



JERASOFT

# USER GUIDE

FOR VERSION 3.21

[www.jerasoft.net](http://www.jerasoft.net)



1. User Guide	3
1.1 Interface Basics	4
1.2 Management	8
1.2.1 Clients	9
1.2.1.1 Clients Templates	17
1.2.1.2 Custom Fields	20
1.2.1.3 DIDs	21
1.2.1.4 Notes	23
1.2.2 Accounts	24
1.2.3 Invoices	28
1.2.4 Transactions	33
1.2.5 Balance Report	39
1.2.6 Resellers	44
1.2.7 Subscriptions	57
1.2.8 Traffic Processing	61
1.3 Rates Section	70
1.3.1 Rate Tables	71
1.3.1.1 Automatic Email Import	74
1.3.1.2 Simulate	76
1.3.1.3 Parameters	78
1.3.2 Rates	79
1.3.2.1 Import	86
1.3.2.2 Export	94
1.3.2.3 Rates Management	97
1.3.3 Special Rates	98
1.3.4 Rates Analysis	102
1.3.5 Rates Generator	107
1.3.6 Agreements	115
1.3.7 Swap Deals	118
1.4 Retail	123
1.4.1 Packages	124
1.4.2 DID Management	131
1.4.3 Calling Cards	138
1.4.4 Top-up Cards	142
1.4.5 Call Shops	145
1.5 Statistics	148
1.5.1 Dashboard	149
1.5.2 Customer Dynamics	151
1.5.3 Summary Report	156
1.5.4 Orig-Term Report	164
1.5.5 Profit Report	172
1.5.6 Invoicing Report	178
1.5.7 LCR Lists	181
1.5.8 xDRs List	184
1.5.9 Mismatches Report	188
1.5.10 xDRs Rerating	190
1.5.11 Reports Templates	193
1.5.12 Archive Management	195
1.6 Tools	198
1.6.1 Active Sessions	199
1.6.2 Factors Watcher	203
1.6.3 xDR Disputes	208
1.7 Routing	212
1.7.1 Routing Plans	213
1.7.2 Routing Analysis	220
1.7.3 Dynamic Routing Policies	226
1.7.4 Dynamic Routing Table	228
1.8 Configuration	229
1.8.1 Code Decks	230
1.8.2 Currencies	235
1.8.3 Payment Accounts	238
1.8.4 Payment Terms	240
1.8.5 Time Profiles	242
1.8.6 Taxes Profiles	243
1.8.7 Tags	248
1.8.8 Invoices Templates	250
1.8.9 Services	255
1.8.10 Settings	257
1.8.10.1 System Settings	260
1.8.10.2 Regional Settings	261
1.8.10.3 Mail Server Settings	262
1.8.10.4 Reports and Processing Settings	263
1.8.10.5 Output and Import/Export	264
1.8.10.6 Invoicing Settings	265
1.8.10.7 RADIUS Server	266
1.8.10.8 SIP Server	267
1.8.10.9 Dynamic Routing	268
1.8.10.10 Rates Generator Settings	269

1.8.10.11 Notification and Monitoring .....	270
1.8.10.12 Autorotation and Cleaning .....	271
1.8.10.13 Backup Settings .....	272
1.9 Integration .....	273
1.9.1 Gateways .....	274
1.9.2 Number Portability .....	283
1.9.3 Data Sources .....	287
1.9.4 Provisioning API .....	289
1.9.4.1 Execution Logs .....	293
1.9.5 API Testbed .....	296
1.9.6 CoreAPI Docs .....	298
1.10 System .....	299
1.10.1 Events Log .....	300
1.10.2 Audit Log .....	305
1.10.3 Mail Queue .....	308
1.10.4 System Status .....	311
1.10.5 System Services .....	313
1.10.6 Users .....	317
1.10.7 Roles .....	320
1.11 Client Panel .....	323
1.11.1 Panel Features .....	324
1.11.2 Panel Deployment .....	325
1.11.3 Panel Configuration .....	328
1.11.4 Panel Access .....	333
1.11.5 Panel Customization .....	334
1.12 System Shell Tools .....	335
1.13 APIs .....	340
1.13.1 CoreAPI .....	341
1.13.2 ProvisioningAPI .....	342
1.13.3 Management API .....	344

# User Guide

## Welcome to JeraSoft Billing 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 **JeraSoft Billing 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](#)
- [Rates Section](#)
- [Retail](#)
- [Statistics](#)
- [Tools](#)
- [Routing](#)
- [Configuration](#)
- [Integration](#)
- [System](#)
- [Client Panel](#)
- [System Shell Tools](#)
- [APIs](#)



# Interface Basics

## In this article

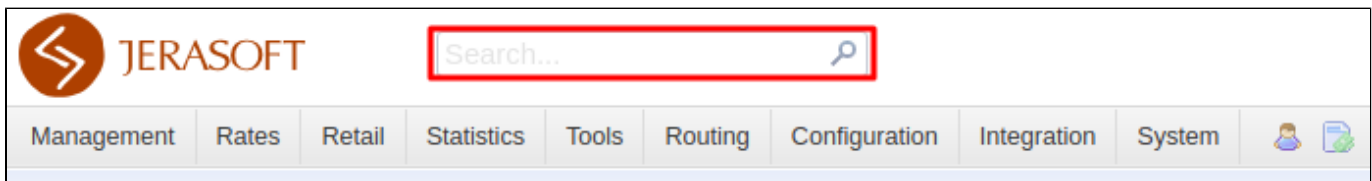
- [Global Search Bar](#)
- [SmartBar](#)
- [InfoBar](#)
- [My Profile](#)
- [About](#)
- [Page Load Time](#)
- [Rows per Page](#)
- [Delete Confirmation](#)
- [System Logout](#)
- [Section Tabs](#)

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 JeraSoft Billing 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 JeraSoft Billing 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

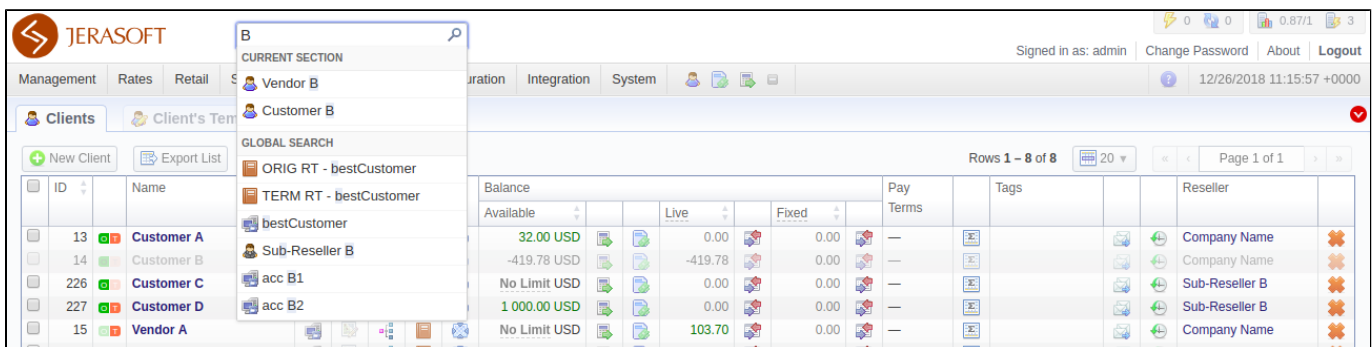




This search bar displays two parts of results: from the **current section** and **global search** in the system. Therefore, it shows a drop-down list with 10 first items matching your keyword from the current section and from a whole system at all (see screenshot below).

### 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



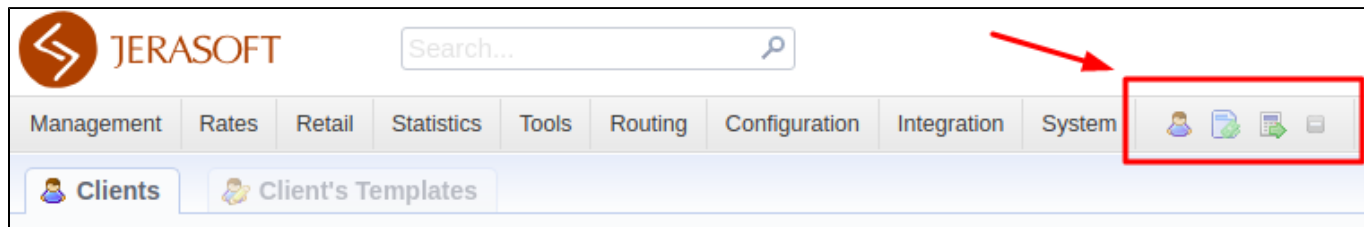
Several JeraSoft Billing sections have advanced search settings. To open these settings, click on downwards arrow  icon on the toolbar of a respective section. Red downwards arrow  icon on the toolbar means that the data is sorted by default (see screenshot above).

## 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.

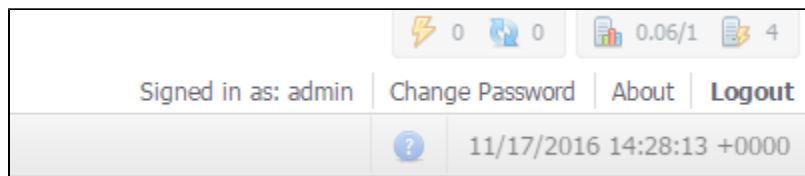
*Screenshot: SmartBar panel*










## InfoBar

To have access to fast-changing system information, JeraSoft Billing 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

## My Profile

You can set your timezone and locale in the **Preferences** menu, and change the current password by using **Change Password** menu. The changes will be implemented in the system immediately. When setting your timezone, the system will pull these settings to all the statistics reports query forms and transactions timestamps.

*Screenshot: Change Password settings*

**My Profile**

**PREFERENCES**

Locale: English

Timezone:

Update

**CHANGE PASSWORD**

Old Password:

New Password:

Confirm Password:

Update

To change a password, enter the 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 JeraSoft Billing 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

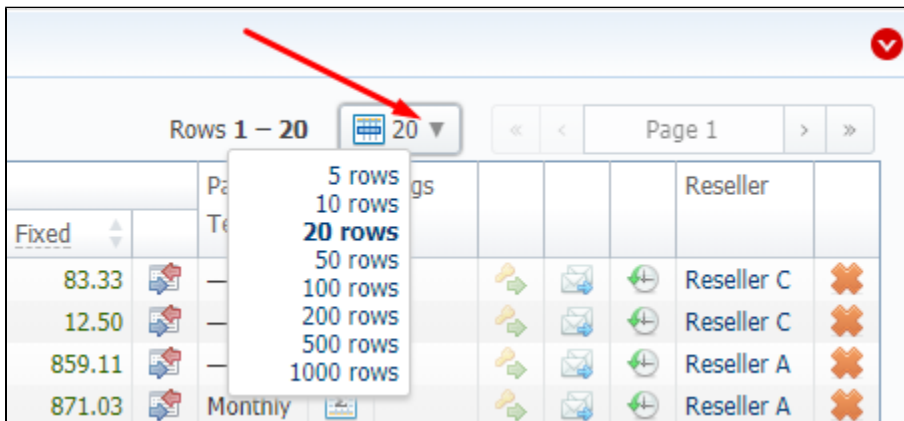
To provide the user with relevant information about the system, **Page Load Time** is displayed in the bottom-left corner of any page next to **About** button.



## Rows per Page

In sections that are presented in the form of a table, JeraSoft Billing 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).

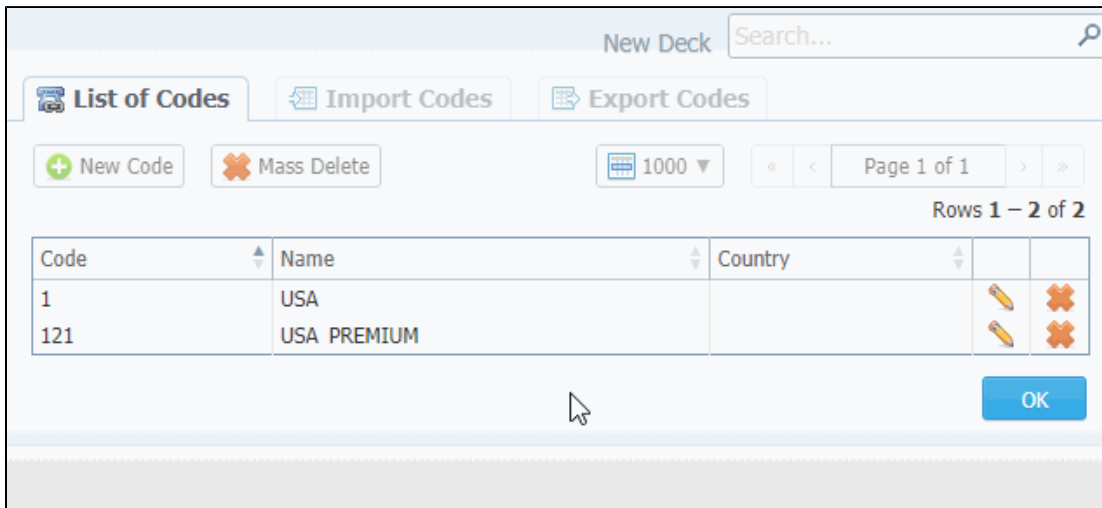
Screenshot: Rows Per Page dropdown button



## 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



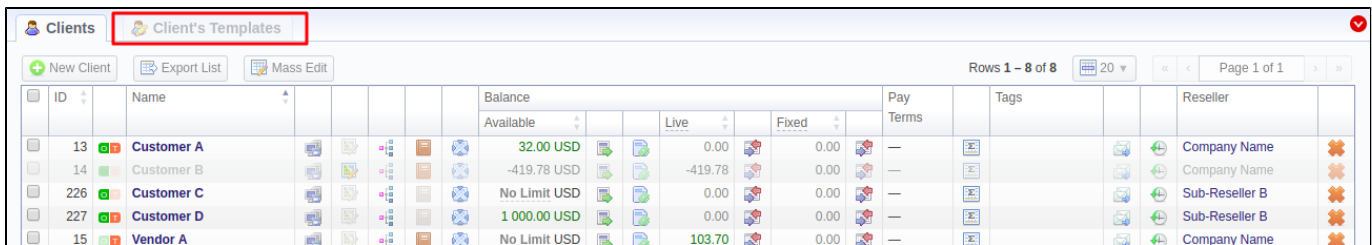
## System Logout

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*



# Management

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

Take note that while navigating throughout the **system**, you will come across plenty of tool-tips to provide a better understanding of the system mechanisms. It's easy to determine, whether there is one or not. All tool-tips 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 additional information becomes visible.

The list of management section includes:

- [Clients](#)
- [Accounts](#)
- [Invoices](#)
- [Transactions](#)
- [Balance Report](#)
- [Resellers](#)
- [Subscriptions](#)
- [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, the **Clients** section is rightfully considered a core element of the whole **JeraSoft Billing**. In the section, user can manage the 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 the form of a table with the following columns:

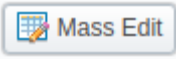















Screenshot: *Clients section*

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
<b>ID</b>	Client's identification number
<b>Name</b>	Client's name
<b>Balance</b>	Client's balance values
	<ul style="list-style-type: none"> <li>• <b>Available</b></li> </ul> 'Live' client's balance including allowed credit
	<ul style="list-style-type: none"> <li>• <b>Live</b></li> </ul> Client's balance calculated on the basis of the performed payments and processed calls
<ul style="list-style-type: none"> <li>• <b>Fixed</b></li> </ul> Client's balance calculated on the basis of the outstanding invoices and performed payments	
<b>Pay Terms</b>	Payment terms of each client
<b>Tags</b>	List of tags, applied to a client
<b>Reseller</b>	Name of 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
	Allows exporting a list of user's clients in a .csv file

	Allows managing the 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 <b>Accounts</b> section (an icon will be colored if an account is assigned)	
	Allows accessing the client's current routing plan (an icon will be colored if the plan is assigned)	
	Allows accessing the <b>Traffic Processing</b> section for dynamic routing management	
	Allows viewing client's rates (an icon will be colored if a rate table is assigned)	
	<ul style="list-style-type: none"> <li>• <b>ORIG</b></li> </ul>	Rate tables for origination calls
	<ul style="list-style-type: none"> <li>• <b>TERM</b></li> </ul>	Rate tables for termination calls
	Allows accessing the <b>Subscriptions</b> section for new clients packages management	
	Allows accessing the <b>Transactions</b> section for client's balance management	
	Allows accessing the <b>Invoices</b> section for client's invoices management	
	Allows accessing the <b>Balance Report</b> section for client's balance report (Live or Fixed) management	
	Allows accessing the <b>Summary Report</b> section for client's summary report management	
	Allows accessing the <b>Mail Queue</b> section to view sent emails history	
	Allows accessing the <b>Audit Log</b> 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 clicking 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 by first letters only (**start with** rule). To find all clients with a 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*

Status:

Reseller:

Client's Template:

Type:

Main E-mail:

---

Account Name:

Account Name / ANI / IP:

---

Payment Terms:

ORIG Rate Table:

TERM Rate Table:

Routing Plan:

---

Client ID:

Tags:

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

## Adding New Client

To add a new customer in 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 a new client*

👤 Clients

<p><b>GENERAL SETTINGS</b></p> <p>Name: <input type="text"/></p> <p>Reseller: <input type="text"/></p> <p>Currency: <input type="text" value="USD"/></p> <p>Timezone: <input type="text" value="Default (UTC)"/></p> <p>Status: <input type="text" value="Active"/></p> <p>Client's Template: <input type="text"/></p> <p>Tags: <input type="text"/></p> <p>Tax Profile: <input type="text"/></p> <p>Bill Events by: <input type="text" value="Setup Time"/></p> <p><input type="checkbox"/> Hidden Numbers</p> <p><input type="checkbox"/> CLIENT'S PANEL</p> <p>Login: <input type="text"/></p> <p>Password: <input type="text"/></p> <p><b>TERMINATOR SETTINGS</b></p> <p>Rate Table: <input type="text"/></p> <p>Credit limit: <input type="text"/> USD</p> <p>Capacity: <input type="text"/> Channels</p>	<p><b>ORIGINATOR SETTINGS</b></p> <p>Credit limit: <input type="text"/> USD <input type="checkbox"/> Unlimited</p> <p>Payment Terms: <input type="text"/></p> <p>Rate Table: <input type="text"/></p> <p>Routing Plan: <input type="text"/></p> <p>Capacity: <input type="text"/> Channels</p> <p><b>LOW BALANCE CONTROL</b></p> <p>Notify Client: <input type="text"/> USD    Notify Admin: <input type="text"/> USD</p> <p>Threshold: <input type="text"/> USD    Capacity: <input type="text"/> Channels</p> <p><input type="checkbox"/> AUTOINVOICING</p> <p>Template: <input type="text"/></p> <p>Last Invoiced: <input type="text"/></p> <p><input type="checkbox"/> RATE NOTIFICATION</p> <p>Format: <input type="text" value="CSV"/></p> <p>Notify Type: <input type="text" value="All rates"/></p>	<p><b>COMPANY INFO</b></p> <p>Name: <input type="text"/></p> <p>Main Email: <input type="text"/></p> <p>NOC Email: <input type="text"/></p> <p><input type="checkbox"/> Notify about Factor Watcher blocks</p> <p>Billing Email: <input type="text"/></p> <p>Rates Email: <input type="text"/></p> <p>Address: <input style="height: 40px;" type="text"/></p> <p>ZIP Code: <input type="text"/></p> <p>Tax ID: <input type="text"/></p> <p>Reg ID: <input type="text"/></p> <p>Account Details: <input style="height: 40px;" type="text"/></p> <p>Locale: <input type="text"/></p> <div style="text-align: right; margin-top: 10px;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> <input type="button" value="Apply"/> </div>
--	---	---



Information block	Fields & Description
<b>General Settings</b>	General information about the client
	<ul style="list-style-type: none"> <li>• <b>Name</b></li> </ul> Indicate a client's name
	<ul style="list-style-type: none"> <li>• <b>Reseller</b></li> </ul> Select a reseller new client belongs to (this name will be used in invoices)
	<ul style="list-style-type: none"> <li>• <b>Currency</b></li> </ul> Define preferred currency (will be used in invoices)
	<ul style="list-style-type: none"> <li>• <b>Timezone</b></li> </ul> Choose the timezone from the drop-down list of all available. This timezone will be used in invoices by default. <b>UTC</b> is a default parameter for a timezone
	<ul style="list-style-type: none"> <li>• <b>Status</b></li> </ul> Select a respective status for the client: <ul style="list-style-type: none"> <li>• <b>active</b></li> <li>• <b>stop</b></li> <li>• <b>deleted</b></li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Client's Template</b></li> </ul> Here you can apply the required template from the list to a new customer
	<ul style="list-style-type: none"> <li>• <b>Tags</b></li> </ul> 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 an unlimited number of tags for each client.
	<ul style="list-style-type: none"> <li>• <b>Tax Profile</b></li> </ul> You can specify a tax profile, which will be reflected in invoices. In order to select a tax profile in this field, the tax profile should be created first in the section <b>Configuration&gt;Taxes profiles</b> . Check out the <a href="#">Taxes Profiles</a> article for more information.
<ul style="list-style-type: none"> <li>• <b>Bill Events by</b></li> </ul> Select how the system should bill events of a new client – <b>by setup time, by connect time or by disconnect time</b> (most switch models use <b>disconnect</b> time)	
<ul style="list-style-type: none"> <li>• <b>Hidden Numbers</b> checkbox</li> </ul> When checked, allows you to hide some part of the client's destination numbers in invoices, xDRs reports and during export.	

**⚠ Attention**

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.


**⚠ Attention**

For proper usage of SureTax and Compliance, 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. More info about these third-party tax calculation services can be found in the article [US Taxation](#).

**✔ Tip**

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, the last \*n characters of the number are hidden. The code deck from the rate table is only used to identify code names.

<b>Client Panel c</b> checkbox	Activates/deactivates the <b>login</b> procedure to the client's control panel for this client. Customer can get access to this control panel by using the following link: <a href="http://vcs_address/clients/">http://vcs_address/clients/</a> , after filling in the following fields:	
	<ul style="list-style-type: none"> <li>• <b>Login</b></li> </ul>	Client's login
	<ul style="list-style-type: none"> <li>• <b>Password</b></li> </ul>	Client's password
<b>Originator Settings</b>	Settings for your customers, who send events to your switch. Clients' originator settings are as follows:	
	<ul style="list-style-type: none"> <li>• <b>Unlimited c</b> checkbox</li> </ul>	Here you can set the unlimited credit for a client if you enable the checkbox. It is disabled by default.
	<ul style="list-style-type: none"> <li>• <b>Credit limit</b></li> </ul>	The additional field next to the <b>Unlimited</b> checkbox. Here you can set the <b>credit limit</b> allowed for a client. You could fill this field with any of the positive or negative numbers, but no more than 9 digits. If the <b>Unlimited</b> checkbox is marked, this field becomes <b>inactive</b> .
	<ul style="list-style-type: none"> <li>• <b>Payment Terms</b></li> </ul>	Select the payment terms template from the general list of all available ones in the <a href="#">Payment Terms</a> section
	<ul style="list-style-type: none"> <li>• <b>Rate Table</b></li> </ul>	From the list of all rate tables in the <a href="#">Rate Tables</a> section, select an origination one for this client
	<ul style="list-style-type: none"> <li>• <b>Routing Plan</b></li> </ul>	Select an appropriate routing plan that will be used to route all calls of this customer (but it may be overridden for any of the customer's accounts in the <a href="#">Accounts</a> tab). The full list of routing plans is presented in the <a href="#">Routing Plans</a> section
	<ul style="list-style-type: none"> <li>• <b>Capacity</b></li> </ul>	Indicate the origination capacity of channels for this client. For unlimited amount, leave empty
<b>Terminator Settings</b>	Settings for your vendors, whom you send events from your switch. Clients' termination settings are as follows:	
	<ul style="list-style-type: none"> <li>• <b>Rate Table</b></li> </ul>	From the list of all rate tables, select a termination one for this client
	<ul style="list-style-type: none"> <li>• <b>Credit limit</b></li> </ul>	Define the credit limit you have on the vendor's side. It will be applied to vendors during the routing check to remove them from the routing result if vendor balance + credit limit hits the entered threshold.
	<ul style="list-style-type: none"> <li>• <b>Capacity</b></li> </ul>	Define the termination capacity of channels for this client. For unlimited amount, leave empty
<b>Low Balance Notifications</b>	Here you can set up whether the system should send low balance notifications or not when the client's <b>Available</b> balance is lower than a set threshold	
	<ul style="list-style-type: none"> <li>• <b>Notify Client</b></li> </ul>	When clients' balance+credit is below the entered value, the system will send a notification to email, specified in the clients' <b>Billing Email</b> field
	<ul style="list-style-type: none"> <li>• <b>Notify Admin</b></li> </ul>	When clients' balance+credit is below the entered value, the system will send a notification to an administrator via <a href="#">Events Log</a>
	<ul style="list-style-type: none"> <li>• <b>Threshold</b></li> </ul>	Available balance threshold, below which the special capacity setting will be applied
	<ul style="list-style-type: none"> <li>• <b>Capacity</b></li> </ul>	Origination capacity limit that will be applied when the available balance is below the threshold
<b>Autoinvoicing</b> checkbox	Activates/deactivates the automatic invoice generation feature for the current client. Information block parameters are:	
	<ul style="list-style-type: none"> <li>• <b>Template</b></li> </ul>	Select an <a href="#">invoice template</a> for this customer

	<ul style="list-style-type: none"> <li>• <b>Last Invoiced</b></li> </ul>	Specify the last date when the client was invoiced
<b>Rate Notification</b> checkbox	Here you can enable or disable automatic rates notifications for the current client	
	<ul style="list-style-type: none"> <li>• <b>Format</b></li> </ul>	Select the desirable format of rate notification (.xlsx or .csv)
	<ul style="list-style-type: none"> <li>• <b>Notify Type</b></li> </ul>	Specify a type of notification: <ul style="list-style-type: none"> <li>• <b>All rates</b> - full rates list will be sent</li> <li>• <b>Only changed rates</b> - only changed rates will be sent</li> <li>• <b>All rates (not repeated codes)</b> - if there are two or more new rates with different effective dates for the same code, several files will be sent, each containing a full list of rates and only one unique rate for this code</li> </ul> <div style="background-color: #e0ffe0; padding: 10px; margin-top: 10px;"> <p> <b>Tip</b></p> <p>1. The system will push notification after adding new rates. Please note, if the user changes the <b>Effective Date</b> field of current rates manually, they will also be included in the notification.</p> <p>2. When you <i>force</i> Rate Notification, it does not send all the rates with the <b>Effective Date</b> in the future but only the rates that it will be late to send with the next scheduled notification (according to the <b>Agreement</b> assigned to the Rate Table). If there's no <b>Agreement</b>, the Rate Notification <u>will not be sent</u>.</p> <p>3. We recommend using forced notifications for testing purposes. It doesn't cancel a regular notification nor change the last export date.</p> </div>
<b>Company Info</b>	Some additional information about a client can be entered here	
	<ul style="list-style-type: none"> <li>• <b>Name</b></li> </ul>	Company name
	<ul style="list-style-type: none"> <li>• <b>Main Email</b></li> </ul>	Company email for general inquiries. Use only Latin characters.
	<ul style="list-style-type: none"> <li>• <b>NOC Email</b></li> </ul>	Company email for technical related questions. Use only Latin characters.
	<ul style="list-style-type: none"> <li>• <b>Notify about Factors Watcher blocks</b> checkbox</li> </ul>	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"> <li>• <b>Billing Email</b></li> </ul>	Automatically generated invoices and notifications will be sent to this email address. Use only Latin characters.
	<ul style="list-style-type: none"> <li>• <b>Rates Email</b></li> </ul>	Company email for rates related questions. Use only Latin characters.
	<ul style="list-style-type: none"> <li>• <b>Address</b></li> </ul>	Physical company address
	<ul style="list-style-type: none"> <li>• <b>Zip Code</b></li> </ul>	Postal code for SureTax integration
	<ul style="list-style-type: none"> <li>• <b>Tax ID</b></li> </ul>	Customer's tax ID

<ul style="list-style-type: none"> <li>• <b>Reg ID</b></li> </ul>	Customer's registration ID
<ul style="list-style-type: none"> <li>• <b>Account Details</b></li> </ul>	Reference information about the client's bank account or payment details
<ul style="list-style-type: none"> <li>• <b>Locale</b></li> </ul>	The 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, the **email address should contain only Latin characters** for proper work of email notifications and invoices.

**Warning**

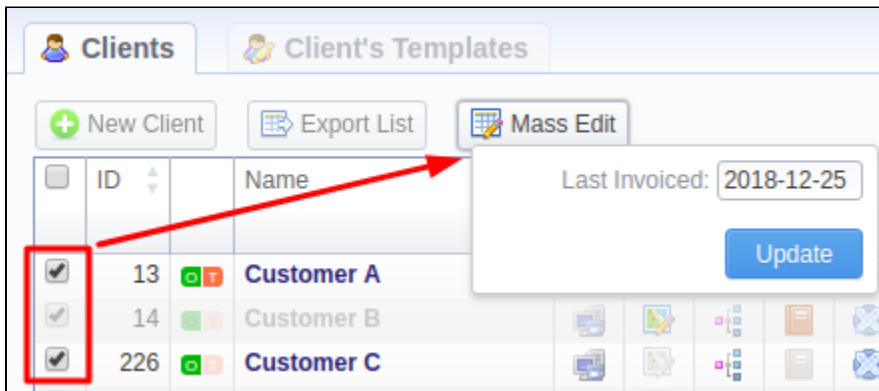
The **Full Delete** button can be used to remove a client from the system permanently, disregarding any statistics or rate tables data connections. Please use this feature with care – the deleted client cannot be restored by any means

## Mass Edit

If there is a need to **change the 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;
- Click the **Mass Edit** button and specify the date in the **Last Invoiced** field;
- Click 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 tariff parameters for customers, managers, or resellers in several 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

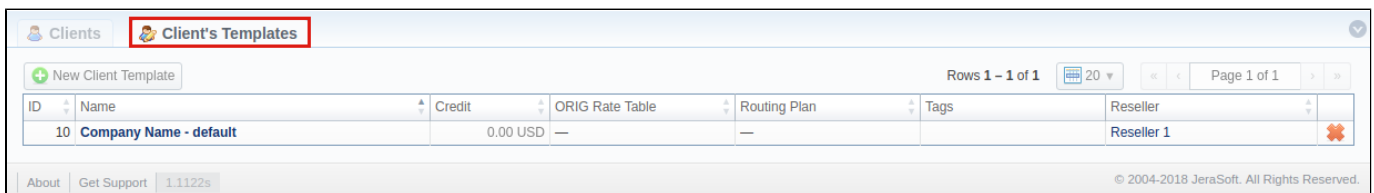
## In this article

- [Tab overview](#)
- [Advanced Search](#)
- [Creating a 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
<b>ID</b>	Client's template identification number
<b>Name</b>	Client's template name
<b>Credit</b>	Credit volume in a template
<b>ORIG Rate Table</b>	Origination rate table, assigned to this client's template
<b>Routing Plan</b>	Routing plan, assigned to this client's template
<b>Tags</b>	List of client's templates tags
<b>Reseller</b>	Name of the reseller's company respective client's template belongs to

## Advanced Search

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

Screenshot: *Advanced Search drop-down menu*

## Creating a New Client's Template

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

Screenshot: *New Client Template settings*

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

 **Tip**

Clients Templates allow 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 **Clients Templates** will take these values from templates (during authorization).

**Please note:** the system can fill only empty fields with standard default values overridden from the 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 the assigned template. When there are no values in the template assigned to the Client, they will be taken from **Manager's/Reseller's settings**.

## Interface properties

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

- Go to the **Clients** list, click on the **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 the **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 is:

- Go to the **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.

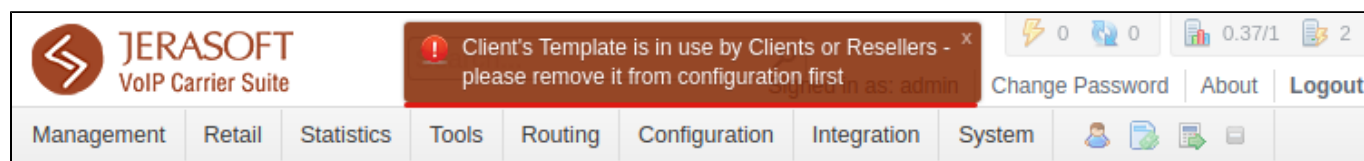
 **Tip**

Please be advised that values overridden from templates, *i.e.*, **Routing Plan**, **Rate Table**, **Credit** are displayed only on the Clients 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 its Manager its Reseller**
3. If there are no found values mentioned above in the closest template, further search stops and values are not defined.

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



# 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 the **Management > Resellers** section by clicking the **Add Custom Field** button. Then, you need to specify the field key and title.

Screenshot: Custom Fields Reseller section

Field	Description
<b>Field Key</b>	Specify a <b>unique</b> custom key for using the created field in invoice templates. Please note that only characters, number or underscores are allowed for this field. No blank spaces.
<b>Title</b>	Create the title of the client's 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

Client Info					Custom Fields					DIDs					Notes					Rose term				
+ Add DID					Rows 1 – 1 of 1					20					Page 1 of 1									
DID	Status	Assigned to	Package																					
1111	Active	rose_term	2 Package DID																					

Column	Description
<b>DID</b>	List of DID numbers
<b>Status</b>	Status of a current DID
<b>Assigned to</b>	Shows clients' accounts, to whom the current DID number is assigned
<b>Package Name</b>	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 DID number.

The **Add DID** button is **visible only if a client has at least one account and an activated package**. You can assign a 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 the **in stock** status. You can also use the **Import DID's** button.
3. Go to the **Retail > Packages** section. Create a package, that will include tags specified in DID's settings and a number of allowed DID's to be picked from it.
4. Assign a respective Package to the customer in the **Client Packages** section.
5. Open the **DIDs** tab in the **Clients** section. Then, 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 a current client. For example, it may be used by managers to share relevant info regarding a particular customer.

**To add a new note**, open the **Note** tab of the 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 the respective client. **To change an existing note**, hover over the comment you'd like to edit and click on the edit  icon. Then, a new pop-up window with settings will appear.

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

Screenshot: Notes tab



The screenshot shows a software interface with a top navigation bar containing tabs: Client Info, Custom Fields, DIDs, and Notes (highlighted with a red box). The Notes tab is active, displaying a table with one row of data. The table has columns for 'Updated by' and 'Comments'. The 'Updated by' column contains 'admin' and a timestamp '04/11/2018 14:42:01 +0000'. The 'Comments' column contains 'Notes on client accessibility' and 'File: clients\_list\_6-03-2018.csv'. To the right of the table, there are icons for editing (pencil) and deleting (orange X). The text 'Rose orig' is visible in the top right corner of the interface.

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 an unlimited number of unique accounts. Accounts are a key tool for clients' identification in JeraSoft Billing. The section is presented in the 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
<b>ID</b>	Account's identification number
<b>Client</b>	Client's name
<b>Account</b>	Account's name
<b>Name/ANI/IP</b>	The way of clients' identification
<b>Tech Prefix</b>	Technical prefix for users' identification
<b>Orig Details</b>	Originator settings
<b>Term Details</b>	Terminator settings

### ⚠ 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 the client's balance will increase**. We recommend deactivating useless accounts instead of completely deleting them from the system. You can deactivate an account by 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 <b>Clients</b> section
	Allows viewing client's change history in the <b>Audit log</b> section

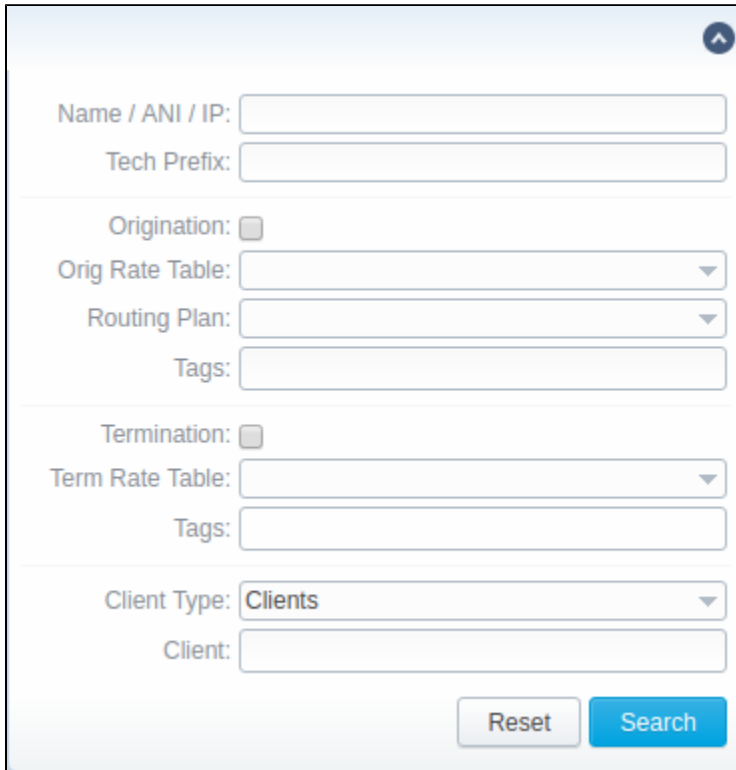
	Indicates that the Orig/Term rate table or routing plan is assigned to an account
	Allows deleting an account from the system

## 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 a red downward arrow  icon.

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

*Screenshot: Advanced Search drop-down menu*



The screenshot shows a search form with the following fields:

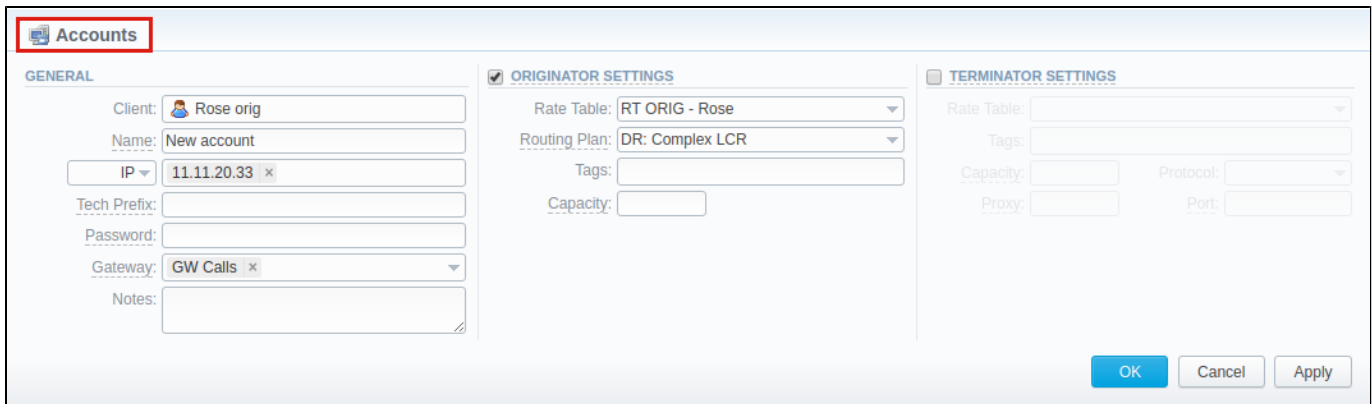
- Name / ANI / IP:
- Tech Prefix:
- Origination:
- Orig Rate Table:
- Routing Plan:
- Tags:
- Termination:
- Term Rate Table:
- Tags:
- Client Type:
- Client:

Buttons:

## Adding New Account

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



*Screenshot: Adding new account*



The screenshot shows the 'Accounts' form with the following sections:

- Accounts** (Title, highlighted with a red box)
- GENERAL**
  - Client:
  - Name:
  - IP:
  - Tech Prefix:
  - Password:
  - Gateway:
  - Notes:
- ORIGINATOR SETTINGS** (checked)
  - Rate Table:
  - Routing Plan:
  - Tags:
  - Capacity:
- TERMINATOR SETTINGS** (unchecked)
  - Rate Table:
  - Tags:
  - Capacity:
  - Protocol:
  - Proxy:
  - Port:

Buttons:

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

• <b>Capacity</b>	Indicate capacity for respective traffic direction
• <b>Protocol</b>	Select respective protocol for a current termination gateway
• <b>Proxy</b>	Define proxy for a current termination gateway
• <b>Port</b>	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




# Invoices

## In this article

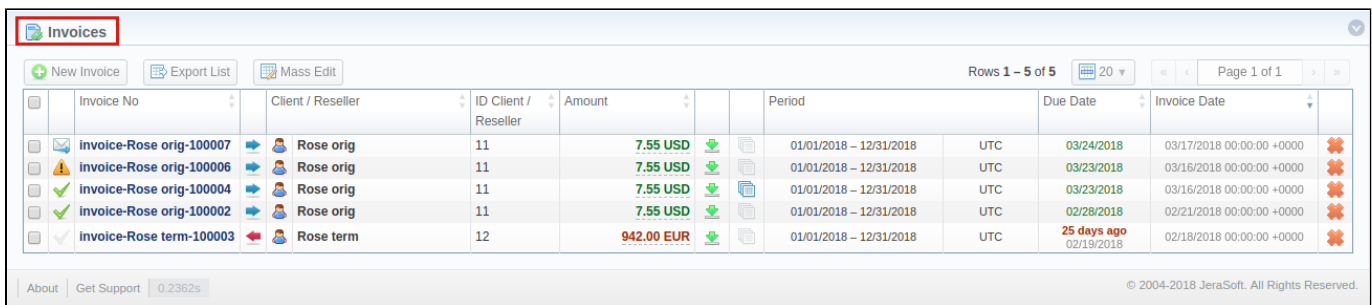
- [Invoices List](#)
- [Advanced Search](#)
- [Creating a New Invoice](#)
- [Mass Editing](#)
- [Differences in totals](#)

## Invoices List



Since an invoice is an ultimate tool for controlling the volumes of provided services and their prices, the **Invoices** section of JeraSoft Billing is a staple instrument for the management of 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 the 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 the form of a table of all invoices with the following columns:

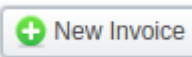
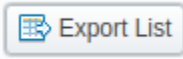









*Screenshot: Invoices section main window*




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

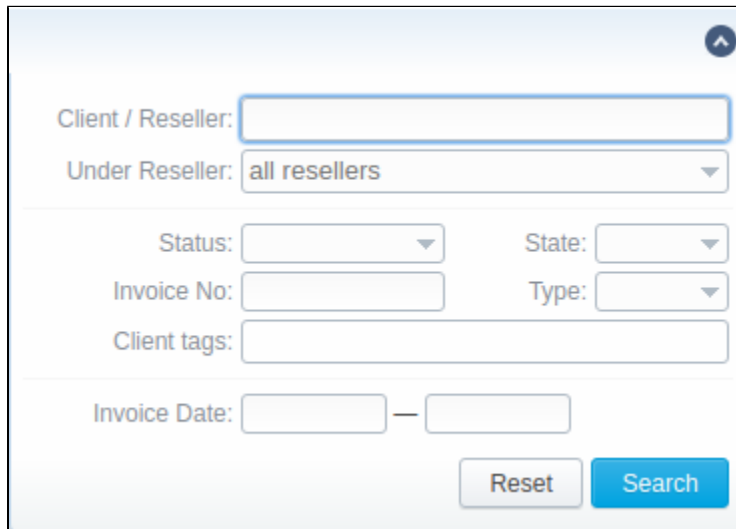
Functional buttons and icons, presented in the section are as follows:

Buttons/Icon	Description
	Allows creating a new invoice in the system
	Allows exporting a list of invoices in a .csv file
	Allows managing the state for the selected invoices in the list
	Indicates <b>normal</b> state meaning that a respective invoice was paid in full. If the invoice is not fully paid, the icon will be grey
	Defines <b>to verify</b> state meaning that this invoice is waiting to be checked before it is sent to a client
	Defines <b>to send</b> state meaning that invoice is in sending queue
	Indicates outgoing invoice
	Indicates incoming invoice
	Allows downloading a respective invoice file in a .csv format
	Allows downloading an xDR file, if one is attached to invoice. If there are no attached xDR files, the 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 clicking a blue downward arrow  icon in the top right corner of the screen.

*Screenshot: Advanced Search drop-down menu*



## Creating a 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: 👤 Rose orig

Period: Last Week 2018-03-05 — 2018-03-11 UTC

Type: outgoing

Currency: USD

Invoice No: (empty = auto)

State: normal

Invoice Date: 2018-03-16

Due: 5 days

Included Charges: Uncovered x

Comments:

Action: Generate new invoice

Template: default | PDF

OK
Apply
Cancel

Field	Description
<b>Client /Reseller</b>	Name of the <i>client</i> or <i>reseller</i>
<b>Period</b>	Define a period of statistics that will be included in an invoice
<b>Type</b>	Specify the type of invoice: <b>outgoing</b> or <b>incoming</b>
<b>Currency</b>	Select invoice currency from a drop-down menu
<b>Invoice</b>	A number of an invoice. The number length can't exceed 200 symbols
<b>State</b>	Select the state for a new invoice: <ul style="list-style-type: none"> <li>• <b>normal</b> - use this state to indicate that an invoice is paid</li> <li>• <b>to send</b> - use this state to indicate that an invoice is paid, but not verified yet</li> <li>• <b>to verify</b> - use this state to indicate that an invoice is created, but has not been sent to a client yet</li> </ul>
<b>Invoice Date</b>	Specify the actual invoicing date
<b>Due (days)</b>	Define a number of days when an invoice is expected to be paid
<b>Included Charges</b>	<p>Select the type of charges for invoices:</p> <ul style="list-style-type: none"> <li>• <b>uncovered</b> - all charges that are not included in any previous invoice;</li> <li>• <b>covered</b> - all charges already included in the previous invoice;</li> <li>• <b>pending</b> - all pending charges.</li> </ul> <p>Please note, these charges don't include calls. Therefore, <i>call</i> charges will be added to any invoice regardless of the <b>Included Charges</b> settings.</p> <div style="background-color: #e0ffe0; padding: 10px; border: 1px solid #c0ffc0; margin-top: 10px;"> <p><span style="color: green; font-weight: bold;">✔ Tip</span></p> <p>It's not possible to include a charge twice with standard settings. To <b>re-include an already used charge</b> in the invoice, you need to <b>combine uncovered + covered parameters</b> in the <b>Included Charges</b> field.</p> </div>
<b>Comments</b>	Specify additional information if necessary
<b>Action</b>	Select one of two available actions:

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

**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!**

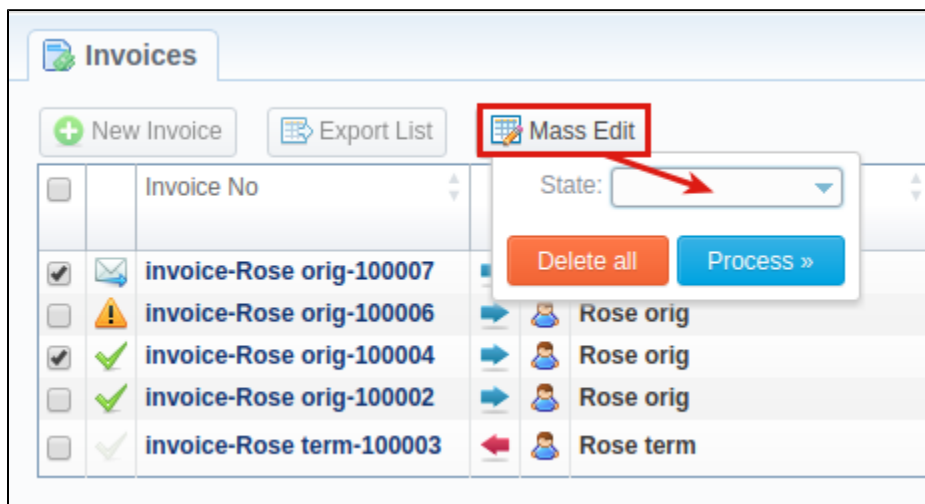
**Warning**

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. First of all, you need to select invoices, for which a state should be changed, then specify it from a drop-down list of all states, and click the **Process** button for applying the change. Also, using the following window, you may delete all marked invoices by clicking **Delete all**.

Screenshot: Mass Edit button



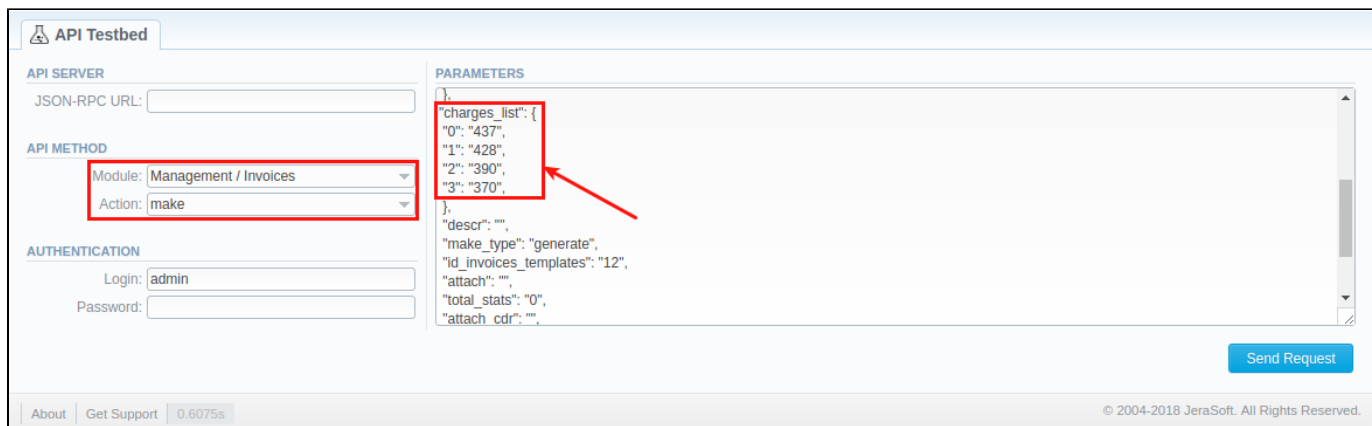
**Attention**

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 the names of packages, and avoid names with special symbols like **%001 name, -001 name**.
2. The currency rate of extra charges will be taken on the **date of the charge, not on the date of the invoice**.

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 **charges\_list** variable with respective values in the **Parameters** field of the **API Testbed** section:

Screenshot: API Testbed settings



## Differences in totals

You may have noticed that while creating different reports, such as a [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)** option 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 a 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 are usually based on all calls. As a result, a difference between invoice and report totals appears; even though an invoice may have completely another totals vs report data.

### ⚠ Attention

The invoice and report totals could differ if you made a rerating 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 JeraSoft Billing in [this article](#).

Besides, take note of **currency settings**: there you may specify the 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 for an 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 Transactions](#)

## Section overview

This section allows a user to perform and trace all the financial operations regarding the client's/reseller's balances. The section offers an overview of every single transaction performed in the system regardless of whether it's 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 the 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 the form of a table of all conducted transactions with the following columns:

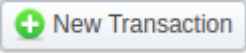
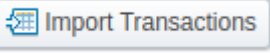
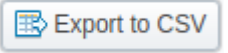






Screenshot: *Transactions section main window*

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

<b>Description</b>	Comments about a respective payment
<b>Transaction Date</b>	Displays a respective payment date, related to a performed payment
<b>Author</b>	Name of the user who performed the latest transaction (regardless whether it's a payment or a 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 a transaction is approved
	Allows deleting 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 downward 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 Billing** 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
<b>Client</b>	Indicate a client you wish the section to be filtered by

<b>Payment Account</b>	Select from the list of all payment accounts in the system
<b>Type</b>	Select a type of transaction: <ul style="list-style-type: none"> <li>• <b>Payment</b></li> <li>• <b>Charge</b></li> </ul>
<b>Status</b>	Select from the list of transaction statuses: <ul style="list-style-type: none"> <li>• <b>Pending</b></li> <li>• <b>Approved</b></li> </ul>
<b>State</b>	Indicate whether you wish payments covered by the invoices to be displayed by selecting from the list: <ul style="list-style-type: none"> <li>• <b>Covered</b></li> <li>• <b>Uncovered</b></li> </ul>
<b>Date</b>	Specify the date in the date picker

Alter filling in the fields, click **Search** to filter section data or **Reset** to clear search results.

## Adding New Payment/Charge

To add a payment, click the **New Transaction** button. A new pop-up window will appear after that. Specify the following parameters and click the **Apply** button.

Screenshot: New transaction settings

The screenshot shows a 'Transactions' dialog box with the following fields and values:

- Client:** (empty text field)
- Type:** Payment (dropdown menu)
- Payment Account:** General (dropdown menu)
- Amount:** (empty text field) USD (dropdown menu)
- Transaction Date:** (empty date picker) Approved (dropdown menu)
- Description:** (empty text field)

Buttons at the bottom: OK, Cancel, Apply.

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



<p><b>Payment Account</b></p>	<p>Choose a respective account from the drop-down list of all available payment accounts. For <b>charge type</b>, you can select:</p> <ul style="list-style-type: none"> <li>• <b>extra charges outgoing;</b></li> <li>• <b>extra charges incoming.</b></li> </ul> <div style="background-color: #ffffcc; padding: 10px;"> <p><b>⚠ Attention</b></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 <b>extra charges outgoing</b>. It will guarantee that this charge will be visible in the invoice.</p> </div>
<p><b>Amount</b></p>	<p>Insert an amount of the transaction, which can be positive or negative:</p> <ul style="list-style-type: none"> <li>• <b>positive</b> amount is credited to a client;</li> <li>• <b>negative</b> amount is debited from a client.</li> </ul> <div style="background-color: #e0ffe0; padding: 10px;"> <p><b>✔ Tip</b></p> <p>Transaction amounts could be specified with a comma as a decimal delimiter: for example, <b>2,45</b>.</p> </div> <p>If your transaction type is <b>Charge</b>, you can choose whether a specified amount <b>includes a tax or not</b> by choosing a respective value in the drop-down list:</p> <ul style="list-style-type: none"> <li>• <b>no taxes;</b></li> <li>• <b>including taxes;</b></li> <li>• <b>excluding taxes.</b></li> </ul> <p>The tax rate is based on the tax profile of the client's reseller.</p>
<p><b>Transaction Date</b></p>	<p>Indicate the actual date of the transaction in a date picker</p>
<p><b>Description</b></p>	<p>Notes for a new transaction</p>
<p><b>Status</b></p>	<p>Define the state of the transaction:</p> <ul style="list-style-type: none"> <li>• <b>pending</b></li> <li>• <b>approved</b></li> </ul> <div style="background-color: #e0ffe0; padding: 10px;"> <p><b>✔ Tip</b></p> <p>If you change the transaction status in the respective field from <b>Approved</b> to <b>Pending</b> when adding a payment, this payment will have to pass additional approval check by a billing operator</p> </div>

**⚠ 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 rerating 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) cannot be assigned to this payment account.

## Exporting and Importing 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 the **Import Transactions** button 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 **Process**.

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	Charge: Products Fees	-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](#)
- [Creating a New Balance Report](#)
- [Simple scheme: how to generate a balance report](#)
- [Creating a Query Template](#)
- [Export Generated Report](#)


## Section overview








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

Screenshot: Balance Report query form

## Creating a 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
<b>Filters</b>	On the <b>Filters</b> 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 <b>quick search</b> by typing filters' names in the bar at the top of a drop-down menu with filters.
	<b>Period</b>   Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.
	<b>Report Basis</b>   Select a balance mode to show a respective set of data <ul style="list-style-type: none"> <li>• <b>Accrual</b> - this mode is compiled by invoices and payments, it shows fixed balance</li> <li>• <b>Cash</b> - this mode is compiled by payments and charges, it shows live balance</li> </ul>
	<b>Client Type</b>   Choose the system entity for the report from the following: <ul style="list-style-type: none"> <li>• <b>Client</b></li> <li>• <b>Reseller</b></li> <li>• <b>Calling Card</b></li> <li>• <b>Call Shop</b></li> </ul>
	<b>Group by</b>   Select from the list of the following accessible options to group data in reports: <ul style="list-style-type: none"> <li>• <b>Time:</b> Month, Date.</li> <li>• <b>Document:</b> Client ID, Payment Account ID.</li> </ul>
	<b>Additional Filters</b>
	<b>Client</b>   Define an origination client for the report
<b>Payment Account</b>   Enter a target payment account for the report	

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

<p><b>Type</b></p>	<p>Choose a format of the report from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b>.</p> <p>Also, a type of table view:</p> <ul style="list-style-type: none"> <li>• <b>Plain</b> - a simple table view</li> <li>• <b>Grouped</b> - a table view with grouped data and a possibility to collapse it</li> </ul> <div style="background-color: #ffffcc; padding: 5px;"> <p><b>Attention</b></p> <p>Please note that the <b>Grouped</b> type of table view is available only for <b>Excel XLSx</b> and <b>Web</b> formats, it doesn't work with <b>CSV</b> and <b>Excel XLS</b>.</p> </div>
<p><b>Send to</b></p>	<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><b>Attention</b></p> <p>This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report. It doesn't work with <b>Web</b>.</p> </div>
<p><b>Currency</b></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

**Document**

Client

Payment Account

**FILTERS**

Period: This Month | 2019-11-01 00:00:00 — 2019-11-30 23:59:59 UTC

Report Basis: Accrual

Client Type: Client

Group by: Month

Save Query

**OUTPUT**

Type: Web | Grouped

Currency: USD

Export to XLSX ?

Month	Client	Payment Account	Client ID	Document Info	Opening Balance (report)	Debit (report)	Credit (report)	Closing Balance (report)	Client Currency	Opening Balance (client)	Debit (client)	Credit (client)	Closing Balance (client)
11/2019					0.00 USD		1 195.98 USD	-1 195.98 USD		0.0000			0.0000
11/2019	Customer A	General	12	Payment 2	0.0000 USD		1 000.0000 USD	-1 000.0000 USD	USD	0.0000 USD		1 000.0000 USD	-1 000.0000 USD
11/2019	Vendor B	General	17	Payment 3	-1 000.0000 USD		100.0000 USD	-1 100.0000 USD	USD	-1 000.0000 USD		100.0000 USD	-1 100.0000 USD
11/2019	Customer C	General	14	Payment 5	-1 100.0000 USD		95.9800 USD	-1 195.9800 USD	USD	-1 100.0000 USD		95.9800 USD	-1 195.9800 USD

**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 thousandths. For example, 3.879256 to 3.8793.

## Simple scheme: how to generate a balance report

To create a simple report you need to:

- select target parameters for the report in the **Filters** menu;
- enter the interval and specify a timezone;
- select the **Mode** and **Client Type**;
- specify parameters in the **Group by** field; for example, **Client ID**;
- choose columns in the **Output** form; for example, **Client, Payment Account, Document Icon, Document Info, Opening Balance, Debit, Credit, Closing Balance, Date**;
- specify the **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 icons.
- 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

To create a template for reports and save specified parameters, click 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 Query Template form

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

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

## Export Generated Report

You can export data to **XLSx** file, which contains currently presented data, by clicking **Export to XLSx** , respectively.

