PortaBilling

Web Reference

55 Maintenance Release

Documentation

www.portaone.com

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V1.55.18

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Preface

This document provides a general overview of the PortaBilling® admin web interface.

Where to get the latest version of this guide

The hard copy of this guide is updated upon major releases only, and does not always contain the latest material on enhancements that occur in-between minor releases. The online copy of this guide is always up to date, and integrates the latest changes to the product. You can access the latest copy of this guide at **www.portaone.com/support/documentation/**.

Conventions

This publication uses the following conventions:

- Commands and keywords are given in **boldface**.
- Terminal sessions, console screens, or system file names are displayed in `fixed width font`.

Exclamation mark draws your attention to important actions that must be taken for proper configuration.

NOTE: Notes contain additional information to supplement or accentuate important points in the text.

Timesaver means that you can save time by taking the action described here.

Tips provide information that might help you solve a problem.

Gear points out that this feature must be enabled on the Configuration server.

Trademarks and Copyrights

PortaBilling®, PortaSIP® and PortaSwitch® are registered trademarks of PortaOne, Inc.

Document Objectives

The target audience of this document is system administrators, VoIP engineers, and system or helpdesk operators who will be managing your services via the PortaBilling® web interface.

How to Get Technical Assistance

The dealer from whom you purchased this product is the *first place* you should go for technical assistance. The dealer is usually the most qualified source of help, and is the person most familiar with your system and how this product should be installed. Many dealers have customer service and technical support programs that offer varying levels of support, depending on your needs and computer knowledge.

If your dealer cannot assist you

If you cannot get assistance from your dealer, the vendor provides varying levels of technical assistance.

PortaOne's Customer Support Service (email: support@portaone.com) can supply quick answers to specific inquiries regarding product features and technical questions. You can visit **http://www.portaone.com** for more information.

Hardware and Software Requirements

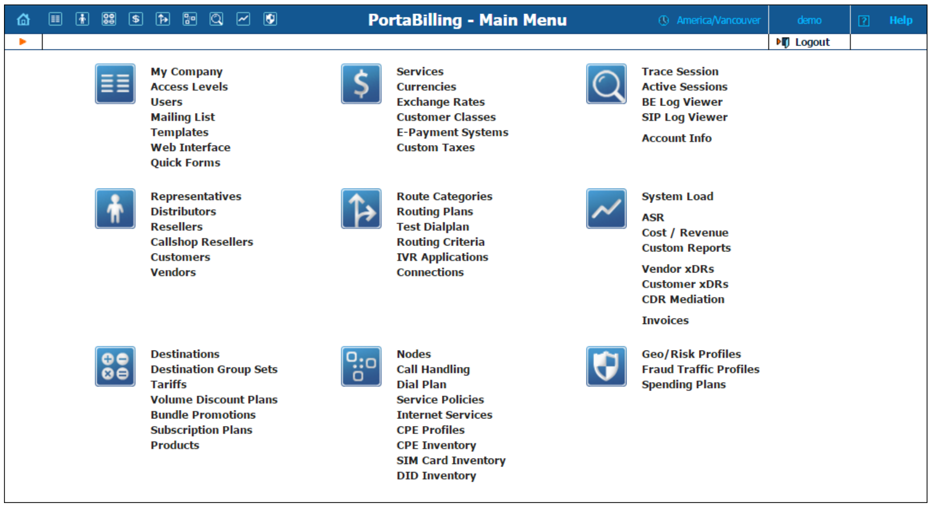
Client System Recommendations

- **OS:** MS Windows XP or above, Linux/BSD, Mac OS X 10.6 or above.
- **Web browser:**
  - Internet Explorer 11.0 or above, Mozilla Firefox 38 or above.
  - JavaScript and cookies must be enabled.

- **Spreadsheet processor:** MS Excel, OpenOffice Calc, LibreOffice Calc, Google Sheets.
- **Display settings:** A minimum screen resolution of 1024 × 768.

1. Introduction

PortaBilling's front-end design and functionality are simple and intuitive. The web interface of the PortaBilling® home page is the main point of entry to all system objects and tools. Divided into eight functional blocks, the icons below link to pages containing tools for system management, VoIP networking, billing, customer help and generating statistics. Each second-level page contains a link back to the home page.



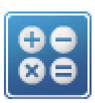
These are the eight functional blocks:

Management

Global system maintenance tasks, such as adding administrative users, defining access levels and creating mailing lists, templates and quick forms.

Billing

Tasks related to billing, such as managing the list of services provided and the rate plan definition; maintenance of currencies and exchange rates.



Rating

Tasks related to charging customers for services, such as managing destinations, destination group sets, tariffs, products and discount plans.

Participants

Tasks related to different entities in the system, such as representatives, distributors, resellers, customers, vendors and account management.

Networking

Configuration of network components: registering new nodes (network endpoints) in the system; configuration of CPE profiles; tools for configuring and testing call routing.

Routing

Configuration of various parameters which affect call routing, and a tool to check how routing will be done for a particular destination number.

Statistics

A variety of statistics and reports are available, reflecting the status of the system or providing information on call records, costing and revenue.

Help Desk

Tasks available to help desk staff for assistance in troubleshooting problems that clients may inquire about.

Fraud Protection

Tasks related to fraud protection, such as configuring geo / risk profiles, fraud traffic profiles and spending plans.

PortaBilling Security

PortaBilling® is compliant with Visa Security Standards.

User interface

- Inactivity logout
- Unconditional logout

User passwords

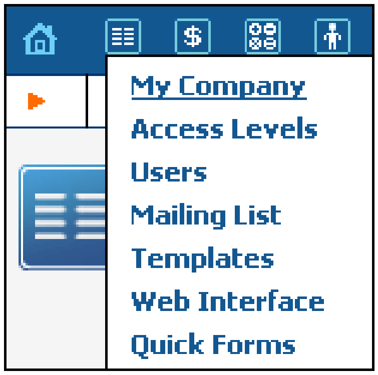
- The minimum password length is six (6) characters and the maximum password length is sixteen (16) characters.
- Passwords include both alphabetical and numerical components.
- Passwords are stored under irreversible encryption.
- The user's last six (6) passwords cannot be re-used.
- Passwords must *not* be changed within one (1) day of a previous change.
- The initial password must be changed on the first login.
- Passwords must be changed at least once every 30 days.

Credit card information

- Credit card information is displayed as 1234xxxxxxx567.
- Credit card information is stored using the same encryption as for the Payment System password.

Common Features

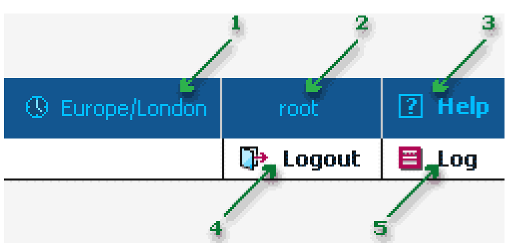
All of the functions available from the home page (main menu) are also available using the drop-down menus:



The **Home** icon on the left also contains a menu with shortcuts to all the other PortaBilling® web interfaces:

- **Admin** – Shortcut to this interface; same result as clicking the **Home** icon.
- **Customer Self-Care Portal** – Customer self-care interface
- **CC-Staff** – Customer Care Staff interface.
- **Account Self-Care Portal** – Interface for account owners (end users).
- **Vendors** – Interface for your termination partners.
- **Representatives** – Interface for your sales agents or distributors.

The top right-hand side of the interface provides users with the following information:



- **Time Zone** (1) – The time zone where the current user operates. Click on this link to select a time zone for your current session.
- **Login** (2) – The login name of the currently logged in user.
- **Help** (3) – Context help for the current page. Click this link to open the help page.

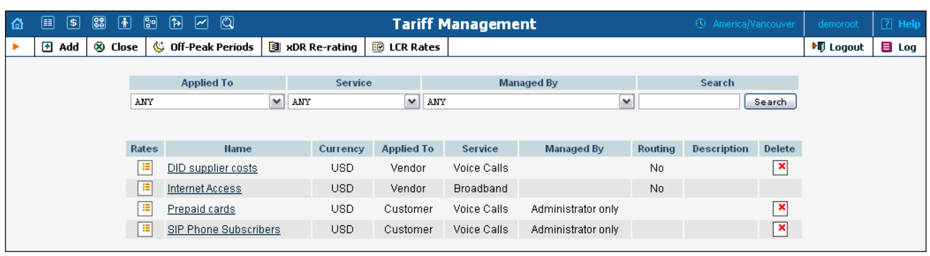
- **Logout** (4) – Click to end the current session or, when necessary, to re-login as another user.
- **Log** (5) – This link is only available to users with corresponding access rights and where applicable. Click to view all logged activities performed.

The toolbar often also shows a list of available actions relative to the current page:

This toolbar acts as the equivalent of the "File" menu for the application, i.e. the usual location for the "Save," "Close" and "Add" operations.

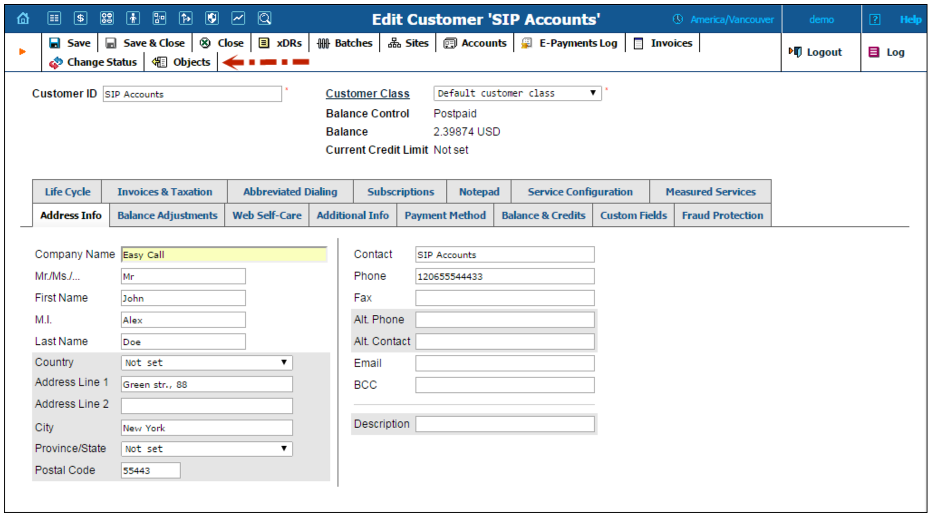
Delete an object in the database

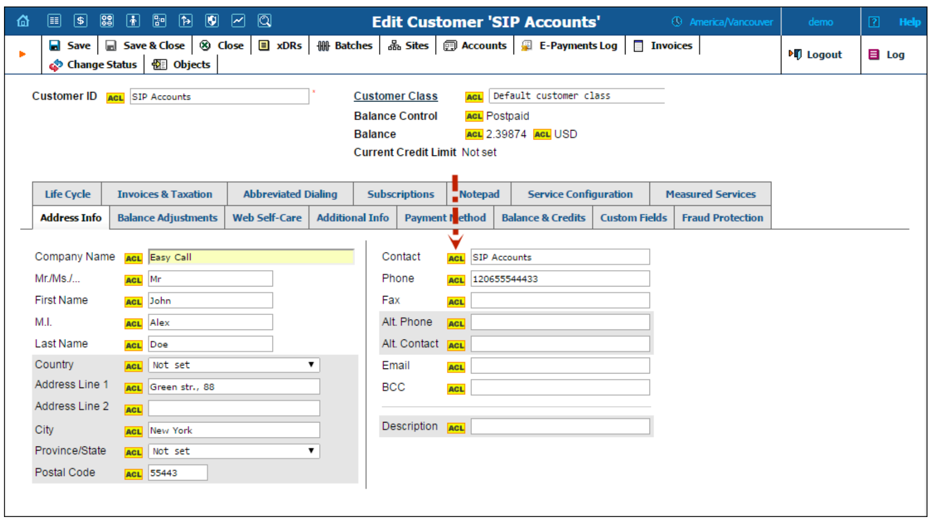
If you see the icon next to an object name in the list of objects, this means it can be deleted from the system. Note that only objects which are not used elsewhere in the system may be deleted. For instance, in the screenshot below, the **DID supplier costs**, **Prepaid cards** and **SIP Phone Subscribers** tariffs can be deleted, whereas the rest of tariffs are being used by some product or connection.

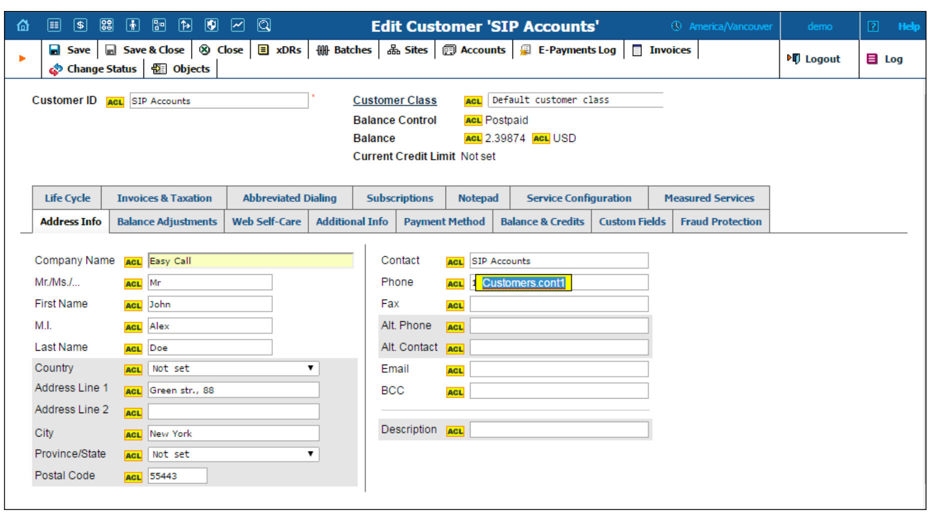


Show objects

The **Objects** icon is only available to the Root user; when selected next to any web element (such as a data field or select menu) it displays an **ACL** control. Move your mouse over the ACL control for the given element to see the object properties, as illustrated below. These object properties can be used by the administrator when configuring access levels for certain users in the system. See the **Access Levels** section for more information.







Sorting tables

Date/Time	Charged Time, min:sec	Amount, USD
2016-03-16 14:29:09	0:15	0.01258
2016-03-16 14:29:09	0:06	0.00000
2016-03-16 14:29:09	0:06	0.00000
2016-03-16 14:29:09	0:15	0.01258
2016-03-16 14:26:42	0:15	0.01258

This feature is available for all xDR browsers in order to sort the displayed information according to different criteria, where necessary. The table header cell with the orange triangle shows the sorted row. A triangle pointing downward indicates descending order, while a triangle pointing upward means ascending order.

Sorting is available for all columns with a bi-directional white arrow in the top left-hand corner of the header cell. To sort a column, simply click on the header; click the same column again for the opposite sorting order.

Another handy feature for sorting tables is that the table header is always visible, even if you scroll to the bottom of a large table which does not fit completely on the screen.

Multiple-language support

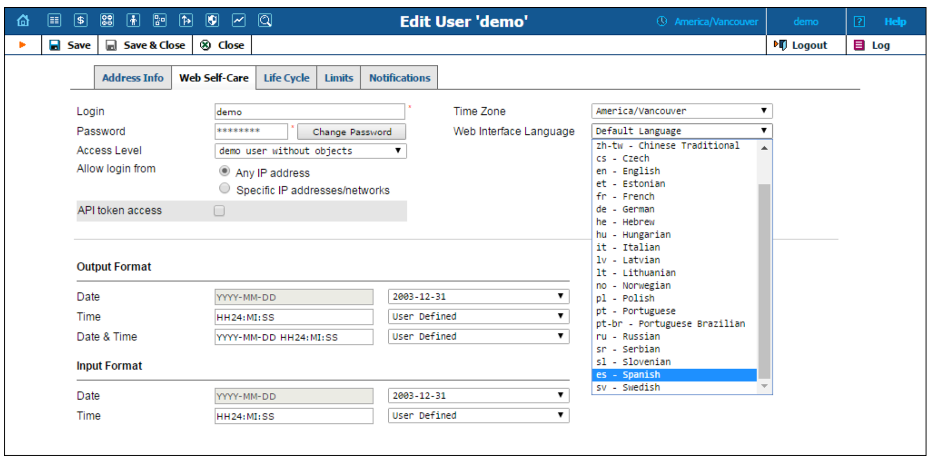
Currently, in addition to English as the main language, the PortaBilling® administrative interface is available in the following languages:

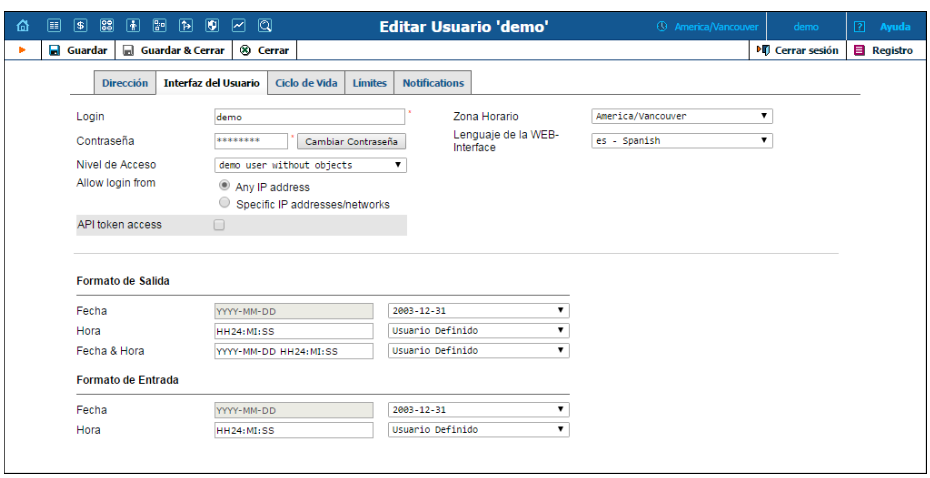
- Arabic
- Chinese (traditional and simplified)
- Czech
- Estonian
- French
- German
- Hebrew
- Hungarian
- Italian
- Latvian
- Lithuanian
- Norwegian
- Polish
- Portuguese (from Portugal *and* Brazil)
- Russian
- Serbian

- Slovenian
- Spanish
- Swedish

Translations are continually maintained and improved upon by the community of PortaOne customers. New languages may easily be added upon request; please contact PortaOne support to obtain the XML template files if you would like to make and submit a translation.

Every user of the system (admin user, account, customer, vendor, customer care admin) can choose the language of the administrative web interface for his session. This does not, of course, affect other users; thus user John can work with the system using English as his interface language, while user Peter can make use of Chinese simplified as his language.

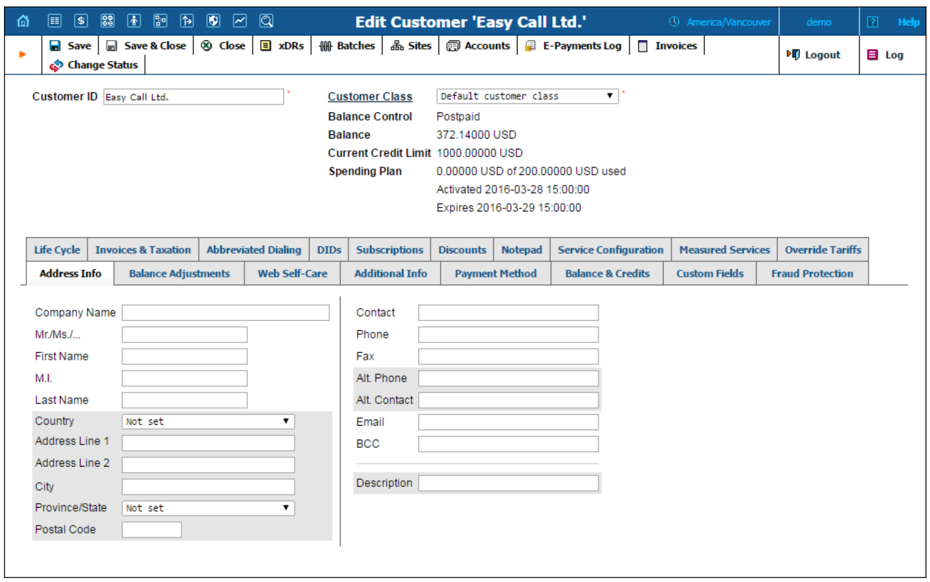




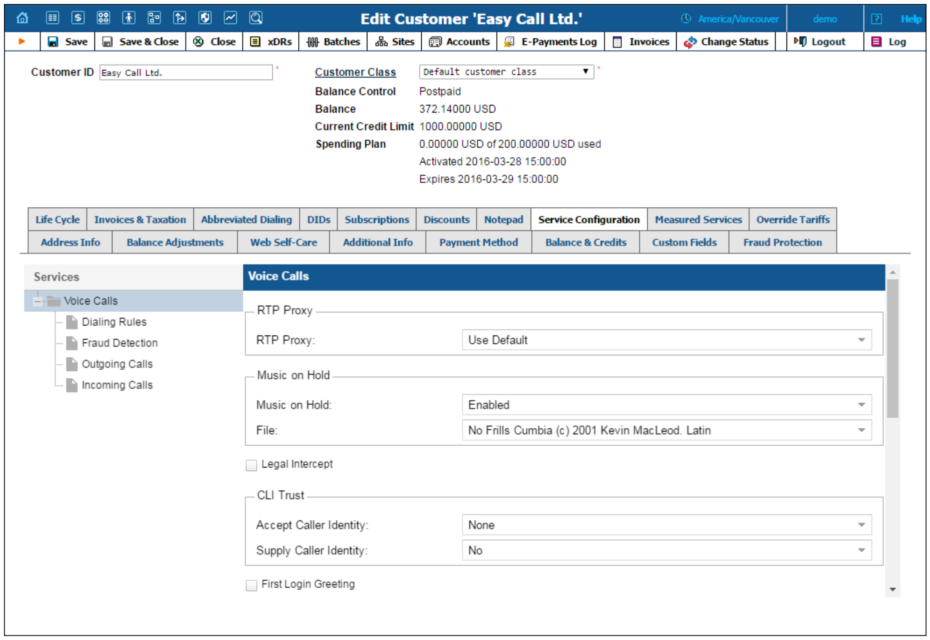
For customer and account self-care interfaces, our officially supported languages are English, French, Spanish and Chinese. We encourage PortaOne customers to make translations into other languages as we've witnessed that this kind of localization approach is very effective. ITSPs with the same background are the perfect candidates for making translations targeted to their specific audiences since they use the same terminology.

Tab controls

Some forms (e.g. customer or account information) contain so much information that it is not feasible to display it all on a single screen. The standard practice in this case is to divide the information between multiple tabs, each of which contains only a portion of the information and can be individually selected for display. To provide a better user experience with a high number of tabs, PortaBilling® provides two rows of tab controls.

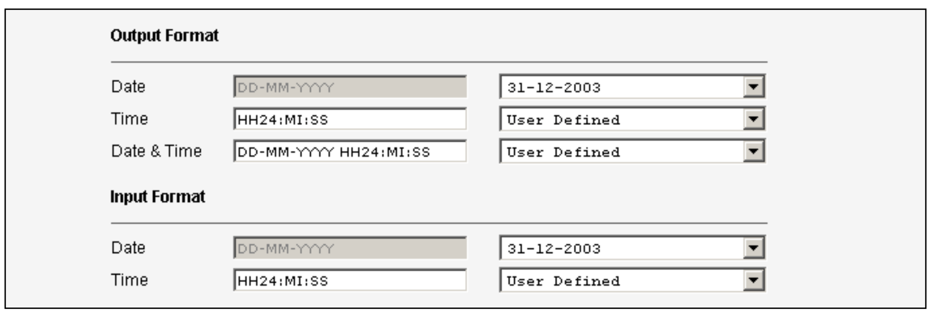


When you click on a tab's name, it is selected (black font on a white background) and you can see the associated information. Note that even if a tab from the upper row is selected, the row order does **not** change, and all the tabs stay in their original location. Thus you can always remember where a particular tab control is located on the form; see below for an example where a tab from the upper row has been selected.



Date & Time format

PortaBilling® allows users to define both the input and output formats for date and time.



Making changes to the date and / or time format on this page enables users to enter dates and times in the desired format throughout the entire PortaBilling® web interface. Correspondingly, all pages generated at a user's request will contain the date and time in the previously set-up format.

Date / Time format strings are composed using specifiers that represent the values to be inserted into the formatted string.

In the following table, the specifiers are given in upper case. Formats are case-insensitive.

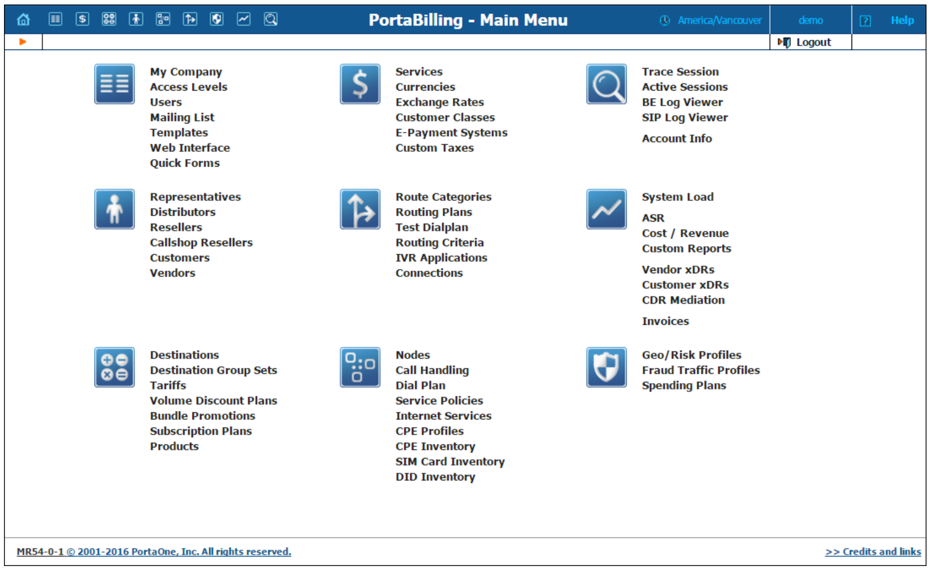
Specifier	Value	Description
	Date	
DD	01-31	Day of the month

D	1-31	Day of the month without a leading 0
MM	01-12	Number of the month
MON	Jan-Dec	Name of the month
MONTH	January-December	Full name of the month
YYYY	2003 +	Year
YY	00-99	Last two digits of the year
	Time	
HH, HH24	0-24	Hours
HH12	0-12	12-hour time format; requires AM/PM specifier
MI	0-60	Minutes
SS	0-60	Seconds
AM, PM, AM/PM	AM, PM	
	Separators	
A separator can be any symbol except for letters and digits, or may be left blank		

Example	Value
DD/MM/YYYY	12/03/2003
MON-DD-YY	MAR-12-03
HH:MI:SS	12:30:00
HH12 MI:SS	WRONG! AM/PM specifier is missing
HH12mi pM	1230 AM

Current release and build information

In the bottom left corner of the **Main Menu** page, you can see information about the maintenance release and build of the software currently installed, e.g. MR54-0-1 means "Maintenance Release 54" and "Build 0".

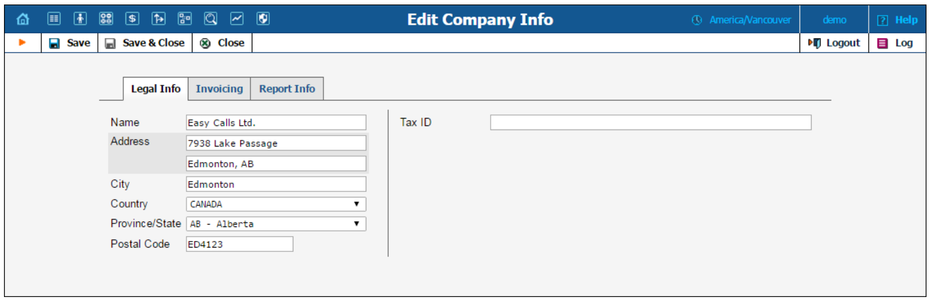


2. System Management

My Company

The **My Company info** page allows the administrator to maintain corporate information relating to your business. This data will be included on reports such as invoices.

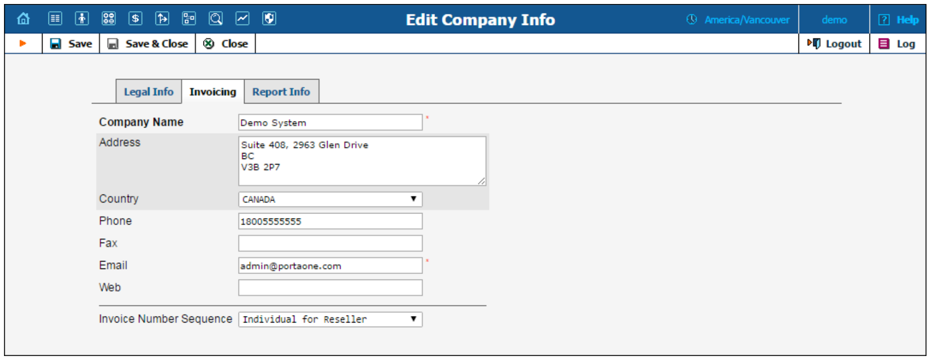
Legal Info tab



The **Legal Info** tab allows you to enter information about your company that could be used for any legal transactions, e.g. for taxation purposes.

Field	Description
Name	Proper, legally-recognized form of the company's name.
Address	Address where this company name is legally registered. Two lines are provided.
City	City in which the company is legally registered.
Country	The country in which the company is legally registered.
Province/State	The province or state where the company is registered may be selected from a list, depending on the **Country** option selected.
Postal Code	Postal code for the company's registered location.
Tax ID	Locally-designated tax number.

Invoicing tab

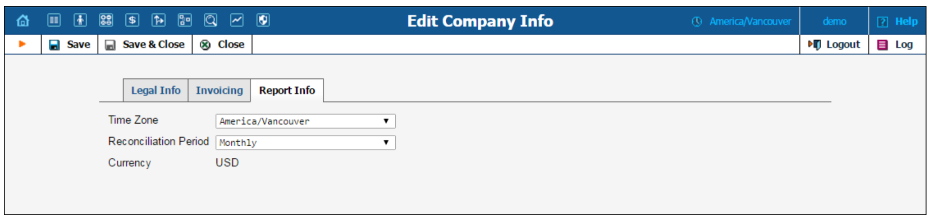


The information provided in the **Invoicing** tab is typically used on reports as the primary point of contact for your vendors and customers. This information is the same as that which appears on your letterhead and business cards, for example.

Field	Description
Company Name	The conventional form of your company's name. (For example, "EasyCall, Inc.")
Address	Street address of the company.
Country	The country may be selected from a list.
Phone	Primary telephone number for the company.
Fax	Primary fax number.
Email	Primary email contact for the company. If defined, this email address will appear in the From: field of all outgoing emails, e.g. statistics / invoices or low credit warnings sent to your customers. This field is mandatory and must be unique for each billing environment.
Web	Web address of the company.
Invoice Number Sequence	PortaBilling® can generate invoices for all customers with sequential invoice numbering distributed throughout the environment. In some cases, you may want to have more than one sequence of numbers. For example, your legislation may demand strict sequential invoice numbering for every customer or reseller. Select an invoice number sequence that will be used by default for the whole environment: • **Individual for Environment** – Sequential invoice numbering throughout the environment.

	• **Individual for Reseller** – Sequential invoice numbering throughout the environment for direct customers, distributors and resellers, though the reseller will have his own sequential numbering for all of his subcustomers. • **Individual for Customer** – Every customer (direct customer, distributor, subcustomer and reseller) will have his own sequential numbering.

Report Info tab



The data contained in the **Report Info** tab may be used for any financial reports, e.g. for invoicing or taxation purposes.

Field	Description
Time Zone	Time zone in which global reports for the environment (e.g. Cost / Revenue Report) will be generated.
Reconciliation Period	Defines how frequently the global reports (e.g. Cost / Revenue Reports) will be generated. This will also set up the periodicity of the **Unresolved xDRs**. (See the **Statistics** section.)
Currency	The company's internal currency. You can use different currencies for your customers or vendors, but Cost / Revenue Reports will be generated in this currency. The value for this parameter is set permanently for the new environment, and cannot be changed later.

Access Levels

Access Levels allow you to control what users of your site can and cannot do. Without such restrictions, it is almost impossible to guarantee that users will see or change only the information that they are allowed to. There are default ACLs defined in the PortaBilling® system. You can use default ACLs or create new ones to fit your needs.

Please refer to the *Access Levels* section of the **PortaBilling® Administrator Guide** for a detailed description of the Access Levels functionality.

Add / Edit a New User ACL

From time to time you will find that the PortaBilling® predefined user ACLs (Admin, Helpdesk, and so on) offer too few, or too many, restrictions for a particular class of user. In such a case, it is time to create a new user ACL.

The easiest method is to take an existing access level and create a new one modeled on it, and then modify it to fit your needs. You should examine the permissions granted to the model access level, and verify that you want to grant access to those resources.

Next, you can include other components to suit your needs. As a style recommendation, we suggest that you first create a component containing the dependent components you wish to utilize.

Finally, create a new user ACL which includes only this new component. Now you can assign this ACL to new users.

1. On the **Access Level Management** page, click **Add**.
2. On the **New Access Level** page, specify the following information:
    - **Name** – Type the custom name for this ACL.
    - **Type** – Select the entity this ACL is applicable for.
    - On the **Components** tab, define which components will be included in this ACL and in which order by using the **Include**, **Remove**, **Up** and **Down** buttons.
3. Click **Save**.
4. If required, on the **Object/Attribute Permissions** tab, define any additional permissions for this ACL.
5. Click **Save**.

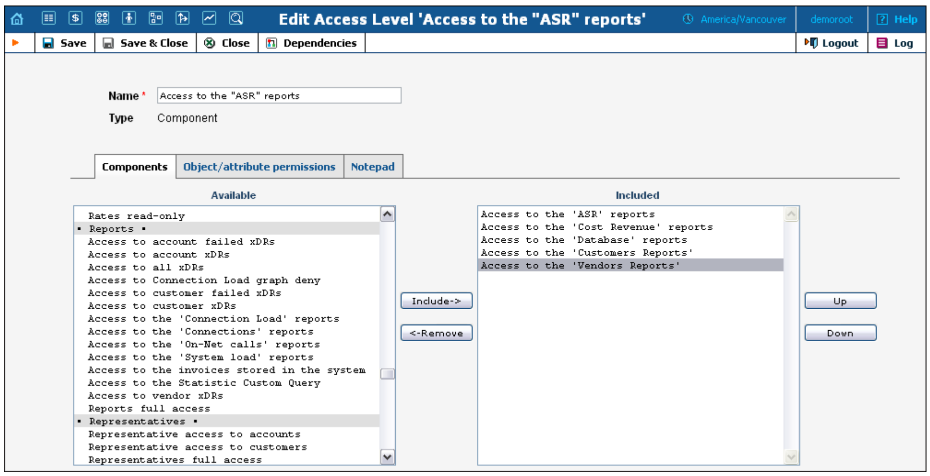
The PortaBilling® ACL management system contains style conventions which you would be well-advised to follow:

- The name of a component should be descriptive, based on the actions which it allows (for example, "Delete a node," "Currencies read-only," and "Access to Vendor Reports").
- By convention, when defining a new user ACL (for example, "DemoUser"), we append "access" to the name of a component ("DemoUser access") that includes dependent components.

Components tab

We have already talked about the necessary parameters for creating or editing components, but we have not yet discussed component inclusion in detail.

Each access level may have zero or more dependent components. These components are ordered, and likewise are applied in order until the first matching permission is reached. Keep in mind that the sequence of components matching is held top-down as shown on the screenshot:



In order to understand this better, we will use the previous example. Suppose a user is trying to view ASR reports. His access level must allow reading of "WebForms.ASR" (object "WebForms," attribute "ASR"). For the sake of simplicity, we will say that his access level includes "A," "B," and "C," where "B" allows this permission, but "C" explicitly denies it. In this case, the user's ability to view these reports is based on the ordering of these components. If "B" appears before "C," then it will work. In the opposite case, he will not have access.

This may sound complex, but in practice the user interface is quite simple. Two columns are shown on the **Components** tab of the edit page for each access level. On the left, you have a list of the available components, while on the right are the included components. Between these two columns you have the **Include->** and **<-Remove** buttons, which move selected items between the two lists. As for ordering, the **Up** and **Down** buttons on the far right-hand side of the page allow you to rearrange selected elements of the **Included** column.

You should now have the skills necessary to implement the PortaBilling® security model and customize it to suit your business environment.

Default ACLs

Default user ACLs

PortaBilling® is supplied with the following predefined ACLs:

Name	Description
Root	This is a super user with Delete, Insert, Read and Update permissions to all of the PortaBilling® objects and their attributes. This access level also has 5 components included: • **Use country code during upload** • **Trouble Tickets access** • **Quick Create access** • **Extensions full access** • **Huntgroups full access** At least one user with this ACL must be present in the system.
root	This is a super user with read and write access to all of the PortaBilling® objects and their attributes. When a new environment is created this access level is assigned to a default user by the system. At least one user with this ACL must be present in the system. However, for new super users, using the Root ACL is recommended instead of this one. This ACL is hidden and cannot be included as a component of other ACLs.
Admin	This is like the Root user, but has some limitations: • Cannot create new users. • Cannot modify company info. • Read-only access to **Destinations**, **Currencies**, **Nodes**.
Bookkeeper	This ACL means there is read-only access to billing information (tariffs, products). Users with this ACL can change balances for accounts / customers and block / unblock them. They do not have access to xDRs, but they do have access to reports.
Helpdesk	This ACL means there is read-only access to billing information (tariffs, products). Users with this ACL

	can modify customer and account parameters. This ACL also provides access to **Trace Call**.
UM Admin	This component includes the **Account UM Enabled full** component. This ACL is hidden and cannot be included as a component of other ACLs.

Default customer ACLs

PortaBilling® is supplied with the following predefined ACLs for customers (or subcustomers):

Name	Description
Retail	Access to xDRs, reports and invoices, ability to change customer information (such as password, address info etc), make online payments, access information about all accounts under this customer and view their xDR history.

Default reseller ACLs

PortaBilling® is supplied with the following predefined ACLs for resellers:

Name	Description
Reseller	Ability to set up online payment processors, change rates in the subscriber's tariff, modify parameters of the subscriber's product, create subcustomers and accounts under them, make online payments, and create CC staff accounts.
Advanced Reseller	Same as above, plus read-only access to customer's own tariff (the tariff used by the PortaBilling® owner to charge the reseller).

Default customer care ACLs

PortaBilling® is supplied with the following predefined ACLs for customer care administrators:

Name	Description
Customer Care	Maintenance tasks, such as changing password and personal info, ability to see subcustomer, distributor and account information and change service parameters, give refunds (daily and transaction limits applied), make payments towards accounts and in favour of subcustomers and distributors, and trace a call and see the call details.

Default vendor ACLs

PortaBilling® is supplied with the following predefined ACLs for vendors:

Name	Description
Vendor	Access to CDR data and the vendor's information.

Default representative ACLs

PortaBilling® is supplied with the following predefined ACLs for representatives:

Name	Description
Representative	Read-only access to customer information, customer's xDR records, and account information.

Default account ACLs

PortaBilling® is supplied with the following predefined ACLs for accounts:

Name	Description
Account	Access to xDR history, ability to change password and account info, make online payments and recharging using voucher.

Default distributor ACLs

PortaBilling® is supplied with the following predefined ACLs for distributors:

Name	Description
Distributor	Access to xDR history, reports and invoices, access to information about all accounts and customers, ability to change password and customer info, make payments towards accounts and customers, activate inactive accounts.

Components and Permissions of Default ACLs

In order to view a default ACL's components and permissions, select *Admin* from the *ACL.Mode* list on the configuration server web interface. We recommend that you set this option for a separate virtual environment in order to view information for predefined ACLs within this specific virtual environment only (i.e. the one used for experiments and tests).

Then you can perform the following actions on the administrative web interface:

1. Select **Access Levels** from the **Management** functional block.
2. Open an ACL you are interested in.
3. View components and permissions included in this ACL.

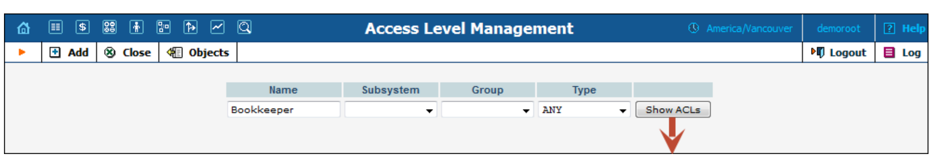
If this ACL contains any other components you can open them from the **Access Level Management** page and view their components and permissions.

The Access Level Management page within *Admin* mode has some additional fields:

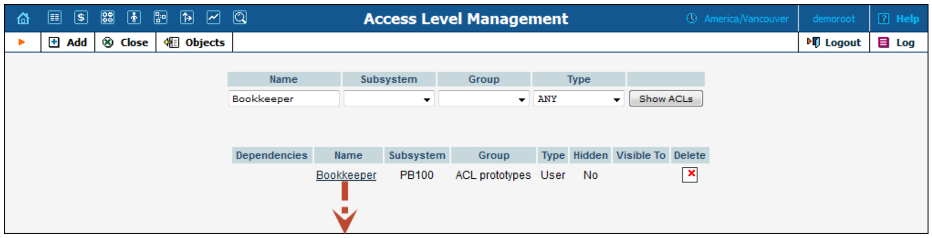
Name	Description
Dependencies	This allows you to see the other ACLs that this particular ACL belongs to.
Subsystem	This is mainly used by the developers to define the subsystem an ACL belongs to.
Group	All ACLs are combined in groups depending on what area of the system an ACL is connected to. The Group column shows which group a particular ACL belongs to.
Hidden	When creating a new ACL, you can mark it as Hidden. Hidden ACLs will be visible in the ALC list to root users only. **Note**: Once defined, the **Hidden** status cannot be undone.

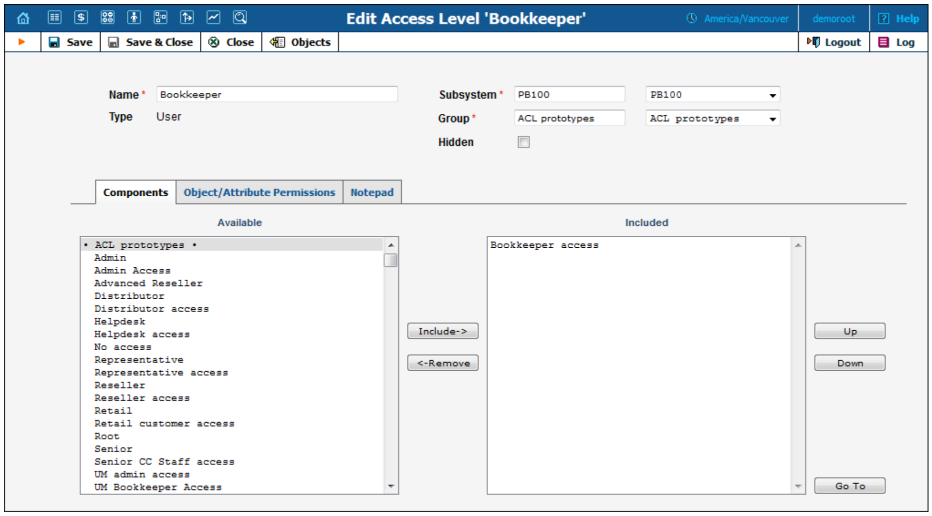
Here's an example: let's say you need to assign an ACL to your new employees and you want to see exactly which rights they will have. In this case you would do the following:

1. Enable the Admin ACL mode on the configuration server web interface.
2. Open the **Access Level Management** page.
3. Type "Bookkeeper" in the **Name** field and click **Show ACLs**.

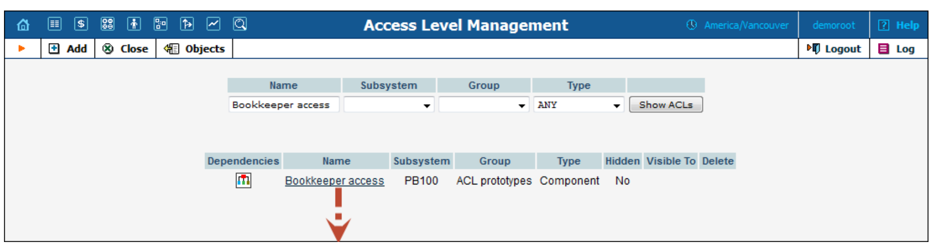


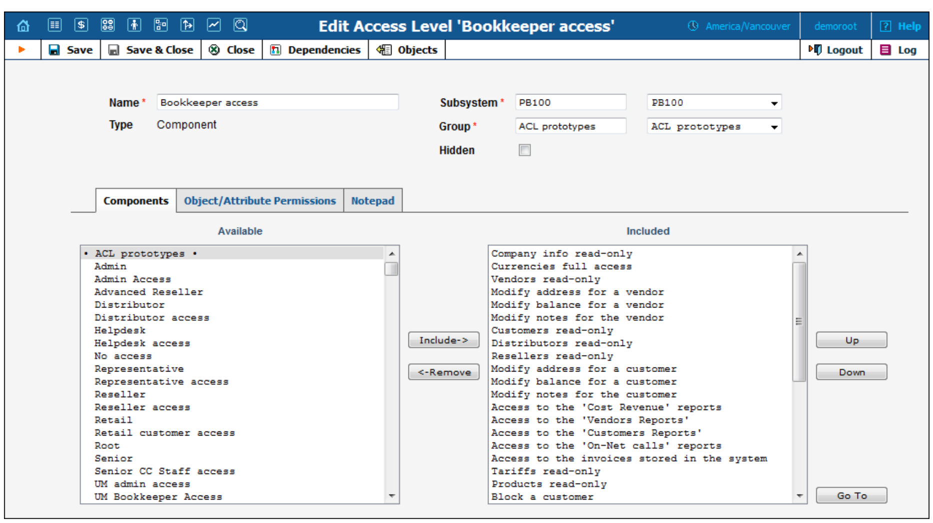
4. Click on the ACL that you found, and you will see a component named **Bookkeeper access**.





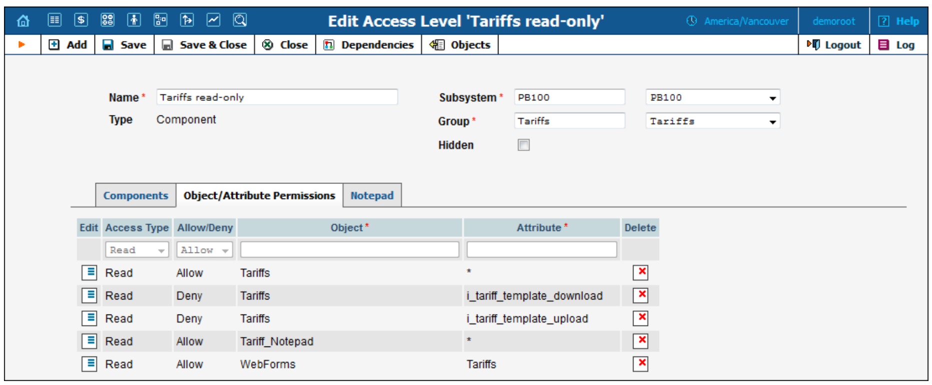
5. Open the **Bookkeeper access** ACL.



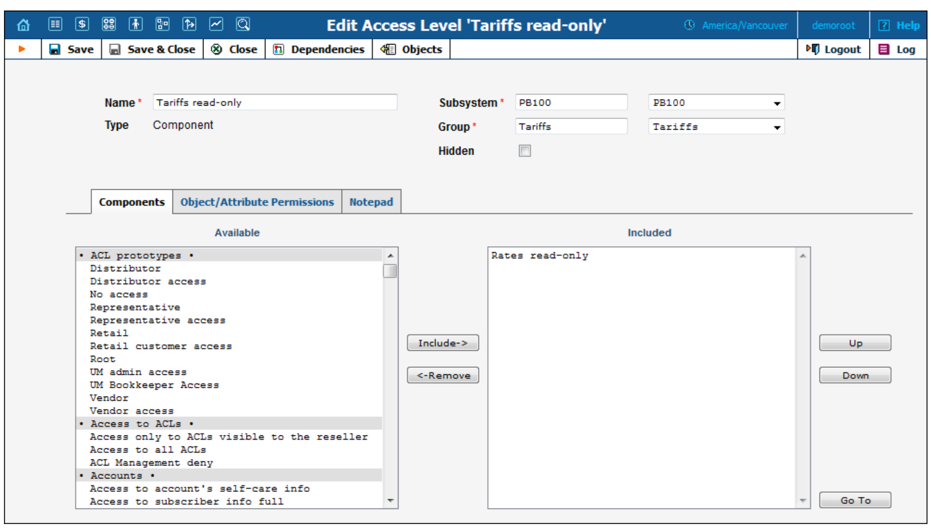


6. View all the components and make sure that the user will be able to view the tariffs but not modify them, and then open the **Tariffs read-only** component. There you can view the following permissions:

Access Type	Allow/ Deny	Object	Attribute
Read	Allow	Tariffs	*
Read	Deny	Tariffs	i_tariff_template_download
Read	Deny	Tariffs	i_tariff_template_upload
Read	Allow	Tariff_Notepad	*
Read	Allow	WebForms	Tariffs

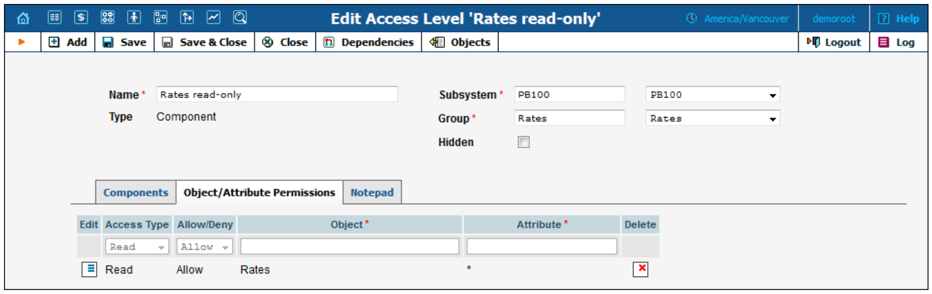


There is one more component inside of the **Tariffs read-only** component: the **Rates read-only** component.



The **Rates read-only** component includes the following permissions:

Access Type	Allow / Deny	Object	Attribute
Read	Allow	Rates	*



For system stability purposes, you may not edit default components and permissions. However, you may use them to create your own custom components and / or access levels and modify permissions within them.

Override the PortaBilling® Predefined ACLs

You can assign a new individual set of default ACLs for each virtual billing environment. You can also assign a new set of default ACLs for all of the environments together. PortaBilling® remembers these settings and keeps them throughout system updates.

To override a PortaBilling® predefined ACL do the following:

1. Create an ACL that includes the required permissions on the PortaBilling® admin interface. (For information about how to create access levels, please refer to the **Add / Edit a New User ACL** section of this guide.)
2. Specify this newly created ACL as the value for the corresponding options on the configuration server web interface. (For information about how to do this, please refer to the *How to define new default ACLs* section in the **PortaSwitch Configuration Server Web Reference Guide**.)

When you override default ACLs for a virtual billing environment, the system behaves the following way:

- From now on for each new entity that you create in this virtual billing environment, the previous default ACLs will no longer appear in the **Access Level** list.
- If there are entities that were assigned previous default ACLs within this billing environment, they will keep their assigned ACLs until you assign them the new ones. After that, the previous default ACLs will disappear from their **Access Level** lists.

You can override default ACLs for the following types of participants:

- Account (the **DefaultAccountACL** option on the configuration server web interface)
- CC Staff (**DefaultCCStaffACL**)
- Distributor (**DefaultDistributorACL**)
- Representative (**DefaultRepresentativeACL**)

- Customer (**DefaultRetailACL**)
- Vendor (**DefaultVendorACL**)
- Reseller (**DefaultWholesaleACL**)

Note that some of these types of participants have more than one PortaBilling® predefined ACL. For example, there are two predefined ACLs for resellers: **Reseller** and **Advanced Reseller**. But when you override the PortaBilling® predefined ACLs, you can assign only one new default ACL per participant type.

You *cannot* redefine the PortaBilling® predefined ACLs for the **User** and the **Component** entities), i.e. the following PortaBilling® predefined ACLs:

- Root
- Admin
- Bookkeeper
- Helpdesk
- Component

ACL for Customer / Account Self-care Interface

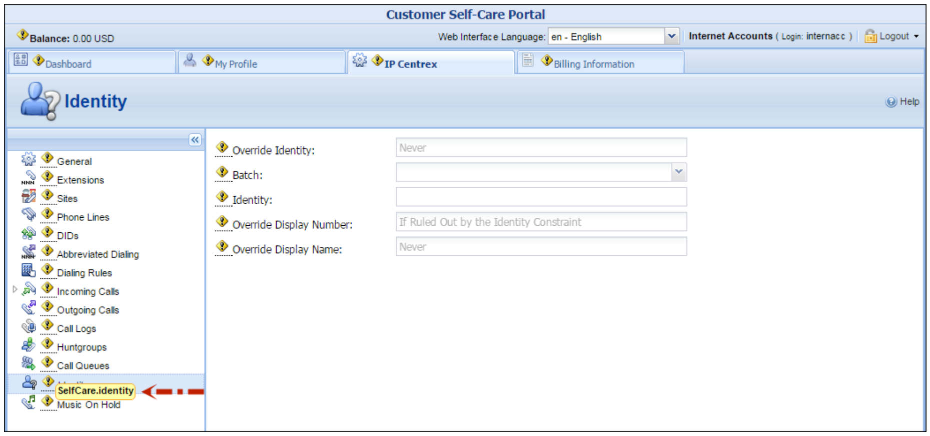
In order to create an ACL for the customer / account self-care interface, follow these steps:

1. Open the **Access Levels** page.
2. Click the **Add** button.
3. Select "Account" or "Customer" from the **Type** field.
4. On the **Components** tab include the following components, depending on the ACL type:
   - *Account Self-Care Permissions* and *Account Self-Care* or
   - *Customer Self-Care Permissions* and *Retail Customer Access*
5. To restrict user access to certain pages (hide or make read-only) specify the name(s) of these pages on the **Object/Attributes Permissions** tab.
6. After saving the newly created ACL you will be able to assign it to a Customer or an Account, respectively.

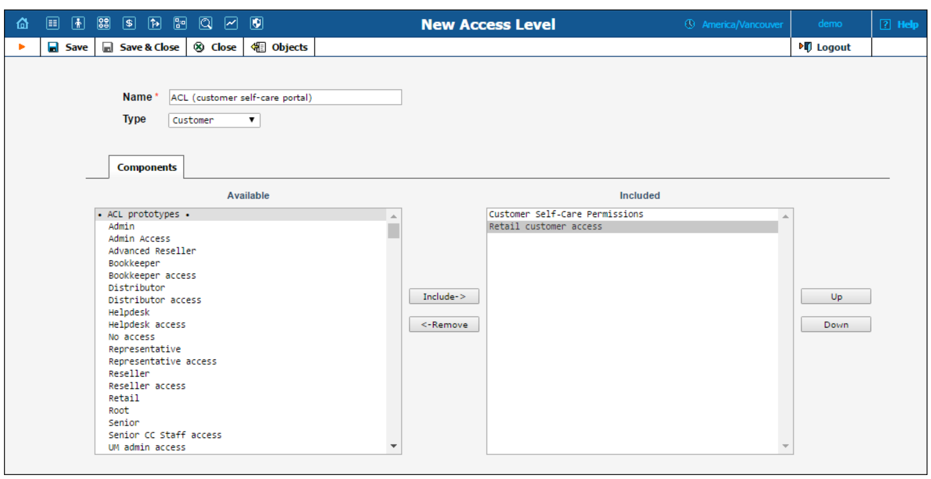
NOTE: You can use test customer / account in order to view the Objects / Attributes of the pages of the new self-care interface. In order to allow this customer / account to do this add the ID of the customer / account as the *ACLTipsForAccounts* or *ACLTipsForCustomers* option value respectively on the configuration server web interface.

Let's take an example in order to see how to limit user access to certain pages of self-care interface. For example, if you would like to hide the **Identity** tab on the customer self-care interface, follow the steps below:

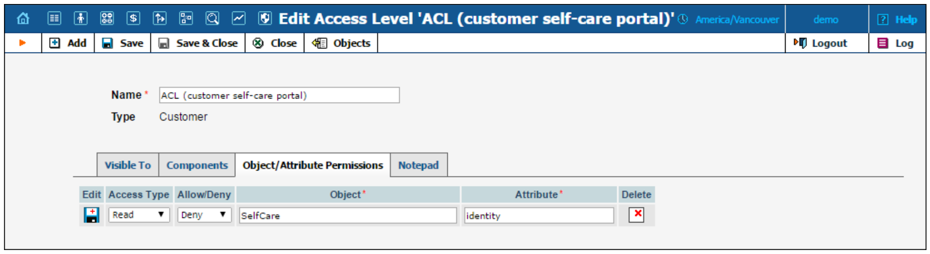
1. Using a test customer, go to the self-care interface and point the cursor at the exclamation mark near the **Identity** tab in order to see the Object / Attribute of this page (in our example, the Object is *SelfCare* and the Attribute is *identity*).



2. Go to the PortaBilling® admin interface and create an ACL for the customer self-care interface with the following parameters:
   - **Type** – *Customer*
   - On the **Components** tab include *Customer Self-Care Permissions* and *Retail customer access* components.

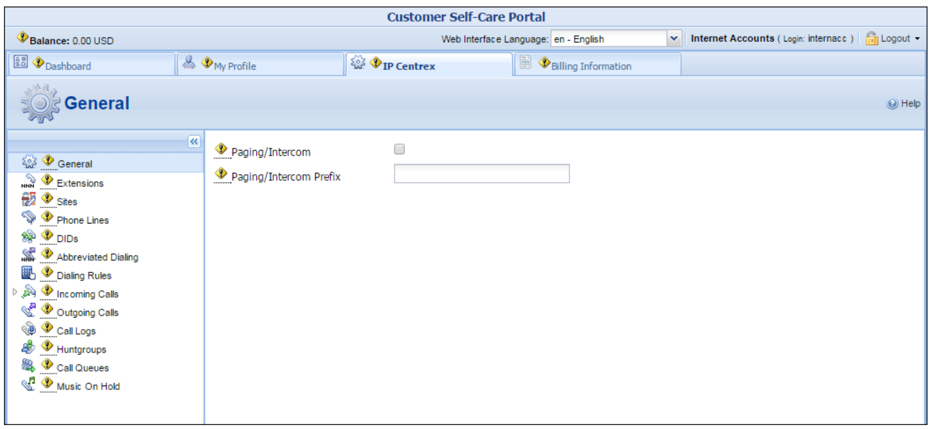


3. Click the **Save** button.
4. Open the **Object/Attribute Permissions** tab.
5. Click the **Add** button and specify the following settings:
   - **Access Type** – *Read*
   - **Allow/Deny** – *Deny*
   - **Object** – *SelfCare*
   - **Attribute** – *identity*



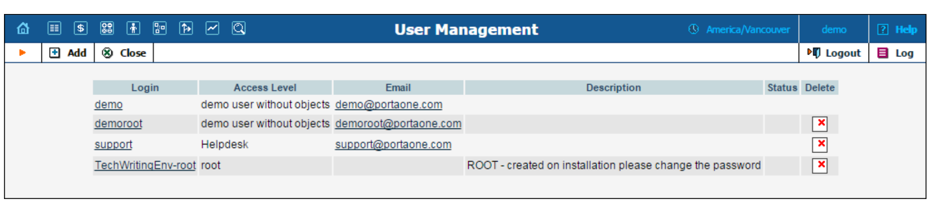
6. Click the **Save** button to save the changes.
7. Assign a newly created ACL to the customer.

Now the **Identity** tab will be hidden within the customer self-care interface.



User Management

The **User Management** page shows existing users registered in the system, and also allows you to edit current user information or add and delete users. To add a new user, click the **Add** button on the **User Management** page. The user list table contains the following information and operations:



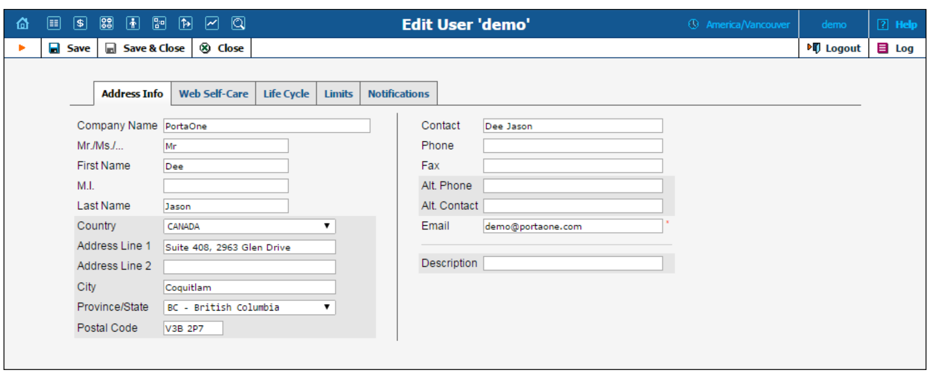
Column	Description
Login	The username for log in and user identification. It is provided as a link to the edit page where you can view and edit the information about that particular user.
Access Level	The privilege level or role assigned to the user. See the **Access Levels** section for more information.

Email	An email contact for the user. For convenience, this is provided as a link, so you can send an email to the user directly from this page.
Description	A short description associated with the user.
Status	The status of the user's account. The user can have the following statuses: • **Expired** – Is assigned when **Expiration Date** has already passed. • **Inactive** – Is assigned when the **Start Using** date has not yet arrived.
Delete	The **Delete** button appears next to all users except for the superusers and the last root user in the environment. This permanently deletes the user from the system.

Add / Edit User

The **Add User** page allows you to enter details to create a new user account. The **Edit User** page allows you to change details for a particular user account.

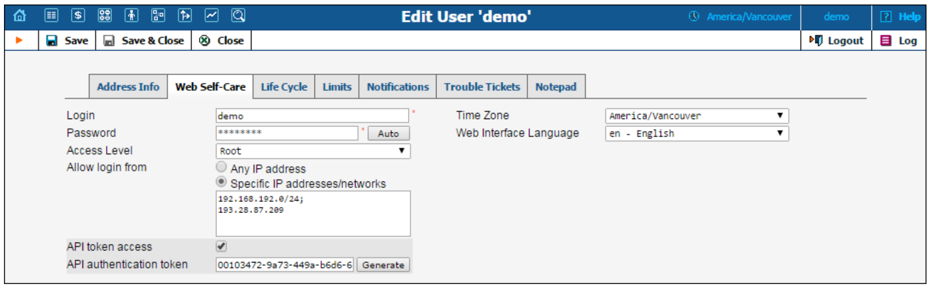
Address Info tab



Mandatory field for user contact information:

Field	Description
Email	An email contact for this user. The user will receive notifications for which he is subscribed via this email.

Web Self-Care tab



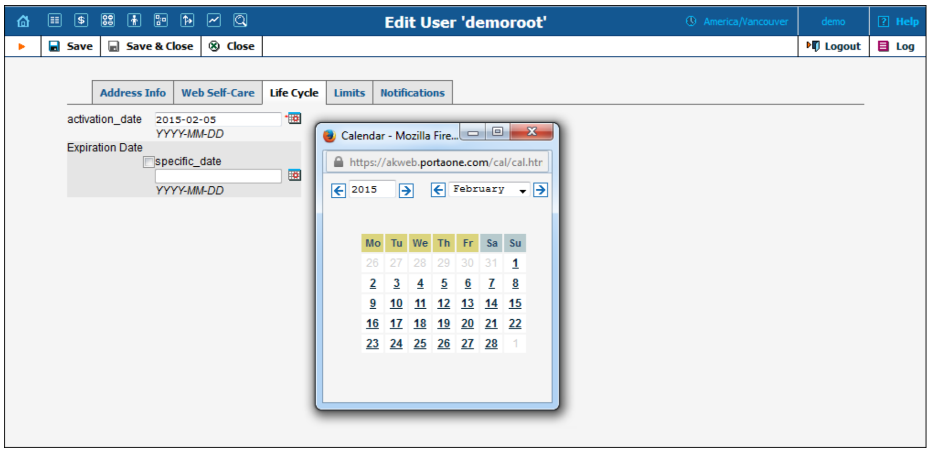
Field	Description
Login	The new user ID to be used at login and elsewhere throughout the system.
Password	The password for this login. A secure and hard-to-guess password may be automatically generated by clicking the **Auto** button.
Access Level	The privileges or role associated with this user. See the **Access Levels** section for more information.
Allow login from	You can ensure that access to the PortaBilling® administrative web interface only occurs from physical locations that you define. For example, you can specify IP addresses that belong to your network. If a user tries to log in from outside your network, PortaBilling® denies that access and the user cannot log in. The following formats can be used to permit access from specific IP addresses or networks: • A single IP address: 10.10.10.1 • A network in IP prefix (slash) notation: 192.168.192.0/24 • An IP address and a netmask: 192.168.192.0/255.255.255.0 You can enter multiple definitions, with each starting from a new line and ending with semicolon.
API token access	You should use tokens instead of standard login-password pairs for authenticating your applications integrated with PortaBilling via API.
API authentication token	Input the combination from this field into your application and remove the password from it (the AuthInfoStructure and LoginRequest API structures

	have the *token* property).
Time Zone	The time zone in which this user will be operating.
Web Interface Language	The language to be used on the admin web interface for this user.

For a description of the input and output formats, please refer to the **Common Features** section.

Life Cycle tab

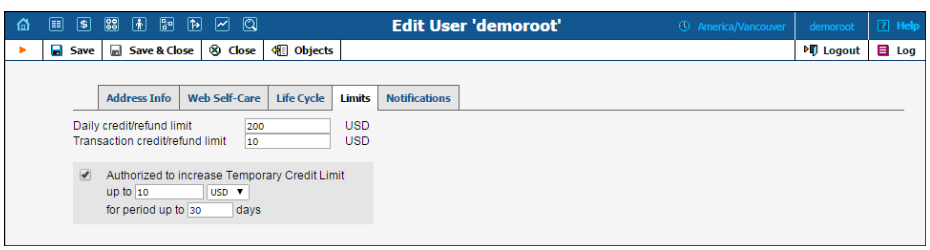
This allows the administrator to set up the user account's activation and expiration dates.



The account will not expire if the **Expiration Date** field is left blank.

Limits tab

The **Limits** tab provides an opportunity to assign values for different types of individual user credit.



Field	Description
Daily credit / refund limit	Defines the amount that a user can assign during a 24-hour period. Note that by default this value is unlimited for all users. The only exceptions are **CC Staff** users whose default daily credit / refund limit equals zero.

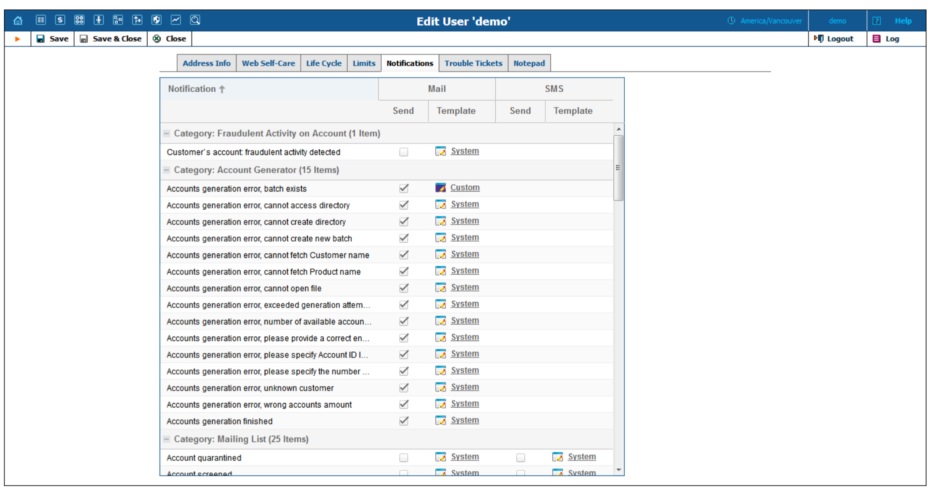
Transaction credit / refund limit	Defines the amount that the user cannot exceed per transaction. Note that by default this value is unlimited for all users. The only exceptions are **CC Staff** users whose default transaction credit / refund limit equals zero.
Authorized to increase Temporary Credit Limit	Defines the amount of the credit limit increase (either as an absolute value or as a percentage of the permanent credit limit), and the credit usage's valid time span.

NOTE: If the **Authorized to increase Temporary Credit Limit** check box on the User management page is not selected, the temporary credit limit increase is unavailable for this user.

Notifications tab

Notifications are the text messages (email or SMS) that are sent from PortaBilling® to the users: about accounts generation, custom reports, DID upload, etc.

The **Notifications** tab allows you to manage notification templates and define which email and / or SMS notifications to send to your customers.



For more information about notification templates, please refer to the *Notification Templates* and *APPENDIX D. Available Notification Templates* sections of the **PortaBilling Templates Guide**.

Field	Description
Notification	The notification name.
Mail	
Send	Select this check box to send the corresponding notification to customers via email.
Template	This shows whether the notification template has been modified:

	• **System** – The default template is used. • **Custom** – The template has been modified. Note that a template becomes a **Custom** template once you save it after editing it, regardless of whether it has actually been modified or not.
SMS	
Send	Select this check box to send the corresponding notification to customers via SMS.
Template	This shows whether the notification template has been modified: • **System** – The default template is used. • **Custom** – The template has been modified. Note that a template becomes a **Custom** template once you save it after editing it, regardless of whether it has actually been modified or not.

How to edit a notification template

To edit an email notification template, click the **Custom** / **System** link in the **Mail** column and specify all the required parameters on the **Edit Email Template** page.

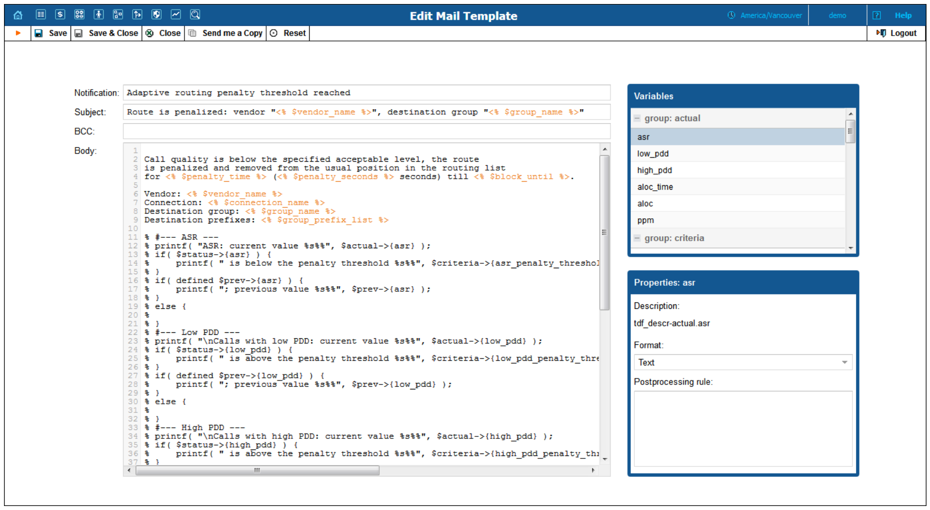
To edit the SMS notification template, click the **Custom** / **System** link in the **SMS** column and specify all the required parameters on the **Edit SMS Template** page.

Note that for a user being created, **Custom** / **System** links are unavailable. You can only edit a notification template for a user that has already been created.

Edit Email Template / Edit SMS Template

The page title reflects the type of template being edited and can be either **Edit Email Template** or **Edit SMS Template**.

This page allows you to modify the subject, body, format and post processing rule for variables.



Field	Description
Notification	The notification name. This is a read-only field.
Editing Area	
Subject	The subject as it appears in an email to a customer.
BCC	The area to put email addresses of persons who want to receive a copy of this notification. You can specify more than one valid email address; make sure you separate them with commas.
Body	The content of the message.
Variables	
	A list of available variables for this template. This list cannot be modified. Click on the variable to see its properties in the **Properties** area.
Properties	
Description	The description of the selected variable.
Format	The format of the variable. • Select one of the predefined formats from the list. • Select **Other** to define your own format for the variable.
Rule	This option is only available when **Other** is selected for the **Format**. Type the definition of the required format for the variable.
Postprocessing rule	The post processing rule for variables that can be specified using regular expressions in Perl.

How to reset a notification template

To reset a notification template to its default settings, click the **Reset** button on the toolbar.

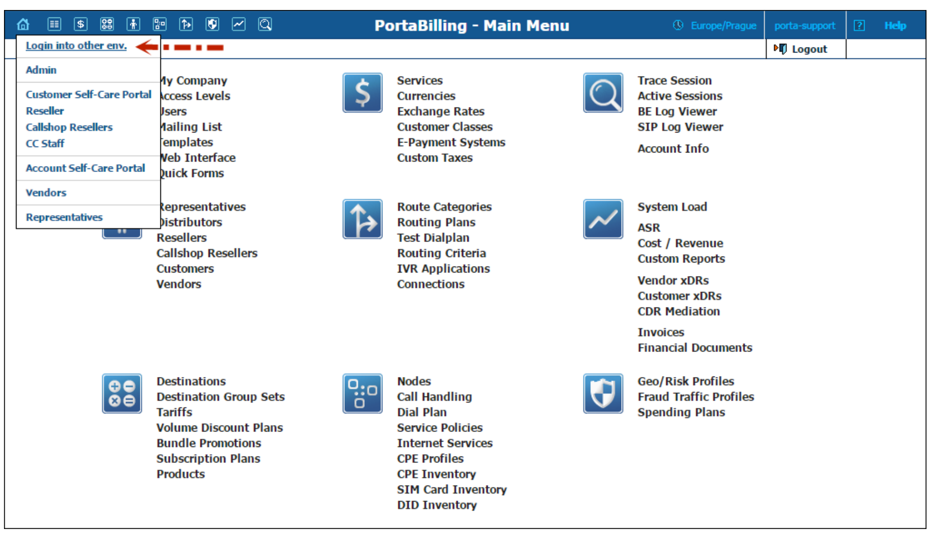
How to ensure that a notification template is configured correctly

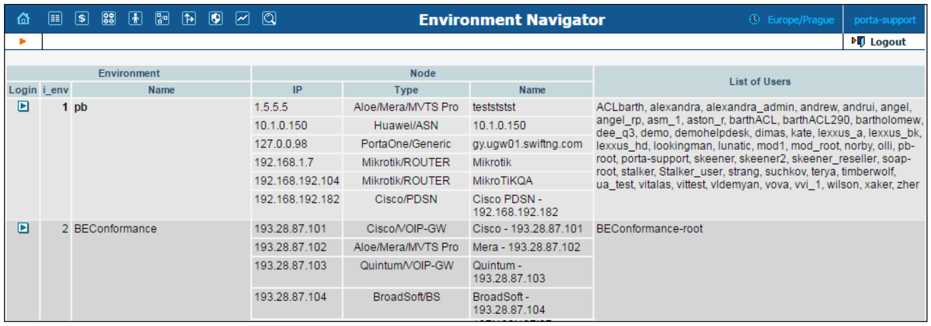
To check that the template is configured as required, an administrator can send a test copy of the notification to their own email address (the email address configured in the user settings).

To receive a test copy of the notification, click the **Send me a Copy** button on the toolbar.

Superusers

"Ordinary" administrator-level users can be promoted to "superuser" status – this is done by adding their numeric IDs (i_user) to the Superusers variable that is managed from the configuration server web interface. Superuser status permits certain operations that ordinary users do not have access to. One of the most important abilities of a superuser is switching between virtual environments. This is why superuser status cannot be configured via the web interface: by giving a virtual environment to someone, you allow him full control of that environment. However, he should not be able to re-configure his account to "jump" into another environment.

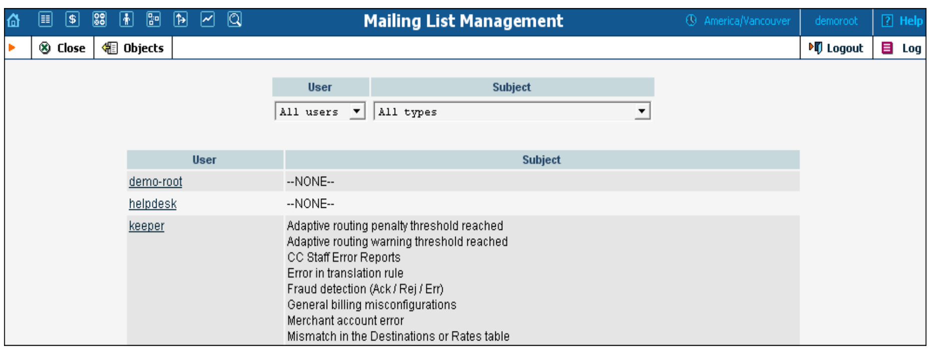




NOTE: Only user, who is on the superusers list, can modify the information about another superuser.

Mailing List

The **Mailing List Management** page allows you to define which email alerts are to be sent to different users (see **Notifications**).



Select a user from the **User** list to view which mailing lists a particular user is subscribed to. Select a mailing list from the **Subject** list to view all users subscribed to a particular mailing list.

Templates

The purpose of templates is to maintain all data downloaded from the system. Templates automate the processing of user input and create customized output in various data and media formats.

Read more about using the templates functionality in the **PortaBilling Templates Guide**.

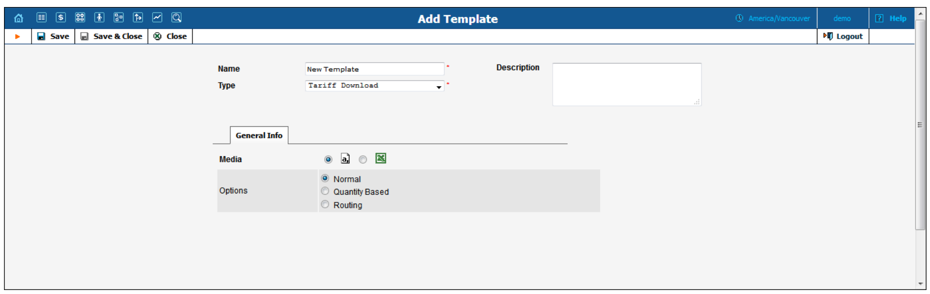
Add a New Template

To add a new template, select the **Add** button.

Field	Description
Name	The logical name of the template object.
Type	Choose one of the following template types: • **Invoice** • **Tariff Download**
Description	Type an informative and helpful description of this dialing rule.

Other information on the page will differ, depending on what type of invoice was selected in the **Type** field.

Add Tariff Download Template



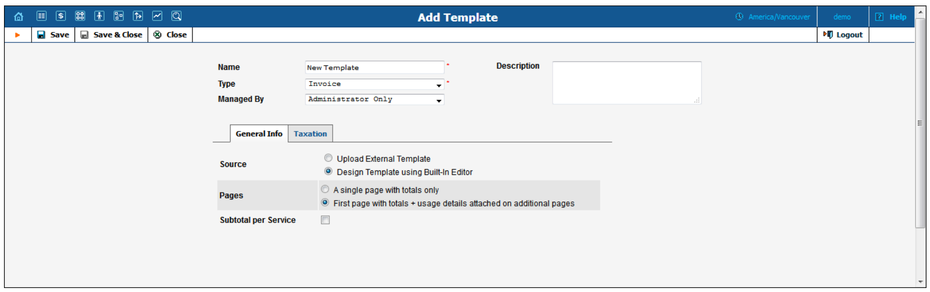
General Info tab

Field	Description
Media	Choose one of the following media types: • **.csv** – Comma separated values. • **.xsl** – Excel binary file format.
Options	Permits the changing / altering of the default column set for the created template. The following options are available: • **Normal** – This is a traditional-style template with a default column set. • **Quantity Based** – The template has a set of fields that are typical for the quantity based tariff (e.g. **Minimum Threshold**, **Rounding**, **Unit Price Initial**, etc.). • **Routing** – When selected, the fields **Route Category**, **Preference** and **Huntstop** are enabled by default.

Add Invoice Template

Field	Description
Managed By	• By default – **Administrator only**. • The template can be assigned to a reseller so that it is visible in the list of available invoice templates on the reseller self-care interface.

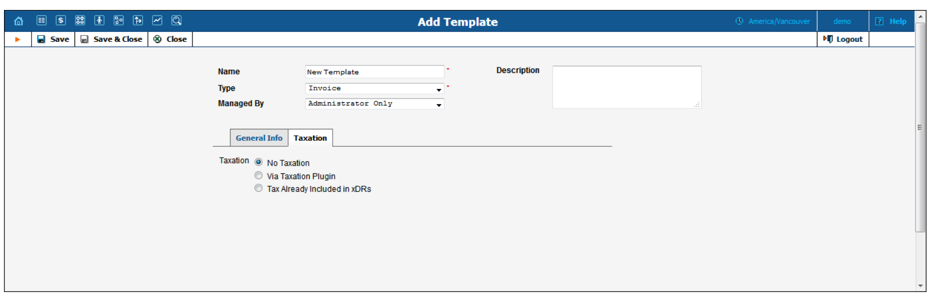
General Info tab



Field	Description
Source	• **Upload External Template** – Select this option if you want to use an invoice template created offline. • **Design Template using Built-in Editor** – Select this option if you want to create template using PortaBilling® in-built functionality.
Template File (*only for Upload External Template*)	This allows you to upload a previously designed invoice template from an .html / .css file. This simplifies the process if the invoice template is created by an external design agency (that does not have access to PortaBilling®) and allows advanced template customizations (e.g. arrangement of data to exactly match "legacy" invoices or insertion of dynamic content such as banners) by third-party developers.
Image (*only for Upload External Template*)	You can add an image to (or update an image in) the invoice template. For example, to upload an *image.gif* file and display it in customer invoices, the template should contain code similar to the following `<img src="[% image_path %]image.gif"/>`.

Pages *(only for Design Template using Built-in Editor)*	• **A single page with totals only** – This is a traditional-style invoice. It consists of a single page with an invoice header (your company name, customer name, etc.), invoice fields (invoice number, invoice date), and invoice footer (subtotal, total). • **First page with totals + usage details attached on additional pages** – This template's first page is identical to the **A single page with totals only** invoice template. Additionally, it contains multiple pages with details of calls related to the invoice.
Subtotal per Service *(only for Design Template using Built-in Editor)*	This allows you to calculate (and respectively, show in the invoices) subtotals per service.

Taxation tab

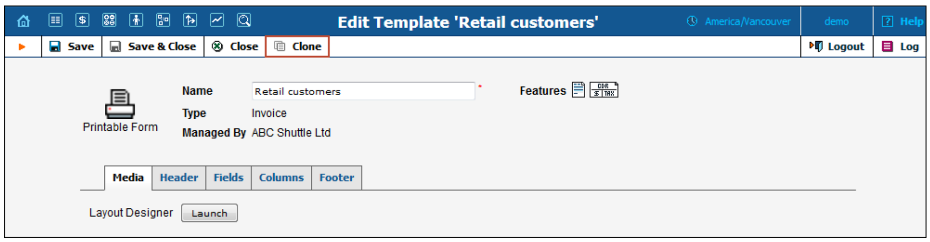


Field	Description
Taxation *(only for Invoice type)*	This allows you to choose the taxation method. The following options are available: • **No Taxation** – Select this option if customers that will use this template are exempt from taxation. • **Via Taxation Plugin** – The plug-in module will be used to make tax calculations. • **Tax Already Included in xDRs** – In this case, back calculations from the total amount are made. If this option is selected, a list of taxes with an inline-editor will allow you to create, edit and delete up to 5 types of taxes.

To enter editing mode for this template, save your input using the **Save&Close** button. Next, select the template you would like to edit on the **Templates** page.

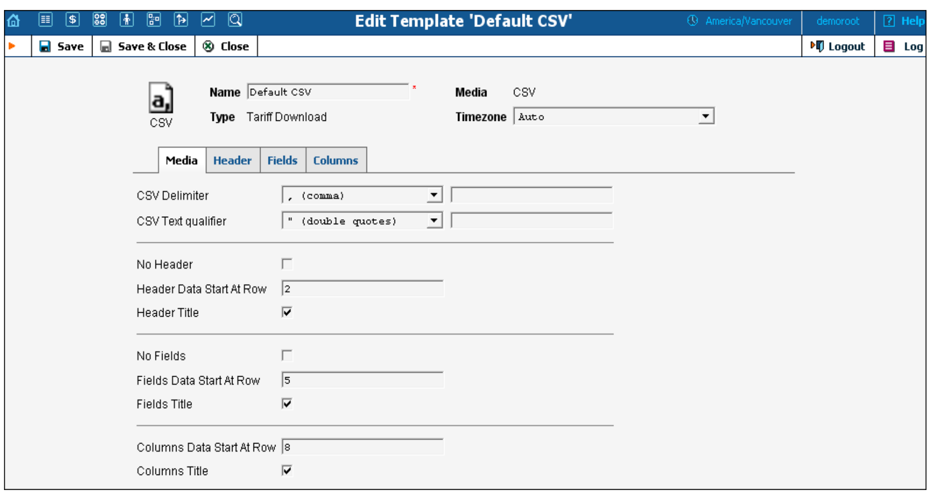
Clone Template

You may also create a new template as a clone of an existing one. For this, open the template you want to clone and click the **Clone** button. The cloned template inherits all of the parameters from the original template and can then be customized as desired.



NOTE: When you clone templates that have taxes included in the rate, a cloned invoice template will not inherit the taxes defined in the post processing rules. Therefore, you need to define these taxes on the **Custom Taxes** page and assign them to a customer or customer class.

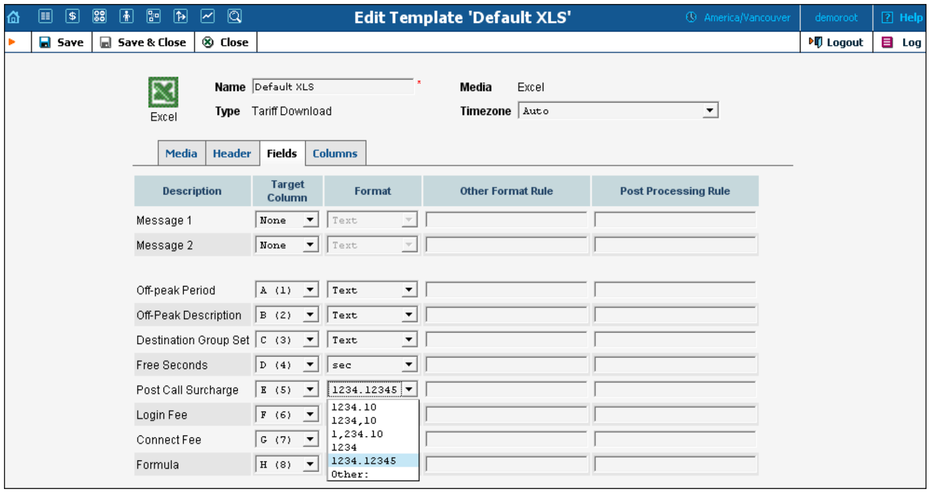
Edit Template



Once a new template is saved, the document's **Media**, **Type** and **Managed By** properties cannot be changed.

Each template object consists of several logical components. For example, the **Invoice** template's components are **Media**, **Header**, **Fields**, and **Footer**.

The **Media** tab is present for all types of templates, and shows the media available for download. For tariff download in .csv format, it is important to know what delimiter was used, whether there is a header, or in what row the tariff information starts. For **Invoices**, the **Media** tab contains a link to the PortaBilling® Layout Designer, which allows you to customize the appearance of your invoices and receipts.

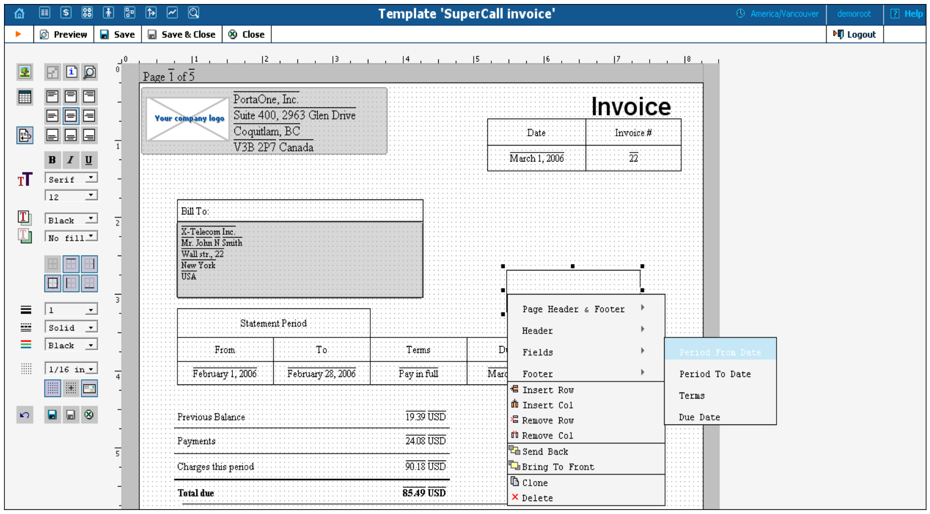


The content of the **Header**, **Fields**, **Columns**, and **Footer** tabs is arranged in a similar way, and allows flexible mapping of information related to user documents and information in the PortaBilling® database.

Column	Description
Description	Description of template components.
Target Column	Defines the mapping of template information to the original / destination document.
Format	Data format. • Choose a format from the list, or • select **Other** if the desired format is not available. Provide a format definition in the following field.
Other Format Rule	Perl code. Active only if Format = "Other:"
Post Processing Rule	Perl code.

Layout Designer

The Layout Designer allows you to customize the appearance of all types of printed output in PortaBilling®.



Layout Designer (LD) Quick Start

To launch, click the **Layout Designer** button on the **Media** tab on the **Template Management** page. The sliding toolbar on the left side provides most of the controls for manipulating content in the editor area. There are three different states for most of the toolbar icons: normal, active, and not available.

Icon state	Description
	Normal – Click to activate.
	Active – Click to deactivate.
	Not available.

Icon	Description
	Add Picture – Click to select a picture (e.g. your company logo) from a file select dialog box. Click the **Open** button to place the picture on the worksheet. To remove the picture, right-click on it and choose **Remove.** Another way of deleting a picture is to press **Delete** on your keyboard.
	Lock Aspect – Fixes image proportions during scale operations.
	Preview – Click to preview your work in a browser window.
	Add Table – Click to place a table on the worksheet. A table can be removed by using the context (right-click) menu or by pressing **Delete** on your keyboard. Click the table cell to make it active. To add another table, click on the worksheet to deactivate the currently active object. Read more about tables below.
	Text Align – A section of nine buttons used to align text in an active table cell.

	Word Wrap.
	Text controls – The tools and selects from this section control font attributes such as font style (bold, italic, underline), font family (serif, sans-serif, cursive, fantasy, monospace), and font size.
	Foreground Color – Change the text color by selecting from this list.
	Background Color – Change the color of the active table cell by selecting from this list.
	Border – A section of six buttons for showing or hiding the border of the active table cell.
	Stroke – A section of three controls for changing the active cell's border weight, style and color.
	Grid – On by default; click to turn off the grid.
	Snap to Grid – On by default; click to allow arbitrary positioning of elements on the worksheet.
	Envelope Window – Two half-transparent gray boxes displaying the positions of envelope windows; click to turn off.
	Undo – Click to cancel the last action.
	Save and Close – For convenience in editing the bottom of the worksheet, these controls duplicate the main toolbar controls.

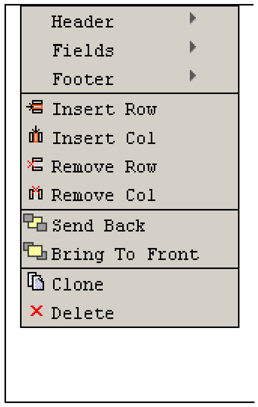
A straight line in the Layout Designer can be simulated by using a table with only one visible border.

Table

The main Layout Designer object is the table, which is a placeholder for all inserted information. A table or a table cell within a table can be moved and scaled by dragging the cell handlers. Double-click a table or a cell within a table to enter cell editing mode, where you can type in or edit a cell's text. To change the attributes of a cell's text, make sure the cell is selected (8 black square handlers are visible) and set the text attributes in the toolbar on the left.

Changing the text attributes of a cell in the toolbar will affect all text in the current cell. To change the attributes of part of the text, enter cell editing mode (double-click), select that part of the text, and use the keyboard shortcuts listed below.

Context Menu

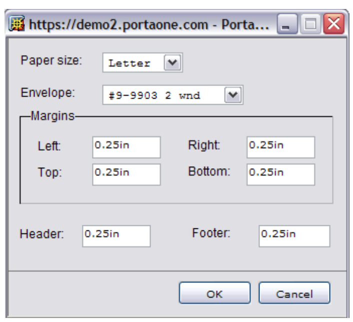


The context (right-click) menu provides you with greater control over tables and other objects, and allows certain data located in the PortaBilling® database to be displayed in the table cell. To show the menu, right-click on a table or cell. The three top elements of the context menu correspond to the template components (tabs); in the case of an invoice, for example, these would be Header, Fields and Footer. Users can also set the order of all objects in the window and clone or delete selected objects.

Select one of the menu elements to activate a submenu containing a list of all the fields specified in the template editing window. The selected item will appear in the selected cell as the item's value. Double-click the cell to enter editing mode; the cell now displays the corresponding variable.

Page / print setup

The page context menu (right-click on the worksheet) provides access to the Web-Page Dialog for page, envelope and print setup.



Open your browser prior to printing. In your browser's **File** menu, select **Page Setup.** In the dialog box, set up the paper size (A4 or Letter), delete all **Header** and **Footer** symbols, and set all margins to zero or a value close to zero.

Envelope Formats: America

Envelope	Envelope Measurements	Window size	Window From Left	Window From Bottom
#6-3/4	3-5/8" x 6-1/2"	1-1/8" X 4-1/2"	7/8"	1 / 2"
#7	3-3/4" x 6-3/4"	1-1/8" X 4-1/2"	7/8"	1 / 2"
#7-3/4	3-7/8" x 7-1/2"	1-1/8" X 4-1/2"	7/8"	1 / 2"
#8-5/8	3-5/8" x 8-5/8"	1" X 4"	1"	3 / 4"
#9	3-7/8" x 8-7/8"	1-1/8" X 4-1/2"	7/8"	1 / 2"
#10	4-1/8" x 9-1/2"	1-1/8" X 4-1/2"	7/8"	1 / 2"

#11	4-1/2” x 10-3/8”	1-1/8” X 4-1/2”	7/8”	1 / 2”
#12	4-3/4” x 11”	1-1/8” X 4-1/2”	7/8”	1 / 2”
#14	5” x 11-1/2”	1-1/8” X 4-1/2”	7/8”	1 / 2”

Double-window envelopes

Envelope	Window Size	Location	Placement
#9-9903	TOP WINDOW		
	3 7/8” x 8 7/8”	From Left	3/8”
		From Top	1/2”
3 5/8” x 8 5/8”	BOTTOM WINDOW		
	1” x 4”	From Left	7/8”
		From Bottom	5/8”
# 8-5/8	TOP WINDOW		
	7/8” x 3-1/2”	From Left	5/8”
		From Bottom	2 1/4”
3 5/8” x 8 5/8”	BOTTOM WINDOW		
	1” x 4”	From Left	5/8”
		From Bottom	5/8”
#9-13036	TOP WINDOW		
	7/8” x 3-1/4”	From Left	3/8”
		From Bottom	2-1/2”
3 7/8 x 8 7/8”	BOTTOM WINDOW		
	1-1/8” x 4-1/2”	From Left	1/2”
		From Bottom	7/16”
#9-13037	TOP WINDOW		
	7/8” x 3-1/4”	From Left	3/8”
		From Bottom	2-1/2”
3 7/8 x 8 7/8”	BOTTOM WINDOW		
	1” x 4”	From Left	1/2”
		From Bottom	3/4”
#9-13038	TOP WINDOW		
	7/8” x 3-1/2”	From Left	3/8”
		From Bottom	2-3/8”
3 7/8 x 8 7/8”	BOTTOM WINDOW		
	1-1/8” x 4”	From Left	3/8”
		From Bottom	5/8”

NOTE: Envelope #9-9903 (3 7/8” x 8 7/8”) is QuickBooks compatible.

Envelope Formats: Europe

Format	Size [mm]	Content Format
C6	114 × 162	A4 folded twice = A6
DL	110 × 220	A4 folded twice = 1/3 A4
C6/C5	114 × 229	A4 folded twice = 1/3 A4
C5	162 × 229	A4 folded once = A5
C4	229 × 324	A4

DIN 680 specifies that a transparent address window should be 90 × 45 mm in size, and the window's left edge should be located 20 mm from the left edge of the envelope. For C6, DL, and C6/C5 envelopes, the bottom edge of the window should be 15 mm from the bottom edge of the envelope. For C4 envelopes, the top edge of the window should be either 27 or 45 mm from the top edge of the envelope.

Keyboard shortcuts

Shortcut	Action
Arrow keys	Move objects with grid size increments.
Ctrl – arrow key	Use to scale table cells or images with current grid size increments.
Cell editing mode	
Ctrl-A	Selects all objects in the Template window if nothing is selected, or selects all text in an active table cell.
Ctrl-C	Copy selected text.
Ctrl-V	Paste clipboard text starting from the current cursor position.
Ctrl-X	Cut highlighted text.
Ctrl-I	Change selected text style to *Italic*.
Ctrl-B	Change selected text style to **Bold**.
Ctrl-U	Change selected text style to Underline.
Ctrl-K	Hyperlink selected text (opens hyperlink editing dialog).

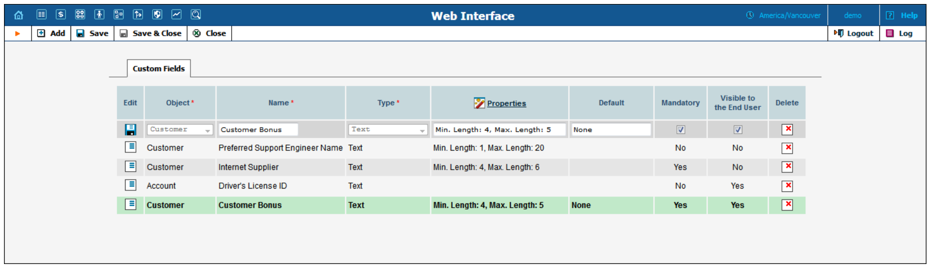
Netscape or Mozilla users may experience the lack of a movable cursor allowing them to select text from the keyboard in cell editing mode. Press the **F7** key to turn the edit cursor (caret browsing) on and off.

Users with a small screen resolution may enjoy the benefits of their browser's full-screen mode. Simply press the **F11** key to switch your Mozilla, Google Chrome or IE into full-screen mode.

Web Interface

The **Web Interface** page is for managing various parameters that affect the look and feel of the information presented on the PortaBilling® admin interface.

Custom Fields



It is possible to store a set of extra attributes (e.g. driver's license ID or tax code) to supplement the standard PortaBilling® information. This tab allows you to create your own custom fields and give them whatever name you like, set a field type, and so on. Custom fields are treated like any other field; they can be set on the **Customer / Account Info** page and used for search queries. Custom fields are also added to **Invoice** templates under the **Header** section and it is possible to add custom fields in Layout Designer (right-click→Header).

Administrators can manage extra user information with the help of the **Custom Fields** tab on the **Web Interface** page. For each new custom field, the following attributes must be set:

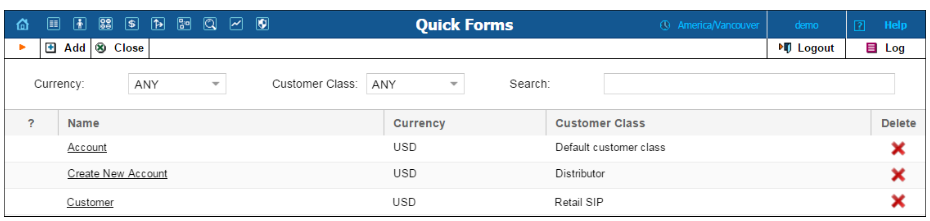
Field	Description
Object	Defines whether the custom field applies to the customer or the account.
Name	The descriptive name of the field. This is the name that will be displayed next to the custom field on the **Edit Customer** or **Account Info** pages.
Type	Choose the type of field: • **Text** – Basic single-line input field. • **Number** – Input field used to store and validate numerical values. • **Date** – Field type used to store dates. • **Date & Time** – Custom field that stores dates with a time component. • **List** – Single select list with a configurable set of options. **NOTE:** Once a custom field is created, the Type field cannot be changed.
Properties	Enables you to customize properties of the field that define its form, appearance, or value. These properties are specific to the field type. Click **Properties** or the **Wizard** icon to invoke the wizard. This will enable you to define a new field format or change an existing one and to specify the default value a custom field should have.

