway	Account	Code					
0	Calls	origination	GW Calls			acd_cur < 80	Alert	0 min	<input type="checkbox"/>	

Match — you can use "*" wildcard in these fields.

Factors — you should list watch rules in this field delimited by ";". List of correct fields:
 - volume_total, volume_billed, acd_std, acd_cur, pdd, scd, package_volume - with measurement unit specified in service
 - records_total, records_notzero, records_success, records_busy, records_nochannel, records_error - with measurement unit: numbers;
 - cost_total, rate_avg - with measurement unit: money;
 - asr_std, asr_cur - with measurement unit: percentage (%).

OK Cancel Apply

Field	Description
Priority	Define a priority of rules execution if they have the similar Match parameter
Match	A set of parameters that are used as a basis for checks
Service	Determine the type of service (e.g., calls, SMSs, data)
Origin	Type of route to check (Origination/Termination)
Code Name	Indicate the code name to apply a rule to
Gateways	Specify the gateway to apply a rule to
 Tip	To create a temporary rule that will override other rules with the same match parameters, you need to set up the rule with the highest priority and specify an appropriate Expiration Date . Therefore, the existed multiple rules with the same match parameters will override each other and the rule with the highest priority will be applied.

Factors	<p>Enter factors that will be applied to a current rule.</p> <p>Parameters must be listed with a semi-colon “;” as a delimiting symbol.</p> <p>The list of parameters available for usage:</p> <ul style="list-style-type: none"> • volume_total, volume_billed, acd_std, acd_cur, pdd, scd, package_volume - with a measurement unit specified in the service • records_total, records_notzero, records_success, records_busy, records_nochannel, records_error - with a measurement unit: numbers; • cost_total, rate_avg - with a measurement unit: money; • asr_std, asr_cur - with a measurement unit: percentage (%). <p>For example, if you enter total_volume > 100, it means that when the total event volume (e.g., call time) count for respective match parameters goes over 100 (here - minutes), the system will create an alert.</p> <p>It's possible to add a factors watcher rule with negative values. For example, total_cost < -10.</p>
	<p>Factors with a reference to the side-by-side reports:</p> <p>You can adjust these factors on your own, using the next formula and pre-existing factors mentioned above: factors_name_1 - value for the first period; factors_name_2 - value for the second period; factors_name_diff - difference between periods.</p> <p>For example: total_cost_1 (of the 1st period), total_cost_2 (of the 2nd period), total_cost_diff (difference in %).</p> <div style="background-color: #e0ffe0; padding: 10px;"> <p> Tip</p> <p>Users can add the Factors Watcher based on the side-by-side Summary Report. All you need to do is:</p> <ul style="list-style-type: none"> ○ click the New Factors Watcher button; ○ fill in the Name field and others according to your needs; ○ specify intervals in the next fields: Analyze Interval of, Period Start and Period Offset; ○ click the Test Query button. </div>
Action	<p>An action that must be taken if a matched rule is found.</p> <p>There are respective options: Alert, Block Code Name/Account/Client</p> <p>When one of these options is applied, the message will be shown in the Events log section.</p> <div style="background-color: #ffffe0; padding: 10px;"> <p> Attention</p> <p>The Block Code Name/Client/Account options will be invisible if the Group By # field in factors watcher rule is empty. If you group by the Client, the Block Account option won't be visible in the drop-down list of the Action field.</p> </div>
Lock Period	Defines the lockout time in minutes for analyzed route in case of a block action (0 value means infinite lockout)
Periodic Lock	If enabled, the rule will expire at the end of a period specified in the Analyze interval of field in the Watcher settings. Please note, that this option has higher priority than the Expiration Date .
Expiration Date	Specify date when the rule must be automatically deleted

 **Attention**

Please note that the **set of rules** in the **Action** field depends on how many parameters you defined in the **Group by #** field when a current query was created.

The **Block Code** option is available only if you set respective grouping in the factors watcher settings. For example, if you defined a code in the query, you will be able to block codes in watcher rules, etc.

xDR Disputes

In this article

- [Section overview](#)
- [Creating a New Dispute](#)
 - [Step 1. Selecting a File and Specifying All Required Parameters](#)
 - [Step 2. Rows and Columns Select](#)
 - [Step 3. Receiving Results of comparison](#)
- [Mass Edit](#)

Section overview

xDR Disputes Manager is a full-featured add-on of the system that could be used to compare xDRs given by your client/vendor with xDRs stored in the system.

Screenshot: *xDR Disputes List*

ID	Client / Account	Period	Total Qty	No L	No E	Updated	
4	Rose orig / all accounts	05/17/2018 – 05/17/2018 UTC	3	0	1	05/17/2018 13:30:00 +0000	
3	Rose orig / all accounts	05/17/2018 – 05/17/2018 UTC	3	0	1	05/17/2018 13:26:43 +0000	
2	Rose orig / all accounts	05/17/2018 – 05/17/2018 UTC	2	0	1	05/17/2018 13:21:05 +0000	
1	Rose orig / all accounts	05/17/2018 – 05/17/2018 UTC	3	1	1	05/17/2018 13:17:42 +0000	

Column	Description
ID	ID of a dispute
Client/Account	Client and Accounts of a current dispute
Period	Period of compared xDR files and timezone
Total Qty	Total amount of compared xDRs
No L	Number of xDRs that were not found in the system
No E	Number of xDRs that were not found in the external xDR file
Updated	Date of the last dispute update

Functional buttons/icons, presented in the section, are as follows:

Button/Icon	Description
	Allows adding a new dispute to the system
	Allows editing selected disputes
	Allows viewing dispute details
	Allows deleting a dispute from the system

Attention

If the **xDRs Disputes** section is not displayed in your VCS, you need to enable it in the **System > Roles** section.

Creating a New Dispute

The whole process can be divided into three steps.

Step 1. Selecting a File and Specifying All Required Parameters

To create a new dispute, click the **Add New Dispute** button. Then, you need to upload a target xDR file and specify the next information in the opened pop-up window:

Screenshot: Adding New Dispute. Step 1

Field	Description
Client	Specify a client for the dispute. If indicated, the Account field is disabled (and vice versa)
Account	Specify an account for the dispute
Type	Choose the type of compared xDRs: <ul style="list-style-type: none"> • origination • termination
Code Name	Specify a code name of a desired destination. If indicated, the Code field is disabled (and vice versa)
Code	Specify a code of a desired destination
Code Deck	Select a code deck that will be used for a current dispute
Select File	Upload the xDR file for comparison
Date Format	Specify date format of xDRs <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p>⚠ Attention</p> <p>Please note that by default date format is set to auto and has the following format: YYYY-MM-DD HH:MM:SS.</p> </div>
Period	Specify a period of a dispute
Override Timezone checkbox	If enabled, the timezone in the imported file will be replaced with the specified timezone in the Period field

When you filled in all required fields, click the **Process>>** button.

Warning

xDR Disputes have developed optimization algorithms of the file uploading process. Hence, we strongly recommend uploading files with a limited number of columns. **The dispute file must contain only 6 columns** for correct auto-detection while importing.

Step 2. Rows and Columns Select

The system will recognize the file and display a few first rows of it. Following this, you need to select these mandatory columns: **Src Party ID, Dst Party ID, Volume, Connect Time, Finish Time**. Then, click **Process>>** again (see screenshot below).

Screenshot: Rows and Columns Select window. Step 2

Import

ROWS AND COLUMNS SELECT

	Connect Time	SRC Party Id	DST Party Id	Volume	Finish Time	Skip
Event time	Connect Time	Src Party ID	Dst Party ID	Volume	Finish Time	<input checked="" type="checkbox"/>
05/17/2018 13:07:37 +0000	05/17/2018 13:05:59 +0000	1111131458	1201140538	98,0000	05/17/2018 13:07:37 +0000	<input type="checkbox"/>
05/17/2018 13:07:37 +0000	05/17/2018 13:05:59 +0000	1111131458	1201140538	98,0000	05/17/2018 13:07:37 +0000	<input type="checkbox"/>

Step 3. Receiving Results of comparison

After you click **Process>>**, the system will execute the comparison of a local xDR and the imported one, and the **Dispute Details** window will be opened. Then, you need to click the **Update** button and specify **Compare Options** in a respective pop-up window. Following this, click the **Refresh** button for the disputes results to be displayed (see screenshots below).

Screenshot: Disputes Details window. Step 3

Dispute Details

Update

COMPARISON OPTIONS

SRC party id:

DST party id:

Connect Time:

Finish Time:

Volume:

(A red arrow points from the 'Refresh' button to the 'Update' button in the screenshot above)

(A message box in the background says "No items were found")

Field	Description
Src Party ID	Enter a number of last digits for source number comparison
Dst Party ID	Indicate a number of last digits for destination number comparison
Connect Time	Specify the possible time offset (in seconds) between the system and external xDRs
Finish Time	Define the possible time offset (in seconds) between the system and external xDRs
Volume	Specify the possible time offset (in seconds) between the system and external xDRs

Screenshot: Disputes Details window. Step 3

Dispute Details

Rows 1 - 3 of 3 Page 1 of 1


	SRC Party Id	DST Party Id	Connect Time	Finish Time	Volume	
L	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98	<input type="button" value="Copy"/>
E	No matched xDRs					
L	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98	<input type="button" value="Copy"/>
E	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98	<input type="button" value="Copy"/>
L	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98	<input type="button" value="Copy"/>
E	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	96	<input type="button" value="Copy"/>

Icon	Description
E	Red color indicates the mismatched xDRs (external or local, it depends on the marked letter L or E)

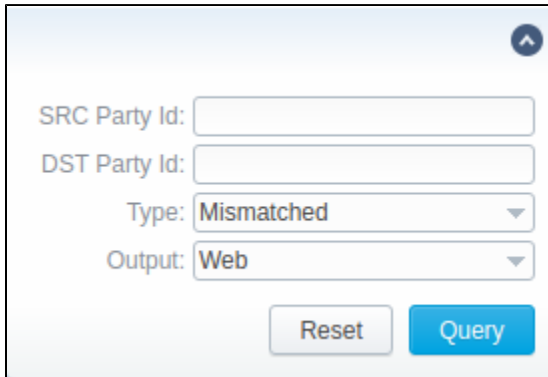
L	Yellow color indicates the matched xDRs with offset (external or local, it depends on the marked letter L or E). For example, the Volume value on a screenshot above for a local xDR is 98 and for external - 96
L	Green color indicates the exact matched xDRs (external or local, it depends on the marked letter L or E)

Attention

Please note, if at least one of the xDR's comparison parameters (**Session Time/Connect Time** or **Session Time/Finish Time**) matches the range of values specified in the **Update** option, it will be indicated as exact matched xDRs (green color).

Click on a blue downwards arrow  in the top right corner of the page to use Advanced Search. Note that by default, dispute details are filtered by **Mismatched** type.

Screenshot: Advanced Search drop-down menu



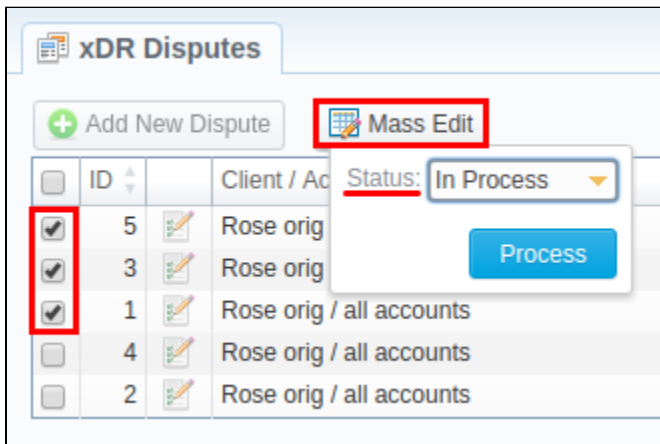
The screenshot shows a search form with the following fields and options:

- SRC Party Id:
- DST Party Id:
- Type: **Mismatched** (dropdown menu)
- Output: **Web** (dropdown menu)
- Buttons: **Reset** and **Query**

Mass Edit

You may change the status of selected disputes by using the **Mass Edit** button. Simply select target disputes, click the **Mass Edit** button, choose a status in a respective field and press **Process**. All changes will be applied immediately.

Screenshot: Mass Edit button



The screenshot shows the 'xDR Disputes' interface with the following elements:

- Buttons: **+ Add New Dispute** and **Mass Edit** (highlighted with a red box).
- Table of Disputes:

<input type="checkbox"/>	ID	Client / Ac	Status: In Process
<input checked="" type="checkbox"/>	5	Rose orig	Process
<input checked="" type="checkbox"/>	3	Rose orig	
<input checked="" type="checkbox"/>	1	Rose orig / all accounts	
<input type="checkbox"/>	4	Rose orig / all accounts	
<input type="checkbox"/>	2	Rose orig / all accounts	

Routing

This chapter describes **routing capabilities of JeraSoft VoIP Carrier Suite**. Please note that your JeraSoft VCS must include the **Routing Module** to have functional capabilities described below.

Introduction to VCS Routing Module

JeraSoft VCS is able to provide so-called Dynamic Routing features, also often called *External Routing*. Depending on your switch manufacturer, VCS provides these functions via RADIUS Protocol or SIP Redirect Server. To find out more about possible options of your switch manufacturers, please look through [VCS Integration Manual](#) or contact *JeraSoft Support*.

In VCS, the Dynamic Routing work is based on three principles: *Routing Plans, Routing Policies and Routing Table generation*. So, there are a few easy steps to set it working:

Step 1: You need to create a so-called [Routing Plan](#) with rules that describe your routing preferences and other criteria;

Step 2: You need to choose a desired [policy](#) for your rules – a special formula to decide, which routes should get top priority (for example, this way you decide whether you want to do LCR or Quality Routing);

Step 3: Assign a created Routing Plan to your origination customer(s). Then, you need to wait until the Routing Table is created.

Please check the sections below to get more information:

- [Routing Plans](#)
- [Routing Analysis](#)
- [Dynamic Routing Policies](#)
- [Dynamic Routing Table](#)

Routing Plans

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding a New Routing Plan](#)
- [Routing Rules tab](#)
- [Import/Export tab](#)
- [Routing Plan](#)
- [Knowledge Base Articles](#)

Section overview

The **Routing Plans** section is available if your JeraSoft VCS includes the **Routing Module**. To access *Routing Plans* section, please log in to your system and go to **Routing > Routing Plans**.

This section allows to manage your routing rules for customers, providers and destinations. Each routing plan should be assigned to a respective customer (originator) for proper work of the routing process.

You can combine both routing rules (**dynamic** and **static**) while creating a routing plan, also assign separate rules to each destination. Here you can find a list of created routing plans.

Screenshot: *Routing Plans* section

Column	Description
ID	ID number of a routing plan
Name	Name of a routing plan
Reseller	Name of a reseller, a corresponding routing plan has been assigned to as owner
Code Deck	Name of code deck that has been applied to a corresponding routing plan
Rules Hunting	A respective hunting rule that has been applied to a routing plan
DR Order	A name of dynamic routing order that has been selected to organize routing rules
Rules	An amount of rules specified in a respective routing plan

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new routing plan
	Allows to copy an existing routing plan to the section

Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on a blue downwards arrow icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu

Field	Description
Reseller	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
Allowed for	Select from the list of all Resellers, Sub-resellers and Managers that are assigned to a routing plan in the Origination Limit field
Code Deck	Select from the list of all Code Decks in the system
Tags	Specify a certain Tag that was added to a routing plan
Additional DR Plan	Select a routing plan that was assigned as an additional in the Additional Routing Plan field
TERM Client	Specify a termination client that was assigned to any routing plan rule

To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click the **Reset** button.

Adding a New Routing Plan

To create a new routing plan, click the **New Routing Plan** button, and fill in the following fields in the pop-up window.

Screenshot: Routing Plans window

Information Block	Fields Description

General Information	General routing plan information	
	Name	Title of a routing plan
	Reseller	Define the reseller/owner of a current routing plan
	Additional Routing Plan	Specify a DR plan, which will be additional for a current plan
	Code Deck	Select a Code Deck if you wish to have names of your code to be specified in the Code Name field
	Origination Limits	Define the company or companies, which will have access to this routing plan (also this restriction will be extended to their sub-companies). If there is no specified company, the following routing plan is available for all companies.
	Termination Limits	Select the company or companies, which will have a limit in termination for vendors who use it (sub-companies are not included)
Rooting Loop Protection checkbox	Excludes originating client from the list of terminators. If it is unchecked, it will be possible to route calls between different accounts of the same client. It is enabled by default.	
Rules Processing	Options of rules processing	
	Rules Hunting	Select a hunting mode (the way how rules will be executed). They are as follows: <ul style="list-style-type: none"> • longest only – routing will find only the longest matching code • all matching – all possible matches will be found, including even the shortest codes By default, the longest only option is set.
	DR Order	Specify a method of routes sorting in a routing table. The options are: <ul style="list-style-type: none"> • by appeal/code – routes will be sorted according to their resulting appeal value and then grouped by codes • by code/appeal – routes will be grouped by codes and then sorted by appeal value By default, the by code/appeal option is set.
	PM	Define a Profit Margin value for a current rule here. It can be specified either as a percent value (e.g., 16%), or in a system currency (e.g., 5 for 5 USD).
	Vendor Limit	Determine the number of allowed routes for the same vendor to use (if a vendor has multiple accounts). You can set the limit only for accepted account routes , not including the accounts blocked by the term groups. If the field is left empty, the number is unlimited.

Attention

Please note that the **Origination Limit** and **Termination Limit** fields are visible only during:

- new routing plan creation;
- editing of already created routing plan if a specified *Reseller* of this routing plan has **at least one sub-reseller or manager**.

Routing Rules tab


Once a routing plan has been created, routing rules are to be determined (see screenshot below). To do that, click on a routing plan's name and you will enter **Routing Rules** tab, then, click the **Add rule** button and fill in the following fields:

Screenshot: *Routing Rules tab*

The screenshot shows the 'Routing Rules' configuration interface. At the top, there are tabs for 'Routing Rules', 'Import / Export', and 'Routing Plan'. The current view is 'DR: Complex LCR'. A search bar is present on the right. Below the tabs, there is a '+ add rule' button. The main area contains a table with the following data:

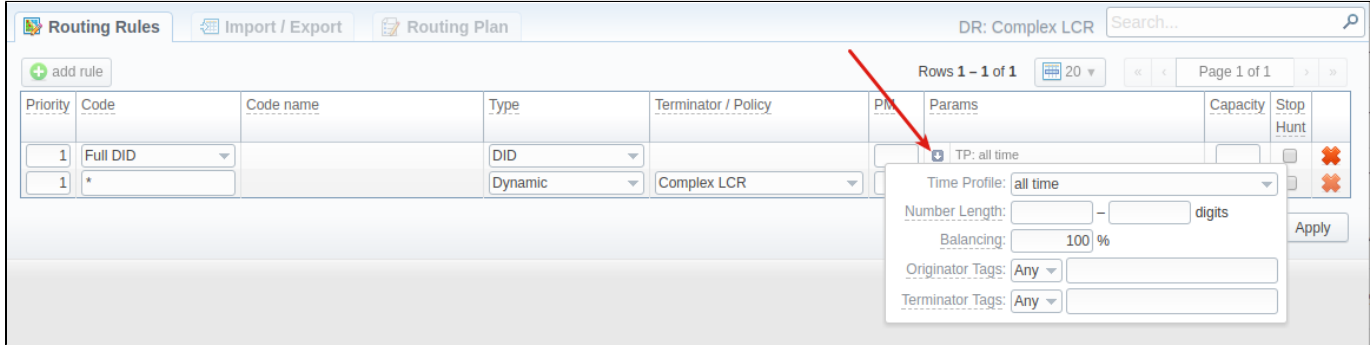
Priority	Code	Code name	Type	Terminator / Policy	PM	Params	Capacity	Stop Hunt
1	*		Dynamic	Complex LCR		TP: all time		

At the bottom right, there are 'OK', 'Cancel', and 'Apply' buttons.

Field	Description
Priority	Define a priority of rule execution if two or more rules have similar code or code name specified
Code	<p>Enter a code, which will be used in a current routing rule, use * as wildcard.</p> <p>If a DID type for a current routing rule is selected, you may specify a code:</p> <ul style="list-style-type: none"> • Any destination – rules with longer codes will be ahead of a DID route, possibly leaving it out entirely if the longest only mode is used (* wildcard will be used as a DID code) • Full DID – a DID route will always be the first route (an entire DID number will be used as a code) <p>By default, the Full DID option is selected.</p>
Code Name	If you have a code deck assigned to this routing plan, a corresponding code name, specified in the Code field, will be displayed automatically. If no code deck is attached, the field will remain empty.
Type	<p>Select a type of routing for a current rule:</p> <ul style="list-style-type: none"> • Static Client - if selected, in the Terminator/Policy field you can specify a certain termination client • Static Account - if selected, in the Terminator/Policy field you can specify a certain termination account of a client • Dynamic - if selected, in the Terminator/Policy field you can specify a certain dynamic policy for the rule • DID - if selected, the Terminator/Policy field becomes inactive, and the Code field is automatically changed to Full DID
Terminator/Policy	If you selected static type, you may specify a termination client/account here; if you selected dynamic type, specify routing policy for the current rule
PM	<p>Define a <i>Profit Margin</i> value for a current rule here.</p> <p>⚠ Attention</p> <p>If the PM field has been specified both for the entire routing plan and for a certain rule, the latter has a higher priority.</p>
Params	<p>A number of additional parameters available by clicking the  icon (see screenshot below)</p> <ul style="list-style-type: none"> • Time Profile Specify a time profile from the list • Number Length Set minimum and maximum length of destination number that will be matched by this routing rule • Balancing Define percentage or proportion amount of traffic, which will be sent to a respective vendor who participates in balancing ⚠ Attention Please note that after changing <i>balancing value</i>, it is needed to restart SIP and/or RADIUS daemons. • Originator Tags You can specify respective originator tags here. If nothing is specified, it works for all. all - applies for originators if all specified tags are present. any - applies for originators if at least one of the specified tags is presented.

	<ul style="list-style-type: none"> Terminator Tags 	Here you can add terminator tags that that will be used for terminators. If nothing is indicated, it works only for terminators without tags. Please note, this parameter is available only for dynamic rules
Capacity	Limit capacity for the current rule (leave blank for unlimited)	
Stop Hunt checkbox	If this field is checked, this means that rule search will be stopped when matched with the current one and all the consecutive rules will not be executed for a current call	

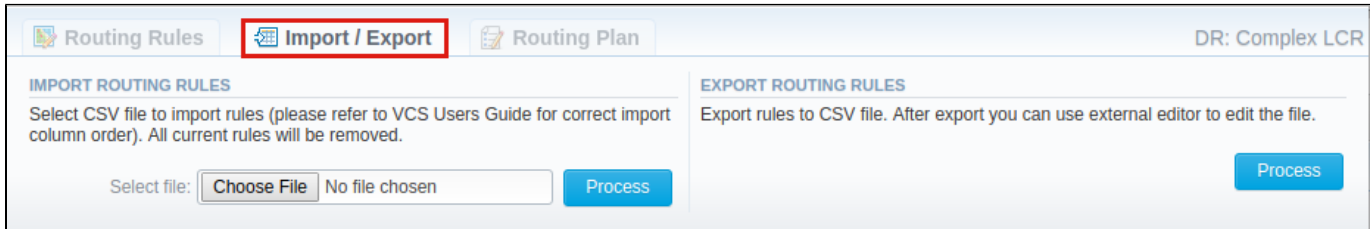
Screenshot: Routing rules settings



Import/Export tab

The Import/Export tab allows a user to either upload desired routing rules (choose a file on a computer through a form and click **Process**), or download current routing plan rules in a .csv file by clicking the **Process** button (see screenshot).

Screenshot: Import/Export tab



Please pay attention that the column order in importing file must correspond to the one presented on the screenshot below.

Screenshot: Importing file format

Code	Code name	Priority	Type	Client	Account	Policy	PM	Time Profile	Number length min	Number length max	Balancing	Originator Tags	Terminator Tags	Capacity	Stop Hunt
1268*			1:Static	Vendor Figaro				all time			100				
7			1:Dynamic			Simple LCR		all time			100				
1758*			1:Static	Vendor Lotos				all time			100				
1			1:Static	Vendor Figaro			5%	all time		15	70				
1			1:Static	Vendor Lotos				all time			30				
1			2:Dynamic			Simple Quality		all time			100	origination group 1	Termination group		
*			2:Dynamic			Simple LCR		all time			100				
2			1:Static	Vendor Figaro				all time			50	origination group 2			
3			1:Static	Vendor Profit				all time			100				
4			1:Static	Vega_DID_provider				all time			100				

Attention

After all info has been entered and rules created, you need to go to **Management > Clients/Accounts** sections and assign this routing plan to one or more of your origination clients or client's accounts.

Routing Plan

If you wish to change your routing plan settings, you can always do so by going to the Routing Plan tab. The list of fields in a tab is identical to that on a routing plan creation page (see screenshot below).

Screenshot: Routing Plan tab

Routing Rules | Import / Export | **Routing Plan** | DR: Complex LCR

GENERAL INFORMATION

Name:

Reseller:

Additional Routing Plan:

Code Deck:

Origination Limit:

Termination Limit:

Routing loop protection

RULES PROCESSING

Rules Hunting:

DR Order:

PM: [USD / %]

Vendor Limit:

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Routing Analysis

In this article

- [Section overview](#)
- [Creating a Routing Analysis Report:](#)
- [Export a generated report](#)

Section overview

This section represents a **route analyzer tool** that allows to manage dynamical routes and simulate different routing models without hurting live voice traffic. It should be noted that this tool can be used only in a case when you are using **Dynamic Routing feature**.

The **Routing Analysis** section represents a query form with the following parameters:


Screenshot: *Routing Analysis form*




















⚠ Attention

Please note that if there are changes in **the Term Rate Table**, you need to launch **Dynamic Routing Manager** in the **Task Scheduler** section (**System > Task Scheduler**). Routing Analysis shows routes based on **routing table** built on the last run of the **Dynamic Routing Manager**. So you won't be able to see the latest changes regarding Routing Rules until Dynamic Routing Manager is **restarted**.