Screenshot: *Balance Report section*

**Balance Report**

Document

Client

Payment Account

**FILTERS**

Period: This Month | 2019-11-01 00:00:00 — 2019-11-30 23:59:59 UTC

Report Basis: Accrual

Client Type: Client

Group by: Month x

Save Query

**OUTPUT**

Type: Web | Grouped

Currency: USD

Export to XLSx i

Month	Client	Payment Account	Client ID	Document Info	Opening Balance (report)	Debit (report)	Credit (report)	Closing Balance (report)	Client Currency	Opening Balance (client)	Debit (client)	Credit (client)	Closing Balance (client)
11/2019					0.00 USD		1 195.98 USD	-1 195.98 USD		0.0000			0.0000
11/2019	Customer A	General	12	Payment 2	0.0000 USD		1 000.0000 USD	-1 000.0000 USD	USD	0.0000 USD		1 000.0000 USD	-1 000.0000 USD
11/2019	Vendor B	General	17	Payment 3	-1 000.0000 USD		100.0000 USD	-1 100.0000 USD	USD	-1 000.0000 USD		100.0000 USD	-1 100.0000 USD
11/2019	Customer C	General	14	Payment 5	-1 100.0000 USD		95.9800 USD	-1 195.9800 USD	USD	-1 100.0000 USD		95.9800 USD	-1 195.9800 USD

About | 0.259Rs

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**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 date for the period.
- When you export the file from the Balance Report in **Excel XLSx** format, 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 a New Reseller](#)
- [Adding a New Manager](#)
- [Reseller Removal](#)
- [Custom Fields](#)
- [Rates Notifications](#)
- [Autocharge Settings](#)
- [Configuration Syntax](#)
- [Knowledge Base Articles](#)

## Section overview

**Reseller** in JeraSoft Billing, in the majority of cases, is a company that has a certain number of [clients](#) and governs their activities in the system. Like any company, it can have a range of managers, each responsible for a certain group of company clients. The **Manager** has limited functionality: doesn't have his own balance, therefore, he cannot perform any transactions; neither origination nor termination rate table cannot be assigned to him, etc. The **Resellers** section is designed to provide a user with a possibility to **track and manage their company information and activity, build a hierarchy of company affiliates, or assign its managers**. The section is presented in the form of a 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
<b>ID</b>	Reseller's/Manager's identification number
<b>Name</b>	Name of a reseller/manager
<b>Available Balance</b>	Reseller's available balance (live balance + credit)
<b>Clients</b>	The total amount of a respective reseller's/manager's clients
<b>Cards</b>	The total amount of a respective reseller's/manager's calling cards
<b>Call Shops</b>	Total number of a respective reseller's/manager's call shops

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

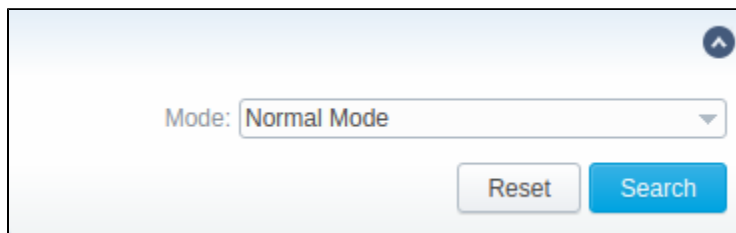
Button/Icon	Description
	Allows creating a new reseller
	Allows creating a new manager
	Allows assigning an origination rate table to a respective reseller
	Allows assigning a termination rate table to a respective reseller
	Allows viewing a list of a following reseller's/manager's users

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

## 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 downward arrow  icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu



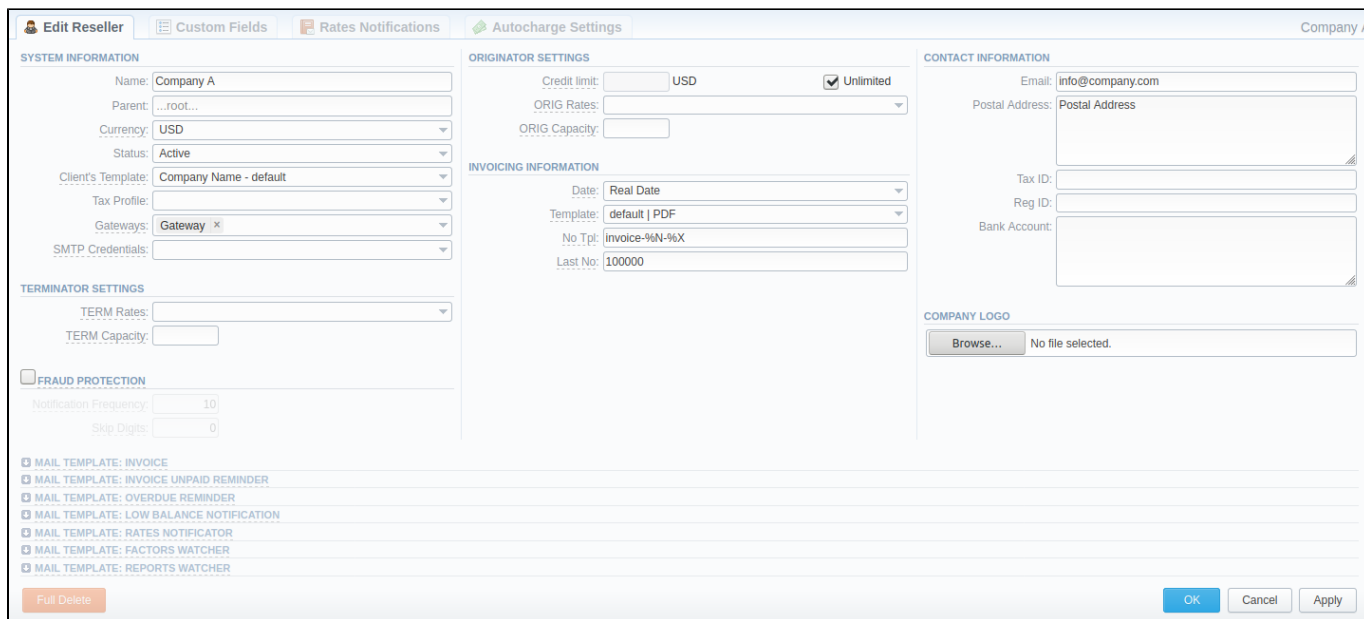
Field	Description
Mode	Select a mode for the resellers' display: To apply the specified search criteria, click the <b>Search</b> button; to cancel the applied parameters, click <b>Reset</b> . <ul style="list-style-type: none"> <li>• <b>Normal Mode</b> - only resellers with Active status will be displayed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



## Adding a New Reseller

To add a company, you need to:

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

Screenshot: Adding a new company



Information block	Fields Description	
<b>System Information</b>	General information about a company	
	<ul style="list-style-type: none"> <li>• <b>Name</b></li> </ul>	Specify the name of one of your companies (or affiliates). This field is mandatory.
	<ul style="list-style-type: none"> <li>• <b>Parent</b></li> </ul>	Indicate a parent for a reseller or make it a root one. By default, the field value is set to <b>root</b>
	<ul style="list-style-type: none"> <li>• <b>Currency</b></li> </ul>	Select a preferred currency for rates and invoices from the drop-down list of all available ones (see the <a href="#">Currencies section</a> )
	<ul style="list-style-type: none"> <li>• <b>Status</b></li> </ul>	Define the status of a reseller: <ul style="list-style-type: none"> <li>• <b>Active</b></li> <li>• <b>Deleted</b></li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Client's Template</b></li> </ul>	Select a template that will be used for all clients belonging to this reseller or manager by default (see the <a href="#">Clients Template section</a> )
	<ul style="list-style-type: none"> <li>• <b>Tax Profile</b></li> </ul>	Indicate a tax profile that will be used for this reseller and reflected in invoices (refers to the <a href="#">Taxes Profiles section</a> ). <ul style="list-style-type: none"> <li>• <b>SureTax</b> and <b>Compliance</b> are tax calculation services, which allow managing your compliance with tax law. These profiles are used for further calculation in invoices. To get more details, check out the <a href="#">US Taxation</a> article.</li> </ul> <div style="background-color: #ffffcc; padding: 5px;"> <p> <b>Attention</b></p> <p>For proper usage of SureTax and Compliance, <b>Invoice Number</b> should contain only Latin and numeric characters. Max length is 40 symbols. <b>Dst</b> and <b>Src Numbers</b> should be in the <b>NPANXXNNNN</b> (10 digits) format.</p> </div>
	<ul style="list-style-type: none"> <li>• <b>Gateways</b></li> </ul>	Select gateway(s) for this reseller
<ul style="list-style-type: none"> <li>• <b>SMTP Credentials</b></li> </ul>	Select SMTP Credentials for this Reseller. Credentials are managed in the <a href="#">Data Sources section</a>	
<b>Terminator Settings</b>	Reseller's billing settings for outgoing calls	
	<ul style="list-style-type: none"> <li>• <b>TERM Rates</b></li> </ul>	Rates for outgoing events from customers under a current reseller. Enables resellers billing mode <div style="background-color: #e0ffe0; padding: 5px; margin-top: 10px;"> <p> <b>Tip</b></p> <p>For more information about resellers billing mode, address this <a href="#">article</a></p> </div>
<ul style="list-style-type: none"> <li>• <b>TERM Capacity</b></li> </ul>	Termination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity	

<p><b>Fraud Protection</b> checkbox</p>	<p>Enables/disables administrator notification in case of multiple simultaneous calls to the same number from the current Reseller.</p> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note that all notifications can be found in <b>System &gt; Events Log</b>. If you want to receive them to exact email, go to the <b>Configuration</b> tab of the <b>Events Log</b> section, and add a new rule with the indication of target email and <b>aaa.fraud</b> value in the <b>Tag</b> field.</p> </div> <p>Here you need to specify the following:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 20%;"><b>• Notification Frequency</b></td> <td>Set minimum time in seconds between sent notifications (minimum interval must be <b>0 sec</b>)</td> </tr> <tr> <td><b>• Skip Digits</b></td> <td>Define the 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 the same number.</td> </tr> </table>	<b>• Notification Frequency</b>	Set minimum time in seconds between sent notifications (minimum interval must be <b>0 sec</b> )	<b>• Skip Digits</b>	Define the 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 the same number.				
<b>• Notification Frequency</b>	Set minimum time in seconds between sent notifications (minimum interval must be <b>0 sec</b> )								
<b>• Skip Digits</b>	Define the 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 the same number.								
<p><b>Origination Settings</b></p>	<p>Current Reseller's billing settings for incoming calls</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 20%;"><b>• Unlimited checkbox</b></td> <td>Here you can set a specific payment mode for a client. Unlimited mode means that a client will have unlimited credit. Otherwise, the client's Balance + Credit value will be checked on RADIUS or SIP authorization. When this field is checked, the Credit limit field becomes unavailable.</td> </tr> <tr> <td><b>• Credit limit</b></td> <td>The additional field next to the <b>Unlimited</b> checkbox. User can indicate an amount of reseller's credit</td> </tr> <tr> <td><b>• ORIG Rates</b></td> <td>Specify rates for incoming events from customers under a current reseller. Enables resellers billing mode</td> </tr> <tr> <td><b>• ORIG Capacity</b></td> <td>Indicate origination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity</td> </tr> </table>	<b>• Unlimited checkbox</b>	Here you can set a specific payment mode for a client. Unlimited mode means that a client will have unlimited credit. Otherwise, the client's Balance + Credit value will be checked on RADIUS or SIP authorization. When this field is checked, the Credit limit field becomes unavailable.	<b>• Credit limit</b>	The additional field next to the <b>Unlimited</b> checkbox. User can indicate an amount of reseller's credit	<b>• ORIG Rates</b>	Specify rates for incoming events from customers under a current reseller. Enables resellers billing mode	<b>• ORIG Capacity</b>	Indicate origination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity
<b>• Unlimited checkbox</b>	Here you can set a specific payment mode for a client. Unlimited mode means that a client will have unlimited credit. Otherwise, the client's Balance + Credit value will be checked on RADIUS or SIP authorization. When this field is checked, the Credit limit field becomes unavailable.								
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<b>• ORIG Rates</b>	Specify rates for incoming events from customers under a current reseller. Enables resellers billing mode								
<b>• ORIG Capacity</b>	Indicate origination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity								
<p><b>Invoicing Information</b></p>	<p>Current Reseller's invoicing settings</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 20%;"><b>• Date</b></td> <td>Allows you to select how the system sets an invoicing date: <ul style="list-style-type: none"> <li>• <b>Real date</b> – sets an invoicing date to actual invoicing date</li> <li>• <b>Last day</b> – sets an invoicing date to date of last day of invoicing period</li> </ul> </td> </tr> <tr> <td><b>• Template</b></td> <td>Select an invoice template that will be assigned to a reseller</td> </tr> <tr> <td><b>• No Tpl</b></td> <td>Allows to define a default format of invoice's name</td> </tr> <tr> <td><b>• Last No</b></td> <td>Define the last used invoice number</td> </tr> </table>	<b>• Date</b>	Allows you to select how the system sets an invoicing date: <ul style="list-style-type: none"> <li>• <b>Real date</b> – sets an invoicing date to actual invoicing date</li> <li>• <b>Last day</b> – sets an invoicing date to date of last day of invoicing period</li> </ul>	<b>• Template</b>	Select an invoice template that will be assigned to a reseller	<b>• No Tpl</b>	Allows to define a default format of invoice's name	<b>• Last No</b>	Define the last used invoice number
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<b>• No Tpl</b>	Allows to define a default format of invoice's name								
<b>• Last No</b>	Define the last used invoice number								
<p><b>Contact Information</b></p>	<p>Some additional information</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 20%;"><b>• Email</b></td> <td>Company's email (it is required to specify an email to receive notifications). Use only Latin characters. This field is mandatory</td> </tr> </table>	<b>• Email</b>	Company's email (it is required to specify an email to receive notifications). Use only Latin characters. This field is mandatory						
<b>• Email</b>	Company's email (it is required to specify an email to receive notifications). Use only Latin characters. This field is mandatory								

	<ul style="list-style-type: none"> <li>• <b>Postal Address</b></li> </ul>	Company's postal address
	<ul style="list-style-type: none"> <li>• <b>Tax ID</b></li> </ul>	An ID of the tax-paying entity
	<ul style="list-style-type: none"> <li>• <b>Reg ID</b></li> </ul>	Company's registration ID
	<ul style="list-style-type: none"> <li>• <b>Bank Account</b></li> </ul>	Company's bank account info
<b>Company Logo</b>	Here you can add a file with a company's logo. To delete the company logo, open the edit form of a respective Reseller with a logo, then click the delete icon to remove the old logo.	
<b>Mail Templates</b>	A detailed description of all Mail Templates and their configuration is presented at the end of the article	

 **Attention**

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


 **Attention**

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

## Adding a New Manager


To add a manager, click the **New Manager** button. After specifying the required fields, click **OK**.

*Screenshot: Adding a new manager*

 **Resellers**

**SYSTEM INFORMATION**

Name:

Parent:  Reseller 1 ▼

Status: Active ▼

Client's Template: ▼

**CONTACT INFORMATION**

E-mail:

Postal Address:

Information block	Fields Description	
<b>System Information</b>	General information about a Manager	
	• <b>Name</b>	Here you can specify the name of a manager. This field is mandatory.
	• <b>Parent</b>	Select a parent for a manager
<b>Contact Information</b>	Some additional information	
	• <b>Email</b>	Manager's email. Use only Latin characters.
	• <b>Postal Address</b>	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 the Reseller's/Manager's profile editing form.

Screenshot: *Editing reseller's status*

**Resellers** Manager 1

**SYSTEM INFORMATION**

Name:

Parent:

Status:

Client's Template:  (dropdown menu open with options: Active, Deleted)

**CONTACT INFORMATION**

E-mail:

Postal Address:

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

### Custom Fields

- **Custom Fields** are used as custom variables that will be represented as readable text in invoice templates. A Custom Field allows adding information about a client.
- **Custom Package Fields** are also used as custom variables that allow adding information about a package.

To add a new field, follow these steps:

1. Click the **Add Custom Field** button.
2. Specify the **Field Key** and **Title** fields for a 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 to the **VoIP Phone** field in the **Client's settings/Package settings > Custom Fields** tab.
4. Create an invoice template and assign it to a target reseller. Then, the **Clients Custom Fields** and **Package Custom Fields** tables will appear in the **Invoice Template** settings. You simply need to add those tables to 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 the **Resellers** profile allow creating a **default rate notification** for the clients that belong to a target reseller.


Screenshot: Rates Notifications

The screenshot shows the 'Rates Notifications' configuration window. At the top, there are tabs for 'Edit Reseller', 'Custom Fields', 'Rates Notifications' (highlighted with a red box), and 'Autocharge Settings'. The 'Company Name' is visible in the top right corner. Under 'TEMPLATE SETTINGS', there are several dropdown menus: 'Output format' (set to CSV), 'Fields Delimiter' (set to comma), 'With headers row' (set to Enabled), 'Export Columns' (set to Code, Code Name, Rate), 'Code Deck', 'Codes from code deck' (set to Disabled), 'Codes Output' (set to separate rows), 'Date Format' (set to %m/%d/%Y %H:%M:%S %z), and 'Billing Increment' (set to Grace Volume, Int, Min). Below these settings are two text input fields for 'Header text' and 'Footer text'. At the bottom right, there are 'OK', 'Cancel', and 'Apply' buttons.

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

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

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

 Note that the first selected column will be the one used for sorting the rates list.

Column Name	Description
<b>Code / Code Name</b>	Code or Code Name of a respective rate
<b>Effective Date</b>	Date, on which a rate to be applied
<b>Rate</b>	Price
<b>Min Volume</b>	The minimum volume of chargeable events
<b>Interval</b>	Chargeable interval



<b>Grace Volume</b>	Free of charge interval
<b>Setup Fee</b>	Interval of a setup fee
<b>Profile</b>	Time profile ( <i>all time, business time, non-business time, weekends</i> )
<b>End Date</b>	Date, on which the rate ends
<b>Previous Rate</b>	Rate used before the present time
<b>Prev Diff</b>	Shows how current rate differs from a previous one after import
<b>Prev Diff Status</b>	Shows how the current rate's status changed in comparison to a previous one (unchanged, increased, decreased)
<b>Prev Diff (export)</b>	Shows how the current rate differs from a previous one after export
<b>Prev Diff Status (export)</b>	Rate's changes after the last export. Shows the status of how the current rate differs from a previous one. The rate will have an <b>unchanged</b> status if the <b>Effective date</b> is lower than the <b>Last Notification Date</b>

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)	

<b>Notes</b>	Additional information
<b>Tag</b>	Tags that are assigned to a respective rate
<b>Policy</b>	Indicated policy of the rate
<b>Status</b>	Define a current rate status

## Autocharge Settings

Autocharge Settings in the **Resellers** profile allow configuring the settings for Authorize.net payment gateway. These settings will be true for all the clients under the respected Reseller.

Screenshot: Autocharge Settings

Edit Reseller
Custom Fields
Rates Notifications
Autocharge Settings

Reseller A

**AUTHORIZE.NET**

Login: <input type="text" value="sdgfsfdgh"/>	Add your API login ID
Transaction Key: <input type="password" value="*****"/>	Add your API transaction key
Gateway Currency: <input type="text" value="U.S. Dollar (USD)"/>	Currency which will be used by user to perform a payment.
System Currency: <input type="text" value="USD"/>	This setting reflects currency of the gateway. Amount received will be treated as a specified currency. Leave empty if not required for the gateway (e.g., top-up cards).
Payment Account: <input type="text" value="General"/>	Specify account which will be used for transactions from this payment gateway.

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

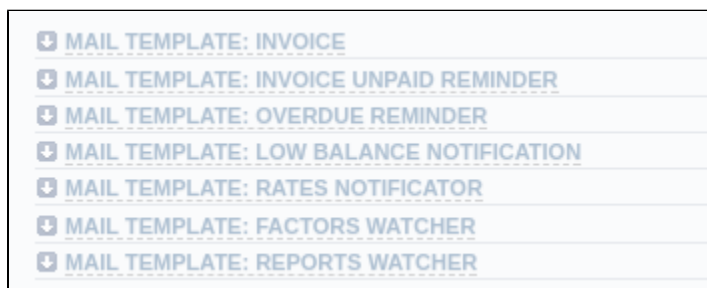
Field	Description
<b>Login</b>	API login


<b>Transaction Key</b>	API transaction key
<b>Gateway Currency</b>	A currency declared by the Payment Gateway
<b>System Currency</b>	Default JeraSoft Billing system currency
<b>Payment Account</b>	Payment Account name

## Configuring Mail Templates

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

Screenshot: Mail Templates



Template Name	Description
<b>Mail Template: Invoice</b>	Used when sending an invoice to the customer
<b>Mail Template: Invoice Unpaid Reminder</b>	Used when sending a payment notification to a customer (sending notification on "Notify Days (before)")
<b>Mail Template: Overdue Reminder</b>	Used when sending a payment notification to a customer (sending notification on "Notify Days (after)")
<b>Mail Template: Low Balance Notification</b>	Used when sending a low balance notification to a customer <div style="background-color: #e0ffe0; padding: 5px; margin-top: 10px;"> <p> <b>Tip</b></p> <p>You can <b>add a rounding rule</b> for a client's balance during low balance notification. For example, to round up to 2 decimal places, you need to add the variable <code>#{client['balance']}</code> in the <b>Mail template: Low Balance Notification</b> in reseller's settings and specify the number of rounding decimals in the <b>Totals Precision</b> field of the <b>Currencies</b> section.</p> </div>
<b>Mail Template: Rates Notificator</b>	Used when sending a rate changes notification to a customer
<b>Mail Template: Factors Watcher</b>	Used when sending a notification to a customer once a Preset by Factors Watcher has been added
<b>Mail Template: Reports Watcher</b>	Used when sending reports by email

All mail templates have 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	
<b>From</b>	Specify a name and email of a company	
<b>BCC</b>	Specify who will receive a blind copy of an email	
<b>Subject</b>	Indicate an email subject that may contain company name, invoice number, etc.	
<b>Mail Body</b>	Content of the letter. On the screenshot above, the following information is specified:	
	<ul style="list-style-type: none"> <li><b>Direction {direction}</b></li> </ul>	Code or Code name that will be automatically filled in by the system
	<ul style="list-style-type: none"> <li><b>Reason {reason}</b></li> </ul>	Values specified in Factors Watcher settings (for example, <b>calls_total &gt; 0</b> ).
	<ul style="list-style-type: none"> <li><b>Values {values}</b></li> </ul>	Actual value, which was exceeding the one specified in Factors Watcher settings (for example, <b>calls_total = 1234</b> ).

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

## Configuration Syntax

### General Configuration Syntax Concerning Clients' Data

Templates Configuration Syntax	Description
\${client['status']}	Client's status: <ul style="list-style-type: none"> <li><b>Active</b></li> <li><b>Deleted</b></li> </ul>
\${client['name']}	Client's name
\${client['balance']}	Client's live balance
\${client['balance_accountant']}	Client's fixed balance
\${client['credit']}	Client's available credit
\${client['c_company']}	Client's official company name
\${client['c_address']}	Post address of a client's company
\${client['c_email']}	Client's email
\${client['locale']}	Client's location
\${client['currencies_id']}	Currency ID, used by a client
\${client['tz']}	Timezone of a client
\${client['taxes_profiles_id']}	Taxes profile's ID, used by a client
\${client['tax_id']}	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's/Reseller's Data

Templates Configuration Syntax	Description
<code>#{company['status']}</code>	Company's status: <ul style="list-style-type: none"> <li>• <b>Active</b></li> <li>• <b>Deleted</b></li> </ul>
<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 postal 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 timezone
<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 timezone
<code>#{invoice['state']}</code>	Invoice state
<code>#{invoice['name']}</code>	Invoiced client's 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 a rate table was edited last
<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 a report template
<code>#{report["interval"]}</code>	Actual report period
<code>#{report["title-full"]}</code>	Title of a report template with indication of an actual report period
<code>#{report["webUrl"]}</code>	URL to view a report on the web portal
<code>#{report["id"]}</code>	ID of a report template

 **Tip**

If you want the date of sending a 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

# Subscriptions

## In this article

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

## Section overview






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

Screenshot: Subscriptions list


ID	Client	Account	Package	Limits	Current period start/stop	Subscription start/stop			
2	client 4		2		06/30/2020 10:23:09 07/30/2020 10:23:09	06/30/2020 00:00:00 07/30/2020 00:00:00			
3	client 1		package test		06/30/2020 10:25:26 07/30/2020 10:25:26	06/30/2020 00:00:00 07/30/2020 00:00:00			
4	client 2		package test		06/30/2020 10:25:48 07/30/2020 10:25:48	06/30/2020 00:00:00 07/11/2020 00:00:00			
5	client 1		package 3	22 100.00 min	06/30/2020 10:30:09 07/30/2020 10:30:09	06/30/2020 00:00:00 07/18/2020 00:00:00			

Column	Description
<b>ID</b>	Subscription identification number
<b>Client</b>	Name of a client, to whom a package is assigned
<b>Account</b>	Name of an account, to whom a package is assigned
<b>Package</b>	Name of an assigned package
<b>Limits</b>	Shows if a respective package has some volume limits and time or money left 1. On the left side of the bar, it shows the <b>destinations, code, or code names</b> . 2. On the right side of the bar, it shows a <b>specified limit</b> .
<b>Current Period Start/Stop</b>	Date of package activation for a respective client/account End date of a package period (a package period is set in Packages Period Settings)
<b>Subscription Start/Stop</b>	Effective start and stop date of the subscription

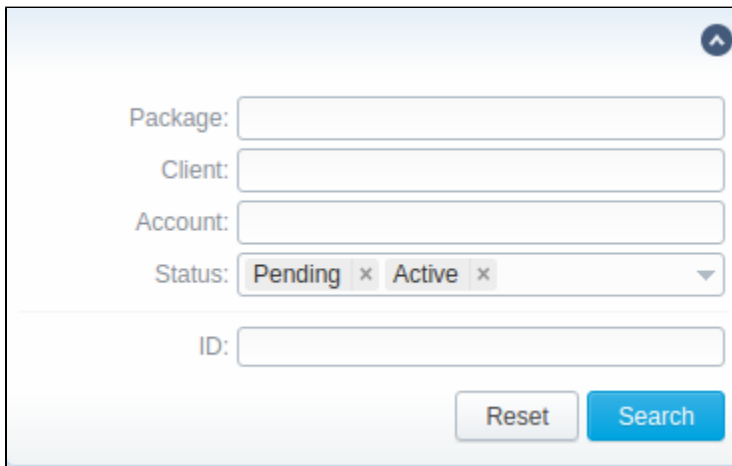
Button/Icon	Description
	Allows assigning a package to a corresponding client/account
	Shows the full list of packages that were assigned to this client/account
	Marks a package that was successfully activated and will renew itself due to the package settings
	Marks a package that is new for a current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

	Allows editing a client's subscription
	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.
	Cancels the active package
	Removes a subscription completely

## Advanced Search

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

*Screenshot: Advanced Search drop-down menu*



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

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

## Assigning a New Package

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

*Screenshot: Subscriptions add form*

**Subscriptions**

**GENERAL SETTINGS**

Package:

Client:

Account:

Start Date:

End Date:

Quantity:

Activate in the past:

**OVERRIDE PACKAGE FEES** +

Fee Type	Fee Name	Fee Note	Rate, USD	
Activation	Activation Fee		0.5	
Subscription	Subscription Fee		10	

Discounts from Package will not be used

Information block	Field	Description
General Settings	<b>Client</b>	Name of a client, to whom a package is assigned
	<b>Account</b>	Name of an account, to whom a package is assigned
	<b>Package</b>	Name of an assigned package
	<b>Start Date</b>	Package limits and discounts are only effective after a specified date
	<b>End Date</b>	Package limits and discounts are disabled after a specified date
	<b>Quantity</b>	Number of packages to be assigned
	<b>Activate in the past</b> checkbox	If checked and the Start Date field value is in the past, a subscription will be activated on the specified date
Override Package Fees	<b>Fee Type</b>	Select the type of fee. There are two possible types: <ul style="list-style-type: none"> <li><b>Activation</b> – a fee that will be charged upon subscription activation</li> <li><b>Subscription</b> – a fee that will be charged upon subscription renewal</li> </ul>
	<b>Fee Name</b>	Specify the name of a fee. This field is obligatory
	<b>Fee Note</b>	Here you may enter additional information about a fee
	<b>Rate, (currency)</b>	Indicate the price for a fee. Price is indicated in the package currency. This price will overwrite the fee of a Package

**Warning**

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

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

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

## Editing a Subscription

When clicking on the edit icon, detailed information on a subscription is displayed. In the **System information** data block, a user can view general info regarding the subscription including a client himself, start date, status, etc. What is more important, a user can change the subscription **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 Subscription** 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*

**Subscriptions**

---

**GENERAL SETTINGS**

Client: **Customer D**

Account: All Accounts

Package: **FREE MINUTES small**

---

Start Date: 05/01/2017 00:00:00 +0000

End Date:

Status: **Active**

Charge on Event: No

Charged: Yes

Reactivations: 20

Align to Payment Terms: Yes

Recalculate to Period: No

---

**LIMITS HISTORY**

Rows 1 – 10 10 ▼ Page 1

	Limits	Period Start Date	Period End Date
	*  15.00 min	04/01/2020 00:00:00	05/01/2020 00:00:00
	*  15.00 min	01/01/2020 00:00:00	02/01/2020 00:00:00
	*  15.00 min	12/01/2019 00:00:00	01/01/2020 00:00:00
	*  15.00 min	11/09/2019 03:20:05	12/01/2019 00:00:00
	*  15.00 min	05/02/2019 09:32:05	06/01/2019 00:00:00
	*  15.00 min	02/26/2019 03:18:08	03/01/2019 00:00:00
	*  15.00 min	12/14/2018 15:40:03	01/01/2019 00:00:00
	*  15.00 min	11/12/2018 03:21:03	12/01/2018 00:00:00
	*  15.00 min	09/11/2018 03:20:07	10/01/2018 00:00:00
	*  15.00 min	08/09/2018 09:49:11	09/01/2018 00:00:00

OK
Cancel
Apply

**Attention**

When you change the **name of the package** in the **Retail > Packages**, it will be automatically changed in the **Management > Subscriptions** section as well, even if this package is already assigned. As a result, in the **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 the Retail > Packages.**

# Traffic Processing

## In this article

- [Advanced Search](#)
- [Creating a New Traffic Processing Rule](#)
- [Creating a new Orig/Term 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 includes 2 tabs: **Traffic Processing** and **Orig/Term Rules**:

Screenshot: *Traffic Processing section*

ID	Stage	General	Client	Prefixes	Action	User	Order
1	After Client		Account: account 1			admin 06/12/2020	1
3	After Rate		Account: account 3	Dst Match: 56		admin 06/12/2020	1
2	After Client		Client: client 2	Src Match: 34		admin 06/12/2020	1

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

Screenshot: *Orig/Term Rules section*


Traffic Processing								Orig/Term Rules		
Add Rule								Rows 1 - 2 of 2	20	Page 1 of 1
ID	Orig	Term	Code	Action	Notes	Expiration Date	User			
4, 5	Client: client 2	Client: client 3	22	Deny		06/12/2020 10:03:28 +0000	admin 06/12/2020			
6, 7	Client: client 3	Client: client 2	12	Allow and Continue		06/12/2020 10:03:28 +0000	admin 06/12/2020			

Column Name	Description
<b>ID</b>	Rules identification number
<b>Orig</b>	Depending on rule parameters, a table can display the following scope of details: <ul style="list-style-type: none"> <li>• Origination Client</li> <li>• Origination Account</li> </ul>
<b>Term</b>	Depending on rule parameters, a table can display the following scope of details: <ul style="list-style-type: none"> <li>• Termination Client</li> <li>• Termination Account</li> </ul>
<b>Code</b>	Specify a destination code (use * as a wildcard)
<b>Action</b>	You can set up the following <b>Actions</b> for the rule: <ul style="list-style-type: none"> <li>• <b>Allow</b> - allow a current event to proceed. Stop further traffic processing rules within this type of rule;</li> <li>• <b>Allow and Continue</b> - allow a current event to proceed. Search for the next traffic rule;</li> <li>• <b>Deny</b> - deny a current event.</li> </ul>
<b>Notes</b>	Extra notes for the rule.
<b>Expiration Date</b>	Defines the date when the rule expires.
<b>User</b>	User name and time, when a rule was created/edited

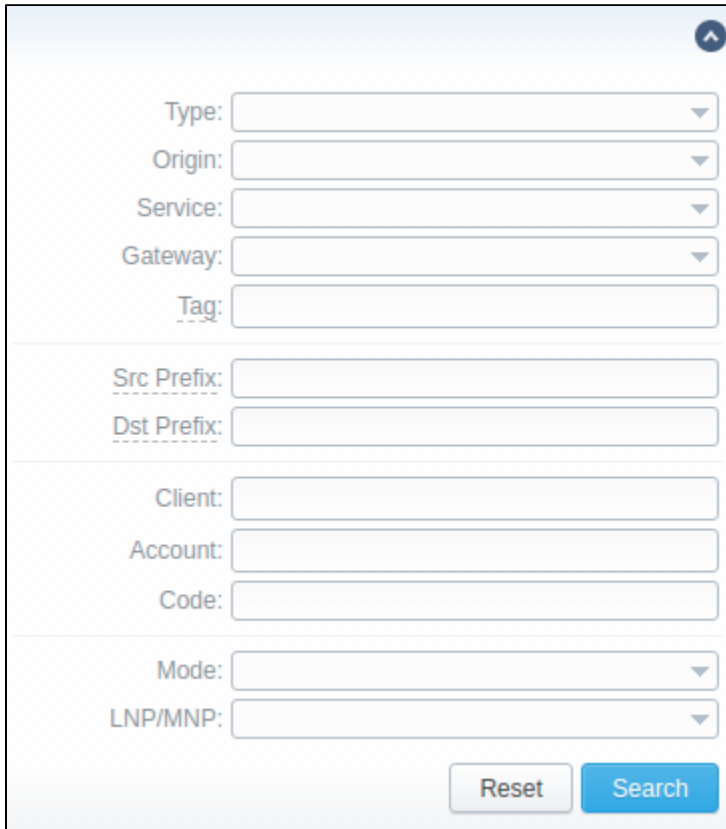
Functional **buttons/icons** presented in the section are as follows:

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 <b>origination</b>
	Indicates that a rule origin is <b>termination</b>
	Indicates the <b>Allow</b> action of a rule
	Indicates the <b>Allow and Continue</b> action of a rule
	Indicates the <b>Deny</b> 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 downward 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:

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

At the bottom of the form, there are two buttons: **Reset** and **Search**.

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:       Add Tags:

Src Replace:       LNP/MNP:

Dst Replace:       LNP Direction:

Set Service:       NANP Processing:

Information block	Field	Description
General	<b>Type</b>	<p>Specifies <b>at what stage</b> a current translation rule will be applied:</p> <ul style="list-style-type: none"> <li><b>Initial</b> - execute this rule before a Client is identified</li> <li><b>After Client</b> - execute this rule after client identification but before rate identification</li> <li><b>After Rate</b> - execute this rule after rate identification but before routing</li> <li><b>After Routing</b> - execute this rule after routing</li> </ul>
	<b>Src Code Deck</b>	Identify a code deck that will be used for <b>Src</b> codes or code names filtering
	<b>Dst Code Deck</b>	Identify a code deck that will be used for <b>Dst</b> codes or code names filtering
	<b>Order</b>	<p>Sets rules ordering that works within the same rule <b>Type</b>.</p> <div style="background-color: #ffff00; padding: 10px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <p>Note that this field indicates the order of rules execution only within a specified type. It means that a rule with the <b>Initial</b> type and order <b>1</b> will be executed before any other rule of the same type with order <b>2</b>. However, such rule will be executed prior to a rule with the <b>After Rate</b> type and order <b>0</b>, even though the latter has a higher order, due to the fact that <b>Initial</b> is the <b>1st</b> on the types list.</p> </div>

<b>Origin</b>	Specify the event origin: <ul style="list-style-type: none"> <li>• <b>Origination</b></li> <li>• <b>Termination</b></li> </ul>																								
<b>Notes</b>	Specify additional informational about a rule																								
<b>Expiration Date</b>	Define a date when this rule will expire and will be removed from the system																								
<b>Match</b>	<p>Select the required parameters for a traffic processing rule on the <b>Match</b> menu. To cancel any filter, click on the delete  sign next to its name.</p> <p>You can start a <b>quick search</b> by typing filters' names in the field at the top of the <b>Match</b> menu.</p> <div data-bbox="293 531 1484 640" style="background-color: #e0ffe0; padding: 5px; border: 1px solid #c0ffc0;"> <p> <b>Tip</b></p> <p>If, for instance, the <b>Client</b> filter is empty, it means that this rule will implicate all clients.</p> </div> <p><b>General</b></p> <table border="1" data-bbox="279 751 1498 1066"> <tr> <td data-bbox="279 751 370 793"><b>Service</b></td> <td data-bbox="370 751 1498 793">Select a target from the drop-down list of all services, presented in the Services section of your JeraSoft Billing</td> </tr> <tr> <td data-bbox="279 793 370 856"><b>Gateway</b></td> <td data-bbox="370 793 1498 856">Select a respective VoIP gateway, for which rule is applied, from the drop-down list</td> </tr> <tr> <td data-bbox="279 856 370 930"><b>Tags (Any)</b></td> <td data-bbox="370 856 1498 930">A rule will work if an event has at least one of the tags, specified in this field</td> </tr> <tr> <td data-bbox="279 930 370 1003"><b>Tags (All)</b></td> <td data-bbox="370 930 1498 1003">A rule will work if an event has all tags, specified in this field</td> </tr> <tr> <td data-bbox="279 1003 370 1066"><b>Tags (Not)</b></td> <td data-bbox="370 1003 1498 1066">A rule will work if an event has no tags, specified in this field</td> </tr> </table> <p><b>Src Party ID</b></p> <table border="1" data-bbox="279 1129 1498 1703"> <tr> <td data-bbox="279 1129 370 1192"><b>Src (Match)</b></td> <td data-bbox="370 1129 1498 1192">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 <b>SRC Replace</b> field.</td> </tr> <tr> <td data-bbox="279 1192 370 1308"><b>Src Prefixes (Any)</b></td> <td data-bbox="370 1192 1498 1308">A rule will work if an event has at least one of the Src prefixes (e.g., <b>010, 810</b>), specified in this field</td> </tr> <tr> <td data-bbox="279 1308 370 1423"><b>Src Prefixes (Not)</b></td> <td data-bbox="370 1308 1498 1423">A rule will work if an event has no Src prefixes (e.g., <b>010, 810</b>), specified in this field</td> </tr> <tr> <td data-bbox="279 1423 370 1560"><b>Src Prefixes Names (Any)</b></td> <td data-bbox="370 1423 1498 1560">A rule will work if an event has at least one of the Src prefixes names (e.g., <b>vodafone</b>), specified in this field</td> </tr> <tr> <td data-bbox="279 1560 370 1703"><b>Src Prefixes Names (Not)</b></td> <td data-bbox="370 1560 1498 1703">A rule will work if an event has no Src prefixes names (e.g., <b>vodafone</b>), specified in this field</td> </tr> </table> <p><b>Dst Party ID</b></p> <table border="1" data-bbox="279 1766 1498 1965"> <tr> <td data-bbox="279 1766 370 1850"><b>Dst (Match)</b></td> <td data-bbox="370 1766 1498 1850">In this field, you may indicate POSIX regular expressions syntax (<b>see best practice example below</b>), by which a number will be analyzed. If an expression matches the number, the translation will occur in respective settings in the <b>Dst Replace</b> field.</td> </tr> <tr> <td data-bbox="279 1850 370 1965"><b>Dst Prefixes (Any)</b></td> <td data-bbox="370 1850 1498 1965">A rule will work if an event has at least one of the Dst prefixes (e.g., <b>010, 810</b>), specified in this field</td> </tr> </table>	<b>Service</b>	Select a target from the drop-down list of all services, presented in the Services section of your JeraSoft Billing	<b>Gateway</b>	Select a respective VoIP gateway, for which rule is applied, from the drop-down list	<b>Tags (Any)</b>	A rule will work if an event has at least one of the tags, specified in this field	<b>Tags (All)</b>	A rule will work if an event has all tags, specified in this field	<b>Tags (Not)</b>	A rule will work if an event has no tags, specified in this field	<b>Src (Match)</b>	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 <b>SRC Replace</b> field.	<b>Src Prefixes (Any)</b>	A rule will work if an event has at least one of the Src prefixes (e.g., <b>010, 810</b> ), specified in this field	<b>Src Prefixes (Not)</b>	A rule will work if an event has no Src prefixes (e.g., <b>010, 810</b> ), specified in this field	<b>Src Prefixes Names (Any)</b>	A rule will work if an event has at least one of the Src prefixes names (e.g., <b>vodafone</b> ), specified in this field	<b>Src Prefixes Names (Not)</b>	A rule will work if an event has no Src prefixes names (e.g., <b>vodafone</b> ), specified in this field	<b>Dst (Match)</b>	In this field, you may indicate POSIX regular expressions syntax ( <b>see best practice example below</b> ), by which a number will be analyzed. If an expression matches the number, the translation will occur in respective settings in the <b>Dst Replace</b> field.	<b>Dst Prefixes (Any)</b>	A rule will work if an event has at least one of the Dst prefixes (e.g., <b>010, 810</b> ), specified in this field
<b>Service</b>	Select a target from the drop-down list of all services, presented in the Services section of your JeraSoft Billing																								
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	<b>Dst Prefixes (Not)</b>	A rule will work if an event has no Dst prefixes (e.g., <b>010, 810</b> ), specified in this field
	<b>Dst Prefixes Names (Any)</b>	A rule will work if an event has at least one of the Dst prefixes names (e.g., <b>vodafone</b> ), specified in this field
	<b>Dst Prefixes Names (Not)</b>	A rule will work if an event has no Dst prefixes names (e.g., <b>vodafone</b> ), specified in this field
<b>Client</b>		
	<b>Client</b>	Specify a respective client  <b>⚠ Attention</b> Please be advised that any traffic processing rule can have either the <b>Client</b> or <b>Account</b> field.
	<b>Account</b>	Specify a respective account
	<b>Code</b>	Specify a destination code (use * as a wildcard)
<b>Action</b>	<b>Mode</b>	Defines an action that will be executed if a traffic rule matches: <ul style="list-style-type: none"> <li>• <b>Allow</b> - allow a current event to proceed. Stop further traffic processing rules within this type of rule;</li> <li>• <b>Allow and Continue</b> - allow a current event to proceed. Search for the next traffic rule;</li> <li>• <b>Deny</b> - deny a current event.</li> </ul>
	<b>Src Replace</b>	Replacement for a matched rule. For this field to work, the <b>Src Match</b> filter must be used in the <b>Match</b> information block.
	<b>Dst Replace</b>	Replacement for a matched rule. For this field to work, the <b>Dst Match</b> filter must be used in the <b>Match</b> information block.
	<b>Set Service</b>	Allows to change a specified service to another one while processing them
	<b>Add Tags</b>	Here you can add tags that will be added for events matching this rule
	<b>LNP/MNP</b>	Define a provider for the LNP/MNP service, which will be dipped for translation  <b>⚠ Attention</b> 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 <b>LNP/MNP</b> field, a user can select either <b>tja.ee (Routing Number)</b> or <b>tja.ee (Owner)</b> . The difference is as follows: <ul style="list-style-type: none"> <li>• <b>tja.ee (Routing Number)</b> - if a traffic processing rule executes, <b>372+Original Number</b> will be substituted by <b>372+Routing Number</b>, specified in the TJA database.</li> <li>• <b>tja.ee (Owner)</b> - if a traffic processing rule executes, <b>372+Original number</b> will remain unchanged. Instead, a <b>Dynamic Tag</b> indicating an <b>owner</b> of the number will be added to the call.</li> </ul> Please find more about TJA database <a href="#">here</a> .
	<b>LNP Direction</b>	Define, which <b>Party ID(s) (Src, Dst, or both)</b> will be used for LNP dipping. To enable this feature, you need to specify the <b>LN P/MNP</b> field.

<b>NANP Processing</b>	Define if NANP processing will be used for LNP dipping: <ul style="list-style-type: none"> <li>• <b>Enabled</b></li> <li>• <b>Disabled</b></li> </ul>
------------------------	---

**Attention**

Please be advised that after creation, the Traffic Processing Rule will be applied after the next run of the **Traffic Rules Manager**. Check its schedule in the [System Services](#) section.

**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**.

### Creating a new Orig/Term Rule


To perform a translation for a specific pair of **Originator** and **Terminator**, switch to the **Orig/Term Rules** tab, click the **Add Rule** button, and fill in the following fields:

Screenshot: New Orig/Term rule

Information block	Field	Description
General	<b>Dst Code Deck</b>	Identify a code deck that will be used for <b>Dst</b> codes or code names filtering
	<b>Notes</b>	Specify additional informational about a rule
	<b>Expiration Date</b>	Define a date when this rule will expire and will be removed from the system
Match	Select the required parameters for a traffic processing rule on the <b>Match</b> menu:	
	<b>Orig Client</b>	Specify a respective Origination client
	<b>Orig Account</b>	Specify a respective Origination account
	<b>Term Client</b>	Specify a respective Termination client
	<b>Term Account</b>	Specify a respective Termination account
	<b>Dst Prefixes (any)</b>	Specify a destination Code (use * as a wildcard). The field accepts multiple values



	<b>Dst Prefixes Names (any)</b> Specify a destination Code Name. The field accepts multiple values
<b>Action</b>	Defines an action that will be executed if a traffic rule matches: <ul style="list-style-type: none"> <li>• <b>Allow</b></li> <li>• <b>Allow and Continue</b></li> <li>• <b>Deny</b></li> </ul>

 **Attention**

Please be advised that after creation, the Orig/Term Rule will be applied after the next run of the **Traffic Rules Manager**. Check its schedule in the [System Services](#) section.

## Rules Import

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

Screenshot: Traffic processing rule import

Information block	Field	Description
<b>File Process</b>	<b>Select a file for import</b>	Select a <b>.csv</b> file to import a traffic processing rule from
	<b>Fields Delimiter</b>	Specify a delimiter symbol here. The possible options are: <ul style="list-style-type: none"> <li>• <b>Autodetect</b></li> <li>• <b>,</b></li> <li>• <b>;</b></li> <li>• <b>Tab</b></li> </ul> By default, the <b>Autodetect</b> option is selected.
<b>Import Config</b>	<b>Import Mode</b>	Specify what to do with the current traffic processing rules: <ul style="list-style-type: none"> <li>• <b>Keep previous data</b> - new rules will be added to the old ones</li> <li>• <b>Purge all other rules</b> - old rules will be deleted and substituted by the new ones.</li> </ul> By default, the <b>Keep previous data</b> option is selected.

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

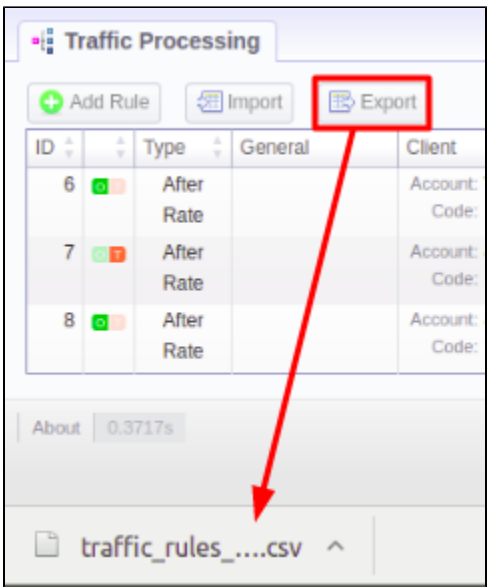
**Traffic Processing**

[+ Add Rule](#) [Import](#) [Export](#)

ID	Type	General	Client
6	After Rate		Account: Code:
7	After Rate		Account: Code:
8	After Rate		Account: Code:

About 0.3717s

traffic\_rules\_....csv ^



# Rates Section

This chapter has everything to do with **rates management**, and provides information regarding the **rates analysis** and **rates generator** tools of the **JeraSoft Billing**, as well as **agreements** upon rates notifications.

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

- [Rate Tables](#)
- [Rates](#)
- [Special Rates](#)
- [Rates Analysis](#)
- [Rates Generator](#)
- [Agreements](#)
- [Swap Deals](#)

# Rate Tables

## In this article

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

## Section overview

A Rate Table is one of the three core elements of the entire JeraSoft Billing system. Its purpose is to contain determined rates (prices) for each code (destination) on the list. This section allows you to manage your rate tables. It is presented in the form of a table with the following fields:

*Screenshot: Rate Tables section*

ID	Name	Currency	Src Code Deck	Dst Code Deck	Reseller	Notes
1	ORIG RT - Customer A	USD	DEFAULT	DEFAULT	Company A	
2	ORIG RT - Customer B	USD	DEFAULT	DEFAULT	Company A	
3	ORIG RT - Customer C	USD	DEFAULT	DEFAULT	Company A	
4	ORIG RT - Customer D	USD	DEFAULT	DEFAULT	Company A	
5	TERM RT - Vendor A	USD		DEFAULT	Company A	
6	TERM RT - Vendor B	USD		DEFAULT	Company A	
7	TERM RT - Vendor C	USD		DEFAULT	Company A	

Column Name	Description
<b>ID</b>	Rate table's identification number
<b>Name</b>	Name of a rate table
<b>Currency</b>	The currency of a rate table
<b>Src Code Deck</b>	Name of a source code deck, where names for Src codes are taken from
<b>Dst Code Deck</b>	Name of a destination code deck that contains Dst code names
<b>Reseller</b>	Name of a reseller respective rate table belongs to
<b>Notes</b>	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 managing rates within a specified rate table
	Allows managing special rates within a specified rate table
	If active (in color), allows running a rates generator tool on a specified rate table
	Forces rates notification to the clients
	Prompts to the Import History tab for the selected Rate Table
	Allows deleting a rate table 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 downward arrow icon, the following drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu


The screenshot shows a search interface with four dropdown menus: 'Reseller' (set to 'all resellers'), 'Src Code Deck', 'Dst Code Deck', and 'Currency'. Below these are 'Reset' and 'Search' buttons. A blue upward arrow icon is in the top right corner of the search area.

## Adding New Rate Table

To add a new rate table, click the **New Rate Table** button and define the respective values in a pop-up window:


Field	Description
<b>Name</b>	The title of a respective rate table
<b>Reseller</b>	The Reseller, to whom this rate table belongs
<b>Parent Rate Table</b>	<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><b>! Attention</b></p> <ol style="list-style-type: none"> <li>Please note that the <b>currencies</b> of a parent and current rate tables <b>should be the same</b>.</li> <li>The working method with a <b>Parent Rate Table</b> could be applied <b>only for origination</b>.</li> </ol> </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>
<b>Src Code Deck</b>	Indicate a code deck that contains source codes and code names
<b>Dst Code Deck</b>	The deck that consists of a list of destination codes and code names
<b>Currency</b>	Preferred currency (will be used in invoices)
<b>Rates with Taxes</b> checkbox	Tax settings. It's disabled by default. If you enable it, all rates will include the above tax in their values. When it is disabled, the tax value will be added as an additional invoice parameter.
<b>Description</b>	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, click **OK**. A 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
<b>Parameters</b>	Here you can change some parameters that you've specified during rate table creation
<b>Simulate</b>	Call simulation tool
<b>Import History</b>	Here you can view the history of importing from the <b>.csv</b> or <b>.xls</b> files

## Knowledge Base Articles

**Error rendering macro 'contentbylabel'**

parameters should not be empty

# Automatic Email Import

## In this article

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

## Automatic Email Import

This option allows a user to import rate tables from emails automatically. It means that the rate table data will be automatically updated by the data taken from a 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 the fields.

Screenshot: Automatic Email Import checkbox

The screenshot shows the 'Parameters' configuration window for 'RT 0 ORIG [USD]'. The 'GENERAL SETTINGS' section includes fields for Name, Reseller, Parent Rate Table, Src Code Deck, Dst Code Deck, Currency, and a checkbox for 'Rates Include Taxes'. The 'AUTOMATIC EMAIL IMPORT' checkbox is checked and highlighted with a red box. Below it, the 'RATES GENERATION' section has fields for 'Rates Generator', 'Agreement', and an 'Automatic generation' checkbox. The 'TABLE INFORMATION' section shows creation and last edited dates. At the bottom right, there are 'OK', 'Cancel', and 'Apply' buttons.

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

## Creating Import Template

### ⚠ Attention

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

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

Second, during rate table import, on the second step of the importing process, you need to specify a template name and click the **Save Template** button in the bottom left corner. After the importing process will be finished, a new rate table template will be added to the templates list in a respective field.

Screenshot: Rates importing process. Step 2

Import

**STEP 1: FILE SETTINGS**

Rate Table: RT 0 ORIG

Import Template: ▼

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

**STEP 2: IMPORT SETTINGS** "Rates" sheet type ▼

**rt.csv**

code	code name	effective from	rate	min length	max length	billing increment
301	Code 301	24-07-1996	1.23	2	9	1/1/1
302	Code 302	24-07-1995	2.23	3	10	1/1/2
303	Code 303	24-07-1994	3.23	4	11	1/1/3
304	Code 304	24-07-1993	4.23	5	12	1/1/4
+5 # 9771 rows skipped +5 #						
10073	Code 10073	24-07-100	9773.23	9774	9781	1/1/9773
10074	Code 10074	24-07-99	9774.23	9775	9782	1/1/9774
10075	Code 10075	24-07-98	9775.23	9776	9783	1/1/9775
10076	Code 10076	24-07-97	9776.23	9777	9784	1/1/9776
10077	Code 10077	24-07-96	9777.23	9778	9785	1/1/9777

**CODE RULES** +

Code	Status	Effective Date	Time Profile	Min	Int	Extra
*	Active ▼	In <input type="text"/> days from the midnight ▼	all time ▼	<input type="text" value="1"/>	<input type="text" value="1"/>	regular <span style="float: right;">⚙</span>

Save Template
Import



**Info**

If your vendor sends you zipped files, the system is able to unzip them during import.



# Simulate

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

Screenshot: *Simulate tab*

Field	Description
<b>Dst Party ID</b>	Specify Dst number of the event
<b>Src Party ID</b>	Specify Src number of the event
<b>Date</b>	Indicate the event date
<b>Tags</b>	Fill in this field if you wish to specify certain rate tags
<b>Service</b>	Specify a type of service
<b>Volume, (sec)</b>	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 a simulated event are presented in a table with the following structure:

Screenshot: *Event simulating results*

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

<b>Billed Time</b>	Billed time (minimal time of billing increment)
--------------------	---

# Parameters

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

Screenshot: Parameters tab

Information block	Fields description	
<b>General Settings</b>	General rate table information	
	• <b>Name</b>	Name of the rate table
	• <b>Reseller</b>	Reseller, to whom this rate table belongs
	• <b>Src Code Deck</b>	Indicate a code deck that contains source codes and code names
	• <b>Dst Code Deck</b>	The deck that consists of a list of destination codes and code names
	• <b>Currency</b>	Currency, specified for this rate table
	• <b>Rates Include Taxes</b> checkbox	If the field is checked, taxes are already included in the rate value. Otherwise, taxes will be added to a rate value as an additional invoice item
	• <b>Description</b>	Additional information concerning the current rate table
<b>Automatic Email Import</b> checkbox	Data used for automatic rates import into a current rate table (see the <a href="#">Automatic Email Import</a> article)	
<b>Rates Generation</b>	• <b>Rates Generator</b>	Select a Rates Generator for generating rates to this particular rate table
	• <b>Agreement</b>	Specify an Agreement to be used during rates generation
	• <b>Automatic Generation</b> checkbox	If enabled, lets the current rate table to be updated automatically due to being bound to the previously selected Rates Generator
<b>Table Information</b>	Information concerning the date of the rate table creation and last editing	

# Rates

## In this article

- [Section Overview](#)
- [Adding New Rate](#)
- [Editing Rate](#)
- [Mass Rate Edit](#)
- [Advanced Search](#)
- [Stashed rates](#)

## Section Overview

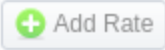


This tab is a cornerstone of the whole section, containing the list of all codes with indication of personal parameters. The tab allows adding and managing rates, as well as their mass editing, importing, and exporting.

Screenshot: Rates window

Rate Table	Src Code	Code	Code Name	Rate	Effective Date	End Date	Tag	Notes	SF	Min	Int	Time Profile
ORIG RT - Customer A		1	USA	A — 0.0001 USD	2020-07-01 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1	USA	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1143	USA	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1204	CANADA MANITOBA PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1226	CANADA ONTARIO PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1242	BAHAMAS	R — 0.1741 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1246	BARBADOS	R — 0.2184 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1250	CANADA BRITISH COLUMBIA PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1264	ANGUILLA	R — 0.1754 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1268	ANTIGUA AND BARBUDA	R — 0.2184 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1284	VIRGIN ISLANDS UK	R — 0.2118 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1289	CANADA ONTARIO PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1306	CANADA SASKATCHEWAN PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1340	VIRGIN ISLANDS US	R — 0.0179 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1343	USA	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1345	CAYMAN ISLANDS	R — 0.1561 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1403	CANADA ALBERTA PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1416	CANADA TORONTO PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1418	CANADA QUEBEC PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time
ORIG RT - Customer A		1438	CANADA MONTREAL PROPER	R — 0.0065 USD	2020-03-23 00:00:00+0000	2021-08-17 00:00:00	@		0	1	1	all time


Column Name	Description
<b>Rate Table</b>	Rate table of a rate
<b>Src Code</b>	Source code of a rate
<b>Code</b>	Destination code of a rate
<b>Code Name</b>	Destination code name of a rate
<b>Policy</b>	Policy of a rate (A for <i>additive</i> , R for <i>regular</i> )
<b>Rate</b>	Price per unit of service
<b>Effective Date</b>	Date when a rate becomes active
<b>End Date</b>	Date when a rate expires
<b>Tag</b>	Tag of a rate
<b>Notes</b>	Additional information about a rate
<b>SF</b>	Setup fee of a rate
<b>Min</b>	Minimal billed volume
<b>Int</b>	Billed interval
<b>Time Profile</b>	Time profile of a rate

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

Button/Icon	Description
	Allows adding a new rate to the system
	Allows editing a rate  <b>⚠ Attention</b> Please note that a rate cannot be edited if it was created along with a special rate. For editing such a rate, go to the <b>Special Rates</b> section and edit a respective special rate.
	Allows deleting a rate from the system

## Adding New Rate

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

Field	Description
<b>Rate Table</b>	Indicate a rate table for a new rate
<b>Code</b>	Indicate a destination code for a new rate   The field accepts multiple values, delimited by a comma, or ranges.
<b>Code Name</b>	Name of a destination code group
<b>Src Code</b>	Specify a source code for a new rate  <b>⚠ Attention</b> Please note that <b>rates with Src Codes are not used</b> when termination tariffs are chosen for Dynamic Routing. This functionality is going to be reworked in the upcoming releases.
<b>Src Code Name</b>	Indicate a source code name
<b>Rate</b>	Price per unit of a service
<b>Interval</b>	Tariffication interval. This parameter is used when <b>Min Volume</b> expires. For instance, if call time is <b>26</b> seconds, <b>Min Volume</b> is <b>25</b> , and <b>Interval</b> is <b>8</b> , the client will pay for <b>33</b> seconds
<b>Min Volume</b>	Minimal time of the call that will be tariffed. For example, if the total call time was <b>20</b> seconds and the <b>Min Volume</b> is <b>30</b> , the client will pay for <b>30</b> seconds of the call.
<b>Grace Volume</b>	Time interval that will not be tariffed (free time). For instance, if you specified 5 sec as <b>Grace Volume</b> , all calls with duration up to 5 seconds (including calls with a session time of 5 seconds) will be free of charge.
<b>Setup Fee</b>	Setup fee (charged when event duration is <b>longer than 0 seconds</b> )
<b>Effective Date</b>	Rate start date (newest available rate for a particular destination)
<b>End Date</b>	After a specified date, the target rate will not be used
<b>Services</b>	Select a service for a current rate (calls, SMSs, data)

<p><b>Policy</b></p>	<p>This option allows selecting a rate type for a code: regular rate or an additive (extra) rate:</p> <ul style="list-style-type: none"> <li>◦ <b>regular rate</b> - this policy signifies a usual rate definition for the event;</li> <li>◦ <b>additive (extra) rate</b> - this policy signifies that this rate will be added to a regular rate for the event.</li> </ul> <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> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note that the system uses <b>only the 'Rate' parameter from the additive rates' settings</b> when billing.</p> </div>
<p><b>Time Profile</b></p>	<p>Time profile that will be used for a current rate. For example, <b>business time, non-business time, weekends</b>, etc.</p>
<p><b>Tag</b></p>	<p>Specify a tag for the respective rates. If it's not applicable, assign a <b>(@) tag</b> as default</p>
<p><b>Notes</b></p>	<p>Additional information about the current rate</p>
<p><b>Stash Future Rates</b></p>	<p>Select what the system should do to the future rates for the same destinations existing in the system:</p> <ul style="list-style-type: none"> <li>• <b>preserve;</b></li> <li>• <b>stash.</b></li> </ul>
<p><b>Force Notification</b></p>	<p>Select the system behavior regarding the notification process for the newly created rate:</p> <ul style="list-style-type: none"> <li>• <b>hold;</b></li> <li>• <b>force.</b></li> </ul>
<p><b>Number Length</b></p>	<p>Specify a minimum and maximum length of the destination number.</p> <p>For example, if you have a rate of <b>3 USD</b> for <b>123 Dst Code</b> with indicated number length from <b>6 to 9</b>, and another rate of <b>5 USD</b> for the same <b>123 Dst Code</b> without specified number length, all calls with a <b>Dst Number</b> between <b>6</b> and <b>9</b> digits will be billed by <b>3 USD</b> , otherwise, by <b>5 USD</b>.</p>

Screenshot: Adding a New Rate

Rates

**GENERAL SETTINGS**

Rate Table:

Src Code:

Src Code Name:

Code:

Code Name:

**RATING SETTINGS**

Rate:  USD

Interval:  sec

Min Volume:  sec

Grace Volume:  sec

Setup Fee:  USD

**LIMITATIONS**

Effective Date:

End Date:

Services:

Policy:

Time Profile:

**EXTRA**

Tag:

Notes:

Stash Future Rates:

Force Notification:

Number Length:  —


After you finish filling in all the fields, click .

## Editing Rate

Starting from the v.3.18, there is a possibility of inline rates editing. For this, click on a respective rate line once. You will be able to correct the **Src** and **Dst Code**, **Rate**, **Effective Date**, **Notes**, **SF**, **Min**, **Int**, and **Time Profile** columns:

Screenshot: *Inline editing a Rate*

Rate Table	Src Code	Src Code Name	Code	Code Name	Rate	Effective Date	Notes	SF	Min	Int	Policy	Time Profile		
RT 0 ORIG			1	USA	2 USD	2018-12-15 10:20:41		2	1	1	Regular	non-business	✓	✖

When you are done, click the  icon to confirm the change without page reload.

### ⚠ Attention

After a rate was updated, it is still present in the list of filtered rates (if enabled) regardless of the set values. You need to **update the page** to see the filtered list without the changed rate (if the changes do not align with the filter).

## Mass Rate Edit

It's possible to make a mass update of the rates filtered by the rate table by clicking on Mass Edit. The drop-down menu will appear, where you need to fill in the fields according to your needs. There are six 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;
- **absolute** - take the entered value as an absolute one;
- **relative** - take the entered value as a relative one.