Default	Read-only attribute which must be specified in the **Properties** attribute.
Mandatory	Defines the mandatory status of the field.
Visible to the End User	Custom fields may store a privileged additional information that is required for support and troubleshooting and must be shown on the web interface without the risk of exposing it to end users. However, such information as customer's bonus, driving license ID, etc. can be useful for both an administrator and end user. Select this option if you want to enable end users to see and edit this custom field on their self-care interfaces.

You can delete a custom field at any time. All records of its values will also be deleted then.

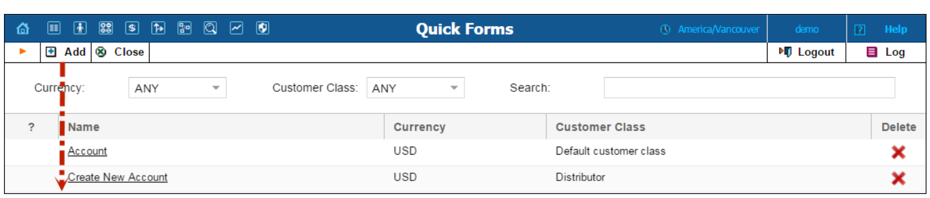
Quick Forms

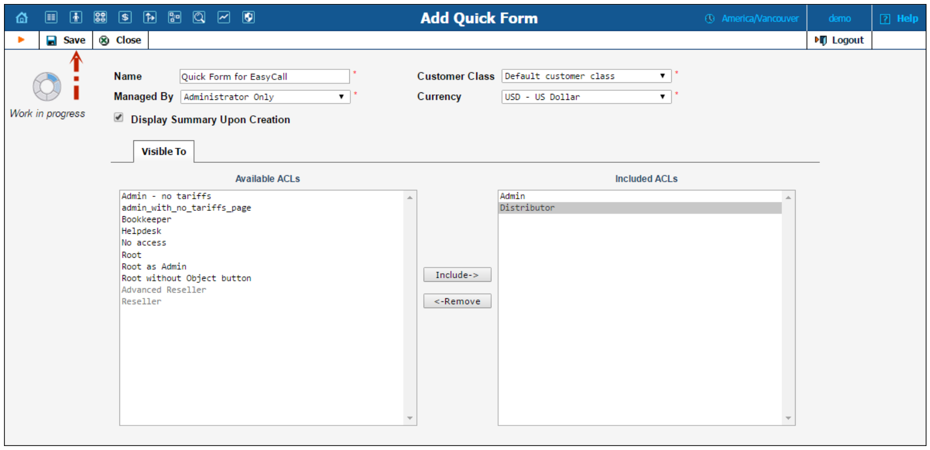
The **Quick Forms** page shows the quick forms currently in the system.

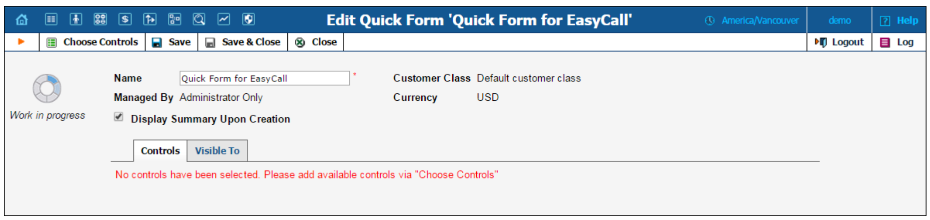


Add a New Quick Form

To add a new quick form, click the **Add** button.

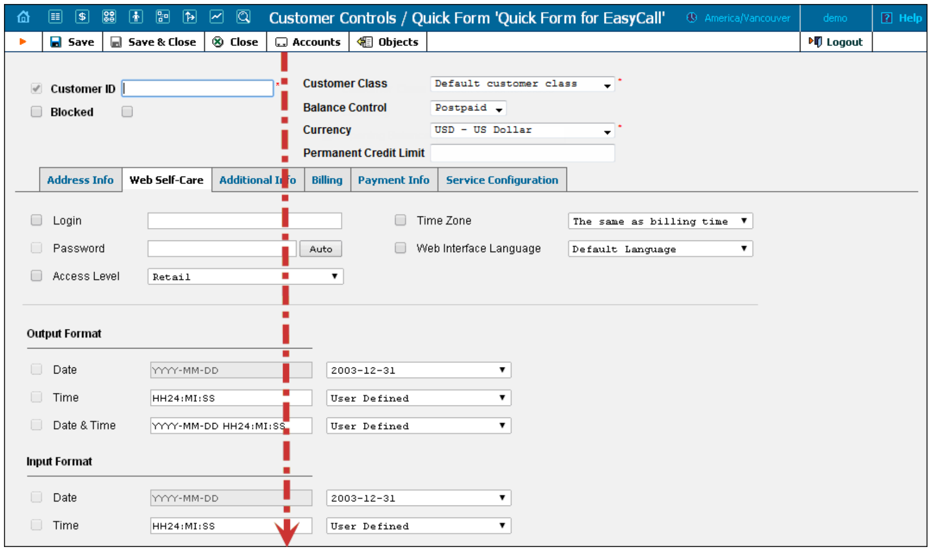


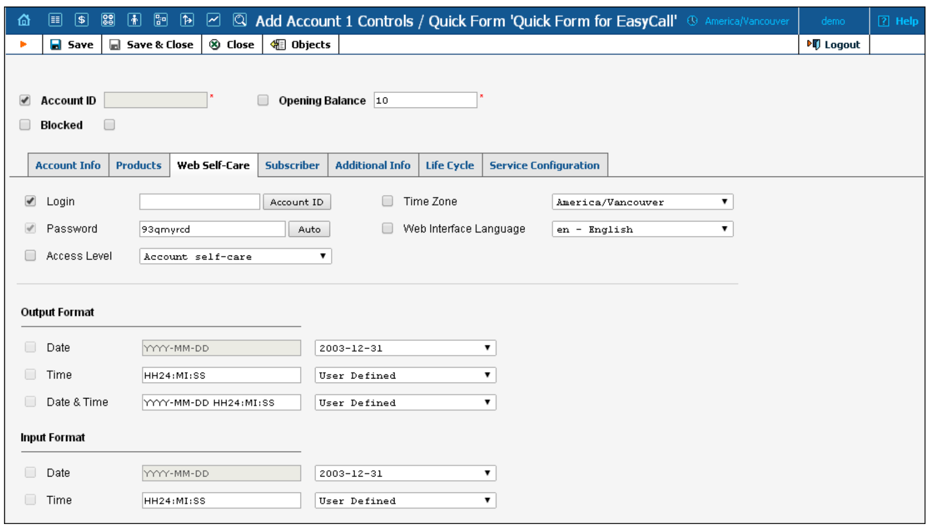




After creating the initial quick form definition, you need to specify which fields in the customer and account information will be pre-populated, and which are to be filled in later by a data entry person. To do this:

1. Click on **Choose Controls** on the toolbar.
2. Enter the details that customers (being created by this quick form) have in common.
3. Click **Save** on the toolbar to save the details.
4. Now click on **Accounts** on the toolbar to enter the details that accounts (being created by this quick form) have in common.
5. Then click **Save** on the toolbar.
6. If you want to use this quick form to create several accounts, click **Next** on the toolbar to access the information page for the next account, then click **Save**.
7. Repeat step 6 until all the information for all accounts has been entered.
8. Finally, click **Close** on the toolbar to return to the **Quick Form** page.





The check box next to the field defines its status with regard to data entry. If the check box is selected, this means that the data entry person will be prompted to enter a value for this field (you can still specify a default value for this field). If the check box is not selected, you must provide a value for this field when defining the quick form, which will then be inserted into the database.

NOTE: Values for some fields must be entered by the data entry person, since they must be unique (e.g. **Customer Name**.)

Please refer to the *Customer Management* and *Account Management* sections of this guide for a detailed explanation of individual fields in the forms.

3. Adjusting Billing Parameters

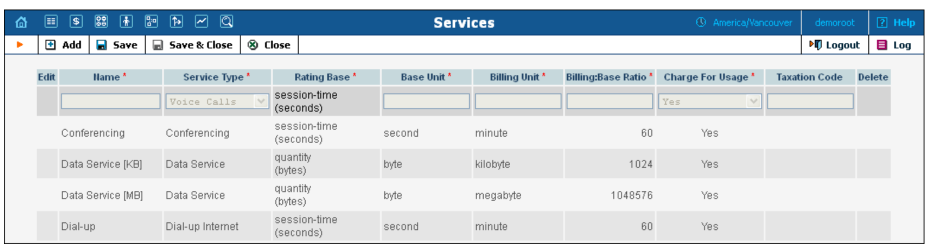
Services

Services in PortaBilling® define the naming and billing parameters of the physical services you offer to customers. Each service is associated with a particular service type (which defines what the customer is actually doing – making a phone call, sending a message, using WiFi, etc.). Services allow you to specify which parameters are used to calculate charges and, finally, what the rates for each service are.

For your convenience, PortaBilling® now provides a set of pre-defined services with all the required parameters. You can easily change an existing service name to make it more descriptive for your administrators and customers; or you can define new services.

Add / Edit Services Online

Click the **Add** button to add a new service. Services you create can be edited later by clicking the **Edit** icon. Standard PortaBilling® services cannot be changed, and are shown in gray. Click the **Save** button to save your work when done.



Column	Description
Name	Service name.
Service Type	Choose the service type (physical service) supplied to the customer. See below for a description of the available service types.
Rating Base	Specification of which particular parameter is used to calculate charges, e.g. "session time", "amount of data transferred" and the like. Where applicable, the rating base selection also defines what is to be used as the base unit; e.g. for the **Internet Access** service you could use bytes, kilobytes or megabytes as the base unit.
Base Unit	A customer-visible name for the units in which service use is measured; this also would be the smallest possible unit you can use in the rating configuration.

Billing Unit	A customer-visible name for the units used to calculate service charges. You will use these units to specify your rating prices, and the usage details in xDRs will be shown in these units.
Billing:Base Ratio	If billing units are different from base units, this parameter defines how many base units make up one billing unit (for instance, 1024 bytes makes 1 kilobyte). This parameter is extremely important, as it affects calculations in all xDRs for this service. If you decide to deploy a new service with a different ratio between units (e.g. 1 kilobyte equaling 1000 bytes), a new service type must be created before you attempt to do any further configuration.
Taxation Code	When adding a new service, you can also specify the taxation code that will be used by EZtax®, formerly known as BillSoft®, (it should be in the following format – 12:35) or SureTax® (an ordinary number is used here, for example – 050105) taxation plug-ins.

Supported Service Types

Once installed, PortaBilling® supports the service types shown in the table below. The **Rating Base** column refers to the applicable rating base options. S ("session-based") means that the service type is charged based on the duration of its use, while Q ("quantity-based") means that some other numerical parameter supplied by the network node is used, e.g. the amount of data transferred.

Name	Rating Base	Description
Conferencing	S	Rating conference calls via PortaSIP® Media Server (or some conferencing server).
Data Service	Q	Data transfers rated using the amount transferred as the billing parameter.
Dial-up Internet	S	Dial-up Internet access sessions, rated based on session duration.
IPTV	Q	IPTV services, like pay-per-view movies, rated based on the number of views.
Internet Access	S, Q	Internet access sessions (DSL, PPPoE, etc.), rated based on session duration or the amount of transferred data.
Measured Service	Q	Rating the amount of an allocated resource (active calls, IP Centrex phone lines and other), charges are based on the number of resource units consumed.
Messaging	Q	Rating messages (text, SMS, MMS, other)

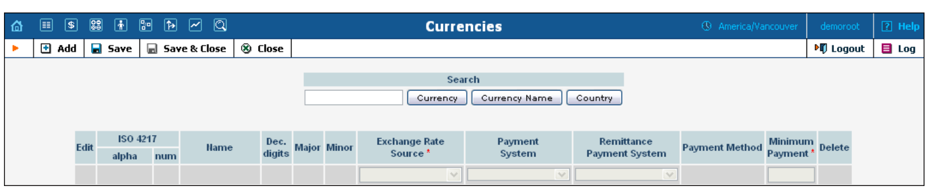
Service		based on the number of messages sent.
Quantity Based	Q	Generic quantity-based service type; can be used to apply charges for any service use expressible in numerical form (e.g. the number of pizzas ordered).
Session Based	S	Generic time-based service type; it can be used to apply charges for any service use based on the length of time the service was accessed.
Voice Calls	S	Rating telephony calls (incoming or outgoing) made via PortaSIP®, VoIP gateways or other equipment.
Wi-Fi	S	Wireless Internet access sessions, rated based on session duration.

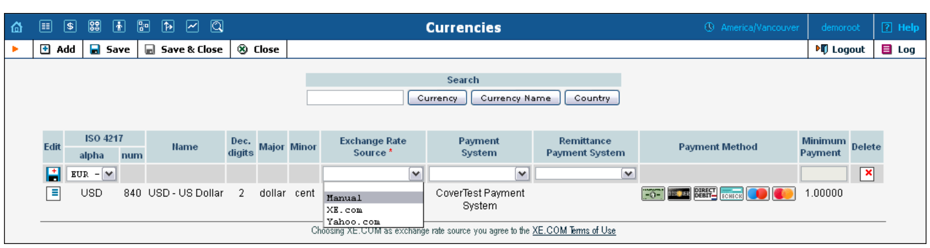
Currencies

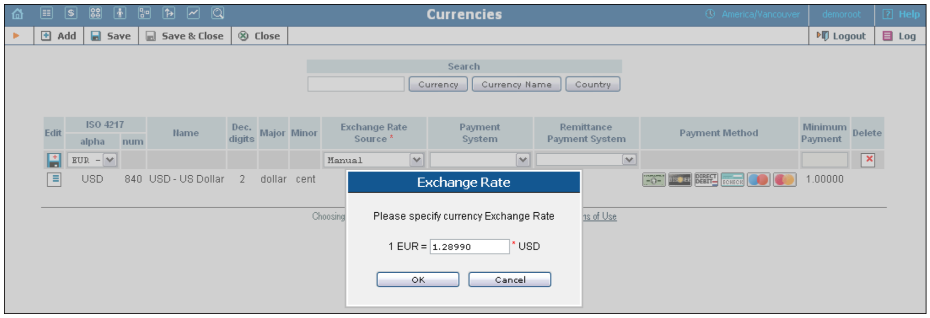
The **Currencies** page allows you to define a method for determining exchange rates between currencies. Supported methods include explicitly defined exchange rates or the use of external services such as yahoo.com or xe.com.

NOTE: Before relying on an external exchange rate service, read its terms of use thoroughly, as the rates it provides are usually given at a delay of at least fifteen minutes from the actual values.

To define an exchange rate source for a currency, first click **Add** on the toolbar.

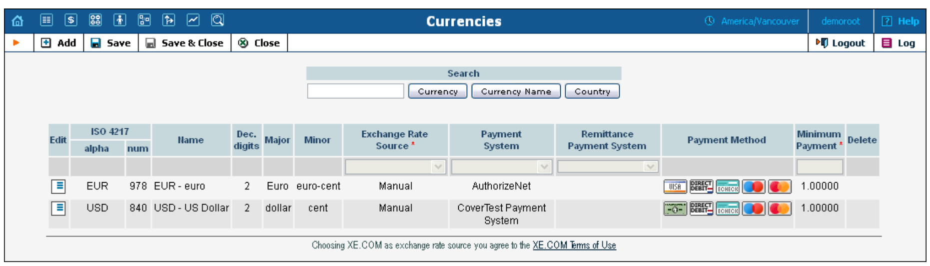






From the **Exchange Rate Source** list, select **Manual**, **yahoo.com**, or **xe.com**. (The specific exchange rate is defined in the dialog box when adding a new currency or changing the exchange rate source for an existing one.)

The next list shows all payment systems registered by the system's administrator. Choose one which will be responsible for all payments in this currency using the payment methods chosen for it. If this is not required, select an empty value. It is possible to add multiple combinations of the same currency with different payment systems; in this case, all of them will use the same exchange rate source.



Please note that it is not allowed to have multiple payment systems assigned to the same currency using the same payment method. Because of charges for the use of online payment systems, it is recommended that a non-zero value be entered in the **Minimum Payment** field.

Column	Description
ISO 4217	
alpha	Official three-letter currency code (e.g. USD).
Num	Numeric currency code according to ISO standard.
Name	Commonly used name of the currency.
Dec. digits	Maximum number of decimal places allowed by the currency, e.g. for US dollars or euros it will be 2, since the smallest unit is one cent (0.01), while for yen it will be 0, because an amount in yens can only be a whole integer.
Major	The main currency unit, e.g. dollar.

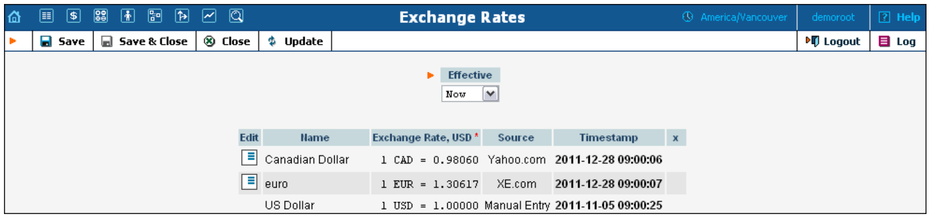
Minor	The lesser currency unit (if applicable), e.g. cent.
Exchange Rate Source	Defines the method of entering the exchange rate for this currency: updated either manually by an administrator, or by PortaBilling® from exchange rate sites such as xe.com or yahoo.com. For an existing row in the table, click on the underlined xe.com or yahoo.com line in a column to immediately fetch the current exchange rate.
Payment System	Selects an online payment processor to process payments in this currency.
Remittance Payment System	Defines a payment remittance system. Select the corresponding payment remittance system to allow your customers who maintain their balances in this currency to transfer funds from their accounts in PortaSwitch to a mobile phone's balance in another country. Note that one currency entry can be assigned to a payment or remittance system or to neither of those options.
Payment Method	Read-only column; lists all available payment methods (e.g. VISA) for the selected payment system.
Minimum Payment	The smallest allowed amount for an online payment (in the corresponding currency), in order to prevent service abuse.

Select **Save** or click the **Save** icon in the **Edit** field to make your changes take effect.

The ISO 4217 currency code is normally composed of a country's two-character ISO 3166 country code plus an extra character denoting the currency unit. For example, the code for Canadian Dollars is simply Canada's two-character ISO 3166 code ("CA") plus a one-character currency designator ("D"). Currency unit names (major and minor) are not defined in ISO 4217, and are listed in the table only for user convenience. Visit BSI Currency Code Service (ISO 4217 Maintenance Agency) website **http://www.bsi-global.com/** for more information.

Exchange Rates

All exchange rates used within the system are listed. The **Effective** list allows you to define whether only current exchange rates (**Now**) or all exchange rates ever used (**->Now**) will be shown. The following information is provided in the exchange rate listing:



Field	Description
Edit	Click the **Edit** icon to modify the given exchange rate. Select **Save** or click the **Save** icon in the **Edit** field to make your changes take effect.
Name	The currency unit name (for example, "Canadian Dollar").
Exchange Rate	Currency exchange rate. Defines the number of units of the base currency equal to one unit of the foreign currency. (For example, with British Pounds as the foreign currency and U.S. Dollars as the base currency , the base currency units would be "1.5326" and the value of this column would be "1 GBP = 1.5326")
Source	Shows the exchange rate source for the given currency as defined on the **Currency** page.
Timestamp	The effective date for the given exchange rate. Newer exchange rates supersede older ones.

Click the **Edit** icon to modify an existing exchange rate. This will copy the content of the current row into the table header. The source will be changed to Manual. Enter the new exchange rate, then select either **Save Edit**, **Save** or **Save&Close** to save changes.

Customer Classes

A customer class is a definition of various properties (e.g. invoice terms) which can be easily applied to a large number of customers.

On the **Customer Class Management** page, you can view a list of all currently defined classes. This list provides the following information:

Column	Description
Name	Name of a specific customer class.
Currency	Currency that is used for a particular customer class.
Managed by	• **Administrator only** (default) means that this class will be used for your direct customers, and is accessible only to your administrators. • Select a PortaBilling® reseller to assign this class for use by a particular reseller.
Archive xDRs	Defines whether the statistics generation is enabled for this customer class.
Invoices	Defines whether the invoice generation is enabled for this customer class.
Taxation	The taxation method used to calculate taxes for this customer class.
Description	A logical description of this customer class.

Add / Edit Customer Class

Customer classes allow you to define a set of parameters to be shared among a certain category of customers. For example, you can create two separate classes – one for your retail customers and the other for your business customers, plus define the relevant parameters for each class. After that, you only need to assign the required customer class to all customers of a given category to ensure that all of them have the same parameters (such as grace period, invoice template, taxation, notification list, etc.).

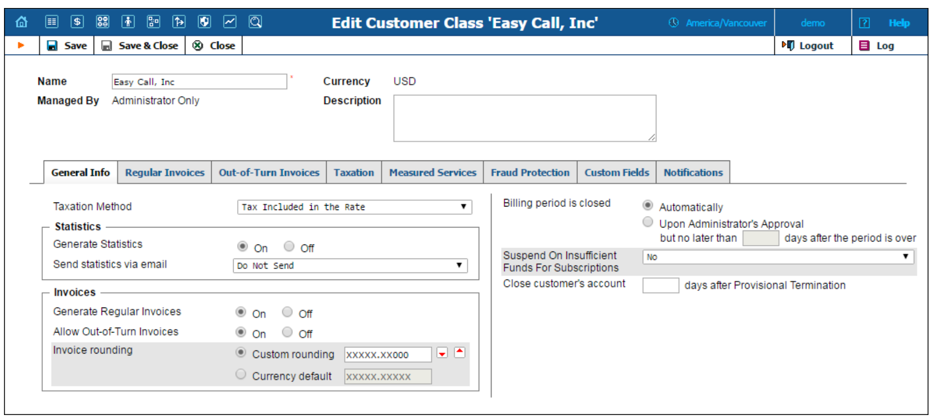
The **Add Customer Class** page allows you to define a new customer class within PortaBilling®.

The following parameters are available:

Field	Description
Name	Name of the customer class.
Currency	Select the currency for this customer class. Note that a customer class with currency can be assigned only to those customers that are charged in the same currency as the currency of the customer class. Leave this option empty if you are going to assign this customer class to customers with different currencies. **NOTE:** Once saved, the currency cannot be changed.

Managed by	Define whether the customer class is intended to be used by a reseller. • Select **Administrator only** if this class will be assigned to your direct customers, resellers, etc. and only users of the admin interface will have access to it. • Select a particular reseller that can have access to this customer class on the reseller self-care interface. This customer class will be used only for this reseller's subentities (customers, subresellers). Admin interface users will be able to view and edit this customer class as well, but won't be able to assign it to anyone.
Description	Type an informative and helpful description of this customer class.

General Info tab



Field	Description
Taxation Method	• Select **Taxes included in the rate** if rates that will be used to charge customers of this class incorporate the applicable taxes. • Select **EZTax (US, Canada)** to use the external taxation module from EZtax, Inc. • Select **SureTax (US, Canada)** to use the corresponding external taxation module. • Select **Fixed VAT Rate** to add a certain percentage of value-added tax to the charges. • Select **Custom taxation** to add a certain percentage of tax to the charges. This taxation method is similar to the Fixed VAT Rate but allows the application of some custom named taxes. • Select **GST (Malaysia)** to use the

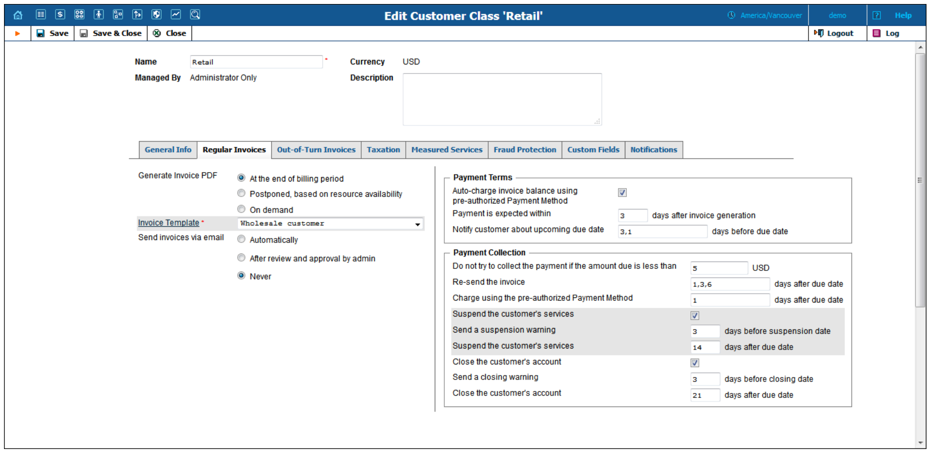
	PortaBilling® internal taxation plug-in that handles the Malaysian goods and services tax. For more information about taxation methods please refer to the *Processing Taxes* section in the **PortaBilling Administrator Guide**.
Statistics	
Generate Statistics	• **On** – Select this option to *enable* statistics calculations for all customers that belong to this customer class. • **Off** – Select this option to *disable* statistics calculations for all customers that belong to this customer class.
Send statistics via email	This option is available only when statistics generation is enabled for the customer class (**Statistics Generation** is set to **On**). It defines what kind of xDR statistics should be delivered to the customer by email: • **Full Statistics** – Send a .csv file with a complete list of xDRs. • **Summary Only** – Do not send a full list of xDRs, only a brief summary. • **Do Not Send** – This option prevents the delivery of event statistics to the customer via email. For more details, see the *Additional Info tab* subsection of the *Add / Edit Customer* section in this guide.
Invoices	
Generate Regular Invoices	This option is available only when **Statistics Generation** is set to **On**. Define whether to generate regular invoices for the customers that belong to this customer class: • **On** – Select this option to *enable* the generation of regular invoices. • **Off** – Select this option to *disable* the generation of regular invoices.

Separate Invoice for Recurring Fees	Prior to enabling this option, please refer to the *Auto-charging for subscriptions and service usage balance* section of the **PortaBilling Administrator** guide for details. Enable this option to generate an additional out-of-turn invoice that will only cover subscription charges and taxes calculated for these recurring charges. The out-of-turn invoice is then automatically paid by the customer's credit card. Note that an out-of-turn invoice can only be paid with a credit card; it cannot be paid manually via the web interface. Therefore, make sure that the **Auto-charge invoice balance to using pre-authorized Payment Method** option for the customer class is also enabled.
Allow Out-of-Turn Invoices	Define whether to generate out-of-turn invoices for the customers that belong to this customer class: • **On** – Select this option to *enable* the generation of out-of-turn invoices. • **Off** – Select this option to *disable* the generation of out-of-turn invoices.
Invoice rounding	This is a pattern that defines how the rounding up of the invoice total works. This pattern takes the form of XXXXX.XX000. An X (to the left) means that the digit(s) in this position remain unchanged, while a 0 (to the right) means that this position is rounded up. For example, XXXXX.XX000 means that the amount is rounded up two decimal places, so that 1.2345 becomes 1.24. Note that rounding off is always done upwards. For your convenience, invoice rounding can be specified as: • **Custom rounding** – With this option selected you can specify your own rounding up pattern by changing X to 0 or 5 (e.g. XXXXX.XX500). • **Currency default** – This is the pre-defined rounding up pattern for the currency, selected for the customer class.
Other	

Billing period is closed	Define whether a billing period should automatically be closed or only after an administrator's approval. • **Automatically** – Select this option to automatically close a billing period at the end of the billing cycle and immediately generate the customer's invoice. • **Upon Administrator's Approval** – Select this option to close a billing period only after an administrator's approval. Customer balance adjustments can be made during the time pending for an administrator to approve it. These adjustments will be included in the still-open billing period and on the customer's current invoice. ○ **but no later than … days after the period is over –** Type how many days PortaBilling® waits for the administrator's approval before closing a billing period.
Suspend On Insufficient Funds For Subscriptions	This option allows you to suspend all customers that belong to this customer class when their balance or available funds are insufficient to cover subscription charges of subscriptions assigned to them directly. • **Yes** – Customers who have insufficient available funds are automatically suspended. When they are suspended, they no longer receive the service and therefore no subscription charges are generated. As soon as funds become available, the service is resumed and new charges are generated. • **No** – The subscription's full amount will be charged regardless of the current balance status. It may happen that a customer's balance exceeds the credit limit or the amount of available funds (in this case the negative value of available funds appears).
Close customer's account … days after Provisional Termination	Type how many days after provisional termination passes until the customer's account will be permanently closed (if the administrator does not manually restore this customer within this period).

Regular Invoices tab

This tab is available when regular invoice generation is enabled for the customer class (the **Generate Regular Invoices** option on the **General Info** tab is set to **On**).



Field	Description
Generate Invoice PDF	• **At the end of the billing period** – With this option enabled, PortaBilling® processes the customer's xDRs, applies charges (e.g. subscriptions, fees, etc.), creates a regular invoice and generates a .pdf file. XDR processing for the next customer only starts once the .pdf file for the previous customer has been generated. Note that this is the default option. • **Postponed, based on resource availability** –With this option enabled, PortaBilling® creates a regular invoice and charges a customer's pre-authorized payment method immediately. PortaBilling® begins to generate the .pdf files only once the calculations related to the previous billing period (e.g. xDR processing, statistics) for all customers have been completed. This is a useful option for service providers who automatically charge customers' pre-authorized payment method. • **On demand** – With this option enabled, PortaBilling® makes all calculations for the customer, creates their regular invoices and saves them to a database. These invoices are then accessible via API. However, the .pdf file will not be generated unless explicitly

	requested. Note that at any time an administrator can initiate .pdf file invoice generation on the customer's page.
Invoice Template	Select one of the predefined invoice templates. For how to create an invoice template please refer to the *Templates* section of this guide. Click the **Invoice Template** link to review and edit the selected invoice template.
Send invoices via email	Define when to send regular invoices by email to a customer. • **Automatically** – Select this option to automatically send a .pdf copy of the regular invoice to a customer when a new invoice is created. • **After review and approval by admin** – Select this option to send a .pdf copy of the regular invoice to a customer only after an administrator has reviewed and approved the invoice. ○ **Hold for review for … days** – Type the number of days PortaBilling® will wait for an administrator to approve an invoice before sending the invoice to the customer. • **Never** – Select this option if you don't want to send a .pdf copy of the regular invoice to the customer.
Payment Terms	
Auto-charge invoice balance using pre-authorized Payment Method	Select this check box to automatically charge the customer's credit card for the full amount due when his billing period is closed; as a result, a regular invoice will be created with a zero amount due.
Payment is expected within … days after invoice generation	This option is available only when the **Auto-charge invoice balance using pre-authorized Payment Method** option is enabled. Type how many days after regular invoice generation a payment is expected.
Notify customer about upcoming due	This option is available only when the **Payment is expected within … days after invoice generation** option is not empty or 0.

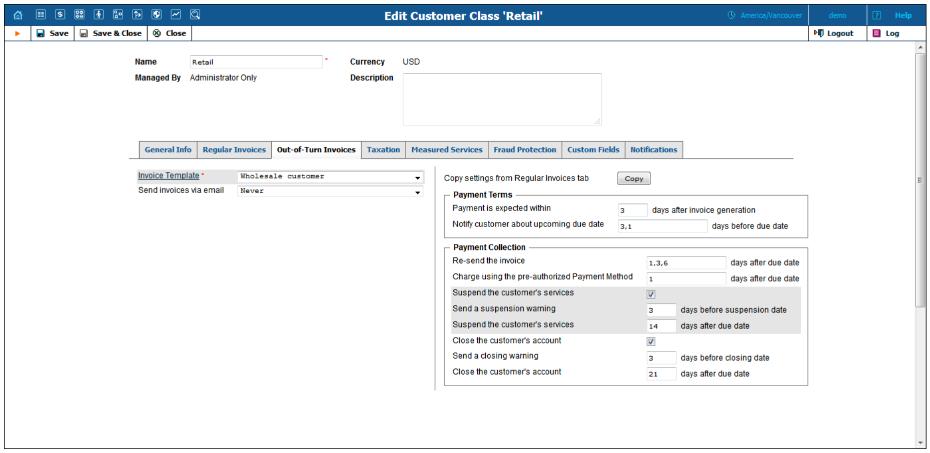
date … days before due date	Type how many days prior to the invoice due date a notification should be sent to a customer. Use comma to separate values. For instance, "14, 7, 3" means that the customer should receive a notification 14, 7 and 3 days before the due date. (Obviously, if the customer pays after the first notification, no further notifications will be sent). Leave this field empty to disable notifications completely.
Payment Collection	
Do not try to collect the payment if the amount due is less than	This option is available only when the currency for the customer class has been defined. Type the minimum charge threshold required for creating a regular invoice. If the amount due on a regular invoice is lower than the specified threshold, no payment is required immediately and notifications concerning the invoice will not be sent yet. If no payment is made, the balance is applied to the next invoice(s) until the amount due on the new invoice crosses the threshold. The status of such an invoice on the web will be reflected as "Do not pay." For example, if the collection threshold is $300: • For invoice #1 with charges for the first billing period equal to $100 and an invoice total of $100, the invoice status is "Do not pay," no suspension warnings. • For invoice #2 with charges for the second billing period equal to $100 and an invoice total of $200, the invoice status is "Do not pay," no suspension warnings. • For invoice #3 with charges for the third billing period equal to $100 and an invoice total of $300, the threshold is reached and notification concerning invoice #3 includes the amount to pay equal to $300. • If the customer pays $100, then invoice #1 is paid. The next notification about invoice #3 includes the amount to pay (equal to $200). If

	the customer makes a $50 payment, then invoice #2 is partially paid. • For Invoice #4 including charges for the fourth billing period (equal to $100), with $150 paid and an invoice total of $250, the status of the invoice is "Do not pay," no suspension warnings. But invoice #3 must still be paid, with an amount due equal to $150 and suspension warnings are sent to the customer.
Re-send the invoice … days after due date	Type how many days after the invoice due date a notification regarding the overdue regular invoice should be sent. Use comma to separate values. For instance, "0, 7, 14" means that the customer will receive a notification on the due date and then 1 and 2 weeks later. (Obviously, if the customer pays after the first notification, no further notifications will be sent). Leave this field empty to disable notifications completely.
Charge using pre-authorized Payment Method … days after due date	Type how many days after the invoice due date an attempt should be made to charge a customer's credit card for the regular invoice amount due. Use comma to separate values. For instance, "0, 3, 10" means that PortaBilling® will attempt to charge the customer's credit card on file on the due date and then 3 and 10 days later. (Obviously, if one of the charge attempts succeeds, no further attempts will be made). Leave this field empty to disable re-collect attempts completely.
Suspend the customer's services	Select this option if you want to suspend a customer's services if a regular invoice is unpaid.
Send a suspension warning … days before suspension date	This option is available only when **Suspend customer's services … days after due date** is not empty or 0. Type how many days before the suspension date (or before the customer is automatically suspended for the second time if the suspension was delayed by the administrator) a notification will be sent to the customer.

	Note that the number of days specified here must be less than or equal to the number of days specified in **Suspend customer's services … days after due date**. Leave this field empty to disable such notification.
Suspend the customer's services … days after due date	This option is available only when you enable the **Suspend the customer's services** option. Type how many days after the due date the suspension of customer's services will take place if the regular invoice is still unpaid. Note that the number of days specified here must be *greater* or equal to the number of days specified in **Send a suspension warning … days before suspension date**.
Close the customer's account	Select this option if you want to close a customer's account if a regular invoice is unpaid.
Send a closing warning … days before closing date	This option is available only when **Close the customer's account** … days after due date is not empty or 0. Type how many days before the closing date a notification will be sent to the customer. Note that the number of days specified here must be less than or equal to the number of days specified in **Close customer's account … days after due date**. Leave this field empty to disable this notification.
Close the customer's account … days after due date	This option is available only when you enable the **Close the customer's account** option. Type how many days after the due date the customer's account will be closed if the regular invoice is still unpaid. Note that the number of days specified here must be *greater* than or equal to the number of days specified in **Send a closing warning … days before closing date** and **Send a suspension warning … days before suspension date** .

Out-of-Turn Invoices tab

This tab is available when generation of out-of-turn invoices is enabled for the customer class (the **Allow Out-of-Turn Invoices** option on the **General Info** tab is set to **On**).



Field	Description
Invoice Template	Select one of the predefined invoice templates. For information on how to create an invoice template, please refer to the *Templates* section of this guide. Click the **Invoice Template** link to review and edit the selected invoice template.
Send invoices via email	Define when to send out-of-turn invoices by email to a customer. • **Automatically** – Select this option to automatically send a .pdf copy of the out-of-turn invoice to a customer when a new invoice is created. • **Never** – Select this option if you don't want to send a .pdf copy of the out-of-turn invoice to the customer.
Copy settings from Regular Invoices tab	Click the **Copy** button to copy all of the setting for payment terms and payment collection from the regular invoices.
Payment Terms	
Payment is expected within … days after invoice generation	Type how many days after out-of-turn invoice generation a payment is expected.
Notify customer about	This option is available only when the **Payment is expected within … days after invoice generation**

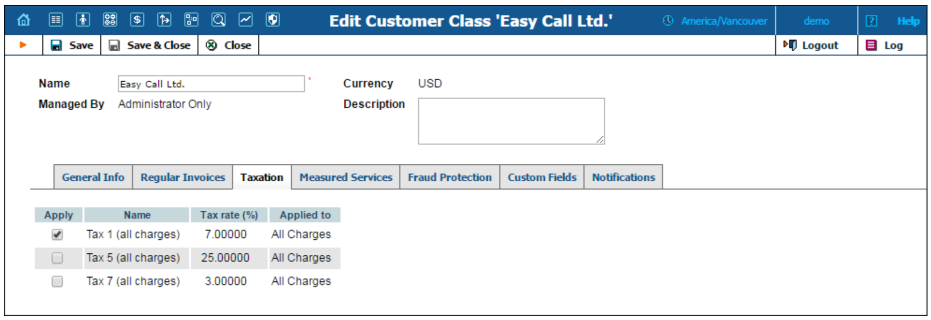
upcoming due date … days before due date	option is not empty or 0. Type how many days prior to the invoice due date a notification should be sent to a customer. Use comma to separate values. For instance, "14, 7, 3" means that the customer should receive a notification 14, 7 and 3 days before the due date. (Obviously, if the customer pays after the first notification, no further notifications will be sent). Leave this field empty to disable notifications completely.
Payment Collection	
Re-send the invoice … days after due date	Type how many days after the invoice due date a notification regarding the overdue out-of-turn invoice should be sent. Use comma to separate values. For instance, "0, 7, 14" means that the customer will receive a notification on the due date and then 1 and 2 weeks later. (Obviously, if the customer pays after the first notification, no further notifications will be sent). Leave this field empty to disable notifications completely.
Charge using pre-authorized Payment Method … days after due date	Type how many days after the invoice due date an attempt should be made to charge a customer's credit card or other configured payment method for the out-of-turn invoice amount due. Use comma to separate values. For instance, "0, 3, 10" means that PortaBilling® will attempt to charge the customer's credit card on file on the due date and then 3 and 10 days later. (Obviously, if one of the charge attempts succeeds, no further attempts will be made). Leave this field empty to disable re-collect attempts completely.
Suspend the customer's services	Select this option if you want to suspend a customer's services if an out-of-turn invoice is unpaid.
Send a suspension	This option is available only when **Suspend the customer's services … days after due date** option

warning … days before suspension date	is not empty or 0. Type how many days before the suspension date (or before the customer is automatically suspended for the second time if the suspension was delayed by the administrator) a notification will be sent to the customer. Leave this field empty to disable such notification.
Suspend the customer's services … days after due date	This option is available only when you enable the **Suspend the customer's services** option. Type how many days after the due date the suspension of customer's services will take place if the out-of-turn invoice is still unpaid. Note that the number of days specified here must be *greater* or equal to the number of days specified in **Send a suspension warning … days before suspension date**.
Close the customer's account	Select this option if you want to close a customer's account if an out-of-turn invoice is unpaid.
Send a closing warning … days before closing date	This option is available only when the **Close the customer's account … days after due date** option is not empty or 0. Type how many days before the closing date a notification will be sent to the customer. Leave this field empty to disable this notification.
Close the customer's account … days after due date	This option is available only when you enable the **Close the customer's account** option. Type how many days after the due date the customer's account will be closed if the out-of-turn invoice is still unpaid. Note that the number of days specified here must be *greater* than or equal to the number of days specified in **Send a closing warning … days before closing date** and **Send a suspension warning … days before suspension date** .

Taxation tab

On this tab you can configure the taxes to be applied to the customers of this class. The content of this tab depends on the taxation method selected for this customer class on the **General Info** tab.

Tax Included inthe Rate



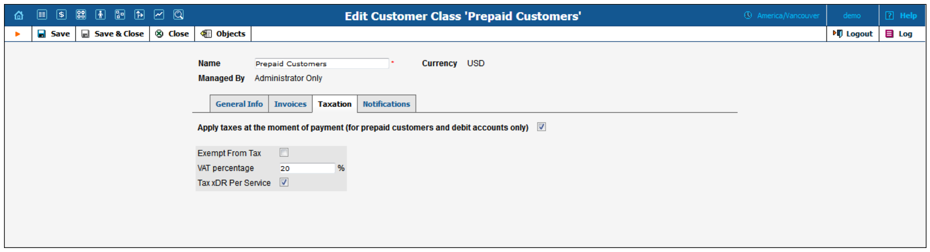
When you enter rates into PortaBilling®, you can define them in such a way that they incorporate the necessary charges and applicable taxes. For example, if your price is $0.10 per minute and there is 7% tax, the rate will be entered as $0.107 ($0.10 + 7%). When the invoice is created, the tax information must be properly presented to the customer. Since the total amount of the invoice and the tax rate are known, the actual amount of tax and the pre-tax amount can be “back calculated”.

Select the **Apply** check box next to the custom taxes you want to include in the rates.

For information on how to define custom taxes that are listed when this taxation method is selected, please see the **Custom Taxation** section of this guide.

Note: The **Tax Included in the Rate** taxation method can only include custom taxes applied to all charges.

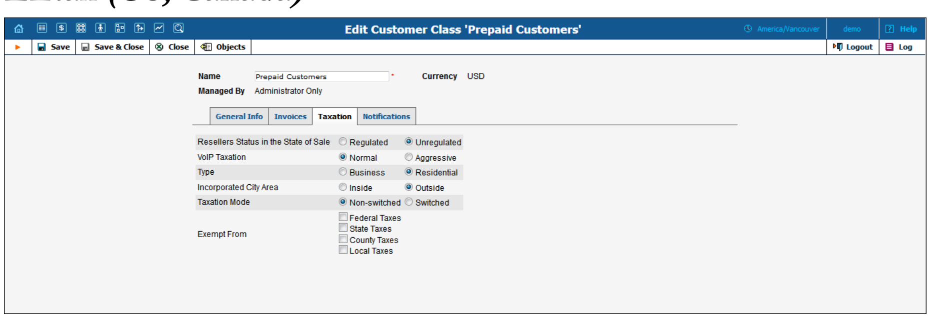
Fixed VAT Rate



Fixed VAT rate is a taxation system that is used worldwide. The **Fixed VAT Rate** allows you to add a certain percentage of value-added tax to the charges.

Field	Description
Apply taxes at the moment of the payment (prepaid customers and debit accounts only)	With this option selected, the taxes for services will be calculated and applied to prepaid customers based on the tax rate and the top up amount. The total sum of payment will be increased by the calculated tax amount (e.g. a user enters a $10 payment to top up the balance. The system calculates the taxes and adds them to the entered amount, increasing the sum total. The user is provided with full payment information: the entered amount, the tax amount and the sum total.) Upon payment processing, the customer's balance is increased by the actual amount ($10), excluding taxes.
Exempt from Tax	The customers from this customer class are exempt from tax charges. This field deactivates all other fields.
VAT percentage	This shows the value-added tax in percent. The numerical value ranges from 1 to 100.
Tax xDR per Service	This allows you to calculate taxes per service (and respectively show them in the invoices).

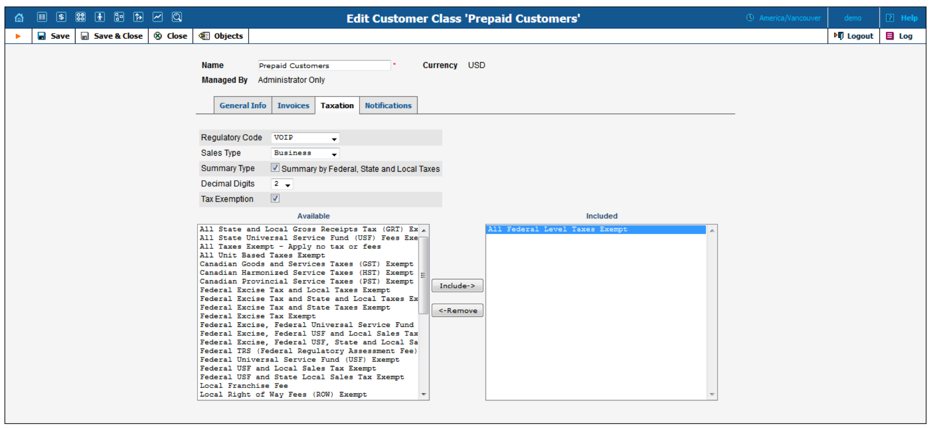
EZtax (US, Canada)



When the **EZtax (US, Canada)** taxation method is selected, the following will be done for all customers in this assigned customer class:

1. All accumulated transactions (xDRs, refunds, etc.) will be sent to EZtax® (formerly known as BillSoft®) suite along with the customer's information (used to determine tax jurisdiction).
2. EZtax will calculate all applicable taxes and send the information to PortaBilling® so that it can be inserted as extra xDRs for the specific customer (each type of tax will produce a separate record; thus if both state and city taxes are applicable, there will be two separate transactions).
3. PortaBilling® will then proceed to generate the invoice as usual.

SureTax (US, Canada)

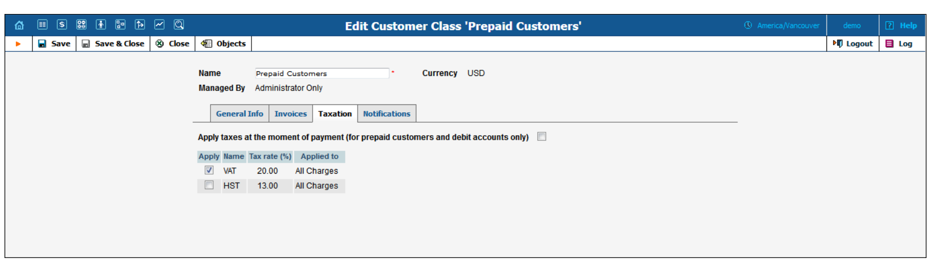


SureTax is another taxation system that allows you to accurately and easily calculate taxes for your US and Canada customers. You can use this taxation method to tax voice call services and subscriptions.

When you select SureTax as a taxation plug-in, you can define such parameters as:

- type of customer
- summary type
- type of tax exemption

Custom Taxation



This taxation plug-in is similar to VAT, but allows you to specify more than one tax and rate. When a check box is selected, the customer in this assigned customer class is charged a corresponding tax.

For how to define custom taxes that are listed when this taxation method is selected please see the **Custom Taxation** section of this guide.

Field	Description
Apply taxes at the moment of the payment (prepaid Customers only)	With this option selected, the taxes for services will be calculated and applied to prepaid customers based on the tax rate and the top up amount. The total sum of payment will be increased by the calculated tax amount (e.g. a user enters a $10 payment to top up the balance. The system calculates the taxes and adds them to the entered amount, increasing the sum total. The user is provided with full payment information: the entered amount, the tax amount and the sum total.) Upon payment processing, the customer's balance is increased by the actual amount ($10), excluding taxes. Note that only those custom taxes that apply to **All Charges** will be calculated at the moment of payment.

GST (Malaysia)

The **Taxation** tab is not available when this taxation method is selected.

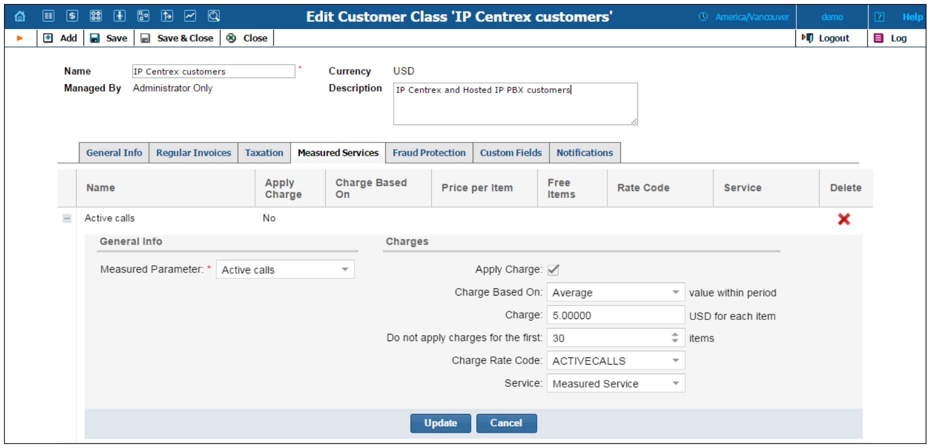
Measured Services tab

On this tab you can configure which allocated resources will be measured and what charges will be applied for their consumption.
All resources consumed have their own metrics.

How to add a metric

To add a metric, click the **Add** icon and select which parameter will be measured from the **Measured Parameter** list. To charge your customers for this resource consumption, select the **Apply Charge** check box and specify the charges and charging criteria.

NOTE: Each metric can only be added once per customer class.



The following parameters are available:

Field	Description
Measured Parameter	Specify which consumed resource will be measured and aggregated. The available options are: • **Active calls** – The *actual* number of connected calls at a specific moment in time. • **Concurrent calls** – The number of simultaneous outgoing calls allowed for a particular customer. This amount is defined for the customer or customer site by the administrator (in the **Limit Simultaneous Calls** service feature); • **PBX Extensions** – The number of extensions a customer defines within their IP Centrex environment.
Apply Charge	Select this check box to apply charges to customers for consumed resources. If left clear, measured resources data will be used for statistics purposes only.
Charge Based On Value Within Period	Select which criteria will form the basis for charges to be calculated and applied to customers. The available options are: • **Average** – At the end of a billing period the system collects aggregated measurements and calculates their average. It is then used for calculating a customer's charges. • **Maximum** – At the end of a billing period the system collects aggregated measurements,

	extracts their maximum value and uses that for assessing a customer's charges. • **Minimum** – At the end of a billing period the system collects aggregated measurements, extracts their minimum value and uses that for calculating a customer's charges.
Charge for Each Item	Specify the price for each consumed unit of resources.
Do Not Apply Charges for the First Items	Specify the amount of consumed resources that the customer will not be charged for (as a rule this is included in the customer's service bundle).
Charge Rate Code	Select which rate code is to be used to calculate charges for resources consumed. This rate code is shown in the customer's xDRs and invoices.
Service	The service type used to calculate charges for resources consumed. This service type is shown in the customer's xDRs and invoices.

Fraud Protection

On the **Fraud Protection** tab you can choose fraud protection tools to be applied to the customers of this class.

Field	Description
Spending Plan	This tool limits the amount of money that a customer can spend per day on services. Choose a spending plan from the list.
Fraud Traffic Profile	This tool allows service providers to monitor traffic sent through their networks and receive alerts whenever a fraudulent usage pattern is detected. Choose a fraud traffic profile from the list.

NOTE: Spending plans can only be assigned to customer classes with a defined currency.

Custom Fields

On this tab you can define a set of custom fields that will appear on the pages of the customers that belong to this class and their accounts. Note that custom fields must be first created on the **Web Interface** page.

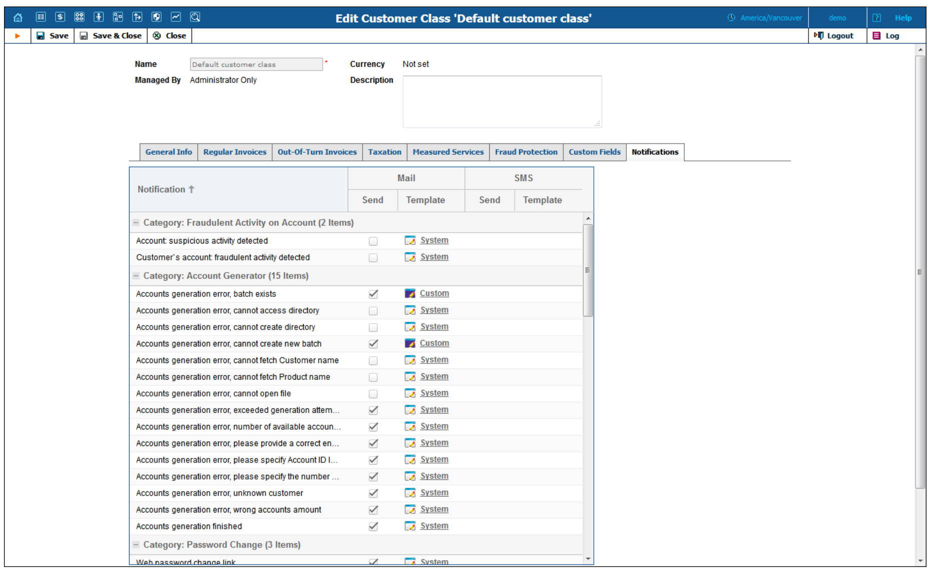
Field	Description
Object	Defines whether the custom field applies to the customer or the account.
Name	The descriptive name of the field. This is the name that will be displayed next to the custom field on the **Edit Customer** or **Account Info** pages.
Type	The type of the custom field: • **Text** – Basic single-line input field. • **Number** – Input field used to store and validate numerical values. • **Date** – Field type used to store dates. • **Date & Time** – Custom field that stores dates with a time component. • **List** – Single select list with a configurable set of options.
Properties	The properties of the field that define its form, appearance, or value. These properties are specific to the field type.
Default	The default value of the custom field.
Mandatory	Defines whether this custom field is mandatory.
Visible to the End User	Custom fields may store a privileged additional information that is required for support and troubleshooting and must be shown on the web interface without the risk of exposing it to end users. However, such information as customer's bonus, driving license ID, etc. can be useful for both an administrator and end user. This fields shows whether end users are enabled to see and edit this custom field on their self-care interfaces.

Note that an administrator can add custom fields to the customer class managed by a reseller. In this case, however, only fields created via the admin interface will appear on this tab.

Notifications tab

Notifications are the text messages (email or SMS) that are sent from PortaBilling® to the users: about accounts generation, custom reports, DID upload, etc.

The **Notifications** tab allows you to manage notification templates and define which email and / or SMS notifications to send to your customers.



For more information about notification templates, please refer to the *Notification Templates* and *APPENDIX D. Available Notification Templates* sections of the **PortaBilling Templates Guide**.

Field	Description
Notification	The notification name.
Mail	
Send	Select this check box to send the corresponding notification to customers via email.
Template	This shows whether the notification template has been modified: • **System** – The default template is used. • **Custom** – The template has been modified. Note that a template becomes a **Custom** template once you save it after editing it,

	regardless of whether it has actually been modified or not.
SMS	
Send	Select this check box to send the corresponding notification to customers via SMS.
Template	This shows whether the notification template has been modified: • **System** – The default template is used. • **Custom** – The template has been modified. Note that a template becomes a **Custom** template once you save it after editing it, regardless of whether it has actually been modified or not.

How to edit a notification template

To edit an email notification template, click the **Custom** / **System** link in the **Mail** column and specify all the required parameters on the **Edit Email Template** page.

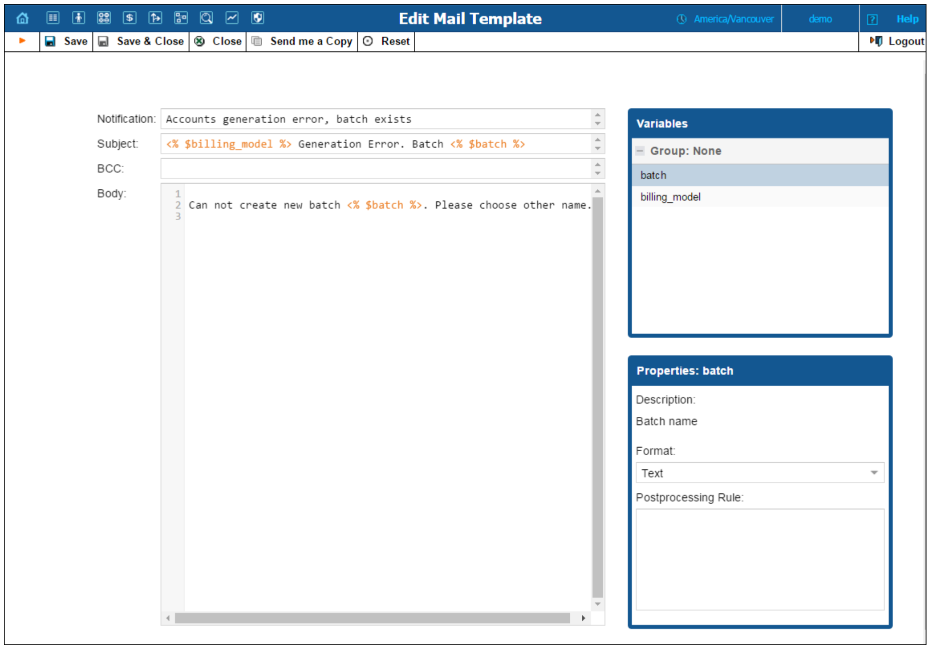
To edit the SMS notification template, click the **Custom** / **System** link in the **SMS** column and specify all the required parameters on the **Edit SMS Template** page.

Note that for a customer class being created, **Custom** / **System** links are unavailable. You can only edit a notification template for a customer class that has already been created.

Edit Email Template / Edit SMS Template

The page title reflects the type of template being edited and can be either **Edit Email Template** or **Edit SMS Template**.

This page allows you to modify the subject, body, format and post processing rule for variables.



Field	Description
Notification	The notification name. This is a read-only field.
Editing Area	
Subject	The subject as it appears in an email to a customer.
BCC	The area to put email addresses of persons who want to receive a copy of this notification. You can specify more than one valid email address; make sure you separate them with commas.
Body	The content of the message.
Variables	
	A list of available variables for this template. This list cannot be modified. Click on the variable to see its properties in the **Properties** area.
Properties	
Description	The description of the selected variable.
Format	The format of the variable. • Select one of the predefined formats from the list. • Select **Other** to define your own format for the variable.
Rule	This option is only available when **Other** is selected for the **Format**.

	Type the definition of the required format for the variable.
Postprocessing Rule	The post processing rule for variables that can be specified using regular expressions in Perl.

How to reset a notification template

To reset a notification template to its default settings, click the **Reset** button on the toolbar.

How to ensure that a notification template is configured correctly

To check that the template is configured as required, an administrator can send a test copy of the notification to their own email address (the email address configured in the user settings).

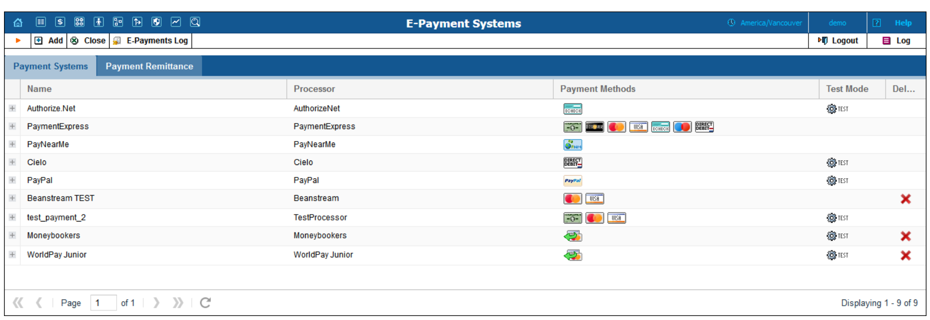
To receive a test copy of the notification, click the **Send me a Copy** button on the toolbar.

Payments

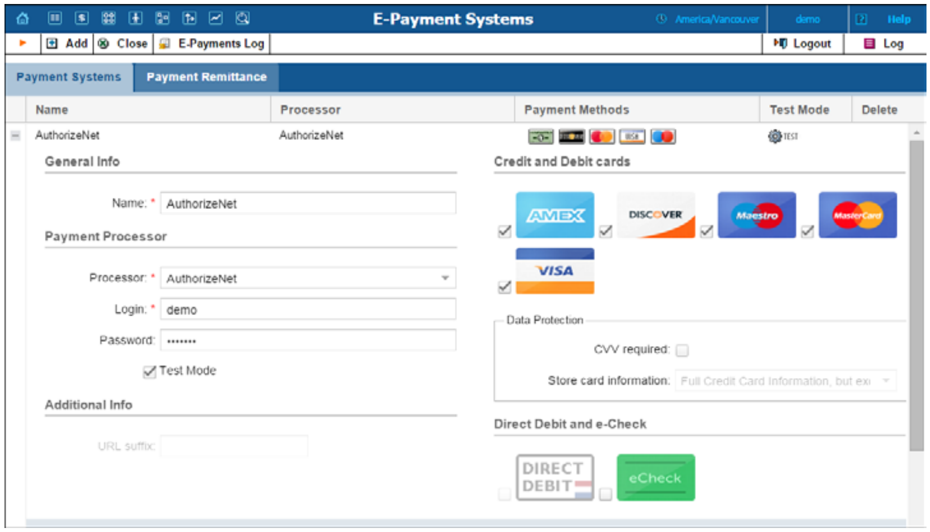
E-Payment Systems

Payment Systems tab

When you open this tab, you see a list of payment systems that contains only the basic details – the name of the payment system, processor, and payment methods.



How to see full payment system information



To see full details, click the plus sign next to the payment processor name. In the expanded area you will see the payment system information organized in sections by type of preference. Click the minus sign to collapse the expanded area into a single line again.

How to modify payment system information

To modify payment system information, type or select different values for the fields and options in the expanded area. Two buttons appear at the bottom of the expanded area: **Update** and **Reject changes**. Click **Update** to save changes. Click **Reject changes** to return to previously saved information.

How to add a new payment system

To add a new payment system, click **Add** on the toolbar and specify all required information in the dialog box. Click **Add** at the bottom of the dialog box to save changes. Click **Cancel** to discard changes.

After adding the payment system, it is necessary to assign it to one or several currencies in which payments will be processed using the chosen payment methods (see the *Currencies* section). Only after doing so can this payment system be used for payments by customers and accounts defined in these currencies.

Please note that several (more than one) systems may not be assigned to the same currency using the same allowed payment method, i.e. you cannot have two systems with VISA as the allowed payment method assigned to the currency USD. However, you can assign both a system with VISA as the allowed method and another with MasterCard as the allowed method to the currency USD. Similarly, you can assign one system with VISA to the currency USD and another with the same method to the currency EUR.

How to remove a payment system

To remove a payment system, click the **Delete** button.

How to check e-payments logs

To check information about credit card or direct debit charge attempts for the whole environment, click **E-Payments Log** on the toolbar. Please see the *E-Payments Log* section for further details.

Field	Description
General Info	
Name	A descriptive name of the payment system. This field is mandatory and may contain 1–64 characters.
Payment Processor	
Processor	A real-time transaction processing system that functions as a payment service and uses a secure transaction server on the Internet. This field is mandatory.
Login	A username, a login ID that uniquely identifies your payment processor account. This field is mandatory and may contain 4–64 characters.
Password	A password for your payment processor account. This field may contain 4–64 characters.
Test Mode	This mode allows you test the payment processor settings without processing live card data. We recommend using this mode when you configure a new payment system or change the settings of an already configured one.
Additional Info	
URL suffix	This option is applicable for PayPal configuration and permits the PayPal payment processor to function in multiple virtual environments. This field may contain 32 characters.
Credit and Debit cards	
	Select one or more credit or debit cards for the payment system to process. Credit and Debit cards:

	• American Express • Discover • Switch / Maestro • MasterCard • VISA Note that different payment processors may support different payment methods. Please refer to the corresponding payment processor documentation for information about supported payment methods.
Data Protection	This section is available only for online payment processors
CVV Required	When a service provider's merchant account, which is interconnected with the selected payment processor, is configured to check card security codes, it must be indicated in PortaBilling®. Select this check box if the card security code is required for payments via this processor. **NOTE:** When for each transaction, a card security code (CSC, CVV, etc.) is required, the payment processor rejects pre-configured auto payments since PortaSwitch® does not store such codes and so they are not automatically transmitted to the payment processor. Consequently repeated unsuccessful payment attempts create an additional load on the system. To avoid this, when the **CVV Required** option is selected, the system discards all previously configured auto payments via this payment processor.
Store card information	Select which types of credit card information PortaSwitch® must save. The following options are available: • **Full Credit Card Information Except CVV** – By default, PortaSwitch® saves full credit card information (except the card security code which cannot be saved for security reasons). • **Token only** – You can select to store tokens only after you have selected the **CVV Required** option. In this case, PortaSwitch® saves only the token obtained from the payment processor. For token-based payments, a card

	security code is entered which is passed to the payment processor one time only with each new credit card's first transaction. After that, the payment processor issues a token for this card and subsequent transactions therefore do not require additional CVV verification. For more information about token-based payments please see the *Recurring Payments Without Storing Credit Card Info* paragraph in the **PortaBilling Administrator Guide**.
Direct Debit and eCheck	
	Select one or more payment methods for the payment system to process. Direct money withdrawal from a bank account: • E-check (direct debit from a bank account) • Direct Debit Note that different payment processors may support different payment methods. Please refer to the corresponding payment processor documentation for information about supported payment methods.

Supported payment processors

One or more payment systems may be utilized for electronic payments. In order to make use of these services, you must first register with one of the currently-supported payment processors.

NOTE: Supported means that a corresponding Business: OnlinePayment plug-in module is available at **www.cpan.org**. This does not guarantee that the module will support all the required features, and some extra work may be required to integrate it into the solution and perform testing. Please contact **support@portaone.com** for a current list of payment modules which have been thoroughly tested and work "out of the box", such as AuthorizeNet.

Name	Web Page	External	Token-based payments support
AuthorizeNet	**www.authorize.net**		Yes

Beanstream	www.beanstream.com		
Chase Paymentech	www.chasepaymentech.com		
Cielo	www.cielo.com.br		
eSELECTplus	www.moneris.com		
GlobalCollect	www.globalcollect.nl		
First Data Global Gateway Virtual Terminal (formerly known as LinkPoint)	www.firstdata.com		
Luottokunta	www.luottokunta.fi	Yes	
Moneybookers	www.moneybookers.com	Yes	
Netaxept	www.paynet.no		
NetaxeptBBS	www.betalingsterminal.no/Netthandel-forside/		
Ingenico Payment Services (formerly known as Ogone)	http://payment-services.ingenico.com		Yes
PayflowPro	www.verisign.com/products-services/payment-processing/online-payment/payflow-pro/		Yes
PaymentExpress	www.paymentexpress.com		Yes
PayNearMe	www.paynearme.com	Yes	
PayPal	www.paypal.com	Yes	
ProxyPay3	www.eurobank.gr		
SecureHosting	www.securehosting.com		Yes
SecurePay	www.securepay.com.au		
TripleDeal	www.docdatapayments.com		
WorldPay Invisible	www.worldpay.com		
WorldPay Junior	www.worldpay.com	Yes	

What is a payment processor?

A payment processor is a real-time transaction processing system that functions as a payment service using a secure transaction server on the Internet. Merchants with a valid merchant account at an acquiring bank ("payment system") can use this system to submit, authorize, capture and settle credit card or eCheck transactions without the need for a separate transaction terminal.

Payment system basics

This section is provided for information purposes only. The terms and conditions of your payment system are subject to agreement between you and your bank or merchant service provider, and should be consulted for specific information relating to your payment system.

A payment system is required to accept credit cards using the system. A payment system is a special account with a bank that is a member of the Visa and MasterCard associations (American Express may also be part of your payment system). Such a bank has been certified by the Visa and MasterCard associations and can provide you, as the merchant, with all the services related to your payment system.

You *must* have a credit card payment system in order to use a payment processor for credit card transaction processing. The payment processor system is separate from your payment system, but it may be purchased at the same time from the bank or merchant service provider which is creating your payment system.

The merchant service provider normally does the following:

- Assigns you a payment system number.
- Sets up your payment processor account.
- Assigns you a login ID and password for use with your payment processor account.
- Acts as your main point of contact for basic issues regarding your merchant and payment processor accounts.
- Enables you to add certain types of credit cards to your payment system.
- If the merchant service provider is also your payment processor reseller, it also activates the processing capability for these cards on your payment processor account.
- Deposits credit card funds to your account.

Your merchant service provider may also provide you with MID and TID numbers. The payment processor does not need these numbers, but some third-party solutions (such as certain Shopping Cart providers) may require them.

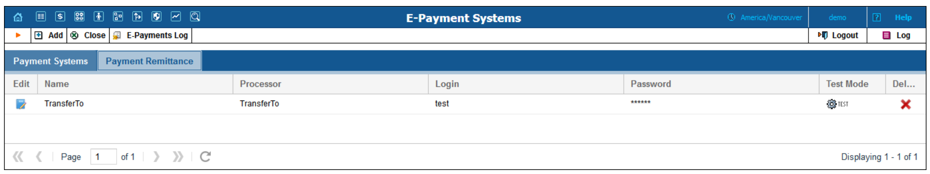
Once your payment system is set up and "live" on the credit card system, you can begin accepting credit cards from customers. It is your responsibility to configure the payment processor to meet your own needs, and to provide a hosting environment which is appropriate for the choices you have made within the payment processor.

Payment Remittance

Payment Remittance tab

On the **Payment Remittance** tab, you can enter information related to payment remittance systems that allows your customers to transfer funds to users of mobile operator services in different countries.

One or more payment remittance systems may be utilized to transfer funds. In order to make use of these services, you must first register with the currently-supported payment remittance processor TransferTo.



How to add a new remittance system

To add a new payment remittance system, click **Add** and enter the account name, login, password and processor in the edit row at the top of the listing.

Test Mode is a special mode of interaction with the system. It is useful during the initial setup phase, when a merchant may want to test its setup without processing live card data.

What is a remittance processor?

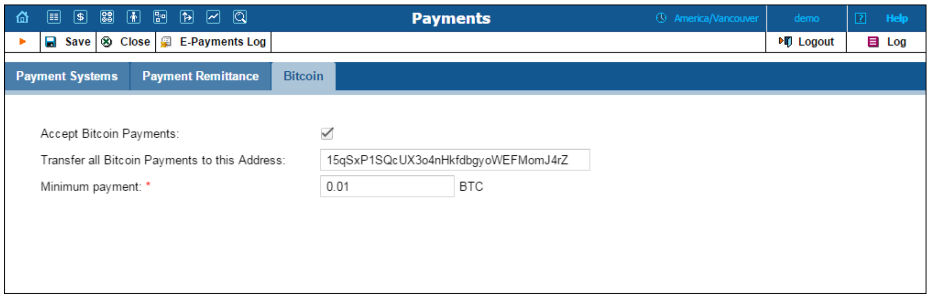
A remittance processor (such as TransferTo) is a transaction processing system that delivers international top-up services. You create an account with an online remittance processor, provide it with your company information and establish the method of transferring funds from you to it on a periodic basis. In return, you receive credentials (username, password, etc.) for initiating transactions via the remittance API. Now your application can connect to the API server and, upon providing valid authentication information, request that funds be transferred to a customer of a mobile carrier.

Bitcoins

Bitcoin tab

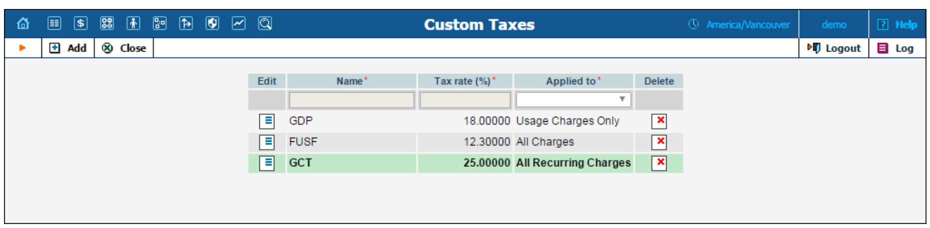
On the **Bitcoin** tab, you can enable Bitcoin payments. To do this, select the **Accept Bitcoin Payments** check box, type the address of a centralized Bitcoin wallet that will store all Bitcoins received and define the minimum payment.

NOTE: This tab is only available if the **Bitcoin** option is enabled on the Configuration server and **BTC** currency is added on the **Currencies** page.



Custom Taxes

On this page you can add new custom taxes or modify existent ones.



Field	Description
Name	The descriptive name of the tax in the system (will be present in xDRs and in taxation configuration for individual customer or customer class).
Tax rate (%)	A percentage rate value for this tax.
Applied To	This field shows which services this tax is applied to. Here select one of the available options: • **Usage Charges Only** – All charges except for subscriptions and credits / adjustments. • **All Charges** – Applied to all charges including subscriptions and credits / adjustments. • **All Recurring Charges** – Applied only to subscriptions.
Delete	Click this button to remove this custom tax from the system.

Click the **Edit** icon to edit a castom tax.

Note: You will not be able to change the **Applied to** option for the custom taxes included in the **Tax included in the Rate** taxation configuration for an individual customer or customer class.

4. Rating

Destinations

Destinations are a list of all the possible phone number prefixes in your system which will later be used for creating price lists (Tariffs). For your convenience, destinations are grouped in alphabetical order by country.

In the case of a non-telephony service (e.g. video-on-demand), the destinations define various service categories (e.g. VIDEO-NEWRELEASE and VIDEO-FOREIGN), and so a different rating may be defined. For some services (e.g. WiFi access) you would only need one destination for the service, since there is no further differentiation.

Destinations may be edited and if a destination is not being used in any of the tariffs it will have a **Delete** button. Of course, it is not necessary to include every destination in a given price list; only those prefixes (destinations) that will be used by the particular vendor or customer must be entered.

PortaBilling® can support different numbering plans, but it is highly recommended that you keep all of your destinations in the E.164 numbering space. The **Destinations** table contains valid E.164 prefixes. Different standards and government bodies control the E.164 numbering space, and there are some private numbering spaces too.

Click here to view the Official ITU Dialing Procedures document (.pdf)

Though the E.164 numbering space is universal in VoIP telephony, PortaBilling® also supports the E.212 format, which is used in mobile networks. The E.212 format defines destinations as a combination of the mobile country code (MCC) and the mobile network code (MNC). The MCC / MNC pairs are stored in the **MCC_MNC_Sets** table and are offered for selection while defining destinations in respective menus.

PortaBilling® is supplied with a file that contains a basic set of destinations. It covers all the countries of the world and some of the major destinations in each country, linking prefix information to:

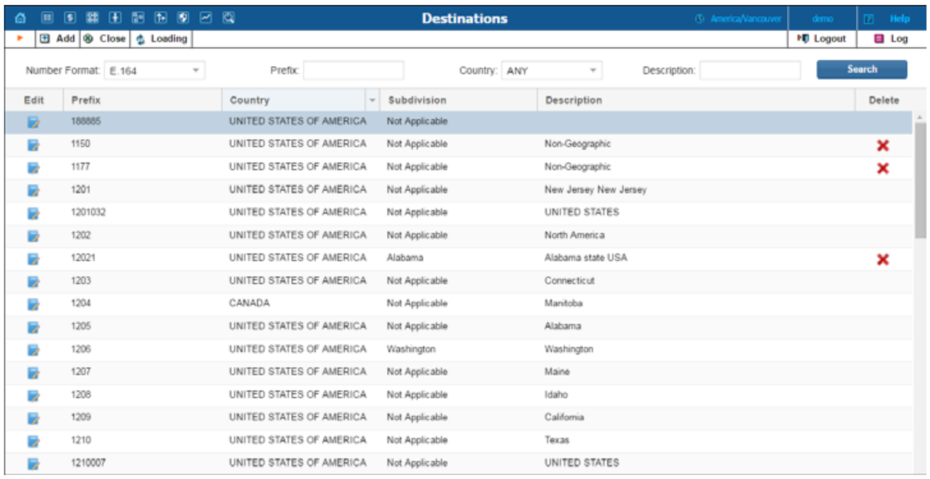
- Country (if applicable)
- Subdivision (if applicable)
- Description

Of course, you may edit the supplied destinations list according to your needs. Also, you may always add more destinations later, as needed.

Add / Edit Destinations Online

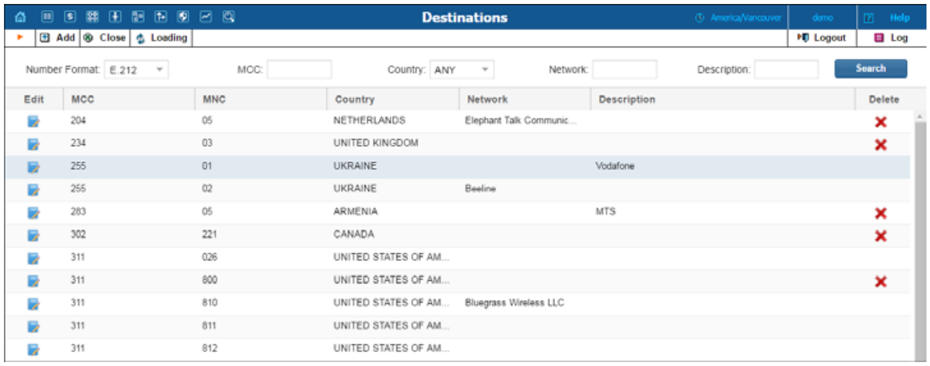
To add new destinations, select the required numbering format (E.164, E.212 or custom) and click the **Add** button.

For destinations in the **E.164** format, enter the prefix and choose a country from the list. After selecting the country, the subdivision field will be refreshed. Choose a subdivision if necessary. Click the **Update** button to save the new destination.



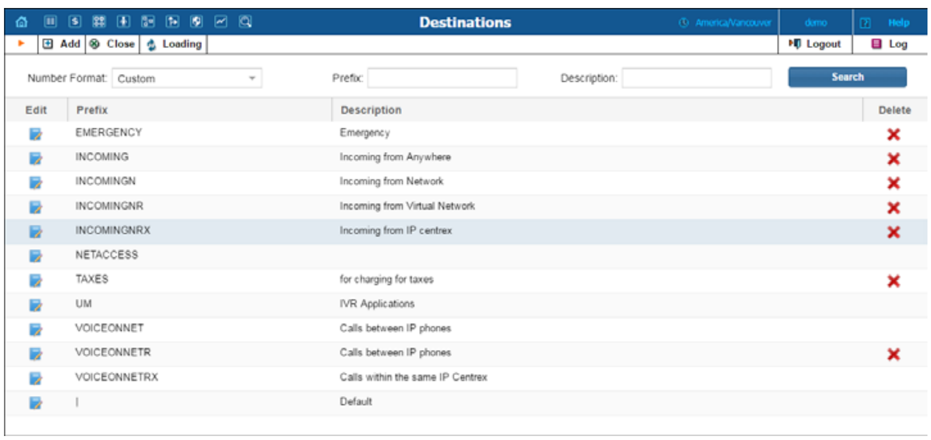
To edit an existing destination, enter a prefix or description (i.e. proper, mobile, etc.) in respective search fields or select a country from the list and click the **Search** button. From the list, choose the destination you wish to edit by clicking the **Edit** icon. Choose subdivision from the refreshed list and type in the description, if any. Save your work by clicking the **Update** button.

For destinations in the **E.212** format enter a MCC code. The country for this code will be automatically transmitted and the MNC list will be refreshed. You can still edit the country for this destination, if necessary. Select the MNC code. Click the **Update** button to save the new destination. PortaBilling® will automatically add the E.212 prefix to the destination and store it as the E212-MCC-MNC input in the database.



The **Custom** format is used to define special destinations that are used for various service categories or to apply a special rating (e.g. to charge a special rate for calls to favorite numbers).

To add a destination in the custom format, enter the prefix (e.g. NETACCESS). Provide the description for this destination, if necessary and click the **Update** button to save the new destination.



Destination access levels

User Type	Access Description
Root, or if ACL includes **Use country code during upload**	Full access.
ACL which allows read / write operations on Destinations, e.g. **Admin**	Can perform all types of operations with destinations *except* for manually specifying a country during upload. If an administrator uploads a new destination, the system automatically chooses the appropriate country, using the longest match from the destinations available.
all other types	Read-only.

Destination Upload / Download Procedures

Upload

The .csv file header contains the following fields: **Action**, **Prefix**, **iso_3166_1_a2**, **Description** and **Country Subdivision**.

Field	Description
Action	Add or delete; encoded as "+" and "–" or "add" and "remove." **Note:** Only unused destinations that do not appear in the Rates table can be deleted. If the action is "+" and the prefix is already in Destinations, then the update action will be performed.
Prefix	Value to be stored in **Destinations**. Specify the phone number prefix (e.g. 420) for uploading destinations in the E.164 format.
Two-letter ISO Country Code	Value to be stored in **Destinations.iso_3166_1_a2**. **Note:** *Ignored* if the uploader is not Root or does not have "Use country code during upload" in the ACL. In this case, the system would automatically choose the appropriate country using the longest match from the destinations that are available. If you would like to set the **Country** property as "Not Applicable," then the value must be encoded as "--". If the field is empty and the uploader's access level is Root, then the system automatically chooses the appropriate country using the longest match from the destinations that are available.
Description	Value to be stored in **Destinations**.
Country Subdivision	Value to be stored in **Destinations.i_country_subdivision**. Specify this value for how it is stored in the PortaBilling® system.

Download

The .csv file header contains the following fields: **Action**, **Prefix**, **Country Code (iso_3166_1_a2)**, **Description** and **Country Subdivision**.

Field	Description
Action	Add or delete, encoded as "+."
Prefix	Missing prefix.
All other fields	Empty.

NOTE: For tariff uploads, new destinations are emailed as .csv attachments in error reports using the **Destinations Upload** format: **Action**, **Prefix**, **Country Code (iso_3166_1_a2)**, **Description** and **Country Subdivision**.

Uploading destinations

The system is supplied with a predefined set of countries and the most common destinations for those countries. If required, new countries may be inserted into the database manually. When uploading new destinations, a super user can specify the country using its ISO country code. If empty, the system tries to find a country via existing destinations.

For example, if “16045” is uploaded, the system finds that “1604” is already in the database as “Canada.” If it is not possible to find the country in this way, or if the country is “N/A,” the destination will not be imported. An uploaded file with such a destination will be sent back for correction in a format suitable for upload.

ISO 3166-1 Country Codes

For more information on this standard, visit the **ISO 3166 Maintenance Agency website**.

The complete title of ISO 3166-1 is “Codes for the representation of names of countries and their subdivisions.”

Country Codes

- ISO 3166-1 gives coded representations of more than 230 names of countries or areas dependent on a country.
- ISO 3166-1 contains a two-letter code (Alpha-2-code), a three-letter code (Alpha-3-code) and a three-digit numeric code, (Numeric-3-code) for every entry in its list of country names.

ISO 3166-1 does not **code:**

- Names of languages (e.g. Gaelic)
- Names of nations or peoples (e.g. Dutch)
- Names of groups of countries (e.g. Scandinavia)
- Names of continents (e.g. Asia)
- Names of organizations (e.g. OAS, NAFTA, WHO)
- Top-level Internet domains

Applications

ISO 3166-1 codes are used in many applications in all branches of industry, trade and statistics worldwide. One example of their use are the “code elements from ISO 4217” codes for currencies and funds, which are based on the ISO 3166-1 Alpha-2-Code (e.g. USD for US Dollars, where US comes from ISO 3166-1).

ISO 3166-2 Country Subdivision Codes

ISO 3166-2 "Country Subdivision Codes" establishes a code for the names of principal administrative subdivisions within countries coded in ISO 3166-1. ISO 3166-2 was published on December 15, 1998.
The code elements used consist of the Alpha-2 code element from ISO 3166-1 followed by a separator and a further string of up to three alphanumeric characters.

The names of the subdivisions are given in more than one language if the country has more than one official language (and if the alternative language versions were available to ISO). In Uzbekistan, for example, there are two official languages, Uzbek (uz) and Russian (ru), so the subdivision names are also listed in these two languages. The Romanization systems used to convert the country subdivision list from non-Roman to Roman script (e.g. from Cyrillic, in the case of Uzbekistan) are also given. The abbreviations and language codes (ISO 639) used in the header preceding the subdivision list for each country are explained in annexes to the standard.

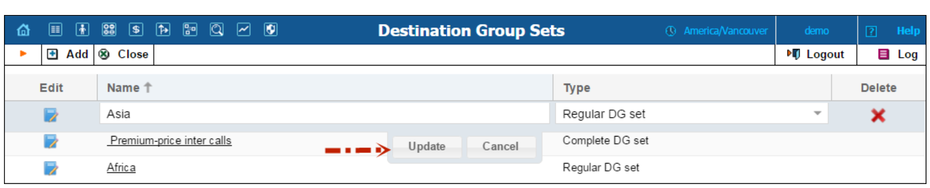
Destination Group Sets

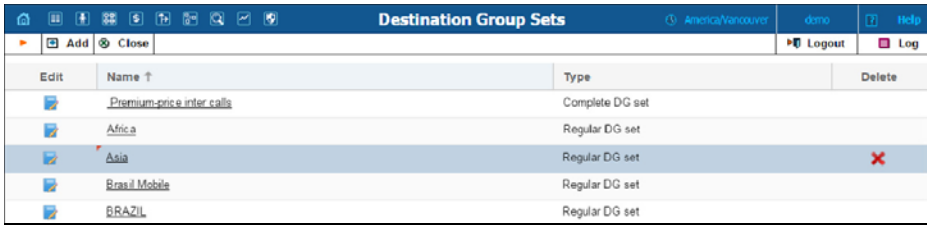
Regular destination group sets

Very often a logical destination (e.g. Czech Republic – Mobile) will consist of multiple prefixes (420601, 420602, 420604, 420732 and so on). It would be quite inconvenient to repeat the same "create a new rate" operation for every individual prefix, since all of the price parameters are the same. Thus you could create a destination group "CZ-Mobile" and then perform "create a new rate" only once, with the rates for all of the prefixes being created automatically. However, since different carriers might include different prefixes in the "Czech Republic – Mobile" category, you need to be able to maintain different sets of destination groups. Regular destination group sets perfectly serves for this purpose.

How to add a regular destination group set

To add a regular destination group set, click **Add** on the toolbar. In the **Name** field, type a destination group set's name. In the **Type** list, select **Regular DG set** and click the **Update** button.

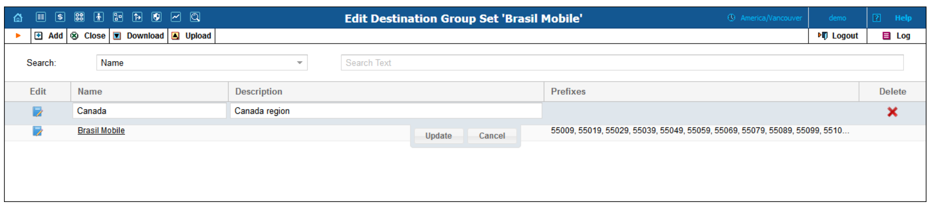




After the destination group set has been saved, click its name to manage the destination groups included in this set.

How to add a destination group to a set

On the **Edit Destination Group Set** page, click **Add** on the toolbar.



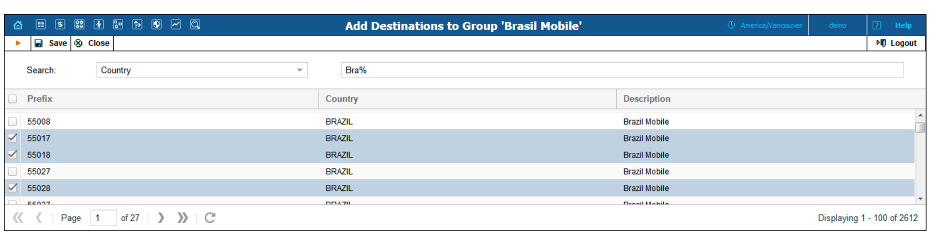
Field	Description
Name	Type a name for the destination group, e.g. **UK-Mobile**.
Description	Type a destination group's description.

Click the **Update** button to save the destination group.

How to add destinations (prefixes) to a group

Follow these steps to add destinations to a destination group:

1. Click the hyperlinked destination group name.
2. On the **Edit Destination Group** page, click **Add** on the toolbar.
3. On the **Add Destinations to Group** page, use the **Search** tool to quickly locate the destinations you want to include in the group.
4. Select the check boxes next to the destinations you want to add and click **Save**.



5. Click **Close** to see the list of selected destinations.
6. Click **Close** to return to the **Edit Destination Group** page.

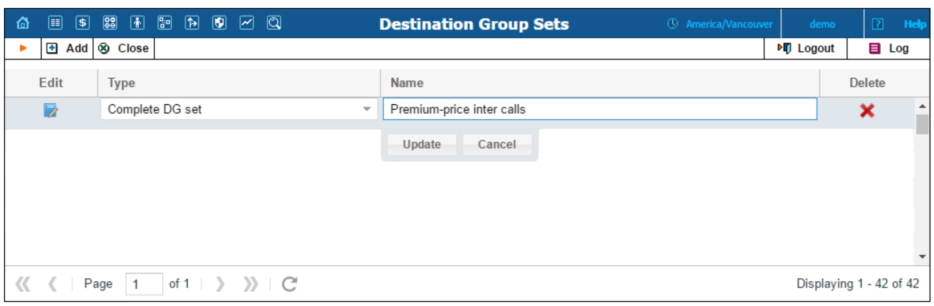
Complete destination group sets

In a complete destination group set any prefix that is used in the system belongs uniquely to only one destination group. This allows service providers to clearly recognize traffic sent through their networks by their target destinations.

When an administrator creates a complete destination group set, it comes with a **Default Group** that includes all the prefixes available in the system. Upon adding new destination groups in the complete destination group set, the administrator moves the prefixes from the **Default Group** to these new groups.

How to add a complete destination group set

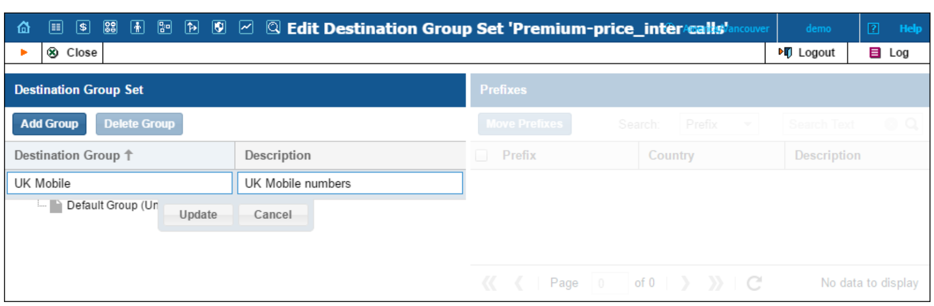
To add a complete destination group set, click **Add** on the toolbar. In the **Type** list, select **Complete DG set**. In the **Name** field, type a destination group set's name and click the **Update** button.



After the destination group set has been saved, click its name to manage the destination groups included in this set.

How to add a destination group to a set

On the **Edit Destination Group Set** page, click the **Add Group** icon.



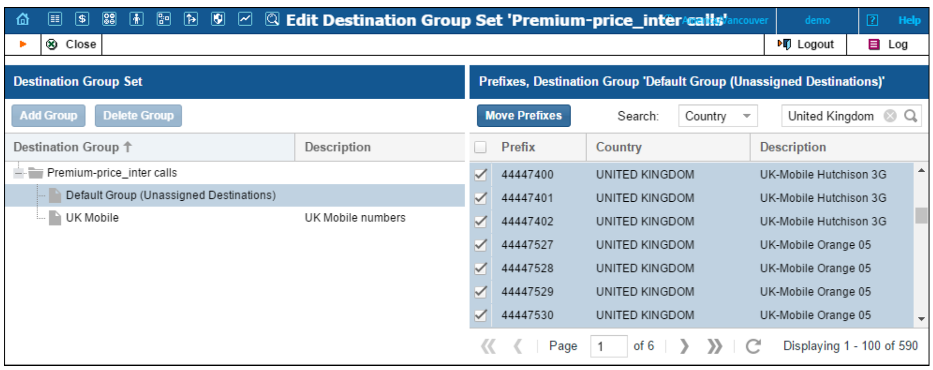
Field	Description
Destination Group	Type a name for the destination group, e.g. **UK-Mobile**.
Description	Type a destination group's description.

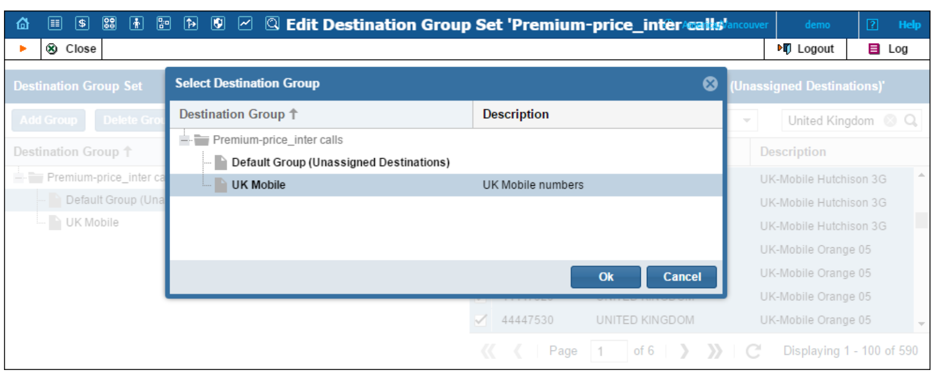
Click the **Update** button to save the destination group.

How to add destinations (prefixes) to a group

Follow these steps to add destinations to a destination group:

1. In the **Destination Group** list, select **Default Group (Unassigned Destinations)**. All the prefixes available in the system are displayed in the right panel.
2. Use the **Search** tool to locate the destinations you want to include in the group.
3. Select the check boxes next to the destinations you want to add and click the **Move Prefexes** icon.
4. In the **Select Destination Group** dialog box, choose the destination group you want to move the prefixes to and click **Ok**.

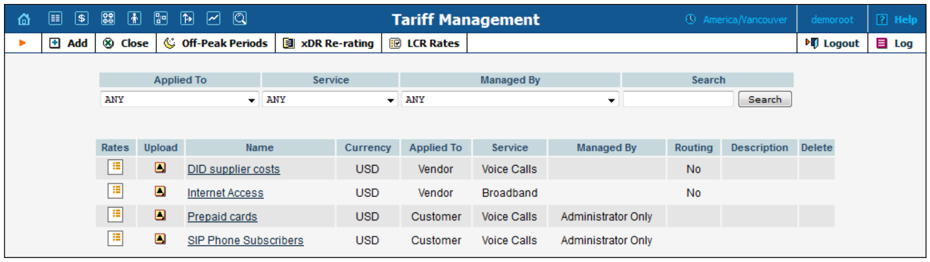




Tariffs

A tariff is a collection of individual rates, a rate being a per-destination price. Each tariff has its own set of rates. Call billing is based on billing units. You can define two billing units for each destination: the first billing unit (interval) and the next billing unit (interval). Billing unit precision is one second, and the minimum length of each unit is likewise one second.

Typical billing unit configurations include 60/6 (the first unit, i.e. the minimum charged call duration, is one minute, and subsequent intervals are one-tenth of a minute, i.e. six seconds) and 1/1 (per-second billing).



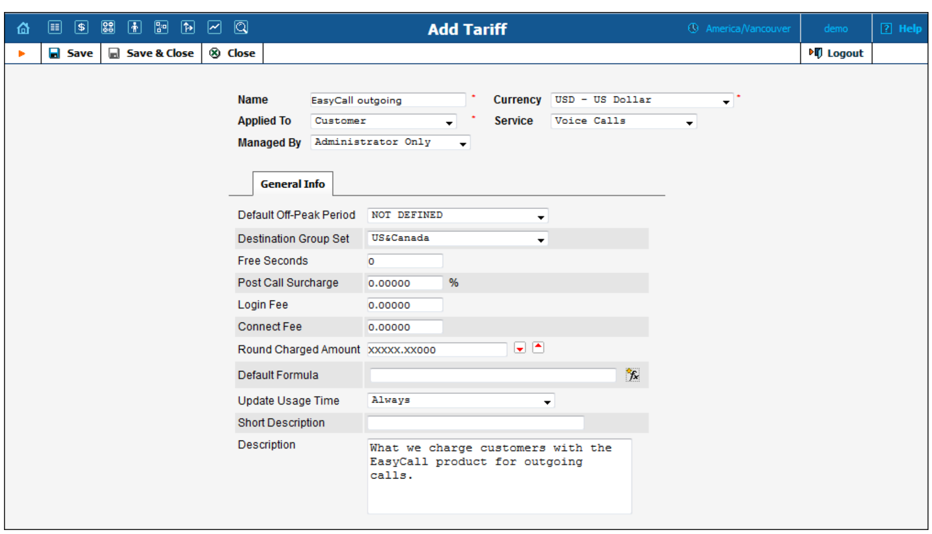
The main **Tariff Management** page shows a list of all existing tariffs. Tariffs can be located using the **Search** form, by selecting a reseller from the list, or choosing the tariff's name.

To edit a tariff, click on its name in the list. Click the **Edit Rate** icon to edit individual rates for the given tariff.

Click the **Upload** icon to upload rates into the given tariff. The **Delete** icon will be visible only when the tariff is not in use (not assigned to any customer or vendor and not being used in any product's rating entry), and enables permanent deletion of the given tariff.

Add / Edit Tariff

To add a new tariff to the system, select **Add** to go to the **Add Tariff** page. Existing tariffs can be edited by clicking on the tariff's name in the list.



Field	Description

Name	The logical name for the tariff.
Currency	Indicates the currency in which pricing information is defined. All pricing information for a single tariff must be defined in the same currency.
Applied To	Designates whether this tariff will be used to charge your customers or resellers or to calculate costs associated with your vendors. You must select a value here to get access to certain fields that are available only for a specific type of tariff.
Service	Select the service for which this tariff will be used (by default the **Voice Calls** service will be selected).
Managed By	Allows you to designate this tariff as managed by the administrator only (so this tariff will be applied to your direct customers), or by a specific reseller (so this tariff will be used to charge the reseller's subcustomers). Only available for tariffs of the **Customer** type.
Routing	The tariff contains information about the carrier's routing preferences, in addition to the usual cost data. Only available for tariffs of the **Vendor** type.
Default Off-Peak Period	Allows to select one of the previously defined off-peak periods. If you do not differentiate between peak and off-peak rates, just select **Not defined**.
Format	This defines which numbering format rates will be added to the tariff. You can select the rate format only for tariffs to charge for Messaging services. The options are: • **E.164** – Add rates for E.164 destinations. This is the default value. • **E.212** – Add rates for destinations in the E.212 format. For all other services the format value is read-only and dimmed.
Destination Group Set	A set of destination groups (UK-Mobile, CZ-Mobile, etc.) you would like to use for more convenient rate entry.
Free Seconds	Number of free seconds granted for each call. In order to claim free seconds, the length of the call must be at least one billing unit (i.e. the first interval; see the 'Enter Rates' section above).
Post Call Surcharge	Increases the total call cost by the given value.
Login Fee	Amount to be charged immediately after the first user authentication.

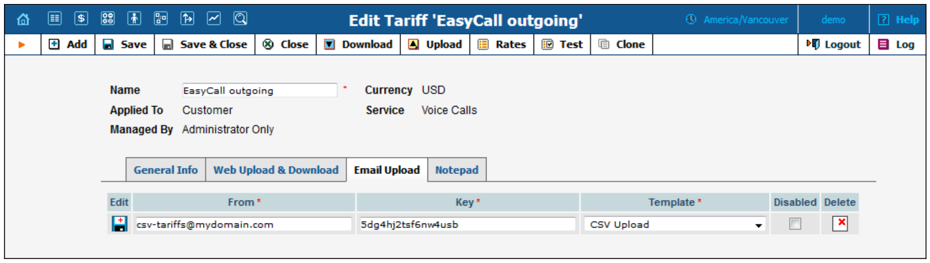
Connect Fee	Amount to be charged for each successful call, in addition to other charges.
Round Charged Amount	Pattern that defines the rounding of a charged amount in an individual xDR. This pattern takes the form of XXX000. An X (to the left) means that the digit in this position will be left unchanged, while a zero (to the right) means that this position will be rounded off. For example, XXXXX.XX000 means that the amount will be rounded up two decimal places, so that 1.2345 becomes 1.24. Note that rounding off is **always** done upwards.
Default Formula	Default call rating formula applied to new rates. Note that the value of this parameter is only used when a new rate is inserted. Modification of this parameter has no effect on existing rates.
Update Usage Time	This determines when the **First Usage** and the **Last Usage** fields of an account get updated. • **Only by billable records** – The fields will be updated by generating a successful toll call / event. • **Always** – The fields will be updated by the successful usage of any toll-free services.
Short Description	While the name of a tariff is for your internal use, and is usually created according to your internal rules, you can also add a name meaningful to your reseller. For example, for the tariff name **aABC-SmartCall-USD-1800**, the short description will be **Smart call using a toll-free number**.
Description	Tariff description.

