

USER GUIDE

FOR VERSION 3.23

www.jerasoft.net



JeraSoft Billing 3.23

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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
- RoutingConfiguration
- 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 *clie nts, 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

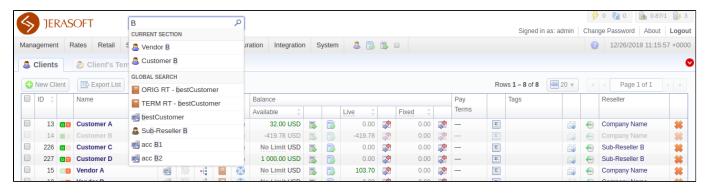


This search bar displays two parts of results: from the *current section* and *global search* in the system. Therefore, it shows a drop-down list with 10 first items matching your keyword from the current section and from a whole system at all (see screenshot below).



- 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



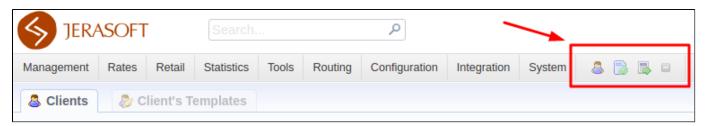
Several JeraSoft Billing sections have advanced search settings. To open these settings, click on downwards arrow icon on the toolbar of a respective section. Red downwards arrow icon on the toolbar means that the data is sorted by default (see screenshot above).

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 a 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

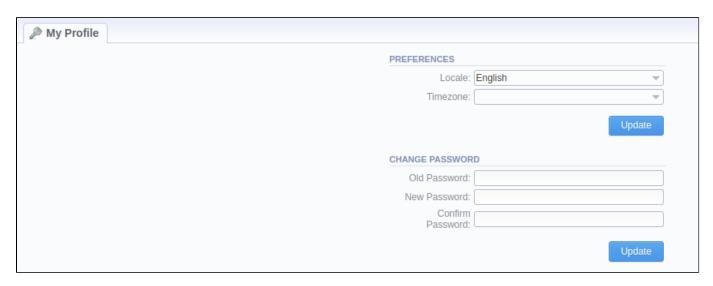


lcon	Description
8	CDR queue
<u>65</u>	CDRs in queue for rerating
	CDRs in queue for parsing
1	Information about system alerts
a	Load average on server / Number of CPU cores
3	Number of running billing services
2	Shortcut to a relevant article regarding certain section on Documentation Portal

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



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

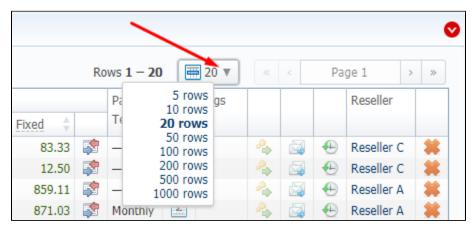
To provide the user with relevant information about the system, Page Load Time is displayed in the bottom-left corner of any page next to About button.



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).

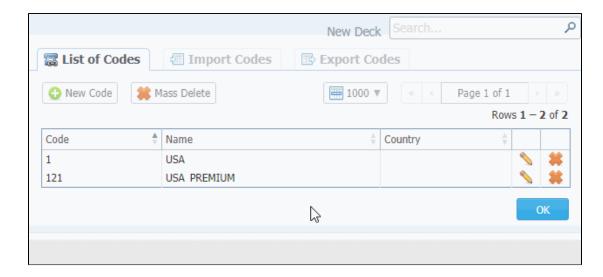
Screenshot: Rows Per Page dropdown button



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



Column Name	Description	
ID	Client's identification	ation number
Name	Client's name	
Balance	Client's balance	values
	Available	'Live' client's balance including allowed credit
	• Live	Client's balance calculated on the basis of the performed payments and processed calls
	• Fixed	Client's balance calculated on the basis of the outstanding invoices and performed payments
Pay Terms	Payment terms of each client	
Tags	List of tags, applied to a client	
Reseller	Name of reseller's company respective client belongs to	

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



Mass Edit	Allows managing the last invoice date of a client		
0 1	Identifies the Orig client		
o T	Identifies the Term client		
OI	Identifies the Orig/Term client		
<u></u>	Allows accessing the list of client's a	accounts in the Accounts section (an icon will be colored if an account is assigned)	
<u> </u>	Allows accessing the client's current	t routing plan (an icon will be colored if the plan is assigned)	
•{=	Allows accessing the Traffic Proces	ssing section for dynamic routing management	
	Allows viewing client's rates (an icor	n will be colored if a rate table is assigned)	
	• ORIG	Rate tables for origination calls	
	• TERM	Rate tables for termination calls	
※	Allows accessing the Subscriptions section for new clients packages management		
	Allows accessing the Transactions section for client's balance management		
3	Allows accessing the Invoices section for client's invoices management		
\$	Allows accessing the Balance Report section for client's balance report (Live or Fixed) management (last 7 days of statistics)		
	Allows accessing the Summary Report section for client's summary report management (last 7 days of statistics)		
	Allows accessing the Mail Queue section to view sent emails history		
•	Allows accessing the Audit Log section to view change history		
*	Allows deleting a client from the system		

Warning

When you **delete the client** by changing the status to **deleted** or clicking a respective icon **t**, 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

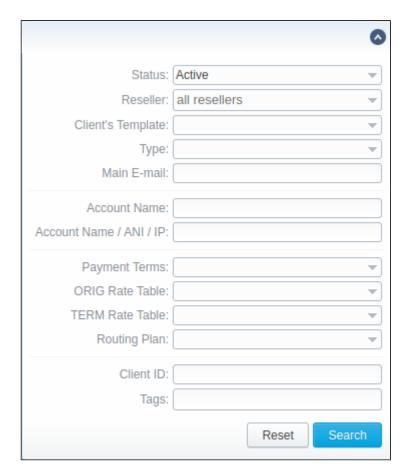
- If the prepaid mode is enabled, calls will be subject to balance check on a stage of call authorization (when RADIUS Authorization is used). If the postpaid mode is enabled, calls duration will be limited to *Max all length* setting in **Configuration > Settings**.
- the postpaid mode is enabled, calls 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 cicon (cli ents in the section are filtered by **Active** status by default), the following drop-down menu is displayed:

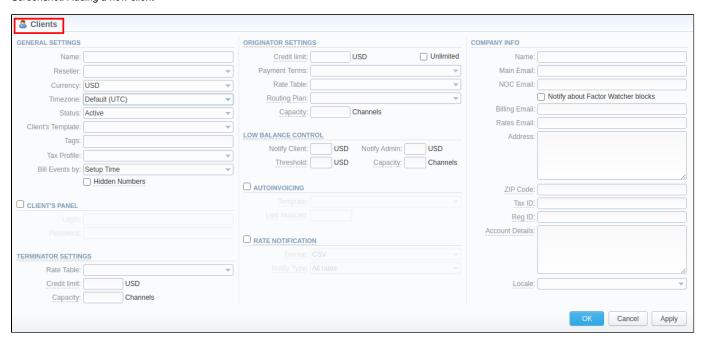
Screenshot: Advanced Search drop-down menu



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



Information block	Fields & Description			
General	General information about the client			
Settings	• Name	Indicate a client's name		
	• Reseller	Select a reseller new client belongs to (this name will be used in invoices)		
	• Currency	Define preferred currency (will be used in invoices)		
	• Timezone	Choose the timezone from the drop-down list of all available. This timezone will be used in invoices by default. UTC is a default parameter for a timezone		
		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.		
		Select a respective status for the client:		
	• Status	activestopdeleted		
	• Client's Template	Here you can apply the required template from the list to a new customer		
	• Tags	You can indicate tag(s) here that will be applied to a new customer. The tag doesn't need to be pre-existent in the system. You can provide an unlimited number of tags for each client.		
	• Tax Profile	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 Configuration>Taxes profiles . Check out the Taxes Profiles article for more information.		
		There can be 3 types of the tax profiles used:		
		 Customer (you will need to manage the tax values manually) SureTax (integration with a third-party tax calculation service) Compliance (integration with a third-party tax calculation service) 		
		Attention		
		For proper usage of SureTax and Compliance, the <i>Invoice Number</i> should contain only Latin and numeric characters. Max length is 40 symbols. <i>Dst</i> and <i>Src Numbers</i> should be in the <i>NPANXXNNNN</i> (10 digits) format. More info about these third-party tax calculation services can be found in the article US Taxation.		
	• Bill Events by	Select how the system should bill events of a new client – by setup time, by connect time or by disconnect time (most switch models use disconnect time)		
	• Hidden Numbers c	When checked, allows you to hide some part of the client's destination numbers in invoices, xDRs reports and during export.		
	heckbox	⊘ Tip		
		If the client has the <i>Hidden Numbers</i> 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.		

Password Client's password	ontrol panel by
Originator Settings Settings for your customers, who send events to your switch. Clients' originator settings are as follows: - Unlimited checkbox - Unlimited checkbox - Unlimited checkbox - Credit limit The additional field next to the Unlimited checkbox. Here you can set the credit limit allowed for could fill this field with any of the positive or negative numbers, but no more than 9 digits. If the Units marked, this field becomes inactive. - Payment Terms - Payment Terms - Rate Table - Rate Table - Routing Plan - Routing Plan - Capacity Indicate the origination capacity of channels for this client. For unlimited amount, leave empty - Capacity - Capacity - Credit limit - Credit limit - Credit limit - Capacity Define the credit limit you have on the vendor's side. It will be applied to vendors during the routing remove them from the routing result if vendor balance + credit limit hits the entered threshold. - Capacity Here you can set up whether the system should send low balance notifications or not when the client's Available bala as threshold - Notify - Notify - Notify - Notify - Notify - Notify - When clients' balance+credit is below the entered value, the system will send a notification to an average of the custom of the client's balance+credit is below the entered value, the system will send a notification to an average and the client's balance+credit is below the entered value, the system will send a notification to an average and the client's balance+credit is below the entered value, the system will send a notification to an average and the client's balance+credit is below the entered value, the system will send a notification to an average and the client's balance+credit is below the entered value, the system will send a notification to an average and the client's balance+credit is below the entered value, the system will send a notification to an average and the client's balance+credit is below the entered value, the system will send a notification to an average and th	
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**Unlimited checkbox Here you can set the unlimited credit for a client if you enable the checkbox. It is disabled by default heckbox	
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Notify vents Log	I, specified in
Admin	lministrator via E
Available balance threshold, below which the special capacity setting will be applied	
• Capacity Origination capacity limit that will be applied when the available balance is below the threshold	
Autoinvoicing Activates/deactivates the automatic invoice generation feature for the current client. Information block parameters are:	
• Template Select an invoice template for this customer	

	• Last Invoiced Specify the last date when the client was invoiced			
Rate	Here you can enable or disable automatic rates notifications for the current client			
Notification c heckbox	• Format	Select the desirable format of rate notification (.xlsx or .csv)		
	• Notify Type	Specify a type of notification:		
		1. The system will push notification after adding new rates. Please note, if the user changes the Effective Date field of current rates manually, they will also be included in the notification.		
		 When you force Rate Notification, it does not send all the rates with the Effective Date in the future but only the rates that it will be late to send with the next scheduled notification (according to the Agreement assigned to the Rate Table). If there's no Agreement, the Rate Notification will not be sent. We recommend using forced notifications for testing purposes. It doesn't cancel a regular notification nor change the last export date. 		
Company Info	Some additional in	information about a client can be entered here		
	• Name Company name			
	Company email for general inquiries. Use only Latin characters. Main Email			
	NOC Email	Company email for technical related questions. Use only Latin characters.		
	Notify about Factors Watcher blocks che ckbox	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		
Automatically generated invoices and notifications will be sent to this email address. Use only Latin characteristics are sent to the		Automatically generated invoices and notifications will be sent to this email address. Use only Latin characters.		
	 Rates Email Company email for rates related questions. Use only Latin characters. 			
	Address	Physical company address		
	Zip Code Postal code for SureTax integration			
	• Tax ID Customer's tax ID			

• Reg ID	Customer's registration ID
Account Details	Reference information about the client's bank account or payment details
• Locale	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

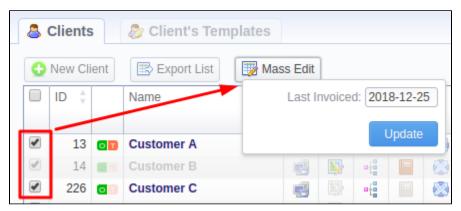
The Full Delete button can be used to remove a client from the system permanently, disregarding any statistics or rate tables data connections. Please use this feature with care - the deleted client cannot be restored by any means

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: Clie nts Templates.

Knowledge Base Articles

JeraSoft Billing 3.23

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

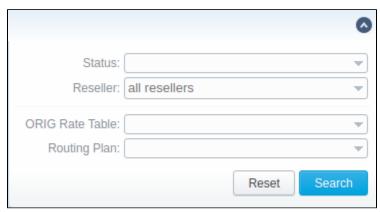


Column Name	Description
ID Client's template identification number	
Name Client's template name	
Credit	Credit volume in a template
ORIG Rate Table	Origination rate table, assigned to this client's template
Routing Plan	Routing plan, assigned to this client's template
Reseller	Name of the reseller's 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		
System Information	General information regarding client's template settings		
	• Name	Indicate the title of the client's template	
	• Reseller	Select a reseller that will be assigned to this template (this name will be used in invoices)	
	• Currency	Indicate preferred currency (will be used in invoices)	
Originator Settings	Billing settings a	and tariffication parameters for customers, who send the calls to your switch	
	• Credit	Credit limit allowed for a client	
	• Rate Table	Select the origination rate table	
	• Routing Plan	Select an appropriate routing plan that will be used to route all calls for this customer	
	• Capacity	Summary origination capacity for the client	
Low Balance Notifications	Here you can se than a set thres	et up whether the system should make low balance notifications or not when client's Available balance is lower hold	
	Notify Client	When clients' balance+credit is below the entered value, the system will send a notification to email, specified in the clients' <i>Billing email</i> field	
	• Notify Admin	When clients' balance+credit is below the entered value, the system will send a notification to an administrator via <i>Events Log</i>	
	• Threshold	Available balance threshold, below which the special capacity setting will be applied	
	• Capacity	Origination capacity limit that will be applied when the available balance is below the threshold	



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:

- o Go to the Clients list, click on the New Client button or select the needed client;
- o 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.



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

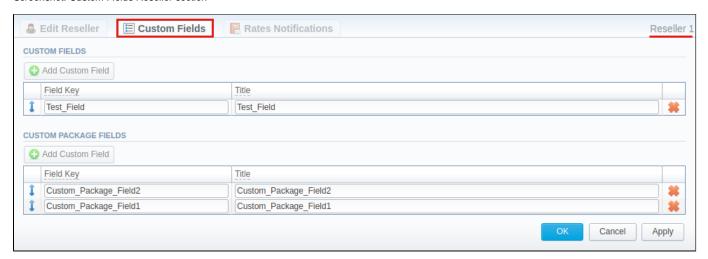
This tab represents the list of **Custom Fields** that have already been added and assigned to the respective client by its reseller. The data specified in these fields will be used in invoice templates as custom functions.

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
Field Key	Specify a <i>unique</i> 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.
Title	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



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

lcon	Description
	Allows activating the DID
Ш	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.



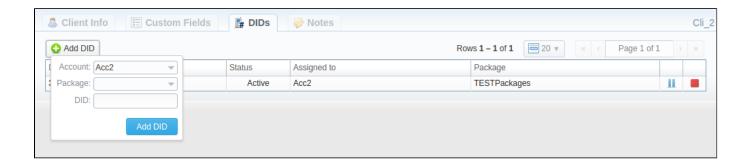
Detailed instructions on how to create a DID number you can find in the DID Management section, chapter Creating DID Number.

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



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



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



Column Name	Description
ID	Account's identification number
Client	Client's name
Account	Account's name
Name/ANI/IP	The way of clients' identification
Tech Prefix	Technical prefix for users' identification
Orig Details	Originator settings
Term Details	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
• New Account	Allows creating a new client's account
	Allows filtering accounts by a specified client
8	Allows viewing specified client's profile in the Clients section
€	Allows viewing client's change history in the Audit log section

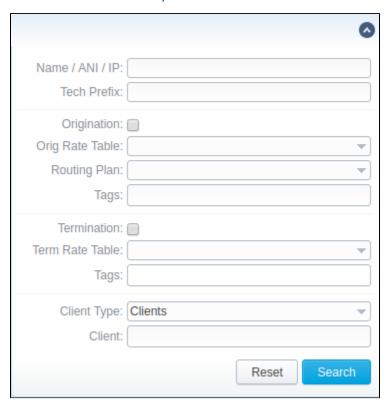


Advanced Search

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 cicon.

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

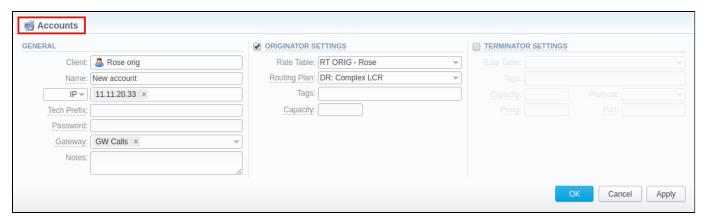
Screenshot: Advanced Search drop-down menu



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



Information block	Fields and	I Description
General	General info	ormation about a new client's account
	• Clie	Specify a client, to whom this account belongs
	Name	Define the name of an account for JeraSoft Billing
	• Iden t by	The JeraSoft Billing system allows client identification in 3 different ways, you need to select one of below-mentioned: • IP – gateway IP-address. You can specify multiple addresses, by dividing them with ";". Moreover, you can specify the subnet with mask here in CIDR-format, e.g., 10.0.0/24, 200.200.208/28 • Name – gateway name or user login, used for identification • ANI (Automatic Number Identification) – callee's or caller's phone number
	• Tec h Prefix	Define technical prefix that is used to identify users, when multiple clients use the same gateway
	• Pas swo rd	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 automatically generate a password or show it by clicking on the icon or the icon, respectively.
	• Gate way	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.
	• Notes	Additional information about a current account
Originator	Settings for	your customers, who send calls to your switch
Settings	• Rate Table	Select a rate table for a current origination account (it will have higher priority than a rate table set for the whole client)
	• Rout ing Plan	Indicate a routing plan for a current origination account
	• Tag	Specify a tag for a current origination account
	• Cap acity	Set limitation for the number of simultaneous calls within this account
erminator	Settings for	your vendors, whom you send calls from your switch to
Settings	• Rate Table	Select a rate table for a current termination account (it will have higher priority than a rate table set for the whole client)
	• Tag	Specify a tag for a current termination account

• Cap acity	Indicate capacity for respective traffic direction
• Prot ocol	Select respective protocol for a current termination gateway
• Proxy	Define proxy for a current termination gateway
• Port	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**

zicon, 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 form at.

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

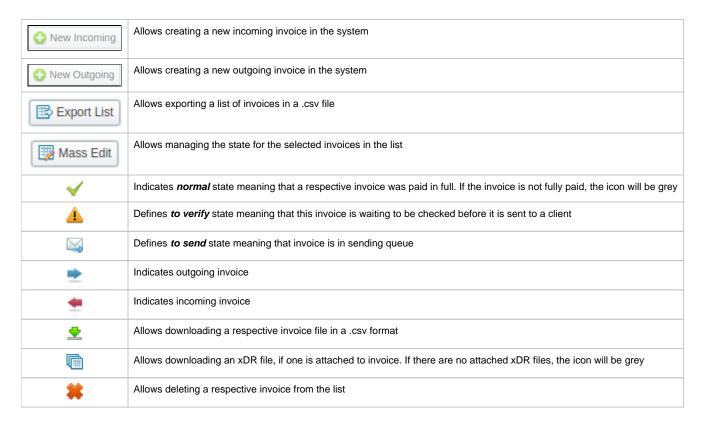
Screenshot: Invoices section main window



Column Name	Description
Invoice No	Number of an invoice
Client /Reseller	Name of a respective Client or Reseller along with the identification number.
	⊘ Tip
	You can create an invoice for a root Reseller
Interval	Interval for invoicing
Net Total	The invoice sum, excluding the taxes
Taxes	The taxes amount if applicable
Total	The total sum of the invoice
Due Date	Determined due date of invoice
Invoice Date	Date of invoice creation
	Tip When you leave the <i>Invoice Date</i> 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

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

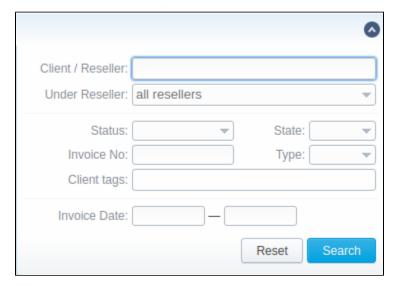
Buttons/Icon



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.

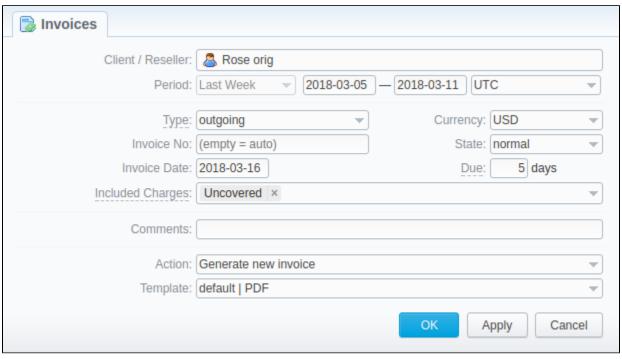
Screenshot: Advanced Search drop-down menu



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



Field	Description
Client /Reseller	Name of the <i>client</i> or <i>reseller</i>
Interval	Define a period of statistics that will be included in an invoice
Туре	Specify the type of invoice: outgoing or incoming . By default, the Type is set for incoming for your convenience as that's usually the case for manual Invoices creation. Outgoing Invoices are usually automatically generated.
Currency	Select invoice currency from a drop-down menu
Invoice	A number of an invoice. The number length can't exceed 200 symbols
State	 select the state for a new invoice: normal - use this state to indicate that an invoice is paid to send - use this state to indicate that an invoice is paid, but not verified yet to verify - use this state to indicate that an invoice is created, but has not been sent to a client yet
Invoice Date	Specify the actual invoicing date
Due (days)	Define a number of days when an invoice is expected to be paid
Included Charges	Select the type of charges for invoices: • uncovered - all charges that are not included in any previous invoice; • covered - all charges already included in the previous invoice; • pending - all pending charges. Please note, these charges don't include calls. Therefore, call charges will be added to any invoice regardless of the Included Charges settings.
	Tip It's not possible to include a charge twice with standard settings. To re-include an already used charge in the invoice, you need to combine uncovered + covered parameters in the Included Charges field.
Comments	Specify additional information if necessary

Action	Select one of two available actions:		
	Generate new invoice	A new invoice will be generated, based on predefined templates in the Invoices Templates section . To select a target template, select it from the drop-down menu in the Template field.	
	Attach existing invoice	If this option is selected, the following additional fields are displayed: • Attach Invoice - allows the user to attach additional invoice; • Attach xDR - allows attaching additional xDR file in a .csv format; • Events Amount - indicate a total amount, charged for services (calls, SMS, data, etc.) traffic; • Other Amount - indicate a total amount, charged for any other events (e.g., package fees).	



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!

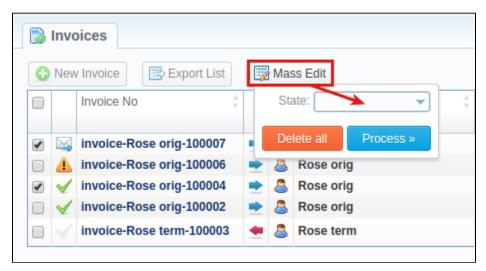
Warning

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



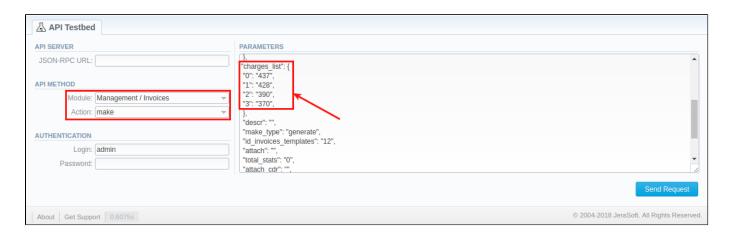
Attention

Please note:

- 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. T hen, 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:

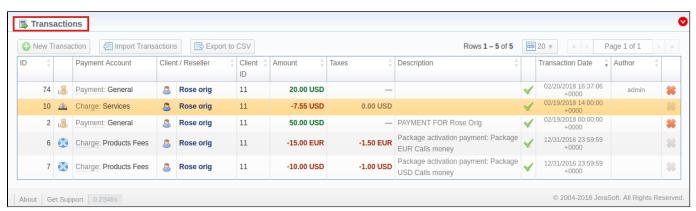
- invoice time (transaction date);
- client ID;
- currency ID;
- positive or negative amount.



- 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



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

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

The list of functional buttons/icons is as follows:

Button/Icon	Description
◆ New Transaction	Allows to create a new transaction
Import Transactions	Allows to import user's transactions into the system
Export to CSV	Allows to download a list of transactions in a .csv file
	Indicates the type of transaction - payment
ile	Indicates the type of transaction - extra charges
<u> </u>	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

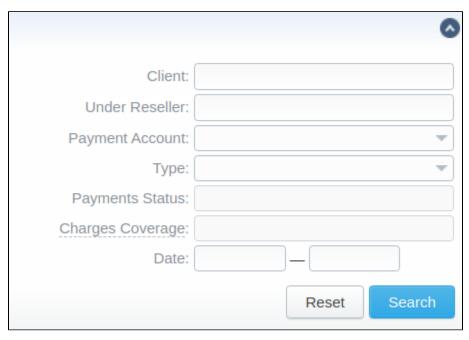
In the top right corner of the section above the table, an **Advanced Search** drop-down menu is located. By clicking on a blue downward arrow con, a drop-down menu with the following structure is displayed:

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.

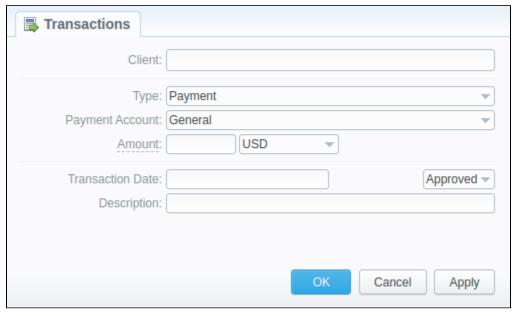


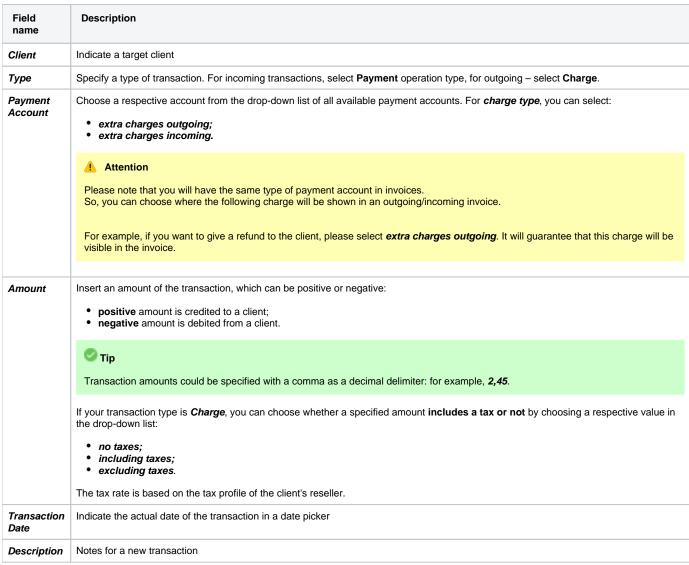
Field	Description
Client	Indicate a client you wish the section to be filtered by
Under Reseller	Filter the list of all payments for the selected Reseller's Clients. This field can take multiple values.
Payment Account	Select from the list of all payment accounts in the system
Туре	Select a type of transaction: • Payment • Charge
Payments Status	Select from the list of transaction statuses: • Pending • Approved Only fillable when Type is Payment.
Charges Coverage	Select from the list: • Invoiced (already covered by Invoices) • Not Invoiced (not covered by Invoices) Only fillable when Type is Charge.
State	Indicate whether you wish payments covered by the invoices to be displayed by selecting from the list: • Covered • Uncovered
Date After filling in the fields	Specify the date in the date picker i, 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** but ton

Screenshot: New transaction settings









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 se cond 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

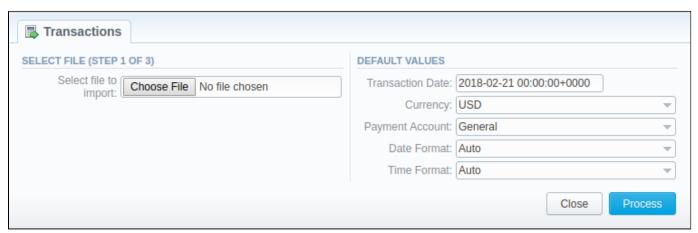
By clicking the Export to CSV button, you will be able to export all currently stored payments in a .csv file.

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.

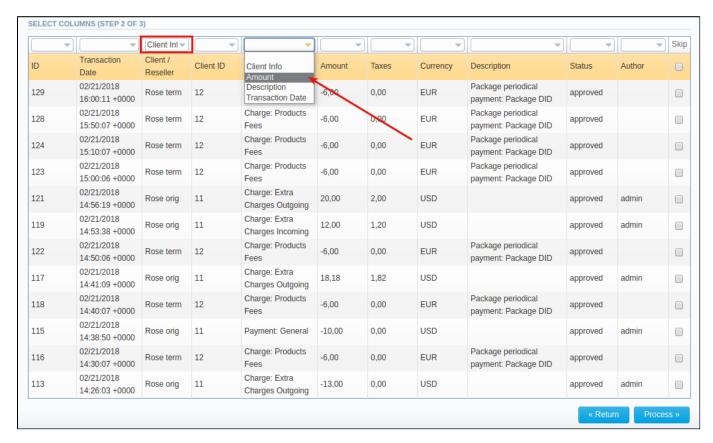
Screenshot: Transactions importing process. Step 1



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.

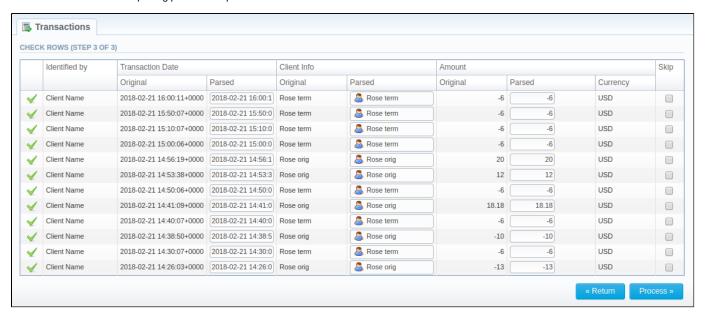
Screenshot: Transactions importing process. Step 2



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



In this article

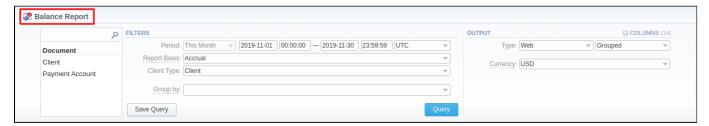
Balance Report

- 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				
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete 🗱 icon next to the filter.				
	You can start a quick search by typing filters' names in the bar at the top of a drop-down menu with filters.				
	Period	Specify the time interval for the report and a timezone. Please note that the <i>Period</i> field is mandatory.			
	Report Basis	Select a balance mode to show a respective set of data			
		 Accrual - this mode is compiled by invoices and payments, it shows fixed balance Cash - this mode is compiled by payments and charges, it shows live balance 			
	Client Type	Choose the system entity for the report from the following: • Client • Reseller • Calling Card • Call Shop			
	Group by	Select from the list of the following accessible options to group data in reports: • Time: Month, Date. • Document: Client ID, Payment Account ID.			
	Additional Filters				
	Client	Define an origination client for the report			
	Payment Account	Enter a target payment account for the report			

Output

This form contains settings of the output data of the report.

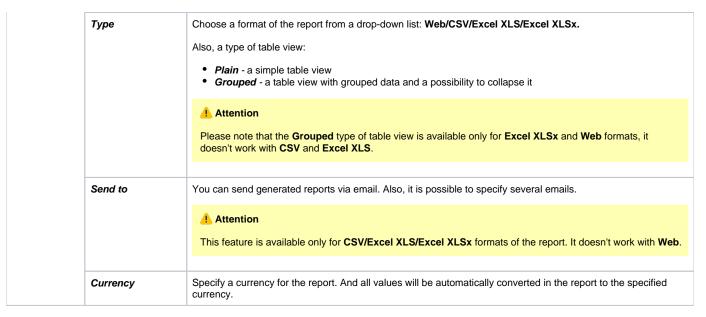
Click the plus icon next to *Columns* and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.

Accessible columns in the report

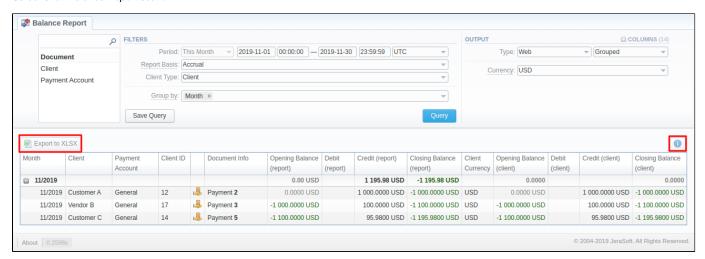
The following columns are to add in the report:

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.

Document				
Client	Name of the <i>client/reseller/calling card/call shop</i> , to which that current operation is assigned			
Client ID	A client identification number that is also present in the full list of Transactions and Invoices .			
Payment Account	Respective payment account, used for the indicated transactions			
Document Icon	 File icons that generally display a type of document in the report: This icon shows different payments in the system. This icon defines extra incoming/outgoing charges. This icon means different charges or payments of the calls. This icon represents payments of the packages. This icon displays service charges. This icon represents the invoices in the system. 			
Document Info	The document that an operation corresponds to (charge, payment, invoice, etc.)			
Туре	Indicated type of document			
NO	Number of transactions			
Notes	Notes indicated in the comments of transactions or in invoices			
Date	An operation date			
Amount				
Opening Balance (report)	Start client's balance prior to a respective operation, displayed in the report currency			
Closing Balance (r eport)	Final client's balance after a respective operation, displayed in the report currency			
Debit (report)	Operation sum that has positive income (incoming payment/invoice), displayed in the report currency			
Credit (report)	Operation sum that has negative income (outgoing payment/invoice), displayed in the report currency			
Opening Balance (client)	Start client's balance prior to a respective operation, displayed in the client currency			
Closing Balance (c lient)	Final client's balance after a respective operation, displayed in the client currency			
•	Final client's balance after a respective operation, displayed in the client currency Operation sum that has positive income (<i>incoming payment/invoice</i>), displayed in the client currency			
lient)				



Screenshot: Balance Report section





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.

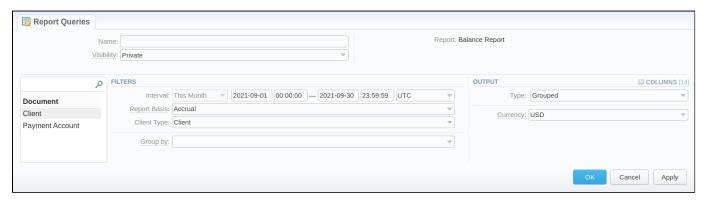


- If the data is grouped in the report, it will be shown initially collapsed. To expand or collapse data in your report, click the plus or minus icons.
- Please note, the Order by option is active when the Type of the Output form is Plain. When it is Grouped, the data is only sorted by values specified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

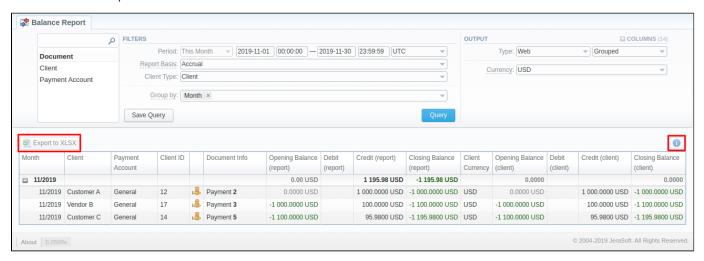


To load the already existing templates while generating statistic reports, click the Load Query button.

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



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

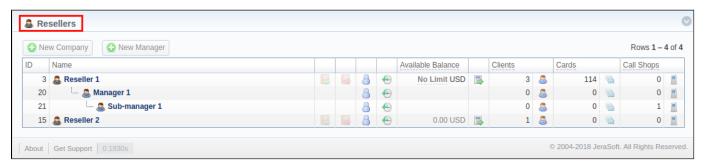
In this article

- Section overview
- Advanced Search
- Adding a New Reseller
- Adding a New Manager
- Reseller Removal
- Custom Fields
- Rates Notifications
- Autocharge Settings
- Configuring Mail Templates
- Configuration SyntaxKnowledge 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:

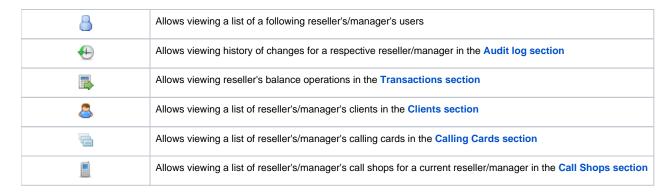
Screenshot: Resellers section



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

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

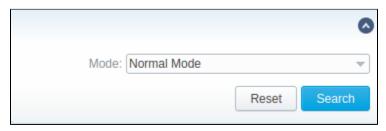
Button/Icon	Description
◆ New Company	Allows creating a new reseller
◆ New Manager	Allows creating a new manager
	Allows assigning an origination rate table to a respective reseller
B	Allows assigning a termination rate table to a respective reseller

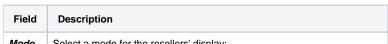


Advanced Search

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





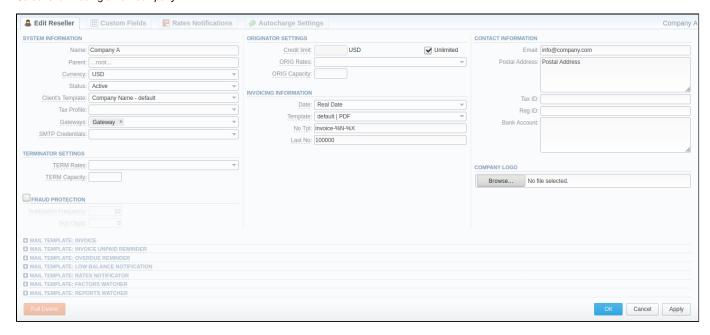
Mode. Select a mode for the resellers' display: To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click **Reset**.

• Normal Mode - only resellers with Active status will be displayed Adding a New Reseller resellers regardless of the status will be displayed

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				
System	General information about a company				
Information	• Name	Specify the name of one of your companies (or affiliates). This field is mandatory.			
	• Parent	Indicate a parent for a reseller or make it a root one. By default, the field value is set to <i>root</i>			
	• Curre ncy	Select a preferred currency for rates and invoices from the drop-down list of all available ones (see the Currencies section)			
	• Status	Define the status of a reseller: • Active • Deleted			
	• Client 's Temp late	Select a template that will be used for all clients belonging to this reseller or manager by default (see the Clients Template section)			
	• Tax Profile	Indicate a tax profile that will be used for this reseller and reflected in invoices (refers to the Taxes Profiles section). • SureTax and Compliance 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 US Taxation article.			
		Attention For proper usage of SureTax and Compliance, <i>Invoice Number</i> should contain only Latin and numeric characters. Max length is 40 symbols. <i>Dst</i> and <i>Src Numbers</i> should be in the <i>NPANXXNNNN</i> (10 digits) format.			
	• Gate ways	Select gateway(s) for this reseller			
	• SMTP Crede ntials	Select SMTP Credentials for this Reseller. Credentials are managed in the Data Sources section			
Terminator	Reseller's billing settings for outgoing calls				
Settings	• TERM Rates	Rates for outgoing events from customers under a current reseller. Enables resellers billing mode Tip For more information about resellers billing mode, address this article			
	• TERM Capa city	Termination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity			

Fraud Protection ch	Enables/disables administrator notification in case of multiple simultaneous calls to the same number from the current Reseller.					
eckbox	Attention					
	Please note that all notifications can be found in System > Events Log . If you want to receive them to exact email, go to the Configuration tab of the Events Log section, and add a new rule with the indication of target email and aaa.fraud value in the Tag field.					
	Here you need to specify the following:					
	• Notifi catio n Frequency	Set minimum time in seconds between sent notifications (minimum interval must be 0 sec)				
	• Skip Digits	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.				
Origination	Current Rese	eller's billing settings for incoming calls				
Settings	• Unlim ited c heckb ox	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.				
	• Credi t limit					
	ORIG Rates					
	• ORIG Capa city	Indicate origination capacity for all clients, belonging to this reseller. Leave this field empty for unlimited capacity				
Invoicing	Current Reseller's invoicing settings					
Information	• Date	Allows you to select how the system sets an invoicing date: • Real date – sets an invoicing date to actual invoicing date • Last day – sets an invoicing date to date of last day of invoicing period				
	• Temp late	Select an invoice template that will be assigned to a reseller				
	• No Tpl	Allows to define a default format of invoice's name				
	• Last No	Define the last used invoice number				
Contact Information	Some additional information					
mormation	• Email Company's email (it is required to specify an email to receive notifications). Use only Latin characters. This field is mandatory					

	• Posta I Addr ess	Company's postal address	
	• Tax ID	An ID of the tax-paying entity	
	• Reg ID	Company's registration ID	
	Bank Acco unt	Company's bank account info	
Company Logo	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.		
Mail Templates	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.