Creating a Routing Analysis Report:

To generate routing analysis, enter the next parameters in the query form:

Section	Field Description
Filters	In the Filters menu, select desired parameters for the report. To cancel any filter, click the delete icon  next to the filter. You can use a quick search by typing filters' names in the respective field at the top of the filters list.
Service	Select the service for the report. By default, the field value is set to Calls . This field is mandatory.
Dst Party ID	Enter the destination party ID to define a destination. This field is mandatory.
Client	Select a client for the report. Also, you can specify respective call shops . This field is mandatory.
Account	Select an account for the report.
Additional Filters	
There are the following accessible additional filters:	
<ul style="list-style-type: none"> • Events: <i>Gateway</i>. • Extras: <i>Src Party ID; Dynamic Tags; Routing Plan; Verbose</i>. 	
Events Settings	
Gateway	Define a gateway specified in the term account
Extra Settings	
Dynamic Tags	Enter additional dynamic tags for this routing

	<p>Routing Plan Enter the plan with a respective routing rule</p>								
	<p>Src Party ID Specify a source number or any other source identification to check the translations</p>								
	<p>Verbose Select, which routes should be displayed (<i>active, active and non-profit, or all routes</i>).</p>								
<p>Output</p>	<p>This form contains settings of the output data of the report.</p> <p>Click the plus icon  near Columns to select respective columns to output report data. Also, you can cancel any chosen item.</p> <p>Accessible columns in the report</p> <p>Following additional columns can be added to the report: <i>Rank, Route Type, Route Status, Profit, Appeal, Termination, Code, Term Rate, Account IP/Name, Dst Party ID, Src Party ID, Gateway.</i></p> <tr> <td> <p>Rank</p> </td> <td> <p>Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.</p> </td> </tr> <tr> <td> <p>Route Type</p> </td> <td> <p>Type of the route that includes: destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information</p> <p>A blue  icon in the column shows a static route</p> <p>A violet  icon indicates a DID route</p> <p>A green  icon in the column shows a dynamic route</p> <p>To view detailed information on a route type hover over a corresponding icon in the column.</p> <p><i>Screenshot: Detailed information on a route type</i></p> <div style="border: 1px solid black; padding: 5px;"> <p>Rule Destination: 1202 Static route</p> <p>Rule Properties: Balancing: 100% Priority: 1</p> <p>Debug Info: #1 {DST#1202 TP#1 P#1 RP#7 T#s C#12 "Term Client #1 / term"}</p> </div> </td> </tr> <tr> <td> <p>Route Status</p> </td> <td> <p>The following information is displayed in the column: the state of the route, routing rule capacity, termination client /account/reseller capacity</p> <p> for accepted</p> <p> for no capacity</p> <p> for denied (for example, not matched Reseller/number length limit)</p> <p>To view detailed information on a route status hover over a corresponding icon in the column.</p> <p><i>Screenshot: Detailed information on a route status</i></p> <div style="border: 1px solid black; padding: 5px;"> <p>Route Status: accepted</p> <p>Routing Rule Capacity — 0 active sessions</p> <p>Terminator Account Capacity: — 0 active sessions</p> <p>Terminator Client Capacity: — 0 active sessions</p> <p>Terminator Reseller Capacity: — 0 active sessions</p> </div> </td> </tr> <tr> <td> <p>Profit</p> </td> <td></td> </tr>	<p>Rank</p>	<p>Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.</p>	<p>Route Type</p>	<p>Type of the route that includes: destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information</p> <p>A blue  icon in the column shows a static route</p> <p>A violet  icon indicates a DID route</p> <p>A green  icon in the column shows a dynamic route</p> <p>To view detailed information on a route type hover over a corresponding icon in the column.</p> <p><i>Screenshot: Detailed information on a route type</i></p> <div style="border: 1px solid black; padding: 5px;"> <p>Rule Destination: 1202 Static route</p> <p>Rule Properties: Balancing: 100% Priority: 1</p> <p>Debug Info: #1 {DST#1202 TP#1 P#1 RP#7 T#s C#12 "Term Client #1 / term"}</p> </div>	<p>Route Status</p>	<p>The following information is displayed in the column: the state of the route, routing rule capacity, termination client /account/reseller capacity</p> <p> for accepted</p> <p> for no capacity</p> <p> for denied (for example, not matched Reseller/number length limit)</p> <p>To view detailed information on a route status hover over a corresponding icon in the column.</p> <p><i>Screenshot: Detailed information on a route status</i></p> <div style="border: 1px solid black; padding: 5px;"> <p>Route Status: accepted</p> <p>Routing Rule Capacity — 0 active sessions</p> <p>Terminator Account Capacity: — 0 active sessions</p> <p>Terminator Client Capacity: — 0 active sessions</p> <p>Terminator Reseller Capacity: — 0 active sessions</p> </div>	<p>Profit</p>	
<p>Rank</p>	<p>Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.</p>								
<p>Route Type</p>	<p>Type of the route that includes: destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information</p> <p>A blue  icon in the column shows a static route</p> <p>A violet  icon indicates a DID route</p> <p>A green  icon in the column shows a dynamic route</p> <p>To view detailed information on a route type hover over a corresponding icon in the column.</p> <p><i>Screenshot: Detailed information on a route type</i></p> <div style="border: 1px solid black; padding: 5px;"> <p>Rule Destination: 1202 Static route</p> <p>Rule Properties: Balancing: 100% Priority: 1</p> <p>Debug Info: #1 {DST#1202 TP#1 P#1 RP#7 T#s C#12 "Term Client #1 / term"}</p> </div>								
<p>Route Status</p>	<p>The following information is displayed in the column: the state of the route, routing rule capacity, termination client /account/reseller capacity</p> <p> for accepted</p> <p> for no capacity</p> <p> for denied (for example, not matched Reseller/number length limit)</p> <p>To view detailed information on a route status hover over a corresponding icon in the column.</p> <p><i>Screenshot: Detailed information on a route status</i></p> <div style="border: 1px solid black; padding: 5px;"> <p>Route Status: accepted</p> <p>Routing Rule Capacity — 0 active sessions</p> <p>Terminator Account Capacity: — 0 active sessions</p> <p>Terminator Client Capacity: — 0 active sessions</p> <p>Terminator Reseller Capacity: — 0 active sessions</p> </div>								
<p>Profit</p>									

Information on **Profit** and **Profit Margin** in the currency, indicated in the **Client's settings**, is displayed in the section. Also, it shows **Term Rate**, **Profit** and **Profit Margin** in the system currency only if system currency differs from the one in Client's settings.

To view detailed information, hover over the **Profit**  icon in the respective column.

Screenshot: Routing Analysis/Profit

Profit:
0.9875 EUR

Profit Margin:
25%


Term Rate:
0.2000 USD

Profit:
0.7900 USD

Profit Margin:
25%

 **Tip**

Please note, it analyses the profitability by comparing orig and term rates. Therefore, an orig rate should be equal or greater than a term rate and profit margin.

Appeal	Shows the appeal automatically calculated by the system according to the chosen DR Policies (Routing section > DR Policies)
Terminator	The name of the respective terminator or his account name specified in the Client's settings
Code	Here you can see matched code in the terminator's rate table
Term Rate	Rate that is used to terminate the call
Account IP/Name	The name or IP of the account
Dst Party ID	Shows destination party ID that is sent to provider when all matching number translations are performed
Src Party ID	Shows source party ID after all number translations
Gateway	Displays a respective gateway that is specified in the term account
Other output settings	
Type	<p>Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx.</p> <p>Also, select a look of table view next to the Type field:</p> <ul style="list-style-type: none"> • Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse it <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p> Attention</p> <p>Please note, that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV or Excel XLS.</p> </div> <p>If CSV, Excel XLS or Excel XLSx type has been selected, an additional Send to field will be displayed. In this field, you can specify emails of the clients, where the current report in the selected format will be sent.</p>

After selecting all needed parameters, click the **Query** button and the system will generate a report.

Screenshot: Routing Analysis

The screenshot shows the 'Routing Analysis' interface. At the top, there are filter fields for Service (Calls), Dst Party ID (1202), Client (Orig Client), and Account. Below the filters are 'Save Query' and 'Load Query...' buttons, and a 'Query' button. The summary section displays: Dst Party ID: 1202, Routing Plan: Routing Plan, DR Order: by code / appeal, Rules Hunting: longest only, Client: Orig Client, Destination: 1202 | United States, Orig Rate: 1.2375 EUR, and Parent Rate Notification. The main table has 12 columns: Type, Rank, Route Type, Route Status, Profit, Appeal, Terminator, Code, Term Rate, Account IP / Name, Dst Party ID, Src Party ID, and Gateway. The first row is highlighted, and a red arrow points to the 'Normal' type in the first column.

Type	Rank	Route Type	Route Status	Profit	Appeal	Terminator	Code	Term Rate	Account IP / Name	Dst Party ID	Src Party ID	Gateway
Normal	1	S	●	1.0000	1.0000	Term Client #1 term2	1202 United States	0.9375 EUR	100.100.14.1/32	1202		Any
Normal	2	S	●	1.0000	1.0000	Term Client #1 term	1202 USA	0.2000 EUR	term	1202		Any
Normal	3	S	●	1.0000	1.0000	Term Client #1 term3	1202 United States	0.5625 EUR	term3	1202		Any

Moreover, you can create (save) and display previously saved report templates by clicking **Save Query** and **Load Query** respectively. Keep in mind that the load button will be present only if there is at least one routing analysis report in **Report Templates** section.

Tip
To find more details about templates, please refer to the [Report Templates](#) article in our [User Guide](#).

To expand or collapse data in your report, click the **plus** or **minus** icons. If the data is **Grouped** in the report, it will be shown **initially collapsed**.


Screenshot: *Expand/collapse report data*

This screenshot is identical to the one above, showing the 'Routing Analysis' interface with the same filters, summary, and table. A red arrow points to the 'Normal' type in the first column of the table.

If applicable, you can check the **Future Terminator's Rate** and its **effective date** in the report, by hovering over a current rate in the **Term Rate** column.

Screenshot: *Future Terminator's Rate*

Term Rate	Account IP / Name
0.5625 EUR	term3
0.2000 EUR ▲	term
Next Rate: 0.3000 ▲ 0.1000 EUR Effective From: 01/24/2018 00:00:00 +0000	

By clicking the **Info**  icon above the report on the right, **user's name** and **time/date** when a report was generated will be displayed in a pop-up window.

Screenshot: Info icon

Generated by: Administrator on 01/24/2018 16:17:47 +0000

Export a generated report

You can export report data either in an .xls or .csv file that would contain currently presented data. Click the **Export to XLSx** or **Export to CSV** button to download a file of the respective format. Be advised that the **Export to CSV** button is only available if **Output** is set to **Web/Plain**.

Attention

Please note:

1. Inactive additive rates with non-zero value (for respective tags) won't be shown. Active additive rates with zero value will be shown.
2. If you change the currency in the **Settings**, you need to restart **Dynamic Routing Manager** in the **Task Scheduler** section for immediate Routing Analysis functioning.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Dynamic Routing Policies

Section overview

This section describes the list of **currently available routing policies for VCS**. **Routing policy** is a set of regulations and principles (**appeal**) that determine the **way** all available **terminators are prioritized** during dynamic routing. Each policy has its **unique principles** of terminators prioritizing and allows a user a wide variety of possibilities to configure the system in the best suitable way. Below you will find a description of **6 standard DR Policies**:

Screenshot: DR Policies section



Policy	Description
Complex LCR	Three cheapest routes that are sorted by the quality.
Complex Quality	Three routes with the highest quality that are sorted by price.
DID Routing	The only applicable policy if your routing plan has a DID type of rule.
Proportional	When the price is lower and a route quality is higher, it has a higher priority.
Simple LCR	Generic price-based routing.
Simple Quality	Generic quality-based routing.

Management of DR Policies

In the section, you are unable to **add** or **delete** any of the policies, nor can you edit their appeal. However, you can edit a **policy name** or its **status**. To do so, click on its name on the list, and a pop-up window, displaying policy details, will be displayed. Window's structure is as follows:

Screenshot: DR Policies management

Field	Description

Name	Name of the respective policy. Can be modified by a user
Status	<p>Policy can have two statuses:</p> <ul style="list-style-type: none">• Active - represented by a green  icon in the section• Disabled - represented by a red  icon in the section <p>Status can be modified by a user</p>
Appeal	Regulations and principles represented as a formula for terminators prioritizing. Cannot be modified

Dynamic Routing Table

The **JeraSoft VCS solution** operates with its own **Routing Table** that is automatically generated over specified regular periods to provide the "**dynamic**" part of the routing.

The **Routing Table** deals with the latest changes of the whole routing process, including all updates made to system configuration, such as clients or rates updates, changes to routing plans, accounts reconfiguration, etc. It is always a good idea to recreate your routing table to be able to see how your routing will work with current settings. Of course, if you don't have time to wait till it is created automatically, you can do that in a manual mode.

To generate a routing table manually, please **go to System > Task Scheduler**, and click the  icon opposite **Dynamic Routing Manager**.

Configuration

This chapter of our Guide contains information that relates to section designed for **setting up and configuration of JeraSoft VoIP Carrier Suite**. Here, user can arrange invoices templates, time and taxes profiles, currencies and many other elements, used throughout the entire system. For more details, please go to the related sections:

- [Code Decks](#)
- [Currencies](#)
- [Payment Accounts](#)
- [Payment Terms](#)
- [Payment Gateways](#)
- [Time Profiles](#)
- [Taxes Profiles](#)
- [Tags](#)
- [Invoices Templates](#)
- [Services](#)
- [Settings](#)

Code Decks

In this article

- [Section overview](#)
- [Creating a New Code Deck](#)
- [Managing Code Decks](#)
 - [Adding Codes](#)
 - [Deleting Codes](#)
 - [Importing Codes](#)
 - [Exporting Codes](#)

Section overview

Code deck is a list of **destination codes**, each with its corresponding **name** and **country** it represents (optional). Code deck is by far one of the key elements of any **Rate Table** and is used pretty much throughout the whole system (sections like **Invoices**, **Packages**, **LCR Lists**, and so on). By having multiple code decks, you can freely operate with different names for the same codes and change them in real time.

The section is presented in a form of a list of all existing code decks in the system. The table of code decks consists of the following columns:

Screenshot: Code Decks section

ID	Deck Name	Reseller	Codes		
1	DEFAULT	All Resellers	19998		
3	Default_new	All Resellers	175132		
2	Demo_default	All Resellers	33027		

Column	Description
ID	Code deck's identification number
Deck Name	Name of a code deck
Reseller	List of resellers corresponding deck was assigned to
Codes	Total number of codes presented in the deck

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new code deck
	Allows to manage an existing code deck on a list
	Allows to delete a code deck from the system. Requires confirmation

Creating a New Code Deck


To create a new code deck:

- Click the **New Code Deck** button
- Fill in all required fields of a pop-up window (see screenshot below)
- Click **OK**

Subsequently, a new code deck will be added to the general list in the section.

Screenshot: Code Deck pop-up window

Managing Code Decks

To manage your code deck, left-click on the deck's name or  edit icon opposite the deck on the right. The opened pop-up window consists of 3 tabs: **List of Codes**, **Import Codes** and **Export Codes** (see screenshot), where you can perform operations pointed out below.

Screenshot: Code deck's tabs

Adding Codes

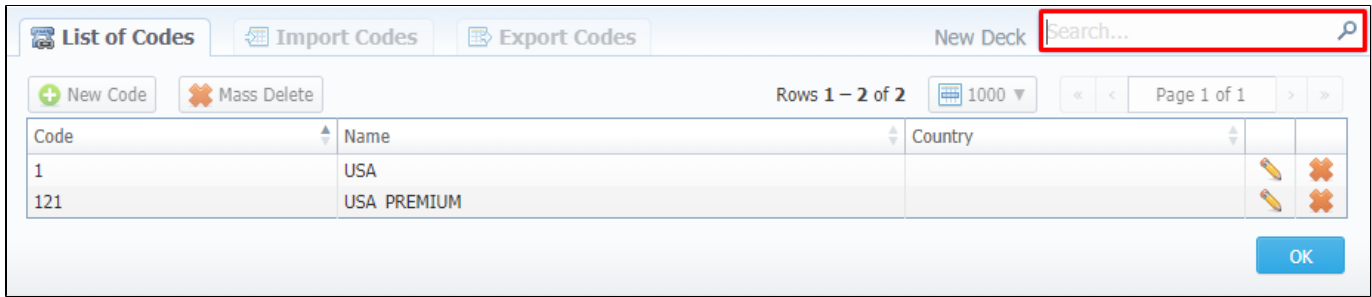
In the **List of Codes** tab, click the **New Code** button to add a code group to your deck. The pop-up window contains the following parameters (see screenshot below):

Screenshot: Adding new codes


Field	Description
Code Deck	Name of the code deck. Auto-filled by the system
Code	New destination code
Code Name	Displayed name of a code group
Country	Country the codes in current group will belong to

To manage navigation between thousands of codes on the list, you can always look for the necessary code using a **Search** box (see screenshot).

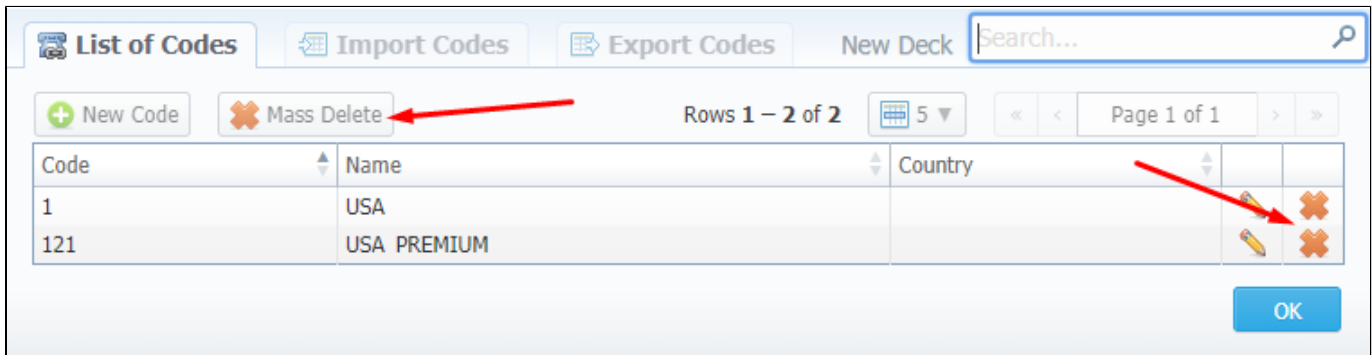
Screenshot: Section search box



Deleting Codes

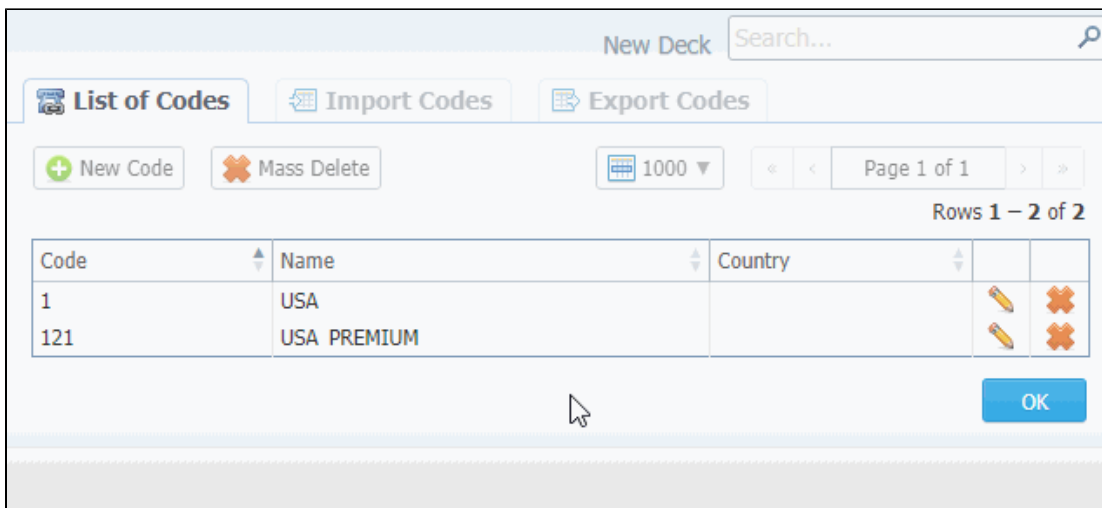
You can either delete **each** code separately by clicking the  delete icon opposite corresponding code on the list or delete **all** codes at once by pressing **Mass Delete** button (see screenshot below).

Screenshot: Codes deletion



To verify mass deletion, click **OK** in a pop up window (see animation below).

Animation: Codes deletion



Importing Codes

Not only can you add codes to the lists manually, but also **import** them from a file. The whole import process can be logically divided into two steps:

The **first step** is to go to the **Import Codes** tab (screenshot below) and fill in the required fields. After selecting a file and specifying all additional fields, click the **Process>>** button.

Screenshot: Import Codes - Step 1

Section	Field	Description
File Process	Select File to Import	Select an import file by clicking the Choose File button
	Fields Delimiter	Specify a delimiter symbol. Possible options are: <ul style="list-style-type: none"> • Autodetect • , • ; • Tab By default, the Autodetect option is chosen.
Import Process	Deck Update Mode	Specify the code deck update mode. There are three possible modes: <ul style="list-style-type: none"> • Import only not existing codes • Import all codes (update existing) • Import all codes (purge code deck first) By default, Import all codes (update existing) mode is chosen.
	On Errors	Define what to do if an inconsistency or error was found in importing file: <ul style="list-style-type: none"> • Import correct rows and show all found errors • If errors are found, abort import and show all errors By default, the Import correct rows and show all found errors option is chosen.

During the **second step**, the system will recognize the file and display first 17 rows. Then, you need to select the header for each column. In case you don't need some rows, you can easily skip them by checking boxes opposite unnecessary rows in the **Skip** column (see screenshot). To abort the importing process, click the **Return** button, and you will be redirected to the **Import Codes** tab. To finish importing, click **Import** (see screenshot).

Screenshot: *Import Codes - Step 2*

List of Codes **Import Codes** Export Codes New Deck

ROWS AND COLUMNS SELECT

			Skip
1	USA		<input type="checkbox"/>
1901555	USA DQ		<input type="checkbox"/>
213	ALGERIA		<input type="checkbox"/>
223	MALI		<input checked="" type="checkbox"/>
376	ANDORRA		<input type="checkbox"/>
5195210	PERU MOBILE		<input type="checkbox"/>
56	CHILE		<input type="checkbox"/>
5632196	CHILE RURAL		<input type="checkbox"/>
591	BOLIVIA		<input type="checkbox"/>
598	URUGUAY		<input checked="" type="checkbox"/>
771	KAZAKHSTAN		<input type="checkbox"/>
93	AFGHANISTAN		<input type="checkbox"/>
95	MYANMAR		<input type="checkbox"/>
967	YEMEN		<input type="checkbox"/>
Destination	Description		<input type="checkbox"/>
2131	Algeria-cellular		<input type="checkbox"/>
21390	Mobile		<input type="checkbox"/>

Return **Import**

After you click **Import**, the system will start the importing process. When the progress bar reaches 100%, your import is done. Congrats!

Knowledge Base Tip

See what happens if your file contains the [Country Code column](#).

Exporting Codes

This feature allows you to export a content of a code deck to a file. To initiate export, do the following:

- Go to the **Export Codes** tab (screenshot down below)
- Specify a delimiter symbol in the **Fields delimiter** field and a first CSV file row as a title row by marking **With headers row** checkbox (optional).
- Click **OK**, and a CSV file will be downloaded to your computer.

Screenshot: *Export Codes* tab

List of Codes Import Codes **Export Codes** New Deck

Delimiter of Fields: ,

With headers row

OK Cancel

Currencies

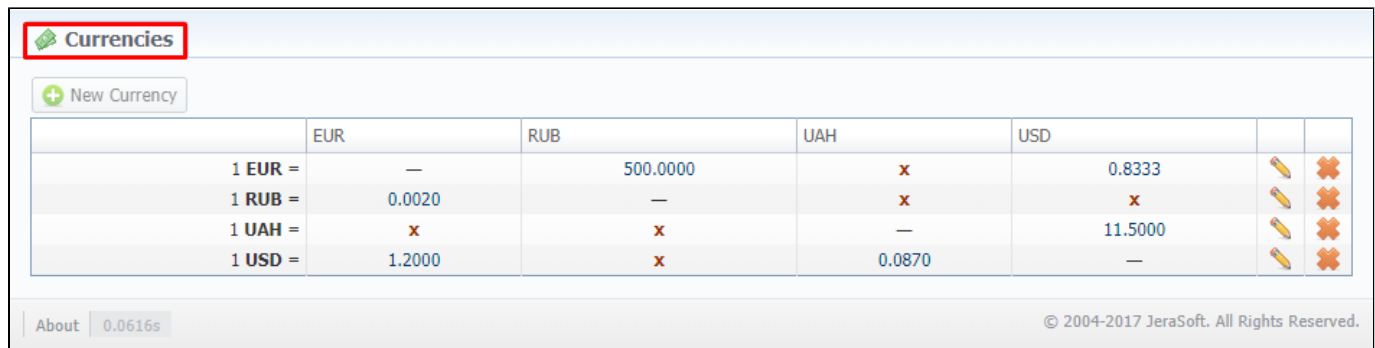
In this article

- [Section overview](#)
- [Adding a New Currency](#)
- [Specifying a Currency Rate](#)

Section overview

This section displays the list of all **currencies**, registered in the system, in a form of a **table of exchange rate relationships**. Each currency has a direct **exchange rate** to any other currency on the list. Since currencies are the corner stone of the billing process, they are specified in various section of the system, such as [Invoices](#), [Rate Tables](#), [Clients](#), [Resellers](#), etc. Check out the section structure on the screenshot down below.

Screenshot: Currencies section main window



	EUR	RUB	UAH	USD		
1 EUR =	—	500.0000	x	0.8333		
1 RUB =	0.0020	—	x	x		
1 UAH =	x	x	—	11.5000		
1 USD =	1.2000	x	0.0870	—		

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Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new currency
	Allows to manage an existing currency on a list
	Allows to delete a currency from the system. Requires confirmation
	Allows to manage an exchange rate of a currency

Adding a New Currency

You can add a new currency by clicking the **New Currency** button above the list. In a pop-up window (see screenshot below), you need to fill in the **required fields** and click **OK**.



Screenshot: New Currency pop-up window

Field	Description
Name	Name of a new currency
Rates Precision	Number of decimal places for rates formatting. By default, the field value is set to 4 .
Details Precision	Number of decimal places for detailed monetary values formatting. By default, the field value is set to 4 .
Totals Precision	Number of decimal places for total monetary values formatting. By default, the field value is set to 2 .

The respective numbers will be displayed in all reports (**details precision** is used for all reports except xDR report) with cost and rate values in the statistics. Also, they will be shown in the invoices, except total values (totals **always** have 2 decimal places in invoices).