Free Seconds, **Connect Fee** and **Post-Call Surcharge** are only applied when the default rating method is used. For more about different call rating methods, see the **PortaBilling Administrator Guide**.

Web Upload & Download

Choose appropriate templates for web upload / download of tariffs. Read more about this in the **Templates** and **Managing rates offline** sections.

Email Upload



Tariffs can be uploaded to the system from an email received with an attached document in either .csv or .xls format.

Field	Description
Edit	Click the **Edit** icon to copy the current row in the form above for editing.
Type	Uploaded document type, either .csv or .xls file.
From	Sender's email; to prevent unauthorized access, only trusted email will be allowed.
Key	Security key; tariff will be accepted only if the correct key is specified in the message's subject line or body.
Template	Select a template to map information in the uploaded file using PortaBilling®. Read more in the **Templates** section.
Disabled	Disable receipt of tariffs from this source.
Delete	Click the **Delete** icon to remove this source.

NOTE: You need to add an email alias (to which you will send tariffs for upload) to the **EmailUploadAlias** field on the Configuration Server web interface. For example, if the PortaBilling Web Server name is web.yourcompany.com and you added the "tariffupload" alias, you will send emails with tariffs to *tariffupload@web.yourcompany.com* for upload. Also make sure that your mail server redirects emails sent to the above address to the PortaBilling Web Server and that port 25 is not blocked by a firewall.

Off-Peak periods

Peak and off-peak prices

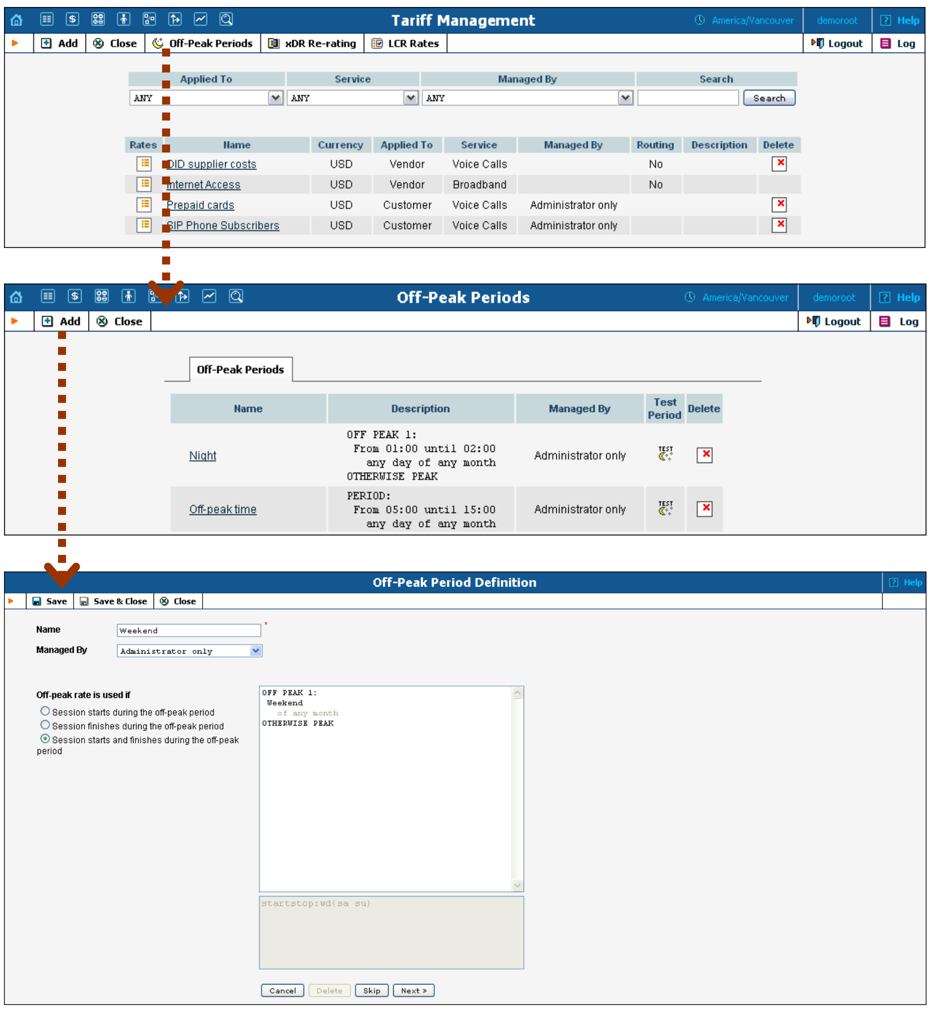
It is possible to have two different sets of prices, one for peak and one for off-peak time. In fact, you can have two separate off-peak periods (e.g. nighttime and weekends), meaning there are three separate sets of prices. A call is always billed using one particular rate; this also applies to calls starting in the off-peak period and ending in the peak period, or vice versa, i.e. there is no proration.

Off-peak periods are defined using the powerful yet flexible `Time::Period` module. The **Off-Peak Period Wizard** is also available to help you create a period definition easily.

You can create a master list of various off-peak periods (e.g. one from 9 p.m. to 7 a.m. including weekends and another from 8 p.m. to 8 a.m. daily) and then use these definitions for specific tariffs or rates inside the tariff.

Off-peak period definition wizard

To manage the available off-peak periods, select **Off-Peak Periods** on the **Tariff Management** page.



The Off-Peak Period wizard provides users with a flexible tool for defining a new off-peak period. On a sequence of pages, the user may select a time interval, day of the week, day of the month, and month; multiple select is allowed. The following example illustrates the process of creating an off-peak period that starts at 6 p.m. every day and lasts until

6am the next morning. Another off-peak interval is on weekends. We will also include some holidays, i.e. January 1st and December 24–26.

On the first page, select 6 p.m. in the **From** column, and 6 a.m. in the **Until** column. Now click the **Next** button. The two text areas on the right of the page give the user a display of the current period definition. The top text area displays a verbal definition of the period – `From 6:00pm until 6:00am`, and the bottom one contains this same information in a format that can be parsed by PortaBilling -- `hr{6pm-5am}`. This sets up the first period; in order to continue, skip the following pages by clicking the **Skip** or **Next** button until the "Period definition completed" message is displayed, then click the **Add** button to add another definition to this period. The wizard now returns to the first page.

NOTE: **Time::Period module treats all formula elements as "inclusive." Thus, in the example above, 6pm to 6am will be represented as hr {6pm-5am}. This is perfectly correct, since 5am actually means "all of the 5th hour – 05:00:00 … 05:59:59."**

Now for the weekends: by clicking the **Skip** or **Next** button, go to the second page and select **Weekend,** or, holding down the <Ctrl> key, select **Saturday** and **Sunday** from the list. Click the **Next** button and skip until the "Period definition completed" message is displayed. Click the **Add** button to add another definition to this period.

To include January 1st in the off-peak period definition, skip to the **Day of Month** page, and select **1**. Click the **Next** button. Now select **January**, click **Next**, skipping forward to the next page. Follow the same steps to select the December 24–26 interval. Hold the <Ctrl> key down to select multiple entries.

On the next page, you can choose how the system will charge calls which overlap with your off-peak period, i.e. cover both peak and off-peak time. There are three options you can choose from:

- If the call starts in the off-peak period, it will be charged using off-peak rates (even if part of the call was made during peak time). This method is the easiest and most transparent for end-user authorization of outgoing calls.
- If the call finishes during the off-peak period, it will be charged using off-peak rates; it does not matter whether it starts within the off-peak period or not.
- Or, the off-peak rate will only be used if the call both started and finished during the off-peak period. In this case, any call which partly extends into the peak period will be charged at the peak rate.

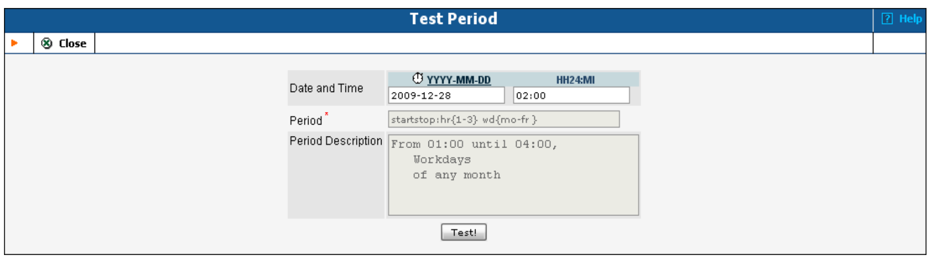
To evaluate your work, look at the top text area. The following text should be displayed:

```
From 6:00pm until 6:00am
   any day of any month
OR Sunday and Saturday
   of any month
OR 1
   of January
OR 24-26
   of December
```

If the definition is correct, click the **Finish** button.

Test the off-peak period

If you are unsure whether you have created a correct off-peak period definition, you may use the test utility to check if a specific moment in time fits into the period or not. In order to run the off-peak period test, either click the **Test Period** icon on the off-peak periods page, or use the **Test Period** button on the last page of the Off-Peak Period wizard.



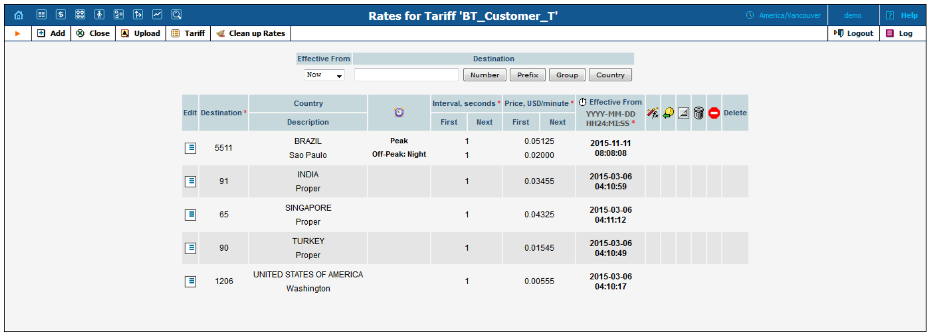
Now simply enter any time / date and click the **Test!** button to check whether this moment fits into the off-peak period definition.

Rates

Managing rates online

Managing rates online is very convenient for maintaining existing rate tables and for reference purposes. In the case of new price lists or major updates, the offline method is better.

On the **Tariff Management** page, click the **Rates** icon for a tariff.



The filter at the top of the page allows you to view rates depending on their **Effective From date** or **Destination**. The **Effective From** list allows you to define which rates to show:

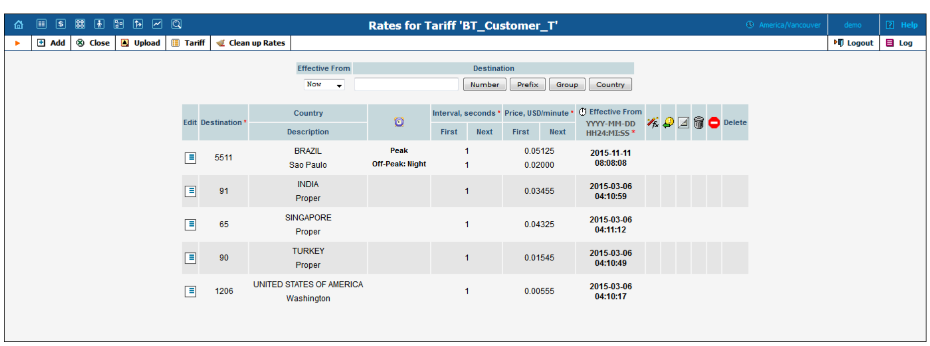
- **All** shows all rates (used until now including current rates and scheduled for the future).
- **->Now** shows rates used until now including current rates.
- **Now** shows only currently effective rates.
- **Now->** shows current rates and those that will become effective in the future.

To edit an existing rate, click the **Edit** icon next to it to copy rate details into the form. Note that if a tariff contains peak and off-peak rates there will be two rows of fields: the top one is for peak rates, and the bottom one is for off-peak rates.

Usually you will enter rate data for each destination separately. However, if the tariff has a **Destination Group Set** defined, by clicking on **G** in the **Destination** column header you can switch into **Destination Group** mode. Now you can enter a destination group name (e.g. UK-Mobile) instead of a prefix, and the system will automatically create rates for all of the destinations in that group.

The **Clean up Rates** button allows you to remove rates that have an ‘effective from’ date set in the future.

Customer rates



Field	Description

Destination	Destination prefix. May be entered directly, e.g. "47" for Norway; or you can access the destinations directory by clicking the **Destination** link. In the destinations directory dialog box, you can search for the desired prefix by country name.
Set Inter / Intra State / Set Normal Rating *(only for US destinations)*	Switches between normal and inter / intra state rates for US destinations. Click **Set Inter / Intra State** if price per minute depends not only on the actual destination (area code and exchange), but also on whether the caller resides in the same state as the called party.
Country	Country corresponding to the current destination.
Description	A short description of the specified destination.
Off-Peak Periods	This column is available only if there is at least one off-peak period defined in the system. Specifies the off-peak period for this particular rate. When there is no default period specified for the tariff, the column header displays the icon instead of the title.
First interval	First billing unit in seconds.
Next interval	Next billing unit in seconds.
Price first	Per minute price for first interval.
Price next	Per minute price for next interval.
Off-Peak First interval	First billing unit in seconds for off-peak time.
Off-Peak Next interval	Next billing unit in seconds for off-peak time.
Off-Peak Price first	Per minute price for first interval in off-peak time.
Off-Peak Price next	Per minute price for next interval in off-peak time.
Second Off-Peak Price first	Per minute price for the first interval during the second off-peak time.
Second Off-Peak Price next	Per minute price for the next interval during the second off-peak time.
Effective Time	Exact time when the rate becomes effective. Click the **Set Effective Immediately** icon to make the rate effective immediately. Click the **DD-MM-YYYY** link to set up the desired date using the calendar.

	• Indicates if this rate uses a call rating formula. The icon indicates that there is no formula, thus old-style rating is used. • The icon indicates that the rate already has a formula defined. Click on the icon to invoke the call rating formula wizard.
Rate Properties	• **Payback Rate** – This means that the customer is credited for using certain services, rather than paying for them (e.g. the service provider receives the termination fee for his own subscribers and wants to encourage his users to receive more calls by passing on a certain portion of these savings). • **Hidden** – This means that the rate is excessive (e.g. there are usually more than 500 rates for Argentina mobile because of different prefixes). This flag does not affect usage of the rate by the billing engine. It simply indicates that this rate may be omitted when making a list of rates for the end user. • **Discontinued** – This means that the rate will stop being active immediately or from the specified time-stamped date. To deactivate the rate in the future, specify a certain date and time in the **Effective From** field. • **Forbidden** – This means that no calls are authorized for this particular destination.
Delete	Click the **Delete** icon to delete this rate. Only rates which are not yet active can be deleted.

Vendor rates

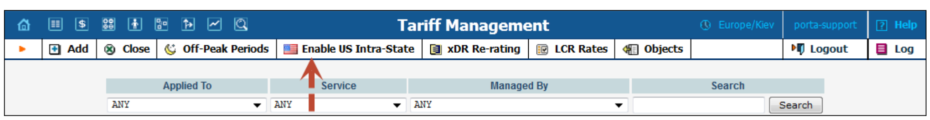
If you create a **Routing** type tariff, it will define the routing and termination costs for a connection to a vendor.

Field	Description
Route Category	You can split rates into categories such as "Premium," "Cheap," etc. and use these categories in routing plans. See the *Route Categories* section for more info.
Preference	Routing priority (0–10), higher values mean higher priority, 0 means do not use this rate for routing at all. See the *Call Routing* section of the **PortaBilling Administrator Guide** for more info.
Huntstop	If one of the routes has huntstop enabled, then all routes with a lower route category or preference will be ignored.

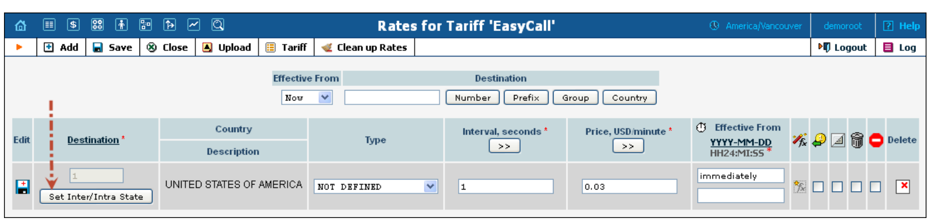
US Inter / Intra state rates

PortaBilling® offers a simple solution for identifying and billing US inter / intra state VoIP traffic. In order to apply LCR properly and calculate call costs in accordance to rates applied by vendors, PortaBilling® determines whether a call is intra- or inter- state and applies the correct rate.

Within a new environment, the setup option for US inter / intra state rates is off by default. To activate it (permanently for the environment), click **Enable US Intra-State** on the **Tariff Management** page.

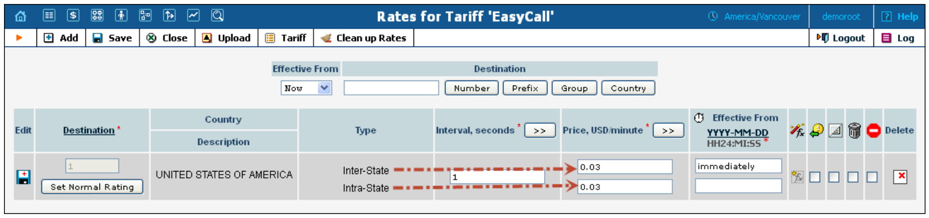


In order for PortaBilling® to recognize whether the call is intra / inter state, you must specify whether the destination belongs to one of those categories by clicking the **Set Inter / Intra State** button.



NOTE: The activation of **Inter / Intra State** is possible only when the destination number starts with "1."

Once the **Inter / Intra State** option is set, you may specify the individual rates for these calls in the corresponding fields.



MCC / MNC rates

PortaBilling® offers a simple solution to identify and bill for SMS traffic. Since the majority of mobile carriers use MCC / MNC destination codes for rating, you can define your rates by using the same format in PortaBilling®.

NOTE: You can add rates for MCC / MNC codes only for tariffs with the Messaging services type of service and E.212 format selected.

Field	Description
MCC/Country	This is the mobile country code and the destination country. Select the MCC / country pair from the list. Start typing the code to narrow the search.
MNC/Network	This is the mobile network code and the destination mobile network. Select the MNC / network pair from the list.

Call Rating Formula Wizard

Because of the extreme flexibility of the call rating formula, it has a quite complex syntax. To avoid possible errors, the call rating formula wizard allows you to design a call rating formula easily.

The top table allows you to edit rate parameters (such as interval or price per minute) directly; below it, the current formula is displayed (read-only); and, finally, there are two tabs for managing different formula parameters:

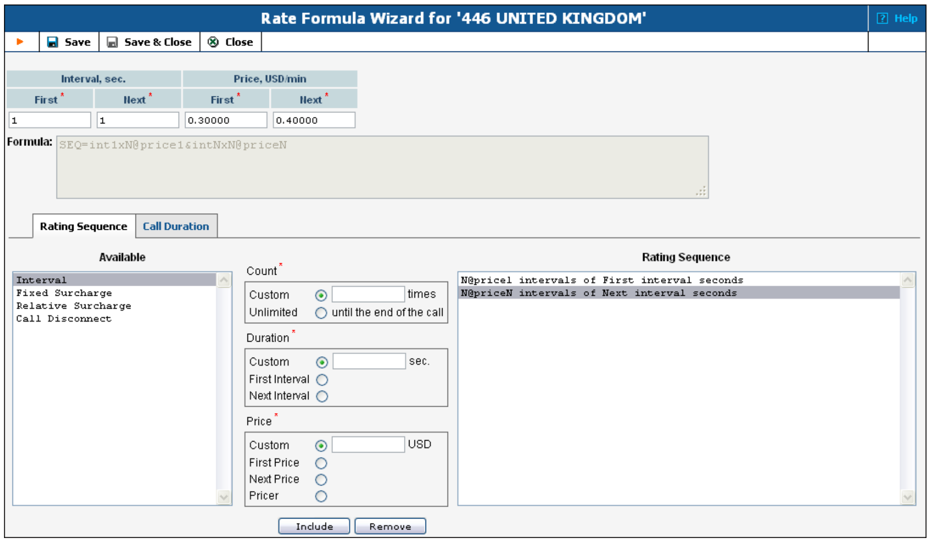
Rating Sequence

Here you can construct the actual call charge plan by defining a sequence of charge elements such as time intervals, surcharges and call disconnect.

Please consult the **Charging Calls – Rating Formula Method** section of the **Unified PortaSwitch Handbook Collection** for more details.

The following categories are available in the (**Available**) list on the left.

- **Interval** – Sets rounding and prices for certain call intervals.
- **Fixed Surcharge** – Adds a fixed amount to the total call cost.
- **Relative Surcharge** – Increases the total call cost (for all charge elements from the beginning of the call to the moment of the surcharge application) by the specified percentage.
- **Call Disconnect** – Forcibly disconnects calls.



1. Choose the element type from the list on the left (**Available**).
2. Fill in the element parameters (such as interval duration, price, etc.).
3. Click the **Include** button to add this element to the formula.

Interval

Field	Description
Count	Number of rounding periods in the interval.
Duration	Rounding period (in seconds).
Price	Price per minute automatically prorated according to the rounding period duration.

Fixed Surcharge

Field	Description
Custom	Defines the amount to be added to the total call cost at a specified moment.
Tariff Connect Fee	If enabled, the amount specified in the tariff **Connect Fee** field will be applied.
Tricky	If enabled, a fixed surcharge will be left out when the call duration is announced to the end user.

Apply randomly	Randomly applies a fixed surcharge using a percentage chance (defined below).
Probability	Defines a percentage chance for applying a fixed surcharge (only available if the **Apply randomly** field is enabled).

Relative Surcharge

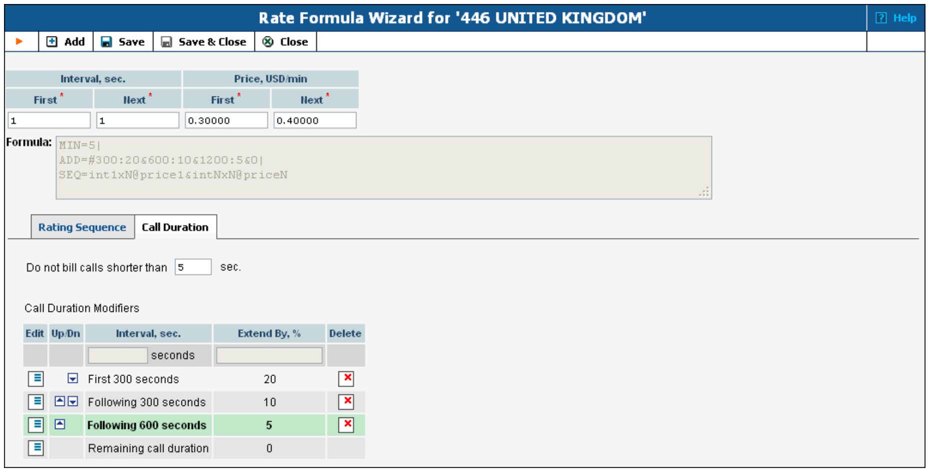
Field	Description
Custom	If specified, the total call cost (for all charge elements from the beginning of the call to the moment of the surcharge application) will be increased by a specified percentage.
Tariff Post call surcharge	If enabled, the total call cost (for all charge elements from the beginning of the call to the moment of the surcharge application) will be increased by the percentage specified in the tariff's **Post Call Surcharge** field.
Tricky	If enabled, a fixed surcharge will be left out when the call duration is announced to the end user.
Apply randomly	Randomly applies a relative surcharge using a percentage chance (defined below).
Probability	Defines a percentage chance for applying a relative surcharge (only available if the **Apply randomly** field is enabled).

Disconnect Call

Field	Description
Probability	Defines the percentage chance for disconnecting the call.
Dispersion	The interval in seconds during which the call disconnection will occur.

Call Duration:

NOTE: This option must be enabled on the configuration server web interface; by doing so, you accept the responsibility for any legal issues related to use of this billing feature.



Do not bill calls shorter than – For a detailed description of this feature, see the *Too short calls* section of the **PortaBilling Administrator Guide**.

Field	Description
Interval, sec.	The duration of a specific call interval to which “add duration” should be applied. Initially there will be only one row in the Add Duration table, defining the rule to be applied to the whole call. Click the **Add** button to add a rule for another interval. Intervals are interpreted according to the order in which they appear in the table, e.g. the first row covers the *first* 300 seconds, the second row covers the following 300 seconds, and so on.
Extend By, %	Defines how the call duration for this interval should be changed (increase in percentage; a 0 value means that the call duration should not change).

Managing rates offline

The rates table may be prepared using a spreadsheet processor (e.g. MS Excel) and can then be easily imported into PortaBilling®.

This is very convenient if your termination partner sends you a file with rate updates that must be entered into PortaBilling® in order to calculate costs and route your customers’ calls properly. This can be done with the help of the Rate Upload functionality. To upload your rates file, perform the following steps:

1. On the **Tariff Management** page, click on the tariff name.
2. In the **Edit Tariff** page, click the **Upload** icon.
3. In the **Rate Upload for Tariff** page, click **Browse**.
4. Locate the Tariff-sample.csv file, then click **Open**.
5. On the **Rate Upload for Tariff** page, select all required options:
    - **Add rates from the file to existing rates** or

- **Replace all of the existing rates with the rates from the file** – The default option is to **add** new rates. If there is at least one parameter that differentiates a new rate from the existent one then the new rate will override it. If a rate for a certain prefix exists in the tariff but is not present in the file you received from the carrier, it will remain unchanged. The **replace** mode uploads all the new rates from the file and marks all the existent rates as discontinued.
- Rates with 'effective from' date from the past should be uploaded as effective immediately – Sometimes you might receive a file with rates later than expected, when the moment at which the rates were supposed to become effective has already passed. Select this check box to upload these rates as effective immediately or leave the check box unselected to skip these rates.
- **Skip rates with the same data** – Sometimes carriers will include all prefixes in a rate update file, even if no change in pricing has occurred for some of them. In order to prevent the creation of duplicated rate rows, simply select this check box.
- **Template** – Here you select an existent template or choose the **Create New Template** option to create a new template. For the latter case, the settings for this file format are stored in a template, so the next time you get a rate update from the carrier you simply upload this file into PortaBilling® using this template.
- **Timezone** – Here you choose a time zone for which the rates from the uploaded file will become effective.

6. On the **Review File Parsing** page, verify whether the file was parsed properly and, if necessary, change file parsing parameters such as delimiters.
7. On the **Review Data Fields Definition** page, specify where the individual data elements, such as destination prefix, price, payback rate, etc. are located in the file.
8. On the **Review Rate Information** page, review the data for accuracy and view the results, comparing the new rates with the existent ones. Adjust the prices and mark the desired rates as **Payback** if necessary.
9. In case there are new destinations in the uploaded file, approve the automatic creation of them and assign a country and destination group for these destinations on the next **Create New Destinations** page.
10. On the **Summary** page, view information about the number of rate records to be processed.

- **Save as template** – Here you specify a name for the template (if you previously selected the **Create New Template** option).
- **Send notification to** – Here you specify an email to which a notification about the result of the rate upload procedure will be delivered.

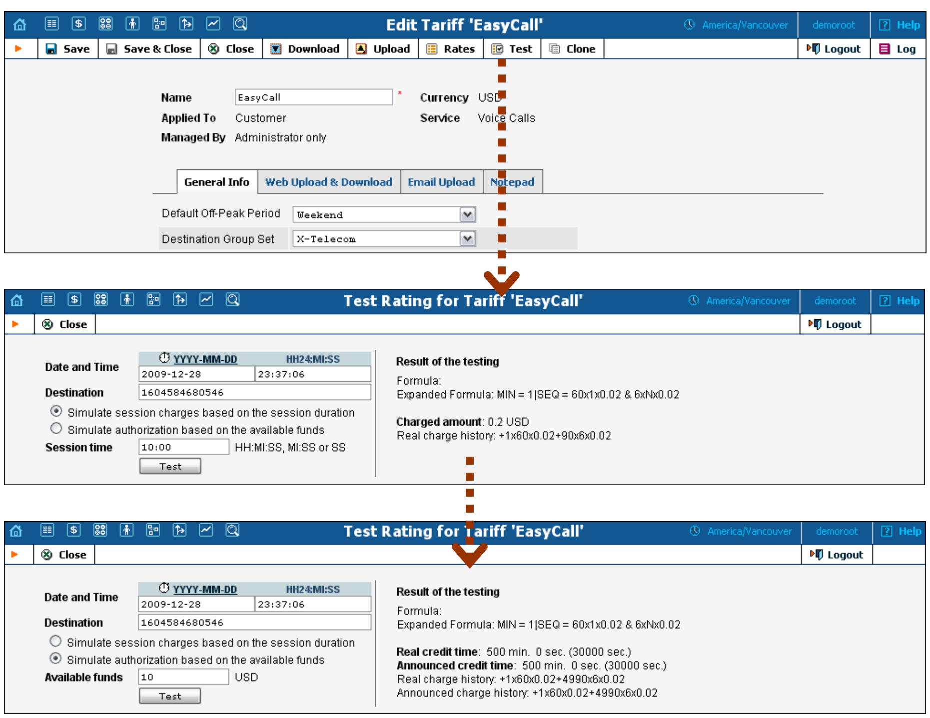
11. On the **Summary** page, click **Start Import**.
12. On the **Edit Tariff** page, click **Close**.

You can verify your work on the **Rates** page. For more details regarding rate upload, see the **PortaBilling Templates Guide**.

Administrators can initiate virtually an unlimited number of tariff upload sessions simultaneously. The only limitations here are the hardware resources: the amount of free disk space and available random-access memory on the PortaBilling® Web server.

Test Rating

This page allows testing of the rating formula and shows the resulting cost and duration of the call. The formula can be used both ways: either to calculate the call's cost given its duration, or to see how long a call ought to last given its cost.



Field	Description

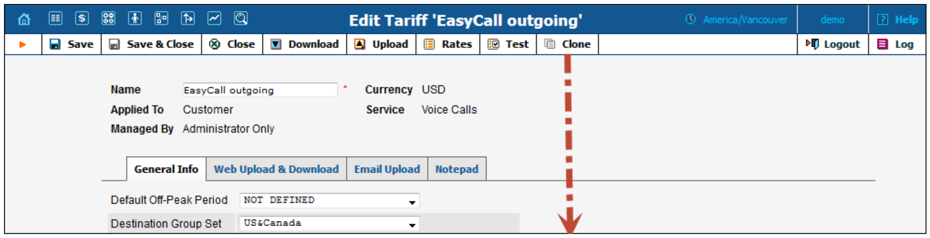
Date and Time	The date and time when the call is initiated. Click on ⏱ icon to set the current time. The **YYYY-MM-DD** link opens a calendar that can be used to select a date.
Destination	The phone number to call.
Session time	Simulate rate for the specified call duration.
Available funds	Simulate authorization for the situation, when user has the entered amount of available funds.
Results of the testing	
Formula	The rate formula used for the given destination.
Expanded Formula	The rate formula with the real interval and price values.
If the formula calculates the call cost based on its duration	
Charged amount	Charged amount for test call
Real charge history	A short description of how the **Charged amount** was calculated
If the formula calculates the call duration based on available funds	
Real credit time	The true maximum call duration.
Announced credit time	The announced maximum call duration.
Real charge history	A short description of how the **Real credit time** was calculated.
Announced charge history	A short description of how the **Announced credit time** was calculated.

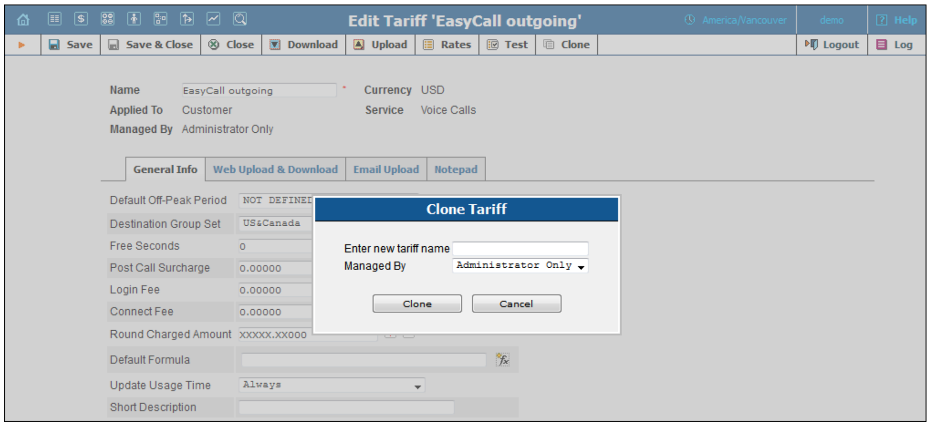
Clone Tariff

To minimize the amount of work required to create new tariffs, PortaBilling® allows you to create them as clones from existing ones. The new tariff will have exactly the same parameters as the old tariff.

To clone a specific tariff, click the **Clone** button on the toolbar on the **Edit Tariff** page. Give the new tariff a name, define whether the cloned tariff will be managed by the administrator only (so this tariff will be applied to your direct customers) or by a specific reseller (so this tariff will be used to charge the reseller's subcustomers), and then click the **Clone** button.

Note that the **Manage by** option is only available for cloning Customer type tariffs.



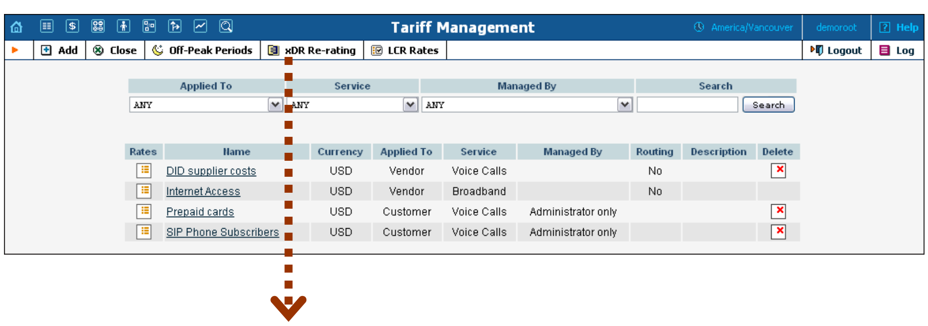


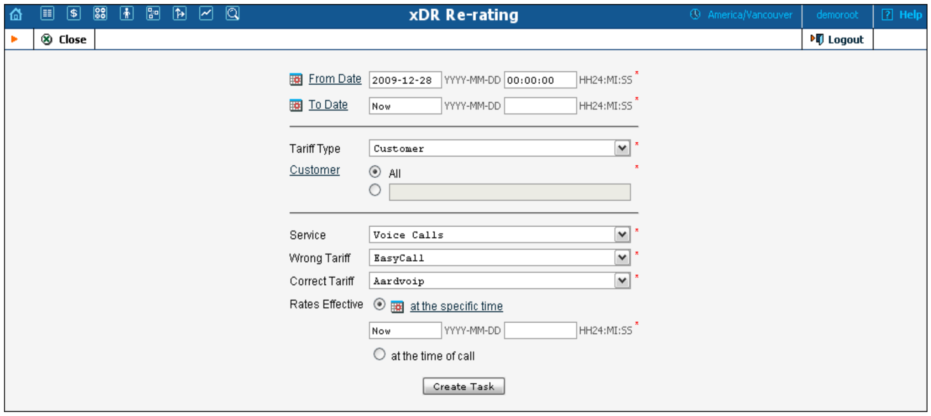
xDR Re-rating

The xDR re-rating page allows you to fix the most common problem: incorrect pricing information entered into a tariff. This may happen, if, for example, someone sends you the wrong pricelist, or your administrator simply clicks the wrong button, resulting in incorrect charges in the database.

The PortaBilling® xDR re-rating feature can perform re-rating in two different modes. Please consult the *xDR Re-rating* section of the **PortaBilling Administrator Guide** for more details.

To run the re-rating task, click the **xDR Re-rating** button on the **Tariffs** page.





Field	Description
From Date	Specify the start of the time interval for xDRs to be re-rated. Click the **Calendar** icon to set up the desired date using the calendar.
To Date	Specify the end of the time interval for xDRs to be re-rated. Click the **Calendar** icon to set up the desired date using the calendar.
Tariff Type	Select a specific type of tariff. Can be of the following type: **Customer**, **Reseller** or **Vendor**.
Customer / Reseller / Vendor	Select the specific customer, reseller or vendor due to the **Tariff Type** specified to narrow the set of xDRs to be processed.
Service	Choose the service for which xDRs should be re-rated.
Wrong Tariff	Select the "original" tariff with incorrect pricing information entered.
Correct Tariff	Select the tariff with correct pricing information entered. This tariff should be of the same type as the **Wrong Tariff** one.
Rates Effective	Choose the time when the rates associated with **Correct Tariff** become effective.

Click the **Create Task** button to launch the re-rating task.

Re-rating and volume discount counters

If volume discounts are used when calculating call charges, it is no longer possible to treat such calls separately from others, since the way one call is charged affects all other calls made subsequently. For instance, if a call is charged $5, this is the amount added to the volume discount counter. If the charged amount is then changed to $1 during re-rating, this will affect all other calls in the same destination group, since a different discount would now apply to them.

To overcome possible confusion when volume discount counters are involved in re-rating, this process should always be run from a specific moment in the past (when the error occurred) to the present moment. In this case, all discount counters will be rolled back before recalculation actually starts, and then updated with each re-rated call.

NOTE: Re-rating with volume discount counters only works with XDRs generated following an upgrade to the MR16 version, since older versions of XDR data do not have the full information required to roll back volume counters.

LCR Rates

You may click the **LCR Rates** button on the toolbar to quickly create a new **Routing info – LCR blending** report.

NOTE: This type of report is available for root and admin users only.

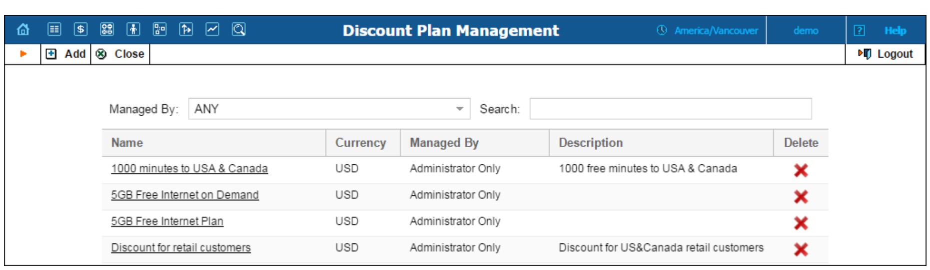
Please consult the **Routing Info – LCR Blending** section of the **Unified PortaSwitch Handbook Collection** for more details.

Volume Discount Plans

The volume discount plans tool is great for making automatic price adjustments and allotments. It allows you to adjust prices depending on the volume of services consumed by customers, allocate a certain volume of free services and transfer a balance to a sub-wallet that has been designed for a particular type of service. These are the three main discount schemes:

- **Discounts** – Use them to adjust prices depending on the volume of service consumed by customers.
- **Quotas** – Use them to allocate a defined volume of free-of-charge services for your customers.
- **Service Wallets** – Use them to divide the customer's balance into virtual sub-wallets. Each sub-wallet is designated for a specific service and destination group.

For more details about all the discount schemes, please refer to the **PortaBilling Administrator guide**.



Use the main **Discount Plan Management** page to list all existing plans. Plans can be located using the search form, by selecting a reseller from the list, or entering the plan's name.

How to add a volume discount plan

To add a new volume discount plan to the system, click **Add** and specify all the required information on the **Add Discount Plan** page.

How to edit a volume discount plan

To edit a volume discount plan, click on its name in the list and specify all the required information on the **Edit Discount Plan** page.

NOTE: Already assigned volume discount plan is not editable.

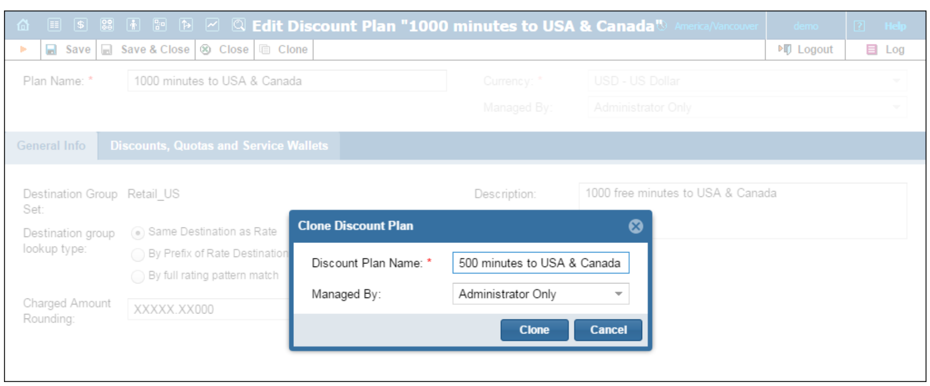
How to delete a volume discount plan

The **Delete** icon will be visible only when a volume discount plan is not in use (not assigned to any customer, account or product), and enables permanent deletion of the volume discount plan.

How to clone a volume discount plan

To clone a volume discount plan, follow these steps:

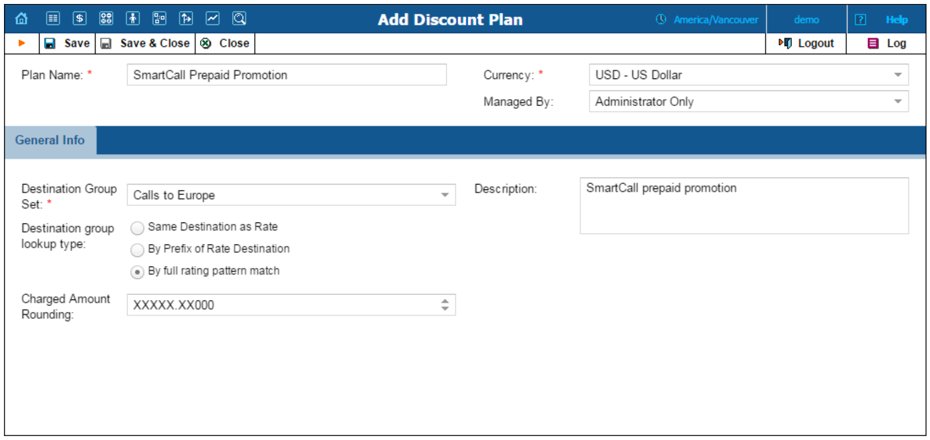
1. On the **Edit Discount Plan** page, click the **Clone** button on the toolbar.



2. In the **Clone Discount Plan** dialog box, type a name for the cloned volume discount plan and select who will manage it – the administrator or one of the resellers.

Add / Edit a Volume Discount Plan

General Info tab



Field	Description
Plan Name	The logical name of the volume discount plan.
Currency	Indicates which currency is used for billing calculations. All discount rules in a plan are to be defined in this currency. A volume discount plan can only be assigned to customers, accounts and products using the same currency.
Managed By	• By default – **Administrator only**. • The plan can be assigned to a reseller (Managed by NNN) so that it is manageable from the reseller self-care interface.
Destination Group Set	Discounts can be defined for individual groups (e.g. US&Canada, Asia, Western Europe) within this set. Once chosen for volume discount plan creation, the destination group set cannot be changed later on.
Destination group lookup type	• **Same Destination As Rate** – This requires exactly the same prefix as the one in the tariff in order to be used in the destination group for the volume discount definition. For example, if the tariff has a rate for destination 4202, and this rate is used to charge the call, while the volume discount only contains a destination 420, this discount will not be applied. • **By Prefix Of Rate Destination** – This provides more flexible matching: the destination used in the tariff must be equal to or more specific than the destination used in the volume discount definition; so in the example above, the discount would be applied. This puts more load

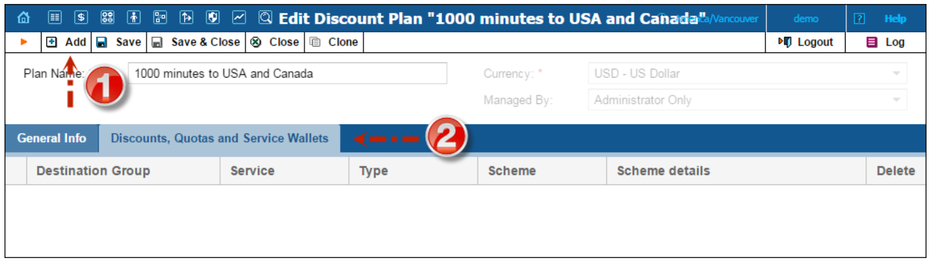
	on the billing engine, since an extra pattern match must be performed. • **By full rating pattern match** – Match the originally dialed phone number against all available destinations in the volume discount plan. Note that this is the most resource-intensive option.
Charged Amount Rounding	A pattern that defines the rounding of the amount charged for a volume discount. This pattern takes the form of XXXXX.XX000. An X (to the left) means that the digit(s) in this position will be unchanged, while a 0 (to the right) means that this position will be rounded off. For example, XXXXX.XX000 means that the amount will be rounded up two decimal places, so that 1.2345 becomes 1.24. Note that rounding off is **always** done upwards. This parameter is only applicable for discounts based on the amount of money.
Description	Short description of a volume discount plan.

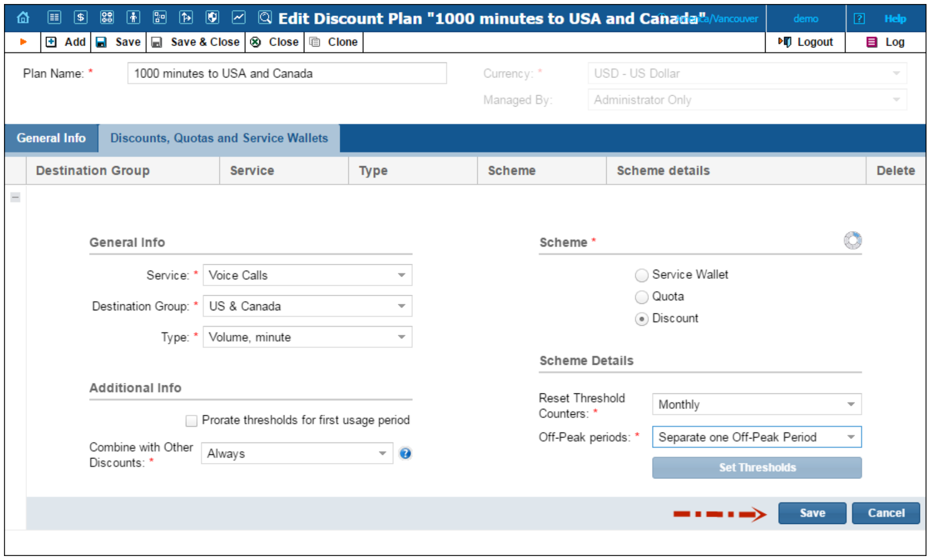
When you fill in all the required fields, click the **Save** icon. After a volume discount plan has been saved, the **Discounts, Quotas and Service Wallets** tab becomes available.

Discounts, Quotas and Service Wallets tab

Here you can define the discount rules within the volume discount plan. For instance, you may include 100 free monthly domestic SMS, 1000 free monthly minutes to US & Canada and a special offer of 15% off calls to India after the customer has used more than 200 minutes in calls.

To add a new discount rule to the plan, click **Add** on the toolbar.



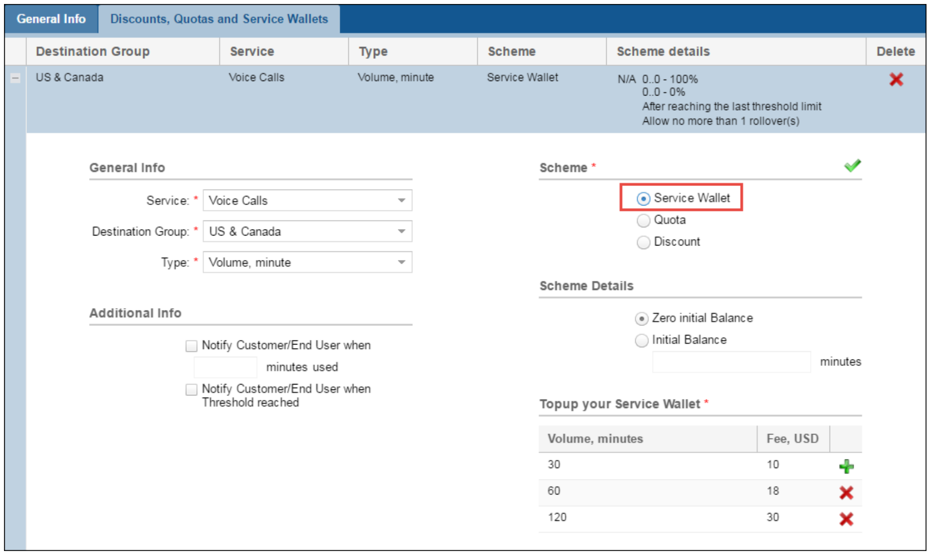


Field	Description
General Info	
Service	Choose a specific service (voice calls, messaging, data transfer, etc.) that this discount rule will apply to. You can bundle the discount rules for multiple services into the same volume discount plan.
Destination Group	This parameter defines a destination group (a list of prefixes) that will be used in a volume discount definition. Select a destination group from the list.

Type	Select the threshold type: will you use thresholds based on the charged amount, or on the consumed traffic? • **Monetary** means the threshold is measured in currency units (e.g. USD), and the counters will go up by the amount which the customer should have been charged for the service before the volume discount plan was applied. • **Volume** means the unit is minutes, MB, SMS, etc. depending on the selected service. For example, you can use thresholds based on the call cost (10% discount after more than $10 worth of calls) or on the call time (e.g. 10% discount after 200 minutes). **NOTE:** Let's look at a situation in which a customer's balance is $10.00 (and the volume discount counter is also $10.00). The customer makes a 30-minute call, and the tariff rate is $0.20/min. The call is charged as 30 * 0.20 – 10% = $5.40, and this value is stored in the CDR for the call. Thus the customer's balance will be modified by $5.40, to become 15.40. At the same time, the volume discount counter will go up by the amount without the discount because the discount applies to a standard rate. Thus the counter will go up by $6, to become $16.00.
Scheme	This parameter defines which discount scheme is applied to a new discount rule. **NOTE:** Once a scheme is selected and saved, it cannot be replaced with another scheme. Select a discount scheme among three options: • **Service Wallet** – This scheme makes it possible to divide the customer's balance into virtual sub-wallets. Therefore, money transferred to a sub-wallet can only be used for a specific service (e.g. only for calls to the US or only for sending SMS, etc.). Service wallets can be topped up via the self-care or administrator web interface. • **Quota** – This scheme enables you to allocate a defined volume of services for your customers. For example, provide 100 minutes for calls to Canada and 3 GB of Internet traffic for a $30 monthly fee (a subscription). • **Discount** – This scheme enables you to adjust prices depending on the volume of service consumed by customers. This helps you encourage them to use the service more in order to receive the discount (e.g. spend $20 for

	calls to the UK and get a 30% discount for the following calls made during the rest of the month). You can also use discounts to make special offers (e.g. new customers receive 50% off for 10 GB of Internet traffic).

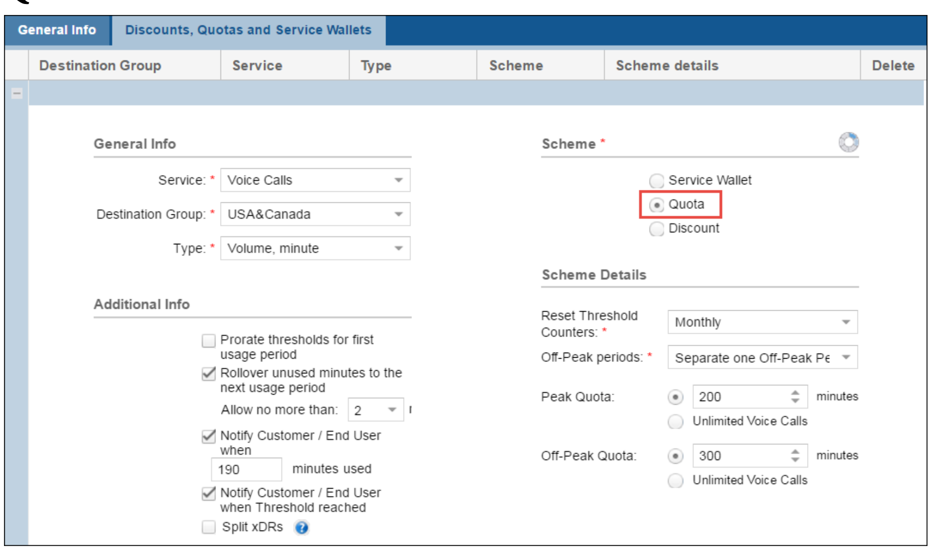
Service Wallet is selected for Scheme



Field	Description
Scheme Details	
Zero initial Balance	This option makes it possible to divide the customer's balance into virtual sub-wallets. Each sub-wallet is designated for a specific service and destination group. Therefore, money transferred to a sub-wallet can only be used for a specific service (e.g. only for calls to the US or only for sending SMS, etc.).
Initial Balance	Use this scheme to grant a certain volume of service to your customers for one time. For example, grant your IPTV customers 1 GB of Internet traffic free of charge as a promotional offer. Note that service wallets with an initial balance cannot be topped up. Specify the amount of traffic or money (depending on the threshold type) in the field below.

Topup your Service Wallet	Here you define the top-up options that will be available via the administrator, customer or account self-care web interfaces. • **Volume** – The volume of traffic to be available for top up. • **Fee** – The price you charge for the defined volume of traffic. Click on the **Add** icon to add a new row. Click on the **Delete** icon to delete the current record.
Additional Info	
Notify Customer / End User when … minute(s) used	This option allows you to define a notification threshold. When this threshold is reached, an email or SMS notification is sent to your customers informing them that the volume of services consumed is approaching the discount threshold.
Notify Customer / End User when Threshold reached	When this option is selected, an email or SMS notification is sent to your customers informing them that the discount threshold has been crossed and the discount no longer applies.

Quota is selected for Scheme

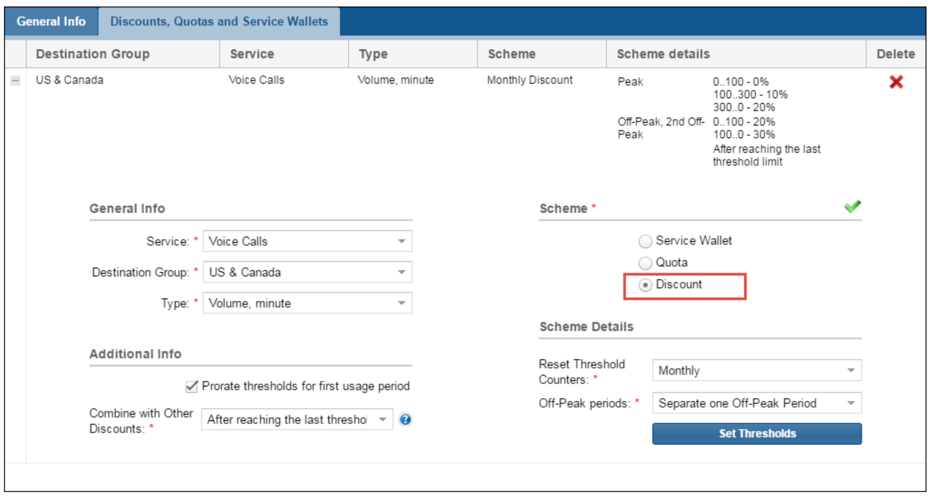


Field	Description
Scheme Details	
Reset Threshold Counters	This option allows you to define how a quota will be applied. If you select **Daily**, **Weekly**, **Twice monthly** or **Monthly**, then the quota counters reset each day, week, half a month or month, respectively. For example, you can provide a triple-play package that includes quotas such as 1000 minutes for domestic calls, 1 GB of Internet traffic and 150 domestic SMS – for a monthly subscription fee of $40. Once the quota is consumed, the service is unavailable until the following month.
Off-Peak periods	Select one of the options to define a different set of thresholds for peak and off-peak period(s).
Peak Quota	Type a threshold value for the peak quota here. The threshold value is measured either in currency units or volume of service (e.g. minutes), according to the threshold type. The value entered must be numeric (with a period allowed) and greater than zero. To provide a special "unlimited" value for the threshold, select the **Unlimited** check box.
Off-Peak Quota	This tab is only available if the **Separate one Off-peak Period** or **Separate two Off-Peak Periods** option is selected in the **Off-Peak Periods** list. Type a threshold value for the off-peak quota here. To provide a special "unlimited" value for the threshold, select the **Unlimited** check box.
Second Off-Peak Quota	This option is only available if the **Separate two Off-Peak Periods** option is selected in the **Off-Peak periods** list. Type a threshold value for the second off-peak quota here. To provide a special "unlimited" value for the threshold, select the **Unlimited** check box.
When Quota Exhausted *(only for the Internet Access service type)*	These restrictions apply to a service when quota is used up. Select one from among the three restriction modes: • **No Restriction** – The service remains available at the standard rate. • **Limit Usage** – The service is limited by using the Internet access policy. • **Block Usage** – The service becomes unavailable. **NOTE:** When **Limit Usage** or **Block Usage** is selected, quotas that have lower priorities will not be applied.

Additional Info	
Prorate thresholds for first usage period	This prorates quota thresholds according to the number of days remaining in the first usage period after the volume discount plan assignment. For example, a volume discount plan is created with 1000-minute quota, and a regular rate is applied after that. If a customer has a *monthly* usage period and the volume discount plan is assigned on October 20th, then the threshold becomes 367 minutes since there are 11 days remaining in October. For the following month the threshold becomes 1000 minutes.
Rollover unused minutes to the next usage period	If at the end of the usage period (e.g. at the end of the month) there is unused traffic left (i.e. minutes, Internet traffic, messages, etc.), it can be rolled over to the next usage period. For example, a customer has signed up for 100 bundled monthly minutes of free calls to Canada. By the end of the month, only 90 minutes have been used up. The 10 minutes remaining are rolled over to the next month, so during the next month 110 free minutes will be available for the customer. Please note that if you change the customer's volume discount plan (e.g. change an add-on product), then the unused minutes will transfer only if the new volume discount plan has the same discount entry (for more details see the *Change of Volume Discount Plans for Customer / Account* chapter in the **PortaBilling Administrator Guide**).
Allow no more than: … rollover(s)	The maximum number of usage periods that unused traffic can be rolled over. For example, if the usage period is monthly and you select 2, the unused traffic left from the first month will be rolled over to the second month and if not used completely, to the third month (2 rollovers). If unused traffic is not completely used by the end of the third month, it will expire. Note that if unused traffic from two or more usage periods is rolled over to the next one, the quota with the earliest expiration time is used first.

Notify Customer / End User when …	This option allows you to define a notification threshold. When this threshold is reached, an email or SMS notification is sent to your customers informing them that the volume of services consumed is approaching the volume of quota.
Notify Customer / End User when Threshold reached	When this option is selected, an email or SMS notification is sent to your customers informing them that their quota has been used up.

Discount is selected for Scheme



Field	Description
Scheme Details	
Reset Threshold Counters	This option allows you to define how a discount will be applied. If you select **Daily**, **Weekly**, **Twice monthly** or **Monthly**, then the discount counters reset each day, week, half a month or month, respectively. For example, provide a monthly deal of the first 100 minutes for calls to the UK at a standard rate and all following calls to this destination at a 30% discount. When the next usage period begins, the customer's calls to the UK are charged the standard rate. Select **One Time** discount to provide a permanent discount with no time limitation. For example, provide a rate that is 10% cheaper for a wholesale partner.

Off-Peak periods	Select one of the options to define a different set of thresholds for peak and off-peak period(s).
Additional Info	
Prorate thresholds for first usage period	This prorates volume discount thresholds according to the number of days remaining in the first usage period after the volume discount plan assignment. For example, a volume discount plan is created with a 100% discount for up to 1000 minutes, and a regular rate is applied after that. If a customer has a *monthly* usage period and the volume discount plan is assigned on October 20th, then the threshold becomes 367 minutes since there are 11 days remaining in October. For the following month the threshold becomes 1000 minutes.
Combine with Other Discounts	Select a mode to combine this discount with other discounts. **NOTE:** To see more examples about how to use these combining modes, please refer to the *Modes for Combining Discounts* chapter in the **PortaBilling Administrator Guide**. • **Never** – This mode of combining provides full override. It implies that a higher priority volume discount plan prevents the use of all lower priority ones. This means that even if the higher priority one is used up, the lower priority volume discount plans are ignored. • **Always** – Using this mode of combining, discounts are summed up to 100% (there is no money back for a consumed service). For example, two 30% discounts will result in a 60% final discount; 70% + 40% discounts will result in a 100% final discount. • **When discount lower than 100% is active** – If a higher priority volume discount plan has a threshold with a 100% discount defined within it, only this volume discount plan is applied to a session until the 100% discount threshold is used up. Only after the volume of the consumed service exceeds the 100% discount threshold can the rest of the

	discounts be applied. If discounts defined in both the higher and the lower priority volume discount plans are applicable to the same call, they are summed up to 100%. • **After reaching the last threshold** – A higher priority volume discount plan prevents the use of lower priority ones until its "unlimited" threshold is reached or the last (i.e. biggest) threshold is exceeded (regardless of discount value). For example, calls to Germany, discounted by 100% exclusively for 50 minutes are followed by a 50% discount for 1000 minute calls, while another (lower priority) volume discount plan for the EU offered a 30% discount. For calls to Germany the EU discount would only become applicable if the full 1050 minutes are used.

When you fill in all the required fields, click the **Save** button and the **Discount Scheme** dialog box opens.

Discount Scheme dialog box

In the **Discount Scheme** dialog box, you can define the following:

- The discount thresholds.
- Threshold values and corresponding discount values for peak and off-peak periods.

A threshold defines the maximum counter value (the volume of traffic or charged amount) within which the current discount may still be applied. If the last available discount is to be applied regardless of the counter value, (e.g. first 200 minutes – standard rate, up to 500 minutes – 10% discount, and 20% discount after that) then this last discount will be created with a special "unlimited" threshold.

Off-Peak Discount Scheme

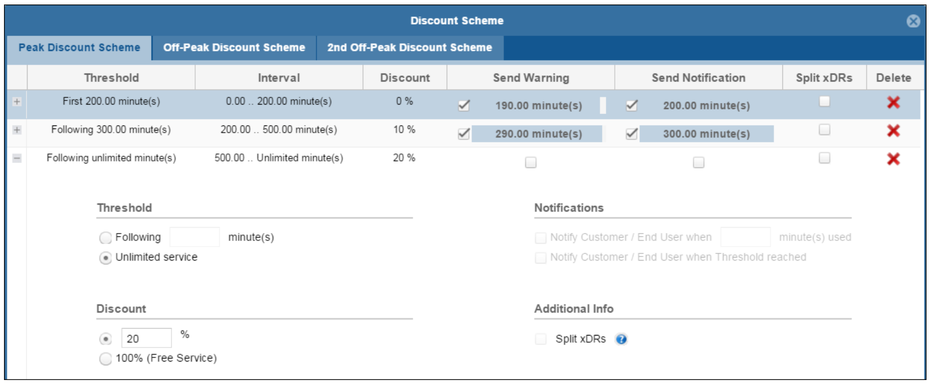
This tab is only available if the **Separate One Off-peak Period** option is selected in the **Off-Peak periods** list. Here you can define a different set of thresholds for the off-peak period. The mode of doing that is similar to that for **Discount Scheme**.

2nd Off-Peak Discount Scheme

This tab is only available if the **Separate Two Off-peak Periods** option is selected in the **Off-Peak periods** list. Here you can define a different set of thresholds for the second off-peak period. The mode of doing that is similar to that for **Discount Scheme**.

Discount Scheme

You can create an unlimited number of thresholds for a discount rule. Click the **Add** button to define a new discount threshold.



Field	Description
Threshold	
Following … minute(s) / USD	Type a threshold value here. The threshold value is measured either in currency units or volume of service (e.g. minutes), according to the type of discount. The value entered must be numeric (with a period allowed) and greater than zero.
Unlimited service	Select the **Unlimited service** option to provide a special unlimited value for the threshold.
Discount	
%	Type a percentage discount here. The percentage discount value must be numeric (with a period allowed) and less than 100. A 0% discount means that standard rate will be applied.
100% (Free Service)	Select this option to provide the service free of charge.
Notifications	
Notify Customer / End User when … minute(s) used	This option allows you to define a notification threshold. When this threshold is reached, an email or SMS notification is sent to your customers informing them that the volume of services consumed is approaching the discount threshold.
Notify Customer / End User when Threshold reached	When this option is selected, an email or SMS notification is sent to your customers informing them that the discount threshold has been crossed and the discount no longer applies.

Additional Info	
Split xDRs	When a session spans several rating periods (e.g. covers both peak and off-peak periods) it is divided into portions. Select the **Split xDRs** check box and then multiple xDR records will be produced for sessions like this one. Each xDR record will be linked to the applicable discount level / rate.
Service restriction	These restrictions are applicable only for the Internet Access service type.
No Restriction	Select this option to apply no speed or time restrictions to this threshold.
Limit Usage	Select this option to limit Internet service by using the Internet access policy, e.g. to significantly decrease the upload / download speed. **NOTE:** When this option is selected, discounts that have lower priorities will not be applied.
Block Usage	Select this option to block Internet service. **NOTE:** When this option is selected, discounts that have lower priorities will not be applied.

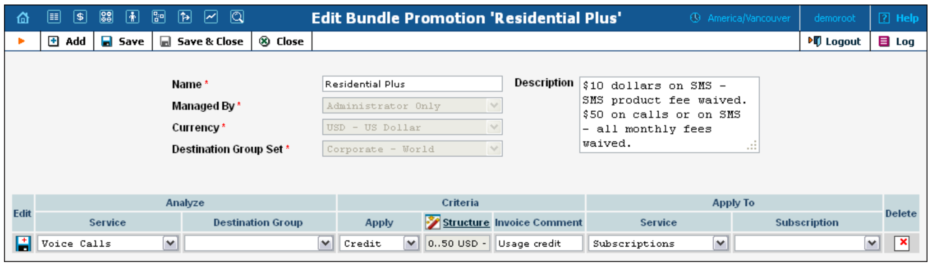
When you fill in all the required fields, click the **Update** button.

Bundle Promotions

The Bundle (Inter-service) promotions feature allows you to offer promotional discounts based on monthly amounts spent and apply charges based on usage minimum.

Add / Edit a Bundle Promotion

To add a new bundle promotion, select **Add** to go to the **Add Bundle Promotion** page. An existing bundle promotion can be edited by clicking on its name.

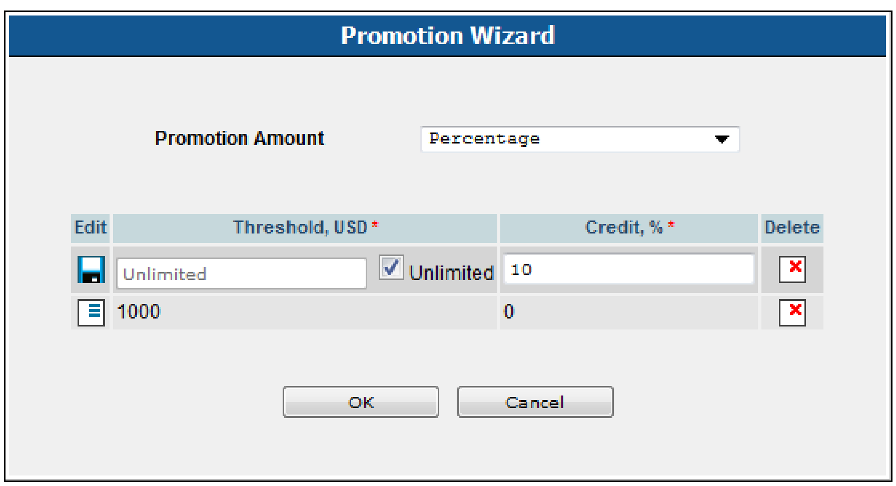


Field	Description
Name	The name of a bundle promotion to be used in the system.
Managed By	• By default – **Administrator Only**. • A bundle promotion can be assigned to a reseller (Managed by NNN) so that it is manageable from the reseller self-care interface.
Currency	Indicates which currency is used for billing calculations. All charges and credits in the bundle promotion are to be defined in this currency. A bundle promotion can only be assigned to customers that are charged in the same currency.
Destination Group Set	A set of destination groups (UK-Mobile, CZ-Mobile, etc.) you would like to use for more convenient promotion application.
Description	An extended description of this bundle promotion.
Analyze	These columns indicate which service and destination group will be used to analyze how much money the customer has spent on services during the billing period to credit or charge customer accordingly.
Service	Specifies for which service xDRs will be analyzed.
Destination Group	Specifies which destination group xDRs will be analyzed.
Criteria	These columns indicate a promotion scheme, credit or charge amounts and a comment shown on the customer's invoice.
Apply	Indicates whether a customer should be

	charged or credited for the promotion.
Structure	To configure a flexible promotion scheme click on the column header or the **Wizard** icon in order to launch the promotion wizard (see the section below).
Invoice Comment	Specifies what comment customer will see on his invoice for this promotion transaction.
Apply To	These columns indicate where to apply the promotion.
Service	Indicates whether to apply the promotion to a service, a whole bill, payments, taxes, credits / adjustments or subscriptions (all or one in particular).
Subscription	If the **Subscriptions** option was selected from the **Service** list you may either select a specific subscription here (to apply the promotion to) or leave this list empty to apply the promotion to the customer's own subscriptions and *all* of their credit accounts' subscriptions.

Promotion Wizard

The promotion wizard provides the administrator with a flexible tool for defining promotional discounts based on amounts spent during the billing period.



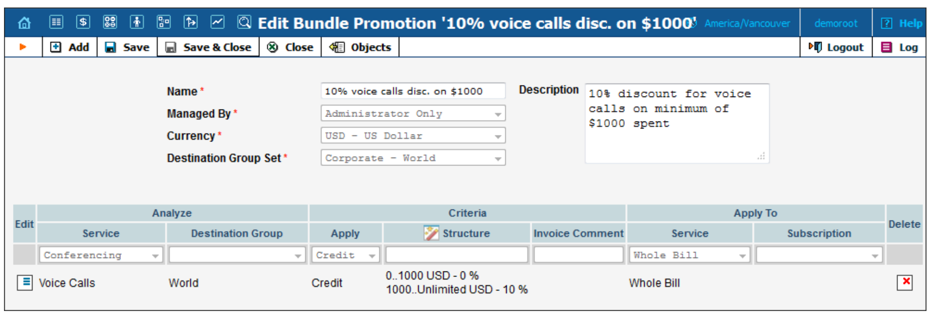
Field	Description
Promotion Amount	Defines whether the promotion is based on a percentage or a fixed sum of money: • **Fixed** – Increases or decreases service payment by a fixed amount of money. • **Percentage** – Increases or decreases service

	payment by a defined percentage.
Threshold	This field defines the maximum amount of money to be spent for a service to apply a corresponding credit or charge. Value entered must be numeric and greater than zero. To provide a special "unlimited" value for the threshold, select the **Unlimited** check box.
Credit / Charge	This field defines a credit or charge amount (either fixed or percentage based) that is applied when customer spends a corresponding amount of money for a service.

Examples:

Bundle promotion based on the amount of money spent

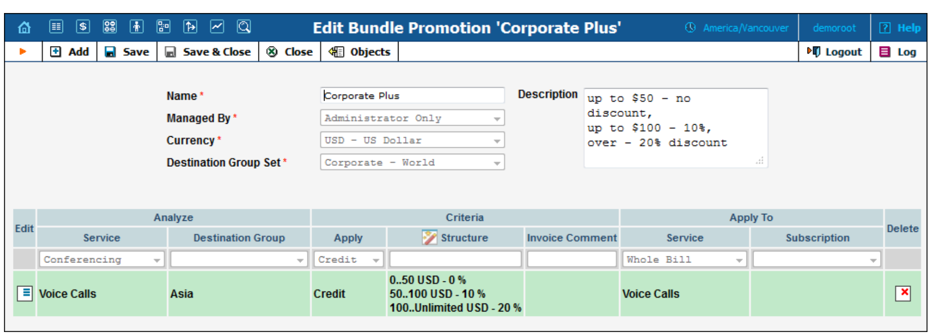
The promotion discount is defined as **0…1000 USD – 0%, 1000…Unlimited USD – 10%**.



For Voice Calls service usage up to $1000 no discount will be provided, a 10% discount will be applied to the entire bill if the Voice Calls service usage exceeds the $1000 threshold.

Bundle promotion with multiple discount thresholds

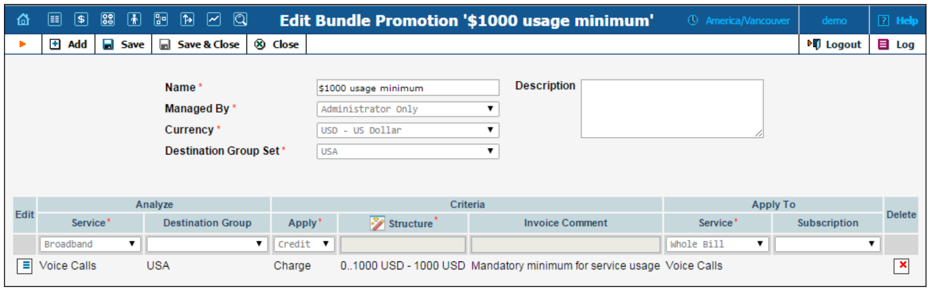
The promotion is defined as **0…50 USD – 0%, 50…100 USD – 10%, 100…Unlimited USD – 20%**.



For Voice Calls service usage up to $50 no discount will be provided; from $50 up to $100 a 10% discount will be applied; for service usage above $100 a 20% discount for the Voice Calls service will be applied.

Mandatory minimum for service usage

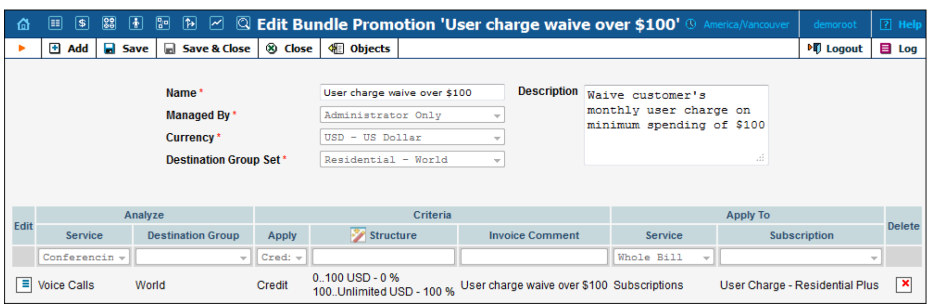
The mandatory minimum for service usage is defined as **0...1000 USD – 1000 USD**.



A customer commits to spending $1000 minimum per month on voice calls. For Voice Calls service usage of below $1000 a deficient amount is added this customer's invoice. For example, if the customer spends only $800, the deficient $200 is added to his invoice so that it equals $1000.

Bundle promotion based on a defined percentage

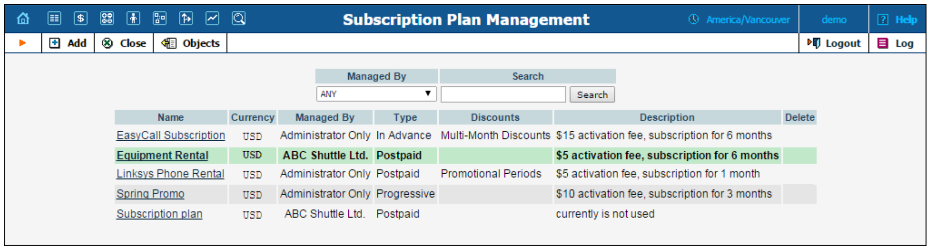
The promotion is defined as **0...100 USD – 0%, 100...Unlimited USD – 100%**.



For Voice Calls service usage below $100 no discount will be applied to subscriptions; for service usage above $100 a 100% discount will be applied to a specific subscription. In other words, the user will receive a subscription for free after spending more than $100 on Voice Calls.

Subscription Plans

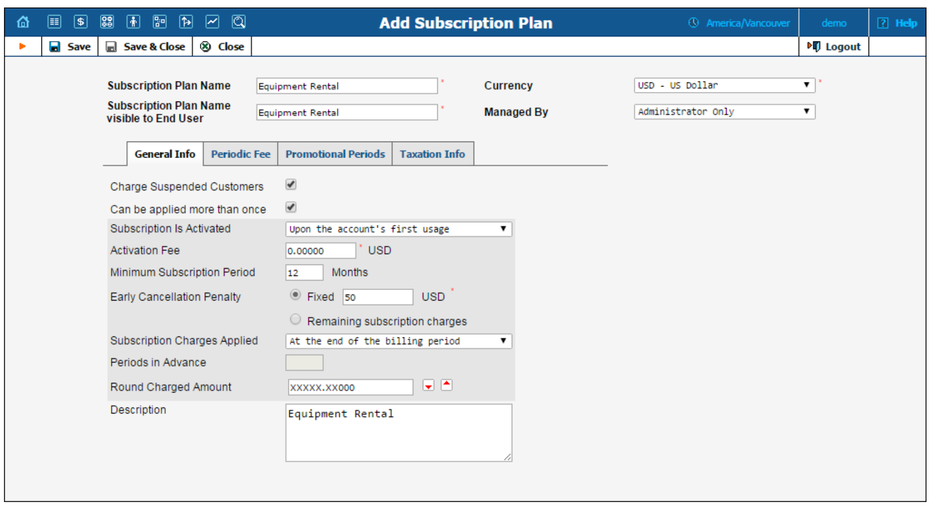
With subscription plans, you can charge customers recurring (e.g. monthly) fees for using the service. For example, the fee is $30 per month for an IP Centrex phone line. You can include subscription plans in customer products (both main and add-on ones).



Use the **Subscription Plan Management** page to list all existing plans.

Add / Edit a Subscription Plan

To add a new subscription plan to the system, select **Add** to go to the **Add Subscription Plan** page. An existing subscription plan can be edited by clicking on its name in the list.



Field	Description
Subscription Plan Name	The logical name of the subscription plan.
Subscription Plan Name Visible to End User	A clear subscription name shown to end users on invoices and on their self-care interfaces (e.g. the internal subscription name is "Phone Book" while the name visible to end users is "Telefonbuch").
Managed By	• By default – **Administrator only**. • The plan can be assigned to a reseller (Managed by NNN) so that it is manageable from the reseller's self-care interface.
Currency	Indicates which currency is used for billing calculations. All fee amounts in the plan are to be defined in this currency. A subscription

	plan can only be assigned to customers, accounts and products using the same currency.

General Info tab

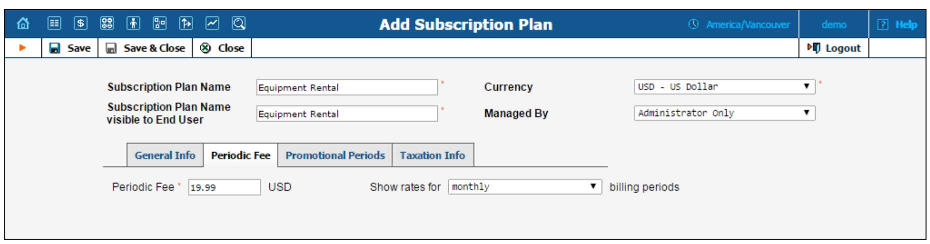
Field	Description
Charge Suspended Customers	• Select this check box to enable subscription charges for suspended customers (in this case, subscription fees are always fully applied disregarding user status). • Clear this check box only when applying subscription charges for those days when the customer wasn't suspended. (Note that customer's invoice will contain a transaction for the entire billing period subscription fee and a transaction showing the compensation for those days when the customer was suspended.) For new subscriptions, the **Charge Suspended Customers** option is off by default (so that subscription charges will *not* be applied for those days when services were suspended).
Can Be Applied More than Once	Select this check box to assign the same subscription multiple times to one account. Note that you can use this option only when you are adding a new subscription plan. For new subscriptions, the **Can Be Applied More than Once** option is off by default (so that subscription charges will *not* be applied multiple times for one account).
Subscription Is Activated	If the subscription is assigned to an account, this parameter specifies the date upon which the subscription charges will apply: • **At the given start date** – The first billed day is the subscription start date. The start date can be specified for subscriptions assigned to a customer or account directly. When assigned to an account with the status **Not Yet Active** (i.e. such an account has the

	activation date defined as sometime in the future) via the main or add-on product, the subscription will only start to be charged after such accounts are activated. • **Upon the account's first usage** – Charges are applied when the account is first used (e.g. a user has made a first call).
Activation Fee	A one-time fee applied when the subscription is activated.
Minimum Subscription Period	Time interval (in months) during which the subscription must remain uninterrupted so as to avoid penalties.
Early Cancellation Penalty	If the subscription is cancelled earlier than the minimum subscription period a one-time fee is applied. The following options are available: • **Fixed** – A fixed charge is applied without taking account of when the subscription was cancelled. • **Remaining subscription charges** – The charge will depend on the time when the subscription was cancelled. For example: a subscription plan has a $30 monthly subscription fee and a 12-month minimum subscription period. A customer signs up on September 10th and cancels the subscription on October 1st (he has only used the service for 20 days.) In this case, the subscription will be charged for 11 months and 10 days, that is $30*11 + $30/30*10 = $330 + $10 = $340.
Subscription Charges Applied	This defines the way subscription charges are applied to a customer's account: • **At the end of the billing period** – The customer is charged the full subscription fee at the end of the billing period. • **In advance** – The customer is charged subscription fees until the end of the Nth full billing period that follows the current one. For instance, a subscription charged 2 months in advance is activated on

	April 1st for the customer with the monthly billing period. Therefore the customer's invoice for April will include subscription charges for May and June. When activated in the within the current billing period (e.g. April 10th), the customer's invoice will contain their pro-rated subscription charges for the incomplete billing period (from April 10th till April 30th) and their advance subscription charges for two future billing periods (May and June). • **Progressively** – The customer is charged a prorated subscription fee on a day-by-day basis. This means that by the end of the billing period, the total subscription fee amount will have been charged. For example, if the monthly subscription fee is $9.99, a progressive charge of $0.33 will be made daily, so that on the 10th day the subscription charges will total $3.33 and by the end of the month, $9.99. Depending on your business model, specify how PortaBilling® will generate xDRs for customer subscriptions: ○ **Keep total charge only** – PortaBilling® generates a single xDR updated every day to cover subscription charges from the beginning of the billing period till the current day. ○ **Generate daily charges** – PortaBilling® generates a separate xDR for every daily subscription charge. These xDRs can be used for accounting and reporting.
Periods In Advance	Only available for subscription plans charged in advance; specifies for how many periods advance charges should be made.

Round Charged Amount	A pattern that defines the rounding of the amount charged for a billing period (e.g. when the monthly subscription amount is $10.00, but the service was only used for 10 days, it is desirable to round the applicable charge of $3.33333). This pattern takes the form of XXX000. An X (to the left) means that the digit(s) in this position will be left unchanged, while a zero (to the right) means that this position will be rounded off. For example, XXXXX.XX000 means that the amount will be rounded up two decimal places, so that 1.2345 becomes 1.24. Note that rounding off is **always** done upwards.
Description	An extended description of this subscription plan.

Periodic Fee tab

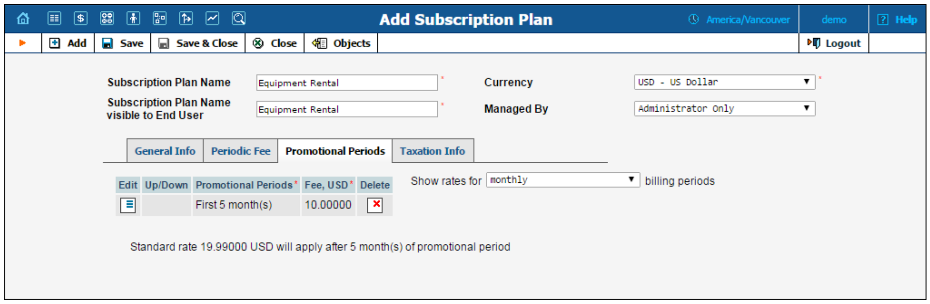


Field	Description
Periodic Fee	The value of the periodic fee that will be applied to the customer while a subscription is active if no special promotional fees or bulk discounts are defined.
Daily Periodic Fee *(for subscriptions charged progressively)*	This option is available only for subscriptions charged progressively with the **Generate daily charges** option enabled. Specify the value of the daily fee that a customer will be charged while their subscription is active.
Show rates for	Shows how the defined periodic fee will be applied to customers with a specific billing period (e.g. if a $10 periodic fee is defined for customers with a monthly billing period, a $2.33333 periodic fee will be applied to customers with the weekly billing period and

	so on.)

Promotional Periods tab

In this tab you may define specific fees for different promotional periods.

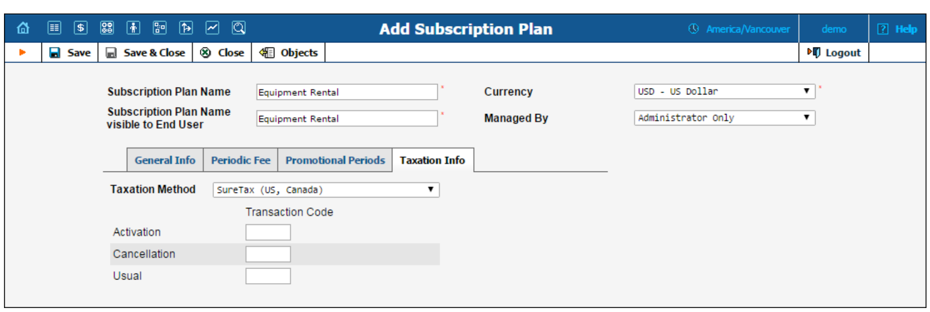


Field	Description
Promotional Periods	Promotion span – the number of billing periods covered by this fee.
Fee	Amount of the fee.
Show rates	Shows how the defined promotional fee will be applied to customers with a specific billing period (e.g. if a $10 promotional fee is defined for customers with a monthly billing period, a $2.33333 promotional fee will be applied to customers with a weekly billing period and so on.)

After you have edited a specific row, click **Save** to confirm that you have finished editing this row. (You still need to save the whole form – use **Save** on the toolbar for this).

NOTE: You can change the order of the promotional periods by clicking and arrows.

Taxation Info tab



Field	Description

Taxation Method	Tax legislation may require that taxes be calculated individually for different types of services (voice calls, equipment rental costs, etc.). It can be done by means of special taxation plug-ins. These plug-ins link each type of fee to the relevant taxation rule via a tax code. Select whether one of such taxation plug-ins is to be used for taxing this subscription plan. • Select **None** if taxes are already included in the subscription fees, or if the **Custom taxation** or **Fixed VAT Rate** taxation methods are used for taxing this subscription. • Select **EZtax (US, Canada)** to use the external taxation module from EZtax, Inc. • Select **SureTax (US, Canada)** to use the corresponding external taxation module. • Select **GST (Malaysia)** to use the PortaBilling® internal taxation plug-in that handles the Malaysian goods and services tax. Note that the corresponding taxation method must be defined for a customer or for a customer class that will use this subscription. For more information about taxation plug-ins please see the *Processing Taxes* section in the **PortaBilling® Administrator Guide**.
EZtax (US, Canada)	
Transaction / Service	Each subscription can include up to three separate fees: an activation fee, a periodic fee and a cancellation fee. Each fee may consist of charges for one or more different services. It is the responsibility of the service provider to describe the service bundles (i.e. which services a subscription covers and in what proportion subscription fees are distributed among these services) to the tax company and acquire corresponding tax codes. • **Activation** – Type the tax code associated with services covered by a subscription activation fee (e.g. 20 feet of cable cost, administrative costs). • **Cancellation** – Type the tax code

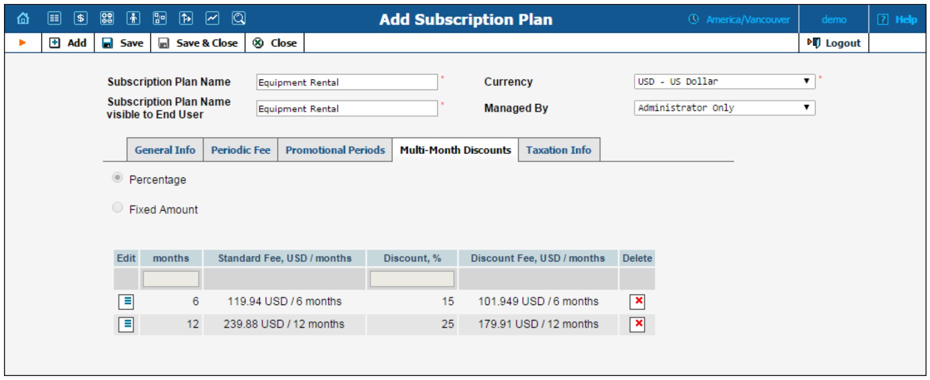
	associated with services covered by a subscription cancellation fee (e.g. administrative costs). • **Usual** – Type the tax code associated with services covered by a periodic subscription fee (e.g. SIP phone rent and voice calls).
SureTax (US, Canada)	
Transaction Code	For general information, see *EZtax (US, Canada)* section, **Transaction / Service** description. • **Activation** – Type the tax code associated with services covered by a subscription activation fee (e.g. 20 feet of cable cost, administrative costs). • **Cancellation** – Type the tax code associated with services covered by a subscription cancellation fee (e.g. administrative costs). • **Usual** – Type the tax code associated with services covered by a periodic subscription fee (e.g. SIP phone rent and voice calls).
GST (Malaysia)	
Tax Transaction Code	Select the tax transaction code that indicates how services covered by this subscription are to be taxed.

Multi-Months Discounts tab

This tab is available only for subscriptions charged in advance (**In advance** is selected from the **Subscription Charges Applied** list on the **General Info** tab).

To improve your cash flow, you can now encourage your customers to pay monies in advance by providing them with bulk discounts for subscriptions that are charged in advance (e.g. "Pre-pay for 6 months and get 20% off for Internet" or "Pay for 12 months and save $100 for IPTV!").

An administrator can set the number of billing periods and choose a discount value, which will either be a percentage (e.g. 20%), or a fixed sum (e.g. $20).



Field	Description
Discount type	Defines whether a discount is based on a percentage or on a fixed sum: • **Percentage** – The discount is provided as a defined percentage, calculated from the standard periodic fee. • **Fixed amount** – The discount is provided for a defined amount.
Months	Shows the number of months this bulk discount applies to.
Standard Fee	Shows the value of the standard periodic fee for the specified number of months.
Discount	The percentage discount value. It must be numeric (with a period allowed, e.g. 33.3) in the 1–100 range. A 100% discount means "free service."
Discount Fee	Shows the auto-calculated fee value with the defined discount applied. If Fixed amount discount type is selected, then specify the amount of the discount fee here.

Products

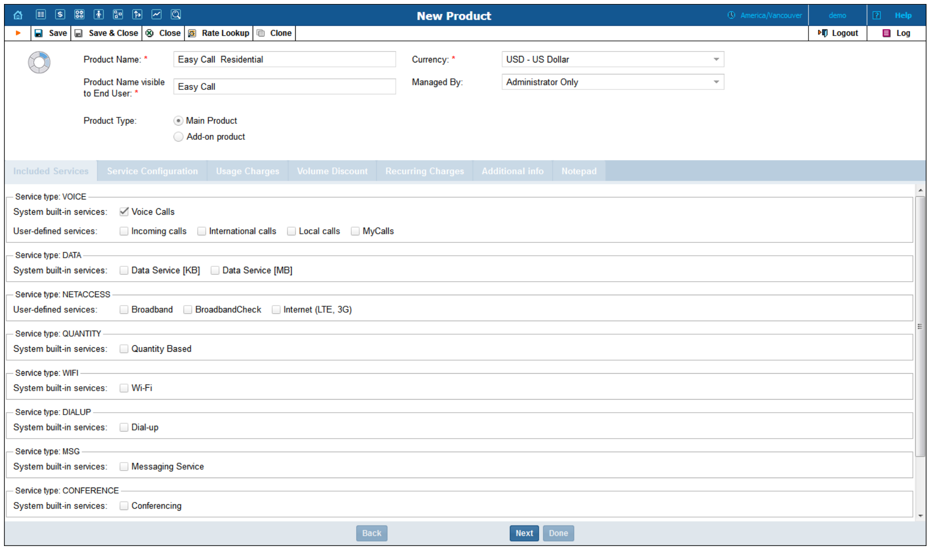
A product is a combination of services that you provide to a customer for a price. For example, you decide to sell calling cards with 10 cents/minute calls to the Czech Republic for calls to a local access number in New York, and 15 cents/minute + 50-cent connection fee for calls to a toll-free line. In this case, your product will include two types of service:

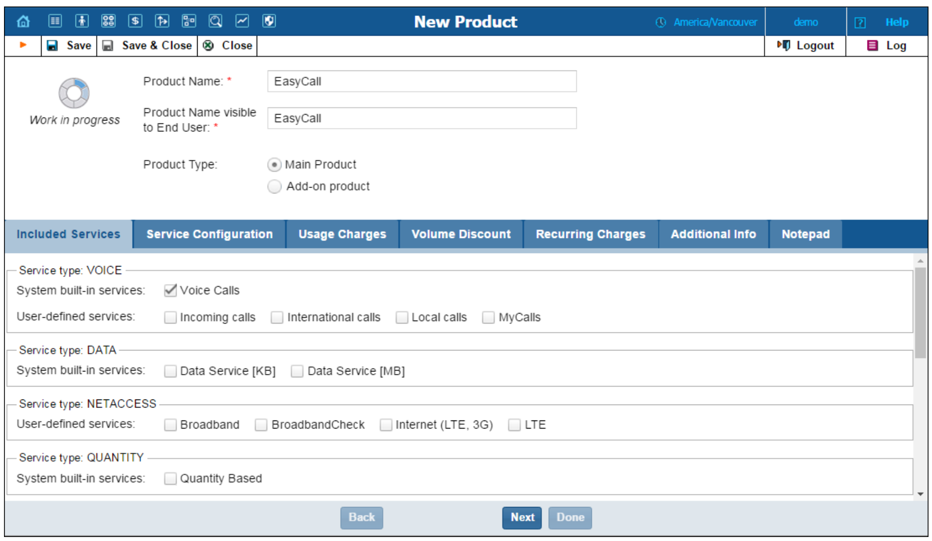
- access via the local New York number, and
- access via the toll-free line,

with price parameters associated with each service.

Rating entry is the main component of a product definition. It specifies where your customers are allowed to use a service and how they should be charged for it. Rating entry allows you to specify the following parameters which define an access point:

1. The type of service provided.
2. The node on which the service is used. What exactly does "node" mean in this context? If, for example, a customer calls to gateway A, enters his PIN, and makes an outgoing call which is terminated on gateway B, is he using a service on node A, node B, or both? The correct answer is that the service is regarded as having been provided at the point where authorization was performed. In this example, since PIN authorization is performed on node A, it is node A which must be listed in the rating entry.
3. A tariff with a complete set of rates. Thus it should include every possible destination allowed by your customers' service plan (e.g. in the case of a telephony service, every destination to which you want to let them call).
4. Identification of the access code (method) on that node. This parameter allows you to use different rate plans for the same service. For example, you may choose a rate plan according to the PSTN access number (local or toll-free) that the customer has dialed. Or you may use different rate plans for outgoing, incoming and forwarded calls in your IP calls service. (While for services such as prepaid cards the access code is a number, for other services any string may be used, so long as it is one provided by the application handling the call).
5. Originating line information (this is applicable only to the voice call service). You can separate rating entries based on originating line information (e.g. whether the call was made from a home phone or a pay phone). Make sure your telecom provider supplies you with this information in the call setup.
6. A service consumption policy for suspended customers. For example, you may want to allow such customers to continue receiving incoming calls (since they are free.)
7. The rate match mode that allows you to rate calls based either on their destination or on the caller's number.





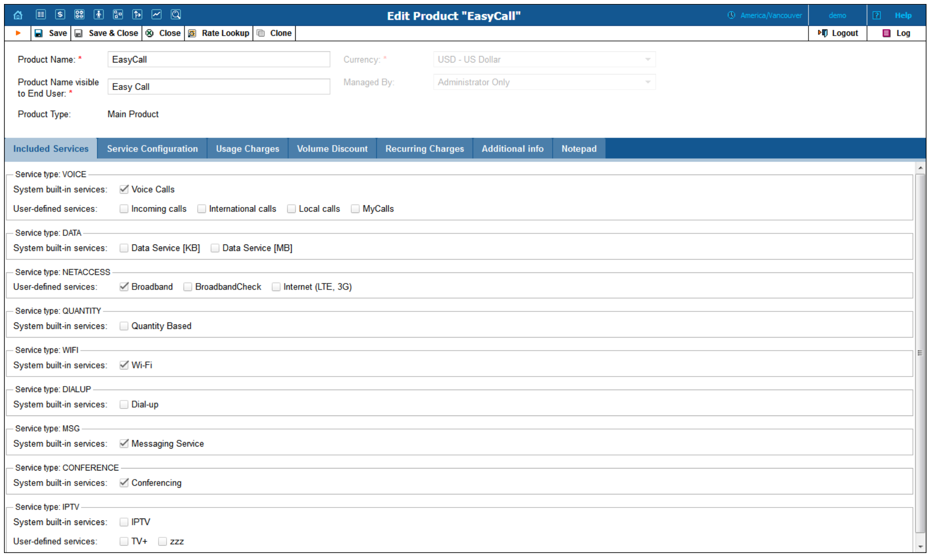
The basic information for defining a product is as follows:

Field	Description
Product Name	The internal product name.
Product Name Visible to End User	A clear product name to be shown to end users on their self-care interfaces (e.g. the internal product name is “Phone Book” while the name visible to end users is “Telefonbuch”).

Product Type	The product type can be the following: • **Main Product** – A basic product that assigns all the basic services that are available to your customers. • **Add-on Product with precedence level** – An additional product by which you can increase or limit the services provided to your customers. Add-on products have precedence over the main product, so no matter what is defined within the main product, it will be overridden by settings defined within add-on products (this applies only to the options that are supplied with add-on products). In order to differentiate the add-on products there is also a **precedence level** parameter for each add-on product. If there are more than one add-on products assigned to an account they will be sorted according to the specified **precedence level**.
Currency	The currency in which the product will be maintained. To edit a currency, delete all rating entries for this product.
Managed By	• **Administrator only** (default) means that this product will be used for your direct customers and is accessible only to your administrators. • Select a PortaBilling® reseller to assign this product for use by a particular reseller.
Work in Progress	The **Work in Progress** icon indicates that a rating entry for the current product is not yet defined. Consequently, the product is not available for usage.

Included Services Tab

You can define which service types are available for all accounts that this product is assigned to.



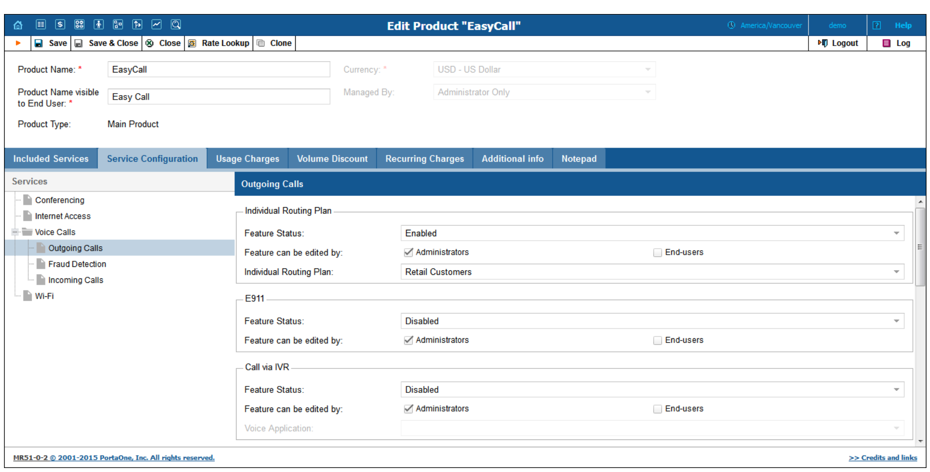
Service Configuration Tab

You can define the default values of service attributes for all accounts which this product will be assigned to (naturally, you can override them at the account level later on).

Note that each service feature includes the **Feature can be edited by** option which provides two check boxes:

- **Administrators** – This permits administrators to enable / disable the service feature for accounts that have this product assigned.
- **End users** – This permits end users to enable / disable the service feature on the account self-care interface. Note that some service features are not currently present on the PortaBilling® account self-care interface.

  If you have your own self-care portal, you can add the required service features to it by using PortaBilling® API.