The list of mass edit fields is as follows:

Screenshot: *Mass Edit button*

Mass Edit

Status:	preserve		
Rate:	preserve		absolute
SF:	preserve		absolute
Tag:	preserve		
Min Volume: preserve			
Interval: preserve			
Grace Volume: preserve			
Effective Date: preserve			
End Date: preserve			
Time Profile:		preserve	all time
Notes:		preserve	
Number Length min:		preserve	
Number Length max:		preserve	

Delete All
Preview

Field	Description
<b>Status</b>	Change rates statuses. Available options: <b>preserve, set to</b>
<b>Rate</b>	Change rates values. Available options: <b>preserve, set to, inc for, dec for, absolute, relative</b> . You can increase or decrease the value either by fixed number or percent. To increase or decrease by percent, enter % sign after the desired number.  <div style="background-color: #ffe6e6; padding: 5px;"> <p><b>Warning</b></p> <p>Do not enter non-numeric symbols.</p> </div>
<b>SF</b>	Change setup fee values. Available options: <b>preserve, set to, inc for, dec for, absolute, relative</b> . You can increase or decrease the value either by fixed number or percent. To increase or decrease by percent, enter % sign after the desired number.  <div style="background-color: #ffe6e6; padding: 5px;"> <p><b>Warning</b></p> <p>Do not enter non-numeric symbols.</p> </div>
<b>Tag</b>	Change rates tags. Available options: <b>preserve, set to</b>
<b>Min. Volume</b>	Change minimal volume values. Available options: <b>preserve, set to</b>
<b>Interval</b>	Change tariffication interval values. Available options: <b>preserve, set to</b>
<b>Grace Volume</b>	Change grace volume values. Available options: <b>preserve, set to</b>
<b>Effective Date</b>	Change rates start date values. Available options: <b>preserve, set to</b>
<b>End Date</b>	Change rates end date values. Available options: <b>preserve, set to</b>
<b>Time Profile</b>	Change rates profiles. Available options: <b>preserve, set to</b>
<b>Notes</b>	Change rates notes. Available options: <b>preserve, set to</b>
<b>Number Length Min</b>	Change the minimum length of destination numbers. Available options: <b>preserve, set to</b>
<b>Number Length Max</b>	Change the maximum length of destination numbers. Available options: <b>preserve, set to</b>

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

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

To delete all displayed rates, click **Delete All** in a Mass Edit menu.

## Advanced Search

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

Screenshot: Rates tab search settings



Rate Table:

Code:  Time Profile:  Prev Diff Status:

Code Name:  Tag:  Next Diff Status:

Field	Description
<b>Rate Table</b>	Filter rates by a selected <b>rate table</b>
<b>State</b>	Search by <b>the period of a rate</b> during which the rate is active, expired, etc., as compared to the date specified in the next field. The following states are available to choose from a drop-down list: <ul style="list-style-type: none"> <li>• <b>current/future</b> - includes current and future rates</li> <li>• <b>current on</b> - the search includes rates that are active for a specified date</li> <li>• <b>future for</b> - the future rates compared with a specified date</li> <li>• <b>past for</b> - the search rates that are expired for a specified date</li> <li>• <b>all</b> - includes all rates</li> </ul>
<b>Time Profile</b>	Search by the <b>time profile</b> of the rate
<b>Tag</b>	Search by an <b>assigned tag</b>
<b>Notification status</b>	Search by the <b>date of rate notifications</b> to the clients: <ul style="list-style-type: none"> <li>• <b>sent/not sent</b></li> <li>• <b>sent</b></li> <li>• <b>not sent</b></li> </ul> <p>The field will be autocompleted with a date of the last notification of the filtered rates.</p>
<b>Prev Diff Status</b>	Search by <b>the cost changes of the current rate from previous</b> . The following types are available to choose from a drop-down list: <ul style="list-style-type: none"> <li>• <b>Decreased</b></li> <li>• <b>Increased</b></li> <li>• <b>Not changed</b></li> <li>• <b>New</b></li> </ul>
<b>Next Diff Status</b>	Search by <b>the cost changes of the next rate from the current</b> . The following types are available to choose from a drop-down list: <ul style="list-style-type: none"> <li>• <b>Decreased</b></li> <li>• <b>Increased</b></li> <li>• <b>Not changed</b></li> <li>• <b>New</b></li> </ul>

When you have a filtered output and want to add a new rate, it will inherit filtered settings (a.k.a. will have them autocompleted in the adding form). These settings are **Rate Table, Policy, Time Profile, Service, Tag**.

**Attention**

When you filter rates by the state (for example, **current/future, future for, current on**), the **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 (click the **Confirm Filtered Rates** button). Unconfirmed rates appear during the import process.

Screenshot: Rates tab settings

Src Code	Src Code Name	Dst Code	Dst Code Name	Rate	Effective Date	Min	Int	Extra	
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	3.0000 ▾ 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	1.4000 ▲ 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 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

Confirm Filtered Rates OK Cancel Apply

# Import

## In this article

- [Import Tab](#)
  - [Step 1. Selecting a 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 a user with a possibility to import rates to JeraSoft Billing by uploading a **.csv** or **.xls** file. The whole process can be divided into several steps discussed below. You can access the rates import by clicking the **Import** button in the Rates section:

Screenshot: *Import button*

Rate Table	Src Code	Src Code Name	Code	Code Name	Rate	Effective Date	Notes	SF	Min	Int	Policy	Time Profile
ORIG RT - Customer A			1	USA	0.1650 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time
ORIG RT - Customer A			1143	USA	0.1650 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time
ORIG RT - Customer A			1204	CANADA MANITOBA PROPER	0.0070 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time
ORIG RT - Customer A			1226	CANADA ONTARIO PROPER	0.0070 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time
ORIG RT - Customer A			1242	BAHAMAS	0.1841 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time
ORIG RT - Customer A			1246	BARBADOS	0.2310 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time
ORIG RT - Customer A			1250	CANADA BRITISH COLUMBIA PROPER	0.0070 USD	2019-11-14 00:00:00+0000		0	1	1	Regular	all time

### Note

The button will only be active when you filter the rates by the rate table.

## Step 1. Selecting a File and Specifying Additional Parameters

The first thing you need to do in the import configurations view is to select a rate table (the import template will autocomplete if existent). Then, drag-and-drop or upload an import file. Additionally, you can specify the following parameters:

Screenshot: *Step 1. File Settings*

Field	Description
<b>Rate Table</b>	This field will be autocompleted with the name of a rate table if the rates are filtered in the Rates section. If not applicable, select a target rate table
<b>Import Template</b>	Select a target template for rates importing if available

**Warning**

1. 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.
2. While specifying the **Effective Date** and **End Date**, keep in mind that **Timezone** is **UTC (+0000)** by default.
3. Please **DO NOT** import duplicates of the same **Code** in one import file.

## Step 2. Import Settings

The system will recognize the file and display the first and last 5 rows of the first sheet. You will need to select the start and end lines of an import table (marked green). The middle lines are skipped, you can unfold them both ways by five lines by clicking the respective buttons. To switch from one sheet with rates to another, click on a respective tab: i.e., **Sheet 1**, **Sheet 2**, etc.

Screenshot: Step 2. Import Settings

The screenshot displays the 'Import' configuration page. Under 'STEP 1: FILE SETTINGS', the 'Rate Table' is 'ORIG RT - Customer B' and 'Import Template' is a dropdown menu. A file named 'import.csv' is selected, with a 'Choose a file or drag it here' prompt. 'STEP 2: IMPORT SETTINGS' features a table with columns: Code, Code Name, Rate, and Effective Date. The table lists codes for USA (1, 1143) and GEORGIA (995, 9952, 996, 998, 9989) with their respective rates and effective dates. A note indicates '+5 # 741 rows skipped +5 #'. Below the table is the 'CODE RULES' section, which includes fields for Code, Status (Active), Effective Date (days from the midnight), Time Profile (all time), Min (1), Int (1), Extra, and a 'regular' status. 'Save Template' and 'Import' buttons are located at the bottom.

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


- **Rates** type - an equivalent to an importing page from earlier versions. While importing, **at least 1 sheet must be of Rates type**. For this type, the following columns are mandatory:
  1. **Dst Code/Code Name** - indicate at least one of them
  2. **Rate**
  3. **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 a user to perform the import to the code deck attached to the rate table. For this, indicate source codes/code names in the two columns: **Src Code** and **Src Code Name**. If selected, both columns must be specified.
- **Codes** type - this type allows a user to perform the import to the code deck attached to the rate table. For this, indicate destination codes/code names in the two columns: **Code** and **Code Name**. If selected, both columns must be specified.

Starting from **JeraSoft Billing v3.18.0**, the user has an option to select the **Skip this sheet** option for the system to ignore the respective sheet during import. More about sheet types configuration [here](#).

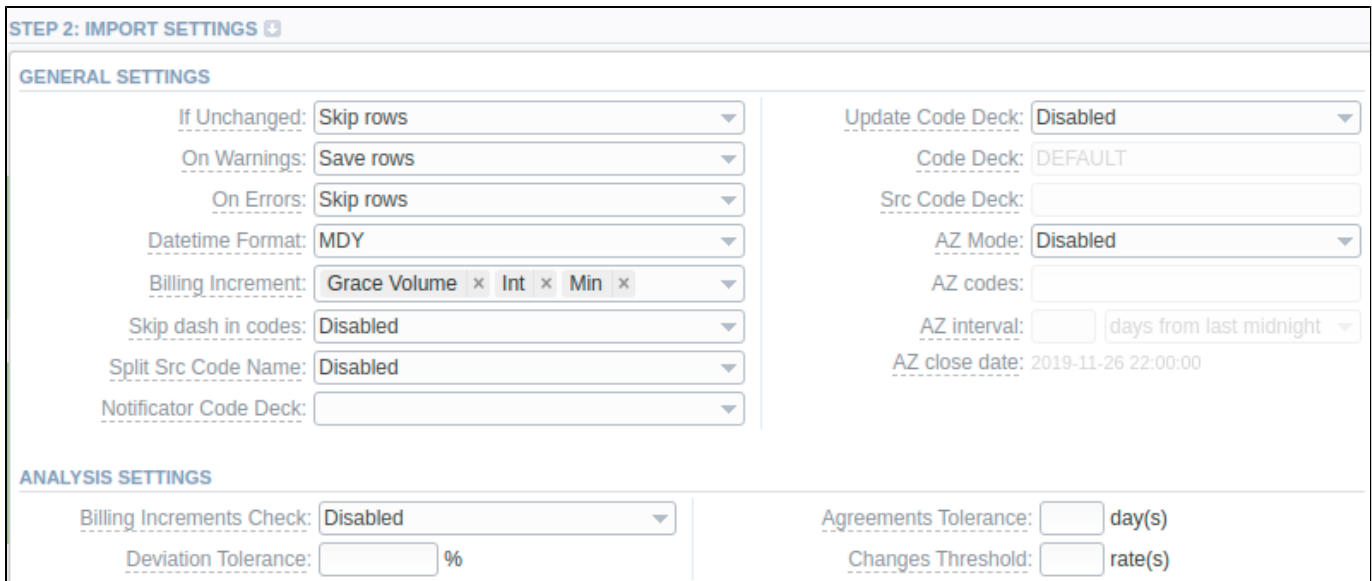
Screenshot: Sheet types



On the second step, you can also save the importing rate table as a template for further usage during import. To do so, specify a template title in the bottom left corner of the tab, and click the **Save Template** button (see screenshot above).


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

Screenshot: Advanced settings



Field	Description
<b>If Unchanged</b>	Determines system behavior if it detects rates in the imported file with all the same settings as the ones already present in the Rate Table but <b>Effective Date</b> . Has two options: <ul style="list-style-type: none"> <li>• <b>Save rows</b></li> <li>• <b>Skip rows</b></li> </ul>
<b>On Warnings</b>	Manages alerts from the <b>Analysis Settings</b> section. If any, you'll have the option to: <ul style="list-style-type: none"> <li>• <b>Save rows</b></li> <li>• <b>Skip rows</b></li> <li>• <b>Abort import</b></li> </ul>
<b>On Errors</b>	Determines billing behavior if inconsistency or error was found in the importing file (data inconsistency, incorrect symbols, etc.) <ul style="list-style-type: none"> <li>• <b>Import correct rows and show all found errors</b> - import error-free rows and display the list of errors, if any</li> <li>• <b>If errors are found, abort import and show all errors</b> - if any error is found, stop the import and display a list of errors</li> </ul>

<p><b>Datetime Format</b></p>	<p>Specify the date format of an 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"> <li>• DD-MM-YYYY (%d-%m-%Y) = 28-12-2018</li> <li>• YYYY-MM-DD (%Y-%m-%d) = 2018-12-28</li> <li>• MM/DD/YYYY (%m/%d/%Y) = 12/28/2018</li> <li>• DD.MM.YYYY (%d.%m.%Y) = 28.12.2018</li> <li>• YYYY/MM/DD (%Y/%m/%d) = 2018/12/28</li> <li>• YYYYMMDD (%Y%m%d) = 20181228</li> <li>• YYYY-MM (%Y-%m) = 2018-12</li> </ul>
<p><b>Billing Increment</b></p>	<p>Billing Increment defines the way events are billed and combines two parameters: <i>minimum volume</i> and <i>tariffication interval</i> or three parameters: <i>minimum volume</i>, <i>tariffication interval</i> and <i>grace volume</i>. Indicate the order of parameters recognition in the <b>Billing Increment</b> column:</p> <ul style="list-style-type: none"> <li>• <b>Min Volume/Interval</b></li> <li>• <b>Interval/Min Volume</b></li> <li>• <b>Min Volume/Interval/Grace Volume</b></li> <li>• <b>Interval/Min Volume/Grace Volume</b></li> </ul> <p>For example, if the <b>Billing Increment</b> column in your import file is <b>1, 5</b>, and you selected <b>Min Volume/Interval</b> value in this field, the system will recognize <b>1</b> as <b>Minimum Volume</b> and <b>5</b> as a <b>Tariffication Interval</b> for a target rate.</p>
<p><b>Skip dash in codes</b></p>	<p>Select whether a dash in codes must be skipped or not:</p> <ul style="list-style-type: none"> <li>• <b>Enabled</b> - codes, written as <b>1201-1205</b>, will be imported as a single <b>12011205</b> code</li> <li>• <b>Disabled</b> - <b>1201-1205</b> codes will be imported as separate <b>1201, 1202, 1203, 1204, 1205</b> codes</li> </ul>
<p><b>Split Src Code Name</b></p>	<p>This option is used only in case source code names contain an <b>underscore</b> symbol. Choose one of the following:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> - if an Src Code Name is, for instance, <b>USA_Columbia</b>, it will be preserved as it is after import.</li> <li>• <b>By underscore</b> - if selected, a <b>USA_Columbia</b> Code Name will be changed to <b>Columbia</b> after import.</li> </ul>
<p><b>Notificator Code Deck</b></p>	<p>Specify code decks that will be used for the next rates notification</p>
<p><b>Update Code Deck</b></p>	<p>Select the way you want <b>both Src</b> and <b>Dst</b> code decks to be updated with new/existing code names from current rates file:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> - leave selected code decks unchanged</li> <li>• <b>Import only not existing codes</b> - code decks will be updated with codes and their names if they are missing</li> <li>• <b>Import all codes (update existing)</b> - code decks and codes will be updated with code names taken from a file, overwriting of existing ones</li> <li>• <b>Import all codes (purge code deck first)</b> - code decks are fully cleared and then all codes and code names are imported from a file</li> </ul> <div style="background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <p>If <b>Src Code</b> and/or <b>Dst Code</b> sheet type is selected, you need to enable this feature</p> </div>
<p><b>Code Deck</b></p>	<p>Dst Code Deck that will be used for an <b>Update Code Deck</b> 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 a file, which contains <b>Code Names</b> in addition to <b>Codes</b>).</p>
<p><b>Src Code Deck</b></p>	<p>Src Code Deck that will be used for an <b>Update Code Deck</b> 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 a file, which contains <b>Code Names</b> in addition to <b>Codes</b>).</p>
<p><b>AZ Mode</b></p>	<p>A special mode that determines system behavior regarding <b>active/future</b> rates:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> - leave active/future rates unchanged. Selected by default.</li> <li>• <b>Simple mode</b> - active rates from a current Rate Table will be closed on the specified <b>AZ close date</b> if they aren't present in this import.</li> <li>• <b>Extended mode</b> - 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.</li> </ul>
<p><b>AZ codes</b></p>	<p>Available if AZ Mode is <b>active</b>. Specify the exact code(s) <b>AZ Mode</b> is going to be applied to. By default, the field value is <b>"" (all codes)</b></p>

<b>AZ interval</b>	<p>Available if AZ Mode is <b>active</b>. Specify the period for AZ mode to close rates. The selectable options are:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rates will be closed after the specified amount of days from the midnight of the import day</li> <li>• <b>days from now</b> - the rates will be closed after the specified amount of days from the import day</li> <li>• <b>hours from XX:00</b> - the rates will be closed after the specified amount of hours from the start of an hour of the import timestamp</li> <li>• <b>hours from now</b> - the rates will be closed after the specified amount of hours from the import timestamp</li> </ul> <div style="background-color: #e0ffe0; padding: 5px; margin-top: 10px;"> <p> <b>Tip</b></p> <p>For a detailed explanation, check out our <a href="#">Knowledge Base article</a></p> </div>
<b>AZ close date</b>	Available if AZ Mode is <b>active</b> . The field displays the time and date of rates closure based on the <b>AZ interval</b> parameters.
<b>Billing Increments Check</b>	<p>Select whether you need billing increments checking during import or not:</p> <ul style="list-style-type: none"> <li>• <b>Enabled</b> - the system will raise an error in case imported rates' billing increments differ from those already present in the Rate Table.</li> <li>• <b>Disabled</b></li> </ul>
<b>Deviation Tolerance, (%)</b>	Define the value of how much can an imported rate differ from an existing one in percent. If exceeded, the system will generate an alert for the manager.
<b>Agreements Tolerance, (days)</b>	Define a number of days that the system will take into account while analyzing the new import and the current agreement with the vendor. If the dates of an agreement and the import are closer then the specified amount, the system will generate an alert for the manager.
<b>Changes Threshold, (rates)</b>	Define a number of changed rates that will serve as a threshold for the selected rate table. If exceeded, the system will generate an alert for the manager.

 **Attention**

If you have rates with missing **Rate** value in the importing file, the system will find the previous rate for the same destination and take this value from there (if the previous rate was not closed).

When you have rates with missing **Effective Date** value, the system will take it from the **End Date** value.



## Code Rules Information Block

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


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

There is one default rule with \* **code** that affects all the imported codes. The not specified columns of the imported rates will be filled in with the respective field values of this code rule. The list of code rules fields is as follows:

Screenshot: Rates import - Code Rules settings

CODE RULES 						
Code	Status	Effective Date	Time Profile	Min	Int	Extra
*	Active	in <input type="text"/> days from the midnight	all time	<input type="text" value="1"/>	<input type="text" value="1"/>	regular 

Field	Description
<b>Code</b>	Indicate a destination code. For all codes, use * (asterisk)
<b>Status</b>	Indicate a status for the rates. By default, it will be <b>Active</b> . Set the <b>Stashed</b> status if you want to double-check them later after import.
<b>Effective Date</b>	<p>Specify a start date of a rate. There are various options to schedule this date:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rates will be active after the specified amount of days from the midnight of the import day</li> <li>• <b>days from now</b> - the rates will be active after the specified amount of days from the import day</li> <li>• <b>hours from XX:00</b> - the rates will be active after the specified amount of hours from the start of an hour of the import timestamp</li> <li>• <b>hours from now</b> - the rates will be active after the specified amount of hours from the import timestamp</li> </ul>

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

After specifying all additional parameters, click the **Import** button.

### Step 3. Import Errors


Provided a non-critical error(s) occurred, you will see a table, where the 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

STEP 3: IMPORT ERRORS		
RT ORIG - Rose		
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

 **Too many errors. Please download file to see detailed data.**

**Download file**

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

Column	Description
<b>Sheet</b>	Index number of the sheet, where an error occurred
<b>Line</b>	Line of the sheet, where an error occurred
<b>Errors</b>	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 the **Rates** section where all imported rates will be displayed. If the **Auto-Confirm** option was disabled during the import process, you need to **Mass Edit** the rates' status from **stashed** to **active**.

Screenshot: Confirming Rates



### Import History Tab

The tab contains information about all executed imports to this rate table. You can access it in the **Rate Tables {Specific Rate Table} Import History**. It is presented in the form of a table with the following columns:

Screenshot: Import History output

Rows 1 - 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 the import
File	Import file. By clicking on the  icon, the file will be downloaded

<b>Total</b>	Total amount of imported rows
<b>New</b>	Total amount of rates with New type
<b>Increased</b>	Total amount of rates with Increased type
<b>Decreased</b>	Total amount of rates with Decreased type
<b>Unchanged</b>	Total amount of rates with Unchanged type
<b>A-Z Closed</b>	Number of rates, closed by A-Z import
<b>A-Z Stashed</b>	Number of rates, stashed by A-Z import
<b>Status</b>	Status of import procedure ( <i>success/failed</i> )
<b>Error File</b>	File that contains a description of all errors that occurred during import. By clicking on the  icon, the file will be downloaded
 <b>icon</b>	When clicked on, deletes respective import data from the system

The imported rates are divided into the following types: **Unchanged, Increased, Decreased, New**. By clicking on the respective numbers of rates, you can see filtered rates by type (see screenshot above) in the **Rates** section.

 **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**) and they don't have an **End Date** value. If the **End Date** value is present in a previous rate, the fresh one will be marked as **New**.

# Export

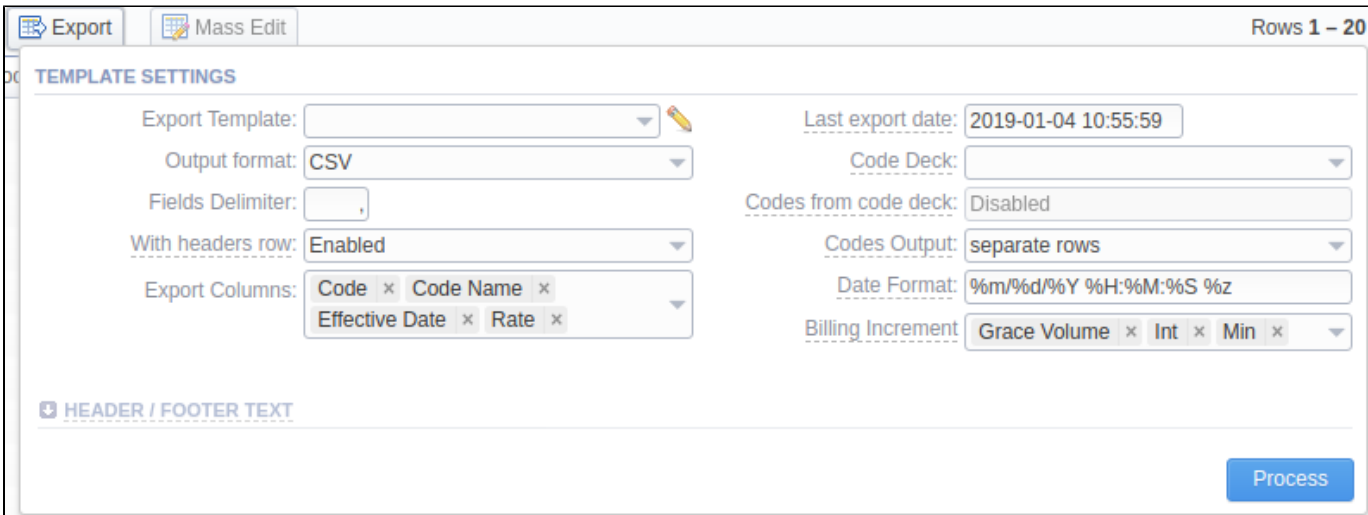
Rates export provides great flexibility in configuring the way rates will be exported in **.csv** or **.xlsx** files. To access the export settings, click the **Export** button in the Rates section.

Screenshot: Rates export button



You can use the same advanced search tool, as provided on the Rates tab, to choose which rates you would like to export (including **all**, **past**, **current**, **future**, or **current/future**) prior to actually doing it. After clicking a respective button, the following settings will be visible:

Screenshot: Rates exporting window



Field	Description
<b>Export Template</b>	Select an export template or save an existing one using the <b>Save</b> button
<b>Output Format</b>	Specify output file format, <b>.xlsx</b> or <b>.csv</b>
<b>Fields Delimiter</b>	Set delimiter for fields if you've chosen <b>.csv</b>
<b>With headers row</b>	Include column names into the file
<b>Export Columns</b>	Here you can select from the drop-down list of maximum 25 columns to export:
<ul style="list-style-type: none"> <li><b>Src Code/Src ode Name</b></li> </ul>	Src Code/code name of rates
<ul style="list-style-type: none"> <li><b>Code/ode Name</b></li> </ul>	Code/code name of rates
<ul style="list-style-type: none"> <li><b>Effective Date</b></li> </ul>	Start date, before which the rate will not be used
<ul style="list-style-type: none"> <li><b>Rate</b></li> </ul>	Price per unit, specified in respective service settings
<ul style="list-style-type: none"> <li><b>Billing Increment</b></li> </ul>	Min Volume, Interval and Grace Volume combined, and their order

• <b>Min Volume</b>	Minimal time interval of tariffed calls					
• <b>Interval</b>	Tarification interval					
• <b>Grace Volume</b>	Free of charge unit					
• <b>Setup Fee</b>	An initial fee that is charged when event duration is longer than 0 seconds					
• <b>Time Profile</b>	Time profile ( <i>all time, business time, non-business time, weekends</i> )					
• <b>End Date</b>	A final date, after which the rate will expire					
• <b>Number Length min</b>	Minimum number length					
• <b>Number Length max</b>	Maximum number length					
• <b>Previous Rate</b>	Last rate in usage					
• <b>Prev Diff</b>	Cost changes in the rates					
• <b>Prev Diff (export)</b>	Cost changes in the rates after the last export					
• <b>Prev Diff Status</b>	Difference between a current rate and a previous one					
• <b>Prev Diff Status (export)</b>	Rate's changes after the last export. Shows the status of how a current rate differs from a previous one. The rate will have an <b>unchanged</b> status if the <b>Effective Date</b> is lower than the <b>Last Notification Date</b>					
<b>Step 1: Notification type: All rates unique mode - First Notification: 07/07/2017</b>						
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
<b>Step 2: Added new rates with effective date 07/21/2017 - Second Notification: 07/14/2017</b>						
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)
<b>Step 3: Rate with code 1 was edited and the increase was canceled - Third Notification: 07/21/2017</b>						
Code	Rate	Effective Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)
1	<b>10</b>	07/21/2017 00:00:00 +0000	10	0	unchanged	<b>unchanged</b>
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)
<b>Step 4: Rate with code 2 was edited and added a new rate for code 3 - Fourth Notification: 07/28/2017</b>						
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	<b>20</b>	07/21/2017 00:00:00 +0000	10	10	increased	<b>unchanged</b>
3	20	07/31/2017 00:00:00 +0000	15	5	increased	increased (5.0000)
• <b>Notes</b>	Additional information about a rate					
• <b>Tag</b>	Tag, assigned to a respective rate					
• <b>Policy</b>	Rate policy ( <i>additive</i> or <i>regular</i> )					
• <b>Status</b>	Rate status					

	<ul style="list-style-type: none"> <li>• <b>Service</b></li> </ul>	Service of a rate
	<ul style="list-style-type: none"> <li>• <b>Tech Prefix</b></li> </ul>	Tech prefix of a rate
<b>Last Export Date</b>	Parameter that affects the <i>Rate changes</i> field (depending on it, the exported rates will be marked as <b>new</b> , <b>changed</b> , <b>deleted</b> , etc.)	
<b>Code Deck</b>	Select a code deck here to rewrite code names in an export file if needed	
<b>Codes from code deck</b>	Allows you to filter the export by selecting only codes, which are present in a specified <b>Code Deck</b>	
<b>Codes Output</b>	Specify how codes must be displayed. The options are:	
	<ul style="list-style-type: none"> <li>• <b>Separate rows</b></li> </ul>	Each code is placed into a single row
	<ul style="list-style-type: none"> <li>• <b>Delimited list</b></li> </ul>	Codes are grouped by a code name in a row, for example, <b>5510, 5511, 5512</b>
	<ul style="list-style-type: none"> <li>• <b>Ranges list</b></li> </ul>	Codes are grouped by code name into ranges plus delimiter, for example, <b>5510-5512, 5515</b>
<b>Date Format</b>	The date format in your export file. The syntax is as follows: if you indicate <b>%d-%m-%Y</b> here, your date will look like <b>25-03-2018</b>	
<b>Billing Increment</b>	Select these parameters here and drag them to align anyhow: <ul style="list-style-type: none"> <li>• <b>Grace Volume</b></li> <li>• <b>Int</b></li> <li>• <b>Min</b></li> </ul>	
<b>Header text/Footer text</b>	Allows you to put some text into an exported file as header and footer, respectively	



**Tip**

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

Click the **Process** button and save an 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, make **Code Name** your first column.

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

# Rates Management

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

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

**Tip 2:** If an existing rate was changed and the **Effective Date** field specifies a date that has passed, 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, and **Setup Fee** = 0,3, where:

- **Rate** is a price per unit of a service.
- **Min Time** is a minimal time of the call that will be tarified.
- **Interval** is a tariffication interval, which is used when **Min Time** time expires.
- **Grace Volume** is a 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 a session time of 5 seconds) will be free of charge.
- **Setup Fee** is a 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 the call duration was less than 2 seconds, the total call cost will be 0 currency units. If the call duration was between

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

3 and 30 seconds, the total call cost will be

, which is 0,8 currency units regarding the presented

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

data. If the call duration was more than 30 seconds, the total call cost will be currency units.

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

**Tip 5:** All rate fields that define time have time format in seconds, while in the **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 the **Mass Edit** feature. Please be aware that mass edit will be applied only to **current/future** rates. So, make sure you filtered target rates accordingly before editing.

## Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

# Special Rates

## In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding New Special Rate](#)

## Section overview

The **Special Rates** section has been created since version 3.18 of the JeraSoft Billing. Its purpose is to separate regular prices for the destinations and the exclusive prices based on agreements between vendors and clients. The section is presented as a table like the one below:

*Screenshot: Special Rates section*

Rate Table	Code Name	Rate	Effective Date	Notes	SF	Min	Int	Time Profile
RT 0 TERM	USA	0.1500 USD	2018-12-24 10:25:14		3	1	1	all time
RT 0 ORIG	USA	0.1100 USD	2018-12-12 10:30:38		0	1	1	all time
RT 0 TERM	USA	0.1500 USD	2018-12-24 10:25:14		3	1	1	all time
RT 0 TERM	USA	0.1500 USD	2018-12-24 10:25:14		3	1	1	all time

Column Name	Description
<b>Rate Table</b>	Rate table of a special rate
<b>Code Name</b>	Destination code name of a special rate
<b>Rate</b>	Price per unit of service
<b>Effective Date</b>	Date, when a special rate becomes active
<b>Notes</b>	Additional information about a special rate
<b>SF</b>	Setup fee of a special rate
<b>Min</b>	Minimal billed volume
<b>Int</b>	Billed interval
<b>Time Profile</b>	Time profile of a special rate

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

Button/Icon	Description
	Allows adding a new special rate to the system
	Allows managing rates within a specified special rate
	Allows editing a special rate
	Allows deleting a special rate 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 downward arrow icon, the following drop-down menu is displayed:

*Screenshot: Advanced Search drop-down menu*

Rate Table:

Code Name:

Status:

Services:

Field	Description
<b>Rate Table</b>	You can filter the special rates belonging to a certain rate table
<b>Code Name</b>	You can filter the special rates by code names
<b>State</b>	Search by <b>the period of a rate</b> during which the rate is active, expired, etc. The following states are available to choose from a drop-down list: <ul style="list-style-type: none"> <li>• <b>current/future</b> - the search includes current and future rates</li> <li>• <b>current on</b> - includes rates that are active for a specified date</li> <li>• <b>future for</b> - includes future rates compared with a specified date</li> <li>• <b>past for</b> - includes rates that are expired for a specified date</li> <li>• <b>all</b> - includes all rates</li> </ul>
<b>Status</b>	You can search by the status of the special rate: <ul style="list-style-type: none"> <li>▪ <b>active</b></li> <li>▪ <b>stashed</b></li> </ul>
<b>Services</b>	You can filter the special rates by services

## Adding New Special Rate

To add a new special rate, click the **Add Rate** button and define the respective values in a pop-up window:

*Screenshot: Adding new Special Rate*



Special Rates

**GENERAL SETTINGS**

Rate Table:

Code Name:

**RATING SETTINGS**

Rate:

Interval:  sec

Min Volume:  sec

Grace Volume:  sec

Setup Fee:

**LIMITATIONS**

Effective Date:

End Date:

Services:

Time Profile:

**EXTRA**

Tag:

Notes:

Stash Future Rates:

Force Notification:

Number Length:  -

Field	Description
<b>Rate Table</b>	Indicate a rate table, in which the rates will be created inheriting the settings of a current special rate
<b>Code Name</b>	Indicate a code name of the special rate
<b>Rate</b>	Price per unit of a service
<b>Interval</b>	Tariffication interval. This parameter is used when <b>Min Volume</b> expires. For instance, if call time is <b>26</b> seconds, <b>Min Volume</b> is <b>25</b> , and <b>Interval</b> is <b>8</b> , the client will pay for <b>33</b> seconds
<b>Min Volume</b>	Minimal time of the call that will be tarified. For example, if total call time was <b>20</b> seconds and <b>Min Volume</b> is <b>30</b> , the client will pay for <b>30</b> seconds of the call
<b>Grace Volume</b>	Time interval that will not be tarified (free time). For instance, if you specified 5 sec as <b>Grace Volume</b> , all calls with duration up to 5 seconds (including calls with a session time of 5 seconds) will be free of charge.
<b>Setup Fee</b>	Setup fee (charged when event duration is <b>longer than 0 seconds</b> ).
<b>Effective Date</b>	Indicate a date, on which this special rate will become effective. Before this date, the rate will not be used
<b>End Date</b>	Indicate a date, after which this special rate will not be used
<b>Services</b>	Select a service for this rate (calls, SMSs, data)
<b>Time Profile</b>	Define a time profile to be used for a current special rate
<b>Tag</b>	Specify a tag for the respective rates. If it's not applicable, assign a <b>(@) tag</b> as default.
<b>Notes</b>	Additional information

<b>Stash Future Rates</b>	<p>Select what the system should do to the future rates for the same destinations existing in the system:</p> <ul style="list-style-type: none"> <li>• <i>preserve</i>;</li> <li>• <i>stash</i>.</li> </ul>
<b>Force Notification</b>	<p>Select the system behavior regarding the notification process for the newly created rate:</p> <ul style="list-style-type: none"> <li>• <i>hold</i>;</li> <li>• <i>force</i>.</li> </ul>
<b>Number Length</b>	<p>Specify a minimum and maximum length of the destination number.</p> <p>For example, if you have a rate of <b>3 USD</b> for <b>USA Code Name</b> with indicated number length from <b>6</b> to <b>9</b>, and another rate of <b>5 USD</b> for the same <b>USA Code Name</b> without specified number length, all calls with a <b>Dst Number</b> between <b>6</b> and <b>9</b> digits will be billed by <b>3 USD</b> , otherwise, by <b>5 USD</b>.</p>

 **Attention**

Please note that the creation of a special rate leads to the creation of regular rates in the **Rates** section. You will be able to edit them only by editing a special rate.

# Rates Analysis

## In this article

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


## Rates Analysis Form

Rates Analysis is an advanced feature of the **JeraSoft Billing Rates Management Module**. It allows you to analyze and compare rates within the JeraSoft Billing 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
<b>Filters</b>	<p>On the <b>Filters</b> 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 <b>quick search</b> by typing filters' names in the field at the top of a drop-down menu with filters.</p>
	<p><b>Outlook</b> 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.</p> <ul style="list-style-type: none"> <li>• <b>Rates comparison</b> - compares rates in general and particular rates assigned to certain Clients and Accounts.</li> <li>• <b>Least costs list</b> - shows the cheapest rate for each code in a particular rate table</li> </ul>
	<p><b>Service</b> Select a service for rates analysis</p>
	<p><b>Originators</b> Specify origination clients for analysis</p>
	<p><b>Terminators</b> Indicate termination clients for analysis</p>
	<p><b>Rate Tables</b> Define rate tables for analysis</p>
	<p><b>Client Tags</b> Select clients matching specified tags for analysis</p>
	<p><b>Group by</b> Select a grouping option from the following list:</p> <ul style="list-style-type: none"> <li>• <b>Dst Code</b> - aggregation by default output.</li> <li>• <b>Dst Code Name</b> - grouping by rate rows with the same names and rates for all codes in each rate table.</li> </ul> <p>This option is intended to simplify grouping, the system will automatically group data in specified columns.</p>
<b>Additional Filters</b>	

<p><b>The accessible additional filters are:</b></p> <ul style="list-style-type: none"> <li>• <b>Events:</b> <i>Dst Code, Dst Code Name, Country Name</i></li> <li>• <b>Extras:</b> <i>Client Tags, Actual On, Master Table, Lowest Position, Get Margins For, Tag, Rate Age</i></li> </ul>	
<p><b>Events settings</b></p>	
<b>Dst Code</b>	Specify a code of the needed destination.
<b>Dst Code Name</b>	Define a code name of the desired destination.
<b>Country Name</b>	Enter the name of the respective country.
<p><b>Extra settings</b></p>	
<b>Actual on</b>	Define the Effective Date of rates.
<b>Master Table</b>	<p>Specify a rate table that all other rate tables will be compared to.</p> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note that this field is active only during rate tables analysis</p> </div>
<b>Lowest Position</b>	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 <b>Master Table</b> option.
<b>Tag</b>	Indicate a tag, which relates to a specified rate table
<b>Get margins for</b>	Define a rate table, from which the respective margins will be taken. It is used to analyze margins.
<b>Rate age</b>	Specify the number of days
<b>Output</b>	<p>This information block contains settings of the report output data.</p>
	<p><b>Type</b></p> <p>Choose a format of the report from a drop-down list:</p> <ul style="list-style-type: none"> <li>• <b>Web</b></li> <li>• <b>CSV</b></li> <li>• <b>Excel XLS</b></li> <li>• <b>Excel XLSx</b></li> </ul> <p>If <b>CSV</b>, <b>Excel XLS</b> or <b>Excel XLSx</b> type has been selected, an additional <b>Send to</b> 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.</p>
	<p><b>Currency</b></p> <p>Specify a currency of the report. All values will be automatically converted to the specified currency in the report.</p>
	<p><b>Code Deck</b></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><b>Simulate long codes</b> 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><b>⚠ Attention</b></p> <p>If you check the <b>Simulate long codes</b> 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 <b>380</b>, and the other has <b>380</b> and <b>38044</b> codes.</p> <p>When the mentioned checkbox is active, the first rate table will have unavailable <b>38044</b> code simulated with the price of available <b>380</b>. Rates like these have the <b>Simulated</b> 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 'Events' and 'Extras' sections. The main area is divided into 'FILTERS' and 'OUTPUT'. The 'FILTERS' section includes dropdowns for Outlook (rates comparison), Service (Calls), and Group By (Dst Code). It also features multi-select fields for Originators, Terminators, and Rate Tables. The 'OUTPUT' section shows settings for Type (Web), Currency (USD), Dst Code Deck (DEFAULT), and Simulate Long. Below the filters is a table with columns for various rate categories and their values.

Dst Code	Dst Code Name	ORIG RT - bestCustomer	ORIG RT - client2	ORIG RT - coolguy	RT 0 ORIG	RT 0 TERM	TERM RT - bestCustomer	coolguy   Orig	bestCustomer   Orig	Client 0 ORIG   Orig	bestCustomer   Term	Client 0 TERM   Term	ghosterm   ghosterm   Term
1	USA	2.0000	5.0000	0.5000	-	-	0.7000	-	-	-	-	-	-
123	Code 123	-	-	-	4.0000	2.0000	-	-	-	-	-	-	-
3	-	-	0.4000	-	-	-	-	-	-	-	-	-	-
417	Code 417	-	-	-	5.0000	3.0000	-	-	-	-	-	-	-

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 shows the 'Rates Analysis' form with a red box highlighting the 'ALL' selection in the Originators, Terminators, and Rate Tables fields. A red arrow points to the 'ALL' selection in the Terminators field.

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
- Dst Code
- Dst Code Name
- Country Name
- Extras
- Actual On
- Master Table
- Lowest Position
- Get Margins For
- Tag

**FILTERS**

Outlook:

Service:

Originators:

Terminators:

Rate Tables:

Client Tags:

Group By:

**OUTPUT**

Type:

Currency:

Dst Code Deck:

Simulate Long:

Section	Description						
<b>Rates Analysis</b>	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%;"><b>Title</b></td> <td>Specify a name of the template</td> </tr> <tr> <td><b>Reseller</b></td> <td>Indicate a Reseller for the report template</td> </tr> <tr> <td><b>Visibility</b></td> <td>                     It allows controlling the 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.                       To enable this option, select one parameter from the drop-down list:                     <ul style="list-style-type: none"> <li><b>Public</b> - available for users according to the settings of the <b>Reseller</b> field.</li> <li><b>Private</b> - accessible strictly for the creator.</li> </ul> </td> </tr> </table>	<b>Title</b>	Specify a name of the template	<b>Reseller</b>	Indicate a Reseller for the report template	<b>Visibility</b>	It allows controlling the 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.  To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> <li><b>Public</b> - available for users according to the settings of the <b>Reseller</b> field.</li> <li><b>Private</b> - accessible strictly for the creator.</li> </ul>
	<b>Title</b>	Specify a name of the template					
	<b>Reseller</b>	Indicate a Reseller for the report template					
<b>Visibility</b>	It allows controlling the 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.  To enable this option, select one parameter from the drop-down list: <ul style="list-style-type: none"> <li><b>Public</b> - available for users according to the settings of the <b>Reseller</b> field.</li> <li><b>Private</b> - accessible strictly for the creator.</li> </ul>						
<b>Watch</b>	This tool allows to generate the report automatically at the appropriate time and send the results to the list of emails.  <div style="background-color: #ffff00; padding: 5px; border: 1px solid #ccc;"> <p><b>Attention</b></p> <p>Please note that this tool is <b>not available</b> for <b>Web</b> output type, only for <b>CSV/Excel XLS/Excel XLSx</b></p> </div>						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Recipients</b></td> <td>Specify recipients. You can indicate your own email, or other users of the system, or even 3rd parties</td> </tr> <tr> <td><b>Run Time</b></td> <td>Indicate an appropriate time to generate a report automatically, it could be several times, for example, <b>10:00, 12:00, 18:00</b></td> </tr> <tr> <td><b>Days of Week</b></td> <td>Indicate days of the week to generate a report automatically. For example, you can run a report only on <b>Monday</b> or <b>each day of the week</b>.</td> </tr> </table>	<b>Recipients</b>	Specify recipients. You can indicate your own email, or other users of the system, or even 3rd parties	<b>Run Time</b>	Indicate an appropriate time to generate a report automatically, it could be several times, for example, <b>10:00, 12:00, 18:00</b>	<b>Days of Week</b>	Indicate days of the week to generate a report automatically. For example, you can run a report only on <b>Monday</b> or <b>each day of the week</b> .
<b>Recipients</b>	Specify recipients. You can indicate your own email, or other users of the system, or even 3rd parties						
<b>Run Time</b>	Indicate an appropriate time to generate a report automatically, it could be several times, for example, <b>10:00, 12:00, 18:00</b>						
<b>Days of Week</b>	Indicate days of the week to generate a report automatically. For example, you can run a report only on <b>Monday</b> or <b>each day of the week</b> .						
<b>Report Query</b>	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.

## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

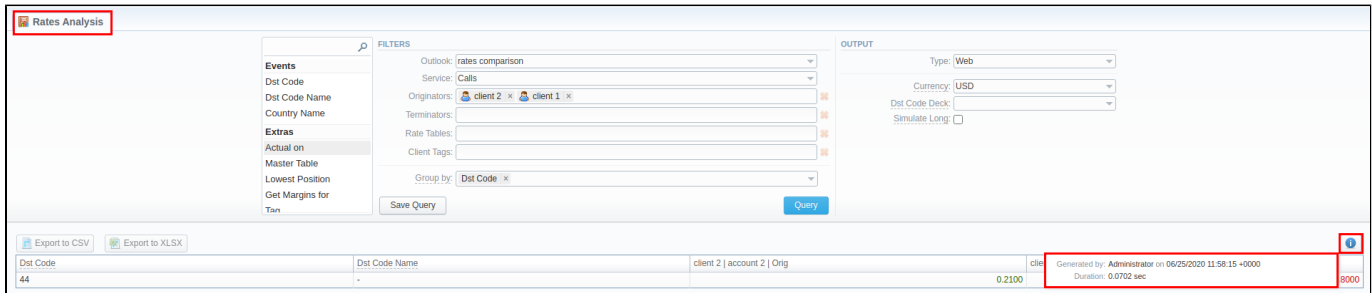
The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info**  icon, which is located under the **Output** section:

Title	Description
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time
Duration	Time spent to generate a report

Screenshot: Rates Analysis Info icon



The screenshot shows the 'Rates Analysis' interface. On the left, there is a sidebar with categories like 'Events', 'Extras', and 'Actual on'. The main area is divided into 'FILTERS' and 'OUTPUT'. The 'FILTERS' section includes dropdowns for 'Outlook' (rates comparison), 'Service' (Calls), and 'Originators' (client 2, client 1). The 'OUTPUT' section shows 'Type' (Web), 'Currency' (USD), and 'Dst Code Deck'. At the bottom, there is a table with columns for 'Dst Code', 'Dst Code Name', 'client', and 'Rate'. The 'Info' icon in the bottom right corner of the table is highlighted with a red box.

Dst Code	Dst Code Name	client	Rate
44		client 2   account 2   Orig	0.2100

Generated by: Administrator on 06/25/2020 11:58:15 +0000  
Duration: 0.0702 sec

# Rates Generator

## In this article

- [Section overview](#)
- [Creating New Rates Generator](#)
  - [Optimization Options](#)
  - [Adjust Options](#)
  - [Advanced & 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 the form of a table with the following columns:

*Screenshot: Rates Generator form*



Column	Description
<b>ID</b>	Identification number of a rates generator
<b>Name</b>	Name of a rates generator
<b>Company</b>	Name of a reseller, whom a rates generator belongs to
<b>Description</b>	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 deleting a rates generator from the system

## Creating 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 three main sections: 'GENERAL SETTINGS', 'ADJUST RESULTS', and 'ADVANCED OPTIONS'. The 'GENERAL SETTINGS' section is highlighted with a red border and includes fields for Name, Reseller, Service (Calls), Dst Code Deck, Currency, and Description. The 'ADJUST RESULTS' section includes fields for Tag (@), Policy (Regular), Rate, Setup Fee (0), Min Volume (1 sec), Interval (1 sec), Grace Volume (0 sec), and Time Profile (all time). The 'ADVANCED OPTIONS' section includes Detect Fake (5), Skip Distance (10%), Rate Position (1), and 'QUALITY OPTIONS' with Analyze Period (24 hours), Code Min Volume (60 min), and Unmatched price (100). At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons.

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

This screenshot is similar to the first one but highlights the 'OPTIMIZATION' section with a red border. In this section, 'Simplify Mode' is set to 'min' and 'Codes Optimization' is unchecked. The rest of the form fields and layout are identical to the previous screenshot.

Information Block	Description
<b>Simplify Mode</b>	It allows applying the same price for all codes inside the same code name by using three options:
	<ul style="list-style-type: none"> <li><b>min</b> minimum available price.</li> <li><b>max</b> maximum available price.</li> </ul>

	average price of all available.																						
• <b>avg</b>																							
<b>Example</b>	For instance, if the <b>USA</b> code name consists of <b>3</b> codes with <b>1, 5, and 6 USD</b> rates, respectively, depending on a chosen option, the results will be:																						
	<table border="1" style="width: 100%; text-align: center;"> <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																		
<b>Codes Optimization</b> checkbox	This option allows compressing an imported code range. For example, <b>4400-4409</b> will be shortened to <b>440</b> . At the same time, <b>4400-4491</b> will be shortened to <b>440, ..., 448, 4490, 4491</b> .																						

## Adjust Options

The **Adjust Results** section 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*

Field	Description
<b>Tag</b>	Specify a tag that will be applied to new rates, if such were created by a rates generator. Let's leave the default @ tag
<b>Policy</b>	Select the policy (regular or additive) that will be applied to code(s), presented in a code deck, but not in a source rate table. For example, <b>Regular</b> policy
<b>Rate</b>	Define a rate for codes, which are present in a code deck but missing in a rule's source rate table. For example, <b>7.5 USD</b>
<b>Setup Fee</b>	Define a setup fee for a new rate(s). For example, <b>8 USD</b>
<b>Min Volume</b>	Indicate minimum volume for a new rate(s). <b>6 sec</b> , for instance
<b>Interval</b>	Specify the interval for a new rate(s). For example, <b>2 sec</b>
<b>Grace Volume</b>	Determine grace volume for those rates. For example, <b>2 sec</b>
<b>Time Profile</b>	Define a time profile for a new rate(s). For instance, leave the default <b>all time</b> profile

**Example**

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):

Field	Value
<b>Code</b>	1204
<b>Code Name</b>	According to DEFAULT code deck
<b>Rate</b>	7.5
<b>Setup Fee</b>	8
<b>Min Volume</b>	6
<b>Interval</b>	2
<b>Grace Volume</b>	2
<b>Time Profile</b>	all time
<b>Tag</b>	@
<b>Policy</b>	Regular

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.

**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 & Quality Options**

Screenshot: *Advanced and Quality Options information block*

The screenshot shows the 'Rates Generator' interface with three main sections: 'GENERAL SETTINGS', 'ADJUST RESULTS', and 'ADVANCED OPTIONS'. The 'ADVANCED OPTIONS' section is highlighted with a red border and contains the following fields:

- Detect Fake: 5
- Skip Distance: 10 %
- Rate Position: 1
- QUALITY OPTIONS:
  - Analyze Period: 24 hours
  - Code Min Volume: 60 min
  - Unmatched price: 100

At the bottom right of the interface are buttons for 'OK', 'Cancel', and 'Apply'.

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:

Field	Description
<b>Detect Fake</b>	Enable detection of fake rates if at least a specified number of rates is present in all source rate table, specified in generator rules.
<b>Skip Distance</b>	A percentage value of the difference between the average rate value and a particular rate from all rates, used for the <b>Detect Fake</b> operation.

<b>Rate Position</b>	<p>Define what rate from a total amount of rates left after <b>Detect Fake</b> operation will be used for certain code.</p> <p>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.</p>										
<b>Example</b>	<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 <b>1201</b> code, but with different prices in USD:</p> <table border="1" style="margin-left: 20px;"> <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 <b>Advanced Options</b> of rates generator settings, we've specified values, seen in the screenshot above. It means that the system will pick <b>all 4</b> rates for the <b>1201</b> code and execute the following actions:</p> <ol style="list-style-type: none"> <li>1. Count an <b>average rate</b> for all 4 rates that equals <b>0.99 USD</b>.</li> <li>2. Count the interval of <b>15%</b> for an average rate of 0.99 USD that is between <b>0.85 USD</b> and <b>1.13 USD</b>. Then, the system will compare all rates and skip <b>1.7 USD</b> rate from <b>RT 4</b> and <b>0.2 USD</b> rate from <b>RT 2</b>.</li> <li>3. Since the <b>Rate position</b> field value is <b>2</b>, the system will pick <b>the second cheapest rate</b> for this code that is <b>1.1</b> from <b>RT 3</b> and apply it as a basic rate for <b>1201</b> code in a new rate table, created by a rates generator.</li> </ol>	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										

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:

Field	Description																						
<b>Analyze Period</b>	Define a number of hours to analyze the <b>Summary Report</b> for. For example, <b>24 hours</b>																						
<b>Code Min Volume</b>	Define a minimum event volume for certain code. For example, <b>60 min</b> for the <b>Calls</b> service																						
<b>Unmatched Price</b>	Define a price for all codes that do not satisfy quality parameters ( <b>Code Min Volume</b> value). For example, <b>100 USD</b>																						
<b>Example</b>	<p>For example, you created a new rates generator and set up 3 rules for the following codes: <b>1201</b>, <b>1202</b>, <b>1205</b> with <b>1.5</b>, <b>2.5</b>, and <b>5.5 USD</b> rates, respectively. In the Quality options, the respective parameters are the same as indicated in an example (see screenshot above). If you click <b>Create Rate Table</b> or <b>Update Rate Table</b> 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="margin-left: 20px;"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td><b>Period</b></td> <td>May 15, 15.25 PM - May 16, 3:25 PM</td> </tr> <tr> <td><b>Code</b></td> <td>1201, 1202, 1205</td> </tr> <tr> <td><b>Total Volume</b></td> <td>60</td> </tr> </tbody> </table> <p>Subsequently, a report showed that the billed volume for <b>1201</b> code is <b>79</b> mins, <b>1202</b> - <b>49</b> mins, and <b>1205</b> - <b>61</b> mins. As a result, a newly generated rate table will contain the following data:</p> <table border="1" style="margin-left: 20px;"> <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 rowspan="3" style="text-align: center;">»</td> <td>1.5</td> </tr> <tr> <td>1202</td> <td>2.5</td> <td>100</td> </tr> <tr> <td>1205</td> <td>5.5</td> <td>5.5</td> </tr> </tbody> </table>	Field	Value	<b>Period</b>	May 15, 15.25 PM - May 16, 3:25 PM	<b>Code</b>	1201, 1202, 1205	<b>Total Volume</b>	60	Code	Old Rate		New Rate	1201	1.5	»	1.5	1202	2.5	100	1205	5.5	5.5
Field	Value																						
<b>Period</b>	May 15, 15.25 PM - May 16, 3:25 PM																						
<b>Code</b>	1201, 1202, 1205																						
<b>Total Volume</b>	60																						
Code	Old Rate		New Rate																				
1201	1.5	»	1.5																				
1202	2.5		100																				
1205	5.5		5.5																				

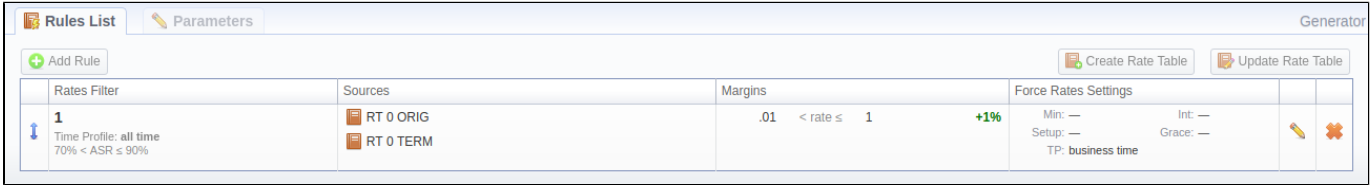
**Attention**

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 the form of a table with the following columns:

*Screenshot: Rules List Tab*



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

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

Button/Icon	Description
	Allows creating new generator rules
	Allows creating a new rate table with data from respective rules that will be added to the <b>Rate Tables</b> 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 the 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**
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:



Terminators Tags:

---

**MARGINS** +

i No Margins

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

	<ul style="list-style-type: none"> <li>• <b>ASR, %</b></li> </ul>	Specify ASR ranges for target code that are checked in a Summary Report by the rates generator
	<ul style="list-style-type: none"> <li>• <b>ACD, min</b></li> </ul>	Specify ACD ranges for target code that are checked in a Summary Report by the rates generator
<b>Force Rates Settings</b>	Specify additional parameters that must be noted when picking destinations from sources: <ul style="list-style-type: none"> <li>• <b>Setup Fee</b></li> <li>• <b>Min. Volume</b></li> <li>• <b>Interval</b></li> <li>• <b>Grace Volume</b></li> <li>• <b>Time Profile</b></li> </ul>	
<b>Sources</b>	Select one or multiple sources for picking data for a new price list	
	<ul style="list-style-type: none"> <li>• <b>Rate Tables</b></li> </ul>	Specify source rate tables
	<ul style="list-style-type: none"> <li>• <b>Terminators</b></li> </ul>	Specify vendors (termination clients) for this rule
	<ul style="list-style-type: none"> <li>• <b>Terminators Tags</b></li> </ul>	Specify vendors' tags for this rule
<b>Margins</b>	By clicking on the  icon, you can add a margin to a respective rate. <div data-bbox="293 926 802 1234" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p><b>MARGINS</b> </p> <p>Rate &gt; <input type="text"/> USD</p> <p>Rate ≤ <input type="text"/> USD</p> <p>Add Margin: <input type="text"/> USD / %</p> <p style="text-align: right;"><input type="button" value="Add Margin"/></p> </div> <p>If the rate for an indicated code is within the range of rates, defined in the <b>Rate&gt;</b> and <b>Rate</b> fields, a margin (specified in respective currency or %) will be applied to this rate. Add the % symbol to the <b>Add Margin</b> field value to indicate that a margin is in percent.</p>	

 **Tip**

Section rules abide by 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**

**Rate Generation** does not work with rates with **Src Codes** indicated.

# Agreements

The **Agreements** section has been introduced in version 3.18 of the JeraSoft Billing. It provides a list of agreements between clients and vendors on the rates changes and notifications. The system considers agreements while generating rates and during clients' notifications.

Screenshot: Agreements section

ID	Name	Notification Day	Increase Delay	Decrease Delay	Unchanged Delay	New Delay	Close Delay	Reseller	
1	Agreement1	Monday	in 1 days from notification	in 3 hours from XX:00	in 5 days from notification	in 2 days from midnight	in 4 days from midnight	Company Name	
2	Dec Agreement	Monday	in 2 hours from XX:00	in 3 days from midnight	in 5 days from midnight	in 1 days from midnight	in 4 hours from notification	Company Name	
3	Jan Agreement	Monday	in 3 days from midnight	in 2 days from notification	in 3 days from midnight	in 3 hours from notification	in 1 hours from XX:00	Company Name	

Column Name	Description
<b>ID</b>	Agreement's identification number
<b>Name</b>	Name of an agreement
<b>Notification Day</b>	Day, on which a vendor agreed to send notifications to the customer
<b>Increase Delay</b>	Delay in days that indicates the minimal period between notification date and date of an increased rate
<b>Decrease Delay</b>	Delay in days that indicates the minimal period between notification date and date of a decreased rate
<b>Unchanged Delay</b>	Delay in days that indicates the minimal period between notification date and date of an unchanged rate
<b>New Delay</b>	Delay in days that indicates the minimal period between notification date and date of a new rate
<b>Close Delay</b>	Delay in days that indicates the minimal period between notification date and date of a closed rate
<b>Reseller</b>	A reseller of an agreement

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

Button/Icon	Description
	Allows adding a new agreement to the system
	Allows deleting an agreement from the system

## Creating a New Agreement


To create a new agreement, you need to click the **New Agreement** button, and the following fields will appear:

Field	Description
<b>Name</b>	Title of an agreement (must be text with no more than 128 symbols)
<b>Reseller</b>	Reseller of an agreement
<b>Notification Day</b>	Define the date of the notification to the customer
<b>Notification Terms</b>	



<b>New Delay</b>	<p>Define a minimal period between notification date and date of a new rate (must be an integer between 0 and 365). There are various options to schedule this date:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rate will be changed after the specified amount of days from the midnight of the defined Notification Day</li> <li>• <b>days from notification</b> - the rate will be changed after the specified amount of days from the defined Notification Day</li> <li>• <b>hours from XX:00</b> - the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation</li> <li>• <b>hours from notification</b> - the rate will be changed after the specified amount of hours from the defined Notification Day</li> </ul>
<b>Increase Delay</b>	<p>Define a minimal period between notification date and date of an increased rate (must be an integer between 0 and 365). There are various options to schedule this date:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rate will be changed after the specified amount of days from the midnight of the defined Notification Day</li> <li>• <b>days from notification</b> - the rate will be changed after the specified amount of days from the defined Notification Day</li> <li>• <b>hours from XX:00</b> - the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation</li> <li>• <b>hours from notification</b> - the rate will be changed after the specified amount of hours from the defined Notification Day</li> </ul>
<b>Decrease Delay</b>	<p>Define a minimal period between notification date and date of a decreased rate (must be an integer between 0 and 365). There are various options to schedule this date:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rate will be changed after the specified amount of days from the midnight of the defined Notification Day</li> <li>• <b>days from notification</b> - the rate will be changed after the specified amount of days from the defined Notification Day</li> <li>• <b>hours from XX:00</b> - the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation</li> <li>• <b>hours from notification</b> - the rate will be changed after the specified amount of hours from the defined Notification Day</li> </ul>
<b>Close Delay</b>	<p>Define a minimal period between notification date and date of a closed rate (must be an integer between 0 and 365). There are various options to schedule this date:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rate will be changed after the specified amount of days from the midnight of the defined Notification Day</li> <li>• <b>days from notification</b> - the rate will be changed after the specified amount of days from the defined Notification Day</li> <li>• <b>hours from XX:00</b> - the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation</li> <li>• <b>hours from notification</b> - the rate will be changed after the specified amount of hours from the defined Notification Day</li> </ul>
<b>Unchanged Delay</b>	<p>Define a minimal period between notification date and date of an unchanged rate (must be an integer between 0 and 365). There are various options to schedule this date:</p> <ul style="list-style-type: none"> <li>• <b>days from last midnight</b> - the rate will be changed after the specified amount of days from the midnight of the defined Notification Day</li> <li>• <b>days from notification</b> - the rate will be changed after the specified amount of days from the defined Notification Day</li> <li>• <b>hours from XX:00</b> - the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation</li> <li>• <b>hours from notification</b> - the rate will be changed after the specified amount of hours from the defined Notification Day</li> </ul>

Screenshot: Adding a new Agreement

 **Agreements**

Name:

Reseller:

Notification Day:

**NOTIFICATION TERMS**

New Delay: in  days from last midnight

Increase Delay: in  days from last midnight

Decrease Delay: in  days from last midnight

Close Delay: in  days from last midnight

Unchanged Delay: in  days from last midnight

After filling in all the required fields, click **OK**, and the new agreement will appear in the list.