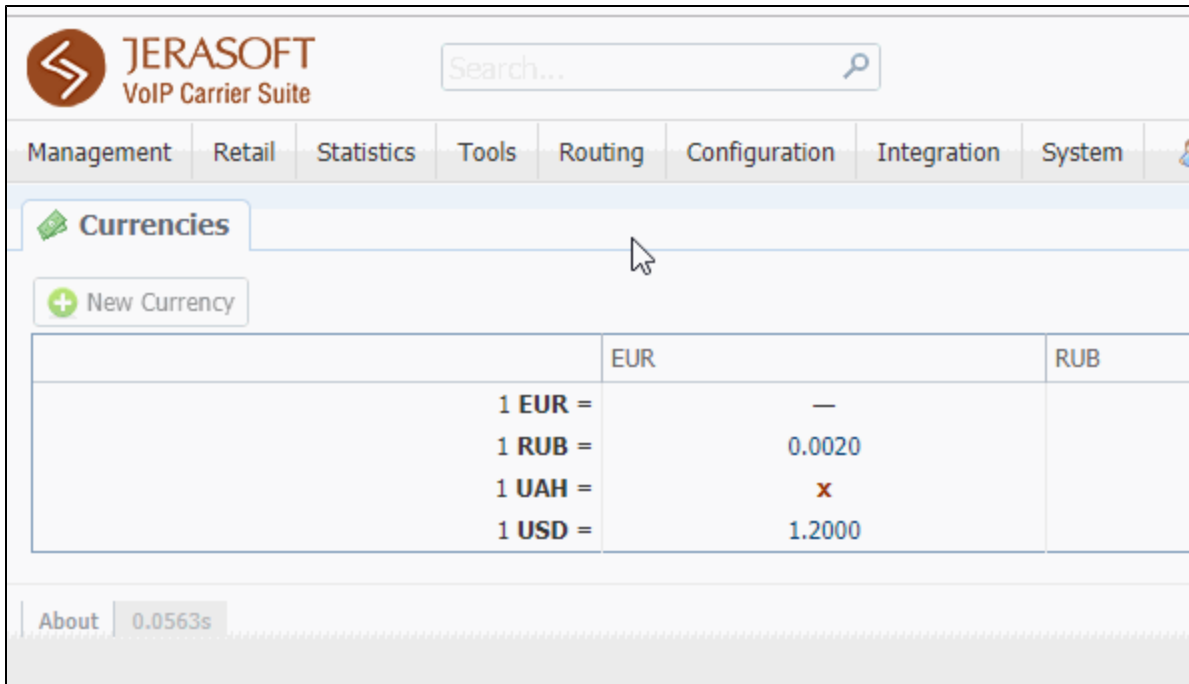
Specifying a Currency Rate

After you add a currency, you need to specify the rate. To do this, you need to (see animation down below):

- Click the  icon in the currency column, whose exchange rate you wish to specify
- Click the  button in a pop-up window and set **Currency Rate** and **Date**
- Click **Add**

As a result, a new rate for the currency pair will be added. If more than one currency rate had been added, you can view a history of changes in the **Date** column.

Animation: Specifying a currency rate



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VoIP Carrier Suite

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Management | Retail | Statistics | Tools | Routing | Configuration | Integration | System

Currencies

+ New Currency

	EUR	RUB
1 EUR =	—	
1 RUB =	0.0020	
1 UAH =	x	
1 USD =	1.2000	

About 0.0563s

✓ **Tip**

Statistical data of a new currency will be available after it'd been added to the system. However, if the currency has an old start date, and you want old data to be billed in this currency, you need to run calls rerating.

⚠ **Attention**

Please note that *changing of the system currency* requires running of *Dynamic Routing Manager* to generate a *routing table* with rates in the new system currency.

Payment Accounts

In this article

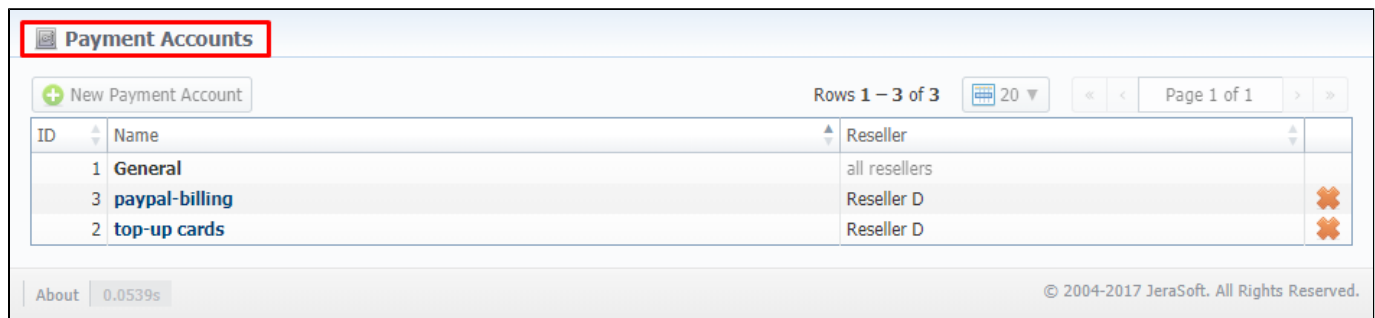
- [Section overview](#)
- [Adding a New Payment Account](#)

Section overview

Payment accounts serve as the exact definitions used in the [Transactions](#) section. For example, you can have **Bank Transfer** and **Credit Card** payment accounts, and, while applying respective payments, you will be able to define payment origin by selecting a corresponding payment account.

This section allows you to **create different payment accounts** for correct and precise **transactions (payments) management**. The section is presented in a form of a list of payments with the following structure (see screenshot):

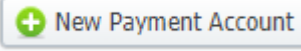

Screenshot: *Payment Accounts section*



ID	Name	Reseller	
1	General	all resellers	
3	paypal-billing	Reseller D	✘
2	top-up cards	Reseller D	✘

Column Name	Description
ID	Payment account's identification number
Name	Account's name
Reseller	Name of the reseller a new payment account will be attached to

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new payment account
	Allows to delete a payment account from the system. Requires confirmation

⚠ Attention

Please note, the user **cannot** edit or delete the **General** payment account with ID = 1 (see screenshot above)

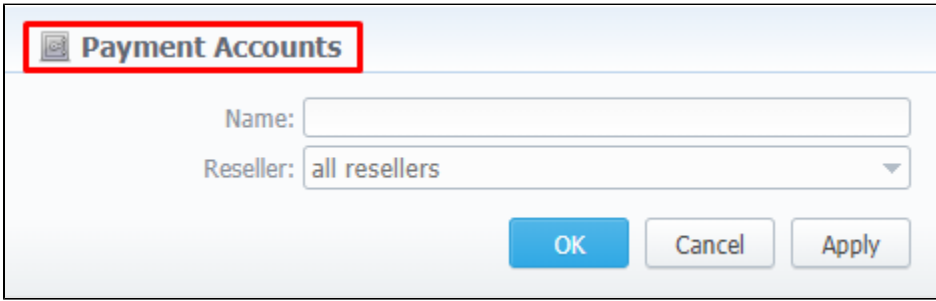
Adding a New Payment Account

The following steps are to be taken to create a new payment account:

- Click the **New Payment Account** button
- Specify an account name in the **Name** field and a **Reseller** from a drop-down list of all registered resellers (see screenshot below).
- Click **OK**.

A new account will be added to the list and will become available in the **Transactions** section.

Screenshot: Payment Account creation form



The image shows a dialog box titled "Payment Accounts" with a red border around the title bar. The dialog contains a text input field for "Name:", a dropdown menu for "Reseller:" with "all resellers" selected, and three buttons: "OK", "Cancel", and "Apply".

Payment Accounts

Name:

Reseller:

Payment Terms

In this article

- [Section overview](#)
- [Adding New Payment Terms](#)

Section overview

In JeraSoft Carrier Suit, **payment terms** are implemented as sets of rules and regulations that define the [clients' payment dates](#) and **noticing periods** (before and/or after the payment day). Primarily, they help to make the clients' [invoicing](#) easier and faster by allowing to use **auto-invoicing profiles**. Payment terms are indicated in clients' profiles.

The section constitutes as a list of profiles that determine **payment terms**. Structure of the section is presented on a screenshot below.

Screenshot: *Payment Terms section*

ID	Name	Payment	Grace Period	Notify Days(Before)	Notify Days(After)		
2	14/14	every 14 days	14 days	on 10, 5, 3, 1 day(s) before due date	none		
6	21	every 21 days	7 days	on 21 day(s) before due date	none		
1	7/7	every 7 days	7 days	on 5, 3, 1 day(s) before due date	none		
7	Monthly	on 1 day(s) of month	7 days	on 7 day(s) before due date	none		

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new payment terms profile
	Allows to manage an existing payment terms profile on a list
	Allows to delete a payment terms profile from the system. Requires confirmation

Adding New Payment Terms

To create a new payment terms profile, you need to do the following:

- Click the **New Payment Terms** button
- Specify the **required fields** in the appeared pop-up window (see table below);
- Confirm new payment terms profile creation by clicking **OK**

Screenshot: *Adding new payment terms profile*

Payment Terms

Name:

Payment: every ▼ days

Grace Period: days
empty = do not check

Notify Days(Before): day(s) before due date

Notify Days(After): day(s) after due date
empty = do not check

Field	Description
Name	Name of a new payment terms profile
Payment	The exact day when a payment must be performed or its frequency (for example, on the 7th day of the month or every 10 days)
Grace Period	Period that specifies how many days the client has to pay the bill after he was invoiced. It's the Due Date field in invoices (so-called "Deferral period")
Notify Days (before)	Set how many days before the payment date (invoicing date + grace period) have to pass before automatic reminders will be sent to a client. For example, if you enter <i>10</i> , the reminder will be sent <i>10</i> days before the payment date. You can specify more than one value in this field separating them with commas - 10, 5, 3
Notify Days (after)	Specify how many days after the payment date have to pass before reminders will be sent to a client. The field can have more than one value, each separated with a comma.

Payment Gateways

In this article

- [Section overview](#)
- [Configuring Payment Gateways](#)

Section overview

This section is designed to configure methods your customers may use to recharge their balance. Currently, there are following default methods in the system (see screenshot below):

- [Authorize.net](#)
- [PayPal](#)
- [Top-Up cards](#)
- [Moneybookers](#)
- [QIWI](#)

Screenshot: Payment Gateways section

Payment Gateways

Settings for: **Sub-Reseller A**

AUTHORIZE.NET

ORDER POSITION:

Login:	<input type="text"/>	Add your API login ID
Transaction Key:	<input type="text"/>	Add your API transaction key
Amount Limits:	<input type="text"/>	Possible values for top-up separated by comma (eg "5, 20, 100"). If empty — user can specify any value. Field should be empty for top-up cards.
Payment Account:	General	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

MONEYBOOKERS

ORDER POSITION:

E-mail:	<input type="text"/>	Your Moneybookers e-mail, payment recipient
Secret word:	<input type="text"/>	Your Moneybookers secret word you set in your Moneybookers profile Merchant Tools
Gateway Currency:	U.S. Dollar (USD)	Currency which will be used by user to perform a payment
System Currency:	USD	This setting reflects currency of the gateway. Amount received will be treated as specified currency. Leave empty if not required for the gateway (eg. top-up cards).
Amount Limits:	<input type="text"/>	Possible values for top-up separated by comma (eg "5, 20, 100"). If empty — user can specify any value. Field should be empty for top-up cards.
Payment Account:	General	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

PAYPAL

ORDER POSITION:

E-mail:	<input type="text"/>	You PayPal e-mail, payment recipient.
Gateway Currency:	U.S. Dollar (USD)	Currency which will be used by user to perform a payment.
System Currency:	USD	This setting reflects currency of the gateway. Amount received will be treated as specified currency. Leave empty if not required for the gateway (eg. top-up cards).
Amount Limits:	<input type="text"/>	Possible values for top-up separated by comma (eg "5, 20, 100"). If empty — user can specify any value. Field should be empty for top-up cards.
Payment Account:	General	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

QIWI

ORDER POSITION:

E-mail:	<input type="text"/>	Your QIWI e-mail, payment recipient.
Provider ID:	<input type="text" value="0"/>	QIWI provider ID.
IP:	<input type="text"/>	QIWI gateway IP. Separated by comma without spaces.
Payment Account:	General	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

TOP-UP CARDS

ORDER POSITION:

Payment Account:	General	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

UKASH

ORDER POSITION:

Security Request Token:	<input type="text"/>	20-Character alphanumeric unique Request-Token provided by Ukash. The token is used to validate the merchant account.
Security Response Token:	<input type="text"/>	20-Character alphanumeric unique Response-Token provided by Ukash. The token is used to validate the merchant account.
Brand ID:	<input type="text"/>	Unique Brand ID provided by Ukash

Gateway Currency:	U.S. Dollar (USD)	Currency which will be used by user to perform a payment
System Currency:	USD	This setting reflects currency of the gateway. Amount received will be treated as specified currency. Leave empty if not required for the gateway (eg. top-up cards).
Amount Limits:		Possible values for top-up separated by comma (eg "5, 20, 100"). If empty — user can specify any value. Field should be empty for top-up cards.
Payment Account:	General	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

[Update](#)

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Configuring Payment Gateways

To configure the gateways, you need to select a **Reseller** by using **Settings for** drop-down menu in the top-right corner of the section (see screenshot below). It means that **all clients** belonging to the selected Reseller will have these settings. The settings depend on the payment system and can include specific options for each. Below, as an example, you can find a description of fields that have to be specified while choosing the **QIWI** service.

Screenshot: Settings for a drop-down menu

The screenshot shows the 'Payment Gateways' section. In the top right corner, there is a dropdown menu labeled 'Settings for: Reseller A'. A red arrow points to this dropdown. Below it, there is an 'ORDER POSITION' field with the value '0'. On the left side, there is a checkbox for 'AUTHORIZE.NET' which is checked.

Field	Description
Email	Respective QIWI email that should be used
Provider ID	Identification number of a QIWI provider
IP	QIWI gateway IP . Specified IP address must be separated by a comma without spaces
Payment Account	Payment account that should be used for payment from respective payment gateway
Description	User will see this text as a tool-tip for the current payment method

What is more, you may specify the order of displayed payment methods (if more than one method is selected) in the **Order position** field in the top-right corner of the **Payment method** section.

Screenshot: Order position field

Payment Gateways Settings for: Sub-Reseller A ▾

AUTHORIZE.NET ORDER POSITION: 0

Login:	<input type="text"/>	Add your API login ID
Transaction Key:	<input type="text"/>	Add your API transaction key
Amount Limits:	<input type="text"/>	Possible values for top-up separated by comma (eg "5, 20, 100"). If empty — user can specify any value. Field should be empty for top-up cards.
Payment Account:	General ▾	Specify account which will be used for transactions from this payment gateway.
Description:	Here you can add funds to your balance by using your PayPal account.	A user will see this text as a help-tip for respective payment method.

MONEYBOOKERS ORDER POSITION: 0

E-mail:	<input type="text"/>	Your Moneybookers e-mail, payment recipient
Secret word:	<input type="text"/>	Your Moneybookers secret word you set in your Moneybookers profile Merchant Tools

⚠ Attention

For proper work of the **PayPal service**, you should **enable access for a list of IP addresses in your Firewall settings**, which can be found [here](#).

Moreover, you can find a **detailed description on how to enable IPN** by visiting the following [link](#).

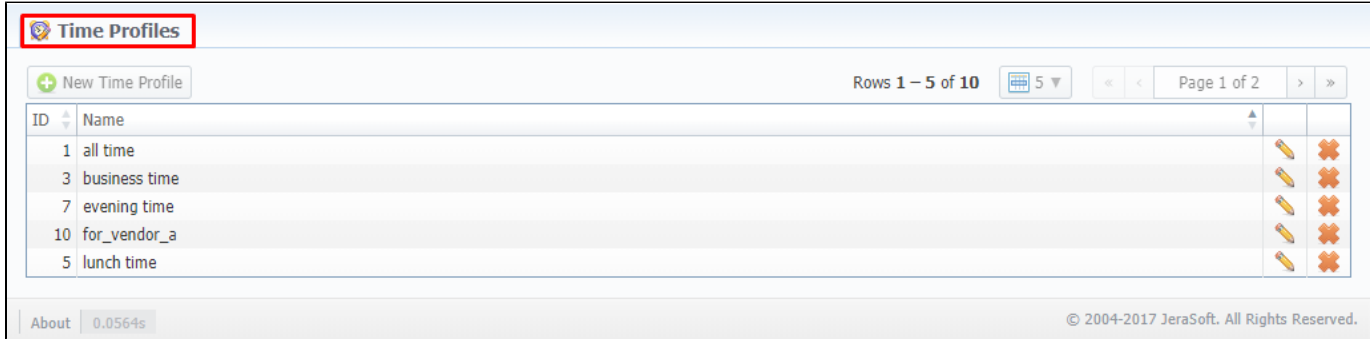
Time Profiles

Section overview

Time profile is a great way to make your billing more flexible and convenient. Time profiles can be attached to your clients' rate tables and are used to adjust rates by dividing them based on the time of usage. For instance, such profile can be used to sell traffic for an **increased** price during business hours, and for the **reduced** one during non-business hours.

This section is used to create and manage time profiles. The structure of the section is presented on a screenshot below.

Screenshot: Time Profiles section main window



Functional **buttons/icons**, presented in the section, are as follows:

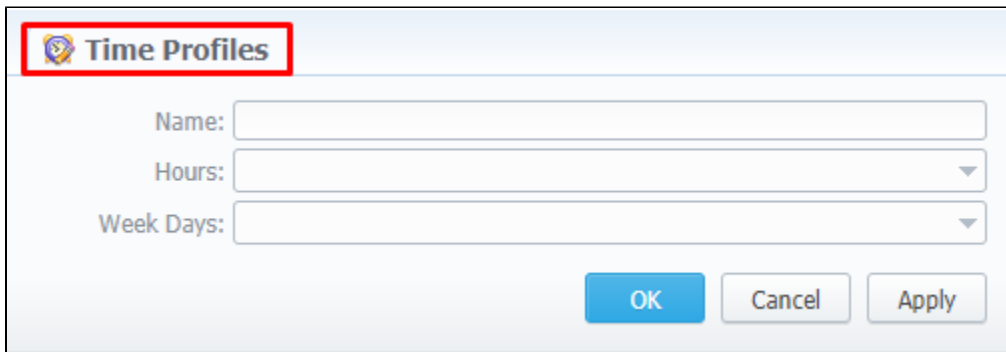
Button/Icon	Description
	Allows to create a new time profile
	Allows to manage an existing time profile on a list
	Allows to delete a time profile from the system. Requires confirmation

Adding a New Time Profile

To add a new time profile, you need to:

- Click the **New Time Profile** button
- In the appeared dialog-window, fill in the required fields
- Click **OK**

Screenshot: Adding a new time profile



Field	Description
Name	Name of a new time profile
Hours	Select hours that will be used for the particular time profile. More than one hour range can be added (e.g., 03.00 - 03.59, 08.00 - 08.59)
Weekdays	Specify days that will be used for the particular time profile. You can add more than one day to the profile (e.g., Monday, Tuesday,

Thursday, Sunday

Taxes Profiles

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Creating a New Taxes Profile](#)
- [Tax Values Management](#)

Section overview

Taxes profiles, equally as [Time profiles](#), is a VCS tool that makes the process of clients' [rate tables](#) management exceptionally agile. Taxes profile is a **set of taxation rules** that can be applied to client's rate tables in different taxation schemes. This section allows you to add, edit, and delete profiles and is presented in a form of a table with the following columns (see screenshot):

Screenshot: Taxes Profiles section

ID	Name	Profile Owner	Notes
7	complex tax	Reseller A	
10	GrTax10,5	Reseller C	GrTax10,5Notes
6	high tax	Reseller A	
2	Low tax	Reseller A	
4	medium tax	Reseller A	
8	Tax_high_A	Reseller D	
9	Tax_National_A	Reseller D	
11	Test12		

Column Name	Description
ID	Taxes profile's identification number
Name	Name of a taxes profile
Profile Owner	List of resellers corresponding taxes profile was assigned to
Notes	Additional information regarding a taxes profile

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new taxes profile
	Allows to manage an existing taxes profile on a list
	Allows to delete a taxes profile from the system. Requires confirmation
	Allows to manage a list of tax values of a particular profile
	Opens Advanced Search drop-down menu

Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on a blue downwards arrow icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu

Field	Description
Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
Status	Select a status of a taxes profile: <ul style="list-style-type: none"> • Active • Archive

To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click the **Reset** button.

Creating a New Taxes Profile


To create a new profile, you need to:

- Click the **New Taxes Profile** button
- Fill in mandatory fields (specified in the table below)
- Click the **OK** button

Screenshot: *New Taxes Profile window*

Field	Description
Name	Name of a taxes profile
Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
Invoice Notes	If specified, this information will be displayed in issued invoices
Notes	Additional information regarding a taxes profile

Tax Values Management

To manage a tax value, you need to click the  icon to the left of a corresponding profile name on the list. In the pop-up window, you can add a new rule by clicking **Add Tax Value** or edit already existing values. The structure of a pop-up window is as follows:

Screenshot: Tax Values Management

Taxes Profiles
complex tax

Add Tax Value
Rows 1 – 3 of 3 20 ▼
« < Page 1 of 1 > »

Name	Value, %	Effective From	Tag	Priority	
basic	15	2014-05-08 00:00:00+00	@	1	
additional	5	2014-05-08 00:00:00+00	@	2	
national	3	2014-05-08 00:00:00+00	@	3	

OK
Cancel
Apply

Field	Description
Name	Name of the tax value added to this profile
Value	Specify a tax value in %
Effective from	Start date of a corresponding tax value
Tag	Specify tag(s) you would like to be applied to a corresponding tax value. If no tags are added, "@" must be inserted
Priority	Specify the priority of tax value usage

While operating with tax values, you can apply **Advance Search** to find the value you might be interested in. To do so, click on a red downwards arrow icon in the top right corner of the pop-up window and set the **Status** and **Status Date** fields:

- **Status:**
 - **current on** - if chosen, all tax values, with the latest **Effective from** field value, will be displayed
 - **old for** - if chosen, all tax values, whose **Effective from** field value is **older** in comparison to its current one, will be displayed
 - **future for** - if chosen, all tax values, whose **Effective from** field value > **Date**, will be displayed
 - **all** - if chosen, **all** tax values will be displayed
- **Date** - set the time and date that will be applied for the search.

By default, tax values displayed in a pop-up window are filtered by **current on** status.

Tip

In cases when you determine a **Priority** status, you basically set the order of the taxation. So, *the tax with Priority 1* will add % tax to operation sum, the *tax with Priority 2* will add tax % to the **resulted sum** (operation sum + 1st tax %). Each following priority will add % tax to operation sum plus all the previous priorities values.

For example:

If operation sum is **100 USD**, and there is a single tax with **Priority 1** and **value of 10%**, the taxation result will be **10 USD**, so full operation plus tax is **110 USD**.

If there are **two taxes** with priorities of 1 and 2, and values of 10% and 20%, respectively, then the **first tax yield** will be **10 USD**, and **second tax yield** will be **22 USD** (because 20% is calculated from sum of operation + previous tax), and total will be **100 + 10 + 22 = 132 USD**.

Warning

You **cannot** delete or archive a tax profile that is **currently assigned** to the *Client, Call Shop, Reseller, or Calling Card*

Tags

In this article

- [Section overview](#)
- [Adding a New Tag](#)
- [xDRs report tags](#)

Section overview

Tags enable you to organize resources for your billing environment in a more flexible way. With tags, you are able, for instance, to expand functional capabilities of [rate tables](#) by creating exclusive rates with specific tags. These tags can be applied to [clients](#), [accounts](#), [VoIP gateways](#), [rate tables](#), [routing plans](#), [traffic processing](#), [packages](#), [DIDs](#), and [taxes profiles](#). This section represents a list of tags that you created within the system and those belonging to your Reseller (see screenshot below).

Screenshot: Tags section

Tag	Reseller	
Customers	Reseller B	
Customers	Reseller E	
DID-1	Reseller A	
DID-2	Reseller A	
Gr Res DID GROUP	Reseller C	

Rows 1 – 5 of 26

Page 1 of 6

About 0.0908s

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Adding a New Tag

To start things off, you **can't create** a new tag, **nor** can you **edit** an existing one. The section is designed to display the list of all tags in the system with a possibility to delete any of them.

What is more important, you can add a tag to an entity straight in the corresponding section (listed above) of the system. For example, to assign a new tag to a client, fill in the **Tag** field in a respective *client's profile*. Then, the system will create this tag and show up a corresponding notification on the top of the page:

New tag "Tag D" was added successfully.

To remove a tag from the system, click the delete icon opposite a corresponding tag on the list.

Tip

1. You can create an **unlimited** number of tags for each entity.
2. Use the "at" (@) symbol as a **default tag for rates**.
3. Please **avoid using commas** in the tag names.
4. When you **determine a tag for the call**, and there is no rate for this tag, the system will take a rate with a **default tag**.

You can bill **on-net calls** where both the calling and called parties are on the same provider's network **by using tags**. To do so, you need to go to the [Traffic Processing](#) section and create a rule for **Src/Dst match** and add a *tag* (for example, **on-net tag** for calls matching this rule). Then, add this tag to [rate tables](#). As a result, calls within a respective operator will be billed by an **added tag**.

Warning

1. If you applied a tag for the [Taxes Profile](#), please make sure it **matches** the tag specified in the respective **Rate Table**.
2. We strongly recommend that you **properly configure rates and assign tags**. If you configure in the way that some rate tables will have **several** accessible tags, it will work **randomly**.

xDRs report tags

Also, in [xDRs List](#), you can view **tags that were used while the calls were processed**. While building an xDRs report, the following columns related to tags may be added:

- **Client Tags** — respective tags that were assigned directly to the *Client*.
- **Accounts Tags** — tags that were added to account profiles.
- **Tags** - all **dynamic** tags of the processed call. Dynamic are those tags that were assigned to *Accounts, Clients, or Gateways* through **Traffic Processing** or **Number Portability**.

Screenshot: xDRs List section

The screenshot displays the 'xDRs List' interface. At the top, there are filter options for 'Period' (This Year), dates (2017-01-01 to 2017-12-31), time (00:00:00 to 23:59:59), and time zone (UTC). On the right, output settings include 'Order By: Event time', 'Type: Web', 'Currency: USD', and 'Code Deck'. Below the filters is a 'Save Query' button and a 'Query' button. The main area shows a table with 13 columns: Account, Code, Origin, Client Tags, Accounts Tags, Tags, Code Name, Cost, Dst Party ID, Event time, Rate, Service Name, Unit, and Volume. The 'Client Tags', 'Accounts Tags', and 'Tags' columns are highlighted with a red box. The table contains 5 rows of data. At the bottom, there are 'Export to CSV' and 'Export to XLSx' buttons, a 'Rows 1 - 5' indicator, and a 'Page 1' navigation bar. The footer shows 'About 0.5873s' and '© 2004-2017 JeraSoft. All Rights Reserved.'

Account	Code	Origin	Client Tags	Accounts Tags	Tags	Code Name	Cost	Dst Party ID	Event time	Rate	Service Name	Unit	Volume
account_1	5233	termination				MEXICO GUADALAJARA	-0.1878	523320298765	07/18/2017 10:49:07 +0000	0.0189	Calls	sec	83.0000
Pack_3	5233	origination				MEXICO GUADALAJARA	1.9740	523320298765	07/18/2017 10:49:07 +0000	0.9870	Calls	sec	119.0000
Pack_3	5233	origination				MEXICO GUADALAJARA	1.9740	523320298765	07/18/2017 10:49:07 +0000	0.9870	Calls	sec	81.0000
account_1	5233	termination				MEXICO GUADALAJARA	-0.1878	523320298765	07/18/2017 10:49:07 +0000	0.0189	Calls	sec	119.0000
account_1	5233	termination				MEXICO GUADALAJARA	-0.1878	523320298765	07/18/2017 10:49:07 +0000	0.0189	Calls	sec	81.0000

Invoices Templates

In this article

- [Section overview](#)
- [Creating a New Invoice Template](#)
 - [New XLS Template creation](#)
 - [New PDF Template creation](#)
- [Method of Calculating and Rounding Values](#)

Section overview

Invoices Templates is a convenient tool that makes the whole process of invoicing less time consuming and much more convenient and effective. It allows you to create custom invoice templates that would address your particular needs. The section is presented in a form of a table of invoices templates with the following columns (see screenshot below):

Screenshot: *Invoices Templates* section main window

ID	Name	Type	Reseller	Notes
1	default	PDF	all resellers	default invoice template
5	default extended	PDF	all resellers	
6	default with taxes details	PDF	all resellers	default invoice template with detailed taxes table
2	estonian	PDF	all resellers	estonian default template

Column Name	Description
ID	Invoice template's identification number
Name	Name of an invoice template
Type	Type of an invoice template format (.pdf/.xls)
Reseller	List of resellers corresponding invoice template was assigned to
Notes	Additional information on a template

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows to create a new invoice template in .pdf format
	Allows to create a new invoice template in .xls format
	Allows to delete an invoice template from the system

Creating a New Invoice Template

When creating a new template, you need to choose its type. Currently, there are **two types** – **.xls** and **.pdf**. For creating a new template, click the respective button: **New XLS Template** or **New PDF Template**.