Field	Description
	The *Voice Calls* service type
Fair Usage Policy	To prevent fraud and service abuse of products that provide your customers with free calls, you may define limits for simultaneous calls that can be applied to all accounts with this product.
Feature Status	Select **Enabled** from the list to activate the **Fair Usage Policy** feature.
Max number of incoming calls	Allows only a specific number of concurrent incoming calls for accounts with this product.
Max number of outgoing calls	Allows only a specific number of concurrent outgoing calls for accounts with this product.
Max number of simultaneous calls	Allows only a specific number of concurrent calls (regardless of their type, such as incoming or outgoing) for accounts with this product.
Max number of forwarded calls	Allows only a specific number of concurrent forwarded calls for accounts with this product.
Call Recording	Enables the recording of calls made or received by this customer's accounts. The user can start and stop recording a specific phone conversation after it has already started by using various phone controls.
Feature Status	Select **Enabled** from the list to activate the **Call Recording** feature.
Auto Record Outgoing Calls	Automatically records outgoing calls made by this customer's accounts. Note that calls made to a voice mailbox to retrieve messages will not be auto-recorded.
Auto Record Incoming Calls	Automatically records calls received by this customer's accounts.
Auto Record Redirected Calls	Automatically records calls redirected by this customer's accounts. Note that: • Redirected (transferred or forwarded) calls are only recorded if the XDR for this call is created for the redirecting party. • Calls diverted to voicemail will not be auto-recorded.
	The Incoming Calls section
Unified Messaging	Allows the account users with this product to access the unified messaging system. See the **PortaSIP Media Applications Guide** for more details.
Feature Status	Select **Enabled** from the list to activate the **Unified Messaging** feature.

Mailbox Limit, MB	Allows you to define / change mailbox limit.
Fax-only mode	Allows you to configure accounts with this product as a dedicated fax machine. • When the **Fax-only mode** is set to **Yes** (e.g. for an account that represents a DID number), every incoming call to this number will be answered with "start fax" tones, indicating that it will only receive fax messages. Thus the phone line will serve as a dedicated fax line, emulating the behavior of a legacy fax machine. • When the **Fax-only mode** is set to **No**, the voicemail mode is enabled for the phone line and allows a caller to leave a voice message which can be listened to later.
Present Caller Info	Display caller info on incoming calls.
Feature Status	Select **Enabled** from the list to activate the **Present Caller Info** feature.
Call Waiting	This activates the Call Waiting functionality.
Feature Status	Select **Enabled** from the list to activate the **Call Waiting** feature.
Caller ID (CNAM) Lookup	This option shows the actual name of the caller retrieved from the database of the CNAM provider for incoming calls.
Feature Status	Select **Enabled** from the list to activate the **Caller ID (CNAM) Lookup** feature.
Call Forwarding	Assigns call forwarding mode to the accounts with this product.
Feature Status	• **No Forwarding** – Disables call forwarding entirely. • **Follow-Me** – Enables the standard follow-me forwarding. • **Advanced Forwarding** – Activates the advanced call forwarding mode. • **Forward to SIP URI** – End users can enter a forwarding destination as a CLD@IP or CLD@domain. PortaSIP® will round-robin through DNS SRV records if they are configured for the specified domain. • **Simple Forwarding** – Allows you to specify a single phone number to which all calls will be sent.

Maximum Forwards	Type the number of concurrently active forwarding destinations allowed. Please note that you do not have to limit the total number of phone numbers entered, but rather the number of phone numbers active at any given moment of time. For instance, a user may have a list of 20 numbers, each active in its own time period, some temporarily turned off, and so on. When call forwarding is done, PortaBilling® will compute a list of numbers which may be used at that moment, and choose only the first N in the list, where N is the number specified in **Maximum Forwards**. This option is active only when call forwarding is enabled.
Forward by DTMF	This option is active only when one of the several call forwarding modes is selected. It allows a user to use DTMF tones to transfer calls forwarded to the user's mobile phone from the user's IP Centrex extension, and to stay on the line until the other party picks up. Thus, if a user receives a call to his mobile phone and needs to transfer it to his colleague at Extension 1002, he dials *661002#, and when his colleague confirms that she is free to take the call, he hangs up.
Call Screening	Enables call screening / conditional call forwarding features.
Feature Status	Select **Enabled** from the list to activate the **Call Screening** feature.
Auto Attendant	Activates the auto attendant functionality for accounts with this product.
Feature Status	Select **Enabled** from the list to activate the auto attendant functionality.
The *Outgoing Calls* section	
Individual Routing Plan	This enables the selection of the routing plan to be used for outgoing calls when the end user dials a number without using a specific selection code.
Feature Status	Select **Enabled** from the list to activate the **Individual Routing Plan** functionality.
Individual Routing Plan	Select the required routing plan from the list.
E911	Activates emergency services for accounts with this product.

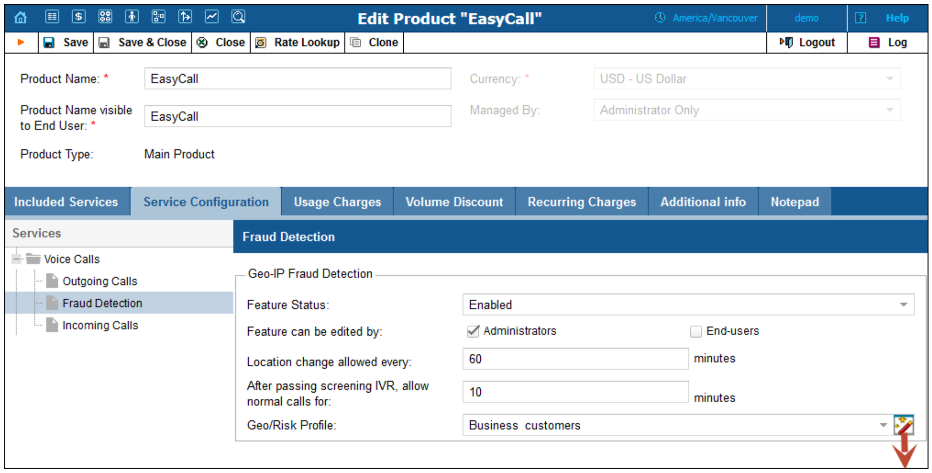
Feature Status	Select **Enabled** from the list to activate the **E911** feature.
Call via IVR	This feature enables calls to be processed in an assigned IVR-capable voice application. For example, the Pass-through IVR application plays a "time left" warning when a specified number of seconds is left – before the call is disconnected – or it can announce the maximum allowed call duration to the destination and then connect the call.
Feature Status	Select **Enabled** from the list to activate the **Call via IVR** feature.
Voice Application	If **Call via IVR** is enabled, select a voice application for processing the calls. Typically this is a special pass-through IVR application for voiceover announcements during the call, but any standard IVR application can be selected to intercept the outgoing call.
Phone Book	Activates the Phone Book feature. This allows an account user to maintain its own set of frequently dialed numbers, assign speed dial codes to them and define a list of favorite numbers.
Feature Status	Select **Enabled** from the list to activate the **Phone Book** feature.
Speed Dial Code	This enables the use of a speed dial code to call favorite numbers.
Maximum Speed Dial Length	The maximum allowed length (1–9) of speed dial codes.
Maximum Favorite Numbers	You may allow an account user to define a list of favorite numbers. This field specifies the maximum amount of numbers that the account can mark as favorites.
Favorite Numbers Locking Interval	This defines the period in days during which the favorite numbers cannot be changed. Thus when a new favorite number is added (or an existent one is changed) by an account user, the number will be locked for a specified period of days. When this period ends, the favorite number can be either changed or deleted.

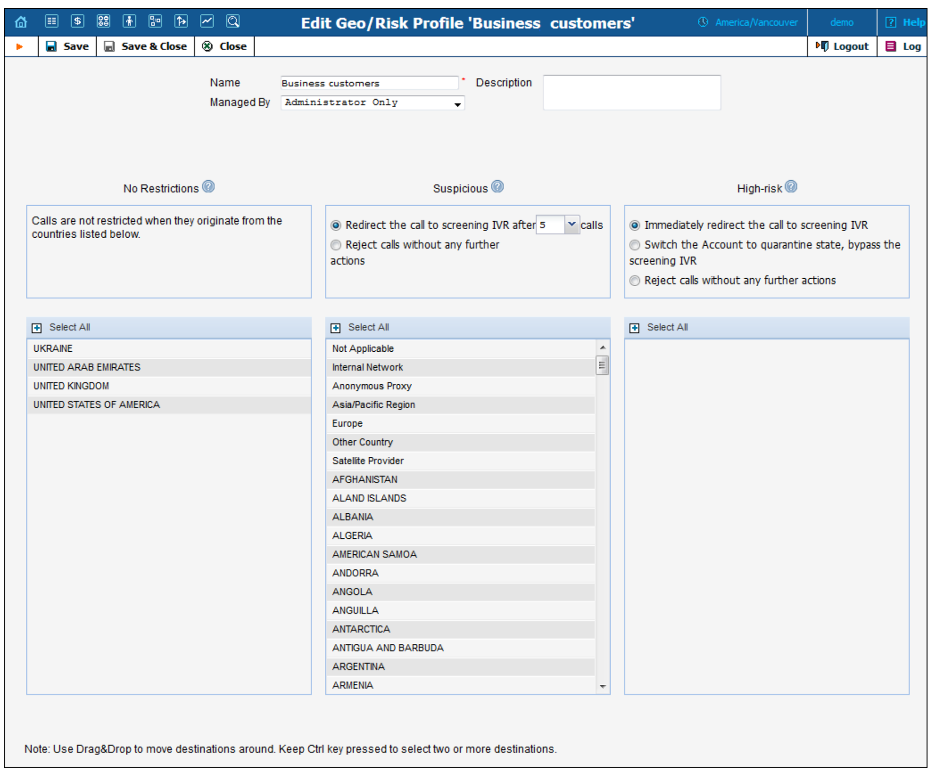
Favorite Numbers Allowed Patterns	This is a comma-separated list of patterns for numbers which an account user can mark as favorites. For example, to allow an account user to mark Moscow, Russia destinations as favorites, input "`7495, 7499`" here. This field can contain the following special symbols: • **%** – wildcard for any number of symbols, and • **_** – equivalent wildcard for one symbol. If this field is empty, then any number can be marked as a favorite.
Hide CLI	This allows you to remove CLI (ANI) information for outgoing calls.
Feature Status	Select **Enabled** from the list to activate the **Hide CLI** feature.
Hide CLI by Default	• **No** – Show caller ID by default. • **Yes** – Hide caller ID by default. Note that when making a call, you can dial the special feature access code before dialing the phone number to override the default setting. For more information, please see the *Service Codes* table in the **Dialing rules** section of this guide.
Call Barring	Activates the Call Barring feature for accounts with this product. Call barring allows your customers to prohibit outgoing calls to specific destinations.
Feature Status	Select **Enabled** from the list to activate the **Call Barring** feature.
CPS Limitation	This allows you to enforce the calls per second (CPS) limitation. The CPS limitation defines how many dialing attempts per second can be made by an account with this product assigned.
Feature Status	Select **Enabled** from the list to activate the **CPS Limitation** feature.
Allowed rate	Set the limit of dialing attempts per second for this product. If the limit is exceeded, new dialing attempts are blocked. The allowed values are from 1 to 1000.
The *Internet Access* service type	
Access Policy	Allows to limit bandwidth according to the required rule. For more information please see the **Internet Services** section of this guide.
Feature Status	Select **Enabled** from the list to activate the **Access**

	Policy feature.
Internet Access Policy	• Select the appropriate internet access policy from the list, or • Select **None** if you do not want to limit the bandwidth on the account with this product.
Hotlining	Select **Enabled** if your NAS supports a hotline.
Feature Status	Select **Enabled** from the list to activate the **Hotlining** feature.
Static IP	Select **Enabled** if you want to assign a static IP address to accounts with this product.
Feature Status	Select **Enabled** from the list to activate the **Static IP** feature.
Session Limit	Defines the maximum number of concurrent sessions that can be initiated.
Feature Status	Select **Enabled** from the list to activate the **Session Limit** feature.
Max Simultaneous Sessions	Specify the maximum allowable number of concurrent sessions (only available when the **Session Limit** feature is enabled).
The *IPTV* service type **NOTE:** The content of this section is available only if an IPTV platform is set up on the Configuration server. For information on how to set up an IPTV platform on the Configuration Server, please refer to the *IPTV Services* handbook from the **Unified PortaSwitch Handbook Collection**.	
Channel Package	This feature defines a set of broadcast channels that are available to accounts with this product.
Activation PIN	Specifies a numeric code to be entered from end user's STB (Set-Top Box) remote controller to activate IPTV services.
The *Wi-Fi* service type	
Limit Bandwidth	Allows you to limit bandwidth for the accounts with this product.
Feature Status	Select **Enabled** from the list to activate the **Limit Bandwidth** feature.
Max Upload Rate	Specifies the maximum upload rate for the accounts with this product.
Max Download Rate	Specifies the maximum download rate for the accounts with this product.

Fraud Detection section

Geo-IP Fraud Detection can be enabled for individual products, thereby allowing IP verification to be performed on all accounts using this product. This allows you to apply Geo-IP verification to specific business and residential VoIP products, and skip it for other products (for backward compatibility or simply because it does not fit the business model, for instance, for a service similar to Skype, where users can register and use the service anywhere in the world.)



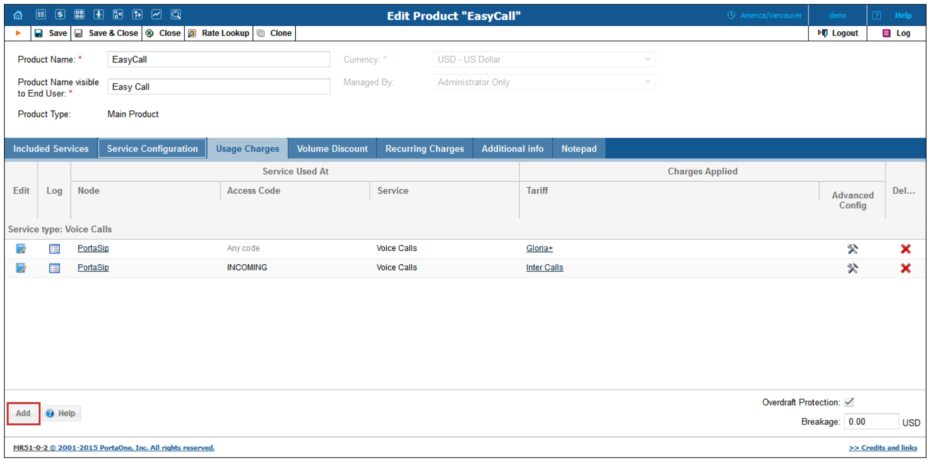


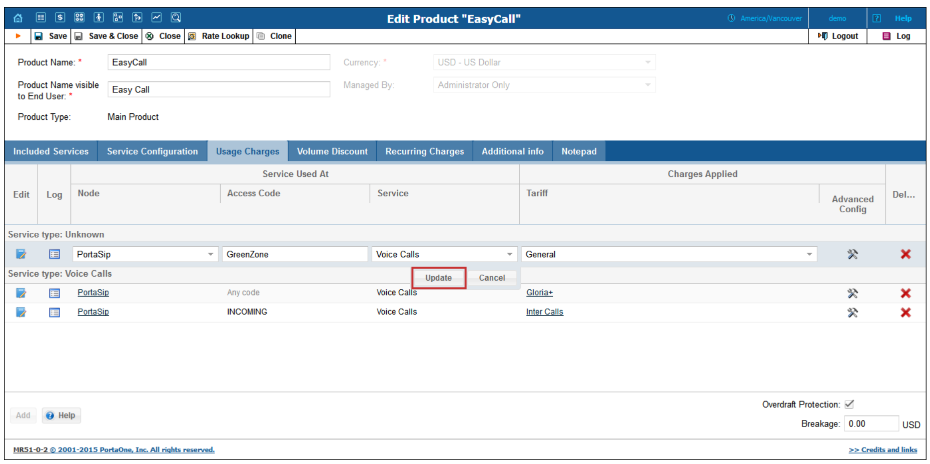
Field	Description
Feature Status	Select **Enabled** if you want to apply IP verification to be performed for all accounts using this product.
Location change allowed every: … minutes	Type the minimum time interval in minutes during which an end user is not supposed to make calls from different locations (i.e. from different IP addresses).

	For example: A location change is allowed every 240 minutes (i.e. every 4 hours). A call comes in and its location is detected as "New York." For three days calls come from this number in New York, and then the account calls from Egypt. Merely an hour later, the same account calls from Bangladesh. Because only an hour had passed after the call from Egypt was made, the system considers the call from Bangladesh to be a potential security breach and screens it. This restriction works independently of the geo / risk profile assigned, and applies to location changes between countries as well as within a single country. It applies to roaming and stationary end users (the latter are allowed to change location within the country specified in the **Current Location** option for the customer / customer site / account.). By typing 0 inside this option you allow end users to make calls from different IP addresses, simultaneously.
After passing screening IVR, allow normal calls for … minutes	Allows the end user to make calls for a specified period of time after passing the screening IVR without inputting the PIN again.
Geo / Risk Profile	Choose a geo/ risk profile depending on the area where you sell the service and what type of service it is. Click the **Wizard** icon to edit the chosen profile. To create a new Geo / Risk profile, choose **Click wizard icon to create …** from the list and click the **Wizard** icon.

Usage Charges Tab

Rating list on **Usage Charges** tab defines where users of this product can use the service, and how they will be charged for it.





Field	Description
Node	The node on which the service is provided to the end users.
Tariff	A tariff is applied to end users to charge for the provided service.
Access Code	Identification of the access code (method) on that node. This parameter allows you to use different rate plans for the same service. For example, you may choose a rate plan according to the PSTN access number (local or toll-free) that the customer has dialed. Or you may use different rate plans for outgoing, incoming and forwarded calls in your SIP calls service using the OUTGOING, INCOMING and FOLLOWME access codes, respectively. (While for services such as prepaid cards the access code is a number, for other services any string may be used, so long as it is one provided by the application handling the call).

Advanced Config	
Service Allowed to Suspended Users	This parameter allows / disallows end users to use certain services when their accounts are suspended: • **None** – No services are provided to suspended users. • **Zero Charged Only** – Allows your customers to continue using free services during suspension periods. For example, if their account is suspended and you allow them to continue receiving incoming calls (since they are free), select this option.
Originating line information	This parameter allows service providers to charge end users depending on where the call originates from. For more information please refer to the *OLI-Based Billing* section of the **PortaBilling Administrator Guide**.
Rate Match Mode	This parameter allows you to rate calls either based on the destination or the caller's number: • **Default** – Rating based on the destination number. • **Calling number** – Allows the use of the caller's number to calculate billing charges (e.g. for charging the owner of a toll-free number for incoming calls).
Overdraft Protection	
Remaining balance requirement	• When set to **Positive amount available**, account should have some available funds to use the service, regardless of the service itself being provided for free (e.g. free calls). • Switching this option to **Positive amount greater than breakage** allows you to set the minimum available funds required for using the service to the product's breakage value. • The option **No restriction** allows a session to start without first verifying the account's available funds.

Lock at least	Select this check box to set the funds for each individual session to be locked when it reaches a certain amount (effective only if the specified amount is higher than the computed deposit amount required for the session authorization). If an account's available funds fall below a certain value, you can use this option together with the **Remaining balance requirement** option to restrict usage to only one session at a time (even for free sessions), thus providing additional overdraft protection. Or you can use this option together with the **Each fund lock allocates no more than** option to provide additional protection for simultaneous session use. (For example, select the **Each fund lock allocates no more than** option from the **Lock at least** list and more funds will be locked without changing the sessions' duration).
Limit maximum locked funds for each session to	Select to reduce the funds to be locked for each individual session but does not restrict the session itself (effective only if the specified value is lower than the computed funds required for session authorization). This option weakens the strictness of overdraft protection, so the user can use funds above the limit to initiate several simultaneous sessions. You can use this option to fine tune the strictness of overdraft protection for postpaid services where a certain overdraft can be allowed. In this case, the funds above the limit can be used for several simultaneous sessions.

Each fund lock allocates no more than	In the case of a single session, this determines the maximum amount of account funds to be used for the session, and in the case of dynamic reauthorization, this determines the extension (chunk) of already consumed funds. This option limits the maximum amount of funds requested by the NAS, thus allowing more strict protection. It may be used for static authorization in order to leave some account funds unlocked and accommodate simultaneous usage of other services. If dynamic reauthorization is unavailable and there is a big price difference in the tariff, this option can't be applied effectively (e.g. if this option has low value, expensive calls would be limited to very short durations; if it has high value, cheap calls would be authorized with overly long durations, unnecessarily blocking the account from simultaneous usage). In this case, you can use this option to fine tune the strictness of overdraft protection.
Send alerts when overdraft is detected	Attempts to use the services simultaneously while all funds are locked by a session can signal a fraud attempt (for services such as calling with prepaid cards). This can be the result of inaccurate overdraft protection constraints. Turn this option on in order to receive real-time email alerts about these attempts.

Tariff per access point

By default, you define different ways of charging for your service based on the way the service is accessed (a combination of parameters such as node, access code, etc.). For example, when a user calls your gateway via a toll-free access number, a different (more expensive) tariff will be applied than if he were calling via a local access number.
To add rating entry:

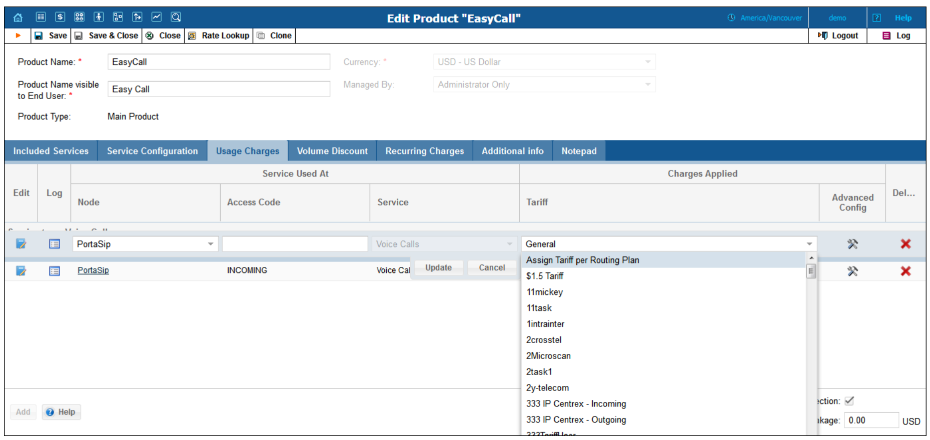
1. Click the **Add** button to access the **Add Usage Charges** page.
2. Choose a **Service.**
3. Choose a **Node** where the service will be provided.
4. Type in the **Access Code** value (if required).
5. In the **Tariff** list, you can choose a specific tariff that should be applied to the customer.
    - For the **Voice Calls** service type, you can also choose the special entry **Assign Tariff per Routing Plan**, in order to define additional tariff – routing plan combinations. A

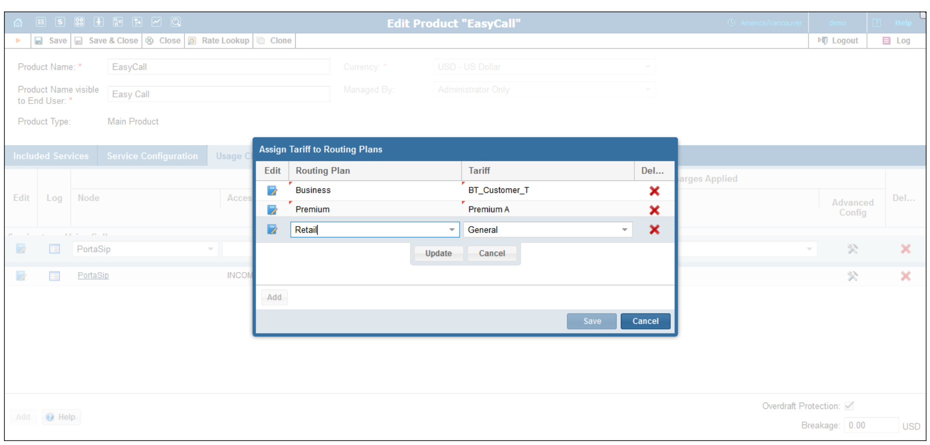
specific tariff will be applied based on which routing plan was used for a particular call.

6. Configure overdraft protection for this product. Use the **Advanced Config** button to define the overdraft protection settings.
7. Click the **Update** button.

Assign tariffs per routing plan

For a voice call service, you can also choose to apply a different tariff based on which routing plan (i.e. which set of vendors – cheaper or more expensive ones) was used to terminate the call. Thus if a customer chooses to use premium routes, he will be charged more, while if he uses a routing plan that includes low-cost carriers, he will be charged less.



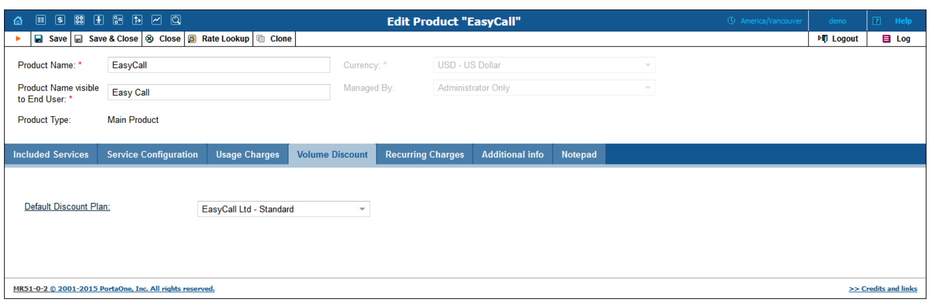


Switching from the "simple" use of one tariff for outgoing calls, regardless of the routing plan, is a step that requires attention to detail. You are already able to assign any routing plan to any customer; and all accounts will automatically be assigned the same routing plan that was previously assigned to their customer. If the administrator now reconfigures the product to use "tariff per routing plan", but does not take into consideration that some customers had a particular routing plan assigned to them, and thus omits that routing plan from the rating list, an unpleasant situation may arise. Now when a customer with an account whose routing plan has been omitted tries to make a phone call without specifying a selection code, the call will be rejected, since the product's rating list effectively says: "We don't want customers of this product to use this routing plan!" In order to prevent this happening through an operator error, PortaBilling® pre-populates the table for routing plan / tariff mapping with *all* the routing plans currently assigned to accounts of this product. You then have a clear overview of all the routing plans that are being used, and can decide which tariff should be applied to each of them.

To edit the rating list:

1. Click the **Edit** button.
2. Choose the service, node, and tariff from the lists.
3. Type the access code value, if any.
4. Change the overdraft protection parameters, if necessary.
5. Click the **Update** button.

Volume Discount Tab



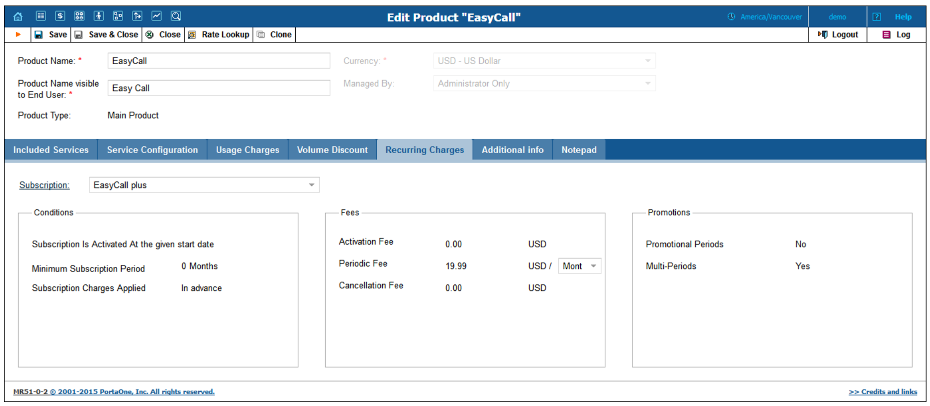
Field	Description
Default Discount Plan	Specifies a discount plan to be applied to all accounts by default.

If at the end of the usage period (e.g. at the end of the month) there is unused traffic left (i.e. minutes, Internet traffic, messages, etc.), it can be rolled over to the next usage period. For example, a customer has signed up for 100 bundled monthly minutes of free calls to Canada. By the end of the month, only 90 minutes have been used up. The 10 minutes remaining are rolled over to the next month, so during the next month 110 free minutes will be available for the customer.

Please note that if you change the customer's discount plan (e.g. change an add-on product), then the unused minutes will transfer only if the new discount plan has the same discount entry (for more details see the *Change of Volume Discount Plans for Customer / Account* chapter in the **PortaBilling Administrator Guide**).

Recurring Charges Tab

This tab allows you to define the subscription plan that is mandatory for this product, so that this subscription will be automatically applied to every account to which this product is assigned.

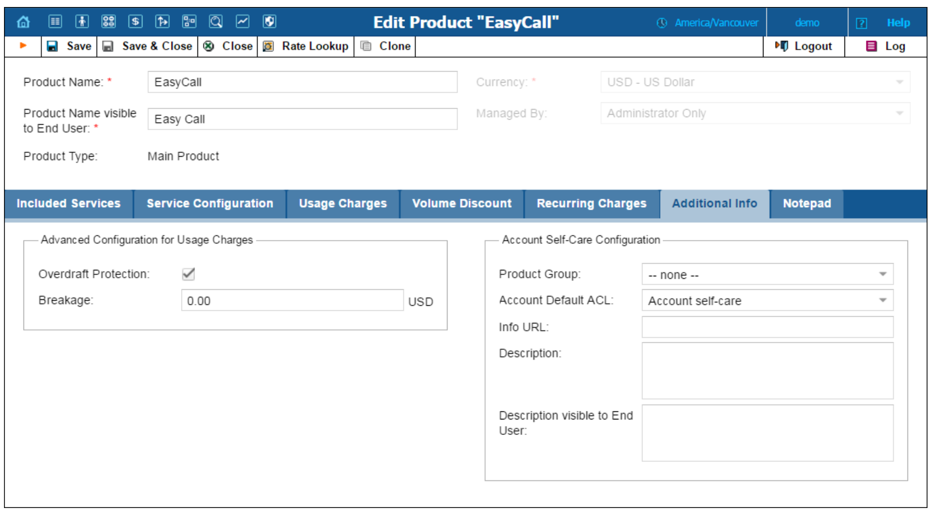


Field	Description
Subscription	The name of the subscription plan.
Conditions	This shows the main parameters of a subscription plan. This field contains the information about the activation period, minimum duration period and charging pattern of a subscription plan.
Fees	This shows an overview of the fees defined within a subscription plan: • **Activation Fee** – A one-time fee applied when the subscription is activated • **Periodic Fee** – Fees that are applied while a subscription is active. • **Cancellation Fee** – If the subscription is cancelled before the end of the minimum subscription period, a one-time fee is applied.
Promotions	This shows information about promotional periods and discounts defined within a subscription plan: • **Promotional Periods** – Indicates if any promotional periods have been defined within a subscription plan. • **Multi-Periods** – Indicates whether a subscription plan contains bulk discounts.

To add a subscription plan to the product, choose the subscription plan from the **Subscription** list. You will see brief information about this subscription plan below. Click **Next**.

NOTE: To define a flat rate for provided service(s) and avoid discrepancies that may arise between subscription plans with different configuration parameters – only one subscription plan per product is allowed (for both main and add-on ones).

Additional Info tab

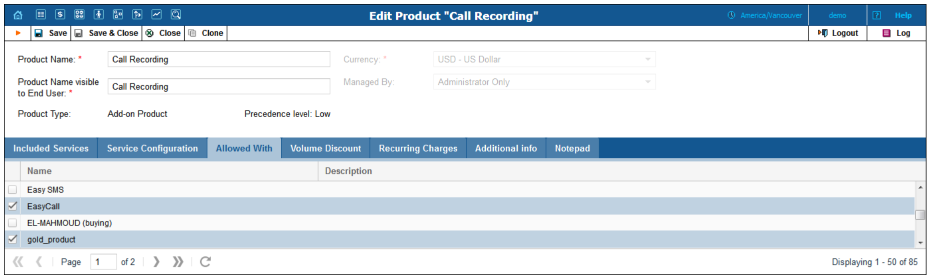


Field	Description
Advanced Configuration for Usage Charges	
Overdraft Protection	• **Disabled** – When the locking of funds is requested, this is done separately for each session and does not affect other sessions. Effectively, there are no "locked" funds. For obvious reasons, it is not recommended for general use. • **Enabled** – Fund locking is done for all account types.
Breakage	This value should be set by the administrator based on the currency and minimum price per minute. It is used in Account Management to obtain a summary of "depleted" (practically unusable) accounts. How it works: An account user could have a

	very small balance, e.g. 0.015. This is not enough to make calls to most destinations, except perhaps calls to technical support and certain local calls. Thus, even though the account's balance is not yet zero, the account is basically unusable (and the customer will probably never use it). The administrator is interested in how many accounts are in this state, i.e. how many accounts are depleted.
Account Self-Care Configuration	
Product Group	This option takes effect if the **Allow Self-care Sign-up** option is enabled for add-on products. • Select the product group an add-on product will belong to. It is then reflected as a component of the corresponding product group on the account self-care interface. • **None** – The product will not belong to any group. • **Create New Group** – When selected, an additional field appears where you can specify the name of a new group. This group will be managed by the same entity as this product.
Account Default ACL	Specifies an ACL to be assigned to new accounts created with this product.
Allow Self-care Sign-up	Takes effect only to add-on products. When enabled, this allows end users to sign up for the add-on product by themselves on their account self-care interface.
Description visible to End User	Description to be shown to end users on their account self-care interface.
Info URL	URL to an external website describing product features. Customers can access it by clicking on the **Product Info** link in the main menu of their self-care interface.
Description	Product description.

Allowed With

Every add-on product has a list of allowable main products that are compatible with it. On this page you can define this list.



Rate Lookup

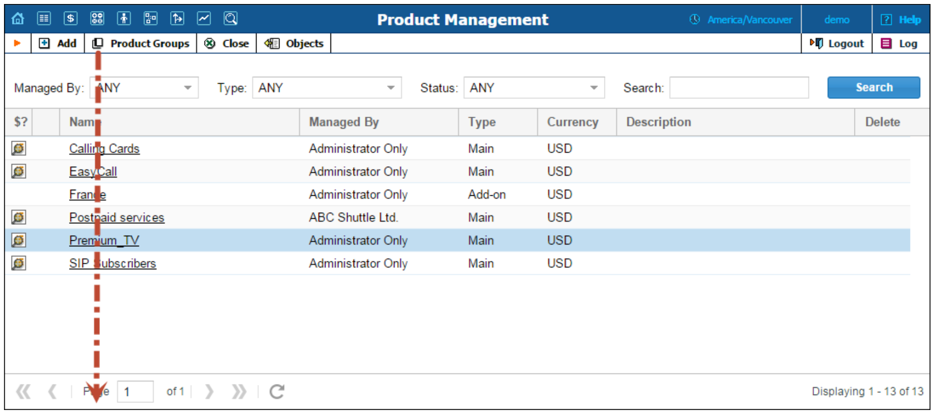
PortaBilling enables you to use the Rate Lookup feature, with which you can easily view rate information for a tariff(s) of a particular product. To use this feature, click the **Rate Lookup** button on the toolbar of the **Edit Product** page. Alternatively, you can click on the **Rate Lookup** icon next to the product name on the **Product Management** page. Then on the **Product Rate Lookup** page use search filters to display (a) specific rate(s):

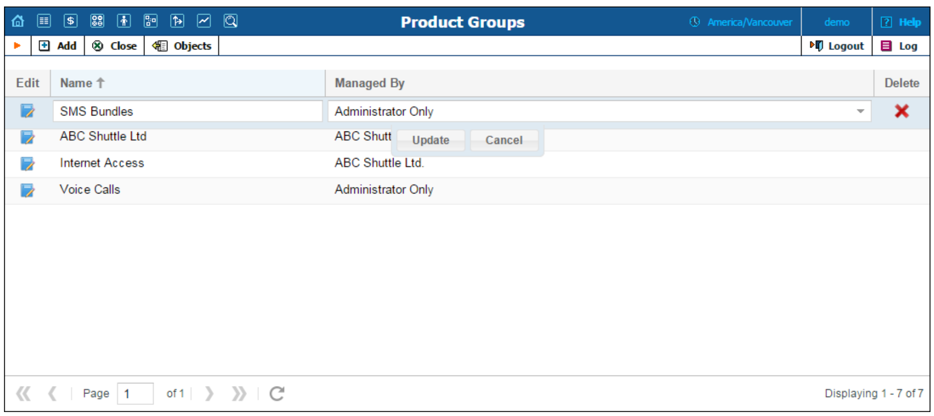
In addition to the mandatory rate information (e.g. **Destination**, **Country**, **Interval** and **Price**) there may also be icons that indicate features which have been applied to the rate, such as **Surcharges**, **Payback Rate** and **Call Rate Formula** (this indicates if the rate uses a call rating formula). To get more information click the **Explain** icon.

Product Groups

When you provide various add-on products and allow end users to sign up for add-ons via the account self-care interface, you may also want to provide them with effective product management tools.

This can be done by organizing your add-on products in groups. After add-on products have been assigned to a corresponding group by your administrators or resellers, these products become available for end users on the **Products Configuration** tab of the account self-care interface, thus simplifying the product search and self sign-up for them.





Field	Description
Name	The name of a product group.
Managed by	Specify the owner of a product group. • **Administrator only** (default) means that this group can be assigned to products provided to direct customers. • Select a particular reseller to hand this group over to the reseller's use. Once the owner has been specified, it cannot be changed.

Clone Product

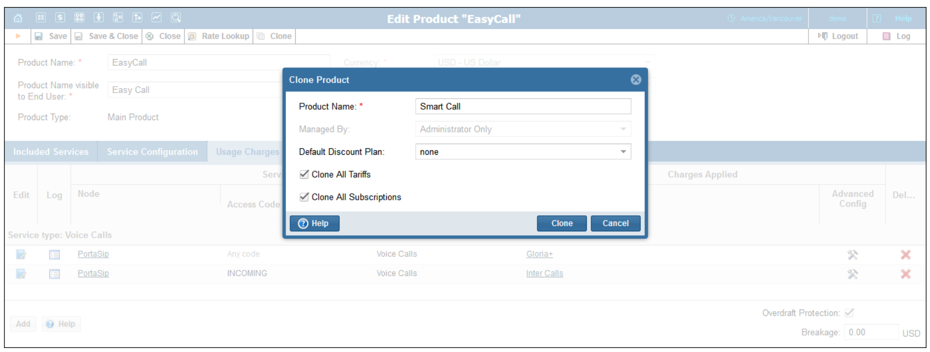
Product configuration is an important step, since you need to specify all the rating entries properly in order to ensure the correct functionality. To minimize the amount of work required to create new products, PortaBilling® allows you to create them as clones of existing ones.

In this case, PortaBilling® will copy all the tariffs used in an old product and generate a replica of it. The new product will have exactly the same rating entries, except that they will now refer to the newly created tariffs.

Administrators can clone all existing products within the environment, while resellers are limited to cloning only those products they have access to.

Any modifications in the newly created product will not affect tariff or rate data configuration within the old product. However, it is important not to make changes in the old product while a new one is currently being cloned.

To clone a specific product, click the **Clone** button on the toolbar on the **Edit Product** page. Give the new product a name, then click the **Save** button.



NOTE: When cloning a product managed by a reseller, you can assign it to any other reseller (to do this, select the required reseller from the **Managed By** list in the **Clone Product** dialog box).

Products intended for use by the service provider (managed by administrator only) cannot be cloned as managed by reseller.

NOTE: Cloning may take a significant amount of time, depending on the amount of data involved. The new product will appear in the product list only after the cloning is complete.

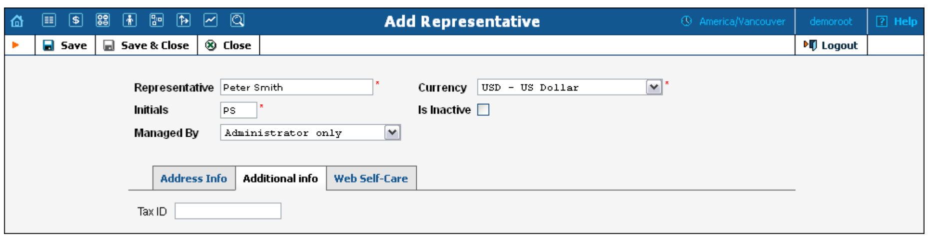
5. Participants

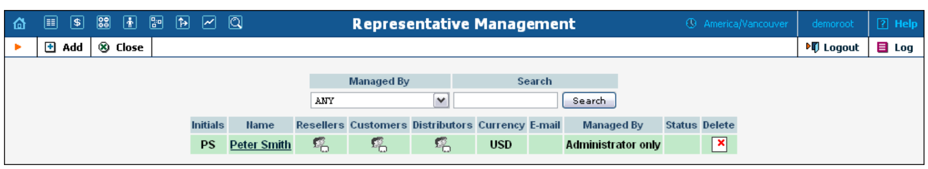
Representatives

You may need to track income associated with people with whom you have a business relationship. These people may sometimes be employees, while in other cases they are dealers, partners at a law firm, or independent contractors.

NOTE: Representatives do not participate in billing or revenue sharing. They are listed for information purposes only, as required when PortaBilling® is integrated into back-office CRM for calculating commissions and the like.

Each sales representative is assigned initials. Their names and initials appear on sales forms, allowing you to associate specific sales representatives with specific sales in order to track their income.



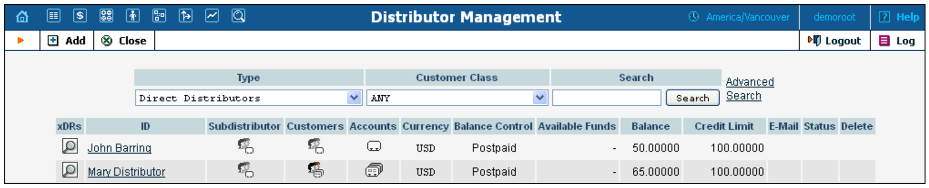


NOTE: Once a new representative is created, the **Currency** and **Managed By** properties cannot be changed.

Distributors

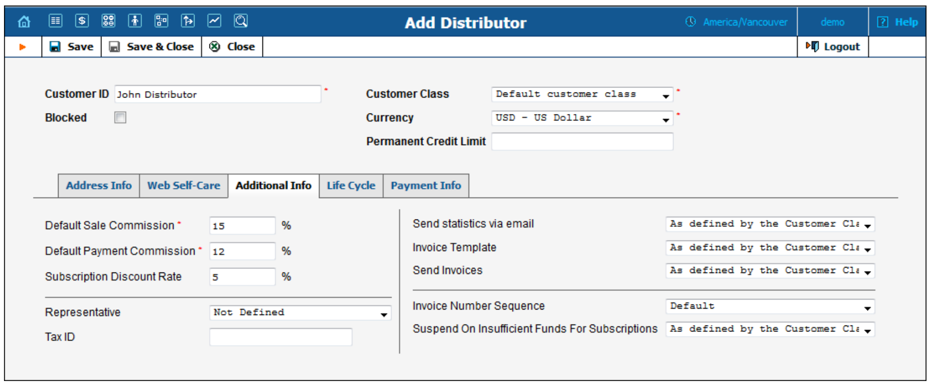
The Distributor model is designed to expand sales activities by involving extra agents and enlarging the point-of-sale network without significant costs and risks.

The **Distributor Management** page shows the distributors currently in the system.



Add a New Distributor

To add a new distributor to the system, click **Add** to go to the **Add Distributor** page.



The following are associated with a distributor:

- **Default Sales Commission** (this is applied when an account is created or a distributor is assigned);
- **Default Payment Commission** (this is applied when payment is entered).

To save the new distributor, click **Save**.

When a customer or account is created or activated under the distributor, the distributor's balance increases by the account's balance, minus his commission. For example, if the distributor's commission percentage is 15% (default sales commission), and a new account with a $10 balance has been created, then the distributor is charged $8.5 and has a $1.5 profit. When the distributor applies payment of $10 towards an account, and his payment commission is 10% (default payment commission), then the distributor is charged $9 and has a $1 profit.

When the distributor makes a payment in favor of his customer, the batch commission rate is used by default, except in the following cases:

- The batch has not been assigned a commission rate;
- The debit account does not belong to any batch.

In these cases, the distributor's commission rate is used.

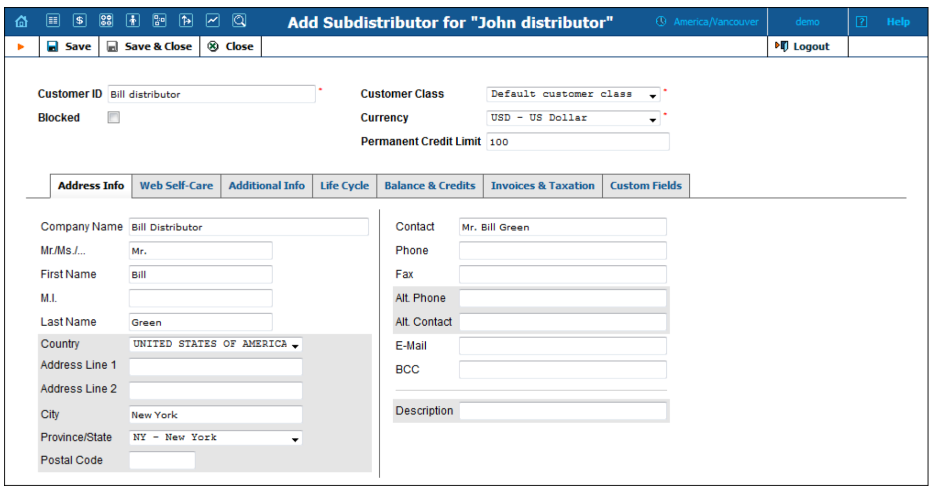
The distributor will be charged:

- When he applies payment toward a customer or an account.
- When he is assigned to an active account.
- When an account to which he has been assigned is activated (or when a new account is created in the active state).

To generate a batch of accounts, you can use the account generator and assign the distributor to these accounts. The account generator only permits the creation of an inactive debit when a distributor has been selected.

Add a Subdistributor

The procedure for adding a subdistributor is similar to the **Add a New Distributor** procedure described above.



The only limitation here is that a distributor and all of their subdistributors always share the same currency.

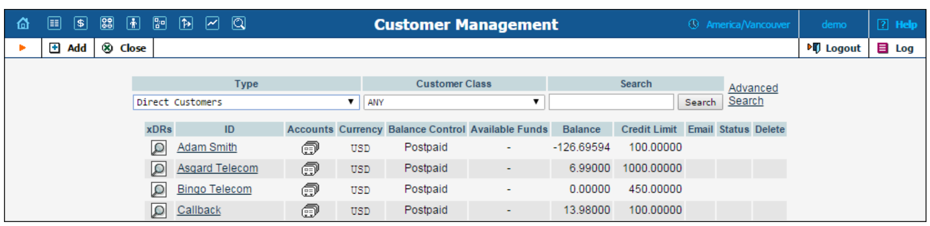
Customer Management

On the **Customer Management** page, you can view a list of all registered customers, or use search filters to display a specific set of customers only.

Filter value	Description
Direct Customers	Customers directly owned by your company (who have a business relationship with you, receive bills from you, and pay to your accounts).
All Customers	All customers; this includes your own

	customers and those of your resellers.
Subcustomers of Reseller NNN	All subcustomers of a specific reseller.
Customers of Distributor NNN	All customers of a specific distributor.
Search	Filter by name and contact details. When you enter a value in the search field, all customers who have the search string in their customer name, company name, first / last name or contact info (e.g. state, city, country, zip code, phone, email, login) will be displayed.
Advanced Search	Allows you to specify complex search conditions (see more info below)
The following search filter is only available for Resellers:	
All Resellers	Only customers of the reseller type.
The following search filter is only available for Distributors:	
All Distributors	Only customers of the distributor type.
Distributors of Reseller NNN	All distributors of a specific reseller.

The page provides the following information and activities:



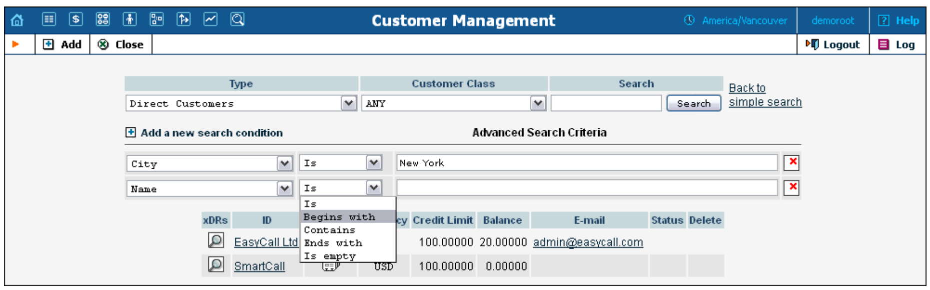
Column	Description
xDRs	Click the **View** icon to go to the xDR view page.
ID	The customer's name.
Owned By	The name of the reseller owning the customer (none are displayed if the **Direct Customers** filter is applied).
Accounts	Click the **Accounts** icon to go to the **Account Management** page (for retail customers). If there are no accounts under the customer, the icon changes accordingly to **No Accounts**, so that you can easily see this.
Currency	The currency in which the customer's account is maintained and billed.
Balance Control	The customer category: either prepaid or postpaid, depending on the way their balance is controlled.
Available Funds	The amount of available funds to spend on services – is only shown for prepaid customers.

Balance	The customer's current balance – is only shown for postpaid customers.
Credit Limit	The credit limit applicable to the customer's account (if any).
Email	Email contact for this customer.
Status	The status of the customer. • The **Permanently Terminated** icon means that this customer was closed. (1) • The **Blocked** icon means that all of this customer's accounts have been administratively blocked. Note that subscription fees still apply to blocked customers, consequently they continue to receive invoices. (2) • The **Suspended** icon means all services to this customer have been suspended because of an overdue invoice. (3) • The **Provisionally Terminated** icon means that customer's activities were temporally stopped. (4) • The **Credit Exceeded** icon will appear if the customer's credit has been exceeded. (5) • The **Suspension Delayed** icon means that customer suspension was delayed. (6) • The **Frozen** icon means that periodic payments for this customer have been suspended due to repeated errors (for instance, the customer canceled his credit card and did not enter the information for his new card in PortaBilling®). (7) • The **Spending Limit Reached** icon means that the customer's daily spending limit has been reached. (8) The spending limit is renewed at 00:00:00 every day, so once the limit is renewed, the **Spending Limit Reached** status is lifted from the customer. Please refer to the Spending Plans section for details. Note that only one status is displayed. What status is displayed depends on its priority. In the above list, the status priority is indicated in the parentheses (1 corresponds to the highest priority).

Delete	Click the **Delete** icon to remove the customer. The delete icon will only appear if there are no xDRs or accounts owned by the customer, or other entities (products, tariffs, etc.) managed by the customer.

Advanced Search

In advanced search mode, you can specify an unlimited number of search conditions. Every condition applies to a particular field (e.g. customer's ZIP code). Click **Add a new search condition** to add another condition.



Operation	Description
Is	The value of the field in the customer information must match the search criteria exactly.
Begins with	The value of the field in the customer information must start with the specified value (e.g. if you enter the filter value "John", customers with the names "John" and "Johnny" will be selected).
Contains	The value of the field in the customer information must contain the specified value somewhere (e.g. if you enter the filter value "Eric," customers with the names "Eric," "Erica," "Maverick" and "American" will be selected).
Ends with	The value of this customer information field must end with the specified value (e.g. if you enter the filter value "smith," customers with the last names "Smith" and "Hammersmith" will be selected).
Is empty	The corresponding field in the customer information must be empty.

All search operations are case-insensitive, so you can enter "Eric" as a search criteria and even if the customer's name was originally entered as "eric" or "ERIC," you will still see him in the list.

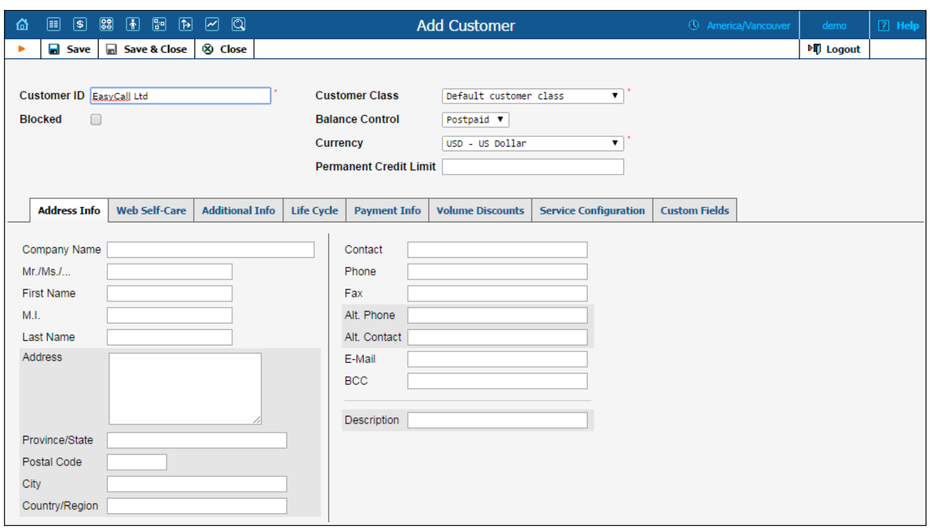
All conditions work in conjunction, so in the case of multiple search criteria the customer's record must satisfy all of them in order to appear in the result list.

During a search operation using auxiliary fields (e.g. fax) or the "contains" comparison, the database cannot use indexes. This will result in a full table scan, meaning an increased load on the server and a longer time to produce the final result. Please avoid using such search operations if not necessary.
By clicking **Back to simple search** you can switch the form to its original mode.

Add / Edit Customer

To add a new customer manually, select **Add** on the toolbar and then (if a quick form selection dialog – select **Manually** at the bottom of the list).

The **Add Customer** page allows you to define a new client entity within PortaBilling®. The information on the top of the form is required. Information on all the other tabs is optional, and need not be provided when creating the customer. Once created, the customer cannot be changed from a retailer to a reseller, or moved under another reseller.

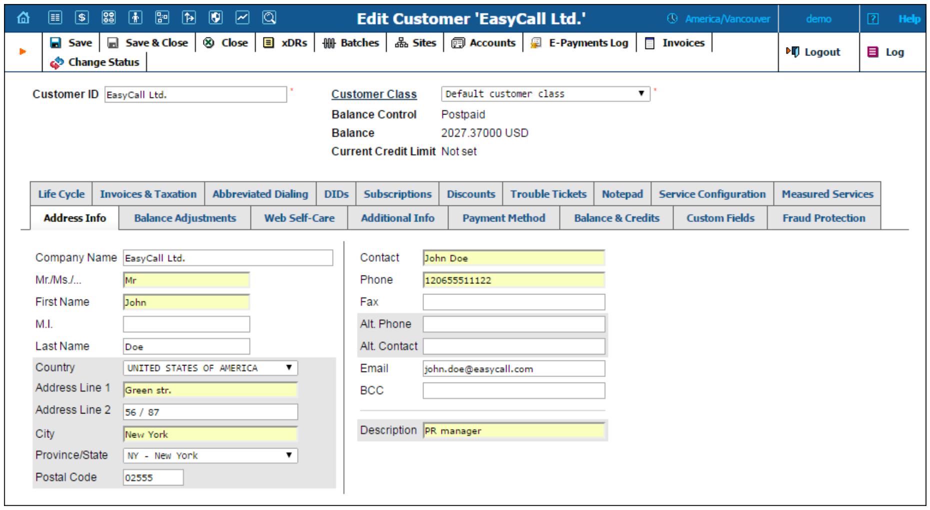


Field	Description
Customer ID	Defines the customer name as it will appear in the PortaBilling® system. This is distinct from the **Company Name** field in the **Address Info** tab.
Blocked	Blocks all of this customer's accounts (i.e. if this is checked, all of this customer's accounts will become unusable). Note that subscription fees still apply to blocked customers, consequently they continue to

	receive invoices.
Balance Control	The customer category: either prepaid (a customer who pays for services in advance) or postpaid.
Currency	The currency must be specified by selecting it from the list of available currencies. Once saved, the currency cannot be changed.
Permanent Credit Limit	If this field is left empty, there is no credit limit defined for this customer; we strongly recommend entering a value here. In the latter case, if **Radius authentication** is enabled, calls that exceed the limit will be denied (only for postpaid customers.)
Available Funds	The balance for this customer (only for prepaid customers.) While consuming the service, the amount of funds decreases. When it reaches zero value, no more services can be used.
Customer Class	The customer class assigned to this customer. In order to change any parameters of the particular customer class, click on the **Customer Class** link. When **adding** a customer, be aware that if you select a class with a defined currency, the **Currency** field will show the corresponding value and this cannot be modified; if the class without a predefined currency is selected, then a list of currencies will be available. When **editing** the customer, the **Customer Class** field will only contain classes with the *same* currency, or classes with no defined currency.

Address Info tab

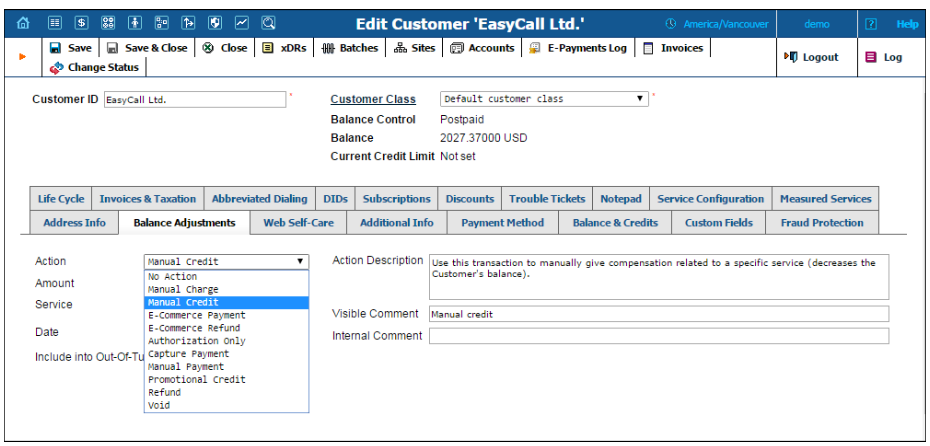
The **Address Info** tab provides most of the commonly required contact information. Also note that you may enable your account manager to receive a copy of every email sent to the customer by entering account manager's email address in the **BCC** field.



Enter a customer's mobile number in the **Alt. Phone** field to send SMS notifications.

Balance Adjustments tab

The **Balance Adjustments** tab allows the administrator to correct a customer's balance (this tab is only available in **Edit Customer** mode).



The following fields are common for all actions:

Field	Description
Action	• **No Action** – No balance adjustments will be made. • **Manual Charge** – Use this transaction to manually charge a customer for a specific service they used. For instance, if you are selling a SIP phone to a user. This means the balance will be changed so

	that the user is able to make fewer calls. • **Manual Credit** – Use this transaction to manually give compensation related to a specific service. For instance, if the user files a complaint and you agree to give him credit toward future service use. This means the balance will be changed so that the customer is able to make more calls. • **E-Commerce Payment** – Use this transaction to charge the customer's credit card and apply the amount to the customer balance as payment. • **E-Commerce Refund** – Use this transaction to reverse a previous E-commerce payment. It withdraws funds from your company's merchant account and applies them as credit to the user's credit card. The amount is deducted from the customer balance. • **Authorization Only** – Verifies that the customer's credit card is valid and reserves a given amount. Returns a transaction ID to be used in a Capture Payment transaction. Does not affect the customer balance in PortaBilling® or their credit card balance. The transaction ID will be written to the customer **Notepad**. • **Capture Payment** – Charges the user's credit card and applies the amount to his balance as a payment (decreases the customer balance). Requires a transaction ID from the Authorization Only transaction. The amount must be less than or equal to the amount of the corresponding Authorization Only transaction. • **Manual Payment** – Use this transaction when receiving a payment (e.g. cash or check) directly from the user. This means the balance will be changed so that the user is able to make more calls. • **Promotional Credit** – Use this transaction to give the user a credit, for example, as a sales promotion. The difference between this and Manual Credit is that this transaction applies to a special Credits / Promotions service, and not

	to any actual service. Basically, it provides some "virtual" funds to the user for future use. • **Refund** – Use this transaction to refund an earlier payment received from the customer (e.g. a check returned by the bank). This means the balance will be changed so that the customer is able to make fewer calls. • **Void** – Use this to cancel money reservation that was made by using the **Authorization Only** option. Once applied, the money become released on the user's credit card.
Amount	Amount to charge / refund.
Action Description	Concise description of the selected action.
Visible Comment	A comment on this transaction visible to the end user and in the xDR browser.
Internal Comment	An internal comment on this transaction; not visible in the xDR browser, and accessible only from the database directly.

The following fields are available only for Manual charge and Manual Credit actions:

Field	Description
Service	A service for which the manual charge / credit is made. The charged / credited amount will be included in the selected service section on the next invoice.
Date	A date associated with the manual charge / credit. For example, you can specify a date for manual credit action for when an item is credited. Note that if the selected date falls within a previous (closed) billing period the transaction will be included in the next invoice.
Include into Out-of-Turn Invoice	This allows you to include transactions on an out-of-turn invoice to be issued on demand. You should then generate the invoice with the requisite transactions on the **Out-of-Turn Invoice** page. For example, when the end user visits your office to buy a new IP phone, your clerk issues an invoice covering the cost of the phone, takes the money for the phone, and gives the phone and the invoice to the end user. Transactions included in an out-of-turn invoice that was *generated* on the **Out-of-Turn Invoice** page won't be reflected on the regular invoice issued at the end of

	the billing period.

The following fields are available only for certain E-Commerce actions:

Field	Description
Make a Payment (*only for E-Commerce Payment*)	Click this button to make a payment using a credit card. For more details please see the **Make a Payment dialog box** subsection.
Authorize a Payment(*only for Authorization Only*)	Click this button to make a payment using a credit card. For more details please see the **Make a Payment dialog box** subsection.
Transaction ID (*only for E-Commerce Refund and Capture Payment*)	The transaction ID obtained via the Authorization Only or E-Commerce Payment transaction. This is required to use the reserved earlier amount for a current transaction or to reverse previously made payment.

Make a Payment dialog box

Field	Description
Amount	Amount to charge / refund.
Visible Comment	A comment on this transaction visible to the customer in the xDR browser.
Internal Comment	An internal comment on this transaction; not visible in the xDR browser, and accessible only from the database directly.

If you have not already stored the credit card information you will see a new credit card form. Otherwise two available options appear in the **Make a Payment** dialog box:

- **Saved Payment Method** – Select this option to make a payment using the stored credit card information. You will be provided with information about the credit card type, number and expiration date.
- **New Payment Method** – Select this option to make a payment with a new credit card. Fill in the information about the new credit card (cardholder name, card number, expiration date and CVV code if required) and the customer contact information. Check the **Save Credit Card information for future use** box to store this credit card information and use it for future payments.

Taxes applied at the moment of payment

If the Apply taxes at the moment of payment feature is enabled for the customer, there is also a field that shows the applicable tax and the

Amount field is replaced by two fields that represent amounts before and after taxation.

This feature is available only for prepaid customers and only certain taxation plug-ins can be used (Custom taxation and Fixed VAT Rate). For how to enable the Apply taxes at the moment of payment feature, please see the description of the *Taxation tab* subsection of the *Customer Classes* section or the description of the *Invoices & Taxation tab* subsection of the *Add / Edit Customer* section in this guide.

Taxes are calculated for the following actions:

- E-Commerce Payment
- Authorization Only
- Capture Payment
- E-Commerce Refund
- Manual Payment
- Refund

For the first four of these actions (E-Commerce Payment, Authorization Only, Capture Payment, E-Commerce Refund) taxes are added above the entered amount:
The amount applied to the balance = Entered amount
The amount charged (or refunded) to a credit card = Entered amount + Tax

For Manual Payments and Refunds, taxes are back calculated and deducted from the entered amount:
The amount applied to the balance = Entered amount – Tax

E-Commerce Payment, Authorization Only and Capture Payment

Field	Description
Top Up Amount	The exact amount that will be applied to a balance.
Applicable Taxes	Taxes applied to the **Top Up Amount**.
Total Charged Amount	The amount that will be charged to the end user's credit card.

E-Commerce Refund

Field	Description
Top Up Amount	The exact amount to deduct from the balance.
Applicable Taxes	Taxes applied to the **Top Up Amount**.
Refund Amount	The amount that will be refunded to the end user's credit card.

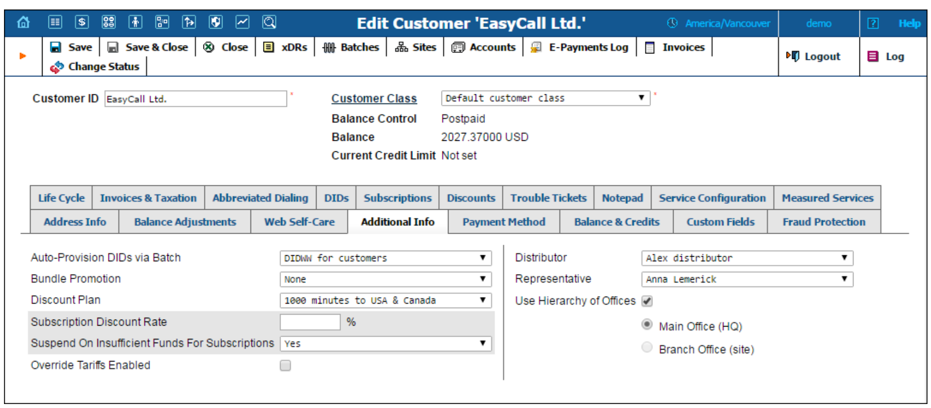
Manual Payment

Field	Description
Total Charged Amount	The amount received from the customer
Top Up Amount	The exact amount that will be applied to the balance (back calculated from the **Total Charged Amount** and known taxation rates).
Applicable Taxes	Taxes applied to the **Top Up Amount**.

Refund

Field	Description
Refund Amount	The amount that will be returned to the customer.
Top Up Amount	The exact amount that will be deducted from the balance (back calculated from the **Refund Amount** and known taxation rates).
Applicable Taxes	Taxes applied to the **Top Up Amount**.

Additional Info tab

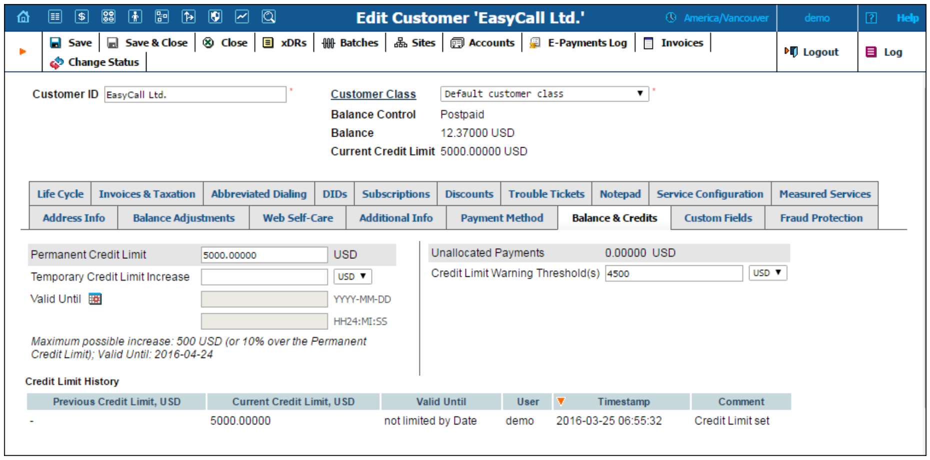


Field	Description
Auto-Provision DIDs via Batch	This enables the customer to choose DID or toll-free numbers from the DID batch. You will charge the customer for the allocated numbers according to the prices specified in the assigned batch.
Bundle Promotion	Bundle promotion to be applied to this customer.
Discount Plan	The volume discount plan to be applied to this customer.

Subscription Discount Rate	Amount of discount applied by default to all subscriptions of this customer (assigned either directly to a customer or to one of his accounts). Discount rate affects *only* the subscription's periodic fees.
Suspend On Insufficient Funds For Subscriptions	This option allows you to suspend a customer when their balance or available funds are insufficient to cover subscription charges of subscriptions assigned to them. • **As defined by the Customer Class** – Option configured for the customer class is used. • **Yes** – Customers who have insufficient available funds are automatically suspended. When they are suspended, they no longer receive the service and therefore no subscription charges are generated. As soon as funds become available, the service is resumed and new charges are generated. • **No** – The subscription's full amount will be charged regardless of the current balance status. It may happen that a customer's balance exceeds the credit limit or the amount of available funds (in this case the negative value of available funds appears).
Override Tariffs Enabled	This defines whether the override tariff feature is enabled. Select the check box next to this field and the **Override Tariffs** tab will appear.
Distributor	Assigns a distributor to this customer. See the **Distributors** section for more information.
Representative	Assigns a representative to this customer. See the **Representatives** section for more information.
Use Hierarchy of Offices	This allows you to create two types of customers: • **Main Office (HQ)** customers • **Branch Office (site)** customers. **Main Office (HQ)** and **Branch Office (site)** customers are linked together into a group.
Main Office (HQ)	This defines the "main" customer in the group for which the basic service configuration is done. All extensions and huntgroups added for this customer become available for all of its **Branch Office (site)** customers.
Branch Office (site)	This defines the "subordinate" customer created under the **Main Office (HQ)** customer. This customer inherits all of the main customer's extensions and huntgroups.

Balance & Credits tab

The **Balance & Credits** tab provides full information about the customer balance.



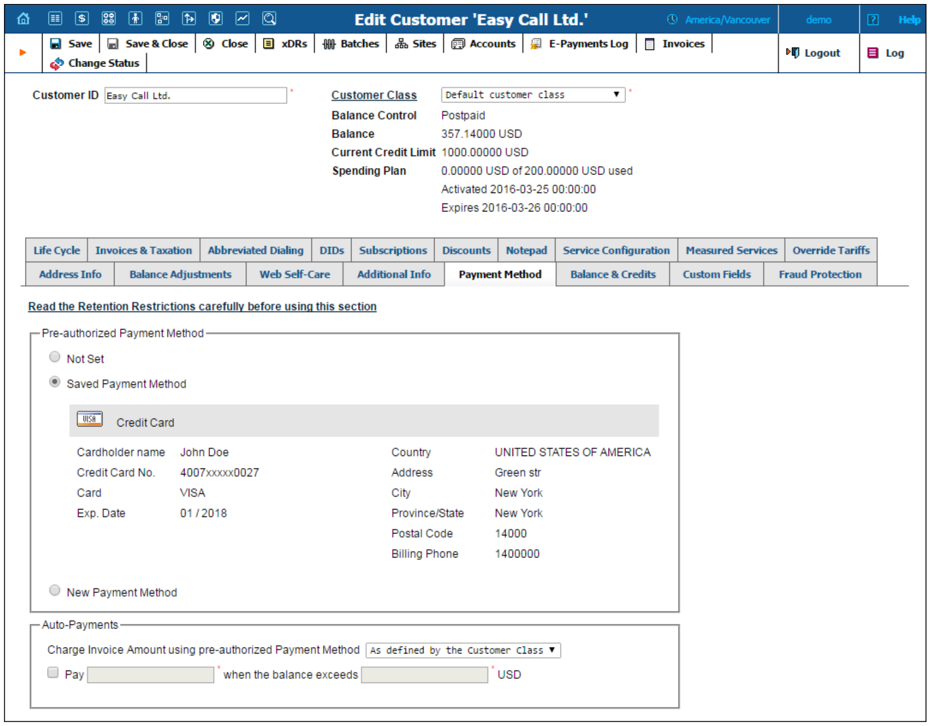
Field	Description
Permanent Credit Limit *(only for postpaid customers)*	The credit limit value defined for a customer during creation.
Temporary Credit Limit Increase *(only for postpaid customers)*	Here you can temporarily increase a customer's credit limit (the value should be defined either as an amount or as a percentage of a positive **Permanent Credit Limit** value).
Valid Until *(only for postpaid customers)*	Specify the date and time for when an increased credit limit value will automatically be reverted to a permanent state. **NOTE:** The values for the **Temporary Credit Limit** and **Valid Until** cannot be higher than the values provided in the **Maximum possible increase** prompt.

Low Funds / Credit Limit Warning Threshold	If a warning threshold is defined for a customer balance and the customer balance reaches this value, a notification is sent to the customer. Depending on the customer balance model, warning thresholds are known as **Credit Limit Warning Threshold** for *postpaid* customers and **Low Funds Warning Threshold** for *prepaid* customers. For *postpaid* customers the balance warning threshold is defined either as an amount or a percentage of a positive **Permanent Credit Limit** value. For *prepaid* customers, balance warning thresholds are defined only as an amount of an **Available Funds** value. To send customers multiple notifications, define several balance warning thresholds as comma-separated values.
Unallocated Payments	Unallocated payments show that the customer "overpaid" you sometime in the past, and are used to correct the paid/unpaid status of future invoices. **NOTE:** Unallocated payments do not represent a "cash reserve." When a payment is made, the amount is immediately applied to the customer's balance.
Credit Limit History	This shows changes made to the customer's credit limit (e.g. increases, decreases, temporary increases, etc.).

Payment Method tab

On this tab you can define the customer payment information: the pre-authorized payment method and configure auto payments. On this tab you can also delay the customer's suspension for several days.

This tab is only available when there is a not external payment system configured in the system and assigned to the customer's currency.



NOTE: The payment data remains in the database until it is explicitly removed or replaced with new payment data. For example, if you have saved the customer's payment data and then reconfigured PortaBilling® to use the other payment system – the one that doesn't support the saved payment method, you will still be able to review stored payment information under this tab's **Saved Payment Method**.

How to set a pre-authorized payment method

To set a pre-authorized payment method:

1. Select the **New Payment Method** option.
2. Select one of the payment method options:
   - **Credit Card**
   - **Bank account (eCheck)**
   - **Direct Debit NL**
3. Specify all the required payment data
4. Click **Save**.

The number of available payment options may change, depending on the payment system settings. Options appear on the list only when there is a payment system configured to use them. This system must also be configured to maintain payments in the customer's currency.

How to remove a pre-authorized payment method

To remove a pre-authorized payment method, select **Not Set** and then click **Save**.

NOTE: The payment data remains in the database until it explicitly removed or replaced with the new payment data. For example, if you have saved the customer's payment data and then reconfigured PortaBilling® to use the other payment system – the one that doesn't support the saved payment method, you still be able to review stored payment information under **Saved Payment Method** on this tab.

How to automatically charge a customer's pre-authorized payment method for invoices

The **Charge Invoice Amount using pre-authorized Payment Method** list allows you to define whether a customer's pre-authorized payment method should be charged when the billing period is closed.

How to automatically top up a customer's balance via their pre-authorized payment method

If you want to charge a customer's credit card whenever his balance crosses a specified threshold, select the **Pay when the balance exceeds** (for postpaid customers) or **Pay when the balance drops below** (for prepaid customers) check box, and when the customer's balance crosses the threshold specified in the **when the balance exceeds** / **when the balance drops below** field, their pre-authorized payment method will be charged for the amount specified in the **Pay** field.

How to enable auto payments again if they were disabled by the system
In case the auto payment functionality has been disabled by the system, a corresponding message appears in the **Auto-Payments** section.

Review the payment system and the customer's pre-authorized payment method configuration, and then click the **Enable it again** button in the **Auto-Payments** section of the **Payment Methods** tab to re-enable auto payments.

Auto payments information

When the auto payments section is available

This section is available only when a suitable payment processor is set up in the system, and a customer has an online payment method configured as their pre-authorized one.

Auto payments can be set up for not external payment systems that:

- support tokenization for payment processing; or
- do not support tokenization and do not require the CVV code.

If the payment system is configured to use tokens for payments, this section appears only once a token has been returned by the payment processor and saved by PortaBilling®. Since the payment processor returns a token upon the first successful transaction with a new credit card (or other supported payment method), at least one manual transaction must be successfully completed for the auto payments section to become available.

For how to set up a payment system, please see the **Payments** chapter of this guide.

Applying taxes for auto payments

For your prepaid customers and their debit accounts taxes can be calculated and applied when their balance automatically tops up. For this, you need to define the tax rate and enable the **Apply taxes at the moment of payment (for prepaid customers and debit accounts)** option for the customer class or for the customer.

Only certain taxation plug-ins can be used (Custom taxation and Fixed VAT Rate). Please see the *Taxation tab* subsection of the *Customer Classes* section or the description of the *Invoices & Taxation tab* subsection of the *Add / Edit Customer* section in this guide.

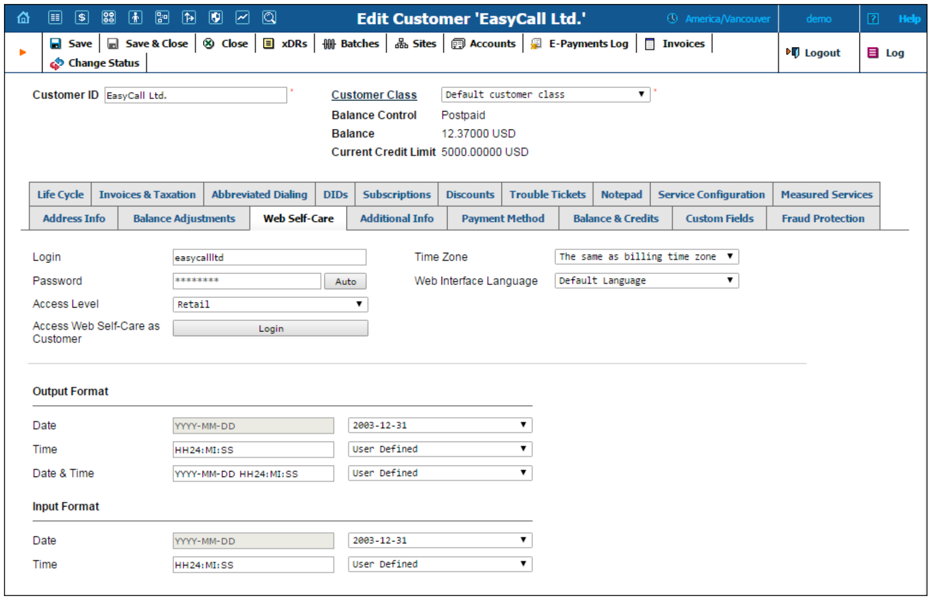
The tax amount is calculated based on the amount of the top-up and then added to the payment sum. Upon successful payment processing, the customer's balance is topped up by the total charged amount excluding tax.

Field	Description
Top Up Amount	The exact amount that will be applied to a balance.
Applicable Taxes	Taxes applied to the **Top Up Amount**.
Total Charged Amount	The amount that will be charged to the end user's credit card.

Retention Restrictions

IMPORTANT! A merchant may not use account and transaction information for any purpose other than assisting the completion of a payment card transaction, or as specifically required by law. Merchants may collect a payment card number and expiration date independently of a payment card transaction only with the express consent of the cardholder. A merchant may only retain this information for the sole purpose of facilitating future payment transactions. A merchant must not provide this information to any other person, except for the sole purpose of assisting the completion of a payment card transaction.

Web Self-Care tab



Field	Description
Login	The customer self-care interface login.
Password	The customer self-care interface password. Click the **Auto** button to generate a random, hard-to-guess password.
Access Level	Access level assigned to the customer.
Access Web Self-Care as Customer	The customer self-care interface login mode. • Click **Login** to log in to the customer self-care interface. This button is visible only when the *default* ACL is assigned to a customer. • Click **Login with current ACL** to log in with the access level currently assigned to the customer. This button is visible only when a *non-default* ACL is assigned to a customer. • Click **Login with default ACL** to log in with customers' default access level. This button is visible only when a *non-default* ACL is assigned to a customer.
Time Zone	Time zone for the customer self-care interface.
Web Interface Language	The display language for the customer self-care interface.

Date & Time Format

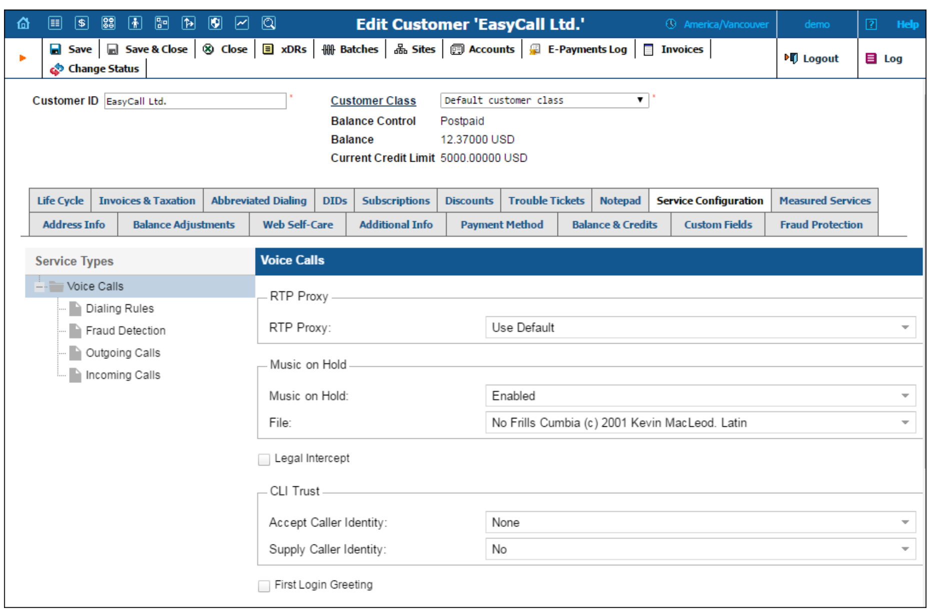
PortaBilling® allows the administrator to define both input and output date and time formats for each customer registered in the system.

By making changes to the date and / or time format on this page, customers will be able to enter dates and times in the desired format throughout the entire PortaBilling® customer self-care interface, on invoices, etc.

See the **User Management** section for examples of date and time format usage.

Service Configuration tab

Using this tab, the administrator can activate / deactivate various features of the voice calls service provided to customers. Note that features are defined per *service type* (the physical service provided to the user) rather than per *service* (the name used in the billing configuration and "visible" to the end user). Thus if you decide tomorrow to bundle your VoIP services under a different name, and create a new service called "Internet Telephony" rather than the old name, "Voice Call," you do not actually have to change the configuration settings for any of your customers.



The **Services menu** on the left allows you to select for which group of service features you would like to define parameters.

Voice Calls

Field	Description

Legal Intercept	Intercepts all incoming and outgoing calls of this customer for law enforcement purposes.
First Login Greeting	When a new account (phone number) in this IP Centrex environment is provisioned and registers for the first time, call this phone back and play a pre-recorded voice message confirming service activation, giving information about various available options, and so on.
RTP Proxy	
RTP Proxy	This specifies the RTP proxy policy for this customer. For a description of possible values, refer to the **Calls to/from Vendor via SIP connections with Voice Calls service type** section.
CLI Trust	
Accept Caller Identity	• **Favor forwarder** – Use the redirector- provided ID for caller identification. • **Caller only** – Use the caller-provided ID for caller identification. • **None** – Do not accept caller-provided ID for caller identification.
Supply Caller Identity	• **Yes** – Accept the remote network and maintain caller ID on outgoing headers (even for private calls). • **No** – Do not accept the remote network and strip any private caller's ID.
Limit simultaneous calls	
Limit simultaneous calls	Engage real-time checks of the number of concurrent calls made by accounts that belong to this site. When the specified number of concurrent calls has already been established (calls are in the "connected" state) and the account tries to place another call, that call will be rejected. Choose **Customer's default** option to use the values defined at the customer level. **NOTE:** To enable the **Limit Simultaneous Calls** feature, activate the **send_start_acct** option for the corresponding PortaSIP instances on the Configuration Server. To increase the features accuracy, activate the **allow_reauth** option too. Note that these features may slightly increase the load on the billing engine.

Max number of simultaneous calls	Allow only a specific number of concurrent calls (regardless of their type, such as incoming or outgoing) for accounts at this site.
Max number of incoming calls	Allow only a specific number of concurrent incoming calls for accounts at this site.
Max number of outgoing calls	Allow only a specific number of concurrent outgoing calls for accounts at this site.
Max number of forwarded calls	Allow only a specific number of concurrent forwarded calls for accounts at this site.
Codec connectivity profile	Select a suitable codec connectivity profile that will be used for bandwidth allocation calculation. Every new call's allocated bandwidth is calculated by considering a negotiated codec and its parameters to enable full use of the available bandwidth and block new calls if no more bandwidth is available.
Max bandwidth	This allows you to configure the bandwidth utilization limitation to ensure that only an acceptable number of calls are allowed, in order to avoid severe degradation of the sound quality on calls in progress.
Max incoming bandwidth	This allows you to configure the bandwidth utilization limitation for incoming calls.
Max outgoing bandwidth	This allows you to configure the bandwidth utilization limitation for outgoing calls.
Call Parking	
Call Parking	• Select **Enabled** to activate this feature for the customer. • Select **Disabled** to make this feature unavailable to the customer.
Park Prefix	The end user can dial this access code to park a call. The default value is *70. This access code is available only if call parking is enabled for the customer. Read-only field. For information about how to configure **Park Prefix**, please see the *Service Codes* table in the **Dialing Rules** section of this guide.

Release Prefix	The end user can dial this access code to retrieve a call from the parked status. The default value is *71. This access code is available only if call parking is enabled for the customer. Read-only field. For information about how to configure **Release Prefix**, please see the *Service Codes* table in the **Dialing Rules** section of this guide.
Music On Hold	Defines the music on hold to be used with the IP Centrex environment.
Music On Hold	• Select **Enabled** to activate this feature for the customer. • Select **Disabled** to make this feature unavailable to the customer.
File	• Select the music from the list. • Select **Upload New Music** to upload your own music. The **Upload New Music** dialog box appears. In the **Upload New Music** dialog box, select a file on your local file system using the **Browse** button. To rename the music, enter the desired name in the **Music Name** field; otherwise the local file name will be used. Then click **Upload**. The uploaded music will replace the previous entry in the list, and is usually enabled within 10 minutes. For a list of supported audio file formats, see the *Audio File Formats Supported by Music on Hold Feature* chapter.

Incoming Calls

Field	Description
Sip Contact	Enable this feature to define the way a SIP device will perform SIP registration to PortaSwitch®.
Deliver Incoming Calls To	Define whether the IP PBX address for delivering incoming calls is taken from the IP PBX registration account or specified directly in the **Static Address** field.

Account	This shows the customer's IP PBX registration account. This option is usually selected if a customer's IP PBX is located at a dynamic IP address and can register only the main phone line (provisioned as the registration account in PortaBilling®) on the PortaSIP® server.
Static Address	Enable this feature if the customer's IP PBX can't perform SIP registration to PortaSwitch®.
Use Original CLD	Specify the destination number that calls will be routed to. If left blank, the number originally dialed will be used as the destination number.
Host	This contains the destination host the calls will be routed to. A customer's IP PBX can be identified with one of the following options: • A valid IP address (four numbers separated by points, e.g. 12.34.56.78). • A valid domain name (e.g. pbx.example.com). • A valid domain name with configured DNS SVR records. In this case, PortaSIP® will round-robin through them.
Transport	Select the transport protocol (either TCP or UDP) that is used to deliver incoming calls.
Ext-to-Ext Call Distinctive Ring	For incoming calls from phones within the IP Centrex environment, use a ring pattern different from the default one.
User-managed SIP addresses	Define to which external SIP proxies the customer can forward calls using the SIP URI forward feature.
Addresses	Type IP addresses or hostnames of external SIP proxies here. Use one of the following formats: • IP address • IP address:port • hostname • hostname:port
Group Pickup	The **Group Pickup** feature enables members of the same huntgroup to answer each other's calls by dialing a **Group Pickup Prefix**. Note that group pickup must be enabled for the particular huntgroup as well.

Group Pickup Prefix	An end user can dial this access code to answer a call arriving to the huntgroup that this member belongs to. The default value is *40. This access code is available only if group pickup is enabled for the customer and for the huntgroup. Read-only field. For information about how to configure **Group Pickup Prefix**, please see the *Service Codes* table in the **Dialing Rules** section of this guide.
Endpoint Redirection	This allows the end user to configure call redirection on their SIP phones (if this feature is supported by the SIP phone).

Outgoing Calls

Field	Description
Override Identity	
Override Identity	Here you can set options that an end user may use for an identity. If an end user applies an identity that does not belong among the options permitted, it will be replaced with an identity provided by an administrator. PortaBilling® provides several options for overriding identity information: • **Never** – The caller's identity information supplied by the remote party will neither be screened nor overridden. This implies that the remote party is trusted and takes full responsibility for the supplied display number and display name. • **If Different From Account ID And Aliases** – The identity will be overridden if it differs from the ID of the account that is authorized for the call and any of the aliases assigned to this account. • **If Different From All Customer Accounts** – The identity will be overridden if it doesn't match an account ID (or account alias) of any account belonging to this customer. • **If Different From All Accounts In The Specified Batch** – An end user may only specify an identity (account ID or account alias) that belongs to his account's batch.

<table>
<tr><td></td><td>If a specified identity does not belong to that batch, it will be replaced with an identity provided by an administrator.
If Different From All Accounts in the Specified Huntgroup – An end user may only specify an identity (account ID or account alias) that belongs to his account's huntgroup. If a specified identity does not belong to the huntgroup, it will be replaced with an identity provided by an administrator.
If Different From All Accounts in the Specified Site – An end user may only specify an identity (account ID or account alias) that belongs to his account's site. If a specified identity does not belong to that site, it will be replaced with an identity provided by an administrator.
Always – The identity value supplied by the remote party will always be overridden. This allows you to manually specify the display number and / or the display name for an account.</td></tr>
<tr><td>Batch</td><td>This allows you to specify a batch (this field is only available when If Different From All Accounts In The Specified Batch has been selected).</td></tr>
<tr><td>Huntgroup</td><td>This allows you to specify a huntgroup (this field is only available when If Different From All Accounts In The Specified Huntgroup is selected).</td></tr>
<tr><td>Site</td><td>This allows you to specify a site (this field is only available when If Different From All Accounts In The Specified Site is selected).</td></tr>
<tr><td>Identity</td><td>Here you can specify a default value that will replace the account identity (or display number) when the identity used for the call in the RPID / PAI headers (or From header) is invalid. If not specified, the account ID will be used instead.</td></tr>
<tr><td>Override Display Number</td><td>This allows you to control the "Caller number" value that will be placed in the <code>From:</code> header and typically displayed on the called party's phone display. The possible values are:
Never – The display number supplied by the remote party is not restricted and therefore will not be modified. This allows the remote IP phone or IP PBX to supply any CLI / ANI number.
If Ruled Out By The Identity</td></tr>
</table>

	Constraint – The validity of a display number supplied by a remote party is verified according to a rule set for identity. For example, when the *If Different From Account ID And Aliases* option is selected in the **Override Identity** list, and the display number supplied by the remote party doesn't match the ID of the account that is authorized for the call or any of the aliases assigned to this account, the display number will be overridden. • **If Different From The Used Identity** – The display number supplied by the remote party (in the `From:` header) will be overridden if it is different from the used (already checked and / or overridden according to the **Override Identity** constraint) caller identity. • **Always** – The display number supplied by the remote party will always be overridden. This allows you to manually specify the display number for an account.
Override Display Name	This allows you to override the caller name used by the calling account. The possible values are: • **Never** – The display name supplied by the remote party is not restricted, therefore it will not be modified. This allows the remote IP phone or IP PBX to supply any display name • **Always** – The display name supplied by the remote party will always be overridden
Paging / Intercom	
Paging / Intercom	This allows you to enable the intercom feature for accounts under this customer.
Paging / Intercom Prefix	This only appears if the **Paging / Intercom** feature is enabled. It allows you to specify a dial code to establish intercom calls between two extensions.

Dialing Rules

Field	Description
Dialing Rules	
Dialing Rules	This permits you to enable / disable the dialing rules for this customer.

Dialing Format	- Select one of the existent dialing rule formats. Click the **Wizard** icon to review the selected dialing rule. - Select **Custom Dialing Rule** if you want to create personalized dialing settings for a customer. Then click the **Wizard** icon to open the Dialing Rule Wizard.
Translate CLI on outgoing calls	This permits you to translate the CLI number in outgoing calls based on the selected dialing format.
Translate CLI on incoming calls	This permits you to translate the CLI number in incoming calls based on the selected dialing format.

Fraud Detection

Field	Description
Location Information	In this section you can set the country the end user is currently in or usually resides in (and thus this country will be treated as 'safe' when the system checks for fraudulent activity) and whether the end user is allowed to make calls from abroad.
Location Information	**Enabled** – Select this option to provide information about the end user's current 'default' country and whether they are permitted to make calls from abroad. **Disabled** – Select this option if such information must not be provided. In this case, fraud detection, if enabled, is based solely on the geo / risk profile settings.
Allowed Mobility	This option is available only when **Location Information** is set to **Enabled**. Specify whether the end user is permitted to make calls from abroad. **Stationary User (Permanent Location)** – Select this option for residential users who may only make calls from a single country. These end users are not authorized to make calls from

	countries other than their default one, and outgoing calls made from other countries will be screened. • **Roaming User (Changeable Location) –** Select this option for users who frequently travel to different countries. In this case, the call will be screened if it *does not meet* one of the following conditions: ○ The call is made from the end user's default country. ○ The call is made from countries in the **No Restrictions** section in the geo / risk profile specified in the end user's product. • The call is made from countries in the **Suspicious** section of the geo / risk profile, but the number of calls does not exceed the value permitted (also specified in the geo / risk profile).
Current Location	This option is available only when **Location Information** is set to **Enabled**. Select the country from the list. This is the user's 'default' country, i.e. the country where the end user permanently resides. Calls made from this country will be treated as safe and legitimate even if this country is on the **High-Risk** list of the geo / fraud profile. Calls made from other countries by stationary end users (**Allowed Mobility** is set to **Stationary User (Permanent Location)**) will be screened. For example, the geo / risk profile assigned to an end user lists Myanmar as a high-risk country. But when an end-user moves to Myanmar for a half- year business project, Myanmar can be assigned as the end user's current location. Thus, the end user will be permitted to freely make calls from this new location, and you won't need

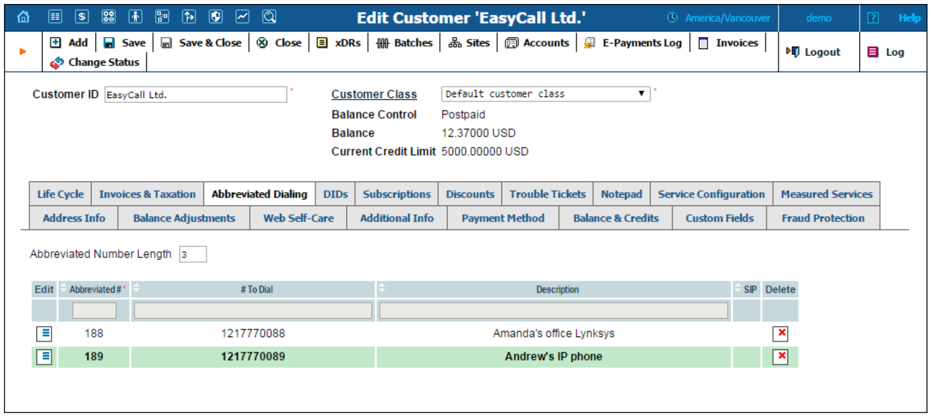
	to create a separate geo / risk profile for them. Note that if you leave this option blank, the system automatically tries to obtain its value upon first use of the account after its creation. This is done according to the following logic: • If a geo / risk profile is defined in an end user's product and the end user makes a call from a nonrestricted country, the system will use this country as the end user's current 'default' country. • If a geo / risk profile is not defined, the system has no source for verifying which country is considered 'safe' and thus treats all countries as 'suspicious.' Since the current location can only be automatically assigned when a country is considered 'safe,' the system will not be able to assign it. Therefore, all outgoing calls made by the end user will be screened. **NOTE:** To permit auto detection of the account's location, on the configuration server web interface go to the **Admin** node -> the **Global** environment -> the **VoiceFraudProtection** group and enable the **Assign_Primary_Location** option.

Abbreviated Dialing tab

Here the administrator may define a list of phone extensions for his IP Centrex environment, plus create abbreviated dialing for external phone numbers. The **Abbreviated Dialing** feature works with both SIP and H.323, with adequate support from either the SIP Server or Cisco TCL IVR.

A PortaBilling® customer can set up dialing rules as an international prefix, outside prefix, direct number (e.g. 911), or abbreviated dialing for his accounts.

NOTE: To be able to add extensions / abbreviated numbers, you should enter the maximum length of anticipated digits (e.g. 3 in the case of 123-like numbers) in the **Abbreviated Number Length** field and click **Save**.

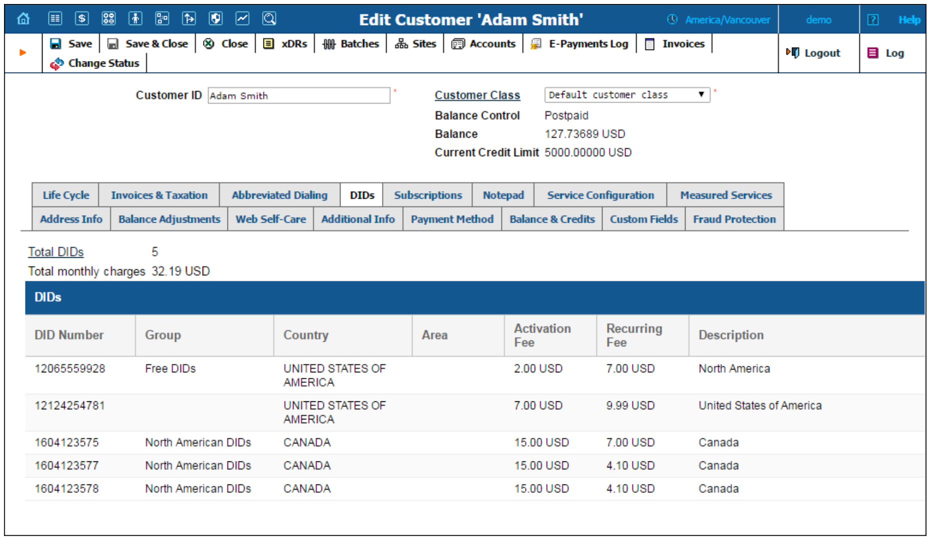


To add a new abbreviated dialing number, click the **Add** button and enter the following information:

Field	Description
Abbreviated #	The number the end user will dial on his phone (extension number).
# To Dial	The number that the call will be forwarded to. You may enter the ID of one of the customer's accounts or any phone number. If you leave this field blank, then the abbreviated number is considered to be a direct number, or "dial as is." This is useful for making sure that special numbers (e.g. 112) are never converted by other translation rules. **Note:** Phone numbers must be entered in the E.164 format.
Description	Description of this abbreviated number, e.g. "Andrew's IP phone."
SIP	If **# To Dial** represents the ID of one of the customer's accounts, you will see the SIP "lamp" icon here. It will light up if the account is currently being used by a SIP UA to register with the SIP server; otherwise it will be gray.

DIDs tab

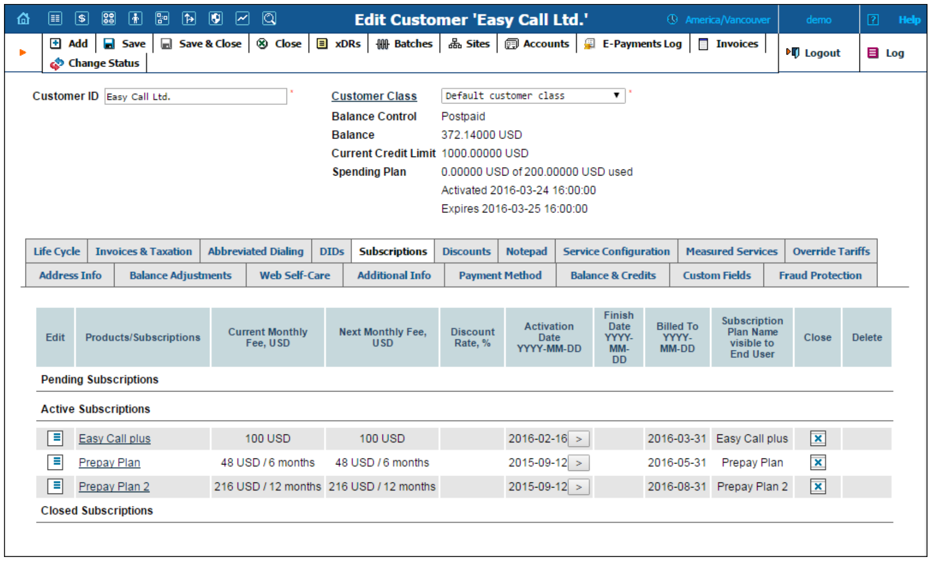
The **DIDs** tab provides full information about the DID numbers assigned to a customer.