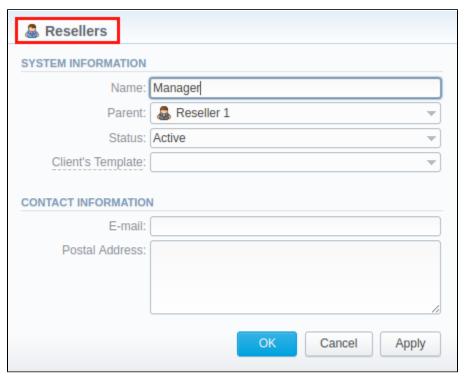
Attention

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

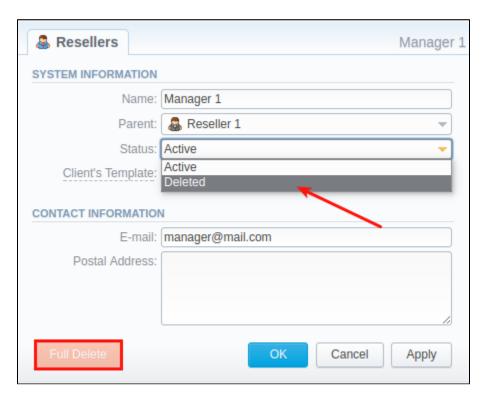


Information block	Fields Description	Fields Description			
System Information	General information	General information about a Manager			
	• Name	Here you can specify the name of a manager. This field is mandatory.			
	• Parent	Select a parent for a manager			
	• Status	Select the current status of a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

Reseller Removal

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

Screenshot: Editing reseller's status



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.

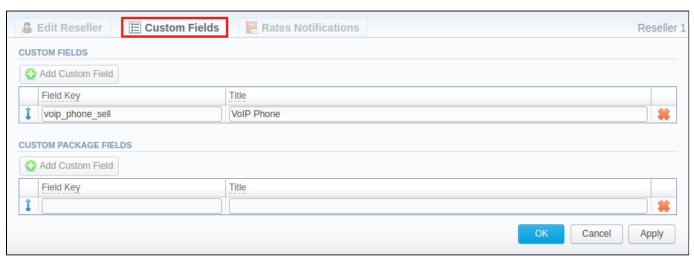
Custom Fields

- 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 VolP 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.

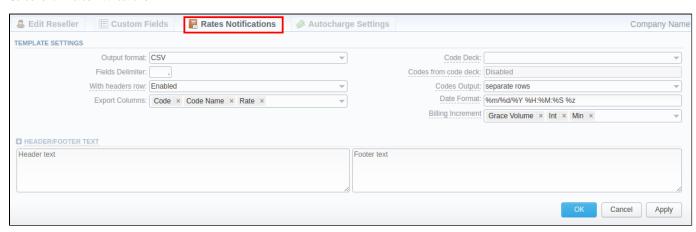
Screenshot: Custom Fields



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



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

Field	Description					
Output format						
Fields Delimiter	Set a delimiter for the fields if you've chosen .csv. For .xls format, this field is unavailable					
With headers row	Include a row with colu	Include a row with column names in a file				
Export Columns	Select the columns to 6	export				
Code Deck	Select a code deck here to rewrite code names in an export file if needed					
Codes from code deck chec kbox	Include only codes, which are present in a specified Code Deck					
Codes Output	Select a way codes mu	ust be displayed				
	Separate Rows	Each code is placed into a single row				
	Delimited List	Codes are grouped by a code name in a row. For example, 5510, 5511, 5512				
	• Ranges List	Codes are grouped by a code name into ranges plus delimiter. For example, 5510-5512, 5515				
Date Format	Specify the date format in your export file. Example of the field syntax: if you enter "%d-%m-%Y" here, your date will look like 25-02-2018					
Header Text/Footer Text	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.

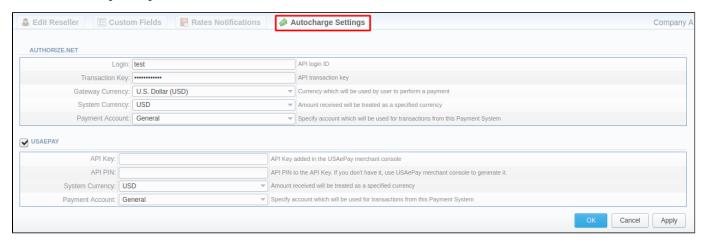
Column Name	Description	
Code / Code Name	Code or Code Name of a respective rate	
Effective Date	Date, on which a rate to be applied	
Rate	Price	
Min Volume	The minimum volume of chargeable events	
Interval	Chargeable interval	

Volum Fee	ie	Free of charge						
Fee		Interval of a			arge interval			
		Setup Fee Interval of a s		setup fee				
	Profile Time profile ((all time, business time, non-business time, weekends)					
ite	End Date Date, on whi		ich the rate ends					
us Rai	te	Rate used be	efore the prese	nt time				
iff		Shows how	current rate diff	ers from a	previous one af	ter import		
iff Sta	tus	Shows how t	the current rate	's status c	hanged in comp	arison to a previous one	(unchanged, increased, decreased)	
iff (ex	port)	Shows how t	the current rate	differs fro	m a previous on	e after export		
iff Sta	tus (export)							
Notifi	cation type: A	II rates unique	mode - First No	otification:	07/07/2017			
Rate	E	Effective From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)		
10	07/01/2017 00	0:00:00 +0000	-	-	new	unchanged		
10	07/01/2017 00:00:00 +0000		-	-	new	unchanged		
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								
Rate	Effective From		Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)		
15	07/21/2017 00:00:00 +0000		10	5	increased	increased (5.0000)		
15	07/21/2017 00:00:00 +0000		10	5	increased	increased (5.0000)		
15	07/21/2017 00:00:00 +0000		10	5	increased	increased (5.0000)		
Rate	with code 1 wa	as edited and t	the increase wa	s canceled	I - Third Notificati	on: 07/21/2017		
Rate	Effectiv	re From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)		
10	07/21/2017 00	0:00:00 +0000	10	0	unchanged	unchanged		
15	07/21/2017 00	0:00:00 +0000	10	5	increased	increased (5.0000)		
15			10	5	increased	increased (5.0000)		
Rate	with code 2 wa	as edited and a	added a new rat		3 - Fourth Notific	ation: 07/28/2017		
Rate	Effectiv	e From	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)		
10	07/21/2017 00:00:00 +0000		10	0	unchanged	unchanged		
20	07/21/2017 00:00:00 +0000		10	10	increased	unchanged		
20	07/31/2017 00:00:00 +0000		15	5	increased	increased (5.0000)		
		Additional in	formation					
		Tags that are	e assigned to a	respective	e rate			
Policy Indicated po		Indicated po	licy of the rate					
Status Define a cur		rent rate status						
	## ## ## ## ## ## ## ## ## ## ## ## ##	## ## ## ## ## ## ## ## ## ## ## ## ##	## Shows how of ## Status Shows how of ## Status Shows how of ## Status (export) Shows how of ## Status (export) Rate's chang The rate will Notification type: All rates unique Rate	## Shows how current rate diff ## Status Shows how the current rate ## (export) Shows how the current rate ## (export) Rate's changes after the last The rate will have an unche Notification type: All rates unique mode - First Note Rate	Shows how current rate differs from a fif Status Shows how the current rate's status of (export) Shows how the current rate differs from the first (export) Rate's changes after the last export. The rate will have an unchanged state Rate's changes after the last export. Status (export) Rate's export (export	Shows how current rate differs from a previous one af ff Status Shows how the current rate's status changed in composition (export) Shows how the current rate differs from a previous on ff Status (export) Rate's changes after the last export. Shows the status The rate will have an unchanged status if the Effective Notification type: All rates unique mode - First Notification: 07/07/2017 Rate Effective From Previous Rate Prev Diff Prev Diff Status 10 07/01/2017 00:00:00 +0000 new 10 07/01/2017 00:00:00 +0000 new 10 07/01/2017 00:00:00 +0000 new Added new rates with effective date 07/21/2017 - Second Notification: 07/14/2 Rate Effective From Previous Rate Prev Diff Prev Diff Status 15 07/21/2017 00:00:00 +0000 10 5 increased 15 07/21/2017 00:00:00 +0000 10 5 increased 15 07/21/2017 00:00:00 +0000 10 5 increased Rate with code 1 was edited and the increase was canceled - Third Notification Rate Effective From Previous Rate Prev Diff Prev Diff Status 10 07/21/2017 00:00:00 +0000 10 5 increased 15 07/21/2017 00:00:00 +0000 10 5 increased Rate Effective From Previous Rate Prev Diff Prev Diff Status 10 07/21/2017 00:00:00 +0000 10 5 increased 15 07/21/2017 00:00:00 +0000 10 5 increased 16 07/21/2017 00:00:00 +0000 10 5 increased Rate with code 2 was edited and added a new rate for code 3 - Fourth Notification Rate Effective From Previous Rate Prev Diff Prev Diff Status 10 07/21/2017 00:00:00 +0000 10 0 unchanged 20 07/21/2017 00:00:00 +0000 10 0 unchanged 20 07/21/2017 00:00:00 +0000 10 0 unchanged 20 07/21/2017 00:00:00 +0000 10 0 increased Additional information Tags that are assigned to a respective rate Indicated policy of the rate	Shows how current rate differs from a previous one after import ## Status Shows how the current rate's status changed in comparison to a previous one ## (export) Shows how the current rate differs from a previous one after export ## Status (export) Rate's changes after the last export. Shows the status of how the current rate the rate will have an unchanged status if the Effective date is lower than the status of those the rate will have an unchanged status if the Effective date is lower than the status of those than the status of the current rate of the rate will have an unchanged status if the Effective date is lower than the status of the current rate of the rate will have an unchanged status if the Effective date is lower than the status of the current rate of the rate will have an unchanged status if the Effective date is lower than the status of the current rate of the rate will have an unchanged status if the Effective date is lower than the status of the current rate of the rate will have an unchanged status if the Effective date is lower than the status of the status of the current rate of the rate will have an unchanged in orion of the status (export) of the status of	

Autocharge Settings

Autocharge Settings in the **Resellers** profile allow configuring the settings for Authorize.net or USAePay payment gateways. These settings will be true for all the clients under the respective Reseller.

Screenshot: Autocharge Settings



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

Field	Description				
Authorize.Net					
Login	API login				
Transaction Key	API transaction key				
Gateway Currency	A currency declared by the Payment Gateway				
System Currency	Default JeraSoft Billing system currency				
Payment Account	Payment Account name				
USAePay					
API Key	API key				
API PIN	API PIN to the API key				
System Currency	Default JeraSoft Billing system currency				
Payment Account	Payment Account name				

Configuring Mail Templates

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

Screenshot: Mail Templates

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

Template Name	Description	
Mail Template: Invoice	Used when sending an invoice to the customer	
Mail Template: Invoice Unpaid Reminder	Used when sending a payment notification to a customer (sending notification on "Notify Days (before)")	
Mail Template: Overdue Reminder	Used when sending a payment notification to a customer (sending notification on "Notify Days (after)")	
Mail Template:	Used when sending a low balance notification to a customer	
Low Balance Notification	You can add a rounding rule for a client's balance during low balance notification. For example, to round up to 2 decimal places, you need to add the variable \${client['balance']}\$ in the Mail template: Low Balance Notification in reseller's settings and specify the number of rounding decimals in the Totals Precision field of the Currencies section.	

Mail Template: Rates Notificator	Used when sending a rate changes notification to a customer
Mail Template: Factors Watcher	Used when sending a notification to a customer once a Preset by Factors Watcher has been added
Mail Template: Reports To Email	Used when sending reports by email

All mail templates have the following structure:

Screenshot: Reseller/Mail Template: Factors Watcher form

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

BCC:

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

Direction ${direction} blocked by: ${reason}

--

Autogenerated by JeraSoft VCS
```

Field	Description	
From	Specify a name and email of a company	
BCC	Specify who will receive a blind copy of an email	
Subject	Indicate an email subject that may contain company name, invoice number, etc.	
Mail	Content of the letter. On the screenshot above, the following information is specified:	
воау	Code or Code name that will be automatically filled in by the system * Direction {direction}	
	• Reason {reason}	Values specified in Factors Watcher settings (for example, <i>calls_total > 0</i>).
	• Values {values}	Actual value, which was exceeding the one specified in Factors Watcher settings (for example, <i>calls_total</i> = 1234).

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:
	Active Deleted
\${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
\${client['reg_id']}	Registration ID of a client's company

General Configuration Syntax Concerning Company's/Reseller's Data

Templates Configuration Syntax	Description
\${company['status']}	Company's status:
	Active Deleted
\${company['balance']}	Company's current balance
\${company['balance_accountant']}	Company's fixed balance
\${company['credit']}	Company's available credit
\${company['c_address']}	Company's postal address
\${company['c_email']}	Email of a company
\${company['locale']}	Company's location
\${company['currencies_id']}	Company's currency ID
\${company['tz']}	Company's timezone
\${company['taxes_profiles_id']}	Company's taxes profiles
\${company['name']}	Name of a company
\${company['tax_id']}	Company's customers tax ID
\${company['reg_id']}	Company's registration ID

Configuration Syntax for Mail Template: Invoice and Payment Reminder Notification

Templates Configuration Syntax	Description
\${invoice['c_dt']}	Invoice date
\${invoice['type']}	Invoice type
\${invoice['amount']}	Invoice total sum
\${invoice['period_start']}	Invoice period start
\${invoice['period_finish']}	Invoice period end
\${invoice['due_date']}	Invoice due date
\${invoice['no']}	Invoice number
\${invoice['descr']}	Invoice comments
\${invoice['tz']}	Invoice timezone

\${invoice['state']}	Invoice state
\${invoice['name']}	Invoiced client's name
\${client['currency']}	Client's currency

Configuration Syntax for Mail Template: Low Balance Notification

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

Configuration Syntax for Mail Template: Rates Notificator

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

Configuration Syntax for Mail Template: Reports To Email

Templates Configuration Syntax	Description
\${report["name"]}	Title of a report template
\${report["interval"]}	Actual report period
\${report["name-full"]}	Title of a report template with indication of an actual report period
\${report["id"]}	ID of a report template



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

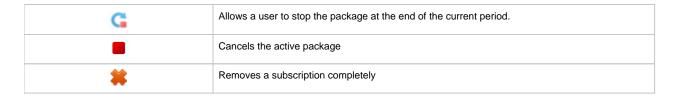
This section is designed to provide a wide variety of functions to control and manage subscriptions. First and foremost, in this section, a user can assign a relevant package to a respective client or client's account, edit and cancel it, etc. Moreover, there is detailed information regarding all the 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



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

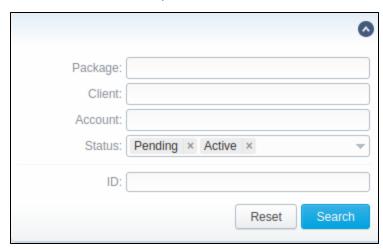
Button/Icon	Description
♣ Assign Package	Allows assigning a package to a corresponding client/account
	Shows the full list of packages that were assigned to this client/account
? Unknown Attachment	Marks a package that was successfully activated and will renew itself due to the package settings
? Unknown Attachment	Marks a package that is new for a current user and was not activated yet
? Unknown Attachment	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 (with balance rollback).



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 downwa rd arrow con and fill in the following fields with the required information:

Screenshot: Advanced Search drop-down menu



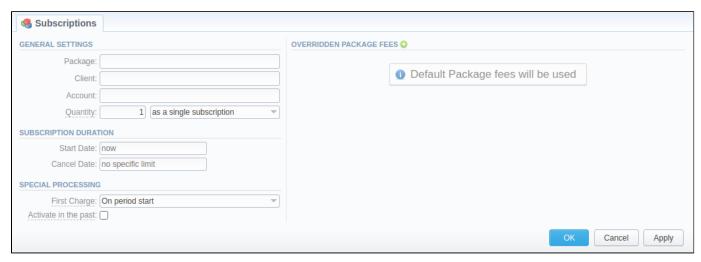
Field	Description	
Package	Indicate the name of a target package	
Client	Specify a target client	
Account	Specify a client's target account	
Status	Select the status of a package: • Pending • Active • Archive	
ID	Specify a respective subscription ID	

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



Information block	Field	Description
General	Package	Name of an assigned package
Settings	Client	Name of a client, to whom a package is assigned
	Account	Name of an account, to whom a package is assigned
	Quantity	Number of packages to be assigned. You can assign multiple packages
		 as a single subscription (will create one line in a list of assigned Subscriptions with respective Qty value) or as multiple subscriptions (will create several lines respectively in a list of assigned Subscriptions for
		each individual one to manage separately)
Subscription	Start Date	Package limits and discounts are only effective after a specified date
Duration	Cancel Date	Package limits and discounts are disabled after a specified date
Special Processing	First Charge	Determine when the first charge should be created: • Before period start • On period start
	Activate in the past 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	Fee Type	Select the type of fee. There are two possible types: • Activation – a fee that will be charged upon subscription activation • Subscription – a fee that will be charged upon subscription renewal
	Fee Name	Specify the name of a fee. This field is obligatory
	Fee Note	Here you may enter additional information about a fee
	Rate, (currency)	Indicate the price for a fee. Price is indicated in the package currency. This price will overwrite the fee of a Package



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:

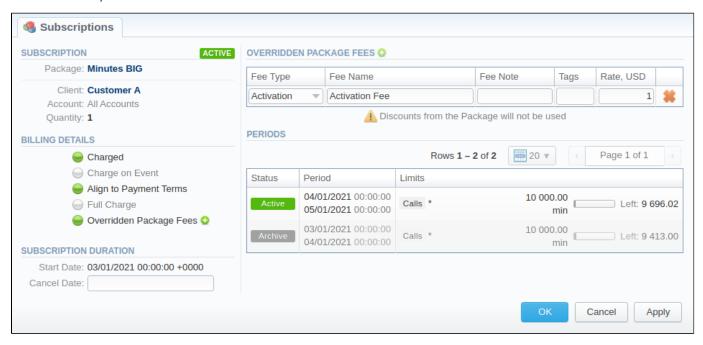
- click the icon opposite a respective package on the section list;
- filter the list of packages by the Archive status;
- find a respective package and click the icon to delete it entirely from the system.

Editing a Subscription

When clicking on the edit icon, detailed information on a subscription is displayed. In the **Billing Details & Overridden Package Fees** data blocks, a user can view and manage general info regarding the subscription charges. Also, a user can change the subscription **Cancel Date** in a respective field of the **Subscription Duration** block.

To make it easier for a user to keep records of package limits, the **Periods** information block provides a detailed view of package limits for each activation period.

Screenshot: Subscription edit form



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 editing the name of an already assigned package in the Retail > Packages.

Traffic Processing

In this article

- Advanced Search
- Creating a New Traffic Processing Rule
 - O Tic
- Rules Import
- Rules Export
- Knowledge Base Articles

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



Column Name	Description		
ID	Rule's identification number		
Stage	Stage of a rule (the rules are grouped by following stages: Initial, After Client, After Rate, After Routing)		
Filters	Depending on rule parameters, a table can display the following scope of details: Name of service, the rule is created for Gateway, specified in a rule Tag(s), indicated in a rule Client's name, specified in a rule Indicated Code POSIX regular expression for Src number (Src Match) POSIX regular expression for Dst number (Dst Match) Src Prefixes (Src P Any/Src P Not) Src Prefixes (Src P Any/Src PN Not) Src Prefixes (Dst P Any/Dst P Not) Dst Prefixes (Dst P Any/Dst PN Not)		
Action Notes / Expiry Date / Created By	Pepending on rule parameters, a table can display the following scope of details: Replacement for a matched rule for Src number (Src) Replacement for a matched rule for Dst number (Dst) List of tags added during traffic processing rule execution Deny plank for blocking rules LNP/MNP db specification with LNP direction and Revert LNP indication (if enabled) Any blocked termination Clients/Accounts from the Routing Blocks section Depending on rule parameters, a table can display the following scope of details:		
Order	Notes, specified in a rule Rule's Expiry date User name and time, when a rule was created/edited Specified order for rule execution		

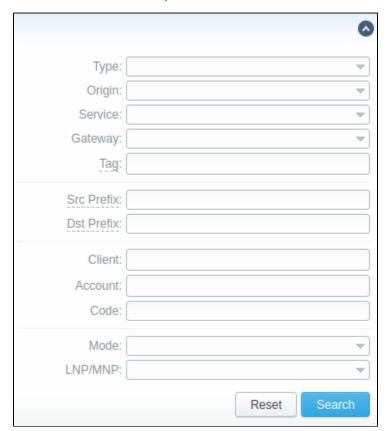
Functional buttons/icons presented in the section are as follows:



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

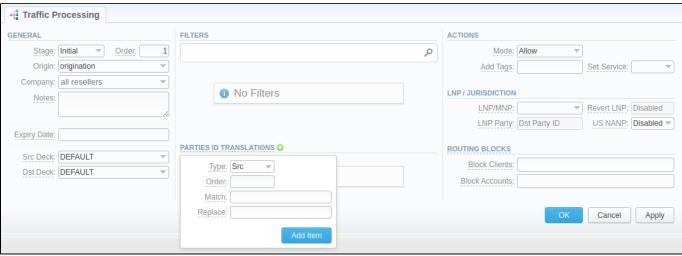


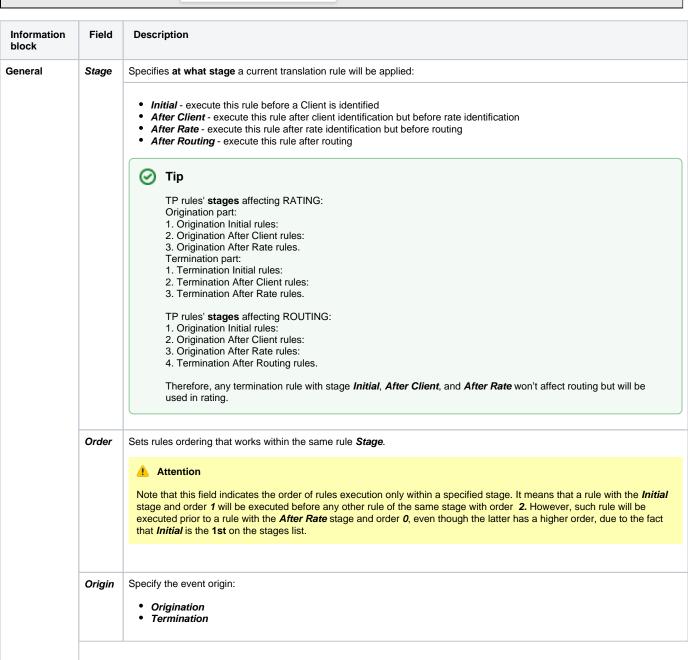
To apply the specified search criteria, click **Search**; to cancel the applied parameters, click **Reset**.

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





Comp any	Specify a Reseller for this rule to be executed under. Default - all resellers	
Notes	Specify additional information about a rule	
Expiry Date	Define a date when this rule will expire and will be removed from the system	
Src Deck	Identify a code deck that will be used for Src codes or code names filtering	
Dst Deck	Identify a code deck that will be used for Dst codes or code names filtering	

Filters

Select the required parameters for a traffic processing rule on the **Filters** menu. To cancel any filter, click on the delete \clubsuit sign next to its name.

You can start a **quick search** by typing filters' names in the field at the top of the **Filters** menu.



Dst

(Match)

If, for instance, the *Client* filter is empty, it means that this rule will implicate all clients.

Genera	General		
Servic e ID	Select a target from the drop-down list of all services, presented in the Services section of your JeraSoft Billing		
Gatew ay	Select a respective VoIP gateway, for which rule is applied, from the drop-down list		
Tags (Any)	A rule will work if an event has at least one of the tags, specified in this field		
Tags (AII)	A rule will work if an event has all tags, specified in this field		
Tags (Not)	A rule will work if an event has no tags, specified in this field		
Scr Pa	rty ID		
Src (Match)	In this field you may indicate POSIX regular expressions syntax, by which a number will be analyzed.		
Src Prefix es (Any)	A rule will work if an event has at least one of the Src prefixes (e.g., 010, 810), specified in this field		
Src Prefix es (Not)	A rule will work if an event has no Src prefixes (e.g., 010, 810), specified in this field		
Src Prefix es Names (Any)	A rule will work if an event has at least one of the Src prefixes names (e.g., <i>vodafone</i>), specified in this field		
Src Prefix es Names (Not)	A rule will work if an event has no Src prefixes names (e.g., <i>vodafone</i>), specified in this field		
Dst Par	Dst Party ID		

In this field, you may indicate POSIX regular expressions syntax, by which a number will be analyzed.

	Dst Prefix es (Any)	A rule will work if an event has at least one of the Dst prefixes (e.g., 010, 810), specified in this field
	Dst Prefix es (Not)	A rule will work if an event has no Dst prefixes (e.g., 010, 810), specified in this field
	Dst Prefix es Names (Any)	A rule will work if an event has at least one of the Dst prefixes names (e.g., <i>vodafone</i>), specified in this field
	Dst Prefix es Names (Not)	A rule will work if an event has no Dst prefixes names (e.g., <i>vodafone</i>), specified in this field
	Client	
	Client	Specify a respective client
		1 Attention
		Please be advised that any traffic processing rule can have either the <i>Client</i> or <i>Account</i> field.
	Accou nt	Specify a respective account
	Dst Code	Specify a destination code
	Dst Code Name	Specify a destination code name
	Src Code	Specify a source code
	Src Code Name	Specify a source code name
Parties ID Translations	Туре	Define a type of translation: • Src • Dst
	Order	Specify the order of translation
		Tip If you need to do multiple translations for the same call flow, it's better to create them all in one rule than to create multiple rules for the same type (time) of translations. That's where ordering would be useful.
	Match	In this field, you may indicate POSIX regular expressions syntax (see best practice example below), by which a number will be analyzed. If an expression matches the number, the translation will occur in respective settings in the Replace field.
	Replace	Replacement for a matched rule.
Actions	Mode	 Allow - allow a current event to proceed. Stop further traffic processing rules within this type of rule; Allow and Continue - allow a current event to proceed. Search for the next traffic rule; Deny - deny a current event.

	Add Here you can add tags that will be added for events matching this rule Tags		
	Set Service	Allows to change a specified service to another one while processing them	
LNP / Jurisdiction	LNP /MNP	Define a provider for the LNP/MNP service, which will be dipped for translation	
	,,,,,,,	1 Attention	
		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 <i>LNP/MNP</i> field, a user can select either <i>tja.ee</i> (<i>Routing Number</i>) or <i>tja.ee</i> (<i>Owner</i>). The difference is as follows:	
		 tja.ee (Routing Number) - if a traffic processing rule executes, 372+Original Number will be substituted by 372+R outing Number, specified in the TJA database. tja.ee (Owner) - if a traffic processing rule executes, 372+Original number will remain unchanged. Instead, a Dyna mic Tag indicating an owner of the number will be added to the call. 	
		Please find more about TJA database here.	
	Revert LNP	Allows returning original numbers to vendors after routing: • Enabled • Disabled	
	LNP Party	Define, which Party ID(s) (Src , Dst , or both) will be used for LNP dipping. To enable this feature, you need to specify the <i>LN P/MNP</i> field.	
	US NANP	Define if NANP processing will be used for LNP dipping: • Enabled • Disabled	
Routing Blocks	Block Clients	Specify, which termination Clients to block for the originator, specified in the Filters block	
	Block Accou nts	Specify, which termination Accounts to block for the originator, specified in the Filters block	



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

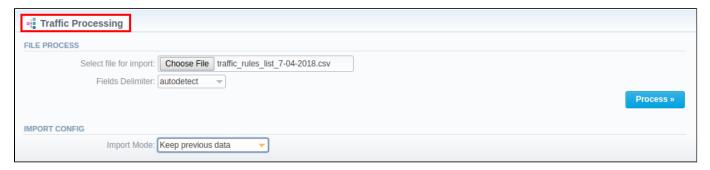
If our Src/Dst number is 123#456, the Src/Dst Match field is ^123#(.*)\$ and the Src/Dst Replace field is 789\1, the resulting number will be 789456. That's because the ^123#(.*)\$ expression tells the system that from 123#456 number it must remember only the (.*) part, which stands for 456. Now, in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

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

Rules Import

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



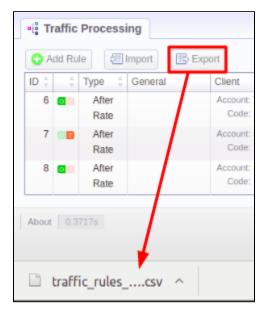
Information block	Field	Description
File Process	Select a file for import	Select a .csv file to import a traffic processing rule from
	Fields Delimiter	Specify a delimiter symbol here. The possible options are: • Autodetect • , • ; • Tab By default, the Autodetect option is selected.
Import Config	Import Mode	Specify what to do with the current traffic processing rules: • Keep previous data - new rules will be added to the old ones • Purge all other rules - old rules will be deleted and substituted by the new ones. By default, the Keep previous data 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 ${\it Export}$ button you can download a current list of rules in a ${\it .csv}$ file.

Screenshot: Rules export



Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

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 TablesRatesSpecial Rates
- Rates Analysis 2.0Rates Analysis [old]Rates Generator

- AgreementsSwap Deals

Rate Tables

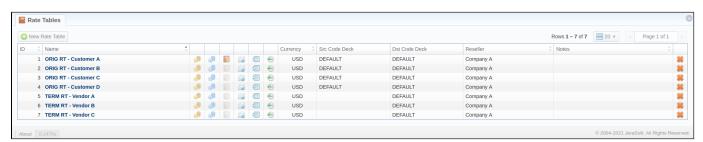
In this article

- 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



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

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

Button/Icon	Description
New Rate Table	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
T _g	If active (in color), allows running a rates generator tool on a specified rate table
	Forces rates notification to the clients
Æ	Prompts to the import window for the respective Rate Table
	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

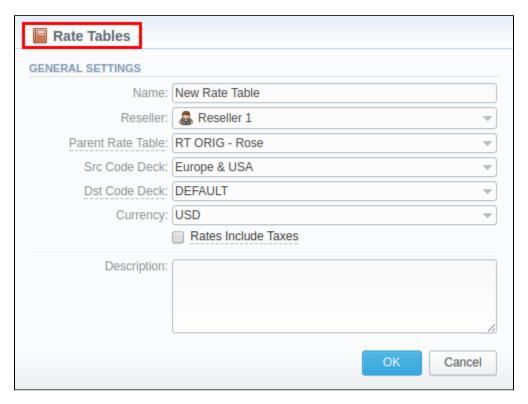


Adding New Rate Table

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

Field	Description
Name	The title of a respective rate table
Reseller	The Reseller, to whom this rate table belongs
Parent Rate Table	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
	 Attention Please note that the currencies of a parent and current rate tables should be the same. The working method with a Parent Rate Table could be applied only for origination.
	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> (t hat includes all standard rates) in the <i>Child Rate Table</i> settings. And assign this <i>Child Rate Table</i> to the Client.
Src Code Deck	Indicate a code deck that contains source codes and code names
Dst Code Deck	The deck that consists of a list of destination codes and code names
Currency	Preferred currency (will be used in invoices)
Rates with Taxes checkbox	Tax settings. It's disabled by default. If you enable it, all rates will include the above tax in their values. When it is disabled, the tax value will be added as an additional invoice parameter.
Descript ion	Additional information

Screenshot: New rate table window



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
Parameters	Here you can change some parameters that you've specified during rate table creation
Simulate	Call simulation tool
Import History	Here you can view the history of importing from the .csv or .xls 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



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

Creating Import Template



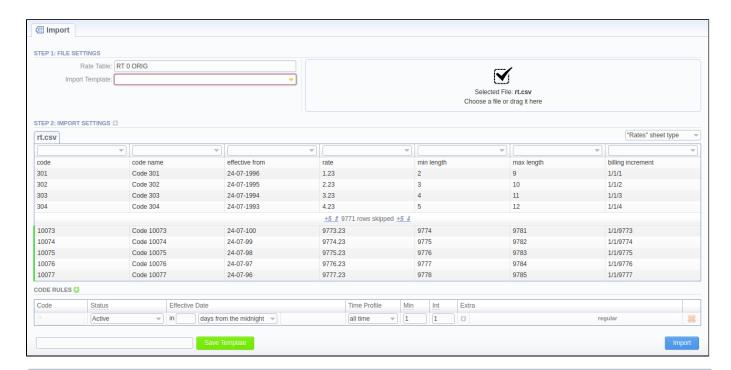
Attention

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





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
Dst Party ID	Specify Dst number of the event
Src Party ID	Specify Src number of the event
Date	Indicate the event date
Tags	Fill in this field if you wish to specify certain rate tags
Service	Specify a type of service
Volume, (sec)	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

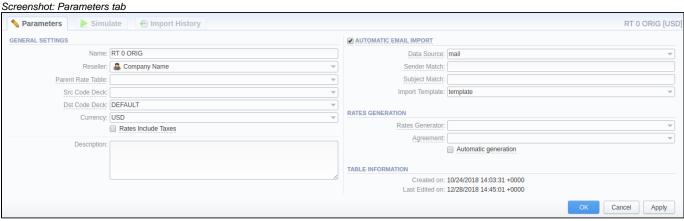


Column	Description
Info icon	Hover over this icon to view additional parameters (setup fee, time profile)
Code	Destination code
Cost	Cost of an event
Effective Date	Rate start date
Rate	Event price for a specified unit. Units ratings are configured in the Services section. For instance, for call service, an indicated rate may be a price for 1 second , 1 minute , 1 hour , or 1 day .
Tag	Tags of an event (@ by default).
Paramete rs	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 "/".

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

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* checkb ox for automatic rate tables import from emails.



Information block	Fields description		
General Settings	General rate table information		
	• Name	Name of the rate table	
	• Reseller	Reseller, to whom this rate table belongs	
	Src Code Deck	Indicate a code deck that contains source codes and code names	
	Dst Code Deck	The deck that consists of a list of destination codes and code names	
	Currency	Currency, specified for this rate table	
	• Rates Include Taxes 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	
	• Description	Additional information concerning the current rate table	
Automatic Email mport checkbox	Data used for automatic rate	es import into a current rate table (see the Automatic Email Import article)	
Rates Generation	Rates Generator	Select a Rates Generator for generating rates to this particular rate table	
	Agreement	Specify an Agreement to be used during rates generation	
	Automatic Generation checkbox	If enabled, lets the current rate table to be updated automatically due to being bound to the previously selected Rates Generator	
Table Information	Information concerning the	date of the rate table creation and last editing	

Rates

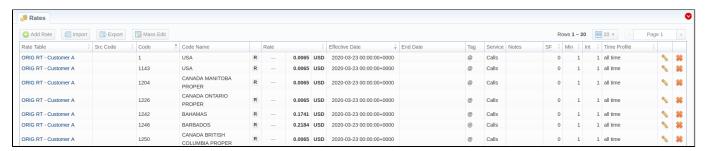
In this article

- 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.

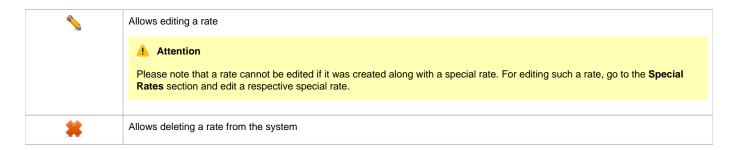
Screenshot: Rates window



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

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

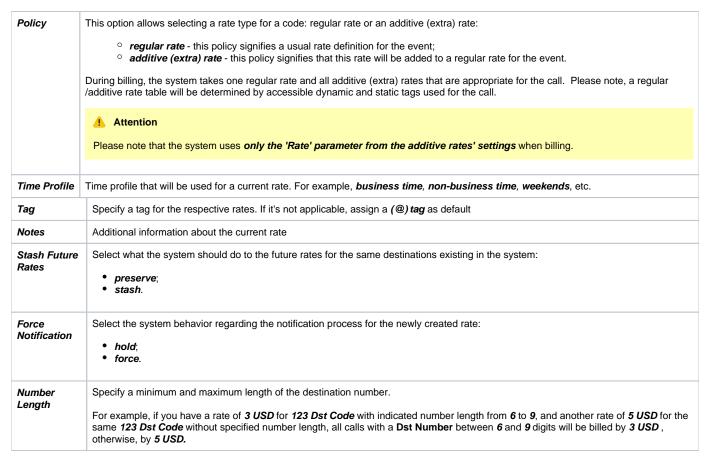
Button/Icon	Description
4 Add Rate	Allows adding a new rate to the system



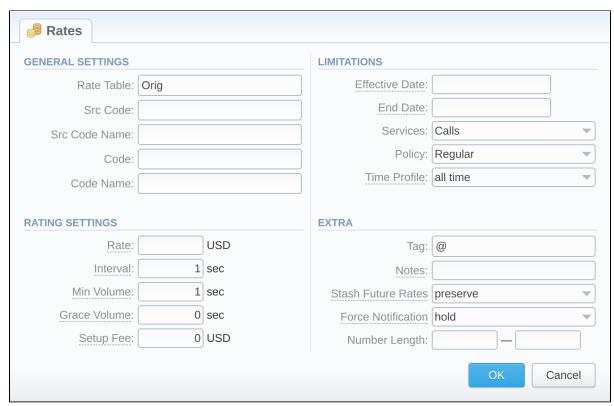
Adding New Rate

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

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



Screenshot: Adding a New Rate



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



When you are done, click the \checkmark 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).

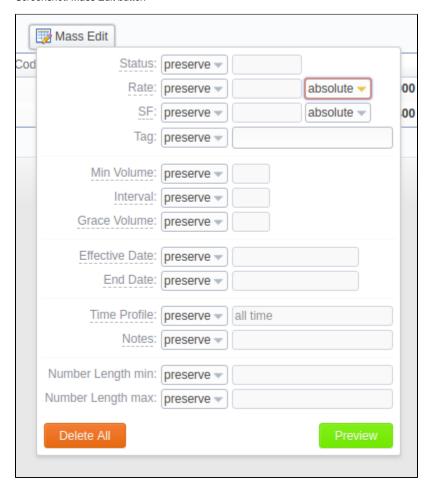
Mass Rate Edit

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



Field	Description
Status	Change rates statuses. Available options: <i>preserve, set to</i>
Rate	Change rates values. Available options: <i>preserve, set to, inc for, dec for, absolute, relative</i> . 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.
	Warning Do not enter non-numeric symbols.
SF	Change setup fee values. Available options: <i>preserve, set to, inc for, dec for, absolute, relative</i> . 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.
	Warning Do not enter non-numeric symbols.
Tag	Change rates tags. Available options: <i>preserve, set to</i>
Min. Volume	Change minimal volume values. Available options: <i>preserve, set to</i>
Interval	Change tariffication interval values. Available options: <i>preserve, set to</i>
Grace Volume	Change grace volume values. Available options: <i>preserve, set to</i>
Effective Date	Change rates start date values. Available options: <i>preserve, set to</i>
End Date	Change rates end date values. Available options: <i>preserve, set to</i>
Time Profile	Change rates profiles. Available options: <i>preserve, set to</i>
Notes	Change rates notes. Available options: preserve, set to
Number Length Min	Change the minimum length of destination numbers. Available options: <i>preserve, set to</i>
Number Length Max	Change the maximum length of destination numbers. Available options: <i>preserve, set to</i>

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



Field	Description
Rate Table	Filter rates by a selected rate table
State	Search by the period of a rate 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: • current/future - includes current and future rates • current on - the search includes rates that are active for a specified date • future for - the future rates compared with a specified date • past for - the search rates that are expired for a specified date • all - includes all rates
Time Profile	Search by the time profile of the rate
Tag	Search by an assigned tag
Notification status	Search by the date of rate notifications to the clients: • sent/not sent • sent • not sent The field will be autocompleted with a date of the last notification of the filtered rates.
Prev Diff Status	Search by the cost changes of the current rate from previous. The following types are available to choose from a drop-down list: • Decreased • Increased • Not changed • New
Next Diff Status	Search by the cost changes of the next rate from the current. The following types are available to choose from a drop-down list: • Decreased • Increased • Not changed • New

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.



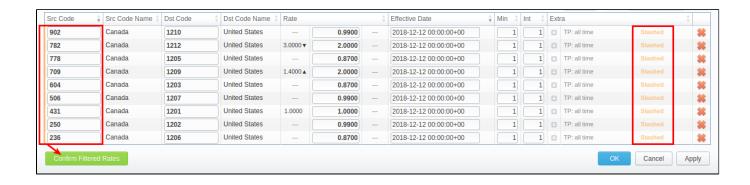
Attention

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 butt on). Unconfirmed rates appear during the import process.

Screenshot: Rates tab settings



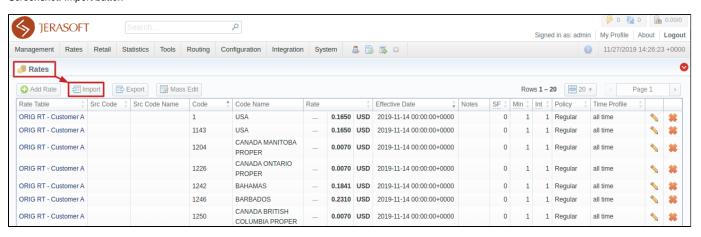
Import

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





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
Rate Table	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
Import Template	Select a target template for rates importing if available

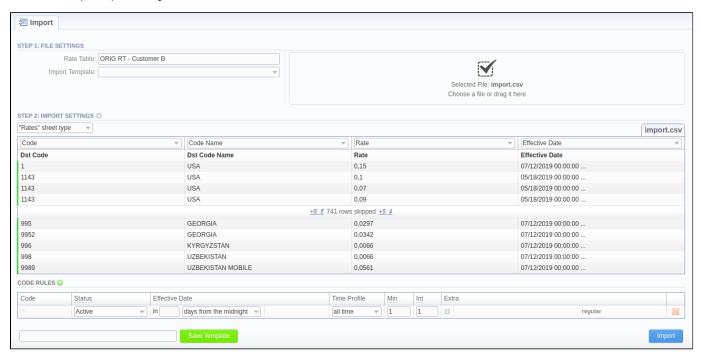


- 1. It's not possible to import a file into the Rate Table with the Min Time and Interval = 0. These fields must have at least 1 second.
- 2. While specifying the Effective Date and End Date, keep in mind that Timezone is UTC (+0000) by default.
- 3. Please DO NOT import duplicates of the same Code 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



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
 - 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.



 Codes and Src Codes sheet types require the Import all codes (update existing) mode of Update Code Deck from Advanced Settings.

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.

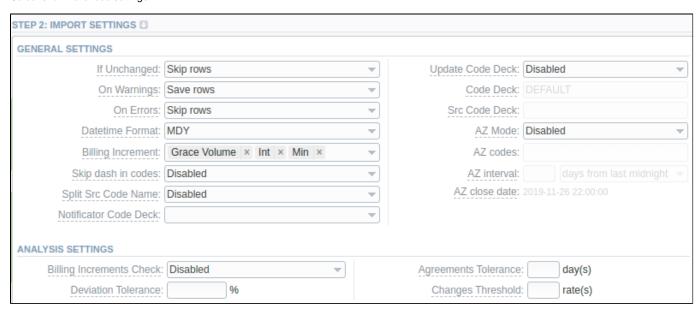
Screenshot: Sheet types



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
lf Unchanged	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 <i>Effective Date</i> . Has two options: • Save rows • Skip rows
On Warnings	Manages alerts from the <i>Analysis Settings</i> section. If any, you'll have the option to: Save rows Skip rows Abort import
On Errors	Determines billing behavior if inconsistency or error was found in the importing file (data inconsistency, incorrect symbols, etc.) • Import correct rows and show all found errors - import error-free rows and display the list of errors, if any • If errors are found, abort import and show all errors - if any error is found, stop the import and display a list of errors

Datetime 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: Format DD-MM-YYYY (%d-%m-%Y) = 28-12-2018 YYYY-MM-DD (%Y-%m-%d) = 2018-12-28 MM/DD/YYYY (%m/%d/%Y) = 12/28/2018DD.MM.YYYY (%d.%m.%Y) = 28.12.2018 YYYY/MM/DD (%Y/%m/%d) = 2018/12/28YYYYMMDD (%Y%m%d) = 20181228 YYYY-MM (%Y-%m) = 2018-12 Billing Billing Increment defines the way events are billed and combines two parameters: minimum volume and tariffication interval or three parameters: minimum volume, tariffication interval and grace volume. Indicate the order of parameters recognition in the Billing Increment Increment column: Min Volume/Interval Interval/Min Volume Min Volume/Interval/Grace Volume Interval/Min Volume/Grace Volume For example, if the Billing Increment column in your import file is 1, 5, and you selected Min Volume/Interval value in this field, the system will recognize 1 as Minimum Volume and 5 as a Tariffication Interval for a target rate. Select whether a dash in codes must be skipped or not: Skip dash in codes Enabled - codes, written as 1201-1205, will be imported as a single 12011205 code Disabled - 1201-1205 codes will be imported as separate 1201, 1202, 1203, 1204, 1205 codes Split Src This option is used only in case source code names contain an *underscore* symbol. Choose one of the following: Code Name Disabled - if an Src Code Name is, for instance, USA_Columbia, it will be preserved as it is after import. By underscore - if selected, a USA Columbia Code Name will be changed to Columbia after import. Notificator Specify code decks that will be used for the next rates notification Code Deck Update Select the way you want both Src and Dst code decks to be updated with new/existing code names from current rates file: Code Deck Disabled - leave selected code decks unchanged Import only not existing codes - code decks will be updated with codes and their names if they are missing Import all codes (update existing) - ode decks and codes will be updated with code names taken from a file, overwriting of Import all codes (purge code deck first) - code decks are fully cleared and then all codes and code names are imported from a Attention If Src Code and/or Dst Code sheet type is selected, you need to enable this feature Code Deck Dst Code Deck that will be used for an Update Code Deck option. Select a destination code deck that you want to update with the above-mentioned settings (note that code deck specified settings here will only be available if you are importing a file, which contains Co de Names in addition to Codes). Src Code Src Code Deck that will be used for an Update Code Deck option. Select a source code deck that you want to update with the above-Deck mentioned settings (note that code deck specified settings here will only be available if you are importing a file, which contains Code Names in addition to Codes). AZ Mode A special mode that determines system behavior regarding active/future rates: Disabled - leave active/future rates unchanged. Selected by default. Simple mode - active rates from a current Rate Table will be closed on the specified AZ close date if they aren't present in this import. Extended mode - all existing future rates will be marked as stashed. Currently, active rates (not presented in this import) will be closed by the date specified below. Available if AZ Mode is active. Specify the exact code(s) AZ Mode is going to be applied to. By default, the field value is "*" (all codes) AZ codes

AZ interval	Available if AZ Mode is active . Specify the period for AZ mode to close rates. The selectable options are: • days from last midnight - the rates will be closed after the specified amount of days from the midnight of the import day • days from now - the rates will be closed after the specified amount of days from the import day • hours from XX:00 - the rates will be closed after the specified amount of hours from the start of an hour of the import timestamp • hours from now - the rates will be closed after the specified amount of hours from the import timestamp
	Tip For a detailed explanation, check out our Knowledge Base article
AZ close date	Available if AZ Mode is active. The field displays the time and date (with timezone) of rates closure based on the AZ interval parameters.
Billing Increments Check	Select whether you need billing increments checking during import or not: • Enabled - the system will raise an error in case imported rates' billing increments differ from those already present in the Rate Table. • Disabled
Deviation Tolerance, (%)	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.
Agreements Tolerance, (days)	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.
Changes Threshold, (rates)	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 oicon 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



Field	Description							
Code	dicate a destination code. For all codes, use * (asterisk)							
Status	ndicate a status for the rates. By default, it will be <i>Active</i> . Set the <i>Stashed</i> status if you want to double-check them later after import.							
Effective Date	 Specify a start date of a rate. There are various options to schedule this date: days from last midnight - the rates will be active after the specified amount of days from the midnight of the import day days from now - the rates will be active after the specified amount of days from the import day hours from XX:00 - the rates will be active after the specified amount of hours from the start of an hour of the import timestamp hours from now - the rates will be active after the specified amount of hours from the import timestamp 							
Time Profile	Indicate time profile that will be used for a current rate, for example, business time, non-business time, weekends, etc.							

Min	Minimal time of the call that will be tariffed. For example, if the total call time was 20 seconds and <i>Min</i> is 30 , the client will pay for 30 seconds of the call.
Int	Tariffication interval. This parameter is used, when <i>Min Time</i> time expires.
Extra	 Additional parameters are stored under the downwards arrow icon. Tag - specify a tag for respective rates. If it's not applicable, assign a (@) tag as default. Service - specify a service of the rates. Grace Volume - a volume that will not be tariffed (i.e., it's free). Policy - rate's type for a code: regular rate or additive (extra) rate. Setup Fee - an initial fee that is charged. Number Length - specify the min and max number length. End Date - the final date after which the rate will expire. Notes - additional information.

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

Step 3. Import Errors

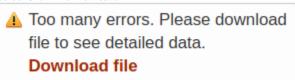
Provided a non-critical error(s) occurred, you will see a table, where the exact sheet, line and error description are specified (see screenshot). In this case, you need to start the whole import procedure from the beginning.

Screenshot: Step 3. Import Errors



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

Screenshot: Error notification



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

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

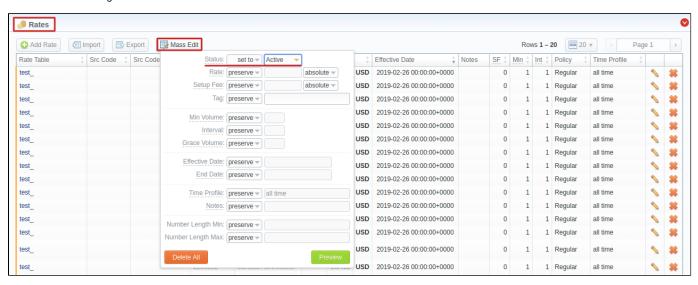
Screenshot: .csv file with detailed error data

	A	В	С	D
151	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



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 downloa					
Total	Total amount of imported rows				
New Total amount of rates with New type					
Increased Total amount of rates with Increased type					
Decreased	Total amount of rates with Decreased type				
Unchanged	Total amount of rates with Unchanged type				
A-Z Closed	Number of rates, closed by A-Z import				
A-Z Stashed	Number of rates, stashed by A-Z import				
Status	Status of import procedure (success/failed)				



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.



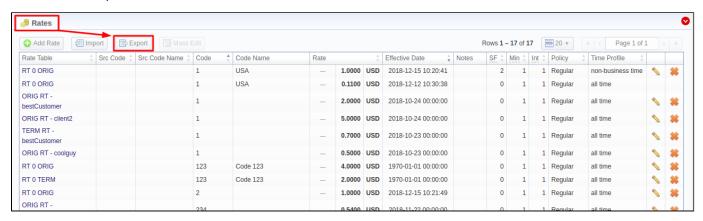
Attention

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

Export

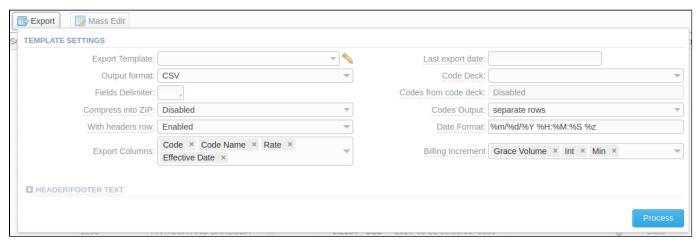
Rates export provides great flexibility in configuring the way rates will be exported in .csv or .xlsx files. To access the export settings, click the Export button in the Rates section.

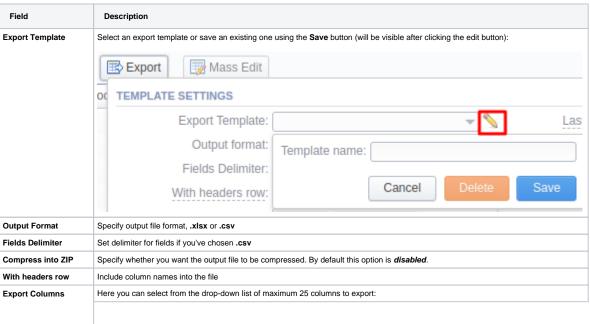
Screenshot: Rates export button



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





Src Code/Src ode Name	Src Code/code name of rates							
Code/ode Name	Code/code name of rates							
Effective Date	Start date, before which the rate will not be used							
• Rate	Price per unit, specified in respective service settings							
Billing Increment	Min Volume, Interval and Grace Volume combined, and their order ment							
Min Volume	Minimal time interval of tariffed calls							
• Interval	Tariffication interval							
Grace Volume	Free of charge unit							
Setup Fee	An initial fee that is charged when event duration is longer than 0 seconds							
• Time Profile Time Profile (all time, business time, non-business time, weekends)								
A final date, after which the rate will expire End Date								
Number Length min	Minimum number length							
Number Length max	Maximum number length							
Previous Rate	Last rate in usage							
Prev Diff	Cost changes in the rates							
Prev Diff (export)	Cost changes in the rates after the last export							
Prev Diff Status	Difference between a current rate and a previous one							
 Prev Diff Status (export) 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 unchanged status if the Effective Date is lower than the Last Notification 								

	Step 1: Notification type: All rates unique mode - First Notification: 07/07/2017								
	Code Rate Effective			-	Previous Rate	Prev Diff		Prev Diff Status (export)	
	1	10	07/01/2017 00:00:00		-		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	2: Adde	ed new rates with effe	ctive d	ate 07/21/2017 -	Second No	otification: 07/14/	2017	
	Code Rate Effective		e Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)		
	1	15	07/21/2017 00:00:00	+0000	10	5	increased	increased (5.0000)	
	2	15	07/21/2017 00:00:00	+0000	10	5	increased	increased (5.0000)	
	3	15	07/21/2017 00:00:00	+0000	10	5	increased	increased (5.0000)	
	Step 3	3: Rate	with code 1 was edit	ed and	the increase wa	s canceled	I - Third Notificat	ion: 07/21/2017	
	Code	Rate	Effectiv	e Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)	
	1	10	07/21/2017 00:00:00	+0000	10	0	unchanged	unchanged	
	2	15	07/21/2017 00:00:00	+0000	10	5	increased	increased (5.0000)	
	3	15	07/21/2017 00:00:00	+0000	10	5	increased	increased (5.0000)	
	Step 4	1: Rate	with code 2 was edit	ed and	added a new rat	te for code	3 - Fourth Notific	cation: 07/28/2017	
	Code	Rate	Effectiv	e Date	Previous Rate	Prev Diff	Prev Diff Status	Prev Diff Status (export)	
	1	10	07/21/2017 00:00:00		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)	
	• 1	Notes		Addition	onal information	n about a r	rate		
	• 1	Tag		Tag, assigned to a respective rate					
				Rate policy (additive or regular)					
	Policy Status								
			Rates	Rate status					
	• ;	Servic	е	Servic	e of a rate				
	• 1	Tech F	Prefix	Tech	orefix of a rate				
ast Export Date	Param	eter th	at affects the Rate of	hanges	field (dependi	ng on it, th	e exported rates	will be marked as <i>new</i> ,	
ode Deck	Select	a code	e deck here to rewrit	e code	names in an ex	port file if	needed		
odes from code deck	Allows	you to	filter the export by	selectin	g only codes, w	hich are p	present in a spec	ified Code Deck	
Codes Output	Specify	y how o	codes must be displ	ayed. T	he options are:				
	• ;	Separa	ate rows	Each code is placed into a single row					
	• 1	Delimi	ted list	Codes are grouped by a code name in a row, for example, 5510, 5511, 5512					
	• 1	Range	s list	Codes are grouped by code name into ranges plus delimiter, for example, 5510-5512, 5515					
Date Format	The da	ate forn	nat in your export file	e. The s	syntax is as follo	ows: if you	ı indicate % d- %i	n-%Y here, your date wi	
Billing Increment	Select	these	parameters here an	d drag t	hem to align ar	nyhow:			
	• 1		Volume						
Header text/Footer text	Allows you to put some text into an exported file as header and footer, respectively								



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.

 $\hbox{\it Click the {\bf Process} button and save an exporting file when you finish configuring the parameters.}$

JeraSoft Billing 3.23



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 tariffed.
- Interval is a tariffication interval, which is used when Min Time time expires.
- Grace Volume is a time interval that will not be tariffed (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

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

, which is 0,8 currency units regarding the presented

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

- **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

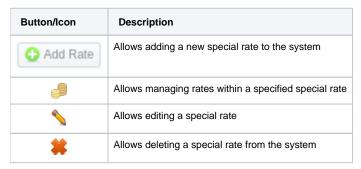
The **Special Rates** section has been created since version 3.18 of the JeraSoft Billing. Its purpose is to separate regular prices for the destinations and the exclusive prices based on agreements between vendors and clients. The section is presented as a table like the one below:

Screenshot: Special Rates section



Column Name	Description			
Rate Table	Rate table of a special rate			
Code Name	Destination code name of a special rate			
Rate	Price per unit of service			
Effective Date	Date, when a special rate becomes active			
End Date	Date, after which this special rate will not be used			
Notes	Additional information about a special rate			
SF	Setup fee of a special rate			
Min	Minimal billed volume			
Int	Billed interval			
Time Profile	Time profile of a special rate			

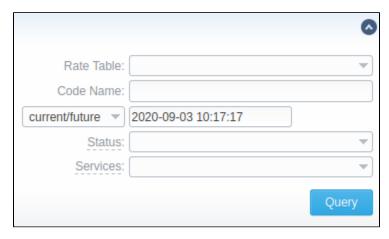
Functional buttons and icons, presented in the section, are as follows:



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

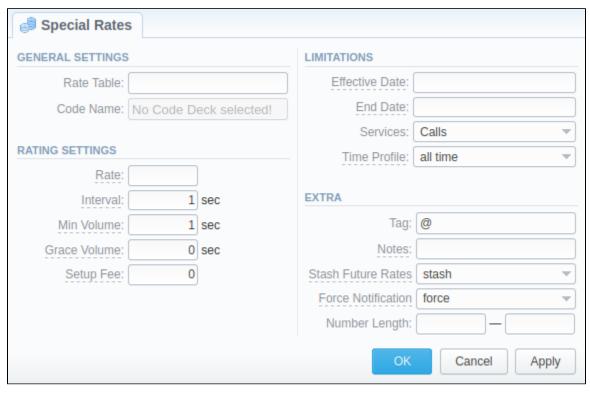


Field	Description							
Rate Table	You can filter the special rates belonging to a certain rate table							
Code Name	ou can filter the special rates by code names							
State	Search by the period of a rate during which the rate is active, expired, etc. The following states are available to choose from a drop-down list: • current/future - the search includes current and future rates • current on - includes rates that are active for a specified date • future for - includes future rates compared with a specified date • past for - includes rates that are expired for a specified date • all - includes all rates							
Status	You can search by the status of the special rate: active stashed							
Services	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



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

Stash Future Rates	Select what the system should do to the future rates for the same destinations existing in the system: • preserve; • stash.
Force Notifica tion	Select the system behavior regarding the notification process for the newly created rate: • hold; • force.
Number Length	Specify a minimum and maximum length of the destination number. For example, if you have a rate of 3 USD for USA Code Name with indicated number length from 6 to 9 , and another rate of 5 USD for the same USA Code Name without specified number length, all calls with a Dst Number between 6 and 9 digits will be billed by 3 USD , otherwise, by 5 USD .

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.

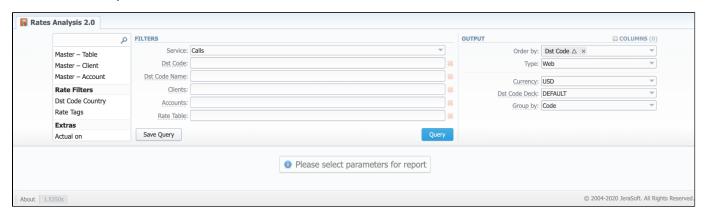
Rates Analysis 2.0

Rates Analysis Form Creating a New Analysis Report Creating a New Report Query 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				
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.				
	Service	Select a service for rates analysis. Default is <i>calls</i>			
	Dst Code	Specify a code of the needed destination			
		Info If a vendor does not have a Rate for the specified longer Dst Code, it would be <i>simulated</i> from an existing shorter one.			
	Dst Code Name	Define a code name of the desired destination			
	Clients	Indicate termination clients for analysis			
	Accounts	Indicate termination accounts for analysis			
	Rate Table	Define rate tables for analysis			
	Additional Filters				

Master Source			
Master - Table	Specify a rate table that all other rates will be compared to		
Master - Client	Specify an origination client that all other rates will be compared to		
Master - Account	Specify an origination account that all other rates will be compared to		
Rate Filte	rs		
Dst Code Country	Enter the name of the respective country		
Rate Tags	Indicate a tag, which relates to specific rates		
Extras			
Actual on	Define the date, when the rates should be effective on		
	Info Applies both to Effective Date and Time Profile.		
Volume Interval	Specify the number of days of statistics that would be taken for analysis		

Output

This information block 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

The list of additional columns include:

- Sources Volume calculated based on Summary Report.
- Sources Quality calculated based on Summary Report. Quality parameters for traffic ASR and ACD are available per row. Master Volume calculated based on Orig-Term report.
- Master Profit calculated based on Orig-Term report. The relative and absolute Profit is displayed per destination.
- Master Routes shows how many accepted routes there are according to the Routing Plan on the selected master entity. When clicked, prompts you to the Routing Analysis for the respective case.



Note

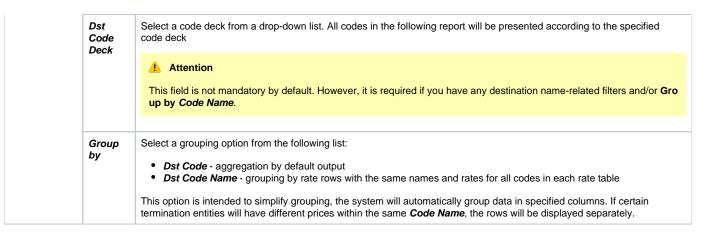
A master filter must be selected for any master-related output columns.



Info

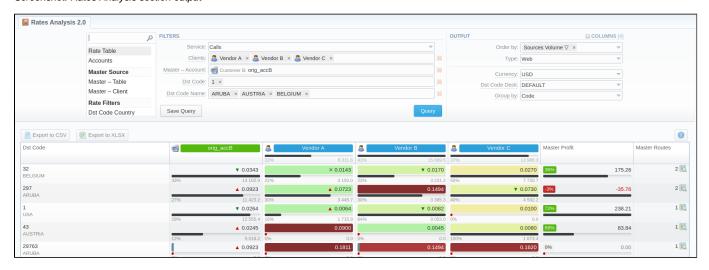
By default, the system takes statistics for the last 7 days. You can alter this value by specifying a Volume Interval filter.

Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values
Туре	Choose a format of the report from a drop-down list: • Web • CSV • Excel XLSx If CSV or Excel XLSx type has been selected, an additional Send to field will be displayed. In this field, you can specify emails of the clients, to which the current report in the selected format will be sent.
Currency	Specify the currency of the report. All values will be automatically converted to the specified currency in the report



After clicking the **Query** button, the system will form a list of rates with prices for each destination. The appeal of rates is visualized as a heat map for convenience. The darker the red - the least profitable, the brighter the green - the more, respectively.

Screenshot: Rates Analysis section output



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

Screenshot: Info icon

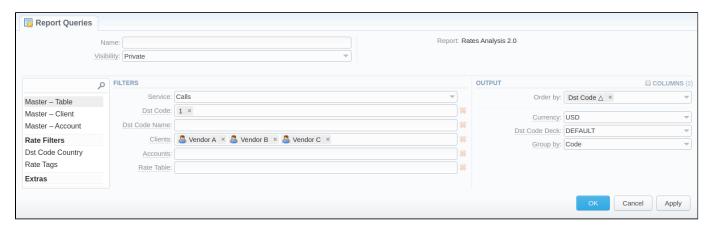
Generated by: Administrator on 09/17/2021 13:48:45 +0000

Duration: 0.1132 sec

Creating a New Report Query

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 Report Query form



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 .xlsx file or .csv that would contain currently presented data. Click the **Export to XLSx** or **Export to CSV** button above the report output 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 view, which is located under the Output section:

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

Rates Analysis [old]

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:

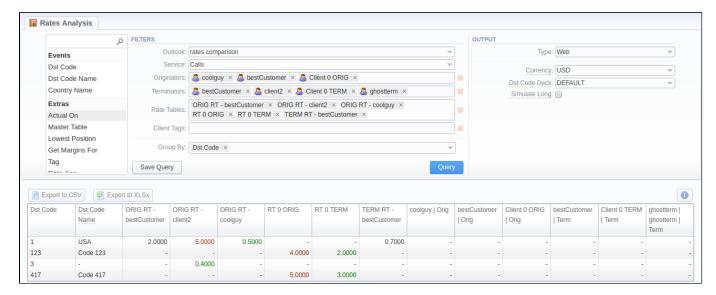
formation lock	Field Description			
ers	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.			