New XLS Template creation

Screenshot: *New XLS invoice template creation form*

Invoices Templates

Name:

Reseller:

Anonymized Codes:

Locale:

Totals Calculation:

Taxes Calculation:

Attach xDRs list to the invoice

Notes:

EXCEL TEMPLATE PARAMETERS

Statistics Columns:

Include packages charges to invoice

Template:

Section	Fields Description	
General Information	General information about the invoice template	
	<ul style="list-style-type: none"> Name 	Unique name to differentiate invoice templates
	<ul style="list-style-type: none"> Reseller 	Reseller who owns this invoice template
	<ul style="list-style-type: none"> Anonymized Codes 	Code Deck, whose codes and their respective names will be hidden in invoice
	<ul style="list-style-type: none"> Locale 	Language for text representation of totals in invoice
	<ul style="list-style-type: none"> Totals Calculation 	The order of rounding while calculating the totals: <ul style="list-style-type: none"> round then sum - raw values are rounded first according to the currency settings, then summed; sum then round - raw values are summed first, then rounded.
	<ul style="list-style-type: none"> Taxes Calculation 	The way taxes will be calculated: <ul style="list-style-type: none"> percent from total amount - taxes are calculated as a percentage from the total amount; sum of individual taxes - taxes are calculated as a sum of respective taxes.
	<ul style="list-style-type: none"> Attach xDRs list to the invoice checkbox 	If enabled, creates an xDR file for invoicing period and attaches it to the invoice. To view advanced settings, click the icon next to its name.
	<ul style="list-style-type: none"> xDRs List Format 	List of xDR file format (.csv, .xlsx or .xls)
	<ul style="list-style-type: none"> Included Calls 	Types of calls that will be included in invoices:

		<ul style="list-style-type: none"> • All payable - includes calls with any duration that have non-zero costs and use packages • Non-zero payable - permits including calls with non-zero duration that either have any cost or use packages.
	<ul style="list-style-type: none"> • Select Columns 	List of columns which can be presented in the attached xDR file
	<ul style="list-style-type: none"> • Notes 	Additional information concerning the invoice template
Excel Template Parameters	Settings of an invoice template	
	<ul style="list-style-type: none"> • Statistics Columns 	List of statistics columns. If selected, the invoice will include summary statistics with selected columns
	<ul style="list-style-type: none"> • Include packages charges to invoice checkbox 	If enabled, the invoice will include the data on ordered packages into a current invoice for the selected period
	<ul style="list-style-type: none"> • Template 	Defined displaying format of xDRs list in a template

 **Tip**

When you select **Non-zero payable** parameter in the **Attached xDRs list to the invoice** advanced settings, then:

1) created **outgoing** Invoice for Client **will have attached xDRs file with:**

- incoming/outgoing non-free calls that should be paid by the Client
- outgoing free calls with non-zero duration
- outgoing free calls by package volume limits with non-zero duration

2) created **incoming** Invoice for Client **will have attached xDRs file with:**

- incoming/outgoing non-free calls that should be paid to the Client
- incoming free calls with non-zero duration
- incoming free calls by package volume limits with non-zero duration (it's applicable in case of usage of termination limits)

 **Attention**

- xDRs table of the created invoice displays calls according to the settings of **Attach xDRs list to the invoices** settings.
- Stats table of the created Invoice shows calls included in the xDRs table.

New PDF Template creation

Screenshot: New PDF invoice template creation form

Invoices Templates
default with taxes details

Name: default with taxes details

Reseller:

Anonymized Codes:

Locale: English

Totals Calculation: Round then sum

Taxes Calculation: Percent from total amount

Attach xDRs list to the invoice

Notes: default invoice template with detailed taxes table

EDIT PDF TEMPLATE

HTML | | Format | Font family | Font size

INVOICE No. {number}

Date of invoice: {date}
To be paid within {due_days} days of invoice date.
To be paid before {due_date}

FROM: {sender_name} {sender_address} Tax ID: {sender_tax_id} Reg ID: {sender_reg_id}

TO: {receiver_name} {receiver_address} Tax ID: {receiver_tax_id} Reg ID: {receiver_reg_id}

INVOICE FOR: VoIP services from {period_start} to {period_finish}, timezone GMT(tz).

Package info			
{name}	{details}	TOTAL:	{packa

Country	Destination	Rate	Calls
{code_country}	{code_name}	{rate}	{count}
SubTotal:		{count_subtotal}	{servi
TOTAL:			{servi

Payment should be directed to: {sender_bank_info}

SubTotal: {name} {value}%
Total: {cost}

Path: _____ Words: 92

Invoice Settings

{number} Invoice Number

{due_days} To be paid within (days)

{due_date} To be paid before (date)

{period_start} Start Period: invoicing period start

{period_finish} Finish Period: invoicing period finish

{date} Date Of Invoice: actual invoice date

{tz} Timezone

Personal Data

Stats Table

Packages Table

xDRs Table

Custom Items Table

Taxes Table

Custom Taxes Table

Financial Summary

Global Totals

OK Close Apply

The process of creating a new PDF invoice template is divided into the following steps:

1. Add a table to your workspace, right-click on it, choose **Table Properties**, and define the **Class** field (*stats, xDRs, packages, suretax_items, custom*) in the **General** tab;
2. Fill a table with relevant information, which should be present in invoices by using **functional variables**, which you can pick from a list provided in the same window on the right drop-down panels;
3. After an invoice template is created, fill in its **Name** and other **fields** in the **General Information** section, then click **OK**;
4. Go to **Management > Resellers** and select your invoice template in reseller's properties. It will insure that **all customers** of this reseller will be using this template;
5. When creating an invoice in **Management > Invoices**, you can use an invoice template prior to generating an invoice. JeraSoft VCS includes **default .pdf templates**, called **default** and **default extended**.

Attention

Please note:

- You can select the **Time Format** (*H:M:S* or *M:S*) while creating a **new invoice template**. The default format is in **minutes (M)**.
- There is a package arrangement by numbers in **Invoices** and **Invoices Templates**. While generating invoices, the system sorts packages in invoices. The names of packages could include numerical symbols. Please use numerical symbols as **001 name, 002 name, etc.** in names of packages. Moreover, it's advisable to **avoid** names with special symbols like **%001 name, -001 name**.

Attention

In VCS 3.16.0.:

1. **Taxes Table** group of functional variables to display collected taxes in an invoice has been added. Taxes Table consists of the following variables:
 - **{name}** - Tax name
 - **{value}** - Tax value in percent
 - **{effective_from}** - Tax effective from date
 - **{amount}** - Tax amount

2. New **default with taxes details template** with included **Taxes Table** functional variables has been added to the section.

Method of Calculating and Rounding Values



To help you avoid rounding issues with **float numbers** and **missing cents**, check out our [Best practice example](#) or read about round half to even algorithm, applied in the system, [here](#).

Services

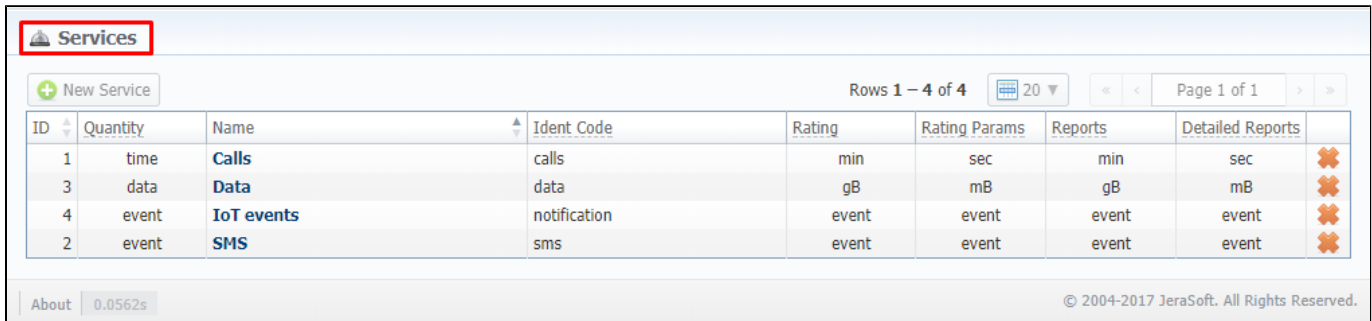
In this article

- [Section overview](#)
- [Adding a New Service](#)

Section overview

Services, presented in this section, reflect the major utilities for billing all types of data, including **calls**, **SMSs**, **IoT events**, etc. This section represents a list of all existing services in the system.

Screenshot: Services section



ID	Quantity	Name	Ident Code	Rating	Rating Params	Reports	Detailed Reports	
1	time	Calls	calls	min	sec	min	sec	
3	data	Data	data	gB	mB	gB	mB	
4	event	IoT events	notification	event	event	event	event	
2	event	SMS	sms	event	event	event	event	

Functional **buttons/icons**, presented in the section, are as follows:

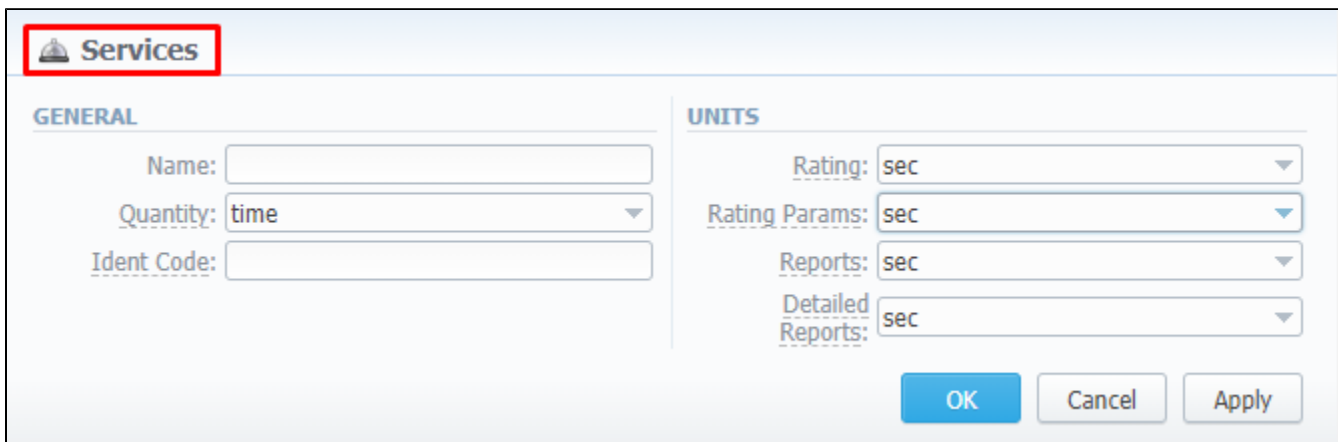
Button/Icon	Description
	Allows to create a new service
	Allows to delete a service from the system. Requires confirmation

Adding a New Service

To proceed to the service creation process:

- Click the **New Service** button
- Fill in all required fields in a pop-up window (screenshot below)
- Click **OK**

Screenshot: New service creation form



Information Block	Fields Description
-------------------	--------------------

General	General information about a service	
	• Name	Title of the new service
	• Quantity	Type of a unit group (time, event, data) that will measure the service
	• Ident Code	ID that will be used to identify the unit in the xDRs
Units	Depending on a unit group chosen in the Quantity field, the following unit values will be applied to the fields of the Units section	
	<ul style="list-style-type: none"> • for time: sec, min, hour, day • for event: event • for data: B, kB (1000 B), KB (1024 B), mB (1000² B), MB (1024² B), gB (1000³ B), GB (1024³ B) 	
	• Rating	Choose the unit that will be used for rates and for packages limits
	• Rating Params	Indicate the unit for extra rate parameters like Min Volume
	• Reports	Select the unit for all aggregated reports
• Detailed Reports	Determine the unit for detailed xDR reports	

Settings

This section is designed for management of system notification messages distribution, as well as specifying the system time and date format. The section is divided into 10 information blocks listed below.

- [System Settings](#)
- [Reports Settings](#)
- [Mail Server Settings](#)
- [Output and Import/Export](#)
- [Invoicing Settings](#)
- [RADIUS Server](#)
- [SIP Server](#)
- [Dynamic Routing](#)
- [Notification and Monitoring](#)
- [Auto-rotation and Cleaning](#)
- [Backup Settings](#)

To apply any changes, made in the section, click the  button. The whole **Settings** section is presented on the screenshot below:

Screenshot: Settings section

Settings

SYSTEM SETTINGS

Default Currency:	USD	Select which currency is the default one, it will be used for generation of routing tables and matching of profitability margin and while creation of new entities.
Domain name:		Domain name field (it should always start with "https://" and should not be empty!)
Public IP:		The system's public IP address used for LNP DIP requests. This field is mandatory if LNP is enabled in the system.
Default language:	English	Choose which language will be selected by default on login screen
Timezone:	UTC	Default system timezone, you can change timezone in statistic reports queries
Statistics processing order:	old calls first	Order of statistics processing when the queue is large
Calculator workers:	4	Number of threads processing calculator tasks (number of CPU cores / 2)
Calculator mode:	periodically run	Select calculator processing mode: periodic - runs every X minutes by Tasks Scheduler, faster processing bulk of XDRs, but causes some delay realtime - processes calls in realtime, slower processing in case of XDRs bulks, only if you really need realtime
<input checked="" type="checkbox"/> Collect Anonymised Data Allow collection of the anonymised system usage statistics. It will allow us to make whole system usage experience better for you. Please note that we collect only usage data, no personal or monetary info will be collected. For Calling Cards only - default length of PIN code for generated cards		
Default PIN Length:	12	

REPORTS SETTINGS

<input type="checkbox"/> Round monetary value	Round monetary value in xDR's report and xDR's files. Default without rounding.
<input type="checkbox"/> Cross-gateway connection	Used for Orig-Term and Profit Reports : allows Reports Generator tool to concatenate orig and term logs from different gateways.

MAIL SERVER SETTINGS

Host:	localhost	Hostname or IP address of SMTP server
Port:	25 Plain	Port/Security of SMTP server
From:		Specify e-mail address to send mail from, it is system address for the SMTP server, not the one that appears in From field in e-mails
Logn:		Logn of SMTP server (if logn and password fields are empty, no authentication)
Password:		Password of SMTP server

OUTPUT AND IMPORT/EXPORT

Date Format:	%m/%d/%Y	Output format for dates, you can check syntax for this field in the User Manual
Datetime Format:	%m/%d/%Y %H:%M:%S %z	Output format for datetimes, you can check syntax for this field in the User Manual
Items Per Page:	20	Default number of items per page in system interfaces.
CSV Delimiter:	,	Default delimiter used for CSV files when importing/exporting
CSV Decimal Point:	.	What will be used as decimal separation point for numbers ("." for most cases)
Close rates marked by:	delete, block, close	When importing rate table, if some rates have notes that they are closed, system will close the appropriate destinations after importing them. This field defines what marking words should be taken as ones closing a rate. System also search for longer words, for example: close - closed, delete - deleted, etc. Please avoid sentences and use only single words, separated by comma (block, close).
Hidden Numbers:	0	Number of digits which should be hidden in destinations number
Output Encoding:	UTF-8	Encoding, that will be used during exporting data to file.
Import Encoding:	UTF-8	Encoding, that will be used during importing data from file.

INVOICING SETTINGS

Invoice No Template:	%Y%ym/%x	Format for Invoices No, you can use next replacements: %Y - current year, %m - current month, %d - current day, %C - client ID, %N - client name, %x - system incremental integer, %X - reseller incremental integer
Invoice Last No:	100332	Last Invoice No used in system for generation of invoices
Autoinvoicing Default State:	to verify	Default state for all automatically created invoices.
Autoinvoicing Delay:	5 hour(s)	Time in hours from end of previous day to wait before invoicing. Required to be positive integer, otherwise system will invoice customers before the moment of full statistics process. Recommended value is around 5-6 hours.
<input type="checkbox"/> Check for empty code names in invoices <input type="checkbox"/> Allow zero invoices In case invoice template shows code names, but the field "Code Name" is not presented in Rate table of a client, invoice will not be generated. Enables creation of zero invoices.		

RADIUS SERVER

Bind to address:	empty - bind to all	Specify your server IP addresses (separated by comma) to bind to, empty field means bind to all addresses.
Accounting port:	1813	Listen for accounting packets on specified port
Authorization port:	1812	Listen for authorization packets on specified port, same for dynamic routing if available
Number of workers:	2	Number of threads that process packets. The value of this parameter also affects on numbers of SIP workers.
Max call length:	7200	Maximum call duration in seconds, for customers in postpaid mode.
Changes will be only applied after you restart RADIUS server from Task Scheduler section		

SIP SERVER

SIP port:	5060	Listen for auth packets on specified port.
-----------	------	--

DYNAMIC ROUTING

Analyze Period:	300 minute(s)	What amount of last minutes of statistics will be analyzed to build a routing table.
<input type="checkbox"/> Log empty routes Enable to get messages to Events Log about zero-routes (degrades performance)		

NOTIFICATION AND MONITORING

<input checked="" type="checkbox"/> Event on missing account	Send event to events log, when client/account was not identified during processing of XDRs or RADIUS Authorization	
<input checked="" type="checkbox"/> Event on missing rate	Send event to events log, when destination/rate was not identified during processing of XDRs or RADIUS Authorization	
<input type="checkbox"/> Event on zero time calls	Send events even if call has zero length	
Resend low-balance events every:	24 hour(s)	How often to resend e-mail regarding low customer's balance
Rate changes notification period:	5 hour(s)	Customer will be informed regarding rates changes in given amount of hours after the actual change.
Period to notify future changes:	7 day(s)	Customer will be informed about rates for next X days.
Watch for free space at:	/opt/jersoft/20/var/lib/ggag/30	Monitor free disk space, you can specify full path where to monitor and percent of space delimited by "%". When free space will be less than specified percent of whole disk size - system will send alert.

AUTO-ROTATION AND CLEANING

Delete events from log after:	1 day(s) (from 1 to 90)	Delete events from Events Log after specified period of days.
Statistics archiving delay:	0 day(s) (0 - do not archive)	Archive statistics in advance. Each day minimize time needed for backup.
Statistics rotate delay:	100 day(s) (0 - do not rotate)	Rotate statistics to archive after specified number of days.
Delete not actual rates after:	360 day(s) (0 - do not delete)	Delete rates from the system when they are not relevant for a specified number of days from the end date.
Delete parsed XDR-files after:	180 day(s) (0 - do not delete)	After what number of days already parsed and processed XDR-files should be deleted from local server.
Delete archived log-files after:	90 day(s) (0 - do not delete)	After what number of days archived log-files should be deleted from local server.

BACKUP SETTINGS

System backup period:	0 hour(s) (0 - do not backup)	How often to backup system, please note that actual backup will be done at the time when Backup Manager process runs.
Number of Backup Manager workers:	1	Number of threads that run database backup.
Destination for backup packages:		Absolute path where to put backup packages, it can not be inside root of VCS system.
Leave last X packages:	3	How many last backup packages to leave.

[Update](#)

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! **Warning**

We strongly recommend that you **do not add any symbols** (for example, a slash) after a domain name.

System Settings

The **System settings** information block contains default system parameters specified below:

Screenshot: *System Settings window*

SYSTEM SETTINGS	
Default Currency: <input type="text" value="USD"/>	Select which currency is the default one, it will be used for generation of routing tables and matching of profitability margin and while creation of new entities.
Domain name: <input type="text"/>	Domain name field (It should always start with "https://" and should not be empty!)
Public IP: <input type="text"/>	The system's public IP address used for LNP DIP requests. This field is mandatory if LNP is enabled in the system.
Default language: <input type="text" value="English"/>	Choose which language will be selected by default on login screen
Timezone: <input type="text" value="UTC"/>	Default system timezone, you can change timezone in statistic reports queries
Statistics processing order: <input type="text" value="old calls first"/>	Order of statistics processing when the queue is large
Calculator workers: <input type="text" value="4"/>	Number of threads processing calculator tasks (number of CPU cores / 2).
Calculator mode: <input type="text" value="periodically run"/>	Select calculator processing mode: periodic – runs every X minutes by Tasks Scheduler, faster processing bulk of XDRs, but causes some delay realtime – processes calls in realtime, slower processing in case of XDRs bulks, only if you really need realtime
<input checked="" type="checkbox"/> Collect Anonymised Data	Allow collection of the anonymised system usage statistics. It will allow us to make whole system usage experience better for you. Please note that we collect only usage data, no personal or monetary info will be collected. For Calling Cards only — default length of PIN code for generated cards
Default PIN Length: <input type="text" value="12"/>	

Field	Description
Default Currency	Specify currency that will be used as default for generation of routing and new entities creation (accounts, invoices, transactions, clients, resellers, etc.). However, this currency won't be used for reports.
Domain Name	Enter relevant domain address of your VCS server. In most cases, VCS IP address should be entered here. Please note, if this name is specified incorrectly , you may experience issues with reseller logos display
Public IP	Specify an Internet Protocol address that LNP DIP requests
Default Language	Select your default language for the system. You can change it to your preferred language at any time .
Timezone	Select your default timezone
Statistics Processing Order	Specify what statistics to process first (newer or older)
Calculator Workers	Specify number of threads processing calculator tasks (number of CPU cores/2)
Calculator Mode	Defines the calculator workout , whether is will start periodically through Task Scheduler, or will be constantly running
Collect Anonymized Data c <i>checkbox</i>	Allows collecting anonymized system usage statistics
Default PIN Length	Sets the default length of a PIN-code when creating calling card series

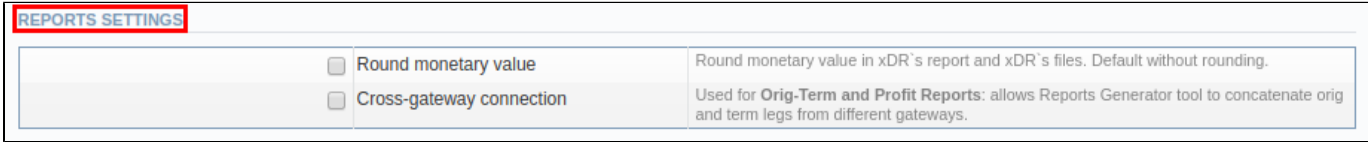
Attention

If you change the **Default Currency**, you need to restart the **Dynamic Routing Manager** in the **Task Scheduler** section for an immediate **Routing Analysis** functioning.

Reports Settings

This information block contains the following reports settings information:

Screenshot: System Settings window



Field	Description
Round monetary value checkbox	forces the values in the xDRs report and xDRs files to be rounded according to currency settings
Cross-gateway connection checkbox	applies to Orig-Term and Profit Reports . When marked, it allows concatenating of orig and term records from different gateways by the Reports Generator tool

Mail Server Settings

This information block allows you to specify mail server settings:

Screenshot: Mail Server Settings window

MAIL SERVER SETTINGS		
Host:	localhost	Hostname or IP address of SMTP server
Port:	11 Plain	Port/Security of SMTP server
From:	example@localhost	Specify e-mail address to send mail from, it is system address for the SMTP server, not the one that appears in From field in e-mails
Login:		login of SMTP server (if login and password fields are empty, no authentication)
Password:		Password of SMTP server

Field	Description
Host	Mail server address that is used by the system
Port	Specify port and security type of the SMTP server: <ul style="list-style-type: none"> • Plain • TLS • SSL
From	Email address that will be specified as a sender
Login	Login for the SMTP server
Password	Password for the SMTP server

Output and Import/Export

In this information block, you can specify output and import/export parameters, including time and date parameters configuration:

Screenshot: Output and Import/Export settings window

OUTPUT AND IMPORT/EXPORT		
Date Format:	<input type="text" value="%m/%d/%Y"/>	Output format for dates, you can check syntax for this field in the User Manual
Datetime Format:	<input type="text" value="%m/%d/%Y %H:%M:%S %z"/>	Output format for datetimes, you can check syntax for this field in the User Manual
Items Per Page:	<input type="text" value="10"/>	Default number of items per page in system interfaces.
CSV Delimiter:	<input type="text" value=","/>	Default delimiter used for CSV files when importing/exporting
CSV Decimal Point:	<input type="text" value=","/>	What will be used as decimal separation point for numbers ("," - for most cases)
Close rates marked by:	<input type="text" value="delete, block, close"/>	When importing rate table, if some rates have notes that they are closed, system will close the appropriate destinations after importing them. This field defines what marking words should be taken as ones closing a rate. System also search for longer words, for example: close - closed, delete - deleted, etc. Please avoid sentences and use only single words, separated by comma (block, close).
Hidden Numbers:	<input type="text"/>	Number of digits which should be hidden in destinations number
Output Encoding:	<input type="text" value="UTF-8"/>	Encoding, that will be used during exporting data to file.
Import Encoding:	<input type="text" value="UTF-8"/>	Encoding, that will be used during importing data from file.

Field	Description
Date Format	Specify date parameters here
	<ul style="list-style-type: none"> • %d Day of the month in numeric form. Allowed values: from 01 to 31
	<ul style="list-style-type: none"> • %m Month number. Allowed values: from 01 to 12
	<ul style="list-style-type: none"> • %Y Number of the year that consists of 4 numbers. Value example: 1999, 2005, 2010
Datetime Format	Specify date and time parameters here
	<ul style="list-style-type: none"> • %d Day of the month in numeric form. Allowed values: from 01 to 31
	<ul style="list-style-type: none"> • %m Month number. Allowed values: from 01 to 12
	<ul style="list-style-type: none"> • %Y Number of the year that consists of 4 numbers. Value example: 1999, 2005, 2010
	<ul style="list-style-type: none"> • %H Hours in 24-hour format with leading zeroes. Allowed values: from 00 to 23
	<ul style="list-style-type: none"> • %M Minutes with leading zeroes. Allowed values: from 00 to 59
	<ul style="list-style-type: none"> • %S Seconds with leading zeroes. Allowed values: from 00 to 59
	<ul style="list-style-type: none"> • %z Timezone settings
Items Per Page	Set default quantity of items displayed on a single page
CSV Delimiter	Set default delimiter for CSV files

CSV Decimal Point	Set default decimal point for CSV files
Close rates marked by	When importing rate sheets , the system will be able to close respective rates if the Rate column has one of the keywords entered here
Hidden numbers	Specify how many digits of a number should be hidden when this function is activated for a customer
Output Encoding	Select, which encoding to use when exporting a file
Import Encoding	Select, which encoding to use while importing data from a file

Invoicing Settings

Below, you will find a list of fields of the **Invoicing Settings** information block:

Screenshot: *Invoicing Settings window*

INVOICING SETTINGS

Invoice No Template:	<input type="text" value="%Y%m/%x"/>	Format for Invoices No, you can use next replacements: %Y - current year, %m - current month, %d - current day, %C - client ID, %N - client name, %x - system incremental integer, %X - reseller incremental integer
Invoice Last No:	<input type="text" value="100332"/>	Last Invoice No used in system for generation of invoices
Autoinvoicing Default State:	<input type="text" value="to verify"/>	Default state for all automatically created invoices.
Autoinvoicing Delay:	<input type="text" value="5"/> hour(s)	Time in hours from end of previous day to wait before invoicing. Required to be positive integer, otherwise system will invoice customer before the moment of full statistics process. Recommended value is around 5-6 hours.
<input type="checkbox"/>	Check for empty code names in invoices	In case invoice template shows code names, but the field "Code Name" is not presented in Rate table of a client, invoice will not be generated.
<input type="checkbox"/>	Allow zero invoices	Enables creation of zero invoices.