Field	Description
Total DIDs	The total quantity of DID numbers assigned to a customer. The link makes it possible to view all the customer's DID numbers in the DID Inventory.
Total monthly charges	The total amount of recurring fees for DID number usage applied to the customer.
DID Number	Phone number.
Group	Name of the group the DID number belongs to.
Country	The country that the DID number belongs to.
Area	The area that the DID number belongs to.
Activation Fee	A one-time charge paid to a service provider for DID number activation.
Recurring Fee	A monthly amount charged by a service provider for a provisioned DID number.
Description	Comments about a particular DID number.

Subscriptions tab

This tab displays the subscription plans currently applied to this customer.



Subscriptions are divided into three groups:

- **Pending Subscriptions** – Subscriptions that are not yet active (i.e. they will be activated sometime in the future).
- **Active Subscriptions** – Currently active (and billed) subscription plans.
- **Closed Subscriptions** – Subscriptions that have already been closed.

Subscription assigned to the customer becomes active at the date specified in the **Start Date** field available when you add a subscription. Note that if the **Start Date** is set to "immediately," the subscription is activated within an hour after adding it.

For more information about subscription plan types and general settings please refer to the **Subscription Plans** chapter of this guide.

Field	Description
Product/Subscriptions	The subscription plan name. Click this link to open the corresponding subscription plan.
Current Fee	• For subscriptions with prepaid plans: Shows the fee for the current prepay period and the period duration. • For subscriptions without prepay plans: Shows the subscription fee for the current billing period.
Next Fee	• For subscriptions with prepaid plans: Shows the prepaid plan that will be applied

	once the prepay plan specified in **Current Fee** expires. • For subscriptions without prepay plans: Shows the subscription fee that will be applied to the customer for the next billing period.
Discount Rate, %	The discount rate applied to the periodic fees for this subscription. If you leave this field empty, the discount rate defined in the customer's information (see the **Additional Info** tab of the **Edit Customer** page) will be applied. Any value you enter will override the default customer discount rate. Entering 0 means no discount (i.e. the rate defined in the subscription plan is applied).
Start Date	This field is visible only when you add a new subscription. The desired subscription activation date: immediately, or sometime in the future.
Activation Date	Displays the date when the subscription is activated. Click the > **Show More** button to see the subscription start date.
Finish Date	• For pending and active subscriptions: The date when this subscription will automatically be closed. • For closed subscriptions: The date when the subscription has been closed.
Billed To	Shows the date until which subscription charges have already been applied.
Subscription Plan Name Visible to End User	The subscription plan name as the end user sees it on their self-care interfaces and invoices.
Close	Click the **Close** icon to close the subscription. This icon is available only for optional active subscriptions.

How to add a subscription

To add a new subscription, click **Add** on the toolbar and fill in the following fields:

- **Product/Subscriptions** – Select the preferred subscription plan from the list.

- **Discount Rate, %** – Type the desired discount rate.
- **Start Date** – Type the desired subscription activation date in the format “YYYY-MM-DD” (e.g. 2015-10-01), or click the **Start Date** link in the column title to select the date in the **Calendar** window. The default value is “immediately.”
- **Finish Date** – Type the subscription closing date in the format “YYYY-MM-DD”(e.g. 2015-10-31), or click the **Finish Date** link in the column title to select that date in the **Calendar** window.
- **Subscription Plan Name visible to End User** – If required, specify the new subscription name that is displayed to the end user. The default name is set within the subscription plan.

For subscriptions with multiple prepay plans, also select which plans will apply:

- From the **Current Fee** list, select the prepay plan for the current period.
- From the **Next Fee** list, select the prepay plan that will be applied once the prepay period for the plan specified in **Current Fee** *runs out*.

Refer to the table at the end of this section for more detailed descriptions of the fields.

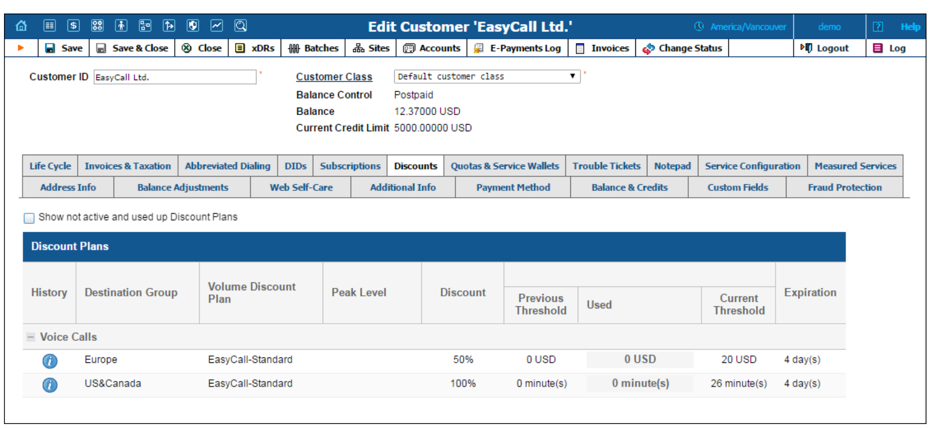
How to edit a subscription

Only pending and active subscriptions can be edited. To edit a subscription, click the **Edit** icon, make the desired changed, and then click the **Save** icon.

How to delete a subscription

Only pending subscriptions can be deleted. To delete a subscription that was mistakenly assigned to the customer, click the **Delete** icon in the **Delete** column.

Discounts tab



Field	Description
Show not active and used up Discount Plans	Select this check box to review also discounts that are not currently active or have been used up.

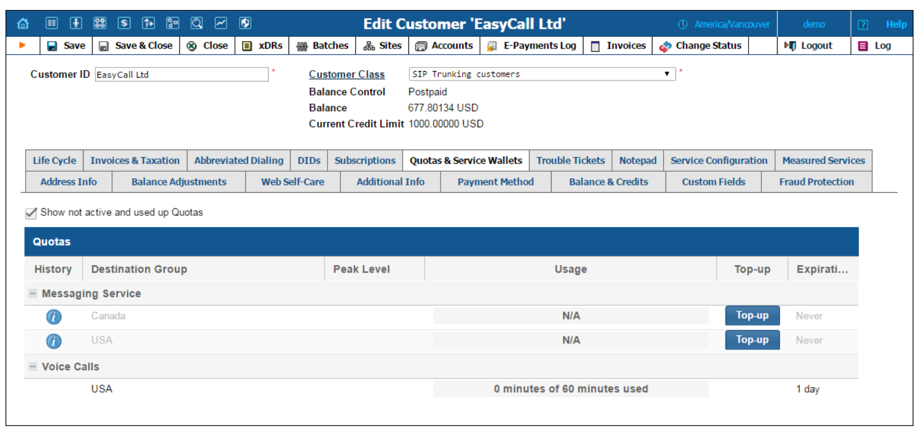
Discount Plans

Field	Description
History	Click the **View Details** icon to open a dialog box that shows extended information about the discount.
Destination Group	Destination groups included in the customer's discounts.
Service	Shows the service type for which the discount is valid.
Volume Discount Plan	The name of the *active* volume discount plan that applies to this customer.
Peak Level	The empty field indicates that the discount is provided regardless of whether the service is used during peak or off-peak periods. Otherwise, this column contains the period names.
Discount	The value of the discount currently applied to the customer.
Previous Threshold	The threshold value for the last used discount level.
Used	Shows the current value of both consumed and remaining discount volume (in minutes or funds). The progress bar graphically reflects how much of the discounted service has been consumed.
Current Threshold	The threshold value for the currently used discount level. When a customer's internal counter reaches this value, the next level discount will start being applied according to the discount scheme.
Expiration	Shows the time left for the discount to be reapplied to the customer. If **Never** is defined, it means that this discount is for one-time use and will not be reapplied to the customer.

Discount History dialog box

Field	Description
Status	The current status of the discount plan: • **Active Discount Plans** – Are the volume discount plans currently in use. • **Used in Full** – Are the volume discount plans that have been used up. • **Not Yet Active** – Are currently inactive volume discount plans.
Combine with Other Discounts	Shows the way this discount is combined with other discounts that apply to a session.

Quotas & Service Wallets tab



Field	Description
Show not active and used up Quotas	Select this check box to review also quotas that are not currently active or have been used up.

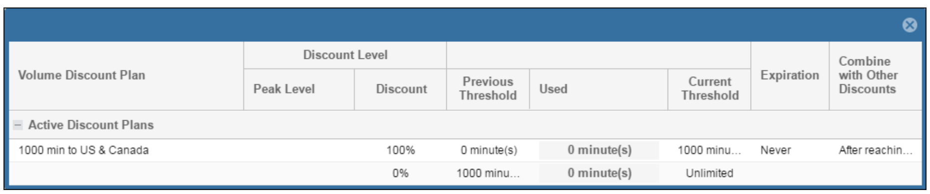
Quotas

Field	Description
Service	Shows the service type for which the quota is valid.
History	Click the **View Details** icon to open a dialog box that shows extended information about the quota.

Destination Group	Destination groups included in quotas that apply to this customer.
Peak Level	The blank field indicates that the quota is provided regardless of whether the service is used during a peak or off-peak period. Otherwise, this column contains the period names.
Usage	Shows the current value of both consumed and remaining quota volume (in minutes or funds). The progress bar graphically reflects how much of the quota has been consumed.
Top-up	Click the **Top-up** button to purchase a desired amount of service.
Expiration	Shows the time remaining for the quota to be reapplied to the customer. If **Never** is defined, it means that this quota is for one-time use and will not be reapplied to the customer.

Quota History dialog box

Click on the **View Details** icon to open the Quota History dialog box:



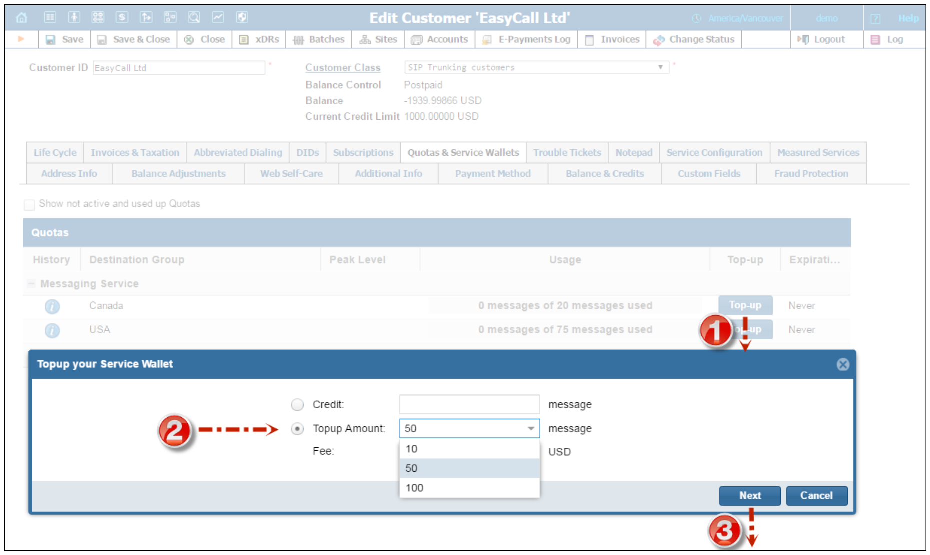
Volume Discount Plan	Discount Level					Expiration	Combine with Other Discounts
	Peak Level	Discount	Previous Threshold	Used	Current Threshold		
− Active Discount Plans							
1000 min to US & Canada		100%	0 minute(s)	0 minute(s)	1000 minu...	Never	After reachin...
		0%	1000 minu...	0 minute(s)	Unlimited		

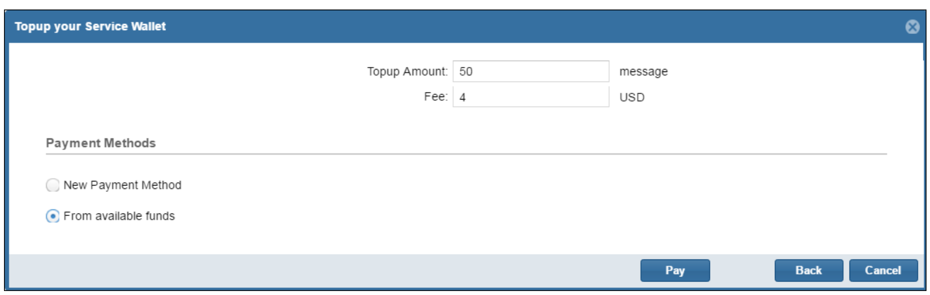
Field	Description
Status	The current status of the discount plan: • **Active Discount Plans** – Are volume discount plans that are currently in use. • **Used in Full** – Are volume discount plans that have already been used up. • **Not Yet Active** – Are currently inactive volume discount plans.
Discount	The total discount value currently applied to the customer.
Previous Threshold	The threshold value for the last used quota level.
Used / Remaining	Shows the current value of both consumed and remaining quotas (in minutes or funds). The progress bar graphically reflects how much of the quota has been consumed.
Current Threshold	The threshold value for the currently used discount level. **Unlimited** means that a special “unlimited” threshold has been defined within a volume discount plan.

Expiration	Shows the time remaining for the quota to be reapplied to the customer. If **Never** is defined, it means that this quota is for one-time use and will not be reapplied to the customer.

Service Wallet Top-up

To top up a customer's service wallet, select the desired service and click the **Top-up** button.





Field	Description
Credit	Select this option to grant free service (for a volume-based threshold type) or top up this service wallet's balance (for a monetarily-based threshold type). This can be done in the form of a promotional offer or offering compensation for issues regarding quality, etc. Once applied, the customer receives the money or service defined and this does not affect either his balance or available funds.
Topup Amount	Select this option to top up a customer's service wallet. Select the desired service quota in the **Topup Amount** list. The **Fee** field represents the price for the selected amount. This option affects either the customer's

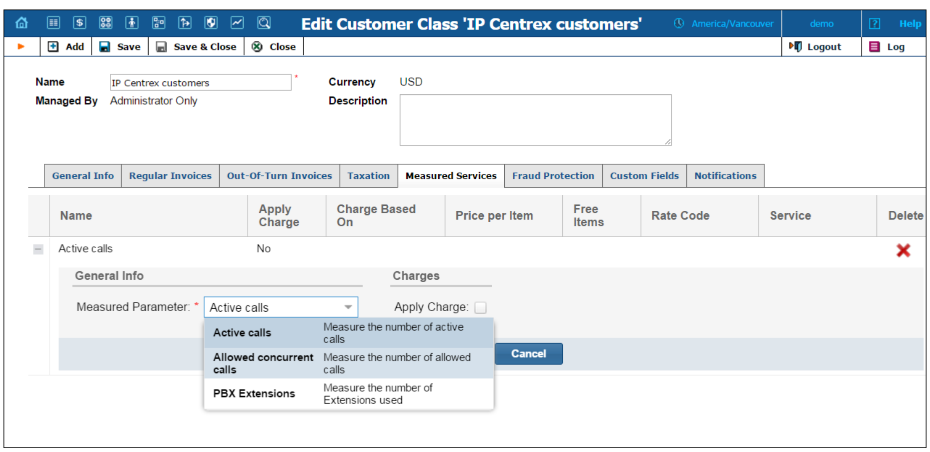
	balance or available funds.
Payment Method	Select the way to pay: • **New Payment Method** – Select this to charge the customer's credit card. • **From available funds** – Select this to pay for the service by using the customer's balance or available funds.
Pay	Click this button to proceed with payment.

Measured Services tab

On this tab you can configure which allocated resources will be measured and what charges will be applied for their consumption.

All resources consumed have their own metrics. To add a metric, click the **Add** icon and select which parameter will be measured from the **Measured Parameter** list. To charge your customers for this resource consumption, enable the **Apply Charge** check box and specify the charges and charging criteria.

NOTE: Each metric can only be added once per customer.



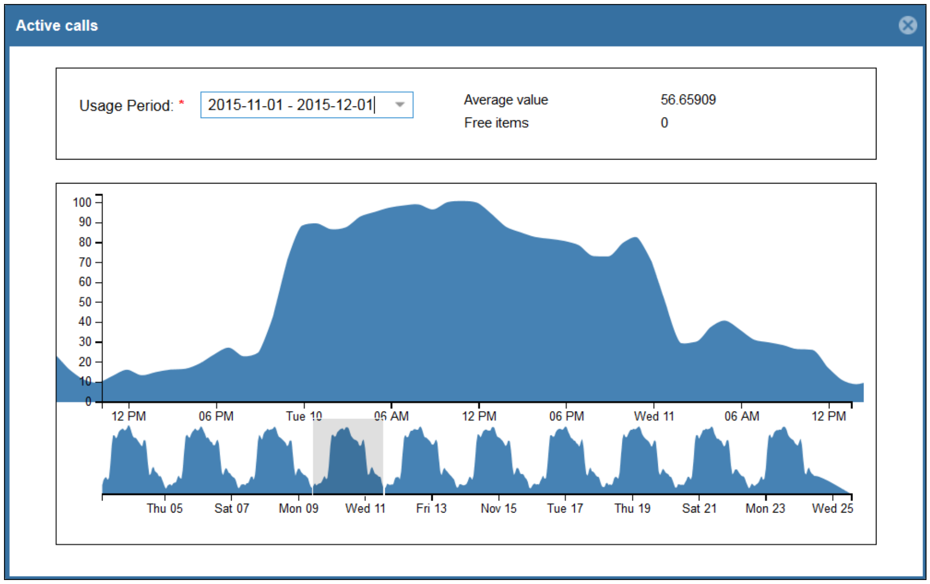
The following parameters are available:

Field	Description
Measured Parameter	Specify which consumed resource will be measured and aggregated. The available options are: • **Active calls** – The *actual* number of connected calls at a specific moment in time. • **Concurrent calls** – The number of

	simultaneous outgoing calls allowed for a particular customer. This amount is defined for the customer or customer site by the administrator (in the **Limit Simultaneous Calls** service feature). • **PBX Extensions** – The number of extensions a customer defines within their IP Centrex environment.
Apply Charge	Enable this check box to apply charges to customers for consumed resources. If left clear, measured resources data will be used for statistics purposes only.
Charge Based On Value Within Period	Select which criteria will form the basis for charges to be calculated and applied to customers. The available options are: • **Average** – At the end of a billing period the system collects aggregated measurements and calculates their average. It is then used for calculating a customer's charges. • **Maximum** – At the end of a billing period the system collects aggregated measurements, extracts their maximum value and uses that for assessing a customer's charges. • **Minimum** – At the end of a billing period the system collects aggregated measurements, extracts their minimum value and uses that for calculating a customer's charges.
Charge for Each Item	Specify the price for each consumed unit of resources.
Do Not Apply Charges for the First Items	Specify the amount of consumed resources that the customer will not be charged for (as a rule this is included in the customer's service bundle).
Charge Rate Code	Select which rate code is to be used to calculate charges for resources consumed. This rate code is shown in the customer's xDRs and invoices.
Service	The service type used to calculate charges for resources consumed. This service type is shown in the customer's xDRs and invoices.

Statistics window

To browse resource usage statistics, click the **Click here to view graphs** icon next to the necessary resource metric.



The statistics window consists of two graphs. The bottom graph displays resource usage data for the last three months; the upper graph displays a detailed view of the resource usage for a particular time interval selected from the three-month period below.

To select a time period, click on the start date in the bottom graph and drag the mouse cursor to the finish date.

The topmost part of the window provides additional information about the selected metric. The following options are available:

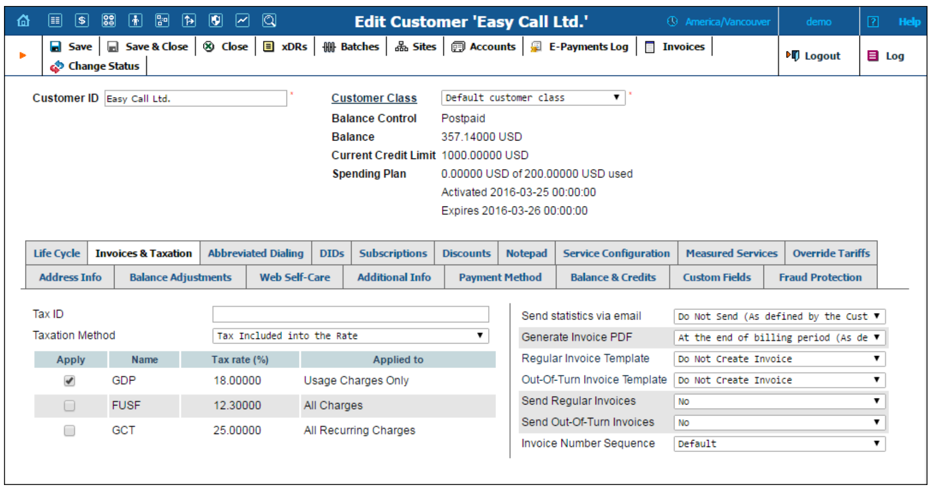
Field	Description
Charges for the period	This represents the customer's billing period. You can select any of this customer's billing periods within the xDR storage time and see their charges. For details about storing xDRs please refer to the *xDR Cleanup Procedure* chapter of the **PortaBilling Administrator Guide**.
Value	This is the measured resource value defined for the selected metric for the current billing period. It can be minimum, maximum or average.
Amount	If any resource consumption charges have been applied to the customer, they are displayed for the selected billing period. Charges for the current billing period will not be displayed since it is not yet closed. If no charges were applied to the customer, a zero amount is displayed.

Remaining Free Items	The number of available allocated resources that are included in the service bundle for the current billing period.

Invoices & Taxation tab

On the **Invoices & Taxation** tab you can define the following:

- How to tax the customer for provided services.
- Whether to send statistics and invoices by email.
- What invoice template to use and how to enumerate the invoices.



Field	Description
Tax ID	Customer's tax ID.
Taxation Method	• **No Taxation** – Select this option if the customer is exempt from taxation. • **Tax Included in the Rate** – Select this method when the rates from the customer's tariff include all required taxes. This method is ideal for prepaid services. Since every xDR produced contains a tax amount, charges and taxes are debited from the customer's balance immediately after the service is rendered. This is also convenient for European countries, where customers are used to seeing all prices as "final." • **EZtax (US, Canada)** – Select this method to use the EZtax plug-in. EZtax is a software vendor that has US tax information in their library, in conjunction with PortaBilling. This ensures that proper tax calculation is applied to American and Canadian

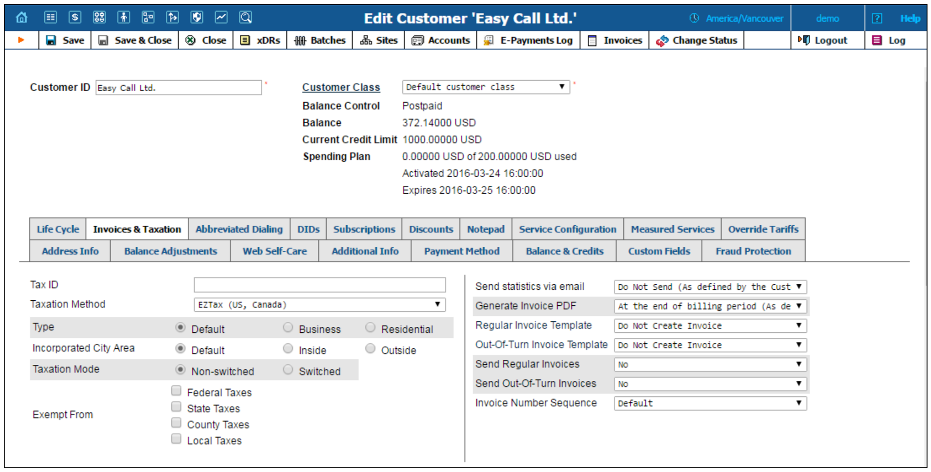
	customers. • **SureTax (US, Canada)** – Select this method to tax voice call services and subscriptions in the US and Canada. SureTax is another taxation system that allows you to accurately and easily calculate taxes for your US and Canadian customers. • **Fixed VAT Rate** – Select this method when you need to specify a certain percentage of value-added tax. • **Custom taxation** – This taxation plug-in is similar to VAT, but allows you to specify more than one tax and rate. **NOTE:** This option is only visible if at least one custom tax is defined on the **Custom Taxes** page. • **GST (Malaysia)** – This plug-in handles the goods and services tax (GST) that was implemented in Malaysia in April 2015.
Send Statistics via email	Defines what kind of xDR statistics should be delivered to the customer by email after the billing period is closed: • **As defined by the Customer Class** – Use the settings for the customer class. • **Full Statistics** – Send a .csv file with a complete list of xDRs. • **Summary Only** – Do not send a full list of xDRs, only a brief summary • **Do Not Send** – This option prevents the delivery of event statistics to the customer via email. Note that these options only affect the delivery of xDR files by email. The actual statistics files will always be generated and accessible for download from the administrator interface or customer self-care interface.
Generate Invoice PDF	• **As defined by the Customer Class** – With this option enabled, PortaBilling® uses the settings defined for the customer class. • **At the end of the billing period** –

	With this option enabled, PortaBilling® processes the customer's xDRs, applies charges (e.g. subscriptions, fees, etc.), creates a regular invoice and generates a .pdf file at the end of the billing period. • **Postponed, based on resource availability** – With this option enabled, PortaBilling® creates a regular invoice and charges a customer's credit card immediately. PortaBilling® begins to generate the .pdf files only once the calculations related to the previous billing period (e.g. xDR processing, statistics) for all customers have been completed. • **On demand** – With this option enabled, PortaBilling® makes all calculations for the customer, creates their regular invoices and saves them to a database. These invoices are then accessible via API. However, the .pdf file will not be generated unless explicitly requested.
Regular Invoice Template	Defines the regular invoice template for this customer. • Choose **As defined by the Customer Class** in order to apply the regular invoice template defined for this class, and so avoid defining an invoice template for each customer specifically. • Choose **Do Not Create Invoice** to disable regular invoice generation for this customer. • Select the required invoice template from the list. See the **Templates** section for more information.
Out-of-Turn Invoice Template	Defines the out-of-turn invoice template for this customer. • Choose **As defined by the Customer Class** in order to apply the out-of-turn invoice template defined for this class, and so avoid defining an invoice template for each customer specifically.

	• Choose **Do Not Create Invoice** to disable out-of-turn invoice generation for this customer. • Select the required invoice template from the list. See the **Templates** section for more information.
Send Regular Invoices	Defines whether regular invoices should be delivered to the customer by email. • **As defined by the Customer Class** – Use the settings defined for the customer class. • **Yes** – Send regular invoices by email. • **No** – Do not send regular invoices by email.
Send Out-of-Turn Invoices	Defines whether out-of-turn invoices should be delivered to the customer by email. • **As defined by the Customer Class** – Use the settings defined for the customer class. • **Yes** – Send out-of-turn invoices by email. • **No** – Do not send out-of-turn invoices by email.
Invoice Number Sequence	Select an invoice number sequence that will be used for this customer: • **Default** – The default numbering sequence will be selected for this customer's invoices. • **Individual for Environment** – This customer's invoices will have globally sequenced invoice numbering (throughout the environment). • **Individual for Customer** – This customer's invoices will have their own sequential numbering.

Other option on this tab depend on the selected tax method and are described in the following subsections.

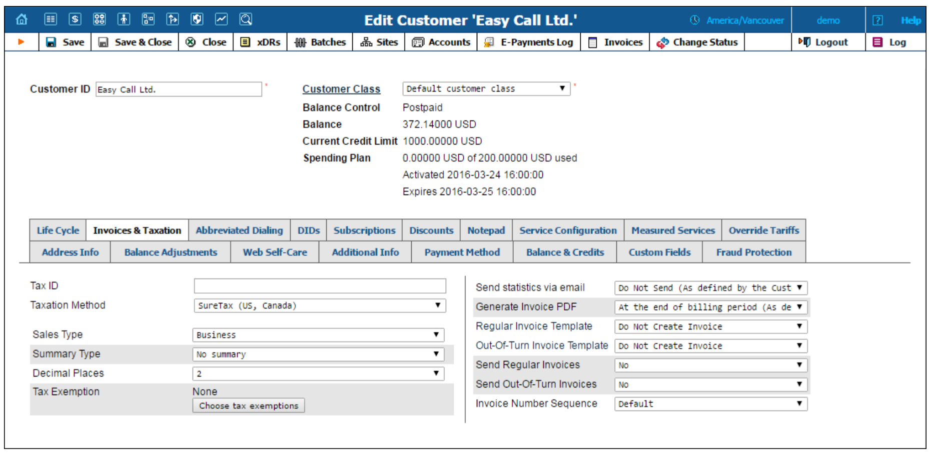
EZtax (US, Canada)



Field	Description
Type	This field is used to specify the type of customer involved in the transaction: • **Default** – Select this to apply customer class settings. • **Business** – Select this when a customer pays taxes as a legal entity. • **Residential** – Select this when a customer pays taxes as a private individual.
Incorporated City Area	This is used to specify whether a customer is inside or outside of an incorporated area that is designated as their location. • **Default** – Select this to apply customer class settings. • **Inside** – The customer is inside of an incorporated area designated as their location. • **Outside** – The customer is outside of an incorporated area designated as their location. **NOTE:** Inner city tax jurisdictions are often based on postal code groupings. EZtax offers a service to define the correct US Post Office postal code using the customer's entire address.
Taxation Mode	This defines the taxation mode that helps apply relevant taxes for wide scale service. • **Non-switched** – Taxation is applied based on the number of lines the customer uses. • **Switched** – Taxation is applied based on the number of trunks, extensions and outbound channels that the customer uses. All of them may work in conjunction.
Exempt From	This designates which jurisdictional level of taxes are *not*

	applied to the customer: • **Federal Taxes** – Taxes at the federal level are not applied. • **State Taxes** – Taxes at the state level are not applied. • **County Taxes** – Taxes at the county level are not applied. • **Local Taxes** – Taxes at the local level are not applied.

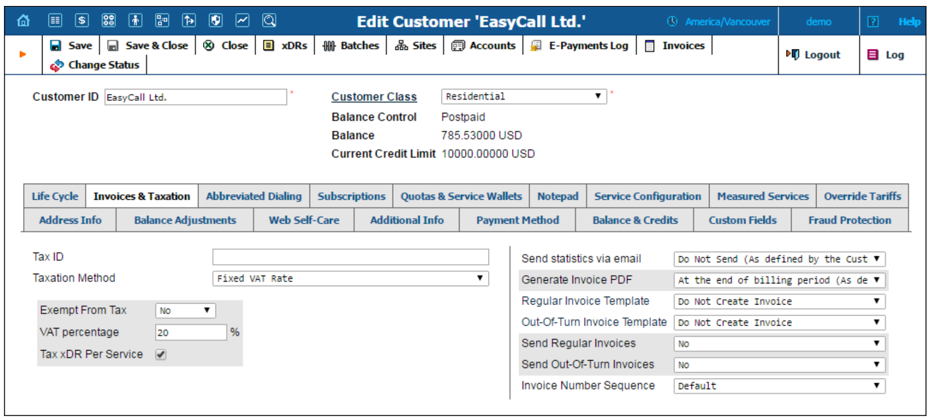
SureTax (US, Canada)



Field	Description
Sales Type	This field is used to specify the type of customer involved in the transaction: • **As defined by the Customer Class** – Select this to apply customer class settings. • **Business** – Select this when a customer pays taxes as a legal entity. • **Industrial** – Select this when transactions are made at an industrial business. • **Lifeline** – Select this when transactions are made by a customer granted a subsidy. • **Residential** – Select this when a customer pays taxes as a private individual.
Summary Type	• **Default** – Select this to apply customer class settings. • **No Summary** – Select this to separately display federal, state and local taxes. • **Summary by Federal, State and Local Taxes** – Select this to display federal, state and local taxes summarized.

Decimal Digits	Define number of decimal digits for rounding the taxes.
Tax Exemption	Select this check box to relieve a customer from taxes related to particular service categories. To define the categories, move them from the **Available** list to the **Included** list. **NOTE**: The **Available** and **Included** lists are only visible when the check box is selected.

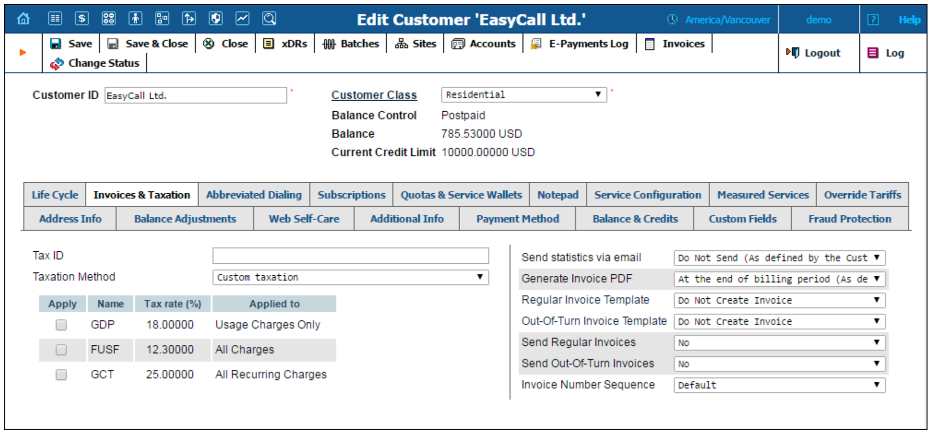
Fixed VAT Rate



Field	Description
Apply taxes at the moment of payment *(for prepaid customers and debit accounts only)*	With this option selected, the taxes for services will be calculated and applied to prepaid customers based on the tax rate and the top up amount. The total sum of payment will be increased by the calculated tax amount (e.g. a user enters a $10 payment to top up the balance. The system calculates the taxes and adds them to the entered amount, increasing the sum total. The user is provided with full payment information: the entered amount, the tax amount and the sum total.) Upon payment processing, the customer’s balance is increased by the actual amount ($10), excluding taxes.
Exempt From Tax	This defines whether customer is relieved from taxes: • **Default** – Select this to apply customer class settings. • **Yes** – Select this if the customer is not obliged to pay this tax. • **No** – Select this to enable the usage of the **Fixed VAT Rate** taxation method.
VAT percentage	Specify a certain percentage of value-added tax.

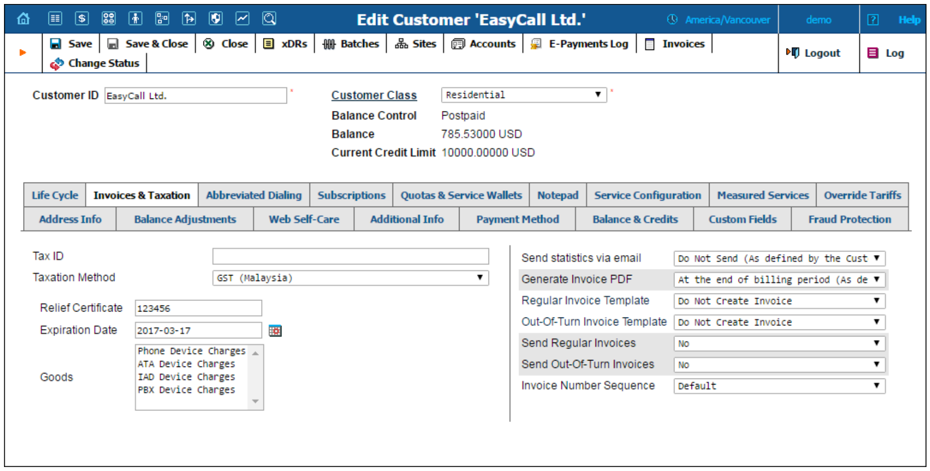
Tax xDR Per Service	Select this check box to produce tax xDRs for each service separately.

Custom taxation



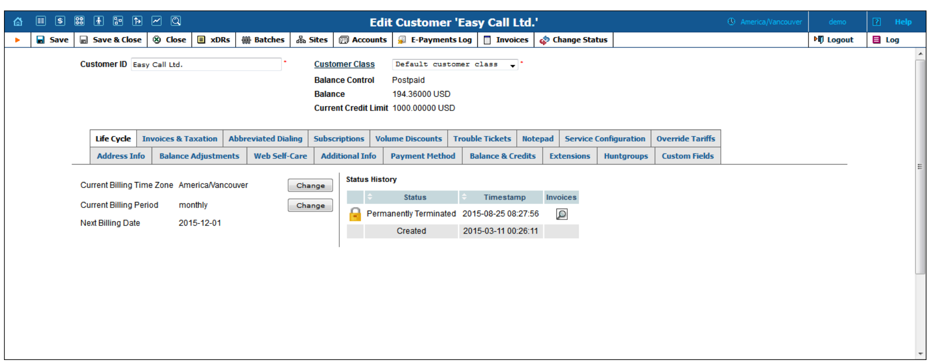
Field	Description
Apply taxes at the moment of payment *(for prepaid customers and debit accounts only)*	With this option selected, the taxes for services will be calculated and applied to prepaid customers based on the tax rate and the top up amount. The total sum of payment will be increased by the calculated tax amount (e.g. a user enters a $10 payment to top up the balance. The system calculates the taxes and adds them to the entered amount, increasing the sum total. The user is provided with full payment information: the entered amount, the tax amount and the sum total.) Upon payment processing, the customer's balance is increased by the actual amount ($10), excluding taxes.
Apply	Select the check box to apply the tax listed in this row. **NOTE:** You can adjust custom tax rates on the **Custom taxation** page of the main menu.
Name	The descriptive name of the tax in the system (will be present in xDRs and in taxation configuration).
Tax rate (%)	A percentage value for this tax.
Applied to	This field shows which services this tax is applied to. Here select one of the available options: • **Usage Charges Only** – All charges except for subscriptions and credits / adjustments. • **All Charges** – Applied to all charges including subscriptions and credits / adjustments. • **All Recurring Charges** – Applied only to subscriptions.

GST (Malaysia)



Field	Description
Relief Certificate	By default, the **GST** plug-in applies a 6% goods and services tax. If you have a relief certificate code that applies 0% tax for goods, specify the code in this field.
Expiration Date	Indicate when the relief certificate expires.
Goods	Select the goods that fall under the relief certificate with 0% tax.

Life Cycle



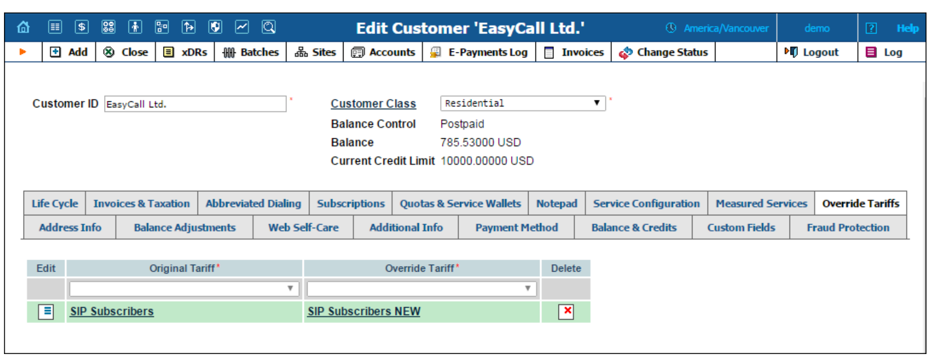
Field	Description
Billing Time Zone / Current Billing Time Zone	Defines / shows time zone in which customer's billing period will be closed and invoices will be generated.
Billing Period / Current Billing Period	Defines / shows the frequency of invoicing for this customer.
Next Billing Date	Read-only field; displays the date when the customer's current billing will be closed (and

	invoice and statistics generated). If you shift the billing date, than this field will show you a billing date which was actual before the shift. Note that this date is shown in customer's time zone.
Last Day of the Period	Read-only field available only during customer creation; shows the last date of the customer's first billing period. Note that this date is shown in customer's time zone.
Invoiced on	Read-only field available only during customer creation; shows a date when customer's invoice will be generated. Note that this date is shown in customer's time zone.
Status History	Read-only field; allows you to track important events in a customer's lifecycle, such as when the customer was created, blocked / unblocked or provisionally terminated / opened.
Scheduled Status Changes	Read-only field; displays the scheduled events for this customer, such as provisional / permanent termination.

Override Tariffs tab

When you have the same tariff for several customers you may need to adjust the specific rates for a particular customer. To avoid creating another tariff with a complete set of rates for this customer (using a large portion of the same data) you can use the **Override Tariffs** feature. Create a new tariff using only the rates that are specific to a current customer and associate it with an original tariff on the **Override Tariffs** tab.

Note that **Override Tariffs** tab will only appear if the **Override Tariffs Enabled** check box is selected on the **Additional Info** tab.



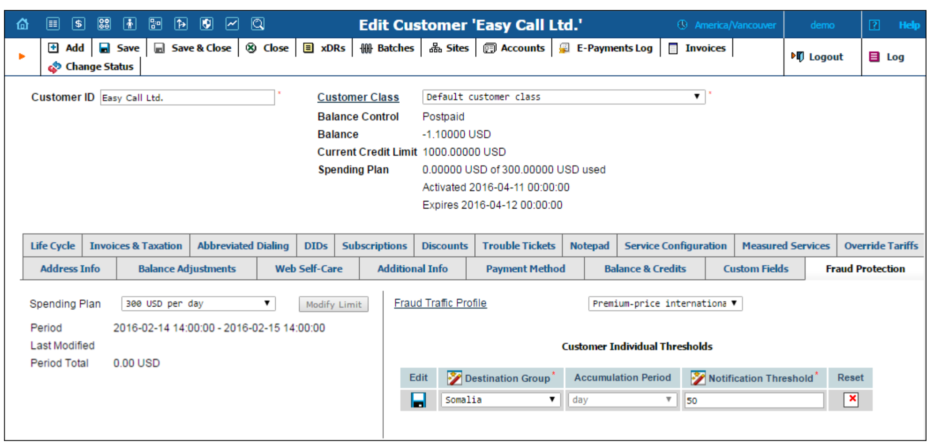
Field	Description
Original Tariff	This specifies the original tariff that contains the majority of the rates. Choose the tariff from the list.
Override	Choose the tariff that contains a handful of rates that

Tariff	are specific to the current customer. Rate lookup is done in both original and override tariffs and the rate for the closest destination is chosen (and its corresponding tariff is used). If there are different rates for the same destinations in both tariffs the one from the override tariff will be chosen.

Let's take an example in order to see how this works. You assign a standard tariff to several customers that contains a rate for destination number 12 at $0.02/minute and a rate for destination number 420 at $0.2/minute. Then you decide to adjust the 1204 destination rate to $0.01/minute for a specific customer So you create a new tariff using this rate and assign it as the override tariff for that customer. In this case, a call to 12033768900 will be charged according to the rates in the original tariff (0.02/minute), a call to 120456777844 will be charged according to the rate in the override tariff ($0.01/minute), and a call to 420998764456 will be charged according to the original tariff.

Fraud Protection tab

On the **Fraud Protection** tab the administrator can choose fraud protection tools for this customer.

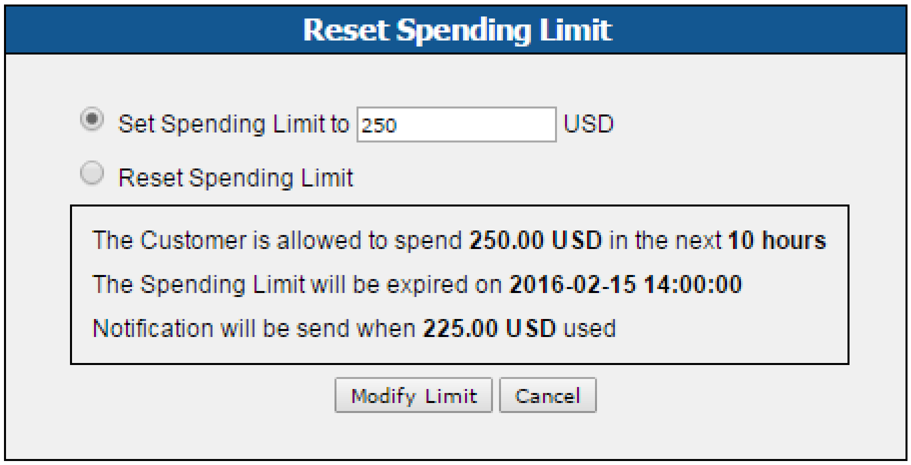


Spending Plan

Field	Description
Spending Plan	This shows the spending plan assigned to this customer. To change the current spending plan, choose a new one from the list and click **Save** or **Save & Close**.
Period	This shows the dates and times between which the spending plan applies.
Last Modified	This shows the date and time that the spending plan was last modified.
Period Total	This shows the amount that the customer has already spent of their spending plan.

If a customer has used up their spending plan and wants to continue using the services, the administrator can temporarily increase their spending limit by clicking the **Modify Limit** button. Then the **Reset Spending Limit** dialog box will open.

Reset Spending Limit



Field	Description
Set Spending Limit to	Type a new amount for the spending plan here.
Reset Spending Limit	Choose this option to restore the initial amount assigned to the spending plan.

Click the **Modify Limit** button to save your changes.

Fraud Traffic Profile

Field	Description
Fraud Traffic Profile	This shows the fraud traffic profile assigned to this customer. To change the current fraud traffic profile, choose a new one from the list and click **Save** or **Save & Close**.

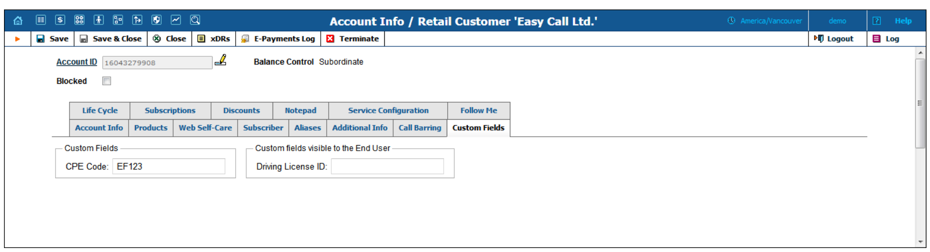
Customer Individual Thresholds

The administration can override thresholds configured in the fraud traffic profile for an individual customer (for example, if sending larger / smaller volumes of traffic to monitored destinations is considered normal for this customer).

To configure a customer's individual threshold, click **Add** on the toolbar.

Field	Description
Destination Group	Choose a destination group for which an individual threshold will be configured. You can choose the destination group either from the list or by clicking the **Wizard** icon.
Accumulation Period	This shows an accumulated duration for which the threshold is measured. This field is read-only.
Notification Threshold	This defines the call duration in minutes per a defined time span considered normal. Whenever the call duration exceeds the set threshold, an alert is sent to the administrator. Tip: Click the **Wizard** icon to see the average traffic recently sent by the customer in this destination.
Reset	Click the **Reset** icon to restore the threshold initially configured in the fraud traffic profile.

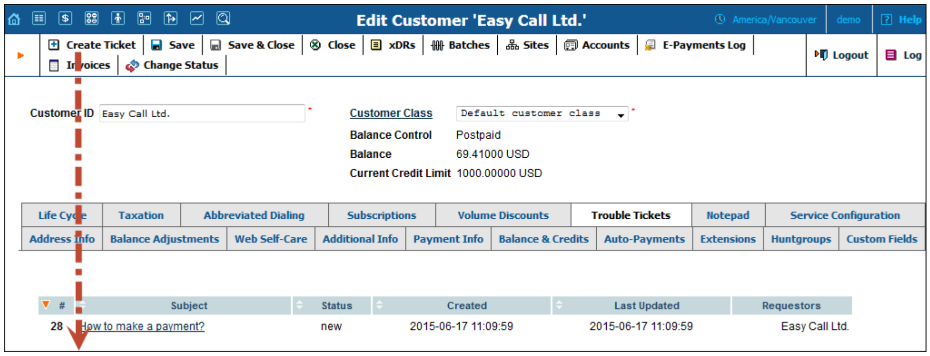
Custom Fields tab

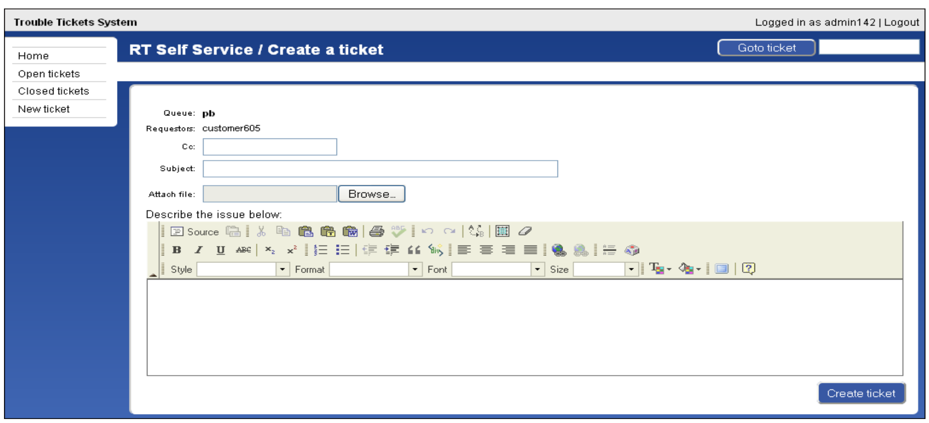


Field	Description
Custom Fields	Custom fields visible only to administrative users. These custom fields may store a privileged additional information that is required for support and troubleshooting and must be shown on the web interface without the risk of exposing it to end users.
Custom Fields visible to the End User	Custom fields which end users are enabled to see and edit on their self-care interfaces. These custom fields may store information that can be useful for both an administrator and end users (for example, customer's bonus, *driving license* ID, etc.)

Trouble Tickets

Using this tab you can view the list of recent tickets and automatically open a specific ticket in RT interface by just clicking on it. To create a new ticket, click **Create Ticket** on the toolbar.

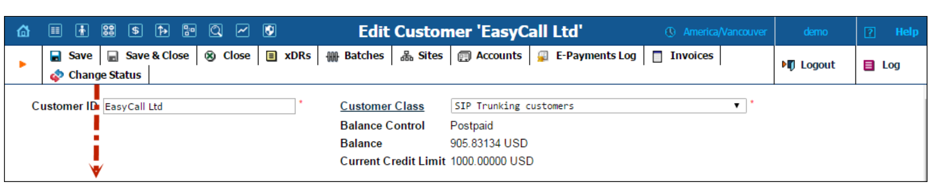


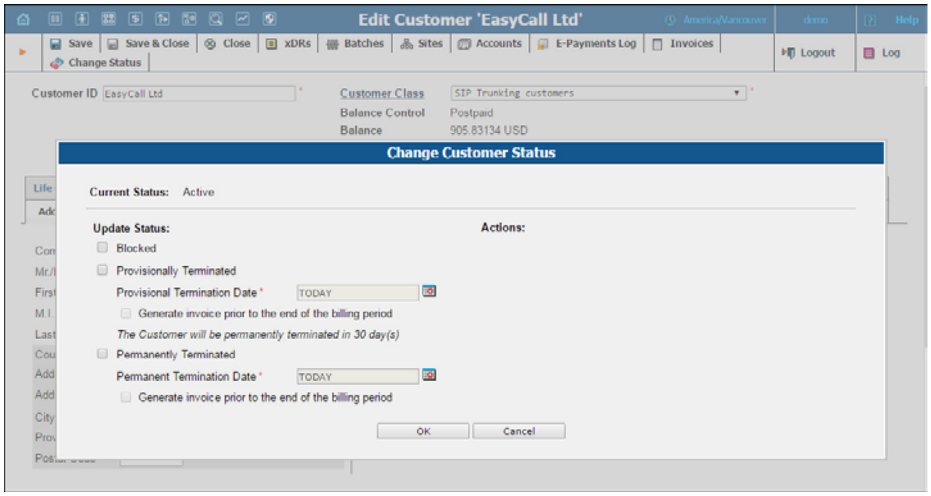


Change Customer Status

In the **Change Customer Status** dialog box you can:

- view the current status,
- assign blocked, provisionally terminated and / or permanently terminated status,
- restore the customer after having blocked, provisionally terminated or exported their status;
- lift the suspension,
- initiate invoice generation, and
- view a list of scheduled changes in the **Actions** section.





Blocked

Once this option is selected, all of the customer's accounts become unusable. Note that subscription fees still apply to blocked customers, consequently they continue to receive invoices. You can unblock the customer when needed. This status is convenient for regulating the availability of services when an administrator must take immediate action (something not automatically processed).

Suspended

This status indicates that all of a customer's services have been automatically suspended because of an overdue invoice. An administrator facilitates the suspension and adjusts the settings for it in the customer class located in the regular or out-of-turn invoice section. Whether or not to charge a suspended customer for their subscription is regulated by their subscription plan. Note that an administrator cannot manually cancel this status once applied. This status is for automatically regulating the availability of services.

However, the administrator can lift the suspension until the defined date. Sometimes it is necessary to delay a customer's suspension for several days (e.g. allow the customer to use the service over the weekend although the overdue invoice must be paid in full early Monday morning, without exception) so that the customer's needs are attended to. To delay the customer's suspension, select the next date slated for automatic suspension in the **Lift the Suspension until** field if the invoice remains unpaid.

Provisionally Terminated

When provisionally terminated, all of a customer's services stop although their data is still preserved in the databases. Therefore, it is possible to issue an invoice for the last billing period before the day of termination. There is an option for reactivating services if the customer should change their mind later on. The default period for reactivation is 30 days (however this value can be changed in the customer class). If not reactivated, the customer's status automatically changes to permanently terminated.

NOTE: Please keep in mind that if you are going to provisionally terminate a customer, this customer won't be charged for any DID numbers assigned to him / her. At the same time, the DID provider will still charge you a fee (e.g. $5/month) because these DID numbers remain allocated to your network until the customer is permanently terminated.

Permanently Terminated

When permanently terminated, the customer no longer has access to any operations and their account cannot be reactivated later. The only way to trace such a customer is by using Advanced Search with the "Permanently Terminated" status filter. Define a day of termination in the Permanent Termination Date field. This status is relevant for customers who unquestionably discontinue using services, so their data can be deleted to free up database space.

You may also generate a midterm invoice for the customer you are going to terminate. For this, click to select the **Generate invoice prior to the end of the billing period** check box. The invoice will be generated within the hour.

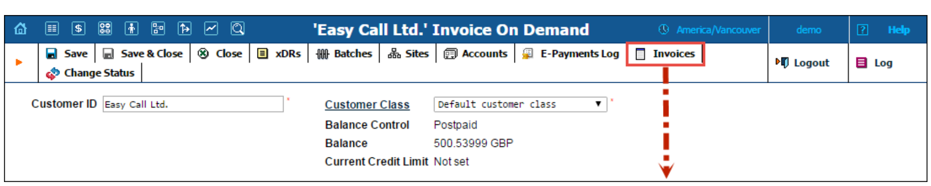
Exported

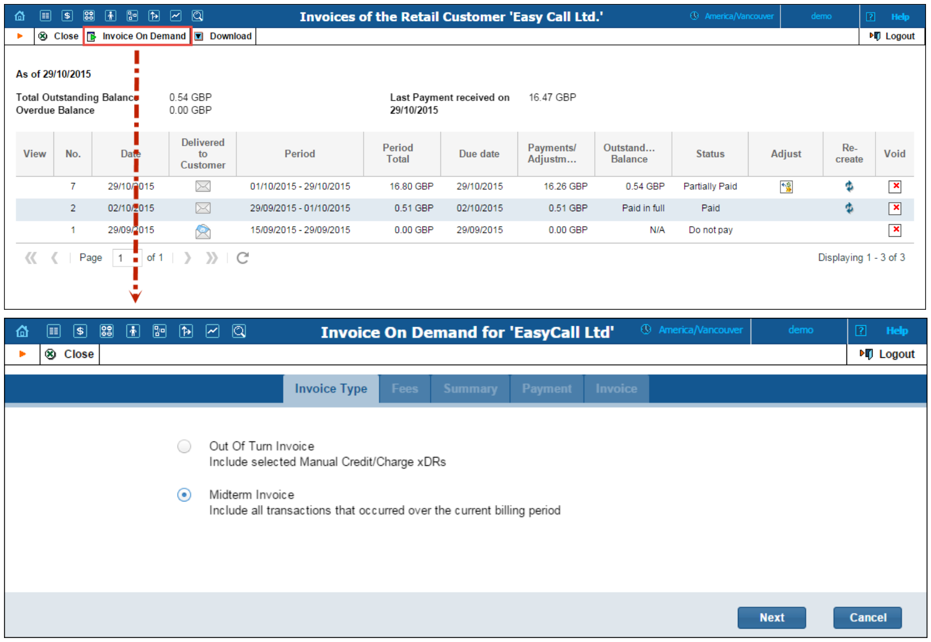
This status indicates that all of a customer's data has been ported to a new PortaOne installation. When an account has an exported status it is not operational although the data is preserved for back up. To change status from *exported* to *active*, clear the **Exported** check box and save the changes.

Invoice On Demand

On the **Invoice On Demand** page, you can generate Initial invoices (which include charges for the first billing period), Out-of-turn invoices (which include manual credit / charge transactions) and Midterm invoices, which cover a billing period's shorter intervals.

The **Invoice On Demand** button becomes available by clicking the **Invoices** button located on the **Customer Management** page toolbar.





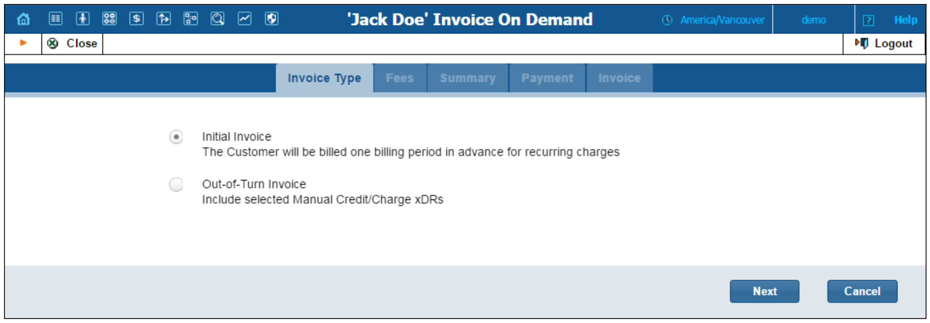
The **Invoice wizard** is used to easily create, adjust and generate customer invoices. The wizard makes it possible to finalize the following actions:

1. Invoice type selection
2. Fee control
3. Summary review
4. Payment (optional)
5. Invoice generation.

Let's consider these stages in more detail.

1. Three invoice types are available for selection:
   - **Initial** – This invoice is generated for the customer shortly after customer creation and includes charges for the first billing period.
   - **Out-of-turn** – This invoice is usually used to cover only a few specific items on demand.
   - **Midterm** – This invoice is generated in the middle of a billing period and includes all charges generated by the time of invoice generation.

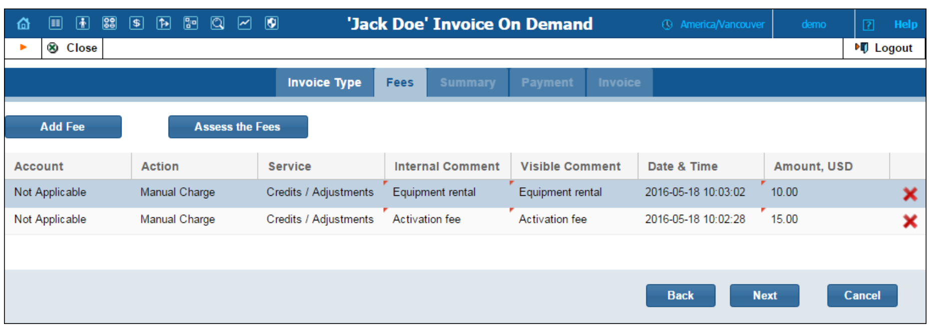
   NOTE: The **Initial invoice** option is only available when you generate the first invoice during the first billing period. Otherwise, use the Midterm invoice.



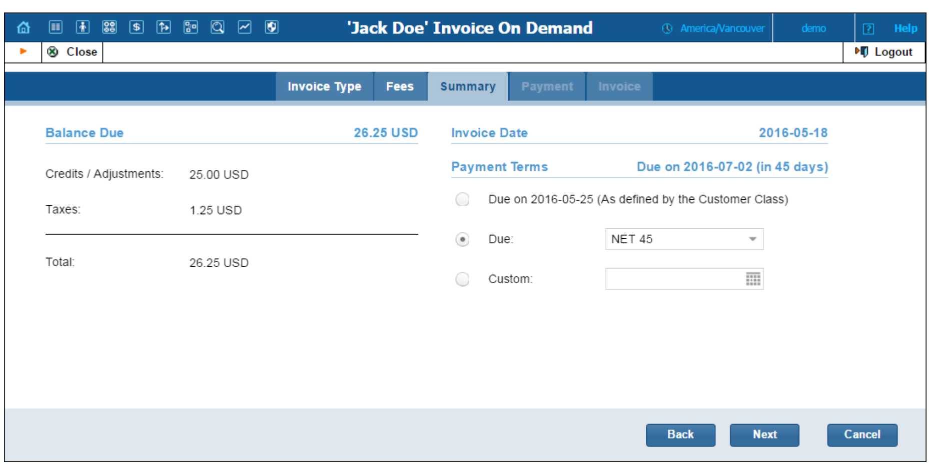
2. At the second stage, an administrator can review the recurring and usage fees that are included in an Out-of-turn invoice. To apply the usage fees for Initial and Midterm invoices, click the **Assess the Fees** button. Note that this click also activates the subscription charges for the Initial invoice.

   NOTE: A subscription can be included in the Initial invoice only if its **Subscription Charges Applied** option is set to **In Advance**.

   If necessary, more custom charges or credits may be added by applying them manually. To do this, click the **Add Fee** button.



3. Then do a final review of the total sum that includes fees, taxes and subscriptions.

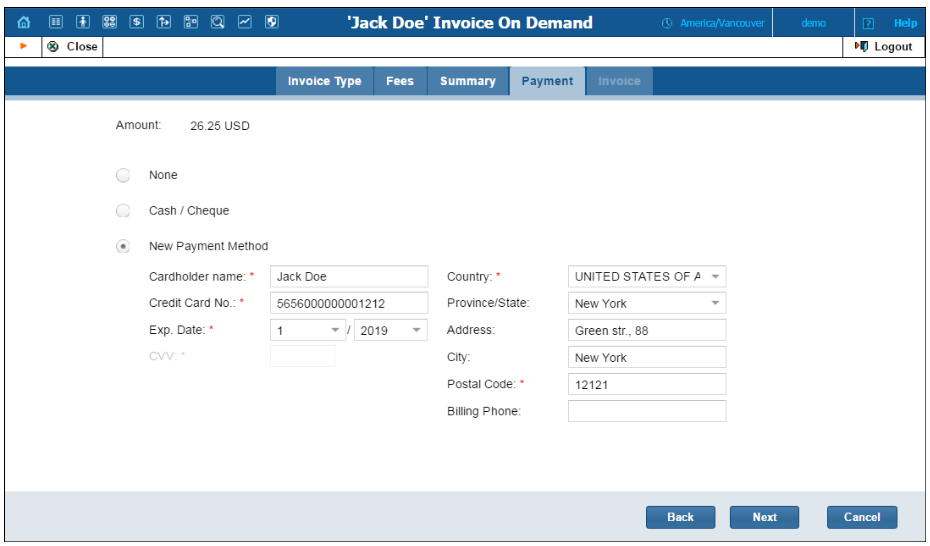


To adjust the invoice due date, select one of the **Payment Terms** options:

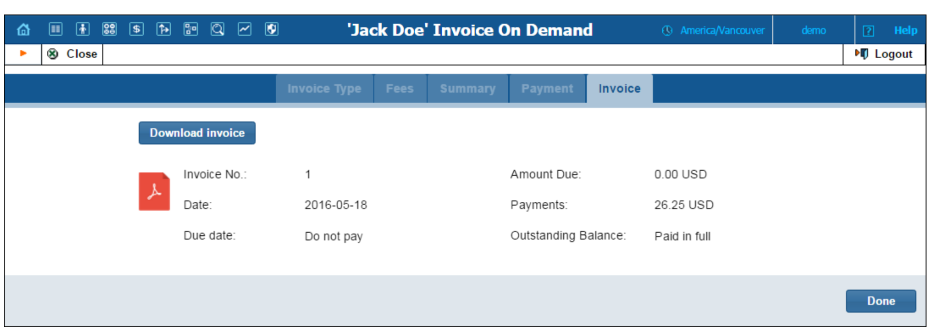
- **As defined by the Customer Class** – Select this option to leave the default value.
- **Defined options** – Specify a certain number of days within which the invoice must be paid (e.g. *NET 45* means that the customer has 45 days to pay). Alternatively, select Upon Receipt to receive the payment on the day the invoice is issued.
- **Custom date** – Select the desired due date by clicking on the calendar icon.

•

4. On the next tab it is possible to assign payment for this sum. The payment can be made by cash, cheque or credit card.
   If a customer prefers to pay later, the **None** option is also available.



5. Clicking on the **Next** button will generate the invoice. Once the invoice has been generated, it can be downloaded from the *.pdf file on the following screen.



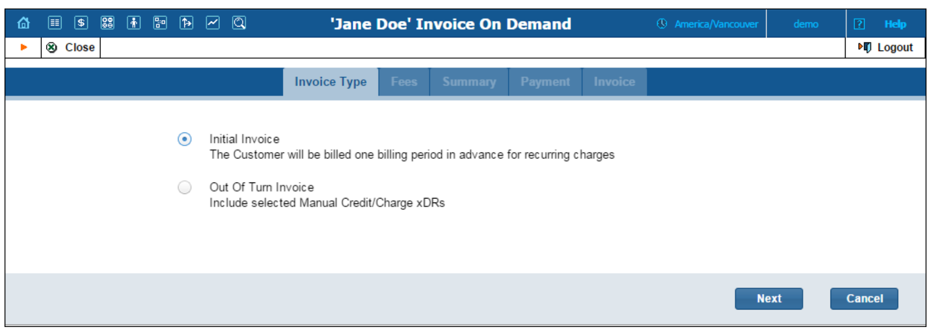
The new invoice wizard is the convenient solution for your business, as it provides an opportunity to immediately assess subscription fees, add custom charges, execute payments, and generate and download invoices in a timely and organized fashion.

Initial Invoice

Sometimes you need to create a customer and immediately generate an invoice containing the activation fee, service charges for the current billing period, etc. **Initial invoice** makes it possible to apply and calculate these charges once the customer has been created. Initial invoice improves client service by saving customers' time while providing you with a tool for generating early payments.

To apply the usage fees for Initial invoice, click the **Assess the Fees** button on the **Fees** tab. Note that this click also activates the subscription charges.

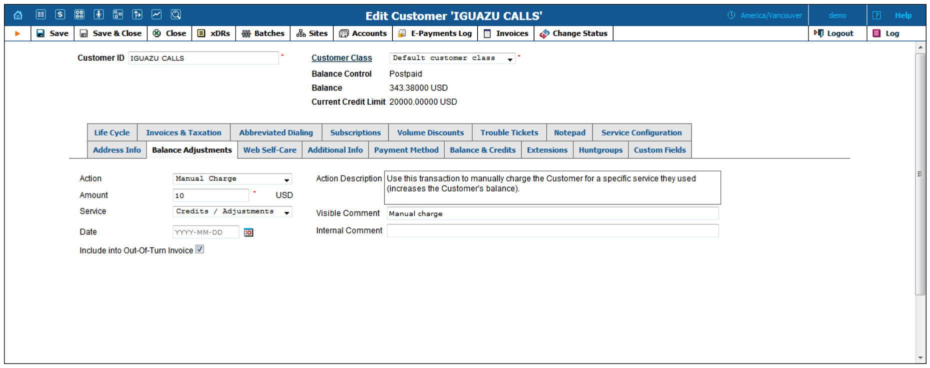
NOTE: A subscription can be included in the Initial invoice only if its **Subscription Charges Applied** option is set to *In Advance*.



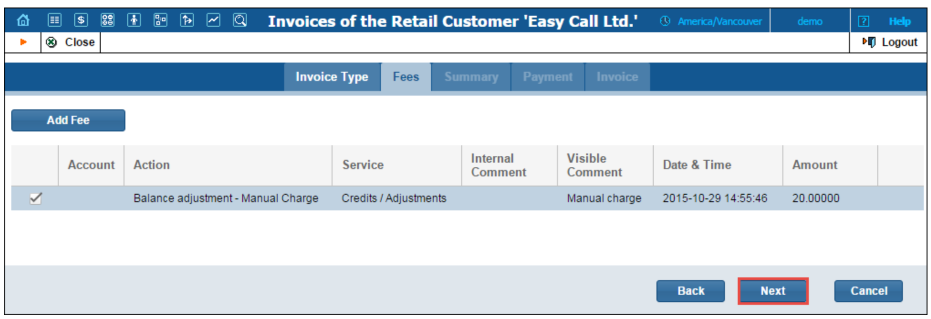
Out-of-Turn Invoices

Sometimes invoices for extra services such as a technician visit or an equipment purchase need to be provided at the time when such service is rendered so the customer can immediately proceed with payment. The administrator can generate an Out-of-turn invoice (to cover only a few specific items) on demand.

All you need to generate an invoice is to apply one or more "Manual Credit / Charge" transactions that contain a description(s) that will be visible for a customer and then mark it / them as **Include in Out-of-Turn Invoice**.



To generate an Out-of-turn invoice, select the **Out-of-Turn Invoice** option on the **Invoice On Demand** page. Once selected, the charges available for Out-of-turn invoices will be displayed. Select the charges you want to include in your invoice. If necessary, more custom charges or credits may be added by applying them manually. To do this, click the **Add Fee** button. Then complete the other steps of invoice generation.



Transactions included in a generated Out-of-turn invoice won't be reflected in the regular invoice issued at the end of the customer's billing period. Thereafter, if one or more transactions aren't included in a *generated* Out-of-turn invoice during the corresponding billing period, they will be reflected in the regular invoice issued at the end of the customer's billing period.

NOTE: To generate an Out-of-turn invoice define the invoice template for the customer beforehand. If the customer has **Customer Class Default** selected in the **Invoice Template** field then the customer class should have a defined invoice template.

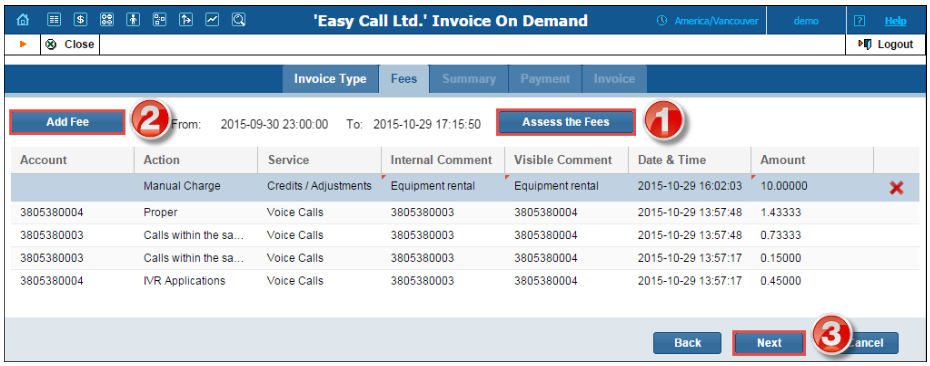
Midterm Invoices

If during the middle of a billing period, a customer wants to pay for services consumed and does not want to wait until the end for their invoice, an administrator may generate a Midterm invoice.

Let's assume that a customer with a monthly billing period wishes to pay for services consumed up to the 13th of May and informs the administrator about this. On the 14th of May the administrator generates a

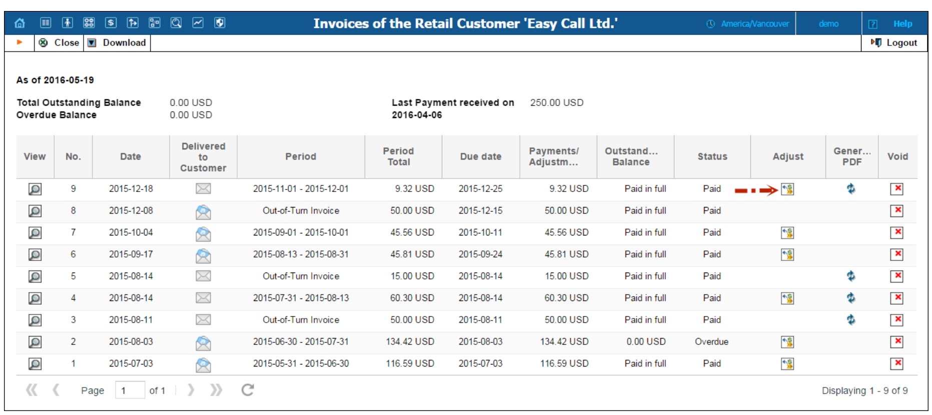
Midterm invoice for this customer, which covers the period from the 1st of May until the 13th of May. The invoice is then immediately sent to the customer. The regular invoice that's generated at the end of the billing period will cover the rest of the period – from the 14th of May until the 31st of May.

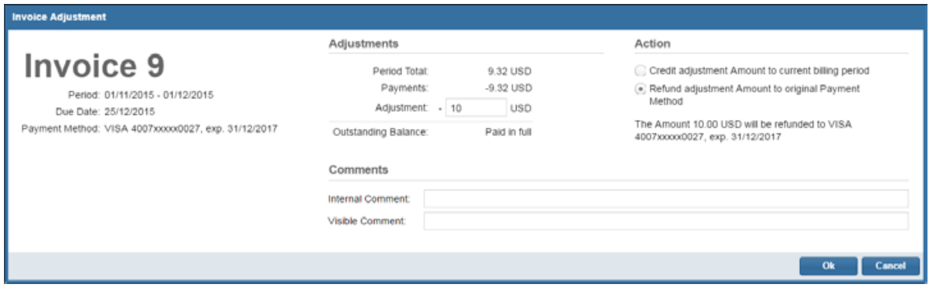
To generate a Midterm invoice, select the **Midterm Invoice** option on the **Invoice on Demand** page. To apply the usage fees for Midterm invoice, click the **Assess the Fees** button. If necessary, more custom charges or credits may be added by applying them manually. To do this, click the **Add Fee** button. Then complete the other steps of invoice generation.



Invoice Adjustment dialog box

In this dialog box you can adjust regular invoices that have a Paid, Unpaid and Overdue status.





Field	Description
Invoices	
No.	The invoice number.
Period	This shows the billing period start and end dates.
Due Date	This represents the date by which payment must be received.
Payment Method *(only for paid invoices)*	Displays the information about the credit card. Read-only field. Visible if a customer has the payment method configured.
Adjustments	
Period Total	This represents the current billing period's charges.
Payments	Displays the amount of payments made for this invoice. Read-only field.
Adjustment	Specify the amount to waive or refund a customer.
Outstanding Balance	This represents the remaining amount the customer must pay to cover the current invoice in full.
Comments	
Internal Comment	An internal comment on this transaction; not visible in the xDR browser and accessible only from the database directly.
Visible Comment	A comment on this transaction visible both to the end user and in the xDR browser.
Actions (*only for paid invoices*)	
Credit adjustment amount to current billing period	Select this option to issue a refund that will be applied to the customer's balance. It will appear as an unallocated payment and be used for paying their following invoice.
Refund adjustment amount to original payment method	This option is available only if a payment method is configured for the customer. When selected, the issued refund is applied to the customer's credit card. If the refund transaction is unsuccessful, the refund appears as the customer's unallocated payments.

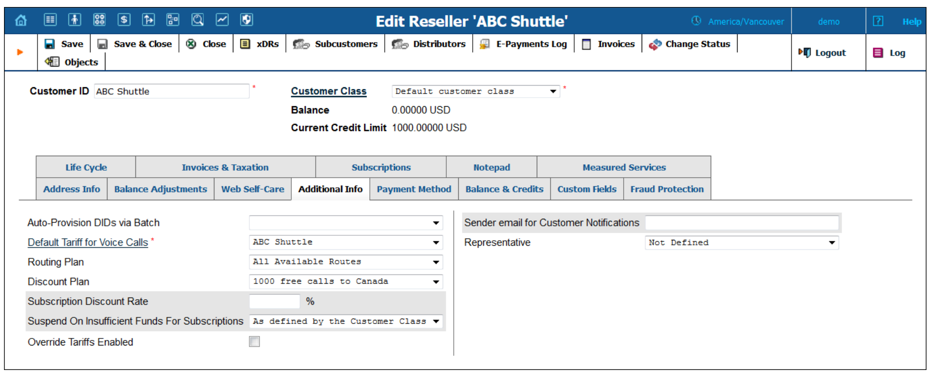
Resellers

A reseller is a partner who provides "white label" services using your PortaSwitch® platform, i.e. he sells his own products, manages his own price lists, and works with his own customers.

Add / Edit Reseller

The **Add Reseller** page allows you to create a new reseller. The form is very similar to that for **Add Customer**, as described above. See below for a description of additional fields not available in the **Add Customer** form.

Additional Info

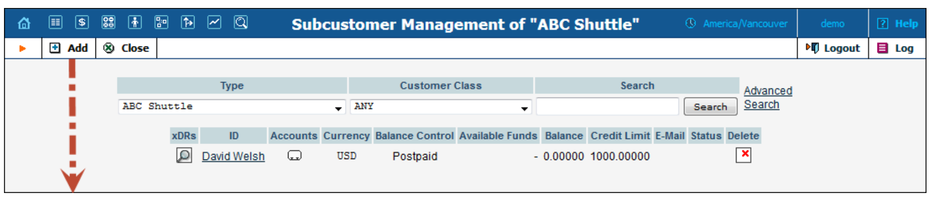


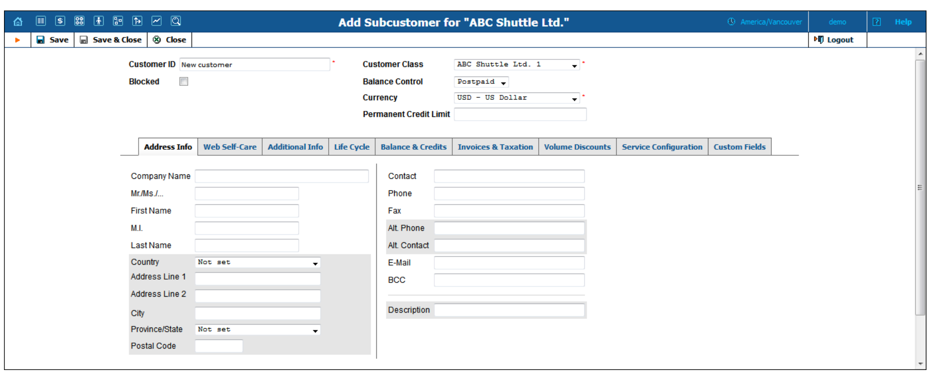
Field	Description
Default Tariff for Voice Calls	When you are subsequently creating products managed by this reseller, this tariff will be assigned by default for calculating charges to him for calls made by his subcustomers using this product.
Invoice Number Sequence for Subcustomers	Select an invoice number sequence that will be used for this reseller's subcustomers: • **Individual for Environment** – The invoices for this reseller's subcustomers will have globally sequenced numbering (throughout the environment). • **Individual for Reseller** – This reseller's invoices will be sequentially numbered through the reseller. • **Individual for Customer** – The invoices for each of this reseller's subcustomers will be sequentially numbered.

Sender email for Customer Notifications	Type a sender address for notifications, faxes and voicemail messages that are sent to resellers' customers. If this field is left empty, the sender address is taken from the reseller's contact information. For faxes and voicemail messages the sender address is displayed in the following format: `xxxxxxxxxxx@reseller.com`, where `xxxxxxxxxxx` – represents the number of the calling party.

Add / Edit Customer under a Reseller

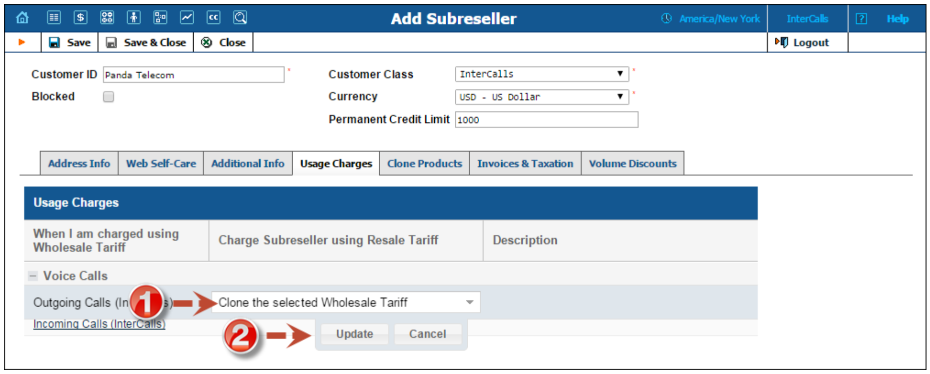
The **Add Subcustomer** page allows you to create a new reseller's subcustomer. The form is essentially the same as management of direct customers as described above.

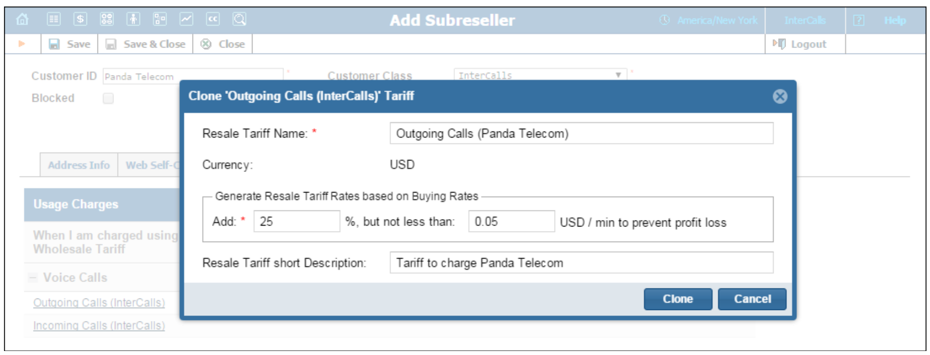




Usage Charges tab

On the **Usage Charges** tab you can view / create resale tariffs (tariffs according to which the subreseller is charged) and generate resale tariff rates.





Field	Description
	Generate Resale Tariff Rates
but not less than	To reduce the risk of profit loss, type a fixed markup here. It will be added to the wholesale tariff's rates if the calculated percentage markup is less than the specified fixed markup. For example, the wholesale rate is 0.20 USD / min, the percentage markup is set to 50% and the fixed markup is specified as 0.05 USD. In this case the calculated percentage markup is 0.10 USD. Since the calculated percentage markup is higher than the specified fixed markup, the amount of 0.10 will be added to the wholesale rate. Consider another example: the wholesale rate is 0.08 USD / min, the percentage markup is set to 50% and the fixed markup is specified as 0.05 USD. Since the calculated percentage markup is 0.04 USD, which is less than 0.05 USD of fixed markup, the amount of 0.05 USD will be added to the wholesale rate.

Account Management

An account is a user of a product such as prepaid cards, voucher-based cards, or credit calling plans. Each account in PortaBilling® is associated with a customer.

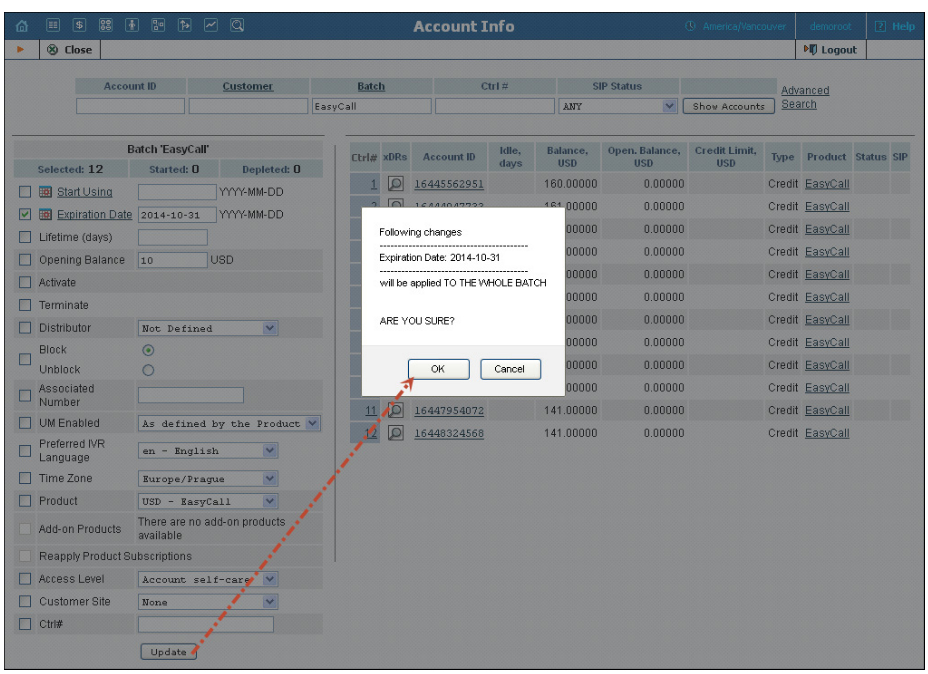
Account Listing

Search filter

There may be a very large number of accounts in the system, so it is advisable to limit your search using the filter functionality.

Field	Description
Account ID	The primary identification for this account; an alphanumeric string. Note that the % wildcard symbol may be used.
Batch	Logical name for a group of accounts. Select from a list of all the customer's batches to enable the batch update pane.
Ctrl#	Enter control numbers and / or number ranges separated by commas (for example: 1,3,8-12).
SIP Status	Default – ANY; this function allows you to display either logged-in or logged-out accounts only.

Batch update pane



Field	Description
Account ID	The primary identification of this account; an alphanumeric string.
Ctrl#	Enter control numbers and / or number ranges separated by commas (for example: 1,3,8-12).
ACCOUNTS	
Status	The status of the account. • Expired (1) • Screened (2) • Quarantined (3) • Closed (4) • Inactive (5) • Suspended (6) • Customer provisionally terminated (7) • Blocked (8) • Customer blocked (see **Edit Customer**) (9) • Not yet active (10) • Credit exceeded (11) • Customer has no funds available (12) • Zero balance (13) • Suspension delayed (14) Note that only one status is displayed. That is, if the account is both screened and expired, than the Expired status is displayed. The status displayed depends on its priority. In the above list, the status priority is indicated in the parentheses (1 corresponds to the highest priority).
Ctrl#	Click using Ctrl#, or enter control numbers and / or number ranges separated by commas (for example: 1,3,8-12).

The batch update pane can be activated by selecting a batch in the filter at the top of the interface or by selecting a batch name from the list of customers' accounts. The basic functionality of this update pane allows you to specify which attributes of all accounts in the results set should be modified. For example, in order to set the opening balance of all unused accounts to 10 USD, you should:

1. Select the check box next to **Opening Balance** to indicate that this is one of the updates that should occur.
2. Enter "10" next to it.
3. Click the **Update** button at the bottom.

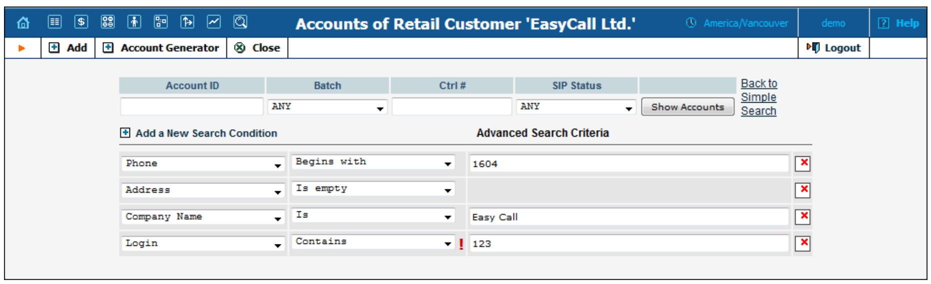
4. Approve the changes when the confirmation dialog appears.

When the page refreshes, the changes will be reflected in the result listing.

NOTE: You can only change an opening balance *before* an account is used. This change will not be reflected in the xDRs. For example, if you create a prepaid account worth $10 and then realize that you actually sold it to a customer for $20 and then you add an extra $10 to the card, it will appear to the customer as if the card originally had $20 on it.

Advanced Search

In advanced search mode you can specify an unlimited number of search conditions and the system will fetch the relevant accounts. Click **Add a new search condition** to add another condition.



Operation	Description
Is	The value of the field in the customer information must match the search criteria exactly.
Begins with	The value of the field in the customer information must start with the specified value (e.g. if you enter the filter value "John," customers with the names "John" and "Johnny" will be selected).
Contains	The value of the field in the customer information must contain the specified value somewhere (e.g. if you enter the filter value "Eric," customers with the names "Eric," "Erica," "Maverick" and "American" will be selected).
Ends with	The value of this customer information field must end with the specified value (e.g. if you enter the filter value "smith," customers with the last names "Smith" and "Hammersmith" will be selected).
Is empty	The corresponding field in the customer information must be empty.

All search operations are case-insensitive, so you can enter "Eric" as a search criteria and, even if the customer's name was originally entered as "eric" or "ERIC," you will still see him in the list.

All conditions work in conjunction, so in the case of multiple search criteria the customer's record must satisfy all of them in order to appear in the result list.

During a search operation using auxiliary fields (e.g. fax) or the "contains" comparison, the database cannot use indexes. This will result in a full table scan, meaning an increased load on the server and a longer time to produce the final result. Please avoid using such search operations if not necessary.

By clicking **Back to simple search** you can switch the form to its original mode.

Account Info / Add Account

To add a new account manually (this allows you to access all available properties of an account), click **Add** on the toolbar and then (if a quick form selection dialog – select **Manually** at the bottom of the list).
For bulk account generation, click **Account Generator**.

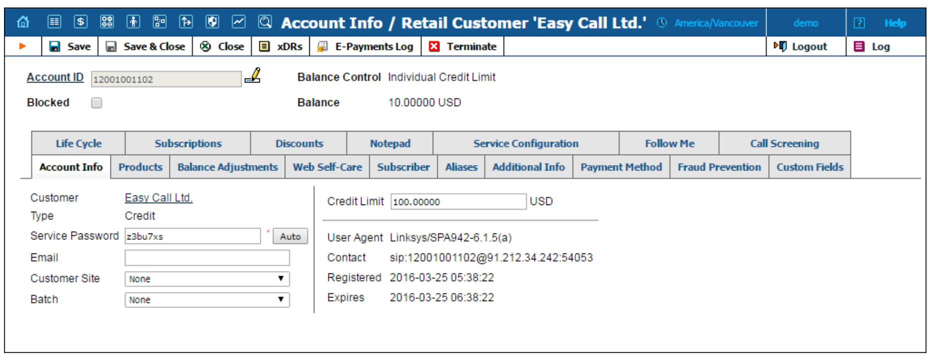
The **Account Info** page provided for the administrator is similar to the **Add Account** page; however, some account details are read-only. The administrator is unable to modify **Type**, **Batch**, **Control Number** and **Opening Balance**. When making changes, the administrator can use the **Notepad** tab to provide a comment detailing the reason for these changes (for example, "product changed, credited $50").

Changes can be confirmed by clicking **Save** or **Save&Close**.

Field	Description
Account ID	The primary identification of this account. The ID is read-only by default; you can modify it by clicking the **Edit ID** icon. The maximum allowed ID length is 64 characters.
Blocked	Specifies whether the account is blocked or unblocked. If this is checked, the account will be unusable.
Balance Control	In most cases a customer makes a unified payment for all accounts and controls the credit limit at the customer level. Here you select whether to display the balance of individual accounts on a web interface: • **Subordinate** – No individual account balance and credit limit. Select this if balance management is done for a whole company (a customer). Consider the following example: a company has several phone lines (accounts). The users make

	calls, thus the balance of the whole company increases. At the end of the billing period the company receives a consolidated invoice for the activities of all the accounts and sends a single payment which is then applied for all accounts. The payment is made and the balance of the company decreases. • **Individual Credit Limit** – Individual account balance and credit limit remain. Select this if you still want to operate with the balance of individual accounts.
Balance	The balance for this account.

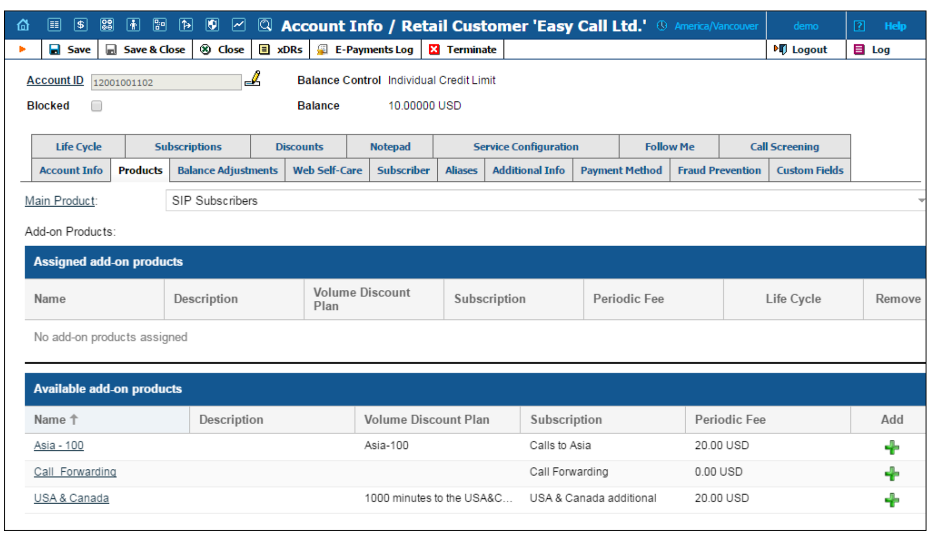
Account Info tab



Field	Description
Type	The account type may be **Debit**, **Credit**, or **Voucher**. • **Debit** is usually associated with prepaid cards. • **Credit** is an account that will be invoiced for incurred costs. • **Voucher** accounts are "refill coupons" for other types of accounts.
Credit Limit	This option is only available when the account type is set to **Credit** and **Balance Control** to **Individual Credit Limit**. Defines the credit allowance in the account's currency.
Service Password	The password used to authenticate any calls made using this account.
Email	If an account has email info associated with it, the owner of the account can reset the password for self-care access, and the new password will be sent to this email address.
Customer Site	Places this account (phone line) with a specific site so that the site parameters (e.g. number of simultaneous

	calls) will apply.
Batch	If a new batch name is provided in the text field, a new batch will be created when you add the account. Alternatively, an existing batch can be selected from the list. If you leave this field empty, the account created will not be tied to any specific batch. To release an account from a batch, select **None** from the list.
Control Number	Read-only. The sequential number of the account in the current batch. Batch name and control number uniquely identify an account, and are often used for prepaid calling cards.
Zero Balance Date	Applicable only for debit accounts; specifies when the account has used up all of its available funds.
Opening Balance	The opening balance for this account.
User Agent	If this account is currently used by a SIP UA to register with the SIP server, the user agent identification info is displayed.
Contact	The URI of the user agent used by the SIP Proxy to contact the IP phone.
Registered	The timestamp when a SIP UA has been registered.
Expires	The timestamp when a SIP UA registration expires.

Products tab

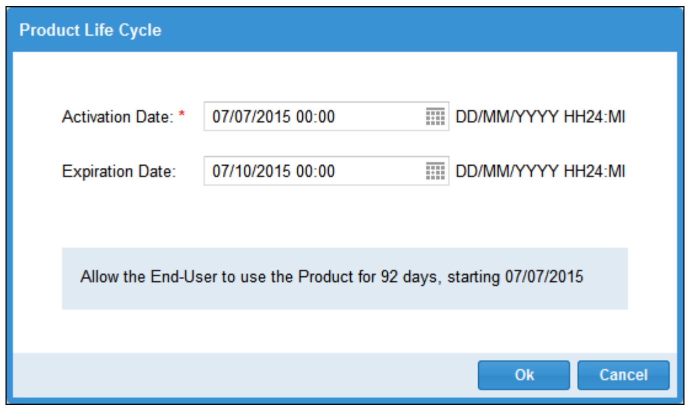


Field	Description
Main Product	The basic product to which you assign all the basic services that are available to your customers. Select the

	desired product from the list. Click the **Main Product** link to open the selected product.
Periodic Fee	This field appears if the **Main Product** includes a subscription with several payment plans (e.g. "1-month pre-paid subscription costs $5, but 3-month pre-paid subscription costs $9, and 6-month pre-paid subscription costs $12"). **Periodic Fee** appears as a list when you assign a new main product. Select the desired subscription fee rate from this list. The field is read-only for the already assigned main product and shows the current fee for the subscription. For how to select a different fee rate for this kind of subscription after you have assigned a main product see the **Subscriptions tab** section.
Add-on Products	Additional products by which you can increase or limit the services provided to your customers. • **Assigned add-on products** – Currently assigned add-on product. • **Add-on products** – Other add-on products that are available with a selected main product.

Assigned add-on products

Field	Description
Name	The name of the assigned add-on product. Click the name link to open this add-on product.
Description	Short description of the add-on product.
Volume Discount Plan	Volume Discount plan assigned to this add-on product.
Subscription	Subscription assigned to this add-on product.
Periodic Fee	This field appears if the add-on product includes a subscription with several payment plans (e.g. "1-month pre-paid subscription costs $5, but 3-month pre-paid subscription costs $9, and 6-month pre-paid subscription costs $12"). **Periodic Fee** appears as a list when you assign a new add-on. Select the desired subscription fee rate from this list.

	The field is read-only for the already assigned add-on product and shows the current fee for the subscription. For how to select a different fee rate for this kind of subscription after you have assigned an add-on product see the *Subscriptions tab* section.
Life Cycle	This field shows the start from and until dates for the period during which an end user can use this product. Click the **Product Life Cycle** icon to define when this product becomes active and when it expires. **NOTE:** You cannot change the activation date after it is set. 
Remove	Click this button to remove the add-on product from the account.

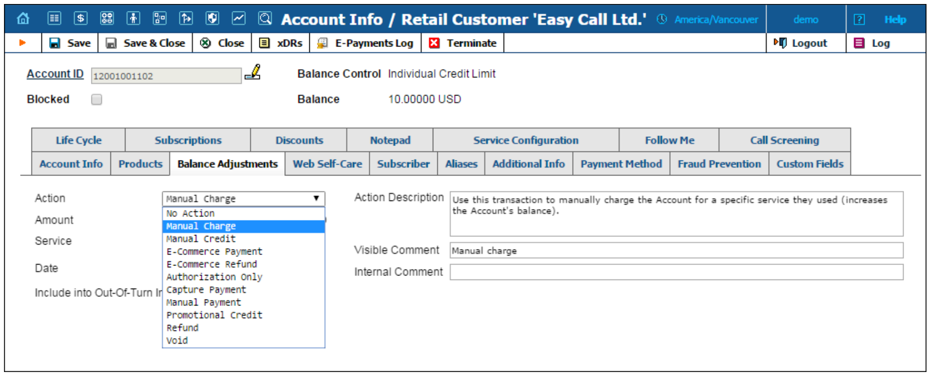
Available add-on products

Field	Description
Name	The name of the add-on product available with the selected main product. Click the name link to open this add-on product.
Description	Short description of the add-on product.
Volume Discount Plan	A volume discount plan assigned to this add-on product.
Subscription	Subscription assigned to this add-on product.
Periodic Fee	This list shows available subscription fee rates if the add-on product includes a subscription with several payment plans (e.g. "1-month pre-paid subscription costs $5, but 3-month pre-paid subscription costs $9, and 6-month pre-paid subscription costs $12").
Add	Click this button to add this add-on product to the

	account.

Balance Adjustments tab

The **Balance Adjustments** tab allows an administrator to correct an account's balance (this tab is only available in **Edit Account** mode).



The following fields are common for all actions:

Field	Description
Action	• **No Action** – No balance adjustment will be made. • **Manual Charge** – Use this transaction to manually charge an account for a specific service they used. For instance, if you are selling a SIP phone to a user. This means the balance will be changed so that the user is able to make fewer calls. • **Manual Credit** – Use this transaction to manually give compensation related to a specific service. For instance, if the user files a complaint and you agree to give him credit toward future service use. This means the balance will be changed so that the user is able to make more calls. • **E-Commerce Payment** – Use this transaction to charge the user's credit card and apply the amount to the user's account balance as payment. • **E-Commerce Refund** – Use this transaction to reverse a previous E-Commerce Payment. It

	withdraws funds from your company's merchant account and applies them as credit to the user's credit card. The amount is deducted from the user's account balance. • **Authorization Only** – Verifies that the user's credit card is valid and reserves a given amount. Returns a transaction ID to be used in a Capture Payment transaction. Does not affect the user's account balance in PortaBilling® or his credit card balance. The transaction ID will be written to the user's account **Notepad**. • **Capture Payment** – Charges the user's credit card and applies the amount to his balance as a payment (decreases the user's account balance). Requires a transaction ID from the Authorization Only transaction. The amount must be less than or equal to the amount of the corresponding Authorization Only transaction. • **Manual payment** – Use this transaction when receiving a payment (e.g. cash or check) directly from the user. This means the balance will be changed so that the user is able to make more calls. • **Promotional credit** – Use this transaction to give the user a credit, for example, as a sales promotion. The difference between this and **Manual Credit** is that this transaction applies to a special Credits / Promotions service, and not to any actual service. Basically, it provides some "virtual" funds to the user for future use. • **Refund** – Use this transaction to refund an earlier payment received from the end user (e.g. a check returned by the bank). This means the balance will be changed so that the end user is able to make fewer calls. • **Void** – Use this to cancel the money reservation that was made by using the **Authorization Only** option. Once applied, the money is released to the user's credit card.
Amount	Amount to charge / refund.
Action Description	Concise description of the selected action.