# Swap Deals

## In this article


- [Section overview](#)
- [Adding a New Swap Deal](#)
  - [Items List tab](#)
  - [Edit Swap Deal tab](#)
- [Adding a New Item](#)
- [Swap Deals' in-system functioning](#)

## Section overview

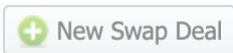


The **Swap Deals** section has been created since version 3.20 of the JeraSoft Billing. Its purpose is to comprise all the bilateral agreements for further monitoring and analysis. The section is presented as a table like the one below:

Screenshot: *Swap Deals* section

ID	Name	Status	Period	Forecast Date	Live Profit	Progress	Client
2	Swap Deal	In-process	11/01/2019 – 12/31/2019	10/29/2019	30 855.00 USD	60%	Test Client   Test Account
3	swap deal 2	archive	11/28/2019 – 12/13/2019	—	0.00 USD		Test Client   Test Account

Column Name	Description
<b>ID</b>	ID of the Swap Deal
<b>Alert</b>	This column is showing whether the Swap Deal goes as planned. If the current traffic speed is insufficient to close the deal as planned, there will be a  icon to let you know.
<b>Name</b>	Name of the Swap Deal
<b>Status</b>	The deal's status. It can be either one of the following: <ul style="list-style-type: none"> <li>▪ <b>pending</b> - the Swap Deal's start day is in the future</li> <li>▪ <b>in process</b> - meaning the Swap Deal is in process of completing</li> <li>▪ <b>archive</b> - inactive Swap Deal</li> <li>▪ <b>success</b> - the result status after the success deal's completion</li> <li>▪ <b>fail</b> - the result status after the failed deal's completion</li> </ul>
<b>Period</b>	Period of the Swap Deal
<b>Forecast Date</b>	The forecasted date of the Swap Deal completion with the current speed
<b>Live Profit</b>	The sum of inbound and outbound live revenue
<b>Progress</b>	The progress bar for the Swap Deal, shows the percentage of completion
<b>Client</b>	The Client's name and its Account, with whom the deal was agreed

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

Button/Icon	Description
	Allows adding a new Swap Deal to the system
	Allows editing a Swap Deal
	Allows deleting a Swap Deal from the system

## Adding a New Swap Deal

To add a new swap deal, click the **Add Swap Deal** button and define the respective values in a pop-up window:

Screenshot: Adding a New Swap Deal

Swap Deals
+

---

**GENERAL**

Name:

Status: Active ▼

Currency: USD ▼

Client:

Account:

---

**PERIOD SETTINGS**

Period:  day(s) ▼

Start Date:

OK
Cancel
Apply

Field	Description	
<b>General</b>	<b>Name</b>	Define the name for the Swap Deal
	<b>Status</b>	Specify the Swap Deal status. There are two options: <ul style="list-style-type: none"> <li>active</li> <li>archive</li> </ul>
	<b>Currency</b>	Specify the Swap Deal currency
	<b>Client</b>	Select the Client for the current Swap Deal
	<b>Account</b>	Select the Account for the current Swap Deal
Note that the <b>Client</b> and <b>Account</b> fields are mutually exclusive.		
<b>Period Settings</b>	<b>Period</b>	Indicate a period in days or months for this Swap Deal
	<b>Start Date</b>	Indicate a start date for this Swap Deal

## Items List tab

Inside of the Swap Deal entity, there are **Items** - the agreements on traffic volumes and pricing per destination. The Items are in the **Items List** tab of the current Swap Deal. This tab looks like this:

Screenshot: Items List tab

Items List
Edit Swap Deal
Swap Deal

---

**GENERAL**

Client: **Test Client** | Test Account

Period: 11/01/2019 – 12/01/2019

Update Time: 11/10/2019 00:00:00 +0000

Status: **In Process**

**PROFIT**

Planned: 44 800.00 USD

Live: **29 984.00 USD**

Sales: 29 984.00 USD

Margin: 6 060.00 USD

**INBOUND**

Planned: 50 000.00 USD

Live: 26 500.00 USD

Forecast: **12/01/2019**

Progress:  **53%**

**OUTBOUND**

Planned: -5 200.00 USD

Live: **-3 484.00 USD**

Forecast: 11/30/2019

Progress:  **67%**







---

**ITEMS**

New Item

ID	Destination	Rate	Volume	Revenue	Sales Revenue	Run Rate	Progress		
1	CN: USA	0.4000 USD   0.5000 USD	8 710.00 min of 13 000.00 min	<b>4 355.00 USD</b> of 5 200.00 USD	4 355.00 USD	230.00 min   214.50 min	<b>67%</b>		
2	CN: UK	1.0000 USD   1.1000 USD	26 500.00 min of 50 000.00 min	<b>26 500.00 USD</b> of 50 000.00 USD	29 150.00 USD	<b>1 085.00 min</b>   1 175.00 min	<b>53%</b>		

Field	Description	
<b>General</b>	<b>Client</b>	Displays the Client and its Account, with whom the deal was agreed upon
	<b>Period</b>	Shows the period for the current Swap Deal
	<b>Update Time</b>	Last time the system renewed information for this Swap Deal according to current statistics
	<b>Status</b>	Displays the current Swap Deal status


<b>Profit</b>	<b>Planned</b>	The sum of inbound and outbound planned revenue
	<b>Live</b>	The sum of inbound and outbound live revenue
	<b>Sales</b>	Shows profit according to current statistics and sales rates  <div style="border: 1px solid #ccc; padding: 5px;"> <p> <b>Counted like</b></p> <p><b><math>sales\ profit = inbound\ sales\ revenue + outbound\ sales\ revenue</math></b></p> <p>where inbound sales revenue is a sum of all inbound items' sales revenue and outbound sales revenue is a sum of outbound respectively</p> </div>
	<b>Margin</b>	Indicates the Swap Deal efficiency  <div style="border: 1px solid #ccc; padding: 5px;"> <p> <b>Counted like</b></p> <p><b><math>margin = live\ profit - sales\ profit</math></b></p> </div>
<b>Inbound</b>	<b>Planned</b>	Planned inbound revenue based on Swap Deal volume and price
	<b>Live</b>	Current inbound revenue according to the statistics within the Swap Deal
	<b>Forecast</b>	Forecasted end date with current speed (concerning inbound traffic)
	<b>Progress</b>	Progress bar based on current inbound traffic
<b>Outbound</b>	<b>Planned</b>	Planned outbound revenue based on Swap Deal volume and price
	<b>Live</b>	Current outbound revenue according to the statistics within the Swap Deal
	<b>Forecast</b>	Forecasted end date with current speed (concerning outbound traffic)
	<b>Progress</b>	Progress bar based on current outbound traffic
<b>Items</b>	<b>ID</b>	ID of the Item
	<b>Direction</b>	Item's direction: <ul style="list-style-type: none"> <li>▪  for inbound traffic;</li> <li>▪  for outbound traffic.</li> </ul>
	<b>Destination</b>	Dst Code or Code Name
	<b>Rate</b>	Indicates the Swap Deal rate (first) and average sales rate (second) for the destination
	<b>Volume, min</b>	Shows how much traffic from the planned amount is currently within the Swap Deal (Live Volume   Planned Volume)
	<b>Revenue</b>	Shows how much you earned on a specific destination within the Swap Deal from the planned amount (Live Revenue   Planned Revenue)
	<b>Sales Revenue</b>	Shows how much you would have earned on a specific destination without a Swap Deal agreement  <div style="border: 1px solid #ccc; padding: 5px;"> <p> <b>Counted like</b></p> <p><b><math>sales\ revenue = live\ volume * sales\ rate</math></b></p> </div>
	<b>Alert</b>	Shows whether the Item's progress goes as planned. If the current traffic speed is insufficient to close the deal as planned, there will be a  icon.
	<b>Run Rate, min</b>	Current speed of filling out the Swap Deal as per this Item (the first is the actual Run Rate, the second is the Required Run Rate)
	<b>Progress, %</b>	Item's progress

**Edit Swap Deal tab**


To edit the Swap Deal details, there is an Edit Swap Deal tab available. It has the following outlook:

Screenshot: Edit Swap Deal tab

## Adding a New Item

To add a new item to the swap deal, click the  button in the **Items List** tab and define the respective values in a pop-up window:


Screenshot: Adding a New Item

Field	Description
<b>General</b>	<b>Direction</b> Specify the traffic direction: <ul style="list-style-type: none"> <li>• <b>Inbound</b></li> <li>• <b>Outbound</b></li> </ul>
	<b>Volume</b> Indicate an expected volume for the swap deal item.
	<b>Code</b> Indicate a code of the item. <div style="border: 1px solid yellow; padding: 5px; margin-top: 10px;">  Note that the <b>Code</b> and <b>Code Name</b> fields are mutually exclusive.                     </div>
	<b>Code Name</b> Indicate a code name of the item.
<b>Rating</b>	<b>Rate</b> Indicate a rate that you agreed upon with your partner.
	<b>Sales Rate</b> Specify an average rate that would be applied if not for the swap deal.
	<b>Service</b> Select a service for this swap deal (calls, SMS, data).

## Swap Deals' in-system functioning

Swap Deals work within the billing system using the information on rates and current statistics. There is a separate service in **System Task Scheduler** section - **Swap Deals Manager**. This service updates each Swap Deal's statistics maximum once an hour. It monitors the current statistics and updates the Swap Deal information putting a timestamp of the latest changes to the **Update Time** field in the **General** section of an **Items List** tab.

If the Swap Deals Manager detects during its analysis that any item in a swap deal is performing not as expected, it will generate an alert to **System**

**Events Log**. Such alerts are sent at a frequency of maximum once in 4 hours. Apart from that, you will see an alert  icon in the Swap Deals section of the web interface.

From Events Log, you can configure it so that Swap Deals alerts will be sent to your mailbox upon occurrence. Learn more about how to set this up in the [Events Log](#) article.

# Retail

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

In addition to vast wholesale functionality, JeraSoft Billing 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 Billing 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](#)

## 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 the 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		Package 1	0.00 USD	0.00 USD	1 month(s)	Reseller A	
5		Package 2	0.00 USD	0.00 USD	1 month(s)	Reseller A	
6		Package 3	0.00 USD	0.00 USD	1 month(s)	Reseller A	

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


### Attention

Please note that the **Package archiving** will perform closing of the current **Subscription** used for this package.

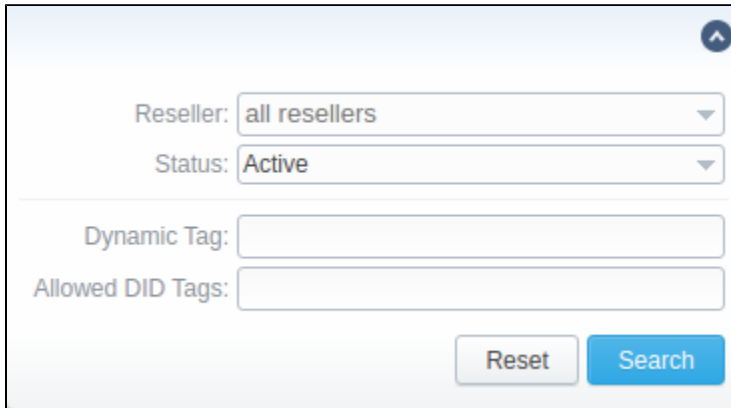
The list of functional **buttons/icons** in the section includes:

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

## Advanced Search

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

*Screenshot: Advanced Search drop-down menu*



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

**Edit Package**
Custom Fields
pack1

---

#### GENERAL SETTINGS

Name:

Reseller:

Status:

Type:

#### PERIOD SETTINGS

Period:

Advance Renew:

Renew for:

#### BILLING SETTINGS

Currency:

Fees Include Taxes

Align to Payment Terms

Full Charge

Charge on Event

Setup Fee:

Client's Balance:

Create Charge on:

#### PACKAGE APPLICATION

Priority:

Dynamic Tag:

Start Date:

End Date:

#### FEES +

Fee Type	Fee Name	Fee Note	Rate, USD
Activation	Activation Fee		6
Subscription	Subscription Fee		3

#### DID LIMITS

DIDs Quantity:  On Hold:  day(s)

Allowed DID Tags:

#### LIMITS +







Code Deck:




i
No Volume Limits




#### DISCOUNTS +

i
No Discounts

Information block	Field and Description
<b>General Settings</b>	General information about a package
	<b>Name</b> Determine the name of your package
	<b>Reseller</b> Specify an owner of this package
	<b>Status</b> Select a current status for the package: <i>active/disabled/archive</i>

	<p><b>Type</b> Specify the package type:</p> <ul style="list-style-type: none"> <li>• <b>Customer</b> - this type will be applied to traffic with negative transaction cost (generally, origination traffic);</li> <li>• <b>Vendor</b> - this type will be applied to traffic with positive transaction cost (generally, termination traffic).</li> </ul> <div style="border: 1px solid green; padding: 10px; margin: 10px 0;"> <p> <b>Tip</b></p> <p>As Packages are applied after the Rate identification in the system, it's important to understand which type of a Package will be used in a particular case. Let's say we have a Client with both Orig and Term roles in the system with the following setup:</p> <ul style="list-style-type: none"> <li>• both Customer and Vendor type Packages assigned with limits for '1' destination</li> <li>• orig Rate for '1' destination</li> <li>• term Rate for '1' destination</li> </ul> <p>If this Client has MADE a call for '1' destination, the system will be going to create a negative Transaction for this call. As we have a respective Customer type Package assigned, it will be used to bill this call.</p> <p>The same Client has RECEIVED a call for '1' destination, the system will be going to create a positive Transaction for this call. As we have a respective Vendor type Package assigned, it will be used to bill this call.</p> <p><b>Note:</b> in case of negative pricing (negative Rates for origination or negative Rates for termination), the opposite types of Packages will be used. I.e., if we pay our Client for origination, and they have both Customer and Vendor type Packages assigned, the Vendor type Package will be used to bill origination traffic.</p> </div> <div style="background-color: #ffff00; padding: 10px; margin-top: 10px;"> <p> <b>Attention</b></p> <p>This option has been added in version <b>3.16.0</b>.</p> </div>						
<p><b>Period Settings</b></p>	<p>Settings regarding a package period</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Period</b></td> <td>Specify a period for the current package if it's renewable. Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99999 years.</td> </tr> <tr> <td><b>Advance Renew</b></td> <td>Next renewal will be made within a specified period in advance (before the renewal date). Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99999 years.</td> </tr> <tr> <td><b>Renew For</b></td> <td>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. Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99999 years.</td> </tr> </table> <div style="background-color: #ffff00; padding: 10px; margin-top: 10px;"> <p> <b>Attention</b></p> <p>Please note that <b>Period</b>, <b>Advance Renew</b> and <b>Renew For</b> fields cannot be set to non-normalized time intervals (example: 75 hours).</p> </div>	<b>Period</b>	Specify a period for the current package if it's renewable. Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99999 years.	<b>Advance Renew</b>	Next renewal will be made within a specified period in advance (before the renewal date). Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99999 years.	<b>Renew For</b>	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. Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99999 years.
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<p><b>Billing Settings</b></p>	<p>List of settings concerning the billing feature</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Currency</b></td> <td>Define a currency for this package</td> </tr> <tr> <td><b>Fees Include Taxes</b> checkbox</td> <td>If enabled, taxes are included in package prices, if disabled – taxes will be calculated regarding a customer's respective <b>Tax Profile</b></td> </tr> <tr> <td><b>Align to Payment Terms</b> checkbox</td> <td> <p>Allows the system to align a package period to customer's Payment Terms, equalizing Package billing with actual invoicing.</p> <div style="background-color: #ffff00; padding: 10px;"> <p> <b>Attention</b></p> <p>The length of the first <b>Subscription period</b> can be reduced in order to allow the following periods to match the invoicing periods in the Client's <b>Payment Terms</b>. All the charges and limits of the first period will be proportionally recalculated if the duration of the first period has been reduced.</p> <p>In order to process it correctly, the <b>Package Period</b> should match the Client's <b>Payment Terms</b> length. Alternatively, the periods of the <b>Package</b> and <b>Payment Terms</b> need to equal to a multiplex number. In this case, we will get equal <b>Package</b> charges in each invoice provided the periods are equal. If the <b>Package period</b> is longer than the <b>Payment Terms</b> length, we will get the <b>Package</b> charges with an equal interval.</p> </div> </td> </tr> </table>	<b>Currency</b>	Define a currency for this package	<b>Fees Include Taxes</b> checkbox	If enabled, taxes are included in package prices, if disabled – taxes will be calculated regarding a customer's respective <b>Tax Profile</b>	<b>Align to Payment Terms</b> checkbox	<p>Allows the system to align a package period to customer's Payment Terms, equalizing Package billing with actual invoicing.</p> <div style="background-color: #ffff00; padding: 10px;"> <p> <b>Attention</b></p> <p>The length of the first <b>Subscription period</b> can be reduced in order to allow the following periods to match the invoicing periods in the Client's <b>Payment Terms</b>. All the charges and limits of the first period will be proportionally recalculated if the duration of the first period has been reduced.</p> <p>In order to process it correctly, the <b>Package Period</b> should match the Client's <b>Payment Terms</b> length. Alternatively, the periods of the <b>Package</b> and <b>Payment Terms</b> need to equal to a multiplex number. In this case, we will get equal <b>Package</b> charges in each invoice provided the periods are equal. If the <b>Package period</b> is longer than the <b>Payment Terms</b> length, we will get the <b>Package</b> charges with an equal interval.</p> </div>
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<p><b>Full charge</b> checkbox</p>	<p>Allows forcing full charge and limits for the first period regardless of the enabled <b>Align to Payment Terms</b> option.</p>
<p><b>Charge on Event</b> checkbox</p>	<p>If enabled, a package subscription fee will be applied when the first call within this package is made. Otherwise, a package would be free.</p>
<p><b>Setup Fee</b></p>	<p>Select from a list of available options of setup fee settings:</p> <ul style="list-style-type: none"> <li>• <b>Charge</b> - setup fee will be charged when an event is billed by volume limit</li> <li>• <b>Don't charge</b> - setup fee won't be charged when limit by volume is used for event billing</li> </ul>
<p><b>Client's Balance</b></p>	<p>Choose one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Allow activating if insufficient</b>- client's package will be activated regardless of the client's balance; however, package limits will be used only when the client's balance is sufficient;</li> <li>• <b>Deny activating if insufficient</b>- client's package will be activated only if there are sufficient funds on the balance</li> </ul>
<p><b>Create Charge on</b></p>	<p>Determine when the charge should be created:</p> <ul style="list-style-type: none"> <li>• <b>Pre-activation day</b> - the charge will be created at the end of a current package period;</li> <li>• <b>Activation day</b> - the charge will be created when a new period starts</li> </ul> <div style="border: 1px solid green; padding: 10px; margin-top: 10px;"> <p> <b>Tip</b></p> <p>This parameter will affect when the Package charge will be included in an Invoice. For example:</p> <ul style="list-style-type: none"> <li>▪ the <b>Pre-activation day</b> option is typically used for pre-paid as the system will create a charge just before the Package renewal. Thus, for a monthly Package, a charge for Feb will be created on Jan 31st and fall into Jan Invoice, etc.</li> <li>▪ the <b>Activation day</b> option is typically used for post-paid as the system will create a charge right on the renewal. So, for a monthly Package, a charge for Feb will be created on Feb 1st and fall into Feb invoice, etc.</li> </ul> </div>
<p><b>Package Application</b></p>	<p>Information on package application</p>
	<p><b>Priority</b></p> <p>If there are multiple packages that satisfy a call, a package with the highest priority will be used (i.e. <b>priority 2 &lt; priority 1</b>).</p> <div style="background-color: yellow; padding: 5px; margin-top: 5px;"> <p> <b>Attention</b></p> <p>Please note that packages with minutes will always be used before packages with money regardless of the priority.</p> </div>
	<p><b>Dynamic Tag</b></p> <p>Add a tag for the events, billed by this package</p>
	<p><b>Start Date</b></p> <p>Indicate an effective start date of a package. This feature is used for temporary packages.</p>
	<p><b>End Date</b></p> <p>Determine an effective end date of a package. This feature is used for temporary packages.</p>
<p><b>Fees</b></p>	<p>Information block is used for package fees indication and presented in the form of a table. To add a new fee type, you need to click on a  icon next to its name.</p>
	<p><b>Fee Type</b></p> <p>Select the type of fee. There are two possible types:</p> <ul style="list-style-type: none"> <li>• <b>Activation</b> – a fee that will be charged upon package activation</li> <li>• <b>Subscription</b> – a fee that will be charged upon package renewal</li> </ul>
	<p><b>Fee Name</b></p> <p>Specify a name of a fee</p>
	<p><b>Fee Note</b></p> <p>Here you may enter additional information about a fee</p>
	<p><b>Rate</b></p> <p>Indicate the price for a fee. Price is indicated in the package currency</p>

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

# 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

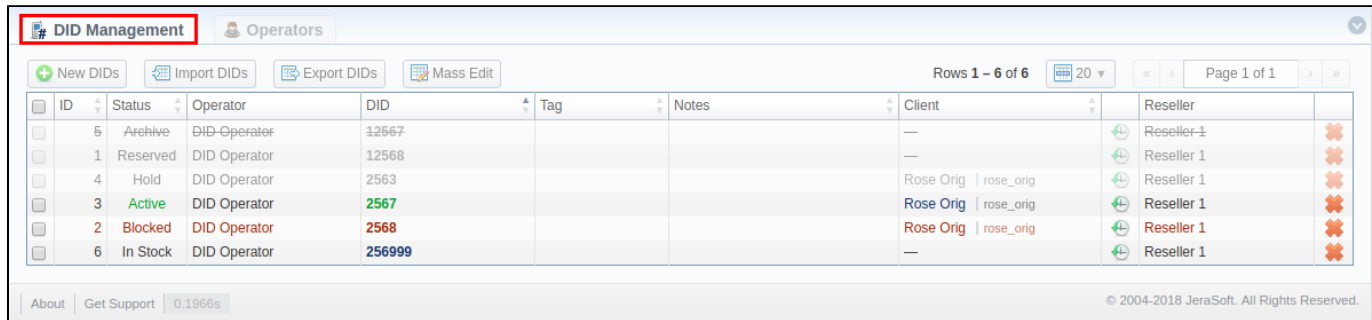
This section allows creating the DID numbers, which later may be assigned to one of the packages and finally provided to a customer under the Package terms. The section consists of two tabs:

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

## DID Management Tab

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

Screenshot: *DID Management section*

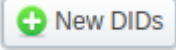
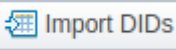
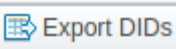
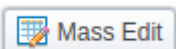




Column	Description
<b>ID</b>	ID of a current DID number
<b>Status</b>	Status of a current DID number
• <b>Active</b>	DID is in use by a customer
• <b>In Stock</b>	DID is in stock and available for usage
• <b>Blocked</b>	DID is temporarily not available for usage
• <b>Reserved</b>	DID is not used but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



	<ul style="list-style-type: none"> <li>• <b>Archive</b></li> </ul>	DID is not used and not available anymore
<b>Operator</b>	Current DID's operator, an owner of a current DID number	
<b>DID</b>	Current DID number	
<b>Tag</b>	Specify the tag for a respective DID number you would like to be tagged in the future	
<b>Notes</b>	Additional information about a certain DID	
<b>Client</b>	Shows the client and account, which a current DID belongs to	
<b>Reseller</b>	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 <b>.csv</b> or <b>.xls</b> files
	Allows exporting currently displayed DIDs in a <b>.csv</b> file
	Allows editing the selected DIDs.
	Allows viewing 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*



Status:

Operator:

Reseller:


Client:

Tags:

### 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).
2. 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> <b>Tip</b></p> <p>Also, you can <b>set the range of DID numbers</b> here. Specify the range using the upper and lower numbers and the dash (-) to separate them. For example, <b>111-222</b>. Therefore, the system will create a range of DIDs from <b>111</b> to <b>222</b> (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"> <li>• <b>Reserved</b></li> <li>• <b>In Stock</b></li> <li>• <b>Archive</b></li> </ul>
After Hold	Define what status a DID is going to acquire after being in <b>Hold</b> status. The <b>Hold</b> 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

3. Go to the **Retail > Packages** section. Create a package, where a number of allowed DID's to be picked from will be specified.
4. Assign a respective Package to a target customer in the **Subscriptions** section.
5. 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 with a table of DID records. A 'Mass Edit' pop-up window is open, allowing users to update the status and other details of selected records. The table includes columns for ID, Status, Operator, DID, Client, and Reseller. The 'Mass Edit' window has fields for 'Set Status to:', 'After Hold:', 'Tag:', and 'Notes:', along with 'Delete' and 'Update' buttons.

ID	Status	Operator	DID	Client	Reseller
8	Reserved	DID Operator	111	—	Reseller 1
9	Reserved	DID Operator	112	—	Reseller 1
10	Reserved	DID Operator	113	—	Reseller 1
11	Reserved	DID Operator	114	—	Reseller 1
12	Reserved	DID Operator	115	—	Reseller 1
13	Reserved	DID Operator	116	—	Reseller 1
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
7	In Stock	DID Operator 2	3333	—	Reseller 2

## 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*

The screenshot shows the 'Import DIDs' pop-up window. It includes a 'Choose File' button, a 'Fields delimiter' dropdown set to 'autodetect', and several dropdown menus for 'Operator' (DID Operator), 'Status' (Reserved), and 'After Hold' (Reserved). There are also text input fields for 'Tag' and 'Notes', and a 'Process >>' button at the bottom right.

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

**# DID Management** Operators

New DIDs
Import DIDs
Export DIDs
Mass Edit
Rows 1 - 8 of 8 20 << >> Page 1 of 1

ID	Status	Operator	DID	Tag	Notes	Client	Package	Reseller	
4	Reserved	Oliver	1			—		Company Name	
5	Archive	Oliver	2			—		Company Name	
6	In Stock	Oliver	4			—		Company Name	
7	In Stock	Oliver	5			—		Company Name	
8	In Stock	Oliver	6			—		Company Name	
9	In Stock	Oliver	7			—		Company Name	
10	In Stock	Oliver	8			—		Company Name	
11	In Stock	Oliver	9			—		Company Name	

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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

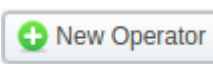


This section shows the list of operators who are owners of DID numbers. The tab is presented in the form of a table with the following columns:

Screenshot: Operators tab



Column	Description
<b>ID</b>	ID of an operator
<b>Name</b>	Operator's name
<b>DID's count</b>	The amount of DID numbers owned by the current operator
<b>Reseller</b>	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 <b>DID Management</b> 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

 **DID Management**

Name:

Reseller:  Reseller 1 ▼

# Calling Cards

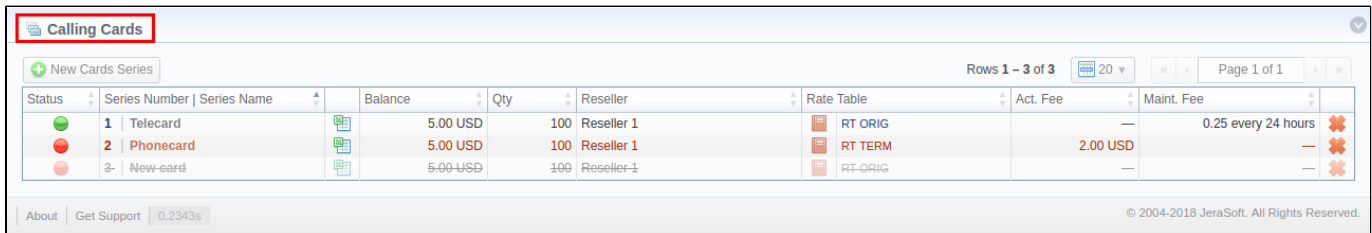
## In this article




- [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
<b>Status</b>	A name that describes current cards series
	 Indicates that cards series is <b>active</b>
	 Indicates that cards series is <b>stopped</b>
	 Indicates that cards series is <b>deleted</b>
<b>Number of Series   Name of Series</b>	A code of cards series and its name (if indicated). This code will prepend a serial number (only numeric, up to 100,000,000)
<b>Balance</b>	Cards balance value within a current series
<b>Qty</b>	Quantity of cards within a series
<b>Reseller</b>	Name of a reseller, who owns a cards series
<b>Rate Table</b>	Rate table, applied to respective cards series
<b>Act. Fee</b>	Price of cards series activation fee
<b>Maint. Fee</b>	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 window 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
<b>Series Name</b>	Indicate a name for a cards series
<b>Series Number</b>	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 <b>Series Number</b> is <b>45</b> , the cards number will start with 45:  <b>45-001122333, 45-001122334</b> and so on.
<b>Balance</b>	Specify the cards balance value within a current series
<b>Quantity</b>	Set the number of calling cards within a current series
<b>PIN Length</b>	Specify a PIN-code length for a current calling cards series (it can be no less than 8 digits)
<b>Status</b>	Define an initial status of created calling cards within a series. Can be changed later in cards series settings



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

The screenshot shows the 'Cards List' tab with the following data:


Status	Number	Balance	PIN
Pending	1-005668240	5 USD	9592 6160 7855
Pending	1-005668241	5 USD	7558 1233 1238
Pending	1-005668242	5 USD	1403 9455 6724
Pending	1-005668243	5 USD	3431 8613 8447
Pending	1-005668244	5 USD	6211 3961 9495

Column	Description
<b>Status</b>	Status of a card within a current series. There are <b>4</b> possible statuses: <b>activated, pending, expired, used</b>
<b>Number</b>	Number of a card within a current series
<b>Balance</b>	Balance of a respective calling card
<b>PIN</b>	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

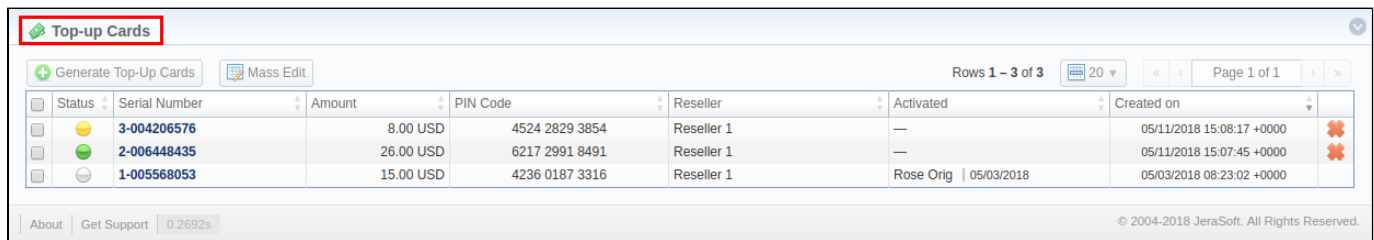
## In this article




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

## Section overview

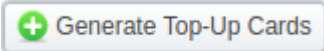
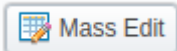
This section allows generating series of top-up cards for your customers. These cards can be used to recharge the balance. The section is presented in the form of a table with the following columns:

Screenshot: *Top-Up Cards section*



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

The following functional buttons are presented in the section:

Button	Description
	Allows creating a 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*

Serial Number:  -

PIN Code:

Status:

Company:

---

Amount:  -

Expiration Date:  -

---

Client:

Activation Date:  -

## 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*

**Top-up Cards**

Amount:  USD

Quantity:

Series:

PIN Length:  digits

---

Reseller:

Expiration Date:

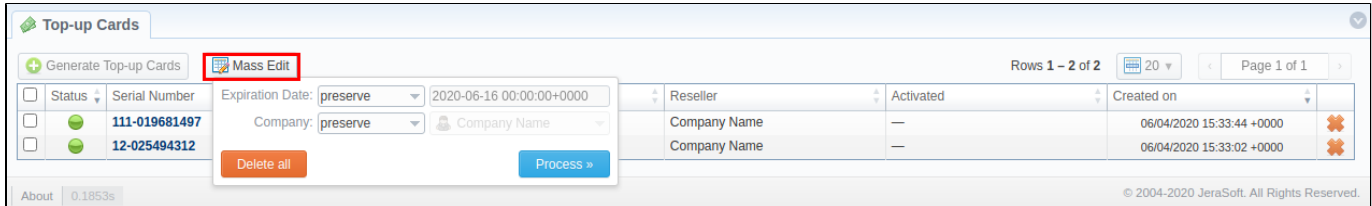
Field	Description
<b>Amount</b>	Indicate the cards balance value. This amount will be added to a customer's balance on activation.
<b>Quantity</b>	Specify the number of cards you wish to be created.
<b>Series</b>	Set a code identifier of a cards series. This code will prepend a serial number. For example, if the <b>Series</b> is <b>101</b> , the full card number will be <b>101-23423423</b> .
<b>PIN Length</b>	Specify the desired PIN-code length for a current calling cards series (it can be <b>no less than 8 digits</b> )
<b>Reseller</b>	Defines the reseller that owns a current calling card(s)
<b>Expiration date</b>	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
<b>Optional Parameters</b>	<ul style="list-style-type: none"> <li><b>preserve</b> - the default configuration that saves the rate not edited. Leave this parameter unchanged if required;</li> <li><b>set to</b> - it allows to edit rates, for example, specify the same expiration date for all rates at once, regardless of previous configurations.</li> </ul>
<b>Expiration Date</b>	Final date, after which the rate will expire
<b>Company</b>	Name of one of your companies (or affiliates) that you can add in the Reseller section

# Call Shops

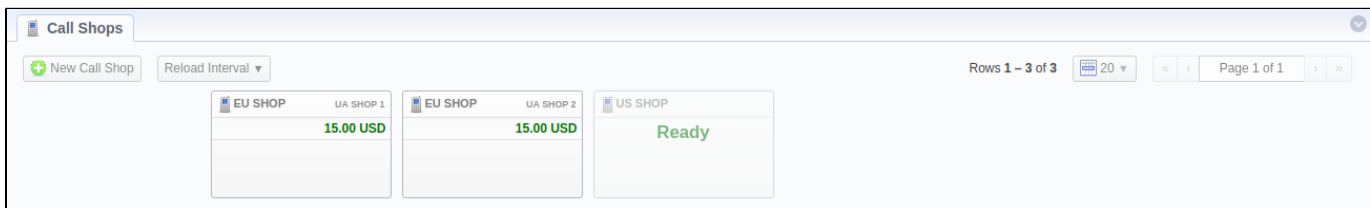
## In this article

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

**Call Shops** Call Shop 1

CURRENT SESSION		CURRENT SESSION CALLS: 0
Duration:	0:00:00	No calls were made in this session
Cost:	0.00 USD	
Balance:	5.00 USD	
Credit Limit:	15.00 USD	

**Finalize** **Reactivate** **Print Bill** **Close**

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 Billing**. 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

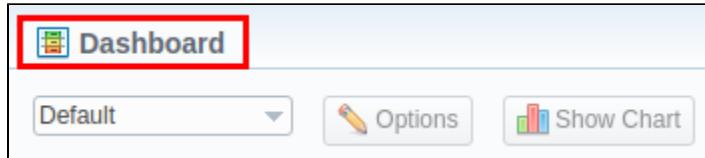
The **Dashboard** is the customizable section with charts that provide a vivid visual representation of the most relevant report data in one place.

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

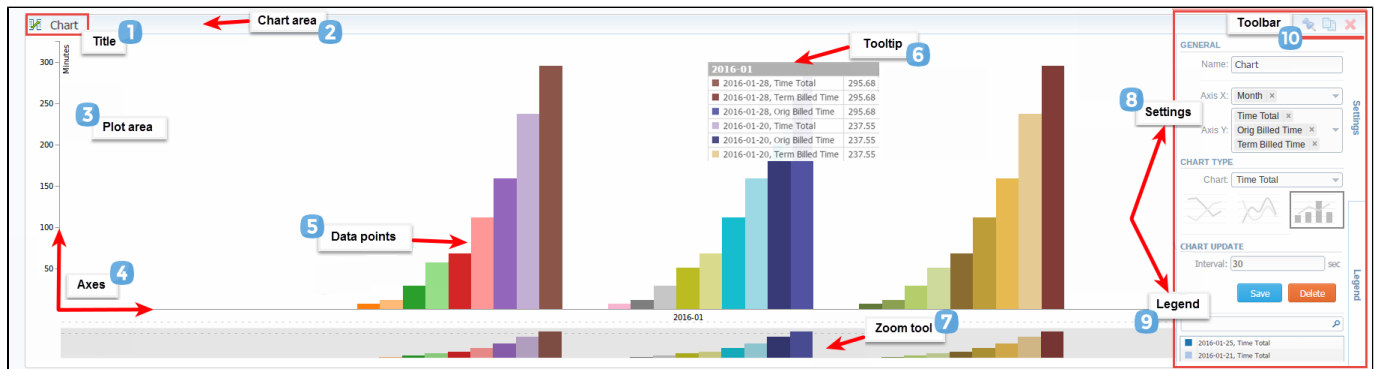


1. In the section, you can have **several dashboards**. To pick a target dashboard, click on the respective field and select a relevant dashboard (for example, **Default**) from the drop-down list.
2. To view the advanced settings, press the **Options** button on the toolbar.
  - You can **change the 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.
3. To add a relevant chart to the dashboard, 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.

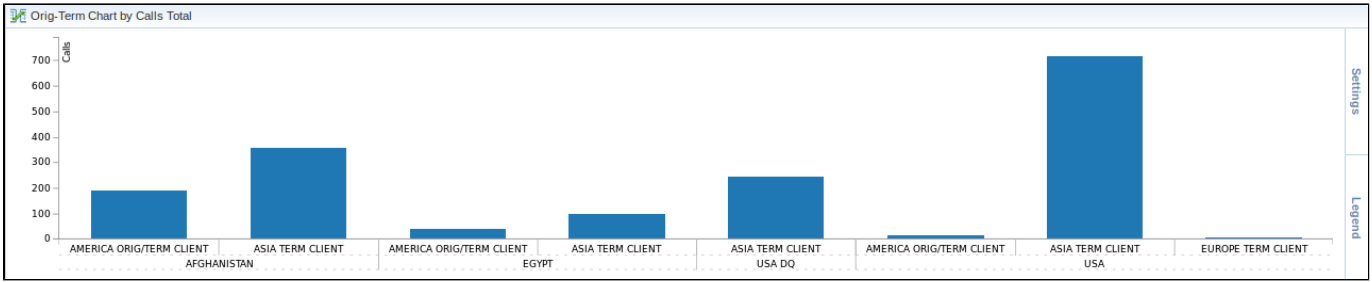
**Attention**

- **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 are only presented for January, the **line chart** will be empty in this case.

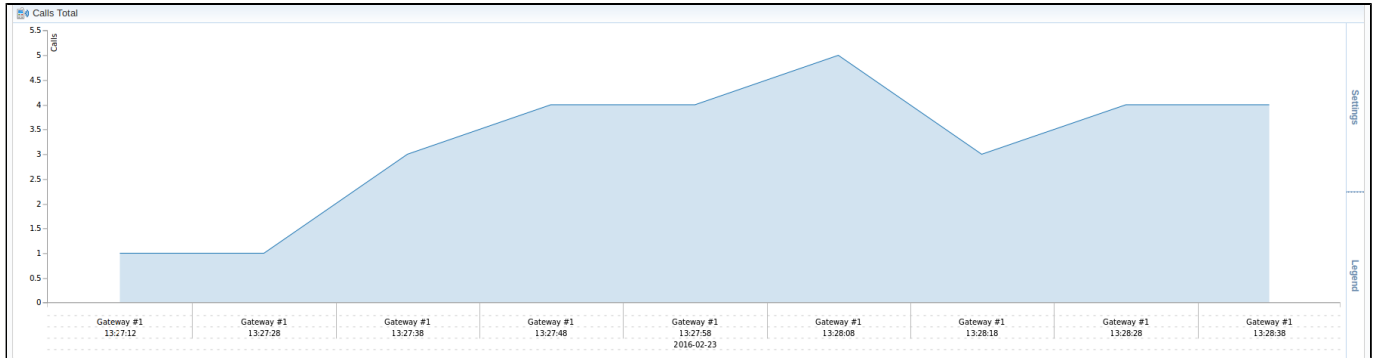
Screenshot: General example of a chart



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.](#)
- [Sharing a Report](#)


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

<b>Send to</b>	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><b>! Attention</b></p> <p>This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report, it doesn't work with <b>Web</b>.</p> </div>
<b>Currency</b>	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
<b>Active Duration</b>	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**

Clients

Client Tags

Owner

Extras

Package

**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
<b>Clients - Active</b>												
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
<b>Clients - Overall Active</b>												
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
<b>Clients - All</b>												
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
<b>Balance Refill</b>												
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
<b>Pay As You Go</b>												
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
<b>Packages</b>												
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
<b>Clients - Active</b>	<p>This subdivision shows statistical data of customers that actively use services according to the period specified in the <b>Active Duration</b> field</p> <ul style="list-style-type: none"> <li><b>Qty</b> - Overall number of clients that used any paid services within the last <b>Active Duration</b> period.</li> <li><b>Balance Pos</b> - Total of all positive balances for the clients that used any paid services within the last <b>Active Duration</b> period.</li> <li><b>Balance Neg</b> - Total of all negative balances for the clients that used any paid services within the last <b>Active Duration</b> period.</li> <li><b>Balance</b> - Total of all balances for the clients that used any paid services within the last <b>Active Duration</b> period.</li> </ul>

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

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 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

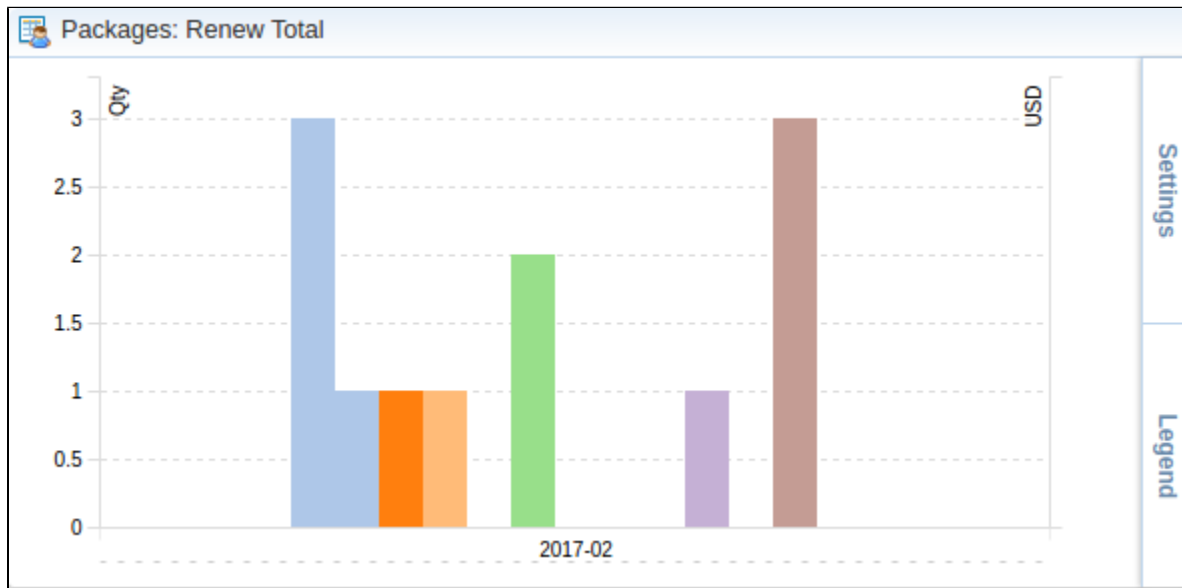
3. To create a **visual chart**, click on the **Show Chart**  button above the report. There is more information available on this topic in the article [How to create a statistic chart?](#) in our Knowledge Base. From the drop-down list on this option, you can find the next pre-configured templates for 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




## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info**  icon, which is located under the **Output** section:

Title	Description
Data Period	States the period set for a report
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time
Duration	Time spent to generate a report

Screenshot: Customer Dynamics Info icon

OUTPUT

Type:

Currency:

Active Duration:  month(s)



06/202

Data Period: 06/01/2020 00:00:00 +0000 — 06/01/2020 00:00:00 +0000  
Generated by: Administrator on 06/24/2020 10:29:33 +0000  
Duration: 0.0159 sec

0



# 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](#)
- [Sharing a 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
<b>Filters</b>	On the <b>Filters</b> 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 <b>quick search</b> by typing filters' names in the field at the top of a drop-down menu with filters.
	<b>Period (1)</b> Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.
	<b>Period 2</b> Accessible when you enable the <b>Compare Period</b> option by clicking on the plus  icon next to the <b>Period</b> . Specify the second interval for the report: <ul style="list-style-type: none"> <li>• <b>Previous Period</b></li> <li>• <b>Previous Day</b></li> <li>• <b>Previous Week</b></li> <li>• <b>Previous Month</b></li> <li>• <b>Previous Year</b></li> </ul>

<b>Group by</b>	<p>Select from the list of the following accessible options to group the data in reports:</p> <ul style="list-style-type: none"> <li>• <b>Time:</b> <i>Year, Month, Day, Hour</i></li> <li>• <b>Clients:</b> <i>Client Type, Client ID, Account ID, C Series, Owner ID, Package ID</i></li> <li>• <b>Events:</b> <i>Dst Code, Dst Code Name, Dst Country, Currency, Origin, Service, Result Code, Gateway ID, Gateway Tag</i></li> <li>• <b>Extras:</b> <i>Time Profile, Setup Fee, Rate, Additive Rate.</i></li> </ul> <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <ul style="list-style-type: none"> <li>• The <b>Group by</b> field is mandatory, it couldn't be empty in order to generate the report. By default, there must be at least two options: <i>Origin</i> and <i>Service</i></li> <li>• If you group by <b>Client</b> and <b>his/her Timezone</b> differs from the <b>system Timezone</b>, the <b>latter</b> will be used in the respective report.</li> <li>• When you are grouping by <b>year</b>, it is recommended to indicate the calendar year in the period. Same goes for other period types.</li> </ul> </div>
<b>Additional Filters</b>	
<p>The accessible additional filters are:</p> <ul style="list-style-type: none"> <li>• <b>Clients:</b> <i>Client Tags, Client Type, Client, Account, Account Tags, Cards Serial, Package.</i></li> <li>• <b>Events:</b> <i>Code, Code Name, Cost Total, Origin, Result Code, Gateway.</i></li> <li>• <b>Extras:</b> <i>Owner, Total Volume, Total records, Not Zero Records, ASR Current, ACD Current, Service.</i></li> </ul>	
<b>Client Type</b>	Select a client's type for the report: <b>Client, Reseller, Calling Card or Call Shop</b>
<b>Client</b>	Define a client for the report
<b>Account</b>	Enter an account for the report
<b>Client /Account Tags</b>	Define a client's or account's tag
<b>Cards Serial</b>	Indicate cards serial for the report
<b>Package</b>	Enter a package for the report
<b>Code</b>	Specify a code of the needed destination
<b>Code Name</b>	Specify a code name of the desired destination
<b>Cost Total</b>	Enter the range of total call cost
<b>Origin</b>	Indicate an origin - origination or termination of the event
<b>Result Code</b>	Define a result code as a filtering parameter
<b>Gateway</b>	Specify a gateway
<b>Time Profile</b>	Specify the time profile of the event
<b>Owner</b>	Indicate the owner
<b>Total Volume</b>	Enter the range of total duration
<b>Total Records</b>	Enter the range of total records
<b>Not Zero Records</b>	Define the range of records that have a duration equal to or more than 1 unit
<b>ASR Current</b>	Specify the range of <b>ASR Cur</b> for records you would like to display
<b>ACD Current</b>	Specify the range of <b>ACD Cur</b> for records you would like to display
<b>Service</b>	Determine the name of service for the report

<b>Output</b>	<p>This form contains settings of the report output data.</p> <p>Click the plus  icon next to <b>Columns</b> and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.</p>
	<p><b>Accessible columns in the report</b></p>
	<p><b>The list of additional columns include:</b></p>
	<p><b>Columns for the main period:</b></p>
	<p><i>Cost Total, Setup Fee Cost, Average Rate, Package Credit, Total Volume, Billed Volume, Package Volume, Total Events, Not Zero, Success, Busy, No Channel, Error, ASR Std, ASR Cur, ACD Srd, ACD Cur, PDD Avg, SCD Avg, xDRs List, Taxes Total, Additive Cost.</i></p> <p><b>Columns for the comparative period</b> are the same as for the main period. Moreover, all parameters could be selected expressed in percentage.</p>
	<p><b>Rate</b>                      <b>Avg. Rate</b> - an average cost calculated</p>
	<p><b>Totals</b></p> <ul style="list-style-type: none"> <li>• <b>Cost Total</b> - the full price of all services including additional services</li> <li>• <b>Total Volume</b> - a whole volume of the events in units (specified in the Services settings "Reports" field)</li> <li>• <b>Billed Volume</b> - 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.</li> <li>• <b>Package Volume</b> - a volume within a respective package that is billed according to the package limits</li> <li>• <b>Package Credit</b> - a volume of credit that has been charged within the respective package</li> <li>• <b>Total Events</b> - the entire quantity of events</li> <li>• <b>Not Zero Records</b> - the number of records that have the volume equal to or more than 1</li> <li>• <b>Success Records</b> - the number 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</li> <li>• <b>Busy Records</b> - busy records quantity with Q.931 disconnect cause 17</li> <li>• <b>No Channel Records</b> - no circuit/channel available, records quantity with Q.931 disconnect cause 34</li> </ul>
	<p><b>Statistics</b>                      <b>ASR</b> - average success rate (successful records percentage)</p> <ul style="list-style-type: none"> <li>• <b>Std</b> - the value calculated based on the records with "success" status divided by the total number of records minus all records with "no channel available" status</li> <li>• <b>Cur</b> - the value calculated based on the records with volume &gt; 0 divided by the total number of records</li> </ul> <p><b>ACD</b> - average call duration in minutes</p> <ul style="list-style-type: none"> <li>• <b>Std</b> - the sum of all records duration divided by the number of records with "success" status</li> <li>• <b>Cur</b> - the sum of all records duration divided by the number of records with duration &gt; 0</li> </ul> <p><b>PDD Avg</b> - average post-dial delay in seconds</p> <p><b>SCD Avg</b> - average session connect delay in seconds</p>
	<p><b>xDRs List</b> - list of detailed records statistics</p>
	<p><b>Other output settings</b></p>
<p><b>Order by</b>                      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.</p>	
<p><b>Type</b>                              Choose a format of the report from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b></p> <p>Also, select a look of a table view next to the <b>Type</b> field:</p> <ul style="list-style-type: none"> <li>• <b>Plain with total</b> - a simple table view with an additional row with calculated totals</li> <li>• <b>Plain</b> - a simple table view</li> <li>• <b>Grouped</b> - a table view with grouped data and possibility to collapse it</li> </ul> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note that the <b>Grouped</b> type of a table view is available only for <b>Excel XLSx</b> and <b>Web</b> formats, it doesn't work with <b>CSV</b> and <b>Excel XLS</b>.</p> </div>	
<p><b>Limit</b>                              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 <b>Plain</b> report type.</p>	

<b>Send to</b>	You can send generated reports via email. Also, it is possible to specify several emails.  <b>⚠ Attention</b>  This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report; it doesn't work with <b>Web</b> .
<b>Currency</b>	Specify a currency of the report. All values will be automatically converted to the specified currency in the report.
<b>Code Deck</b>	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

The screenshot shows the 'Summary Report' interface. It includes a 'FILTERS' section with a date range from 2020-07-17 00:00:00 to 23:59:59 UTC, and a 'GROUP BY' field set to 'Origin' and 'Service'. The 'OUTPUT' section shows 'Order by' set to 'Total Volume', 'Limit' as 'No Limit', 'Type' as 'Web', and 'Currency' as 'USD'. Below these are 'Export to XLSX', 'Show Chart', and 'Query' buttons. The main data table has columns for Origin, Service, Unit, Cost Total, Additive Cost, Setup Fee Cost, Average Rate, Package Credit, Taxes Total, Total Volume, Billed Volume, Package Volume, Total Events, Not Zero, Success, Busy, No Channel, Error, ASR Std, ASR Cur, ACD Std, ACD Cur, PDD Avg, SCD Avg, and xDRs List. The data is grouped by 'origin' and 'termination'.

Origin	Service	Unit	Cost Total	Additive Cost	Setup Fee Cost	Average Rate	Package Credit	Taxes Total	Total Volume	Billed Volume	Package Volume	Total Events	Not Zero	Success	Busy	No Channel	Error	ASR Std	ASR Cur	ACD Std	ACD Cur	PDD Avg	SCD Avg	xDRs List
origination			7.85	0.00	0.00		0.0000	0.00				2	2	2	0	0	0	100.00	100.00					
origination	Calls	min	7.6500	0.0000	0.0000	3.0000	0.0000	0.0000	2.5500	2.5500	0.0000	2	2	2	0	0	0	100.00	100.00	1.28	1.28	10.00	6.50	
termination			0.00	0.00	0.00		0.0000	0.00				2	2	2	0	0	0	100.00	100.00					
termination	Calls	min	N/A	N/A	N/A	N/A	N/A	N/A	2.5500	0.0000	0.0000	2	2	2	0	0	0	100.00	100.00	1.28	1.28	10.00	6.50	

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 a **.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 xDRs report based **on the first period**;
- the second xDRs list  icon allows generating data based **on the second period** in the xDRs list.

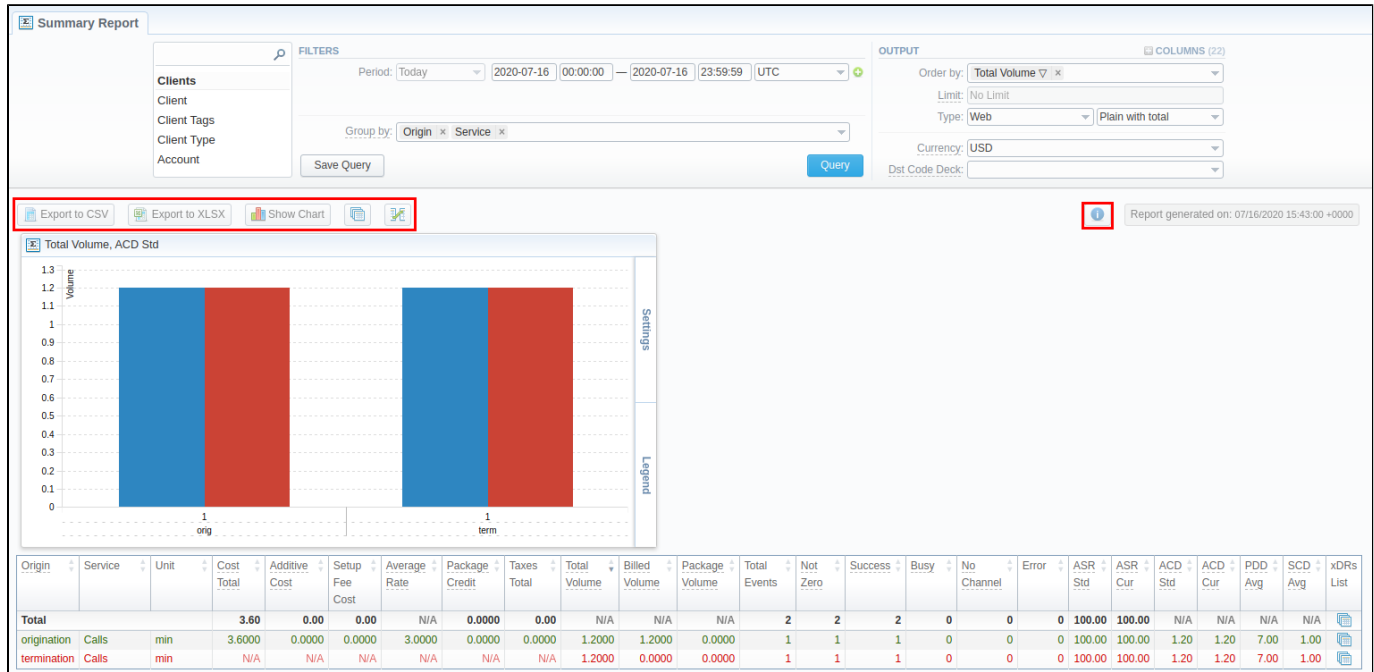
When you make a report and filter data by **Client/Client Tags/Account/Code/Code Name/Owner** parameters, two Orig-Term icons appear. They allow generating reports with **origination** and **termination** data separately.

- 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. At the top, there are filters for Period (Today, 2020-07-16 00:00:00 to 2020-07-16 23:59:59 UTC) and Group by (Origin, Service). The Output section shows Order by (Total Volume), Limit (No Limit), Type (Web), and Currency (USD). Below the filters, there are buttons for Export to CSV, Export to XLSX, and Show Chart. A bar chart titled 'Total Volume, ACD Std' shows two bars for '1 orig' and '1 term'. Below the chart is a data table with columns for Origin, Service, Unit, Cost Total, Additive Cost, Setup Fee, Average Rate, Package Credit, Taxes Total, Total Volume, Billed Volume, Package Volume, Total Events, Not Zero, Success, Busy, No Channel, Error, ASR Std, ASR Cur, ACD Std, ACD Cur, PDD Avg, SCD Avg, and xDRs List.

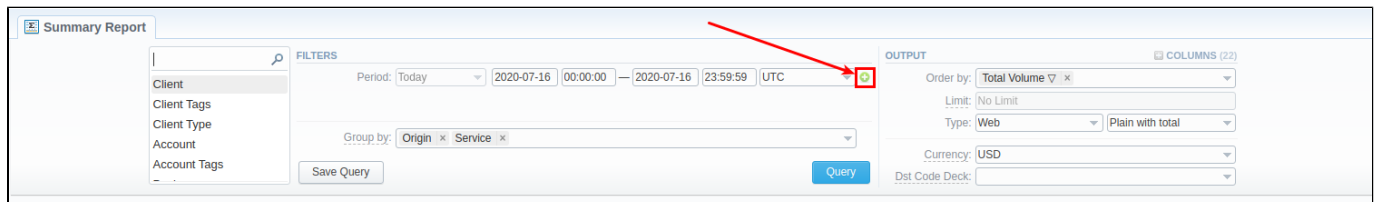
Origin	Service	Unit	Cost Total	Additive Cost	Setup Fee	Average Rate	Package Credit	Taxes Total	Total Volume	Billed Volume	Package Volume	Total Events	Not Zero	Success	Busy	No Channel	Error	ASR Std	ASR Cur	ACD Std	ACD Cur	PDD Avg	SCD Avg	xDRs List
Total			3.60	0.00	0.00	N/A	0.0000	0.00	N/A	N/A	N/A	2	2	2	0	0	0	100.00	100.00	N/A	N/A	N/A	N/A	
origination	Calls	min	3.6000	0.0000	0.0000	3.0000	0.0000	0.0000	1.2000	1.2000	0.0000	1	1	1	0	0	0	100.00	100.00	1.20	1.20	7.00	1.00	
termination	Calls	min	N/A	N/A	N/A	N/A	N/A	N/A	1.2000	0.0000	0.0000	1	1	1	0	0	0	100.00	100.00	1.20	1.20	7.00	1.00	

## 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. You can view more info about it in the article [How to compare report parameters over the periods?](#)


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.

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**

**CLIENTS**  
 Client  
 Client Tags  
 Client Type  
 Account

**FILTERS**

**OUTPUT**

**COLUMNS (22)**

Columns for main period:  
 Cost Total x Additive Cost x Setup Fee Cost x Average Rate x Package Credit x Taxes Total x Total Volume x  
 Billed Volume x Package 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 PDD Avg x SCD Avg x xDRs List x

Columns for comparative period:  
 Cost Total x Additive Cost x Setup Fee Cost x Average Rate x Package Credit x Taxes Total x Total Volume x  
 Billed Volume x Package 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 PDD Avg x SCD Avg x xDRs List x

Export to XLSX Show Chart

Origin	Service	Unit	Cost Total	Additive Cost	Setup Fee Cost	Average Rate	Package Credit	Taxes Total	Total Volume	Billed Volume	Package Volume	Total Events	Not Zero	Success	Busy	No Channel	Error	ASR Std	ASR Cur	ACD Std	ACD Cur	PDD Avg	SCD Avg	xDRs List	
origination			7.65	0.00	0.00		0.0000	0.00				2	2	2	0	0	0	100.00	100.00						
origination	Calls	min	7.6500	0.0000	0.0000	3.0000	0.0000	0.0000	2.5500	2.5500	0.0000	2	2	2	0	0	0	100.00	100.00	1.28	1.28	10.00	6.50		
termination			0.00	0.00	0.00		0.0000	0.00				2	2	2	0	0	0	100.00	100.00						
termination	Calls	min	N/A	N/A	N/A	N/A	N/A	N/A	2.5500	0.0000	0.0000	2	2	2	0	0	0	100.00	100.00	1.28	1.28	10.00	6.50		



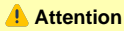
**How does the Compare Period work?**

**Example 1:**

If you select the **Period** to be **Today** 00:00:00 til 23:59:59, the **Previous Period** and **Previous Day** values would be the same and show yesterday. The **Previous Week** option would display the same day last week (i.e., Monday for Monday), the **Previous Month** option would show the same date last month, and the **Previous Year** will display the same date last year.

**Example 2:**

If you select the **Period** to be **This Week**, the system will take the period starting Monday 00:00:00 and up to 23:59:59 on the **current day**. That is if your current day is Thursday, **This Week** would be Monday to Thursday. The comparative periods will work accordingly, selecting the same periods from the past week, month, year. Only the **Previous Day** option will result in offsetting a period one day behind (if a period is Monday to Thursday, comparative would be Sunday to Wednesday).



**Attention**


When you use the **Compare Period** option in the **Summary Report** and **Orig-Term Report** sections, default chart templates will not be accessible.

## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info**  icon, which is located under the **Output** section:

Title	Description
Data Period	States the period set for a report
Data Period 2	States the period set for a Compare Mode
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time
Duration	Time spent to generate a report

Screenshot: Summary report Info icon

**Summary Report**
EXPORTS

**FILTERS**

Period: Today | 2020-07-17 00:00:00 — 2020-07-17 23:59:59 UTC

Compare to: Previous Period | 2020-07-16 00:00:00 — 2020-07-16 23:59:59

Group by: Origin x Service x

Save Query

**OUTPUT** COLUMNS (22)

Order by: Total Volume

Limit: No Limit

Type: Web | Grouped

Currency: USD

Dist Code Deck:

Export to XLSX
Show Chart
Print
Refresh
Help

Origin	Service	Unit	Cost Total	Additive Cost	Setup Fee Cost	Average Rate	Package Credit	Taxes Total	Total Volume	Billed Volume	Package Volume	Total Events	Not Zero	Success	Busy	DRs								
Data Period: 07/17/2020 07:59:59 +0000 — 07/17/2020 07:59:59 +0000 Generated by: Administrator on 07/17/2020 08:16:36 +0000 Duration: 0.0459 sec																								
<b>origination</b>			<b>7.65</b>	<b>0.00</b>	<b>0.00</b>		<b>0.0000</b>	<b>0.00</b>					<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100.00</b>	<b>100.00</b>				
origination	Calls	min	7.6500	0.0000	0.0000	3.0000	0.0000	0.0000	2.5500	2.5500	0.0000	2	2	2	0	0	0	100.00	100.00	1.28	1.28	10.00	6.50	
<b>termination</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>		<b>0.0000</b>	<b>0.00</b>					<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100.00</b>	<b>100.00</b>				
termination	Calls	min	N/A	N/A	N/A	N/A	N/A	N/A	2.5500	0.0000	0.0000	2	2	2	0	0	0	100.00	100.00	1.28	1.28	10.00	6.50	

## Knowledge Base Articles

**Error rendering macro 'contentbylabel'**

parameters should not be empty



# Orig-Term Report

## In this article

- [Section overview](#)
- [Creating a New Orig-Term Report](#)
- [Simple scheme: how to generate an orig-term report](#)
- [Creating Reports Templates](#)
- [Orig-Term Report buttons: reports, export, chart.](#)
- [Side-by-side report](#)
- [Sharing a Report](#)
- [Knowledge Base Articles](#)


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

<b>There are the following accessible additional filters:</b>	
<ul style="list-style-type: none"> <li>• <b>Clients:</b> <i>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</i></li> <li>• <b>Events:</b> <i>Total/ Profit/ Volume, Total/ Events Not Zero/ ASR Cur/ ACD Cur</i></li> <li>• <b>Extras:</b> <i>Service/ Orig Time profile/ Term Time profile</i></li> </ul>	
<b>Clients Settings</b>	
<b>Orig Client</b>	Define an origination client for the report
<b>Orig Account</b>	Enter an origination account for the report
<b>Orig Code</b>	Specify an origination code for the report
<b>Orig Code Name</b>	Indicate an origination code name
<b>Orig Serial</b>	Define an origination serial
<b>Orig Owner</b>	Define an origination Reseller for the report
<b>Orig Client's Tags</b>	Determine tags that belong to an origination client
<b>Orig Account's Tags</b>	Specify tags determined for an origination account
<b>Term Client</b>	Define a termination client for the report
<b>Term Account</b>	Enter a termination account for the report
<b>Term Code Name</b>	Indicate a termination code name
<b>Term Owner</b>	Define a Reseller for the report
<b>Term Client's Tags</b>	Determine tags that belong to a termination client
<b>Term Account's Tags</b>	Specify tags determined for a termination account
<b>Term Code</b>	Specify a termination code for the report
<b>Events Settings</b>	
<b>Total</b>	Enter the range of total events
<b>Profit</b>	Enter the range of the revenue you would like to display
<b>Events Not Zero</b>	Define the range of events, that have a duration greater than 0
<b>ASR Current</b>	Specify the range of <b>ASR Cur</b> for events you would like to display
<b>ACD Current</b>	Specify the range of <b>ACD Cur</b> for events you would like to display
<b>Volume, Total</b>	Enter the range of total volume of services
<b>Extra Settings</b>	
<b>Orig Time Profile</b>	Select an orig time profile that will be used as filter criteria

<b>Term Time Profile</b>	Specify a term time profile that will be used as filter criteria
<b>Service</b>	Determine the name of service for the report
<b>Output</b>	<p>This form contains settings of the output data of the report.</p> <p>Click the plus  icon near the <b>Columns</b> to select respective columns to output a report data. Also, you can cancel any chosen item.</p> <p><b>Accessible columns in the report</b></p> <p><b>Columns for the main period are:</b></p> <p><i>ASR Std, ASR Cur, ACD Std, ACD Cur, Total Volume, Error, Profit, Profit rel, 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><b>Columns for the comparative period</b> are the same as for the main period. Moreover, all parameters could be selected expressed in percentage.</p>
<b>Orig</b>	<p><i>Origination information:</i></p> <ul style="list-style-type: none"> <li>• <b>Billed Volume</b> - Billed event volume</li> <li>• <b>Cost</b> - Price of the event</li> <li>• <b>Avg. Rate</b> - Average event rate</li> </ul>
<b>Term</b>	<p><i>Termination information:</i></p> <ul style="list-style-type: none"> <li>• <b>Billed Volume</b> - Billed event volume</li> <li>• <b>Cost</b> - Event cost</li> <li>• <b>Avg. Rate</b> - Average event rate</li> </ul>
<b>Profit</b>	<ul style="list-style-type: none"> <li>• <b>Profit</b> - Revenue in respective currency, for example, USD (in fact, any system currency can be specified here)</li> <li>• <b>Profit rel</b> - Revenue in percent value</li> </ul>
<b>Total Volume</b>	Total volume of services
<b>ASR</b>	<p><i>Average successful rate (successful events percentage):</i></p> <ul style="list-style-type: none"> <li>• <b>Std</b> - Number of events with <b>success</b> status divided by the total number of events minus all events with <b>no channel available</b> status</li> <li>• <b>Cur</b> - Number of events with duration &gt; 0 divided by the total number of events</li> </ul>
<b>ACD</b>	<p><i>Average call duration:</i></p> <ul style="list-style-type: none"> <li>• <b>Std</b> - Sum of all event duration divided by the number of events with <b>success</b> status</li> <li>• <b>Cur</b> - Sum of all event duration divided by the number of events with a duration &gt; 0</li> </ul>
<b>Events</b>	<p><i>Quantity of events in a database</i></p> <ul style="list-style-type: none"> <li>• <b>Total Events</b> - Total events quantity</li> <li>• <b>Not Zero</b> - Quantity of events that have a duration equal to or more than 1 second</li> <li>• <b>Success</b> - 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</li> <li>• <b>Error</b> - Quantity of declined events</li> <li>• <b>Busy</b> - Busy events quantity</li> <li>• <b>No Channel</b> - No circuit/channel available. Events with Q.931, disconnect cause 34</li> </ul>
<b>Other output settings</b>	
<b>Order by</b>	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.

<b>Type</b>	<p>Choose a format of the report from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b></p> <p>Also, select a look of a table view next to the <b>Type</b> field:</p> <ul style="list-style-type: none"> <li>• <b>Grouped</b> - a table view with grouped data and possibility to collapse it</li> <li>• <b>Plain</b> - a simple table view</li> <li>• <b>Plain with total</b> - a simple table view with an additional <b>Total</b> row at the beginning of the report</li> </ul> <div style="background-color: #ffff00; padding: 5px;"> <p><b>Attention</b></p> <p>Please note, that the <b>Grouped</b> type of table view is available only for <b>Excel XLSx</b> and <b>Web</b> formats; it doesn't work with <b>CSV</b>.</p> </div>
<b>Limit</b>	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 <b>plain</b> and <b>plain with total</b> types of the report.
<b>Send to</b>	<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><b>Attention</b></p> <p>This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report; it doesn't work with <b>Web</b>.</p> </div>
<b>Currency</b>	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
<b>Code Deck</b>	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 'Period' set to 'Today' (2020-07-17) and 'Group by' set to 'Service x Orig Client x Term Client'. The 'OUTPUT' section shows 'Order by' as 'Orig Cost x Term Cost', 'Limit' as 'No Limit', 'Type' as 'Web', and 'Currency' as 'USD'. Below these are buttons for 'Export to XLSX', 'Show Chart', and 'Query'. The main data table is as follows:

Service	Unit	Orig Client	Term Client	Orig Billed Volume	Orig Cost	Orig Avg Rate	Term Billed Volume	Term Cost	Term Avg Rate	Profit	Profit Rel	Total Volume	Total Events	Not Zero	Success	Busy	No Channel	Error	ASR Std	ASR Cur	ACD Std	ACD Cur
Calls	min			2.5500	7.65	3.0000	0.0000	0.00		7.65	0.00	2.5500	2	2	2	0	0	0	100.00	100.00	1.28	1.28
Calls	min	Orig1		2.5500	7.6500	3.0000	0.0000	0.0000		7.6500	0.00	2.5500	2	2	2	0	0	0	100.00	100.00	1.28	1.28
Calls	min	Orig1	N/A	2.5500	7.6500	3.0000	0.0000	0.0000	N/A	7.6500	100.00	2.5500	2	2	2	0	0	0	100.00	100.00	1.28	1.28

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*
- 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.

You can also 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
	<b>100.00</b>	<b>100.00</b>
38067	100.00	100.00
	<b>100.00</b>	<b>100.00</b>
1111	100.00	100.00
	<b>42.42</b>	<b>100.00</b>
3333	42.42	100.00

## Creating Reports Templates

You can also 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.

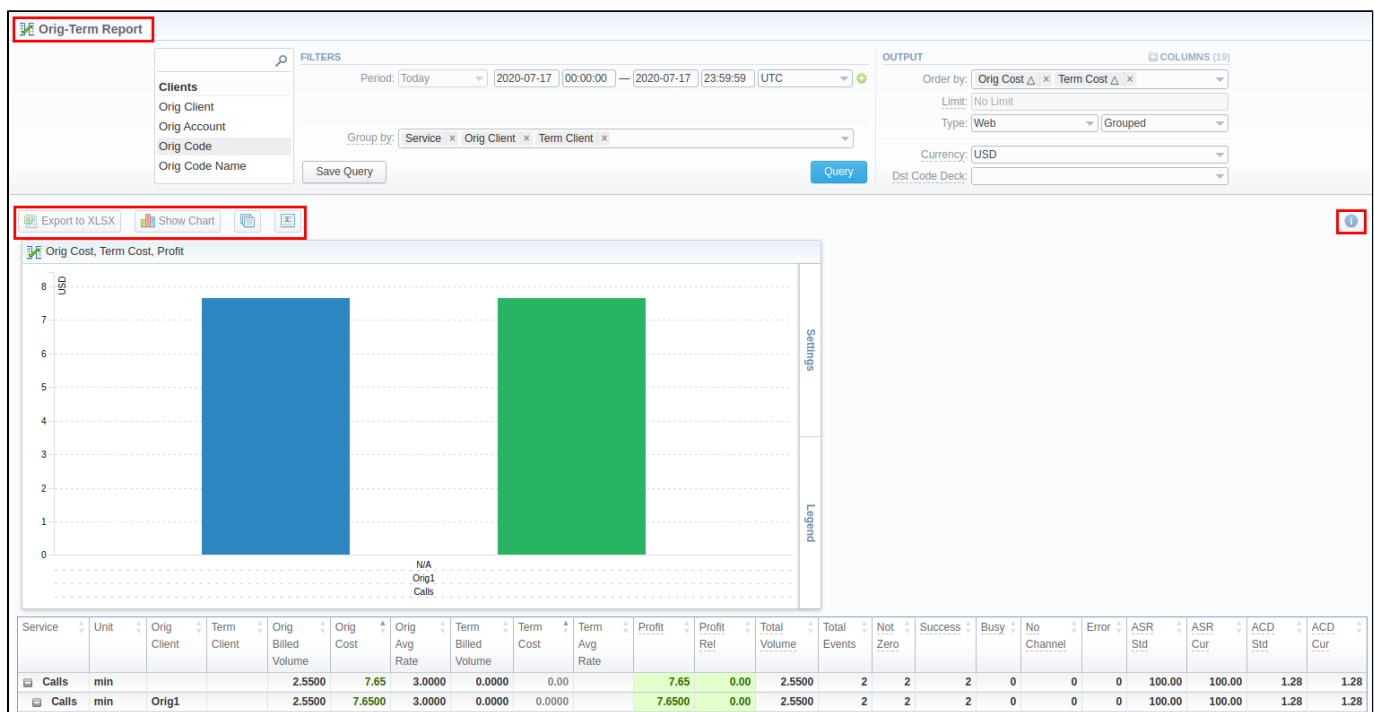
1. To download a report in .csv, click the **Export to CSV**  button on the toolbar.

**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.

- To download a **.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

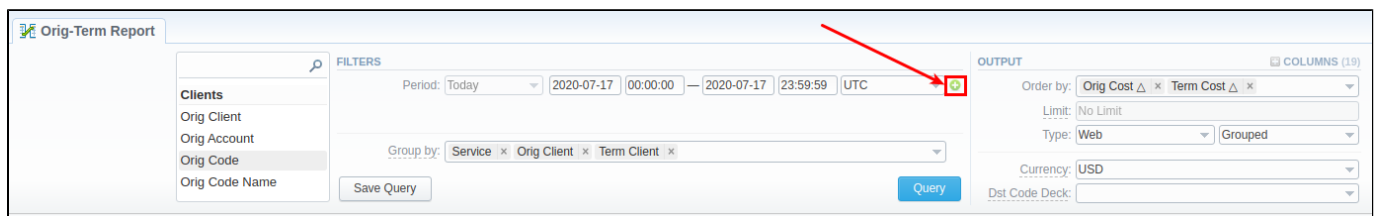


## Side-by-side report


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

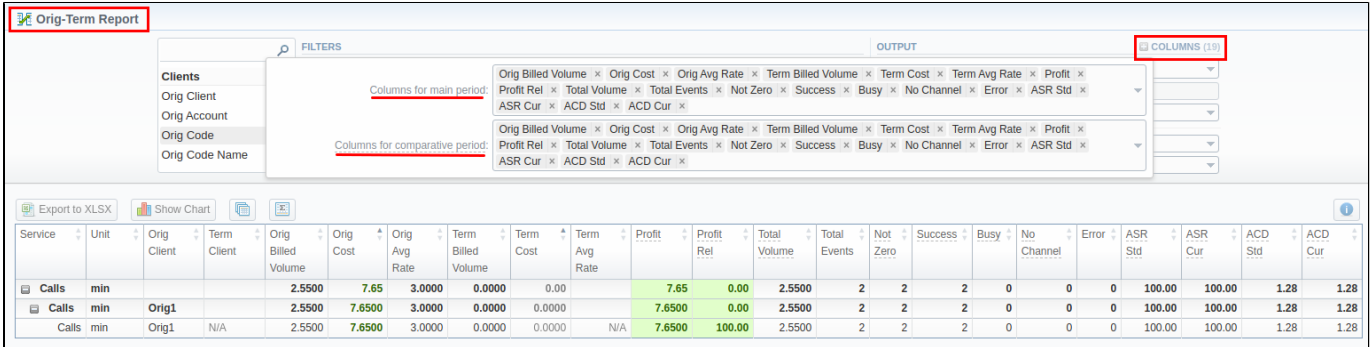


Afterwards, choose columns for the main and comparative period in the report output form. When all required parameters are specified, click the **Query** button.

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




The screenshot shows the 'Orig-Term Report' interface. At the top, there are 'FILTERS' and 'OUTPUT' sections. The 'COLUMNS (19)' dropdown is highlighted with a red box. Below the filters, there are two lists of columns for 'main period' and 'comparative period'. The main report table below shows columns for Service, Unit, Orig Client, Term Client, and various metrics like Orig Billed Volume, Orig Cost, Orig Avg Rate, Term Billed Volume, Term Cost, Term Avg Rate, Profit, Profit Rel, Total Volume, Total Events, Not Zero, Success, Busy, No Channel, Error, ASR Std, ASR Cur, ACD Std, and ACD Cur. The data rows show 'Calls' for 'min' and 'Orig1' with values like 2.5500, 7.65, 3.0000, etc.

## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

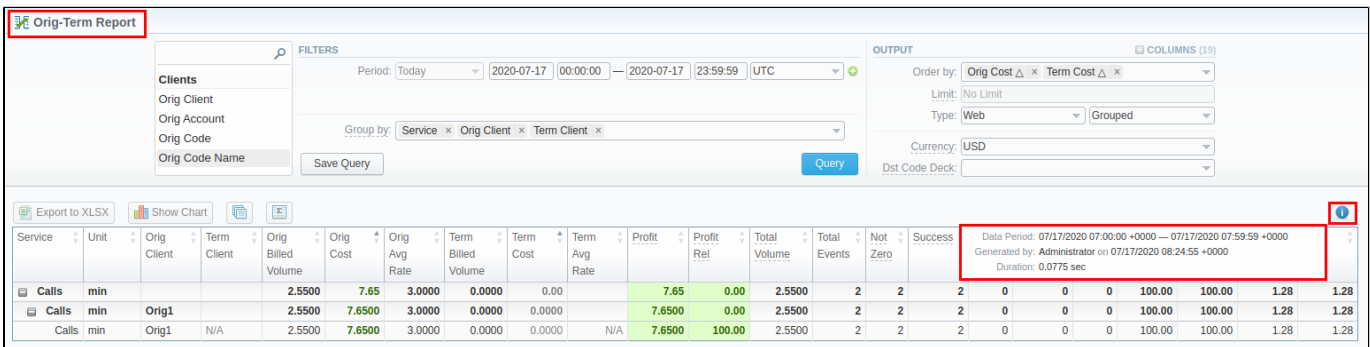
The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info**  icon, which is located under the **Output** section:

Title	Description
Data Period	States the period set for a report
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time
Duration	Time spent to generate a report

Screenshot: Orig-Term Report Info icon



The screenshot shows the 'Orig-Term Report' interface with the 'Info' icon highlighted in a red box. The 'OUTPUT' section shows 'Order by: Orig Cost', 'Limit: No Limit', 'Type: Web', 'Currency: USD', and 'Dst Code Deck'. The main report table is visible below, and a tooltip is shown over the 'Info' icon with the following text: 'Data Period: 07/17/2020 07:00:00 +0000 — 07/17/2020 07:59:59 +0000', 'Generated by: Administrator on 07/17/2020 08:24:55 +0000', and 'Duration: 0.0775 sec'.

## Knowledge Base Articles

**Error rendering macro 'contentbylabel'**

parameters should not be empty





# Profit Report

## In this article

- [Section overview](#)
- [Creating a Profit Report](#)
- [Creating a Query Template](#)
- [Export a Generated Report](#)
- [Side-by-side report](#)
- [Sharing a Report](#)

## 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 seeing 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				
<b>Filters</b>	On the <b>Filters</b> menu, select the required parameters for the report. To cancel any filter, click the delete  icon next to the filter. You can start a <b>quick search</b> by typing filters' names in the field at the top of the drop-down menu with filters.				
	<table border="1"> <tr> <td><b>Period (1)</b></td> <td>Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.</td> </tr> <tr> <td><b>Period 2</b></td> <td>Accessible when you enable the <b>Compare Period</b> option by clicking on the plus  icon next to the <b>Period</b>. Specify the second interval for the report.</td> </tr> </table>	<b>Period (1)</b>	Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.	<b>Period 2</b>	Accessible when you enable the <b>Compare Period</b> option by clicking on the plus  icon next to the <b>Period</b> . Specify the second interval for the report.
	<b>Period (1)</b>	Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.			
	<b>Period 2</b>	Accessible when you enable the <b>Compare Period</b> option by clicking on the plus  icon next to the <b>Period</b> . Specify the second interval for the report.			
	<p> <b>Tip</b></p> <p>When you select one of the <b>Time</b> parameters for <b>Group by</b>, the end date of the <b>Period 2</b> will be set automatically to make equal intervals of <b>Period 1</b> and <b>Period 2</b>.</p>				
<table border="1"> <tr> <td><b>Reseller</b></td> <td>Specify the name of a target Reseller.</td> </tr> <tr> <td><b>Mode</b></td> <td>Choose the mode of the report:                             <ul style="list-style-type: none"> <li>• <b>All visible</b> - all represented visually.</li> <li>• <b>Hide External Originators</b> - all external originators of the selected manager will not be displayed.</li> <li>• <b>Hide External Clients</b> - only events made solely between clients of the chosen manager will be shown.</li> </ul>                             By default, the field value is set to <b>All visible</b> </td> </tr> </table>	<b>Reseller</b>	Specify the name of a target Reseller.	<b>Mode</b>	Choose the mode of the report: <ul style="list-style-type: none"> <li>• <b>All visible</b> - all represented visually.</li> <li>• <b>Hide External Originators</b> - all external originators of the selected manager will not be displayed.</li> <li>• <b>Hide External Clients</b> - only events made solely between clients of the chosen manager will be shown.</li> </ul> By default, the field value is set to <b>All visible</b>	
<b>Reseller</b>	Specify the name of a target Reseller.				
<b>Mode</b>	Choose the mode of the report: <ul style="list-style-type: none"> <li>• <b>All visible</b> - all represented visually.</li> <li>• <b>Hide External Originators</b> - all external originators of the selected manager will not be displayed.</li> <li>• <b>Hide External Clients</b> - only events made solely between clients of the chosen manager will be shown.</li> </ul> By default, the field value is set to <b>All visible</b>				

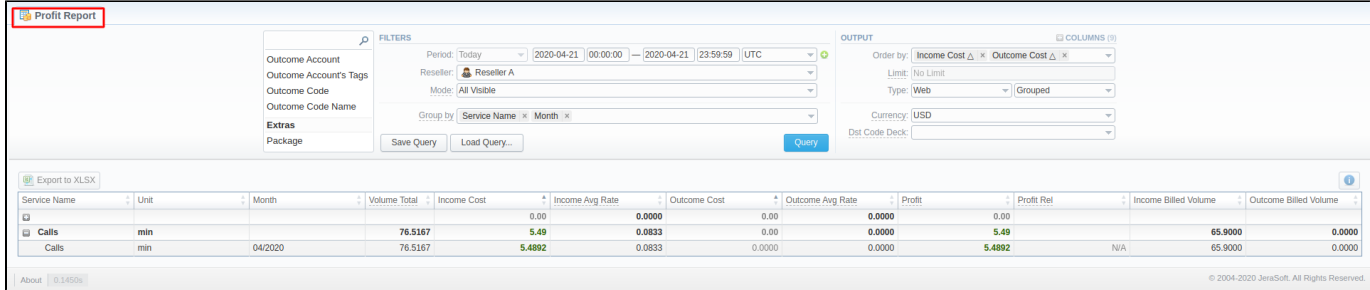
<b>Group by</b>	<p>Select a grouping option. Here you can choose and swap columns, as well as change their order. There are the following accessible options to group data in reports:</p> <ul style="list-style-type: none"> <li>• <b>Time:</b> <i>Year, Month, Day, Hour.</i></li> <li>• <b>Clients:</b> <i>Income Client, Income Account, Income Code, Income Code Name, Orig Rate, Outcome Client, Outcome Account, Outcome Code, Outcome Code Name, Term Rate, Package name.</i></li> <li>• <b>Extras:</b> <i>Service Name, Income Series.</i></li> </ul> <div style="background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p> <b>Attention</b></p> <p>Please note that the <b>Group by</b> field is mandatory, it couldn't be left empty to generate the report.</p> </div>
<b>Additional Filters</b>	
<p>There are the following accessible filters:</p> <ul style="list-style-type: none"> <li>• <b>Clients:</b> <i>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.</i></li> <li>• <b>Extras:</b> <i>Package, Service</i></li> </ul>	
<b>Income Client</b>	Specify an origination client(s) for the report
<b>Income Client's Tag</b>	Specify a tag(s) assigned to origination clients
<b>Income Account</b>	Determine an origination client's account(s)
<b>Income Account's Tag</b>	Indicate origination account's tags
<b>Income Code</b>	Define an incoming code
<b>Income Code Name</b>	Specify an incoming code name
<b>Income Serial</b>	Indicate a serial number of the originator's calling card
<b>Income Reseller</b>	Specify a target reseller(s) for the report
<b>Outcome Client</b>	Define a termination client(s)
<b>Outcome Client's Tag</b>	Define a termination client's tag(s)
<b>Outcome Account</b>	Indicate an account(s) of the termination client(s) for the report
<b>Outcome Account's Tag</b>	Specify termination account's tags if any
<b>Outcome Code</b>	Specify a termination code of the client
<b>Outcome Code Name</b>	Indicate a termination code name
<b>Package</b>	Determine the name of the used package
<b>Service</b>	Specify the service
<b>Output</b>	<p>This form contains settings of the report output data.</p> <p>Click a plus  sign next to <b>Columns</b> and select required columns to add them to the Output information block. Also, you can cancel any chosen item.</p>

Accessible columns in the report	
<p><b>Additional columns of the report are:</b></p> <p><b>Columns for the main period:</b></p> <p><i>Volume Total, Income Cost, Income Avg Rate, Income Billed Volume, Outcome Cost, Outcome Avg Rate, Outcome Billed Volume, Profit, Profit rel.</i></p> <p><b>Columns for the comparative period:</b></p> <p><i>Volume Total, Income Cost, Income Avg Rate, Income Billed Volume, Outcome Cost, Outcome Avg Rate, Outcome Billed Volume, Profit, Profit rel, Profit (%), Profit rel (%), Income Cost (%), Outcome Cost (%), Income Avg Rate (%), Outcome Avg Rate (%), Income Billed Volume (%), Outcome Billed Volume (%), Volume Total (%).</i></p> <p>And it's possible to choose each parameter expressed in percentage.</p>	
<b>Volume Total</b>	Total time of calls in minutes
<b>Rate</b>	<p>The call rate</p> <ul style="list-style-type: none"> <li>• <b>Income Avg Rate</b> - an average call rate that is used for origination</li> <li>• <b>Outcome Avg Rate</b> - an average call rate that is used for termination</li> </ul>
<b>Profit</b>	<p>The revenue</p> <ul style="list-style-type: none"> <li>• <b>Profit</b> - a revenue in a respective currency (in fact, any system currency can be specified here)</li> <li>• <b>Profit rel</b> - a revenue in percent value</li> </ul>
<b>Time</b>	<p>The billed time</p> <ul style="list-style-type: none"> <li>• <b>Income Billed Volume</b> - the whole billed time for origination</li> <li>• <b>Outcome Billed Volume</b> - the whole billed time for termination</li> </ul>
<b>Cost</b>	<p>The call cost</p> <ul style="list-style-type: none"> <li>• <b>Income Cost</b> - a call cost that is used for origination</li> <li>• <b>Outcome Cost</b> - a call cost that is used for termination</li> </ul>
Other output settings	
<b>Order by</b>	<p>Select parameters to sort already grouped data in columns. There are the following accessible options to order the data: <b>by Time, Clients, Extras.</b></p> <p>Here you can sort data <b>from highest to lowest values</b> (or vice versa) and select different values.</p>
<b>Type</b>	<p>Choose a report format from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b></p> <p>Also, select a table view next to the <b>Type</b> field:</p> <ul style="list-style-type: none"> <li>• <b>Plain</b> - a simple table view</li> <li>• <b>Grouped</b> - a table view with grouped data and possibility to collapse/expand it</li> </ul> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note that the <b>Grouped</b> type of a table view is available only for <b>Excel XLSx</b> and <b>Web</b> formats, it doesn't work with <b>CSV</b>.</p> </div>
<b>Limit</b>	<p>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 <b>plain</b> type of report.</p>
<b>Send to</b>	<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><b>⚠ Attention</b></p> <p>This feature is available only for <b>CSV, Excel XLS, Excel XLSx</b> formats of the report, it doesn't work with <b>Web</b>.</p> </div>

<b>Currency</b>	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
<b>Code Deck</b>	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**

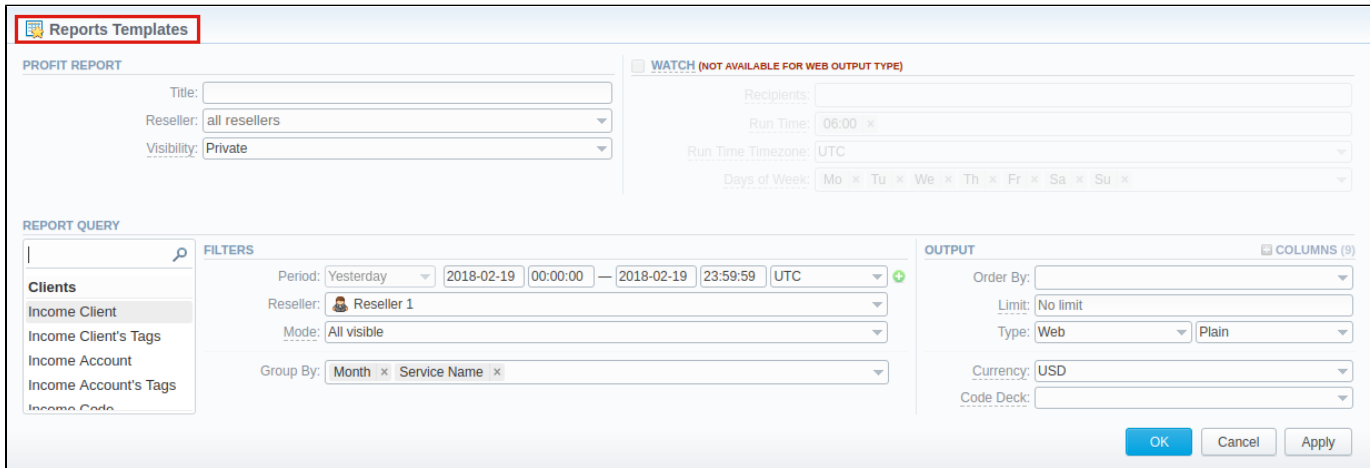
Please note that the system shows rounded values in the reports. However, while calculating the system takes an exact value. Hence, the procedure of the rounding is as follows:

- the system rounds currency values according to the settings of a respective currency;
- other parameters are rounded to the nearest ten thousandths. 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
<b>Profit Report</b>	Here you can specify parameters for the template that will be used while running reports
	<b>Title</b> Specify a name of the template
	<b>Reseller</b> Indicate a Reseller of the report template


	<p><b>Visibility</b> It allows controlling the visibility of respective reports templates. 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"> <li>• <b>Public</b> - available for users according to the settings of the <b>Reseller</b> field;</li> <li>• <b>Private</b> - accessible strictly for a creator.</li> </ul>						
<p><b>Watch</b></p>	<p>This tool allows to generate reports automatically at the appropriate time and send the results to the list of e-mails</p> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note, this tool is not available for <b>Web</b> output type, only for <b>CSV/Excel XLS/Excel XLSx</b>.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Recipients</b></td> <td>Specify recipients: it can be your own email, other users of the system or even 3rd parties</td> </tr> <tr> <td><b>Run Time</b></td> <td>Define an appropriate time to generate a report automatically. It could be several times, for example, <b>10:00, 12:00, 18:00</b></td> </tr> <tr> <td><b>Days of Week</b></td> <td>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</td> </tr> </table>	<b>Recipients</b>	Specify recipients: it can be your own email, other users of the system or even 3rd parties	<b>Run Time</b>	Define an appropriate time to generate a report automatically. It could be several times, for example, <b>10:00, 12:00, 18:00</b>	<b>Days of Week</b>	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
<b>Recipients</b>	Specify recipients: it can be your own email, other users of the system or even 3rd parties						
<b>Run Time</b>	Define an appropriate time to generate a report automatically. It could be several times, for example, <b>10:00, 12:00, 18:00</b>						
<b>Days of Week</b>	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						
<p><b>Report Query</b></p>	<p>Here you need to specify filters that will be used for generating a correct report and choose the output type to view the report.</p>						

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**

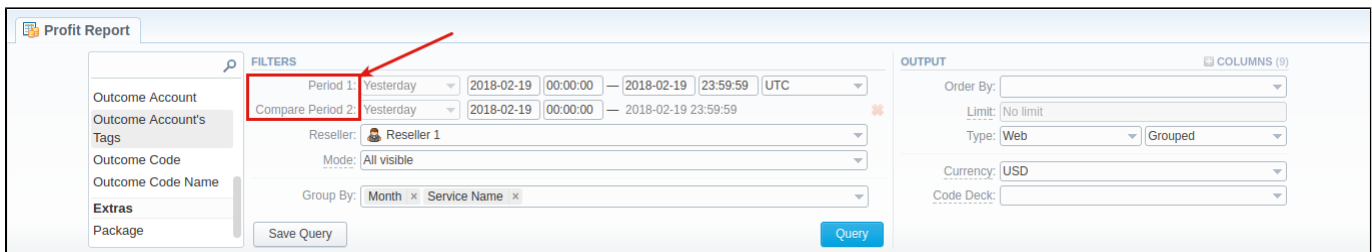
You can check an **actual date interval** of the report by clicking the **Info**  icon, and it could be different from **the Interval** specified above if there is no data for the period.

## 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 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 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


The screenshot shows the 'Profit Report' interface. At the top, there are 'FILTERS' and 'OUTPUT' sections. The 'FILTERS' section includes dropdowns for 'Outcome Account', 'Outcome Account's', 'Outcome Code', and 'Outcome Code Name'. Below these are 'Extras' filters for 'Package' and 'Service Name'. The 'OUTPUT' section shows a list of columns: 'Volume Total', 'Income Cost', 'Income Avg Rate', 'Outcome Cost', 'Outcome Avg Rate', 'Profit', and 'Profit Rel'. A red box highlights the 'COLUMNS' dropdown menu. Below the filters is a 'Query' button and an 'Export to XLSX' link. The main table displays data for 'Calls' with columns for 'Service Name', 'Unit', 'Month', 'Volume Total', 'Income Cost', 'Income Avg Rate', 'Outcome Cost', 'Outcome Avg Rate', 'Profit', 'Profit Rel', 'Income Billed Volume', and 'Outcome Billed Volume'. The table has multiple columns for each metric, grouped by 'P1' and 'P2' for two different periods. The 'Profit' column has a red box around its 'P1' and 'P2' sub-columns.

## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info**  icon, which is located under the **Output** section:

Title	Description
Data Period	States the period set for a report
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time
Duration	Time spent to generate a report

# Invoicing Report

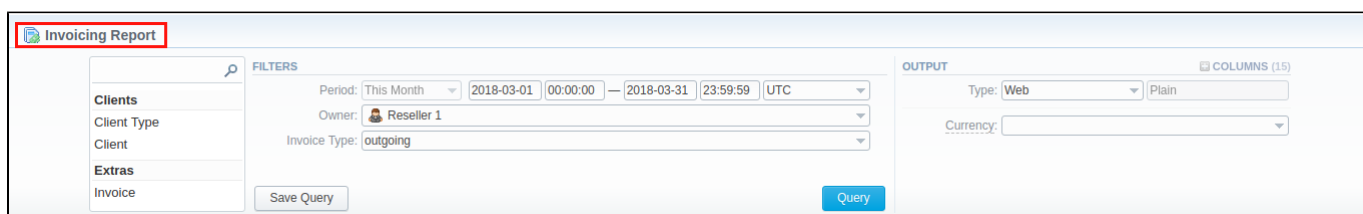
## In this article

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

## 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



## Creating a New Invoicing Report

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

Information Block	Field and Description
Filters	<p>On the <b>Filters</b> 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 <b>quick search</b> by typing filters' names in the field at the top of a drop-down menu with filters.</p>
	<p><b>Period</b></p> <p>Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.</p>
	<p><b>Owner</b></p> <p>Define a reseller for the report</p>
	<p><b>Invoice Type</b></p> <p>Select the type of invoice from the drop-down list:</p> <ul style="list-style-type: none"> <li>• <b>outgoing</b></li> <li>• <b>incoming</b></li> </ul>
	<p><b>Additional Filters</b></p> <p>The accessible additional filters are:</p> <ul style="list-style-type: none"> <li>• <b>Clients:</b> <i>Client, Client Type.</i></li> <li>• <b>Extras:</b> <i>Invoice, Payment Account</i></li> </ul>
	<p><b>Client Type</b></p> <p>Choose a respective parameter for statistics data:</p> <ul style="list-style-type: none"> <li>• <b>Client</b></li> <li>• <b>Reseller</b></li> <li>• <b>Calling Card</b></li> <li>• <b>Call Shop</b></li> </ul>
	<p><b>Client</b></p> <p>Define a client for the report</p>
	<p><b>Invoice</b></p> <p>Specify the name/number of a target invoice</p>

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

Screenshot: Invoicing Report



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

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 [Reports 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 a **.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.

### Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info** icon, which is located under the **Output** section:

Title	Description
Data Period	States the period set for a report
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time

# LCR Lists

## In this article

- [Section overview](#)
- [Creating an LCR Report](#)
- [Export generated report](#)
- [Sharing a 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
<b>Filters</b>	<p>On the <b>Filters</b> 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 <b>quick search</b> by typing filters' names in the field at the top of a drop-down menu with filters.</p>
	<p><b>Period</b> Specify an interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.</p>
	<p><b>Group by</b> Select from the list of the following accessible options to group the data in reports:</p> <ul style="list-style-type: none"> <li>• <b>Code</b></li> <li>• <b>Code Name</b></li> </ul> <p>This option is intended to simplify the grouping option, the system will automatically group data in specified columns.</p> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <ul style="list-style-type: none"> <li>• Please note, the <b>Group by</b> field is mandatory, it couldn't be empty to generate the report. Grouping by <b>code</b> is a default output.</li> <li>• When you select the grouping by a <b>code name</b>, 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.</li> </ul> </div>
	<p><b>Service</b> Specify a target service (<i>calls, data, SMSs</i>)</p>
	<p><b>Additional Filters</b></p> <p>There are the following accessible additional filters:</p> <ul style="list-style-type: none"> <li>• <b>Clients:</b> <i>Owner, Client Tags</i></li> <li>• <b>Events:</b> <i>Code/ Code Name</i></li> <li>• <b>Extras:</b> <i>Routes Limit</i></li> </ul>

<b>Owner</b>	Specify a target reseller	
<b>Client Tags</b>	Indicate client tags that will be used for the report	
<b>Code</b>	Enter the code of a target destination	
<b>Code Name</b>	Define the code name you would like to be displayed in a report	
<b>Routes Limit</b>	Indicate the limit of routes that will be shown. To display all possible routes, leave this field <b>empty</b> .	
<b>Output</b>	This form contains settings of the report output data.  Click the plus  icon next to <b>Columns</b> and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.	
	<b>Accessible columns in the report</b>	
	There are the following columns to add to the report: <ul style="list-style-type: none"> <li>• <b>Code</b></li> <li>• <b>Code Name</b></li> <li>• <b>Total Volume</b></li> </ul>	
	<b>Other output settings</b>	
	<b>Type</b>	Choose a format of the report from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b> .  The table view of the report is <b>Plain</b> by default.
	<b>Send to</b>	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.  <b>⚠ Attention</b>  This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report, it doesn't work with <b>Web</b> .
	<b>Currency</b>	Specify a currency of the report. All values will be automatically converted to the specified currency in the report.
	<b>Code Deck</b>	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.  <b>⚠ Warning</b>  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.
	<b>Show Vendors</b> checkbox	Specify whether you need vendor (terminator) names to be displayed in the report or not.
	<b>Show Total Calls</b> 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. On the left, there are filters for Client Tags, Owner, Events, Code, and Code Name. The main filter area includes:
 

- Period: Last 30 Days (2018-04-11 00:00:00 - 2018-05-10 23:59:59 UTC)
- Group By: code
- Service: Calls
- Routes Limit: (empty)

 The Output section includes:
 

- Order By: Code
- Type: Web
- Currency: USD
- Code Deck: (empty)
- Show Vendors:
- Show Total Records:

 Below the filters are 'Export to CSV' and 'Export to XLSx' buttons. The main table displays the following data:
 

Code	Code Name	Total Volume	Route #1
123	Code 123	291.1167	Client 0 TERM <b>291.1167</b> Rate, USD: 2.0000 ASR, %: 99.64% ACD, min: 1.06

 At the bottom, there are 'About' and 'Get Support' links, a timer showing '0.3504s', and a copyright notice '© 2004-2018 JeraSoft. All Rights Reserved.'

Each route, presented in a report, besides a 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 [Reports 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 a **.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.

## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info** icon, which is located under the **Output** section:

Title	Description
Data Period	States the period set for a report
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time

# 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 forming 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
<b>Filters</b>	<p>On the <b>Filters</b> 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 <b>quick search</b> by typing filters' names in the field at the top of a drop-down menu with filters.</p>
	<p><b>Period</b> Specify the time interval for the report and a timezone. Please note that the <b>Period</b> field is mandatory.</p>
	<p><b>Additional Filters</b></p> <p>There are the following accessible additional filters:</p> <ul style="list-style-type: none"> <li>• <b>Clients:</b> <i>Client Type, Client, Client Tags, Account Tags, Cards Serial, Account, Package.</i></li> <li>• <b>Events:</b> <i>Dst Code, Dst Code Name, Origin, Result Code, Tags, Gateway.</i></li> <li>• <b>Extras:</b> <i>Service, Owner, Src Code, Src Code Name, Result Status, Rate, Setup Fee, DST Party ID, SRC Party ID, Session ID, XDR ID, Volume, Cost, Status, Match Clients, Match Codes, Currency.</i></li> </ul>
	<p><b>Client Type</b> Select a client's type for the report (<i>Client, Reseller, Calling Card or Call Shop</i>)</p>
	<p><b>Client</b> Define a client for the report</p>
	<p><b>Client Tags</b> Specify customer's tags</p>
	<p><b>Account</b> Enter a client's account for the report</p>
	<p><b>Account Tags</b> Determine account's tags</p>
	<p><b>Cards Serial</b> Indicate cards serial for the report</p>
	<p><b>Package</b> Enter a package name for the report</p>
	<p><b>Code</b> Specify a code of a target destination</p>

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

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There are the following columns to add to the report:

- **Clients:** Client Type, Clients Tags, Client ID, Client, Account, Account ID, Accounts Tags, 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 Source, xDR ID, Uniq Sign, Custom, Extra Data, Status, Service Name, Unit.

**Other output settings**

<b>Order by</b>	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.
<b>Type</b>	Choose a format of the report from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b> . The <b>Plain</b> type of view is set by default.
<b>Send to</b>	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><b>⚠ Attention</b></p> <p>This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report, it doesn't work with <b>Web</b>.</p> </div>
<b>Currency</b>	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
<b>Dst Code Deck</b>	Select a destination code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck.
<b>Src Code Deck</b>	Select a source 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

The screenshot shows the 'xDRs List' interface. On the left, there is a 'CLIENTS' sidebar with a search icon and a list of filters: Clients, Client Type, Client, Account, and Client Tags. Below this is a 'Save Query' button. The main area contains 'FILTERS' with a 'Period' dropdown set to 'Last 30 Days' and date/time pickers for '2018-04-11 00:00:00' and '2018-05-10 23:59:59' in 'UTC'. A 'Query' button is located below the filters. On the right, the 'OUTPUT' section includes 'COLUMNS (10)', 'Order By' (dropdown), 'Type' (Web/Plain), 'Currency' (USD), and 'Code Deck' (dropdown). Below the filters and output settings are 'Export to CSV' and 'Export to XLSx' buttons. The main data table shows 5 rows of data with columns: Event time, Code, Currency, Rate, Origin, Client, Service Name, Billed Volume, Connect Time, and Gateway ID. The footer contains 'About | Get Support | 0.5732s' and '© 2004-2018 JeraSoft. All Rights Reserved.'

Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button. Visit our [Reports 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 a **.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 the Session ID**, enter digits + asterisk (\*): **16\***.
- **middle digits of the 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 finding **unrecognized calls/clients** by the system due to unavailability of the 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	<b>3 005</b>
Non Zero	630	788	<b>1 418</b>
Total Volume	1 019 min	1 257 min	<b>2 276 min</b>

### UNKNOWN DESTINATIONS (KNOWN CLIENTS)

	origination	termination	all
Total	0	0	<b>0</b>
Non Zero	0	0	<b>0</b>
Total Volume	0	0	<b>0</b>

### UNKNOWN DESTINATIONS IN RESELLERS (KNOWN RESELLERS)

	origination	termination	all
Total	0	0	<b>0</b>
Non Zero	0	0	<b>0</b>
Total Volume	0	0	<b>0</b>

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
<b>Period</b>	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 <b>This Year</b> , <b>Last Month</b> , <b>Yesterday</b> , etc.
<b>Timezone</b>	Select a timezone from the list. By default, the field value is set to <b>UTC</b> .

**Service** Choose the 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 the desired table and click a respective **Query xDR** button to create a report.

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

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 rerating calls, SMS, 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**:

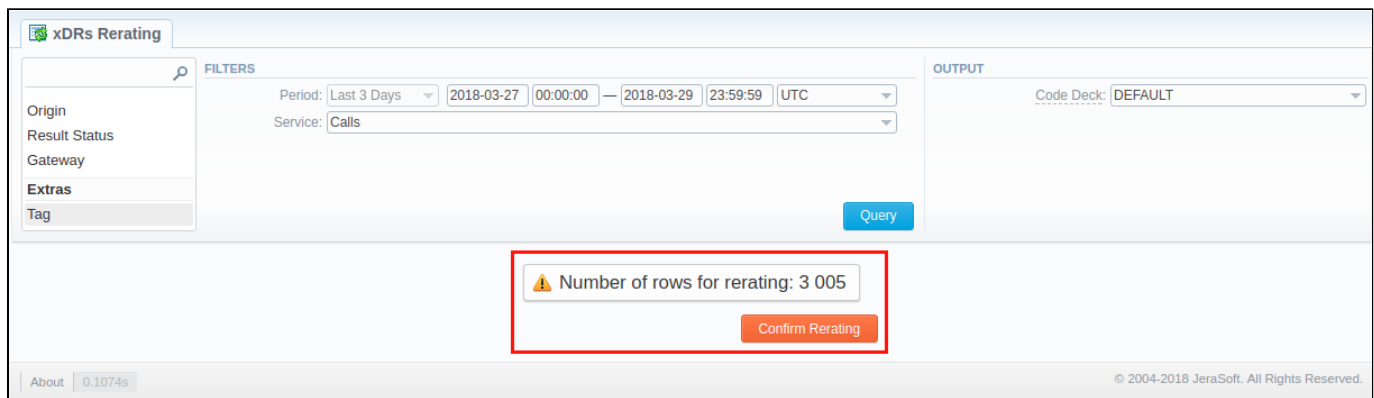
1. Choose filters, specify an interval and respective values in the query form, and click the **Query** button.

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

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



You will also receive the following notification: **xDRs have been added to queue now. Please wait while the system processes them.** Then, you need to run the **Calculator** in the **System Services** 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'**

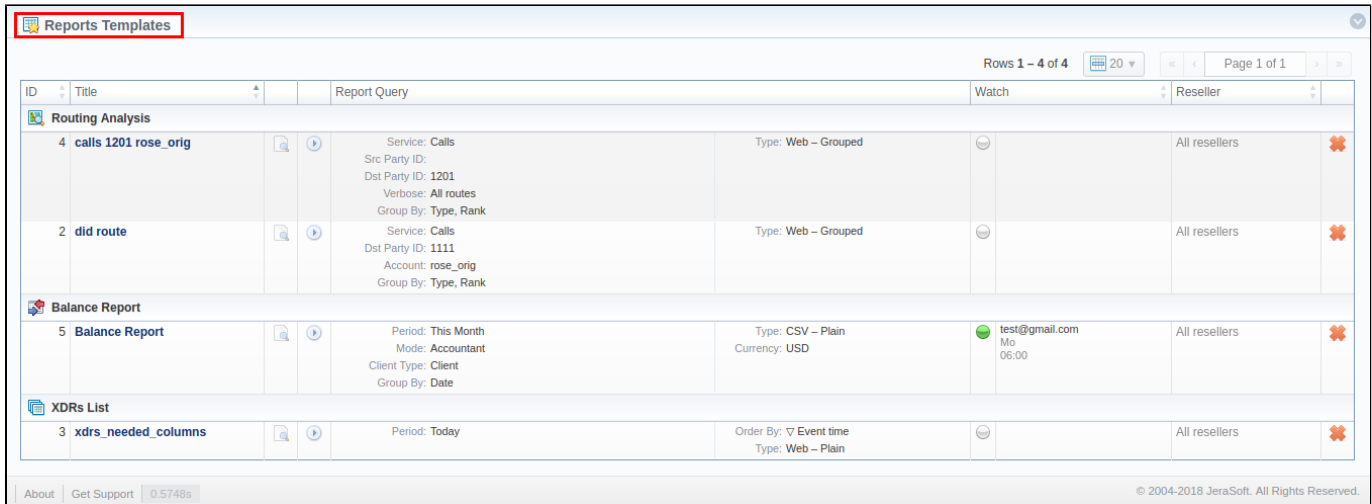
parameters should not be empty

# 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
<b>ID</b>	Template ID
<b>Title</b>	Name of the template
<b>Report Query</b>	Template details
<b>Watch</b>	Tool to run a report automatically at the exact time and send the results to the list of emails
<b>Reseller</b>	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 <b>To send a report via email</b> watch option is enabled.
	Indicates that <b>To send a report via email</b> 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								
<b>Report Name</b>	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%;"><b>Title</b></td> <td>Specify a name of the template</td> </tr> <tr> <td><b>Reseller</b></td> <td>Indicate a Reseller for the report template</td> </tr> <tr> <td><b>Visibility</b></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"> <li><b>Public</b> - available for users according to the settings of the <b>Reseller</b> field;</li> <li><b>Private</b> - accessible strictly for the creator.</li> </ul> </td> </tr> </table>	<b>Title</b>	Specify a name of the template	<b>Reseller</b>	Indicate a Reseller for the report template	<b>Visibility</b>	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"> <li><b>Public</b> - available for users according to the settings of the <b>Reseller</b> field;</li> <li><b>Private</b> - accessible strictly for the creator.</li> </ul>		
	<b>Title</b>	Specify a name of the template							
	<b>Reseller</b>	Indicate a Reseller for the report template							
<b>Visibility</b>	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"> <li><b>Public</b> - available for users according to the settings of the <b>Reseller</b> field;</li> <li><b>Private</b> - accessible strictly for the creator.</li> </ul>								
<b>Watch</b>	This tool allows generating reports at the appropriate time and sending results to specified emails.  <div style="background-color: yellow; padding: 5px; border: 1px solid #ccc;"> <p><b>⚠ Attention</b></p> <p>Please note that this tool <b>is not available</b> for <b>Web</b> output type, only for <b>CSV/Excel XLS/Excel XLSx</b>.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Recipients</b></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><b>Run Time</b></td> <td>Determine an appropriate time to generate a report automatically, it could be several times, for example, <b>10:00, 12:00, 18:00</b></td> </tr> <tr> <td><b>Run Time Timezone</b></td> <td>Indicate a timezone for a selected report run time</td> </tr> <tr> <td><b>Days of Week</b></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 the week.</td> </tr> </table>	<b>Recipients</b>	Specify emails of recipients. Here you can indicate your own or other users' email, even those of 3rd parties.	<b>Run Time</b>	Determine an appropriate time to generate a report automatically, it could be several times, for example, <b>10:00, 12:00, 18:00</b>	<b>Run Time Timezone</b>	Indicate a timezone for a selected report run time	<b>Days of Week</b>	Define days of a week to generate a report automatically. For example, you can run a report only on Monday or each day of the week.
<b>Recipients</b>	Specify emails of recipients. Here you can indicate your own or other users' email, even those of 3rd parties.								
<b>Run Time</b>	Determine an appropriate time to generate a report automatically, it could be several times, for example, <b>10:00, 12:00, 18:00</b>								
<b>Run Time Timezone</b>	Indicate a timezone for a selected report run time								
<b>Days of Week</b>	Define days of a week to generate a report automatically. For example, you can run a report only on Monday or each day of the week.								
<b>Report Query</b>	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 are 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

Archive Management

ACTIVE STATISTICS PACKAGES										
Date	Type	Total xDRs	Volume	Paid xDRs	New xDRs	New Volume	Re-Rating xDRs	Progress		
2018, May (2)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2018, April (2)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2018, March (2)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2018, February (2)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2017, October (1)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2017, September (1)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
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	<div style="width: 100%; height: 10px; background-color: #28a745;"></div> 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	<div style="width: 100%; height: 10px; background-color: #28a745;"></div> 100.00%		

[Process](#)

---

ARCHIVED STATISTICS PACKAGES		
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

[Process](#)

You can download these files from the billing server: [ep@jerasoft.com](mailto:ep@jerasoft.com)-dataarchive

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## 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 the form of a table with the following columns:

Screenshot: Active Statistics Packages

ACTIVE STATISTICS PACKAGES

Date	Type	Total xDRs	Volume	Paid xDRs	New xDRs	New Volume	Re-Rating xDRs	Progress		
2018, May (3)		30 870	19 371 Min	0	17 640	11 070 Min	0	<div style="width: 42.86%; height: 10px; background-color: #28a745;"></div> 42.86%		
5 May, 2018								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
4 May, 2018		30 870	19 371 min	0	17 640	11 070 min	0	<div style="width: 42.86%; height: 10px; background-color: #28a745;"></div> 42.86%		
3 May, 2018								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2018, April (2)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2018, March (2)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2018, February (3)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2017, October (1)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
2017, September (1)								<div style="width: 0%; height: 10px; background-color: #ccc;"></div>		
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	<div style="width: 100%; height: 10px; background-color: #28a745;"></div> 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	<div style="width: 100%; height: 10px; background-color: #28a745;"></div> 100.00%		

[Process](#)



Column	Description
<b>Date</b>	System package creation date
<b>Type</b>	Type of package entity: <b>time/events/data</b>
<b>Total xDRs</b>	Total number of processed xDRs (origination/termination)
<b>Volume</b>	Total amount of processed events (origination/termination)
<b>Paid xDRs</b>	Total number of paid xDRs
<b>New xDRs</b>	Total number of xDRs that have not been processed yet
<b>New Volume</b>	Volume of events that have not been processed yet
<b>Rerating xDRs</b>	Quantity of events queued for rerating
<b>Progress</b>	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"> <li> icon indicates that the package is not archived for the respective day (month).</li> <li> icon indicates that the package is archived.</li> </ul>
	Moves a package to archive and removes from database
	Deletes a package from the database <b>without</b> performing balance rollback
	Deletes a package from the database <b>with</b> 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
<b>Date</b>	Package archive creation date
<b>Filename</b>	Name of the archived file, which contains a system package
<b>Size</b>	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 archive

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 the current day's package.

## Knowledge Base Articles

**Error rendering macro 'contentbylabel'**

parameters should not be empty

# Tools

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

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

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

# 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 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



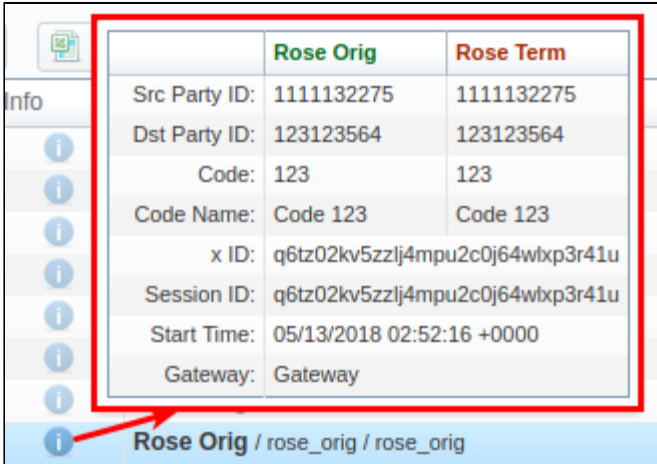

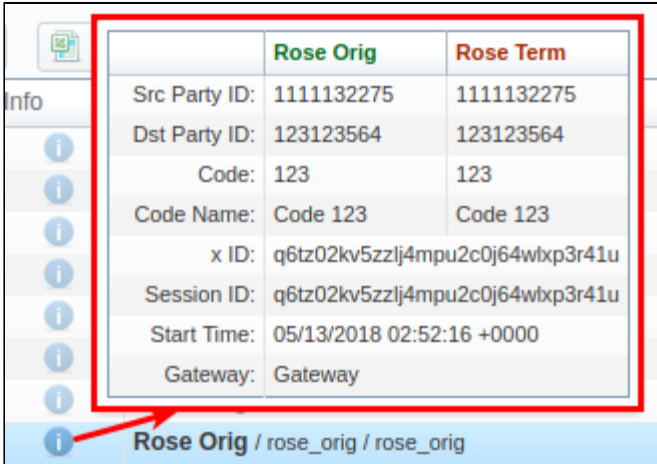

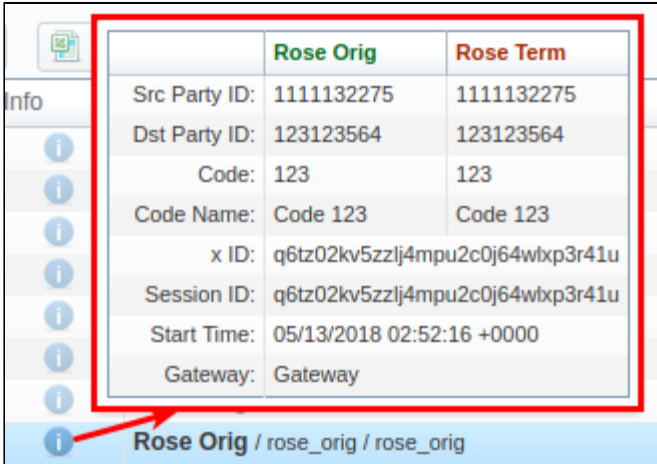
Please note, this function requires **RADIUS Accounting Start packets** to be sent from your Gateway and the **Track Active Events** option enabled in the [Gateways](#) section.