Field	Description
Invoice No Template	Default template for invoice number
Invoice Last No	Number of the last issued invoice
Autoinvoicing Default State	Set the state for all automatically created invoices by choosing one of the following field values: <ul style="list-style-type: none"> • <i>normal</i> • <i>to sent</i> • <i>to verify</i>
Autoinvoicing Delay	Time in hours the system will wait until performing invoicing
Check empty code names in invoices checkbox	Enables checking of the correspondence of a Code with a Code name , and, in case of any mismatches , the system will give an alert and an invoice will not be generated
Allow zero invoices checkbox	Allows to create invoices with zero amount

RADIUS Server

VCS RADIUS server settings can be managed in this information block:

Screenshot: RADIUS Server settings window

RADIUS SERVER

Bind to address:	<input type="text"/>	Specify your server IP addresses (separated by comma) to bind to, empty field means bind to all addresses.
	empty - bind to all	
Accounting port:	<input type="text" value="1000"/>	Listen for accounting packets on specified port
Authorization port:	<input type="text" value="1000"/>	Listen for authorization packets on specified port, same for dynamic routing if available
Number of workers:	<input type="text" value="2"/>	Number of threads that process packets. The value of this parameter also affects on numbers of SIP workers.
Max call length:	<input type="text" value="7200"/>	Maximum call duration in seconds, for customers in postpaid mode.
Changes will be only applied after you restart RADIUS server from Task Scheduler section		

Field	Description
Bind to Address	Specify your VCS server IP addresses , separated by a comma, to bind RADIUS to
Accounting Port	Specify the accounting port here. By default, the field value is 1813
Authorization Port	Specify the authorization port here. By default, the field value is 1812
Number of Workers	Number of RADIUS workers . The value of this parameter also affects SIP workers' number .
Max Call Length	Limit maximum call length in seconds

SIP Server

The SIP Server information block consists of a single SIP port field, where you need to specify a SIP port that the system should listen to. Below, you can find the screenshot of the following information block.

Screenshot: SIP Server settings window

RADIUS SERVER		
Bind to address:	<input type="text"/>	Specify your server IP addresses (separated by comma) to bind to, empty field means bind to all addresses.
Accounting port:	<input type="text" value="1813"/>	Listen for accounting packets on specified port
Authorization port:	<input type="text" value="1812"/>	Listen for authorization packets on specified port, same for dynamic routing if available
Number of workers:	<input type="text" value="2"/>	Number of threads that process packets. The value of this parameter also affects on numbers of SIP workers.
Max call length:	<input type="text" value="7200"/>	Maximum call duration in seconds, for customers in postpaid mode.
Changes will be only applied after you restart RADIUS server from Task Scheduler section		
SIP SERVER		
SIP port:	<input type="text" value="5060"/>	Listen for auth packets on specified port.

Dynamic Routing

Settings for VCS Dynamic Routing is presented in the information block with the following fields:

Screenshot: *Dynamic Routing settings window*

SIP SERVER

SIP port: Listen for auth packets on specified port.

DYNAMIC ROUTING

Analyze Period: minute(s) What amount of last minutes of statistics will be analyzed to build a routing table.

Log empty routes Enable to get messages to Events Log about zero-routes (degrades performance)

Field	Description
Analyze Period	An amount of minutes of last available statistics that will be used to build a routing table
Log empty routes checkbox	Enable to get log messages regarding zero routes

Notification and Monitoring

Notification messages distribution and other monitoring settings contain the underwritten fields:

Screenshot: Notification and Monitoring settings window

NOTIFICATION AND MONITORING		
<input checked="" type="checkbox"/>	Event on missing account	Send event to events log, when client/account was not identified during processing of XDRs or RADIUS Authorization
<input checked="" type="checkbox"/>	Event on missing rate	Send event to events log, when destination/rate was not identified during processing of XDRs or RADIUS Authorization
<input type="checkbox"/>	Event on zero time calls	Send events even if call has zero length
Resend low-balance events every:	<input type="text" value="24"/> hour(s)	How often to resend e-mail regarding low customer's balance
Rate changes notification period:	<input type="text" value="5"/> hour(s)	Customer will be informed regarding rates changes in given amount of hours after the actual change.
Period to notify future changes:	<input type="text" value="7"/> day(s)	Customer will be informed about rates for next X days.
Watch for free space at:	<input type="text" value="/opt/jerasoft:20;/var/lib/pgsql:30"/>	Monitor free disk space, you can specify full path where to monitor and percent of space delimited by ":". When free space will be less than specified percent of whole disk size - system will send alert.

Field	Description
Event on not found account checkbox	If checked, activates notification sending when no account was found
Event on not found tariff checkbox	If checked, activates notification sending when no rate was found
Event on zero time calls checkbox	If checked, activates all previous checkboxes effects when calls with zero duration were found
Resend low balance events every, hour(s)	Set the frequency of low balance notification resend service
Rate changes notification period, hour(s)	Specify the frequency of rate changes notification period
Period to notify future changes, day (s)	Specify a number of days for a customer to be informed about rate changes in advance
Watch for free space at	<p>Here you can specify folders that will be monitored for available disk space. To add a folder, specify its path, and by using the ":" <i>symbol</i>, choose the percentage of disk space, below which the system will send warning notifications</p> <p>For example, /opt/jerasoft:20 means that if free disk space is below 20 percent in the /opt/jerasoft/ folder, the notification will be sent. You can add multiple folders in this field by delimiting them with the ";" <i>symbol</i></p>

Auto-rotation and Cleaning

Automatic statistics and backup management parameters are configured here:

Screenshot: Auto-rotation and Cleaning settings window

AUTO-ROTATION AND CLEANING

Delete events from log after:	<input type="text" value="1"/> day(s) (from 1 to 90)	Delete events from Events Log after specified period of days.
Statistics archiving delay:	<input type="text" value="0"/> day(s) (0 - do not archive)	Archive statistics in advance. Each day minimize time needed for backup.
Statistics rotate delay:	<input type="text" value="100"/> day(s) (0 - do not rotate)	Rotate statistics to archive after specified number of days.
Delete not actual rates after:	<input type="text" value="360"/> day(s) (0 - do not delete)	Delete rates from system, when they are not actual and effective date is older than specified number of days.
Delete parsed XDR-files after:	<input type="text" value="180"/> day(s) (0 - do not delete)	After what number of days already parsed and processed XDR-files should be deleted from local server.
Delete archived log-files after:	<input type="text" value="90"/> day(s) (0 - do not delete)	After what number of days archived log-files should be deleted from local server.

Field	Description
Delete events from log after	Specify the number of days , in which events will be removed from the log-files (when 0 is the value – events won't be deleted)
Statistics archiving delay	Here, it's possible to archive the statistics in advance to reduce the backup time.
Statistics rotate delay	Specify statistics packages rotation delay (for example, if you enter 3 as a value, all statistics packages that are older than 3 days will be automatically archived)
Delete not actual rates after	Cleans non-actual rates from database when effective date is older than a specified number of days
Delete parsed xDR-files after	Define when the system should delete old parsed xDR-files
Delete archived log-files after	Define when the system should delete archived log-files

Backup Settings

Backup settings are presented with the following fields:

Screenshot: Backup Settings window

BACKUP SETTINGS

System backup period:	<input type="text" value="0"/> hour(s) (0 - do not backup)	How often to backup system, please note that actual backup will be done at the time when Backup Manager process runs.
Number of Backup Manager workers:	<input type="text" value="1"/>	Number of threads that run database backup.
Destination for backup packages:	<input type="text"/>	Absolute path where to put backup packages, it can not be inside root of VCS system.
Leave last X packages:	<input type="text" value="3"/>	How many last backup packages to leave.

Field	Description
System backup period	The field value specifies when the system should backup itself (for example, if you enter 24 as a value, it will mean that the system will backup itself every 24 hours)
Number of Backup Manager workers	Specify a number of system managers that run database backup
Destination for backup packages	Absolute path to the folder where the system backup copies will be stored <div style="background-color: #ffe6e6; padding: 10px; margin-top: 10px;"> <p>! Warning</p> <p>This folder shouldn't be within any system folder!</p> </div>
Leave last X packages	Parameter that specifies how many backup copies will be stored at one given time (for example, if you enter 3 as a value, only three copies will be stored. When the fourth copy is added, the oldest one will be deleted)

Integration

This chapter of our Guide focuses upon sections that are called to govern the **integration process** of 3rd party software **with JeraSoft VoIP Carrier Suite**. Please look for more information in the following sections:

- [Gateways](#)
- [Number Portability](#)
- [Provisioning API](#)
- [API Testbed](#)
- [CoreAPI Docs](#)

Gateways

In this article

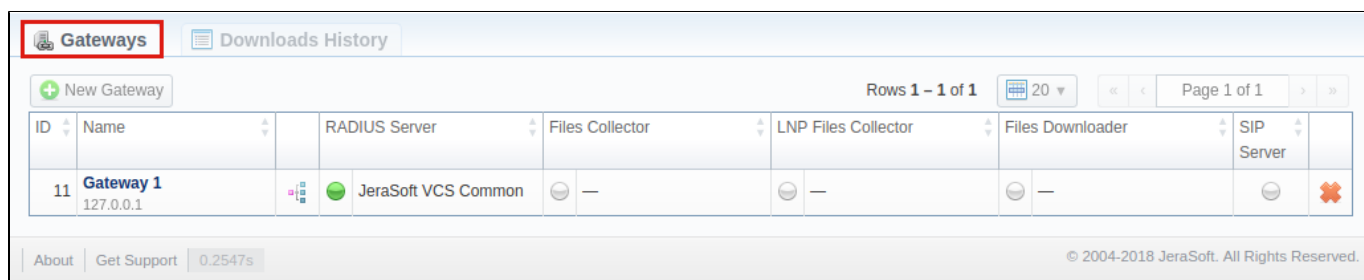
- [Section overview](#)
- [Adding a New Gateway](#)
- [Files Downloading History](#)
- [Knowledge Base Articles](#)

Section overview

This section allows you to configure and integrate all switches into billing via RADIUS, SIP or xDR-files upload.

The section is presented in a form of a table of all created gateways in the system with the following columns (see screenshot):

Screenshot: Gateways section



Column	Description
ID	ID number of a gateway
Name	Name of a gateway
RADIUS Server	Description of current status and collector type of RADIUS Server (if such is applied)
Files Collector	Description of current status and collector type of applied Files Collector (if such is applied)
LNP Files Collector	Description of current status and collector type of applied LNP Files Collector (if such is applied)
Files Downloader	Description of current status and collector type of applied Files Downloader (if such is applied)
SIP Server	Description of current status and collector type of applied SIP Server (if such is applied)

The following **functional buttons/icons** are present in the section:

Button/Icon	Description
	Allows to create a new gateway
	Allows to set up traffic processing rules
	Displays a current status - enabled or disabled - of RADIUS/SIP Server, Files Collector, etc.
	Allows to delete a gateway from the system. Requires confirmation

Adding a New Gateway

To add a gateway to the list, click the **New Gateway** button and specify parameters in a pop-up window with settings. You can access the advanced settings by clicking on a downwards arrow icon next to the name of a respective information block.

Screenshot: Adding new Gateway

Gateways
GW Calls

GENERAL INFORMATION

Name:

IP Address:

Allowed For:

Service:

Tag:

Code deck:

FILES COLLECTOR

Collector Type:

Data Source:

From path:

RADIUS SERVER


Collector Type:


Secret:

SIP SERVER

Collector Type:

Information Block	Fields and Descriptions
General Information	General gateway and events processing information
	Name Gateway name
	IP Address Gateway IP address
	Allowed for Specify here, which resellers can use current gateway
	Service Select a service (calls, SMSs, data, etc.) for a current gateway
	Tag Indicate a particular tag to filter events by gateways while creating invoices and using reports.
	Code Deck The selected code deck will be used to pick codes and destination names for the Mobile Number Portability feature. By browsing information from the selected code deck, VCS will be able to perform appropriate number translations, which are processed by a current gateway.
	<p>Click the downwards arrow icon next to the General Information information block to access the following advanced settings:</p> <ul style="list-style-type: none"> Ident Priority - a hierarchy of account identification. By default, the field value priority is IP, name, ANI. ORIG ANI Ident - select ANI identification of originating events (available options : Src number ext, Src number bill, Dst ext, Dst number bill) TERM ANI Ident - select ANI identification of terminating events (available options: Src number ext, Src number bill, Dst ext, Dst number bill) Rate ORIG events by Dst In code checkbox - activation/deactivation of originating events billed by DST PARTY ID IN Rate TERM events by Dst Out code checkbox - activation/deactivation of terminating events billed by DST PARTY ID OUT Rate event only with "success" status checkbox - activation/deactivation of processing of events that have "success" end code. If it's activated, events with error disconnect code won't be billed
Files Collector	Information block regarding the File Collector settings. Files Collector gathers event data from xDR-files (activate this option if you plan to use integration via xDR-files)
	<p>Select a collector type you plan to use from the list</p> <ul style="list-style-type: none"> C o l l e c t o r T y p e
	Specify a data source, where xDR files are stored

	<ul style="list-style-type: none"> • D a t a S o u r c e
	<ul style="list-style-type: none"> • F r o m P a t h <p>Specify xDR-files path (mask paths are allowed). Available only for SSH and FTP</p> <div style="background-color: #ffff00; padding: 5px;"> <p>⚠ Attention</p> <p>If there are /var/cdrs folder with the latest CDR files and /var/archive_cdrs/ folder with outdated ones, and a user needs to download CDR files from both of them, he can use ; (semicolon) to separate paths or /**/ for recursive download. New paths may have the following look: /var/cdrs/**/bill*; /var/archive_cdrs/bill*.</p> </div>
	<ul style="list-style-type: none"> • S e n d e r M a t c h <p>Indicate the sender name or email. Solely for IMAP</p>
	<ul style="list-style-type: none"> • S u b j e c t M a t c h <p>Use a regular expression to search by message titles. Solely for IMAP</p>
<p>Click the downwards arrow  icon next to the Files Collector information block to access advanced settings:</p> <ul style="list-style-type: none"> • Overwrite TZ - timezone selection (if you select a different timezone, the system will ignore a timezone stored in an xDRs-file and use current value) • Skip Zero Events checkbox - activation/deactivation of zero duration events ignoring • Skip Released Events checkbox - activation/deactivation of released events ignoring 	
<p>RADIUS Server</p>	<p>Information block regarding RADIUS Server settings. RADIUS Collectors gather packets from RADIUS-server via RADIUS-protocol (activate this option if you plan to use integration via RADIUS-protocol)</p> <ul style="list-style-type: none"> • C o l l e c t o r T y p e <p>Select a collector type you plan to use from the list</p> <ul style="list-style-type: none"> • S e <p>RADIUS-server password</p>

	<p>c r e f</p>	
<p>Click the downwards arrow  icon next to the RADIUS Server information block to access advanced settings:</p> <ul style="list-style-type: none"> • Overwrite TZ - timezone selection (if you select a different timezone, the system will ignore a timezone information stored in an xDR file and use current value) • Track Active Events checkbox - activation/deactivation of monitoring active events and event packets. This option is required for "Active Sessions" section to work and for RADIUS capacity control. Please note, it could slow down RADIUS for about 10-30% • Skip Zero Events checkbox - activation/deactivation of zero duration events ignoring • Skip Released Events checkbox - activation/deactivation of released events ignoring • Collect Accounting Data checkbox - if disabled, information from STOP packets will not be collected by database and <i>Radius Accounting</i> will be used only for <i>Active Sessions monitoring</i>. If enabled, information from STOP packets will be collected by database. By default, this checkbox is marked. 		
<p>SIP Server</p>		<p>Allows acceptance of SIP packets from current gateway. Required for SIP Redirect routing feature</p> <hr/> <p>Select a collector type you plan to use from the list</p> <ul style="list-style-type: none"> • C o l l e c t o r T y p e
<p>LNP Files Collector</p>		<p>This collector processes downloaded LNP/MNP files and stores them in the database. It's accessible only when you select the LNP /MNP type of gateway.</p> <hr/> <p>Select a collector type you plan to use from the list</p> <ul style="list-style-type: none"> • C o l l e c t o r T y p e

Files Downloading History

To view files downloading history, where gateway name, filename, download date and file size will be specified, open the **Downloads History** tab. Also, you can remove files from the list by selecting them and clicking the **Delete** button above the table.

Gateways		Downloads History			
ID	Name	Filename	Download Date	File size	
<input type="checkbox"/>	11 Gateway	tmpysYWfv	01/25/2018 08:49:09 +0000	360.98 Kb	
<input type="checkbox"/>	10 Gateway	tmpPctDgm	01/25/2018 08:44:13 +0000	360.98 Kb	
<input type="checkbox"/>	9 Gateway	tmp8ukyJl	01/24/2018 15:59:04 +0000	360.98 Kb	
<input type="checkbox"/>	8 Gateway	tmpwEYa0B	01/24/2018 15:58:45 +0000	360.98 Kb	
<input checked="" type="checkbox"/>	7 Gateway	tmpHhIQoq	01/24/2018 15:50:10 +0000	360.98 Kb	
<input type="checkbox"/>	6 Gateway	tmp17fwZq	01/24/2018 15:49:47 +0000	360.98 Kb	
<input checked="" type="checkbox"/>	5 Gateway	tmpGtD8Zk	01/24/2018 15:49:35 +0000	360.98 Kb	
<input type="checkbox"/>	4 Gateway	tmpJKKpHb	01/24/2018 15:49:05 +0000	360.98 Kb	
<input type="checkbox"/>	3 Gateway	tmp1khURr	01/24/2018 15:42:45 +0000	360.98 Kb	
<input type="checkbox"/>	2 Gateway	tmpFcBHwW	01/24/2018 15:28:39 +0000	360.98 Kb	
<input type="checkbox"/>	1 Gateway	tmp6B_mqf	01/24/2018 14:33:50 +0000	360.98 Kb	

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Data Sources

In this article

- [Section overview](#)
- [Creating a New Data Source](#)

Section overview

Data Source section is a first step to providing easier and more convenient work with data sources: files import, in particular. Previously, data source settings were split between [Rate Tables](#), [Resellers](#), [Gateways](#) and [Number Portability](#) and caused certain inconvenience in its configuration. Now, all these settings have been united in a single section making it possible to configure a data source in one place and use throughout the entire system. Section is presented in a form of a table with the following columns:

Screenshot: Data Source section

Data Sources					
+ Add Source		Rows 1 – 1 of 1		20	Page 1 of 1
ID	Name	Connection type	Host	Port	
1	New DS	FTP	12.5.5.6	21	

About Get Support 0.1948s © 2004-2018 JeraSoft. All Rights Reserved.

Column Name	Description
ID	Data source identification number
Name	Data source name
Connection type	Type of connection to data source
Host	IP address or domain name
Port	Data source port

Functional buttons and icons, presented in the section, are as follows:

Button/Icon	Description
	Allows creating a new data source
	Allows deleting a data source from the system

Creating a New Data Source

To create a new data source, you need to follow these steps:

1. Click the **Add Source** button
2. In the pop-up window, fill in the required fields (see screenshot below) and click **OK**

Screenshot: New Data Source create form

Data Sources

Name: <input type="text" value="Private DS"/> Host: <input type="text"/> Connection type: <input type="text" value="SSH"/>	Login: <input type="text"/> Password: <input type="text"/> Port: <input type="text" value="22"/>
--	--

Field	Description
Name	Indicate a data source name
Host	Specify an IP address or domain name of the server. Unavailable for Web (Numuri) connection type
Connection Type	Specify connection type: <ul style="list-style-type: none"> SSH FTP IMAP - mail mode to download files. Web (Numuri) - web mode to download files <div style="background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p>⚠ Attention</p> <p>Depending on a type you've chosen, the list of fields in the information block may differ</p> </div>
Login	Specify gateway server login
Password	Password for FTP connection, IMAP mailbox and Numuri web service. For SSH , you have to create SSH-keys . Thus, this field is unavailable for this type.
Port	Specify port for SSH , IMAP or FTP type. Unavailable for Web (Numuri)

Number Portability

In this article

- [Section overview](#)
- [Number Portability tab](#)
 - [Advanced Search](#)
- [Gateways tab](#)
- [Downloads History tab](#)
- [LNP/MNP Configuration](#)

Section overview

This section represents local databases of the two providers: **Numuri** and **TJA**. Here, you can find the list of Numuri ranges and TJA numbers downloaded by **Files Collector**. It's intended to facilitate the administration of number portability. **Number Portability** refers to the ability to transfer either an existing fixed-line or mobile telephone number assigned by a local exchange carrier and reassign it to another carrier.

✓ How it works

TJA (RN): During translation of the call, the system verifies the code of a TJA number, identifies the number, and changes the Dst Number to **372+RN Number**.

Numuri/TJA (Owner): During translation of the call, the number is verified and the system **applies a dynamic tag** (owner's name) to the call for further billing.

The section consists of 3 tabs:

- **Number Portability**
- **Gateways**
- **Downloads History**

Number Portability tab

Tab is presented in a form of a table of ranges of numbers with a following columns:

Screenshot: *Number Portability*

ID	Range Start	Range End	Owner	Modification Date
1	5657000	5657999	Operator1	04/10/2018 13:00:00 +0000
2	1002350	1002999	Operator2	04/10/2018 13:00:00 +0000

Column Name	Description
ID	Identification number of a number range
Range Start	Starting number in a respective range
Range End	Final number in a respective range
Owner	Name of a number range owner
Modification Date	Indication of the latest date of numbers range modification

Functional **buttons/icons** that are present in a section are as follows:

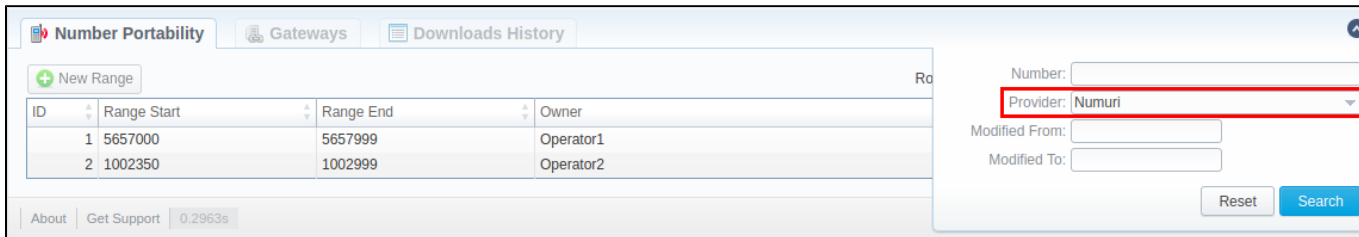
Button/Icon	Description
	Allows creating a new range of numbers for Numuri provider
	Allows adding a new number for TJA provider

	Allows managing an existing range of numbers on a list
	Allows deleting a range of numbers from the system. Requires confirmation

Advanced Search

Use the **Advanced Search** drop-down menu for fast investigation in this section. This tool provides a filter to limit the search results for higher working efficiency. By default, section data is filtered by **Numuri** provider. To display **TJA** provider data, in a drop-down menu select **TJA** in **Provider** field. click on the blue downwards arrow icon.

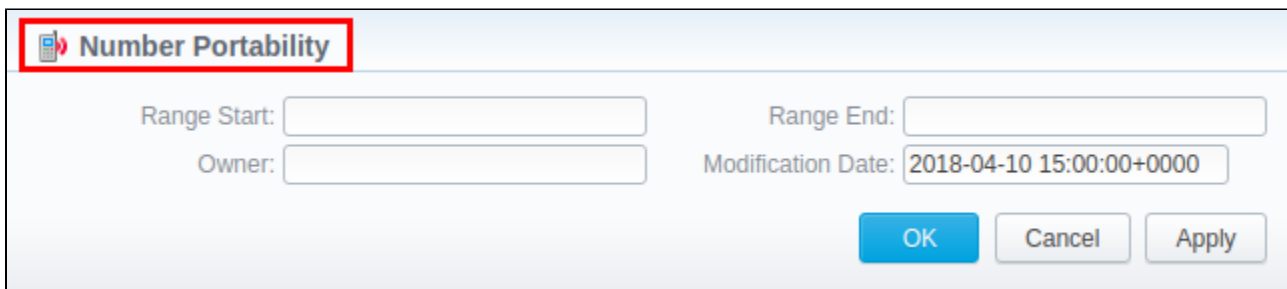
Screenshot: Number Portability section



Creating a New Range/Number

To create a **Numuri range** of numbers, click the **New Range** button and specify the fields listed below. After that, click **OK**.

Screenshot: Number Portability section/Numuri range creation form



Field	Description
Range Start	Set the range's start position
Range End	Set the end position
Owner	Determine an operator that owns a respective range of numbers <div style="background-color: yellow; padding: 5px;"> <p> Attention Further, the owner's name will be applied to the call as a tag (for example, EU Carrier 1) for billing the call.</p> </div>
Modification Date	Indicate the last modification date

To add **TJA number**, click the **New Number** button, specify the required fields, and confirm number creation by clicking **OK**. The list of fields in a creation form is as follows:

Screenshot: Number Portability section/TJA number creation form

Field	Description
Code	Specify the code of a TJA number
RN Number	Indicate a registration number
Modification Date	Indicate the last modification date
Code Name	Specify a respective code name of a TJA provider
Owner	Determine an operator that owns a respective number

Gateways tab

⚠ Attention

In **VCS 3.17.0**, for the purpose of making the **Traffic Processing** section more versatile, the TJA gateway has been divided into **TJA (Routing Number)** and **TJA (Owner)** (more information can be found in [this article](#)). Please note that each gateway in the tab has its own unique and predefined format of LNP update file, thus, we recommend to address our support center to avoid any possible issues while configuring the gateways.

Apart from **Numuri** and **TJA**, JeraSoft VCS is integrated with the following providers:

1. **Broadvox**
2. **Vera Networks**
3. **PCT**

The **Gateways** tab is presented in a form of a table of gateways of all 6 above-mentioned providers with indication of its name and assigned data source. However, only **Numuri** and **TJA** can be managed. To assign a new data source to a gateway, click on a respective gateway name and specify a target data source in a corresponding field (see screenshot below). Depending on a selected data source, additional fields may differ (see **Data Source** section):

Screenshot: Numuri gateway management

Downloads History tab

Downloads History tab displays files downloading history through one of the number portability gateways. It is presented in a form of a table where ID, gateway name, filename, download date and file size are specified. Also, you can remove files from the list by selecting them and clicking on the **Delete** button above the tab.