Visible Comment	A comment on this transaction visible to the user in the xDR browser.
Internal Comment	An internal comment on this transaction; not visible in the xDR browser, and accessible only from the database directly.

The following fields are available only for Manual charge and Manual Credit actions:

Field	Description
Service	A service for which the manual charge / credit is made. The charged / credited amount will be included in the selected service section on the next invoice.
Date	A date associated with the manual charge / credit. For example, you can specify a date for manual credit action for when an item is credited. Note that if the selected date falls within a previous (closed) billing period the transaction will be included in the next invoice.
Include into Out-of-Turn Invoice	This allows you to include transactions on an out-of-turn invoice to be issued on demand. You should then generate the invoice with the requisite transactions on the **Out-of-Turn Invoice** page. For example, if the end user visits your office to buy a new IP phone, your clerk will locate the account, issue an invoice covering the cost of the phone, take the money for the phone and give the phone and the invoice to the end user. Transactions included in an out-of-turn invoice that was *generated* on the **Out-of-Turn Invoice** page won't be reflected on the regular invoice issued at the end of the billing period.

The following fields are available only for certain E-Commerce actions:

Field	Description
Make a Payment (*only for E-Commerce Payment*)	Click this button to make a payment using a credit card. For more details please see the **Make a Payment dialog box** subsection.
Authorize a Payment(*only for Authorization Only*)	Click this button to make a payment using a credit card. For more details please see the **Make a Payment dialog box** subsection.

Transaction ID *(only for E-Commerce Refund and Capture Payment)*	The transaction ID obtained via the Authorization Only or E-Commerce Payment transactions. This is required to use the reserved earlier amount for a current transaction or to reverse previously made payment.

Make a Payment dialog box

Field	Description
Amount	Amount to charge.
Visible Comment	A comment on this transaction visible to the user in the xDR browser.
Internal Comment	An internal comment on this transaction; not visible in the xDR browser, and accessible only from the database directly.

If you have not already stored the credit card information you will see a new credit card form. Otherwise two available options appear in the **Make a Payment** dialog box:

- **Saved Payment Method** – Select this option to make a payment using the stored credit card information. You will be provided with information about the credit card type, number and expiration date.
- **New Payment Method** – Select this option to make a payment with a new credit card. Fill in the information about the new credit card (cardholder name, card number, expiration date and CVV code if required) and the user's contact information. Check the **Save Credit Card information for future use** box to store this credit card information and use it for future payments.

Taxes applied at the moment of payment

If the Apply taxes at the moment of payment feature is enabled for the customer, there is also a field that shows the applicable tax and the **Amount** field is replaced by two fields that represent amounts before and after taxation.

This feature is available only for debit accounts of prepaid customers, and only certain taxation plug-ins can be used (Custom taxation and Fixed VAT Rate). For how to enable the Apply taxes at the moment of payment feature, please see the description of the *Taxation tab* subsection of the *Customer Classes* section in this guide or the description of the *Invoices & Taxation tab* subsection of the *Add / Edit Customer* section in this guide.

Taxes are calculated for the following actions:

- E-Commerce Payment
- Authorization Only
- Capture Payment

- E-Commerce Refund
- Manual Payment
- Refund

For the first four of these actions (E-Commerce Payment, Authorization Only, Capture Payment, E-Commerce Refund) taxes are added above the entered amount:
The amount applied to the balance = Entered amount
The amount charged (or refunded) to a credit card = Entered amount + Tax

For Manual Payments and Refunds, taxes are back calculated and deducted from the entered amount:
The amount applied to the balance = Entered amount – Tax

E-Commerce Payment, Authorization Only and Capture Payment

Field	Description
Top Up Amount	The exact amount that will be applied to a balance.
Applicable Taxes	Taxes applied to the **Top Up Amount**.
Total Charged Amount	The amount that will be charged to the end user's credit card.

E-Commerce Refund

Field	Description
Top Up Amount	The exact amount to deduct from the balance.
Applicable Taxes	Taxes applied to the **Top Up Amount**.
Refund Amount	The amount that will be refunded to the end user's credit card.

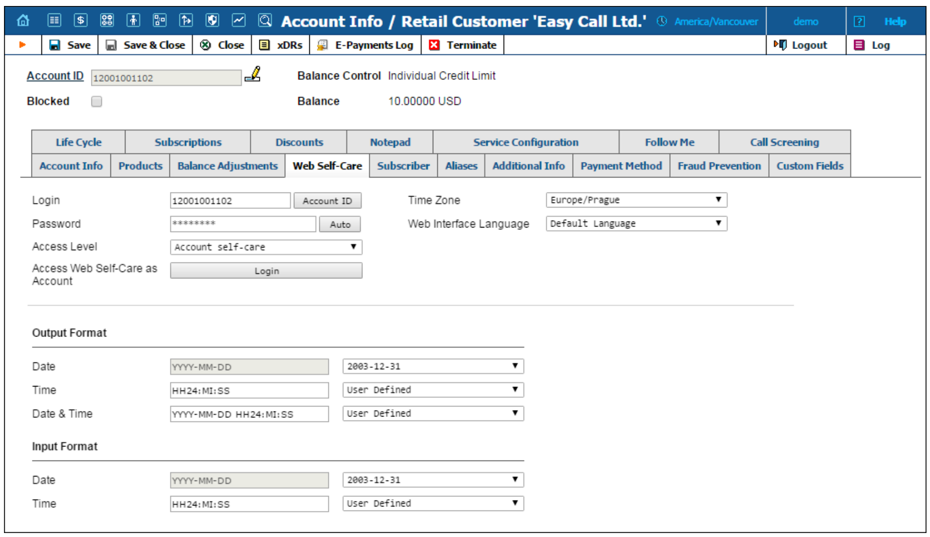
Manual Payment

Field	Description
Total Charged Amount	The amount received from the end user.
Top Up Amount	The exact amount that will be applied to the balance (back calculated from the **Total Charged Amount** and known taxation rates).
Applicable Taxes	Taxes applied to the **Top Up Amount**.

Refund

Field	Description
Refund Amount	The amount that will be returned to the end user.
Top Up Amount	The exact amount that will be deducted from the balance (back calculated from the **Refund Amount** and known taxation rates).
Applicable Taxes	Taxes applied to the **Top Up Amount**.

Web Self-Care tab

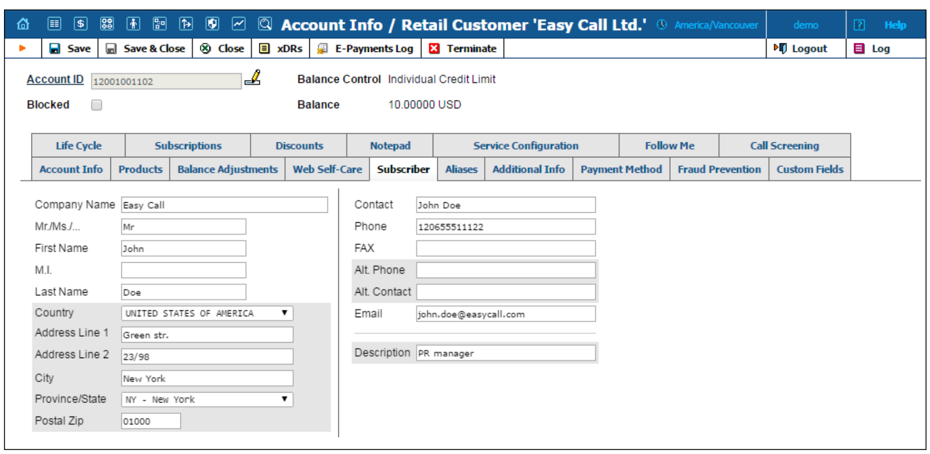


Field	Description
Login	The account self-care interface login. Click the **Account ID** button to make the login identical to the Account ID.
Password	The account self-care interface password. Click the **Auto** button to generate a random, hard-to-guess password.
Access Level	Access level assigned to the account.

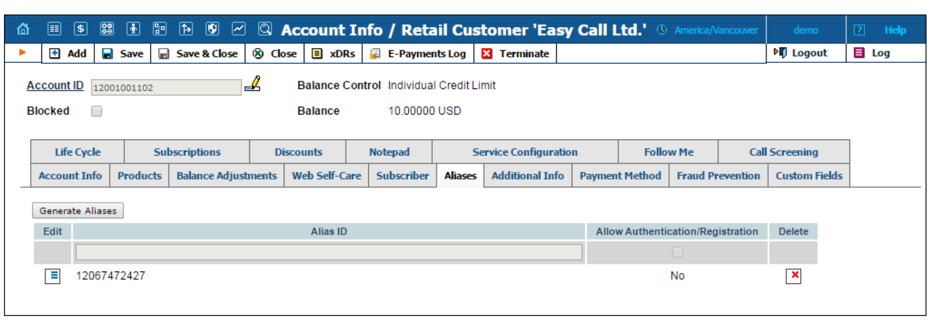
Access Web Self-care as Account	The account self-care interface login mode. • Click **Login** to log in to the account self-care interface. This button is visible only when the *default* ACL is assigned to an account. • Click **Login with current ACL** to log in with the access level currently assigned to the account. This button is visible only when a *non-default* ACL is assigned to an account. • Click **Login with default ACL** to log in with accounts' default access level. This button is visible only when a *non-default* ACL is assigned to a customer.
Time Zone	Time zone for the account self-care interface.
Web Interface Language	The display language for the account self-care interface.

Subscriber tab

The **Subscriber** tab provides most of the commonly required contact information for the account's owner.

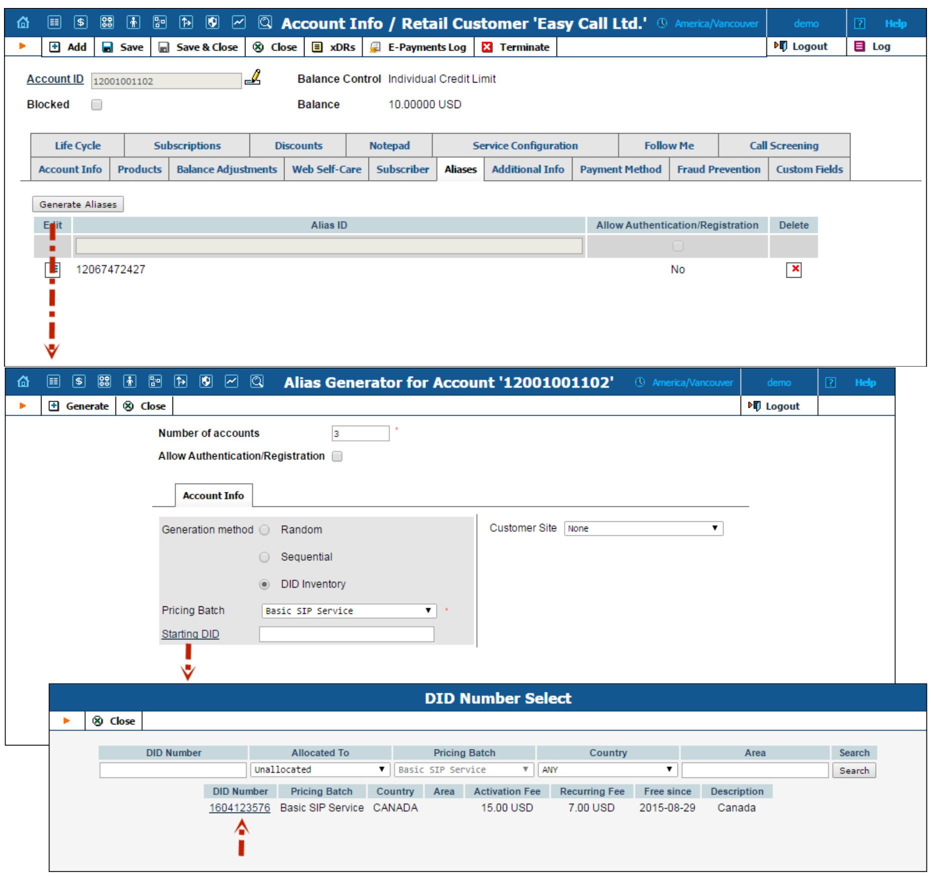


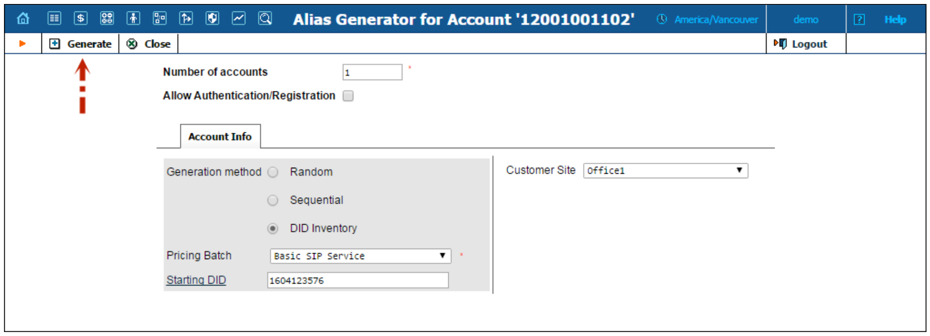
Aliases tab



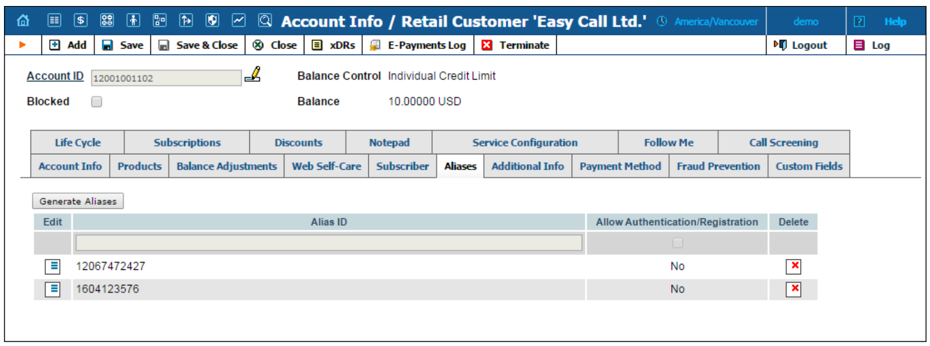
Field	Description
Alias ID	Contains alternative IDs for this account.
Allow authentication / registration	Defines whether this ID can be used independently for authentication and registration (e.g. having two IP phones concurrently registered to PortaSwitch®, one using the main account ID and the other using an alias) or, alternatively, it can only be used to forward calls to the main account (since only it can register).

If you need to create multiple aliases (e.g. a customer with his own IP PBX who buys a range of DIDs to be forwarded there) you can use the Alias Generator to produce aliases in a similar way as with the Account Generator.

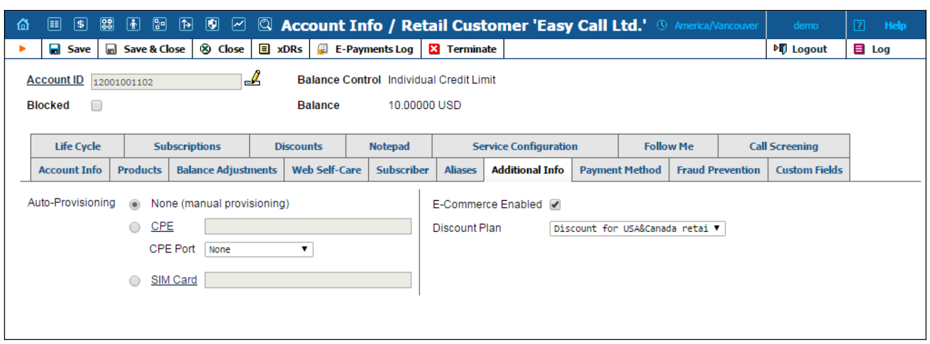




NOTE: Aliases are generated as a background task, so it may take a few minutes before they appear on the tab.



Additional Info tab



Field	Description
None (manual provisioning)	Leave this option selected if auto-provisioning is not applied for this account.
CPE, CPE Port	Indicates the CPE and associated port assigned to the account. Default – not set.
Download PortaPhone Profile	The link to download the profile for PortaOne Softphone (only available when this account is assigned to an entry from the CPE Inventory, provisioned with PortaPhone profile type).

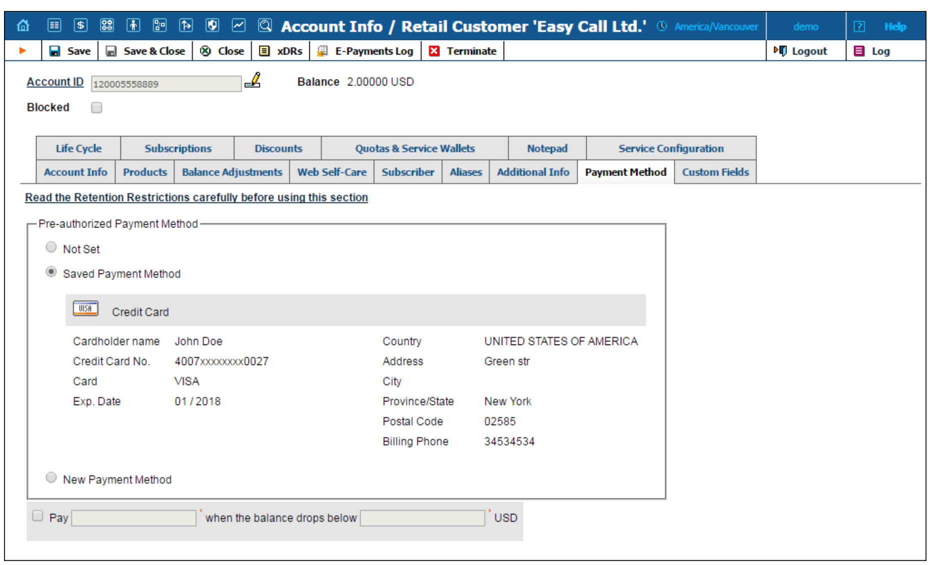
SIM Card	Click on the **SIM Card** link to open the SIM card inventory. Then select the SIM card associated with this account.
E-Commerce Enabled	Controls ability of the account to make online payments. This option is available only for debit accounts and credit accounts with individual credit limit. **NOTE:** Configuring the account to enable online payments (both manual and periodic) is done in exactly the same way as for customers. First you should set up a suitable payment system.
Discount Plan	Select the volume discount plan that applies to this account.
Distributor *(only for debit accounts)*	A distributor associated with this account.

Payment Method tab

This tab is only available when there is a not external payment system configured in the system and assigned to the customer's currency.

It is available for credit accounts that have individual credit limits and debit accounts. Additionally, e-commerce must be enabled for the account. (To enable e-commerce for the account, go to the **Additional Info** tab, select **E-Commerce enabled,** and click **Save**.)

On this tab you can define the customer payment information: the pre-authorized payment method and configure auto payments.



How to set a pre-authorized payment method

To set a pre-authorized payment method:

1. Select **New Payment Method** option.
2. Select one of the payment method options:
   - **Credit Card**
   - **Bank account (eCheck)**
   - **Direct Debit NL**

3. Specify all the required payment data
4. Click **Save**.

The number of available payment options may change, depending on the payment system settings. Options appear on the list only when there is a payment system configured to use them. This system must also be configured to maintain payments in the customer's currency.

How to remove a pre-authorized payment method

To remove a pre-authorized payment method, select **Not Set** and then click **Save**.

NOTE: The payment data remains in the database until it explicitly removed or replaced with the new payment data. For example, if you have saved the end user's payment data and then reconfigured PortaBilling® to use the other payment system – the one that doesn't support the saved payment method, you still be able to review stored payment information under **Saved Payment Method** on this tab.

How to automatically top up an end user's balance using their pre-authorized payment method

If you want to charge an end-user's pre-authorized payment method whenever their balance crosses a specified threshold, select the Pay... when the balance exceeds (for credit accounts) or Pay ... when the balance drops below (for debit accounts) check box, and when the end user's balance crosses the threshold specified in the when the balance exceeds / when the balance drops below field, their ***pre-authorized payment method*** will be charged for the amount specified in the Pay field.

How to enable auto payments again if they were disabled by the system

In case the auto payment functionality has been disabled by the system, a corresponding message appears in the auto payments section.

Review the payment system and the end user's pre-authorized payment method configuration, and then click the **Enable it again** button in the **Auto Payments** section of the **Payment Methods** tab to re-enable auto payments.

Auto payments information

When the auto payments section is available

This section is available only when a suitable payment processor is set up in the system, and an end user has an online payment method configured as their preferred one.

Auto payments can be set up for not external payment systems that:

- support tokenization for payment processing; or
- do not support tokenization and do not require the CVV code.

If the payment system is configured to use tokens for payments, this section appears only once a token has been returned by the payment processor and saved by PortaBilling®. Since the payment processor returns a token upon the first successful transaction with a new credit card (or other supported payment method), at least one manual transaction must be successfully completed for the auto payments section to become available.

For how to set up a payment system, please see the **Payments** chapter of this guide.

Applying taxes for auto payments

For debit accounts taxes can be calculated and applied when their balance automatically tops up. For this, you need to define the tax rate and enable the **Apply taxes at the moment of payment (for prepaid customers and debit accounts)** option for the customer class or for the customer.

Only certain taxation plug-ins can be used (Custom taxation and Fixed VAT Rate). Please see the *Taxation tab* subsection of the *Customer Classes* section or the description of the *Invoices & Taxation tab* subsection of the *Add / Edit Customer* section in this guide.

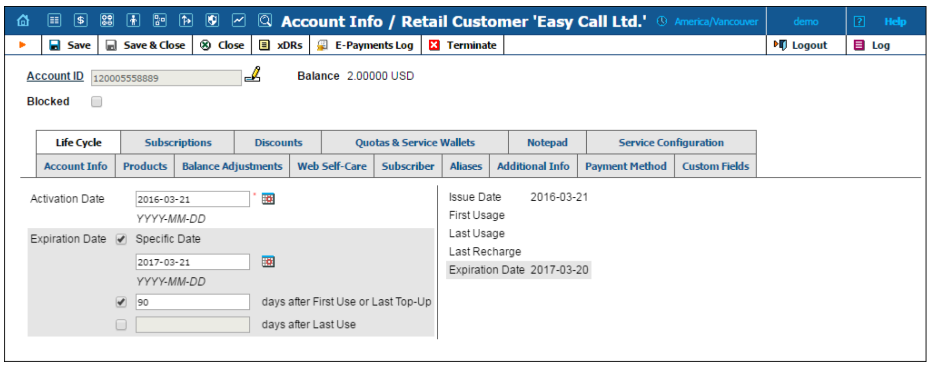
The tax amount is calculated based on the amount of the top-up and then added to the payment sum. Upon successful payment processing, the end user's balance is topped up by the total charged amount excluding tax.

Field	Description
Top Up Amount	The exact amount that will be applied to a balance.
Applicable Taxes	Taxes applied to the **Top Up Amount**.
Total Charged Amount	The amount that will be charged to the end user's credit card.

Retention Restrictions

IMPORTANT! A merchant may not use account and transaction information for any purpose other than assisting the completion of a payment card transaction, or as specifically required by law. Merchants may collect a payment card number and expiration date independently of a payment card transaction only with the express consent of the cardholder. A merchant may only retain this information for the sole purpose of facilitating future payment transactions. A merchant must not provide this information to any other person, except for the sole purpose of assisting the completion of a payment card transaction.

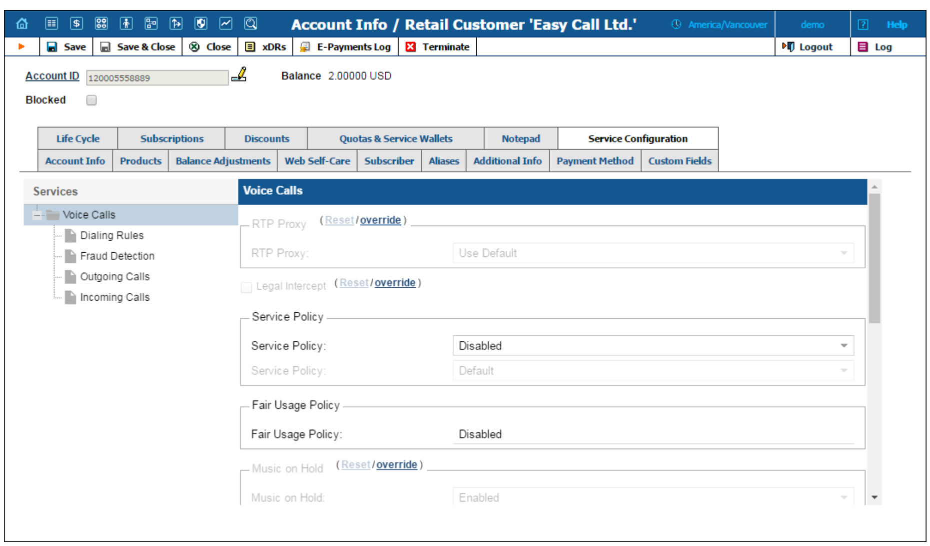
Life Cycle tab



Field	Description
Activation Date	The date from which the account is usable. **NOTE**: When adding a new account, it can be activated immediately. Just specify the value “IMMEDIATELY” here. The date of account activation depends on the billing time zone of the customer. This means that if the administrator in Sydney creates an account for the customer from New York and specifies the account activation as today, the account is activated only when this day comes in New York.
Expiration Date	The date from which the account is unusable. If you do not want the account to expire, leave all three check boxes clear. Note that this date is in the account’s time zone.
Specific Date	Identifies the date that the account expires.
____days after First Use	Defines the number of days the account remains active after its first use or recharge.
____days after Last Use	Defines the number of days the account remains active after its last use or recharge.
Issue Date	The date that the account was created.
First Usage, Last Usage	The time stamp shows when the account was in use

	for the first / last time. The **First Usage** time stamp shows the first appearance of a subscriber within your network. It is established upon the user's first registration of their device on the SIP server with this account ID or upon a first successful call / session event. The **Last Usage** timestamp is established upon the last account registration or after the last call / session event ends. **NOTE**: You can also specify that the account's first / last usage time stamps are only modified by successful toll call / session events. To do this, set up the **Update Usage Time** option in the customer's tariff as **Only by billable records**.
Last Recharge	Specifies the last time the account was recharged using a voucher (either via the self-care page or IVR).
Expiration Date	The date from which the account is unusable. If you do not want the account to expire, leave all three check boxes clear. Note that this date is in the account's time zone.

Service Configuration tab



You have the option of expressly specifying the value of a given parameter or using the **Default** option. In the latter case, this parameter is assumed to be the value defined in the customer's configuration (the global value for this IP Centrex).

The Voice Calls service type

Field	Description
Associated Number	Specifies the number to be sent back to the IVR in an authorization confirmation. For example, this might be a redirect to a technical support number in an IVR application. Another example might be a quick-dial number for prepaid accounts. (In this case, the redirect number may be maintained via web self-provisioning.)
Legal Intercept	Intercept all incoming and outgoing calls of this specific account for law enforcement purposes.
Call Recording	Enables the recording of calls made or received by this specific account. The user can start and stop recording a specific phone conversation after it has already started by using various phone controls.
Auto Record Outgoing Calls	Automatically record outgoing calls made by this specific account. Note that calls made to the voice mailbox to retrieve messages will not be auto-recorded.
Auto Record Incoming Calls	Automatically record calls received by this specific account.
Auto Record Redirected Calls	Automatically record calls redirected by this specific account. Note that: • Redirected (transferred or forwarded) calls are only recorded if the xDR for this call is created for the redirecting party. • Calls diverted to voicemail will not be auto-recorded.
Limit Simultaneous Calls	This shows the **Limit Simultaneous Calls** settings as applied to the account either via **Customer** or **Site**. The information is available in read-only mode. **NOTE:** To enable the **Limit Simultaneous Calls** feature, activate the **send_start_acct** option for the corresponding PortaSIP instances on the Configuration Server. To increase the features accuracy, activate the **allow_reauth** option too. Note that these features may slightly increase the load on the billing engine.
Fair Usage Policy	This shows the **Fair Usage Policy** settings as applied to the account via **Product**. The field works in read-only mode.

RTP Proxy	This specifies the RTP proxy policy for this account. For a description of possible values, refer to the ***Calls to/from Vendor via SIP connections with Voice Calls service type*** section. • **Use Default** – This uses Optimal RTP proxy. • **As defined by the Customer** – This assumes the value defined in the customer's settings.
Accept Caller Identity	This option indicates acceptance. • **Favor forwarder** – Use the redirector provided ID for caller identification. • **Caller only** – Use the caller provided ID for caller identification. • **None** – Do not accept caller provided ID for caller identification.
Supply Caller Identity	This option indicates acceptance. • **Yes** – Accept the remote network and maintain caller ID on outgoing headers (even for private calls). • **No** – Do not accept the remote network and strip any private caller's ID.
Service Policy	This specifies a predefined set of options for this account. The **Default** option means that no service policy is currently assigned.
Music On Hold	Defines the music on hold to be used with the IP Centrex environment.
Music On Hold	• Select **Enabled** to activate this feature for the customer. • Select **Disabled** to make this feature unavailable to the customer. **NOTE:** If you disable this feature here while it is enabled via a product and the **End-users** check box is selected, the end users can enable / disable the music on hold but cannot change its settings (e.g. password, greeting prompts, etc.) via the account self-care interface.

File	• Select the music from the list. • Select **Upload New Music** to upload your own music. The **Upload New Music** dialog box appears. In the **Upload New Music** dialog box, select a file on your local file system using the **Browse** button. To rename the music, enter the desired name in the **Music Name** field; otherwise the local file name will be used. Then click **Upload**. The uploaded music will replace the previous entry in the list, and is usually enabled within 10 minutes. For a list of supported audio file formats, see the **Audio File Formats Supported by Music on Hold Feature** chapter.

The Incoming Calls section

Field	Description
Unified Messaging	Allows the account user to access the unified messaging system. See the **PortaSIP Media Applications Guide** for more details. Please note that if an account has **Unified Messaging** activated, there will be an additional link next to it on the administrator interface: **Voicemail Inbox**. By clicking on this you will automatically go to the account's UM administration pages. This is extremely useful for helpdesk people, since they can quickly check the configuration of an account's auto attendant, call queues, and the like. Also note that it may take a few minutes before an account is fully provisioned in the PortaSIP® Media Server. Thus if you click on the link immediately after activating **Unified Messaging**, it most likely will not work yet.
Mailbox Limit, MB	Allows you to define / change mailbox limit.

Fax-only mode	Allows you to configure a phone line as a dedicated fax machine. • When the **Fax-only mode** is set to **Yes** (e.g. for an account that represents a DID number), every incoming call to this number will be answered with "start fax" tones, indicating that it will only receive fax messages. Thus the phone line will serve as a dedicated fax line, emulating the behavior of a legacy fax machine. • When the **Fax-only mode** is set to **No**, the voicemail mode is enabled for the phone line and allows a caller to leave a voice message which can be listened to later.
Call Forwarding	• **No Forwarding** – Disables call forwarding entirely. • **Follow-Me** – Enables the standard follow-me forwarding. • **Advanced Forwarding** – Activates the advanced call forwarding mode. • **Forward to SIP URI** – Your customers can enter a forwarding destination as a CLD@IP or CLD@domain. PortaSIP® will round-robin through DNS SRV records if they are configured for the specified domain. • **Simple Forwarding** – Allows you to specify a single phone number to which all calls will be sent.

Maximum Forwards	Type the number of concurrently active forwarding destinations allowed. Please note that you do not have to limit the total number of phone numbers entered, but rather the number of phone numbers active at any given moment of time. For instance, a user may have a list of 20 numbers, each active in its own time period, some temporarily turned off, and so on. When call forwarding is done, PortaBilling® will compute a list of numbers which may be used at that moment, and choose only the first N in the list, where N is the number specified in **Maximum Forwards**. This option is active only when call forwarding is enabled.
Forward by DTMF	This option is active only when one of the several call forwarding modes is selected. It allows a user to use DTMF tones to transfer calls forwarded to the user's mobile phone from the user's IP Centrex extension, and to stay on the line until the other party picks up. Thus, if a user receives a call to his mobile phone and needs to transfer it to his colleague at Extension 1002, he dials *661002#, and when his colleague confirms that she is free to take the call, he hangs up.
Call Screening	Enables call screening / conditional call forwarding features.
Endpoint Redirection	This allows the end user to configure call redirection on their SIP phones (if this feature is supported by the SIP phone).
Default Answering Mode	Specifies the method of processing incoming calls to this account if call screening has been disabled, or if none of the call screening rules apply.
Timeout, sec	How long the IP phone will ring before a call goes to follow-me numbers (if any) or voicemail.
Sip Contact	Enable this feature to define the way a SIP device will perform SIP registration to PortaSwitch®.

Deliver Incoming Calls To	Define whether the IP PBX address for delivering incoming calls is taken from the IP PBX registration account or specified directly in the **Static Address** field.
Account	This shows the customer's IP PBX registration account. This option is usually selected if a customer's IP PBX is located at a dynamic IP address and can register only the main phone line (provisioned as the registration account in PortaBilling®) on the PortaSIP® server.
Static Address	Enable this feature if the customer's IP PBX can't perform SIP registration to PortaSwitch®.
Use Original CLD	Specify the destination number that calls will be routed to. If left blank, the number originally dialed will be used as the destination number.
Host	This contains the destination host the calls will be routed to. A customer's IP PBX can be identified with one of the following options: • A valid IP address (four numbers separated by points, e.g. 12.34.56.78). • A valid domain name (e.g. pbx.example.com). • A valid domain name with configured DNS SVR records. In this case, PortaSIP® will round-robin through them.
Transport	Select the transport protocol (either TCP or UDP) that is used to deliver incoming calls.
Auto Attendant	Enables the auto attendant functionality for this account. Incoming calls will always go *only* to the auto attendant despite Unified Messaging functionality also being enabled.
Ext-to-Ext Call Distinctive Ring	For incoming calls from phones within the IP Centrex environment, use a ring pattern different from the default one.
Present Caller Info	Display caller info on incoming calls.
Call Waiting	Activates the Call Waiting functionality.
Caller ID (CNAM) Lookup	This option shows the actual name of the caller retrieved from the database of the CNAM provider for incoming calls.

The Outgoing Calls section

Field	Description
Override Identity	This allows you to set the following options for overriding identity information: • **As defined by the Customer** – This assumes the values defined in the customer's configuration. • **Never** – The caller's identity information supplied by the remote party will neither be screened nor overridden. This implies that the remote party is trusted and takes full responsibility for the supplied display number and display name. • **If Different from Account ID and Aliases** – The identity will be overridden if it differs from the ID of the account that is authorized for the call and any of the aliases assigned to this account. • **If Different from All Customer Accounts** – The identity will be overridden if it doesn't match an account ID (or account alias) of any account belonging to this customer. • **If Different from All Accounts in the Specified Batch** – This is a more restrictive option than the one above; it overrides the identity if the account placing the call and the account matching the supplied identity do not belong under the same batch. This allows you to create "groups" under the same customer (within the same IP Centrex environment). • **Always** – The identity value supplied by the remote party will always be overridden. This allows you to manually specify

	the display number and / or the display name for an account.
Batch	This allows you to specify the batch (this field is only available when **If Different From All Accounts In The Specified Batch** has been selected).
Identity	Specify a default value that will replace the account identity (or display number) when the identity used for the call in the RPID / PAI headers (or From header) is invalid. If not specified, the account ID will be used instead.
Override Display Number	This allows you to control the "Caller number" value that will be placed in the `From:` header and typically displayed on the called party's phone display. The possible values are: • **Never** – The display number supplied by the remote party is not restricted and therefore will not be modified. This allows the remote IP phone or IP PBX to supply any CLI / ANI number. • **If Ruled Out by the Identity Constraint** – The validity of a display number supplied by a remote party is verified according to a rule set for identity. For example, when the *If Different From Account ID And Aliases* option is selected in the **Override Identity** list, and the display number supplied by the remote party doesn't match the ID of the account that is authorized for the call or any of the aliases assigned to this account, the display number will be overridden. • **If Different from the Used Identity** – The display number supplied by the remote party (in the `From:` header) will be overridden if it is different from the used (already checked and / or overridden according to the **Override Identity** constraint) caller identity. • **Always** – The display number

	supplied by the remote party will always be overridden. This allows you to manually specify the display number for an account.
Display Number	Specify a value that will override and replace the account's original display number. If no value is specified, it defaults to the account's **Identity.**
Override Display Name	Replace the original account number with the desired name.
Display Name	This allows you to specify the desired name for the account.
Preferred IVR Language	This feature enables or disables the selection of languages from the **Language** list.
Language	Allows user to choose the preferred language for interacting with an IVR application.
E911	Activate emergency services for this account.
Hide CLI	This allows end user to remove / show CLI (ANI) information for outgoing calls by dialing special feature access code before dialing the phone number. • Select **Enabled** to activate the **Hide CLI** feature for the account. • Select **Disabled** to prohibit the account from using the **Hide CLI** feature.
Hide CLI by Default	• **No** – Show caller ID by default. • **Yes** – Hide caller ID by default. Note that when making a call, you can dial the special feature access code before dialing the phone number to override the default setting. For more information, please see the *Feature Access Codes* table in the **Dialing rules** section of this guide.
Call Barring	Activates the Call Barring feature (a new **Call Barring** tab will appear, where you can configure destinations which this user is not allowed to call).

Individual Routing Plan	This feature permits selection of the routing plan to be used for outgoing calls when the end user dials a number. A specific selection code does not need to be dialed first. • Select **Enabled** to activate the **Individual Routing Plan** feature for the account. • Select **Disabled** to prohibit assigning the individual routing plan for this account.
Individual Routing Plan	Select the required routing plan from the list. Note that resellers can assign an individual routing plan to an account under the following conditions: • If a reseller has been assigned an individual routing plan by the service provider, this same routing plan can be defined as the individual routing plan for an account. • If the service provider has defined a routing list for the reseller's product, any routing plan from this list can be assigned as the individual routing plan for an account. The routing list is configured using the **Assign Tariff per Routing Plan** option (for details, see the section entitled *Assign Tariff per Routing Plan*).
Phone Book	Activates the Phone Book feature. This allows an account user to maintain its own set of frequently dialed numbers, assign speed dial codes to them and define a list of favorite numbers.
Speed Dial Code	This enables the use of a speed dial code to call favorite numbers.
Maximum Speed Dial Length	The maximum allowed length (1–9) of speed dial codes.
Maximum Favorite Numbers	You may allow an account user to define a list of favorite numbers. This field specifies the maximum amount of numbers that the account can mark as favorites.

Favorite Numbers Locking Interval	This defines the period in days during which the favorite numbers cannot be changed. Thus when a new favorite number is added (or an existent one is changed) by an account user, the number will be locked for a specified period of days. When this period ends, the favorite number can be either changed or deleted.
Favorite Numbers Allowed Patterns	This is a comma-separated list of patterns for numbers which an account user can mark as favorites. For example, to allow an account user to mark Moscow, Russia destinations as favorites, input "`7495, 7499`" here. This field can contain the following special symbols: • '%' – wildcard for any number of symbols, and • '_' – equivalent wildcards for one symbol. If this field is empty, then any number can be marked as a favorite.
Call via IVR	This feature enables calls to be processed in an assigned IVR-capable voice application. For example, the Pass-through IVR application plays a "time left" warning when a specified number of seconds is left – before the call is disconnected – or it can announce the maximum allowed call duration to the destination and then connect the call.
Voice Application	If a call via the IVR feature is enabled, select a voice application for processing the calls. Typically this is a special pass-through IVR application for voiceover announcements during the call, but any standard IVR application can be selected to intercept the outgoing call.
CPS Limitation	This allows you to enforce the calls per second (CPS) limitation. The CPS limitation defines how many dialing attempts can be made by this account each second.
Allowed rate	Set the limit of dialing attempts per second for this account. If the limit is exceeded, new dialing attempts are rejected. The allowed values are from 1 to 1000.

The Fraud Detection section

Field	Description
Geo-IP Fraud Detection	This shows the **Geo-IP Fraud Detection** settings as applied to the account via the **Product**. This field works in read-only mode.
Voice Authentication	In this section you can define whether the screening IVR must ask the end user for a service unblock code. When an outgoing call is considered a potential security breach, the system launches the screening IVR which asks the end user to enter a random 3-digit code that the end user will hear. This ensures that a live person, not a hacker's auto-dialer, is making the call. The end user has 3 attempts to enter the correct code. If the end user passes the 'human check,' for additional security the screening IVR can also ask them to enter a special service unblock code (see the **Service Unblock Code** option) to confirm that the call comes from a legitimate user. The end user may make one attempt to enter the correct service unblock code. If entered correctly, the system automatically connects the end user to the number originally dialed (there is no need to re-enter the number). For more information about the screening IVR and the conditions for a call to be considered a potential security breach, please refer to the *Tools for Prevention of VoIP Fraud* section in the **PortaSIP Administrator Guide**.
Voice Authentication	• **Enabled –** Select this option if you want the screening IVR to ask an end user for a service unblock code. • **Disabled –** Select this option if you do not want the screening IVR to ask an end user for a service unblock code. This is a default value. **NOTE:** To make this option enabled by default for each new account added to the system, on the configuration server web interface go to the **Admin** node → the **Global** environment → the **WebCustom** group and then type

	[AddAccount]VoiceAuthEnabled=1 into the **Option** field.
Service Unblock Code	This option is available only when **Voice Authentication** is set to **Enabled**. This is the code that the screening IVR asks the end user to enter to confirm that the call comes from a legitimate user. This code is usually provided to the end user when they sign up for the service.
Location Information	In this section you can set the country the end user is currently in or usually resides in (and thus this country will be treated as 'safe' when the system checks for fraudulent activity) and whether the end user is allowed to make calls from abroad.
Location Information	• **Enabled** – Select this option to provide information about the end user's current 'default' country and whether they are permitted to make calls from abroad. • **Disabled** – Select this option if such information must not be provided. In this case, fraud detection, if enabled, is based solely on the geo / risk profile settings.
Allowed Mobility	This option is available only when **Location Information** is set to **Enabled**. Specify whether the end user is permitted to make calls from abroad. • **Stationary User (Permanent Location)** – Select this option for residential users who may only make calls from a single country. These end users are not authorized to make calls from countries other than their default one, and outgoing calls made from other countries will be screened. • **Roaming User (Changeable Location) –** Select this option for users who frequently travel to different countries. In this case, the call will be screened if it *does not meet* one of the following conditions:

	○ The call is made from the end user's default country. ○ The call is made from countries in the **No Restrictions** section in the geo / risk profile specified in the end user's product. • The call is made from countries in the **Suspicious** section of the geo / risk profile, but the number of calls does not exceed the value permitted (also specified in the geo / risk profile).
Current Location	This option is available only when **Location Information** is set to **Enabled**. Select the country from the list. This is the user's 'default' country, i.e. the country where the end user permanently resides. Calls made from this country will be treated as safe and legitimate even if this country is on the **High-Risk** list of the geo / fraud profile. Calls made from other countries by stationary end users (**Allowed Mobility** is set to **Stationary User (Permanent Location)**) will be screened. For example, the geo / risk profile assigned to an end user lists Myanmar as a high-risk country. But when an end-user moves to Myanmar for a half-year business project, Myanmar can be assigned as the end user's current location. Thus, the end user will be permitted to freely make calls from this new location, and you won't need to create a separate geo / risk profile for them. Note that if you leave this option blank, the system automatically tries to obtain its value upon first use of the account after its creation. This is done according to the following logic: • If a geo / risk profile is defined in an end user's product and the end user makes a call from a nonrestricted country, the system will use this country as the end user's current 'default' country.

	• If a geo / risk profile is not defined, the system has no source for verifying which country is considered 'safe' and thus treats all countries as 'suspicious.' Since the current location can only be automatically assigned when a country is considered 'safe,' the system will not be able to assign it. Therefore, all outgoing calls made by the end user will be screened. **NOTE:** To permit auto detection of the account's location, on the configuration server web interface go to the **Admin** node -> the **Global** environment -> the **VoiceFraudProtection** group and enable the **Assign_Primary_Location** option.

The Dialing Rules section

Field	Description
Dialing Rules	The following options are available: • **Disabled** – This deactivates the dialing rules for this account. • **Enabled** – This activates the dialing rules for this account.
Dialing Format	• Click the **Wizard** icon to review the selected dialing rule. • Select **Custom Dialing Rule** if you want to create personalized dialing settings for a customer. Then click the **Wizard** icon to open the Dialing Rule Wizard.
Translate CLI on outgoing calls	Allows outgoing calls to be translated based on the selected dialing format.
Translate CLI on incoming calls	Allows incoming calls to be translated based on the selected dialing format.

The Internet Access service type

Field	Description
Internet Access Policy	The most common option is **Product default**. In rare cases, you may need to set a special policy for an account that will override the product's parameters. In such cases: • select the appropriate internet access policy from the list, or • select **None** if you do not want to limit the bandwidth for this account.
Static IP Enabled	Select **Yes** if you want to assign a static IP to this account (the default setting is **No**).
Static IP	If you have selected **Yes** for **Static IP Enabled**, type in an IP.
Static IP Netmask	Type in a netmask, or leave the default value: **255.255.255.255**
Routed Networks	Type in the route for your IPv4 network in the CIDR notation format – X.X.X.X/Y Z.Z.Z.Z where: • **X.X.X.X** is the IPv4 address that defines the network prefix; • **Y** is the decimal length of the network prefix mask; • **Z.Z.Z.Z** is the gateway IP address; it must belong to the network range. An example of **Routed Networks** can be this record: 203.0.113.0/24 203.0.113.1 **NOTE:** Any incorrect adjustment of this parameter may affect the entire ISP network so please be sure that your settings are correct.
Session Limit Enabled	Allows you to define a specific number of concurrent sessions initiated by the account.
Max Simultaneous Sessions	Specify the maximum allowed number of concurrent sessions from one account (Only available when the **Session Limit Enabled** check box is selected).
Hotlining Support	Select **Yes** if your NAS supports hotline (default setting is **Product default**).
Hotline to Portal on Connect	By default this value is set to **Yes**. This means that the account is hotlined.

The Conferencing service type

Field	Description
Conferencing Enabled	Allows the account user to use voice-conferencing services. Note that if an account has **Conferencing Enabled** activated, an additional link will appear next to it on the admin interface: **Manage Conferences**. By clicking it you will automatically go to the account's **Conferences** page where multiple conferences can be managed.
Number of Simultaneous Participants	Specify the maximum number of concurrent connections allowed for the conference. Note that you may also limit the **Number of Simultaneous Participants** for a particular account (in the **Service Configuration** tab).

The Wi-Fi service type

Field	Description
Limit Bandwidth	The most common option is **Product default**. In rare cases, you may need to define special bandwidth values for an account that would override the product's parameters. • Select **Yes** if you *want* to limit the bandwidth for this account. • Select **No** if you *do not want* to limit the bandwidth for this account.
Max Upload Rate	Specify the maximum upload rate for this account.
Max Download Rate	Specify the maximum download rate for this account.

The IPTV service type

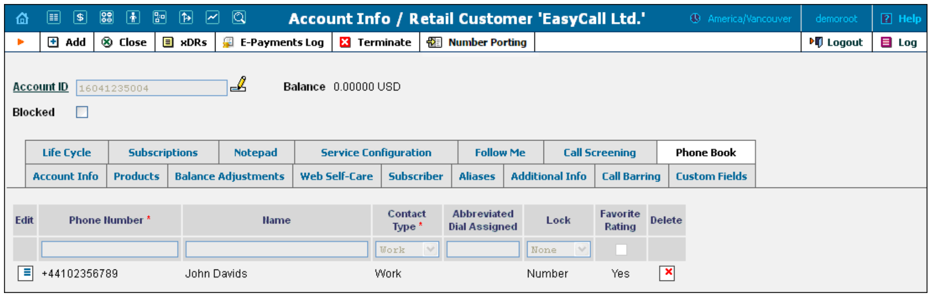
NOTE: The content of this section is available only if an IPTV platform is set up on the Configuration server and a product that includes the IPTV service is assigned to the account (this service must also have a tariff assigned to it).

For information on how to set up an IPTV platform on the Configuration Server and perform further IPTV service configuration, please refer to the IPTV Services handbook from the Unified PortaSwitch Handbook Collection.

Field	Description
Channel Package	This feature defines a set of broadcast channels that are available to this account.

Activation PIN	Specifies a numeric code to be entered from end user's STB (Set-Top Box) remote controller to activate IPTV services.

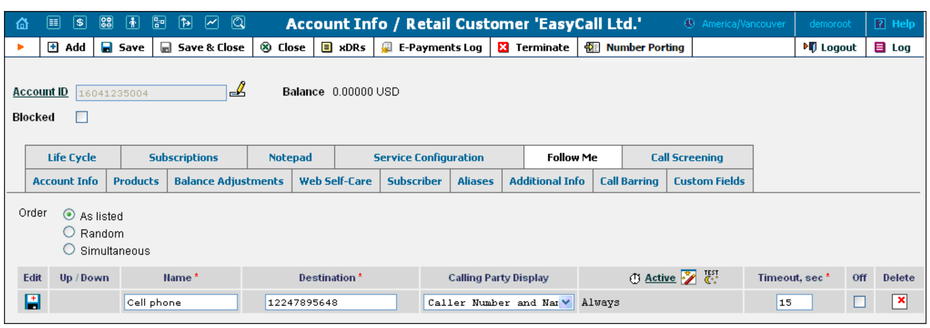
Phone Book tab



Field	Description
Phone number	Phone number in E.164 format. Note: Phone numbers must be entered in either the E.164 format (e.g. +12065551234) or the customer's local format. The latter will be translated into an E.164 format according to the customer dialing rules, upon saving.
Name	Contact name
Contact type	Contact type can be one of the following: • Work • Home • Mobile • Other
Abbreviated Dial Assigned	This is the speed dial number that the end user can dial on his phone to place a call to an external phone number. Note that the length of this number is limited by the **Maximum Speed Dial Length** option on the **Service Configuration** tab.

Lock	This allows you to lock a phone book contact: • **None** – Contacts are not locked in the phonebook, allowing the end user to add, edit or remove contacts. **NOTE: The end user is also able to select contacts to which a special "favorite" rate applies.** • **Full** – Fully lock the contact in the phonebook (makes it impossible for the end user to edit or remove the locked contact) • **Number** – Partially locks the contact in the phonebook (allowing the end user to change only the name).
Favorite Rating	Select this check box to provide a "call friends & family cheaper" service to the end user. The end-user's call to this specific number is rated according to a special rate for the FAV destination, defined in the end-user's tariff.
Delete	Click the **Delete** icon to remove a contact from the user's phone book.

Follow Me tab



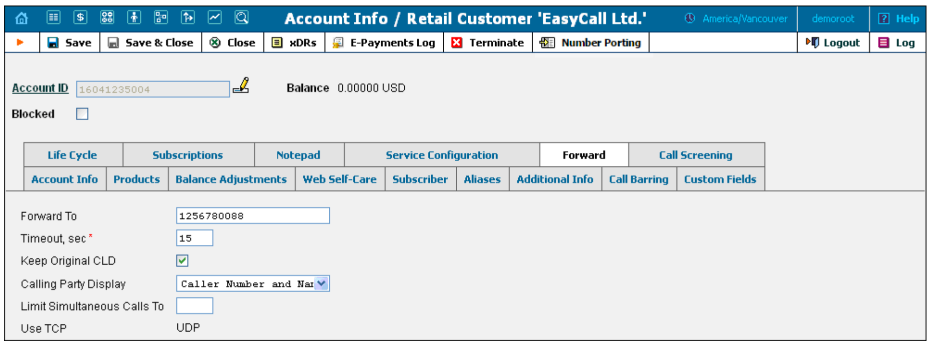
This tab is only available when **Forward Mode** on **Service Configuration** tab is set to **Follow-me** or **Advanced Forwarding**.

Field	Description
Order	Specifies the order for redirecting a call. • **As listed** – Call every active follow-me number from the first (topmost) number to the last, until the call is answered. • **Simultaneous** – Call every active follow-me number from the list at the same time until the call is answered.

	• **Random** – Use a random order.
Edit	Click the **Edit** icon to edit the follow-me number details. To add a new number to the list, click the **Add** button.
Up / Down	Click these buttons to move a row before the previous one or after the next one in the list.
Name	The name of the follow-me number (e.g. "Mobile Phone").
Destination	Specify a number for redirecting calls, formatted according to the customer dialing rules.
Calling Party Display	Allows you to choose how to display the caller's info during forwarding. The following options are available: • **Caller Number and Name** – The call is forwarded with the phone number and the name of the original caller (e.g. if A calls B, but the call is forwarded to C, C will see that it is A who is calling). • **Caller Number and Forwarder Name** – The phone number of the caller and the forwarder name are put in the CLI of the forwarded call (e.g. if A calls B, but the call is forwarded to C, C will see A's phone number and B's name). • **Forwarder Number and Name** – The call is forwarded with the phone number and the name of the forwarder (if A calls B, but the call is forwarded to C, C will see that it is B who is calling).
SIP Proxy	(This field is only available in **Advanced Forwarding** mode.) Enables you to choose one of the SIP proxies defined in the **Permitted SIP Proxies** properties for the customer.
Transport Protocol	(This field is only available in **Advanced Forwarding** mode.) Enables you to choose the UDP or TCP transport protocol. You can use the TCP protocol instead of UDP for SIP communications for PBXes which do not support UDP.
Active	Defines the period when the number is active, i.e. is allowed to receive a forwarded call. Click the **Active** link or the **Wizard** icon to create the first period definition or add the next one using the Period Wizard (this is virtually the same as the Off-peak Period Wizard in Edit Tariff). Click the **Always** button in the wizard to make the follow-me number active

	permanently. Click the **Test Period** icon to run a period test.
Timeout	Specify the amount of seconds to wait until a call is answered. Following timeout, the call will be redirected to the next follow-me number or disconnected.
Off	Check this option to temporarily disable forwarding to a follow-me number.

Forward tab

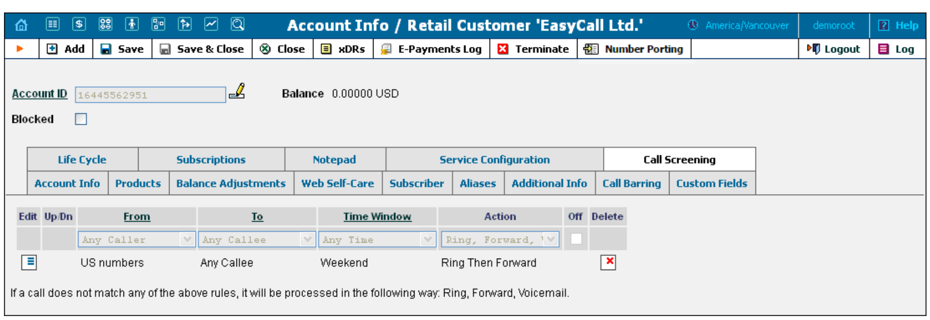


This tab is only available when **Forward Mode** on **Service Configuration** tab is set to **Forward to SIP URI** or **Simple Forwarding**.

Field	Description
Forward To / SIP URI	Here you will enter CLD or two parts of the SIP URI: • The CLD part may contain only digits, the letters a-d and A-D, the signs # and * and may end with the ! sign. • The SIP Proxy part should contain a valid IP address (four numbers separated by dots, e.g. 12.34.56.78). Calls will be forwarded to a local account if the SIP Proxy has not been specified.
Timeout	Specify the amount of seconds to wait until a call is answered. Following timeout, the call will be redirected to the next follow-me number or disconnected.
Keep Original CLD	Allows you to preserve the originally dialed number during forwarding. This is useful when forwarding a call to a remote IP PBX. For more details, see the PortaSIP Administrator Guide.
Calling Party Display	Allows you to choose how to display the caller's info during forwarding. The following options are available: • **Caller Number and Name** – The call is forwarded with the phone number

	and the name of the original caller (e.g. if A calls B, but the call is forwarded to C, C will see that it is A who is calling). • **Caller Number and Forwarder Name** – The phone number of the caller and the forwarder name are put in the CLI of the forwarded call (e.g. if A calls B, but the call is forwarded to C, C will see A's phone number and B's name). • **Forwarder Number and Name** – The call is forwarded with the phone number and the name of the forwarder (if A calls B, but the call is forwarded to C, C will see that it is B who is calling).
Limit Simultaneous Calls to	When the specified number of concurrent calls has already been established (calls are in a "connected" state) and the account tries to place another call, that call will be rejected. **NOTE:** To enable the **Limit Simultaneous Calls** feature, activate the **send_start_acct** option for the corresponding PortaSIP instances on the Configuration Server. To increase the features accuracy, activate the **allow_reauth** option too. Note that these features may slightly increase the load on the billing engine.
Transport Protocol	Choose the UDP or TCP transport protocol. You can use the TCP protocol instead of UDP for SIP communications for PBXes which do not support UDP.

Call Screening tab

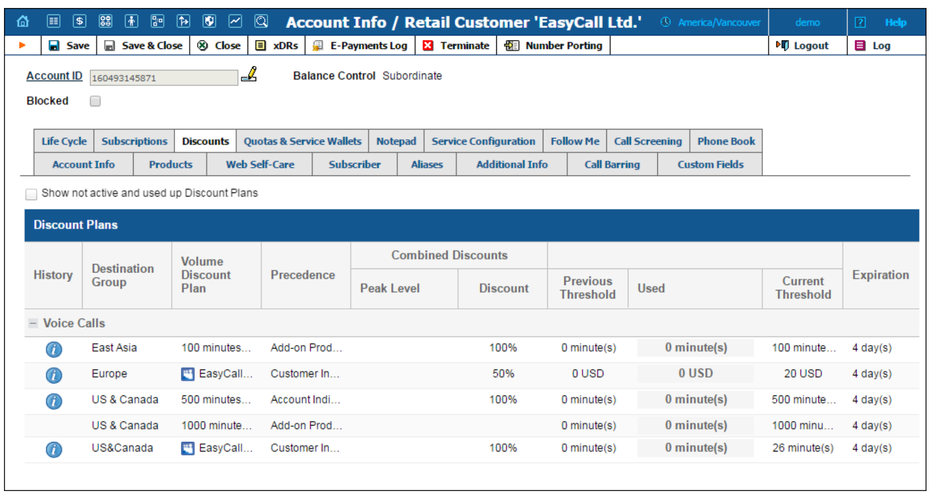


This tab allows you to define a list of rules for handling incoming calls to this account. It is only available when **Call Screening** check box is selected on **Service Configuration** tab.

Field	Description

From	Allows you to select a condition applicable to an incoming phone number (phone number of a person trying to contact you). Click on the column header with the corresponding rule to invoke the wizard, which will enable you to define a new rule or change an existing one.
To	Allows you to select a condition applicable to a dialed phone number (one of your phone numbers that a person trying to contact you).
Time Window	Allows you to select a condition applicable to the time when a call is made.
Action	Specifies which actions should be taken if a particular phone call satisfies the conditions for this rule.
Off	Allows you to temporarily disable a rule without actually deleting it (so it can be used later on).

Discounts tab



Field	Description
Show not active and used up Discount Plans	Select this check box to review also discounts that are not currently active or have been used up.

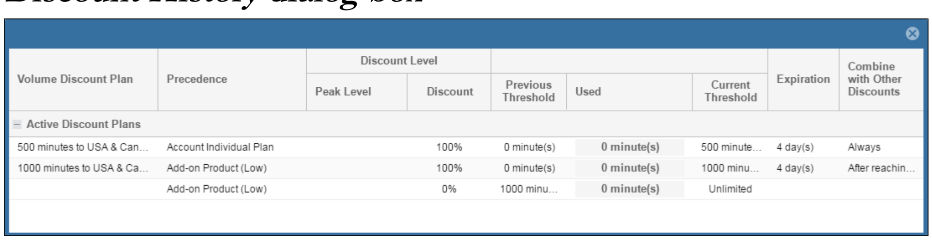
Discount Plans

In the **Discount Plans** table you can see all discounts plans grouped by a service type. Click the plus sign left to the service type name to see all of the account's discounts that apply to the services of this type.

Field	Description
History	Click the **View Details** icon to open a dialog box that shows extended information about the discount.

Destination Group	Destination groups included in discounts that apply to this account.
Service	Shows the service type for which the discount is valid.
Volume Discount Plan	The name of the *active* volume discount plan that applies to this account.
Precedence	This is the priority level for the discount that specifies the order in which certain discounts are to be applied. Discounts with high priority take precedence over discounts with low priority.
Combined Discounts	Shows the total discount value currently applied to the account for different periods (peak and off-peak).
Peak Level	The blank field indicates that the discount is provided regardless of whether the service is used during a peak or off-peak period. Otherwise, this column contains the period names.
Discount	The total discount value currently applied to the account. It is a result of the combined discounts.
Previous Threshold	The threshold value for the last used discount level.
Used / Remaining	Shows the current value of both consumed and remaining discount volume (in minutes or funds). The progress bar graphically reflects how much of the discounted service has been consumed.
Current Threshold	The threshold value for the currently used discount level. When an account's internal counter reaches this value, the next level discount starts being applied according to the discount scheme. **Unlimited** means that a special "unlimited" threshold has been defined within a discount.
Expiration	Shows the time remaining for the discount to be reapplied to the account. If **Never** is defined, it means that this discount is for one-time use and will not be reapplied to the account.

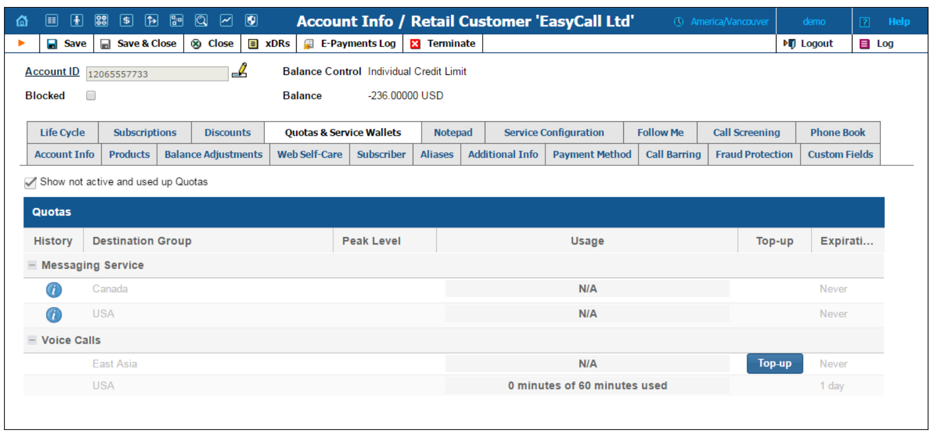
Discount History dialog box



Field	Description
Status	The current status of the discount plan:

	• **Active Discount Plans** – Are volume discount plans that are currently in use. • **Used in Full** – Are volume discount plans that have already been used up. • **Not Yet Active** – Are currently inactive volume discount plans.
Precedence	This is the priority level for the current discount that specifies the order in which certain discounts are to be applied. Discounts with high priority take precedence over discounts with low priority.
Combine with Other Discounts	Shows the way this discount is combined with other discounts applicable to a session.

Quotas & Service Wallets tab



Field	Description
Show not active and used up Quotas	Select this check box to review also quotas that are not currently active or have been used up.

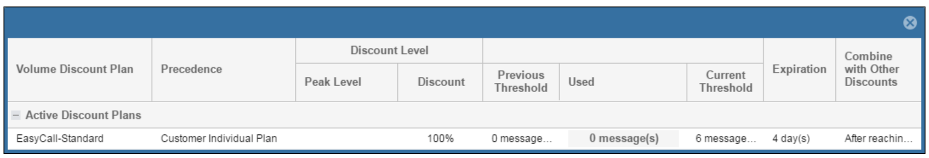
Quotas

Field	Description
Service	Shows the service type for which the quota is valid.
History	Click the **View Details** icon to open a dialog box that shows extended information about the quota.
Destination Group	Destination groups included in quotas that apply to this account.
Peak Level	The blank field indicates that the quota is provided regardless of whether the service is used during a peak or off-peak period. Otherwise, this column contains the period names.

Usage	Shows the current value of both consumed and remaining quota volume (in minutes or funds). The progress bar graphically reflects how much of the quota has been consumed.
Top-up	Click the **Top-up** button to purchase a desired amount of service. NOTE: You can only top up service wallets assigned to this account directly or via product.
Expiration	Shows the time remaining for the quota to be reapplied to the account.

Quota History dialog box

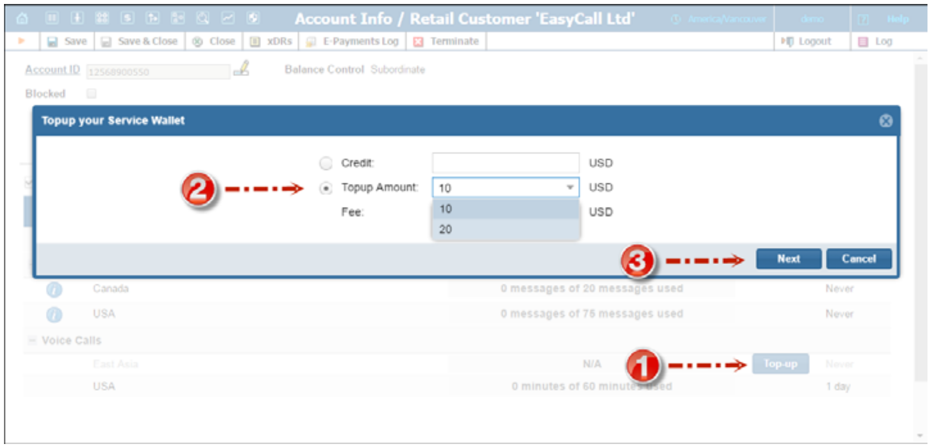
Click the **View Details** icon to open the Quota History dialog box:

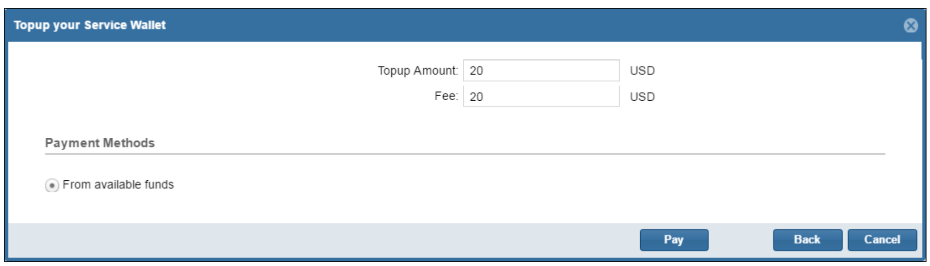


Field	Description
Status	The current status of the discount plan: • **Active Discount Plans** – Are volume discount plans that are currently in use. • **Used in Full** – Are volume discount plans that have already been used up. • **Not Yet Active** – Are currently inactive volume discount plans.
Precedence	This is the priority level for the current quota that specifies the order in which certain quotas are to be applied.
Discount	The total discount value currently applied to the account.
Previous Threshold	The threshold value for the last used quota level.
Used / Remaining	Shows the current value of both consumed and remaining quotas (in minutes or funds). The progress bar graphically reflects how much of the quota has been consumed.
Current Threshold	The threshold value for the currently used discount level. **Unlimited** means that a special "unlimited" threshold has been defined within a volume discount plan.
Expiration	Shows the time remaining for the quota to be reapplied to the account. If **Never** is defined, it means that this quota is for one-time use and will not be reapplied to the account.

Service Wallet Top-up

To top up an account's service wallet, select the desired service and click the **Top-up** button.



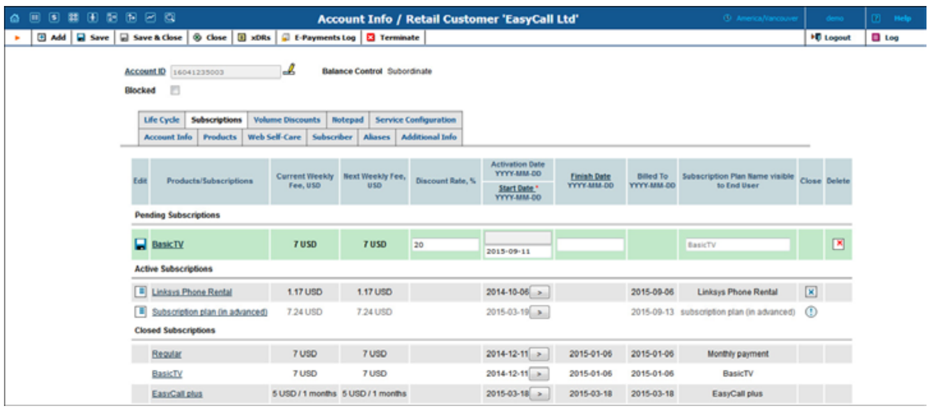


Field	Description
Credit	Select this option to grant free service (for a volume-based threshold type) or top up this service wallet's balance (for a monetarily-based threshold type). This can be done in the form of a promotional offer or offering compensation for issues regarding quality, etc. Once applied, the end user receives the money or service defined and this does not affect either customer's balance or available funds.
Topup Amount	Select this option to top up an account's service wallet. Select the desired service quota in the **Topup Amount** list. The **Fee** field represents the price for the selected amount. This option affects either the customer's balance or available funds.
Payment Method	Select the way to pay: • **New Payment Method** – Select this to charge the user's credit card. **NOTE**: This option is only available for the accounts with individual credit limit and the **E-Commerce Enabled** check box must be selected.

	• **From available funds** – Select this to pay for the service by using the customer's or user's (for the accounts with individual credit limit) balance or available funds.
Pay	Click this button to proceed with payment.

Subscriptions tab

This tab displays the subscription plans currently applied to this account.



Subscriptions are divided into three groups:

- **Pending Subscriptions** – Subscriptions that are not yet active (i.e. they will be activated sometime in the future).
- **Active Subscriptions** – Currently active (and billed) subscription plans.
- **Closed Subscriptions** – Subscriptions that have already been closed.

Subscription activation time depends on subscription plan settings:

- Subscription plans with the **At the given start date** activation setting become active at the date specified in the **Start Date** field. Note that if the **Start Date** is set to "immediately," the subscription is activated within an hour after adding it.
- Subscription plans with the **Upon the account's first usage** activation setting become active *on the later of* the **Start Date** and the account's first usage date.

For more information about subscription plan types and general settings please refer to the **Subscription Plans** chapter of this guide.

How to add a subscription

To add a new subscription, click **Add** on the toolbar and fill in the following fields:

- **Product/Subscriptions** – Select the preferred subscription plan from the list.
- **Discount Rate, %** – Type the desired discount rate.
- **Start Date** – Type the desired subscription activation date in the format "YYYY-MM-DD" (e.g. 2015-10-01), or click the **Start Date** link in the column title to select the date in the **Calendar** window. The default value is "immediately."
- **Finish Date** – Type the subscription closing date in the format "YYYY-MM-DD"(e.g. 2015-10-31), or click the **Finish Date** link in the column title to select that date in the **Calendar** window.
- **Subscription Plan Name visible to End User** – If required, specify the new subscription name that is displayed to the end user. The default name is set within the subscription plan.

For subscriptions with multiple prepay plans, also select which plans will apply:

- From the **Current Fee** list, select the prepay plan for the current period.
- From the **Next Fee** list, select the prepay plan that will be applied once the prepay period for the plan specified in **Current Fee** *runs out*.

Refer to the table at the end of this section for more detailed descriptions of the fields.

How to edit a subscription

Only pending and active subscriptions can be edited. To edit a subscription, click the **Edit** icon, make the desired changed, and then click the **Save** icon.

How to delete a subscription

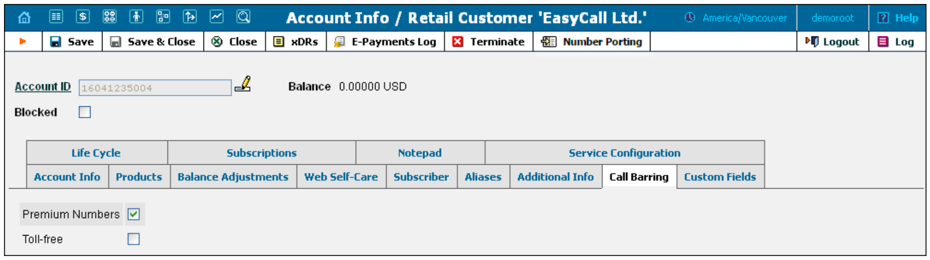
Only pending subscriptions can be deleted. To delete a subscription that was mistakenly assigned to the account, click the **Delete** icon in the **Delete** column.

Field	Description
Product/Subscriptions	The subscription plan name. Click this link to open the corresponding subscription plan.
Current Fee	• For subscriptions with prepaid plans: Shows the fee for the current prepay period and the period duration. • For subscriptions without prepay plans: Shows the subscription fee for the current billing period.

Next Fee	• For subscriptions with prepaid plans: Shows the prepaid plan that will be applied once the prepay plan specified in **Current Fee** expires. • For subscriptions without prepay plans: Shows the subscription fee that will be applied to the account for the next billing period.
Discount Rate, %	The discount rate applied to the periodic fees for this subscription. If you leave this field empty, the discount rate defined in the customer's information (see the **Additional Info** tab of the **Edit Customer** page) will be applied. Any value you enter will override the customer discount rate. Entering 0 means no discount (i.e. the rate defined in the subscription plan is applied).
Start Date	This field is visible only when you add a new subscription. The desired subscription activation date: immediately, or sometime in the future.
Activation Date	Displays the date when the subscription is activated. Click the > **Show More** button to see the subscription start date.
Finish Date	• For pending and active subscriptions: The date when this subscription will automatically be closed. • For closed subscriptions: The date when the subscription has been closed.
Billed To	Shows the date until which subscription charges have already been applied.
Subscription Plan Name Visible to End User	The subscription plan name as the end user sees it on their self-care interfaces and invoices.
Close	• Click the **Close** icon to close the subscription. This icon is available only for optional active subscriptions. • The **Obligatory** icon indicates that this subscription comes from the account's product, and therefore the

	subscription cannot be closed until the account has this product assigned to it.

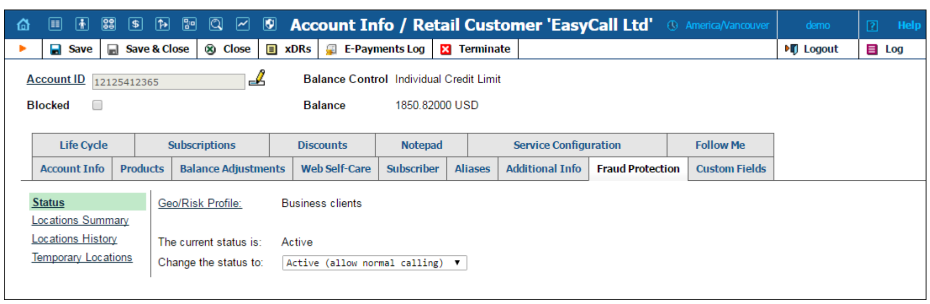
Call Barring tab



This tab is only available when the **Call Barring** feature for **Voice Calls / Outgoing** has been activated on the **Service Configuration** tab. Here you can bar specific classes of phone numbers from being dialed.

Fraud Protection tab

The **Fraud Protection** tab will only appear if **Geo-IP Fraud Detection Enabled** is set to **Yes** in the account's product.

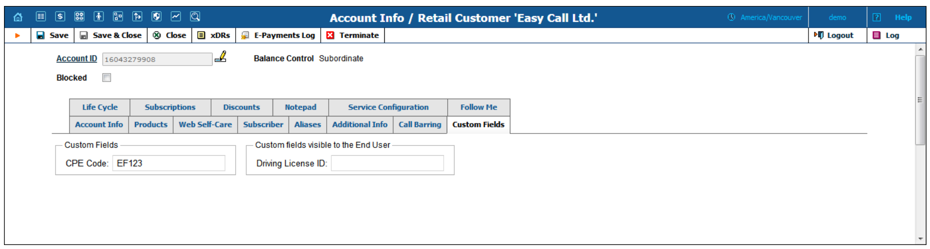


Field	Description
	The *Status* section
Geo / Risk Profile	This link redirects to the **Edit Geo / Risk Profile** page where you can adjust the geo / risk profile settings as necessary.
The current status is	This shows the account's current condition: • **Active** – This means that the account is able to use the service as usual. • **Screened** – This means that some unusual activity has been detected for this user, thus he will be prompted to enter his "service unblock" code upon attempting to make a new call. • **Quarantined** – This means that after being screened, this account was unable to supply valid credentials while continuing to attempt

	to make a large number of calls. All such call attempts are automatically blocked to reduce the load on the network.
Change the status to	Here you can manually change the account's status: • **Active (allow normal calling)** – If the account had been screened or quarantined for some reason and the situation was regulated, you can change the account's status back to active here. • **Screened (authenticate before calling)** – If some unusual activity has been detected for this account you can screen its calls to prevent a potential security breach. • **Quarantined (reject all calls)** – If you want to temporarily block all call attempts from the account, change its status to quarantined here. Note that neither the **Screened** nor the **Quarantined** status influences on-net calls.
The *Locations Summary* section	
IP	Shows the IP address used for account registration.
Usage Counter	Shows the number of call attempts made from this specific location.
Last Used	This column shows the timestamp of the last call attempt.
Verified Until	If an account's product is configured to allow normal calls (without repeated screenings) for a certain period after passing the initial screening IVR, the time of expiration will be reflected in this column.
The *Locations History* section	
IP	Shows the IP address used for account registration.
Country	Shows the country where the account was registered.
Usage Counter	Shows the number of call attempts made from this specific location.
Restriction Level	Shows the restriction levels as configured in the **Geo / Risk Profile**.
Last Used	This column shows the timestamp of the last call attempt.
Verified Until	If an account's product is configured to allow normal calls (without repeated screenings) for a certain period after passing the initial screening IVR, the time of expiration will be reflected in this column.
The *Temporary Locations* section	
IP	This allows service usage without restriction in

	unusual locations. Enter the IP address from which the user intends to use the service here.
Country	If the user intends to use services outside of the default country for some time, you can specify the receiving country, therefore temporarily allowing calls without restriction from that location.
Verified Until	Enter the date when verification for a temporary location should be automatically canceled.
Delete	Click the ❌ **Delete** icon to remove the temporary location.

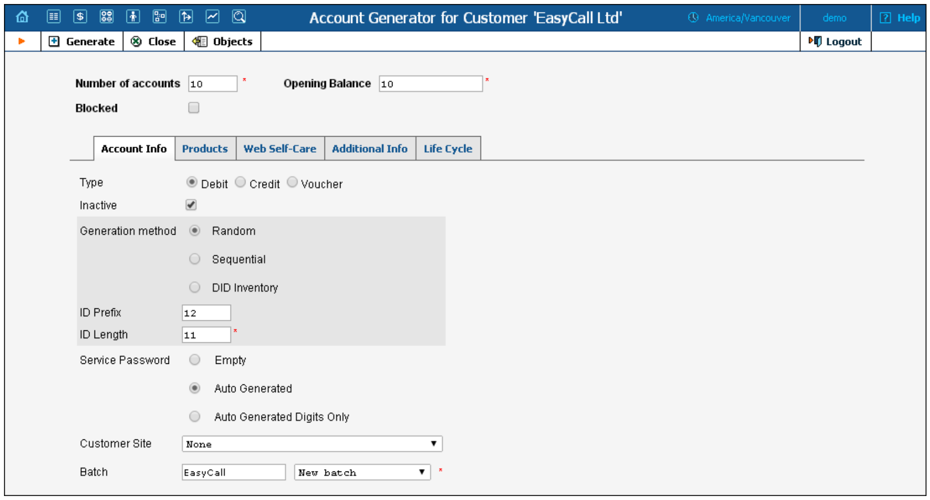
Custom Fields tab



Field	Description
Custom Fields	Custom fields visible only to administrative users. These custom fields may store a privileged additional information that is required for support and troubleshooting and must be shown on the web interface without the risk of exposing it to end users.
Custom Fields visible to the End User	Custom fields which end users are enabled to see and edit on their self-care interfaces. These custom fields may store information that can be useful for both an administrator and end users (for example, customer's bonus, *driving license* ID, etc.)

Account Generator

The Account Generator should be used when large numbers of accounts are to be generated (for example, when issuing prepaid cards) so that individual accounts need not be entered manually. The account IDs will be generated either sequentially or randomly, as will the web password, so as to prevent possible defrauding. The generation process will run offline, so that the accounts are not visible from the Account Management page until the process is complete. The customer will then receive an email notification regarding completion of the task, as well as another email listing all the accounts in .csv format, including the values "Batch", "Control Number" (a sequential index in standardized 10-digit length format), "PIN" (account ID), "Web login" (by default identical to the account ID) and "Password" (web password).



The **Account Generator** interface is very similar to **Add Account**, with the following exceptions:

Field	Description
Number of Accounts (replacing Account ID)	The number of accounts to be generated.
	Account Info tab
Generation method	• **Random** will produce unique unpredictable account IDs with a specified length and prefix. • **Sequential** will create accounts with incremental IDs, e.g. if the starting ID is specified as 55540000, it will create accounts 55540000, 55540001, 55540002 and so on; see below for more details. • **DID Inventory** will generate accounts by assigning account IDs from the available DIDs in a specific DID batch; the user has the option of choosing the starting DID.
Inactive	Only available when the account type is set to "Debit" or "Voucher." Select this check box if you'd like to create an inactive account.
ID prefix	Preset leading digits in the account ID; leave

	empty to make the account ID totally random.
ID length	Total ID length, including ID prefix.
Starting ID	The initial digit set you would like the generated accounts to start with. Thus, if you enter 5553000, the account IDs (PINs) will look like this: 5553000, 5553001, 5553002 and 555300N, where N = subsequent digit. (This is only available in Sequential generation method, and is always numeric.)
Service Password	Can be generated automatically, or left empty to allow end users to login using account ID only (typically used for prepaid cards). The “Auto-generated digits only” option allows you to create sufficiently secure passwords (with a specified password length) consisting of digits only, so that they can be entered from a phone’s touchpad.
Customer Site	Places this account (phone line) with a specific site so that the site parameters (e.g. number of simultaneous calls) will apply.
Batch	Accounts are grouped into batches. If a new batch name is provided in the text field, a new batch will be created when you add the account. Otherwise, an existing batch should be selected from the list.
Web Self-Care tab	
Login	Can be set as identical to the account ID, or left empty to disable access to the account self-care interface.
Password	Can be generated automatically, or left empty to allow end users to login using account ID only.

Assigning an account ID

Choose **Random** if you want a relatively small amount of unpredictable IDs within a large enough range of possible numbers. Please note that “random” means not only “generated randomly” but also “difficult to guess”; therefore, the ratio between the number of generated PINs and the number of total possible PINs should be sufficiently low. For instance, PortaBilling® will refuse to generate 5,000 PINs with ID prefix 33333 and ID length 9, because in this case there are 10,000 possible PINs; if we generate 5,000 actual pins, there is a 50% chance of using someone else’s PIN just by entering one wrong digit. Thus, in the example above, the PIN length should be set at 10 or even 11 digits (with a 5% or 0.5% chance of guessing the PIN, respectively). Note that random account PINs are never generated with leading zeroes, as these zeroes could be truncated when working with PIN data in programs like Microsoft Excel.

Choose **Sequential** if you want to generate a large number of accounts at once. You can choose the starting ID for the first account to be generated, and the system will generate IDs sequentially by an increment of one. If a given account ID is already used, it will be skipped and the system will continue until it generates the specified number of accounts.

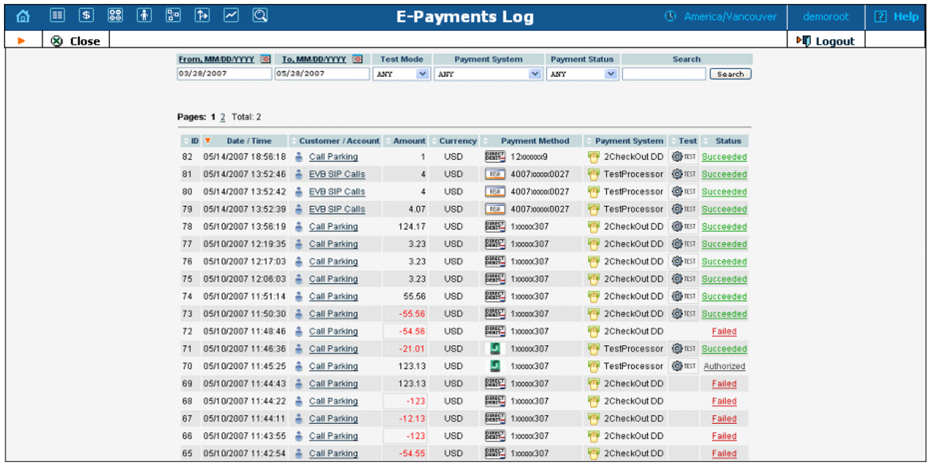
For example, if you requested 100 accounts with the starting ID prefix "1000000", and there are already three accounts within the defined range (1000010, 1000011, 1000012), the first generated ID will be 1000000, the second 1000001, and the last 1000103. Account ID length is always the same for all generated accounts. So if there is not enough room to generate the specified number of accounts (e.g. you request 1,000 accounts with starting ID 999900), generation will not begin and a warning email will be sent immediately.

E-Payments Log

This form is not directly accessible from the main menu, since it should be accessed in the specific context of:

- the whole environment (accessible from **Payments**) – this allows you to see charge attempts for any direct customer;
- a specific customer (accessible from **Customer Info**) – this allows you to monitor charge attempts related to a particular customer;
- a specific account (accessible from **Account Info**) – this allows you to monitor charge attempts related to a particular account.

Adjust the search parameters to see a list of all transaction attempts (by default, only transactions for the current day will be displayed, so the values in the **From** / **To** fields may need to be changed) and then click the **Search** button.



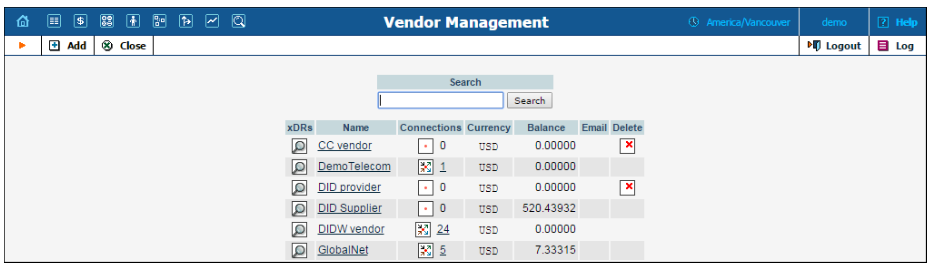
Column	Description
Date / Time	Specifies when the charge attempt occurred.
Customer / Account	Specifies to which customer or account the charge was applied.
Amount	Gives the total amount of the transaction.
Currency	Specifies the currency used in the transaction.
Payment Method	The icon on the left specifies which type of payment method was used (e.g. VISA or MasterCard); the actual card / account number is displayed in the “safe” form (some of the digits are masked by an x).
Payment System	Specifies the payment system used to carry out this transaction.
Test	Indicates whether this transaction was done in “test” mode.
Status	Indicates the result of the transaction: • **Succeeded** – The transaction was successful, funds were transferred. • **Failed** – The transaction has failed (click on Failed to get further information, such as the error code or a response from the remote payment processor). • **Authorized** – A “check funds” transaction was successful (but no actual charges were applied to the credit card and no balance modification in the billing was done). • **Incomplete** – When using payment systems with “external authorization” it is possible that a transaction was interrupted (e.g. user has clicked the “cancel” button when entering credit card info on the remote processor

	website).

Vendor Management

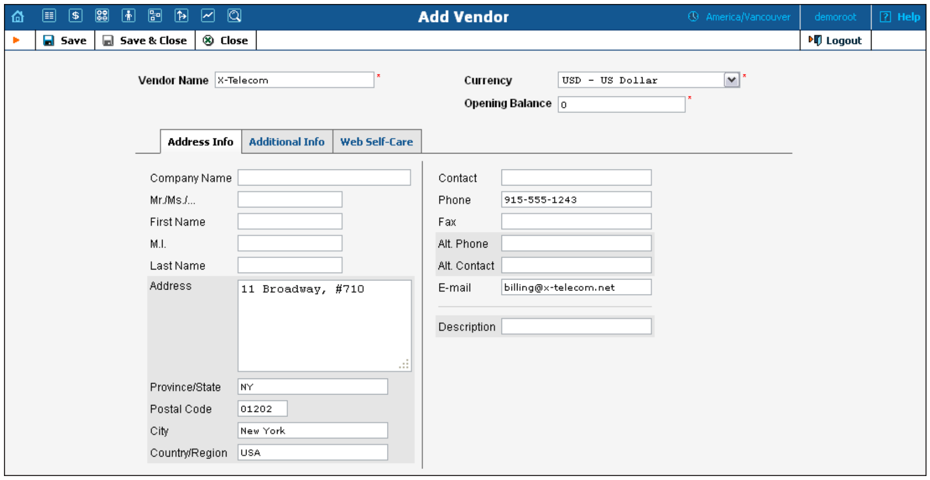
Vendors are your service providers, e.g. termination partners or incoming toll-free line providers. Every time a call travels from your network to a vendor (via telephony or VoIP) there is a cost associated with it, and at this point PortaBilling® will charge the account and customer for the call, as well as calculate your termination costs.

On the **Vendor Management** page, you can view a list of all registered vendors. This list provides the following information and activities:



Column	Description
xDRs	Click the **View** icon to go to the xDR view page for this vendor.
Name	The vendor's name.
Connections	Click the **Connections** icon to be taken to the connections management page for this vendor. The number next to the icon shows the number of connections defined for this vendor. Read more in the *Connections* section.
Currency	The currency in which the vendor's account is maintained and paid.
Balance	The vendor's current balance.
Email	Email contact for the given vendor.
Delete	Click the **Delete** icon to remove the vendor. The delete button will only appear if there are no xDRs or connections defined for the vendor.

Add / Edit Vendor



The **Add Vendor** page allows definition of a new client entity within PortaBilling®. The information required is split into two tabbed sections: **Address Info** and **Additional Info**. The **Edit Vendor** page also contains the Notepad tab for making notes. The following information is required at the top of the form:

Field	Description
Vendor Name	Defines the vendor name as it will appear within the PortaBilling® system. This is distinct from the **Company Name** field in the **Address Info** tab.
Currency	A currency must be specified by selecting it from the list of available currencies.
Opening Balance	The starting balance for the vendor.

The information in all the other tabs is optional, and need not be specified when creating a vendor.

Balance Adjustments

The **Balance Adjustments** tab allows the administrator to correct a vendor's balance.

Field	Description
Action	• **No Action** – No balance adjustment will be made. • **Manual Charge** – Use this transaction to adjust the vendor's balance in case of non-call related charges from the vendor. The amount is added to the vendor's balance.

	• **Manual Credit** – Use this transaction if you have received credit to your account. For instance, if you complained about the vendor's service quality and have an agreement for certain funds to be credited toward future services. • **Manual Payment** – Use this transaction to manually enter the information about a payment you have made. Credits (or decreases) the vendor's balance. • **Refund** – Use this transaction to revert an earlier payment to the Vendor (e.g. a check returned by the bank). Debits (or increases) the vendor's balance.
Amount	Amount to charge / refund.
Visible comment	A comment on this transaction visible to the vendor in the xDR browser.
Internal comment	An internal comment on this transaction; not visible in the xDR browser, and only accessible directly from the database.
Service *(only for Manual Charge and Manual Credit)*	A service for which the manual charge / credit is made.
Date *(only for Manual Charge and Manual Credit)*	A date associated with the manual charge / credit. For example, you can specify a date for manual credit action for when an item is credited.

Additional Info

Field	Description
Billing Period	Defines the frequency of generating xDR reports for this vendor.
Offset Balance with Customer	Defines the customer for automatically offsetting the vendor's balance (if this company also sends you traffic, i.e. it is also your customer). You may only choose a reseller or retail customer defined with the same currency. This indicates that this vendor and the referenced customer represent two sides of the same company. When the billing engine processes a call from this customer and calculates the routing, it automatically

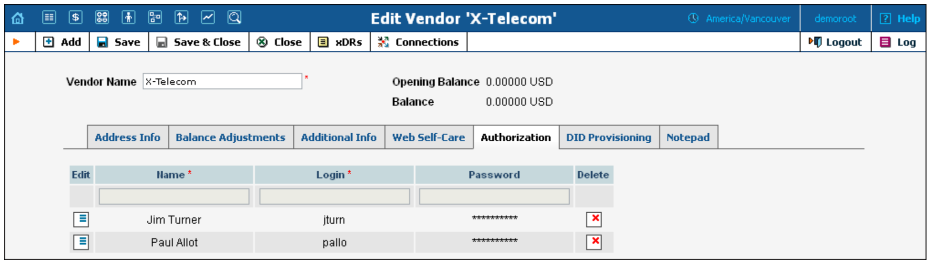
	excludes this vendor from the routing list to prevent a possible routing loop (sending calls back to the originator).
Minimum Amount to Offset	When the balances of both the vendor and the associated customer reach the threshold value, PortaBilling® chooses the lesser of two balances and decreases both customer's and vendor's balances by this amount. Let's consider the example for when the **Minimum Amount to Offset** is set to $100 and you start sending traffic to this company (to vendor) and it starts sending traffic to you (as customer). • While the vendor's balance is $80 and the customer's balance is $40 – nothing happens. • Even when the vendor's balance crosses the threshold and becomes $120 and the customer's balance is $80 – nothing happens. • Only when the vendor's balance is $140 and the customer's balance is $105 (both balances over the threshold) – does PortaBilling® make a $105 offset. • The vendor's balance becomes $35 and the customer's balance becomes $0. The xDR records for both the vendor and the customer are created for this transaction.

Web Self-Care

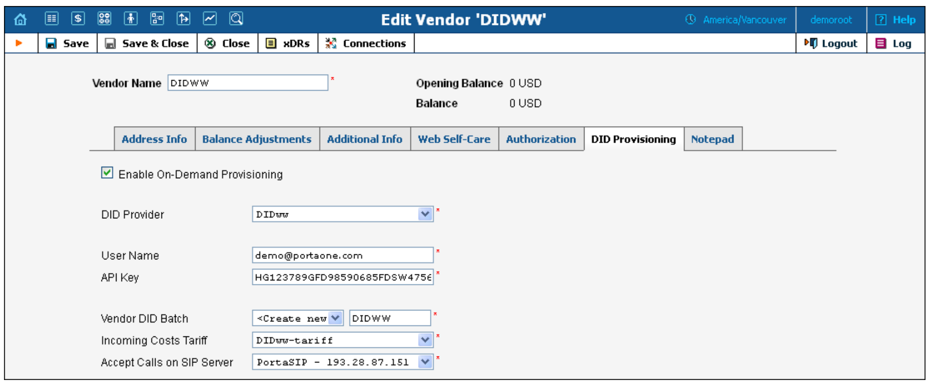
The **Web Self-Care** tab content is identical to that described in the *Web Self-Care* subsection of the *Customer* and *Account Management* sections of this guide.

Authorization

When you send traffic to the vendor's network, both parties are interested in securing the connection so that no one else can send traffic to the vendor, as this would then be billed to your account. When using SIP, it is possible to do this in a very convenient and secure way: by using digest authentication. In this case, the vendor will provide you with a username / password, which will be used to authorize every outgoing call from your network to this vendor. Here you can enter information about such accounts, so that they can be provided automatically by billing to the SIP server.



DID Provisioning



Field	Description
Enable On-demand Provisioning	Enables the interconnection with DID vendors such as DIDWW or DIDx, offering extra DID numbers as a value-added-service. On-demand DID provisioning enables the end user to browse, sign-up and release DIDs or toll-free numbers available on the DID vendor side, online.
DID Provider	Select the DID provider for interconnection.
User Name / User ID	Specify a user name provided by the DID provider. This user name will be used for the authentication of API sessions.
API Key / Password	Specify an API key provided by the DID provider. This key will be used for the authentication of API sessions.
Vendor DID Batch	Allocate a batch for this vendor's DIDs. When end users sign up for new DIDs or toll-free numbers from this vendor, the numbers will be registered in the specified vendor batch. This allows you to keep track of which phone numbers were purchased from this vendor. You may either create a new batch or select an existing one.

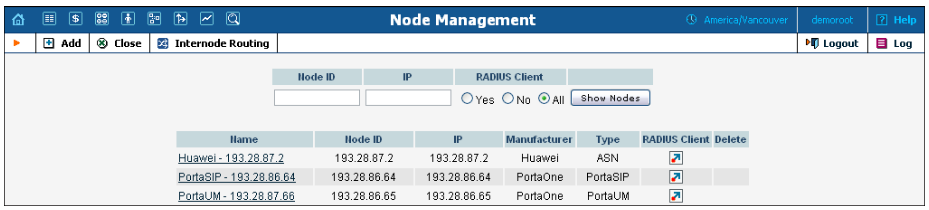
Incoming Costs Tariff	Select a tariff to calculate costs associated with the incoming calls from this vendor.
Accept Calls on SIP Server	Select a PortaSIP® node (virtual SIP instance) on which the calls from this vendor will be accepted.

6. Networking

Nodes

The **Node Management** page enables registration, removal and maintenance of the gateway list. Nodes are gateways which provide accounting records to PortaBilling® or exchange authentication / authorization requests with it. On this page the user is provided with a list of all nodes currently registered.

The search form at the top of the page allows filtration by any combination of H.323 ID, IP address and / or whether or not the node is a Radius client. Providing any of this information and selecting **Show Nodes** will refresh the node listing according to the new filtration criteria.



The following information is provided within the listing:

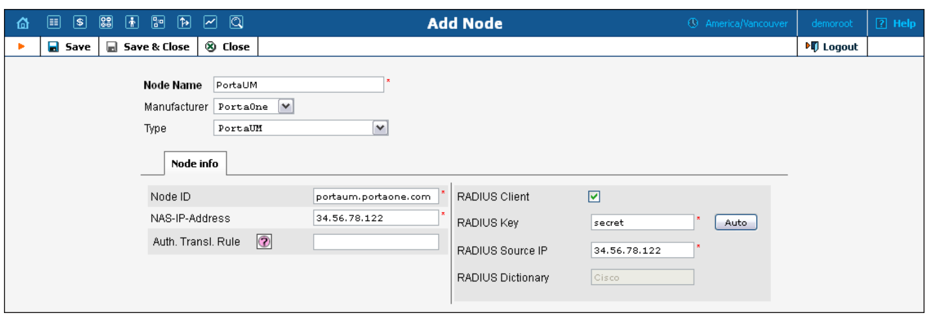
Column	Description
Name	Logical name of the node. This is also a link to the edit page for the given node.
Node ID	For a VoIP node, this is equivalent to a hostname for an internet server (e.g. `mail1.cyberdyne.com`), i.e. a descriptive, human-readable name used for identification purposes.
IP	IP address of the node.
Manufacturer	Manufacturer of the node.

Type	Node type. The options are as follows: ***Cisco*** • VOIP-GW: the node functions as a gateway • NAS: Cisco Network Access Server • ASR Series: Cisco ASR Series Aggregation Services Routers • PDSN: Cisco Packet Data Serving Node ***Quintum*** • VOIP-GW: the node functions as a gateway ***PortaOne*** • PortaSIP: the PortaSIP® Switching Server • PortaUM: the PortaSIP® Media Server • Generic: PortaOne generic node ***ALOE Systems*** *(formerly MERA Systems)* • MVTS Pro: Mera Networks VoIP Softswitch ***BroadSoft*** • BS: BroadWorks VoIP communications application server ***Mikrotik*** • Router: Mikrotik Router OS ***Genband (formerly Nextone)*** • MSX: Nextone MSX ***Huawei*** • ASN: Huawei ASN gateway for WiMAX • UGW9811: it enables a PortaBilling® adapter module that uses a set of Huawei RADIUS VSAs (Vendor-Specific Attributes). The Huawei UGW9811 gateway can function as a gateway GPRS support node (GGSN), a serving gateway (S-GW), or a PDN gateway (P-GW)

	Dialogic • IMG: Dialogic Integrated Media Gateway ***ECI*** • BRAS: ECI Broadband Remote Access Server

Add / Edit Node

To add a new node to the system, click **Add** on the toolbar.