	Outlook	Choose the form of the rate analysis report for data display. Please note that this field is mandatory and should be filled in to make a report. • Rates comparison - compares rates in general and particular rates assigned to certain Clients and Accounts. • Least costs list - shows the cheapest rate for each code in a particular rate table		
	Service	Select a service for rates analysis		
	Originators	Specify origination clients for analysis		
	Terminators	Indicate termination clients for analysis		
	Rate Tables	Define rate tables for analysis		
	Client Tags	Select clients matching specified tags for analysis		
	Group by	Select a grouping option from the following list: • Dst Code - aggregation by default output. • Dst Code Name - grouping by rate rows with the same names and rates for all codes in each rate table. This option is intended to simplify grouping, the system will automatically group data in specified columns.		
	Additional I	Filters		

The accessible additional filters are:

Events: Dst Code, Dst Code Name, Country Name Extras: Client Tags, Actual On, Master Table, Lowest Position, Get Margins For, Tag, Rate Age **Events settings** Dst Code Specify a code of the needed destination. **Dst Code** Define a code name of the desired destination. Name Enter the name of the respective country. Country Name Extra settings Define the Effective Date of rates. Actual on Master Specify a rate table that all other rate tables will be compared to. Table Attention Please note that this field is active only during rate tables analysis Lowest Enter the number of the position from the full list of rates. For example, if you are looking for the cheapest destination in Position several rates, type 1 in this field. Please note that this feature only works with the Master Table option. Tag Indicate a tag, which relates to a specified rate table Define a rate table, from which the respective margins will be taken. It is used to analyze margins. Get margins for Rate age Specify the number of days Output This information block contains settings of the report output data. Type Choose a format of the report from a drop-down list: Web CSV Excel XLS Excel XLSx If CSV, Excel XLS or Excel XLSx type has been selected, an additional Send to field will be displayed. In this field, you can specify emails of the clients, to which the current report in the selected format will be sent. Specify a currency of the report. All values will be automatically converted to the specified currency in the report. Currency Code Deck Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck. Check if a rate table does not have codes, which are presented in other tables for simulating them using shorter codes. Simulate long codes checkbox Attention If you check the Simulate long codes checkbox, the system will try to simulate the longest available code with the shorter one. For example, we analyze two rate tables, one of which has code 380, and the other has 380 and 38044 When the mentioned checkbox is active, the first rate table will have unavailable 38044 code simulated with the price of available 380. Rates like these have the Simulated label when you hover the mouse pointer over them and are colored in light-red, light-green and grey respectively.

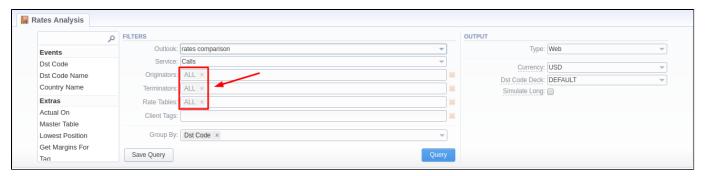
After clicking the **Query** button, the system will form a list of rates with prices for each destination. The highest rate available for the destination is colored in red, the lowest – in green, and middle rates are colored in black.

Screenshot: Rates Analysis section



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



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.

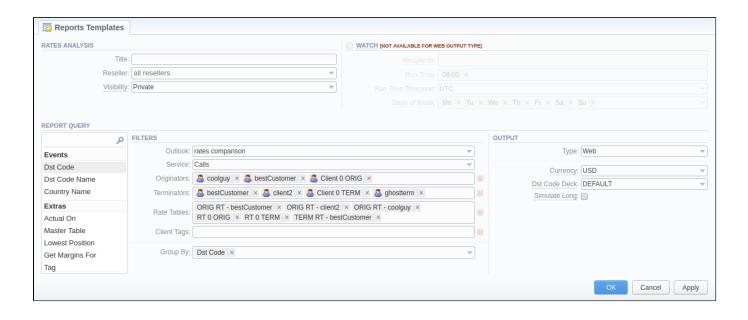
Screenshot: Info icon

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



Section	Description				
Rates	Here you can specify parameters for the template that will be used while running reports				
Analysis	Title	Specify a name of the template			
	Reseller	Indicate a Reseller for the report template			
	Visibility	It allows controlling the visibility of respective reports templates. 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:			
		 Public - available for users according to the settings of the Reseller field. Private - accessible strictly for the creator. 			
Watch	This tool allows to generate the report automatically at the appropriate time and send the results to the list of emails.				
	Attention				
	Please note that this tool is not available for <i>Web</i> output type, only for <i>CSV/Excel XLS/Excel XLSx</i>				
	Recipien ts	Specify recipients. You can indicate your own email, or other users of the system, or even 3rd parties			
	Run Time	Indicate an appropriate time to generate a report automatically, it could be several times, for example, 10:00, 12:00, 18:00			
	Days of Week	Indicate days of the week to generate a report automatically. For example, you can run a report only on Monday or each day of the week .			
Report Query	Here you need to check filters and the output type. These values will be pre-selected by default according to the formed rate analysis query.				

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

Export generated report

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

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** licon, which is located under the **Output** section:

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

Screenshot: Rates Analysis Info icon



Rates Generator

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		
ID	Identification number of a rates generator		
Name	Name of a rates generator		
Company	Name of a reseller, whom a rates generator belongs to		
Descripti on	Additional information about a rates generator		

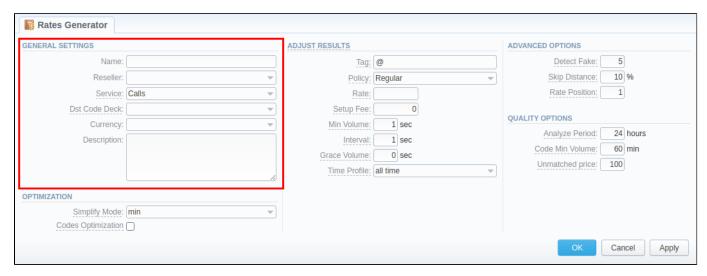
Functional buttons/icons, presented in the section, are as follows:

Button/Icon	Description
New Rates Generator	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 **add itional** settings. The list of general settings includes the following fields:

Screenshot: General settings

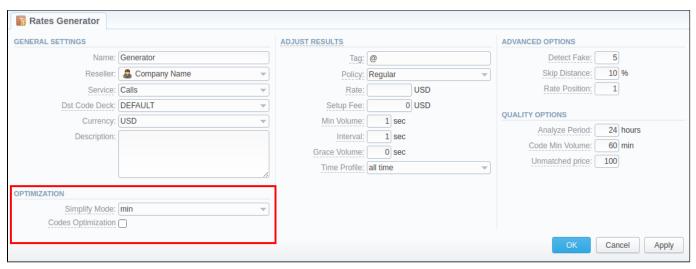


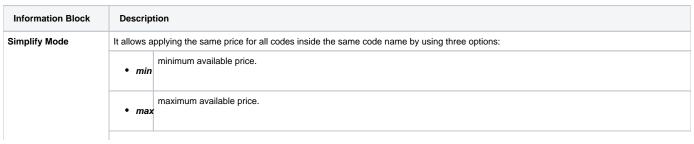
Field	Description	
Name	Specify the name of a new rates generator	
Reseller	Select the reseller, to whom a newly created rates generator should belong	
Service	Choose the service to be applied for the respective rates generator (calls, SMSs, data, etc.).	
Dst Code Deck	Select the code deck that will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

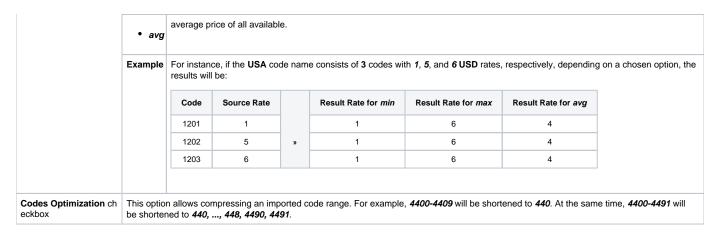
To refine your results, you can use the following additional criteria:

Optimization Options

Screenshot: Rates Generator form/Optimization checkbox



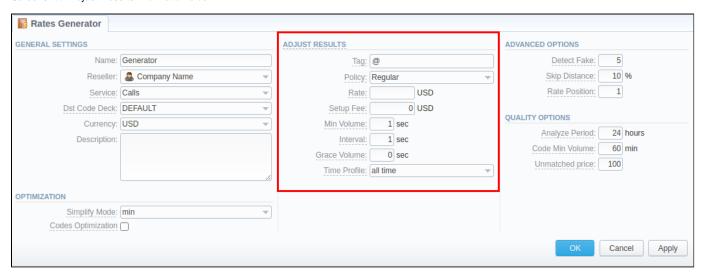




Adjust Options

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

Examp

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

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.

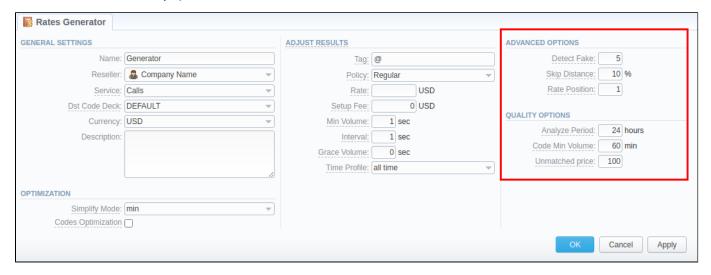


Attention

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

Rate Position

Define what rate from a total amount of rates left after **Detect Fake** operation will be used for certain code.

Rates are ordered from the cheapest to the most expensive. Thus, if you specify 1, The system will use the cheapest rate, if 2 - the second cheapest, and so on.

Example

Let's say we have 4 rules in our rates generator, each with a different source rate table. Each rate table has a rate for the 1201 code, but with different prices in USD:

Rate Table Name	Rate
RT 1	0.98
RT 2	0.2
RT 3	1.1
RT 4	1.7

In Advanced Options of rates generator settings, we've specified values, seen in the screenshot above. It means that the system will pick all 4 rates for the 1201 code and execute the following actions:

- 1. Count an average rate for all 4 rates that equals 0.99 USD.
- Count the interval of 15% for an average rate of 0.99 USD that is between 0.85 USD and 1.13 USD. Then, the system will compare all rates and skip 1.7 USD rate from RT 4 and 0.2. USD rate from RT 2.
- 3. Since the Rate position field value is 2, the system will pick the second cheapest rate for this code that is 1.1 from RT 3 and apply it as a basic rate for 1201 code in a new rate table, created by a rates generator.

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	
Analyz e Period	Define a number of hours to analyze the Summary Report for. For example, 24 hours	
Code Min Volume	Define a minimum event volume for certain code. For example, 60 min for the Calls service	
Unmat ched Price	Define a price for all codes that do not satisfy quality parameters (<i>Code Min Volume</i> value). For example, 100 USD	

Example For example, you created a new rates generator and set up 3 rules for the following codes: 1201, 1205, 1205 with 1.5, 2.5, and 5.5 USD rates, respectively. In the Quality options, the respective parameters are the same as indicated in an example (see screenshot above). If you click Create Rate Table or Update Rate Table buttons on May 16th, at, i.e., 3:25 PM, the rates generator will run a Summary Report with the following parameters:

Field	Value
Period	May 15, 15.25 PM - May 16, 3:25 PM
Code	1201, 1202, 1205
Total Volume	60

Subsequently, a report showed that the billed volume for 1201 code is 79 mins, 1202 - 49 mins, and 1205 - 61 mins. As a result, a newly generated rate table will contain the following data:

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.

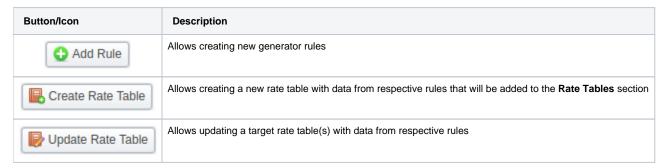
When your rates generator has been created, you need to specify its rules. The Rules List tab consists of all rules, created for a target rates generator and is presented in the form of a table with the following columns:

Screenshot: Rules List Tab



Columns	Description			
Rates Filter	Code or Code Name, used in this rule			
Sources	Rate Tables or Terminators Names that serve as sources for this rule			
Margins	Amount of margin that will be applied to a rate if specified margin parameters are met Margins are calculated like this: (Gross Profit / Revenue) * 100			
Force Rates Settings	Additional information on a rate: Setup Fee, Grace Volume, etc.			

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



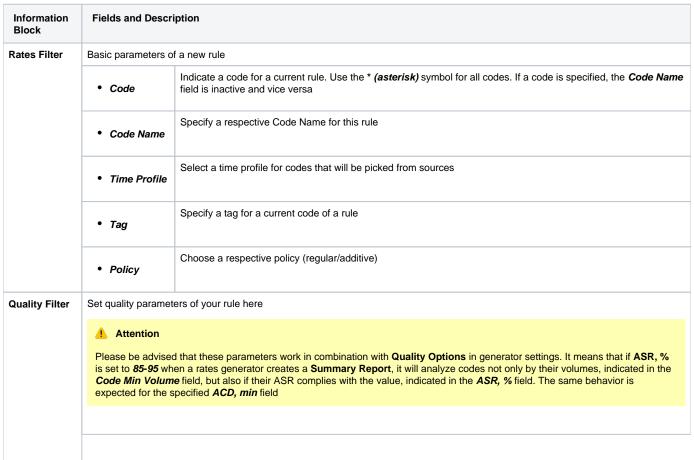
You can change an order of rules with the help of the \$\frac{1}{2}\$ icon. Simply click on it and drag-and-drop it to the desired place.

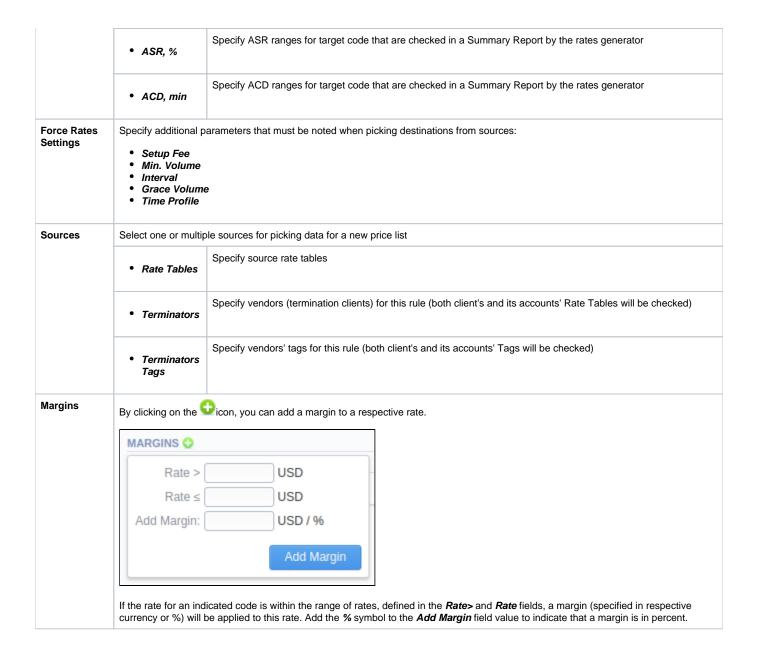
Creating New Rules

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 Ger	nerator		Generator
RATES FILTER		SOURCES	
Code:		Rate Tables:	
Code Name:		Terminators:	
Time Profile:		Terminators	
Tag	@	Tags: L	
	Regular	MARGINS 🔾	
ASR: ACD: FORCE RATES S Min Volume: Interval: Grace Volume: Setup Fee: Time Profile:	— % — min SETTINGS Sec Sec Sec USD	No Margins	
		OK Cancel	Apply







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.



Info

In case the currency of a source Rate Table differs from Rate Generator currency, it will convert prices to correspond to its assigned currency.

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



Column Name	Description
ID	Agreement's identification number
Name	Name of an agreement
Notification Day	Day, on which a vendor agreed to send notifications to the customer
Increased Rate	Delay that indicates the minimal period between notification date and date of an increased rate
Decreased Rate	Delay that indicates the minimal period between notification date and date of a decreased rate
Unchanged Rate	Delay that indicates the minimal period between notification date and date of an unchanged rate
New Rate	Delay that indicates the minimal period between notification date and date of a new rate
Closed Rate	Delay that indicates the minimal period between notification date and date of a closed rate
Reseller	A reseller of an agreement
Sort Order	Order of the entity in the list

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

Button/Icon Description	
• New Agreement	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				
Name	Title of an agreement (must be text with no more than 128 symbols)				
Reseller	Reseller of an agreement				
Notification Day	Define the date of the notification to the customer				
Agreement 7	Terms				
New Rate	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:				
	 days from last midnight - the rate will be changed after the specified amount of days from the midnight of the defined Notification Day 				
	 days from notification - the rate will be changed after the specified amount of days from the defined Notification Day hours from XX:00 - the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation 				
	• hours from notification - the rate will be changed after the specified amount of hours from the defined Notification Day				

Increased Rate

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:

- days from last midnight the rate will be changed after the specified amount of days from the midnight of the defined Notification Day
- · days from notification the rate will be changed after the specified amount of days from the defined Notification Day
- hours from XX:00 the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation
- · hours from notification the rate will be changed after the specified amount of hours from the defined Notification Day

Decreased Rate

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:

- days from last midnight the rate will be changed after the specified amount of days from the midnight of the defined Notification
 Day
- days from notification the rate will be changed after the specified amount of days from the defined Notification Day
- hours from XX:00 the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation
- hours from notification the rate will be changed after the specified amount of hours from the defined Notification Day

Closed Rate

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:

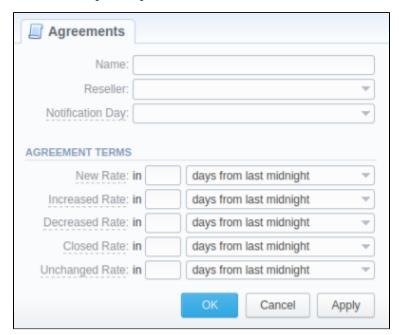
- days from last midnight the rate will be changed after the specified amount of days from the midnight of the defined Notification Day
- · days from notification the rate will be changed after the specified amount of days from the defined Notification Day
- hours from XX:00 the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation
- · hours from notification the rate will be changed after the specified amount of hours from the defined Notification Day

Unchanged Rate

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:

- days from last midnight the rate will be changed after the specified amount of days from the midnight of the defined Notification
 Day
- days from notification the rate will be changed after the specified amount of days from the defined Notification Day
- hours from XX:00 the rate will be changed after the specified amount of hours from the start of an hour of the current agreement creation
- hours from notification the rate will be changed after the specified amount of hours from the defined Notification Day

Screenshot: Adding a new Agreement



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

Swap Deals

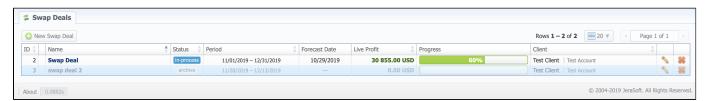
In this article

- 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



Column Name	Description
ID	ID of the Swap Deal
Alert	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.
Name	Name of the Swap Deal
Status	The deal's status. It can be either one of the following: pending - the Swap Deal's start day is in the future in process - meaning the Swap Deal is in process of completing archive - inactive Swap Deal success - the result status after the success deal's completion fail - the result status after the failed deal's completion
Period	Period of the Swap Deal
Forecast Date	The forecasted date of the Swap Deal completion with the current speed
Live Profit	The sum of inbound and outbound live revenue
Progress	The progress bar for the Swap Deal, shows the percentage of completion
Client	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

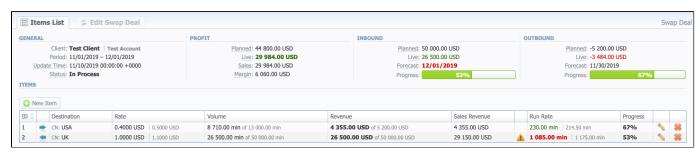


Field		Description	
General	Name	Define the name for the Swap Deal	
	Status	Specify the Swap Deal status. There are two options: • active • archive	
	Currency	Specify the Swap Deal currency	
	Client	Select the Client for the current Swap Deal	
Note that the <i>Client</i> and <i>Account</i> fields are r		Note that the <i>Client</i> and <i>Account</i> fields are mutually exclusive.	
	Account	Select the Account for the current Swap Deal	
Period Settings	Period	Indicate a period in days or months for this Swap Deal	
Start Date Indicate a start date for this S		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



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

Profit	Planned	The sum of inbound and outbound planned revenue				
	Live	The sum of inbound and outbound live revenue				
	Sales	Shows profit according to current statistics and sales rates				
		Counted like sales profit = inbound sales revenue + outbound sales revenue where inbound sales revenue is a sum of all inbound items' sales revenue and outbound sales revenue is a sum of outbound respectively				
	Margin	Indicates the Swap Deal efficiency Counted like margin = live profit - sales profit				
Inbound	Planned	Planned inbound revenue based on Swap Deal volume and price				
	Live	Current inbound revenue according to the statistics within the Swap Deal				
	Forecast	Forecasted end date with current speed (concerning inbound traffic)				
	Progress	Progress bar based on current inbound traffic				
Outbou	Planned	Planned outbound revenue based on Swap Deal volume and price				
nd	Live	Current outbound revenue according to the statistics within the Swap Deal				
	Forecast	Forecasted end date with current speed (concerning outbound traffic)				
	Progress	Progress bar based on current outbound traffic				
Items	ID	ID of the Item				
	Direction	Item's direction: for inbound traffic; for outbound traffic.				
	Destination	Dst Code or Code Name				
	Rate	Indicates the Swap Deal rate (first) and average sales rate (second) for the destination				
	Volume, min	Shows how much traffic from the planned amount is currently within the Swap Deal (Live Volume Planned Volume)				
	Revenue	Shows how much you earned on a specific destination within the Swap Deal from the planned amount (Live Revenue Planned Revenue)				
	Sales Revenue	Shows how much you would have earned on a specific destination without a Swap Deal agreement Counted like sales revenue = live volume * sales rate				
	Alert	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.				
	Run Rate, min	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)				
	Progress, %	Item's progress				

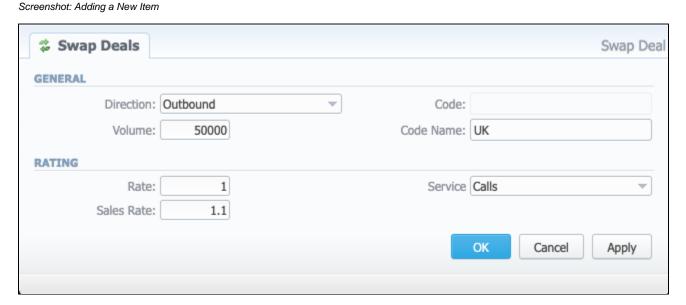
To edit the Swap Deal details, there is an Edit Swap Deal tab available. It has the following outlook:

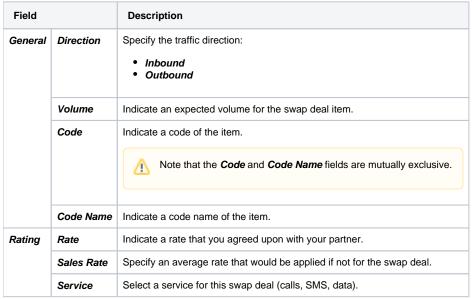
Screenshot: Edit Swap Deal tab



Adding a New Item

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





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 Inventory
- Calling CardsTop-up CardsCall 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



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



Attention

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

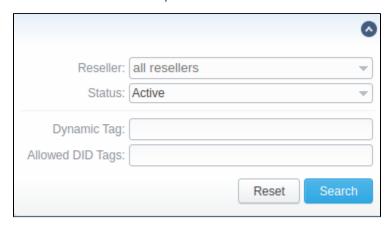
The list of functional **buttons/icons** in the section includes:

Button/Icon	Description		
• New Package	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 Vi con and fill in the following fields with the required information:

Screenshot: Advanced Search drop-down menu



Field	Description	
Reseller	Indicate a name of a target reseller	
Status	Select the status of a package: • Active • Disabled • Archive	
Dynamic Tag	Indicate a target dynamic tag of a package	
Allowed DID Tags	Indicate target DID tags of a package	

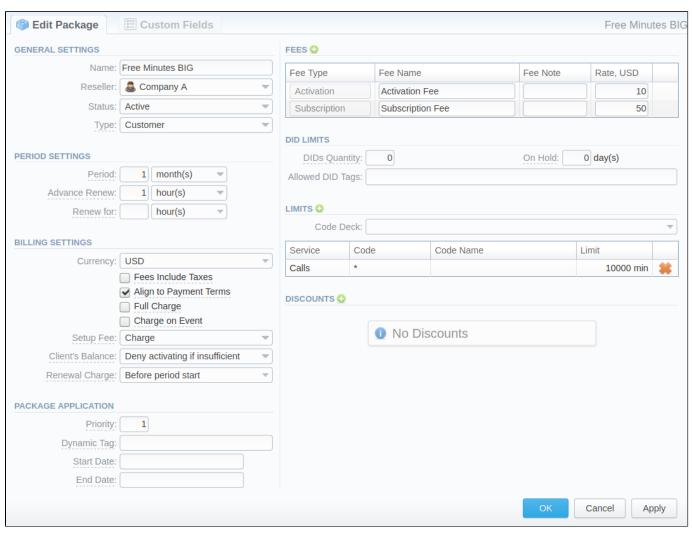
To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click **Reset**.

Adding a New Package

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

Screenshot: New package creation form





Information block	Field and Description		
General	General information about a package		
Settings	Name	Determine the name of your package	
	Reseller	Specify an owner of this package	
	Status	Select a current status for the package: active/disabled/archive	
	Туре	Specify the package type:	
		 Customer - this type will be applied to origination traffic regardless of the rate; Vendor - this type will be applied to termination traffic regardless of the rate. 	
		⚠ Attention This option has been added in version 3.16.0.	
Period	Settings regarding a package period		
Settings	Period	Specify a period for the current package if it's renewable. Allowed values: 1-24 hours, 1-99999 days, 1-12 months, 1-99 years.	
	Advanc e Renew	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.	

Renew For

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.



Attention

Please note that **Period**, **Advance Renew** and **Renew For** fields cannot be set to non-normalized time intervals (example: 75

Billing Settings

List of settings concerning the billing feature

Fees

Currency Define a currency for this package

Include Taxes c heckbox

If enabled, taxes are included in package prices, if disabled - taxes will be calculated regarding a customer's respective Ta x Profile

Align to Paymen t Terms checkbox

Allows the system to align a package period to customer's Payment Terms, equalizing Package billing with actual invoicing.

Attention

The length of the first Subscription period can be reduced in order to allow the following periods to match the invoicing periods in the Client's Payment Terms. All the charges and limits of the first period will be proportionally recalculated if the duration of the first period has been reduced.

In order to process it correctly, the Package Period should match the Client's Payment Terms length. Alternatively, the periods of the Package and Payment Terms need to equal to a multiplex number. In this case, we will get equal Pa ckage charges in each invoice provided the periods are equal. If the Package period is longer than the Payment Terms length, we will get the Package charges with an equal interval.

Full charge checkbox

Allows forcing full charge and limits for the first period regardless of the enabled Align to Payment Terms option.

Charge on Event c heckbox

If enabled, a package subscription fee will be applied when the first call within this package is made. Otherwise, a package would be free.

Setup Fee

Select from a list of available options of setup fee settings:

- Charge setup fee will be charged when an event is billed by volume limit
- Don't charge setup fee won't be charged when limit by volume is used for event billing

Client's Balance

Choose one of the following options:

- Allow activating if insufficient- client's package will be activated regardless of the client's balance; however, package limits will be used only when the clients balance is sufficient;
- . Deny activating if insufficient- client's package will be activated only if there are sufficient funds on the balance

Renewa

Determine when the charge should be created:

Charge

 Before period start On period start

Tip



- the Before period start 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.
- o the *On period start* 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.

Package Application

Information on package application

	Priority	Priority If there are multiple packages that satisfy a call, a package with the highest priority will be used (i.e. priority 2 < p			
		Attention			
		Please note that packages with minutes will always be used before packages with money regardless of the priority.			
	Dynami c Tag	Add a tag for the events, billed by this package			
	Start Date	Indicate an effective start date of a package. This feature is used for temporary packages.			
	End Date	Determine an effective end date of a package. This feature is used for temporary packages.			
Fees	Information block is used for package fees indication and presented in the form of a table. To add a new fee type, yo a con next to its name.				
	Fee Type	Select the type of fee. There are two possible types: • Activation – a fee that will be charged upon package activation • Subscription – a fee that will be charged upon package renewal			
	Fee Name	Specify a name of a fee			
	Fee Note	Here you may enter additional information about a fee			
	Rate	Indicate the price for a fee. Price is indicated in the package currency			
DID Limits	Specify ho	ow many DIDs and from which group can be assigned to a customer with this package			
	DIDs Quantity	How many DIDs can be assigned to the client's accounts			
	Allowed Tags	Specify tags that are used while creating DIDs			
	On Hold	Indicate for how many days a DID is kept on hold after the package is deactivated			
Limits	Here you its.	can create promotional minute packets that will be included in the package. To add a new limit, click on a 🗘 icon next to Lim			
	Code Deck	Specify a Code Deck if you plan to create <i>limits</i> by using Code Names			
	Service	Define a service this limit will be used for			
	Туре	Select a limitation type from the drop-down list: • Money • Volume			
		You can set both types within the same package			
	Code	Specify a code. Please note that package limits are working only for the exact code. I.e., if a short code like 121 was added, package limits will work only for this code and won't automatically work for longer codes like 12157. To make volume limits work for long codes, you must add * (for example, 121* code). If the Code Name field is specified, this one will be inactive.			
	Code Name	Specify a code name from a selected Code Deck. If the <i>Code</i> field is specified, this one will be inactive.			
	Limit	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			
		ning ou assign different packages (with specified volume limits and tags) to the same client, two or more packages could not be nultaneously.			
Discounts	A promotion	onal discount of the package subscription fee. To add a new discount, click on the 🕹 icon next to Discounts .			

	Activati on Count	Specify the sequence number of the reactivation when the package will trigger the discount. For example: if the Activation Count is 2, the discount will be applied for the second package reactivation and further.
	Discou nt	Specify the amount of subscription fee cut. Discount is indicated in the package currency.



- 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.
- 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.



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 Inventory

Section overview

Creating a New Operator

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 Inventory;
- · Operators.

DID Inventory Tab

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

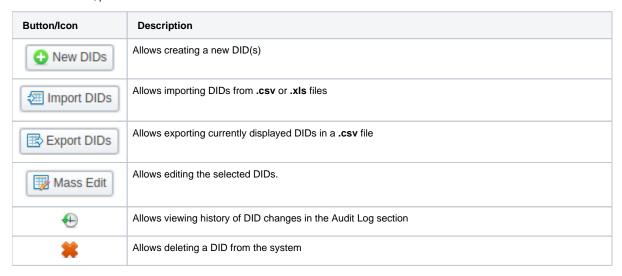
Screenshot: DID Inventory section



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

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

Functional buttons, presented in the tab are as follows:





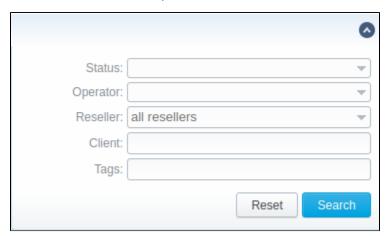
Attention

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 dropdown menu and press Search:

Screenshot: Advanced Search drop-down menu



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 Inventory > Operators tab. Create one or more operators (DID providers).

Open the DID Inventory 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
	Also, you can set the range of DID numbers here. Specify the range using the upper and lower numbers and the dash (-) to separate them. For example, 111-222 . Therefore, the system will create a range of DIDs from 111 to 222 (included).
Operat or	Specify a target DID provider
Status	Choose one of the statuses a DID can acquire: • Reserved • In Stock • Archive
After Hold	Define what status a DID is going to acquire after being in <i>Hold</i> status. The <i>Hold</i> 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.

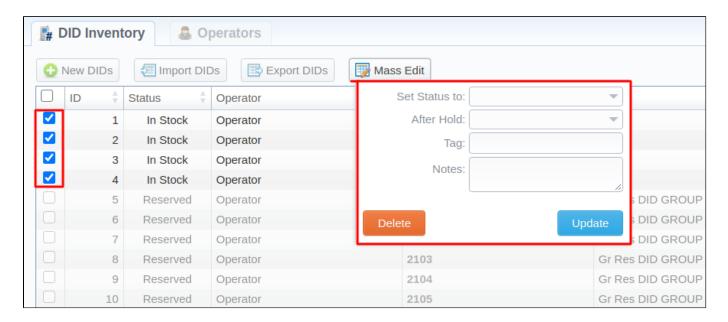


We recommend using tags to make navigation between a great deal of DIDs easier and more effective.

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

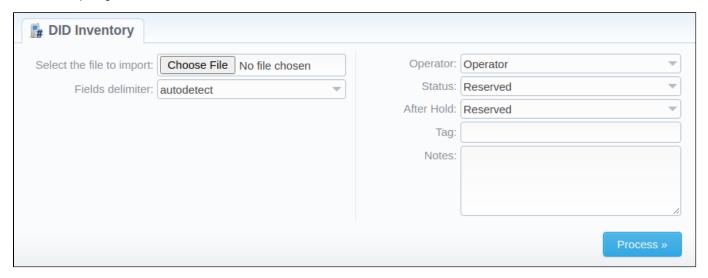


DIDs Importing

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

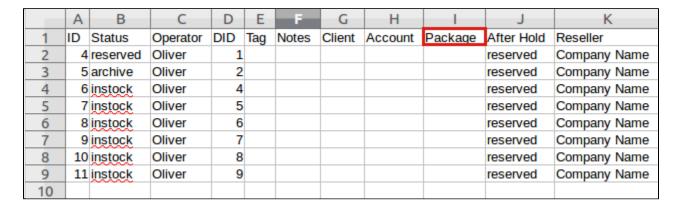
Screenshot: Importing DIDs



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: Package column in an exported file



Operators tab

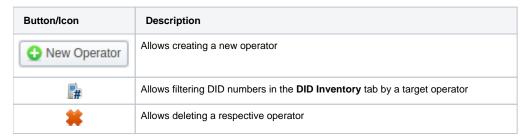
This section shows the list of operators who are owners of DID numbers. The tab is presented in the form of a table with the following columns:

Screenshot: Operators tab



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

The functional buttons/icons in the tab are:

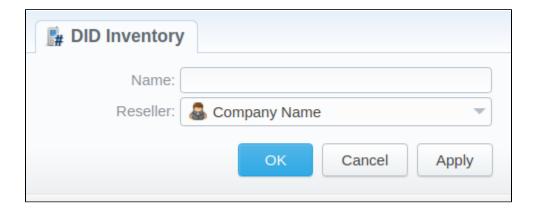


You can filter tab data by Resellers using Advanced Search in the top right corner of the page.

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



In this article

Calling Cards

Janning Janus

- 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

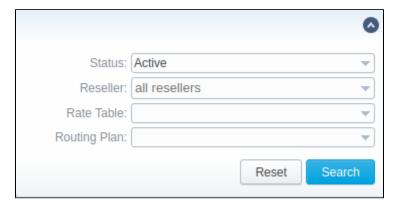


Column	Description	Description	
Status	A name that describes current cards series		
		Indicates that cards series is <i>active</i>	
		Indicates that cards series is <i>stopped</i>	
		Indicates that cards series is <i>deleted</i>	
Number of Series Name of Series	A code of cards series and its name (if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

Advanced Search

In the top right corner of the section above the table, the **Advanced Search** drop-down menu is located. By clicking on a red downwards arrow con (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

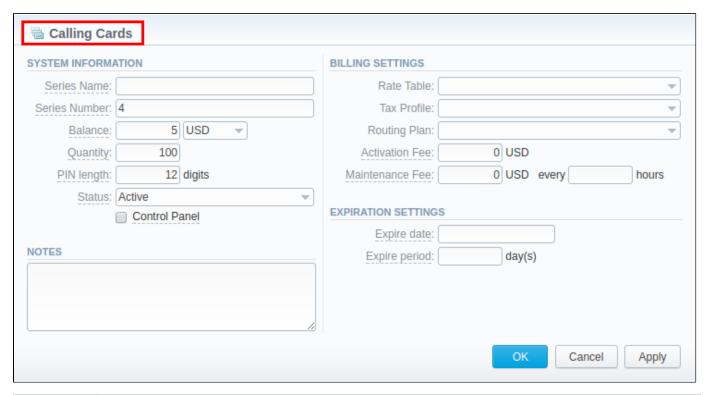


To apply the specified search criteria, click the **Search** button; to cancel the applied parameters, click **Reset**.

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



Field	Description	
Series Name	Indicate a name for a cards series	
Series Number	Define a code of a cards series. This code will prepend a serial number (only numeric, up to 100 000 000). For example, if the Series Number is 45 , the cards number will start with 45: 45-001122333, 45-001122334 and so on.	
Balance	Specify the cards balance value within a current series	
Quantity	Set the number of calling cards within a current series	
PIN Length	Specify a PIN-code length for a current calling cards series (it can be no less than 8 digits)	
Status	Define an initial status of created calling cards within a series. Can be changed later in cards series settings	

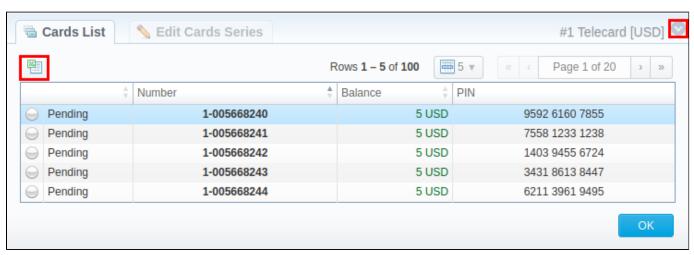
Control Panel c heckbox	Defines whether calling cards users can log in to their control panels or not. If enabled, a user can log in to the control panel by using the card serial number as login and a PIN-code as password		
Notes	Indicate additional information regarding a cards series (optional)		
Rate Table	Define a rate table for all cards within a series. This field is mandatory		
Tax Profile	Select a respective tax profile that will be used for billing settings		
Routing Plan	Select a routing plan for a current cards series		
Activation Fee	Enter an activation fee in this field (if necessary)		
Maintenance Fee	Define a charged fee each X hours for all activated cards		
Expiration date	Current calling cards series will be expired on a specified date		
Expiration period	When a specified number of days passes, starting from activation date, a current calling cards series will be expired		

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

Calling Cards Series Properties

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

Screenshot: Cards List tab

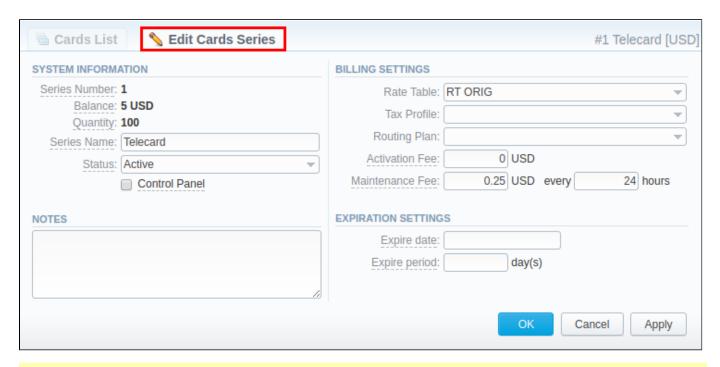


Column	Description	
Status	Status of a card within a current series. There are 4 possible statuses: activated, pending, expired, used	
Number	Number of a card within a current series	
Balance	Balance of a respective calling card	
PIN	Respective calling card PIN-number	

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

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

Screenshot: Edit Cards Series tab



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

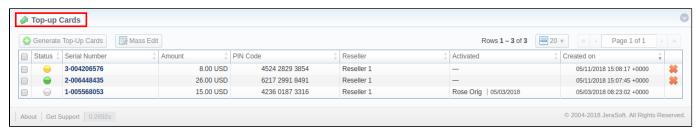
In this article

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

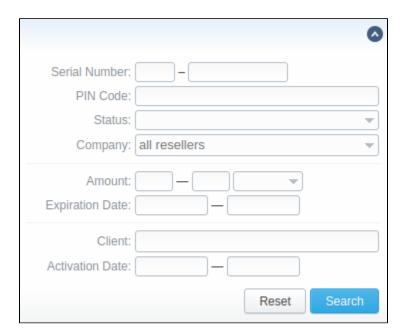
The following functional buttons are presented in the section:



Advanced Search

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

Screenshot: Advanced Search drop-down menu

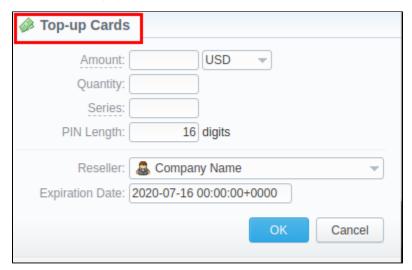


Creating New Top-Up Cards

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

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

Screenshot: New Top-up Cards window



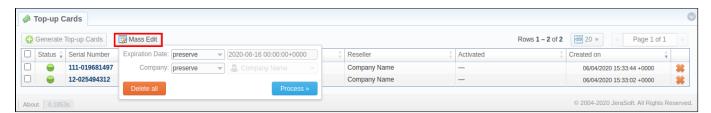
Field	Description			
Amount	Indicate the cards balance value. This amount will be added to a customer's balance on activation.			
Quantity	Specify the number of cards you wish to be created.			
Series	Set a code identifier of a cards series. This code will prepend a serial number. For example, if the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

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

Mass Top-up Cards Edit

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

Screenshot: Top-up cards Mass Edit window



Field	Description			
Optional Parameters	 preserve - the default configuration that saves the rate not edited. Leave this parameter unchanged if required; set to - it allows to edit rates, for example, specify the same expiration date for all rates at once, regardless of previous configurations. 			
Expiration Date	Final date, after which the rate will expire			
Company	Name of one of your companies (or affiliates) that you can add in the Reseller section			

Call Shops

Section overview Advanced Search Creating a New Call Shop Steps to activate a call shop Interval Reload Finalize/Reactivate a Call Shop

Section overview

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

Screenshot: Call Shops section main window



Advanced Search

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

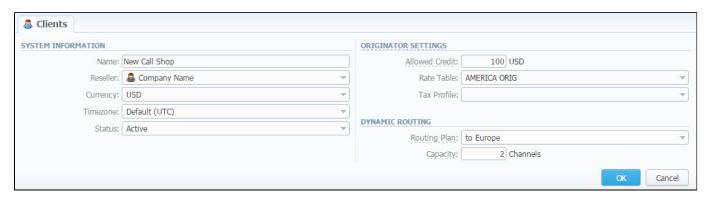
Screenshot: Advanced Search drop-down menu



Creating a New Call Shop

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

Screenshot: Creating new call shop / Clients form



Field	Description			
Name	Enter a name for a call shop			
Reseller	Seller Select a reseller that will be an owner of this call shop			
Currency	Specify preferred currency			
Timezone	Choose a preferred timezone			
Status	Select a status for this call shop: • active • stop • deleted			
Allowed Credit	Specify the credit value here			
Rate Table	Choose a rate table this call shop will be using			
Tax Profile	Specify a Tax Profile this call shop will be using			
Routing Plan	Select a routing plan, if you wish to use dynamic routing for this call shop			
Capacity	You can limit origination capacity for this call shop in this field			

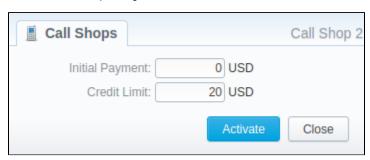
When all information is entered, click ${\bf OK}$ and a call shop will appear on the list.

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.



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

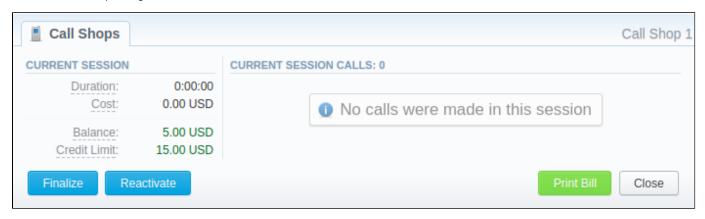
Finalize/Reactivate a Call Shop

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 **Reactiv** ate 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



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 DynamicsSummary ReportOrig-Term Report

- Profit ReportLCR Lists
- Invoicing ReportxDRs List
- Mismatches ReportxDRs Rerating
- Report Queries
- Archive Management

Dashboard

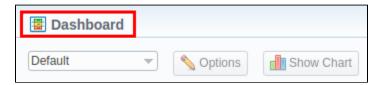
The Dashboard is the customizable section with charts that provide a vivid visual representation of the most relevant report data in one place.

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.
- 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 r
 eport/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.

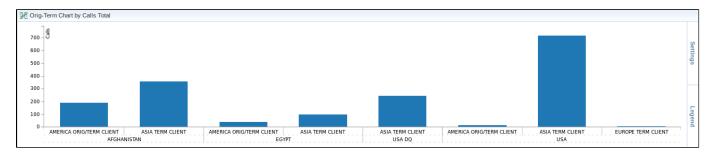
Attention

- 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.

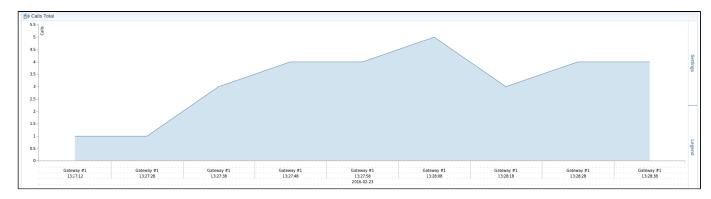
Screenshot: General example of a chart



Screenshot: Orig-Term chart



Screenshot: Active calls chart



Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

In this article

Customer Dynamics

- 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

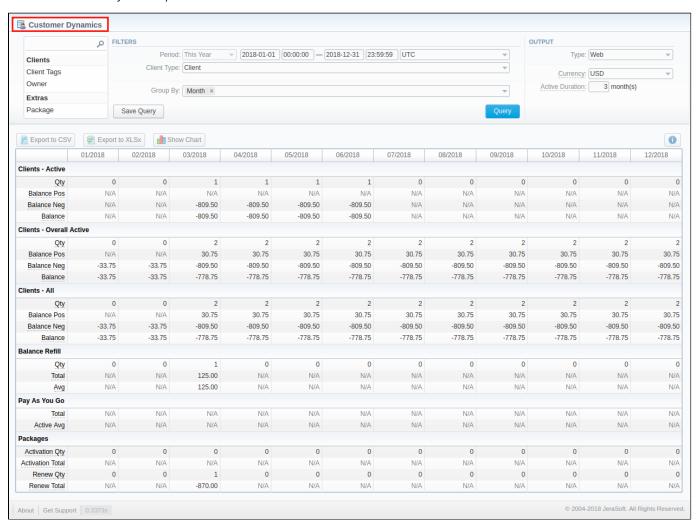
To generate a report, you need to fill in the form and click the Query button. The query form consists of the following parameters:

Information Block	Field Description					
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete 🗱 icon next to the filter.					
	You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.					
	Interval	Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.				
	Client Type	 Select a client type from a drop-down list of the following options: Client Reseller Calling Card Call Shop 				
	Additional Fil	lters				
	There are the	e following accessible additional filters: ts: Client Tags, Owner.				
	There are the	e following accessible additional filters: ts: Client Tags, Owner.				
	There are the • By client • Extras: F	e following accessible additional filters: ts: Client Tags, Owner. Package.				
	There are the • By client • Extras: F	ts: Client Tags, Owner. Package. Specify certain tags to filter clients and show more detailed results in the report				
Group by	There are the By client Extras: F Client Tags Owner Package There are the Time: Ye	stes: Client Tags, Owner. Package. Specify certain tags to filter clients and show more detailed results in the report Define a reseller for the report				
Group by	There are the By client Extras: F Client Tags Owner Package There are the Time: Ye Extras: F	e following accessible additional filters: ts: Client Tags, Owner. Package. Specify certain tags to filter clients and show more detailed results in the report Define a reseller for the report Enter a package for the report following accessible options to group the data in reports: ear, Month, Date.				

Send to	You can send generated reports via email. Also, it is possible to specify several emails.			
	1 Attention			
	This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.			
Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.			
Active Duration	Determine the period (in months). If the customer has used any paid services within this period, (s)he will be considered an active client.			

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

Screenshot: Customer Dynamics report

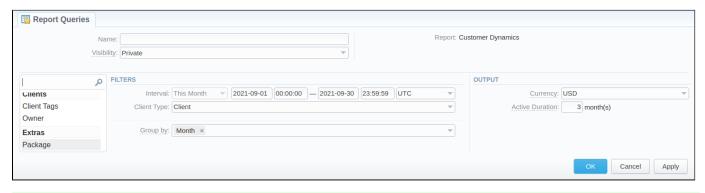


Title	Description
Clients - Active	This subdivision shows statistical data of customers that actively use services according to the period specified in the <i>Active Duration</i> field
	 Qty - Overall number of clients that used any paid services within the last Active Duration period. Balance Pos - Total of all positive balances for the clients that used any paid services within the last Active Duration period. Balance Neg - Total of all negative balances for the clients that used any paid services within the last Active Duration period. Balance - Total of all balances for the clients that used any paid services within the last Active Duration period.

Clients - Overall Active	Here a statistic data of customers that actively used paid services at any time is displayed
ACTIVE	Qty - Total quantity of clients that used any paid services at any time.
	Balance Pos - Total of all positive balances for the clients that used any paid services at any time.
	Balance Neg - Total of all negative balances for the clients that used any paid services at any time.
	Balance - Total of all balances for the clients that used any paid services at any time.
Clients - All	It presents all customers according to the filter settings
	Qty - Total quantity of clients according to current filters.
	Balance Pos - Total of all positive balances for the clients according to current filters.
	Balance Neg - Total of all negative balances for the clients according to current filters.
	Balance - Total of all balances for the clients according to current filters.
Balance Refill	
	Qty - Number of balance refills during the specified period.
	• Total - Total amount of balance refills during the specified period.
	Avg - Average amount of each refill during the specified period.
Pay As You Go	
	• Total - Total amount spent on any services out of package subscription plans.
	 Active Avg - Average amount of Pay as you Go services usage per currently active customers.
Packages	
	 Activation Qty - Number of packages activations during the specified period.
	• Activation Total - Total amount charged for all activations of the packages.
	• Renew Qty - Number of packages renewals during the specified period, including initial renew within the activation of the
	package. • Renew Total - Total amount charged for packages renewals, during the specified period, including initial renew within the
	activation of the package.

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

Screenshot: New Template form



Tip

To find more details about templates, please refer to the Report Queries 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:

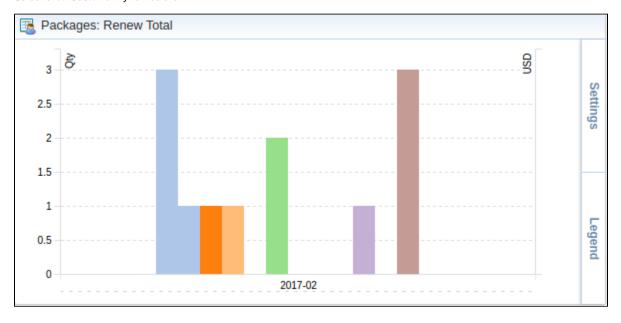
Clients - Active: Qty
Balance Refill: Total
Pay as you Go: Total
Packages: Renew Total

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 Uicon, which is located under the Output section:

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

Summary Report

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:

	Iters menu, select the required parameters for the report. To cancel any filter, click on the delete icon next to the filter. start a quick search by typing filters' names in the field at the top of a drop-down menu with filters. Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory. Accessible when you click on the plus icon next to the <i>Interval</i> . Specify the second interval for the report:			
Interval Compa	Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.			
Compa				
	Accessible when you click on the plus 😌 icon next to the <i>Interval</i> . Specify the second interval for the report:			

Group by

Select from the list of the following accessible options to group the data in reports:

- Time: Year, Month, Day, Hour
- Clients: Client Type, Client, Account, C Series, Owner, Package
- Events: Dst Code, Dst Code Name, Dst Country, Currency, Origin, Service, Result Code, Gateway, Gateway Tag
- Extras: Time Profile, Setup Fee, Rate, Additive Rate.

Attention

- The Group by field is mandatory, it couldn't be empty in order to generate the report. By default, there must be at least two options: Origin and Service
- If you group by Client and his/her Timezone differs from the system Timezone, the latter will be used in the respective report.
- When you are grouping by year, it is recommended to indicate the calendar year in the period. The same goes for other period types.

Additional Filters

The accessible additional filters are:

- · Clients: Client, Client Tags, Client Type, Account, Account Tags, Package, Owner, Cards Serial
- Events: Origin, Dst Code, Dst Code Name, Dst Code Country, Src Code, Src Code Name, Src Code Country, Rate (avg), Result Code, Gateway, Gateway Tag, Time Profile, Service
- Statistics: ASR Std, ASR Current, ACD Std, ACD Current, PDD (avg), SCD (avg)
- Totals: Volume Total, Volume Billed, Package Volume, Cost, Package Credit, Setup Fee Cost, Additive Cost, Taxes Total, Total Records, Non Zero Records, Success Records, Busy Records, No Channel Records, Error Records
- Extras: Match Client, Match Rate

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

The list of additional columns include:

Columns for the main interval:

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

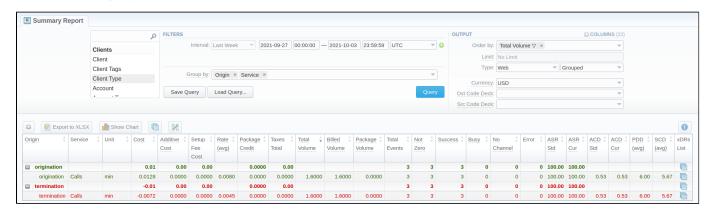
Columns for the comparative interval are the same as for the main period. Moreover, all parameters could be selected expressed in percentage.

Rate	Avg. Rate - an average cost calculated							
Totals								
	Cost Total - the full price of all services including additional services							
	Total Volume - a whole volume of the events in units (specified in the Services settings "Reports" field)							
	Billed Volume - a whole billed volume of events. It could differ from the total volume due to the rates settings, for example, grace volume, min volume, and interval.							
	Package Volume - a volume within a respective package that is billed according to the package limits							
	Package Credit - a volume of credit that has been charged within the respective package							
	Total Events - the entire quantity of events							
	Not Zero Records - the number of records that have the volume equal to or more than 1							
	• Success Records - 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							
	Busy Records - busy records quantity with Q.931 disconnect cause 17							
	No Channel Records - no circuit/channel available, records quantity with Q.931 disconnect cause 34							