Screenshot: Downloads History tab

Number Portability		Gateways		Downloads History	
Delete		Rows 1 – 1 of 1		Page 1 of 1	
ID	Name	Filename	Download Date	File size	
1	tja	tmp9nKgkt	04/11/2018 08:25:04 +0000	6.74 Kb	
About Get Support 0.2392s			© 2004-2018 JeraSoft. All Rights Reserved.		

LNP/MNP Configuration

LNP/MNP configuration can be divided into 2 steps:

1. Set up download of external data to local LNP/MNP databases
2. Configure communication between VCS and these databases

Step 1

To configure a download of external data, namely LNP/MNP file updates, you need to:

1. Open **Data Source** section and create a new data source with **IMAP** or **Web (Numuri)** connection type.
2. Go to the **Gateways** tab of **Number Portability** section and open **TJA** or **Numuri** gateway settings.
3. Assign **IMAP** or **Web (Numuri)** data source to a respective gateway.



Tip

- **IMAP** - mail mode to download files. For this type, the format of the file must be ***csv.zip**.
- **Web (Numuri)** - web mode to download files. For this type, the format of the file must be ***csv**.

4. At first, downloaded files will be displayed in **Downloads History** tab. After being parsed by the **Files Collector** tool, numbers will be displayed in the **Number Portability** tab.

Step 2

The next stage is to configure VCS addressing to our local LNP/MNP databases during routing. To do so:

1. Go to the **Traffic Processing** section and create a new rule or open settings of an existing one.
2. Select a target provider from the drop-down list of **LNP/MNP** field and apply settings.

Congrats! Your LNP/MNP is configured and ready for work.

Provisioning API

In this article

- [Section overview](#)
- [Execution Logs tab](#)

Section overview

The following section allows **configuring and monitoring of hooks for Provisioning API**.

Provisioning API provides a mechanism for real-time integration with 3rd party systems, including softswitches, gateways, and CRM systems. It calls pre-defined handlers on an occurrence of specific events in the system. The handlers are allowed to modify data, forbid or allow the action or simply process given event.

For detailed information about [Provisioning API](#) functionality, go to [APIs](#) section of our User Guide.

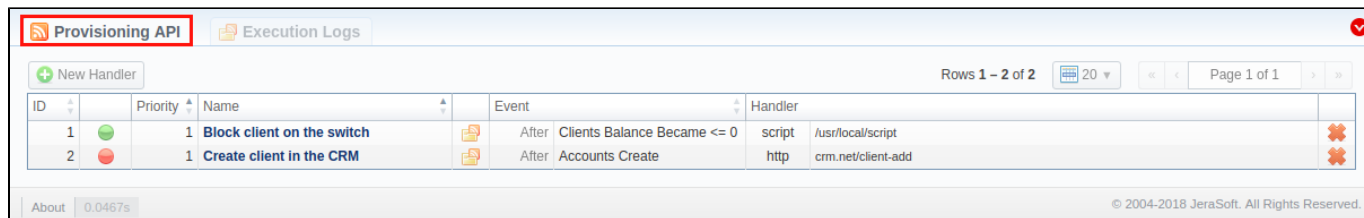
To configure handlers and check their call log, go to the **Integration > Provisioning API**.



Tip

The full list of **Provisioning API** parameters matches with [CoreAPI](#) and they are available upon an individual request of your current clients.



Screenshot: Provisioning section



Column Name	Description
ID	Handler's identification number
Priority	Priority of handlers execution
Name	Handler's title
Event	Description of the handler event
Handler	Category of the handler that is used and location. There are two types of handlers that can be used: <ul style="list-style-type: none"> • HTTP scripts, called via POST requests (used in most cases) • Local server scripts, called locally on the server (used in very specific cases)

The list of section functional **buttons/icons** is as follows:


Button/Icon	Description
	Allows creating a new handler
	Identifies a disabled status of a handler
	Identifies an enabled status of a handler
	Identifies an archived status of a handler
	Allows viewing details of a target handlers' performance Execution Logs tab for a respective handler

	
	Allows deleting a handler from the system

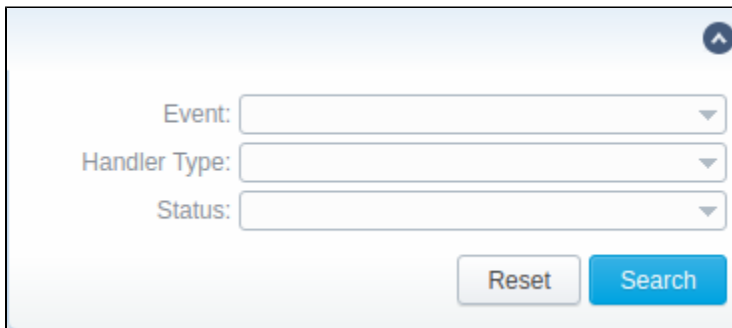
 **Tip**

For a quick switch between **enabled** and **disabled** statuses, click on a respective *status icon* in the section. However, to change **archived** status, you need to do it from a handler edit form

Advanced Search

Advanced Search drop-down menu, located in the top right corner of the section, is called to facilitate an easy access to required information. By clicking on a red downwards arrow  icon, the following drop-down menu is displayed:

Screenshot: *Advanced Search drop-down menu*



Field	Description
Event	Select from a list of all possible handler events
Handler Type	Indicate a type of handler: <ul style="list-style-type: none"> • script
Status	Choose a target status: <ul style="list-style-type: none"> • Enabled • Archived <p>or leave this field blank. In this case, both enabled and disabled handlers will be displayed. This field is empty by default</p>

Creating a New Handler

To start with provisioning, you need to create a handler manually. Click the **New Handler** button and specify respective parameters in the appeared pop-up window:

Screenshot: *Provisioning section/Handler adding form*

Provisioning API

Name:

Event:

Task:

Status: Priority:

Field	Description						
Name	Specify a particular title for a handler						
Event	Specify a handler event from the following list: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Clients</td> <td> <ul style="list-style-type: none"> • create • update • delete • archive • custom fields update • balance became >=0 • balance became <=0 </td> </tr> <tr> <td>Accounts</td> <td> <ul style="list-style-type: none"> • create • update • delete </td> </tr> <tr> <td>Clients Packages</td> <td> <ul style="list-style-type: none"> • assign • activate • deactivate • renew • close </td> </tr> </table>	Clients	<ul style="list-style-type: none"> • create • update • delete • archive • custom fields update • balance became >=0 • balance became <=0 	Accounts	<ul style="list-style-type: none"> • create • update • delete 	Clients Packages	<ul style="list-style-type: none"> • assign • activate • deactivate • renew • close
Clients	<ul style="list-style-type: none"> • create • update • delete • archive • custom fields update • balance became >=0 • balance became <=0 						
Accounts	<ul style="list-style-type: none"> • create • update • delete 						
Clients Packages	<ul style="list-style-type: none"> • assign • activate • deactivate • renew • close 						
Task	Determine a type of handler and details: <ul style="list-style-type: none"> • script - here you need to specify the path where a following script is located, for example: user/local/vcs/script.py. • http:// - here specify the port and method, for example: 120.0.0.1:5000/api. 						
Status	Choose the state of the handler: <ul style="list-style-type: none"> • enabled - select it to make a handler active; • disabled - select it to unable a handler; • archived - select it to archive a handler. 						
Priority	Establish an order of handler performing. Note: The handler with 1 priority will precede all other handlers in order.						

Attention

In **VCS 3.17.0**, to prevent performance degradation and data inconsistency, affected by external side, **Before** event type has been removed from the section.

Best practice example

There is an example based on **http://handler** usage.

2. Open the **Provisioning section** and start creating a handler.

- a. Specify the name, type, and status.
- b. In the **Event** field, select **Clients Create** event from the drop-down list.
- c. In the **Task** field, indicate **http://** type and determine the port and method, for example: **120.0.0.1:5000/api**.
- d. Click **Apply**.

Find an example of the **http://handler** below:

```
from flask import Flask, request
import json
app = Flask(__name__)
@app.route("/api", methods=['GET', 'POST'])
def api():
    data = json.loads(request.data)
    return json.dumps(data)
if __name__ == "__main__":
    app.run()
```

Attention

To put handler into action, you need to **restart Cache Manager**. To do so, click on corresponding icon in **Task Scheduler** section

Execution Logs tab

You can access the details about handler execution in this tab. For more details, check out a related article: [Execution Logs](#).

Warning

Please note, the Provisioning functionality is experimental and may be changed completely in future releases.


Execution Logs


Execution Logs tab provides information about handlers execution such as date and time of execution, status, duration, etc. Tab is presented in a form of a table with the following columns:

Screenshot: *Execution Logs tab*

ID	Date	Event	Status	Name	Error	Duration
153	12/20/2016 13:45:15 +0000	After Accounts Create	Success	acc 6		1 ms
156	12/20/2016 13:45:18 +0000	After Accounts Create	Success	acc 6		1 ms
179	01/10/2017 15:40:07 +0000	After Accounts Create	Fail	acc 6	Script execution error No such file or directory	27 ms

Column Name	Description
ID	Handler's identification number
Date	Time and date of handler execution
Event	Details on handler type and event
Status	Status of a handler: Success/Fail
Name	Title of the handler
Error	Description of the event in case of an error
Duration	Amount of time, spent on handler execution

When you click on **Details**  icon, a new window with a description of respective handler execution appears (see screenshot below). This window contains an information that VCS billing sends via handler.

Click on this icon  to expand logs. For example, logs for handlers with **before** type will only show modified data.

Screenshot: *Provisioning details*

Provisioning API
acc 6

Event Type: After

Event: Accounts Create

Status: **Success**

Date: 12/20/2016 13:45:18 +0000

DATA

```

{
  auth_type: "name",
  protocol: null,
  ani: null,
  id_dr_plans: null,
  orig_capacity: null,
  ips: [ ],
  term_tags: [ ],
  term_capacity: null,
  port: null,
  orig_enabled: false,
  id: 178,
  tech_prefix: null,
  term_rate_table: null,
  proxy_mode: null,
  orig_tags: [ ],
  rates_notify_force: false,
  password: null,
  name: "ipre-pre-",
  term_enabled: false,
  notes: "",
  accname: "1",
  voip_hosts: [ ],
  id_clients: 15,
  orig_rate_table: null
}
                
```

Advanced Search

By clicking on red downwards arrow, the following **Advanced Search** drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu

Status:

Event Type:

Event:

Data:

Error:

Date From:

Date To:

Field	Description
Status	Indicate handler execution status:

	<ul style="list-style-type: none">• Success• Fail
Event Type	Select a type of event: <ul style="list-style-type: none">• After• Before <p>After event type is set by default</p>
Event	Select from a list of all possible handler events
Data	Indicate handler execution data, specified in Details pop-up window
Error	Indicate handler execution data, specified in Error pop-up window
Date From / Date To	Specify first and/or last date of handler execution

API Testbed

This section allows to send/receive JSON-RPC API calls via the web interface. It is important to understand that this section allows you to **actually run** API requests, and **it is not a simulation**. So, if you requested to delete or modify a client by running an API request, this client will be actually deleted from the system or modified.

Screenshot: API Testbed settings

Field	Description
JSON-RPC URL	URL is set by default according to current server settings
Module	Select which module to call
Action	Set which action to call
Login	Specify a login that will be used during the call
Password	Specify a password that will be used during the call
Parameters	Enter JSON data that will be sent to the API

After the **Send Request** button is clicked, you will see:

- **API Request** - full JSON message that has been sent;
- **API Response** - full JSON response from RPC server.

Both request and response are shown as JSON tree with the ability to switch to RAW JSON (see screenshot below).

Screenshot: API Request & API Response

Warning

1. API Testbed allows only to test Management API, not CoreAPI.

2. If the user has access to delete gateways via *API Testbed*, he can **remove all gateways regardless of which Reseller owns** a respective gateway.

CoreAPI Docs

This section contains overall information describing CoreAPI as a whole; documentation on methods available through JSON-RPC service.

Use the sidebar to access different methods, grouped by respective parameters:

- **Account**
- **Clients**
- **Client's Packages**
- **Currencies**
- **DIDs**
- **Packages**
- **Rates**
- **Reports**
- **Top Up Cards**
- **Transactions**

Screenshot: CoreAPI Docs section

CoreAPI Docs

CoreAPI Protocol

- ▣ Accounts
- ▣ Clients
- ▣ Clients Packages
- ▣ Currencies
- ▣ DIDs
- ▣ Packages
- ▣ Rates
- ▣ Reports
- ▣ Top Up Cards
- ▣ Transactions

JeraSoft VCS CoreAPI Documentation

The documentation includes methods specifications and examples for the CoreAPI methods.

The Protocol

The Service implements [JSON-RPC 2.0 specification](#). Transport of the RPC messages done over HTTP protocol. By default the Service runs on [3080/tcp](#) port. It is assumed that RPC clients talk to the Service over secure connection (either VPN or private network).

The RPC calls should contain parameters by their names. Position parameters won't be accepted. In case if parameters will not pass validation respective error message will be returned.

Authorization and Tokens

Authentication is performed using pre-created API Tokens. Each RPC request should contain an API Token under the parameter named [AUTH](#).

For more information about CoreApi, open the [CoreAPI](#) article in APIs section of our User Guide.

System

Information in this chapter of the Guide provides overview of major **JeraSoft VCS services and utilities, list of users and their roles with permits, system statuses**, etc. For more details, check out the following sections:

- [Events Log](#)
- [Audit Log](#)
- [Mail Queue](#)
- [System Status](#)
- [Task Scheduler](#)
- [Users](#)
- [Roles](#)

Events Log

In this article

- [Section overview](#)
- [Events Log tab](#)
 - [Advanced Search](#)
 - [Detailed Description of the Event](#)
- [Configuration Tab](#)
 - [Adding a new rule](#)

Section overview

Since keeping track of all **events** that occur in the system is crucial, VCS offers you the **Events Log** section where you can view information regarding all **errors, alerts, and messages**, as well as configure the rules for email notifications sending. The section is divided into two tabs: **Events Log** and **Configuration**.

Events Log tab

Information in the tab is presented in a form of a list of all events recorded by the system. For example, the system records the following events:

- incoming or outgoing events of the client that are not registered within the system;
- number prefixes that are not registered within the system;
- incoming call prices that are higher than outgoing ones;
- incoming or outgoing calls that were rejected and others.


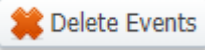
Tab structure is presented on the screenshot below:

Screenshot: Events Log tab

Column Name	Description
ID	Identification number of the event
Type	Category of the event in the system (error , alert , or message)
Sender	Name of the system service that sent the event
Date	Date and time when the event occurred
Message	Description of the event
Tags	Tags that might have been added to the event

Functional **buttons/icons**, presented in the tab, are as follows:

Button/Icon	Description
	Allows to filter the list of events by errors

 Alerts	Allows to filter the list of events by alerts
 Messages	Allows to filter the list of events by messages
 Delete Events	Allows to delete currently displayed events
	Allows to view a detailed description of the event (if possible)

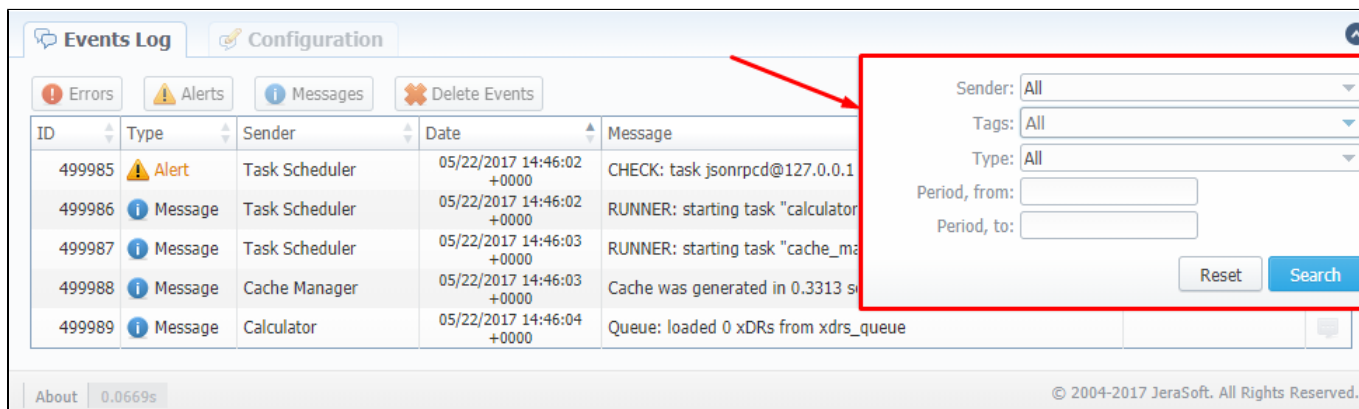
Warning

When you click the **Delete Events** button, **all events** that satisfy current search query **will be deleted from the system**

Advanced Search

You can find the built-in **Advanced Search** drop-down menu that provides an easy way of navigation between multiple columns of the table. Click a blue downwards arrow icon to open a menu with the following fields:

Screenshot: *Advanced Search drop-down menu*



The screenshot shows the 'Events Log' interface with a table of events. A red box highlights the 'Advanced Search' dropdown menu, which contains the following fields and buttons:

- Sender: All
- Tags: All
- Type: All
- Period, from: [text input]
- Period, to: [text input]
- Reset button
- Search button

Field	Description
Sender	Select a respective sender from the given list. By default, the field value is All .
Tags	Select one or multiple tags from the provided list. By default, the field value is All .
Type	Specify a type of event: error , alert , or message . By default, the field value is All .
Period, from:	When search settings are applied, only events whose Date value Period, from value will be displayed
Period, to:	When search settings are applied, only events whose Date value Period, to value will be displayed

When all search criteria have been set, click the **Search** button to apply them. Click **Reset** to cancel the applied search.

Detailed Description of the Event

You can view detailed descriptions of some events by clicking the icon opposite a respective event on the right. A pop-up window consists of **Title** and **Event Description** (see screenshot below):

Screenshot: *Detailed description of event*

Events Log
Message #500033

DYNAMIC ROUTING MANAGER
05/22/2017 14:46:29 +0000

DynRouting table generated: 682735 rows in 0.24 minutes (2815056.53 rpm)

```
Simple LCR: 682734 routes
Complex Quality: 455156 routes
Simple Quality: 113789 routes
DID Routing: 682735 routes
Static Routing: 568945 routes
Complex LCR: 341367 routes
Proportional: 227578 routes
```

Configuration Tab

In the **Configuration** tab, you can create rules for email notifications about respective events within the system. Main window represents a set of rules, presented in the form of a table (screenshot below):

Screenshot: Configuration tab

Events Log
Configuration

+ Add Rule
Rows 1 – 1 of 1
20
Page 1 of 1

ID	Title	E-mails	Filters	Group Limit	
1	SIP/RADIUS ALERT	test@jerasoft.net	Services: RADIUS Server, SIP Redirect Server Types: Errors, Alerts	0	

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Column Name	Description
ID	Identification number of the rule
Title	Name of the rule
Emails	List of recipients' email addresses
Filters	List of services and types of events added to the respective rule
Group Limit	Number of messages allowed to be sent separately

Functional **buttons/icons**, presented in the tab, are as follows:

Button/Icon	Description
	Allows to add a new rule for email notifications
	Allows to delete an email notification rule

Adding a new rule

For adding a new rule to the system, you need to click the **Add Rule** button. Following this, **Watch Rule** pop-up window will show up with respective settings (shown below):

Screenshot: Watch Rule pop-up window

Watch Rule

Title:

E-mails:

Group Limit: events Details Limit: characters

FILTERS

Services:

Types:

Tags:

RegExp Match:

Information Block	Field	Description
General	General information block consists of the following fields:	
	Title	Name of the rule that will be put into subject of the message
	Emails	Email addresses of the recipient
	Group Limit	The boundary to control the amount of messages to be sent. If there are more messages available for delivery within one monitoring cycle than specified value , they will be sent as a single email . Set to 0 if you want to get all messages separately . Set to ultimately high value if you always want to receive grouped messages. By default, the field value is set to 0 events.
	Details Limit	Data will be limited and cut to specified number of characters in the grouped messages. By default, the field value is set to 300 .
Filters	Fill in this information block to make your rule more detailed and precise .	
	Services	Specify billing services that will be included into this event rules. List of available services: <ul style="list-style-type: none"> • Backup Manager; • Balances Manager; • Cache Manager; • Calculator; • Calling Cards Manager; • Cleaner; • Email Rates Manager; • Dynamic Routing Manager; • Events Manager; • Factors Watcher; • Files Collector; • Files Downloader; • Invoicing Manager; • JSON-RPC Core API; • Log Rotator; • Jurisdiction Manager; • Mail Manager; • Notificator; • Packages Manager; • Payment Gateways; • Provisioning Manager; • RADIUS Server; • Rates Notificator; • Report Generator; • Reports Watcher;

	<ul style="list-style-type: none"> • SIP Redirect Server; • Statistics Manager; • Task Scheduler; • Web.
Types	Specify category of events for the rule: errors, messages, alerts
Tags	<p>Set labels that will be applied to filter the rule.</p> <p>List of the available tags:</p> <ul style="list-style-type: none"> • aaa - includes all accounting tags: aaa.fraud; aaa.ident; aaa.ident.client; aaa.ident.rate; aaa.ident.service; aaa.routing; aaa.traffic_processing; • api - includes all API tags: api.core; api.core.jsonrpcd; api.management; api.provisioning; • coreapi; • dids; • factors watcher; • packages - includes all package tags: packages.nofunds; • system - includes all system tags: system.cluster; system.config; system.database; system.license; system.mail; system.monitoring; system.security; system.storage; • transactions - includes all transactions tags: transactions.charge;
RegExp Match	Regular Expression Match option to filter rules. Use POSIX standart while specifying regular expressions

After clicking **OK**, a new rule will be added to the general list of the **Configuration** tab.

Audit Log

In this article

- [Section overview](#)
- [Advanced Search](#)

Section overview

When it comes to keeping an ear to the ground about what is going on in the system, the **Audit Log** section comes to your rescue. This section displays detailed information concerning all **actions** performed by users in VCS with **Clients**, **Resellers**, **Accounts**, **Calling Cards**, **DIDs** (see screenshot below):

Screenshot: Audit Log section main window

Item	Changes	Modification Time	Called By	User
Customer E	Last Invoiced: 2017-06-07 ← 2017-05-24	12/26/2017 13:20:03 +0000	— invoicing	
Customer E	Last Invoiced: 2017-05-24 ← 2017-05-10	12/26/2017 12:20:02 +0000	— invoicing	
My Client	Role: both ← none	12/26/2017 12:15:29 +0000	Account Creation CoreAPI JSON-RPC	Demo User
My Client	Routing Plan ID: 20 ← 6	12/26/2017 11:56:04 +0000	Client Modification CoreAPI JSON-RPC	Demo User
My Client	Orig Rate Table ID: 64 ← 56 Term Rate Table ID: 63 ← 56	12/26/2017 11:55:38 +0000	Client Modification CoreAPI JSON-RPC	Demo User
My Client	ID: 640 Reseller ID: 3 Type: 0	12/26/2017 11:49:33 +0000	Client Creation CoreAPI JSON-RPC	Demo User

Column Name	Description
Action Type	Depending on the type of action, one of the following icons will be displayed in the columns: <ul style="list-style-type: none"> - a new system item was created - a system item was edited - a system item was deleted
Item	System item (Client, Account, Reseller, Calling Card, DID Management) that a certain action was applied to
Changes	The list of changes with detailed information on what exactly was changed
Modification Time	Data and time of applied actions
Called by	Action Name (<i>Account Creation, Client Removal, etc.</i>) and Service that is responsible for a specific action
User	Name and IP address of a user who performed an action

Attention

If you change the **Mail Templates** in the **Reseller** settings, these updates **will not** be displayed in the **Audit log**

Advanced Search

The displayed list of audit actions is automatically filtered by **Client** item that is indicated by a red downwards arrow icon of **Advanced Search** drop-down menu. Search menu is presented with the following fields:

Screenshot: Advanced Search drop-down menu

Audit Log
⌵

Clients

Item	Changes	Modific			
Customer E	Last Invoiced: 2017-07-05 ← 2017-06-21	12/2			
Customer E	Last Invoiced: 2017-06-21 ← 2017-06-07	12/2			
Customer E	Last Invoiced: 2017-06-07 ← 2017-05-24	12/2			
Customer E	Last Invoiced: 2017-05-24 ← 2017-05-10	12/2			
My Client	Role: both ← none	12/26/2017 12:15:29	+0000	Account Creation	Demo User
			+0000	CoreAPI JSON-RPC	91.195.97.74

Item Type:
⌵

Name:

Action:

User:

Period: Custom —

Called By:

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Field	Description
Item Type	Select a respective item type from the given list: <ul style="list-style-type: none"> Client Account Reseller Calling Card DID Management By default, the field value is Clients .
Name	Insert a name of the respective item (e.g., Customer A, 3439-005318618, etc.)
Action	Choose a type of action: Creation, Modification, or Removal
User	When search settings are applied, only events whose Date value Period, from value will be displayed
Period	You can choose either Custom period (e.g., Today, Last 7 Days, Last Month, This Year) or set an exact date and time with Datepicker
Called by	Select Action Name from the provided list: <ul style="list-style-type: none"> Client Creation Client Modification Client Removal Full Client Removal Mass Client Modification Note Creation Forced Rate Notification Account Creation Account Modification Account Removal Reseller Creation Reseller Modification Reseller Removal Calling Card Creation Calling Card Modification Calling Card Removal DID Creation DID Modification DID Removal DID Import DID Mass Edit

Attention

In case a **client, account, or reseller** was **deleted** (but not **fully**), there is a possibility to see a state of this item at the time of its removal, by clicking on its **name** in the **Item** column.

Mail Queue

Section overview

Mail Queue is a section designed to provide visual representation of all system emails that have already been sent or are in a queue to be delivered. These emails can contain **invoices**, **low balance notifications** or **other types of messages**. The section is presented in a form of a table with the following columns:





Screenshot: Mail Queue section



ID	To	Subject	Type	Created
224	test@jerasoft.net	Report: Summary. Group by client, code. CSV [2017-07-18 00:00:00 - 2017-07-18 23:59:59 UTC]	Reports Watcher	07/18/2017 14:02:04 +0000
223	test@jerasoft.net	Report: Summary. Group by client, code. CSV [2017-05-23 00:00:00 - 2017-05-23 23:59:59 UTC]	Reports Watcher	05/23/2017 14:00:04 +0000
222	Sub-Reseller B2 aa@hshs.t	Low balance notification from Reseller B	Low Balance	11/15/2016 15:05:01 +0000
221	38002 2345@gmail.com	Low balance notification from Alo	Low Balance	11/15/2016 01:01:07 +0000
220	38002 2345@gmail.com	Low balance notification from Alo	Low Balance	11/04/2016 11:24:06 +0000

Column Name	Description
ID	Email's identification number
To	A recipient of the email
Subject	Subject of the letter on the list
Type	Certain type of the email
Created	Date and time when the email was created

Functional **icons**, presented in the section, are as follows:

Button/Icon	Description
	Icon indicates that respective email is currently in a queue and hasn't been sent yet
	Icon indicates that respective email has already been sent
	Icon indicates that respective email contains attached file
	Allows to delete an email from the queue. Requires confirmation

Attention

Emails that have been sent **cannot** be deleted from the list; you can delete only those that are currently **in a queue**

Advanced Search

You can filter data, presented in the section, using an **Advanced Search** drop-down menu. It makes a search filter to limit the search results for higher working efficiency. To open this form, click on a blue downwards arrow  icon.