In order to register a new node in PortaBilling® or edit an existing one, the following information must be provided:

Field	Description
Node Name	The logical name of the node for use within PortaBilling®
Node ID	For a VoIP node, this is equivalent to a hostname for an internet server (e.g. `mail1.cyberdyne.com`), i.e. a descriptive, human-readable name used for identification purposes. Make sure the value you enter here matches the “hostname” parameter configured on the gateway, since that value is returned from this node in the `h323-gw-id` attribute, and the ability to match these values with data in billing significantly simplifies

	troubleshooting.
NAS-IP-Address	The IP address of the node.
Auth. Transl. Rule	The authentication translation rule used to transform a dialed phone number into the E.164 format used in PortaBilling®. Node translation rules have become obsolete with the introduction of customer-based translation rules.
Manufacturer	Choose “Cisco,” “Quintum,” “PortaOne” or another from the list, depending on the manufacturer of the equipment.
Type	Node type. The options are as follows: ***Cisco*** • VOIP-GW: the node functions as a gateway • NAS: Cisco Network Access Server • ASR Series: Cisco ASR Series Aggregation Services Routers • PDSN: Cisco Packet Data Serving Node ***Quintum*** • VOIP-GW: the node functions as a gateway ***PortaOne*** • PortaSIP: the PortaSIP® Switching Server • PortaUM: the PortaSIP® Media Server • Generic: PortaOne generic node ***ALOE Systems*** *(formerly MERA Systems)* • MVTS Pro: Mera Networks VoIP Softswitch ***BroadSoft*** • BS: BroadWorks VoIP communications application server ***Mikrotik*** • Router: Mikrotik Router OS • Genband *(formerly Nextone)* • MSX: Nextone MSX ***Huawei***

	• ASN: Huawei ASN gateway for WiMAX ***Dialogic*** • IMG: Dialogic Integrated Media Gateway ***ECI*** • BRAS: ECI Broadband Remote Access Server
RTP Proxying	Describes the NAT traversal capabilities of this node: • **Direct** – RTP stream should be send directly to this node; RTP proxy should not be used. • **Optimal** – This node is capable of NAT traversal; no RTP proxying is required unless specifically requested. • **OnNat** – This node is not capable of NAT traversal; engage RTP proxy if the other party is behind the NAT. • **Always** – When sending a call to this node, always engage RTP proxy, so that no direct media stream goes to it.
VoIP User-Name	Defines which parameters (e.g. ANI, IP, DNIS, etc.) should be used to identify which account the call should be billed to. This applies to calls that arrived to this node from the IP network (values taken from the answer / VoIP call leg). **NOTE:** This parameter is only applicable to Quintum gateways.
Telephony User-Name	Defines which parameters (e.g. ANI, port ID, DNIS, etc.) should be used to identify which account the call should be billed to. This applies to calls that arrived to this node from PSTN (values taken from the answer / Telephony call leg). **NOTE:** This parameter is only applicable to Quintum gateways.
Radius Client	Select this check box if the node will provide accounting records to the Radius server.
Radius Key	This input will be available only if the node has been designated as a Radius client. This is the authentication key for all Radius interactions. A hard-to-guess password may be automatically generated by clicking the **Auto** button.
Radius Source IP	More than one interface can be present on the node; specify the IP address of the one that communicates with the Radius server.
The following fields are only available for Cisco, Mikrotik, Huawei and ECI nodes	

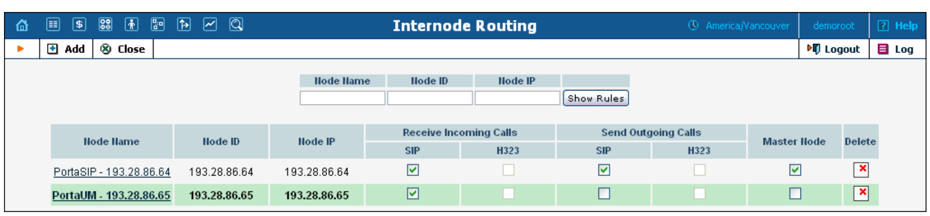
POD Server	This enables the event-triggered interaction with the RFC 3576-based service controlling the network sessions on the NAS. The system will send a special PoD, DM or CoA message to this server, for example, when an internet-connected account runs out of balance, exceeds its data transfer limit, switches access policy or expires. The POD server will then terminate or alter the properties of the session(s) opened by this account.
Shared Key	A shared secret that is used for authenticating requests.
Radius IP	An IP address for a RADIUS RFC 3576 server to which requests are sent.
Port	The internet UDP port to which requests are sent. If not specified, the default port typical for the NAS device is used (e.g. 3799).

Internode Routing

The **Internode Routing** page enables the creation of rules for routing calls between nodes. This page shows a list of all the rules currently in the system.

NOTE: The **Internode Routing** page appears only if there is a MVTS node in the environment, and is accessible only to administrators and root users

The search form at the top of the page allows filtering by any combination of node name, node ID, or node IP address. Provide any of this information and click **Show Rules** to display the specific list of node routing rules only.

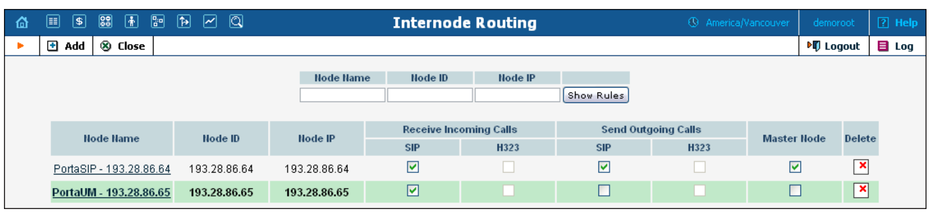


The **Internode Routing** page provides the following information:

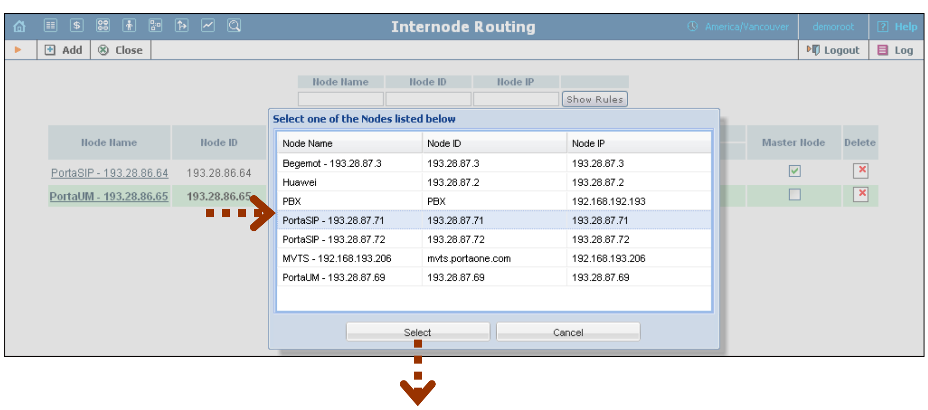
Field	Description
Node Name	The logical name of the node for use within PortaBilling®.
Node ID	For a VoIP node, this is equivalent to a hostname for an internet server (e.g. `mail1.cyberdyne.com`), i.e. a descriptive, human-readable name used for identification purposes.
Node IP	IP address of the node.
Master Node	If any node in the environment is marked as a master,

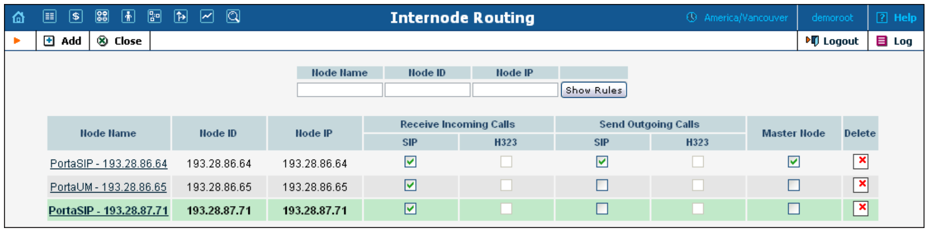
	any other non-master nodes will pass calls to one of the master nodes that supports the compatible protocol (e.g. PortaSIP® will look for any Master Node with SIP protocol enabled).
Receive Incoming Calls	Indicates whether a node is able to receive SIP / H323 calls. **NOTE:** If the node does not support SIP or H323 calls, the corresponding check box will be unavailable.
Send Outgoing Calls	Indicates whether a node is able to send SIP / H323 calls. **NOTE:** If the node does not support SIP or H323 calls, the corresponding check box will be unavailable.
Delete	Click the **Delete** icon to remove the rule from the list. **NOTE:** If a node is removed from the system, the rule for this node is also automatically removed.

To add a new rule to the system, click **Add** on the toolbar, and follow the steps shown in the following sequence of screenshots:



When the node selection dialog box appears, choose the node you wish to create a rule for from the list. Note that only one rule can be defined for each node.





Call Handling

Often calls arrive to the network from gateways which do not support digest authentication. In this case, it is necessary to engage different modes of billing (by tech-prefix, by IP address, etc.) on the PortaSwitch® side. The **Call Handling** page provides administrators with an easy way of defining a list of rules allowing PortaSIP® servers to handle incoming calls in the desired manner. It gives them a flexible choice of several authorization methods and the ability to configure rules directly from the interface, instead of time-consuming manual configuration. Rules are listed in order of priority, with the topmost rule having top priority. If no rule works for a given call request, digest authentication will be used.

An authentication rule combines an authorization method and call parameters. The different methods of user authentication are described in the *Advanced Features* section of the **PortaSIP Switching Server Administrator Guide**. When adding a rule, you can choose one of the following twelve methods:

- **CLD** – The User-Name attribute is the phone number called (CLD).
- **CLD Tech-Prefix** – The User-Name attribute consists of the first part of the CLD parameter ending with (and including) # (e.g. a call with the `To` header (CLD) equal to 77788#12125551234 will be authorized as 77788#).
- **CLD Tech-Prefix and IP** – The User-Name attribute consists of the first part of the CLD parameter ending with (and including) # and the IP address prefixed with @ (e.g. a call from IP address 122.255.109.2 with the `To` header (CLD) equal to 080099#12125551234 will be authorized as 080099#@122.255.109.2).
- **CLI** – The User-Name attribute is the phone number of the party calling (CLI).
- **CLI (PAI if no CLI)** – The User-Name attribute is the phone number of the party calling (CLI). If the CLI is not specified, the User-Name attribute contains the value from the PAI header.
- **CLI (RPID if no CLI)** – This method is similar to the previous one, except that the User-Name attribute is taken from the RPID header if the CLI is not specified.

- **CLI Tech-Prefix** – The User-Name attribute consists of the first part of the CLI parameter ending with (and including) # (e.g. a call with the `From` header (CLI) equal to 977#16045551234 will be authorized as 977#).
- **CLI Tech-Prefix and IP** – The User-Name attribute consists of a first part of the CLI parameter ending with (and including) # and the IP address prefixed with @ (e.g. a call from IP address 122.255.109.2 with the `From` header (CLI) equal to 977#16045551234 will be authorized as 977#@122.255.109.2).
- **PAI** – The User-Name attribute contains the value from the PAI header.
- **RPID** – The User-Name attribute contains the value from the RPID header.
- **Digest** – Digest authentication is applied to obtain the User-Name attribute.
- **IP** – The User-Name attribute is the IP address from which PortaSIP receives the INVITE.
- **Trunk Group ID (tgrp)** – The User-Name attribute contains the value from the "tgrp" part of the "Contact" header.
- **PCI (P-Charge-Info)** – The User-Name attribute consists of a number from the P-Charge-Info header and the IP address prefixed with @ (e.g. a call from IP address 122.255.109.2 with the P-Charge-Info header <sip:+12349874567@example.com> will be authorized as **+12349874567@122.255.109.2**).
- **Remote IP**. The identity for authentication is an IP address taken from a custom *Remoteip* SIP header. Note that this IP address is used "as is," without validation.

NOTE: To discuss creating other possible authorization methods, contact the support@portaone.com.

Let's take an example: A PortaSIP® server receives a call initiation (INVITE) request from IP address 11.22.33.45. This INVITE request contains call information, including the caller's phone number (often referred to as CLI or ANI) 977#197800065 and the called phone number (referred to as CLD or DNIS) 12065551234. The administrator has defined the list of authentication rules shown in the first screenshot below. The rules are checked in sequence and, when the first match is found, the corresponding rule is used to handle the call. In this case, the first rule will be skipped (since although there is a match by IP address, CLD does not match), and the second rule will be used. As a result, PortaSIP® will perform authentication based on CLI, using 977#197800065 as the identification string.

Due to this "first match" principle, it is important to rank more specific rules before less specific ones. If, in our example (in the first screenshot below), we were to swap the third and second rules, then the **IP**

11.22.33.45 **CLI** 977#% rule would never be used, since the processing of every such call would stop at the second rule.

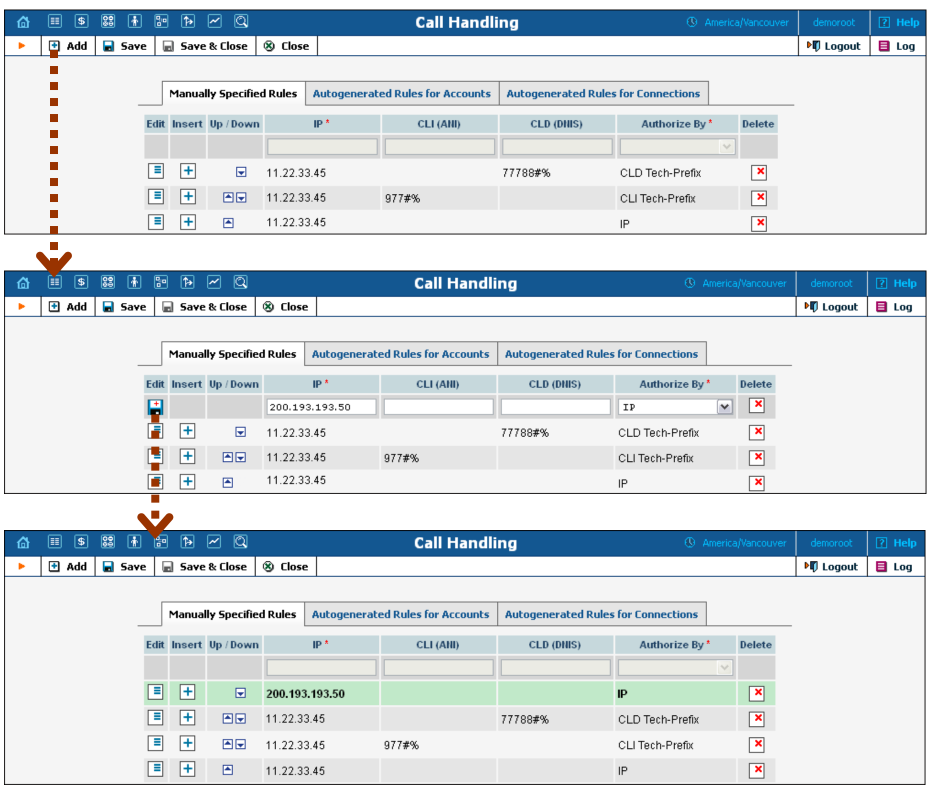
Please consult the *Call Handling Rules* section of the **PortaSIP Switching Server Administrator Guide** for more details on how PortaSIP® processes the call if multiple call handling rules satisfy the call request.

NOTE: IP authentication is applied by default for all nodes in the given environment. Think of it as if these rules were being added to the bottom of the list automatically in order to save you time. You can still override this by creating your own rule; for instance, if you need to do authorization based on CLI / DNIS for calls coming from your PSTN gateway. Since this rule is ranked higher, it will take precedence.

Manually Specified Rules

This tab allows you to view the list of all manually specified rules and to create new ones.

To add a new authorization rule on the **Call Handling** page, follow the steps shown in the following sequence of screenshots:



Click **Add**, then fill in the required information and click **Save**. The newly added rule will appear at the top of the list.

Field	Description
IP	Remote IP from which a call request is received. This

	field can contain an IP address or an IPv4 network prefix in CIDR notation (e.g. 192.168.99.0/24).
CLI (ANI)	CLI (ANI) pattern. This field can contain: • Digits, • the '*' and '#' symbols, • '%' – wildcard for any number of symbols, and • '_' or 'x' – equivalent wildcards for one symbol. If this field is empty in the rule, no filtering by CLI (ANI) is done.
CLD (DNIS)	CLD (DNIS) pattern that can contain the same symbols as in the field above. If this field is empty in the rule, no filtering by CLD (DNIS) is done.
Authorize By	Select one of the authorization methods. Please note that if you want to use any of these authorizations: **PAI**, **RPID**, **PCI (P-Charge-Info)**, **CLI (PAI if no CLI)** or **CLI (RPID if no CLI)**, the **privacy_incoming** option must be enabled on the configuration server web interface. Otherwise, B2BUA ignores the SIP privacy headers (i.e. "p-asserted-identity" (PAI), "remote-party-id" (RPID), "p-charge-info" in this case).

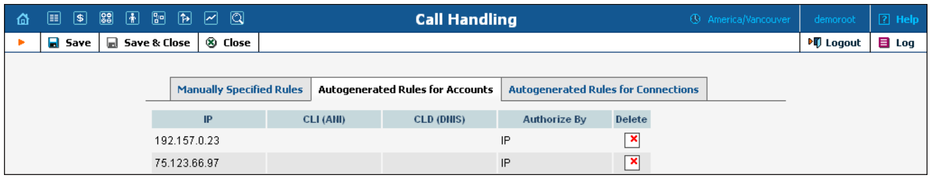
You can manage rules using the following controls:

Control	Description
	Edit this rule.
	Insert a new rule above this one.
	Move this rule one level up.
	Move this rule one level down.

All changes made to this list (e.g. rule added or changed, changed order of priority) are automatically provisioned by the system. This means that updated authentication information is sent to all PortaSIP® nodes in this environment (those which have PortaOne in the **Manufacturer** field and PortaSIP® in the **Type** field). Note that the call handling rules update may take several minutes.

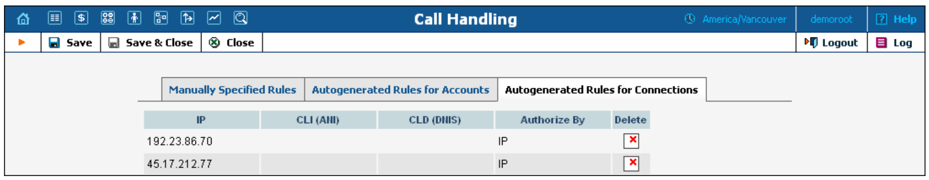
NOTE: Manually added rules have a higher priority than auto-generated rules, in case the IP field for these rules is the same.

Autogenerated Rules for Accounts



On this tab you can view the list of rules that were generated automatically while creating accounts with an IP address in the ID field. When a new account is created, the list of rules is updated accordingly (a new rule is created at the top of the list). You can also delete selected rules using this tab.

Autogenerated Rules for Connections



Using this tab, you can view the list of rules that were generated automatically while creating a connection (VoIP from Vendor type) with the specified remote IP.

NOTE: If a Vendor Authorization has been defined for the connection, a rule will not be generated.

Autogenerated Rules for Nodes

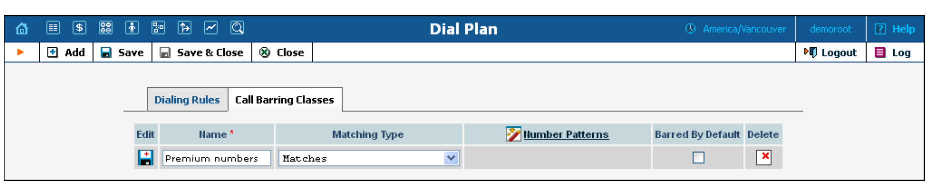
Using this tab, you can view the list of rules that were generated automatically while creating nodes.

By default, IP authentication is applied to all nodes in a given environment. You can still override an autogenerated rule by creating your own one; for example, if you need to do authorization based on CLI / DNIS for calls coming from your PSTN gateway. Since the manually specified rule is ranked higher, it takes precedence.

Dial Plan

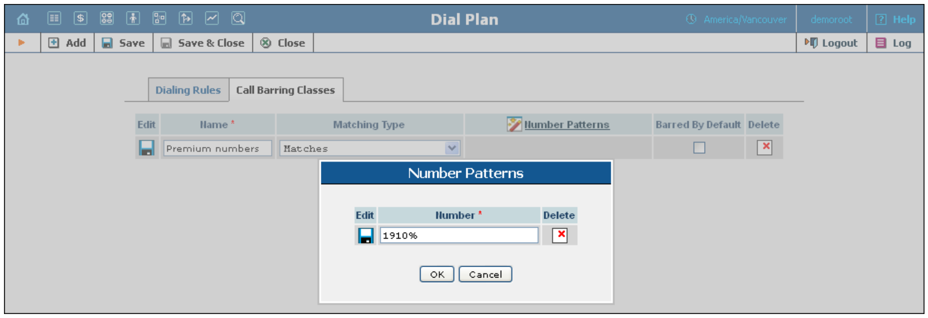
Call Barring Classes

On this tab you can define call barring classes – lists of phone numbers that an end user is not permitted to call.



Field	Description
Edit	• Click **Edit** to edit the call barring class. • Click **Edit** to save the changes after you finish editing the call barring class.
Name	A descriptive name for this phone number class, e.g. "Premium numbers," "Toll-free," or "Mobile."
Matching Type	The mode of selecting numbers for the call barring class. • **Matches** – Select this option to include those numbers that *fit* the patterns defined in **Number Patterns**. • **Does Not Match** – Select this option to include those numbers that *do not fit* the patterns defined in **Number Patterns**. Pay attention that the system denies calls to numbers that the call barring class *contains* (and allows calls to other destinations).
Number Patterns	A list of patterns that defines the phone numbers that are included in the call barring class (or excluded from it if **Matching Type** is set to "Does Not Match"). Click the **Number Patterns** column title to open the **Number Patterns** dialog box where you can specify a list of patterns. For how to specify a number pattern please refer to the **Number Patterns** section.
Barred By Default	Select this check box to activate this call barring class in an account's Call Barring settings by default. When you enable Call Barring for an account, this call barring class becomes automatically activated in the account settings. On the **Call Barring** tab of the **Account Info** page the corresponding check box as selected will appear as selected. **NOTE:** The order of actions is important. If you first enable Call Barring for an account and then configure the class to become barred by default, the class won't be included in the call barring section of the account's settings.
Delete	• Click **Delete** to remove the call barring class. • Click **Delete** to discard changes when editing the call barring class.

Number Patterns



A number pattern is a sequence of digits and wildcard characters that describes all phone numbers of a certain form. The simplest example is the following: if the pattern is 18001234567, then the phone number 18001234567 matches it.

You can use wildcards to create more complicated patterns. When wildcards are used, one pattern can describe many phone numbers. The system accepts the following wildcards:

- **x or _ (underscore)** – Matches any digit in this position.

  For example:
  If the pattern is 420609x23456, then 420609123456 and 420609723456 match it.
  If the pattern is 180012345_7, then 18001234567, 18001234517, 18001234577 match it.

- **%** – Matches zero or more digits.

  For example:
  If the pattern is 420609%, then 4206091, 420609123456 and 420609 match it.

A number pattern should only contain symbols of E.164 format (0–9, a–d, A–D, *, #) and wildcards %, _, x.

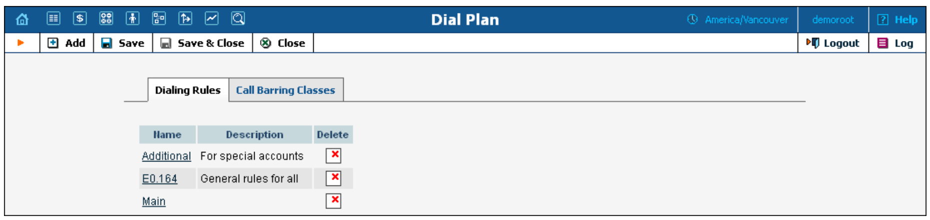
Field	Description
Add	• Click **Add** to add a number pattern.
Edit	• Click **Edit** to edit the call barring class. • Click **Edit** to save the changes after you finish editing the call barring class.
Number	A number pattern that describes phone numbers. You can use wildcards to describe several phone numbers at once or you can type the exact phone number. Please refer to the beginning of the **Number Patterns** section for more information.
Delete	• Click **Delete** to remove the number

	pattern. • Click **Delete** to discard changes when editing the number pattern.

NOTE: When you configure both the call barring and the dialing rules, first the system applies the dialing rule to the destination number, and only then it checks whether the end user is allowed to call to the translated destination number.

Dialing Rules

On this tab you can define the dialing rules.



Field	Description
Name	A descriptive name for this dialing rule, e.g. "North America, BC, 10-digit dialing," or "Europe, Czech Rep., local and domestic dialing."
Description	Short description of the dialing rule.
Delete	Click **Delete** to remove the dialing rule. Note that you can remove the dialing rule only when it has not been assigned to a customer.

Dialing Rules Wizard

This wizard helps you to create dialing rules that take many different parameters into account, such as local and international codes, exceptions, etc. The dialing rules describe the way your customers dial destination numbers so that these numbers are successfully recognized and converted into a unified format for further call processing by PortaBilling®.

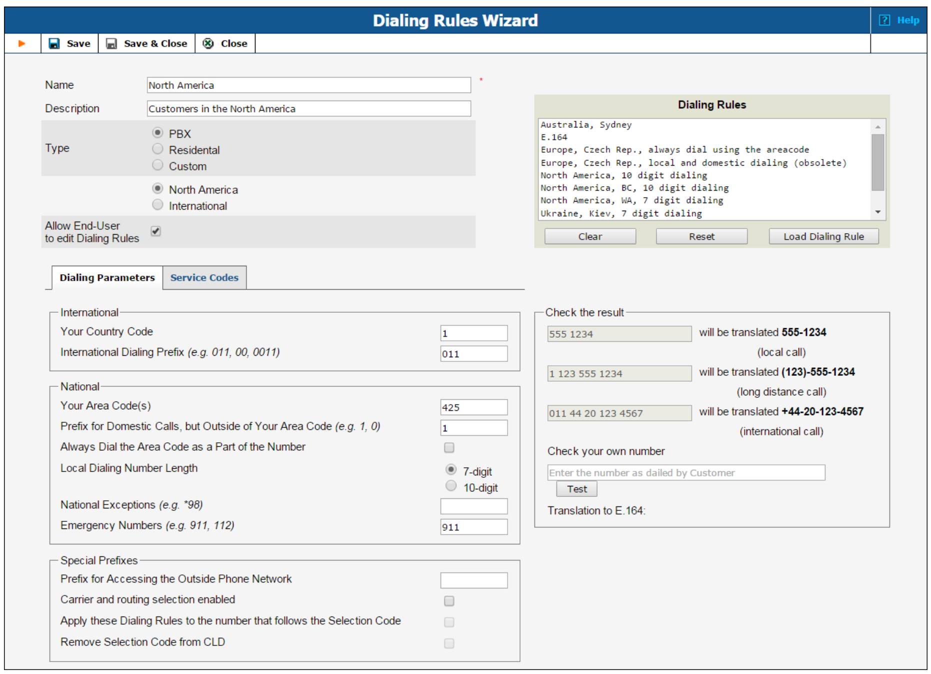
Several sample settings are provided for your convenience. For instance, in order to load sample settings for "traditional" North American dialing, select "North America, WA, 7-digit number dialing" and click **Load Sample**. Click **Clear** to reset all parameters. Click **Reset** to revert to the last saved settings.

The wizard allows you to create different dialing rules depending on which customer they will be further assigned to:

- **Residential** – This is the simplest dialing rule type since it emulates the dialing habits of residential customers. In this dialing rule you define the international and national codes plus the special prefixes that residential customers must dial to access the network and make a call (e.g. when making calls from an IP Centrex environment).

- **PBX** – This is a more extensive dialing rule. It includes the dialing parameters of the residential type plus the service codes (e.g. *70 for call parking) used within the IP Centrex environment.
- **Custom** – This type allows you to define your own dialing rules by using Perl regular expressions.

In the bottom right-hand side of the wizard page you can check whether you have described the numbering format correctly. Make sure that this is the way your customers will dial all three types of numbers (for local, long distance and international calls).

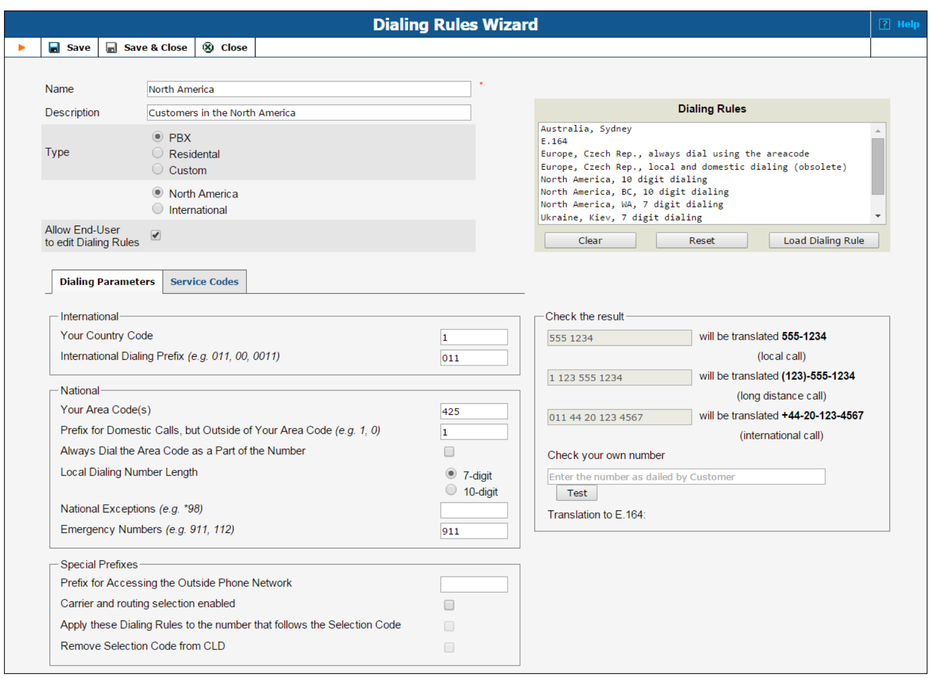


Field	Description
Name	A descriptive name for this dialing rule, e.g. "North America, BC, 10-digit dialing," or "Europe, Czech Rep., local and domestic dialing."
Description	An informative and helpful description of this dialing rule.

Type	Dialing rule creation mode. • **PBX** – Select this option to create a dialing rule for customers that are using PBX features such as Call Parking, Hide / Show CLI, etc. The Dialing Rules Wizard in this case will include the tab where you can specify service codes for these features. • **Residential** – Select this option to create a dialing rule for regular residential customers that aren't using PBX features. • **Custom** – Select this option to create a dialing rule by simply typing a translation instruction as a Perl regular expression. This way you can create more complex dialing rules.
Area subtypes	• **North America** – This type is provided for the administrator's convenience and aids in creating dialing rules applicable to American customers. The Dialing Rules Wizard will include an option for setting customers' local number length (to 7 or 10 digits). • **International** – Select this option when creating a dialing rule for all other customers.
Allow End-User to edit Dialing Rules	Select this check box to enable end users to manage this dialing rule on their self-care interfaces. **NOTE:** When this option is not selected, the system behaves as follows: • Those customers you *have assigned* this dialing rule to cannot replace it with another dialing rule. • Those customers *you have not* assigned this dialing rule to do not see it in the list of available dialing rules on their self-care interface and therefore cannot assign it to themselves.
Dialing Rules	

Sample Settings	The dialing rules' samples. You can use these as templates for your own configuration. To load a sample, click on it, then click the **Load Sample** button.
Load Sample	Click this button to load the selected sample.
Clear	Click this button to clear the dialing rule from all settings.
Reset	Click this button to revert to the last saved settings of the dialing rule.
Check Yourself	Use this section to check whether you have correctly designed the numbering format. For all three examples provided (local, long distance domestic and international calls) make sure that this is the way your customers will dial the numbers.
Check your own number	Type a number you want to translate to the E.164 format. Click the **Test** button to see the translation result.
Translation to E.164:	In this field you can see the result of applying the translation rule to the number you specified in **Check your own number**.

PBX and Residential



Field	Description
International	

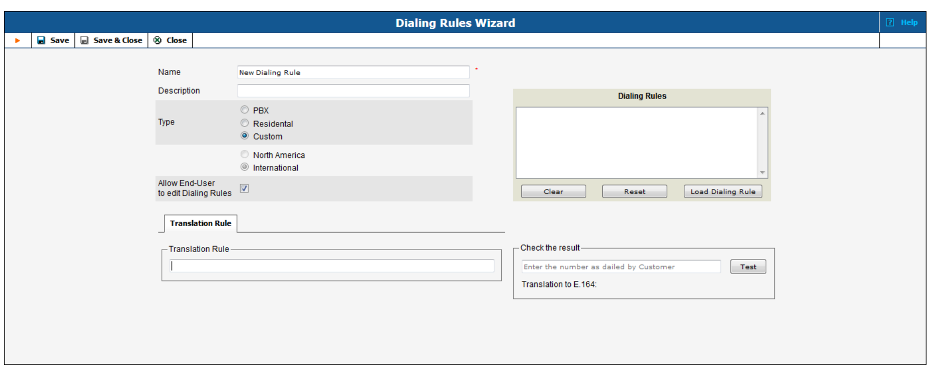
Your Country Code	Type the required country code. This code will be added to the beginning of the destination number if the end user dials without a country code.
International Dialing Prefix (e.g. 011, 00, 0011)	A prefix that end users must dial to make international calls.
National	
Your Area Code(s)	Type one or more of the required area or regional codes. Use a comma to separate the values. If you specify more than one area code, then the first one becomes the default. It will be added to the beginning of the destination number (but after the country code if the latter applies) if the end user dials without an area code.
Prefix for Domestic Calls, but Outside of Your Area Code (e.g. 1, 0)	A prefix that end users must dial to make domestic calls outside of their area.
Always Dial the Area Code as Part of the Number	Select this check box if you want your customers to always dial the area code as part of the phone number. This option is available only when **Prefix for Domestic Calls, but Outside of Your Area Code** is not empty.
Local Dialing Number Length ***(only for North American dialing rules)***	Select how many digits must be dialed to make a local phone call: • **7-digit** • **10-digit** This option is available only when **Always Dial the Area Code as Part of the Number** is not selected.

National Exceptions (e.g. *98, 111%)	Phone numbers to which the translation rules defined in the **National** section of the Dialing Rules Wizard will not be applied. They are marked with the specific country code before the local number (e.g. the exception 089% that is defined for North American dialing rules is translated into 1089%; therefore the number dialed as 0895554125 is changed to 10895554125). Phone numbers that are defined with an asterisk (e.g. *98) are recognized as is and not translated. Use a comma to separate the values.
Emergency Numbers (e.g. 911, 112)	Emergency numbers that are available in your customer's area. Dialing rules won't be applied to these numbers. Use a comma to separate the values. Note that the system can perform an additional validation of emergency numbers that are specified in the dialing rule. For more information please refer to the … *enable additional validation of dialing rule emergency numbers?* subsection of the *How to ..* section of the **PortaSwitch Configuration Server Web Reference Guide**.
Special Prefixes	
Prefix for Accessing the Outside Phone Network (or Tech Prefix)	A prefix that your end users must dial to make calls outside of their phone network (IP Centrex environment, all accounts belonging to one customer). This is an optional feature that can be used to simulate an old-style PBX and detect incorrectly dialed local destination numbers.
Carrier and Routing Selection Enabled	Select this check box to offer your customers an opportunity to choose how a call is routed out from the network. This can be done by choosing a particular carrier (carrier selection) or a quality / price option (routing plan) for each particular call. Please refer to the *Routing Plan Selection* section of the **PortaBilling® Administrator guide** for details.

Apply these Dialing Rules to the number that follows the Selection Code	Select this check box to translate the part of the dialed combination that follows the selection code (for routing plan selection). For example, if you dial 7775552211, for which 777 is a selection code and 5552211 is a destination phone number, then the system treats 5552211 as a local dialing format and applies the dialing rule. When this check box is cleared, the system regards the number as if it is in its final form (applicable for carrier selection). In the latter case the carrier interprets the dialed number. This option is available only when **Routing Plan Selection Enabled** is selected.
Remove Selection Code from CLD	Select this check box to remove the selection code from the dialed number. The routing choice requires that the number have no extra prefixes. Preserve the prefix for carrier selection, since a carrier handles a number with its prefix.

Custom

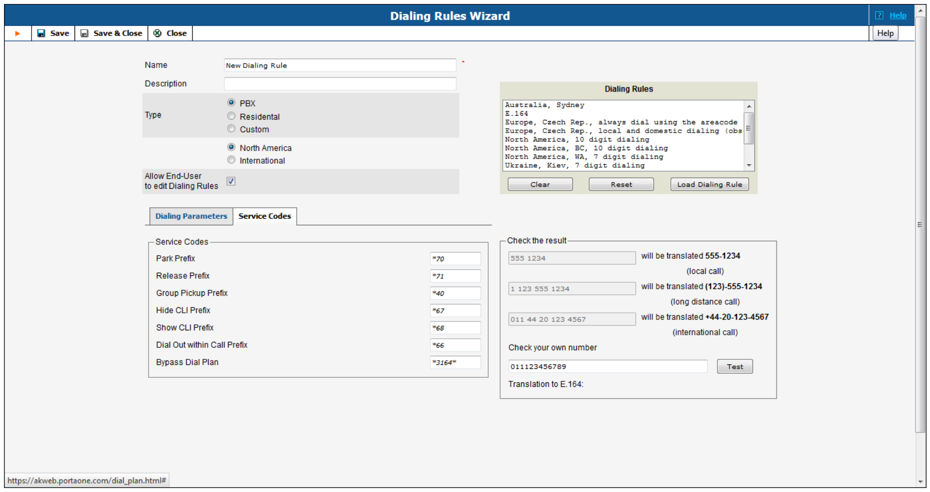
This mode is available only when you select **Custom** in **Type**.



Field	Description
Translation rule	This translation rule is used to add / strip a country code, area code, etc. as prefixes to a dialed number. You can define any other number manipulation necessary to translate a number to a required format, as well. Use Perl regular expressions.

Service Codes

This tab is available only for the **PBX** dialing rule type.



Field	Description
Park Prefix	The end user can dial this access code to park a call. The default value is *70. This access code is available only if call parking is enabled for the customer.
Release Prefix	The end user can dial this access code to retrieve a call from the parked status. The default value is *71. This access code is available only if call parking is enabled for the customer.
Group Pickup Prefix	An end user can dial this access code to answer a call arriving to the other accounts of this customer. The default value is *40. This access code is available only if group call pickup is enabled for the customer.
Hide CLI Prefix	The end user can dial this code before dialing the phone number to prohibit the calling number from being displayed to the called party. The default value is *67. This access code is available only if **Hide CLI** is enabled for the account.

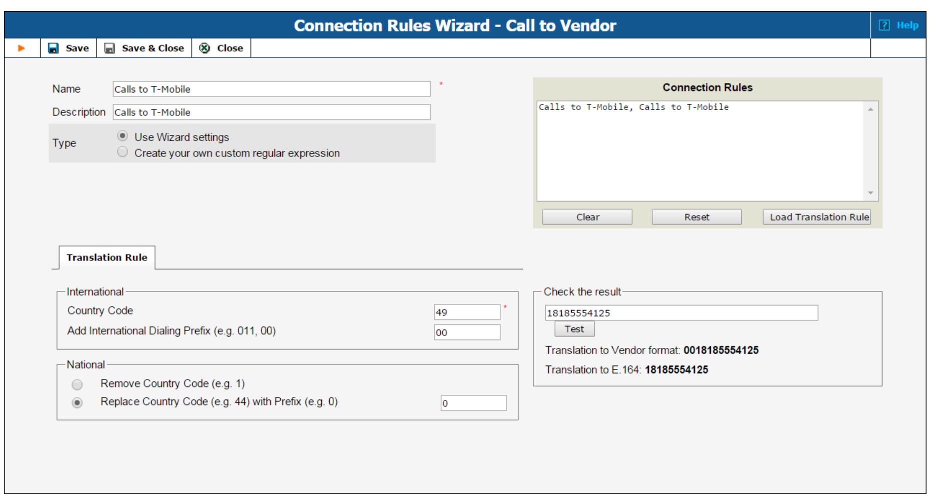
Show CLI Prefix	An end user can dial this access code before dialing the phone number to allow the calling number to be displayed to the called party. The default value is *68. This access code is available only if **Hide CLI** is enabled for the account. To eliminate any chance that a user will dial this code and reveal their identity, save an empty value in this field. This is useful when you have users who have been granted police protection and must be safeguarded from dialing the code accidentally. The Hide CLI feature must be configured to hide CLI by default in this case.
Dial Out within Call Prefix	An end user can dial this access code while on a call to transfer the call to another end user. This feature is available only for forwarded calls. For example, the client calls Peter at his office phone. Peter is not in the office now but the forwarding from his office phone to his mobile is configured. Thus Peter receives the call from a client at his mobile number and wants to transfer it to his colleague Ann at extension 1002. Peter dials *661002#, and when Ann confirms that she is free to take the call, Peter hangs up. Ann then speaks with the client. The default value is *66. This access code is available only if **Forward by DTMF** is enabled for the customer.

Bypass Dial Plan	When an end user dials this access code before dialing a phone number, the system doesn’t translate the phone number according to a defined dialing rule. For example, Peter uses the dialing rule that adds country prefix 1 and area prefix 200 to any number dialed. Peter dials 5552211 and the system translates this number to 12005552211 before processing it further (performing rate lookup, etc.) Since Peter has **Bypass dial plan** code *69 assigned, he can avoid adding the country and area prefixes to the dialed number. For this, he dials *695552211. Then the system omits the “translation step” and processes 5552211 as it is. The default value is *69.

Connection Rules Wizard

The Connection Rules wizard page appears only when the **Create a new translation rule** option is selected from the **Translate CLD** or Translate **CLI** lists on the **Edit Connection** page.

The Wizard page allows you to enter important translation parameters such as add or remove an international dialing prefix for a particular vendor connection. These parameters are then used to convert a number into a vendor-specific format.

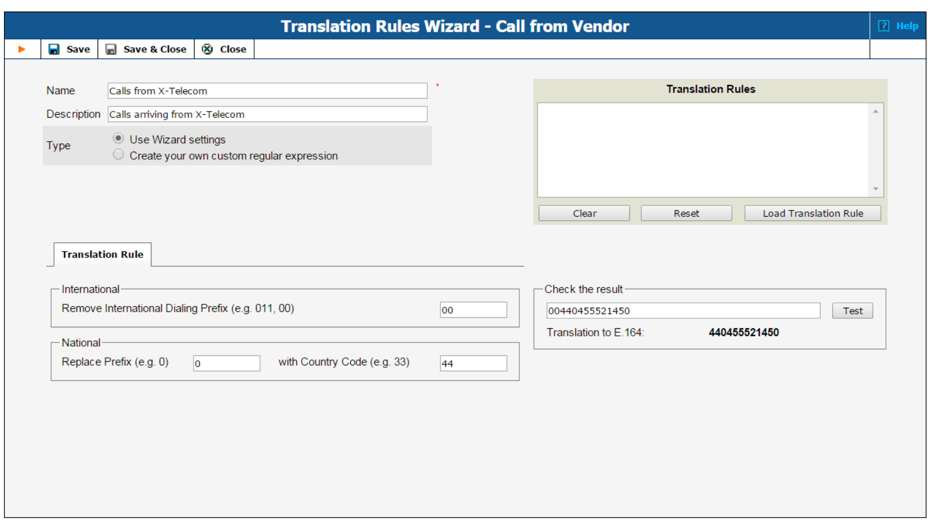


Field	Description
Name	The logical name of the translation rule.
Description	The description of the translation rule.

Type	Select the way the translation rule will be created: • **Use Wizard settings** – create a translation rule with the help of the Wizard; • **Create your own custom regular expression** – Type in your own number translation rules (as Perl regular expressions.)
Connection Rules	This section contains a list of previously created translation rules that can be used as samples.
Check the Result	This section allows you to check translation rule settings. Specify a number and then click the **Test** button to see how this number is translated.

The following fields are available for Calls to Vendor connections:

Field	Description
Add International Dialing Prefix (e.g. 011, 00)	Specify the prefix that will be added to the number to access the international network.
Remove Country Code (e.g. 1)	Select this option to remove the country code from the number if the country code is the same as specified in the **Country Code** field. Thus, if the country code is 1 and the number dialed is 18185552458, it will be translated into 8185552458.
Replace Country Code (e.g. 1) with Prefix (e.g. 0)	Select this option and specify which prefix will be added to the number after the country code is removed from it.

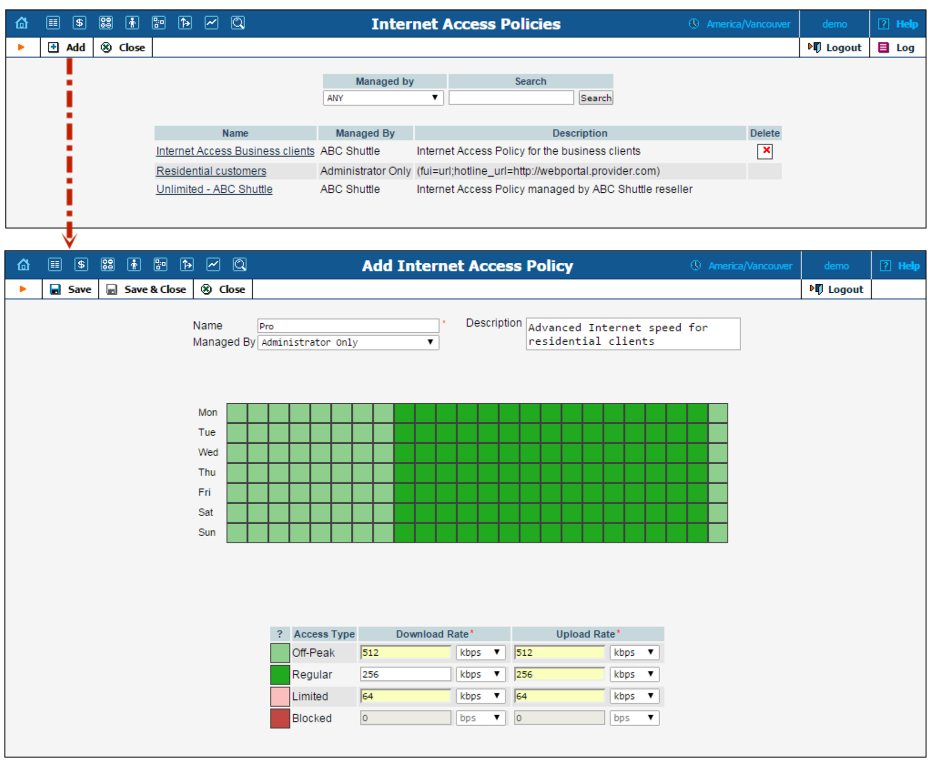


The following fields are available for Calls from Vendor connections:

Field	Description
Remove International Dialing Prefix (e.g. 011, 00)	Specify the dialing prefix that will be removed from the number delivered from the international network.
Replace Prefix (e.g. 0) with Country Code (e.g. 33)	Specify the prefix and the country code. When a number is delivered, the prefix will be removed and a country code will be added for call authorization.

Internet Services

A policy is a collection of rules and parameters which define how an end user is allowed to access the Internet.



There are four available types of Internet access:

- Regular access (default).
- Access during off-peak hours (often referred to as "turbo" access)
- Blocked service (the customer is not able to access the Internet at all).

- Limited access. Typically this is used as an alternative to "blocked" in situations where a customer does not have sufficient funds or failed to pay his last invoice on time. While the customer will not be able to surf the web or download normally, he can still send or receive emails and use the customer self-care portal to submit payment.

Each policy includes:

- A scheduling table, which designates what type of access is used during each time period.
- Specific values for the allowed upload / download speed for each type.

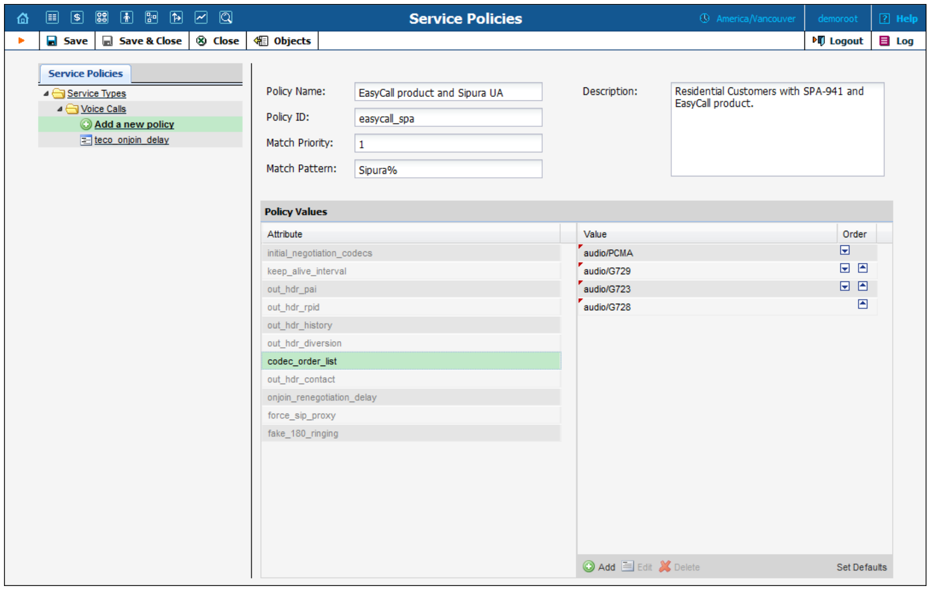
Service Policies

The **Service Policies** feature allows you to fine-tune your services based on your network peculiarities, vendors' opportunities and customers' demands. It facilitates the configuration of static options for multiple accounts (so it is not necessary to configure values for each account separately), thus establishing common policies for groups of accounts. It also allows you to separate the technical configuration of specific options (usually made by technical staff) from account management.

When a new policy is created it does not have any attributes defined (all available attributes are shown in grey). To define an attribute you should specify its value.

Service policies can be statically assigned at various levels: account, connection and authentication (call handling rule). In addition, it is possible to apply service policies depending upon the UA type (dynamically matched policy).

Policies are applied separately to both parties (caller and called) participating in the call.

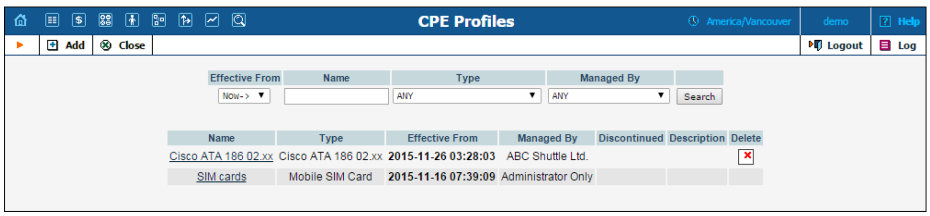


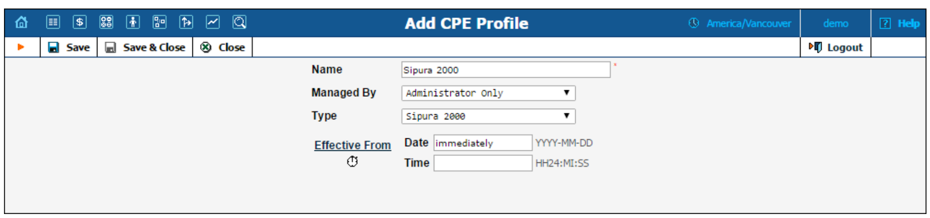
Field	Description
Policy Name	This is the logical name of the service policy object.
Policy ID	This is the internal policy ID.
Match Priority	This is only used for policies that match dynamically. If more than one service policy corresponds with the caller's user agent name then the one with the highest priority will be used.
Match Pattern	If this field is not empty the service policy is considered to be dynamically matched and will be attempted for every new call initiated by internal accounts. This field can contain a full user agent name (e.g. "Linksys/SPA941-5.1.8") or a comma separated list of patterns (e.g. "Cisco%, Sipura%, Grandstream%"). **NOTE:** If the policy is statically assigned to an account, it will always be applied (in spite of the match pattern).
Description	Short text description of the service policy.

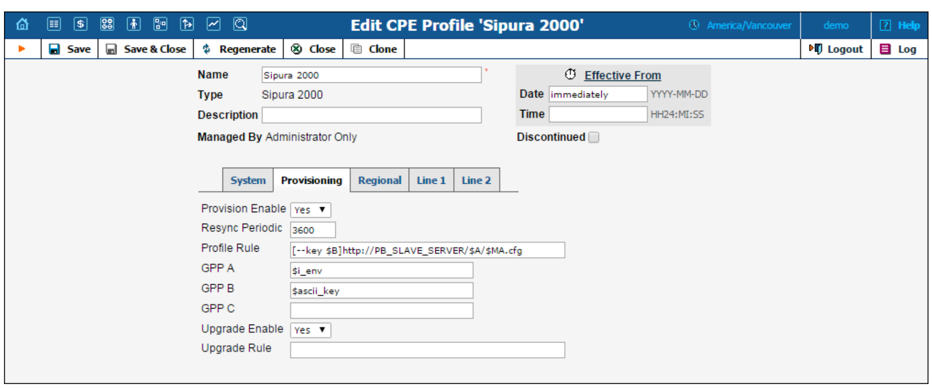
Customer Premises Equipment (CPE) Profiles

Customer Premises Equipment (CPE) profiles and the CPE inventory allow service providers to reconfigure a large number of end-user devices before sending them to customers, as well as those already on a customer's premises. Instead of entering the same values for codec, server address and the like into each of a thousand user agents, you can simply create a profile which will describe all of these parameters. After that, PortaBilling® automatically creates a configuration file for each user agent using account-specific parameters such as ID or password, which it will then fetch (for instance, from a TFTP server) and update.

If you decide later to change the address of the SIP server, you need only update it once in the profile in order for new configuration files to be built for each user agent. The user agents will then fetch them next time they go online. The config file is specific to each user agent since it contains information such as username and password, and so the user agent must fetch his own designated config file.







Profile list mode:

Column	Description
Name	Logical name of the profile.
Type	Telephone adaptor or SIP phone.
Effective From	Date and time when the profile becomes effective.
Managed By	• **Administrator only** (default) means that this

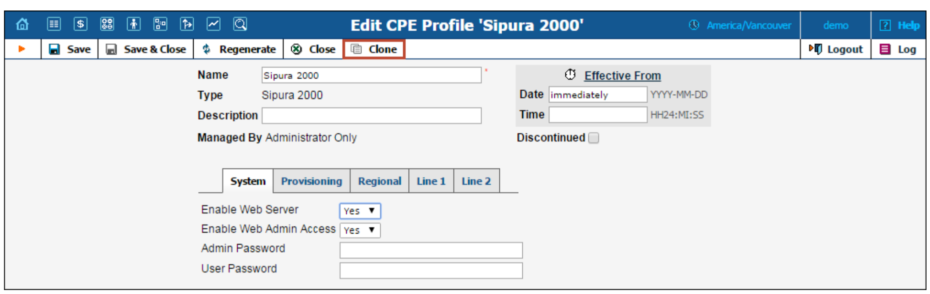
	profile will be used for your direct customers and is accessible only to your administrators. • Select a PortaBilling® reseller to assign this profile for use by a particular reseller.
Discontinued	Indicates that the current profile is no longer in use.
Description	Short text description of the profile.
Delete	The **Delete** icon is only visible when the current profile's effective date has not arrived yet.

Add Profile mode:

Column	Description
Effective From	Set the time when the profile is to become effective. Click the **Stopwatch** icon for the profile to become effective immediately.

In Edit mode, the **Edit CPE Profile** page will differ depending on the UA.

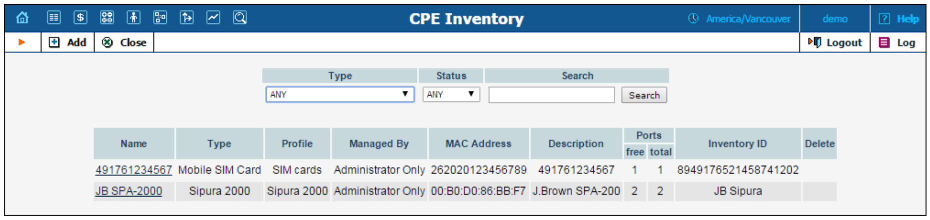
You can also create a new CPE profile as a clone of an existing one. For this, open the CPE profile you want to clone and click the **Clone** button. The cloned profile inherits all of the parameters from the original profile and can then be customized as desired.

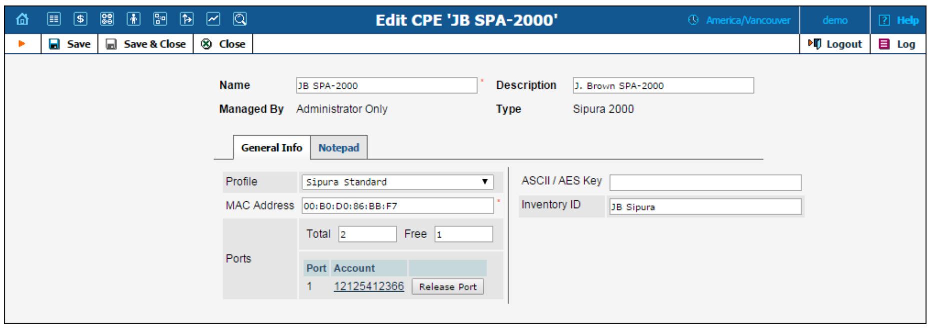


Customer Premises Equipment (CPE) Inventory

The CPE inventory allows you to keep track of end-user devices (SIP phones, SIP ATAs, etc.) which are distributed to your customers. You will assign a profile that defines general configuration settings for each device (preferred codecs, address of the SIP server, etc). You can then assign a specific account (representing a phone number) to a specific port (phone line) on an CPE. PortaBilling® will create a config file for auto-provisioning all of your devices, thus allowing you to easily and remotely manage thousands of user devices.

To release an CPE port from the account it is assigned to, click the **Release Port** button.





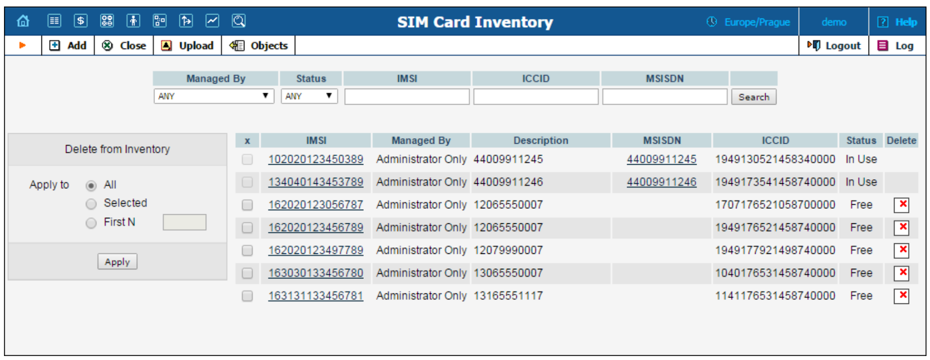
Field	Description
Name	CPE name.
Description	Short description.
Managed by	• **Administrator only** (default) means that this CPE will be used for your direct customers and is accessible only to your administrators. • Select a PortaBilling® reseller to assign this CPE for use by a particular reseller.
Type	Select one of the available device types (e.g. Cisco ATA, Sipura, etc.).
Profile	Select one of the defined CPE profiles.
MAC Address	MAC Address of the CPE.
Ports	This section provides information about the number of IP device ports (phone lines) and accounts they are assigned to: • **Total** – The total number of CPE ports. • **Free** – The number of free (not assigned to an account) ports of an CPE. • **Account** – Shows the account the CPE port is currently assigned to. • **Release Port** – Click to release the CPE port from the account it is currently assigned to.
Ports	Number of the CPE ports (phone lines).
ASCII Key	The key which is used to encrypt the configuration information.

Inventory ID	An ID which allows you to identify this device in the external system (e.g. your warehouse management application).

SIM Card Inventory

This flexible tool enables the MVNOs and LTE service providers to bulk upload SIM cards via the administrator web interface and therefore, easily manage them.

The SIM card inventory is used for adding, viewing, removing and assigning SIM cards to accounts. Its convenient search function makes it possible to quickly find the desired record by simply inputting a key word.



Column	Description
IMSI	This is the unique International Mobile Subscriber Identity of the card.
Managed By	This shows who can perform actions with the given SIM card.
Description	A short description of a given SIM card.
MSISDN	The mobile number of a given SIM card. This is actually the account ID of the linked account.
ICCID	The SIM card's unique serial number which can be found on the back of the card.
Status	This column displays the status of the SIM card. • **In Use** – Shows that the SIM card is being used by an account. • **Free** – Shows that the SIM card is available.
Delete	Click the ☒ **Delete** icon to remove a SIM card from the inventory. Note that only SIM cards having the status *Free* can be deleted.

There is the **Delete from Inventory** section at the left hand side of the page.

Field	Description
Apply to	• **All** – Select this option to remove all filtered SIM cards from the inventory. • **Selected** – Select this option to remove SIM cards that have their check boxes selected. • **First N …** – Select this option and specify the number of SIM cards desired to be removed from the inventory. The system will delete the SIM cards from the list, beginning from the top and going down. Note that only SIM cards having the status *Free* can be deleted.

Search

Filter SIM cards by *Managed by* or *Status* list options.
When you enter a value in a search field – IMSI, ICCID or MSISDN – a SIM card with a search string in its IMSI, ICCID or MSISDN field, respectively, will be displayed.

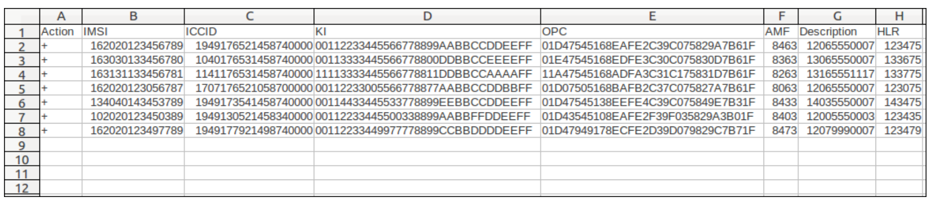
Importing Numbers to the SIM Card Inventory

You can upload SIM cards from a .csv file. The structure of the .csv file must be as shown in the following table:

Field	Mandatory	Format	Description
Action	Yes	Text. There are four possible defined values: • + • add • - • remove	This defines the action applied to the given SIM card: "**+**" or **add** for adding a SIM card to the inventory; "**-**" or **remove** for removing a SIM card from the inventory.
IMSI	Yes	Maximum 15 numerical characters	The unique international mobile subscriber identity of the card.
ICCID		Maximum 19 numerical characters	A SIM card's unique serial number that can be found on the back of the SIM card.
KI		32 hexadecimal	Authentication key used

		characters	during card authentication on the mobile network and for communication encryption between a SIM card and a mobile network.
OPC		32 hexadecimal characters	The operator key associated with and stored on this SIM card.
AMF		4 hexadecimal characters	The authentication code added to the SIM authentication request.
Description		Maximum 255 text characters	Short description about a given SIM card.
HLR		Maximum 255 text characters	Home location register name.

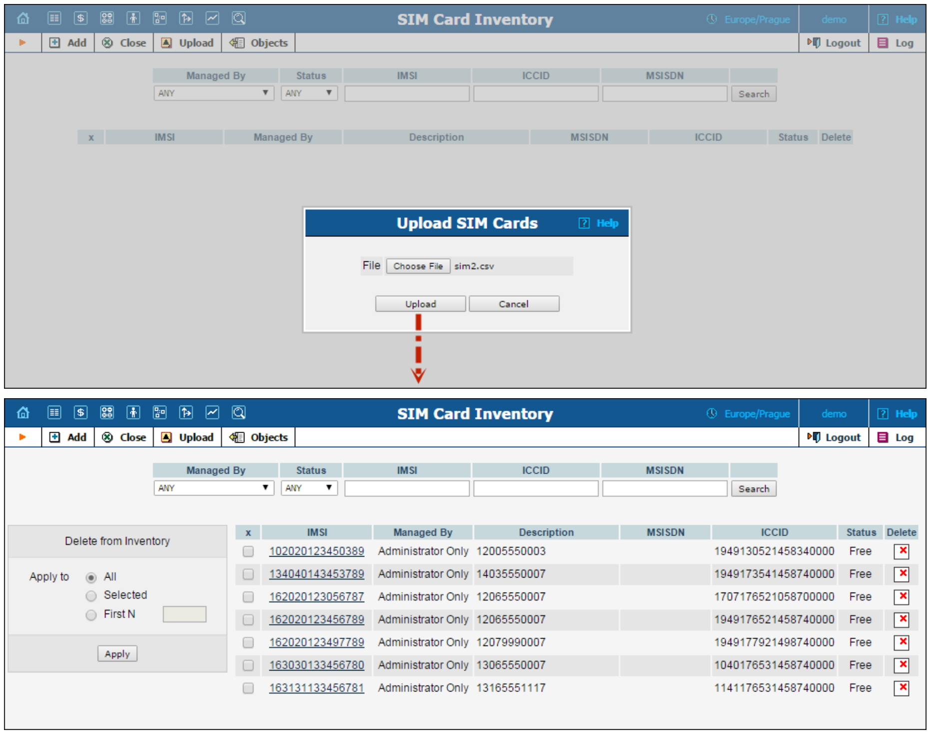
NOTE: The first row in the file is skipped since it usually contains column titles only, not actual data.



	A	B	C	D	E	F	G	H
1	Action	IMSI	ICCID	KI	OPC	AMF	Description	HLR
2	+	162020123456789	1949176521458740000	00112233445566778899AABBCCDDEEFF	01D47545168EAFE2C39C075829A7B61F	8463	12065550007	123475
3	+	163030133456780	1040176531458740000	00113333445566778800DDBBCCEEEEFF	01E47545168EDFE3C30C075830D7B61F	8363	13065550007	133675
4	+	163131133456781	1141176531458740000	11113333445566778811DDBBCCAAAAFF	11A47545168ADFA3C31C175831D7B61F	8263	13165551117	133775
5	+	162020123056787	1707176521058700000	00112233005566778877AABBCCDDBBFF	01D07505168BAFB2C37C075827A7B61F	8063	12065550007	123075
6	+	134040143453789	1949173541458740000	00114433445533778899EEBBCCDDEEFF	01D47545138EEFE4C39C075849E7B31F	8433	14035550007	143475
7	+	102020123450389	1949130521458340000	00112233445500338899AABBFFDDEEFF	01D43545108EAFE2F39F035829A3B01F	8403	12005550003	123435
8	+	162020123497789	1949177921498740000	00112233449977778899CCBBDDDDEEFF	01D47949178ECFE2D39D079829C7B71F	8473	12079990007	123479
9								
10								
11								
12								

How to upload SIM card data from a .csv file

To upload SIM card data from a .csv file, click the **Upload** icon on the toolbar. In the **SIM Card Inventory Upload** dialog box, specify a file location (use the **Browse** button to select a file in the explorer dialog box), and then click **Upload**. Upon upload, the status of these SIM cards becomes **Free**.

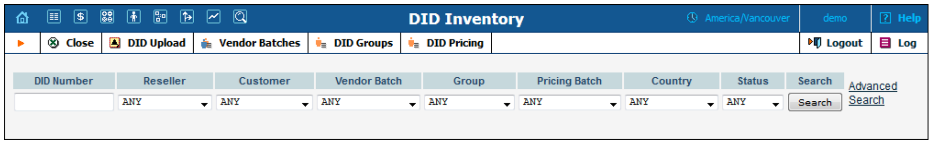


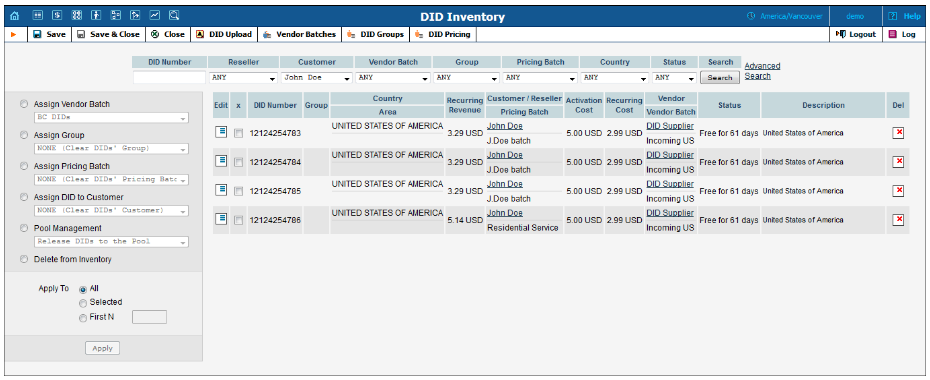
DID Inventory

DID inventory allows you to keep track of phone numbers (DIDs) that you purchase from various telco partners for distribution to your customers or resellers. In order to see the DID numbers currently available in the database, choose **DID Inventory** in the **Management** section of the admin interface, specify the search filters, and click **Search**. The **Search** bar allows you to define the following criteria for DID numbers:

- DIDs that match a specific phone number pattern, e.g. enter `1800%` to find all 1-800 numbers
- DIDs that are provisioned to a particular reseller
- DIDs that are provisioned to a particular customer
- DIDs that belong to a particular DID group
- DIDs that belong to a particular pricing batch(to search for unallocated DIDs, choose **NONE (Unassigned DIDs**)
- DIDs that belong to a specific vendor batch
- DIDs that have a specific status:
    - **Frozen** – DID numbers kept for later use;
    - **In Use** – there is an account using this DID;
    - **Free** – this DID number is not being used by any account.

Hint: Often a business will request a phone number that can be "spelled out" so customers can remember it easily (for instance 1-866-SIP-VOIP). You can search for such easy-to-remember phone numbers by entering the letter string in the **DID Number** field. For example, in order to search for all 1-800 numbers containing VOIP in them, enter `1800%VOIP`.





Column	Description
Edit	Click the **Edit** icon to edit the description of a particular DID number.
DID Number	Phone number.
Group	Name of the group this DID number belongs to.
Country / Area	The country and area that this number belongs to. It is either auto-populated upon a DID upload or auto-filled when a DID number is provisioned on-demand from DIDWW or DIDX.
Recurring Revenue	A monthly amount charged to a customer for using this DID.
Customer / Reseller	The name of the customer or the reseller currently using this DID.
Pricing Batch	Name of the pricing batch this DID is assigned to (if empty, the DID is unallocated).
Activation Cost	A one-time cost paid to a vendor for the DID number activation.
Recurring Cost	A monthly amount charged by a vendor for the provisioned DID number.
Vendor	The name of the vendor providing this DID.
Vendor Batch	Name of the vendor batch this DID belongs to.
Status	In this column you can see the DID status. • **Frozen** – When uploaded to DID inventory DID numbers are frozen by default. To unfreeze a DID number, assign it to a pricing

	batch or release it to the DID pool. • **In Use** – Shows whether the DID is being used by an account. • **Free** – Shows whether the DID is available. For DIDs previously used but again available, the date when they became available is displayed.

Advanced Search

The **Advanced Search** link next to the **Search** button allows you to specify complex search conditions.

The **Advanced Search** mode allows you to search for DID numbers by one or more search conditions. Use this method to search DID numbers by:

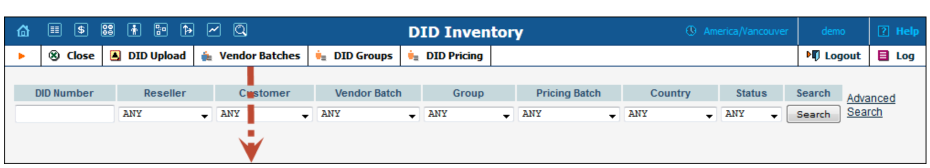
- **Area** –The area a DID number belongs to.
- **DID Number Description** – The comments about a particular DID number.
- **Vendor Batch Description** – The comments about a particular vendor batch.

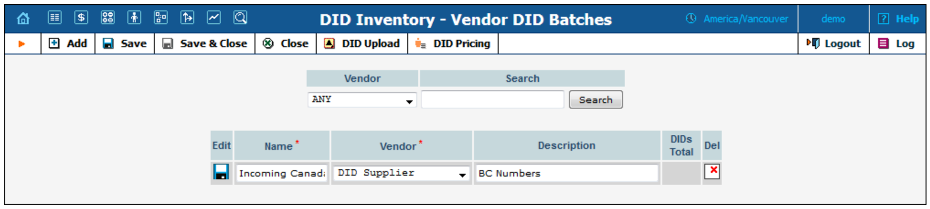
To enter the advanced search mode, click the **Advanced Search** link and specify the search condition. To add another condition, click the **Add a New Search Condition** icon.

The search conditions for DID numbers are the same as those for customer search. Please refer to the **Advanced Search** section for details.

Vendor Batches

When you receive a set of phone numbers from a vendor, they will be registered in PortaBilling® as a vendor DID batch. Vendor batches allow you to keep track of which phone numbers were purchased from which vendors. (Every number uploaded into the DID inventory must reside in a certain vendor batch). That is why after you've received the DID numbers from your vendor the first thing you should do is create a DID batch for vendor. The vendor batch also contains various administration parameters, e.g. a description of which country and city these numbers are from.





To add a new vendor batch, click **Vendor Batches**, and then click **Add**. When you are done entering data, click the **Save** icon to save this row. Now you can upload the DID numbers file to the system.

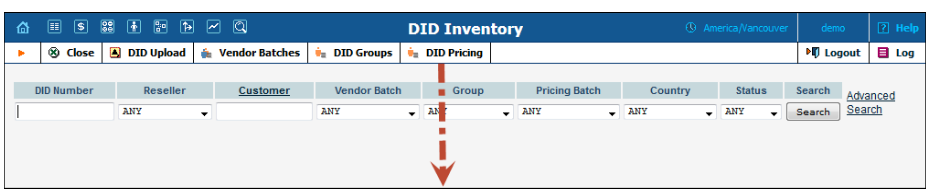
Pricing Batches

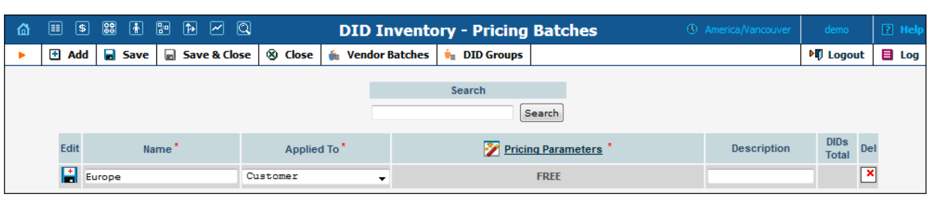
After the DIDs have been entered into the system (you've already created a DID batch for a vendor and uploaded them), you can create pricing batches and allocate some of the numbers to them. A pricing batch contains numbers to be provided to an end user by a particular reseller or your administrators.

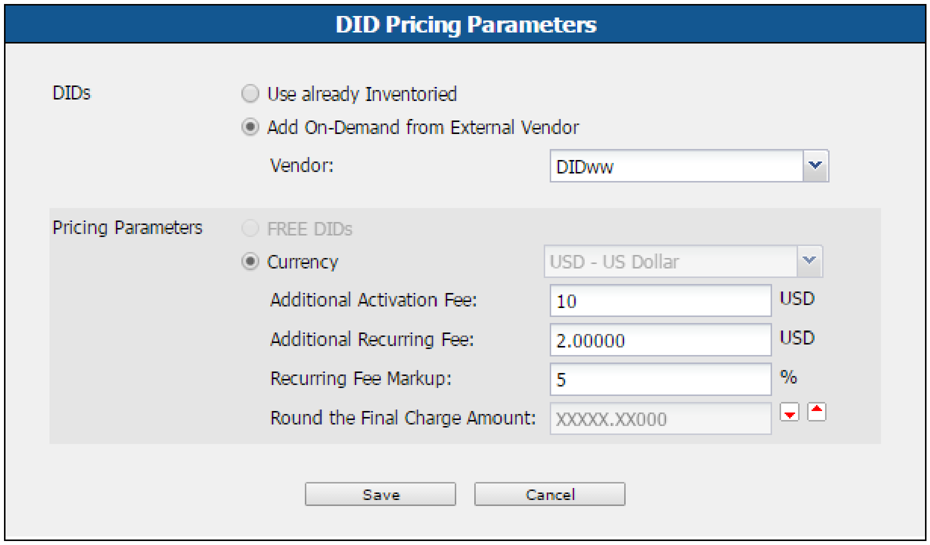
When creating an owner DID batch you are notified about two types of batches:

- A *free* batch used for grouping DIDs or for online web signup. DID numbers stored in free batches are also free. When a DID number is assigned to a customer or a reseller from this batch, no charges apply.
- A batch with the *DID markup* that contains additional charges to be applied to your customers for DID usage. A customer will be charged for every provisioned DID according to the pricing parameters defined within the pricing batch this DID belongs to.

NOTE: When provisioning DID numbers to *resellers*, make sure resellers have pricing batches with the DID markup assigned to them. Resellers are charged according to pricing parameters defined within their pricing batches.







Pricing batches reflect a DID markup specific for either an administrator or a reseller. An administrator does not see any pricing batches created by resellers because those contain resellers' markups.

To add a new pricing batch, first select **Pricing Batches** on the toolbar, then click **Add** on the toolbar.

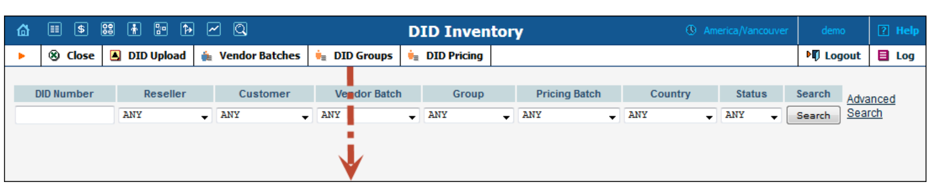
Column	Description
Name	A unique name for a batch.
Applied To	Designates whether this batch will be used to charge either your customers or the resellers.
Pricing Parameters	• **DIDs** – Specify availability of the DID numbers that will be assigned to this batch: ○ **Use already Inventoried** – Select this for the batch if they contain DID numbers previously uploaded to the DID inventory. ○ **Add On-Demand from External Vendor** – Select this for the batch if the DID numbers will be provided from an external vendor. ○ **Vendor** – Select the vendor providing DID numbers for this batch. • **Pricing Parameters** – Define the DID markup using the following parameters: ○ **Free DIDs** – The pricing batch will

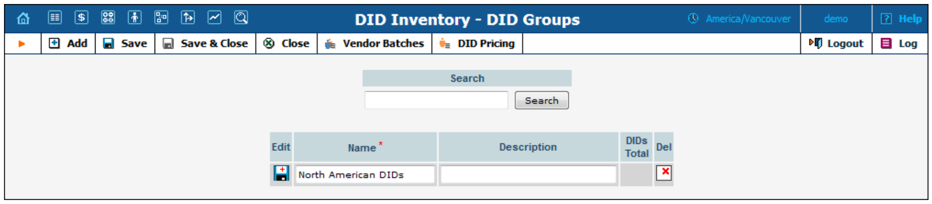
	not contain pricing parameters and will serve internal purposes (e.g. for grouping DID numbers). **NOTE:** This option is only available if the pricing batch is applied to the customer. ○ **Currency** – Select the currency used to charge for DID usage. ○ **Additional Activation Fee** – Specify a configurable fixed amount that is charged upon allocation of a new number in addition to a DID provider's activation fee. ○ **Additional Recurring Fee** – Specify a configurable fixed amount that is always included in the recurring (monthly) charge. ○ **Recurring Fee Markup** – Specify a markup that will be included in the recurring amount charged to the customer in addition to the actual DID cost (charged by a DID vendor). ○ **Round the Final Charge Amount** – Specify the rounding pattern in order to obtain "marketable" figures. This will specify the last "pre-set" digits in the figure.
Description	Optional comments about this batch.

When you are done entering the data, click the **Save** icon.

DID Groups

To easily manage a large number of DIDs, you may use **DID Groups** – a tool that allows arranging DID numbers into categories (for example, by geographic location).





To add a new DID Group, click **DID Groups**, and then click **Add** on the toolbar. Type a DID group name and a description for the group (optional). Click the **Save** icon.

Note that separating DID numbers into groups is an optional step which is solely intended to make DID number management more flexible and convenient.

Managing DID Numbers in the DID Inventory

You can upload DID numbers from a .csv file. The structure of the .csv file should be as shown in the following table:

Field	Mandatory	Format	Description
DID Number	Yes	Number or text	Phone number.
Vendor Batch	Yes	Text	Name of the vendor batch this DID belongs to. **NOTE:** The vendor batch must only be associated with vendors that have on-demand DID provisioning disabled.
Description		Text	Description of a particular DID number.
Activation Cost		Number	A one-time cost paid to a vendor for the DID number activation.
Recurring Cost		Number	A monthly amount charged by a vendor for the provisioned DID number.
Release Date		YYYY-MM-DD HH:MM:SS Must be earlier than the upload date and time	The date that this number was released from the customer it was previously assigned to
FREE		Y/N	When a DID number is assigned to a customer or a reseller from this batch, no

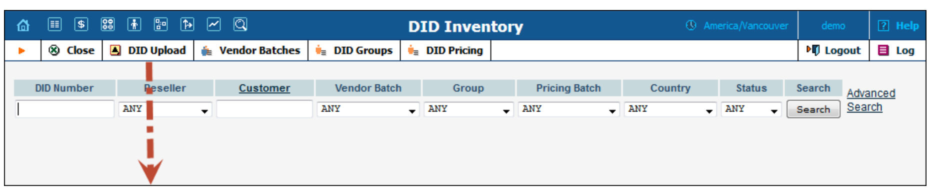
			charges apply
Country		Two-letter country code (ISO 3166-1 alpha-2); "--" for "Not Applicable"	The country that this number belongs to.
Area		Text	The area that this number belongs to.

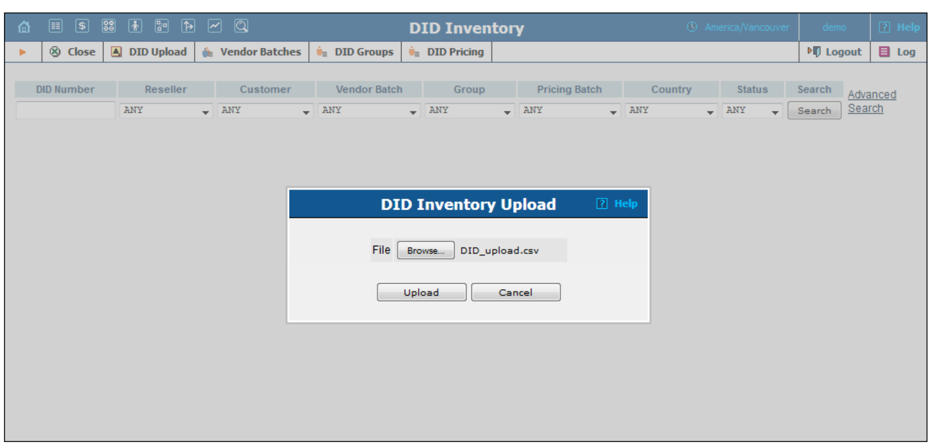
NOTE: The field order is important! The first row in the file is skipped, since it usually contains column titles and not actual data.

	A	B	C	D	E	F	G	H	I	J
1	DID Number	Vendor Batch	Description	Activation Cost	Recurring Cost	Release Date	FREE	Country	Area	
2	18005551150	X-Tel Premium	Toll Free	10	5	2015-12-01 00:00:00	N	US	New York	
3	18005551151	X-Tel Premium	Toll Free	10	5			US	New York	
4	18005551152	X-Tel Premium	Toll Free	10	5			US	New York	
5	18005551153	X-Tel Premium	Toll Free	7	5		Y	--		
6	18005551154	X-Tel Premium	Toll Free	7	5		Y	--		
7	18005551155	X-Tel Premium	Toll Free	7	5		Y			
8										

How to upload a DID file

To upload a DID file, click the **DID Upload** icon on the toolbar. In the **DID Inventory Upload** dialog box, specify the file location (you can use the **Browse** button to select a file in the explorer dialog box), and then click **Upload**.





Upon upload, the status of DIDs is **Frozen**. When they are frozen, they are stored in the DID inventory and are therefore unavailable for usage.

To use DID numbers, perform one of the actions described in the sections below.

How to update vendor costs for DID numbers

When your DID supplier changes their pricing strategy, you can easily adjust the vendor costs associated with DID numbers in the DID inventory. Update the fees for the respective DIDs in the .csv file, click the **DID Upload** button on the toolbar and select the **Modify data of existing DIDs** option in the DID Inventory upload dialog window. Upon upload, the updated DID costs override the previous costs for all DID numbers regardless of their status (Free, In Use, etc.) and the pricing batches they are assigned to. DID fees (calculated as the sum of vendor costs and DID markup) are also modified automatically. Therefore, customers who use the DID numbers are automatically charged these updated fees.

NOTE: DID activation fees are not recalculated.

How to download DID numbers

To analyze the DID inventory and / or modify the parameters for existing DIDs, you can now download them from the DID inventory. To start the download, click the **DID Download** button on the toolbar on the **DID Inventory** page.

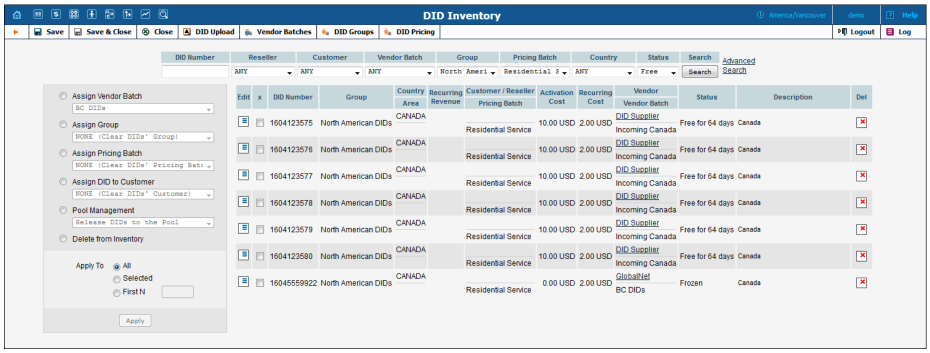
Use the downloaded file to update the DID activation and periodic costs and then upload it back to the DID inventory or use it as a tool for analysis.

Managing DID Number Assignment

On the main page of the DID inventory you can view DID numbers that match certain criteria (e.g. all numbers in a specific vendor batch). You can then perform number assignment for some of these numbers. This includes:

- Reassigning a vendor batch for some numbers (this may be required if you decide to change the way you organize your vendor batches, or if some DID numbers are now provided by a different vendor)
- Assigning numbers to a pricing batch, or returning them to the pool of available DIDs
- Adding DID numbers to a particular DID group
- Assigning DID numbers to a particular customer
- Releasing DID numbers to the pool of available DIDs
- Deleting DIDs from the DID inventory

These operations may be applied to all numbers matching the original search, only to the first N DIDs among them, or only to those you manually select.



Hint: If you would like to assign the first N unassigned numbers from a vendor batch to a pricing batch, specify the vendor batch and `NONE (Unassigned DIDs)` in the **Pricing Batch** list, and click **Search**. Then select an assign operation and the **First N** numbers option in the **Apply To** section. Specify the quantity of numbers that will be assigned.

If you just select DIDs from a vendor batch and then assign a quantity of DID numbers to a pricing batch, you might inadvertently reassign numbers that are already in another pricing batch. To avoid such a situation, use the **Selected** option; this will allow you to apply changes to specific numbers within the vendor batch.

Click **Apply** to submit the changes.

If you still wish to reassign DID numbers from their current pricing batches to other pricing batches, please refer to the section below.

DID Number Reassignment to Pricing Batches

Using DID Inventory you can effectively manage DID numbers that you provide to your customers by assigning them to pricing batches.

Depending on a DID number status (i.e. in use or free) two options for number reassignment are possible:

- Free (not in use) DID numbers can be reassigned to different types of pricing batches. For example, if you defined a 5% markup for a pool of DID numbers (12045550000 – 12045550010) and now wish to provide numbers 12045550000 – 12045550005 free of charge, simply assign these numbers to the free pricing batch.

- DID numbers that are assigned to customers can be reassigned to pricing batches of the same type (i.e. to free pricing batches or pricing batches with DID markup). For example, if you assigned DID 12045550009 to John Doe from the pricing batch that has a $2 additional activation fee and a $5 additional monthly recurring fee and now you wish to introduce another pricing scheme to charge him $3 monthly for DID usage, simply assign the number to the new pricing batch with the corresponding additional recurring markup.

DID Pool Management

The DID pool is the tool that allows you to control the DID numbers that will be provisioned by your resellers. It contains the numbers that are:

- not frozen,
- not assigned to pricing batches, and
- not used as an account ID, account alias, or an access number.

To allow resellers to use DID numbers, release them to the pool of available DIDs.

Resellers can browse the DID pool and allocate DID numbers only if they have pricing batches with the DID markup assigned to them.

If you need to prevent a particular DID number from being used by your resellers, withdraw it from the DID pool. Once withdrawn, a DID number acquires the Frozen status.

DID number release to the DID pool

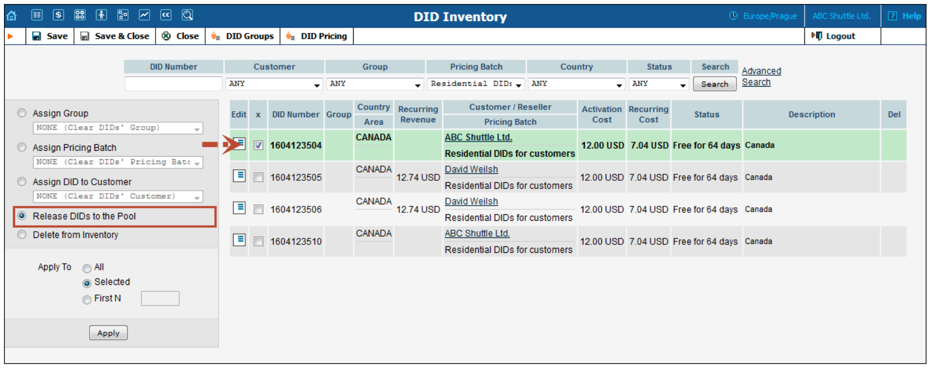
Any DID number can be released to the DID pool with the **Release DIDs to the Pool** option.

Once back in the DID pool, DID numbers are unassigned from customers and pricing batches; therefore no charges are incurred for the customer and / or (sub)reseller and these released DID numbers are visible again to all resellers and available for provisioning.

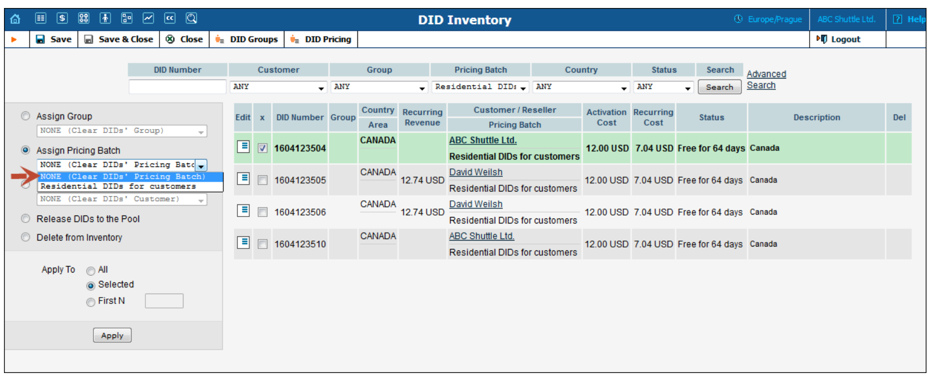
If a DID number has been previously used as an account, account alias or access number, the corresponding account, account alias or access number is not removed, so a user can continue using their accounts.

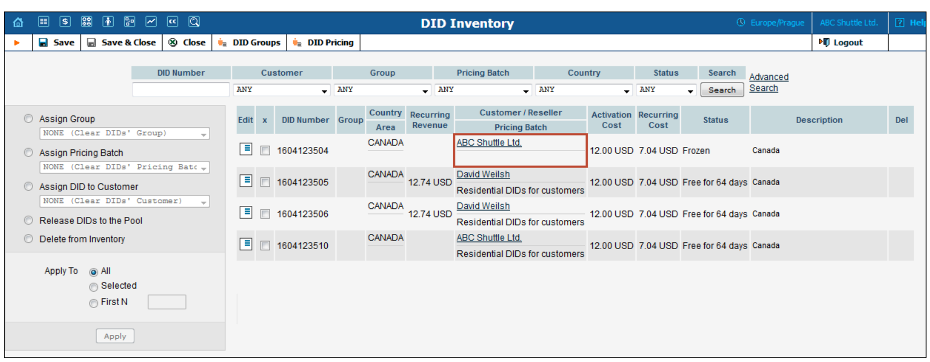
In order to provision released DID numbers to another customer's accounts, account aliases or as other access numbers, the former accounts must be renamed.

Resellers can release any DID numbers that are managed by them. To release a DID number to the DID pool, the reseller must use the **Release DIDs to the Pool** option.



Please note that if a reseller un-assigns a DID number from a pricing batch, this number is not released back to the DID pool. The reseller still owns this number and still bears the charges for its usage.

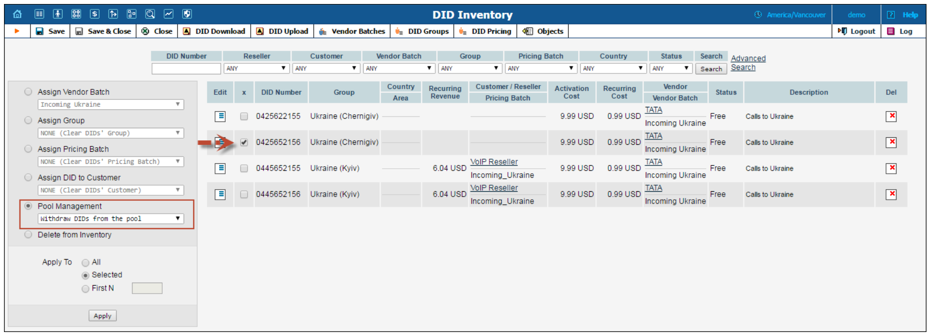




DID Number Withdrawal from the Pool

An administrator can withdraw a DID number from the pool unless a reseller has assigned a pricing batch to this DID number on the reseller self-care interface.

To withdraw a DID number from the pool, use the **Withdraw DIDs from the pool** option.



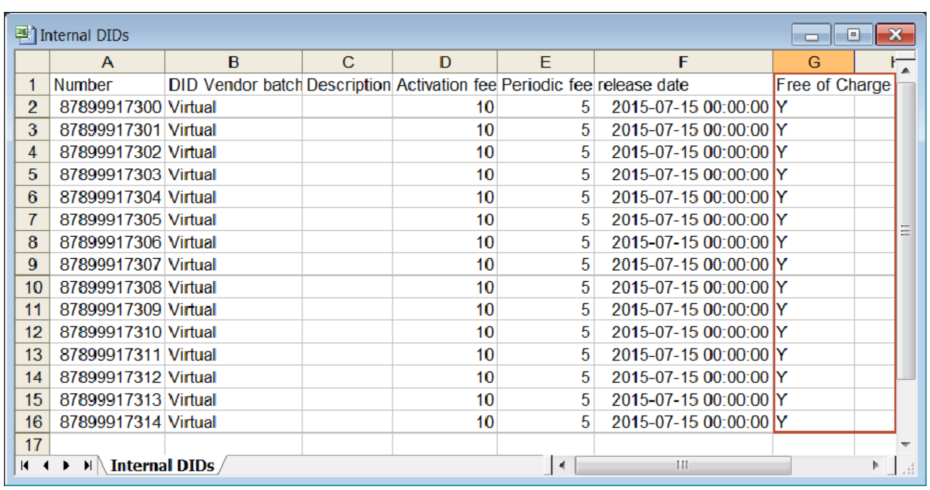
Completely Free of Charge DID Numbers

Using the DID inventory tool you can provide virtual DID numbers for internal use to customers (e.g. for SIP calls among accounts within your network). Since these DIDs are virtual, they are, as a rule, provisioned free of charge and incur no charges.

To simplify the management of virtual DIDs they are uploaded to the DID inventory as completely free of charge. These DID numbers have no costs or charges associated with them and are therefore free of charge for every entity they are provisioned to.

To upload DID numbers as completely free of charge, do the following:

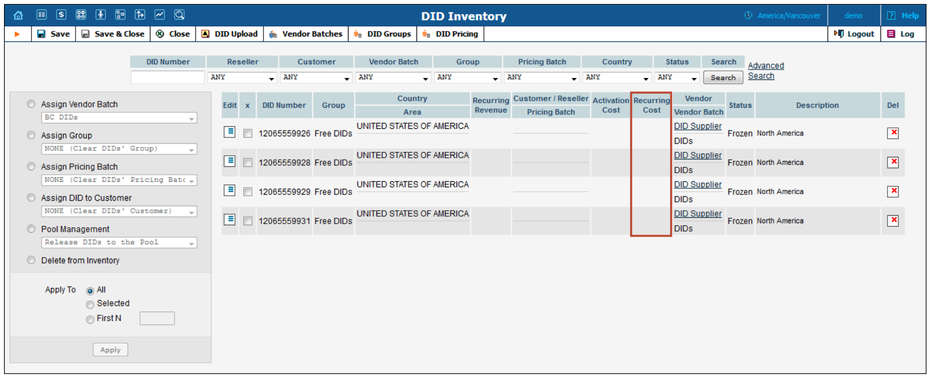
1. Add the additional **Free of Charge** column to the .csv file with the list of DID numbers and type **Y** next to the required DIDs. If any activation and recurring fees are defined for DID numbers, they will be ignored during the DID upload.



Number	DID Vendor batch	Description	Activation fee	Periodic fee	release date	Free of Charge
87899917300	Virtual		10	5	2015-07-15 00:00:00	Y
87899917301	Virtual		10	5	2015-07-15 00:00:00	Y
87899917302	Virtual		10	5	2015-07-15 00:00:00	Y
87899917303	Virtual		10	5	2015-07-15 00:00:00	Y
87899917304	Virtual		10	5	2015-07-15 00:00:00	Y
87899917305	Virtual		10	5	2015-07-15 00:00:00	Y
87899917306	Virtual		10	5	2015-07-15 00:00:00	Y
87899917307	Virtual		10	5	2015-07-15 00:00:00	Y
87899917308	Virtual		10	5	2015-07-15 00:00:00	Y
87899917309	Virtual		10	5	2015-07-15 00:00:00	Y
87899917310	Virtual		10	5	2015-07-15 00:00:00	Y
87899917311	Virtual		10	5	2015-07-15 00:00:00	Y
87899917312	Virtual		10	5	2015-07-15 00:00:00	Y
87899917313	Virtual		10	5	2015-07-15 00:00:00	Y
87899917314	Virtual		10	5	2015-07-15 00:00:00	Y

2. Upload the DID numbers to the DID inventory.

3. Upon upload, recurring costs will not be displayed for marked DID numbers.



7. Fraud Protection

Geo / Risk Profiles

Here you can create **GEO / Risk profiles** for your services.

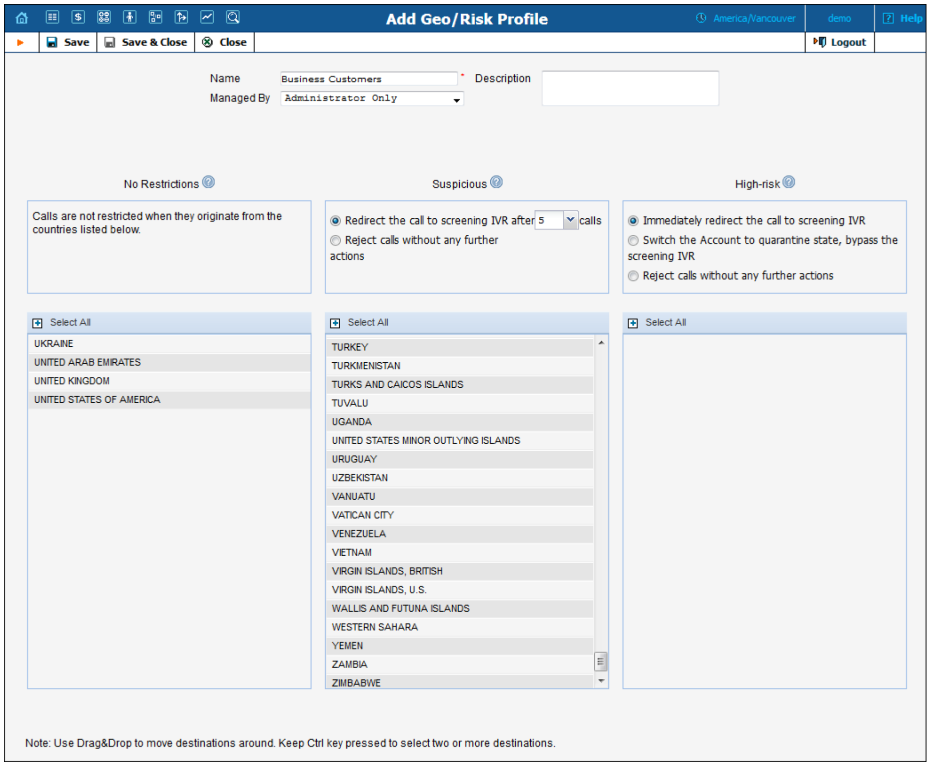
The profile divides the list of all the countries in the world into three zones: **No Restrictions** (normal locations), **Suspicious** (unusual locations) and **High-risk** (restricted locations).