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
<b>Filters</b>	On the <b>Filters</b> menu, select the required parameters for the report. To cancel any filter, click on the delete  icon next to the filter.
	<p>You can start a <b>quick search</b> by typing filters' names in the field at the top of a drop-down menu with filters.</p> <p><b>Group by</b> 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"> <li>• <b>Orig Client, Orig Account, Orig Code, Orig Code Name.</b></li> <li>• <b>Term Client, Term Account, Term Code, Term Code Name.</b></li> <li>• <b>Gateway.</b></li> </ul>

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

<b>Terminator</b>	The name of the terminator, term gateway, account IP, Name or ANI.
<b>Src Party ID</b>	The source number.
<b>Dst Party ID</b>	The destination number.
<b>Duration</b>	Session duration, specified in seconds.
<b>Other output settings</b>	
<b>Order by</b>	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.
<b>Type</b>	<p>Choose a format of the report from a drop-down list: <b>Web / CSV / Excel XLS / Excel XLSx</b></p> <p>Also, select next to the <b>Type</b> field a look of table view:</p> <ul style="list-style-type: none"> <li>• <b>Plain</b> - a simple table view</li> <li>• <b>Grouped</b> - a table view with grouped data and possibility to collapse it</li> </ul> <div style="background-color: #ffffcc; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>Please note that the <b>Grouped</b> type of a table view is available only for <b>Excel XLSx</b> and <b>Web</b> formats, it doesn't work with <b>CSV</b> and <b>Excel XLS</b>.</p> </div>
<b>Limit</b>	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 <b>Plain</b> type of the report.
<b>Send to</b>	<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><b>⚠ Attention</b></p> <p>This feature is available only for <b>CSV/Excel XLS/Excel XLSx</b> formats of the report, it doesn't work with <b>Web</b>.</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. A detailed description of 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 the form of a table with the following columns:

*Screenshot: Factors Watcher main section*

Column	Description
<b>ID</b>	Identification number of factors watcher
<b>Name</b>	Name of a factors watcher
<b>Watch Rule</b>	Total number of watch rules within a factors watcher
<b>Presets</b>	Total amount of traffic rules, created by a factors watcher
<b>Query</b>	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:

---

**PREFILL QUERY**

Report Template:

Analyze interval of:

Check every:

Compare Mode:

Period Start:

Time Zone:

**QUERY**

Client:

Dst Code Name:

Company:

Group by #1:

Account:

Dst Code:

Code Deck:


Group by #2:

Gateway:

Group by #3:


Field	Description
<b>Name</b>	Factors watcher's name. This field is mandatory. The name must be no longer than 128 symbols.
<b>Analyze by</b>	Select a report ( <b>Summary</b> or <b>xDRs List</b> ), a new factors watcher will be based on  Different reports provide a different set of parameters that are available for monitoring. For instance, <b>xDRs List</b> allows you to work with service sources (phone numbers, data) while <b>Summary report</b> allows such operations with ACD and ASR.
<b>Report Template</b>	Specify the template for further usage (optional)  <div style="background-color: #ffff00; padding: 5px; border: 1px solid #ccc;"> <p><b>⚠ Attention</b></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>
<b>Analyze Interval of, min</b>	Interval of time to check. Please note, this option checks <b>a current period, not the past hour</b> .
<b>Check Every, min</b>	Frequency of checks, performed by a factors watcher
<b>Compare Mode</b>	This period is used to compare the results of different intervals. It deducts a specified period from the <b>Period Start</b> date, then takes the statistics according to the <b>Analyze interval of</b> value and the date calculated above. The options here are: <ul style="list-style-type: none"> <li>• <b>Previous Period</b></li> <li>• <b>Previous Day</b></li> <li>• <b>Previous Week</b></li> <li>• <b>Previous Month</b></li> <li>• <b>Previous Year</b></li> </ul>
<b>Period Start</b>	Enter the specific time to set a factors watcher starting date
<b>Timezone</b>	Specify a timezone that will be used for reports queries/blocking routes
<b>Query information block</b>	<b>Indicate the query fields that will be used for generating a selected type of report</b>

<b>Client</b>	Select a client. You can specify multiple clients.  <b>Attention</b> If you specify a client(s), the <b>Account</b> field becomes unavailable and vice versa.
<b>Account</b>	Select a target client's account
<b>Code Name</b>	Indicate a code name  <b>Attention</b> The <b>Code</b> and <b>Code Name</b> fields are mutually exclusive
<b>Code</b>	Define the code
<b>Company</b>	Specify a Reseller
<b>Code Deck</b>	Indicate a target code deck
<b>Gateway</b>	Select a respective gateway
<b>Group by #</b>	Group query by a selected parameter ( <b>client</b> , <b>account</b> , <b>code name</b> , <b>code</b> or <b>gateway</b> ). Pay attention that based on selected parameters, respective <b>Action</b> options will be available. For instance, if you group by <b>Code</b> , in the rule settings you will have the <b>Block Code</b> option and so on.
<b>Test Query button</b>	Click on this button to perform a test query in the Summary or xDRs List Report for the period, specified in the <b>Check Every</b> and <b>Analyze Interval of</b> fields


When you click **OK**, the new factors watcher will be created. You can edit the 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	
<b>Priority</b>	Define a priority of rules execution if they have a similar <b>Match</b> parameter	
<b>Match</b>	A set of parameters that are used as a basis for checks	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Service</b></td> <td>Determine the type of service (e.g., <b>calls</b>, <b>SMSs</b>, <b>data</b>)</td> </tr> </table>	<b>Service</b>
<b>Service</b>	Determine the type of service (e.g., <b>calls</b> , <b>SMSs</b> , <b>data</b> )	

	<p><b>Origin</b> Type of route to check (<i>Origination/Termination</i>)</p>
	<p><b>Code Name</b> Indicate the code name to apply a rule to</p>
	<p><b>Gateways</b> Specify the gateway to apply a rule to</p>
<div style="background-color: #e0ffe0; padding: 10px;"> <p> <b>Tip</b></p> <p>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 <b>Expiration Date</b>. Therefore, the existed multiple rules with the same match parameters will override each other and the rule with the highest priority will be applied.</p> </div>	
<p><b>Factors</b></p>	<p><b>Enter factors that will be applied to a current rule.</b></p> <p>Parameters must be listed with a <b>semi-colon “;” as a delimiting symbol.</b></p> <p>The list of parameters available for usage:</p> <ul style="list-style-type: none"> <li>• <b>volume_total, volume_billed, acd_std, acd_cur, pdd, scd, package_volume</b> - with a measurement unit specified in the service</li> <li>• <b>records_total, records_notzero, records_success, records_busy, records_nochannel, records_error</b> - with a measurement unit: numbers;</li> <li>• <b>cost_total, rate_avg</b> - with a measurement unit: money;</li> <li>• <b>asr_std, asr_cur</b> - with a measurement unit: percentage (%).</li> </ul> <p>For example, if you enter <b>total_volume &gt; 100</b>, 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, <b>total_cost &lt; -10</b>.</p> <p><b>Factors with a reference to the side-by-side reports:</b></p> <p>You can adjust these factors on your own, using the next formula and pre-existing factors mentioned above: <b>factors_name_1</b> - value for the first period; <b>factors_name_2</b> - value for the second period; <b>factors_name_diff</b> - the difference between periods.</p> <p>For example: <b>total_cost_1</b> (of the 1<sup>st</sup> period), <b>total_cost_2</b> (of the 2<sup>nd</sup> period), <b>total_cost_diff</b> (difference in %).</p> <div style="background-color: #e0ffe0; padding: 10px;"> <p> <b>Tip</b></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"> <li>○ click the <b>New Factors Watcher</b> button;</li> <li>○ fill in the <b>Name</b> field and others according to your needs;</li> <li>○ specify intervals in the next fields: <b>Analyze Interval of</b>, <b>Period Start</b> and <b>Period Offset</b>;</li> <li>○ click the <b>Test Query</b> button.</li> </ul> </div>
<p><b>Action</b></p>	<p>An action that must be taken if a matched rule is found.</p> <p>There are respective options: <b>Alert, Block Code Name/Account/Client</b></p> <p>When one of these options is applied, the message will be shown in the <b>Events log</b> section.</p> <div style="background-color: #ffffe0; padding: 10px;"> <p> <b>Attention</b></p> <p>The <b>Block Code Name/Client/Account</b> options will be invisible if the <b>Group By #</b> field in factors watcher rule is empty. If you group by the <b>Client</b>, the <b>Block Account</b> option won't be visible in the drop-down list of the <b>Action</b> field.</p> </div>
<p><b>Lock Period</b></p>	<p>Defines the lockout time in minutes for the analyzed route in case of a block action (0 value means infinite lockout)</p>
<p><b>Periodic Lock</b></p>	<p>If enabled, the rule will expire at the end of a period specified in the <b>Analyze interval of</b> field in the Watcher settings. Please note, that this option has a higher priority than the <b>Expiration Date</b>.</p>
<p><b>Expiration Date</b></p>	<p>Specify the date when the rule must be automatically deleted</p>

 **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 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
<b>ID</b>	ID of a dispute
<b>Client/Account</b>	Client and Accounts of a current dispute
<b>Period</b>	Period of compared xDR files and timezone
<b>Total Qty</b>	Total amount of compared xDRs
<b>No L</b>	Number of xDRs that were not found in the system
<b>No E</b>	Number of xDRs that were not found in the external xDR file
<b>Updated</b>	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 JeraSoft Billing, 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
<b>Client</b>	Specify a client for the dispute. If indicated, the <b>Account</b> field is disabled (and vice versa)
<b>Account</b>	Specify an account for the dispute
<b>Type</b>	Choose the type of compared xDRs: <ul style="list-style-type: none"> <li>• <b>origination</b></li> <li>• <b>termination</b></li> </ul>
<b>Code Name</b>	Specify a code name of the desired destination. If indicated, the <b>Code</b> field is disabled (and vice versa)
<b>Code</b>	Specify a code of the desired destination
<b>Code Deck</b>	Select a code deck that will be used for a current dispute
<b>Select File</b>	Upload the xDR file for comparison
<b>Date Format</b>	Specify date format of xDRs <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <b>⚠ Attention</b>                          Please note that by default date format is set to <b>auto</b> and has the following format: <b>YYYY-MM-DD HH:MM:SS</b>.                     </div>
<b>Period</b>	Specify a period of a dispute
<b>Override Timezone</b> checkbox	If enabled, the timezone in the imported file will be replaced with the specified timezone in the <b>Period</b> field

When you fill 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

Field	Description
<b>Src Party ID</b>	Enter a number of last digits for source number comparison
<b>Dst Party ID</b>	Indicate a number of last digits for destination number comparison
<b>Connect Time</b>	Specify the possible time offset (in seconds) between the system and external xDRs
<b>Finish Time</b>	Define the possible time offset (in seconds) between the system and external xDRs
<b>Volume</b>	Specify the possible time offset (in seconds) between the system and external xDRs

Screenshot: Disputes Details window. Step 3


	SRC Party Id	DST Party Id	Connect Time	Finish Time	Volume
<b>E</b>	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98
No matched xDRs					
<b>L</b>	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98
<b>E</b>	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98
<b>L</b>	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	98
<b>E</b>	1111131458	1201140538	2018-05-17 13:05:59+00	2018-05-17 13:07:37+00	96

Icon	Description
<b>E</b>	Red color indicates the mismatched xDRs (external or local, it depends on the marked letter <b>L</b> or <b>E</b> )

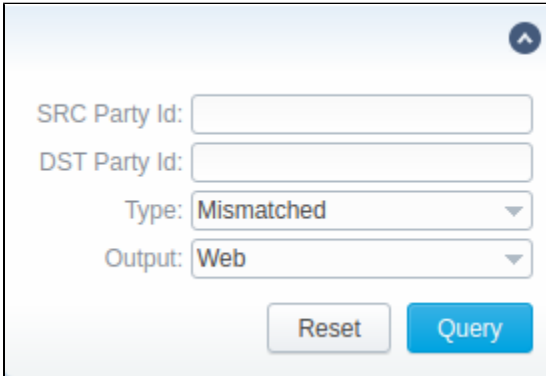
<b>L</b>	Yellow color indicates the matched xDRs with offset (external or local, it depends on the marked letter <b>L</b> or <b>E</b> ). For example, the <b>Volume</b> value on a screenshot above for a local xDR is <b>98</b> and for external - <b>96</b>
<b>L</b>	Green color indicates the exactly matched xDRs (external or local, it depends on the marked letter <b>L</b> or <b>E</b> )

**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 exactly matched xDRs (green color).

Click on a blue downward arrow  in the top right corner of the page to use Advanced Search. Note that by default, dispute details are filtered by the **Mismatched** type.

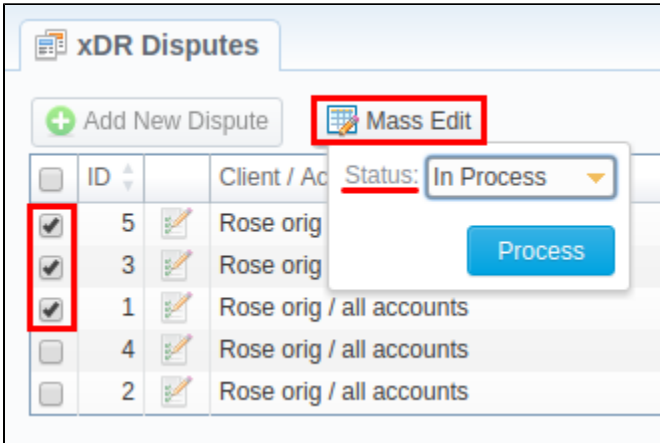
Screenshot: Advanced Search drop-down menu



## 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



	ID	Client / Ac	Status
<input checked="" type="checkbox"/>	5	Rose orig	In 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 the **routing capabilities of JeraSoft Billing**. Please note that your JeraSoft Billing must include the **Routing Module** to have functional capabilities described below.

## Introduction to JeraSoft Billing Routing Module

JeraSoft Billing is able to provide so-called Dynamic Routing features, also often called *External Routing*. Depending on your switch manufacturer, it provides these functions via RADIUS Protocol or SIP Redirect Server. To find out more about possible options of your switch manufacturers, please look through [JeraSoft Billing Integration Manual](#) or contact *JeraSoft Support*.

**In JeraSoft Billing, 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 the 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 Billing includes the **Routing Module**. To access the *Routing Plans* section, please log in to your system and go to **Routing > Routing Plans**.

This section allows managing your routing rules for customers, providers, and destinations. Each routing plan should be assigned to a respective customer (originator) for the 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*

ID	Name	Reseller	Code Deck	Rules Hunting	DR Order	Rules
7	AZ General	Company A	DEFAULT	longest only	by code / appeal	1
8	AZ Premium	Company A	DEFAULT	longest only	by code / appeal	1
6	DR: DID + Simple LCR	Company A	—	longest only	by code / appeal	2
3	DR: Proportional	Company A	—	longest only	by code / appeal	1
2	DR: Simple LCR	Company A	—	longest only	by code / appeal	1
1	DR: Simple Quality	Company A	—	longest only	by code / appeal	1

Column	Description
<b>ID</b>	ID number of a routing plan
<b>Name</b>	Name of a routing plan
<b>Reseller</b>	Name of a reseller a corresponding routing plan has been assigned to as an owner
<b>Code Deck</b>	Name of code deck that has been applied to a corresponding routing plan
<b>Rules Hunting</b>	A respective hunting rule that has been applied to a routing plan
<b>DR Order</b>	A name of dynamic routing order that has been selected to organize routing rules
<b>Rules</b>	A number 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
	Allows deleting a routing plan 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 downward arrow icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu

The screenshot shows a search filter window with the following fields and values:

- Reseller: all resellers
- Allowed for: all resellers
- Code Deck: (empty)
- Tags: (empty)
- Additional DR plan: (empty)
- TERM Client: (empty)

Buttons: Reset, Search

Field	Description
<b>Reseller</b>	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
<b>Allowed for</b>	Select from the list of all Resellers, Sub-resellers, and Managers that are assigned to a routing plan in the <b>Origination Limit</b> field
<b>Code Deck</b>	Select from the list of all Code Decks in the system
<b>Tags</b>	Specify a certain Tag that was added to a routing plan
<b>Additional DR Plan</b>	Select a routing plan that was assigned as an additional in the <b>Additional Routing Plan</b> field
<b>TERM Client</b>	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

The screenshot shows the 'Routing Plans' window with the following sections:

- GENERAL INFORMATION**
  - Name: (empty)
  - Reseller: (empty)
  - Additional Routing Plan: (empty)
  - Code Deck: (empty)
  - Origination Limit: (empty)
  - Termination Limit: (empty)
  - Routing loop protection
- RULES PROCESSING**
  - Rules Hunting: longest only
  - DR Order: by code / appeal
  - Match Increments: disabled
  - PM: 0 [USD / %]
  - Vendor Limit: (empty)

Buttons: OK, Cancel, Apply

Information Block	Fields Description
General Information	General routing plan information

	<table border="1"> <tr> <td><b>Name</b></td> <td>Title of a routing plan</td> </tr> <tr> <td><b>Reseller</b></td> <td>Define the reseller/owner of a current routing plan</td> </tr> <tr> <td><b>Additional Routing Plan</b></td> <td>Specify a DR plan, which will be additional for a current plan</td> </tr> <tr> <td><b>Code Deck</b></td> <td>Select a Code Deck if you wish to have names of your code to be specified in the <b>Code Name</b> field</td> </tr> <tr> <td><b>Origination Limits</b></td> <td>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.</td> </tr> <tr> <td><b>Termination Limits</b></td> <td>Select the company or companies, which will have a limit in termination for vendors who use it (sub-companies are not included)</td> </tr> <tr> <td><b>Rooting Loop Protection checkbox</b></td> <td>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 <b>enabled</b> by default.</td> </tr> </table>	<b>Name</b>	Title of a routing plan	<b>Reseller</b>	Define the reseller/owner of a current routing plan	<b>Additional Routing Plan</b>	Specify a DR plan, which will be additional for a current plan	<b>Code Deck</b>	Select a Code Deck if you wish to have names of your code to be specified in the <b>Code Name</b> field	<b>Origination Limits</b>	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.	<b>Termination Limits</b>	Select the company or companies, which will have a limit in termination for vendors who use it (sub-companies are not included)	<b>Rooting Loop Protection checkbox</b>	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 <b>enabled</b> by default.																										
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<b>Rules Processing</b>	Options of rules processing																																								
	<b>Rules Hunting</b> Select a hunting mode (the way how rules will be executed). They are as follows: <ul style="list-style-type: none"> <li>• <b>longest only</b> – routing will find only the longest matching code</li> <li>• <b>all matching</b> – all possible matches will be found, including even the shortest codes</li> </ul> By default, the <b>longest only</b> option is set.																																								
	<b>DR Order</b> Specify a method of routes sorting in a routing table. The options are: <ul style="list-style-type: none"> <li>• <b>by appeal/code</b> – routes will be sorted according to their resulting appeal value and then grouped by codes</li> <li>• <b>by code/appeal</b> – routes will be grouped by codes and then sorted by appeal value</li> </ul> By default, the <b>by code/appeal</b> option is set.																																								
	<b>Match Increments</b> Define if the system should check whether Customers' increments proportionally overlap Vendors' increments: <ul style="list-style-type: none"> <li>• <b>disabled</b> - selected by default</li> <li>• <b>dynamic only</b> - will exclude vendors with increments that do not match customers' rates from the routing list for dynamic rules.</li> <li>• <b>dynamic and static</b> - will exclude vendors with increments that do not match customers' rates from the routing list for dynamic and static rules.</li> </ul> <div style="border: 1px solid green; padding: 10px; margin-top: 10px;"> <p> <b>Sample Scenarios</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Customer Rate</th> <th colspan="2">Vendor Rate</th> <th rowspan="2">Result</th> <th rowspan="2">Notes</th> </tr> <tr> <th>Min Time</th> <th>Pay Internal</th> <th>Min Time</th> <th>Pay Interval</th> </tr> </thead> <tbody> <tr> <td>60</td> <td>60</td> <td>60</td> <td>60</td> <td>OK</td> <td>Exact match</td> </tr> <tr> <td>30</td> <td>6</td> <td>30</td> <td>1</td> <td>OK</td> <td>Full overlap</td> </tr> <tr> <td>30</td> <td>6</td> <td>6</td> <td>6</td> <td>OK</td> <td>Full overlap</td> </tr> <tr> <td>1</td> <td>1</td> <td>30</td> <td>6</td> <td>FAIL</td> <td>Vendor Increments are higher</td> </tr> <tr> <td>7</td> <td>7</td> <td>6</td> <td>6</td> <td>FAIL</td> <td>Even though Customers increments are higher, with call duration of 7 seconds this case will lead to 7 seconds billed on customer and 12 seconds billed on vendor</td> </tr> </tbody> </table> </div>	Customer Rate		Vendor Rate		Result	Notes	Min Time	Pay Internal	Min Time	Pay Interval	60	60	60	60	OK	Exact match	30	6	30	1	OK	Full overlap	30	6	6	6	OK	Full overlap	1	1	30	6	FAIL	Vendor Increments are higher	7	7	6	6	FAIL	Even though Customers increments are higher, with call duration of 7 seconds this case will lead to 7 seconds billed on customer and 12 seconds billed on vendor
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<b>PM</b> Define a Profit Margin value for a current rule here. It can be specified either as a percent value (e.g., <b>16%</b> ), or in a system currency (e.g., <b>5 for 5 USD</b> ).																																									
<b>Vendor Limit</b> Determine the number of allowed routes for the same vendor to use (if a vendor has multiple accounts). You can set the <b>limit only for accepted account routes</b> , 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*

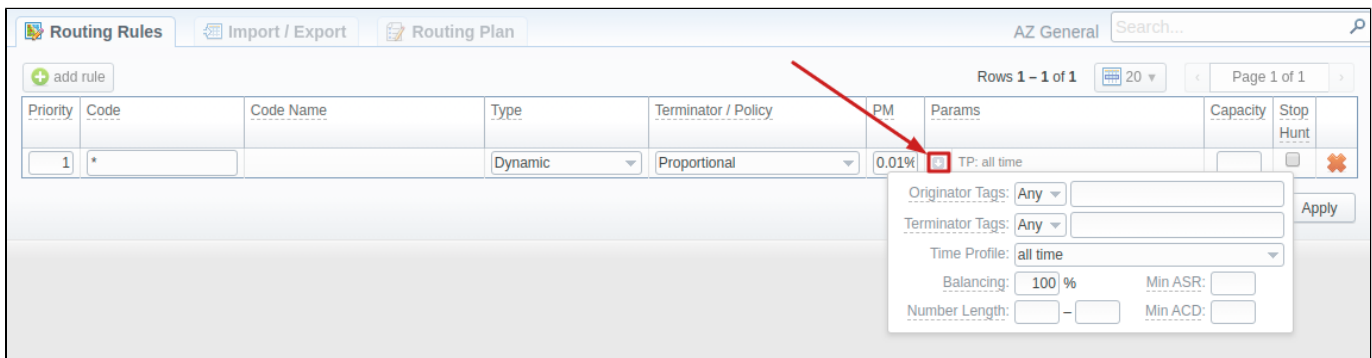
Priority	Code	Code Name	Type	Terminator / Policy	PM	Params	Capacity	Stop Hunt
1	*		Dynamic	Proportional	0.01%	TP: all time		

Field	Description
<b>Priority</b>	Define a priority of rule execution if two or more rules have similar code or code name specified
<b>Code</b>	Enter a code, which will be used in a current routing rule, use * as a wildcard.
<b>Code Name</b>	If you have a code deck assigned to this routing plan, a corresponding code name, specified in the <b>Code</b> field, will be displayed automatically. If
<b>Type</b>	<p>Select a type of routing for a current rule:</p> <ul style="list-style-type: none"> <li>• <b>Static Client</b> - if selected, in the <b>Terminator/Policy</b> field you can specify a certain termination client</li> <li>• <b>Static Account</b> - if selected, in the <b>Terminator/Policy</b> field you can specify a certain termination account of a client</li> <li>• <b>Dynamic</b> - if selected, in the <b>Terminator/Policy</b> field you can specify a certain dynamic policy for the rule</li> <li>• <b>DID</b> - if selected, the <b>Terminator/Policy</b> and <b>Code</b> fields become inactive</li> </ul>
<b>Terminator /Policy</b>	If you selected static type, you may specify a termination client/account here; if you selected dynamic type, specify routing policy for the current r
<b>PM</b>	<p>Define a <i>Profit Margin</i> value for a current rule here.</p> <div style="background-color: yellow; padding: 5px;"> <p><b>Attention</b></p> <p>If the <b>PM</b> field has been specified both for the entire routing plan and for a certain rule, <b>the latter has a higher priority.</b></p> </div>
<b>Params</b>	<p>A number of additional parameters available by clicking the  icon (see screenshot below)</p> <p>You can specify respective originator tags here. If nothing is specified, it works for all.</p> <ul style="list-style-type: none"> <li>• <b>O</b></li> <li>• <b>r</b></li> <li>• <b>i</b></li> <li>• <b>g</b></li> <li>• <b>i</b></li> <li>• <b>n</b></li> <li>• <b>a</b></li> <li>• <b>t</b></li> <li>• <b>o</b></li> <li>• <b>r</b></li> <li>• <b>T</b></li> <li>• <b>a</b></li> <li>• <b>g</b>s</li> </ul> <ul style="list-style-type: none"> <li>• <b>all</b> - applies for originators if all specified tags are present.</li> <li>• <b>any</b> - applies for originators if at least one of the specified tags is presented.</li> </ul>

<ul style="list-style-type: none"> <li>• <b>T e r m i n a t o r T a g s</b></li> </ul>	<p>Here you can add terminator tags that will be used for terminators. If nothing is indicated, it works only for terminators <b>without</b> tags. Ple</p>																												
<ul style="list-style-type: none"> <li>• <b>T i m e P r o f i l e</b></li> </ul>	<p>Specify a time profile from the list</p>																												
<ul style="list-style-type: none"> <li>• <b>B a l a n c i n g</b></li> </ul>	<p>Define the percentage or proportion amount of traffic, which will be sent to a respective vendor who participates in balancing</p> <div style="border: 1px solid yellow; padding: 5px; margin-bottom: 10px;"> <p> <b>Attention</b></p> <p>Please note that after changing <i>balancing value</i>, you will need to restart the <b>Traffic Rules manager</b> or wait till its next run.</p> </div> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> <p> Among the rules of the same priority, balancing will not be performed if the value is 100 or more in the <b>Balancing</b> field.</p> </div> <div style="border: 1px solid green; padding: 5px;"> <p> <b>Useful tip</b></p> <p>To balance routes equally among, say, three vendors, you can set <b>Balancing</b> to 33/33/33 for them OR 1/1/1 OR 99/99/99, etc.</p> <table border="1" data-bbox="381 1176 1494 1480"> <thead> <tr> <th>Priority</th> <th>Code</th> <th>Code Name</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1907</td> <td>ALASKA</td> <td>Static Client</td> </tr> <tr> <td>1</td> <td>1907</td> <td>ALASKA</td> <td>Static Client</td> </tr> <tr> <td>1</td> <td>1907</td> <td>ALASKA</td> <td>Static Client</td> </tr> <tr> <td>1</td> <td>212</td> <td>MOROCCO</td> <td>Static Client</td> </tr> <tr> <td>1</td> <td>212</td> <td>MOROCCO</td> <td>Static Client</td> </tr> <tr> <td>1</td> <td>212</td> <td>MOROCCO</td> <td>Static Client</td> </tr> </tbody> </table> </div>	Priority	Code	Code Name	Type	1	1907	ALASKA	Static Client	1	1907	ALASKA	Static Client	1	1907	ALASKA	Static Client	1	212	MOROCCO	Static Client	1	212	MOROCCO	Static Client	1	212	MOROCCO	Static Client
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<ul style="list-style-type: none"> <li>• <b>N u m b e r L e n g t h</b></li> </ul>	<p>Set <b>minimum</b> and <b>maximum</b> length of destination number that will be matched by this routing rule</p>																												

<ul style="list-style-type: none"> <li>• <b>M i n A S R</b></li> </ul>	Specify <b>minimum</b> ASR (successful records percentage) value to reject the routes that don't correspond to it
<ul style="list-style-type: none"> <li>• <b>M i n A C D</b></li> </ul>	Specify <b>minimum</b> ACD (in Service units) value to reject the routes that don't correspond to it
<b>Capacity</b>	Limit capacity for the current rule (leave blank for unlimited)
<b>Stop Hunt checkbox</b>	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 ex

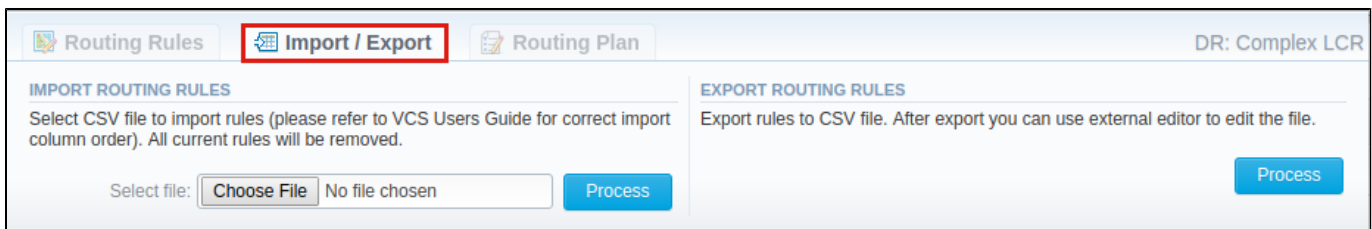
Screenshot: Routing rules settings



## 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 in 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 information 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*

The screenshot shows the 'Routing Plan' configuration window. The 'Routing Plan' tab is highlighted with a red border. The window is titled 'AZ General' in the top right corner. It is divided into two main sections: 'GENERAL INFORMATION' and 'RULES PROCESSING'.  
**GENERAL INFORMATION:**  
- Name: AZ General  
- Reseller: Company A  
- Additional Routing Plan: (empty dropdown)  
- Code Deck: DEFAULT  
- Origination Limit: (empty dropdown)  
- Termination Limit: (empty dropdown)  
-  Routing loop protection  
**RULES PROCESSING:**  
- Rules Hunting: longest only  
- DR Order: by code / appeal  
- Match Increments: disabled  
- PM: 0 [USD / %]  
- Vendor Limit: (empty input field)  
Buttons: OK, Cancel, Apply

## 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](#)
- [Sharing a 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 case you are using the **Dynamic Routing feature**.

The **Routing Analysis** section represents a query form with the following parameters:


Screenshot: *Routing Analysis form*




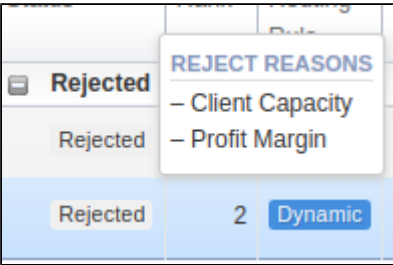


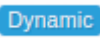
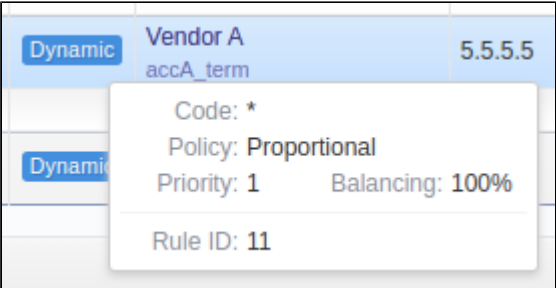


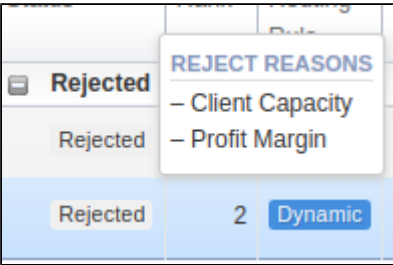


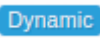
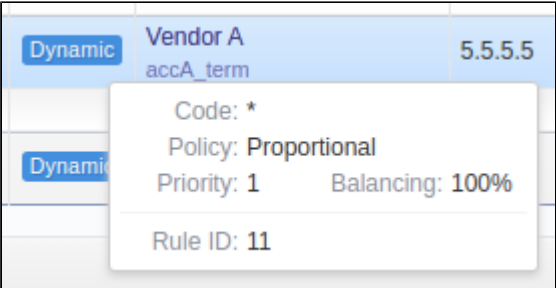


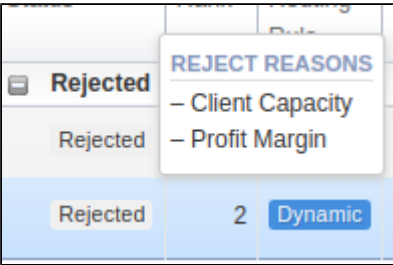


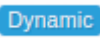
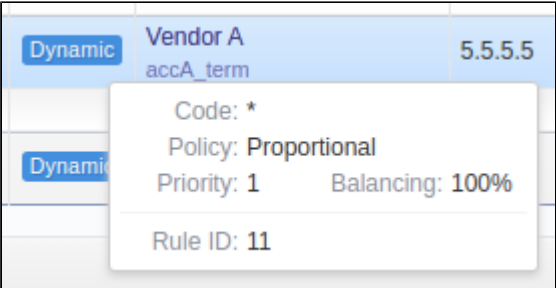
### Attention



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 the **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
<b>Filters</b>	Select desired parameters for the report in the <b>Filters</b> menu. To cancel any filter, click the delete icon  next to the filter.  You can use a <b>quick search</b> by typing filters' names in the respective field at the top of the filters list.
	<b>Service</b> Select the service for the report. By default, the field value is set to <b>Calls</b> . This field is mandatory.
	<b>Dst Party ID</b> Enter the destination party ID to define a destination. This field is mandatory.
	<b>Client</b> Select a client for the report. Also, you can specify respective <b>call shops</b> . This field is mandatory.
	<b>Account</b> Select an account for the report.
<b>Additional Filters</b>	
<b>There are the following accessible additional filters:</b>	
<ul style="list-style-type: none"> <li>• <b>Events:</b> Gateway.</li> <li>• <b>Extras:</b> Src Party ID; Dynamic Tags; Routing Plan.</li> </ul>	
<b>Events Settings</b>	
<b>Gateway</b>	Define a gateway specified in the term account

Extra Settings							
<b>Src Party ID</b>	Specify a source number or any other source identification to check the translations						
<b>Dynamic Tags</b>	Enter additional dynamic tags for this routing						
<b>Routing Plan</b>	Enter the plan with a respective routing rule						
<b>Output</b>	<p>This form contains <b>settings of the output</b> data of the report.</p> <p>Click the plus icon  near <b>Columns</b> to select respective columns to output report data. Also, you can cancel any chosen item.</p> <p><b>Accessible columns in the report</b></p> <p><b>Following columns can be added to the report:</b> <i>Status, Rank, Routing Rule, Vendor, Account, Code, Rate, Dst Party ID, Src Party ID, Appeal, Reject Reasons.</i></p> <tr> <td><b>Status</b></td> <td> <p>The following information is displayed in the column: <b>the state of the route, reject reasons (if any)</b></p> <p> for <b>accepted</b> route</p> <p> for <b>rejected</b> route due to some reasons (<i>to see them, hover over the icon</i>)</p> <p><b>To view detailed information on a rejected route status, hover over a corresponding icon in the column.</b></p> <p><i>Screenshot: Detailed information on a route status</i></p>  </td> </tr> <tr> <td><b>Rank</b></td> <td>Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.</td> </tr> <tr> <td><b>Routing Rule</b></td> <td> <p>Type of the route that includes: <b>destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information</b></p> <p>A grey  icon in the column shows a <b>static route</b></p> <p>A violet  icon indicates a <b>DID route</b></p> <p>A blue  icon in the column shows a <b>dynamic route</b></p> <p><b>To view detailed information on a route type hover over a corresponding icon in the column.</b></p> <p><i>Screenshot: Detailed information on a routing rule</i></p>  </td> </tr>	<b>Status</b>	<p>The following information is displayed in the column: <b>the state of the route, reject reasons (if any)</b></p> <p> for <b>accepted</b> route</p> <p> for <b>rejected</b> route due to some reasons (<i>to see them, hover over the icon</i>)</p> <p><b>To view detailed information on a rejected route status, hover over a corresponding icon in the column.</b></p> <p><i>Screenshot: Detailed information on a route status</i></p> 	<b>Rank</b>	Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.	<b>Routing Rule</b>	<p>Type of the route that includes: <b>destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information</b></p> <p>A grey  icon in the column shows a <b>static route</b></p> <p>A violet  icon indicates a <b>DID route</b></p> <p>A blue  icon in the column shows a <b>dynamic route</b></p> <p><b>To view detailed information on a route type hover over a corresponding icon in the column.</b></p> <p><i>Screenshot: Detailed information on a routing rule</i></p> 
<b>Status</b>	<p>The following information is displayed in the column: <b>the state of the route, reject reasons (if any)</b></p> <p> for <b>accepted</b> route</p> <p> for <b>rejected</b> route due to some reasons (<i>to see them, hover over the icon</i>)</p> <p><b>To view detailed information on a rejected route status, hover over a corresponding icon in the column.</b></p> <p><i>Screenshot: Detailed information on a route status</i></p> 						
<b>Rank</b>	Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.						
<b>Routing Rule</b>	<p>Type of the route that includes: <b>destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information</b></p> <p>A grey  icon in the column shows a <b>static route</b></p> <p>A violet  icon indicates a <b>DID route</b></p> <p>A blue  icon in the column shows a <b>dynamic route</b></p> <p><b>To view detailed information on a route type hover over a corresponding icon in the column.</b></p> <p><i>Screenshot: Detailed information on a routing rule</i></p> 						

<b>Vendor</b>	The name of the respective terminator specified in the Client's settings and its account name
<b>Account</b>	The name or IP of the account
<b>Code</b>	Here you can see matched code in the terminator's rate table
<b>Rate</b>	Rate that is used to terminate the call
<b>Dst Party ID</b>	Shows destination party ID that is sent to the provider when all matching number translations are performed
<b>Src Party ID</b>	Shows source party ID after all number translations
<b>Appeal</b>	Shows the appeal automatically calculated by the system according to the chosen <b>DR Policies (Routing section &gt; DR Policies)</b>  <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;">  The Appeal is displayed as a value if a route is dynamic. If a route is static, it's displayed as N/A. Regardless of the route type, you can hover over the appeal value to get additional insights on ASR, ACD, SCD, PDD, Vendor Debt, Payment Due, Stats Qty.         </div>
<b>Reject Reasons</b>	Displays respective rejection reasons for a particular route
<b>Other output settings</b>	
<b>Type</b>	<p>Choose a format of the report from a drop-down list: <b>Web/CSV/Excel XLS/Excel XLSx</b>.</p> <p>Also, select a look of table view next to the <b>Type</b> field:</p> <ul style="list-style-type: none"> <li>• <b>Plain</b> - a simple table view</li> <li>• <b>Grouped</b> - a table view with grouped data and possibility to collapse it</li> </ul> <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p> <b>Attention</b></p> <p>Please note that the <b>Grouped</b> type of a table view is available only for <b>Excel XLSx</b> and <b>Web</b> formats, it doesn't work with <b>CSV</b> or <b>Excel XLS</b>.</p> </div> <p>If <b>CSV</b>, <b>Excel XLS</b> or <b>Excel XLSx</b> type has been selected, an additional <b>Send to</b> 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>
<b>Verbosity</b>	Select which routes should be displayed ( <b>accepted and rejected</b> , or <b>accepted only</b> ).
<b>Skip Reasons</b>	Specify the reasons under which routes should be excluded from the output list. The available skip reasons are: <ul style="list-style-type: none"> <li>• Reseller Mismatch</li> <li>• Blocked Reseller</li> <li>• Blocked Client</li> <li>• Blocked Account</li> <li>• Vendor Qty</li> <li>• Stop Hunting</li> <li>• Party ID Length</li> <li>• Profit Margin</li> <li>• Rate Increments</li> <li>• Orig Tags</li> <li>• Term Tags</li> <li>• Traffic Processing</li> <li>• Reseller Capacity</li> <li>• Client Capacity</li> <li>• Account Capacity</li> <li>• Rule Capacity</li> <li>• Quality</li> <li>• Vendor Credit Limit</li> </ul>

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

Screenshot: Routing Analysis

**Routing Analysis**

**FILTERS**

Service: Calls  
 Dst Party ID: 1  
 Client: Customer A  
 Account:

**OUTPUT**

Type: Web | Grouped  
 Verbosity: Accepted and Rejected  
 Skip Reasons: Reseller Mismatch x Blocked Reseller x

Export to XLSX

Destination: 1 USA  
 Orig Rate: 0.1650 USD  
 Client: Customer A  
 Rate Table: ORIG RT - Customer A  
 Routing Plan: AZ General  
 DR Order: by code / appeal  
 Rules Hunting: longest only

Status	Rank	Routing Rule	Vendor	Account	Code	Rate	Dst Party ID	Src Party ID	Appeal
<b>Accepted</b>									
Accepted	1	Dynamic	Vendor A accA_term	5.5.5.5	1	0.1500 USD	1		2.37
Accepted	2	Dynamic	Vendor C accC_term	7.7.7.7	1	0.1538 USD	1		2.43

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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 the **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 expanded**.

Screenshot: *Expand/collapse report data*

**Routing Analysis**

**FILTERS**

Service: Calls  
 Dst Party ID: 1  
 Client: Customer A  
 Account:

**OUTPUT**

Type: Web | Grouped  
 Verbosity: Accepted and Rejected  
 Skip Reasons: Reseller Mismatch x Blocked Reseller x

Export to XLSX

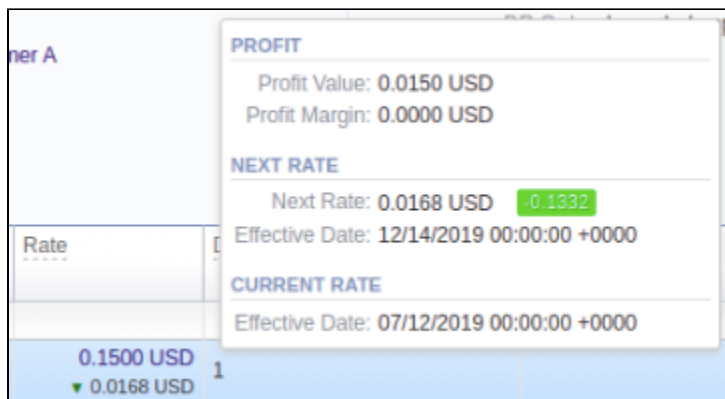
Destination: 1 USA  
 Orig Rate: 0.1650 USD  
 Client: Customer A  
 Rate Table: ORIG RT - Customer A  
 Routing Plan: AZ General  
 DR Order: by code / appeal  
 Rules Hunting: longest only

Status	Rank	Routing Rule	Vendor	Account	Code	Rate	Dst Party ID	Src Party ID	Appeal
<b>Accepted</b>									
Accepted	1	Dynamic	Vendor A accA_term	5.5.5.5	1	0.1500 USD	1		2.37
Accepted	2	Dynamic	Vendor C accC_term	7.7.7.7	1	0.1538 USD	1		2.43

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If applicable, you can check the **future terminator's rate**, its **effective date**, and **profit** in the report by hovering over a current rate in the **Term Rate** column.

Screenshot: *Future Terminator's Rate*



**Tip**

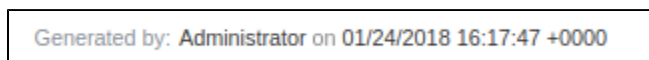
Please note that it analyses the profitability by comparing orig and term rates. Therefore, an orig rate should be equal or greater than a term rate and profit margin.

**Attention**

Please note that if a **Reseller** has an orig rate assigned, the profit margin will be counted taking into account both client-originator's rate and Reseller's rate.

By hovering over 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



## Export a generated report

You can export report data either in a .xlsx 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.

## Sharing a Report

Each time you get a report output, the system generates a unique link in the format of "/view?id=<uniq-string>". It allows sharing data between the users, even if they belong to different resellers (the feature works similarly to Share by Link in Google Drive).

The link refers to the report data valid for a specific moment.

**Example:** When you send a link to a report, you ensure the recipient would see the same data as you do. If you change data in the system (for example, perform rerating), the previously copied link to the report will display data valid for the moment of generation (even though the actual data is now different).

You can also view the additional information about the generated report by hovering over the **Info** icon, which is located under the **Output** section:

Title	Description
Generated by	Indicates the <b>Role</b> of the user who generated a report and specifies a generation time

Screenshot: Routing Analysis Info icon

**Routing Analysis**

**FILTERS**

Service: Calls  
Dst Party ID: 44  
Client:  
Account: client 2; account 2

**OUTPUT**

Type: Web | Grouped  
Verbosity: Accepted and Rejected  
Skip Reasons: Reseller Mismatch | Blocked Reseller

Destination: 44  
Orig Rate: 0.2100 USD  
Client: client 2  
Account: account 2  
Rate Table: Rate\_2  
Routing Plan: r p 1  
DR Order: by code / appeal  
Rules Hunting: longest only

Export to XLSX

Status	Rank	Routing Rule	Vendor	Account	Code	Rate	Dst Party ID	Generated by	
Accepted	1	Static	client 3 account 3	6.7.8.7	44	0.1500 USD	44	Administrator on 06/25/2020 11:30:34 +0000	N/A

## Knowledge Base Articles

**Error rendering macro 'contentbylabel'**

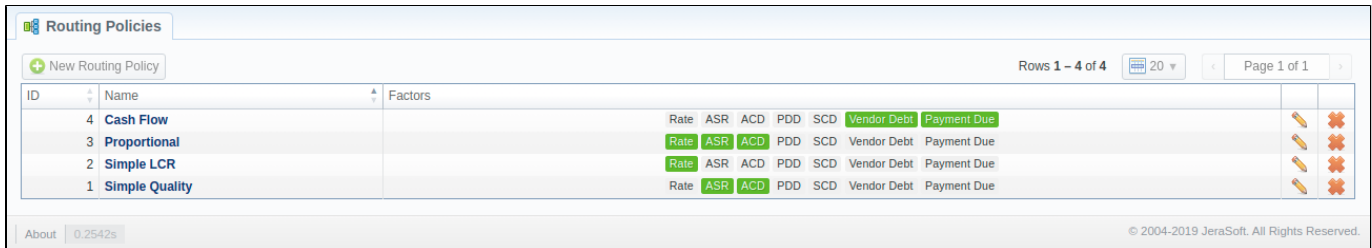
parameters should not be empty

# Dynamic Routing Policies

## Section overview

This section describes the list of **currently available routing policies for JeraSoft Billing**. **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

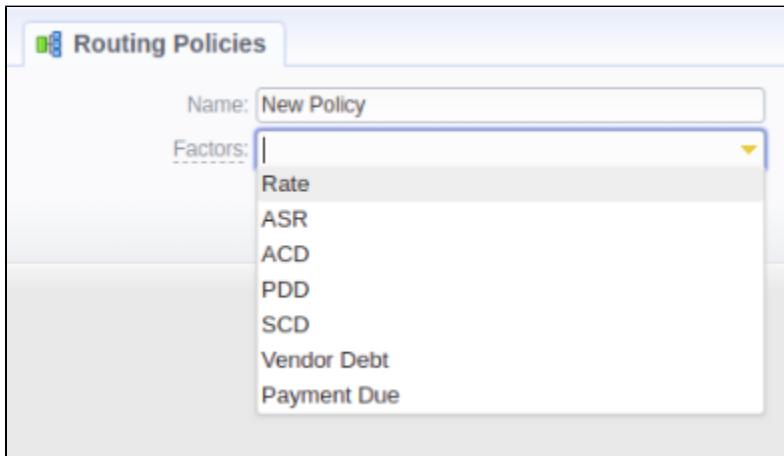


Policy	Description
<b>Cash Flow</b>	When vendors owe you the most and have long periods to invoice due date, they get higher priority in routing.
<b>Proportional</b>	When the price is lower and a route quality is higher, it has a higher priority.
<b>Simple LCR</b>	Generic price-based routing.
<b>Simple Quality</b>	Generic quality-based routing.

## Adding a New DR Policy

To add your custom DR policy, click the **Add Routing Policy** button. The following window will open showing the available settings:

Screenshot: Adding a New DR Policy



Field	Description
<b>Name</b>	Set the <b>name</b> of the respective policy.

**Factors** Specify the factors for the system to consider during building the DR table:

- **Rate** - vendor's rate for the destination, vendors with a lower rate will get higher position in routing;
- **ASR** - vendor's ASR, analyzed by Summary Report data for the duration given in the System Confirmation;
- **ACD** - vendor's ACD, analyzed by Summary Report data for the duration given in the System Confirmation;
- **PDD** - vendor's PDD, analyzed by Summary Report data for the duration given in the System Confirmation;
- **SCD** - vendor's SCD, analyzed by Summary Report data for the duration given in the System Confirmation;
- **Vendor Debt** - considers the amount a vendor owes you; vendors, that owe you the most, are moved to a higher position in routing;
- **Payment Due** - considers the next payment date to a vendor (date of next invoice + due days); vendors with longer periods till due date get higher positions.

You can select multiple factors.




Note that it is possible to create a **Routing Policy** without any factors. As a result, all Appeal values will be the same for this Policy. During the routing process all routes with all other similar parameters will be randomly reordered.



# Dynamic Routing Table

The **JeraSoft Billing 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 Billing**. Here users 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](#)
- [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 the 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
<b>ID</b>	Code deck's identification number
<b>Deck Name</b>	Name of a code deck
<b>Reseller</b>	List of resellers corresponding deck was assigned to
<b>Codes</b>	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 deleting 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

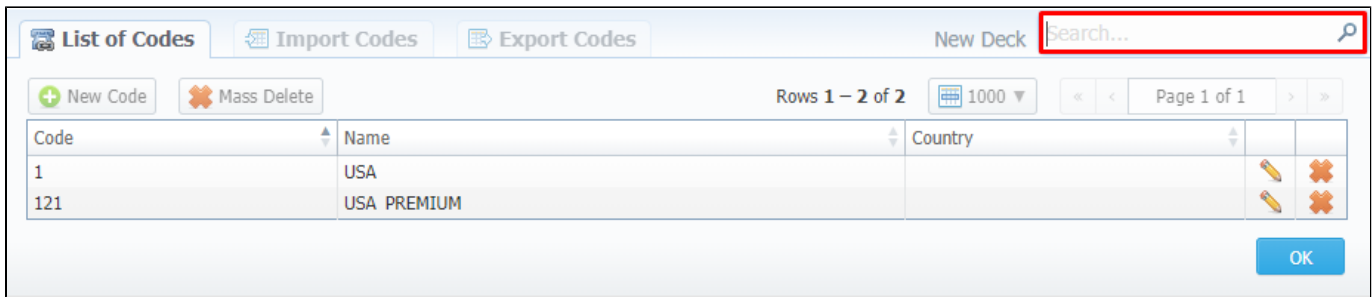
In the **List of Codes** tab, click the **New Code** button to add a code group to your deck. The pop-up window contains the following parameters (see screenshot below):

Screenshot: Adding new codes


Field	Description
<b>Code Deck</b>	Name of the code deck. Auto-filled by the system
<b>Code</b>	New destination code
<b>Code Name</b>	Displayed name of a code group
<b>Country</b>	Country the codes in the 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).

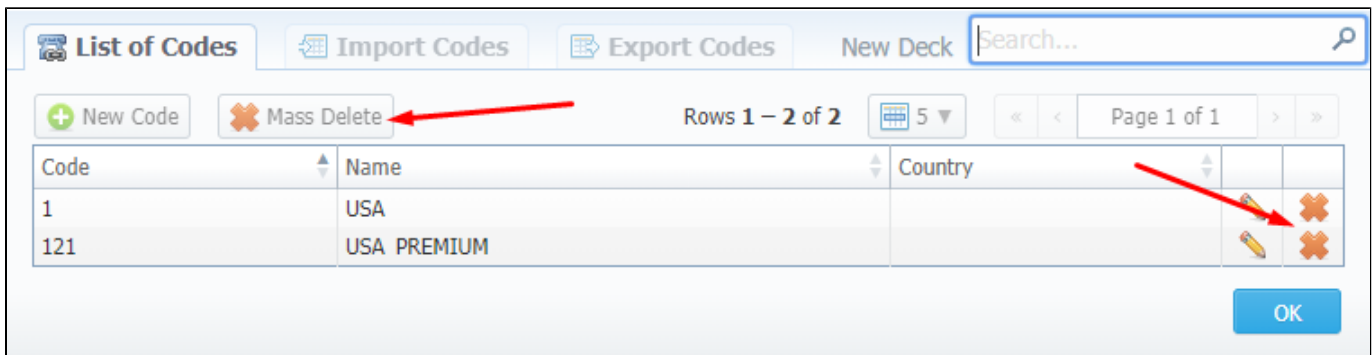
Screenshot: Section search box



## Deleting Codes

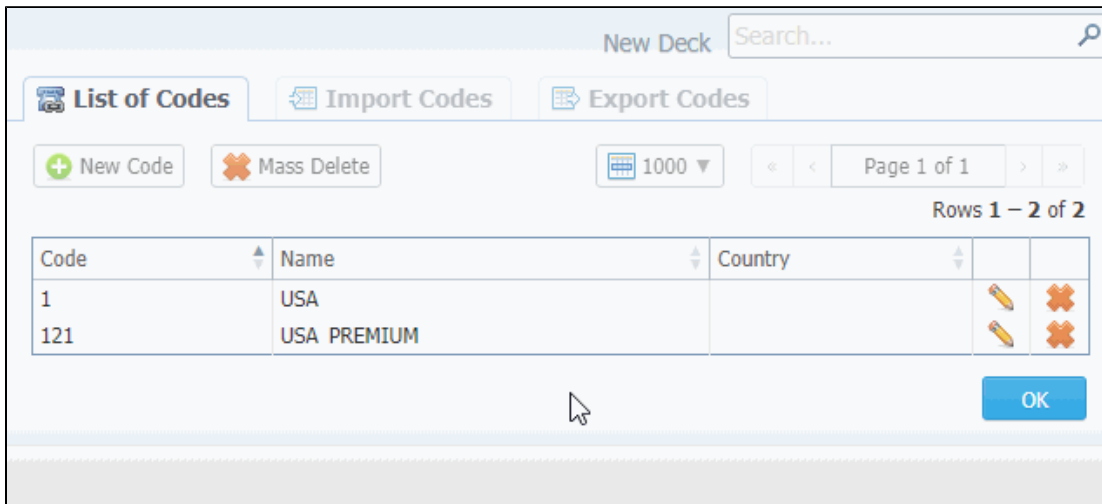
You can either delete **each** code separately by clicking the  delete icon opposite corresponding code on the list or delete **all** codes at once by pressing **Mass Delete** button (see screenshot below).

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

List of Codes
Import Codes
Export Codes
New Deck

**FILE PROCESS**

Select file for import:  No file chosen

Fields Delimiter:

**IMPORT PROCESS**

Deck update mode:  On errors:

Section	Field	Description
File Process	<b>Select File to Import</b>	Select an import file by clicking the <b>Choose File</b> button
	<b>Fields Delimiter</b>	Specify a delimiter symbol. Possible options are: <ul style="list-style-type: none"> <li>• <b>Autodetect</b></li> <li>• <b>,</b></li> <li>• <b>;</b></li> <li>• <b>Tab</b></li> </ul> By default, the <b>Autodetect</b> option is chosen.
Import Process	<b>Deck Update Mode</b>	Specify the code deck update mode. There are three possible modes: <ul style="list-style-type: none"> <li>• <b>Import only not existing codes</b></li> <li>• <b>Import all codes (update existing)</b></li> <li>• <b>Import all codes (purge code deck first)</b></li> </ul> By default, <b>Import all codes (update existing)</b> mode is chosen.
	<b>On Errors</b>	Define what to do if inconsistency or error was found in the importing file: <ul style="list-style-type: none"> <li>• <b>Import correct rows and show all found errors</b></li> <li>• <b>If errors are found, abort import and show all errors</b></li> </ul> By default, the <b>Import correct rows and show all found errors</b> option is chosen.

During the **second step**, the system will recognize the file and display the 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 the 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

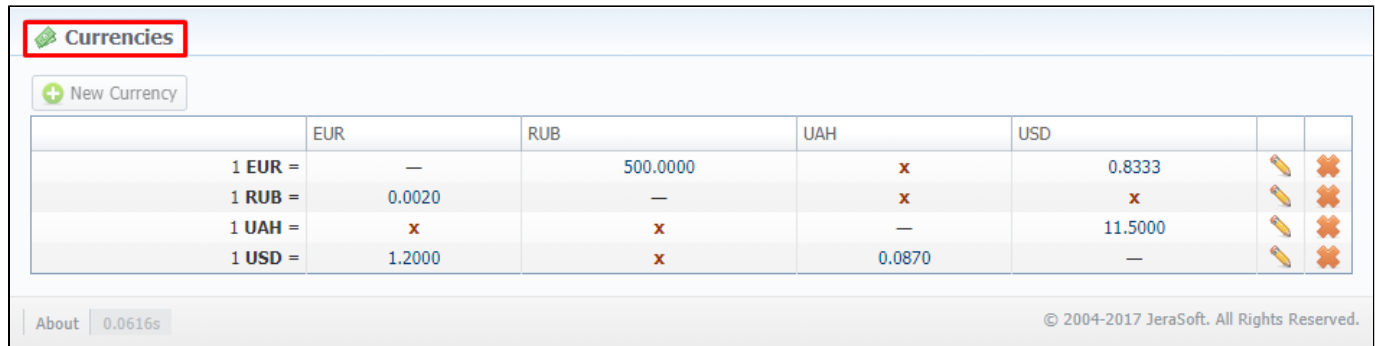
## In this article

- [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 the 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 cornerstone 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	—		

About 0.0616s © 2004-2017 JeraSoft. All Rights Reserved.

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

Button/Icon	Description
	Allows to create a new currency
	Allows managing an existing currency on a list
	Allows deleting a currency from the system. Requires confirmation
	Allows managing 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
<b>Name</b>	Name of a new currency
<b>Rates Precision</b>	Number of decimal places for rates formatting. By default, the field value is set to <b>4</b> .
<b>Details Precision</b>	Number of decimal places for detailed monetary values formatting. By default, the field value is set to <b>4</b> .
<b>Totals Precision</b>	Number of decimal places for total monetary values formatting. By default, the field value is set to <b>2</b> .

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. They will also be shown in the invoices, except total values (totals **always** have 2 decimal places in invoices).

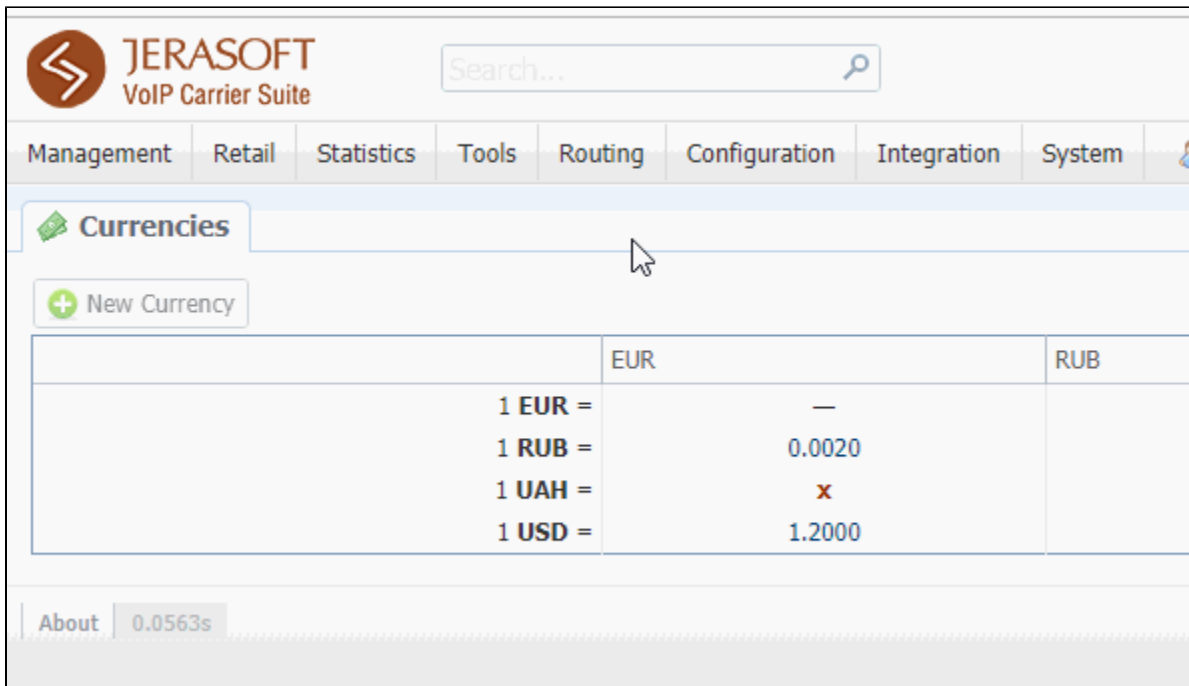
## Specifying a Currency Rate

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, for which you wish to specify the exchange rate
- Click the  **Add** 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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**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 a **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 the form of a list of payments with the following structure (see screenshot):

Screenshot: *Payment Accounts section*

Column Name	Description
<b>ID</b>	Payment account's identification number
<b>Name</b>	Account's name
<b>Reseller</b>	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 deleting a payment account from the system. Requires confirmation

### Attention

Please note that 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*

 **Payment Accounts**

Name:

Reseller:

# Payment Terms

## In this article

- [Section overview](#)
- [Adding New Payment Terms](#)

## Section overview

In JeraSoft Billing, **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 a list of profiles that determine **payment terms**. The 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 deleting 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
<b>Name</b>	Name of a new payment terms profile
<b>Payment</b>	<p>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)</p> <div style="border: 1px solid #ffc107; padding: 10px; margin-top: 10px;"> <p> <b>Attention</b></p> <p>Please note that when you choose the <b>on</b> mode, the allowed days are limited to 1-28 values (to avoid ambiguity with the cases of 29-31 days that are not present in all months). Thus, the best practice to issue a monthly invoice is issuing it on the 1st of the next month. <b>In case you put the 29-31 value, the system will convert it to 28.</b></p> </div>
<b>Grace Period</b>	Period that specifies how many days the client has to pay the bill after he was invoiced. It's the <b>Due Date</b> field in invoices (so-called "Deferral period")
<b>Notify Days (before)</b>	Set how many days <b>before</b> 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 <b>more than one</b> value in this field separating them with <b>commas</b> - <i>10, 5, 3</i>
<b>Notify Days (after)</b>	Specify how many days <b>after</b> the payment date have to pass before reminders will be sent to a client. The field can have <b>more than one</b> value, each separated with a comma.

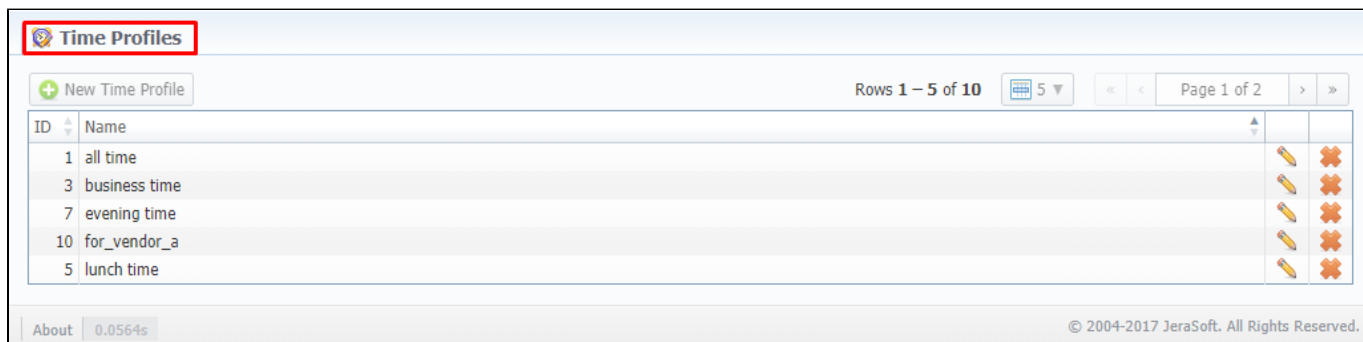
# Time Profiles

## 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 a 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:

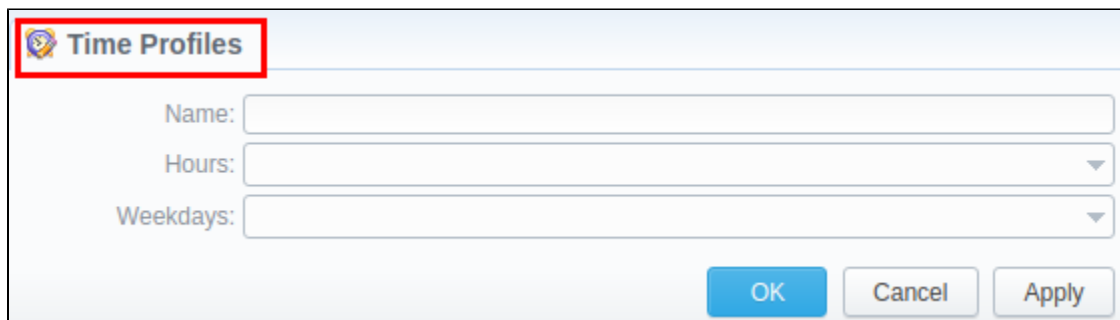
Button/Icon	Description
	Allows to create a new time profile
	Allows to manage an existing time profile on a list
	Allows deleting a time profile from the system. Requires confirmation

## 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
<b>Name</b>	Name of a new time profile
<b>Hours</b>	Select hours that will be used for a particular time profile. More than one hour range can be added (e.g. <b>03.00 - 03.59, 08.00 - 08.59</b> )
<b>Weekdays</b>	Specify days that will be used for the particular time profile. You can add more than one day to the profile (e.g. <b>Monday, Tuesday, Thursday, Sunday</b> )

# 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 JeraSoft Billing tool that makes the process of clients' [rate tables](#) management exceptionally agile. Taxes profile is a **set of tax 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 the 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
<b>ID</b>	Taxes profile's identification number
<b>Name</b>	Name of a taxes profile
<b>Profile Owner</b>	List of resellers corresponding taxes profile was assigned to
<b>Notes</b>	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 deleting a taxes profile from the system. Requires confirmation
	Allows to manage a list of tax values of a particular profile
	Opens the 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 downward arrow icon, a drop-down menu with the following structure is displayed:

Screenshot: Advanced Search drop-down menu



Field	Description
<b>Profile Owner</b>	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
<b>Status</b>	Select the status of a taxes profile: To apply the specified search criteria, click the <b>Search</b> button; to cancel the applied parameters, click the <b>Reset</b> button. <ul style="list-style-type: none"> <li>• <b>Active</b></li> <li>• <b>Archive</b></li> </ul>

### 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

Starting from **JeraSoft Billing v3.21.0**, we have introduced the integration with a third-party tax calculation service called **Compliance**. In addition to **SureTax** service we had integration with before, now you have one more advanced option to calculate taxes. Please also note that there are no pre-generated taxes profiles in the system anymore.