Screenshot: Mail Queue search toolbar

The screenshot shows a 'Mail Queue' window with a table of email entries. A search filter overlay is visible on the right, containing fields for 'Client', 'Type', and 'Status', along with 'Reset' and 'Search' buttons. A red arrow points from the 'Subject' column of the table to the search filter.

ID	To	Subject			
224	test@jerasoft.net	Report: Summary. Group by client, code. CSV [2017-07-18 00:00:00-2017-07-18 23:59:59 UTC]			
223	test@jerasoft.net	Report: Summary. Group by client, code. CSV [2017-05-23 00:00:00-2017-05-23 23:59:59 UTC]			
222	Sub-Reseller B2 aa@hshs.t	Low balance notification from Reseller B	Low Balance	11/15/2016 15:05:01 +0000	
221	38002 2345@gmail.com	Low balance notification from Alo	Low Balance	11/15/2016 01:01:07 +0000	
220	38002 2345@gmail.com	Low balance notification from Alo	Low Balance	11/04/2016 11:24:06 +0000	


Search Filter:
 Client:
 Type:
 Status:
 Buttons: Reset, Search

Field	Description
Client	Type the name of a client that you want to filter by
Type	Select the type of mail: <ul style="list-style-type: none"> • Invoice • Notify (Before) • Notify (After) • Low Balance • Reports Watcher • Rates Notificator
Status	Choose a state of email: <ul style="list-style-type: none"> • In Queue • Sent

Email view

To view any email on the list, click on a respective email's subject in the **Subject** column. A pop-up window with the following structure will appear:

Screenshot: Detailed view of email letter


 Mail Queue
Rates Notificator


To: Customer J <234@gmail.com>

From: "Reseller_A" <accounts@123.ua>

Created: 11/20/2015 13:59:13 +0000

Subject: Rates notification from Reseller_A

 rates-Rates-all_time-20151120-135801-PARTIAL.csv

 Sent
11/20/2015 14:04:01 +0000

Dear customer we would like to inform you that Rates has been updated. Data when Rate table was last time edited: 2015-11-20 13:38:36.465269+00:00

--

Autogenerated by JeraSoft VCS

Close

Field	Description
To	Full name and email address of the recipient
From	Full name and email address of the sender
Created	Date and time of email creation
Subject	Subject of the email letter
Attached file (if any)	If an email has the attached file , its name will be specified in the field. By clicking on it, the file will be downloaded to your computer
Status	Email status: Sent or In Queue . If the status is Sent , time and date when it was delivered will be specified
Message	Body of the letter

System Status

System Status displays all **currently launched** system **services**, **system load** info and current system **database sessions** of the main server, divided into two information blocks: **Localhost** and **Master Database Sessions**. In addition, this section displays the status of **Redundancy** and **Reporting servers** (see screenshot below). Section structure is as follows:

Screenshot: System Status section

System Status
MASTER

CPU: **1 Core(s)**
LA: **0 / 0 / 0**
Memory: **1.57 GB / 1.83 GB**
Services: **3**

ID	Service	Started on	Uptime		
31262	RADIUS Server	12/27/2017 03:23:03 +0000	13:18:25		
30722	JSON-RPC Core API	12/27/2017 03:16:46 +0000	13:24:43		
983	System Tracker	12/27/2017 04:00:03 +0000	12:41:26		

Some processes can not be stopped via web interface, so you have to login on server via SSH to stop them.

MASTER DATABASE SESSIONS




ID	Application	Session Start	Query Start	Duration	Query
4490	webAdmin:demo:system_status/info:91.195.97.74	12/27/2017 16:41:28 +0000	12/27/2017 16:41:28 +0000	00:00:00	SELECT *, (now()-backend_start) AS duration FROM pg_stat_activity WHERE TRUE AND "datname" = 'vcs' AND "username" = 'vcs' ORDER BY "duration"
987	System Tracker	12/27/2017 04:00:03 +0000	12/27/2017 04:00:03 +0000	12:41:25	IDLE
986	System Tracker	12/27/2017 04:00:03 +0000	12/27/2017 16:41:07 +0000	12:41:25	IDLE
985	System Tracker	12/27/2017 04:00:03 +0000	12/27/2017 04:00:03 +0000	12:41:25	IDLE
31275	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 03:23:03 +0000	13:18:24	IDLE
31274	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 03:23:03 +0000	13:18:24	IDLE
31273	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 16:30:39 +0000	13:18:24	IDLE
31272	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 16:30:02 +0000	13:18:24	IDLE
31271	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 03:23:03 +0000	13:18:24	IDLE
31270	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 16:41:20 +0000	13:18:24	IDLE
31269	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 16:15:02 +0000	13:18:24	IDLE
31268	RADIUS Server	12/27/2017 03:23:03 +0000	12/27/2017 03:23:03 +0000	13:18:24	IDLE
30732	JSON-RPC Core API	12/27/2017 03:16:46 +0000	12/27/2017 15:02:21 +0000	13:24:42	IDLE
30731	JSON-RPC Core API	12/27/2017 03:16:46 +0000	12/27/2017 16:20:02 +0000	13:24:42	IDLE
30730	JSON-RPC Core API	12/27/2017 03:16:46 +0000	12/27/2017 15:02:21 +0000	13:24:42	IDLE
30729	JSON-RPC Core API	12/27/2017 03:16:46 +0000	12/27/2017 16:41:25 +0000	13:24:42	IDLE
30728	JSON-RPC Core API	12/27/2017 03:16:46 +0000	12/27/2017 16:20:02 +0000	13:24:42	IDLE
30727	JSON-RPC Core API	12/27/2017 03:16:46 +0000	12/27/2017 03:16:46 +0000	13:24:42	IDLE

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Information Block	Column	Description
Localhost	CPU	Number of Central Processing Unit cores
	LA	System Load Average
	Memory	Amount of Used and Total Memory
	Services	Number of currently running services
	ID	System service identification number
	Service	Name of the system service
	Started on	Start date and time of the service
	Uptime	Current uptime of the service
Master Database Sessions	ID	Database session ID
	Application	Name of the application
	Session Start	Session start date and time
	Query Start	Query start date and time
	Duration	Session duration
	Query	Description of the query

The **section** allows a user to start, stop, and restart services **manually** with the help of certain icons.

Icon	Description

	Allows to start any service that is not currently running
	Allows to restart a service that is currently running
	Allows to stop a service

 **Attention**

Note that you **cannot** stop some processes via **web interface**. To do so, you need to login on a server via **SSH** to stop them.

Task Scheduler

In this article

- [Task Scheduler](#)
- [Utility management](#)

Task Scheduler

The **Task Scheduler** section represents a list of all **system utilities** (see screenshot below) and is aimed at providing a possibility to manage and **configure** them as a **user** desires. List of system utilities has the following structure:

Screenshot: *Task Scheduler section*

Active	Manual Run	Name	Run at	In Queue From	Last Run	
		Backup Manager	20 minute(s), 3 hour(s), every 1 day(s)	—	03/20/2018 11:10:18 +0000	
		Balances Manager	20 minute(s), 3 hour(s), every 1 day(s)	—	03/20/2018 11:10:08 +0000	
		RADIUS Server	every 10 minute(s)	—	05/10/2018 13:50:10 +0000	
		SIP Redirect Server	every 10 minute(s)	—	05/10/2018 13:49:15 +0000	
		Cache Manager	every 6 minute(s)	—	05/10/2018 13:56:04 +0000	
		Calculator	every 6 minute(s)	—	05/10/2018 13:52:04 +0000	
		Calling Cards Manager	5 minute(s), every 1 hour(s)	—	05/10/2018 13:05:05 +0000	
		Cleaner	20 minute(s), 1 hour(s), every 1 day(s)	—	03/20/2018 11:10:07 +0000	
		Dynamic Routing Manager	3 minute(s), every 1 hour(s)	—	05/10/2018 10:20:51 +0000	
		Email Rates Manager	1 minute(s), 3 hour(s), every 1 day(s)	—	03/20/2018 11:10:39 +0000	
		Events Manager	every 5 minute(s)	—	05/10/2018 13:54:11 +0000	
		Provisioning Manager	every 5 minute(s)	—	05/10/2018 13:54:14 +0000	
		Factors Watcher	every 5 minute(s)	—	05/10/2018 13:54:14 +0000	
		Files Collector	every 10 minute(s)	—	05/10/2018 13:49:06 +0000	
		Files Downloader	every 5 minute(s)	—	05/10/2018 13:54:13 +0000	
		Invoicing Manager	20 minute(s), every 1 hour(s)	—	05/10/2018 13:20:05 +0000	
		Jurisdiction Manager	20 minute(s), 0 hour(s), every 1 day(s)	—	03/20/2018 11:10:16 +0000	
		Log Rotator	10 minute(s), 1 hour(s), every 1 day(s)	—	03/20/2018 11:10:30 +0000	
		Mail Manager	every 5 minute(s)	—	05/10/2018 13:54:08 +0000	
		Notifier	5 minute(s), every 1 hour(s)	—	05/10/2018 13:05:04 +0000	
		Packages Manager	every 10 minute(s)	—	05/10/2018 13:50:08 +0000	
		Rates Notificator	every 5 minute(s)	—	05/10/2018 13:54:12 +0000	
		Report Generator	every 16 minute(s)	—	05/10/2018 13:50:04 +0000	
		Reports Watcher	every 6 minute(s)	—	05/10/2018 13:54:07 +0000	
		Statistics Manager	20 minute(s), every 1 hour(s)	—	05/10/2018 13:20:10 +0000	
		Traffic Rules Manager	every 6 minute(s)	—	05/10/2018 13:54:04 +0000	

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Column Name	Description
Active	Status of the utility. Depending on the icon, the status can be either enabled or disabled . To change a utility status, click on the icon in the table.
Manual Run	Each utility is run with a certain periodicity , specified in the Run at column. By clicking the Run utility icon, you manually start this utility regardless of its Run at column value.
Name	Name of the utility. The full list of system utilities with their descriptions is provided in a table below
Run at	Periodicity at which each utility is run
In Queue from	If utility is run manually, time and date when its launch was initiated will be specified in the column
Last Run	Time and date when the last run was initiated


Utility Name	Description

Backup Manager	Utility that manages system backup processes
Balances Manager	Creates automatic charges
RADIUS Server	RADIUS server process
SIP Redirect Server	SIP Redirect server process
Cache Manager	Cache Manager process whose main function is to monitor and include client-related changes for RADIUS and SIP Redirect continuously
Calculator	Utility that processes all data collected from xDR-files
Calling Card Manager	<i>Calling Cards</i> manager process
Cleaner	Utility that automatically cleans old messages from the <i>Events Log</i> section
Dynamic Routing Manager	Utility that creates routing tables used in Dynamic Routing feature
Email Rates Manager	Utility that imports rate tables updates from emails
Events Manager	Process that sends events to emails according to <i>Events Config</i>
Provisioning Manager	Utility that processes events asynchronously
Factors Watcher	Utility that controls the <i>Factors Watcher</i> tool
Files Collector	Utility that controls file collectors
Files Downloader	Utility that automatically downloads xDR-files from switch host
Invoicing Manager	Utility that manages the autoinvoicing feature
Log Rotator	Utility that controls log-files
Mail Manager	Sends emails from mail queue (invoices, notifications, etc.)
Notifier	Notifies in case of low balance or HDD space events
Packages Manager	Utility that manages your packages
Rates Notifier	Utility that notifies clients about rate changes
Report Generator	Utility that manages data generation for reports
Reports Watcher	Utility that sends generated statistic reports by scheduled time
Statistics Manager	Utility that manages statistics packages
Traffic Rules Manager	Utility that manages all traffic rules in the system


Attention

Please note that if a customer had no assigned **packages, accounts, presets** or **translations**, and you decided to add one, then RADIUS or SIP Redirect servers will notice those changes only after *Cache Manager* runs and does its job. Please note, that this is only applicable if a customer previously had absolutely no items listed above, in other words, if you add second account to a customer, then that change will be effective instantly.

Utility management

You can always configure the run time of any utility by clicking a respective **edit**  icon. A pop-up window for utility management has the following structure (see screenshot below):

Screenshot: *Utility editing*

 **Task Scheduler**

Factors Watcher

Name: Factors Watcher
 Last Run: 01/02/2018 09:35:05 +0000
 Active

RUN AT

minute(s)

hour(s)

day(s)

Day of week:

Field	Description
Name	Name of the utility
Last Run	Time and date when the last run was initiated
Active	If this checkbox is marked, utility is considered active
Run at	To set a periodicity , insert desired values into minute(s) , hour(s) , and/or day(s) fields and select every or once on condition for each the above mentioned field.
Day of Week	Specify the days of week when the utility will be run according to the Run at fields values. You can choose either one specific day or all of them (set by default).

Users

In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding a New User](#)

Section overview

Users is a core section that provides overview of all registered users in the system. Section allows to **create**, **edit**, and **disable** existing users. The list of users is presented in a form of a table with the following columns:

Screenshot: *Users section*

Active	Login	Reseller	Full name	Role
	admin	all resellers	Administrator	Administrator
	api-client	Reseller A	API Client Portal	API - Client Portal
	jerasupport	Reseller J	JeraSoft Support	Administrator

Column	Description
Active	User's status . Depending on the icon, the status can be either active or disabled .
Login	User's account name
Reseller	Name of a company whom this user belongs to
Full Name	Mailto links of users (if specified in user's account)
Role	User's role that determines the access level or permissions

Tip

If your role implies relevant permits, by clicking on a status icon in the **Active** column, you can **change user's status** from **active** to **disabled** and vice versa

Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
	Allows creating a new user
	Opens an Advanced Search drop-down menu

Advanced Search

In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By default, the list of clients is filtered by **Active** status. By clicking on a red downwards arrow icon, a drop-down menu with the following structure is displayed:

Screenshot: *Advanced Search drop-down menu*

Field	Description
Login	Specify a desired user's login
Reseller	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
Role	Select from the list of existing system roles
Active	Specify whether user's status is active or not, by selecting from a drop-down list:

Adding a New User

- **Yes**
- **No**
- **Empty (to display users with both statuses)**

What you need to do to create a new user is:

- Click the **New User** button
- In the opened pop-up window, fill in all the **required fields** (list of them is presented in a column below)
- Confirm new user creation by clicking **OK**

Screenshot: New user creation window

Field	Description
Login	Specify a user's login .
Password	Define a password
Role	Select a role for a user from a drop-down list

Disabled checkbox	Check if you need to prevent a user temporary from having access to the system
Full Name	Enter a user's name . Note that if a user's email is specified, full name in the section serves as a mailto link .
Email	Specify a user's email
Reseller	Specify a reseller, sub-reseller or manager a user belongs to
CoreAPI Token	This field cannot be specified in creation form. CoreAPI Token is automatically generated by the system after a user is created
Allowed IPs	Enter IPs or subnets , one record per line, i.e. user will have access to the system only if he/she logs in via specified IPs

 **Attention**

While creating a new user, bare in mind the following things:

- Each user can have only **one** assigned role.
- We strongly recommend **avoiding non-Latin characters** in users' logins/passwords

Roles

In this article

- [Roles List](#)
- [Adding a New Role](#)
- [Knowledge Base Articles](#)

Roles List

This section allows to manage and specify access rights for all sections of the system. In the section, you can create new roles, as well as edit permissions of already existing ones. By default, there are 4 pre-installed roles:

- **Administrator** – this role has unlimited rights and access permissions in the system;
- **Monitoring** – this role has basic access permissions to work in the system that include viewing clients lists and summary reports, work with Factors Watcher, etc. However, the role doesn't stipulate for access to technical settings and some statistic info that is only available to Administrator;
- **Resellers** – this role has advanced access permissions for a complete work with the clients. User with this role also doesn't have access to technical settings and some statistic info that is only available to Administrator (use this role when adding Reseller or Agent user).
- **API - Client Portal** - this role has been created to simplify user's access to Client Portal and has next to none permissions for work inside VCS.

Screenshot: Roles section



Name	
Administrator	
API - Client Portal	
Monitoring	
Resellers	

Adding a New Role

To add a new role, click the **New Role** button on the toolbar. A pop-up window with role settings will appear, where you need to enter the name, choose the default module and select respective access rights in the **Entries** table. The **Default Module** field specifies a default section that will be displayed when you log in the system.

Note that a created user can **assign the role with respective permissions**. Therefore, if the user has access to create roles, he can assign the role with permission similar to his own or less.

Screenshot: Adding new role window

 **Roles**

Name:

Default Module:

ENTRIES

Name	Access Permissions				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management / Clients	<input type="checkbox"/> Read	<input type="checkbox"/> Write			<input type="checkbox"/> Full Delete
Management / Accounts	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Management / Rate Tables	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Management / Invoices	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Management / Transactions	<input type="checkbox"/> Read	<input type="checkbox"/> Write	<input type="checkbox"/> Execute		
Management / Balance Report	<input type="checkbox"/> Read		<input type="checkbox"/> Execute		
Management / Resellers	<input type="checkbox"/> Read	<input type="checkbox"/> Write			<input type="checkbox"/> Full Delete
Management / Client Packages	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Management / Presets	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Management / Traffic Processing	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Retail / Packages	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Retail / DID Management	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Retail / Calling Cards	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Retail / Top-up Cards	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Retail / Call Shops	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Statistics / Dashboard		<input type="checkbox"/> Write	<input type="checkbox"/> Execute		
Statistics / Summary Report	<input type="checkbox"/> Read		<input type="checkbox"/> Execute	<input type="checkbox"/> Billing data	
Statistics / Orig-Term Report	<input type="checkbox"/> Read		<input type="checkbox"/> Execute	<input type="checkbox"/> Billing data	
Statistics / Profit Report	<input type="checkbox"/> Read		<input type="checkbox"/> Execute		
Statistics / LCR Lists	<input type="checkbox"/> Read		<input type="checkbox"/> Execute		
Statistics / CDRs List	<input type="checkbox"/> Read	<input type="checkbox"/> Write	<input type="checkbox"/> Execute		
Statistics / Mismatches Report	<input type="checkbox"/> Read		<input type="checkbox"/> Execute		
Statistics / Calls Rerating			<input type="checkbox"/> Execute		
Statistics / Reports Templates	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Statistics / Archive Management	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Tools / Rates Analysis	<input type="checkbox"/> Read		<input type="checkbox"/> Execute		
Tools / Rates Generator			<input type="checkbox"/> Execute		
Tools / Active Calls			<input type="checkbox"/> Execute		
Tools / Factors Watcher	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Tools / CDR Disputes	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Routing / Routing Plans	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Routing / Routing Analysis	<input type="checkbox"/> Read		<input type="checkbox"/> Execute		
Routing / DR Policies	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Code Decks	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Currencies	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Payment Accounts	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Payment Terms	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Payment Gateways	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Time Profiles	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Taxes Profiles	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Groups	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Invoices Templates	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / VoIP Gateways	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
Configuration / Settings	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / Events Log	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / Audit Log	<input type="checkbox"/> Read				

System / Mail Queue	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / System Status	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / Task Scheduler	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / API Testbed			<input type="checkbox"/> Execute		
System / Users	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / Roles	<input type="checkbox"/> Read	<input type="checkbox"/> Write			
System / Charts Templates		<input type="checkbox"/> Write			
System / Change Password			<input type="checkbox"/> Execute		
System / About System	<input type="checkbox"/> Read				
System / Get Support			<input type="checkbox"/> Execute		

Checkbox	Description
Read	Allows/forbids a user to view information presented in a section
Write	Allows/forbids a user to create, edit, and delete information presented in a section
Execute	Allows/forbids a user to execute system services in a section
Full Delete	Allows/forbids a user to perform full deletion of entities in a section
Billing Data	Allows/forbids a user to work billing data (rates, profit, taxes, etc.) in a section

⚠ Attention

- **Parent Reseller has access to all information of his *Sub-Resellers***, and, therefore, can assign **any routing plan and rate table** to them
- A user with disabled **Management/Clients** module in the **Roles section** will not see the Clients List from the *Clients Panel*.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Client Panel

The **Client Panel** is a separate application integrated with JeraSoft VCS via API. It has a user friendly interface and is tailored for your clients to manage services they purchased. For example, they can check their rates, refill balance, update contact and billing details, check a detailed call history with all related statistics and cost.

It has been designed to be as simple and easy to understand as possible and should cut a lot of basic customers' questions. The panel is provided as an open source, so it can be used as starting point for your own development or as a reference and example.

Tip

Starting from the **VCS 3.13**, the Client Panel will be hosted by default on 9080 port. To access it, open <http://VCS-IP-ADDRESS:9080/>. Moreover, you could assign your own domain name to the panel.

Functional advantages

1. Fully API based

The system is fully based on API integration. Therefore, it does not require any direct access to the VCS database and provides more secure approach.

2. Can be hosted separately

You can move the Client Panel to other server and just configure VCS IP address in the API settings. As a result, you can fully isolate VCS from the public Internet.

3. Full Open Sourced

The panel comes with all source code. It allows you to either customize the system or extend it, or just use as a reference guide for development of your own panel.

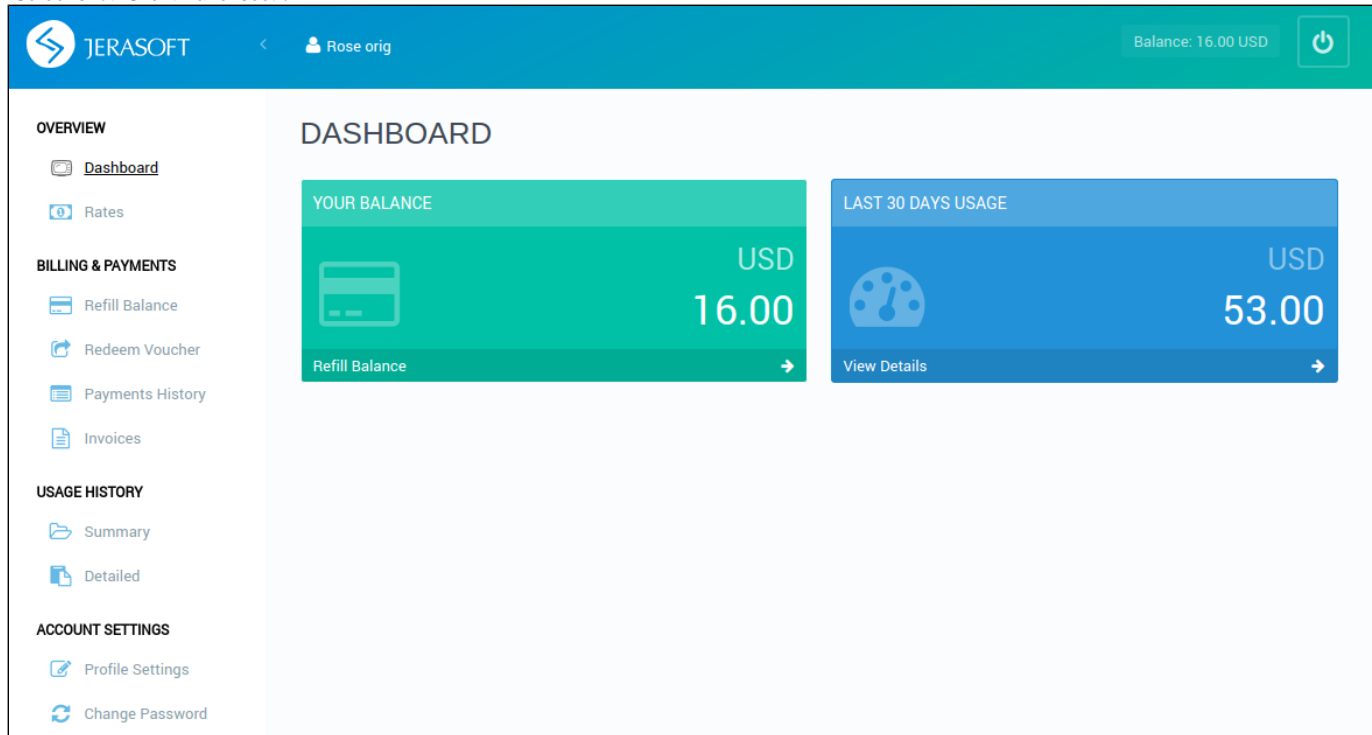
More details about Client Panel can be found in the following articles:

- [Panel Features](#)
- [Panel Deployment](#)
- [Panel Configuration](#)
- [Panel Access](#)
- [Panel Customization](#)

Panel Features

There are 4 main sections in the Client Panel – Overview, Billing & Payments, Usage History and Account Settings. Let's take a closer look at each of them.

Screenshot: Client Panel section



Overview

- **Dashboard** – displays an overview of a real-time user's balance and last 30 days of executed charges. By clicking on **Refill Balance**, you will be moved to corresponding **Refill Balance** page. By clicking on **View Details**, you will be forwarded to **Detailed** page.
- **Rates** – shows all rates and allows to easily sort and search them by services.

Billing and Payments

- **Refill Balance** - allows replenishing client's balance by means of configured payment gateways. Currently, **Client Panel** supports **PayPal** and **Aut horize.net** service providers.
- **Redeem Voucher** - allows user to refill his account by means of top-up cards, specified in **Top-up Cards** section.
- **Payment History** - displays a full history of conducted payments.
- **Charges History** - display a full history of conducted charges.
- **Invoices** - shows all invoices that belong to user with a possibility to download them.

Usage History

- **Summary** - grants user a possibility to view summary report on the executed events, allowing to easily filter data by period, service, account or package.
- **Detailed** - shows detailed statistics about all client's calls, performed within a specified period of time.

Account Settings

- **Profile Settings** - allows user to update the profile settings, including company name, billing email, address, registration and tax IDs.
- **Change Password** - allows user to change his password to the Client Panel.

Panel Deployment

In this article

- [Nginx Installation](#)
- [Nginx Configuration](#)
- [Obtaining SSL certificates](#)
- [Billing Firewall Configuration](#)

First and foremost, while deploying Client Panel is to set up an additional server for proxying access to the client panel within billing platform. There are no specific requirements for the server - you can use either **virtual server** or **simple dedicated server**. Basic knowledge of server administration and shell usage is required.

Tip

All provided examples are given assuming usage of CentOS/RHEL based OS.

Nginx Installation

When you have your server up and running, you need to install [Nginx](#). To do so, you need to execute the following command:

nginx install

```
yum -y update
yum -y install nginx
```

Once Nginx has been successfully installed, next crucial step is to configure it, and in particular, **set panel domain name** and **obtain SSL certificate**.