Statisti ASR - average success rate (successful records percentage) cs • Std - 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 Cur - the value calculated based on the records with volume > 0 divided by the total number of records ACD - average call duration in minutes Std - the sum of all records duration divided by the number of records with "success" status Cur - the sum of all records duration divided by the number of records with duration > 0 PDD Avg - average post-dial delay in seconds SCD Avg - average session connect delay in seconds xDRs List - list of detailed records statistics Other output settings Order 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. by Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx Type Also, select a look of a table view next to the *Type* field: Plain with total - a simple table view with an additional row with calculated totals Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse it Attention Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV and Excel XLS. Limit Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by the chosen parameter. It is available only for the *Plain* report type. Send You can send generated reports via email. Also, it is possible to specify several emails. to Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report; it doesn't work with Web. Curren Specify a currency of the report. All values will be automatically converted to the specified currency in the report. сy Code Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code Deck

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

Screenshot: Summary Report section



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



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.

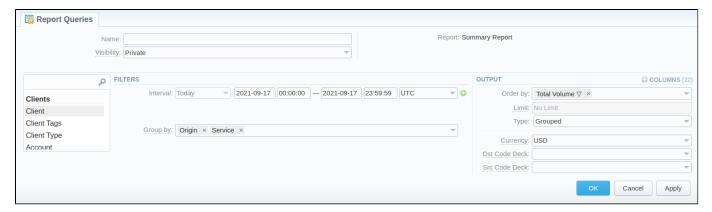


- If you want to sort already grouped data in columns, select respective parameters in the *Order by* field. Also, you can sort from highest to lowest values (or vice versa).
- Please note, the Order by option is active when the Type of the Output form is Plain. When it is Grouped, the data is only sorted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



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

Summary Report buttons: reports, export, chart.

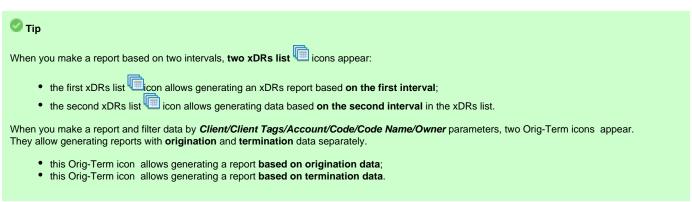
You can export data to a CSV or XLSx file, which contains only currently displayed data, with no automatic request to update data while exporting. Also, it is possible to create charts for illustrating crucial information easily. You can generate a report using the same criteria in the Orig-Term report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

- 1. To expand/collapse all the data for the *Grouped* output, click on the icon above the report.
- 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 a .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.
- 5. You can generate a detailed report using the same criteria in the xDRs list section by clicking the xDRs list icon above the report.



- 6. It is possible to generate a report using the same criteria in the Orig-Term section by clicking the Orig-Term $rac{1}{2}$ icon on the toolbar.
- 7. 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



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 to* 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 *Interval* field and specify both intervals for the report.

Screenshot: Summary Report section

م	FILTERS		OUTPUT		COLUMNS (22	
Clients	Interval: Last Week	¥ 0				
Client			Limit:	No Limit		
Client Tags	Annual to Carrie 10 Carrie 10		Type:	Web	Grouped	
Client Type	Group by. Origin × Service ×		Currency:	USD		
Account	Save Query Load Query	Query			·	
			Src Code Deck:		-	
	clients client Tags client Type ccount	Itients Itient Tags Itient Type Ccount Save Ouery Load Ouery	Interval: Last Week 2021-09-27 00:00:00 — 2021-10-03 23:59:59 UTC Company	Interval: Last Week 2021-09-27 00.00:00 — 2021-10-03 23:59:59 UTC ULimit: Client Tags Client Type Ccount Save Query Load Query Interval: Last Week 2021-09-27 00.00:00 — 2021-10-03 23:59:59 UTC ULimit: Currency: Currency	Interval: Last Week ▼ 2021-09-27 00:00:00 ─ 2021-10-03 23:59:59 UTC Order by: Total Volume ▼ × Limit: No Limit Type: Web ▼ Currency: USD Data Code Deck: Src Code Deck: Src Code Deck:	Interval: Last Week

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





How does the Compare Period work?

Example 1:

If you select the **Interval** to be **Today** 00:00:00 til 23:59:59, the **Previous Interval** 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 **Interval** 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).



When you use the Compare to 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).

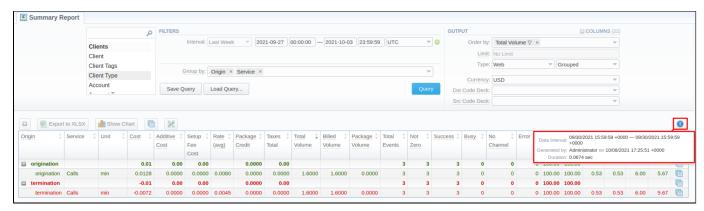
The link refers to the report data valid for a specific moment.

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 Uicon, which is located under the Output section:

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

Screenshot: Summary report Info icon



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				
Filters	On the <i>Filters</i> menu, select the required parameters for the report. To cancel any filter, click the delete icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.				
	Interval	Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.			
	Compare to	Accessible when you enable the Compare to option by clicking on the plus • icon next to the <i>Interval</i> . Specify the second interval for the report.			
		Tip When you select one of the Time parameters for Group by , the end date of <i>Interval 2</i> will be set automatically to make equal intervals.			
	Group by	 There are the following accessible options to group the data in reports: Time: Year, Month, Date, Hour. Clients: Orig Client, Orig Account, Orig Code, Orig Code Name, Orig Code Country, Orig Rate, Term Client, Term Account, Term Code, Term Code Name, Term Code Country, Term Rate Extras: Service, Orig Serial, Orig Client Type, Orig Owner, Orig Time profile, Term Client Type, Term Owner, Term Time profile 			
		Attention Please note that the <i>Group by</i> field is mandatory, it couldn't be empty in order to generate the report.			
	Additional Filters				
	There are the following accessible additional filters:				

Clianta				
Clients				
Orig Owner	Define an origination Reseller for the report. Accepts multiple values.			
Orig Client	Define an origination client for the report			
Orig Client Type	Determine the type of origination client: Client, Reseller, Calling Card, Call Shop			
Orig Client Tags	Determine tags that belong to an origination client			
Orig Serial	Define an origination serial			
Orig Account	Enter an origination account for the report			
Orig Account Tags	Specify tags determined for an origination account			
Term Owner	Define a Reseller for the report. Accepts multiple values.			
Term Client	Define a termination client for the report			
Term Client Type	Determine the type of termination client: Client, Reseller, Calling Card, Call Shop			
Term Client Tags	Determine tags that belong to a termination client			
Term Account	Enter a termination account for the report			
Term Account Tags	Specify tags determined for a termination account			
Events				
Service	Determine the name of service for the report			
Match Orig Client	Search for matched/mismatched origination clients			
Match Orig Rate	Search for matched/mismatched origination rates			
Orig Dst Code	Specify an origination code for the report			
Orig Dst Code Name	Indicate an origination code name			
Orig Dst Code Country	Indicate an origination country name			
Orig Src Code	Specify an origination source code for the report			
Orig Src Code Name	Indicate an origination source code name			
Orig Src Code Country	Indicate an origination source country name			
Orig Rate (avg)	Enter the range of average call rate for origination			
Orig Time Profile	Select an orig time profile that will be used as filter criteria			
Match Term Client	Search for matched/mismatched termination clients			
Match Term Rate	Search for matched/mismatched termination rates			
Term Dst Code	Specify a termination code for the report			
Term Dst Code Name	Indicate a termination code name			

Term Dst Code Country	Indicate a termination country name			
Term Src Code	Specify a termination source code for the report			
Term Src Code Name	Indicate a termination source code name			
Term Src Code Country	Indicate a termination source country name			
Term Rate (avg)	Enter the range of average call rate for termination			
Term Time Profile	Specify a term time profile that will be used as filter criteria			
Statistics				
ASR Std	Specify the range of <i>ASR Std</i> for events you would like to display			
ASR Current	Specify the range of <i>ASR Cur</i> for events you would like to display			
ACD Std	Specify the range of <i>ACD Std</i> for events you would like to display			
ACD Current	Specify the range of <i>ACD Cur</i> for events you would like to display			
Totals				
Volume Total	Enter the range of total volume of services			
Orig Volume Billed	Enter the range of orig volume of billed services			
Term Volume Billed	Enter the range of term volume of billed services			
Profit (abs)	Enter the absolute profit range			
Profit (rel)	Enter the relative profit range			
Margin	Enter the margin range			
Total Records	Enter the range of total events			
Not Zero Records	Define the range of events, that have a duration greater than 0			
Success Records	Define the range of successful events			
Busy Records	Define the range of busy events			
No Channel Records	Define the range of no channel events			
Error Records	Define the range of error events			
This form contain	contains settings of the output data of the report			

Output

This form contains settings of the output data of the report.

Click the plus a icon near the *Columns* to select respective columns to output a report data. Also, you can cancel any chosen item.

Accessible columns in the report

Columns for the main interval are:

ASR Std, ASR Cur, ACD Std, ACD Cur, Total Volume, Profit (abs), Profit (rel), Orig Billed Volume, Orig Cost, Orig Rate (avg), Term Billed Volume, Term Cost, Term Rate (avg), Total Events, Not Zero, Busy, No Channel, Success, Error, Margin.

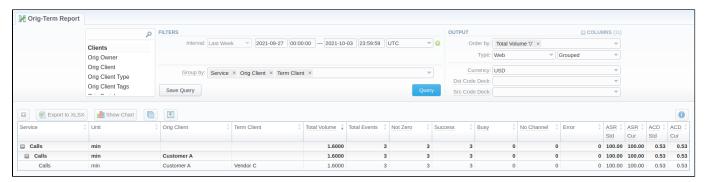
Columns for the comparative interval are the same as for the main period. Moreover, all parameters could be selected expressed in percentage.

Orig	Origination information: Billed Volume - Billed event volume Cost - Price of the event Avg. Rate - Average event rate		
Term	Termination information: • Billed Volume - Billed event volume • Cost - Event cost • Avg. Rate - Average event rate		
Profit	 Profit (abs) - Revenue in respective currency, for example, USD (in fact, any system currency can be specified here) Profit (rel) - Revenue in percent value 		
Total Volume	The total volume of services		
Margin	The absolute value of profit divided by volume billed (orig and term).		
ASR	Average successful rate (successful events percentage):		
	 Std - Number of events with success status divided by the total number of events minus all events with no channel available status Cur - Number of events with duration > 0 divided by the total number of events 		
ACD	Average call duration: Std - Sum of all event duration divided by the number of events with success status Cur - Sum of all event duration divided by the number of events with a duration > 0		
Events	Puantity of events in a database Total Events - Total events quantity Not Zero - Quantity of events that have a duration equal to or more than 1 second Success - Quantity of events that have a duration equal to or more than 1 second and a successful end code, events with Q.931, disconnect cause 16 or 31 Error - Quantity of declined events Busy - Busy events quantity No Channel - No circuit/channel available. Events with Q.931, disconnect cause 34		
Other output s	settings		
Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.		
Туре	Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx Also, select a look of a table view next to the <i>Type</i> field: • Grouped - a table view with grouped data and possibility to collapse it • Plain - a simple table view • Plain with total - a simple table view with an additional Total row at the beginning of the report		
	Attention Please note, that the <i>Grouped</i> type of table view is available only for Excel XLSx and Web formats; it doesn't work with CSV.		
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by the chosen parameter. It is available only for <i>plain</i> and <i>plain with total</i> types of the report.		
Send to	You can send generated reports via email. Also, it is possible to specify several emails.		
	Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report; it doesn't work with Web.		
	1		

Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.
Code Deck	Select a code deck from a drop-down list. All codes in the following report will be presented according to the specified code deck.

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

Screenshot: Orig-Term Report section



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 .



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.



- 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.

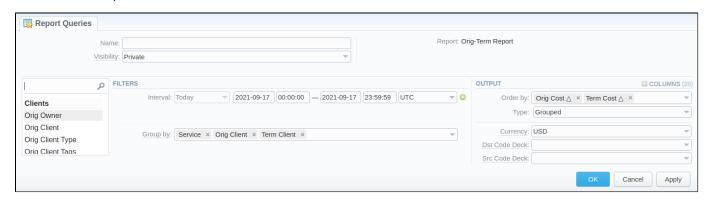
You can also sort data in a report manually using special arrows next to the name of the respective columns.

Screenshot: Orig-Term Report

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

Creating Reports Templates

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





To find more details about templates, please refer to the Report Queries 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 xD Rs list sections.

- 1. To expand/collapse all the data for the *Grouped* output, click on the icon above the report.
- 2. 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.

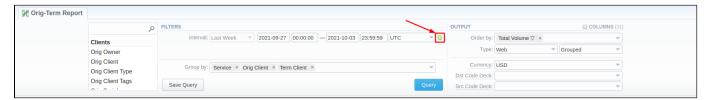
- 3. To download a .xlsx file, click the Export to XLSx button on the toolbar.
- 4. To create a visual chart, click the Show Chart button on the toolbar. There is more information available on this topic in the article "How to create a statistic chart?" in our Knowledge Base.
- 5. You can generate a detailed report using the same criteria in the xDRs list section by clicking the xDRs list icon on the toolbar.
- 6. 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.
- 7. 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 to* 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 Interval field and specify both intervals 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** butt on.

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 (s ee screenshot below).

Screenshot: Orig-Term Report example



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 Vicon, which is located under the Output section:

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

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

In this article

Profit Report

Tont Report

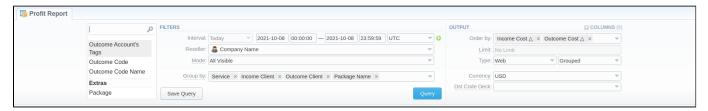
- Section overview
- Creating a Profit Report
- Creating a Query Template
- Export a Generated Report
- Side-by-side report
- Sharing a Report

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** o ption and choose respective values from the drop-down list.

The list of query fields is as follows:

Information block	Field Description			
Filters		menu, select the required parameters for the report. To cancel any filter, click the delete sicon next to the filter. a quick search by typing filters' names in the field at the top of the drop-down menu with filters.		
	Interval Specify the time interval for the report and a timezone. Please note that the Interval field is mandatory.			
	Compare to	Accessible when you enable the Compare to option by clicking on the plus ocon next to the Interval . Specify the second interval for the report.		
		When you select one of the Time parameters for Group by , the end date of the Compare to will be set automatically to make equal intervals.		
	Reseller	Specify the name of a target Reseller.		
	Mode	Choose the mode of the report: • All visible - all represented visually. • Hide External Originators - all external originators of the selected manager will not be displayed. • Hide External Clients - only events made solely between clients of the chosen manager will be shown. By default, the field value is set to All visible		

Group by

Select a grouping option. Here you can choose and swap columns, as well as change their order. There are the following accessible options to group data in reports:

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



Attention

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

Additional Filters

There are the following accessible filters:

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

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

Output

This form contains settings of the report output data.

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

Accessible columns in the report

Additional columns of the report are:

Columns for the main interval:

Volume Total, Income Cost, Income Avg Rate, Income Billed Volume, Outcome Cost, Outcome Avg Rate, Outcome Billed Volume, Profit, Profit rel.

Columns for the comparative interval:

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 (%).

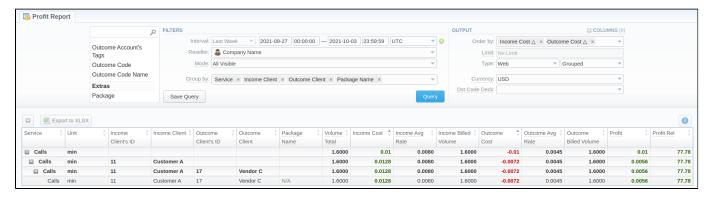
And it's possible to choose each parameter expressed in percentage.

Volume Total	Total time of calls in minutes				
Rate	The call rate • Income Avg Rate - an average call rate that is used for origination • Outcome Avg Rate - an average call rate that is used for termination				
Profit	The revenue • Profit - a revenue in a respective currency (in fact, any system currency can be specified here) • Profit rel - a revenue in percent value				
Time	The billed time • Income Billed Volume - the whole billed time for origination • Outcome Billed Volume - the whole billed time for termination				
Cost	The call cost • Income Cost - a call cost that is used for origination • Outcome Cost - a call cost that is used for termination				
Other output	settings				
Order by	Select parameters to sort already grouped data in columns. There are the following accessible options to order the data: by Time, Clients, Extras . Here you can sort data from highest to lowest values (or vice versa) and select different values.				
Туре	Choose a report format from a drop-down list: Web/CSV/Excel XLS/Excel XLSx Also, select a table view next to the <i>Type</i> field: • <i>Plain</i> - a simple table view • <i>Grouped</i> - a table view with grouped data and possibility to collapse/expand it				
	⚠ Attention Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV.				
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by a chosen parameter. It is available only for the <i>plain</i> type of report.				
Send to	You can send generated reports via email. Also, it is possible to specify several emails. Attention This feature is available only for CSV, Excel XLS, Excel XLSx formats of the report, it doesn't work with Web.				

Currency	Specify a currency for the report.
	All values will be automatically converted to the specified currency in the report.
Code Deck	Using a drop-down list, select a respective code deck. All code names will be rewritten and presented according to the specified code deck.
	If there is no value specified, the code deck assigned to the Client or Rate Table will be in usage.

A generated profit report is demonstrated on a screenshot below:

Screenshot: Profit report section



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



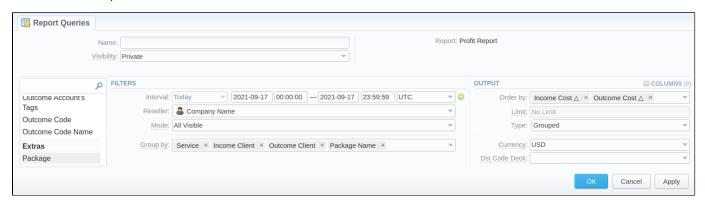
Please note that the system shows rounded values in the reports. However, while calculating the system takes an exact value. Hence, the procedure of the rounding is as follows:

- 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



To preview or load already existing templates while generating statistic reports, click the **Load Query** button and click on a template name or a convergence in the convergence of the

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 to* option is designed to create a report that shows two sub-reports side-by-side. To enable this option, click on the plus connext to the *Interval* field and specify both intervals for the report.

Screenshot: Profit Report query form

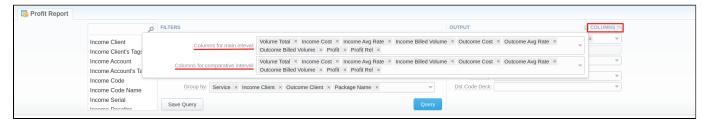


Then choose columns for the main and comparative period in the report Output form. When all required parameters are specified, click the Query button.

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



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 view, which is located under the Output section:

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

In this article

Invoicing Report

involoning report

- 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 I nvoicing 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

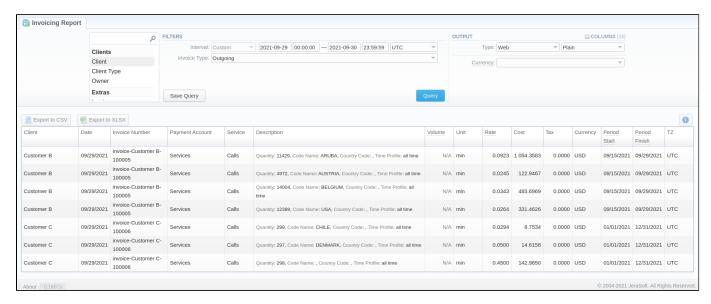
To create a new invoicing report, fill in the following query form:

Information Block	Field and Description			
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete 🍀 icon next to the filter.			
	You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.			
	Interval	Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.		
	Owner	Define a reseller for the report		
	Invoice Type	Select the type of invoice from the drop-down list:		
		outgoing incoming		
	Additional Filters			
	The accessible additional filters are:			
	 Clients: Client, Client Type. Extras: Invoice, Payment Account 			
	Client Type	Choose a respective parameter for statistics data: Client Reseller Calling Card Call Shop		
	Client	Define a client for the report		
	Invoice	Specify the name/number of a target invoice		

Payment Select from the drop-down list of predefined system payment accounts: Account Services Products Fees • Extra Charges Outgoing Extra Charges Incoming SureTax Calling Cards Fees Accounts Receivable Accounts Payable General and all manually created accounts from the $\mbox{\bf Payment}$ $\mbox{\bf Accounts}$ section Output This form contains settings of the report output data Click a plus 🖾 icon next to *Columns* and select the required columns to add them to the Output information block. Also, you can cancel any chosen item. Accessible columns in the report Client Name of a client Date The date when an invoice was generated Payment Type of a payment account: Account services packages Number of an invoice, used in the report Invoice Number Service Type of services Description Details specified in invoice templates, for example, the number of services, country code, code name, package name, etc. Volume of the service, for example, the duration of the event Volume Unit Unit that was used for rates and packages limits Rate Price per 1 rating unit that was used Total price of used services/products Cost Financial charge for services/products used in an invoice Tax Currency used in invoices Currency Period Start Start period of an invoice Period Finish End period of an invoice ΤZ Timezone of invoices Other output settings Type Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx Send to You can send generated reports via email. Also, it is possible to specify several emails. Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web. Currency Specify an output currency for the report. All values will be automatically converted to the specified currency in the report

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

Screenshot: Invoicing Report



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 popup window with settings, and confirm template creation.



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 vicon, which is located under the Output section:

Title	Description
Data Interval	States the period set for a report
Generated by	Indicates the Role 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

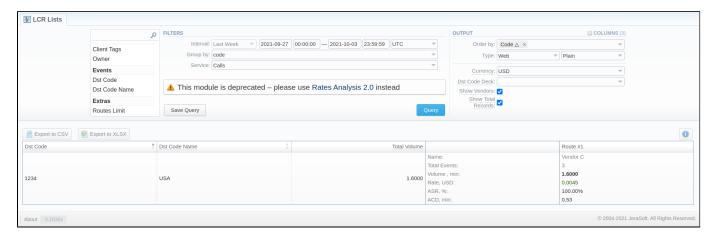
To create a new LCR report, go to the Statistics section and open the LCR Lists. Then, you will need to fill out the search form with the next parameters:

Information Block	Field Description			
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete icon next to the filter. You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.			
	Interval	Specify an interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.		
	Group by	Select from the list of the following accessible options to group the data in reports: • Code • Code Name This option is intended to simplify the grouping option, the system will automatically group data in specified columns. • Attention • Please note, the Group by field is mandatory, it couldn't be empty to generate the report. Grouping by code is a default output.		
		 When you select the grouping by a code name, please be aware that simulation marks will not be shown and an effective date, also the next rate, may not be accurate. This data is taken from one of the codes of the group. Specify a target service (calls, data, SMSs) 		
	Additional Filters There are the following accessible additional filters:			
	 Clients: Owner, Client Tags Events: Code/ Code Name Extras: Routes Limit 			
	Owner	Specify a target reseller		

	Client Tags	Indicate client tags that will be used for the report	
v			
	Code	Enter the code of a target destination	
	Code Name	Define the code name you would like to be displayed in a report	
	Routes Limit	Indicate the limit of routes that will be shown. To display all possible routes, leave this field empty .	
Output	This form contains settings of the report output data.		
	Click the plus con next to <i>Columns</i> and select the required columns to add them to the Output information block. Also, you can cancel any chosen item.		
	Accessible columns in the report		
	There are the following columns to add to the report:		
	• Code		
	Code Na Total Vol		
	• IOIAI VOI	ume	
	Other output settings		
	Туре	Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx.	
		The table view of the report is <i>Plain</i> by default.	
	Send to	You can send generated reports via email. For example, it is useful when it takes a lot of time to run the report. Also, it is possible to specify several emails.	
		⚠ Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.	
	Currency	Specify a currency of the report. All values will be automatically converted to the specified currency in the report.	
	Code Deck	Select a code deck from a drop-down list. All code decks in the following report will be presented according to the specified code deck. All data will be unified by code names.	
		Warning	
		 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. Code deck must contain code names and codes used for calls. Otherwise, the LCR report would not show results for missing codes and code names in the code deck. 	
	Show Vendors che ckbox	Specify whether you need vendor (terminator) names to be displayed in the report or not.	
	Show Total Calls checkb ox	Check if you want total calls amount to be shown.	

The LCR report has the following look:

Screenshot: LCR report



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 Uicon .

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.



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 view, which is located under the Output section:

Title	Description
Data Interval	States the period set for a report
Generated by	Indicates the Role of the user who generated a report and specifies a generation time

xDRs List

ADINS LIST

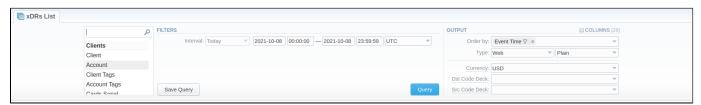
In this article

- 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 Descr	ription			
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete 🗱 icon next to the filter.				
	You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.				
	Interval	Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.			
	Additional Filters				
	There are the following accessible additional filters: • Clients: Client Type, Client, Client Tags, Account Tags, Cards Serial, Account, Package. • Events: Dst Code, Dst Code Name, Origin, Result Code, Tags, Gateway. • Extras: 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.				
	Client Type	Select a client's type for the report (Client, Reseller, Calling Card or Call Shop)			
	Client	Define a client for the report			
	Client Tags	Specify customer's tags			
	Account	Enter a client's account for the report			
	Account Tags	Determine account's tags			
	Cards Serial	Indicate cards serial for the report			
	Package	Enter a package name for the report (can be active or archived Package)			
	Code	Specify a code of a target destination			
	Code Name	Specify a code name of a target destination			

Origin	Indicate event origin
Result Code	Determine a disconnect code as a filtering parameter
Tags	Indicate tags for the report
Gateway	Specify a host as a filtering criterion
Service Name	Select a type of service (<i>data, call, SMS</i>) for the report
Owner	Indicate a reseller
Src Code	Specify a code of a source number
Src Code Name	Specify a code name of a source number
Result Status	Choose a disconnect processing state: • Success (code = 16 or 31) • Busy (code = 17) • No channel (code = 34) • Error
Rate	Indicate the destination rate
Setup Fee	Specify a setup fee of an event
DST Party ID	Determine the DST Party ID (destination number or any other identification of destination) that is used for detection of destination and billing (after all translations)
SRC Party ID	Determine the SRC Party ID (source number or any other source identification)
Session ID	ID of the session received from the gateway
xDR ID	xDR ID value
Volume	Volume of the service (e.g., call duration)
Cost	Enter the range of event cost
Status	Processing state (all/processed/in rerating)
Match Clients	Choose a respective state: • matched clients (identified), • mismatched clients (not identified).
Match Codes	Choose a respective state: • matched codes, • mismatched codes.
Currency	Indicate a respective currency

Output

This form contains settings of the report output data.

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

Accessible columns in the report

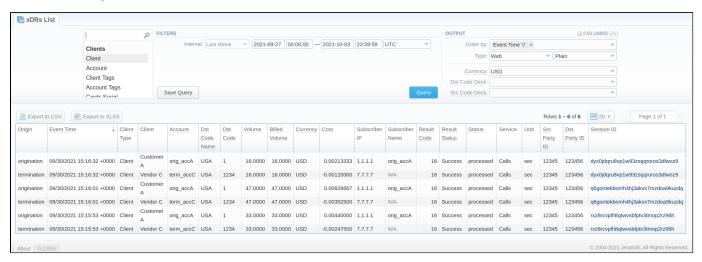
There are the following columns to add to the report:

- Clients: Client Type, 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 outp	Other output settings		
Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.		
Туре	Choose a format of the report from a drop-down list: Web/CSV/Excel XLS/Excel XLSx. The Plain type of view is set be default.		
Send to	You can send generated reports via email. Also, it is possible to specify several emails. Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.		
Currency	Specify a currency for the report. All values will be automatically converted to the specified currency in the report.		
Dst Code Deck	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.		
Src Code Deck	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



Also, you can create a template for reports and save specified parameters by clicking the **Save Query** button. Visit our Report Queries 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



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

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parameters should not be empty

Mismatches Report

In this article

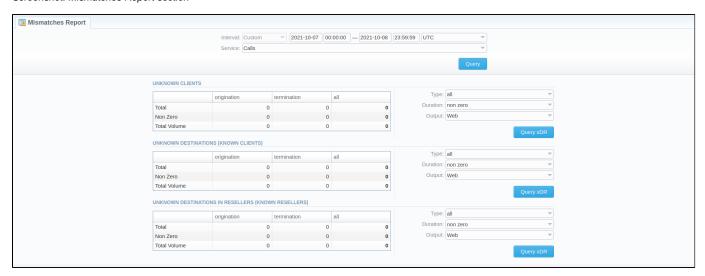
- Section overview
- Creating a New Mismatches Report
- Knowledge Base Articles

Section overview

This section allows you finding *unrecognized calls/clients* by the system due to the 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



Creating a New Mismatches Report

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

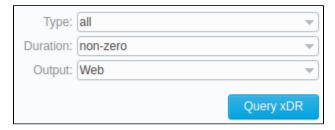
• Filter the data for all tables. To do so, fill in the following fields of the query form and click the Query button.

Fields	Description
Interval	Define the period for the mismatches report. You can customize it by selecting a specific time and date or choose predefined options from the list like <i>This Year, Last Month, Yesterday</i> , etc.
Service	Choose the desired service from the list (e.g. <i>Calls</i> , <i>SMS</i> , etc.).

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

Screenshot: Creating a report



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

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

xDRs Rerating

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 Filters	s menu, select the required parameters for the report. To cancel any filter, click on the delete 🗱 icon next to the filter.			
	You can start a quick search by typing filters' names in the field at the top of a drop-down menu with filters.				
	Interval	Specify the time interval for the report and a timezone. Please note that the <i>Interval</i> field is mandatory.			
	Service	Indicate a target type of services from the Services section			
	Additional Filters				
	There are the following accessible additional filters: • Clients: Client. • Events: Code, Code Name, Call Origin, Result Status, Gateway. • Extras: Tag, Match Clients, Match Codes, Duration.				
	Client	Define a client for the report.			
	Code	Define a code of a needed destination.			
	Code Name	Enter a code name of a desired destination.			
	Call Origin	Specify a call origin for the report: • origination • termination			
	Result Status	Indicate the status of the call for the report: • success • busy • no channel • error			

	Gateway	Define a target gateway.		
	Tag	Specify target tags		
	Match Clients	Indicate a respective type: • matched (identified) • mismatched (not identified)		
	Match Codes	Choose an appropriate type: • matched • mismatched		
	Duration	Select the continuance of the call: • zero • non-zero (i.e., calls that have a duration equal to or more than 1 second).		
Output	This form contains settings of the output data of the report.			
	Dst Code Deck	Select a respective code deck for the report from the drop-down menu. If you do not select it, code decks assigned to each specified client or rate table will be in use. If you select it, all code names will be rewritten according to the names from the selected code deck. Also, all data will be unified by code names.		

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

Screenshot: xDRs Rerating approval notification



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

Screenshot: xDRs in 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.



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

Report Queries

In this article • Report Queries List • Creating a Report Query • To Email Tab

Report Queries List

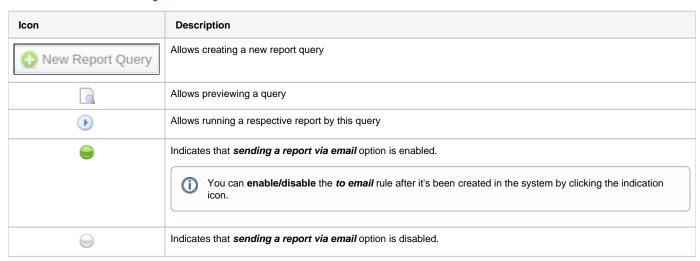
This section allows you to view, execute and manage the Report Queries of Active Sessions, Balance Report, Customer Dynamics, Invoicing Report, LCR Lists, Orig-Term Report, Profit Report, Rates Analysis, Routing Analysis, Summary Report, and xDRs List. Moreover, you can send reports to email to keep yourself informed about the traffic status without the need to log in to the system and query reports. The section structure is as follows:

Screenshot: Report Queries section main window



Column	Description
ID	Query ID
Name	Name of the query
Query	Query details
To Email	Tool to run a report automatically at the exact time and send the results to the list of emails

The section contains the following functional icons:



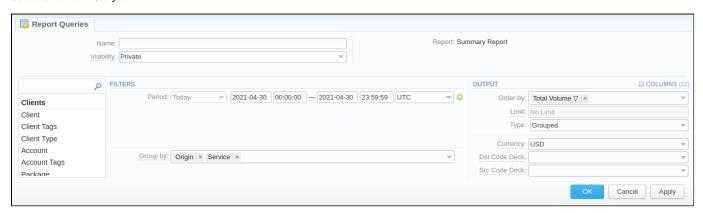
To start managing, choose the respective query from the section and click on the name to open the settings.

Creating a Report Query

You can create a report query either using a **New Report Query** button in the main section, or from the respective sections while generating reports. If you are adding a new query from the report section, 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 Query form

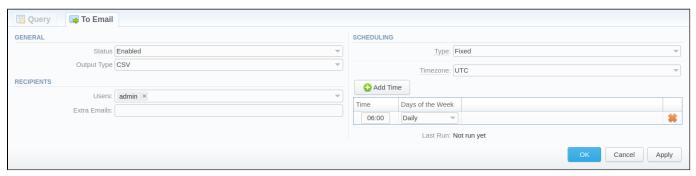


Information Block	Description
Name	Specify a name of the template
Visibility	It allows controlling the visibility of respective reports templates whether you want to keep templates private or leave them visible for other users: • Public - available for all users of the same Reseller; • Private - accessible strictly for the creator.
Report	Here, a report type will be prefilled.
Filters / Output	Here you need to specify filters that will be used for generating a correct report and choose the output type to view the report

To Email Tab

After creating the Query, you can manage whether to allow generating reports at the specific times and send results to specified emails. For this, open the needed **Report Query**, and click the **To Email** tab:

Screenshot: To Email tab



Information Block	Description		
General	Status	Specify if this function is on: • Enabled • Disabled	

	Output Type	Specify a file ty CSV Excel	ype to be sent:	
Recipients	Users	Define system	Users to send a Query to (can be empty if the Extra Emails field is filled in)	
	Extra Emails	Specify the needed extra email addresses (can be empty if the <i>Users</i> field is filled in)		
Scheduling	Туре	• fixed (run	tion scheduling approach: n at specific times/days); (run at certain intervals).	
	Fixed			
		Timezone	Indicate a timezone for a selected report run time	
		Add Time bu tton	 Time - specify the time; Days of the Week - specify the needed frequency (Daily, Weekdays, Weekends, Custom); Specific days - becomes active if Custom is selected as a Days of the Week parameter. Specify exact days here. Tip If you want to receive reports for a previous month every 1st day of the next month, you will need to: • set Last Month as an Interval in the Query • set First Run in the To Email as the first day of the month The report will be queried for the previous interval and be sent to the respective email/-s on the first day of each month. 	
		Last Run	Indicates when the report was last run by the system	
	Periodic			
		Every	Determine an appropriate interval to generate a report automatically, it could be in <i>minutes</i> , <i>hours</i> , <i>days</i> , <i>weeks</i> , or <i>years</i> .	
		First Run	Offset a specific date & time up to a second (incl. a timezone) for the first run of a report	
		Last Run	Indicates when the report was last run by the system	



If you create the report query and the **To Email** option is enabled, the client will receive the file with a report even when there are no statistics for a specified period.

Archive Management

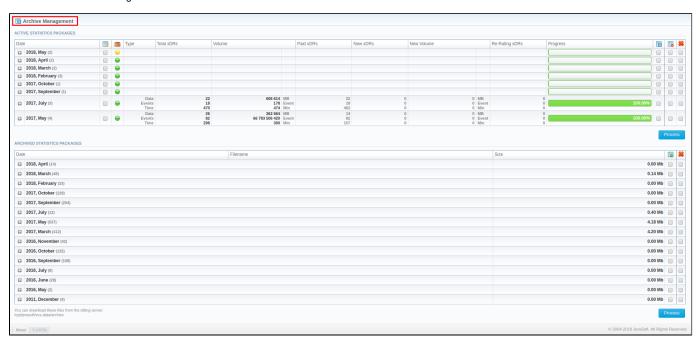
In this article

- 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:

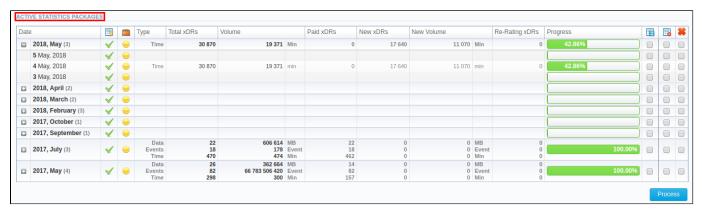
Screenshot: Archive Management section



Active Statistics Packages

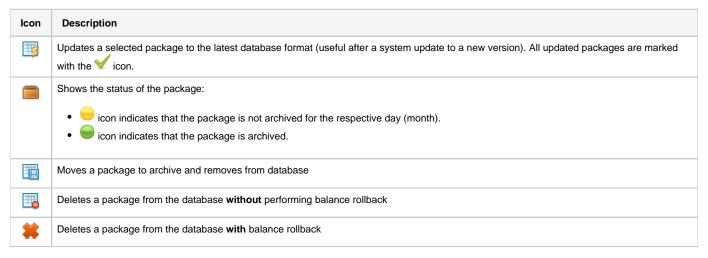
The **Active Statistics Packages** information block contains information regarding statistics packages that are currently present in the database. All statistics packages are grouped by month. Click on the plus con to expand all available active packages. Information about packages is presented in the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

Screenshot: Active Statistics Packages



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

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

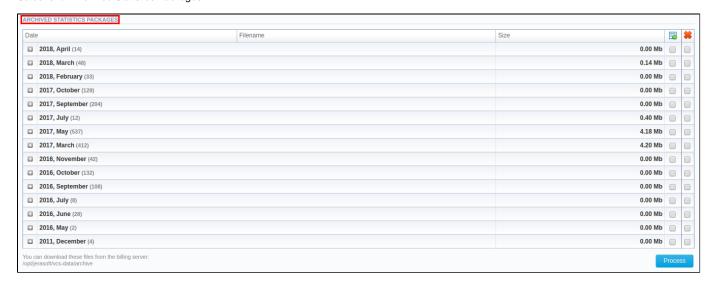


To update, move or delete a package, you need to mark a respective checkbox and click the **Process** button. The operation itself will be executed after the next run of the **Statistics Manager** tool.

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



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

Information block function buttons include:

Icon	Description
-	Restores a package from the archive to the database
*	Removes an archived package from the 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 SessionsFactors WatcherxDR 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 an easy and convenient active sessions monitoring tool. Upon access, you can see the full list of active sessions that are currently being processed by your switch.

Screenshot: Active Sessions section



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

Attention

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

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

Creating an active sessions report

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

Information Block	Field Description		
Filters	On the Filters menu, select the required parameters for the report. To cancel any filter, click on the delete 🗱 icon next to the filter.		
	You can sta	rt a quick search by typing filters' names in the field at the top of a drop-down menu with filters.	
	Group by	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:	
		 Orig Client, Orig Account, Orig Code, Orig Code Name. Term Client, Term Account, Term Code, Term Code Name. Gateway. 	
	Additional Filters		
	There are the following accessible additional filters:		
		rig Client, Orig Account, Orig Code, Orig Code Name. erm Client, Term Account, Term Code, Term Code Name.	
	Orig Client	Define an origination client for the report	

Orig Account	Enter an origination account for the report
Orig Code	Specify an origination code for the report
Orig Code Name	Indicate an origination code name
Term Client	Define a termination client for the report
Term Account	Enter a termination account for the report
Term Code	Specify a termination code for the report
Term Code Name	Indicate a termination code name

Output

This form contains settings of the report output data.

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

Accessible columns in the report

There are the following columns to add in the report:

• Total, Info, Originator, Terminator, Src Number, Dst Number, Duration.

Total Total quantity of sessions in the database.

Info

By hovering over the Info icon, additional data about sessions will be displayed (see screenshot below):

- Src and Dst Party ID
 - Code and Code Name
 - x ID
 - Session ID
 - Start Time and Gateway

Screenshot: Info



Originator	The name of the originator, orig gateway, account IP, Name or ANI.		
Terminator	The name of the terminator, term gateway, account IP, Name or ANI.		
Src Party ID	The source number.		
Dst Party ID	The destination number.		
Duration	Session duration, specified in seconds.		

Other output settings	
Order by	Select parameters to sort already grouped data in columns. Here you can sort data from highest to lowest values (or vice versa) and select different values.
Туре	Choose a format of the report from a drop-down list: Web / CSV / Excel XLS / Excel XLSx Also, select next to the <i>Type</i> field a look of table view: Plain - a simple table view Grouped - a table view with grouped data and possibility to collapse it
	Attention Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV and Excel XLS.
Limit	Determine the number of rows that will be visible in the report. It is useful for displaying some top positions by a chos parameter. It is available only for the <i>Plain</i> type of the report.
Send to	You can send generated reports via email. Also, it is possible to specify several emails. Attention This feature is available only for CSV/Excel XLS/Excel XLSx formats of the report, it doesn't work with Web.
Dst Code Deck	Specify a Code Deck to force Code Names for the displayed data. If not specified, Code Decks of the respective Clie/Rate Tables will be used.
Timezone	Specify a Timezone for data output. If not selected, the user's Timezone will be used.

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

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



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 S how 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.



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

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
ID	Identification number of factors watcher
Name	Name of a factors watcher
Watch Rule	Total number of watch rules within a factors watcher
Presets	Total amount of traffic rules, created by a factors watcher
Query	Factors watcher query

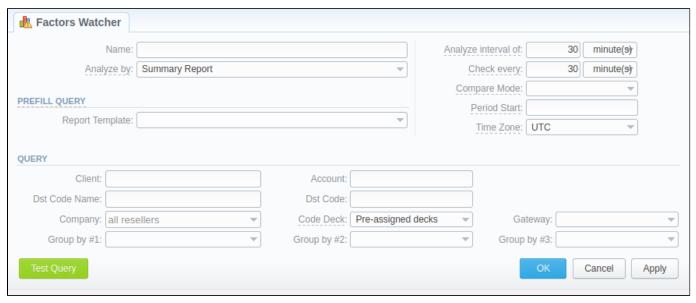
Functional buttons/icons, presented in the section, are as follows:

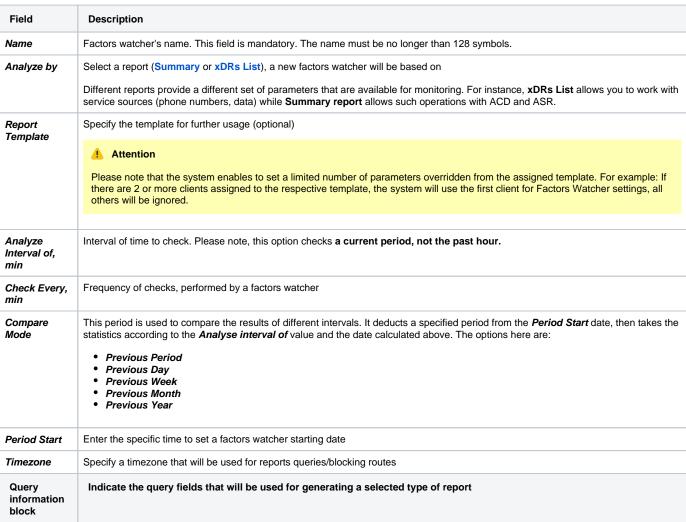


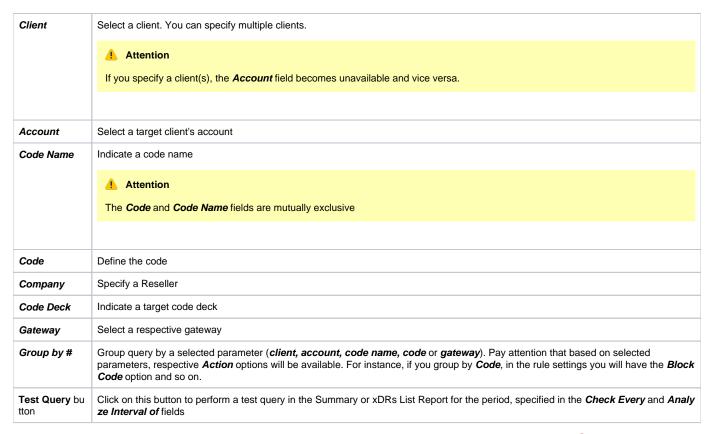
Creating a New Factors Watcher

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







When you click **OK**, the new factors watcher will be created. You can edit the properties of this watcher later by clicking the edit \(\sqrt{1} \) 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 usicon;
- 3. in the appeared window, click the Add Rule button and fill in the following fields:

Screenshot: Editing Factors Watcher rules



Field	Description		
Priority	Define a priority of rules execution if they have a similar <i>Match</i> parameter		
Match	A set of parameters that are used as a basis for checks		
	Service	Determine the type of service (e.g., calls, SMSs, data)	

Origin	Type of route to check (<i>Origination/Termination</i>)
Code Name	Indicate the code name to apply a rule to