You can select the type of a taxes profile while creating a profile:

Screenshot: New Taxes Profile window (Customer)

Screenshot: New Taxes Profile window (SureTax)

% **Taxes Profiles**

tax profile 1

Name:

Profile Owner: 👤 Reseller A ▼

Status: Active ▼

Type: SureTax ▼

SureTax Client Number:

SureTax Validation Key:

Invoice Notes:

Notes:

Screenshot: New Taxes Profile window (Compliance)

% **Taxes Profiles**

Name:

Profile Owner: 👤 Reseller A ▼

Type: Compliance ▼


Client Access Code:


Invoice Notes:

Notes:


Field	Description
<b>Name</b>	Name of a taxes profile
<b>Profile Owner</b>	Select from the list of all Resellers, Sub-resellers and Managers registered in the system

<b>Type</b>	Select the tax profile type from a drop-down list: <ul style="list-style-type: none"> <li>• <b>Customer</b></li> <li>• <b>SureTax</b></li> <li>• <b>Compliance</b></li> </ul>
<b>SureTax Client Number</b>	Used when issuing invoices for clients with selected SureTax profile
<b>SureTax Validation Key</b>	Used for clients with selected SureTax profile
<b>Client Access Code</b>	Used when issuing invoices for clients with selected Compliance profile
<b>Invoice Notes</b>	If specified, this information will be displayed in issued invoices
<b>Notes</b>	Additional information regarding a tax profile

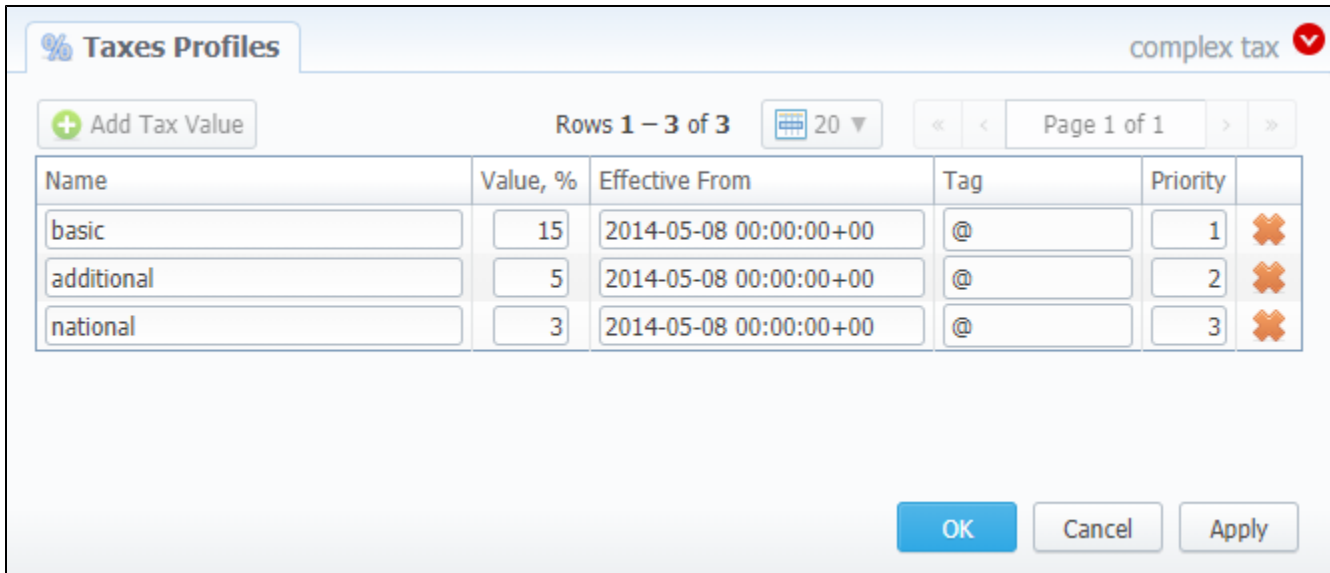
 While using **SureTax** or **Compliance** profile type, the taxes values cannot be managed manually in the system as the taxes will be automatically dipped from third-party tax calculation services. Only the **Customer** profile allows managing the taxes values.

 Please note that you cannot change the taxes profile **type** after creation is completed.


## Tax Values Management

To manage a tax value within the **Customer** type of the taxes profile, 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



Field	Description
<b>Name</b>	Name of the tax value added to this profile
<b>Value</b>	Specify a tax value in %
<b>Effective from</b>	Start date of a corresponding tax value
<b>Tag</b>	Specify tag(s) you would like to be applied to corresponding tax value. If no tags are added, you can leave the field blank
<b>Priority</b>	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 downward 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 the **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 + 1<sup>st</sup> 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 a **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 the 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	

## 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 left, there is a 'Clients' sidebar with options: Client Type, Client, Account, and Client Tags. The 'FILTERS' section includes a 'Period' dropdown set to 'This Year', a date range from '2017-01-01 00:00:00' to '2017-12-31 23:59:59' in 'UTC', and a 'Save Query' button. The 'OUTPUT' section on the right shows 'Order By: Event time', 'Type: Web', 'Currency: USD', and 'Code Deck'. Below the filters are 'Export to CSV' and 'Export to XLSx' buttons. The main area shows 'Rows 1 - 5' and 'Page 1'. The data table has the following 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 border. The table contains five rows of call data.

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

At the bottom left, there is an 'About' button and a timer showing '0.5873s'. At the bottom right, the copyright notice reads '© 2004-2017 JeraSoft. All Rights Reserved.'

# 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 the form of a table of invoices templates with the following columns (see screenshot below):

Screenshot: *Invoices Templates section main window*



Column Name	Description
<b>ID</b>	Invoice template's identification number
<b>Name</b>	Name of an invoice template
<b>Type</b>	Type of an invoice template format ( <b>.pdf/.xls</b> )
<b>Reseller</b>	List of resellers corresponding invoice template was assigned to
<b>Notes</b>	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 <b>.pdf</b> format
	Allows to create a new invoice template in <b>.xls</b> 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**

<p>Name: <input type="text"/></p> <p>Reseller: <input type="text"/></p> <p>Anonymized Codes: <input type="text"/></p> <p>Locale: <input type="text" value="English"/></p> <p>Totals Calculation: <input type="text" value="Round then sum"/></p> <p>Taxes Calculation: <input type="text" value="Percent from total amount"/></p> <p><input type="checkbox"/> Attach xDRs list to the invoice </p>	<p>Notes: <div style="border: 1px solid #ccc; height: 60px; width: 100%;"></div></p>
<p><b>EXCEL TEMPLATE PARAMETERS</b></p> <p>Statistics Columns: <input type="text"/></p> <p><input type="checkbox"/> Include packages charges to invoice</p>	
<p>Template: <input type="text" value="default"/></p> <p> <input type="button" value="OK"/> <input type="button" value="Close"/> <input type="button" value="Apply"/> </p>	

Section	Fields Description	
<b>General Information</b>	General information about the invoice template	
	<ul style="list-style-type: none"> <li><b>Name</b></li> </ul>	Unique name to differentiate invoice templates
	<ul style="list-style-type: none"> <li><b>Reseller</b></li> </ul>	Reseller who owns this invoice template
	<ul style="list-style-type: none"> <li><b>Anonymized Codes</b></li> </ul>	Code Deck, whose codes and their respective names will be hidden in the invoice
	<ul style="list-style-type: none"> <li><b>Locale</b></li> </ul>	Language for the text representation of <b>totals</b> in the invoice
	<ul style="list-style-type: none"> <li><b>Totals Calculation</b></li> </ul>	The order of rounding while calculating the totals: <ul style="list-style-type: none"> <li><b>round then sum</b> - raw values are rounded first according to the currency settings, then summed;</li> <li><b>sum then round</b> - raw values are summed first, then rounded.</li> </ul>
	<ul style="list-style-type: none"> <li><b>Taxes Calculation</b></li> </ul>	The way taxes will be calculated: <ul style="list-style-type: none"> <li><b>percent from total amount</b> - taxes are calculated as a percentage from the total amount;</li> <li><b>sum of individual taxes</b> - taxes are calculated as a sum of respective taxes.</li> </ul>
	<ul style="list-style-type: none"> <li><b>Attach xDRs list to the invoice</b> <i>checkbox</i></li> </ul>	If enabled, creates an xDR file for the 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"> <li><b>xDRs List Format</b></li> </ul>	List of xDR file format ( <i>.csv, .xlsx or .xls</i> )



	<ul style="list-style-type: none"> <li>• <b>Included Calls</b></li> </ul>	Types of calls that will be included in invoices: <ul style="list-style-type: none"> <li>• <b>All payable</b> - includes calls with any duration that have non-zero costs and use packages</li> <li>• <b>Non-zero payable</b> - permits including calls with a non-zero duration that either have any cost or use packages.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Select Columns</b></li> </ul>	List of columns which can be presented in the attached xDR file
<ul style="list-style-type: none"> <li>• <b>Notes</b></li> </ul>	Additional information concerning the invoice template	
<b>Excel Template Parameters</b>	Settings of an invoice template	
	<ul style="list-style-type: none"> <li>• <b>Statistics Columns</b></li> </ul>	List of statistics columns. If selected, the invoice will include summary statistics with selected columns
	<ul style="list-style-type: none"> <li>• <b>Include packages charges to invoice checkbox</b></li> </ul>	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"> <li>• <b>Template</b></li> </ul>	Defined displaying format of xDRs list in a template

 **Tip**

When you select a **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*

**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, custom\_taxes, 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 the reseller's properties. It will ensure 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 Billing includes **default .pdf templates**, called **default** and **default extended**.

For creating an invoice template for **SureTax** or **Compliance**, view the info in the [US Taxation](#) article.

**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 the 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 detailstemplate** with included **Taxes Table** functional variables has been added to the section.

## Method of Calculating and Rounding Values

 **Tip**

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	<b>Calls</b>	calls	min	sec	min	sec
3	data	<b>Data</b>	data	gB	mB	gB	mB
4	event	<b>IoT events</b>	notification	event	event	event	event
2	event	<b>SMS</b>	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 deleting 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
-------------------	--------------------

<b>General</b>	General information about a service	
	• <b>Name</b>	Title of the new service
	• <b>Quantity</b>	Type of a unit group ( <b>time, event, data</b> ) that will measure the service
	• <b>Rounding Precision</b>	Number of decimal places for volume formatting. Used in reports.
• <b>Ident Code</b>	ID that will be used to identify the unit in the xDRs	
<b>Units</b>	Depending on a unit group chosen in the <b>Quantity</b> field, the following unit values will be applied to the fields of the <b>Units</b> section	
	<ul style="list-style-type: none"> <li>• for time: <b>sec, min, hour, day</b></li> <li>• for event: <b>event</b></li> <li>• for data: <b>B, kB (1000 B), KB (1024 B), mB (1000<sup>2</sup> B), MB (1024<sup>2</sup> B), gB (1000<sup>3</sup> B), GB (1024<sup>3</sup> B)</b></li> </ul>	
	• <b>Rating</b>	Choose the unit that will be used for rates and for packages limits
	• <b>Rating Params</b>	Indicate the unit for extra rate parameters like <b>Min Volume</b>
	• <b>Reports</b>	Select the unit for all aggregated reports
• <b>Detailed Reports</b>	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 13 information blocks listed below:

- [System Settings](#)
- [Regional Settings](#)
- [Mail Server Settings](#)
- [Reports and Processing Settings](#)
- [Output and Import/Export](#)
- [Invoicing Settings](#)
- [RADIUS Server](#)
- [SIP Server](#)
- [Dynamic Routing](#)
- [Rates Generator Settings](#)
- [Notification and Monitoring](#)
- [Autorotation and Cleaning](#)
- [Backup Settings](#)

To apply any changes, made in the section, click the  button. The whole **Settings** section is presented in the screenshot below:

*Screenshot: Settings section*

Settings

SYSTEM SETTINGS

Domain Name:	<input type="text" value="https://172.17.172.17.443"/>	The "Domain name" field must always start with "https://" and cannot be empty!
Public IP:	<input type="text"/>	The system public IP address used for LNP DIP requests. This field is mandatory if LNP is enabled in the system.
<input checked="" type="checkbox"/> Collect anonymized data		Allow collection of the anonymized 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 information will be collected.

REGIONAL SETTINGS

Default Currency:	<input type="text" value="USD"/>	Default currency is used for routing, profitability margin check and new entities creation
Default Language:	<input type="text" value="English"/>	Set default locale for the interface if not set in user preferences
Timezone:	<input type="text" value="UTC"/>	Default system timezone. You can change timezone in statistic reports queries
Date Format:	<input type="text" value="%m/%d/%Y"/>	Output format for dates, you can check syntax for this field in the User Guide
Date and Time Format:	<input type="text" value="%m/%d/%Y %H:%M:%S %z"/>	Output format for dates and times, you can check syntax for this field in the User Guide

MAIL SERVER SETTINGS

SMTP Credentials:	<input type="text" value="Default SMTP"/>	Credentials of SMTP server to be used for system notifications (e.g. Events Watcher, Reports Watcher, etc.)
From:	<input type="text" value="bilbery@localhost"/>	Specify email address to send mail from, it is a system address for the SMTP server, not the one that appears in the "From" field in emails

REPORTS AND PROCESSING SETTINGS

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: periodically run - runs every X minutes by Task Scheduler; faster processing of xDR bulks, but causes some delay realtime process - processes calls in realtime; slower processing in case of xDR bulks; use only if you really need realtime Round monetary value in xDRs report and xDRs files. Default without rounding.
<input type="checkbox"/> Round Monetary Value		
<input type="checkbox"/> Cross-Gateway Connection		Used for Orig-Term and Profit Reports: allows Reports Generator tool to concatenate orig and term legs from different gateways.

OUTPUT AND IMPORT/EXPORT

Items per Page:	<input type="text" value="20"/>	Default number of items per page in the 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 a decimal separation point for numbers ("." for most cases)
Close Rates marked by:	<input type="text" value="delete, block, close"/>	When importing a rate table, if some rates have notes that they are closed, the system will close the appropriate destinations after importing them. This field defines what marking words must be taken as ones closing a rate. The system also searches for longer words. For example: close - closed, delete - deleted, etc. Please avoid sentences and use only single words, separated by a comma (block, close).
Hidden Numbers:	<input type="text" value="0"/>	The number of digits, which must be hidden in a destination number
Import Encoding:	<input type="text" value="UTF-8"/>	Encoding that will be used during importing data from a file.
Export Encoding:	<input type="text" value="UTF-8"/>	Encoding that will be used during exporting data to a file.

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, %k - reseller incremental integer
Invoice Last No:	<input type="text" value="100332"/>	Last Invoice No used in the system for invoices generation
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 that system is going to wait from the end of a previous day before invoicing. Required to be a positive integer. Otherwise, the system will invoice a 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 "Code Name" field is not presented in a rate table of a client, invoice will not be generated.
<input type="checkbox"/> Allow Zero Invoices		Enables creation of zero invoices.

RADIUS SERVER

Bind to Address:	<input type="text"/>	Specify your server IP address to bind to, empty field means bind to all addresses.
Accounting Port:	<input type="text" value="1813"/>	Listen for accounting packets on a specified port
Authorization Port:	<input type="text" value="1812"/>	Listen for authorization packets on a 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 the number of SIP workers.
Max Call Length:	<input type="text" value="7200"/>	Maximum call duration in seconds, for customers with unlimited credit.
Changes will be applied only after you restart RADIUS server from the Task Scheduler section		

SIP SERVER

SIP Port:	<input type="text" value="5060"/>	Listen for auth packets on a specified port.
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DYNAMIC ROUTING

Analyze Period:	<input type="text" value="300 minute(s)"/>	How many last minutes of statistics will be analyzed to build a routing table.
Minimal Statistics Quantity:	<input type="text" value="100"/>	Minimal quantity of statistics records required for considering quality factors. Otherwise defined default values will be used.
Default ASR:	<input type="text" value="30"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default ACD:	<input type="text" value="2"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default PDD:	<input type="text" value="1"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default SCD:	<input type="text" value="5"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.

RATES GENERATOR SETTINGS

Number of workers:	<input type="text" value="4"/>	Number of threads that process rates generation.
Rates Generation Delay:	<input type="text" value="1 hour(s)"/>	System will start Automatic Rates Generation in given amount of hours after the sources rates changes.

NOTIFICATION AND MONITORING

<input checked="" type="checkbox"/> Event on Missing Account		Send an 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 an 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 a call has zero length
Resend low-balance events every:	<input type="text" value="24 hour(s)"/>	How often to resend email regarding low customer's balance
Rate changes notification period:	<input type="text" value="300 minute(s)"/>	Customer will be informed regarding rates changes in given amount of minutes after the actual change.
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 is less than specified percent of the whole disk size - the system will send an alert.


AUTOROTATION AND CLEANING

Delete events from log after:	<input type="text" value="1 day(s) (from 1 to 90)"/>	Delete events from Events Log after a specified period of days.
Statistics Archiving Delay:	<input type="text" value="0 day(s) (0 - do not archive)"/>	Archive statistics in advance. Advance archiving minimizes the 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 the system when they are not relevant for a specified number of days from the end date.
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 must 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 must be deleted from local server.

BACKUP SETTINGS

System Backup Period:	<input type="text" value="167 hour(s) (0 - do not backup)"/>	How often to backup the system. Please note that actual backup will be done at the time when the Backup Manager process runs.
Destination for Backup Packages:	<input type="text" value="/opt/jerasoft/backups"/>	Absolute path where to put backup packages. It cannot be inside the root of the system.
Include into backup:	<input type="text" value="Database x"/>	Which components of system should be included into backup.
Leave last X Packages:	<input type="text" value="3"/>	How many last backup packages to leave.
Number of Backup Manager workers:	<input type="text" value="1"/>	Number of threads that run database backup.

Update

 **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	
Domain Name: <input type="text"/>	The "Domain name" field must always start with "https://" and cannot be empty!
Public IP: <input type="text"/>	The system public IP address used for LNP DIP requests. This field is mandatory if LNP is enabled in the system.
<input type="checkbox"/> Collect anonymized data	Allow collection of the <b>anonymized</b> 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 information will be collected.

Field	Description
<b>Domain Name</b>	Enter <b>relevant domain</b> address of your JeraSoft Billing server. In most cases, <b>JeraSoft Billing IP</b> address should be entered here. Please note, if this name is specified <b>incorrectly</b> , you may experience issues with reseller logos display
<b>Public IP</b>	Specify an <b>Internet Protocol address</b> that LNP DIP requests
<b>Collect Anonymized Data</b> checkbox	Allows collecting <b>anonymized</b> system usage statistics

# Regional Settings

The **Regional Settings** information block contains the following fields:

Screenshot: *Regional Settings window*

REGIONAL SETTINGS		
Default Currency:	USD	Default currency is used for routing, profitability margin check and new entities creation
Default Language:	English	Set default locale for the interface if not set in user preferences
Timezone:	UTC	Default system timezone. You can change timezone in statistic reports queries
Date Format:	%m/%d/%Y	Output format for dates, you can check syntax for this field in the User Guide
Date and Time Format:	%m/%d/%Y %H:%M:%S %z	Output format for dates and times, you can check syntax for this field in the User Guide

Field	Description														
<b>Default Currency</b>	Specify <b>currency</b> that will be used as the default for the generation of routing and new entities creation (accounts, invoices, transactions, clients, resellers, etc.). However, this currency <b>won't</b> be used for reports.														
<b>Default Language</b>	Select your default <b>language</b> for the system. You can <b>change</b> it to your preferred language <b>at any time</b> .														
<b>Timezone</b>	Select your default <b>timezone</b>														
<b>Date Format</b>	Specify date parameters here <table border="1"> <tbody> <tr> <td>• %d</td> <td><b>Day</b> of the month in numeric form. Allowed values: from <b>01</b> to <b>31</b></td> </tr> <tr> <td>• %m</td> <td><b>Month</b> number. Allowed values: from <b>01</b> to <b>12</b></td> </tr> <tr> <td>• %Y</td> <td>Number of the <b>year</b> that consists of <b>4</b> numbers. Value example: <b>1999, 2005, 2010</b></td> </tr> </tbody> </table>	• %d	<b>Day</b> of the month in numeric form. Allowed values: from <b>01</b> to <b>31</b>	• %m	<b>Month</b> number. Allowed values: from <b>01</b> to <b>12</b>	• %Y	Number of the <b>year</b> that consists of <b>4</b> numbers. Value example: <b>1999, 2005, 2010</b>								
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<b>Date and Time Format</b>	Specify the date and time parameters here <table border="1"> <tbody> <tr> <td>• %d</td> <td><b>Day</b> of the month in numeric form. Allowed values: from <b>01</b> to <b>31</b></td> </tr> <tr> <td>• %m</td> <td><b>Month</b> number. Allowed values: from <b>01</b> to <b>12</b></td> </tr> <tr> <td>• %Y</td> <td>Number of the <b>year</b> that consists of <b>4</b> numbers. Value example: <b>1999, 2005, 2010</b></td> </tr> <tr> <td>• %H</td> <td><b>Hours</b> in 24-hour format with leading zeroes. Allowed values: from <b>00</b> to <b>23</b></td> </tr> <tr> <td>• %M</td> <td><b>Minutes</b> with leading zeroes. Allowed values: from <b>00</b> to <b>59</b></td> </tr> <tr> <td>• %S</td> <td><b>Seconds</b> with leading zeroes. Allowed values: from <b>00</b> to <b>59</b></td> </tr> <tr> <td>• %z</td> <td><b>Timezone</b> settings</td> </tr> </tbody> </table>	• %d	<b>Day</b> of the month in numeric form. Allowed values: from <b>01</b> to <b>31</b>	• %m	<b>Month</b> number. Allowed values: from <b>01</b> to <b>12</b>	• %Y	Number of the <b>year</b> that consists of <b>4</b> numbers. Value example: <b>1999, 2005, 2010</b>	• %H	<b>Hours</b> in 24-hour format with leading zeroes. Allowed values: from <b>00</b> to <b>23</b>	• %M	<b>Minutes</b> with leading zeroes. Allowed values: from <b>00</b> to <b>59</b>	• %S	<b>Seconds</b> with leading zeroes. Allowed values: from <b>00</b> to <b>59</b>	• %z	<b>Timezone</b> settings
• %d	<b>Day</b> of the month in numeric form. Allowed values: from <b>01</b> to <b>31</b>														
• %m	<b>Month</b> number. Allowed values: from <b>01</b> to <b>12</b>														
• %Y	Number of the <b>year</b> that consists of <b>4</b> numbers. Value example: <b>1999, 2005, 2010</b>														
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• %S	<b>Seconds</b> with leading zeroes. Allowed values: from <b>00</b> to <b>59</b>														
• %z	<b>Timezone</b> settings														

## 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.

# Mail Server Settings

This information block allows you to specify mail server settings:

Screenshot: Mail Server Settings window

MAIL SERVER SETTINGS		
SMTP Credentials:	Default SMTP	Credentials of SMTP server to be used for system notifications (e.g. Events Watcher, Reports Watcher, etc)
From:	billbery@localhost	Specify email address to send mail from, it is a system address for the SMTP server, not the one that appears in the "From" field in emails

Field	Description
<b>SMTP Credentials</b>	Select <b>SMTP Credentials</b> that you want to be used by the system (Credentials are managed in the <b>Data Sources</b> section)
<b>From</b>	<b>Email address</b> that will be specified as a sender

# Reports and Processing Settings

This information block contains the following reports settings information:

Screenshot: Reports and Processing Settings window

REPORTS AND PROCESSING SETTINGS	
Statistics processing order:	old calls first
Calculator Workers:	4
Calculator Mode:	periodically run
<input type="checkbox"/> Round Monetary Value	
<input type="checkbox"/> Cross-Gateway Connection	

Order of statistics processing when the queue is large

Number of threads processing calculator tasks (number of CPU cores / 2).

Select calculator processing mode:  
**periodically run** – runs every X minutes by Task Scheduler; faster processing of xDR bulks, but causes some delay  
**realtime process** – processes calls in realtime; slower processing in case of xDR bulks; use only if you really need realtime

Round monetary value in xDRs report and xDRs files. Default without rounding.

Used for **Orig-Term** and **Profit Reports**: allows Reports Generator tool to concatenate orig and term legs from different gateways.

Field	Description
<b>Statistics Processing Order</b>	Specify what <b>statistics</b> to process first (newer or older)
<b>Calculator Workers</b>	Specify the <b>number of threads</b> processing calculator tasks (number of CPU cores/2)
<b>Calculator Mode</b>	Defines the <b>calculator workout</b> , whether it will start <b>periodically</b> through Task Scheduler, or will be <b>constantly</b> running
<b>Round monetary value checkbox</b>	Forces the <b>values</b> in the xDRs report and xDRs files <b>to be rounded</b> according to currency settings
<b>Cross-gateway connection checkbox</b>	Applies to <b>Orig-Term</b> and <b>Profit Reports</b> . When marked, it allows concatenating of orig and term records from different gateways by the Reports Generator tool

# 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

Items per Page:	20	Default number of items per page in the system interfaces.
CSV Delimiter:	,	Default delimiter used for CSV files when importing/exporting
CSV Decimal Point:	,	What will be used as a decimal separation point for numbers ("," for most cases)
Close Rates marked by:	delete, block, close	When importing a rate table, if some rates have notes that they are closed, the system will close the appropriate destinations after importing them. This field defines what marking words must be taken as ones closing a rate. The system also searches for longer words. For example: close - closed, delete - deleted, etc. Please avoid sentences and use only single words, separated by a comma (block, close).
Hidden Numbers:	0	The number of digits, which must be hidden in a destination number
Import Encoding:	UTF-8	Encoding that will be used during importing data from a file.
Export Encoding:	UTF-8	Encoding that will be used during importing data from a file.

Field	Description
<b>Items per Page</b>	Set default <b>quantity</b> of items <b>displayed</b> on a single page
<b>CSV Delimiter</b>	Set default <b>delimiter</b> for CSV files
<b>CSV Decimal Point</b>	Set default <b>decimal point</b> for CSV files
<b>Close Rates marked by</b>	When importing <b>rate sheets</b> , the system will be able to close respective rates if the <b>Rate</b> column has one of the keywords entered here
<b>Hidden Numbers</b>	Specify how many <b>digits</b> of a number should be <b>hidden</b> when this function is activated for a customer
<b>Output Encoding</b>	Select which <b>encoding</b> to use when <b>exporting</b> a file
<b>Import Encoding</b>	Select which <b>encoding</b> to use while <b>importing</b> 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 the system for invoices generation
Autoinvoicing Default State:	<input type="text" value="to verify"/>	Default state for all automatically created invoices.
Autoinvoicing Delay:	<input type="text" value="0"/> hour(s)	Time in hours that system is going to wait from the end of a previous day before invoicing. Required to be a positive integer. Otherwise, the system will invoice a 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 "Code Name" field is not presented in a rate table of a client, invoice will not be generated.
<input type="checkbox"/>	Allow Zero Invoices	Enables creation of zero invoices.

Field	Description
<b>Invoice No Template</b>	Default <b>template</b> for invoice number
<b>Invoice Last No</b>	<b>Number</b> of the last issued invoice
<b>Autoinvoicing Default State</b>	Set the state for all automatically created invoices by choosing one of the following field values: <ul style="list-style-type: none"> <li>• <b>normal</b></li> <li>• <b>to sent</b></li> <li>• <b>to verify</b></li> </ul>
<b>Autoinvoicing Delay</b>	Time in <b>hours</b> the system will wait until performing invoicing
<b>Check empty code names in invoices checkbox</b>	Enables checking of the correspondence of a <b>Code</b> with a <b>Code name</b> , and, in case of any <b>mismatches</b> , the system will give an <b>alert</b> and an invoice <b>will not be</b> generated
<b>Allow Zero Invoices checkbox</b>	Allows to create invoices with <b>zero amount</b>

# RADIUS Server

JeraSoft Billing **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 a comma) to bind to, empty field means bind to all addresses.
	empty - bind to all	
Accounting Port:	<input type="text" value="1813"/>	Listen for accounting packets on a specified port
Authorization Port:	<input type="text" value="1812"/>	Listen for authorization packets on a 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 the number of SIP workers.
Max Call Length:	<input type="text" value="7200"/>	Maximum call duration in seconds, for customers in <b>postpaid</b> mode.
Changes will be applied only after you restart RADIUS server from the Task Scheduler section		

Field	Description
<b>Bind to Address</b>	Specify your <b>JeraSoft Billing server IP addresses</b> , separated by a comma, to bind RADIUS to
<b>Accounting Port</b>	Specify the <b>accounting port</b> here. By default, the field value is <b>1813</b>
<b>Authorization Port</b>	Specify the <b>authorization port</b> here. By default, the field value is <b>1812</b>
<b>Number of Workers</b>	Number of <b>RADIUS workers</b> . The value of this parameter also <b>affects SIP workers' number</b> .
<b>Max Call Length</b>	Limit maximum call length in <b>seconds</b>

# 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*

SIP SERVER	
SIP Port:	<input type="text" value="5060"/> Listen for auth packets on a specified port.



# Dynamic Routing

Settings for JeraSoft Billing Dynamic Routing is presented in the information block with the following fields:

Screenshot: *Dynamic Routing settings window*

DYNAMIC ROUTING		
Analyze Period:	<input type="text" value="300"/> minute(s)	How many last minutes of statistics will be analyzed to build a routing table.
Minimal Statistics Quantity:	<input type="text" value="100"/>	Minimal quantity of statistics records required for considering quality factors. Otherwise defined default values will be used.
Default ASR:	<input type="text" value="30"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default ACD:	<input type="text" value="2"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default PDD:	<input type="text" value="1"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default SCD:	<input type="text" value="5"/>	Default value to use, if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.

Field	Description
<b>Analyze Period</b>	A <b>number</b> of minutes of <b>last</b> available statistics that will be used to build a routing table
<b>Minimal Statistics Quantity</b>	Minimal quantity of statistics records required for considering quality factors. Otherwise, defined default values will be used.
<b>Default ASR</b>	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
<b>Default ACD</b>	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
<b>Default PDD</b>	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
<b>Default SCD</b>	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.

# Rates Generator Settings

The **Rates Generator Settings** information block contains the fields specified below:

Screenshot: *Rates Generator Settings window*

RATES GENERATOR SETTINGS	
Number of workers: <input type="text" value="4"/>	Number of threads that process rates generation.
Rates Generation Delay: <input type="text" value="1"/> hour(s)	System will start Automatic Rates Generation in given amount of hours after the sources rates changes.

Field	Description
<b>Number of workers</b>	Specify the number of system workers that run <b>rates generation</b> .
<b>Rates Generation Delay, hour(s)</b>	Specify rates generation delay (for example, if you enter <b>3</b> as a value, the system will generate rates <b>in three hours after</b> the sources rates changes).

# 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 an 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 an 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 a call has zero length
Resend low-balance events every:	<input type="text" value="24"/> hour(s)	How often to resend email 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.
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 is less than specified percent of the whole disk size - the system will send an alert.

Field	Description
<b>Event on Missing Account</b> checkbox	If checked, activates notification sending when <b>no account</b> was found
<b>Event on Missing Rate</b> checkbox	If checked, activates notification sending when <b>no rate</b> was found
<b>Event on zero time calls</b> checkbox	If checked, activates all <b>previous checkboxes effects</b> when calls with zero duration were found
<b>Resend low balance events every, hour(s)</b>	Set the <b>frequency</b> of <b>low balance</b> notification <b>resending</b> service
<b>Rate changes notification period, hour(s)</b>	Specify the <b>frequency</b> of <b>rate changes</b> notification period
<b>Watch for free space at</b>	<p>Here you can specify <b>folders</b> that will be monitored for available disk space. To add a folder, specify its path, and by using the ":" symbol, choose the percentage of disk space, below which the system will send <b>warning notifications</b>.</p> <p>For example, <b>/opt/jerasoft:20</b> means that if free disk space is below <b>20 percent</b> in the <b>/opt/jerasoft/</b> folder, the notification will be sent. You can add multiple folders in this field by delimiting them with the ";" symbol.</p>

# Autorotation and Cleaning

Automatic statistics and backup management parameters are configured here:

Screenshot: *Autorotation and Cleaning settings window*

AUTOROTATION AND CLEANING		
Delete events from log after:	<input type="text" value="1"/> day(s) (from 1 to 90)	Delete events from Events Log after a specified period of days.
Statistics Archiving Delay:	<input type="text" value="0"/> day(s) (0 - do not archive)	Archive statistics in advance. Advance archiving minimizes the 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 the system when they are not relevant for a specified number of days from the end date.
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 must 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 must be deleted from local server.


Field	Description
<b>Delete events from log after</b>	Specify the <b>number of days</b> , in which events will be removed from the log-files (when <b>0</b> is the value – events <b>won't be deleted</b> )
<b>Statistics Archiving Delay</b>	Here, it's possible to archive the <b>statistics</b> in advance to <b>reduce</b> the backup time.
<b>Statistics Rotate Delay</b>	Specify statistics packages rotation delay (for example, if you enter <b>3</b> as a value, <b>all</b> statistics packages that are <b>older than 3 days</b> will be automatically <b>archived</b> )
<b>Delete not actual rates after</b>	Cleans non-actual rates from the <b>database</b> when effective date is <b>older than a specified number</b> of days
<b>Delete parsed xDR-files after</b>	Define when the system should delete <b>old parsed xDR-files</b>
<b>Delete archived log-files after</b>	Define when the system should delete <b>archived log-files</b>


# Backup Settings

Backup settings are presented with the following fields:

Screenshot: Backup Settings window

BACKUP SETTINGS		
System Backup Period:	<input type="text" value="167"/> hour(s) (0 - do not backup)	How often to backup the system. Please note that actual backup will be done at the time when the Backup Manager process runs.
Destination for Backup Packages:	<input type="text" value="/opt/jerasoft/backups"/>	Absolute path where to put backup packages. It cannot be inside the root of the system.
Include into backup:	<input type="text" value="Database"/>	Which components of system should be included into backup.
Leave last X Packages:	<input type="text" value="3"/>	How many last backup packages to leave.
Number of Backup Manager workers:	<input type="text" value="1"/>	Number of threads that run database backup.

Field	Description
<b>System Backup Period</b>	The field value specifies when the system <b>should backup itself</b> (for example, if you enter <b>24</b> as a value, it will mean that the system will backup itself <b>every 24 hours</b> ).
<b>Destination for Backup Packages</b>	Absolute <b>path</b> to the folder where the system backup copies <b>will be stored</b> .  <div style="background-color: #ffe6e6; padding: 5px;"> <p> <b>Warning</b></p> <p>This folder <b>shouldn't be</b> within any system folder!</p> </div>
<b>Include into backup</b>	Specify components of the system which should be included into backup.
<b>Leave last X Packages</b>	This Parameter specifies <b>how many</b> backup copies will be stored <b>at one given time</b> (for example, if you enter <b>3</b> as a value, only <b>three</b> copies will be stored. When the <b>fourth</b> copy is added, the oldest one <b>will be deleted</b> ).
<b>Number of Backup Manager workers</b>	Specify the number of system managers that run <b>a database backup</b> .

 **Attention**

The backup will not be created if the disk size is not enough.

# Integration

This chapter of our Guide focuses upon sections that are called to govern the **integration process** of 3rd party software **with JeraSoft Billing**. Please look for more information on the following sections:

- [Gateways](#)
- [Number Portability](#)
- [Data Sources](#)
- [Provisioning API](#)
- [API Testbed](#)
- [CoreAPI Docs](#)

# Gateways

## In this article

- [Section overview](#)
- [Adding a New Gateway](#)
- [Files Downloading History](#)
- [Knowledge Base Articles](#)
- [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 the form of a table of all created gateways in the system with the following columns (see screenshot):

Screenshot: Gateways section

ID	Name	RADIUS Server	Files Collector	SIP Server
22	SMS Gateway 127.0.0.3	JeraSoft Billing Common	—	—
17	DIAMETER_TEST 127.0.0.2	—	—	—
14	Data Gateway 127.0.0.4	JeraSoft Billing Common	—	—
16	Calls Gateway 127.0.0.1	Aloe MVTS 1	—	—
23	Voip 192.168.1.1	Nexge	JeraSoft Billing Common 127.0.0.1(admin), From path: /ect/openvpn/ view history	—

Column	Description
<b>ID</b>	ID number of a gateway
<b>Name</b>	Name of a gateway
<b>RADIUS Server</b>	Description of current status and collector type of RADIUS Server (if such is applied)
<b>Files Collector</b>	Description of current status and collector type of applied Files Collector (if such is applied)
<b>SIP Server</b>	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 <a href="#">traffic processing</a> rules
	Displays a current status - <b>enabled</b> or <b>disabled</b> - of RADIUS/SIP Server, Files Collector.
	Allows deleting 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 downward arrow icon next to the name of a respective information block.

Screenshot: Adding new Gateway

Gateways

**GENERAL INFORMATION**

Name:

IP Address:

Allowed for: Reseller A x Sub-Reseller A x Reseller B x Sub-Reseller B1 x Sub-Reseller B2 x

Service: Calls

Tag:

**FILES COLLECTOR**

Collector Type: JeraSoft Billing Common day

Data Source:

**RADIUS SERVER**

Collector Type: JeraSoft Billing Common day

Secret:


**SIP SERVER**

Collector Type: Default RFC

OK
Cancel
Apply

Information Block	Fields and Descriptions
<b>General Information</b>	General gateway and events processing information
	<b>Name</b> Gateway name
	<b>IP Address</b> Gateway IP address
	<b>Allowed For</b> Specify here, which resellers can use current gateway
	<b>Service</b> Select a service (calls, SMSs, data, etc.) for a current gateway
	<b>Tag</b> Indicate a particular tag to filter events by gateways while creating invoices and using reports.
	<p>Click the downward arrow  icon next to the <b>General Information</b> information block to access the following advanced settings:</p> <ul style="list-style-type: none"> <li><b>Ident Priority</b> - a hierarchy of account identification. By default, the field value priority is <b>IP, name, ANI</b>.</li> <li><b>ORIG ANI Ident</b> - select ANI identification of originating events (available options: <b>Src number ext, Src number bill, Dst ext, Dst number bill</b>)</li> <li><b>TERM ANI Ident</b> - select ANI identification of terminating events (available options: <b>Src number ext, Src number bill, Dst ext, Dst number bill</b>)</li> <li><b>Rate ORIG events by Dst In code</b> checkbox - activation/deactivation of originating events billed by DST PARTY ID IN</li> <li><b>Rate TERM events by Dst Out code</b> checkbox - activation/deactivation of terminating events billed by DST PARTY ID OUT</li> </ul>
<b>Files Collector</b>	Information block regarding the <b>File Collector</b> settings. Files Collector gathers event data from xDR-files (activate this option if you plan to use integration via xDR-files)
	<ul style="list-style-type: none"> <li>Select a collector type you plan to use from the list</li> </ul>



<ul style="list-style-type: none"> <li>• <b>D a t a S o u r c e</b></li> </ul>	<p>Specify a data source, where xDR files are stored</p>
<ul style="list-style-type: none"> <li>• <b>F r o m P a t h</b></li> </ul>	<p>Specify the xDR-files path (mask paths are allowed). Available only for <b>SSH</b> and <b>FTP</b></p> <div style="background-color: #ffff00; padding: 5px;"> <p><b>⚠ Attention</b></p> <p>If there are <code>/var/cdrs</code> folder with the latest CDR files and <code>/var/archive_cdrs/</code> folder with outdated ones, and a user needs to download CDR files from both of them, he can use <code>;</code> (semicolon) to separate paths or <code>/**/</code> for recursive download. New paths may have the following look: <code>/var/cdrs/**/bill*</code>; <code>/var/archive_cdrs/bill*</code>.</p> </div>
<ul style="list-style-type: none"> <li>• <b>S e n d e r M a t c h</b></li> </ul>	<p>Indicate the sender name or email. Solely for <b>IMAP</b></p>
<ul style="list-style-type: none"> <li>• <b>S u b j e c t M a t c h</b></li> </ul>	<p>Use a regular expression to search by message titles. Solely for <b>IMAP</b></p>
<p>Click the downward arrow  icon next to the <b>Files Collector</b> information block to access advanced settings:</p> <ul style="list-style-type: none"> <li>• <b>Overwrite TZ</b> - timezone selection (if you select a different timezone, the system will ignore a timezone stored in an xDRs-file and use <b>current</b> value)</li> <li>• <b>Skip Zero Events</b> checkbox - activation/deactivation of zero duration events ignoring</li> <li>• <b>Skip Released Events</b> checkbox - activation/deactivation of released events ignoring</li> </ul>	
<p><b>RADIUS Server</b></p>	<p>Information block regarding <b>RADIUS Server</b> 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"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul> <p>Select a collector type you plan to use from the list</p>

	<ul style="list-style-type: none"> <li>• <b>S</b> <b>e</b> <b>c</b> <b>r</b> <b>e</b> <b>t</b></li> </ul> <p>RADIUS-server password</p>
	<p>Click the downward arrow  icon next to the <b>RADIUS Server</b> information block to access advanced settings:</p> <ul style="list-style-type: none"> <li>• <b>Override TZ</b> - timezone selection (if you select a different timezone, the system will ignore timezone information stored in an xDR file and use <b>current</b> value)</li> <li>• <b>Track Active Events</b> 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%</li> <li>• <b>Skip Zero Events</b> checkbox - activation/deactivation of zero duration events ignoring</li> <li>• <b>Skip Released Events</b> checkbox - activation/deactivation of released events ignoring</li> <li>• <b>Collect Accounting Data</b> 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 the database. By default, this checkbox <b>is marked</b>.</li> </ul>
<p><b>SIP Server</b></p>	<p>Allows acceptance of SIP packets from the current gateway. Required for SIP Redirect routing feature</p> <ul style="list-style-type: none"> <li>• <b>C</b> <b>o</b> <b>l</b> <b>e</b> <b>c</b> <b>t</b> <b>o</b> <b>r</b> <b>T</b> <b>y</b> <b>p</b> <b>e</b></li> </ul> <p>Select a collector type you plan to use from the list</p>
<p><b>LNP Files Collector</b></p>	<p>This collector processes downloaded LNP/MNP files and stores them in the database. It's accessible <b>only</b> when you <b>select the LNP /MNP type</b> of gateway.</p> <ul style="list-style-type: none"> <li>• <b>C</b> <b>o</b> <b>l</b> <b>e</b> <b>c</b> <b>t</b> <b>o</b> <b>r</b> <b>T</b> <b>y</b> <b>p</b> <b>e</b></li> </ul> <p>Select a collector type you plan to use from the list</p>

## 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

### In this article

- [Section overview](#)
- [Adding a New Gateway](#)
- [Files Downloading History](#)
- [Knowledge Base Articles](#)
- [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 the form of a table of all created gateways in the system with the following columns (see screenshot):

*Screenshot: Gateways section*

ID	Name	RADIUS Server	Files Collector	SIP Server
22	SMS Gateway 127.0.0.3	JeraSoft Billing Common	—	—
17	DIAMETER_TEST 127.0.0.2	—	—	—
14	Data Gateway 127.0.0.4	JeraSoft Billing Common	—	—
16	Calls Gateway 127.0.0.1	Aloe MVTS 1	—	—
23	Voip 192.168.1.1	Nexge	JeraSoft Billing Common 127.0.0.1(admin). From path: /ect/openvpn/ view history	—

Column	Description
<b>ID</b>	ID number of a gateway
<b>Name</b>	Name of a gateway
<b>RADIUS Server</b>	Description of current status and collector type of RADIUS Server (if such is applied)
<b>Files Collector</b>	Description of current status and collector type of applied Files Collector (if such is applied)
<b>SIP Server</b>	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 <a href="#">traffic processing</a> rules
	Displays a current status - <b>enabled</b> or <b>disabled</b> - of RADIUS/SIP Server, Files Collector.
	Allows deleting 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 downward arrow icon next to the name of a respective information block.

Screenshot: Adding new Gateway

Gateways

**GENERAL INFORMATION**

Name:

IP Address:

Allowed for: Reseller A Sub-Reseller A Reseller B Sub-Reseller B1 Sub-Reseller B2

Service: Calls

Tag:

**FILES COLLECTOR**

Collector Type: JeraSoft Billing Common day

Data Source:

**RADIUS SERVER**

Collector Type: JeraSoft Billing Common day



Secret:

**SIP SERVER**

Collector Type: Default RFC

OK Cancel Apply


Information Block	Fields and Descriptions		
<b>General Information</b>	General gateway and events processing information		
	<table border="1"> <tr> <td data-bbox="284 247 365 296"><b>Name</b></td> <td data-bbox="365 247 1490 296">Gateway name</td> </tr> </table>	<b>Name</b>	Gateway name
	<b>Name</b>	Gateway name	
	<table border="1"> <tr> <td data-bbox="284 296 365 390"><b>IP Address</b></td> <td data-bbox="365 296 1490 390">Gateway IP address</td> </tr> </table>	<b>IP Address</b>	Gateway IP address
	<b>IP Address</b>	Gateway IP address	
	<table border="1"> <tr> <td data-bbox="284 390 365 459"><b>Allowed For</b></td> <td data-bbox="365 390 1490 459">Specify here, which resellers can use current gateway</td> </tr> </table>	<b>Allowed For</b>	Specify here, which resellers can use current gateway
<b>Allowed For</b>	Specify here, which resellers can use current gateway		
<table border="1"> <tr> <td data-bbox="284 459 365 508"><b>Service</b></td> <td data-bbox="365 459 1490 508">Select a service (calls, SMSs, data, etc.) for a current gateway</td> </tr> </table>	<b>Service</b>	Select a service (calls, SMSs, data, etc.) for a current gateway	
<b>Service</b>	Select a service (calls, SMSs, data, etc.) for a current gateway		
<table border="1"> <tr> <td data-bbox="284 508 365 556"><b>Tag</b></td> <td data-bbox="365 508 1490 556">Indicate a particular tag to filter events by gateways while creating invoices and using reports.</td> </tr> </table>	<b>Tag</b>	Indicate a particular tag to filter events by gateways while creating invoices and using reports.	
<b>Tag</b>	Indicate a particular tag to filter events by gateways while creating invoices and using reports.		
<b>Files Collector</b>	Information block regarding the <b>File Collector</b> settings. Files Collector gathers event data from xDR-files (activate this option if you plan to use integration via xDR-files)		
	<table border="1"> <tr> <td data-bbox="284 926 365 1251"> <ul style="list-style-type: none"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul> </td> <td data-bbox="365 926 1490 1251">                     Select a collector type you plan to use from the list                 </td> </tr> </table>	<ul style="list-style-type: none"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul>	Select a collector type you plan to use from the list
	<ul style="list-style-type: none"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul>	Select a collector type you plan to use from the list	
	<table border="1"> <tr> <td data-bbox="284 1251 365 1530"> <ul style="list-style-type: none"> <li>• <b>D a t a S o u r c e</b></li> </ul> </td> <td data-bbox="365 1251 1490 1530">                     Specify a data source, where xDR files are stored                 </td> </tr> </table>	<ul style="list-style-type: none"> <li>• <b>D a t a S o u r c e</b></li> </ul>	Specify a data source, where xDR files are stored
<ul style="list-style-type: none"> <li>• <b>D a t a S o u r c e</b></li> </ul>	Specify a data source, where xDR files are stored		
<table border="1"> <tr> <td data-bbox="284 1530 365 1789"> <ul style="list-style-type: none"> <li>• <b>F r o m P a t h</b></li> </ul> </td> <td data-bbox="365 1530 1490 1789">                     Specify the xDR-files path (mask paths are allowed). Available only for <b>SSH</b> and <b>FTP</b> <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <p>If there are <code>/var/cdrs</code> folder with the latest CDR files and <code>/var/archive_cdrs/</code> folder with outdated ones, and a user needs to download CDR files from both of them, he can use <code>;</code> (semicolon) to separate paths or <code>/**/</code> for recursive download. New paths may have the following look: <code>/var/cdrs/**/bill*</code>; <code>/var/archive_cdrs/bill*</code>.</p> </div> </td> </tr> </table>	<ul style="list-style-type: none"> <li>• <b>F r o m P a t h</b></li> </ul>	Specify the xDR-files path (mask paths are allowed). Available only for <b>SSH</b> and <b>FTP</b> <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <p>If there are <code>/var/cdrs</code> folder with the latest CDR files and <code>/var/archive_cdrs/</code> folder with outdated ones, and a user needs to download CDR files from both of them, he can use <code>;</code> (semicolon) to separate paths or <code>/**/</code> for recursive download. New paths may have the following look: <code>/var/cdrs/**/bill*</code>; <code>/var/archive_cdrs/bill*</code>.</p> </div>	
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	<ul style="list-style-type: none"> <li>• <b>S e n d e r M a t c h</b></li> </ul> <p>Indicate the sender name or email. Solely for <b>IMAP</b></p>
	<ul style="list-style-type: none"> <li>• <b>S u b j e c t M a t c h</b></li> </ul> <p>Use a regular expression to search by message titles. Solely for <b>IMAP</b></p>
	<p>Click the downward arrow  icon next to the <b>Files Collector</b> information block to access advanced settings:</p> <ul style="list-style-type: none"> <li>• <b>Overwrite TZ</b> - timezone selection (if you select a different timezone, the system will ignore a timezone stored in an xDRs-file and use <b>current</b> value)</li> <li>• <b>Skip Zero Events</b> checkbox - activation/deactivation of zero duration events ignoring</li> <li>• <b>Skip Released Events</b> checkbox - activation/deactivation of released events ignoring</li> </ul>
<p><b>RADIUS Server</b></p>	<p>Information block regarding <b>RADIUS Server</b> 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"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul> <p>Select a collector type you plan to use from the list</p> <ul style="list-style-type: none"> <li>• <b>S e c r e t</b></li> </ul> <p>RADIUS-server password</p> <p>Click the downward arrow  icon next to the <b>RADIUS Server</b> information block to access advanced settings:</p> <ul style="list-style-type: none"> <li>• <b>Overwrite TZ</b> - timezone selection (if you select a different timezone, the system will ignore timezone information stored in an xDR file and use <b>current</b> value)</li> <li>• <b>Track Active Events</b> 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%</li> <li>• <b>Skip Zero Events</b> checkbox - activation/deactivation of zero duration events ignoring</li> <li>• <b>Skip Released Events</b> checkbox - activation/deactivation of released events ignoring</li> <li>• <b>Collect Accounting Data</b> 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 the database. By default, this checkbox <b>is marked</b>.</li> </ul>
<p><b>SIP Server</b></p>	<p>Allows acceptance of SIP packets from the current gateway. Required for SIP Redirect routing feature</p>

	<ul style="list-style-type: none"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul> <p>Select a collector type you plan to use from the list</p>
<b>LNP Files Collector</b>	<p>This collector processes downloaded LNP/MNP files and stores them in the database. It's accessible <b>only</b> when you <b>select the LNP /MNP type</b> of gateway.</p>
	<ul style="list-style-type: none"> <li>• <b>C o l l e c t o r T y p e</b></li> </ul> <p>Select a collector type you plan to use from the list</p>

## 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		<b>Downloads History</b>				
		Rows 1 – 11 of 11		20 ▼		Page 1 of 1
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		

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## Knowledge Base Articles

**Error rendering macro 'contentbylabel'**

parameters should not be empty

# 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 (further on, we'll describe everything on the example of the two providers: **Numuri** and **TJA**). Here, you can find the list of ranges and 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 the 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 the 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

The tab is presented in the form of a table of ranges of numbers with the following columns:

Screenshot: *Number Portability*

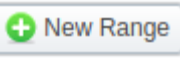


ID	Provider	Range Start	Range End	Owner	RN Number	Prefix	Modification Date	End Date
1	TJA (RN)	22	22	test	55		07/13/2020 12:00:00 +0000	
2	JeraSoft LNP Common	21	21	Vodafone		Vodafone	07/13/2020 20:50:27 +0000	
3	JeraSoft LNP Common	30	35	Vodafone		Vodafone	07/13/2020 20:50:27 +0000	
4	JeraSoft LNP Common	20	20	Vodafone		Vodafone	07/13/2020 20:50:27 +0000	

Column Name	Description
<b>ID</b>	Identification number of a number range
<b>Provider</b>	Name of a number range provider
<b>Range Start</b>	Starting number in a respective range
<b>Range End</b>	Final number in a respective range
<b>Owner</b>	Name of a number range owner
<b>RN Number</b>	Registration number for the range
<b>Prefix</b>	Number prefix
<b>Modification Date</b>	Indication of the latest date of numbers range modification
<b>End Date</b>	Indication of the date after which the range won't be valid


Functional **buttons/icons** that are present in a section are as follows:

Button/Icon	Description
-------------	-------------

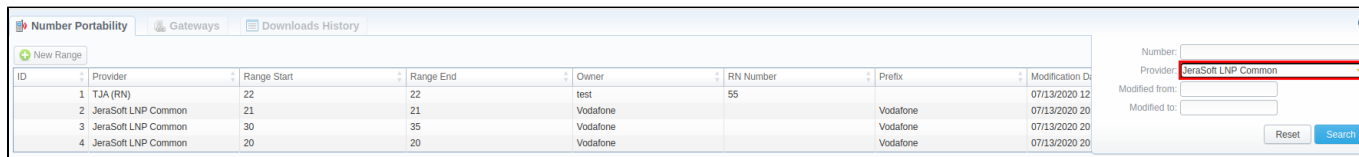


	Allows creating a new range of numbers for a provider
	Allows managing an existing range of numbers on a list
	Allows deleting a range of numbers from the system. Requires confirmation

## 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. To display **JeraSoft LNP Common** provider data, select **JeraSoft LNP Common** in a drop-down menu of the **Provider** field. Click on the blue downward arrow  icon.

Screenshot: Number Portability section

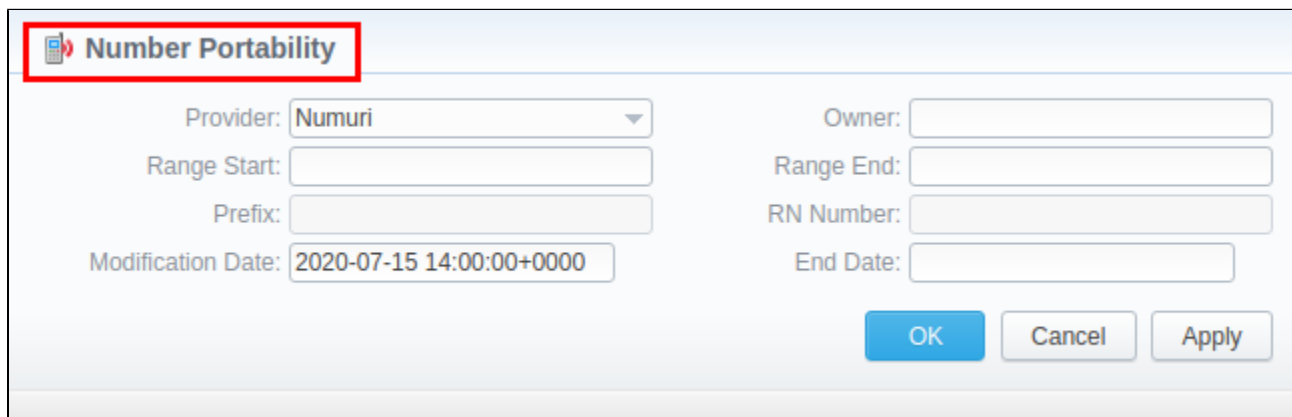


ID	Provider	Range Start	Range End	Owner	RN Number	Prefix	Modification Date
1	TJA (RN)	22	22	test	55		07/13/2020 12
2	JeraSoft LNP Common	21	21	Vodafone		Vodafone	07/13/2020 20
3	JeraSoft LNP Common	30	35	Vodafone		Vodafone	07/13/2020 20
4	JeraSoft LNP Common	20	20	Vodafone		Vodafone	07/13/2020 20

## Creating a New Range/Number

To create a **range** of numbers, click the **New Range** button and specify the fields listed below. After that, click **OK**.

Screenshot: Number Portability range creation form



Field	Description
<b>Provider</b>	Select the needed provider from the available dropdown: <ul style="list-style-type: none"> <li>• Numuri</li> <li>• TJA (RN)</li> <li>• TJA (Owner)</li> <li>• Lithuanian</li> </ul>
<b>Range Start</b>	Set the range's start position
<b>Range End</b>	Set the end position
<b>RN Number</b>	Indicate a registration number
<b>Prefix</b>	Number prefix
<b>Owner</b>	Determine an operator that owns a respective range of numbers/number <div style="background-color: yellow; padding: 5px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <p>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>

<b>Modification Date</b>	Indicate the last modification date
<b>End Date</b>	Indicate the end date for the range

## 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 the LNP update file, thus, we recommend addressing our support center to avoid any possible issues while configuring the gateways.

Apart from **Numuri, TJA, Lithuanian, JeraSoft LNP Common**, JeraSoft Billing is integrated with the following providers:

1. **Broadvox**
2. **Vera Networks**
3. **PCT**

Name	Data Source
Vera Networks	—
Broadvox	—
PCT	—
<b>Numuri</b>	—
<b>TJA (RN)</b>	—
<b>TJA (Owner)</b>	—
Lithuanian	—
JeraSoft LNP Common	—

The **Gateways** tab is presented in the form of a table of gateways of all the above-mentioned providers with indication of their names and assigned data sources. You can manage **Numuri, TJA, Lithuanian, and JeraSoft LNP Common**. 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

Name: Numuri

Data Source:

OK Cancel Apply

## Downloads History tab

**Downloads History** tab displays files downloading history through one of the number portability gateways. It is presented in the 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

ID	Name	Filename	Download Date	File size
1	tja	tmp9nKgkt	04/11/2018 08:25:04 +0000	6.74 Kb

Rows 1 - 1 of 1 | Page 1 of 1

## LNP/MNP Configuration

LNP/MNP configuration can be divided into 2 steps:

1. Set up the download of external data to local LNP/MNP databases
2. Configure communication between JeraSoft Billing 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 the **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 the **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 JeraSoft Billing 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.

# Data Sources

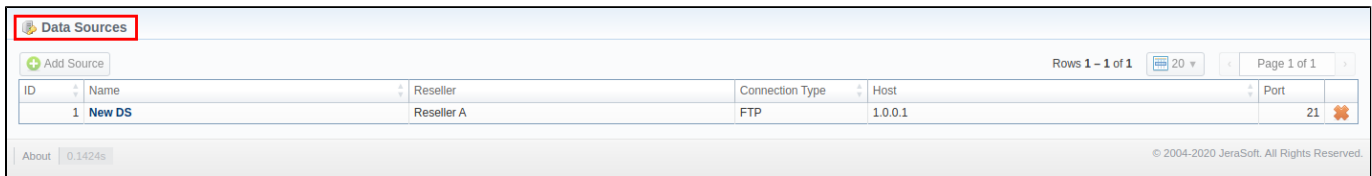
## In this article

- [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 it throughout the entire system. The section is presented in the form of a table with the following columns:

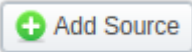

*Screenshot: Data Source section*



ID	Name	Reseller	Connection Type	Host	Port
1	New DS	Reseller A	FTP	1.0.0.1	21

Column Name	Description
<b>ID</b>	Data source identification number
<b>Name</b>	Data source name
<b>Reseller</b>	The name of the reseller the data source is assigned to
<b>Connection type</b>	Type of connection to the data source
<b>Host</b>	IP address or domain name
<b>Port</b>	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 creation form*

**Data Sources**

Name: <input style="width: 90%;" type="text"/> Reseller: <span style="border: 1px solid #ccc; padding: 2px;">all resellers</span> ▼ Connection Type: <span style="border: 1px solid #ccc; padding: 2px;">IMAP</span> ▼	Host: <input style="width: 90%;" type="text"/> Port: <span style="border: 1px solid #ccc; padding: 2px;">993</span> Login: <input style="width: 90%;" type="text"/> Password: <input style="width: 90%;" type="password"/>
--	---

OK
Cancel
Apply

Field	Description
<b>Name</b>	Indicate a data source name
<b>Reseller</b>	The name of the reseller the data source is assigned to
<b>Connection Type</b>	Specify connection type: <ul style="list-style-type: none"> <li><b>SSH</b></li> <li><b>FTP</b></li> <li><b>IMAP</b> - mail mode to download files</li> <li><b>Web (Numuri)</b> - web mode to download files</li> <li><b>SMTP</b> - for configuring a mail server</li> </ul> <div style="background-color: #ffff00; padding: 5px; margin-top: 10px;"> <p><b>⚠ Attention</b></p> <p>Depending on a type you've chosen, the list of fields in the information block may differ</p> </div>
<b>Security Layer</b>	<p><i>FOR SMTP ONLY</i></p> Specify security layer for <b>SMTP</b> server: <ul style="list-style-type: none"> <li><b>TLS</b></li> <li><b>SSL</b></li> <li><b>Plain</b></li> </ul>
<b>Host</b>	Specify an IP address or domain name of the server. Unavailable for <b>Web (Numuri)</b> connection type
<b>Port</b>	Specify the port for <b>SSH, IMAP</b> or <b>FTP</b> type. Unavailable for <b>Web (Numuri)</b>
<b>Login</b>	Specify gateway server login
<b>Password</b>	Password for <b>FTP</b> connection, <b>IMAP</b> mailbox, and <b>Numuri</b> web service.  For <b>SSH</b> you have to create <b>SSH-keys</b> . Thus, this field is unavailable for this type.  For <b>SMTP</b> type, you can leave login&password fields empty if your server does not require such authentication.