Nginx Configuration

You will need to setup **3 virtual hosts** within Nginx that will implement following configuration:

- **<panel_domain>:80** redirect to **<panel_domain>:443** (*https-redirect.conf*)
- **<panel_domain>:443** proxy to **<vcs-ip-address>:9080** (*panel-frontend.conf*)
- **<panel_domain>:9090** proxy to **<vcs-ip-address>:9090** (*panel-backend.conf*)

Config examples of the above-mentioned hosts are given below. You can simply put them in */etc/nginx/conf.d/* and replace "**<panel-domain>**" and "**<vcs-ip-address>**" with real data.

https-redirect.conf

```
server {
    listen 80;
    server_name <panel-domain>;
    return 301 https://$host$request_uri;
}
```

panel-frontend.conf

```
server {
    listen 443 default_server ssl http2;
    server_name <panel-domain>;
    access_log /var/log/nginx/frontend-access.log;
    error_log /var/log/nginx/frontend-error.log;

    # SSL Settings
    ssl_session_cache shared:SSL:1m;
    ssl_session_timeout 10m;
```

```

ssl_protocols TLSv1.2 TLSv1.1 TLSv1;
ssl_prefer_server_ciphers on;
ssl_ciphers ECDH+ECDSA+AESGCM:ECDH+aRSA+AESGCM:ECDH+ECDSA+SHA512:ECDH+ECDSA+SHA384:ECDH+ECDSA+SHA256:
ECDH+AESGCM:ECDSA+AES256:DH+AESGCM:DH+AES256:RSA+AESGCM:!aNULL:!eNULL:!LOW:!RC4:!3DES:!MD5:!EXP:!PSK:!SRP:!DSS;
ssl_certificate "/etc/pki/tls/certs/localhost.crt";
ssl_certificate_key "/etc/pki/tls/certs/localhost.crt";

# HSTS Header
add_header Strict-Transport-Security "max-age=31536000; includeSubDomains";

# Proxy
location / {
    proxy_pass http://<vcs-ip-address>:9080;
}
}

```

panel-backend.conf

```

server {
    listen          9090 default_server ssl http2;
    server_name    <panel-domain>;
    access_log     /var/log/nginx/backend-access.log;
    error_log      /var/log/nginx/backend-error.log;

    # SSL Settings
    ssl_session_cache shared:SSL:1m;
    ssl_session_timeout 10m;
    ssl_protocols TLSv1.2 TLSv1.1 TLSv1;
    ssl_prefer_server_ciphers on;
    ssl_ciphers ECDH+ECDSA+AESGCM:ECDH+aRSA+AESGCM:ECDH+ECDSA+SHA512:ECDH+ECDSA+SHA384:ECDH+ECDSA+SHA256:
ECDH+AESGCM:ECDSA+AES256:DH+AESGCM:DH+AES256:RSA+AESGCM:!aNULL:!eNULL:!LOW:!RC4:!3DES:!MD5:!EXP:!PSK:!SRP:!DSS;
    ssl_certificate "/etc/pki/tls/certs/localhost.crt";
    ssl_certificate_key "/etc/pki/tls/certs/localhost.crt";

    # HSTS Header
    add_header Strict-Transport-Security "max-age=31536000; includeSubDomains";

    # Proxy
    location / {
        proxy_pass http://<vcs-ip-address>:9090;
    }
}

```

Obtaining SSL certificates

When Nginx is configured and panel domain name is set, you need to obtain valid SSL certificate. You can use [Letsencrypt](#) or any other SSL certificates provider. If you are going to use Letsencrypt, follow guideline at <https://certbot.eff.org/lets-encrypt/centosrhel7-nginx>. Otherwise, refer to respective provider manual to deploy certificates.

Billing Firewall Configuration

The last stage of the deployment is to configure **firewall on the billing servers**. In order to permit requests from panel proxy server to your VCS server, in firewall settings of the latter, you need to allow following ports from proxying server's IP: **443, 3080, 9080, 9090**.

Panel Configuration

In this article

- [Configuration File](#)
- [Payment Gateways: PayPal](#)
- [Payment Gateways: Authorize.net](#)

Configuration File

The next step is to tune Client Panel settings. In order to do this, you will need to modify **customer-params.json** file located in **/opt/jerasoft/vcs/portal-backend/config** directory. This file is pre-created for you during system installation and has all required basic settings. However, if you're planning to use payment gateways: either **PayPal** or **Authorize.Net**, you must update values in respective fields of the file. In the same folder, you can find **customer-params.default.json** file containing default settings, explanations for which are given below.

Attention

Starting from VCS 3.16.x, **customer-params.json** is a symlink to **/opt/jerasoft/vcs-data/conf/cp-customer-params.json** file, and will be preserved through VCS upgrades.

Configuration Options

Below we provide a description of all settings you can find in **customer-params.default.json** and **customer-params.json** files:

customer-params.default.json		
Setting Name	Description	Example
coreApi.uri	URL for the Core API JSON-RPC service	"http://127.0.0.1:3080"
managementApi.uri	URL for the Management API	"https://127.0.0.1/jsonrpc"
billingUri	Admin Panel web-address	"https://127.0.0.1"
openedEndpoint	Link where payment gateways webhook will be returned to (must be without slash at the end)	"https://127.0.0.1"
redisMain.hostname	The hostname or ip address to use for connecting to the redis server.	"localhost"
redisMain.port	The port to use for connecting to the redis server.	6379
redisMain.database	The redis database to use.	1
redisCache.hostname	The hostname or ip address to use for connecting to the redis server.	"localhost"
redisCache.port	The port to use for connecting to the redis server.	6379
redisCache.database	The redis database to use.	2

customer-params.json		
Setting Name	Description	Example
coreApi.authToken	CoreAPI Auth Token (could be found in the Users > CoreAPI Token field)	"a4386b81a8d062f640f1d1edaa821a9c"
managementApi.		"login"

login	Login of the user under which all request will be performed (<i>should be same user for which you use CoreAPI Auth Token</i>)	
managementApi.password	Password of the user under which all request will be performed	"password"

Payment Gateways: PayPal

Check your PayPal panel for the required parameters. [Get more details.](#)

Setting Name	Description	Example
paypal.clientId	PayPal Client ID	
paypal.clientSecret	PayPal Client Secret Key	
paypal.sandbox	Defines PayPal working mode. Default working mode is live	false

Payment Gateways: Authorize.net

Check your Authorize.Net panel for the required parameters. [Get more details.](#)

Setting Name	Description	Example
authorizenet.apiLoginId	Authorize.Net API Login ID	
authorizenet.apiTransactionKey	Authorize.Net API Transaction Key	
authorizenet.apiSignatureKey	Authorize.Net API Signature Key	
authorizenet.sandbox	Defines Authorize.Net working mode. Default working mode is live	false

Attention

Payment Gateways integration requires proper domain name and real SSL certificate. Please check [Panel Deployment](#) guideline to get more information.

Panel Access

Access to the panel for your customers is configured in a respective customer's properties of VCS web-interface: **Mangement > Clients > Client's Panel** information block in a target client's profile. Make sure, you have enabled the access and specified login / password.

Screenshot: Client profile

Clients

SYSTEM INFORMATION

Name:

Reseller:

Currency:

Timezone:

Status:

Client's Template:

Tags:

Tax Profile:

Bill Events by:

Hidden Numbers

CLIENT'S PANEL

Login:

Password:

TERMINATOR SETTINGS

Rate Table:

Capacity: Channels

ORIGINATOR SETTINGS

Postpaid: USD

Payment Terms:

Rate Table:

Routing Plan:

Capacity: Channels

LOW BALANCE CONTROL

Notify Client: USD Notify Admin: USD

Threshold: USD Capacity: Channels

AUTOINVOICING

Template:

Last Invoiced:

RATE NOTIFICATION

Format:

Notify type:

Panel Customization

Personal logo and styles customization

You may personalize your panel to make it fit better to your company style. You can start with logo and, if you are familiar with CSS, you may add CSS styles. Below, you can find locations for the respective files. Please note that given paths relate to **/opt/jerasoft/vcs/portal-frontend/dist/assets**.

- **Logo for Login Page** – image-resources/logo-login.png
- **Logo for Client Portal** – image-resources/logo-panel.png
- **CSS Files** – client_portal_custom.css

Warning

You need to re-apply your settings **after each VCS upgrade**.

Development technologies

Note that the Client Panel comes with all source code, and you can use it as a reference guide or a starting point for your own development. Feel free to modify the code, improve it or extend, build it into some other platforms. For example, you can update the menu, a panel view, edit a set of filters, modify grouping options or create your own panel by taking it as example of functional implementation.

The technologies used for the development of the Client Panel are:

- a. PHP: Yii2
- b. JavaScript: Angular 2
- c. HTML/CSS: Bootstrap
- d. Tools: Swagger

Warning

If you wish to tune panel in more details, add or remove features, you can just copy source code to another server and modify it. Otherwise, all the changes you made will be removed during the system upgrade.

System Shell Tools

In this article

- [Requirements Checker](#)
- [Services Manager](#)
- [Cluster Manager](#)
 - [Init Master](#)
 - [Master: Add new Slave](#)
 - [Slave: Promote to Master](#)
 - [Slave: Sync Files](#)
 - [Cluster Status](#)
- [Requirements Checker](#)
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This section describes **shell tools** required for management of the system at the very system level. All these tools are shipped with the VCS distributive. You need to use SSH or direct access to the server in order to run any of these tools. Please notice that most of given tools require **root** access and show inline help when run without arguments.

Important!

Please use these tools **only if you have a clear understanding** of what you are doing. Misuse of the tools may cause improper functioning of the system.

Attention

To free our clients from confusion while trying to indicate a path to VCS system, we introduce the **<VCS_PATH> variable** that differs depending on VCS version:

- **<VCS_PATH>** before version **3.13.0** is **"/usr/local/vcs"**
- **<VCS_PATH>** after version **3.13.0** is **"/opt/jerasoft/vcs"**

The example is as follows:

To restart RADIUS Server, you need to execute **<VCS_PATH>/bin/service bbradiusd restart**, which will look like **/usr/local/vcs/bin/service bbradiusd restart** for clients with VCS version **3.12.0 and lower** or **/opt/jerasoft/vcs/bin/service bbradiusd restart** for VCS version **3.13.0 and higher**.

Requirements Checker

The tool is aimed to check **minimal requirements** and **security recommendations** at your server before and after installation.

Usage

```
<VCS_PATH>/bin/setup-checker
```

The tool should be run under **root** permissions without any arguments. When the tool is run, it will perform a list of checks and show results for each of them. Use it:

1. Before installation of the VCS to check **minimal hardware and software requirements**. At this stage you may download the tool separately from the VCS.
2. After installation of the VCS to check **security recommendations**. Usually you need to tune your firewall settings according to the [VCS First Steps](#).

⚠ Attention

The tool checks only minimal requirements. **Real hardware requirements** highly depend on your traffic and deployment model.

Services Manager

The tool is used for **managing the VCS Services**. It allows to correctly start, stop, get status of the VCS Services as RADIUS Server, SIP Server, Calculator, etc.

Usage

```
<VCS_PATH>/bin/service <service-name> <action> [<options>]
```

The tool should be run under **root** or **vcs** user. Service manager takes 2 arguments:

Argument	Description
<service-name>	Short name of the service. Run the tool without arguments to get list of the services at your system.
<action>	Action to perform, one of the following: <ul style="list-style-type: none"> • <i>start</i> - start the service • <i>stop</i> - stop the service • <i>restart</i> - stop and then start the service • <i>reload</i> - force config re-read without restart • <i>status</i> - return current status of the tool

Additionally you may pass next options:

Option	Description
--path=<path>	Specify the VCS location. Only if different from <VCS_PATH>
--user=<user>	Specify user the VCS runs under. Only if different from "vcs".

For your convenience there are some examples below:

Restart RADIUS Server

```
<VCS_PATH>/bin/service bbradiusd restart
```

Start Files Downloader

```
<VCS_PATH>/bin/service files_downloader start
```

Get status of SIP Server

```
<VCS_PATH>/bin/service bbsipd status
```

⚠ Attention

The tool also complies with [LSB Init Scripts](#) standard. It allows to analyse exit code of each action in case of automated usage.

Cluster Manager

The tool is used to **manage clusters**. It allows to init the cluster, add and promote slave to master, etc.

Usage

```
<VCS_PATH>/bin/cluster <command> [<options>]
```

The tool requires "root" permissions. Cluster Manager takes command as mandatory argument and additional options. Some of commands may be run only on Master and others only on Slave. There are two available types of Slave: redundancy and reporting. All extra options for the commands are explained below in the corresponding subsection.

Init Master

The command is **run on Master** and used for Master to configure its parameters.

Bash

```
<VCS_PATH>/bin/cluster init-master --ip=<IP-of-master> [<extra-options>]
```

This command may require additional options:

Option	Description	Default
--ip=<ip>	IP Address of the Master server	none
--ssh-port=<port>	SSH Port at the master server	22
--data=<path>	PostgreSQL data path on master system	autodetect
--vcs-path=<path>	Path to the VCS on Slave	<VCS_PATH>

Master: Add new Slave

The command is **run on the Master** and used for:

- **first time initialization** of the cluster;
- **addition of the new slave** node to the cluster;
- addition of the **old master to work as slave** after failover.

Bash

```
<VCS_PATH>/bin/cluster init-slave --ip=<IP-of-slave> [<extra-options>]
```

This command encapsulates 4 sub-commands:

- configuration of the *Master* to ship replication logs (`init-master`)
- configuration of the *Master* to accept connections from the *Slave* (`init-master-access`)
- configuration of the *Slave* to receive replication logs (`init-slave`)
- show status of the cluster (`status`).

Each of these commands may be performed separately if you know exactly what you need.

This command may require additional options:

Option	Description	Default
--ip=<ip>	IP Address of the Slave server	none

<code>--ssh-port=<port></code>	SSH Port at the slave server	22
<code>--username=<login></code>	Login to the slave server	jerasupport
<code>--data=<path></code>	PostgreSQL data path on slave system	same as master
<code>--vcs-path=<path></code>	Path to the VCS on Slave	<VCS_PATH>
<code>--role=<role></code>	Role of the secondary system. Could be [redundancy or reporting]	redundancy

Slave: Promote to Master

The command is **run on the Slave** and used to promote current *Slave* to *Master*.

Bash

```
<VCS_PATH>/bin/cluster promote
```

The command is used for failover. After you fix old *Master*, you may add it as new *Slave* using "*init*" command.

⚠ Attention

In case when you have more than 2 nodes in cluster, you need to re-init all other slaves from this new *Master*.

Slave: Sync Files

The command is **run on the Slave** and used to synchronize files from the *Master*. The command is mostly used in crontab for auto-sync.

Bash

```
<VCS_PATH>/bin/cluster sync-files
```

During initialization of the cluster tool adds this command to the crontab (*/etc/cron.d/vcs-cluster*) at the *Slave* node.

Cluster Status

The command may be run **on any node** and used to get status of the cluster.

Bash

```
<VCS_PATH>/bin/cluster status
```

When command is run on the *Master*, it shows type of the node and attached Slaves that are up to date:

```
[ NOTICE ] Cluster Status
  ifconfig | grep 'inet addr:' | grep -v '127.0.0.1' | cut -d: -f2 | awk '{ print $1}'

Master (master ip): ACTIVE
  Redundancy (slave ip): ACTIVE
```

When command is run on the *Slave*, it shows type of the node and synchronization delay.

```
[ NOTICE ] Cluster Status
  ifconfig | grep 'inet addr:' | grep -v '127.0.0.1' | cut -d: -f2 | awk '{ print $1}'

Master (master ip): NOT AVAILABLE | Activity delay: -00:00:58.393423
  Redundancy (slave ip): ACTIVE
```

Please don't worry if you see the following:

```
the row: Master (master ip): NOT AVAILABLE
```

It's a normal behavior. Instead, please pay attention to **Activity delay** parameter it shows large values if replication is broken and servers are not in sync.

In case when the *Slave* is not in synchronization (NOT-in-sync) with the *Master*, you need to re-initialize.

In this article

- [Requirements Checker](#)
- [Services Manager](#)
- [Cluster Manager](#)
 - [Init Master](#)
 - [Master: Add new Slave](#)
 - [Slave: Promote to Master](#)
 - [Slave: Sync Files](#)
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```
<VCS_PATH>/bin/cluster <command> [<options>]
```

The tool requires "root" permissions. Cluster Manager takes command as mandatory argument and additional options. Some of commands may be run only on Master and others only on Slave. There are two available types of Slave: redundancy and reporting. All extra options for the commands are explained below in the corresponding subsection.

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This command may require additional options:

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The command is **run on the Master** and used for:

- **first time initialization** of the cluster;
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- addition of the **old master to work as slave** after failover.

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```

This command encapsulates 4 sub-commands:

- configuration of the *Master* to ship replication logs (`init-master`)
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- configuration of the *Slave* to receive replication logs (`init-slave`)
- show status of the cluster (`status`).

Each of these commands may be performed separately if you know exactly what you need.

This command may require additional options:

Option	Description	Default
--ip=<ip>	IP Address of the Slave server	none
--ssh-port=<port>	SSH Port at the slave server	22
--username=<login>	Login to the slave server	jerasupport
--data=<path>	PostgreSQL data path on slave system	same as master
--vcs-path=<path>	Path to the VCS on Slave	<VCS_PATH>
--role=<role>	Role of the secondary system. Could be [redundancy or reporting]	redundancy

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```
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Master (master ip): ACTIVE
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```

When command is run on the *Slave*, it shows type of the node and synchronization delay.

```
[ NOTICE ] Cluster Status
ifconfig | grep 'inet addr:' | grep -v '127.0.0.1' | cut -d: -f2 | awk '{ print $1}'

Master (master ip): NOT AVAILABLE | Activity delay: -00:00:58.393423
Redundancy (slave ip): ACTIVE
```

Please don't worry if you see the following:

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In case when the *Slave* is not in synchronization (NOT-in-sync) with the *Master*, you need to re-initialize.

APIs

This section of our Guide contains detailed information about **JeraSoft VCS API** that lets you integrate 3rd party applications with the VCS platform or develop your own tools on top of it. The API makes it easy to get data in and out of the VCS. Depending on your needs, you may need to choose, which type of API is best for you:

- **CoreAPI** - provides tools for main components' integrations, high loads and contains a limited number of most used API methods.
- **Provisioning API** - allows handling events on 3rd party systems.
- **Management API** - gives possibilities to retrieve, add or modify data. It has the same logic as the web interface. Thus, every object that you could use via the web interface can be accessed within API.

For more details, please go to the related subsections:

- [CoreAPI](#)
- [ProvisioningAPI](#)
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CoreAPI

The **CoreAPI** is the high-performance mechanism for real-time integration with 3rd party systems, including softswitches, gateways, etc. It's designed for a limited number of most used methods for integrations. Typically, the CoreAPI methods can be used for the following:

- for developing customers' portals;
- for mobile applications;
- for data synchronization with 3rd party systems.

⚠ Attention

1. The JeraSoft team may modify the attributes and methods related to the CoreAPI usage from time to time without advance notice.
2. To provide our users with the most up-to-date features, **we recommend using CoreAPI** instead of **Management API methods** for integrations.

Protocol

The Service implements JSON-RPC 2.0 specification. Transport of the RPC messages is performed over the HTTP protocol. By default, the Service runs on 3080/tcp port. It is assumed that RPC clients talk to the Service over a secure connection (either VPN or private network).

Authorization and Tokens

Authentication is performed using pre-created API Tokens. Each RPC request should contain an API Token under the parameter named `AUTH`. The API Tokens are linked to System Users and Resellers setting of the user is respected. At the same time, there is no module/method limitation within CoreAPI, all methods are available to all users.

Example

```
[
  {
    "jsonrpc": "2.0",
    "id": 1,
    "method": "rating.getTaxes",
    "params": {
      "amountGross": 100,
      "taxes": [
        {"priority": 1, "value": 10}
      ]
    }
  },
  {
    "jsonrpc": "2.0",
    "id": 2,
    "method": "transactions.create",
    "params": {
      "clients_id": 10562,
      "currencies_id": 16,
      "amount": "${0.amountNet}",
      "descr": "Special Transaction"
    }
  }
]
```

✔ Tip

You can access the user's CoreAPI token in his edit form, go to the **System > Users**

ProvisioningAPI

In this article

- [Handlers](#)
- [Events](#)

The **Provisioning API** provides a mechanism for real-time integration with 3rd party systems, including softswitches, gateways and CRM systems. The mechanism calls pre-defined handlers on an occurrence of specific events in the system. The handlers are allowed to modify data, allow or forbid the action or simply process given event.

Prior to that, **VCS Core API** and **Management API** provide utilities needed to receive requests from external systems. Now, you can configure the VCS billing platform to send requests to your 3rd party system.

For example, you can monitor the client's balance status via this functionality. Thus, when the client's balance is below zero, you can configure that the billing will send to an external system a notification to avoid any disruptions to your organization current processes.

Tip

The full list of **Provisioning API** parameters matches with **CoreAPI** and they are available upon individual request of your current clients.

Handlers

There are two types of handlers that can be used:

- **HTTP** scripts, called via POST requests (used in most cases)
- **Local server scripts**, called locally on the server (used in very specific cases)

Best practice example

Here is an example based on **http://handler** usage.

1. Open the **Provisioning section** and start creating a handler.
 - a. Specify the name, type, and status.
 - b. In the **Event** field, select the **Clients Create** event from the drop-down list.
 - c. In the **Task** field, indicate **http://** type and determine the port and method, for example: **120.0.0.1:5000/api**.
 - d. Click **Apply**.

Find an example of the **http:// handler** below:

```
from flask import Flask, request
import json
app = Flask(__name__)
@app.route("/api", methods=['GET', 'POST'])
def api():
    data = json.loads(request.data)
    return json.dumps(data)
if __name__ == "__main__":
    app.run()
```

Events

The Provisioning API supports the following list of events:

Title	Action
Clients	<ul style="list-style-type: none"> • create • update • delete • archive • custom fields update

	<ul style="list-style-type: none">• balance became ≥ 0• balance became ≤ 0
Accounts	<ul style="list-style-type: none">• create• update• delete
Clients Packages	<ul style="list-style-type: none">• assign• activate• deactivate• renew• close

 **Tip**

- For more information about **configuring and monitoring the hooks for Provisioning API**, visit our respective article **User Guide > System > Provisioning API**.
- If you need to process some of the actions that are not listed here, contact our support for a feature request.

Management API

In this article

- [Access the API](#)
- [Authentication](#)
- [API Request](#)
- [API Response](#)
- [Work with files](#)
- [Examples: Pure JSON-RPC](#)
- [Examples: Python Library](#)
- [Methods Reference](#)

The **Management API** allows you to easily integrate 3rd party applications with the VCS platform. It may be accessed using JSON-RPC - a standard protocol for remote procedure calls.

Most programming languages have libraries to work with this protocol. The API uses the same logic as the web interface and works very similar, which makes its usage easier.

Access the API

To access **JSON-RPC** interface, use:

```
https://<your-system-IP>/jsonrpc/
```

Before accessing the system, make sure that your **IP is allowed** on the firewall. Also, please make sure that rest of the world is blocked by firewall. You can get more details about it in the VCS First Steps.

Authentication

To make any request to the API, you need to **authenticate** using login and password.

We strongly recommend having **separate API account** for each application you make calls from. Besides this, we recommend having dedicated Role for API users, which allows only needed actions. Authentication is done by sending the following array along with other arguments:

```
{ "auth": { "login": "admin", "password": "password" } }
```

To increase performance, you may not authenticate for each call but do it once and **save Session ID** given back to you in response. This Session ID may be sent in further requests instead of login and passwords to continue using the same session without re-authentication. Session ID should be sent with other arguments in the following format:

```
{ "SID": "1-dsglnqr4qnsdihr8djj6da7qr4" }
```

It should be mentioned that authentication should be made **within** the first call to the API.

API Request

Each request besides authentication information should include:

Name	Description	Example
Method Name	Name of the module and action to call	<code>clients.editForm</code>
Arguments	List of arguments for the method call	<code>id_clients = 11</code> <code>auth[login] = admin</code> <code>auth[password] = password</code>

API Response

Each response will include the following information:

Name	Description	Example
code	Return code, usually true on success or false on failure	1
return	Array with data returned by method	<pre>[client] => Array ([id] => 11 [id_companies] => 3 [type] => 0 [name] => Customer A [groups] => Customers [c_dt] => 2013-03-30 16:26:15+03 [status] => active [credit] => 100 ...)</pre>
session_id	Session ID, which may be used to speed up next calls	1-dsglnqr4qnsdihr8djj6da7qr4
messages	List of success / warning messages returned by message	array()
errors	List of abnormal errors if they fired during processing	array()

Work with files

There is a specific case when your request to the billing should provide file response. For example, it could be an invoice file download, xDRs List download, etc. Using plain JSON-RPC with base64 on top of it is not effective here as the file may contain hundreds of megabytes. This special case is handled with common **HTTP Request** to:

```
https://<your-system-IP>/admin/
```

The request may be either GET or POST, and should include either Login and Password or Session ID. In response, the server will send the file according to HTTP protocol.

Examples: Pure JSON-RPC

JSON-RPC Request

```
{
  "method": "clients.editForm",
  "params": {
    "id_clients": 11,
    "SID": "1-bmdgeu6bn22jlmkuffg391t513"
  },
  "id": 1
}
```

JSON-RPC Response

```
{
  "jsonrpc": "2.0",
  "id": 1,
  "result": {
    "code": true,
    "session_id": "1-bmdgeu6bn22jlmkuffg391t513",
  }
}
```

```

"messages": [],
"return": {
  "client": {
    "id": 11,
    "name": "Customer A",
    "groups": "Customers",
    "c_dt": "2013-03-30 16:26:15+03",
    "status": "active",
    "credit": 100,
    "c_company": "Mancy",
    "c_address": null,
    "c_email": "admin@example.net",
    "c_email_tech": "admin@example.net",
    "c_email_billing": "admin@example.net",
    "c_email_rates": "admin@example.net",
    "id_currencies": 27
  },
},
"errors": []
}
}

```

Examples: Python Library

To download a sample library for Python, please visit </opt/jerasoft/vcs/core/pycore/tools/vcsapi.py>. It will simplify work with API. You can find an example below:

Python Example

```

import vcsapi

# create an API object
api = vcsapi.Api('vcs-demo.jerasoft.net', 'demo', 'demo', 443)

# make a call to the API
response = api.clients.editForm({'id_clients': 8})

print response.code      # True
print response.messages # [ ]
print response.data      # {'client': {'id': 8, 'type': 0, 'name': 'Customer 01', ...}}

```

Methods Reference

At the moment we are working hard to bring you a full and detailed list of methods, arguments and expected output. However, as API fully duplicates web methods, it is easy to find their names and arguments yourself. Let's check a quick example, like creating a reseller.

In the web interface, the link to this action is <https://<your-billing-IP>/admin/companies/add>, with **companies** being a module and **add** being a method. The resulting method to call via API is **companies.add**.


To find out arguments for this method, you may look for HTTP request in your browser (using FireBug in Firefox, Developer Tools in Chrome). Another way is to check for dump in </opt/jerasoft/vcs-data/log/runtime.log>, which looks like:

```

[20-Jan-2012 17:32:06+0200] [webAdmin/#260808] REQUEST: /companies/add
Array
(
    [type] => 10
    [name] => TESTCOMPANY
    [id_companies] =>
    [prepaid] => 1
    [credit] => 0.00
    ...
)

```

This log entry includes the full list of the arguments used. However, many of them are optional. Try calling the method with the arguments you need, and the system will let you know if you are missing any of the arguments.

 **Warning**

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