Gateways	Specify the gateway to apply a rule to



To create a temporary rule that will override other rules with the same match parameters, you need to set up the rule with the highest priority and specify an appropriate Expiration Date. Therefore, the existed multiple rules with the same match parameters will override each other and the rule with the highest priority will be applied.

Factors Enter factors that will be applied to a current rule.

Parameters must be listed with a semi-colon ";" as a delimiting symbol.

The list of parameters available for usage:

- volume_total, volume_billed, acd_std, acd_cur, pdd, scd, package_volume with a measurement unit specified in the service
- records_total, records_notzero, records_success, records_busy, records_nochannel, records_error with a measurement unit: numbers:
- cost_total, rate_avg with a measurement unit: money;
- asr_std, asr_cur with a measurement unit: percentage (%).

For example, if you enter total_volume > 100, it means that when the total event volume (e.g., call time) count for respective match parameters goes over 100 (here - minutes), the system will create an alert.

It's possible to add a factors watcher rule with negative values. For example, total_cost < -10.

Factors with a reference to the side-by-side reports:

You can adjust these factors on your own, using the next formula and pre-existing factors mentioned above: factors_name_1 - value for the first period; factors_name_2 - value for the second period; factors_name_diff - the difference between periods.

For example: total_cost_1 (of the 1st period), total_cost_2 (of the 2nd period), total_cost_diff (difference in %).



Tip

Users can add the Factors Watcher based on the side-by-side Summary Report. All you need to do is:

- click the New Factors Watcher button;
- o fill in the Name field and others according to your needs;
- o specify intervals in the next fields: Analyze Interval of, Period Start and Period Offset,
- o click the Test Query button.

Action

An action that must be taken if a matched rule is found.

There are respective options: Alert, Block Code Name/Account/Client

When one of these options is applied, the message will be shown in the **Events log** section.



Attention

The Block Code Name/Client/Account options will be invisible if the Group By #field in factors watcher rule is empty. If you group by the Client, the Block Account option won't be visible in the drop-down list of the Action field.

Lock Period

Defines the lockout time in minutes for the analyzed route in case of a block action (0 value means infinite lockout)

Period Lock

If enabled, the rule will expire at the end of a period specified in the Analyze interval of field in the Watcher settings. Please note, that this option has a higher priority than the Expiration Date.

Expira tion Date

Specify the date when the rule must be automatically deleted



Attention

Please note that the set of rules in the Action field depends on how many parameters you defined in the Group by # field when a current query was

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

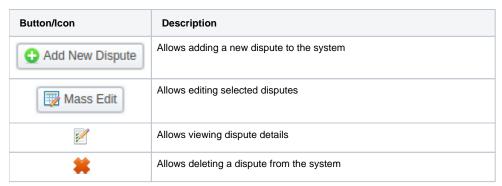
xDR Disputes Manager is a full-featured add-on of the system that could be used to compare xDRs given by your client/vendor with xDRs stored in the system.

Screenshot: xDR Disputes List



Column	Description
ID	ID of a dispute
Client/Account	Client and Accounts of a current dispute
Interval	Period of compared xDR files and timezone
Total Qty	Total amount of compared xDRs
No L	Number of xDRs that were not found in the system
No E	Number of xDRs that were not found in the external xDR file
Updated	Date of the last dispute update

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





If the xDRs Disputes section is not displayed in your JeraSoft Billing, you need to enable it in the System > Roles section.

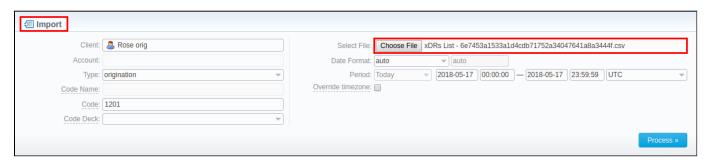
Creating a New Dispute

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 popup window:

Screenshot: Adding New Dispute. Step 1



Field	Description
Client	Specify a client for the dispute. If indicated, the <i>Account</i> field is disabled (and vice versa)
Account	Specify an account for the dispute
Туре	Choose the type of compared xDRs: • origination • termination
Code Name	Specify a code name of the desired destination. If indicated, the <i>Code</i> field is disabled (and vice versa)
Code	Specify a code of the desired destination
Code Deck	Select a code deck that will be used for a current dispute
Select File	Upload the xDR file for comparison
Date Format	Specify date format of xDRs Attention
	Please note that by default date format is set to <i>auto</i> and has the following format: YYYY-MM-DD HH:MM:SS.
Interval	Specify a time interval of a dispute
Override Timezone checkbox	If enabled, the timezone in the imported file will be replaced with the specified timezone in the <i>Period</i> field

When you fill in all required fields, click the Process>> button.

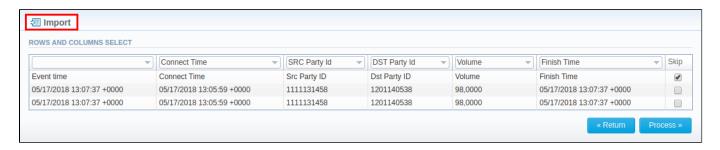


xDR Disputes have developed optimization algorithms of the file uploading process. Hence, we strongly recommend uploading files with a limited number of columns. The dispute file must contain only 6 columns for correct auto-detection while importing.

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).

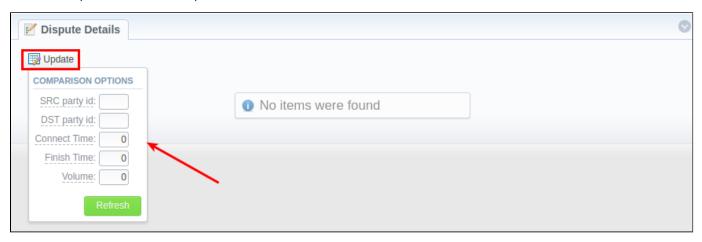
Screenshot: Rows and Columns Select window. Step 2



Step 3. Receiving Results of comparison

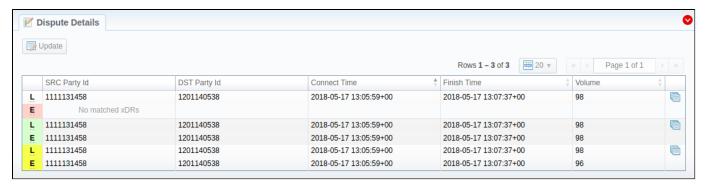
After you click **Process>>**, the system will execute the comparison of a local xDR and the imported one, and the **Dispute Details** window will be opened. Then, you need to click the **Update** button and specify **Compare Options** in a respective pop-up window. Following this, click the **Refresh** button for the disputes results to be displayed (see screenshots below).

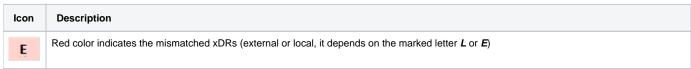
Screenshot: Disputes Details window. Step 3

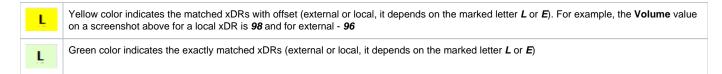


Field	Description
Src Party ID	Enter a number of last digits for source number comparison
Dst Party ID	Indicate a number of last digits for destination number comparison
Connect Time	Specify the possible time offset (in seconds) between the system and external xDRs
Finish Time	Define the possible time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

Screenshot: Disputes Details window. Step 3





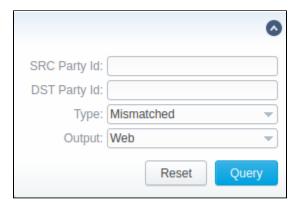


Attention

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 *Mis* matched type.

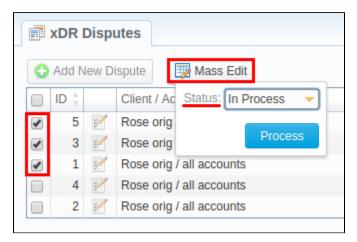
Screenshot: Advanced Search drop-down menu



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



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 PoliciesDynamic 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

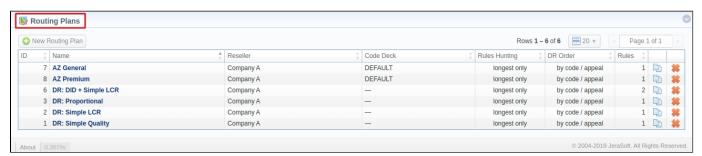
Section overview

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



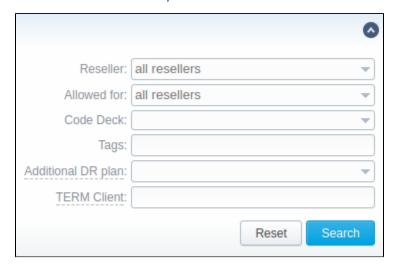
Column	Description
ID	ID number of a routing plan
Name	Name of a routing plan
Reseller	Name of a reseller a corresponding routing plan has been assigned to as an owner
Code Deck	Name of code deck that has been applied to a corresponding routing plan
Rules Hunting	A respective hunting rule that has been applied to a routing plan
DR Order	A name of dynamic routing order that has been selected to organize routing rules
Rules	A number of rules specified in a respective routing plan

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

Button/Icon	Description
◆ New Routing Plan	Allows to create a new routing plan
<u> </u>	Allows to copy an existing routing plan to the section
*	Allows deleting a routing planfrom the system

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

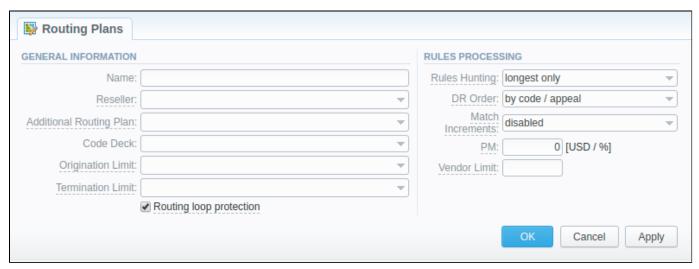


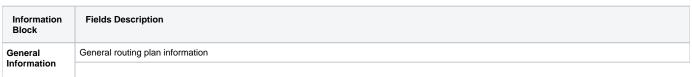
Field	Description
Reseller	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
Allowed for	Select from the list of all Resellers, Sub-resellers, and Managers that are assigned to a routing plan in the Origination Limit field
Code Deck	Select from the list of all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





	Name	Title of a	routing pla	an				
	Reseller	Define th	e reseller/	owner of a c	urrent rout	ing plan		
	Additional Routing Plan	Specify a	a DR plan,	which will be	additiona	l for a currer	nt plan	
	Code Deck	Select a	Code Dec	k if you wish	to have na	ames of your	code to be	specified in the Code Name field
	Origination Limits	Define the compani		y or compani	ies, which	will have ac	cess to this	routing plan (also this restriction will be extended to their sub-
		If there is	s no specif	ied company	, the follow	wing routing	plan is avai	lable for all companies.
	Termination Limits	Select th	e company	y or compani	es, which	will have a li	mit in termi	nation for vendors who use it (sub-companies are not included)
	Rooting Loop Protection chec kbox	of the sa	s originating me client.	o .	the list of	terminators.	If it is unch	ecked, it will be possible to route calls between different accounts
Rules	Options of rules p	rocessing						
Processing	Rules Hunting	Select a	hunting me	ode (the way	how rules	s will be exec	uted). They	y are as follows:
		• all	matching	-	le matche	s will be four	-	e longest matching code g even the shortest codes
	DR Order	Specify a	a method o	of routes sorti	ing in a ro	uting table. T	he options	are:
	Match Increments	ar • by By defau Define if • dis • dy • dy • dy	nd then code/appoint, the by contract the system sabled - senamic onlinamic and	grouped eal - routes v code/appeal n should checlected by def y - will exclude	d by co will be gro option is s ck whethe fault de vendors	odes uped by code set. Ir Customers s with increm	es and ther	d according to their resulting appeal value a sorted by appeal value s proportionally overlap Vendors' increments: o not match customers' rates from the routing list for dynamic rules. that do not match customers' rates from the routing list for
			Sample S					
		0	oampie o	Certarios				
			Custom	ner Rate	Vendor	Rate	Result	Notes
			Min Time	Pay Internal	Min Time	Pay Interval		
			60	60	60	60	ОК	Exact match
			30	6	30	1	ОК	Full overlap
			30	6	6	6	ОК	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
	PM			gin value for	a current	rule here. It o	can be spec	cified either as a percent value (e.g., 16%), or in a system currency
		(e.g., 5 fo	or 5 USD).					
	Vendor Limit		pted acco					ise (if a vendor has multiple accounts). You can set the limit only d by the term groups. If the field is left empty, the number is

Attention

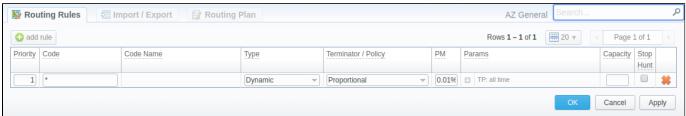
Please note that the *Origination Limit* and *Termination Limit* fields are visible only during:

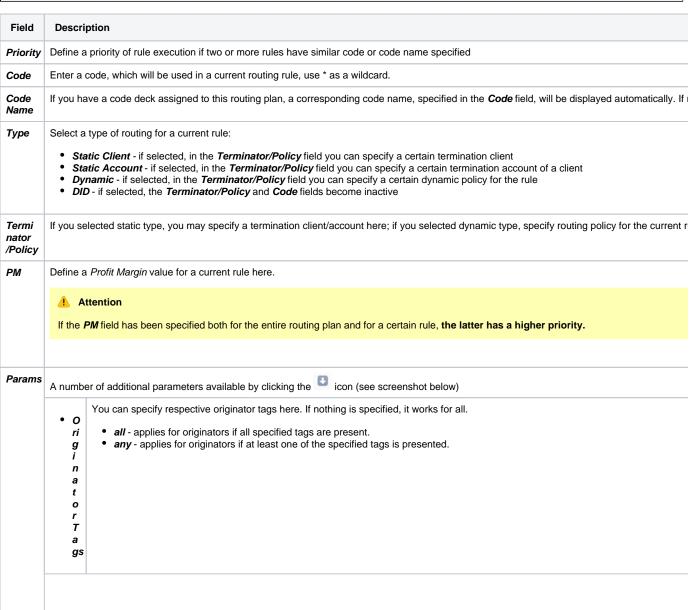
- new routing plan creation;
 editing of already created routing plan if a specified *Reseller* of this routing plan has at least one sub-reseller or manager.

Routing Rules tab

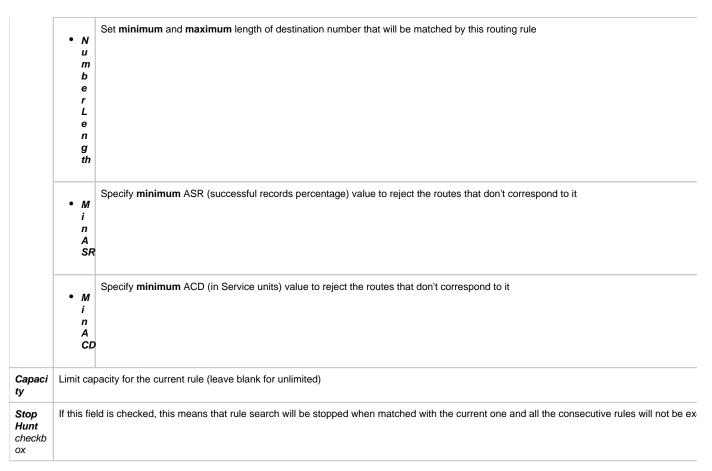
Once a routing plan has been created, routing rules are to be determined (see screenshot below). To do that, click on a routing plan's name and you will enter **Routing Rules** tab, then, click the **Add rule** button and fill in the following fields:

Screenshot: Routing Rules tab

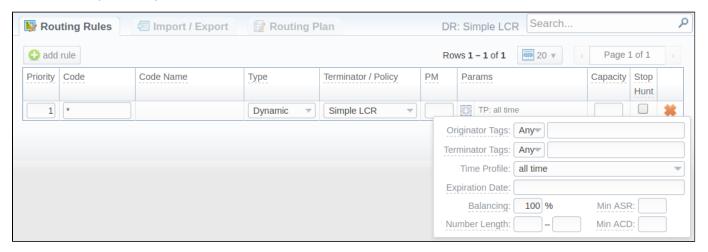




r m i n a t o r T a gs					
T i m e P r o fi le	Specif	y a time pro	ofile from the list		
E				expire or not. If a date/time is specified here, the	e respective Rule will stop working after said
х р	If emp	ty, the said	Rule will work indefi	initely.	
	(1)	If the Exp	iration Date will be s	set for the past, it will be highlighted in red to dra	w attention that it's not in use. With the next
ir a ti o n D a te	U				
ir a ti o n D a te B al a		Attention	1	amount of traffic, which will be sent to a respective	
ir a ti o n D a te B al a n ci	Define	Attention	1	amount of traffic, which will be sent to a respective ing balancing value, you will need to restart the T	
ir a ti o n D a te B al a	Define	Attention Please no	n ote that after changir		Fraffic Rules manager or wait till its next run
ir a ti o n D a te B al a n ci	Define	Attention Please no Among th	ote that after changing the rules of the same	ing <i>balancing value</i> , you will need to restart the T	Traffic Rules manager or wait till its next run
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ir a ti o n D a te B al a n ci	Define ①	Attention Please no Among th Useful tip To balance	ote that after changing the rules of the same per coutes equally am	ing balancing value, you will need to restart the 7 e priority, balancing will not be performed if the value, and the value priority, balancing will not be performed if the value.	Traffic Rules manager or wait till its next run alue is 100 or more in the Balancing field. To to 33/33/33 for them OR 1/1/1 OR 99/99/99
ir a ti o n D a te B al a n ci	Define ①	Attention Please no Among th Useful tip To balance	note that after changing the rules of the same poster routes equally am	ing balancing value, you will need to restart the T priority, balancing will not be performed if the value, you can set Balancing	Traffic Rules manager or wait till its next run alue is 100 or more in the Balancing field. Type
ir a ti o n D a te B al a n ci	Define ①	Attention Please no Among th Useful tip To balance	ote that after changing the rules of the same possible content of the same content of	e priority, balancing will not be performed if the value, say, three vendors, you can set Balancing Code Name	Traffic Rules manager or wait till its next run alue is 100 or more in the Balancing field. Type Static Client
ir a ti o n D a te B al a n ci	Define ①	Attention Please no Among th Useful tip To balance	p ce routes equally am Code 1907 1907	e priority, balancing will not be performed if the value, say, three vendors, you can set Balancing Code Name ALASKA ALASKA	Traffic Rules manager or wait till its next run alue is 100 or more in the Balancing field. Type Static Client Static Client
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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	РМ	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	3	1 Static	Vendor Profit				all time			100				
4		1 Static	Vega_DID_provider				all time			100				

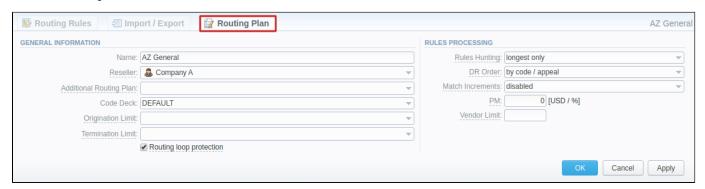
Attention

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



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:

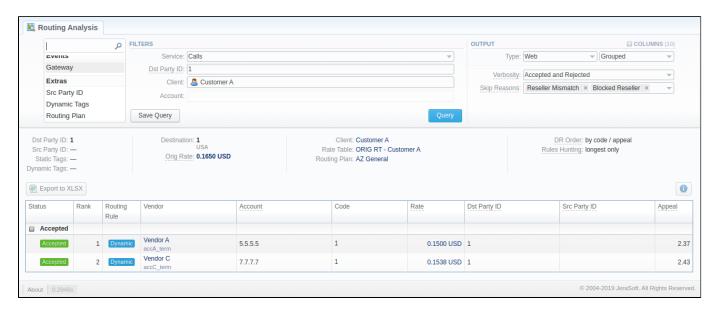
Section	Field D	Field Description				
Filters	Select desired parameters for the report in the Filters menu. To cancel any filter, click the delete icon ** next to the filter.					
	You can	use a quick search by typing filters' names in the respective field at the top of the filters list.				
	Service	Select the service for the report. By default, the field value is set to Calls . This field is mandatory.				
	Dst Party ID	Enter the destination party ID to define a destination. This field is mandatory.				
	Client	Select a client for the report. Also, you can specify respective call shops. This field is mandatory.				
	Accou nt Select an account for the report.					
	Additional Filters					
	There are the following accessible additional filters: • Events: Gateway. • Extras: Src Party ID; Dynamic Tags; Routing Plan.					
	Events	Settings				
	Gatew ay Define a gateway specified in the term account					

	Extra S	ettings								
	Src Party ID	Specify a source number or any other source identification to check the translations								
	Dyna mic Tags	nic								
	Routi ng Plan	Enter the plan with a respective routing rule								
Output		This form contains settings of the output data of the report. Click the plus icon are Columns to select respective columns to output report data. Also, you can cancel any chosen item.								
		sible columns in the report								
		ng columns can be added to the report: Status, Rank, Routing Rule, Vendor, Account, Code, Rate, Dst Party ID, Src Party ID, Reject Reasons.								
	Status	The following information is displayed in the column: the state of the route, reject reasons (if any)								
		Accepted for accepted route								
		Rejected for rejected route due to some reasons (to see them, hover over the icon)								
		To view detailed information on a rejected route status, hover over a corresponding icon in the column.								
		Screenshot: Detailed information on a route status								
		Rejected Rejected Rejected Rejected Rejected Rejected								
		Rejected 2 Dynamic								
	Rank	Vendor position during routing. It's applicable and the system puts values in order when route status is accepted.								
	Routi ng Rule	Type of the route that includes: destination, policy and rule properties (balancing, priority), time profile, orig groups, term groups, debug information								
		A grey icon in the column shows a <i>static route</i> A violet icon indicates a <i>DID route</i>								
		A blue icon in the column shows a <i>dynamic route</i>								
		To view detailed information on a route type hover over a corresponding icon in the column.								
	Screenshot: Detailed information on a routing rule									
		Dynamic Vendor A accA_term 5.5.5.5								
		Code: * Policy: Proportional Priority: 1 Balancing: 100%								
		Rule ID: 11								

Vendor	The name of the respective terminator specified in the Client's settings and its account name			
Accou	The name or IP of the account			
nt				
Code	Here you can see matched code in the terminator's rate table			
Rate	Rate that is used to terminate the call			
Dst Party ID	Shows destination party ID that is sent to the provider when all matching number translations are performed			
Src Party ID	Shows source party ID after all number translations			
Appeal	Shows the appeal automatically calculated by the system according to the chosen DR Policies (Routing section > DR Policies)			
	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.			
Reject Reaso ns	Displays respective rejection reasons for a particular route			
Other of	output settings			
	Also, select a look of table view next to the Type field: • Plain - a simple table view • Grouped - a table view with grouped data and possibility to collapse it Attention Please note that the Grouped type of a table view is available only for Excel XLSx and Web formats, it doesn't work with CSV or Excel XLS. If CSV, Excel XLS or Excel XLSx type has been selected, an additional Send to field will be displayed. In this field you can specify emails of the clients, where the current report in the selected format will be sent.			
Verbo sity	Select which routes should be displayed (accepted and rejected, or accepted only).			
Skip Reaso ns	Specify the reasons under which routes should be excluded from the output list. The available skip reasons are: Reseller Mismatch Blocked Reseller Blocked Client Blocked Account Vendor Qty Stop Hunting Party ID Length Profit Margin Rate Increments Orig Tags Traffic Processing Reseller Capacity Client Capacity Account Capacity Rule Capacity Rule Capacity			

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

Screenshot: Routing Analysis



Moreover, you can create (save) and display previously saved report templates by licking **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.



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



Attention

Please mind the naming of your codes. For example, if your client has:

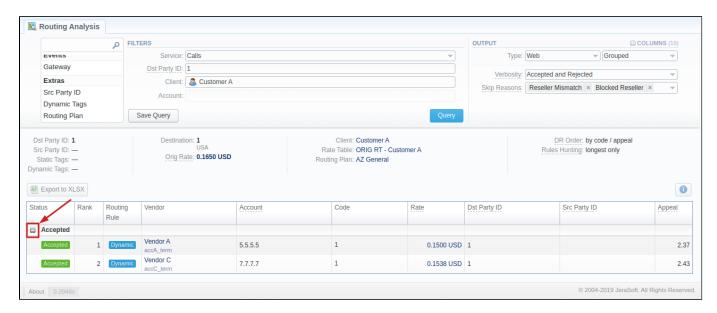
- a **447911** code in a Rate Table,
- an assigned Code Deck that has only 44-UK, but not 447911,
- an assigned Routing Plan with a static rule for *UK* to a vendor,

in the Routing Analysis you <u>will not</u> see this vendor as available for a call to, say, 4479110000, even though the Orig parameters state a Code Name as UK. This happens, because it's a *simulated Code Name* (from 44 Code, present in a Code Deck).

If you'd like to see the said vendor, the code should be either 447911, or 44*.

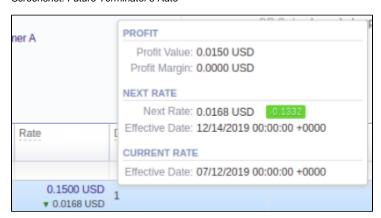
To expand or collapse data in your report, click the plus or minus cons. If the data is Grouped in the report, it will be shown initially expanded.

Screenshot: Expand/collapse report data



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 colu

Screenshot: Future Terminator's Rate





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

Screenshot: Info icon

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

Export a generated report

You can export report data either in 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 Uicon, which is located under the Output section:

Title	Description	
Generated by	Indicates the Role of the user who generated a report and specifies a generation time	1

Screenshot: Routing Analysis Info icon



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

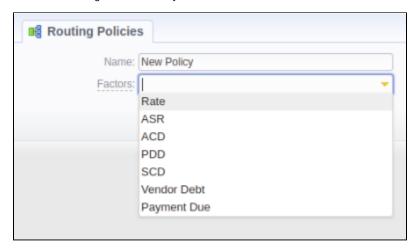


Policy	Description
Cash Flow When vendors owe you the most and have long periods to invoice due date, they get higher priority in r	
Proportional	When the price is lower and a route quality is higher, it has a higher priority.
Simple LCR	Generic price-based routing.
Simple Quality	Generic quality-based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

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
Name	Set the name 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 vicon 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 DecksCurrencies
- Payment Accounts
- Payment Terms
- Time Profiles
- Taxes Profiles
- Tags
- Invoices TemplatesServices
- Settings

Code Decks

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



Column Description	
ID	Code deck's identification number
Deck Name	Name of a code deck
Reseller	List of resellers corresponding deck was assigned to

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

Button/Icon	Description
• New Code Deck	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	
Code Deck Name of the code deck. Auto-filled by the system		
Code	New destination code	
Code Name Displayed name of a code group		
Country	Country the codes in 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).

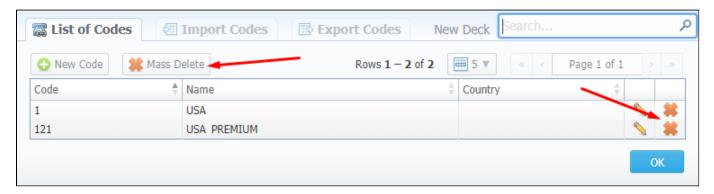
Screenshot: Section search box



Deleting Codes

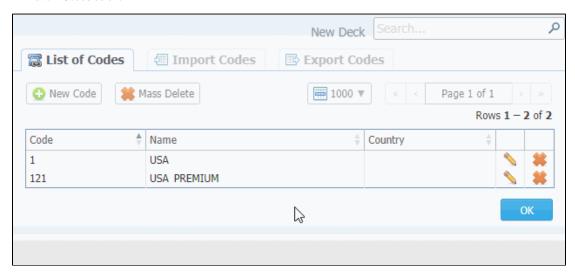
You can either delete *each* code separately by clicking the delete icon opposite corresponding code on the list or delete *all* codes at once by pressing Mass Delete button (see screenshot below).

Screenshot: Codes deletion



To verify mass deletion, click **OK** in a pop-up window (see animation below).

Animation: Codes deletion

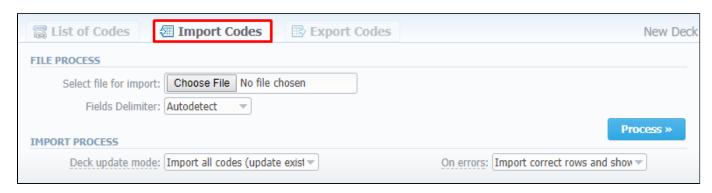


Importing Codes

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.

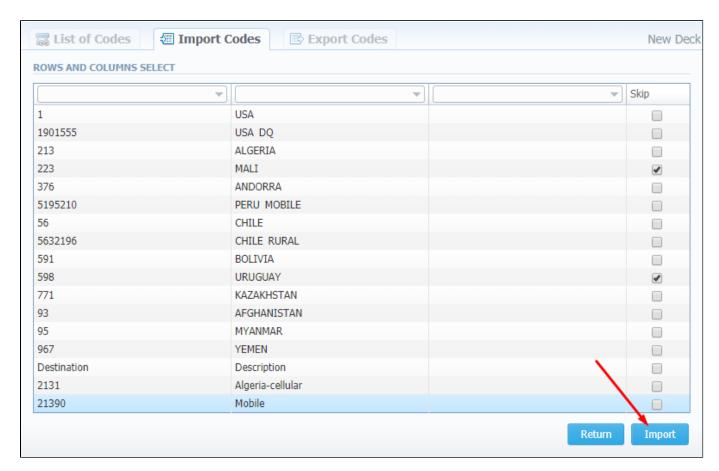
Screenshot: Import Codes - Step 1



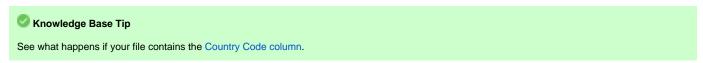
Section	Field	Description
File Process	Select File to Import	Select an import file by clicking the Choose File button
	Fields Delimiter	Specify a delimiter symbol. Possible options are: • Autodetect • ; • ; • Tab By default, the Autodetect option is chosen.
Import Process	Deck Update Mode	Specify the code deck update mode. There are three possible modes: • Import only not existing codes • Import all codes (update existing) • Import all codes (purge code deck first) By default, Import all codes (update existing) mode is chosen.
	On Errors	Define what to do if inconsistency or error was found in the importing file: • Import correct rows and show all found errors • If errors are found, abort import and show all errors By default, the Import correct rows and show all found errors option is chosen.

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



After you click Import, the system will start the importing process. When the progress bar reaches 100%, your import is done. Congrats!



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



Currencies

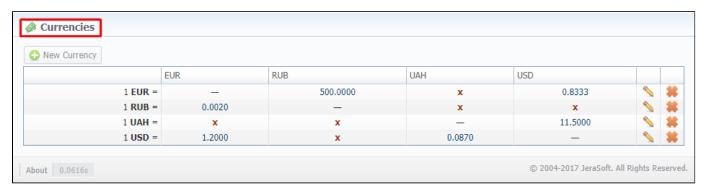
In this article

- 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



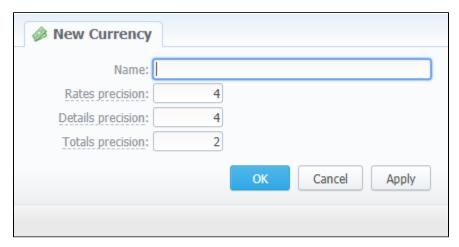
Functional **buttons/icons**, presented in the section, are as follows:

Button/Icon	Description
• New Currency	Allows to create a new currency
Allows managing an existing currency on a list	
*	Allows deleting a currency from the system. Requires confirmation
x	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 **require d fields** and click **OK**.

Screenshot: New Currency pop-up window



Field	Description	
Name	ame of a new currency	
Rates Precision	Number of decimal places for rates formatting. By default, the field value is set to 4.	
Details Precision	Number of decimal places for detailed monetary values formatting. By default, the field value is set to 4.	
Totals Precision	Number of decimal places for total monetary values formatting. By default, the field value is set to 2.	

The respective numbers will be displayed in all reports (*details precision* is used for all reports except xDR report) with cost and rate values in the statistics. They will also be shown in the invoices, except total values (totals *always* have 2 decimal places in invoices).

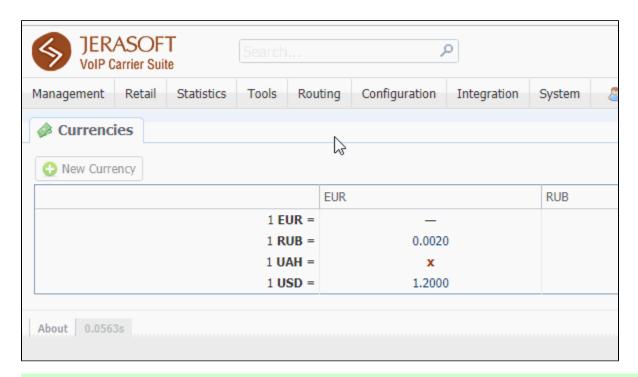
Specifying a Currency Rate

After you add a currency, you need to specify the rate. To do this, you need to (see animation down below):

- Click the X icon in the currency column, for which you wish to specify the exchange rate
- Click the button in a pop-up window and set *Currency Rate* and *Date*
- Click Add

As a result, a new rate for the currency pair will be added. If more than one currency rate had been added, you can view a history of changes in the **Date** column.

Animation: Specifying a currency rate





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.

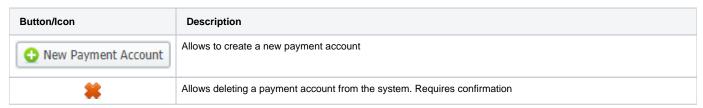
This section allows you to **create different payment accounts** for correct and precise **transactions (payments) management**. The section is presented in the form of a list of payments with the following structure (see screenshot):

Screenshot: Payment Accounts section



Column Name	Description	
ID	Payment account's identification number	
Name	Account's name	
Reseller	Name of the reseller a new payment account will be attached to	
Sort Order	Order of the entity in the list	

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





Please note that the user *cannot* edit or delete the **General** payment account with ID = 1 (see screenshot above)

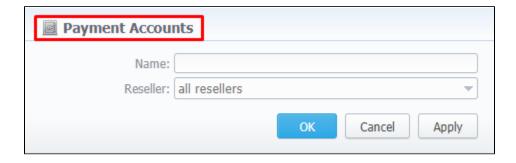
Adding a New Payment Account

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 Terms

In this article • Section overview • Adding New Payment Terms

Section overview

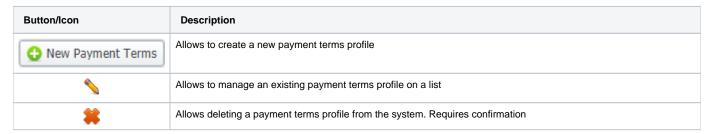
In JeraSoft Billing, **payment terms** are implemented as sets of rules and regulations that define the clients' **payment dates** and **noticing periods** (before a nd/or after the payment day). Primarily, they help to make the clients' invoicing easier and faster by allowing to use **auto-invoicing 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



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

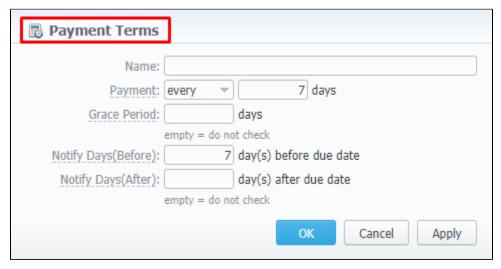


Adding New Payment Terms

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



Field	Description			
Name	Name of a new payment terms profile			
Payme nt	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)			
<i></i>	Attention Please note that when you choose the <i>on</i> 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. <i>In case you put the 29-31 value, the system will convert it to 28.</i>			
Grace Period	Period that specifies how many days the client has to pay the bill after he was invoiced. It's the Due Date field in invoices (so-called "Deferral period")			
Notify Days (befor e)	Set how many days before the payment date (invoicing date + grace period) have to pass before automatic reminders will be sent to a client. For example, if you enter 10, the reminder will be sent 10 days before the payment date. You can specify more than one value in this field separating them with commas - 10, 5, 3			
Notify Days (after)	Specify how many days after the payment date have to pass before reminders will be sent to a client. The field can have more than one value, each separated with a comma.			

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:

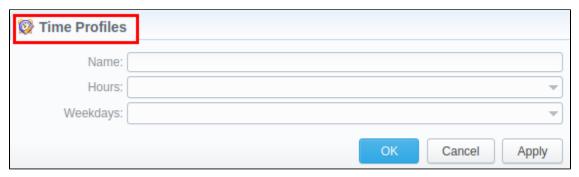


Adding a New Time Profile

To add a new time profile, you need to:

- Click the **New Time Profile** button
- In the appeared dialog-window, fill in the required fields
- Click OK

Screenshot: Adding a new time profile



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

Taxes Profiles

In this article

- Section overview
- Advanced Search
- Creating a New Taxes Profile
 - Type: Customer
 - Type: SureTax
 - Type: Compliance Solutions
 - Type: Avalara
- Tax Values Management

Section overview

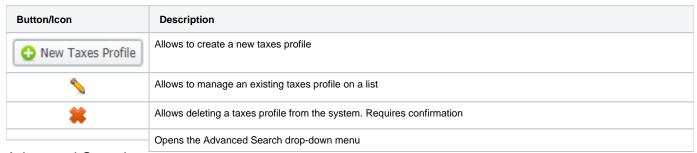
Taxes profiles, equally as Time profiles, is a JeraSoft Billing tool that makes the process of clients' rate tables management exceptionally agile. Taxes profile is a **set of tax rules** that can be applied to client's rate tables in different taxation schemes. This section allows you to add, edit, and delete profiles and is presented in the form of a table with the following columns (see screenshot):

Screenshot: Taxes Profiles section



Column Name	Description	
ID	Taxes profile's identification number	
Name	ame of a taxes profile (clickable, to access taxation values for <i>Customer</i> type profile)	
Profile Owner	List of resellers corresponding taxes profile was assigned to	
Notes	Additional information regarding a taxes profile	
Sort Order Order of the entity in the list		

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



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		
Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system		
Status To apply the spec	Select the status of a taxes profile: ecitied search criteria, click the Search button; to cancel the applied parameters, click the Reset bu		
Creating a	Archive New Taxes Profile		

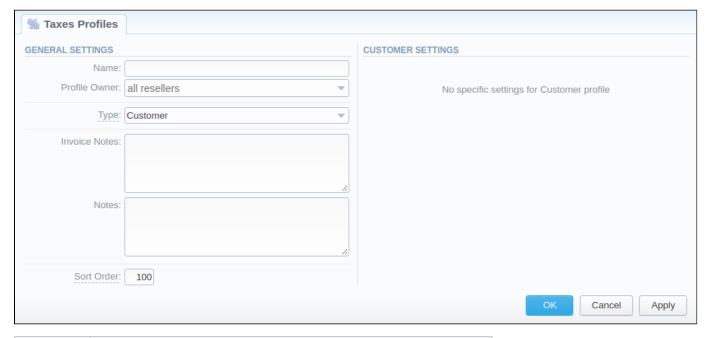
To create a new profile, you need to:

- Click the New Taxes Profile button
 Fill in mandatory fields (specified in tables below)
- Click the **OK** button

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

Type: Customer

Screenshot: New Taxes Profile window (Customer)

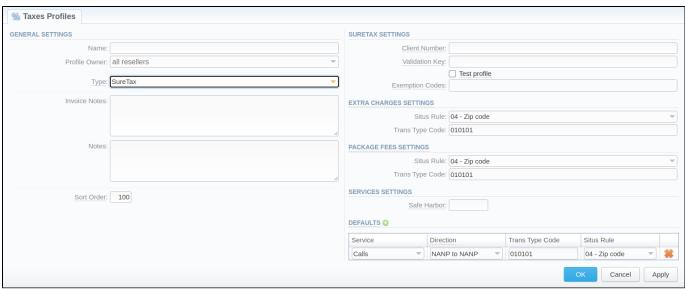


Field	Description	
Name	Name of a taxes profile	
Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system	
Туре	Select the tax profile type from a drop-down list: Customer SureTax Compliance Solutions Avalara	

Invoice Notes	If specified, this information will be displayed in issued Invoices
Notes Additional information regarding a taxes profile	
Sort Order Order of the entity in the list	

Type: SureTax

Screenshot: New Taxes Profile window (SureTax)

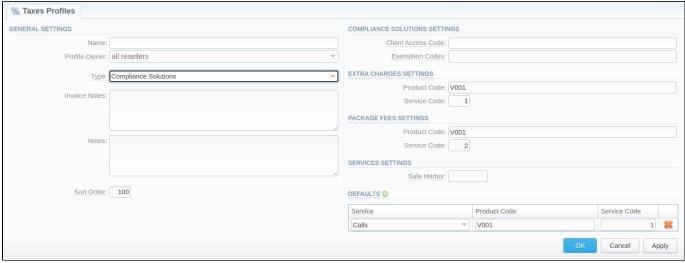


Section	Field	Description
General Settings	Name	Name of a taxes profile
	Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
	Туре	Select the tax profile type from a drop-down list: Customer SureTax Compliance Solutions Avalara
	Invoice Notes	If specified, this information will be displayed in issued invoices
	Notes	Additional information regarding a taxes profile
	Sort Order	Order of the entity in the list
SureTax	Client Number	Used when issuing invoices for clients with selected SureTax profile
Settings	Validation Key	Used for clients with selected SureTax profile
	Test profile checkbox	Check to specify that a created SureTax profile is a test one
	Exemption Codes	List Tax Exemption Codes to not calculate them within this profile
Extra Chagres	Default settings for Extra (Charges taxation.
Settings	You can set sepa add a <i>Tag</i> , specif	rate Rules/Codes per Extra Charge if needed. For this, when creating an <i>Extra Charge</i> in Transactions , ying both Situs Rule and Trans Type Code, like <i>suretax:04-010101</i> .
	Situs Rule	Select a Situs Rule from the list of available ones:
		 04 - Zip code 05 - Zip code + 4

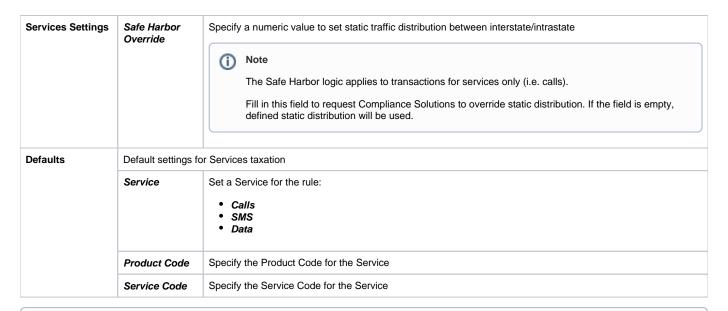
	Trans Type Code	Specify a Trans Type Code for this Rule (e.g., 010101)
Package Fees Settings	Default settings for Pack	kage Fees taxation.
		<u>parate</u> Rules/Codes per Package Fee if needed. For this, when adding a Fee to a Package , set a Tag , Situs Rule and Trans Type Code, like suretax:04-010101 .
	Situs Rule	Select a Situs Rule from the list of available ones: • 04 - Zip code • 05 - Zip code + 4
	Trans Type Code	Specify a Trans Type Code for this Rule (e.g., <i>010101</i>)
Services	Safe Harbor	Specify a numeric value to set static traffic distribution between interstate/intrastate
Settings		Note The Safe Harbor logic applies to transactions for services only (i.e. calls).
Defaults	Default settings for Serv	rices taxation.
	Situs Rule and	<u>parate</u> Rules/Codes per Account if needed. For this, when creating an Account , add a Tag , specifying both Trans Type Code, like suretax:04-010101 . this via the Traffic Processing section by creating a rule that will be adding needed Tags to traffic.
	Service	Set a Service for the rule:
		CallsSMSData
	Direction	Select a Direction from the list of available ones: NANP to NANP NANP to non-NANP non-NANP to NANP non-NANP to non-NANP
	Trans Type Code	Specify a Trans Type Code for this Rule (e.g., 010101)
	Situs Rule	Select a Situs Rule from the list of available ones: • 01 - Two-out-of-Three test using NPA-NXX • 02 - Billed to number • 03 - Origination number • 04 - Zip code

Type: Compliance Solutions

Screenshot: New Taxes Profile window (Compliance Solutions)



Section	Field	Description
General Settings	Name	Name of a taxes profile
	Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
	Туре	Select the tax profile type from a drop-down list: Customer SureTax Compliance Solutions Avalara
	Invoice Notes	If specified, this information will be displayed in issued invoices
	Notes	Additional information regarding a taxes profile
	Sort Order	Order of the entity in the list
Compliance Solutions Settings	Client Access Code	Used when issuing invoices for clients with selected Compliance Solutions profile
settings	Exemption Codes	List Tax Exemption Codes to not calculate them within this profile
Extra Chagres Settings	Default settings for	or Extra Charges taxation
g		set <u>separate</u> Codes per Extra Charge if needed. For this, when creating an <i>Extra Charge</i> in Transactions , <i>g</i> , specifying both Product Code and Service Code, like <i>compliance:V001-1</i> .
	Product Code	Specify the Product Code for the Extra Charges
	Service Code	Specify the Service Code for the Extra Charges
Package Fees Settings	Default settings fo	or Package Fees taxation
		set <u>separate</u> Codes per Package Fee if needed. For this, when adding a Fee to a Package , set a Tag , g both Product Code and Service Code, like compliance:V001-1 .
	Product Code	Specify the Product Code for the Package Fees
	Service Code	Specify the Service Code for the Package Fees

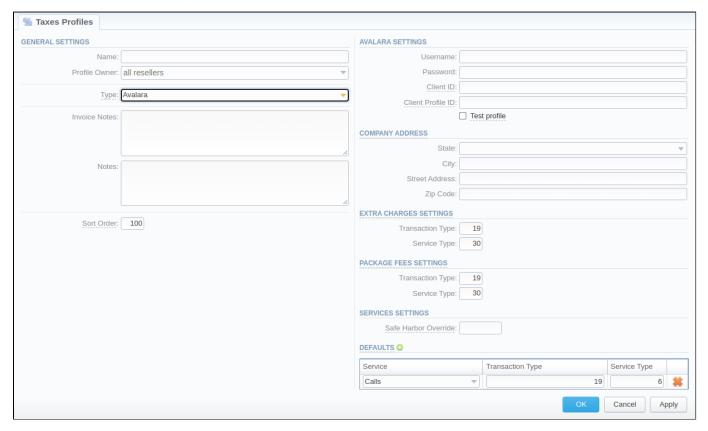


(i)

While using **SureTax** or **Compliance Solutions** profile type, the tax 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 tax values.

Type: Avalara

Screenshot: New Taxes Profile window (Avalara)



Section	Field	Description
General	Name	Name of a taxes profile
Settings	Profile Owner	Select from the list of all Resellers, Sub-resellers and Managers registered in the system

	Туре	Select the tax profile type from a drop-down list: Customer SureTax Compliance Solutions Avalara	
	Invoice Notes	If specified, this information will be displayed in issued invoices	
	Notes	Additional information regarding a taxes profile	
	Sort Order	Order of the entity in the list	
Avalara Settings	Username	Company's username in Avalara	
	Password	Company's password in Avalara	
	Client ID	Unique identifier of your company provided by Avalara	
	Client Profile ID	Avalara Profile ID you want to use. Leave empty for default configuration	
	Test profile checkbox	Check to specify that a created Avalara profile is a test one	
Company Address	Company address that will be used as billing address. Please fill in the respective: • State • City • Street Address • Zip Code		
Extra Chagres Settings	Default settings for Extra Charges taxation		
	You can set separate Codes per Extra Charge if needed. For this, when creating an <i>Extra Charge</i> in <i>Transactions</i> , add a <i>T</i> ag, specifying both Transaction Type and Service Type, like avalara:19-30.		
	Transaction Type	Specify the Transaction Type for the Extra Charges	
	Service Type	Specify the Service Type for the Extra Charges	
Package Fees Settings	Default settings for Package Fees taxation		
		et <u>separate</u> Codes per Package Fee if needed. For this, when adding a Fee to a Package , set a Tag , specifying b action Type and Service Type, like avalara:19-30 .	
	Transaction Type	Specify the Transaction Type for the Package Fees	
	Service Type	Specify the Service Type for the Package Fees	
Services Settings	Safe Harbor Override	Specify a numeric value to set static traffic distribution between interstate/intrastate Note	
		The Safe Harbor logic applies to transactions for services only (i.e. calls). Fill in this field to request Avalara to override standard static distribution. If the field is empty, defined static distribution will be used.	
Defaults	Default settings for	r Services taxation	

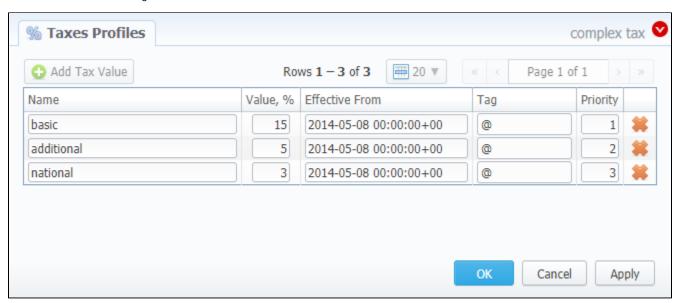
Service	Set a Service for the rule:
	Calls SMS Data
Transaction Type	Specify the Transaction Type for the Service
Service Type	Specify the Service Type for the Service

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

Tax Values Management

To manage a tax value within the Customer type of the taxes profile, you need to click the respective profile name. 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	
Name	Name of the tax value added to this profile	
Value	Specify a tax value in %	
Effective from	Start date of a corresponding tax value	
Tag	Specify tag(s) you would like to be applied to corresponding tax value. If no tags are added, you can leave the field blar	
Priority	Specify the priority of tax value usage	

While operating with tax values, you can apply Advance Search to find the value you might be interested in. To do so, click on a red downward arrow Vi con 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.



In cases when you determine a **Priority** status, you basically set the order of the taxation. So, the tax with **Priority 1** will add % tax to operation sum, the tax with **Priority 2** will add tax % to the **resulted sum** (operation sum + 1st tax %). Each following priority will add % tax to operation sum plus all the previous priorities values.

For example:

If operation sum is 100 USD, and there is a single tax with Priority 1 and 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**.



You cannot delete or archive a tax profile that is currently assigned to the Client, Call Shop, Reseller, or Calling Card

Tags

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).

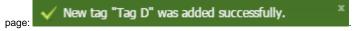
Screenshot: Tags section



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



To remove a tag from the system, click the F delete icon opposite a corresponding tag on the list.



- 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**.

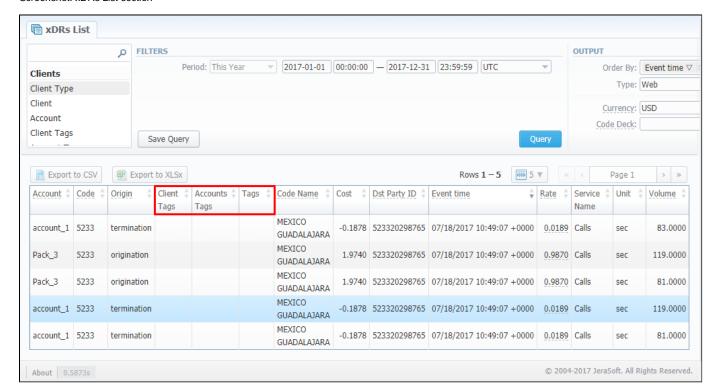


- 1. If you applied a tag for the Taxes Profile, please make sure it matches the tag specified in the respective Rate Table.
- We strongly recommend that you properly configure rates and assign tags. If you configure in the way that some rate tables will have sever al accessible tags, it will work randomly.

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:

- o 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 Tra ffic Processing or Number Portability.

Screenshot: xDRs List section



Invoices Templates

Section overview Creating a New Invoice Template New XLS Template creation New PDF Template creation Method of Calculating and Rounding Values

Section overview

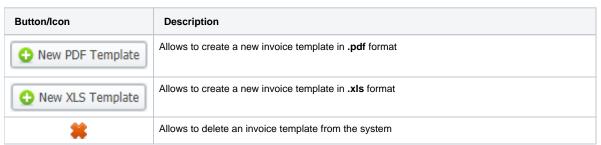
Invoices Templates is a convenient tool that makes the whole process of invoicing less time consuming and much more convenient and effective. It allows you to create custom invoice templates that would address your particular needs. The section is presented in the form of a table of invoices templates with the following columns (see screenshot below):

Screenshot: Invoices Templates section main window



Column Name	Description
ID	Invoice template's identification number
Name	Name of an invoice template
Туре	Type of an invoice template format (.pdf/.xls)
Reseller	List of resellers corresponding invoice template was assigned to
Notes	Additional information on a template

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

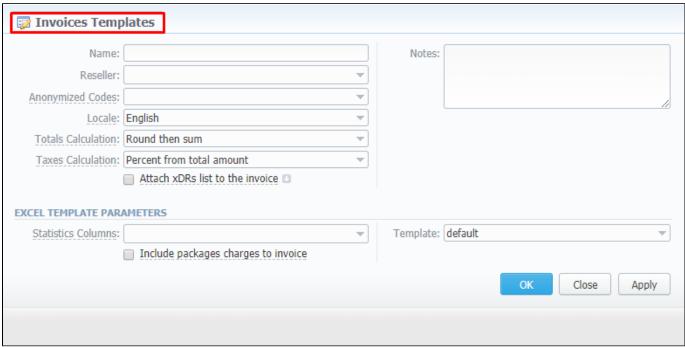


Creating a New Invoice Template

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



Section	Fields Description				
General	General information about the invoice template				
nformation	• Name	Unique name to	differentiate invoice templates		
	Reseller	Reseller who owns this invoice template			
	Anonymized Codes	Code Deck, who	ose codes and their respective names will be hidden in the invoice		
	• Locale	Language for the	Language for the text representation of totals in the invoice		
	Totals Calculation	The order of rounding while calculating the totals: • round then sum - raw values are rounded first according to the currency settings, then summed; • sum then round - raw values are summed first, then rounded.			
	Taxes Calculation	percent from	will be calculated: com total amount - taxes are calculated as a percentage from the total amount dividual taxes - taxes are calculated as a sum of respective taxes.		
	Attach xDRs list to the invoice checkbox	If enabled, creates an xDR file for the invoicing period and attaches it to the invoice. To view advanced settings, click the connext to its name.			
		• xDRs List Format	List of xDR file format (.csv, .xlsx or .xls)		
		Format			

		Included Calls Select Columns	Types of calls that will be included in invoices: • All payable - includes calls with any duration that have non-zero costs and use packages • Non-zero payable - permits including calls with a non-zero duration that either have any cost or use packages. List of columns which can be presented in the attached xDR file	
	• Notes	Additional inform	nation concerning the invoice template	
Excel Template	Settings of an invoice template			
Parameters	Statistics Columns	List of statistics columns	columns. If selected, the invoice will include summary statistics with selected	
	Include packages charges to invoice checkbox	If enabled, the invoice will include the data on ordered packages into a current invoice for the selected period		
	Template	Defined displaying	ng format of xDRs list in a template	



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)

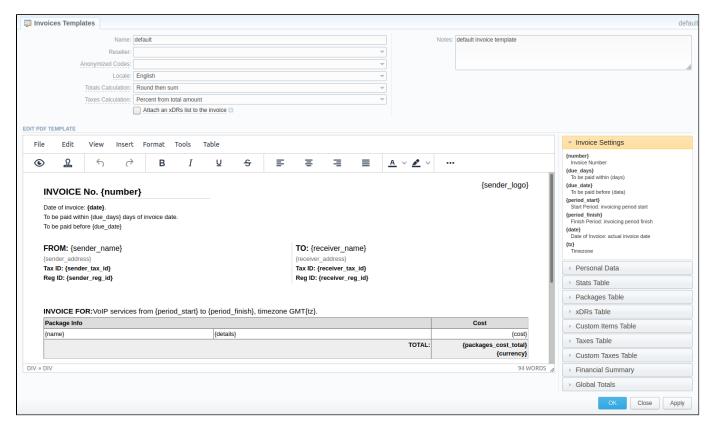


Attention

- 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:

- Add a table to your workspace, right-click on it, choose Table Properties, and define the Class field (stats, xDRs, packages, custom_taxes, custor) 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 **def ault .ndf templates**, called **default** and **default extended**.



For creating an invoice template for **SureTax** or **Compliance**, view the info in the **US Taxation** article.



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.:

- 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



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



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

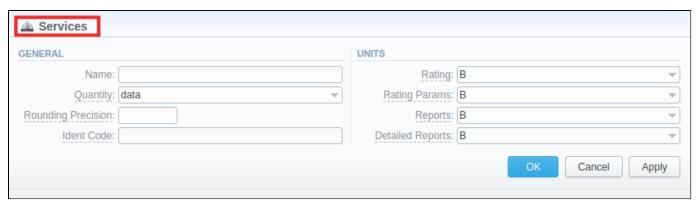


Adding a New Service

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





	• Quantity	Type of a unit group (time, event, data) that will measure the service
	Rounding Precision	Number of decimal places for volume formatting. Used in reports.
	• Ident Code	ID that will be used to identify the unit in the xDRs
Units	 for time: sec, min, hour, day for event: event 	in the <i>Quantity</i> field, the following unit values will be applied to the fields of the Units section (1024 B), mB (1000 ² B), MB (1024 ² B), gB (1000 ³ B), GB (1024 ³ B)
	• Rating	Choose the unit that will be used for rates and for packages limits
	• Rating Params	Indicate the unit for extra rate parameters like Min Volume
	• Reports	Select the unit for all aggregated reports
	Detailed Reports	Determine the unit for detailed xDR reports

Settings

This section is designed for management of system notification messages distribution, as well as specifying the system time and date format. The section is divided into 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

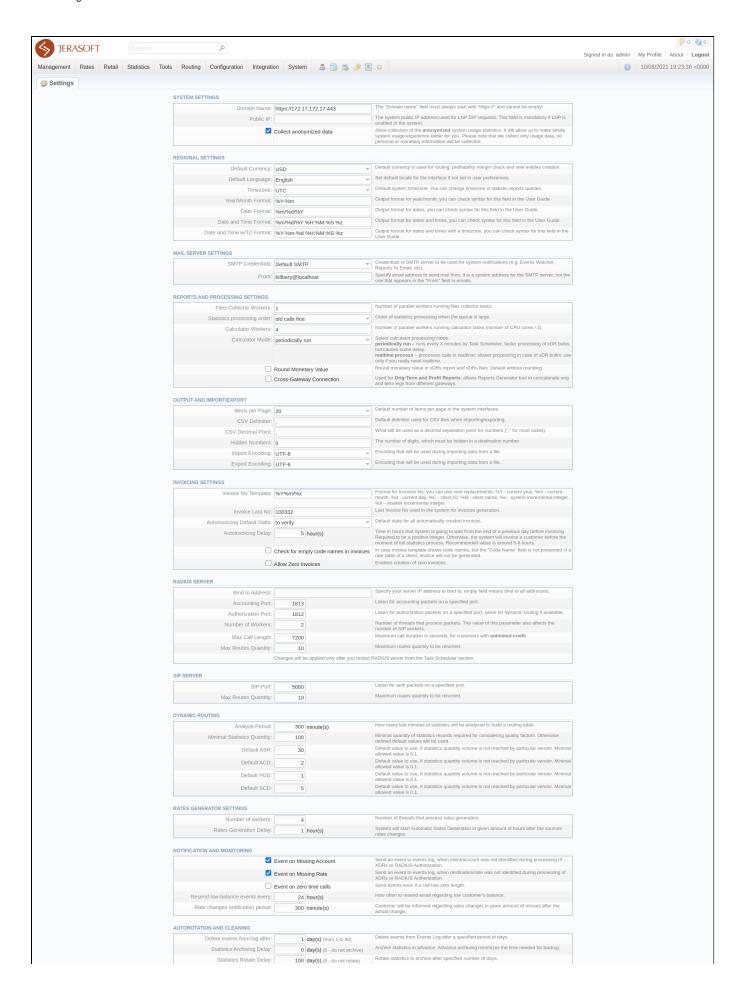
- SIP Server
- Dynamic RoutingRates Generator Settings
- Notification and Monitoring
- Autorotation and Cleaning
- Backup Settings

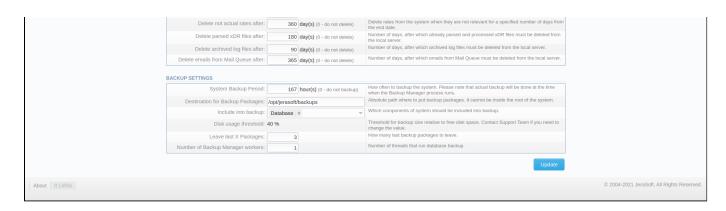