# 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 the [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

ID	Priority	Name	Event	Handler
1	1	Block client on the switch	Clients Balance Became <= 0	Script /usr/local/script
2	1	Create client in the CRM	Accounts Create	HTTP crm.net/client-add

Column Name	Description
<b>ID</b>	Handler's identification number
<b>Priority</b>	Priority of handlers execution
<b>Name</b>	Handler's title
<b>Event</b>	Description of the handler event
<b>Handler</b>	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"> <li>• <b>HTTP scripts</b>, called via POST requests (used in most cases)</li> <li>• <b>Local server scripts</b>, called locally on the server (used in very specific cases)</li> </ul>

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

Button/Icon	Description
	Allows creating a new handler
	Identifies a <b>disabled</b> status of a handler
	Identifies an <b>enabled</b> status of a handler
	Identifies an <b>archived</b> status of a handler
	Allows viewing details of a target handlers' performance <b>Execution Logs</b> 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 easy access to required information. By clicking on a red downward arrow icon, the following drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu

Field	Description
<b>Event</b>	Select from a list of all possible handler events
<b>Handler Type</b>	Indicate a type of handler: <ul style="list-style-type: none"> <li>• <i>script</i></li> <li>• <i>HTTP</i></li> </ul>
<b>Status</b>	Choose a target status: <ul style="list-style-type: none"> <li>• <i>Enabled</i></li> <li>• <i>Disabled</i></li> <li>• <i>Archived</i></li> </ul> <p>or leave this field blank. In this case, both <b>enabled</b> and <b>disabled</b> 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

Field	Description								
<b>Name</b>	Specify a particular title for a handler								
<b>Event</b>	Specify a handler event from the following list: <table border="1"> <tbody> <tr> <td><b>Clients</b></td> <td> <ul style="list-style-type: none"> <li>• <i>create</i></li> <li>• <i>update</i></li> <li>• <i>delete</i></li> <li>• <i>archive</i></li> <li>• <i>custom fields update</i></li> <li>• <i>balance became &gt;=0</i></li> <li>• <i>balance became &lt;=0</i></li> </ul> </td> </tr> <tr> <td><b>Accounts</b></td> <td> <ul style="list-style-type: none"> <li>• <i>create</i></li> <li>• <i>update</i></li> <li>• <i>delete</i></li> </ul> </td> </tr> <tr> <td><b>Subscriptions</b></td> <td> <ul style="list-style-type: none"> <li>• <i>assign</i></li> <li>• <i>activate</i></li> <li>• <i>deactivate</i></li> <li>• <i>renew</i></li> <li>• <i>close</i></li> </ul> </td> </tr> <tr> <td><b>Import</b></td> <td> <ul style="list-style-type: none"> <li>• import process failed</li> <li>• import process success</li> </ul> </td> </tr> </tbody> </table>	<b>Clients</b>	<ul style="list-style-type: none"> <li>• <i>create</i></li> <li>• <i>update</i></li> <li>• <i>delete</i></li> <li>• <i>archive</i></li> <li>• <i>custom fields update</i></li> <li>• <i>balance became &gt;=0</i></li> <li>• <i>balance became &lt;=0</i></li> </ul>	<b>Accounts</b>	<ul style="list-style-type: none"> <li>• <i>create</i></li> <li>• <i>update</i></li> <li>• <i>delete</i></li> </ul>	<b>Subscriptions</b>	<ul style="list-style-type: none"> <li>• <i>assign</i></li> <li>• <i>activate</i></li> <li>• <i>deactivate</i></li> <li>• <i>renew</i></li> <li>• <i>close</i></li> </ul>	<b>Import</b>	<ul style="list-style-type: none"> <li>• import process failed</li> <li>• import process success</li> </ul>
<b>Clients</b>	<ul style="list-style-type: none"> <li>• <i>create</i></li> <li>• <i>update</i></li> <li>• <i>delete</i></li> <li>• <i>archive</i></li> <li>• <i>custom fields update</i></li> <li>• <i>balance became &gt;=0</i></li> <li>• <i>balance became &lt;=0</i></li> </ul>								
<b>Accounts</b>	<ul style="list-style-type: none"> <li>• <i>create</i></li> <li>• <i>update</i></li> <li>• <i>delete</i></li> </ul>								
<b>Subscriptions</b>	<ul style="list-style-type: none"> <li>• <i>assign</i></li> <li>• <i>activate</i></li> <li>• <i>deactivate</i></li> <li>• <i>renew</i></li> <li>• <i>close</i></li> </ul>								
<b>Import</b>	<ul style="list-style-type: none"> <li>• import process failed</li> <li>• import process success</li> </ul>								
<b>Status</b>	Choose the state of the handler: <ul style="list-style-type: none"> <li>• <b>enabled</b> - select it to make a handler active;</li> <li>• <b>disabled</b> - select it to unable a handler;</li> <li>• <b>archived</b> - select it to archive a handler.</li> </ul>								
<b>Priority</b>	Establish an order of handler performing. <b>Note:</b> The handler with <b>1 priority</b> will precede all other handlers in order.								

#### Attention

In **VCS 3.17.0**, to prevent performance degradation and data inconsistency, affected by the 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 a handler into action, you need to **restart** the **Cache Manager**. To do so, click on the 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. The tab is presented in the 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
<b>ID</b>	Handler's identification number
<b>Date</b>	Time and date of handler execution
<b>Event</b>	Details on handler type and event
<b>Status</b>	Status of a handler: <b>Success/Fail</b>
<b>Name</b>	Title of the handler
<b>Error</b>	Description of the event in case of an error
<b>Duration</b>	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 information that JeraSoft Billing sends via the 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
-------	-------------

<b>Status</b>	Indicate handler execution status: <ul style="list-style-type: none"><li>• <b>Success</b></li><li>• <b>Fail</b></li></ul>
<b>Event Type</b>	Select a type of event: <ul style="list-style-type: none"><li>• <b>After</b></li><li>• <b>Before</b></li></ul> <b>After</b> event type is set by default
<b>Event</b>	Select from a list of all possible handler events
<b>Data</b>	Indicate handler execution data, specified in <b>Details</b> pop-up window
<b>Error</b>	Indicate handler execution data, specified in <b>Error</b> pop-up window
<b>Date From / Date To</b>	Specify first and/or the last date of handler execution

# API Testbed

This section allows sending/receiving 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
<b>JSON-RPC URL</b>	URL is set by default according to current server settings
<b>Module</b>	Select which module to call
<b>Action</b>	Set which action to call
<b>Login</b>	Specify a login that will be used during the call
<b>Password</b>	Specify a password that will be used during the call
<b>Parameters</b>	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 the 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

```

API REQUEST
{
  jsonrpc: "2.0",
  method: "clients.didsList",
  - params: {
    - auth: {
      login: " ",
      password: " "
    }
  },
  id: "api-testbed"
}

API RESPONSE
{
  jsonrpc: "2.0",
  id: "api-testbed",
  - result: {
    code: false,
    session_id: "1-dkh1vhdb9p05f9euuupptekbe1",
    - messages: [
      + { - }
    ],
    return: [ ],
    errors: [ ]
  }
}

```

 **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.

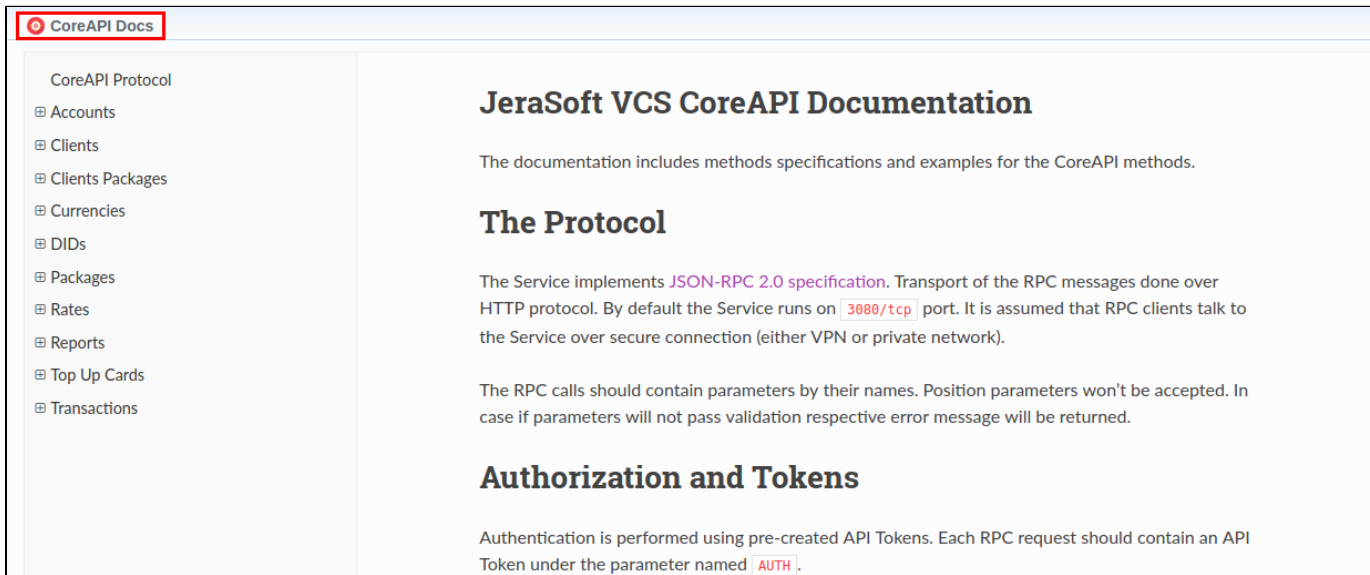
# CoreAPI Docs

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 the APIs section of our User Guide.

# System

Information in this chapter of the Guide provides an overview of major **JeraSoft Billing 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](#)
- [System Services](#)
- [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, JeraSoft Billing 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 the 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 in the screenshot below:


Screenshot: Events Log tab

ID	Type	Sender	Date	Message	Tags
39	Alert	Core API JSON-RPC	06/04/2020 11:46:46 +0000	[PID:4425] [rID:00194294] [M:accounting.transactions.create] Invalid parameters for "accounting.transactions.create"	
38	Alert	Core API JSON-RPC	06/04/2020 11:14:30 +0000	[PID:4422] [rID:21262141] [M:clients.create] Invalid parameters for "clients.create"	
37	Error	RADIUS Server	06/04/2020 11:02:45 +0000	Can not start - there are no Equipment (VoIP Hosts) with RADIUS enabled	system.config, system
36	Error	SIP Redirect Server	06/04/2020 11:02:45 +0000	Can not start - there are no Equipment (VoIP Hosts) with SIP enabled	system.config, system
35	Message	System Services	06/04/2020 11:02:42 +0000	RUNNER: starting service "bbradiusd"	
34	Message	System Services	06/04/2020 11:02:42 +0000	RUNNER: starting service "bbsipd"	
33	Message	System Services	06/04/2020 11:02:37 +0000	RUNNER: starting service "system_usage_tracker"	

Column Name	Description
<b>ID</b>	Identification number of the event
<b>Type</b>	Category of the event in the system ( <b>error</b> , <b>alert</b> , or <b>message</b> )
<b>Sender</b>	Name of the system service that sent the event
<b>Date</b>	Date and time when the event occurred
<b>Message</b>	Description of the event
<b>Tags</b>	Tags that might have been added to the event

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

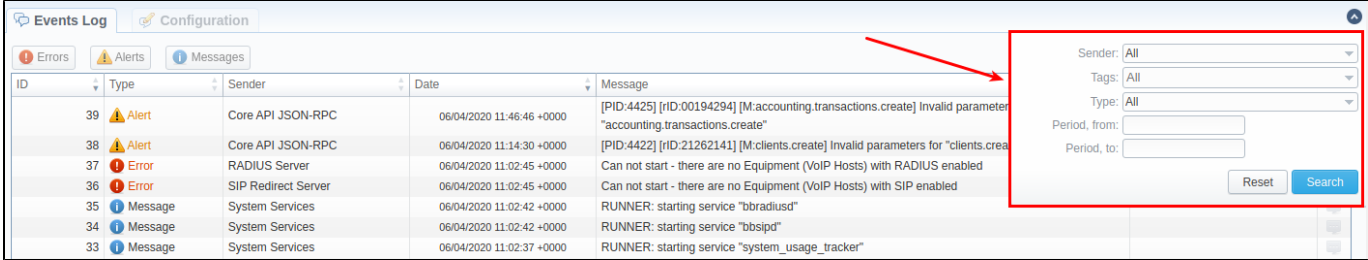
Button/Icon	Description
	Allows to filter the list of events by <b>errors</b>
	Allows to filter the list of events by <b>alerts</b>
	Allows to filter the list of events by <b>messages</b>

 Allows to view a **detailed description** of the event (if possible)

### Advanced Search

You can find the build-in **Advanced Search** drop-down menu that provides an easy way of navigation between multiple columns of the table. Click a blue downward arrow icon to open a menu with the following fields:

Screenshot: Advanced Search drop-down menu



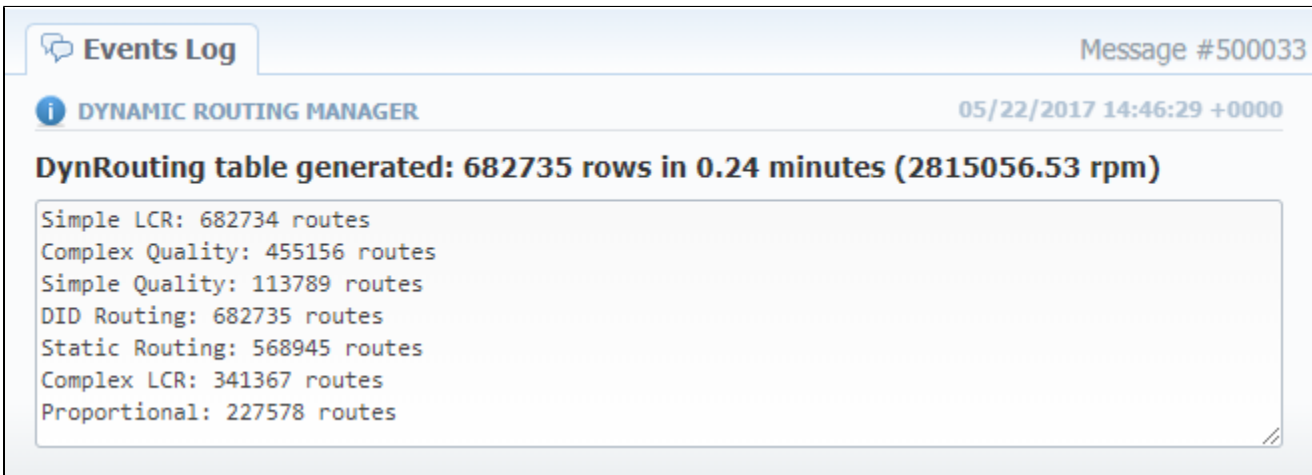
Field	Description
<b>Sender</b>	Select a respective <b>sender</b> from the given list. By default, the field value is <b>All</b> .
<b>Tags</b>	Select <b>one or multiple tags</b> from the provided list. By default, the field value is <b>All</b> .
<b>Type</b>	Specify a type of event: <b>error</b> , <b>alert</b> , or <b>message</b> . By default, the field value is <b>All</b> .
<b>Period, from:</b>	When search settings are applied, only events whose <b>Date</b> value <b>Period, from</b> value will be displayed
<b>Period, to:</b>	When search settings are applied, only events whose <b>Date</b> value <b>Period, to</b> 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 the event



### Configuration Tab

In the **Configuration** tab, you can create rules for email notifications about respective events within the system. The main window represents a set of rules, presented in the form of a table (screenshot below):

Screenshot: Configuration tab

Column Name	Description
<b>ID</b>	<b>Identification number</b> of the rule
<b>Title</b>	<b>Name</b> of the rule
<b>Emails</b>	List of <b>recipients' email addresses</b>
<b>Filters</b>	List of <b>services</b> and <b>types</b> of events added to the respective rule
<b>Group Limit</b>	<b>Number</b> of messages allowed to be sent <b>separately</b>

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

Button/Icon	Description
	Allows to add a new <b>rule</b> for <b>email notifications</b>
	Allows to <b>delete</b> an email notification <b>rule</b>

### Adding a new rule

For adding a new rule to the system, you need to click the **Add Rule** button. Following this, **Event Log** pop-up window will show up with respective settings (shown below):

Screenshot: *Event Log pop-up window*

Information Block	Field	Description
<b>General</b>		General information block consists of the following fields:

	<b>Title</b>	Name of the <b>rule</b> that will be put into the subject of the message
	<b>Emails</b>	Email addresses of the <b>recipient</b>
	<b>Group Limit</b>	The <b>boundary</b> to control the <b>number of messages</b> to be sent. If there are <b>more messages</b> available for delivery within one monitoring cycle <b>than the specified value</b> , they will be sent as a <b>single email</b> (set <b>0</b> to get all messages <b>separately</b> , or an <b>ultimate high</b> value to receive <b>grouped</b> messages).
	<b>Details Limit</b>	<b>Data</b> will be <b>limited</b> and cut to a specified <b>number of characters</b> in the grouped messages. By default, the field value is set to <b>300</b> .
<b>Filters</b>	Fill in this information block to make your rule <b>more detailed</b> and <b>precise</b> .	
	<b>Services</b>	<p>Specify billing services that will be included in this event rules.</p> <p><b>List of available services:</b></p> <ul style="list-style-type: none"> <li>• Backup Manager;</li> <li>• Balances Manager;</li> <li>• Cache Manager;</li> <li>• Calculator;</li> <li>• Calling Cards Manager;</li> <li>• Cleaner;</li> <li>• Email Rates Manager;</li> <li>• Dynamic Routing Manager;</li> <li>• Events Manager;</li> <li>• Factors Watcher;</li> <li>• Files Collector;</li> <li>• Files Downloader;</li> <li>• Files Upload Service;</li> <li>• Import Manager;</li> <li>• Invoicing Manager;</li> <li>• JSON-RPC Core API;</li> <li>• Log Rotator;</li> <li>• Jurisdiction Manager;</li> <li>• Mail Manager;</li> <li>• Notificator;</li> <li>• Packages Manager;</li> <li>• Payment Gateways;</li> <li>• Provisioning Manager;</li> <li>• RADIUS Server;</li> <li>• Rates Generator;</li> <li>• Rates Notificator;</li> <li>• Orig-Term Report Generator;</li> <li>• Reports Watcher;</li> <li>• SIP Redirect Server;</li> <li>• Statistics Manager;</li> <li>• Statistic meta info manager;</li> <li>• Swap Deals Manager;</li> <li>• System Services;</li> <li>• Traffic Rules Manager;</li> <li>• Web.</li> </ul>
	<b>Types</b>	Specify the category of events for the rule: <b>errors, messages, alerts</b>
	<b>Tags</b>	<p>Set <b>labels</b> that will be applied to filter the rule.</p> <p>List of the <b>available tags</b>:</p> <ul style="list-style-type: none"> <li>• <b>aaa</b> - includes all accounting tags: aaa.fraud; aaa.ident; aaa.ident.client; aaa.ident.rate; aaa.ident.service; aaa.routing; aaa.traffic_processing;</li> <li>• <b>api</b> - includes all API tags: api.core; api.core.jsonrpcd; api.management; api.provisioning;</li> <li>• <b>coreapi</b>;</li> <li>• <b>dids</b>;</li> <li>• <b>factors watcher</b>;</li> <li>• <b>packages</b> - includes all package tags: packages.nofunds;</li> <li>• <b>system</b> - includes all system tags: system.cluster; system.config; system.database; system.license; system.mail; system.monitoring; system.security; system.storage;</li> <li>• <b>transactions</b> - includes all transactions tags: transactions.charge;</li> </ul>

<b>RegEx p Match</b>	<b>Regular Expression Match</b> option to filter rules. Use <b>POSIX standart</b> 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 JeraSoft Billing 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
<b>Action Type</b>	Depending on the <b>type</b> of action, one of the following <b>icons</b> will be displayed in the columns: <ul style="list-style-type: none"> <li>•  - a new system item was <b>created</b></li> <li>•  - a system item was <b>edited</b></li> <li>•  - a system item was <b>deleted</b></li> </ul>
<b>Item</b>	System item ( <b>Client, Account, Reseller, Calling Card, DID Management</b> ) that a certain action was applied to
<b>Changes</b>	The list of <b>changes</b> with <b>detailed information</b> on what exactly was changed
<b>Modification Time</b>	<b>Data</b> and <b>time</b> of applied actions
<b>Called by</b>	<b>Action Name</b> ( <i>Account Creation, Client Removal, etc.</i> ) and <b>Service</b> that is responsible for a specific action
<b>User</b>	<b>Name</b> and <b>IP address</b> 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 downward 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	Modification			
Customer E	Last Invoiced: 2017-07-05 ← 2017-06-21	12/26/2017 12:15:29	+0000	Account Creation	Demo User
Customer E	Last Invoiced: 2017-06-21 ← 2017-06-07	12/26/2017 12:15:29	+0000	CoreAPI JSON-RPC	91.195.97.74
Customer E	Last Invoiced: 2017-06-07 ← 2017-05-24	12/26/2017 12:15:29	+0000		
Customer E	Last Invoiced: 2017-05-24 ← 2017-05-10	12/26/2017 12:15:29	+0000		
My Client	Role: both ← none	12/26/2017 12:15:29	+0000		

Item Type: Clients

Name:

Action: ▼

User: ▼

Period: Custom  –

Called By: ▼

Reset
Search

About 0.1353s
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Field	Description
<b>Item Type</b>	Select a respective <b>item type</b> from the given list: <ul style="list-style-type: none"> <li>Client</li> <li>Account</li> <li>Reseller</li> <li>Calling Card</li> <li>DID Management</li> </ul> By default, the field value is <b>Clients</b> .
<b>Name</b>	Insert a <b>name</b> of the respective item (e.g., <b>Customer A, 3439-005318618, etc.</b> )
<b>Action</b>	Choose a type of action: <b>Creation, Modification, or Removal</b>
<b>User</b>	When search settings are applied, only events whose <b>Date</b> value <b>Period, from</b> value will be displayed
<b>Period</b>	You can choose either Custom period (e.g., <b>Today, Last 7 Days, Last Month, This Year</b> ) or set an exact date and time with <b>Datepicker</b>
<b>Called by</b>	Select <b>Action Name</b> from the provided list: <ul style="list-style-type: none"> <li>Client Creation</li> <li>Client Modification</li> <li>Client Removal</li> <li>Full Client Removal</li> <li>Mass Client Modification</li> <li>Note Creation</li> <li>Forced Rate Notification</li> <li>Account Creation</li> <li>Account Modification</li> <li>Account Removal</li> <li>Reseller Creation</li> <li>Reseller Modification</li> <li>Reseller Removal</li> <li>Calling Card Creation</li> <li>Calling Card Modification</li> <li>Calling Card Removal</li> <li>DID Creation</li> <li>DID Modification</li> <li>DID Removal</li> <li>DID Import</li> <li>DID Mass Edit</li> <li>Invoice Creation</li> <li>Rate Table Creation</li> <li>Rate Table Modification</li> <li>Rate Table Removal</li> </ul>

**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 a 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 the 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
<b>ID</b>	Email's identification number
<b>To</b>	A recipient of the email
<b>Subject</b>	Subject of the letter on the list
<b>Type</b>	Certain type of email
<b>Created</b>	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 an attached file
	Allows deleting 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 downward arrow icon.

*Screenshot: Mail Queue search toolbar*

The screenshot shows a 'Mail Queue' window with a table of emails. A search filter overlay is visible on the right, containing three dropdown menus: 'Client', 'Type', and 'Status'. Below these are 'Reset' and 'Search' buttons. A red box highlights this filter area, and a red arrow points from the 'Subject' column of the email list 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	

Field	Description
<b>Client</b>	Type the name of a client that you want to filter by
<b>Type</b>	Select the type of mail: <ul style="list-style-type: none"> <li>• <b>Invoice</b></li> <li>• <b>Notify (Before)</b></li> <li>• <b>Notify (After)</b></li> <li>• <b>Low Balance</b></li> <li>• <b>Reports Watcher</b></li> <li>• <b>Rates Notificator</b></li> </ul>
<b>Status</b>	Choose a state of email: <ul style="list-style-type: none"> <li>• <b>In Queue</b></li> <li>• <b>Sent</b></li> </ul>

## 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
<b>To</b>	Full name and email address of <b>the recipient</b>
<b>From</b>	Full name and email address of <b>the sender</b>
<b>Created</b>	<b>Date and time</b> of email creation
<b>Subject</b>	<b>Subject</b> of the email letter
<b>Attached file (if any)</b>	If an email has the <b>attached file</b> , its <b>name</b> will be specified in the field. By clicking on it, the file will be <b>downloaded</b> to your computer
<b>Status</b>	Email status: <b>Sent</b> or <b>In Queue</b> . If the status is <b>Sent</b> , <b>time</b> and <b>date</b> when it was delivered will be specified
<b>Message</b>	<b>Body</b> 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

The screenshot shows the 'System Status' page for node 127.0.0.1. It features a 'MASTER' indicator in the top right. The system metrics section includes CPU Load (1%, 6%, 8%), Memory (1.8 GB total), and Uptime (2m 19d 17:26:16). A table of services lists RADIUS Server, SIP Redirect Server, Import Manager, and Rates Generator with their respective Uptime and PID. Below this is a table of Master Database Sessions with columns for PID, Application, Client IP, Session Duration, Query Duration, and Query. The footer includes 'About 0.1042s' and '© 2004-2021 JeraSoft. All Rights Reserved.'

Information Block	Column	Description
Node: [ip]	CPU Load	CPU utilization within 1 min, 5 min, and 15 min periods.
	Memory	Amount of <b>Total</b> Memory with breakout for <i>cache</i> , <i>shared</i> , and <i>available</i>
	Uptime	Current <b>uptime</b> of the system
	Last Ping	A timestamp of how long ago we received a ping from the server
	CPU	Number of Central Processing Unit <b>cores</b>
	UDP Buffers	List of UDP ports with queue size in incoming/outgoing queues
	Assigned IPs	Current server IP(s)
	Service	<b>Name</b> of the system service
	Uptime	Current <b>uptime</b> of the service
Master Database Sessions	PID	Database session process <b>ID</b>
	Application	<b>Name</b> of the application
	Client IP	IP of the server, accessing the Master database
	Session Duration	Session <b>duration</b>
	Query Duration	Query <b>duration</b>
	Query	Description of the <b>query</b>

The **section** allows a user to stop and restart services **manually** with the help of certain icons.

Icon	Description
	Allows to <b>restart</b> a service that is currently running
	Allows to <b>stop</b> a service

 **Attention**

Note that you **cannot** stop some processes via the **web interface**. To do so, you need to login on a server via **SSH** to stop them.

# System Services

## In this article

- [Utility Description](#)
- [Utility Management](#)

The **System Services** 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: *System Services* section

Status	Name	Schedule	Allowed Nodes	Run Groups	Last Run	In Queue
<b>Daemon Services</b>						
	RADIUS Server	---	Master Redundancy Reporting	---	1d 19:46:30 ago	---
	SIP Redirect Server	---	Master Redundancy Reporting	---	1d 19:46:30 ago	---
	Import Manager	---	Master	---	4d 00:47:57 ago	---
	Rates Generator	---	Master	---	30d 19:14:53 ago	---
<b>Periodical Services</b>						
	Cache Manager	↳ 6 min	Master Redundancy Reporting	---	1d 19:46:37 ago	---
	Calculator	↳ 6 min	Master	stats_processing	20d 20:38:41 ago	---
	Calling Cards Manager	↳ 60 min	Master	---	---	---
	Dynamic Routing Manager	↳ 60 min	Master	---	8d 21:30:18 ago	---
	Email Rates Manager	↳ 5 min	Master	---	4d 00:50:59 ago	---
	Events Manager	↳ 5 min	Master	---	2d 01:30:55 ago	---
	Provisioning Manager	↳ 5 min	Master	---	2d 01:19:19 ago	---
	Factors Watcher	↳ 5 min	Master	factors	---	---
	Files Collector	↳ 10 min	Master	stats_processing	---	---
	Files Downloader	↳ 5 min	Master	---	---	---
	Invoicing Manager	↳ 60 min	Master	---	---	---
	Mail Manager	↳ 5 min	Master	---	2d 01:20:28 ago	---
	Statistics meta info manager	↳ 5 min	Master	---	---	---
	Notifier	↳ 60 min	Master	---	---	---
	Packages Manager	↳ 10 min	Master	---	---	---
	Rates Notifier	↳ 5 min	Master	---	3d 21:13:12 ago	---
	Orig-Term Report Generator	↳ 16 min	Master	---	27d 23:03:54 ago	---
	Reports Watcher	↳ 6 min	Master	---	10d 20:41:51 ago	---
	Statistics Manager	↳ 60 min	Master	stats_processing	---	---
	Swap Deals Manager	↳ 60 min	Master	---	---	---
	Traffic Rules Manager	↳ 6 min	Master	---	8d 16:07:38 ago	---
<b>Fixed Time Services</b>						
	Backup Manager	@ 05:30	Master	factors stats_processing	---	---
	Balances Manager	@ 03:20	Master	---	---	---
	Cleaner	@ 01:20	Master Redundancy Reporting	---	---	---
	Jurisdiction Manager	@ 00:20	Master	---	---	---
	Log Rotator	@ 01:10	Master Redundancy Reporting	---	---	---

Column Name	Description
<b>Status</b>	<p><b>Status</b> of the utility. Depending on the icon, the status can be either  <b>enabled</b> or  <b>disabled</b>.</p> <p>To change a utility status, click on the utility name in the table.</p>
<b>Name</b>	<p><b>Name</b> of the utility. The full list of system utilities with their descriptions is provided in a table below</p>
<b>Schedule</b>	<p><b>Periodicity</b> at which each utility is run. <b>Daemon</b> services don't have a schedule, <b>Periodic</b> are run in a defined period, <b>Fixed Time</b> - at predefined timeslots.</p> <p>By clicking the <b>Run utility</b>  icon, you <b>manually</b> start this utility regardless of its <b>Schedule</b> column value (doesn't work for <b>Daemon Services</b>).</p>
<b>Allowed Nodes</b>	<p><b>Nodes</b>, at which the service is allowed to run. This parameter is configured only during deployment and is not allowed to be changed by the user</p>
<b>Run Groups</b>	<p><b>Run Groups</b> define, which services may not run in parallel with others. If two services have intersecting groups, the system will not run them simultaneously and will put one of the services in queue</p>
<b>Last Run</b>	<p><b>Time</b> and <b>date</b> when the <b>last run</b> was initiated</p>
<b>In Queue</b>	<p>If the utility is run manually, <b>time</b> and <b>date</b> when its launch was initiated will be specified in the column</p>

## Utility Description

Group Name	Utility Name	Description
------------	--------------	-------------

<b>Daemon Services</b>	These utilities do not have a schedule and are automatically run by the system when active	
	<b>RADIUS Server</b>	RADIUS server process
	<b>SIP Redirect Server</b>	SIP Redirect server process
	<b>Import Manager</b>	Manages rates import process
	<b>Rates Generator</b>	Utility that generates rates, both manually and automatically
<b>Periodical Services</b>	These utilities are run with a defined period in minutes. The period can be up to 60 minutes	
	<b>Cache Manager</b>	Cache Manager process whose main function is to monitor and include client-related changes for RADIUS and SIP Redirect continuously
	<b>Calculator</b>	Utility that processes all data collected from xDR-files
	<b>Calling Card Manager</b>	<i>Calling Cards</i> manager process
	<b>Dynamic Routing Manager</b>	Utility that creates routing tables used in Dynamic Routing feature
	<b>Email Rates Manager</b>	Utility that imports rate tables updates from emails
	<b>Events Manager</b>	Process that sends events to emails according to <i>Events Config</i>
	<b>Provisioning Manager</b>	Utility that processes events asynchronously
	<b>Factors Watcher</b>	Utility that controls the <i>Factors Watcher</i> tool
	<b>Files Collector</b>	Utility that controls file collectors
	<b>Files Downloader</b>	Utility that automatically downloads xDR-files from switch host
	<b>Invoicing Manager</b>	Utility that manages the autoinvoicing feature
	<b>Mail Manager</b>	Sends emails from mail queue (invoices, notifications, etc.)
	<b>Statistics meta info manager</b>	Gathers meta-information about collected statistics
	<b>Notificator</b>	Notifies in case of a low balance or HDD space events
	<b>Packages Manager</b>	Utility that manages your packages
	<b>Rates Notificator</b>	Utility that notifies clients about rate changes
	<b>Orig-Term Report Generator</b>	Utility that manages data generation for Orig-Term Report
	<b>Reports Watcher</b>	Utility that sends generated statistic reports by the scheduled time
	<b>Statistics Manager</b>	Utility that manages statistics packages
<b>Swap Deals Manager</b>	Caches statistics for Swap Deals module, analysis and notifications	
<b>Traffic Rules Manager</b>	Utility that manages all traffic rules in the system	
<b>Fixed Time Services</b>	These utilities are run at predefined timeslots	
	<b>Backup Manager</b>	Utility that manages system backup processes
	<b>Balances Manager</b>	Creates automatic charges
	<b>Cleaner</b>	Utility that automatically cleans old messages from the <i>Events Log</i> section
	<b>Jurisdiction Manager</b>	Generates jurisdiction table from LERG/TMP data sources for US routing
	<b>Log Rotator</b>	Utility that controls log-files

 **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 a second account to a customer, then that change will be effective instantly.

# Utility Management

You can always configure the run time of any periodical or fixed time utility by clicking a respective name. A pop-up window for utility management has the following structure (see screenshots below):

Screenshot: Periodical service editing

Field	Description
<b>Name</b>	Name of the utility
<b>Status</b>	Status of the utility: <ul style="list-style-type: none"> <li>• <b>Enabled</b></li> <li>• <b>Disabled</b></li> </ul>
<b>Schedule</b>	Set <b>Periodical</b> to define periodicity further
<b>Period</b>	Define run <b>period</b> for the utility. It can not be more than 60 minutes. If you want to use a longer period - use fixed time instead
<b>align to</b>	Align time is used to distribute services running in the same periods. For example, if a <b>period</b> is set to 5 min and <b>align to</b> is 2, service will be run at XX:02, XX:07, XX:12 and so on

Screenshot: Fixed time service editing

Field	Description
<b>Name</b>	Name of the utility
<b>Status</b>	Status of the utility: <ul style="list-style-type: none"> <li>• <b>Enabled</b></li> <li>• <b>Disabled</b></li> </ul>
<b>Schedule</b>	Set <b>Fixed Time</b> to define a specific run timeslot further



***Run at***

Set the time to run a utility. You can define multiple times here. The time should be given in system timezone

# Users

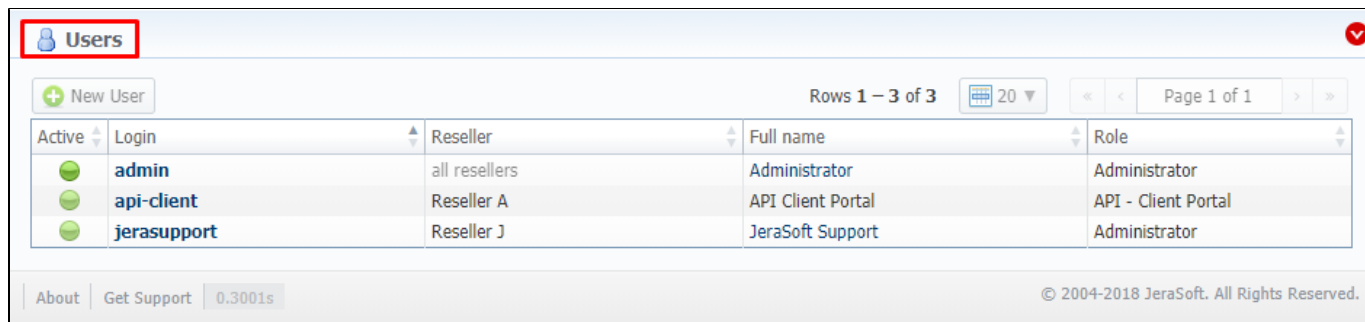
## In this article

- [Section overview](#)
- [Advanced Search](#)
- [Adding a New User](#)

## Section overview

**Users** is a core section that provides an overview of all registered users in the system. The section allows to **create**, **edit**, and **disable** existing users. The list of users is presented in the form of a table with the following columns:

*Screenshot: Users section*



Column	Description
<b>Active</b>	User's <b>status</b> . Depending on the icon, the status can be either <b>active</b> or <b>disabled</b> .
<b>Login</b>	User's <b>account name</b>
<b>Reseller</b>	Name of a <b>company</b> whom this user belongs to
<b>Full Name</b>	<b>Mailto links</b> of users (if specified in the user's account)
<b>Role</b>	User's role that determines the <b>access level</b> or <b>permissions</b>

### Tip

If your role implies relevant permits, by clicking on a status icon in the **Active** column, you can **change the user's status** from **active** to **disabled** and vice versa

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

Button/Icon	Description
	Allows <b>creating</b> a new user
	Opens an <b>Advanced Search</b> 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*

Login:   
 Reseller:   
 Role:   
 Active:

Field	Description
<b>Login</b>	Specify a desired <b>user's login</b>
<b>Reseller</b>	Select from the list of all <b>Resellers, Sub-resellers and Managers</b> registered in the system
<b>Role</b>	Select from the list of existing <b>system roles</b>
<b>Active</b>	Specify whether the user's <b>status</b> 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 new users:

- 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

**Users**  
 Login:   
 Password:   
 Role:   
 Status:   


---

 Full Name:   
 Email:   
 Locale:   
 Timezone:   


---

 Reseller:   
 CoreAPI Token:   


---

 Allowed IPs:

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

<b>Login</b>	Specify a user's <b>login</b> .
<b>Password</b>	Define a <b>password</b>
<b>Role</b>	Select a <b>role</b> for a user from a drop-down list
<b>Disabled checkbox</b>	Check if you need to <b>prevent</b> a user temporary from having <b>access</b> to the system
<b>Full Name</b>	Enter a <b>user's name</b> . Note that if a user's email is specified, full name in the section serves as a <b>mailto link</b> .
<b>Email</b>	Specify a user's <b>email</b>
<b>Locale</b>	Define a language for a user, and it will be used instead of the system one for displaying all dates, reports, etc. If not specified, the system settings are taken.
<b>Timezone</b>	Define a timezone for a user, and it will be used instead of the system one for displaying all dates, reports, etc. If not specified, the system settings are taken.
<b>Reseller</b>	Specify a reseller, sub-reseller or manager a user <b>belongs</b> to
<b>CoreAPI Token</b>	This field <b>cannot</b> be specified in the creation form. CoreAPI Token is <b>automatically generated</b> by the system after a user is created
<b>Allowed IPs</b>	Enter <b>IPs</b> or <b>subnets</b> , one record per line, i.e. the user will have access to the system only if he/she logs in via specified IPs

 **Attention**

While creating a new user, bear 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

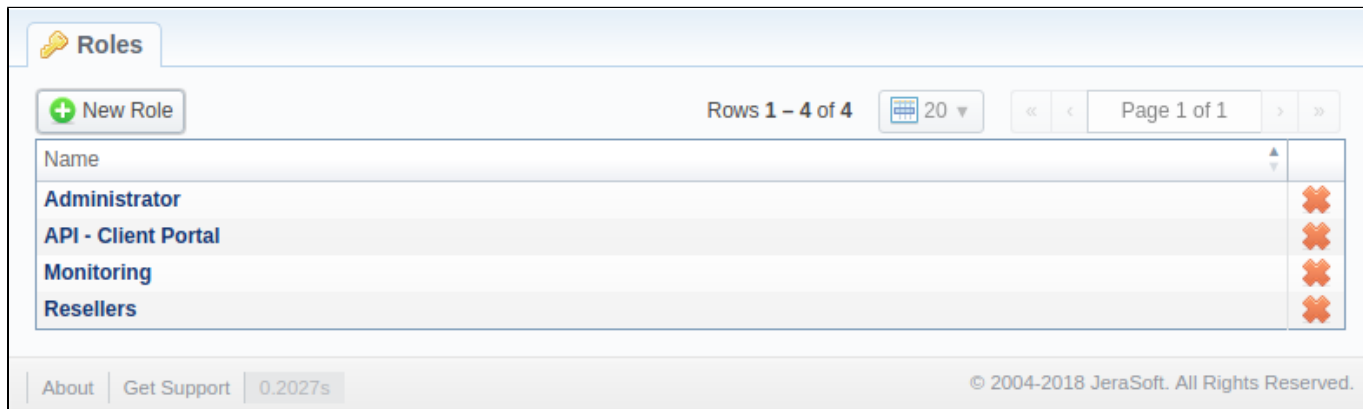
- [Roles List](#)
- [Adding a New Role](#)
- [Knowledge Base Articles](#)

## 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 JeraSoft Billing.

*Screenshot: Roles section*



Name	
<b>Administrator</b>	
<b>API - Client Portal</b>	
<b>Monitoring</b>	
<b>Resellers</b>	

## 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 a 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
<b>Read</b>	Allows/forbids a user to view information presented in a section
<b>Write</b>	Allows/forbids a user to create, edit, and delete information presented in a section
<b>Execute</b>	Allows/forbids a user to execute system services in a section
<b>Full Delete</b>	Allows/forbids a user to perform full deletion of entities in a section
<b>Billing Data</b>	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 Billing via API. It has a user-friendly interface and is tailored for your clients to manage the 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 a starting point for your own development or as a reference and example.

## Tip

Starting from the **JeraSoft 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 JeraSoft Billing database and provides a more secure approach.

### 2. Can be hosted separately

You can move the Client Panel to other server and just configure JeraSoft Billing IP address in the API settings. As a result, you can fully isolate JeraSoft Billing 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 the development of your own panel.

More details about Client Panel can be found in the following articles:

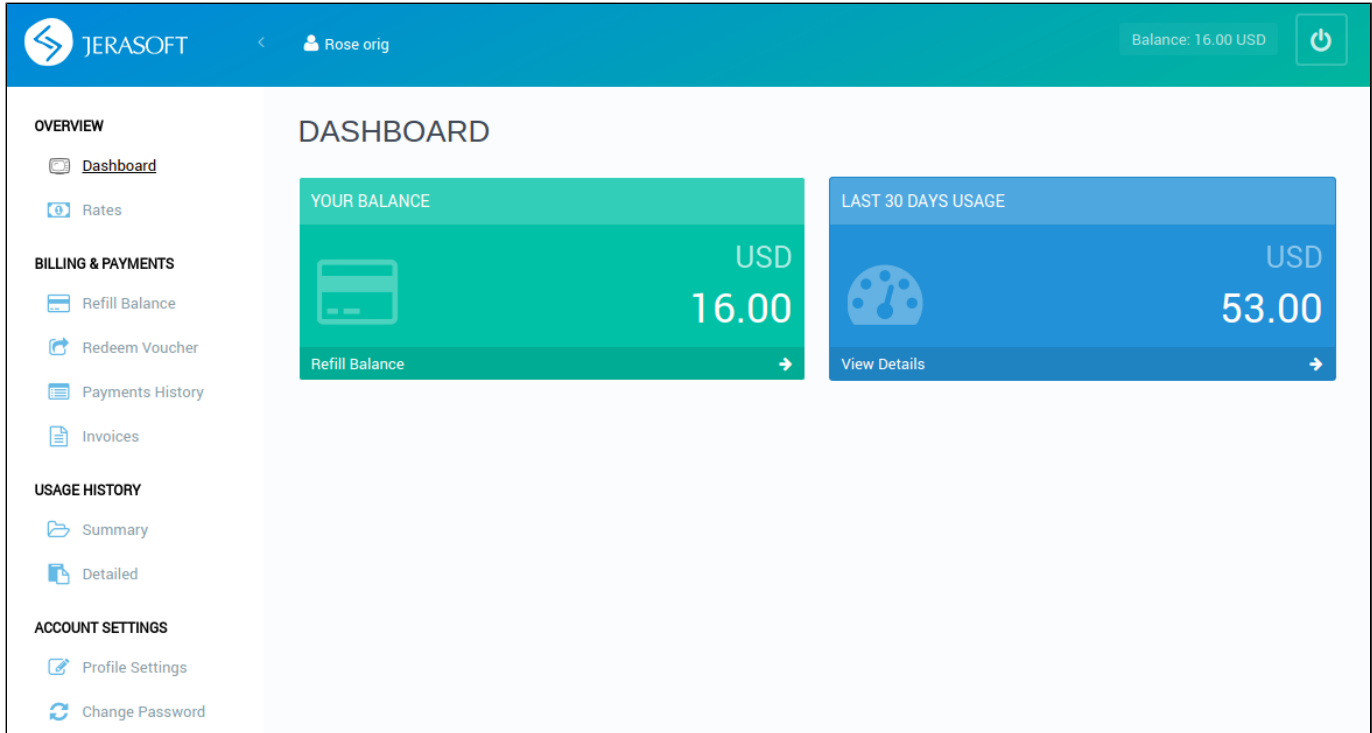
- [Panel Features](#)
- [Panel Deployment](#)
- [Panel Configuration](#)
- [Panel Access](#)
- [Panel Customization](#)



# 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 the 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, the **Client Panel** supports **PayPal** and **Authorize.net** service providers.
- **Redeem Voucher** - allows the 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 the user with a possibility to download them.

## Usage History

- **Summary** - grants the user a possibility to view the 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 the user to update the profile settings, including company name, billing email, address, registration, and tax IDs.
- **Change Password** - allows the 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 the 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.

### Important!

All provided examples assume usage of the **separate server** (not the one, where JeraSoft Billing is installed). Applying these changes to your JeraSoft Billing server **may break** your system.

Command and config examples given for 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, the next crucial step is to configure it, and in particular, **set panel domain name** and **obtain an 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 EECDH+ECDSA+AESGCM:EECDH+aRSA+AESGCM:EECDH+ECDSA+SHA512:EECDH+ECDSA+SHA384:EECDH+ECDSA+SHA256:
ECDH+AESGCM:ECDH+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 EECDH+ECDSA+AESGCM:EECDH+aRSA+AESGCM:EECDH+ECDSA+SHA512:EECDH+ECDSA+SHA384:EECDH+ECDSA+SHA256:
ECDH+AESGCM:ECDH+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 the panel domain name is set, you need to obtain a 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 the respective provider manual to deploy certificates.

## Billing Firewall Configuration

The last stage of the deployment is to configure the **firewall on the billing servers**. In order to permit requests from panel proxy server to your JeraSoft Billing 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](#)
- [Per Reseller Configuration](#)
- [Configuration Options](#)
  - [General Settings](#)
  - [Output Formatting](#)
  - [Date and Time Formatting](#)
  - [Payment Gateways: PayPal](#)
  - [Payment Gateways: Authorize.Net](#)
  - [Section: Charges History & Payments History](#)
  - [Section: Usage History / Detailed](#)
  - [Section: Usage History / Summary](#)
  - [Additional Settings](#)

## Configuration File

The next step is to tune Client Panel settings. If you are using default deployment, the configuration is located at `/opt/jerasoft/vcs-data/conf/cp-customer-params.json`. If you are moving the panel to the other host, the file should be located in `<YOUR-PATH>/portal-backend/config/customer-params.json`.

During the installation process, the file is pre-created with all general settings like billing credentials, tokens, etc. At the same time there is a set of parameters that can be configured like:

- Payment gateway credentials
- Default locale and output settings
- Date and time formatting options
- Rates and costs rounding

To simplify the process, your deployment provides the `/opt/jerasoft/vcs/portal-backend/config/customer-params.default.json` file. This file has all the available settings with their default values. You do not need to change this file, it is provided as a reference.

### Warning

Do not edit default configuration at `/opt/jerasoft/vcs/portal-backend/config/customer-params.default.json`. If you need to change configuration parameters just add them to `/opt/jerasoft/vcs-data/conf/cp-customer-params.json`.

## Per Reseller Configuration

The structure of your configuration file allows you to have different settings for different **Resellers** in the system. By default, the file contains a single section called **"default"** with all custom settings. If you want to have multiple Client Panels (for example, separated by domain names), you need to add another section with a simple distinguishable name and put all related settings in this section. The name may consist of Latin characters, numbers, minus and underscore characters.

After that, you need to pass this name from your web-server to the panel using FastCGI parameter called **"CONFIG\_ID"**. It will tell panel which part of config to read to display a related Client Panel. If you are using **nginx** as your web server, use the following statement to pass the parameters:

### Ngix Config

```
fastcgi_param CONFIG_ID "special";
```

Additionally, in the admin panel of the billing system, you'll need to add a **User** for each Reseller in the SystemUsers section. For each such user, set the **API - Client Portal Role**. From settings set up there, you will also get a login, password, and CoreAPI token values for the `customer-params.json` file.

### Attention

Please note that for correct work each Reseller has to have its own separate redis databases (**redisMain** and **redisCache** are at db 1 and 2 respectively by default). **Redis** instance supports 16 databases (0-15 in numeric values) by default. You can increase the number of available databases in Redis config if needed.

## Configuration Options

As mentioned above, you can use `/opt/jerasoft/vcs/portal-backend/config/customer-params.default.json` file as a reference for all available parameters. The table below describes each of them. Please put all settings into your config file and do not change `customer-params.default.json` as it will be overwritten on the system update.

## General Settings

Setting Name	Description	Example
<b>amountOptions</b>	Array of available amounts for a top-up in the list to select.	[5, 20, 50, 100]
<b>billingUrl</b>	URL of the billing system. As it is accessible from the Client Panel host	"https://127.0.0.1"
<b>companiesId</b>	ID of the <b>Reseller</b> for the Client Panel	3
<b>currenciesId</b>	Currency ID (as per your system configuration) for the payments received from the specific Payment Gateway. Required.	2
<b>currencyCode</b>	Currency code of the Payment Gateway to charge payments in (declared by the gateway itself).	USD
<b>logFile</b>	Path to the Client Panel log file	"/opt/jerasoft/vcs-data/log/cp.log"
<b>openedEndpoint</b>	URL of the Client Panel (without "/" at the end). This URL will be used to return clients to after processing of the payment by the <b>Payment Gateways</b>	"http://127.0.0.1"
<b>coreApi.url</b>	URL of the Core API service	"http://127.0.0.1:3080"
<b>coreApi.authToken</b>	Authorization token for the Core API service. You can get this token in the <b>System/Users</b> section	"PW2Ln6PSS3vpmmZrCQBV5of2N07jJbcU"
<b>managementApi.url</b>	URL of the Management API	"https://127.0.0.1/jsonrpc"
<b>managementApi.login</b>	Login of the user used for the integration. You need to have a dedicated user for the integration, use the same user for the Core API service and Management API	"api-client-portal"
<b>managementApi.password</b>	Password of the user used for the integration	"aqGW31oxHag8"
<b>paymentAccountsId</b>	Payment Account's ID as per your system configuration.	1

## Output Formatting

The following settings are located under **"defaults"** key of the configuration file.

Setting Name	Description	Example
<b>locale</b>	Default locale to start with. Available settings: en, ru	"en"
<b>perPage</b>	Quantity of rows to display per page. Allowed values: an integer from 1 to 1000	10
<b>roundRates</b>	Quantity of digits after the decimal point for display of rates. Allowed values: an integer from 0 to 16	4
<b>roundAmounts</b>	Quantity of digits after the decimal point for display of amounts. Allowed values: an integer from 0 to 16	2

## Date and Time Formatting

The following settings are located under **"dateTimeConfig"** key of the configuration file. Please refer to [the following guide](#) for a list of possible values.

Date and Time Formatting [section: <a href="#">dateTimeConfig</a> ]		
Setting Name	Description	Example

<b>monthFormat</b>	Format string to display "Month Year" strings	"F Y"
<b>dateFormat</b>	Format string to display dates	"m/d/Y"
<b>dateTimeFormat</b>	Format string to display dates with time	"m/d/Y, h:i A"

## Payment Gateways: PayPal

The following settings are located under "**paymentGateways.paypal**" key of the configuration file. Check your PayPal panel for the required parameters. [Get more details.](#)

Setting Name	Description	Example
<b>enabled</b>	Defines if the payment gateway is enabled. Allowed values: true, false. Do not forget to enable gateway in the respective section of the billing system	true
<b>sandbox</b>	Defines if the Sandbox mode is enabled. Allowed values: true, false	false
<b>allowCustom</b>	Defines if the custom amount payments are allowed. Allowed values: true, false	true
<b>clientId</b>	PayPal Client ID	test@example.org
<b>feesPayer</b>	Describes who pays fees for the transaction. Allowed values: provider, client	provider
<b>clientSecret</b>	PayPal Client Secret Key	
<b>itemName</b>	Item name displayed in the PayPal order	"Credit Your Balance Item"
<b>orderDescription</b>	Order description displayed in the PayPal	"Credit Your Balance"
<b>currenciesId</b>	Currency ID	26
<b>currencyCode</b>	Name of currency	"USD"

## Payment Gateways: Authorize.Net

The following settings are located under "**paymentGateways.authorizenet**" key of the configuration file. Check your Authorize.Net panel for the required parameters. [Get more details.](#)

Setting Name	Description	Example
<b>enabled</b>	Defines if the payment gateway is enabled. Allowed values: true, false. Do not forget to enable gateway in the respective section of the billing system	true
<b>sandbox</b>	Defines if the Sandbox mode is enabled. Allowed values: true, false	false
<b>allowCustom</b>	Defines if the custom amount payments are allowed. Allowed values: true, false	true
<b>apiLoginId</b>	Authorize.Net API Login ID	
<b>apiTransactionKey</b>	Authorize.Net API Transaction Key	
<b>apiSignatureKey</b>	Authorize.Net API Signature Key	

**Attention**

Payment Gateways integration requires a proper domain name and real SSL certificate. Please check the [Panel Deployment](#) guideline to get more information.

**Section: Charges History & Payments History**

The following settings are located under "**modules.transactionList**" key of the configuration file.

Setting Name	Description	Example
<b>dateRangeDefault</b>	Default dates range in the filter, in days. Allowed values: an integer from 1 to 90	30

**Section: Usage History / Detailed**

The following settings are located under "**modules.reportXdrs**" key of the configuration file.

Setting Name	Description	Example
<b>queryOnOpen</b>	Defines if the report should be run right after section open. If set to <b>false</b> , the user will have to hit <b>Query</b> to get the report. Use this option if you have plenty of data to load. Allowed values: true, false	true
<b>dateRangeDefault</b>	Default dates range in the filter, in days. Allowed values: integer 1 to 90	3
<b>columns</b>	List of columns to display. Allowed values: origin, dt, accounts_name, cc_serial, clients_tags, accounts_tags, tags, code_country, code_name, code, src_code_country, src_code_name, src_code, volume, volume_billed, package_volume, package_credit, packages_id, packages_name, currencies_id, pay_setup, cost, rate, taxes, subscriber_host, subscriber_id, result_code, result_status, switch_code, start_time, connect_time, finish_time, pdd, scd, src_party_id, dst_party_id, src_party_id_ext, dst_party_id_ext, src_party_id_bill, dst_party_id_bill, voip_hosts_id, voip_hosts_name, voip_hosts_collectors_id, services_name, units_id, session_id, x_id, xdrs_id, uniq_id, custom, xdrs_extra, status	[ "origin", "src_party_id" ]

**Section: Usage History / Summary**

The following settings are located under "**modules.reportSummary**" key of the configuration file.

Setting Name	Description	Example
<b>queryOnOpen</b>	Defines if the report should be run right after section open. If set to <b>false</b> , the user will have to hit <b>Query</b> to get the report. Use this option if you have plenty of data to load. Allowed values: true, false	true
<b>dateRangeDefault</b>	Default dates range in the filter, in days. Allowed values: integer 1 to 180	90
<b>columns</b>	List of columns to display. Allowed values: origin, services_name, units_id, currencies_id, cost_total, pay_setup_cost, rate_avg, package_credit, volume_total, volume_billed, package_volume, records_total, records_notzero, records_success, records_busy, records_nochannel, records_error, asr_std, asr_cur, acd_std, acd_cur, pdd_avg, scd_avg	[ "origin", "service_s_name" ]

**Additional Settings**

The following settings are located at the top level of the configuration section.

Setting Name	Description	Example
<b>redisMain.hostname</b>	The hostname or IP address to use for connecting to the Redis server.	"localhost"
<b>redisMain.port</b>	The port to use for connecting to the Redis server.	6379
<b>redisMain.database</b>	The Redis database to use.	1
<b>redisCache.hostname</b>	The hostname or IP address to use for connecting to the Redis server.	"localhost"



<b>redisCache.port</b>	The port to use for connecting to the Redis server.	6379
<b>redisCache.database</b>	The Redis database to use.	2

# Panel Access

Access to the panel for your customers is configured in a respective customer's properties of JeraSoft Billing 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 JeraSoft Billing upgrade**.

## Functional customization

If you wish to tune panel in more details (for example add or remove features) you can just copy source code to another server and modify it. Do not modify code at default deployment location, otherwise, all the changes made will be removed during the system upgrade.

The panel consists of two parts:

- **Frontend** - responsible for the user interface (style, formatting, and logic)
  - Development Stack: JS/Angular, CSS/Bootstrap
  - Located at /opt/jerasoft/vcs/portal-frontend/
- **Backend** - responsible for serving data between system API and Frontend
  - Development Stack: PHP/Yii2, Swagger
  - Located at /opt/jerasoft/vcs/portal-backend/

These both parts have to be copied to a dedicated server if you would like to make any modifications in how Client Panel looks and works. Both parts come with all source code, which you can use as a starting point for your development or as a reference guide to developing your own portal from scratch.

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 an example of functional implementation.

# 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](#)

This section describes **shell tools** required for management of the system at the very system level. All these tools are shipped with the JeraSoft Billing 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 the given tools require **root** access and show inline help when running 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 JeraSoft Billing system, we introduce the **<VCS\_PATH>** variable that differs depending on the JeraSoft Billing 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 JeraSoft Billing to check **minimal hardware and software requirements**. At this stage you may download the tool separately from the JeraSoft Billing.
2. After installation of the JeraSoft Billing to check **security recommendations**. Usually you need to tune your firewall settings according to the [JeraSoft Billing 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 JeraSoft Billing Services**. It allows to correctly start, stop, get status of the JeraSoft Billing 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 a list of the services at your system.
<action>	Action to perform, one of the following: <ul style="list-style-type: none"> <li>• <i>start</i> - start the service</li> <li>• <i>stop</i> - stop the service</li> <li>• <i>restart</i> - stop and then start the service</li> <li>• <i>reload</i> - force config re-read without restart</li> <li>• <i>status</i> - return current status of the tool</li> </ul>

Additionally, you may pass the next options:

Option	Description
--path=<path>	Specify the JeraSoft Billing location. Only if different from <VCS_PATH>
--user=<user>	Specify user the JeraSoft Billing 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 analyzing 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 a slave to master, etc.

**Usage**

```
<VCS_PATH>/bin/cluster <command> [<options>]
```

The tool requires "root" permissions. Cluster Manager takes command as a mandatory argument and additional options. Some of the 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 the master system	autodetect
--vcs-path=<path>	Path to the JeraSoft Billing 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 a 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
--ssh-port=<port>	SSH Port at the slave server	22
--username=<login>	Login to the slave server	jerasupport

<code>--data=&lt;path&gt;</code>	PostgreSQL data path on the slave system	same as master
<code>--vcs-path=&lt;path&gt;</code>	Path to the JeraSoft Billing on Slave	<VCS_PATH>
<code>--role=&lt;role&gt;</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 the 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 a new *Slave* using "*init*" command.

### ⚠ Attention

In case when you have more than 2 nodes in the 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 the command is run on the *Master*, it shows the 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 the command is run on the *Slave*, it shows the 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 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.



# APIs

This section of our Guide contains detailed information about **JeraSoft Billing API** that lets you integrate 3rd party applications with the JeraSoft Billing platform or develop your own tools on top of it. The API makes it easy to get data in and out of the JeraSoft Billing. 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](#)
- [Provisioning API](#)
- [Management API](#)

# CoreAPI

## Tip

For more specific JeraSoft Billing module description, click [here](#).

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, **JeraSoft Billing Core API** and **Management API** provide utilities needed to receive requests from external systems. Now, you can configure the JeraSoft 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
-------	--------

<b>Clients</b>	<ul style="list-style-type: none"><li>• create</li><li>• update</li><li>• delete</li><li>• archive</li><li>• custom fields update</li><li>• balance became &gt;=0</li><li>• balance became &lt;=0</li></ul>
<b>Accounts</b>	<ul style="list-style-type: none"><li>• create</li><li>• update</li><li>• delete</li></ul>
<b>Clients Packages</b>	<ul style="list-style-type: none"><li>• assign</li><li>• activate</li><li>• deactivate</li><li>• renew</li><li>• close</li></ul>

 **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 JeraSoft Billing 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 the **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 the rest of the world is blocked by the firewall. You can get more details about it in the JeraSoft Billing First Steps.

## Authentication

To make any request to the API, you need to **authenticate** using login and password.

We strongly recommend having a **separate API account** for each application you make calls from. Besides this, we recommend having a 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	clients.editForm
Arguments	List of arguments for the method call	<pre>id_clients = 11 auth[login] = admin auth[password] = password</pre>

## 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 the method	<pre>[client] =&gt; Array (   [id] =&gt; 11   [id_companies] =&gt; 3   [type] =&gt; 0   [name] =&gt; Customer A   [groups] =&gt; Customers   [c_dt] =&gt; 2013-03-30 16:26:15+03   [status] =&gt; active   [credit] =&gt; 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 the 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**

The JeraSoft team may modify the attributes and methods related to the Management API usage from time to time without advance notice.