To apply any changes, made in the section, click the

Update

button. The whole **Settings** section is presented in the screenshot below:

Screenshot: Settings section





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

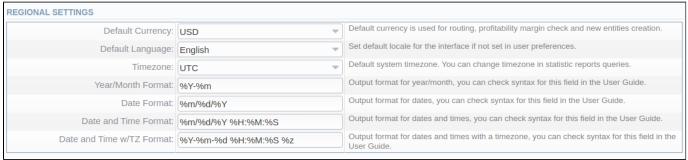
SYSTEM SETTINGS		
Domain Name:		The "Domain name" field must always start with "https://" and cannot be empty!
Public IP:		The system public IP address used for LNP DIP requests. This field is mandatory if LNP is enabled in the system.
	Collect anonymized data	Allow collection of the anonymized system 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.

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

Regional Settings

The ${\bf Regional\ Settings}$ information block contains the following fields:

Screenshot: Regional Settings block



Field	Description		
Default Currency	Specify currency 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 won't be used for reports.		
efault anguage	Select your de	efault language for the system. You can change it to your preferred language at any time .	
ïmezone	Select your de	efault timezone	
/ear/Month	Specify how y	vear/month will be displayed here	
Format	• %Y	Number of the year that consists of 4 numbers. Value example: 1999 , 2005 , 2010	
	• %m	Month number. Allowed values: from 01 to 12	
Date Format	Specify date p	parameters here	
	• %d	Day of the month in numeric form. Allowed values: from 01 to 31	
	• %m	Month number. Allowed values: from 01 to 12	
	• %Y	Number of the year that consists of 4 numbers. Value example: 1999, 2005, 2010	
Date and Time	Specify the da	ate and time parameters here	
Format	• %d	Day of the month in numeric form. Allowed values: from 01 to 31	
	• %m	Month number. Allowed values: from 01 to 12	
	• %Y	Number of the year that consists of 4 numbers. Value example: 1999, 2005, 2010	
	• %H	Hours in 24-hour format with leading zeroes. Allowed values: from 00 to 23	
	• %M	Minutes with leading zeroes. Allowed values: from 00 to 59	

	• %\$	Seconds with leading zeroes. Allowed values: from 00 to 59			
Date and Time w	Specify the date and time with timezone parameters here				
/12 Format	• %d	Day of the month in numeric form. Allowed values: from 01 to 31			
	• %m	Month number. Allowed values: from 01 to 12			
	• %Y	Number of the year that consists of 4 numbers. Value example: 1999, 2005, 2010			
	• %H	Hours in 24-hour format with leading zeroes. Allowed values: from 00 to 23			
	• %M	Minutes with leading zeroes. Allowed values: from 00 to 59			
	• %\$	Seconds with leading zeroes. Allowed values: from 00 to 59			
	• %z	Timezone 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

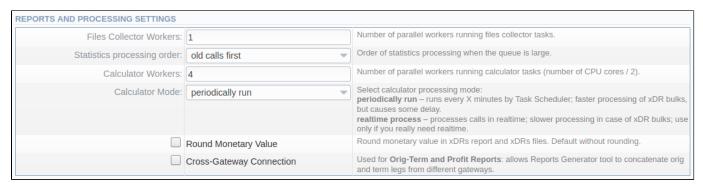
MAIL SERVER SETTINGS		
SMTP Credentials:	Delault SWITE	Credentials of SMTP server to be used for system notifications (e.g. Events Watcher, Reports Watcher, etc)
From:		Specify email address to send mail from, it is a system address for the SMTP server, not the one that appears in the "From" field in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

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

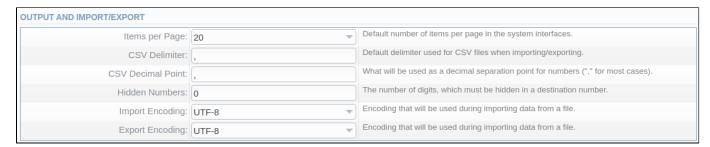


Field	Description
Files Collector Workers	Specify the number of threads processing files collection tasks
Statistics Processing Order	Specify what statistics to process first (newer or older)Specify the number of threads processing calculator tasks (number of CPU cores/2)
Calculator Workers	Specify the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

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

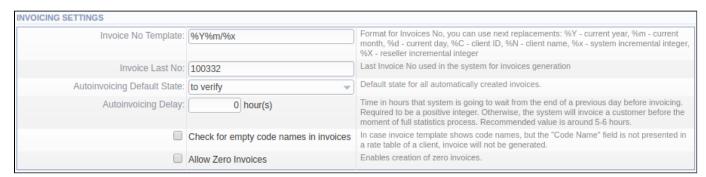


Field	Description
Items per Page	Set default quantity of items displayed on a single page
CSV Delimiter	Set default delimiter for CSV files
CSV Decimal Point	Set default decimal point for CSV files
Hidden Numbers	Specify how many digits of a number should be hidden when this function is activated for a customer
Output Encoding	Select which encoding to use when exporting a file
Import Encoding	Select which encoding to use while importing data from a file

Invoicing Settings

Below, you will find a list of fields of the Invoicing Settings information block:

Screenshot: Invoicing Settings window



Field	Description	
Invoice No Template	Default template for invoice number	
Invoice Last No	Number of the last issued invoice	
Autoinvoicing Default State	Set the state for all automatically created invoices by choosing one of the following field values: • normal • to sent • to verify	
Autoinvoicing Delay	Time in hours the system will wait until performing invoicing	
Check empty code names in invoices checkbox	Enables checking of the correspondence of a Code with a Code name , and, in case of any mismatches , the system will give an alert and an invoice will not be generated	
Allow Zero Invoices checkbox	Allows to create invoices with zero amount	

RADIUS Server

JeraSoft Billing **RADIUS server** settings can be managed in this information block:

Screenshot: RADIUS Server settings window

RADIUS SERVER		
Bind to Address:		Specify your server IP address to bind to, empty field means bind to all addresses.
Accounting Port:	1813	Listen for accounting packets on a specified port.
Authorization Port:	1812	Listen for authorization packets on a specified port, same for dynamic routing if available.
Number of Workers:	2	Number of threads that process packets. The value of this parameter also affects the number of SIP workers.
Max Call Length:	7200	Maximum call duration in seconds, for customers with unlimited credit.
Max Routes Quantity:	10	Maximum routes quantity to be returned.
	Changes will be applied only after you restart RADIUS server from the System Services section.	

Field	Description
Bind to Address	Specify your JeraSoft Billing server IP addresses, separated by a comma, to bind RADIUS to
Accounting Port	Specify the accounting port here. By default, the field value is 1813
Authorization Port	Specify the authorization port here. By default, the field value is 1812
Number of Workers	Number of RADIUS workers. The value of this parameter also affects SIP workers' number.
Max Routes Quantity	Limit maximum routes quantity to be returned. Default - 10

SIP Server

JeraSoft Billing SIP Server settings can be managed in this information block:

Screenshot: SIP Server settings window



Field	Description	
SIP Port	Specify the SIP port here. By default, the field value is 5060	
Max Routes Quantity	Limit maximum routes quantity to be returned. Default - 10	

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

Field	Description
Analyze Period	A number of minutes of last available statistics that will be used to build a routing table
Minimal Statistics Quantity	Minimal quantity of statistics records required for considering quality factors. Otherwise, defined default values will be used.
Default ASR	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default ACD	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default PDD	Default value to use if statistics quantity volume is not reached by particular vendor. Minimal allowed value is 0.1.
Default SCD	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:	4	Number of threads that process rates generation.	
Rates Generation Delay:	1 hour(s)	System will start Automatic Rates Generation in given amount of hours after the sources rates changes.	

Field	Description
Number of workers	Specify the number of system workers that run rates generation.
Rates Generation Delay, hour(s)	Specify rates generation delay (for example, if you enter 3 as a value, the system will generate rates in three hours after 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			
●	Event on Missing Account	Send an event to events log, when client/account was not identified during processing of XDRs or RADIUS Authorization	
€	Event on Missing Rate	Send an event to events log, when destination/rate was not identified during processing of XDRs or RADIUS Authorization	
	Event on zero time calls	Send events even if a call has zero length	
Resend low-balance events every:	24 hour(s)	How often to resend email regarding low customer's balance	
Rate changes notification period:	5 hour(s)	Customer will be informed regarding rates changes in given amount of hours after the actual change.	
Watch for free space at:	/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
Event on Missing Account checkbox	If checked, activates notification sending when no account was found
Event on Missing Rate checkbox	If checked, activates notification sending when no rate was found
Event on zero time calls checkbox	If checked, activates all previous checkboxes effects when calls with zero duration were found
Resend low balance events every, hour(s)	Set the frequency of low balance notification resending service
Rate changes notification period, hour(s)	Specify the frequency of rate changes notification period
Watch for free space at	Here you can specify folders 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 warning notifications.
	For example, /opt/jerasoft/:20 means that if free disk space is below 20 percent in the /opt/jerasoft/ folder, the notification will be sent. You can add multiple folders in this field by delimiting them with the ";" symbol.

Autorotation and Cleaning

Automatic statistics and backup management parameters are configured here:

Screenshot: Autorotation and Cleaning settings window

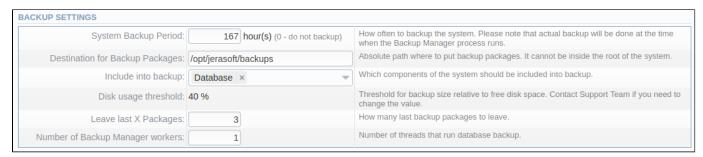
AUTOROTATION AND CLEANING		
Delete events from log after:	1 day(s) (from 1 to 90)	Delete events from Events Log after a specified period of days.
Statistics Archiving Delay:	0 day(s) (0 - do not archive)	Archive statistics in advance. Advance archiving minimizes the time needed for backup.
Statistics Rotate Delay:	100 day(s) (0 - do not rotate)	Rotate statistics to archive after specified number of days.
Delete not actual rates after:	360 day(s) (0 - do not delete)	Delete rates from the system when they are not relevant for a specified number of days from the end date.
Delete parsed xDR files after:	180 day(s) (0 - do not delete)	Number of days, after which already parsed and processed xDR files must be deleted from the local server.
Delete archived log files after:	90 day(s) (0 - do not delete)	Number of days, after which archived log files must be deleted from the local server.
Delete emails from Mail Queue after:	365 day(s) (0 - do not delete)	Number of days, after which emails from Mail Queue must be deleted from the local server.

Field	Description
Delete events from log after	Specify the number of days , in which events will be removed from the log-files (when 0 is the value – events won't be deleted)
Statistics Archiving Delay	Here, it's possible to archive the statistics in advance to reduce the backup time (by default, 35 days is set here. When 0 is the value – events won't be archived)
Statistics Rotate Delay	Specify statistics packages rotation delay (for example, if you enter 3 as a value, all statistics packages that are older than 3 days will be automatically archived)
Delete not actual rates after	Cleans non-actual rates from the database when effective date is older than a specified number of days
Delete parsed xDR files after	Define when the system should delete old parsed xDR-files
Delete archived log files after	Define when the system should delete archived log-files
Delete emails from Mail Queue after	Define when the system should delete emails from Mail Queue

Backup Settings

Backup settings are presented with the following fields:

Screenshot: Backup Settings window



Field	Description	
System Backup Period	The field value specifies when the system should backup itself (for example, if you enter 24 as a value, it will mean that the system will backup itself every 24 hours).	
Destination for Backup Packages	Absolute path to the folder where the system backup copies will be stored .	
	Warning This folder shouldn't be within any system folder!	
Include into backup	Specify components of the system which should be included into backup.	
Disk usage threshold	The percentage value of the disk space that backup needs free for correct work.	
Leave last X Packages	This Parameter specifies how many backup copies will be stored at one given time (for example, if you enter 3 as a value, only three copies will be stored. When the fourth copy is added, the oldest one will be deleted).	
Number of Backup Manager workers	Specify the number of system managers that run a database backup.	



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:

- GatewaysNumber PortabilityData SourcesProvisioning APICoreAPI Docs

Gateways

Jatomaye

In this article

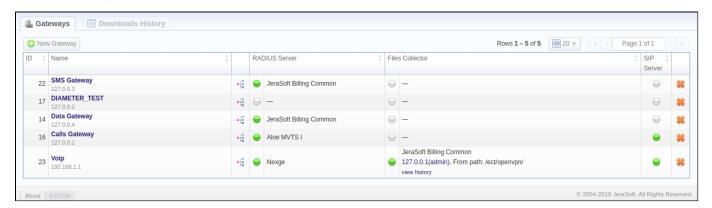
- Section overview
- Adding a New Gateway
- Files Downloading History
- Knowledge Base Articles

Section overview

This section allows you to configure and integrate all switches into billing via RADIUS, SIP or xDR-files upload.

The section is presented in the form of a table of all created gateways in the system with the following columns (see screenshot):

Screenshot: Gateways section



Column	Description	
ID	ID number of a gateway	
Name	Name of a gateway	
RADIUS Server	Description of current status and collector type of RADIUS Server (if such is applied)	
Files Collector	Description of current status and collector type of applied Files Collector (if such is applied)	
SIP Server	Description of current status and collector type of applied SIP Server (if such is applied)	

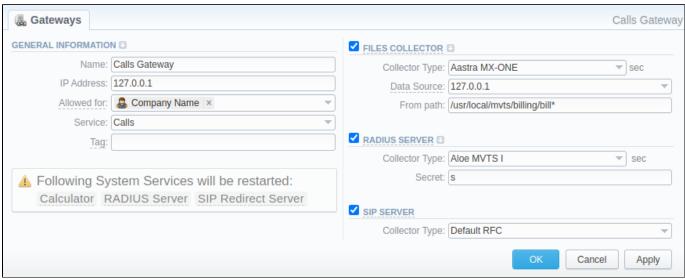
The following functional buttons/icons are present in the section:

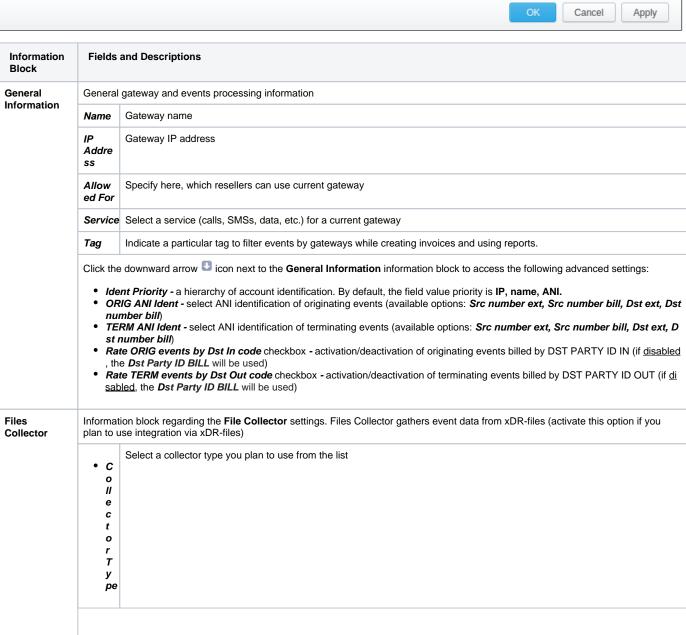
Button/Icon	Description
♦ New Gateway	Allows to create a new gateway
•{ =	Allows to set up traffic processing rules
⊖,⊝	Displays a current status - enabled or disabled - of RADIUS/SIP Server, Files Collector.
*	Allows deleting a gateway from the system. Requires confirmation

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 connect to the name of a respective information block.

Screenshot: Adding new Gateway



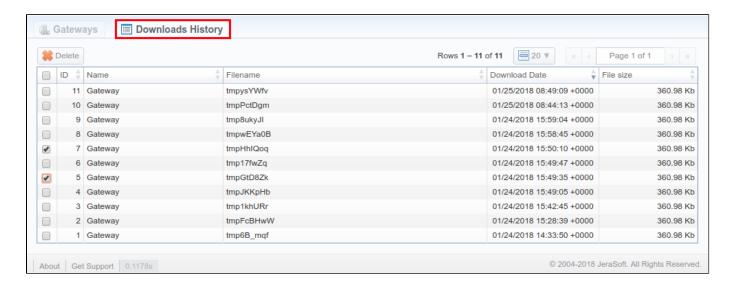


	Specify a data source, where xDR files are stored D a t a S O u r ce
	Specify the xDR-files path (mask paths are allowed). Available only for SSH and FTP Attention If there are /var/cdrs folder with the latest CDR files and /var/archive_cdrs/ folder with outdated ones, and a user needs to download CDR files from both of them, he can use; (semicolon) to separate paths or /**/ for recursive download. New paths may have the following look: /var/cdrs/**/bill*; /var/archive_cdrs/bill*.
	Indicate the sender name or email. Solely for IMAP Se n d e r M a t ch
	• S u b je c t M a t ch
	Click the downward arrow icon next to the Files Collector information block to access advanced settings: • Overwrite TZ - timezone selection (if you select a different timezone, the system will ignore a timezone stored in an xDRs-file and use current value) • Skip Zero Events checkbox - activation/deactivation of zero duration events ignoring • Skip Released Events checkbox - activation/deactivation of released events ignoring
RADIUS Server	Information block regarding RADIUS Server settings. RADIUS Collectors gather packets from RADIUS-server via RADIUS-protocol (activate this option if you plan to use integration via RADIUS-protocol) Select a collector type you plan to use from the list C C C C C C T T Y P Pe

	• S e c r et		
	Click the downward arrow icon next to the RADIUS Server information block to access advanced settings: • Overwrite TZ - timezone selection (if you select a different timezone, the system will ignore timezone information stored in an xDR file and use current value) • Track Active Events checkbox - activation/deactivation of monitoring active events and event packets. This option is required for "Active Sessions" section to work and for RADIUS capacity control. Please note, it could slow down RADIUS for about 10-30% • Skip Zero Events checkbox - activation/deactivation of zero duration events ignoring • Skip Released Events checkbox - activation/deactivation of released events ignoring • Collect Accounting Data checkbox - if disabled, information from STOP packets will not be collected by database and Radius Accounting will be used only for Active Sessions monitoring. If enabled, information from STOP packets will be collected by the database. By default, this checkbox is marked.		
SIP Server	Allows acceptance of SIP packets from the current gateway. Required for SIP Redirect routing feature		
	Select a collector type you plan to use from the list C O II E C C T T Y pe		
LNP Files Collector	This collector processes downloaded LNP/MNP files and stores them in the database. It's accessible only when you select the <i>LNP</i> / <i>MNP</i> type of gateway.		
	Select a collector type you plan to use from the list C O II e C t O r T y pe		

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.



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
- Knowledge Base Articles

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.



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+

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

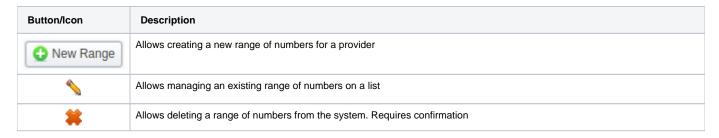
The tab is presented in the form of a table of ranges of numbers with the following columns:

Screenshot: Number Portability



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

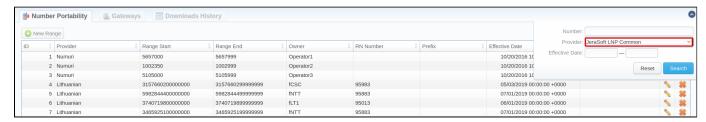
Functional **buttons/icons** that are present in a section are as follows:



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 cion.

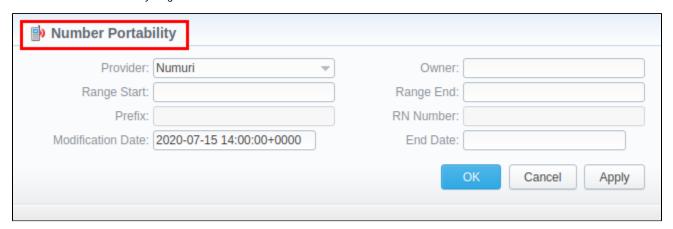
Screenshot: Number Portability section



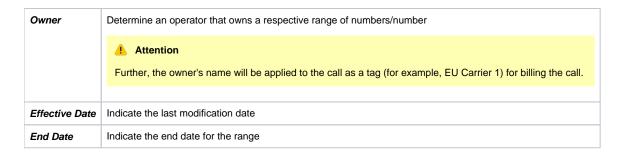
Creating a New Range/Number

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
Provider	Select the needed provider from the available dropdown: • JeraSoft LNP Common • JeraSoft LNP - tags only • Numuri • TJA (RN) • TJA (Owner) • Lithuanian
Range Start	Set the range's start position
Range End	Set the end position
RN Number	Indicate a registration number
Prefix	Number prefix



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 LNP - tags only, JeraSoft Billing is integrated with the following providers:

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



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





Note

When the database is local and has both ranges and single numbers present in it, we always select the most recent record by date (regardless of whether it is a single number or a range).

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, g ateway 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 butt on above the tab.

Screenshot: Downloads History tab



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.



- 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.
- 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.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

In this article

Data Sources

- Section overview
- Creating a New Data Source

Section overview

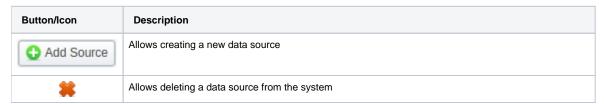
Data Source section is a first step to providing easier and more convenient work with data sources: files import, in particular. Previously, data source settings were split between Rate Tables, Resellers, Gateways, and Number Portability and caused certain inconvenience in its configuration. Now, all 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



Column Name	Description
ID	Data source identification number
Name	Data source name
Reseller	The name of the reseller the data source is assigned to
Connection type	Type of connection to the data source
Host	IP address or domain name
Port	Data source port

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

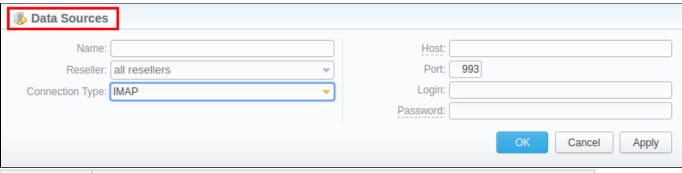


Creating a New Data Source

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



Field	Description
Name	Indicate a data source name
Reseller	The name of the reseller the data source is assigned to
Connection Type	Specify connection type: SSH SFTP FTP IMAP - mail mode to download files Web (Numuri) - web mode to download files SMTP - for configuring a mail server
	Attention Depending on a type you've chosen, the list of fields in the information block may differ
Security Layer	FOR SMTP ONLY Specify security layer for SMTP server: • TLS • SSL • Plain
Host	Specify an IP address or domain name of the server. Unavailable for Web (Numuri) connection type
Port	Specify the port for SSH, IMAP or FTP type. Unavailable for Web (Numuri)
Login	Specify gateway server login
Password	Password for <i>FTP</i> connection, <i>IMAP</i> mailbox, and <i>Numuri</i> web service. For <i>SSH</i> you have to create <i>SSH-keys</i> . Thus, this field is unavailable for this type. For <i>SMTP</i> 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

More Information

This page contains information about **Provisioning API** as a section of the user interface. For the documentation about **Provisioning API** as a concept and its usage, please refer to ProvisioningAPI article.

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 predefined handlers on the occurrence of specific events in the system. 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*.



Column	Description
ID	Handler's identification number
Priority	Priority of handlers execution
Name	Handler's title
Event	Description of the handler event
Handler	Category of the handler that is used and location. There are two types of handlers that can be used: • HTTP scripts, called via POST requests (used in most cases) • Local server scripts, called locally on the server (used in very specific cases)

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

Button/Icon	Description
• New Handler	Allows creating a new handler
•	Identifies a <i>disabled</i> status of a handler
	Identifies an <i>enabled</i> status of a handler
Θ	Identifies an <i>archived</i> status of a handler
	Allows viewing details of a target handlers' performance Execution Logs tab for a respective handler
**	Allows deleting a handler from the system

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:

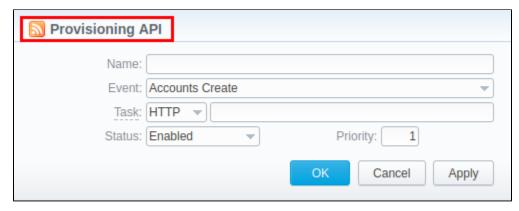


Field	Description
Event	Filter by the event type
Handler Type	Filter by the type of the handler
Status	Filter by status of the handler

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 popup window:

Screenshot: Provisioning section/Handler adding form



Field	Description
Name	Specify a particular title for a handler
Event	Specify an event to be handled
Status	Choose the state of the handler: • enabled - select it to make a handler active; • disabled - select it to unable a handler; • archived - select it to archive a handler.
Priority	Establish an order of handler performing. Note: Lower values have higher priority.



Attention

To put a handler into action, you need to wait for about 5 minutes till the next execution of the Cache Manager service.

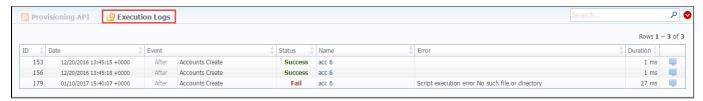
Execution Logs tab

You can access the details about handler execution in this tab. For more details, check out a related article: Execution Logs.

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

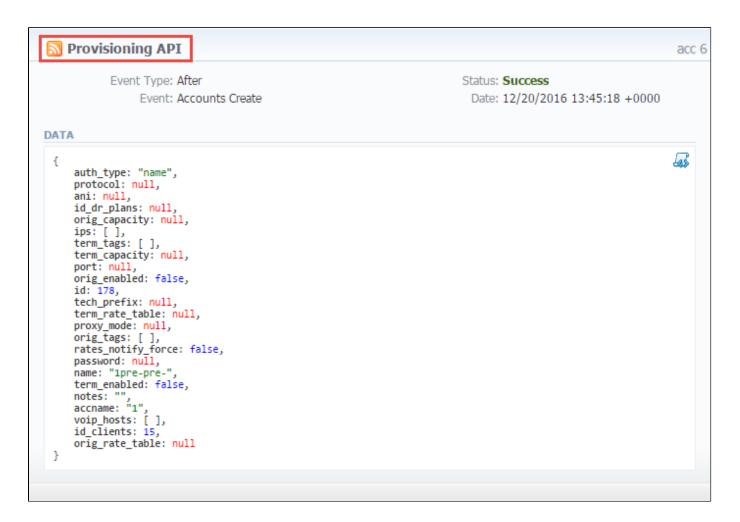


Column Name	Description
ID	Handler's identification number
Date	Time and date of handler execution
Event	Details on handler type and event
Status	Status of a handler: Success/Fail
Name	Title of the handler
Error	Description of the event in case of an error
Duration	Amount of time, spent on handler execution

When you click on **Details** icon, a new window with a description of respective handler execution appears (see screenshot below). This window contains information that JeraSoft Billing sends via the handler.

Click on this icon 4 to expand logs. For example, logs for handlers with *before* type will only show modified data.

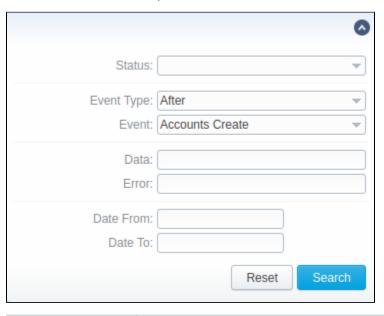
Screenshot: Provisioning details



Advanced Search

By clicking on very red downwards arrow, the following Advanced Search drop-down menu is displayed:

Screenshot: Advanced Search drop-down menu



Field Description

Status	Indicate handler execution status: • Success • Fail
Event Type	Select a type of event: • After • Before After event type is set by default
Event	Select from a list of all possible handler events
Data	Indicate handler execution data, specified in Details pop-up window
Error	Indicate handler execution data, specified in Error pop-up window
Date From / Date To	Specify first and/or the last date of handler execution

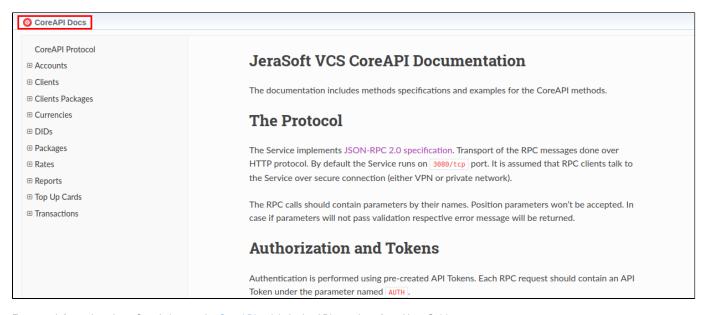
CoreAPI Docs

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



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.

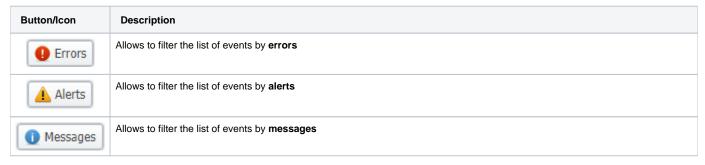
Tab structure is presented in the screenshot below:

Screenshot: Events Log tab



Column Name	Description
ID	Identification number of the event
Туре	Category of the event in the system (error, alert, or message)
Sender	Name of the system service that sent the event
Date	Date and time when the event occurred
Message	Description of the event
Node	Node ID that sent a notification

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



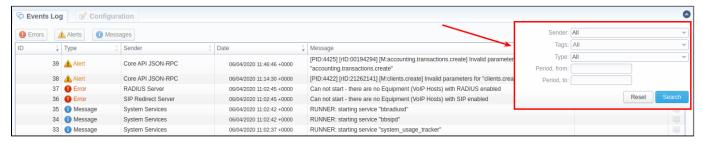


Allows to view a detailed description of the event (if possible)

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 d ownward arrow icon to open a menu with the following fields:

Screenshot: Advanced Search drop-down menu



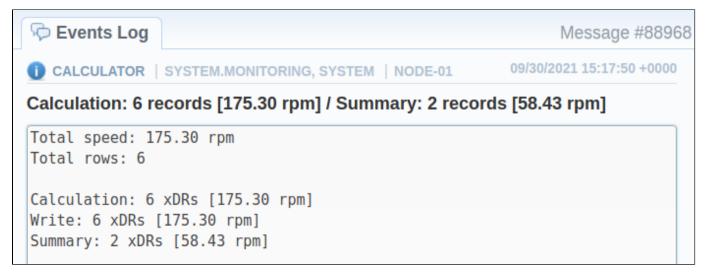
Field	Description	
Sender	Select a respective sender from the given list. By default, the field value is All .	
Tags	Select one or multiple tags from the provided list. By default, the field value is All.	
Туре	Specify a type of event: error, alert, or message. By default, the field value is All.	
Period,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

When all search criteria have been set, click the Search button to apply them. Click Reset to cancel the applied search.

Detailed Description of the Event

You can view detailed descriptions of some events by clicking the icon opposite a respective event on the right. A pop-up window consists of **Title** and **Eve nt Description** (see screenshot below):

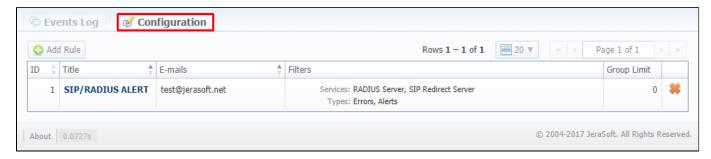
Screenshot: Detailed description of the event



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

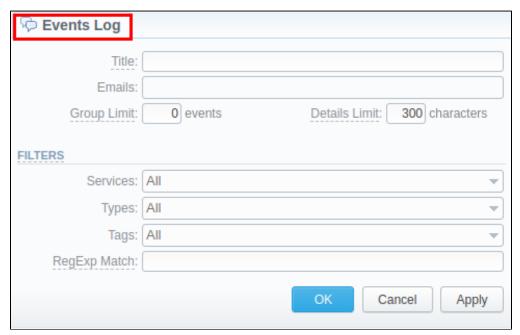
Functional buttons/icons, presented in the tab, are as follows:



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
General	General	information block consists of the following fields:

Title	Name of the rule that will be put into the subject of the message
Email	Email addresses of the recipient
Grou _l Limit	The boundary to control the number of messages to be sent. If there are more messages available for delivery within one monitoring cycle than the specified value , they will be sent as a single email (set 0 to get all messages separately , or an ultimate high value to receive grouped messages).
Detai. Limit	Data will be limited and cut to a specified number of characters in the grouped messages. By default, the field value is set to 300.
Filters Fill in	his information block to make your rule more detailed and precise.
Servi es	Specify billing services that will be included in this event rules.
	Backup Manager; Balances Manager; Cache Manager; Calculator; Calling Cards Manager; Cleaner; Email Rates Manager; Dynamic Routing Manager; Events Manager; Files Collector; Files Downloader; Files Downloader; Files Downloader; Invoicing Manager; JSON-RPC Core API; Log Rotator; Jurisdiction Manager; Mail Manager; Notificator; Packages Manager; Payment Gateways; Provisioning Manager; RADIUS Server; Rates Ronerator; Rates Routicator; Orig-Term Report Generator; Reports Watcher; Statistic Manager; Statistic Manager; Statistic Manager; Statistic Rules Manager; System Services; Traffic Rules Manager; System Services; Traffic Rules Manager;
Турез	Specify the category of events for the rule: <i>errors, messages, alerts</i>
Tags	Set labels that will be applied to filter the rule. List of the available tags: • aaa - includes all accounting tags: aaa.fraud; aaa.ident; aaa.ident.client; aaa.ident.rate; aaa.ident.service; aaa.routing; aaa.traffic_processing; • api - includes all API tags: api.core; api.core.jsonrpcd; api.management; api.provisioning; • coreapi; • dids; • factors watcher; • packages - includes all package tags: packages.nofunds; • system - includes all system tags: system.cluster; system.config; system.database; system.license; system.mail; system.monitoring; system.security; system.storage; • transactions - includes all transactions tags: transactions.charge;

|--|

After clicking \mathbf{OK} , a new rule will be added to the general list of the $\mathbf{Configuration}$ 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 de tailed information concerning all actions performed by users in JeraSoft Billing with Clients, Resellers, Accounts, Calling Cards, DIDs (see screenshot

Screenshot: Audit Log section main window



Column Name	Description
Date	Data and time of applied actions
Object	System item (Client, Account, Reseller, Calling Card, DID Management) that a certain action was applied to
Action	Action Name (Account Creation, Client Removal, etc.) and Service that is responsible for a specific action
Data	The list of changes with detailed information on what exactly was changed
Detailed Changes icon	If clicked, opens a more detailed log entry on <i>Action</i>



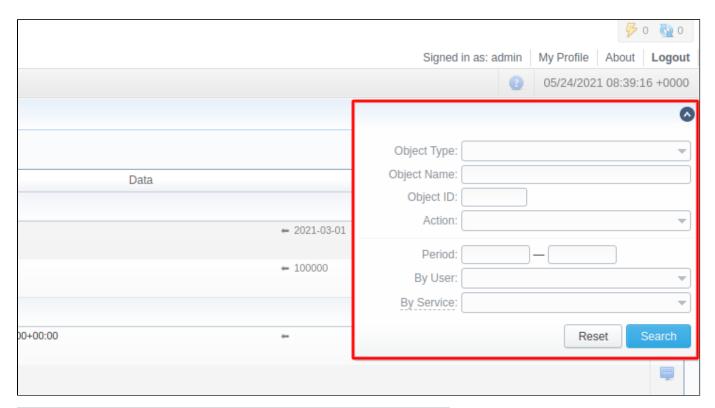
Attention

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 grouped by date, and you can filter them using Advanced Search indicated by a blue downward arrow in the top right corner of the section. The search menu is presented with the following fields:

Screenshot: Advanced Search drop-down menu



Field	Description
Object Type	Select a respective object type from the given list: Client Client Template Account Reseller DID Management Payment
Object Name	Insert a name of the respective item (e.g., Customer A)
Object ID	Insert an ID of the needed object
Action	Choose a type of action available for object types separately
Period	Set an exact date and time period with Datepicker
By User	Select a User from the list. Users are grouped by status: Active and Archived .
By Service	Select a System Service from the provided list.



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 **Object** 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. The se 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



Column Name	Description
ID	Email's identification number
То	A recipient of the email
Subject	Subject of the letter on the list
Туре	Certain type of email
Created	Date and time when the email was created

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

Button/Icon	Description
\bowtie	Icon indicates that respective email is currently in a queue and hasn't been sent yet
\bowtie	Icon indicates that respective email has already been sent
Q.	Icon indicates that respective email contains an attached file
*	Allows deleting an email from the queue. Requires confirmation

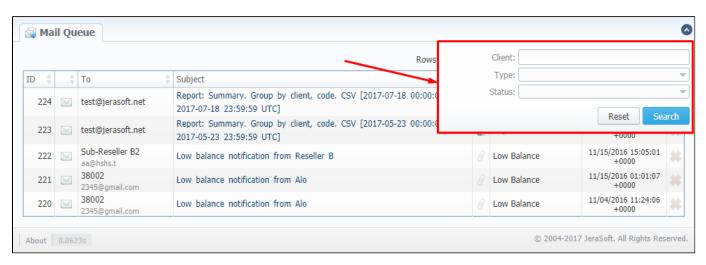


Emails that have been sent cannot be deleted from the list; you can delete only those that are currently in a queue

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

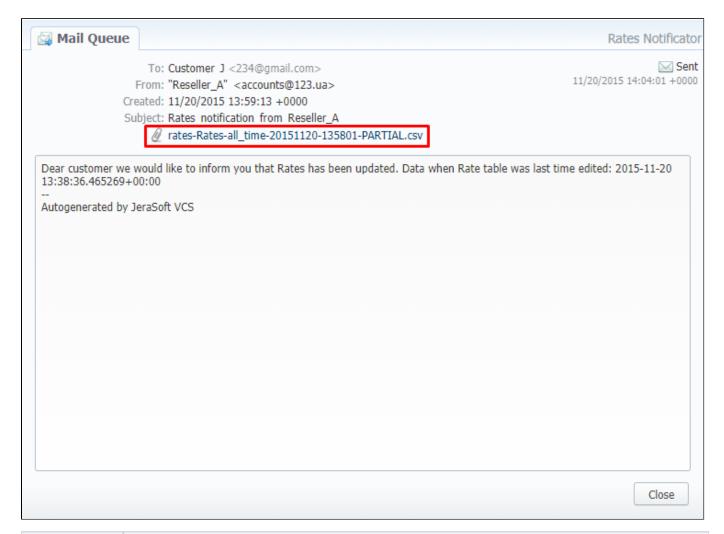


Field	Description
Client	Type the name of a client that you want to filter by
Туре	Select the type of mail: Invoice Notify (Before) Notify (After) Low Balance Reports Watcher Rates Notificator
Status	Choose a state of email: In Queue Sent

Email view

To view any email on the list, click on a respective email's subject in the Subject column. A pop-up window with the following structure will appear:

Screenshot: Detailed view of email letter

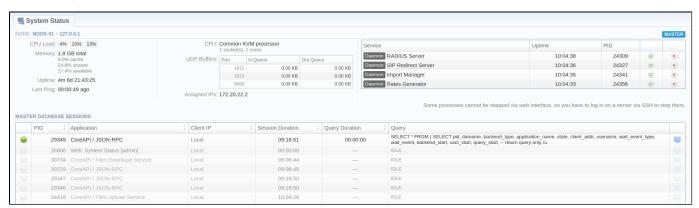


Field	Description	
То	Full name and email address of the recipient	
From	Full name and email address of the sender	
Created	Date and time of email creation	
Subject	Subject of the email letter	
Attached file (if any)	If an email has the attached file , its name will be specified in the field. By clicking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

System Status

System Status displays all currently launched system services, system load info and current system database sessions of the main server, divided into two information blocks: Localhost and Master Database Sessions. In addition, this section displays the status of Redundancy and Reporting servers (see screenshot below). Section structure is a follows:

Screenshot: System Status section



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

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

lcon	Description
•	Allows to restart a service that is currently running
	Allows to stop 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.

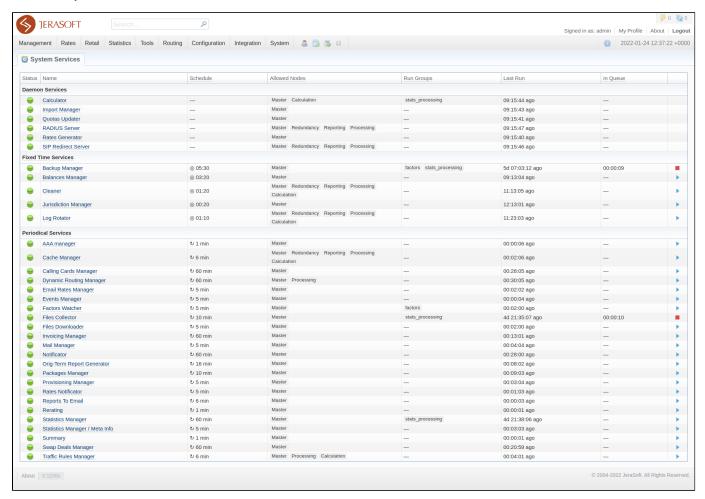
In this article

System Services

- 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



Column Name	Description
Status	Status of the utility. Depending on the icon, the status can be either enabled or disabled.
	To change a utility status, click on the utility name in the table.
Name	Name of the utility. The full list of system utilities with their descriptions is provided in a table below
Schedule	Periodicity at which each utility is run. Daemon services don't have a schedule, Periodic are run in a defined period, Fixed Time - at predefined timeslots.
	By clicking the Run utility icon, you manually start this utility regardless of its Schedule column value (doesn't work for Daemon Services).
Allowed Nodes	Nodes , 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

Run Groups	Run Groups 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
Last Run	Time and date when the last run was initiated
In Queue	If the utility is run manually, time and date when its launch was initiated will be specified in the column

Utility Description

Group Name	Utility Name	Description			
Daemon Services	These utilities do not have a schedule and are automatically run by the system when active				
	RADIUS Server	RADIUS server process			
	SIP Redirect Server	SIP Redirect server process			
	Import Manager	Manages rates import process			
	Rates Generator	Utility that generates rates, both manually and automatically			
	Calculator	Utility that processes all data collected from xDR-files			
	Quotas Updater	Utility that performs balances synchronization			
Periodic	These utilities	are run with a defined period in minutes. The period can be up to 60 minutes			
al Services	Cache Manager	Cache Manager process whose main function is to monitor and include client-related changes for RADIUS and SIP Redirect continuously			
	AAA Manager	Utility that deletes old AAA sessions and routing results			
	Calling Card Manager	Calling Cards manager process			
	Dynamic Routing Manager	Utility that creates routing tables used in Dynamic Routing feature			
	Email Rates Manager	Utility that imports rate tables updates from emails			
	Events Manager	Process that sends events to emails according to Events Config			
	Provisionin g Manager	Utility that processes events asynchronously			
	Factors Watcher	Utility that controls the Factors Watcher tool			
	Files Collector	Utility that controls file collectors			
	Files Downloader	Utility that automatically downloads xDR-files from switch host			
	Invoicing Manager	Utility that manages the autoinvoicing feature			
	Mail Manager	Sends emails from mail queue (invoices, notifications, etc.)			

	Statistics meta info manager	Gathers meta-information about collected statistics	
	Notificator	Notifies in case of a low balance or HDD space events	
	Packages Manager	Utility that manages your packages	
	Rates Notificator	Utility that notifies clients about rate changes	
	Orig-Term Report Generator	Utility that manages data generation for Orig-Term Report	
	Reports to Email	Utility that sends generated statistic reports by the scheduled time	
	Eman	Reports that will be sent by <i>Reports to Email</i> , will be sent using SMTP credentials, specified in the Reseller , to which owner of a <i>Reports Query</i> belongs. For Users without Reseller restrictions (super-admins), default system SMTP credentials will be used.	
	Rerating Manager	Utility that processes rerating	
	Statistics Manager	Utility that manages statistics packages	
	Summary	Utility that aggregates Summary Report	
	Swap Deals Manager	Caches statistics for Swap Deals module, analysis and notifications	
	Traffic Rules Manager	Utility that manages all traffic rules in the system	
Fixed	These utilities are run at predefined timeslots		
Time Services	Backup Manager	Utility that manages system backup processes	
	Balances Manager	Creates automatic charges	
	Cleaner	Utility that automatically cleans old messages from the <i>Events Log</i> section	
	Jurisdiction Manager	Generates jurisdiction table from LERG/TMP data sources for US routing	
	Log Rotator	Utility that controls log-files	



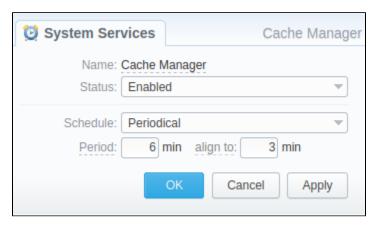
Attention

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

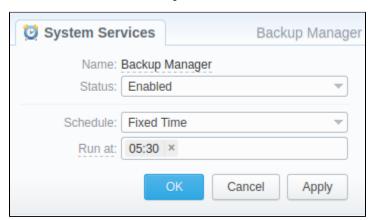
You can always configure the run time of any periodical or fixed time utility by clicking a respective name. A pop-up window for utility management has the following structure (see screenshots below):

Screenshot: Periodical service editing



Field	Description
Name	Name of the utility
Status	Status of the utility: • Enabled • Disabled
Sched ule	Set <i>Periodical</i> to define periodicity further
Period	Define run period for the utility. It can not be more than 60 minutes. If you want to use a longer period - use fixed time instead
align to	Align time is used to distribute services running in the same periods. For example, if a period is set to 5 min and align to is 2, service will be run at XX:02, XX:07, XX:12 and so on

Screenshot: Fixed time service editing



Field	Description
Name	Name of the utility
Status	Status of the utility: • Enabled • Disabled
Schedule	Set <i>Fixed Time</i> 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

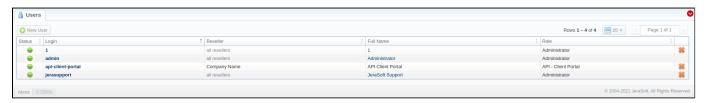
In this article

- Section overview
- Advanced Search
- Adding a New User
- Archiving a User

Section overview

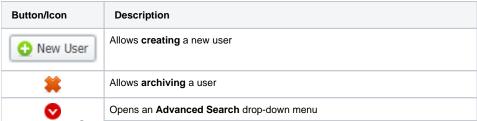
Users is a core section that provides an overview of all registered users in the system. The section allows to **create**, **edit**, and **disable** existing users. The list of users is presented in the form of a table with the following columns:

Screenshot: Users section



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

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



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 cicon, a drop-down menu with the following structure is displayed:

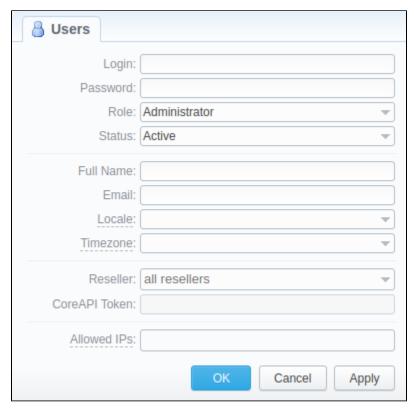
Screenshot: Advanced Search drop-down menu



Field	Description
Login	Specify a desired user's login
Reseller	Select from the list of all Resellers, Sub-resellers and Managers registered in the system
Role	Select from the list of existing system roles
	Specify whether the user's status is active or not, by selecting from a drop-down list: a New User • No eed to Empty (Rataispian users with both statuses)

- Click the **New User** button
- In the opened pop-up window, fill in all the **required fields** (list of them is presented in a column below)
- Confirm new user creation by clicking **OK**

Screenshot: New user creation window



Field	Description
Login	Specify a user's login.
Password	Define a password

Role	Select a role for a user from a drop-down list
Status	Check if you need to prevent a user temporary from having access to the system. The statuses are: Active Blocked Archive
Full Name	Enter a user's name. Note that if a user's email is specified, full name in the section serves as a mailto link.
Email	Specify a user's email
Locale	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.
Timezone	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.
Reseller	Specify a reseller, sub-reseller or manager a user belongs to
CoreAPI Token	This field cannot be specified in the creation form. CoreAPI Token is automatically generated by the system after a user is created
Allowed IPs	Enter IPs or subnets, one record per line, i.e. the user will have access to the system only if he/she logs in via specified IPs



Attention

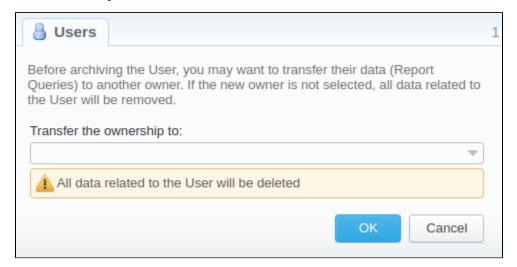
While creating a new user, bear in mind the following things:

- Each user can have only **one** assigned role.
- We strongly recommend avoiding non-Latin characters in users' logins/passwords

Archiving a User

If you want to archive a User, click the 😽 button. The following window will open, where you will be able to transfer Report Queries ownership to another User:

Screenshot: Archiving a User



Roles

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



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

<i></i> Roles					
Name:					
	Management / Clients				
NTRIES	rianagarient / circho				
Name	Access Permi	ssions			
Management / Clients	Read	Write	-	-	☐ Full Delete
Management / Accounts	Read	Write			Tull Delete
Management / Rate Tables	Read	Write			
Management / Invoices	Read	Write			
Management / Transactions	Read	☐ Write	☐ Execute		
Management / Balance Report	Read		☐ Execute		
Management / Resellers	Read	Write			☐ Full Delete
Management / Client Packages	Read	☐ Write			
Management / Presets	Read	Write			
Management / Traffic Processing	Read	Write			
Retail / Packages	☐ Read	Write			
Retail / DID Management	Read	Write			
Retail / Calling Cards	Read	Write			
Retail / Top-up Cards	Read	Write			
Retail / Call Shops	Read	Write			
Statistics / Dashboard		Write	Execute		
Statistics / Summary Report	Read		Execute	☐ Billing data	
Statistics / Orig-Term Report	Read		Execute	☐ Billing data	
Statistics / Profit Report	☐ Read		Execute		
Statistics / LCR Lists	☐ Read		Execute		
Statistics / CDRs List	☐ Read	■ Write	Execute		
Statistics / Mismatches Report	☐ Read		Execute		
Statistics / Calls Rerating			Execute		
Statistics / Reports Templates	Read	■ Write			
Statistics / Archive Management	Read	■ Write			
Tools / Rates Analysis	☐ Read		Execute		
Tools / Rates Generator			Execute		
Fools / Active Calls			Execute		
Tools / Factors Watcher	☐ Read	■ Write			
Tools / CDR Disputes	☐ Read	■ Write			
Routing / Routing Plans	☐ Read	■ Write			
Routing / Routing Analysis	☐ Read		Execute		
Routing / DR Policies	☐ Read	■ Write			
Configuration / Code Decks	☐ Read	□ Write			
Configuration / Currencies	☐ Read	☐ Write			
Configuration / Payment Accounts	☐ Read	☐ Write			
Configuration / Payment Terms	☐ Read	Write			
Configuration / Payment Gateways	☐ Read	Write			
Configuration / Time Profiles	☐ Read	Write			
Configuration / Taxes Profiles	☐ Read	Write			
Configuration / Groups	☐ Read	Write			
Configuration / Invoices Templates	☐ Read	Write			
Configuration / VoIP Gateways	Read	Write			
Configuration / Settings	☐ Read	Write			
System / Events Log	☐ Read	Write			
System / Audit Log	☐ Read				
		C			

System / Mail Queue	□ Read	wnte		
System / System Status	☐ Read	■ Write		
System / Task Scheduler	☐ Read	■ Write		
System / API Testbed			Execute	
System / Users	☐ Read	■ Write		
System / Roles	☐ Read	Write		
System / Charts Templates		■ Write		
System / Change Password			Execute	
System / About System	☐ Read			
System / Get Support			Execute	

Checkbox	Description
Read Allows/forbids a user to view information presented in a section	
Write	Allows/forbids a user to create, edit, and delete information presented in a section
Execute	Allows/forbids a user to execute system services in a section
Full Delete	Allows/forbids a user to perform full deletion of entities in a section
Billing Data	Allows/forbids a user to work billing data (rates, profit, taxes, etc.) in a section



Attention

- Parent Reseller has access to all information of his Sub-Resellers, and, therefore, can assign any routing plan and rate table to them
 A user with disabled Management/Clients module in the Roles section will not see the Clients List from the Clients Panel.

Knowledge Base Articles

Error rendering macro 'contentbylabel'

parameters should not be empty

Client Panel

The Client Panel is a separate application integrated with JeraSoft 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.



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/. Moreo ver, 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

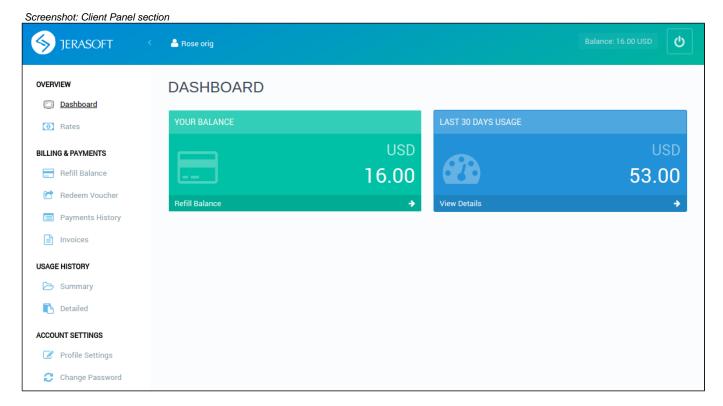
The panel comes with all source code. It allows you to either customize the system or extend it, or just use as a reference guide for the development of your own panel.

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.



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, Authorize.net, and USAePay 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.



All provided examples are given assuming usage of CentOS/RHEL based OS.

Nginx Installation

When you have your server up and running, you need to install Nginx. To do so, you need to execute the following command:

```
nginx install

yum -y update
yum -y install nginx
```

Once Nginx has been successfully installed, 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 {
                 9090 default_server ssl http2;
   listen
    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
 - Payment Gateways: USAePay
 - 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/cpcustomer-params ison. If you are moving the panel to the other host, the file should be located in <YOUR-PATH>/portal-backend/config/customerparams.ison.

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.



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:

Nginx 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 A PI - 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 <code>/opt/jerasoft/vcs/portal-backend/config/customer-params.default.json</code> 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 <code>customer-params.default.json</code> as it will be overwritten on the system update.

General Settings

Setting Name	Description	Example
amountOptions	Array of available amounts for a top-up in the list to select.	[5, 20, 50, 100]
billingUrl	URL of the billing system. As it is accessible from the Client Panel host	"https://127.0.0.1"
companiesId	ID of the Reseller for the Client Panel	3
currenciesId	urrenciesId Currency ID (as per your system configuration) for the payments received from the specific Payment Gateway. Required.	
currencyCode	Currency code of the Payment Gateway to charge payments in (declared by the gateway itself).	USD
logFile	Path to the Client Panel log file	"/opt/jerasoft/vcs-data/log/cp.log"
openedEndpoint	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 Payment Gateways	"http://127.0.0.1"
coreApi.url	URL of the Core API service	"http://127.0.0.1: 3080"
coreApi. authToken	Authorization token for the Core API service. You can get this token in the System/Users section	"PW2Ln6PSS3vpmmZrCQBV 5of2NO7jJbcU"
managementAp i.url	URL of the Management API	"https://127.0.0.1 /jsonrpc"
managementAp i.login	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"
managementAp i.password	Password of the user used for the integration	"aqGW31oxHag8"
paymentAccou ntsId	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
locale	Default locale to start with. Available settings: en, ru	"en"
perPage	Quantity of rows to display per page. Allowed values: an integer from 1 to 1000	10
roundRates	Quantity of digits after the decimal point for display of rates. Allowed values: an integer from 0 to 16	4
roundAmounts	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: dateTimeConfig]			
Setting Name	Description	Example	

monthFormat	monthFormat Format string to display "Month Year" strings	
dateFormat	Format string to display dates	"m/d/Y"
dateTimeFormat	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
enabled	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
sandbox	Defines if the Sandbox mode is enabled. Allowed values: true, false	false
allowCustom	Defines if the custom amount payments are allowed. Allowed values: true, false	true
clientId	PayPal Client ID	test@example.org
feesPayer	Describes who pays fees for the transaction. Allowed values: provider, client	provider
clientSecret	PayPal Client Secret Key	
itemName	Item name displayed in the PayPal order	"Credit Your Balance Item"
orderDescri ption	Order description displayed in the PayPal	"Credit Your Balance"
currenciesId	Currency ID	26
currencyCo de	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
enabled	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
sandbox	Defines if the Sandbox mode is enabled. Allowed values: true, false	false
allowCustom	Defines if the custom amount payments are allowed. Allowed values: true, false	true
apiLoginId	Authorize.Net API Login ID	
apiTransactio nKey	Authorize.Net API Transaction Key	

Payment Gateways: USAePay

The following settings are located under "paymentGateways.usaepay" key of the configuration file. Check your USAePay panel for the required parameters. Get more details.

Setting Name	Description	Example
enabled	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
sandbox	Defines if the Sandbox mode is enabled. Allowed values: true, false	false
allowCustom	Defines if the custom amount payments are allowed. Allowed values: true, false	true
apiKey	USAePay API Key	
apiPin	USAePay API Pin	

Attention

Payment Gateways integration requires a proper domain name and real SSL certificate. Please check the Panel Deployment guideline to get more

Section: Charges History & Payments History

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

Setting Name	Description	Example
dateRangeDefault	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
queryOn Open	Defines if the report should be run right after section open. If set to <i>false</i> , the user will have to hit <i>Query</i> to get the report. Use this option if you have plenty of data to load. Allowed values: true, false	true
dateRang eDefault	Default dates range in the filter, in days. Allowed values: integer 1 to 90	3
columns	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_par ty_id"]

Section: Usage History / Summary

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

Setting Name	Description	Example
queryOn Open	Defines if the report should be run right after section open. If set to <i>false</i> , the user will have to hit <i>Query</i> to get the report. Use this option if you have plenty of data to load. Allowed values: true, false	true
dateRang eDefault	Default dates range in the filter, in days. Allowed values: integer 1 to 180	90
columns	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

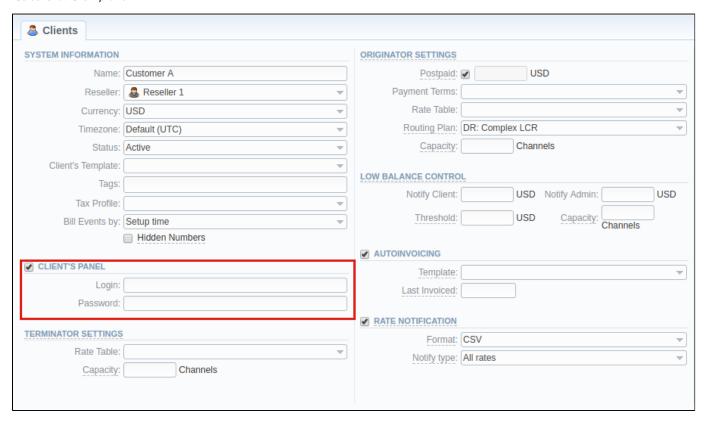
The following settings are located at the top level of the configuration section.

Setting Name	Description	Example
redisMain.hostname	The hostname or IP address to use for connecting to the Redis server.	"localhost"
redisMain.port	The port to use for connecting to the Redis server.	6379
redisMain.database	The Redis database to use.	1
redisCache.hostname	The hostname or IP address to use for connecting to the Redis server.	"localhost"
redisCache.port	The port to use for connecting to the Redis server.	6379
redisCache.database	The Redis database to use.	2
environment.httpTimeout	The timeout for all requests that Portal Frontend sends to Portal Backend.	30000

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



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



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
- Safety Checker
- Services Manager
- Usage Examples
- Cluster Manager
 - Cluster Status
 - Init Master
 - o Init Slave
 - Promote to Master
 - Sync Files
 - Remove Node

This section describes shell tools required for the deployment management of the system. All these tools are part of the JeraSoft Billing distributive. In order to use the tools you will need either SSH or direct access to the server console. Some of the tools require root permissions to run.



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

Please note, for simplification we introduced <aPP_PATH> variable that refers to the JeraSoft Billing application files location. This location may differ, but typically it is "/opt/jerasoft/vcs". So whenever you see an example with path like "<APP_PATH>/bin/system/cluster" it means "/opt/jerasoft/vcs/bin /system/cluster".

Requirements Checker

The tool is aimed to check minimal requirements of your server before installation.

Usage

<APP_PATH>/bin/system/setup-checker

The tool requires root permissions and takes no arguments. It should be executed before installation of the system in order to check minimal hardware and software requirements.



Attention

The tool checks only minimal requirements. Real hardware requirements highly depend on your traffic and deployment model.

Safety Checker

The tool is aimed to check configuration of the main server settings after installation.

Usage

<APP_PATH>/bin/system/security-checks

The tool takes no arguments. When executed it performs numerous checks for the correctness of the network and server configuration.

Services Manager

The tool is used for **management of System Services**. It allows to correctly start, stop and perform other actions over various JeraSoft Billing Services such as RADIUS Server, SIP Server, Calculator, etc.

Usage

<APP_PATH>/bin/system/service <COMMAND> [<service-name>] [<options>]

The tool should be run under **root** or **vcs** user. The tool typically takes 2 arguments – action to perform and related system service. Actions prefixed with "al I_{-}^{*n} " do not require service name and operate over all services.

Command	Description
start	Start System Service
	Takes "wait" option in order to wait and exit only when service finishes its execution.
stop	Stop System Service
restart	Stop and then start System Service
reload	Send reload (HUP) signal to the System Service (forces reload of settings, connections, etc)
status	Show current status of the System Service
all-start	Start all required System Services (list of services varies depending on the role of the current node in the cluster)
all-stop	Stop all running System Services
all-status	Show status of all System Services on the current node

Usage Examples

Restart RADIUS Server

<APP_PATH>/bin/system/service restart bbradiusd

Start Files Downloader

<aPP_PATH>/bin/system/service start files_downloader

Start all required System Services

<APP_PATH>/bin/system/service all-start

Cluster Manager

The tool is used to manage nodes in the cluster deployment. It allows to initialize the cluster, add a new node, promote redundancy to master, etc.

Usage

<APP_PATH>/bin/system/cluster <COMMAND> [<options>]

The tool requires *root* permissions. The list of arguments and other requirements depend on the command used. Please refer to the below table for a summary and respective sections for details.

Command	Description	Nodes	Root Required
status	Show status of the cluster	Any node	No
init- master	Init Master Node configuration	Master	Yes
init-slave	Init Slave Node configuration	Master	Yes
promote	Promote current node to Master	Redundancy	Yes
sync-files	Sync files from Master	Redundancy, Reporting, Processing	No
remove- node	Remove Node from the Cluster	Master	Yes

Cluster Status

The command shows Cluster Status, including all nodes with their roles, IP addresses, current lag to Master, and overall status.

Bash <APP_PATH>/bin/system/cluster status

The command can be executed on the Master in order to get the most detailed information about the cluster:

Role	Node ID	IP Address	Status	Receive Lag	Replay Lag	Replication
> Master	node-01	172.17.172.17	[Current]	N/A	N/A	Master
Redundancy	node-02	172.17.172.101	Connected	0.00 MB	0.00 MB	Streaming
Processing	node-03	172.17.172.102	Connected	0.00 MB	0.00 MB	Logical

Alternatively, the command can be executed at any other node - in this case, only the status of the connection between this particular node and the Master will be shown.

If any node failed and has been disconnected from the cluster it will be shown like this:

Role	Node ID	IP Address	Status	Receive Lag	Replay Lag	Replication
> Master	node-01	172.17.172.17	[Current]	N/A	N/A	Master
Redundancy	node-02	172.17.172.101	Disconnected	Unknown	Unknown	Streaming
Processing	node-03	172.17.172.102	Connected	0.00 MB	0.00 MB	Logical

In this case, you have to re-check failed node, fix it and then return to the cluster using the "init-slave" command.

Init Master

The command is used for the initial configuration of the Master Node.

Bash	
<pre><app_path>/bin/system/cluster init-master <ip-address> [<options>]</options></ip-address></app_path></pre>	

Command has to be executed on the Master node and requires root permissions. The following options are supported:

Option	Description	Default
<ip-address></ip-address>	IP Address of the Master server (required)	
ssh- port= <port></port>	SSH Port as the master node	22
pg-data= <path></path>	Path to PostgreSQL data directory	autodetect

Init Slave

The command is used to add a node to the cluster. There are different contexts when it is required:

- First-time deployment of the cluster
- Addition of a new slave node to the cluster
- · Addition of the old master to work as a slave after failover

Bash

<aPP_PATH>/bin/system/cluster init-slave <IP-ADDRESS> [<options>]

Command has to be executed on the Master node and requires root permissions. The following options are supported:

Option	Description	Default
<ip- ADDRESS></ip- 	IP Address of the Slave server (required)	
 role= <ro le></ro 	Predundancy - fully-featured redundancy, that acts as a hot standby and can be promoted to the Master at any time (may be used for redundancy and load balancing at the same time) reporting - a node that receives most of the requests for the reports, holds a full snapshot of the database, however, it might be delayed from Master depending on the current load and requests (might be used for failover, as a last resort) processing - lightweight node for processing of real-time requests (authentication, authorization, and routing), can not be used for failover as it does not hold any statistical data calculation - a node to help calculate huge amounts if the Master struggles to process solely	redunda ncy
ssh- port= <po rt></po 	SSH Port at the remote node	22
ssh- user= <us er></us 	SSH User at the remote node	jerasup port
pg- data= <pa th></pa 	Path to PostgreSQL data directory at the remove node	autodet ect

Promote to Master

The command is used to promote the Redundancy node to Master.

Bash

<APP_PATH>/bin/system/cluster promote

Command has to be executed **on the Redundancy node** and requires **root** permissions. Reporting node can be used as a last resort if there are no Redundancy node alive. There are no options required.

After the promotion is performed, all required System Services will be started on the current node (new master). After you fix the old *Master*, you may add it as a new *Slave* using the "init-slave" command.

Attention

In case when you have more than 2 nodes in the cluster, you need to re-init all other nodes from this new Master.

Sync Files

The command is used to sync data and application files from the Master.

Bash

<APP_PATH>/bin/system/cluster sync-files

Command has to be executed on the Redundancy node and by default, it is added to the crontab for automatic synchronization.

Remove Node

The command is used to remove a node from the cluster.

Bash

<APP_PATH>/bin/system/cluster remove-node <IP-ADDRESS>

Command has to be executed on the Master node. The node in question shouldn't have any active database replication. The following options are supported:

Option	Description	Default
<ip-address></ip-address>	IP Address of the remote node (required)	

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

CoreAPI



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"
        }
    }
]
```



You can access the user's CoreAPI token in his edit form, go to the System > Users

ProvisioningAPI

In this article

- Handlers
- Supported Events
- **Event Payload**
 - Structure

 - o Example
 - Data

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 the occurrence of specific events in the system.

While Core API and Management API sub-systems answer requests, Provisioning API pushes data as soon as an event occurs. 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 the system to send a notification to an external system to avoid any disruptions to your organization's current processes.

Handlers

A typical handler should be configured as either HTTPS or HTTP with an URL of the script, which will get HTTP POST requests about each event occurren

Please avoid using the Script type of handlers, they are designed for internal usage within the system.

Best practice example

There is an example based on https://hostname/handler-endpoint usage.

Open the Provisioning section and start creating a handler.

- 1. Specify the name, type, and status.
- 2. In the Event field, select Clients Create event from the drop-down list.
- 3. In the Task field, indicate HTTPS type and define the URL for the handler, for example, my-domain.org/api.
- 4. 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()
```

Supported Events

The Provisioning API supports the following list of events:

- Clients
 - clients.create
 - clients.update
 - clients.archive
 - clients.delete
 - clients.balance_zero
 - clients.balance_notzero
 - clients.custom fields.update
- Accounts
 - clients.accounts.create
 - clients.accounts.update
 - clients.accounts.delete
- Subscriptions
 - clients.subscriptions.assign

- clients.subscriptions.activate
- clients.subscriptions.deactivate
- clients.subscriptions.renew
- clients.subscriptions.close
- Email Rates Manager
 - email_rates_manager.import
- Import Manager
 - importd.process_success
 - importd.process_failed



Attention

Please note that the <code>email_rates_manager.import</code> event means the following logic: the import file has been prepared for further processing by the task specified in the Provisioning API handler settings, and the import process was stopped.



Note

The clients.custom_fields_update event has been renamed to clients.custom_fields.update starting from *JeraSoft Billing v3*. 23 for consistency.

Event Payload

Structure

During notification, the handler will be called with a JSON-formatted data payload. The payload has the following structure:

- event
 - $^{\circ}$ dt the date-time of the event in the ISO8601 format;
 - events_id ID of the event occurred (helpful, when multiple events are handled by the same handler);
 - $^{\circ}$ $\,$ object_id the entity, to which the event happened;
- data data related to the specific event.

Example

```
{
  "event": {
    "dt": "2000-01-01T00:00:00",
    "events_id": "clients.update",
    "object_id": 12
},
  "data": {
    "id": 12,
    "field": "some-value"
}
```

Data

The data provided within the notification depends on the specific type of event.

Events that represent **basic status changes** will not contain any additional data as the ID of the related entity is provided within the "event" key. Examples of such events are: clients.accounts.delete, clients.archive, clients.balance_notzero, clients.balance_zero, etc.

For the rest of the events, the structure will match the respective **CoreAPI** method's structure. Please check the respective documentation within the system interface in the **Integration/CoreAPI Docs** section.



- For more information about configuring and monitoring the hooks for Provisioning API, visit our respective article User Guide > System
- · If you need to process some of the actions that are not listed here, contact our support for a feature request.