For example, ITSP, selling residential VoIP calling via a communication client on a smart phone will list the United Kingdom, France and Spain in the **No Restriction** column (since they actively advertise their product in these countries and most of their customers are there). In this case, the majority of countries in the world will be listed in the **Suspicious** column. Finally, those countries from which the service provider sees an increased amount of hacking attempts will be listed in the **High-risk** column.

To add a new profile, click **Add** on the toolbar.

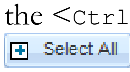
Add / Edit a Geo / Risk Profile

A prompt with a brief zone description appears when you move your mouse pointer over the icon.



By default, the **No Restrictions** column contains all the available countries plus the following categories:

- **Not Applicable** – This category is used for private or indefinite IP addresses.
- **Internal Network** – This category is used for handling private subnets. Please refer to the *Fine-Tune Fraud Protection Settings for Private Networks* section of the **Fraud Protection Configuration** handbook for the detailed configuration.
- **Satellite Provider** – This category is used for IP addresses from Satellite ISPs that provide Internet service to multiple countries.
- **Anonymous Proxy** – This category is used for IP addresses that are used as anonymizers or VPN services (e.g. Tor exit nodes, public proxies, etc.).
- **Europe** – This category is used for applying the same rules for all European counties.
- **Asia / Pacific Region** – This category is used for applying the same rules for all countries that belong to the Asia / Pacific region.

To move a country to a different column, simply drag and drop it there. You can also select two or more countries by pressing and holding down the <`Ctrl`> key or select all the countries in a zone by using the 

Select All icon.

NOTE: In one of the three columns, the **Other Country** entry must be selected. This takes the place of any other country not listed in the other two columns. In the other two columns explicitly list the countries that require special handling.

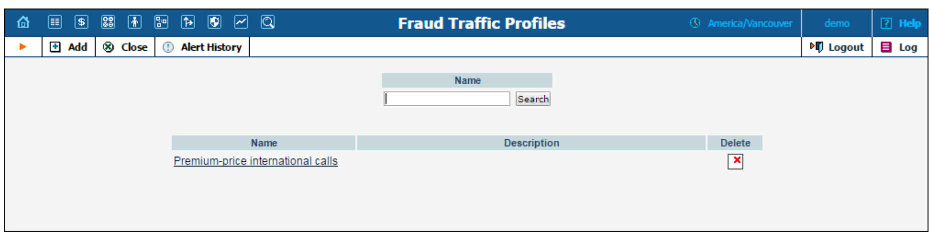
Column	Description
Name	Type a unique name for the profile.
Description	Type an extended description of this profile.
Managed by	Define whether this geo / risk profile will be used by an administrator or one of your resellers: • **Administrator only** (default) means that this Geo / Risk profile will be applied to your direct customers, and is accessible only to your administrators. • Select a PortaBilling® reseller to assign this Geo / Risk profile for use by a particular reseller.
No Restrictions	Specify a country (or countries) where users intend to use the service. Service usage is permitted without restrictions. By default, all countries are listed in this column.
Suspicious	Specify countries where it would be unusual for a customer to use the service.
High-risk	Specify high-risk countries here. Any usage attempt from these countries will be treated as potential hacking threats.
Redirect the call to screening IVR after … calls	This defines how many calls a customer can make without screening from the countries present in the list below. The possible values are 3, 5 and 10. After that, any attempt to make an outgoing call from a country listed here will be screened, and the caller must provide additional credentials to prove that he / she is indeed a legitimate user.
Reject calls without any further actions	This immediately rejects calls that originate from countries present in the list below. The account's status remains unchanged and calls originating from trusted countries will come through without restrictions.

Immediately redirect the call to screening IVR	This immediately redirects calls originating from countries present in the list below to the screening IVR. The account's status is changed to **Screened**.
Switch the Account to quarantine state, bypass the screening IVR	This immediately rejects calls originating from countries present in the list below. The account's status is changed to **Quarantined**.

Fraud Traffic Profiles

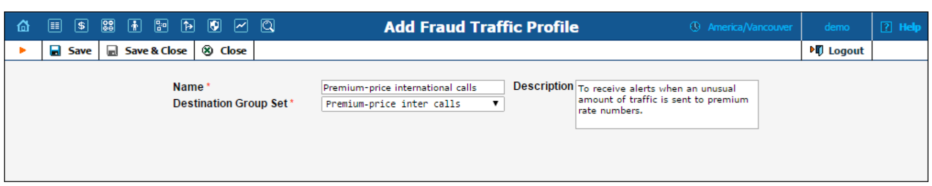
The fraud traffic profile is an effective tool for detecting toll fraud. Toll fraud is a term used to describe when organizations are billed for long-distance calls made fraudulently through their phone systems.

The fraud traffic profile allows service providers to monitor traffic sent through their networks and receive alerts whenever a toll fraud calling pattern is detected.



How to add a new fraud traffic profile

To add a new fraud traffic profile, click **Add** on the toolbar.

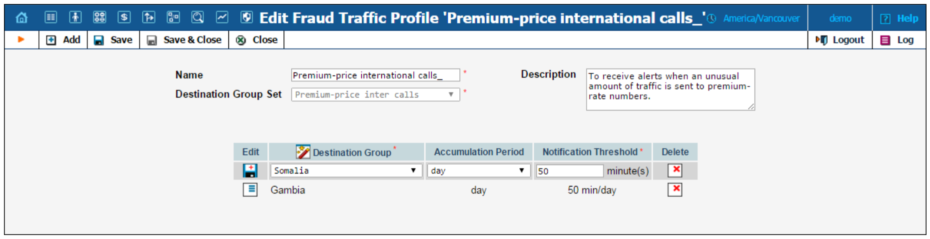


On the top of the page, you can find the following information:

Field	Description
Name	Type a unique name for the fraud traffic profile.
Destination Group Set	Choose a complete destination group set that includes destinations you would like to monitor for fraudulent usage patterns.
Description	Type a short description of the fraud traffic profile.

How to edit a fraud traffic profile

To edit a fraud traffic profile, click on its name.



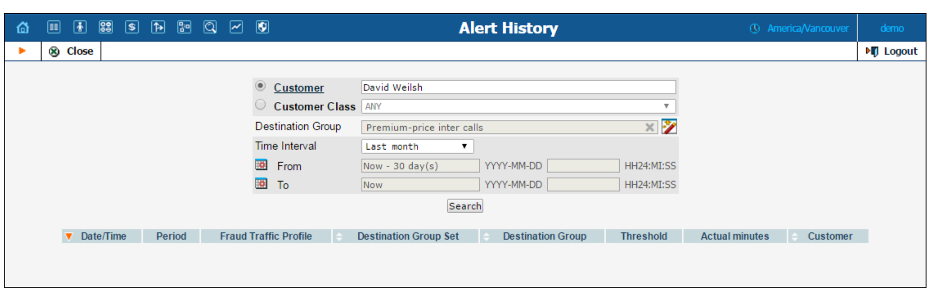
In the main table you can find information about the fraud traffic profile thresholds:

Field	Description
Destination Group	For each destination group in the set, the administrator configures a threshold that defines the call duration during a time span that is considered normal (for example, 50 minutes per day). Choose a destination group from the list.
Accumulation Period	This defines the time span during which the call duration is measured. The possible values are a day or an hour.
Notification Threshold	This defines the call duration in minutes per a defined time span considered normal. Whenever the duration of calls exceeds the set threshold, an alert is sent to the administrator.

How to view the alert history

To view the alert history click **Alert History** on the toolbar.

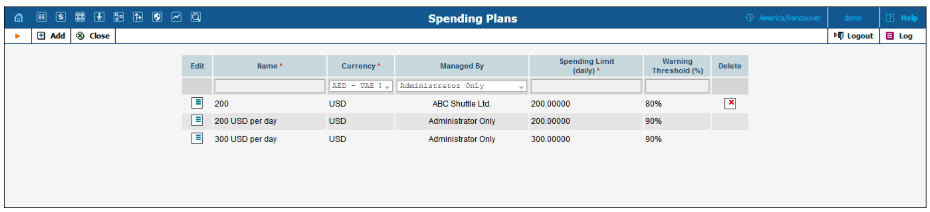
On the **Alert History** page, an administrator can view the generated alerts. To locate a specific alert, the administrator can filter the alerts by customer, customer class, destination group and time interval.



Spending Plans

A spending plan defines the amount of money per day that a customer can spend on services. PortaBilling tracks the customer's daily charges and once the spending limit is reached, this customer's services are automatically suspended. However, customers whose spending limit has been reached can still make calls to emergency numbers. Regular service usage is reinstated on the following day when the spending plan is renewed.

This allows service providers to minimize their losses from fraudulent events.



How to add a spending plan

To add a spending plan, click the **Add** icon on the toolbar.

How to edit a spending plan

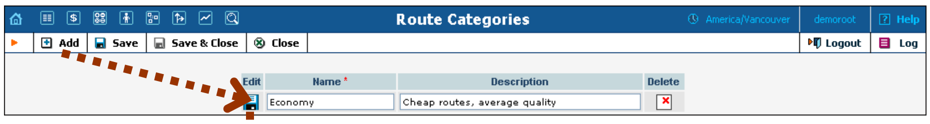
To edit a spending plan, click the **Edit** icon next to its name.

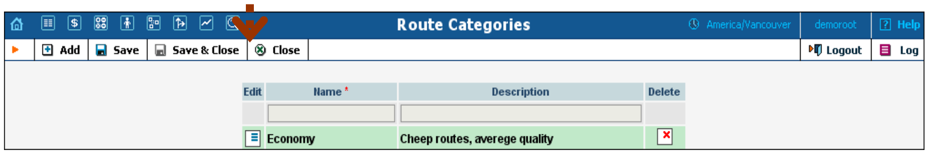
Field	Description
Name	Type a unique name for the spending plan.
Currency	Choose a currency for the spending plan. A spending plan can only be assigned to customers or customer classes using the same currency.
Managed by	Defines whether this spending plan will be used by an administrator or one of your resellers: • **Administrator only** (default) means that this spending plan will be applied to your direct customers and is only accessible to your administrators. • Select a PortaBilling® reseller to assign this spending plan to be used by a particular reseller.
Spending Limit	This defines the amount of money per day that a customer can spend on services.
Warning Threshold (%)	Specifies a warning threshold (in percent) for receiving notifications when the limit is reached.

8. Routing

Route Categories

This page allows you to define new categories into which you can divide your available routes. To create a new category, click **Add** on the toolbar.





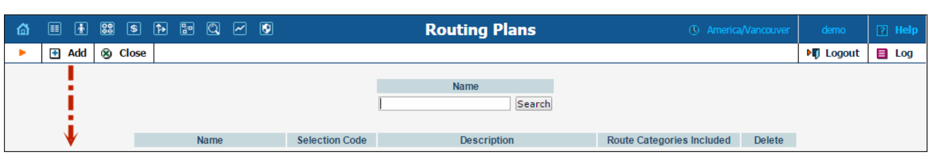
Column	Description
Name	Name of the route category. This is the name you will see in the select menu when assigning a route category for the rate.
Description	A description of this route category.
Delete	Click the **Delete** icon to remove this route category.

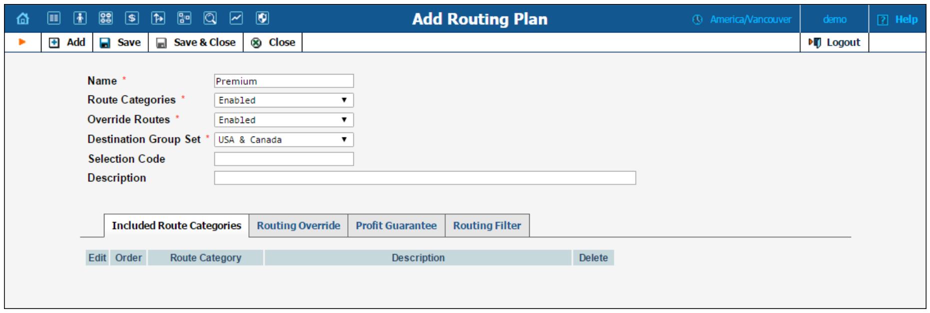
If you do not wish to define any custom route categories, the **Default** route category is always available.

Routing Plans

A routing plan is a combination of route categories in a specific order. It defines which categories of vendors will be available for termination and in what sequence.

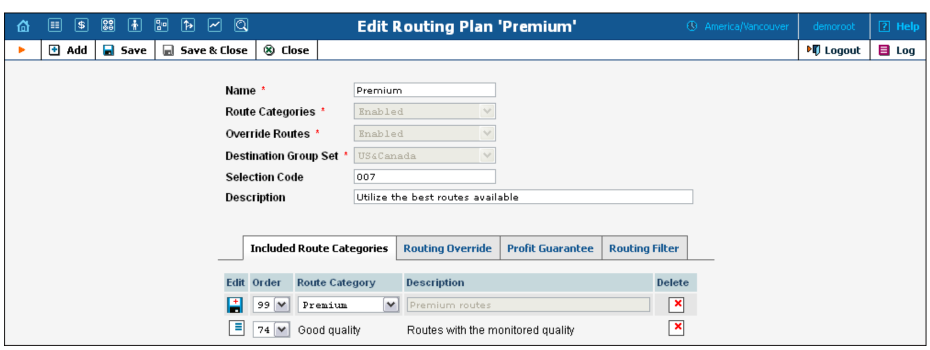
NOTE: In order to use the selection codes you must enable the Dialing Rules on the Edit Customer page and check "Routing plan selection enabled."

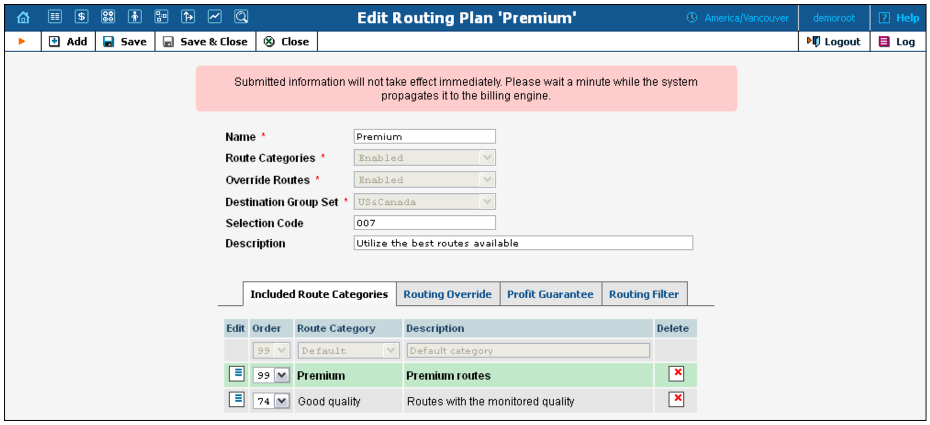




Column	Description
Name	Name of the routing plan.
Route Categories	Enable this option to define which categories of vendors will be available for termination and in what sequence.
Override Routes	This option enables the LCR override functionality. You can define a list of connections for a destination group in the desired routing order, and calls will be routed according to this sequence before (or instead of) applying "normal" LCR routing.
Destination Group Set	Routing can be overridden for individual groups (e.g. USA & Canada, Asia, Western Europe) within this set. Once chosen during routing plan creation, the destination group set cannot be changed later on.
Selection Code	The code your customers will dial before the destination number to select this routing plan. **NOTE:** The number not including the selection code must be at least six digits.
Description	Your designation of the intended purpose for this routing plan.

After a routing plan has been created, you can specify which route categories will be included in it. To add a new route category, click **Add** on the toolbar, then click the **Save** icon to save this row.





You can change the route category order by choosing an **Order** number. Remember that if a route category is not included in the routing plan, a customer with this routing plan will not have access to such routes. Click the **Save** icon to make your changes take effect.

Please note that a larger value in the **Order** column pushes the given route category towards the top of the routing list (i.e. 99 is the first route category which will be tried).

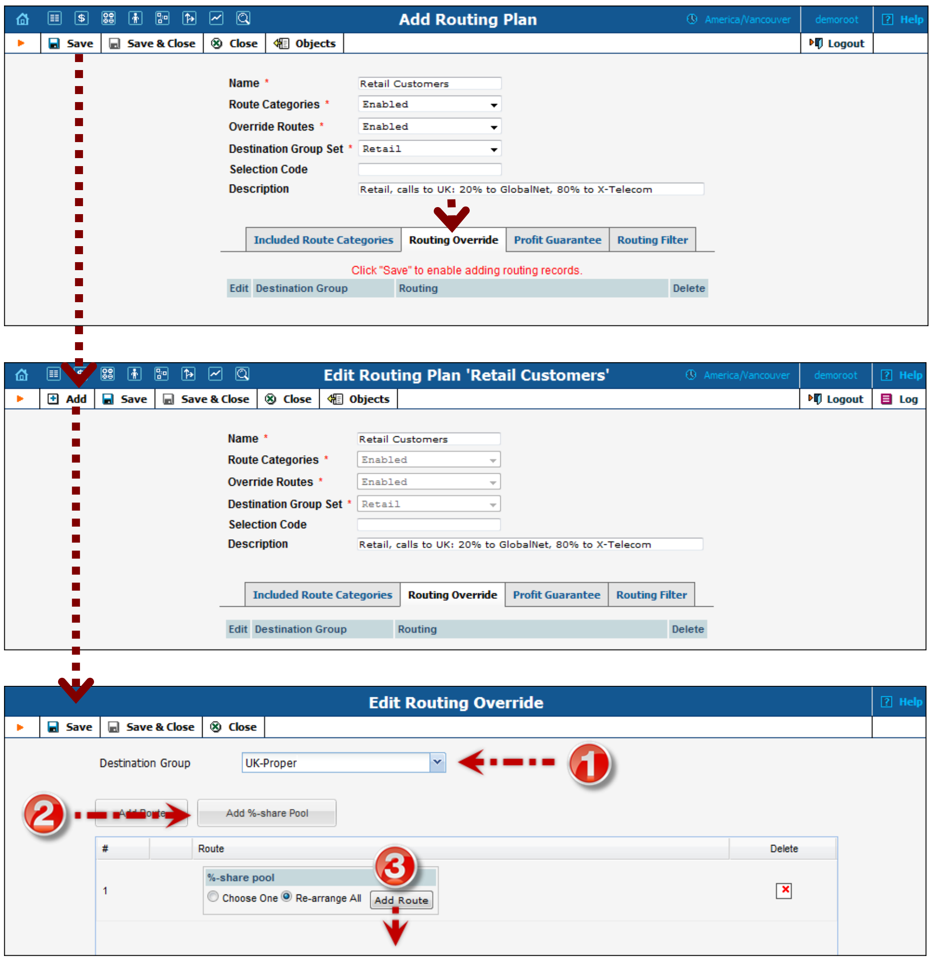
Routing Override tab

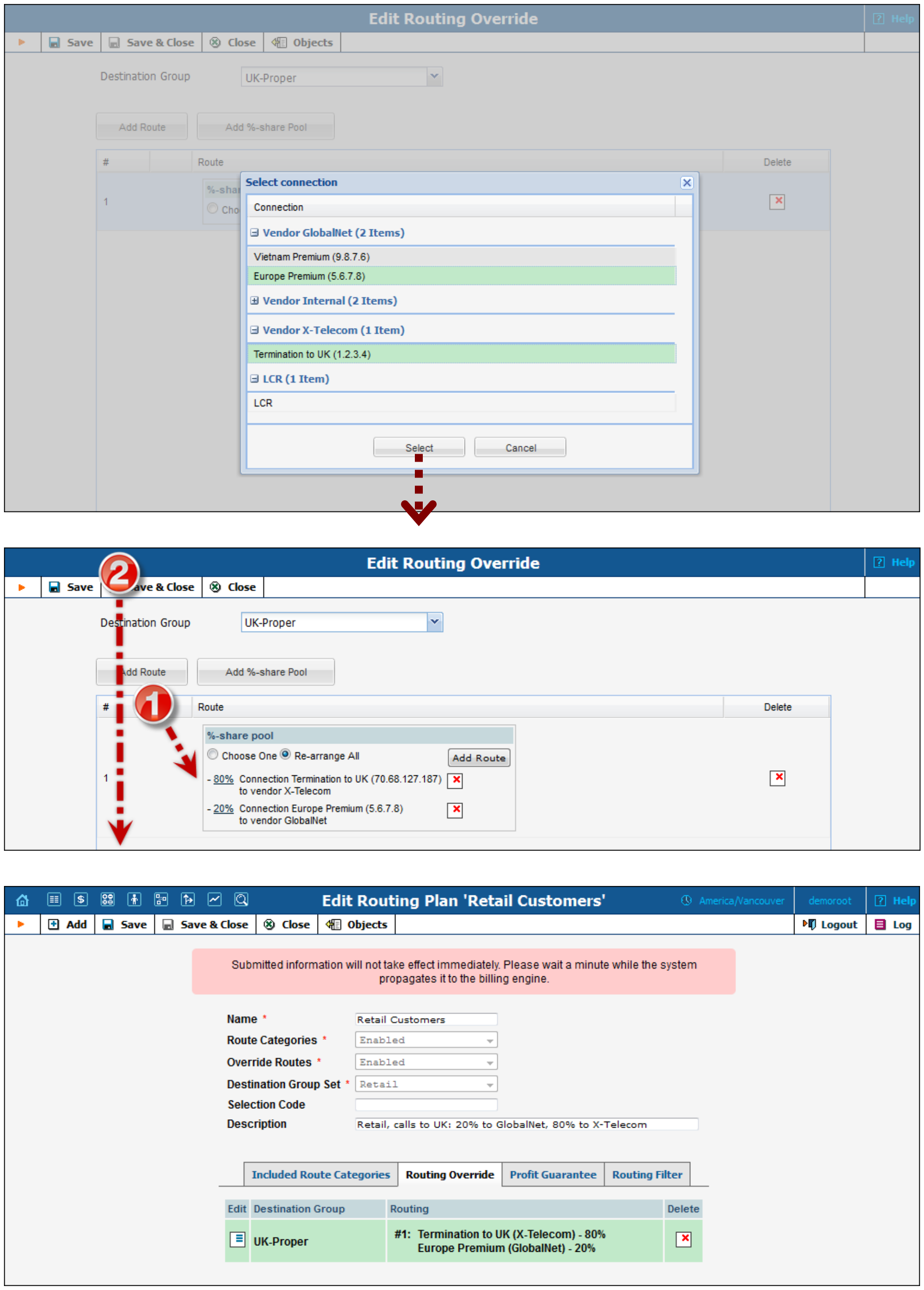
On this tab you can define custom routing per destination group.

Field	Description
Destination Group	A destination group with custom defined routing.
Routing	Shows how the routing is configured for this particular destination group.
Delete	Click the **Delete** icon to remove the custom defined routing for a particular destination group.
Add Route	This allows you to add routes and arrange them in the desired order.
Add %-share Pool	This allows you to add routes and assign percentage values to them. The system then uses these percentage values when creating a routing list during the call. The routing list for each specific call is built according to the specified routes. The routes are selected from the pool according to the following settings: • **Choose One** – Only the first route will be used for all calls, the other routes will be ignored; • **Re-Arrange All** – All pool routes will

	be added to the routing list according to the assigned percentage values, thereby reducing the number of failed calls.

A common example is percentage-based routing: for instance, when sending out calls to UK-Proper 20% of the traffic should go to carrier A, and 80% to carrier B.

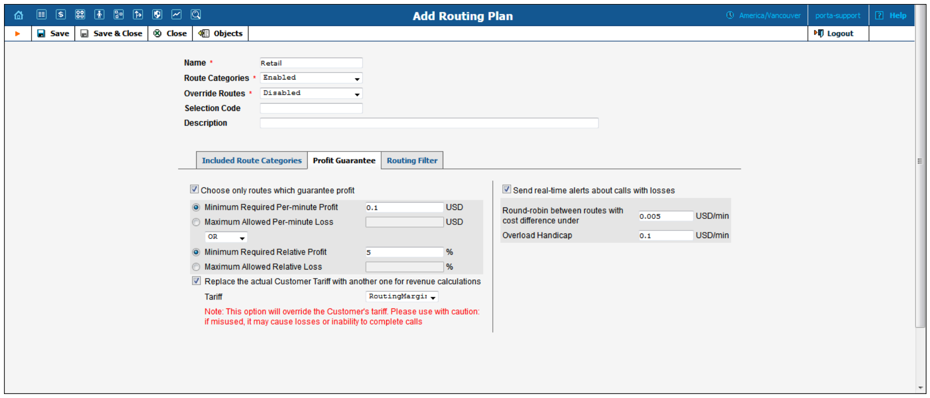




The administrator can create a list of connections for a destination group in the desired routing order, and the call will be routed according to this sequence before (or instead of) applying “normal” LCR routing. An entry in the override list can be a percentage-share connection pool, where each connection has a chance to be the first route proportionate to the assigned percentage value.

Profit Guarantee tab

On this tab you can specify how the system chooses routes for call termination, in order to maximize your profits.



If you switch off the "profit guarantee" in PortaBilling®, it is possible that your carrier will charge you more than you have charged your customer. (Sometimes these situations can arise even with "profit guarantee" switched on, e.g. when a random surcharge was not triggered, or if you charged your customer for just a few seconds, but were charged by a vendor for a full minute, due to different time rounding increments).

Please note that the **Profit Guarantee** functionality only calculates the approximate profit you could earn, by comparing the price per minute used to charge the customer with the termination cost of each vendor. A **PPM** (Profit Per Minute) control parameter is included in the **Adaptive Routing** feature. PPM is based on statistics for already completed calls. It calculates the amounts actually charged by considering all special rating elements which are applied to calls, such as fixed and relative surcharges, rounding intervals, and so on. As a result, it provides accurate profit figures that will help you to maximize profits in the future. For information about how to set up the PPM control parameter, see the "Routing Criteria" section.

When the **Profit Guarantee** functionality is activated, "unsuccessful" vendors will be removed by the billing engine from the routing list during real-time route calculation. This differs from when you specify the **PPM** control parameter on the **Routing Criteria** page. The latter only moves problematic vendors to the "penalty box", i.e. the very bottom of the routing list. This ensures that the system will first try to terminate the call via other carriers (with good call quality). However, if they all fail or become unavailable, the "penalized" carrier will have a chance to terminate the call.

Field	Description
Choose Only Routes Which Guarantee Profit	When calculating a routing list for a customer with this routing plan, compare the price used to charge the customer with the termination cost of each vendor. If the vendor's costs are higher than the customer's rate, exclude the vendor from the list (see

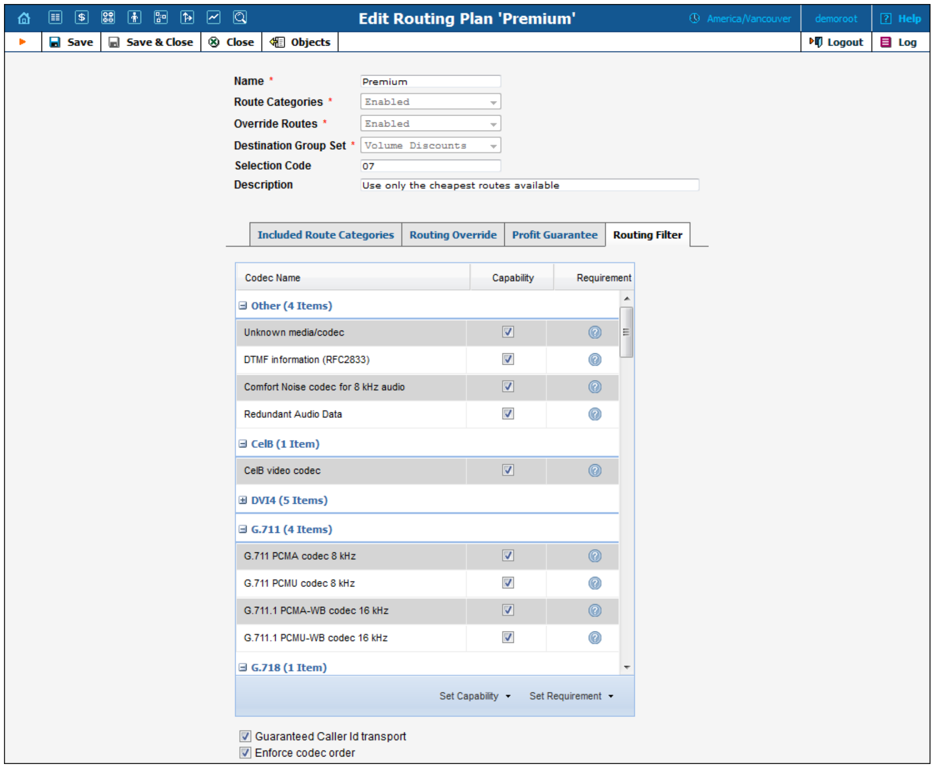
	note below).
Minimum Required Per-minute Profit	Allows you to create a more aggressive profit guarantee route selection: the vendor's cost per minute must be lower than the customer's rate by at least the amount specified. (Amounts are specified in your base currency).
Maximum Allowed Per-minute Loss	If your policy for this service doesn't include a minimum per-minute profit and in addition, you tolerate a certain amount of loss (e.g. while providing premium service to very important customers), then specify the limit for that loss here.
Combination of Absolute and Relative Profit Parameters	You can specify that a route must satisfy both conditions, i.e. both absolute and relative profit, or at least one. • OR – A route must satisfy at least one condition. • AND – A route must satisfy both conditions.
Minimum Required Relative Profit	In some cases, specifying the amount of profit per minute does not yield the desired results, e.g. for risky destinations such as Somalia you would like to get at least $0.10 per minute, yet $0.10 on calls to the US is simply not feasible, since you charge your customers only $0.05/minute. In this case, you can use a relative threshold, so that for expensive destinations the profit must be high, while for low-cost destinations a small profit is acceptable.
Maximum Allowed Relative Loss	Similar to the above parameter, this one allows you to specify the relative limit for per-minute loss.
Replace the actual Customer Tariff with another one for revenue calculations	**Select this option to use a special tariff instead of a real customer tariff exclusively in order to compare carriers' prices against it. Only carriers having prices lower than or equal to those specified in this tariff will be selected for routing. (**A regular customer tariff will be excluded from the profit guarantee calculation and is used solely to charge the customer.) **For more information, please see the *Routing Margin Tariff* subchapter in *Routing Plans* chapter of the PortaBilling Administrator Guide.** Note that this option disabled by default. To enable this feature, on the configuration server web interface, go **Admin→Routing** and set the **ProfitGuaranteeTariff** option to **Yes**.

Tariff	Select the routing margin tariff against which the vendor tariff will be compared. The routing margin tariff must be previously created as 'applied to customer.' It can be combined as usual with other profit-guarantee settings. Note that if a certain destination is not present or is prohibited in the routing margin tariff, the price from the regular customer tariff is used for profit guarantee calculation.
Send Real-time Alerts about Calls with Losses	Turn this option on in order to receive real-time email alerts whenever a customer (with this routing plan assigned) makes a call on which you lose money.
Round-robin between Routes with Cost Difference under	Defines the maximum acceptable price difference between two vendors when their order in the routing list (determined by cost) randomly changes to provide load-balancing. There is a higher probability of such a "swap" when the difference in price between them is minimal, and this quickly decreases as the cost difference approaches the threshold value.
Overload Handicap	When the number of concurrent calls on a connection to a vendor surpasses the desired limit, this connection's cost may be increased during the route sorting to push this connection further down the routing list and therefore re-distribute the call load to other vendors via the load-balancing feature. Overload handicap specifies the maximum value that the adjusted connection cost may be increased. In other words, it defines the largest tolerable decrease in revenue (since more expensive vendors would be used) in exchange for better connection utilization and improved call quality.

PortaBilling® allows at least two different price per minute values for rating (potentially, you can have an unlimited set of different prices applied within the same call when you use a rating formula). For comparison purposes, however, only one specific value should be used. PortaBilling® uses the value of the **Price_Next** parameter for profit guarantee calculations. In order for the profit guarantee to work properly when you use rate formulas to charge your customers, make sure that you populate **Price_Next** in the customer's rates with a meaningful value.

Routing Filter tab

On this tab you can apply filters to call media features (such as a specific codec, T.38 fax, or the ability to guarantee delivery of the correct CLI to the recipient of the call), as requested by the calling party.



Column	Description
Codec Name	Name of the call media feature (such as a specific codec or T.38 fax capability).
Capability	This parameter allows you to specify an end-user device's capabilities or prohibit the use of call media features for incoming calls. The following options are available: • **Supported** – This means that you are sure this IP device supports this feature and are therefore allowing it. • **Not supported** – This means that this IP device is unable to support this particular feature (e.g. G.711 codec). Your administrator may decide to prohibit it. For example, if you want to ensure good sound quality for customers with limited bandwidth, prohibit the G.711 codec by marking it "not supported." In this case, even if

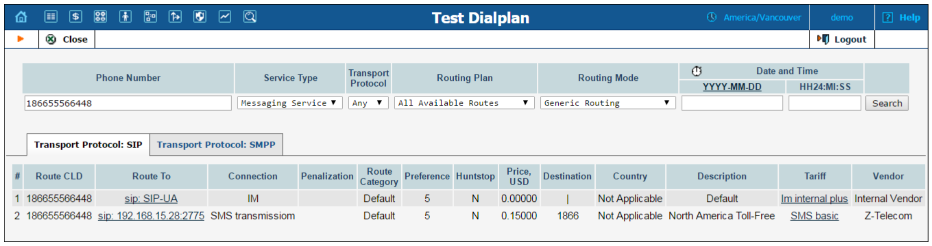
	this codec is available according to the request received from the carrier, it will be removed from the codec list that is sent to the end-user device in the SIP call initiation request, and thus will not be used.
Requirement	This parameter describes the filters applied to call media features requested by the calling party. The following options are available: • **Required** – This means that the other party must have this feature supported in order for the call to be completed. For instance, if the "G.729 codec" feature is marked "required" for an account making a phone call, only those vendors specifically marked "guaranteed to support G.729" will be placed in the routing list. • **Suppressed** – This means that PortaSwitch will prevent the use of this particular feature (e.g. G.722 codec) and will therefore not show the information about this codec in the SIP request when sending an outgoing call to a remote party. • **Not required** – This means that PortaSwitch does not do any special processing for this feature. It will be included in the outgoing SIP request and may be used if the remote party supports it. This is the default value for all features.

Guaranteed Caller Id transport – When this option is selected calls are routed to only those carriers that are capable of delivering caller ID information to the called party.

Enforce codec order – Only the codec order defined within the service policy assigned to the connection is used, regardless of the codec order provided by the caller or by the terminating side.

Test Dialplan

This page allows users to test a dial plan for a specific telephone number or for certain destinations at any moment in time.



You can use the following search parameters:

Field	Description
Phone Number	Type either a full number or prefix into this field to see how the resulting route list searches for it.
Service Type	The type of service the system uses to search for routes.
Transport Protocol *(only for Messaging Service)*	Filter the list of routes by type of transport protocol used for message delivery (**SIP** or **SMPP**). Select **Any** to view the routing results for both of the transport protocols on separate tabs.
Routing Plan	Select a routing plan to use for a dial plan test. The system will offer different sets of routes depending on the routing plan. Select **All Available Routes** to test a dial plan using all the available routes, regardless of their route category.
Routing Mode	You may select either **Generic Routing** (to see all the routes outside of the network) or a specific node (to see the routes available when a call is handled by this node).
Apply Penalties *(only for Voice Calls)*	Clear this check box to see the resulting list of routes regardless of the currently applied adaptive routing penalties.
HLR Lookup *(only for Messaging services)*	Enable this option to test the message routing using the MCC / MNC destination pair. Enter the destination number in the E.164 format (the actual phone number) and then click **Search**. **NOTE**: HLR lookup is only done if the **HLRNumberLookup** module is configured on the Configuration server.
Date and Time	The search can be performed in real time: click the ⏱ **Stopwatch** icon or click the **YYYY-MM-DD** link to set a date using the calendar.

As a result, you will see the routes that will be tried and the routes that are ignored. The ignored routes are displayed as dimmed; point to a dimmed route with the mouse cursor to see a tool tip and explanation.

All routes are displayed in the form of the following table:

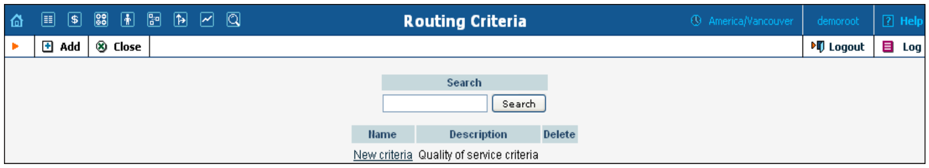
Column	Description
Ctrl#	Sequential number of this route.
Route CLD	Translated called station ID (DNIS), as it will be sent to the vendor using this specific route.
Route To	The node (or remote gateway IP) where the call will be routed. Click the link to open the connection page.
Connection	Description of the vendor connection.
Penalization	Shows whether the connection is penalized or not.
Route Category	Route category for this route. See the *Route Categories* section for more info.
Preference	Routing preference for this destination. See the *Call Routing* section of the **PortaBilling Administrator Guide** for more info.
Huntstop	If one of the routes has huntstop enabled, then all of the routes having a lower preference will be ignored. You will see them as dimmed. To see why a route is ignored, point to it with the mouse cursor and the explanation appears in a tool tip.
Price	Next interval price for the given destination (per minute).
Destination	Matching destination from the corresponding tariff.
Country	Country where the tested destination is located.
Description	Destination description.
Tariff	The tariff used to bill this call. Click the link to open the tariff page.
Vendor	Call terminating vendor.

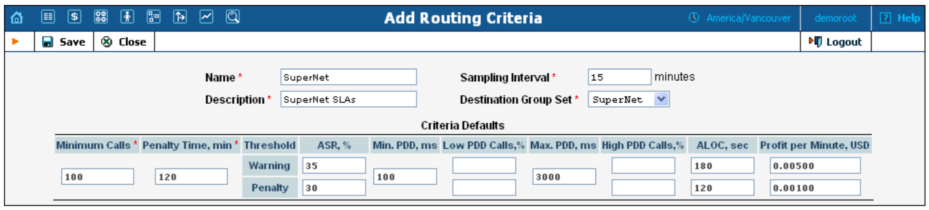
Routing Criteria

This page allows you to predefine the quality requirements to be applied to your vendors. PortaBilling® will continually measure the quality parameters and adjust the routing if these fall below the specified thresholds. Any vendor who fails to satisfy your quality requirements will go to the "penalty box" – the very bottom of the routing list. This means that the system will first try to terminate calls using other carriers (with a good quality rating). However, if all of them fail or are unavailable, the "penalized" carrier will have a chance to terminate the call. For more information about adaptive routing, see the **PortaBilling Administrator Guide**.

Add / Edit Routing Criteria

To add new routing criterion, click **Add** on the toolbar. An existing routing criterion can be edited by clicking on its name in the list.





Field	Description
Name	The logical name of the routing criterion for use within PortaBilling®.
Description	A description of the routing criteria.
Sampling Interval	Quality measurements will be computed for all calls within this interval. Smaller intervals will make the system "quicker" to notice any change in a vendor's quality, but there is also a higher chance that a short-term problem on the vendor's side (which can be fixed in a matter of minutes) will penalize his route for a relatively long period of time.
Destination Group Set	Select a destination group set from the list; later you can define the routing criteria for individual groups of this set.

Using the **Criteria Defaults** table, specify the initial default values to be applied to routing criteria for specific destinations which you will create later on.

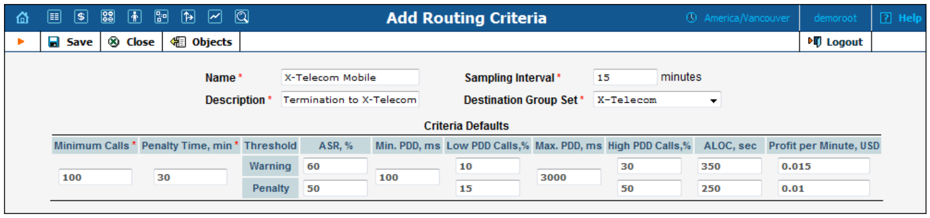
Field	Description
Minimum Calls	The minimum required amount of calls via a given connection within the sampling interval in order for the statistics to be considered representative. If the number of calls is below the specified value, the quality parameters will not be matched against the threshold, and no routing adjustments will be made.
Penalty Time	The time interval for which a connection will be "penalized" (put at the very bottom of the routing list) if a given vendor does not meet the quality

	criteria.
The following threshold parameters require two values that define the warning and penalty thresholds, respectively. The warning threshold specifies when an alert will be sent to the administrator (but no changes in the routing will be done). The penalty threshold defines when the route should be penalized if the quality statistics are outside the threshold value.	
ASR	Average Success Rate: the number of successfully connected calls divided by the total number of call attempts.
Min PDD, ms	Defines the minimum acceptable PDD (Post-Dial Delay), i.e. the time interval between the moment a connection request is sent to the vendor and the moment ring-back is received. Too low a PDD is suspicious, and in this case the vendor is probably doing "false ringing" to hide the long time it actually takes him to route the call.
Low PDD calls, %	Maximum acceptable percentage of calls with a PDD below the specified value.
Max PDD, ms	Defines the maximum acceptable PDD. Too high a PDD has a strong negative impact on your business, since during the delay time the end user hears only silence, and generally assumes that there is a problem with the service.
High PDD calls, %	Maximum acceptable percentage of calls with a PDD above the specified value.
ALOC, sec	Average length of call.
Profit per Minute	Profit per Minute (expressed in the monetary units of your base currency): the aggregated profit, i.e. the difference between the actual charged amounts in your customers' and vendors' CDRs.

Click the **Save** button to save your progress when done.

Defining Routing Criteria for Individual Destination Groups

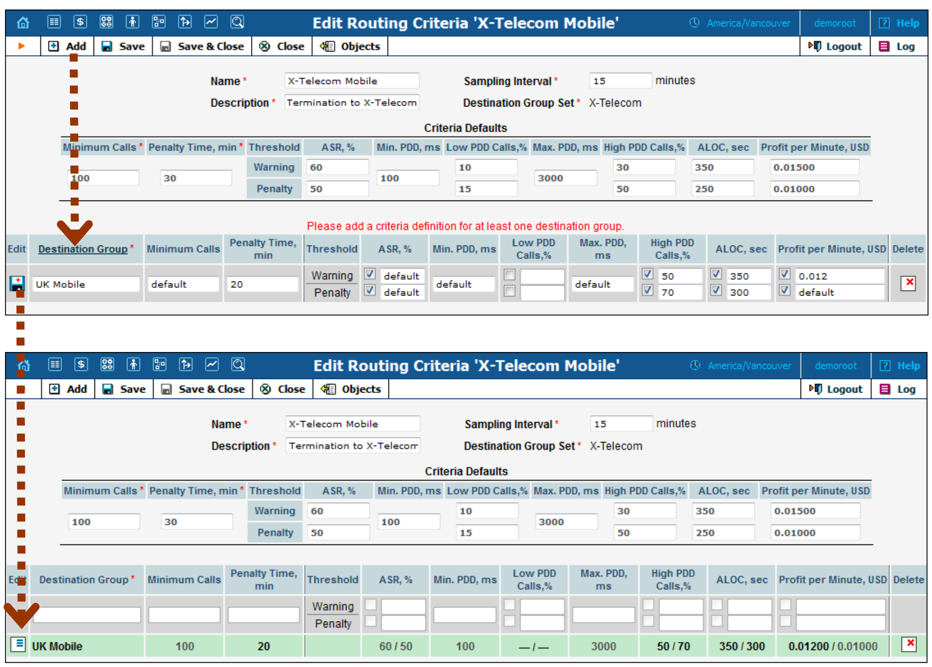
After the **Criteria Defaults** settings have been saved, click **Add** on the toolbar to define routing criteria for the specific destination group. An existing routing criterion can be edited by clicking the **Edit** icon on the row containing the details.



Click the **Destination Groups** column header link to choose one of the groups defined in the **Destination Group Set** from a searchable list inside the dialog box.

NOTE: The destination prefix defined within a selected destination group should match the one defined in the vendor tariff rate.

When adding new criteria – all the fields are initially "default" – the values you have defined as **Criteria Defaults** will be used. This allows you to quickly define criteria for multiple destination groups with minimum effort. If you wish to override the default value, simply enter a new value in the field. If you wish to exclude a certain quality metric from the criteria (e.g. **Low PDD Calls**, in the example below), clear the check box next to it.



When the criteria have been saved, the quality parameters are presented as follows:

- Parameter values, which override the default ones, are shown in black.
- Default values applying to these criteria are shown in grey.

- For quality metrics that are switched off, dashes (–) are displayed instead of values.

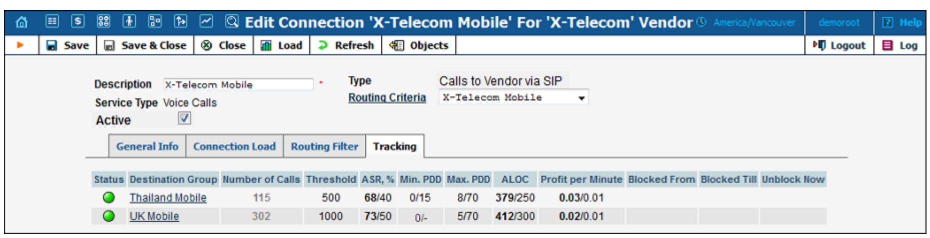
Tracking Connection Status

When the value of a parameter reaches the predetermined threshold, the administrator receives an email alert about the latest connection threats. Moreover, the administrator can track the current connection status on the **Tracking** page. This status is represented by different colors, as follows:

- **Grey** – The number of calls is not enough to apply filtering differentiation.
- **Green** – The route meets the quality requirements.
- **Yellow** – the route is active, but some of its quality parameters are outside the warning thresholds.
- **Blocked** – this route is currently being penalized.

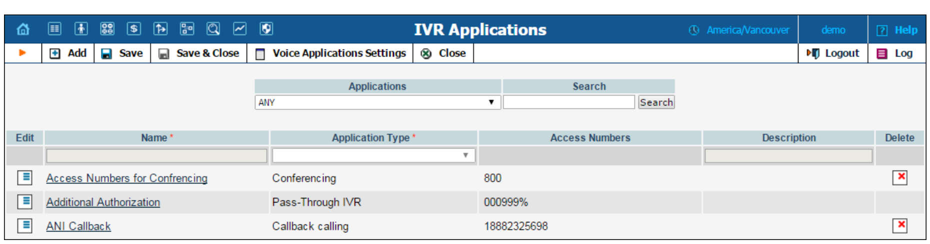
NOTE: The penalized route will be on the "penalty row" for a certain period of time, specified in the **Penalty Time** box and then will be unblocked automatically. Alternately, you can click the **Unblock Now** button to unblock the penalized route manually.

- **Red** – the route was manually unblocked; this status will remain unchanged till the next time interval for which the statistics will be computed.



IVR Applications

This page allows users to quickly and conveniently define how PortaSwitch® should process calls to special IVR applications.



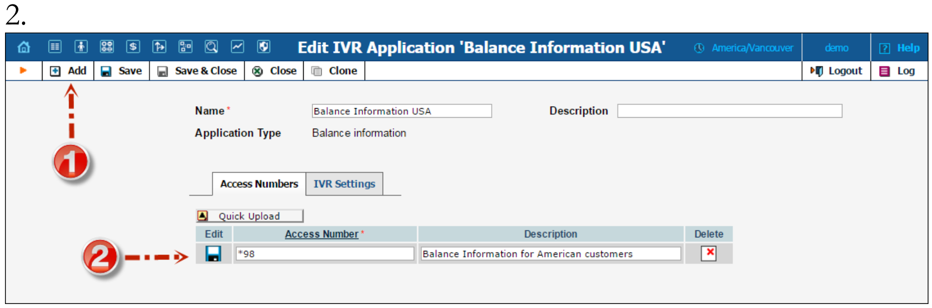
These are the numbers that your customers would dial from the PSTN network or their IP phone to access a specific IVR application; for instance, *98 for voicemail, 12125551234 to access a prepaid calling card IVR, or 18005559876 to access the audio conferencing facility.

Column	Description
Name	This column shows the access number name.
Application Type	This column shows which application is to be used to process the call.
Access Numbers	This column shows the actual phone numbers to be dialed by the user.
Description	A description of the IVR application.

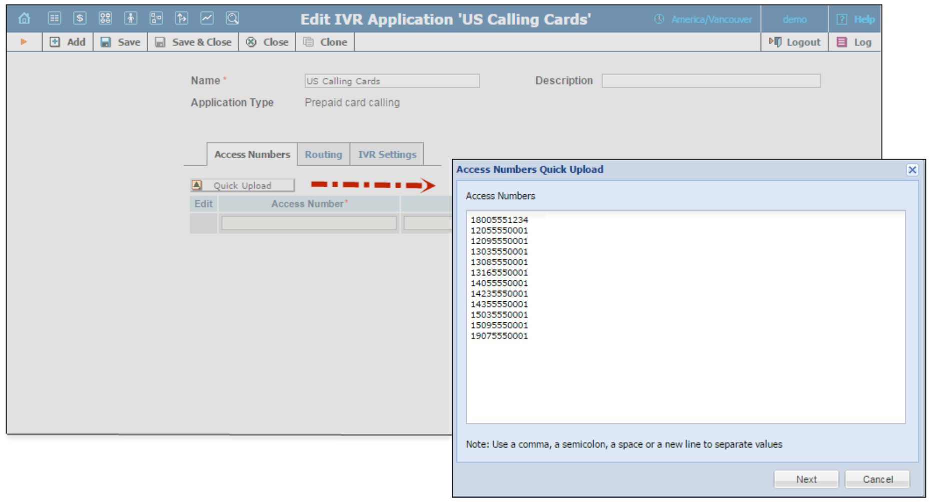
To register a new IVR application in PortaBilling®, click **Add** on the toolbar. To configure the IVR application, click on its name. To delete the IVR application, click the **Delete** icon next to it.

Access Numbers tab

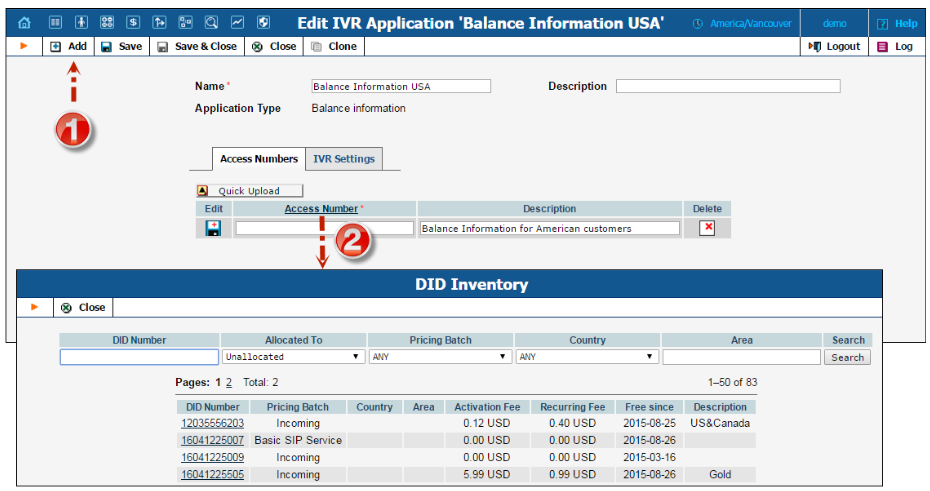
An IVR application can contain one or several access numbers. Using the PortaBilling® web interface, administrators can choose the most convenient way to associate access numbers with a particular IVR application:

1. If you provide service with one access number (e.g. *98 for balance info), add it by using the **Add** button.
2. 

3.
4.
5. If you provide service with multiple access numbers (e.g. prepaid card calling with toll-free access number and local access numbers in every state), type in or paste the list of access numbers by using **Quick Upload**.



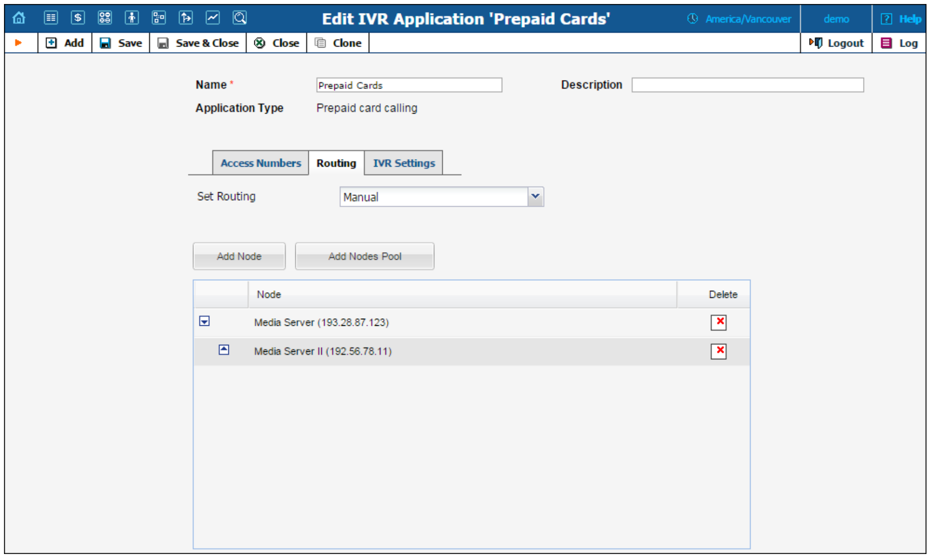
6. It is also possible to pick available *DID numbers* from the DID Inventory simply by clicking on the **Access Number** link.



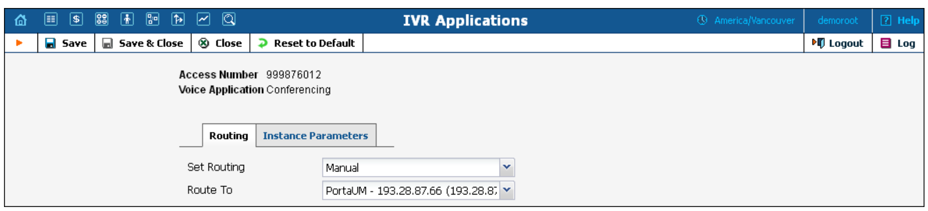
NOTE: The system lists only the DID numbers that have the *Free* status.

Routing tab

The administrator can also assign incoming calls on a particular access number to a chosen subset of available Media Servers. The list of available servers – or groups of servers – can be prioritized so calls will first be handled by the server at the top of the list and then in descending order based on availability. A typical case scenario is when Media Servers are installed in multiple geographic locations and it is desirable to handle calls arriving from local telco partners on the Media Servers in a specific region. This will improve call quality by reducing network delay between the telco's originating gateway and the Media Server.



Some IVR applications (e.g. Conferencing) do not support multi-node routing. Instead, you can route incoming calls made to these access numbers to a single PortaSIP® Media Server.

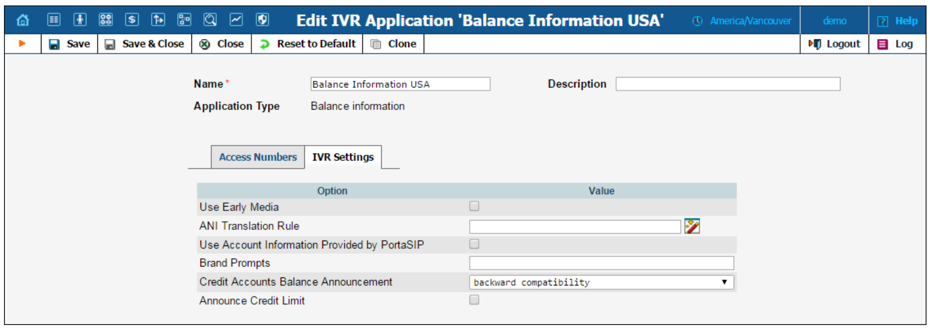


Column	Description
Set Routing	Here you can select which PortaSIP® Media Servers incoming calls on this access number will be routed to: • **Automatic** – Calls will automatically be routed to randomly sorted PortaSIP® Media Servers. • **Manual** – Set custom routing configuration.
Add Node *(Only for multi-node routing)*	Add PortaSIP® Media Servers to the list and sort them to route calls sequentially. For example, if your Media Servers are installed in multiple geographic locations, then it would be desirable to first route calls that arrive from local service providers to the Media Servers located in the same region. This configuration will improve call quality by reducing network delay between the service provider's originating gateway and the PortaSIP® Media Server.

Add Nodes Pool *(Only for multi-node routing)*	Add a pool of PortaSIP® Media Servers so that they can receive calls interchangeably. For example, if you add a pool with two Media Servers to the routing list, then each server has a 50% chance of receiving a call.
Route To *(Only for single-node routing)*	Select a single PortaSIP® Media Server for where calls made to access numbers that do not support multi-node routing can be routed.

IVR Settings tab

On the **IVR Settings** tab you can view a list of all options for the selected access number and modify them.

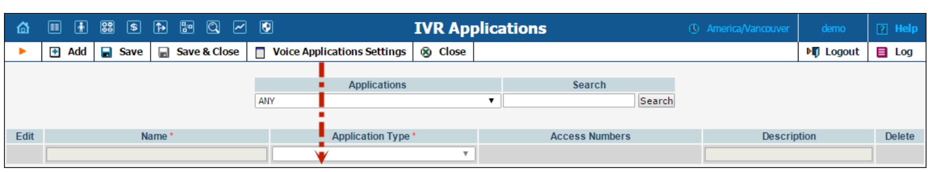


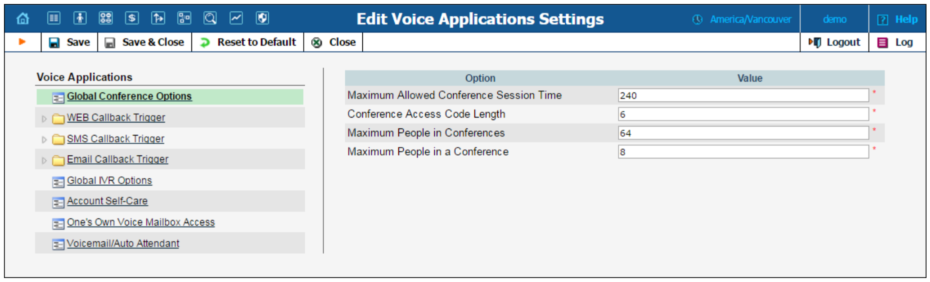
There is a helpful tool-tip for each option. Just point your mouse to the desired option to invoke it.

Find a detailed description of all the options in the **PortaSIP® Media Applications guide**.

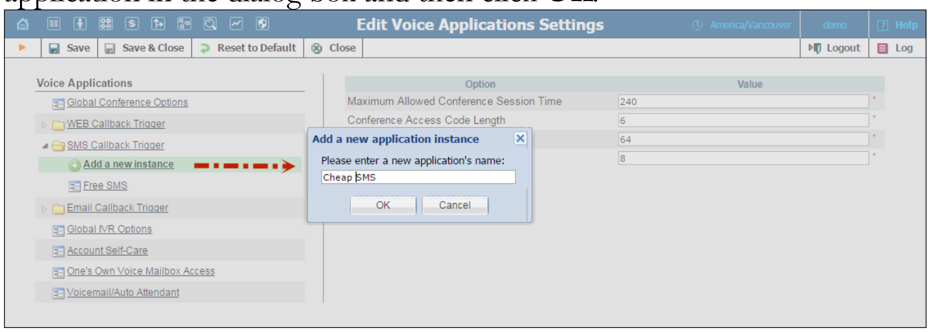
Voice Applications Settings

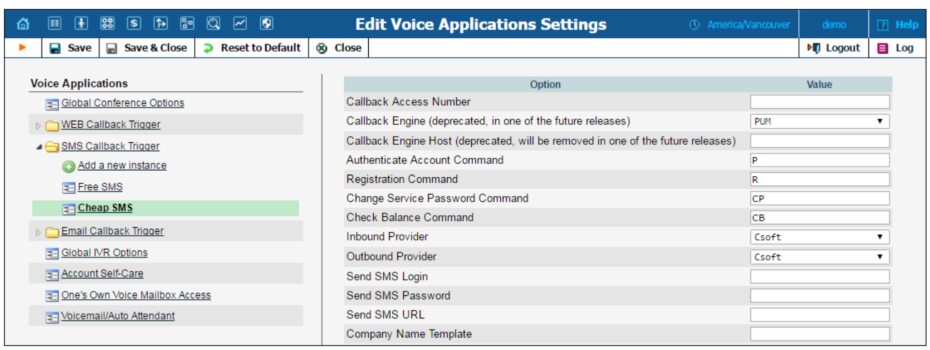
This page shows the list of voice applications and allows you to modify the options for the voice application you select. There is also the option of adding new instances (voice applications) for Web callback, SMS callback and Email callback.





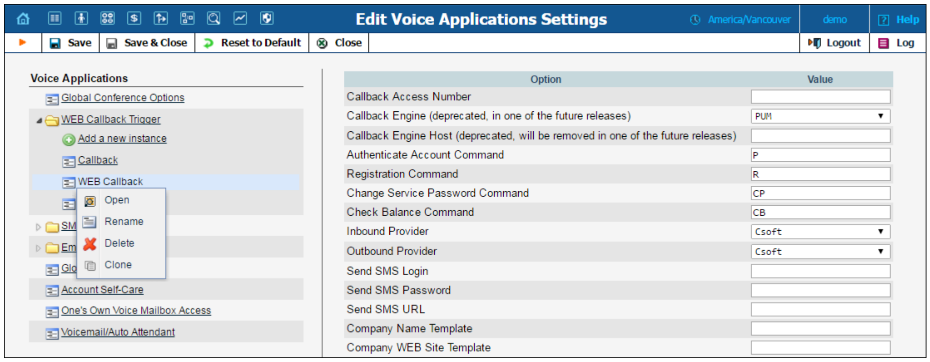
To add a new instance for the desired callback application, click on it and then click the **Add a new instance** button. Enter a name for the new application in the dialog box and then click **OK**.





If you want to add an instance using the same options as those in the existing one, use the **Clone** button. Right-mouse click on the instance you would like to clone and then click **Clone**.

NOTE: While cloning a callback instance, the unique voice application fields are not cloned and are set to their default values. The unique field for Web callback is Callback WEB Page Address, for Email Callback it is Callback Email Address and for SMS callback it is Callback Access Number.



Field	Description
Global Conference Options	
Maximum Allowed Conference Session Time	This enables you to specify the maximum allowed conference session time (in minutes) which users can specify when they create a permanently active conference. By default: 240 minutes.
Conference Access Code Length	This enables you to specify the length of the conference access code. By default: 11 digits.
Maximum People in Conferences	This enables you to specify the maximum number of people who can attend conferences in parallel. By default: 64 people.
Maximum People in a Conference	This enables you to specify the maximum number of people in a single conference. By default: 8 people.
Web Callback Trigger	
Callback WEB Page Address	Type an address of the web page that will be provided to end users for initiating callback calls in this format: `https://<host>:8901` where • `host` is either a domain name or an IP address of the web server (the admin interface hostname) • `8901` is the port where the WEB callback operates. You can also specify a regular expression for an HTTP referrer which initiates a WEB callback. For example, if you type ^*https:*\\/\\/.* in this field, then *all* requests will be processed by this instance. **Note**: The **Callback WEB Page Address** option must be unique for each web callback instance
Callback Engine	Select a type of callback engine.
Callback Engine Host	If the Cisco gateway is set as a callback engine, then specify its network location in this field.
The Second Number to Connect	For simple mode, the phone number to which the second call should connect.

Use Account ID as ANI	If this check box is selected, then the account ID is presented as the CLI for call legs A and B.
Account ID Translation Rule	Apply translation rules to the username used for authentication. For instance, for calls from Prague, Czech Republic, ANI numbers are delivered as 02123456. If you provide services in multiple countries, you will probably enter a Czech account in billing as 4202123456. When the server receives 02123456, it must add a 42 to the beginning of the username and use 4202123456 for authentication. Similarly, for calls originating from London the server would append 44, etc.
ANI Translation Rule	This allows the CLI number to be modified during the call.
Send Authorization	When enabled, an authorization request will be sent along with authentication. It allows you to: • check if the caller has sufficient balance to initiate a call leg (i.e., user will not be called back if the balance is insufficient), • block some destinations for callback calls in the account's tariff (mark destinations as forbidden in the appropriate tariff rates), • use a **Minimum Sufficient Time** option.
Minimum Sufficient Time, sec	Specify the minimum amount of seconds a user needs for leg A in order to use the callback service (applicable when **Send Authorization** is set to **Yes** and **Minimum Sufficient Time** > 0).
Destination Translation Rule	Allows a dialed number to be modified.
Second Dialed Number Translation Rule	Allows a second dialed number to be modified.
Minimum Card Length	Minimum length of a card number. By default: 11.
Maximum Card Length	Maximum length of a card number. By default: 11.
Maximum Login Attempts	Maximum number of attempts for a user to enter a card number. By default: 3.

Internal Account	Specifies an 'internal' account. You can allow / deny certain destinations in this account's tariff as the initial callback will be authorized with this internal account. Note: The Media Server uses the application access number to send an accounting request for failed calls.
Languages	This enables you to select (a) language(s) to be used for voice prompts. Click the **Wizard** icon to open the language selection dialog box.
Conf Language List Is Preferred	If this check box is selected, the language list defined on this page has a higher preference than the account's preferred language.
Brand Prompts	IVR prompts can be customized per Access Number. Specify the directory where the custom prompt files are located. The Media Server will look for them in that folder first and if found, use them. Otherwise, it will use default files. (For example, put customized English prompts under the directory /porta_var/psmsc/customfiles/prompts/brands/my_company/en and specify "my_company" in this field.)
Play Welcome Message	If enabled, the IVR will play the welcome message to a user once an access number is reached.
Restriction for Calling with Low Balance	When account balance is less than product breakage and **disconnect** is defined, IVR plays the "you have insufficient funds" voice prompt and disconnects the call. If **no outgoing calls** are defined, the IVR prompts for the destination number but gives a busy tone and drops the call immediately after dialing it. The **none** option disables this feature.
Announce Balance	If enabled, the IVR will announce the current balance for the user before prompting for the phone number he wishes to reach.

Credit Accounts Balance Announcement	You can configure your IVR applications to announce the current balance *for credit accounts* in one of two modes: • **Funds / balance** – For prepaid customers (those who have a credit limit of 0 or less), announce "available funds" (calculated as credit limit minus balance) and announce the current balance for others (postpaid customers); • **Balance** – Always announce balance (this is the classic mode, ideal for typical postpaid customers). Note that the third mode (**Backward compatibility**) is enabled by default. It preserves the announcements exactly the way they worked in releases prior to MR35. In ***APPENDIX B. Balance Announcements,*** there are balance announcement examples for different IVR configurations.
Announce Credit Limit	If enabled, the IVR will announce the credit limit as well as the account balance (applicable when **Credit Accounts Balance Announcement** is set to "balance" or "funds / balance").
Access Code	Specifies an access code to be used for this instance.
LegA CLD Prefix	Leg A (callback to a user's number) access code prefix. Allows billing leg A with different tariff. A separate **Services and Rating** entry with the appropriate access code and tariff should exist in the product's **Services and Rating** list. **NOTE:** Access code must contain DNIS after the Prefix. For example, if the **LegA CLD Prefix** is LEG_A and the Access Number is 12125551234, then the Access Code should be LEG_A12125551234.
LegB CLD Prefix	Leg B (user's call to destination) access code prefix. Allows billing leg B with different tariff. A separate **Services and Rating** entry with the appropriate access code and tariff should exist in the product's **Services and Rating** list. **NOTE:** Access code must contain DNIS after the Prefix. For example, if the **LegB CLD Prefix** is LEG_B and the Access Number is 12125551234, then the Access Code should be LEG_B12125551234.
Expected Connect Time, sec	The "authorized" time for call leg B will be decreased by the specified value.

Special Charge if LegB Fails	By enabling this, you can charge users differently for calls with failed leg B (e.g. incomplete call is not charged). Just add a new **Services and Rating** entry to the product's **Services and Rating** list, set its access code to "CALLBACK_FAIL" and associate it with a special tariff.
Strict Authorization	When enabled, call leg A will be disconnected if caller doesn't have sufficient funds to place call leg B.
Announce Time	When user inputs the destination, IVR announces the maximum call duration allowed to this destination and then connects the call.
Use Announcement Tariff	It is possible to use different tariffs for the announcement of the maximum call duration allowed and for rating this call. The first (transparent) tariff should be associated with the "ANNOUNCE+DNIS" access code in the product's **Services and Rating** list. The second tariff should be associated with an actual access code. Thus, the user hears the time announced according to the first tariff, while the call is actually authorized and rated according to the second tariff.
Seconds Rounding Mode	This option defines the way the seconds portion of "available time" is announced to a customer: • **none** – There is no rounding, so the time is announced including seconds, e.g. "Five minutes and 49 seconds." • **up** – The time is rounded up to the nearest minute, so 5:49 will be announced as "Six minutes."
Play Pre-ring MOH	By default, the calling party hears a ringtone while waiting until the remote party answers. You may want to replace this ringtone with music on hold (MOH). Select this option to allow IVR to play a special ringing MOH when the call has been placed but the ring signal has not yet been received.
Music on Hold Class	Specify a pre-ring MOH class here. Note: Ringtone files for custom MOH should be placed under /porta_var/porta-um/prompts/moh/OPTION_VALUE/ (e.g. for the MOH class "my-ringtone" the path will be /porta_var/porta-um/prompts/moh/my-ringtone/).

Disconnection Warning Interval, sec	This feature announces the remaining time in seconds or simply plays a "beeping" sound. This "time left" warning is played when a specified number of seconds is left before the call is disconnected.
Repeat Every, sec	This feature allows you to provide multiple warnings before call is disconnected because of insufficient funds. In this case IVR repeats the warning every specified number of seconds until the end of the call. These warnings help your customers to estimate whether there is enough time to finish their conversation or not, or if necessary, to top up their balance.
Type of Disconnection Warning	Choose one of the following types of "time left" warnings: • **beep** – play "beeping" sound. • **voice** – announce the remaining time in seconds.
Disconnect Call Before, sec	The call can be disconnected before an account's balance is actually depleted. Specify in seconds (till the calculated end of the call) when to disconnect the call.
Maximum Dial Attempts	Maximum number of dial attempts within one session. By default: 3.
SMS Callback Trigger	
Callback Access Number	Specify a phone number that sends data to the callback trigger. The phone number should be established by the SMS provider. This phone number is used to find the correct SMS callback instance. **Note**: The **Callback Access Number** option must be unique for each SMS callback instance.
Callback Engine	Select a type of callback engine – either a PortaSIP® Media Server or a Cisco gateway.
Callback Engine Host	If a Cisco gateway is set as a callback engine, then specify its IP address in this field.
Authenticate Account Command	Specify the command name for establishing callback using CLI, CLD and authentication data. Users will send this command via SMS. Default: P
Registration Command	Specify the registration command name. Users will send this command via SMS. Default: R
Change Service Password Command	Specify the command name for changing the account's password. Users will send this command via SMS. Default: CP
Check Balance Command	Specify a name for the command for checking the user balance. Users will send this command via SMS. Default: CB
Inbound Provider	Select an SMS provider for incoming SMS messages.

Outbound Provider	Select an SMS provider for outgoing SMS messages.
Send SMS Login	Specify login used for relaying SMS messages using the service of the corresponding SMS provider.
Send SMS Password	Specify a password used for relaying SMS messages using the service of the corresponding SMS provider.
Send SMS URL	Specify a URL for sending SMS messages. It is obtained from the corresponding SMS provider.
Company Name Template	Specify a "Company Name" template.
Company WEB Site Template	Specify a "Corporate web site" template.
Check Balance SMS Template	Specify a template for SMS messages sent to the user upon receiving a "Balance info" request.
Recharging Account SMS Template	Specify a template for SMS messages sent to the user upon receiving a "Recharging account" request.
Registration SMS Template	Specify a template for SMS messages sent to the user upon receiving a "Registration" request.
Use Account ID as ANI	If this check box is selected, Account ID is presented as the CLI for A-leg and the B-leg of the calls.
Account ID Translation Rule	Apply translation rules to the username used for authentication. For instance, for calls from Prague, Czech Republic, ANI numbers are delivered as 02123456. If you provide services in multiple countries, you will probably enter a Czech account in billing as 4202123456. Now when the server receives 02123456, it must add 42 to the beginning of the username, then use 4202123456 for authentication. Similarly, for calls from London the server could append 44, and so on.
ANI Translation Rule	This allows to modify the CLI number.
Send Authorization	When enabled, an authorization request will be sent along with authentication. It allows you to: • Check if the caller has sufficient balance to initiate a call leg (i.e., user will not be called back if the balance is insufficient). • Block some destinations for callback calls in the account's tariff (mark destinations as forbidden in the appropriate tariff rates). • Use a **Minimum Sufficient Time** option.

Minimum Sufficient Time, sec	Specify the minimum amount of seconds a user needs for leg A in order to use the callback service (applicable when **Send Authorization** is set to **Yes** and **Minimum Sufficient Time** > 0).
Destination Translation Rule	Allows to modify the dialed number.
Second Dialed Number Translation Rule	Allows to modify the second dialed number.
Template Account	Specify the account ID here to use its configuration properties as a template for all auto registered accounts.
Languages	This enables you to select language(s) to be used for voice prompts. Click the **Wizard** icon to open the language selection dialog box.
Conf Language List Is Preferred	If this check box is selected, the language list defined on this page has a higher preference than the account's preferred language.
Brand Prompts	IVR prompts can be customized per access number. Specify the directory where custom prompt files are located. The Media Server will look for the prompts in that folder first and if found – use them. Otherwise, it will use default files. For example, put customized English prompts under the directory /porta_var/psmsc/customfiles/ prompts/brands/my_company/en and specify "my_company" in this field.
Play Welcome Message	If enabled, the IVR will play the welcome message to the user once an access number is reached.
Restriction for Calling with Low Balance	• When account balance is less than product breakage and **disconnect** is selected, IVR plays the "you have insufficient funds" voice prompt and disconnects the call. • When account balance is less than product breakage and **no outgoing calls** is selected, IVR prompts for the destination number but gives a busy tone and drops the call immediately after dialing it. • Option **none** disables this feature.
Announce Balance	If enabled, the IVR will announce the current balance for the user before prompting for the phone number he wishes to reach.

Credit Accounts Balance Announcement	You can configure your IVR applications to announce the current balance *for credit accounts* in one of two modes: • **Funds / balance** – For prepaid customers (those who have a credit limit of 0 or less), announce "available funds" (calculated as credit limit minus balance) and announce the current balance for others (postpaid customers). • **Balance** – Always announce balance (this is the classic mode, ideal for typical postpaid customers). Note that a third "Backward compatibility" mode is enabled by default. It preserves the announcements exactly the way they worked in releases prior to MR35. In ***APPENDIX B. Balance Announcements***, there are balance announcement examples for different IVR configurations.
Announce Credit Limit	If enabled, the IVR will announce the credit limit as well as the account balance (applicable when **Credit Accounts Balance Announcement** is set to "balance" or "funds / balance").
Access Code	Specifies an Access Code to be used for this instance.
LegA CLD Prefix	Leg A (callback to a user's number) access code prefix. Allows billing leg A with different tariff. A separate **Services and Rating** entry with the appropriate access code and tariff should exist in the product's **Services and Rating** list. **NOTE:** Access code must contain DNIS after the Prefix. For example, if the **LegA CLD Prefix** is LEG_A and the Access Number is 12125551234, then the Access Code should be LEG_A12125551234.
LegB CLD Prefix	Leg B (user's call to destination) access code prefix. Allows billing leg B with different tariff. A separate **Services and Rating** entry with the appropriate access code and tariff should exist in the product's **Services and Rating** list. **NOTE:** Access code must contain DNIS after the Prefix. For example, if the **LegB CLD Prefix** is LEG_B and the Access Number is 12125551234, then the Access Code should be LEG_B12125551234.
Expected Connect Time, sec	The "authorized" time for call leg B will be decreased by the specified value.

Special Charge if LegB Fails	By enabling this, you can charge users differently for calls with failed leg B (e.g. incomplete call is not charged). Just add a new **Services and Rating** entry to the product's **Services and Rating** list, set its access code to "CALLBACK_FAIL" and associate it with a special tariff.
Strict Authorization	When enabled, call leg A will be disconnected if caller doesn't have sufficient funds to place call leg B.
Announce Time	When user inputs the destination, IVR announces the maximum call duration allowed to this destination and then connects the call.
Use Announcement Tariff	It is possible to use different tariffs for the announcement of the maximum call duration allowed and for rating this call. The first (transparent) tariff should be associated with the "ANNOUNCE+DNIS" access code in the product's **Services and Rating** list. The second tariff should be associated with an actual access code. Thus, the user hears the time announced according to the first tariff, while the call is actually authorized and rated according to the second tariff.
Seconds Rounding Mode	This option defines the way the seconds portion of "available time" is announced to a customer: • **none** – there is no rounding, so the time is announced including seconds, e.g. "Five minutes and 49 seconds." • **up** – the time is rounded up to the nearest minute, so 5:49 will be announced as "Six minutes."
Play Pre-ring MOH	By default, the calling party hears a ringtone while waiting until the remote party answers. You may want to replace this ringtone with music on hold (MOH). Select this option to allow IVR to play a special ringing MOH when the call has been placed but the ring signal has not yet been received.
Music on Hold Class	Specify a Pre-ring MOH class here. **NOTE:** Ringtone files for custom MOH should be placed under /porta_var/porta-um/prompts/moh/OPTION_VALUE/ (e.g. for the MOH class "my-ringtone" the path will be /porta_var/porta-um/prompts/moh/my-ringtone/).

Disconnection Warning Interval, sec	This feature announces the remaining time in seconds or simply plays a "beeping" sound. This "time left" warning is played when a specified number of seconds is left before the call is disconnected.
Repeat Every, sec	This feature allows you to provide multiple warnings before call is disconnected because of insufficient funds. In this case IVR repeats the warning every specified number of seconds until the end of the call. These warnings help your customers to estimate whether there is enough time to finish their conversation or not, or if necessary, to top up their balance.
Type of Disconnection Warning	Choose one of the following types of "time left" warnings: • **beep** – Play "beeping" sound. • **voice** – Announce the remaining time in seconds.
Disconnect Call Before, sec	The call can be disconnected before an account's balance is actually depleted. Specify in seconds (till the calculated end of the call) when to disconnect the call.
Maximum Dial Attempts	Maximum number of dial attempts within one session. By default: 3.
Email Callback Trigger	
Callback Email Address	Receiving email address. This address is aliased in the system to a special script which initiates email callback. **Note**: The **Callback Email Address** option must be unique for each email callback instance.
Callback Engine	Select a type of callback engine.
Callback Engine Host	If the Cisco gateway is set as a callback engine, then specify a network location for it in this field.
Use Account ID as ANI	If this check box is selected, account ID is presented as the CLI for A-leg and the B-leg of the calls.
Account ID Translation Rule	Apply translation rules to the username used for authentication. For instance, for calls from Prague, Czech Republic, ANI numbers are delivered as 02123456. If you provide services in multiple countries, you will probably enter a Czech account in billing as 4202123456. Now when the server receives 02123456, it must add 42 to the beginning of the username, then use 4202123456 for authentication. Similarly, for calls from London the server could append 44, and so on.

Send Authorization	When enabled, an authorization request will be sent along with authentication. It allows you to: • Check if the caller has sufficient balance to initiate a call leg (i.e., user will not be called back if the balance is insufficient). • Block some destinations for callback calls in the account's tariff (mark destinations as forbidden in the appropriate tariff rates). • Use a **Minimum Sufficient Time** option.
Minimum Sufficient Time, sec	Specify the minimum amount of seconds a user needs for leg A in order to use the callback service (applicable when **Send Authorization** is set to **Yes** and **Minimum Sufficient Time** > 0).
Destination Translation Rule	Allows to modify the dialed number.
Second Dialed Number Translation Rule	Allows to modify the second dialed number.
Languages	This enables you to select language(s) to be used for voice prompts. Click the **Wizard** icon to open the language selection dialog box.
Conf Language List Is Preferred	If this check box is selected, the language list defined on this page has a higher preference than the account's preferred language.
Brand Prompts	IVR prompts can be customized per access number. Specify the directory where custom prompt files are located. The Media Server will look for the prompts in that folder first and if found – use them. Otherwise, it will use default files. (For example, put customized English prompts under the directory /porta_var/psmsc/customfiles/ prompts/brands/my_company/en and specify "my_company" in this field).
Play Welcome Message	If enabled, the IVR will play the welcome message to the user once an access number is reached.

Restriction for Calling with Low Balance	- When account balance is less than product breakage and **disconnect** is defined, IVR plays the "you have insufficient funds" voice prompt and disconnects the call. - When account balance is less than product breakage and **no outgoing calls** are defined, IVR prompts for the destination number but gives a busy tone and drops the call immediately after dialing it. - Option **none** disables this feature.
Announce Balance	If enabled, the IVR will announce the current balance for the user before prompting for the phone number he wishes to reach.
Credit Accounts Balance Announcement	You can configure your IVR applications to announce the current balance *for credit accounts* in one of two modes: **Funds / balance** – For prepaid customers (those who have a credit limit of 0 or less), announce "available funds" (calculated as credit limit minus balance) and announce the current balance for others (postpaid customers). **Balance** – Always announce balance (this is the classic mode, ideal for typical postpaid customers). Note that a third "Backward compatibility" mode is enabled by default. It preserves the announcements exactly the way they worked in releases prior to MR35. In ***APPENDIX B. Balance Announcements,***, there are balance announcement examples for different IVR configurations.
Announce Credit Limit	If enabled, the IVR will announce the credit limit as well as the account balance (applicable when **Credit Accounts Balance Announcement** is set to "balance" or "funds / balance").
Access Code	Specifies an access code to be used for this instance.

LegA CLD Prefix	Leg A (callback to a user's number) access code prefix. Allows billing leg A with different tariff. A separate **Services and Rating** entry with the appropriate access code and tariff should exist in the product's **Services and Rating** list. **NOTE:** Access code must contain DNIS after the Prefix. For example, if the **LegA CLD Prefix** is LEG_A and the Access Number is 12125551234, then the Access Code should be LEG_A12125551234.
LegB CLD Prefix	Leg B (user's call to destination) access code prefix. Allows billing leg B with different tariff. A separate **Services and Rating** entry with the appropriate access code and tariff should exist in the product's **Services and Rating** list. **NOTE:** Access code must contain DNIS after the Prefix. For example, if the **LegB CLD Prefix** is LEG_B and the Access Number is 12125551234, then the Access Code should be LEG_B12125551234.
Expected Connect Time, sec	The "authorized" time for call leg B will be decreased by the specified value.
Special Charge if LegB Fails	By enabling this, you can charge users differently for calls with failed leg B (e.g. incomplete call is not charged). Just add a new **Services and Rating** entry to the product's **Services and Rating** list, set its access code to "CALLBACK_FAIL" and associate it with a special tariff.
Strict Authorization	When enabled, call leg A will be disconnected if caller doesn't have sufficient funds to place call leg B.
Announce Time	When user inputs the destination, IVR announces the maximum call duration allowed to this destination and then connects the call.
Use Announcement Tariff	It is possible to use different tariffs for the announcement of the maximum call duration allowed and for rating this call. The first (transparent) tariff should be associated with the "ANNOUNCE+DNIS" access code in the product's **Services and Rating** list. The second tariff should be associated with an actual access code. Thus, the user hears the time announced according to the first tariff, while the call is actually authorized and rated according to the second tariff.

Seconds Rounding Mode	This option defines the way the seconds portion of "available time" is announced to a customer: • **none** – There is no rounding, so the time is announced including seconds, e.g. "Five minutes and 49 seconds." • **up** – The time is rounded up to the nearest minute, so 5:49 will be announced as "Six minutes."
Play Pre-ring MOH	By default, the calling party hears a ringtone while waiting until the remote party answers. You may want to replace this ringtone with music on hold (MOH). Check this option to allow IVR to play a special ringing MOH when the call has been placed but the ring signal has not yet been received.
Music on Hold Class	Specify a Pre-ring MOH class here. **NOTE:** Ringtone files for custom MOH should be placed under /porta_var/porta-um/prompts/moh/OPTION_VALUE/ (e.g. for the MOH class "my-ringtone" the path will be /porta_var/porta-um/prompts/moh/my-ringtone/).
Disconnection Warning Interval, sec	This feature announces the remaining time in seconds or simply plays a "beeping" sound. This "time left" warning is played when a specified number of seconds is left before the call is disconnected.
Repeat Every, sec	This feature allows you to provide multiple warnings before call is disconnected because of insufficient funds. In this case IVR repeats the warning every specified number of seconds until the end of the call. These warnings help your customers to estimate whether there is enough time to finish their conversation or not, or if necessary, to top up their balance.
Type of Disconnection Warning	Choose one of the following types of "time left" warnings: • **beep** – Play "beeping" sound; • **voice** – Announce the remaining time in seconds.
Disconnect Call Before, sec	The call can be disconnected before an account's balance is actually depleted. Specify in seconds (till the calculated end of the call) when to disconnect the call.
Maximum Dial Attempts	Maximum number of dial attempts within one session. By default: 3.

Global IVR Options

Confirm by Pound	If this option is enabled, the IVR suggests confirmation of multi-digit input by pressing the '#' key.
Default Prompt Timeout, sec	Specify a default timeout for all voice prompts in seconds.
Initial Pause, sec	Specify an initial delay in seconds before the first playback.
Target Host for Outgoing Calls	Specify a target host / IP for all outgoing calls from the Media Server. If it is not specified then all outgoing calls will go to the Switching Server that initiated the incoming call leg.
Send Start Accounting	This option is used for outgoing calls in all IVR applications.
Account Self-Care	
Use as Voicemail	Permits access to the account self-care IVR when account dials own account number.
Languages	This enables you to select language(s) to be used as voice prompts. Click the **Wizard** icon to open the language selection dialog box.
Follow Me Timeout, sec	Specifies how long the IP phone will ring before the call goes to a follow-me number.
Credit Accounts Balance Announcement	You can configure your IVR applications to announce the current balance *for credit accounts* in one of two modes: • **Funds / balance** – For prepaid customers (those who have a credit limit of 0 or less), announce "available funds" (calculated as credit limit minus balance) and announce the current balance for others (postpaid customers). • **Balance** – Always announce balance (this is the classic mode, ideal for typical postpaid customers). Note that a third "Backward compatibility" mode is enabled by default. It preserves the announcements exactly the way they worked in releases prior to MR35.

Announce Credit Limit	If enabled, the balance announced to the end user will be followed by an announcement of the credit limit. This allows you to separate cases where credit limits are assigned only as a precaution (and so the end user should not really know about them) from cases where they are an integral part of the service (e.g. loyal customers are rewarded with an increased credit limit the longer they stay with you).
	One's Own Voice Mailbox Access
Allow to Check Account Balance	Select this check box to allow end users to check current balance from voice mailbox.
Allow to Place an Outgoing Call	Select this check box to allow end users to make outgoing calls from voice mailbox.
Announce Credit Limit	If enabled, the balance announced to the end user will be followed by an announcement of the credit limit. This allows you to separate cases where credit limits are assigned only as a precaution (and so the end user should not really know about them) from cases where they are an integral part of the service (e.g. loyal customers are rewarded with an increased credit limit the longer they stay with you).
Credit Accounts Balance Announcement	You can configure your IVR applications to announce the current balance *for credit accounts* in one of two modes: • **Funds / balance** – For prepaid customers (those who have a credit limit of 0 or less), announce "available funds" (calculated as credit limit minus balance) and announce the current balance for others (postpaid customers). • **Balance** – Always announce balance (this is the classic mode, ideal for typical postpaid customers). Note that a third "Backward compatibility" mode is enabled by default. It preserves the announcements exactly the way they worked in releases prior to MR35. In ***APPENDIX B. Balance Announcements,*** there are balance announcement examples for different IVR configurations.
No Trash Folder in IVR	When selected, messages deleted via IVR will be deleted completely, regardless of self-care settings.

Suppress Announcements	When end users make outgoing calls from their voice mailboxes, the IVR will suppress IVR announcements and only play the dial tone. The IVR application permits only one attempt to enter the phone number.
Play Notification	Select this check box to play a notification during voicemail access when a mailbox is full.
Brand Prompts	IVR prompts can be customized per access number. Specify the directory where the custom prompt files are located. The Media Server will look for the prompts in that folder first and if found – use them. Otherwise, it will use the default files. (For example, put customized English prompts under the directory /porta_var/psmsc/customfiles/ prompts/brands/my_company/en and specify "my_company" in this field).
Access Code	This allows you to apply a special rating to outgoing calls made by customers from their voice mailboxes. For example, if an administrator specifies the **VOICEMAIL** access code in the application settings, then PortaBilling® will use a rating entry with this very access code from the account's product to authorize outgoing calls from users' voice mailboxes.
Voicemail/Auto Attendant	
Media Server Domain	The Media Server Domain corresponding to the current billing environment. This option specifies the email domain and hostname/IP of the Media Server.
Minimum Duration, sec	Specify the minimum length for a voice message in seconds. If the recorded voice message is shorter than or equal to the specified value then the message will be dropped. A zero value disables this check.
Brand Prompts	IVR prompts can be customized per Access Number. Specify the directory where the custom prompt files are located. The Media Server will look for the prompts in that folder first and if found – use them. Otherwise, it will use the default files. (For example, put customized English prompts under the directory /porta_var/psmsc/customfiles/ prompts/brands/my_company/en and specify "my_company" in this field).
Record Timeout, sec	Specify in seconds a default timeout for recording voicemail and greetings.
Silence Detection	If this check box is selected, then silence is detected during voicemail recording (G711 codecs only).
Silence Seconds, sec	Specify how many seconds of silence will result in canceling voicemail recording.

Connections

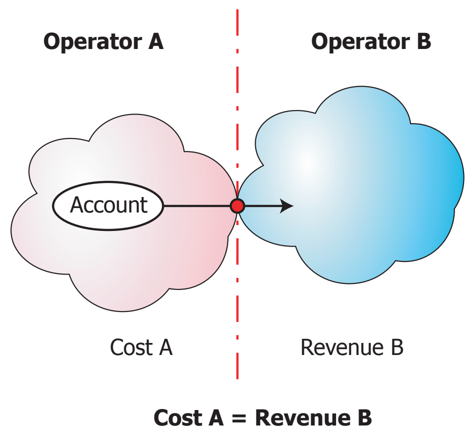
Definitions

Network

VoIP network – one or more VoIP entities that belong to a single operator.

Connection

Point of change of network ownership. Defined as a set of physical and logical parameters i.e. IP, Port, Timeslot, Call Type, Call Direction, etc.

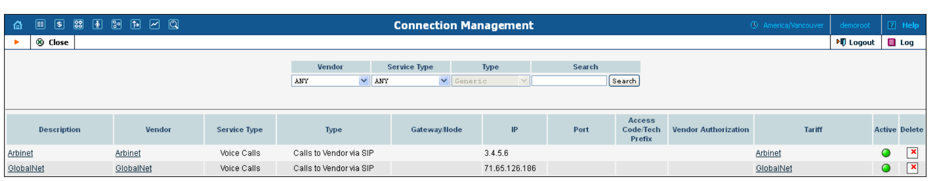


Operator

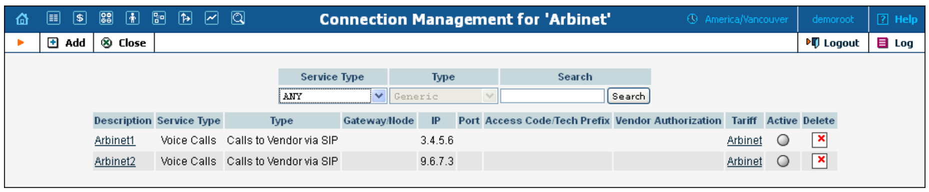
Network owner. Responsible for internetworking and wholesale in its network.

A connection defines the point where a call travels between the networks of two operators, one of whom is a PortaBilling® owner. At this point, we will create an xDR for the vendor (the other operator) describing our costs. Also, if this was an outgoing call, we will create xDRs for both the account and the customer.

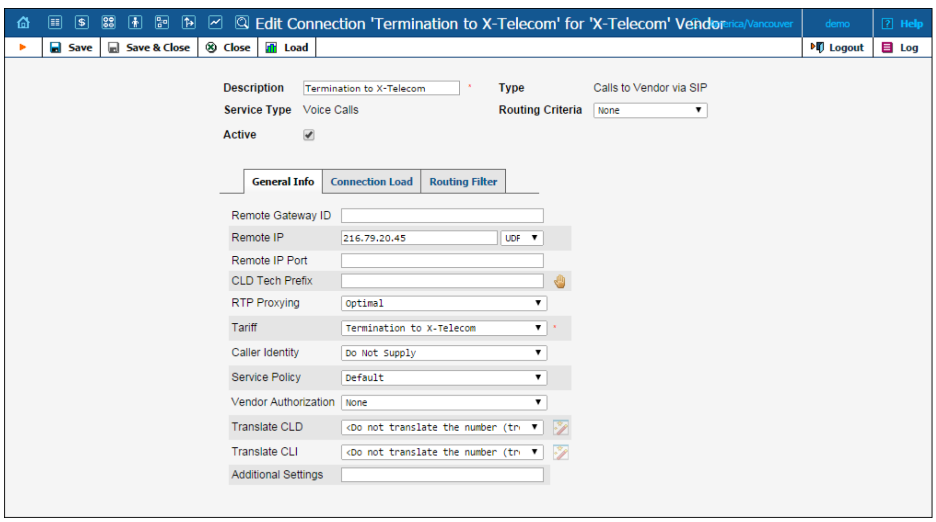
You can access connection information directly from the main menu. In this case, all connections defined in the system will be displayed.



Alternatively, you can access a list of connections for a particular vendor. To do so, click the **Connections** icon next to the vendor name in the vendor list, or click **Connections** on the toolbar on the vendor info page.



To edit a connection, simply click on the connection description in the table. To add a new connection, first go to the list of connections for a specific vendor, then click **Add**.



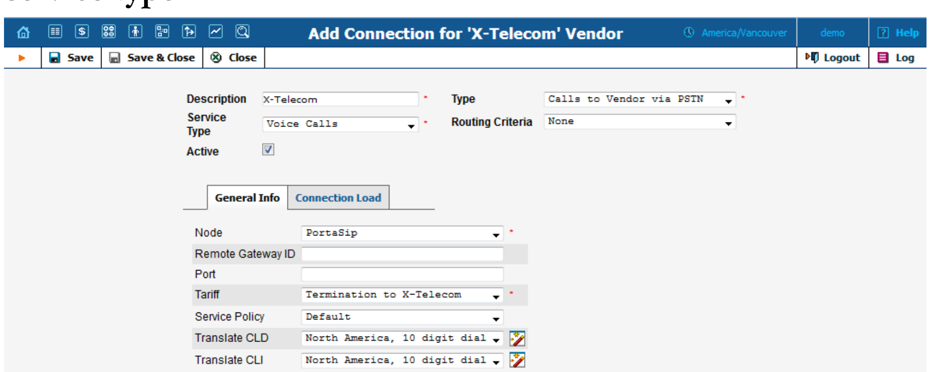
Field	Description
Description	A logical description of the connection.
Service Type	The type of service this connection is used to transport (voice calls, Internet connectivity, etc.) **NOTE:** While services are used to represent and bill your customers' activities to them, you use service types to define a connection, since in this case it is important to know what actual (physical) service was provided.
Type	The type of this connection. The available types depend on the service type chosen above. For the **Voice Calls** service, the applicable types are: • **Calls from Vendor via PSTN** –

	Vendor-related expenses for delivering calls from your customers to your network (e.g. toll-free lines) via a PSTN trunk to your gateway. • **Calls from Vendor via SIP** – Vendor-related expenses for delivering calls from your customers to your network (e.g. foreign DIDs) via VoIP to your SIP server. • **Calls to Vendor via PSTN** – Your expenses for terminating calls on a vendor's network via a PSTN trunk on your gateway. • **Calls to Vendor via SIP** – Your expenses for terminating calls on a vendor's network by sending them over an IP network to his gateway or proxy.
Active	When this check box is selected, this connection is included in the routing. Therefore, this check box is available only for Voice Calls and Messaging Service connection types. (Other connection types are used only for billing purposes and not for routing.)
The following field is only available for "Calls to Vendor via SIP" and "Calls to Vendor via PSTN" connections:	
Routing Criteria	Defines what routing criteria will be applied to this connection.

Other available fields on the **Add Connection** page vary depending on the service type and type of connection chosen.

General Info tab

Calls to/from Vendor via PSTN connections with Voice Calls service type

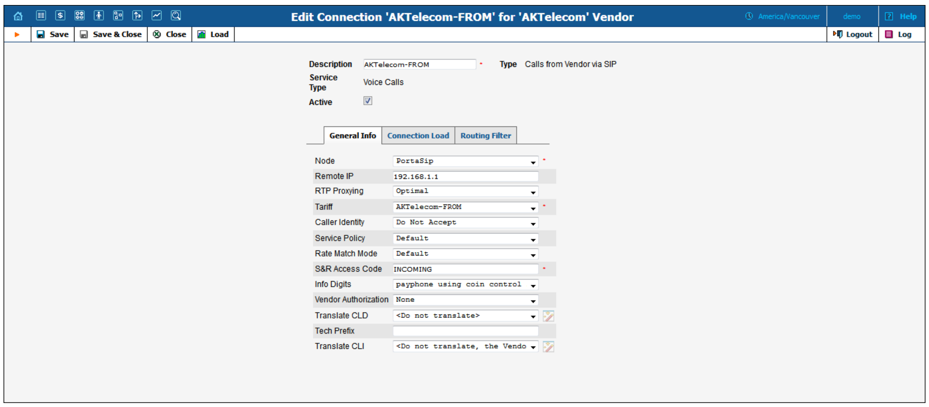


Field	Description
Node	Name of the node used for this connection.
Port	Only on PSTN-related connections. The specified port for PSTN origination or termination. The port can be set using wildcards: • _ – Match any symbol. • % – Match any sequence of symbols . • The wildcard symbols * and ? should not be used
Tariff	The tariff used to calculate the cost of terminating calls via this connection.
Translate CLD	Select one of the following options: • **Do not translate** – The number is not converted from / to a vendor-specific format and is treated as defined in E.164 format. • **Create a new translation rule** – Launches Dialing Rules Wizard for creating a new translation rule. • **Apply an existing translation rule** – Select the existing translation rule from the list. You can click the **Wizard** icon at the right to launch the Dialing Rules Wizard and view parameters specified for this rule. If the translation rule is explicitly defined, it will convert a number from / to a vendor-specific format into / from the unified format used in billing. This is only applicable if the node that routes the call retrieves the routing information from PortaBilling® (e.g. PortaSIP® or MVTS).
The following fields are only available for "Calls from Vendor via PSTN" connections:	
CLD (DNIS)	Specifies the access number the customer dialed in order to reach your network.
Info Digits	Info Digits is ISDN Originating Line Information sent by the gateway. If call cost depends on OLI, select the corresponding Info Digits value from the list. Please note that the gateway should be configured to support OLI.

	For more information please refer to the *OLI-Based Billing* section of the **PortaBilling Administrator Guide**.
The following fields are only available for "Calls to Vendor via PSTN" connections:	
Remote Gateway ID	A distinctive name for the remote gateway. This is used when it is not possible to determine the identity of the remote party (and thus the connection / vendor that the call goes to) by its IP address alone. This ID will then be used to identify the connection, based on additional information available in the accounting record. The value in this field should take one of the following forms: • A domain name (translated into the actual IP address using a DNS query at the time the call is routed). This must be a fully qualified domain name, i.e. it should contain at least two names separated by a dot, for instance `mytelecom.net.` All other restrictions related to the domain name (e.g. permitted characters) apply as well. The resource record types used in DNS queries are: A, CNAME, SRV. • Another custom name that helps to identify the connection. Given in uppercase without any dots.
Service Policy	Specifies a predefined set of options which are applied to calls going through this connection. Note that the options may be overridden by those defined for the caller or called account (depending on the connection type).
Translate CLI	Select one of the following options: • **Do not translate** – The number is not converted from / to a vendor-specific format and is treated as defined in E.164 format. • **Create a new translation rule** – Launches Dialing Rules Wizard for creating a new translation rule. • **Apply an existing translation rule** – Select the existing translation rule from the list. You can click the **Wizard** icon at the right to launch the Dialing Rules Wizard and view parameters specified for this rule.

	If the translation rule is explicitly defined, it will translate the CLI (ANI) to / from a vendor-specific format when routing a call to / from the vendor's network. This is only applicable if the node that routes the call retrieves the routing information from PortaBilling® (e.g. PortaSIP® or MVTS).

Calls to/from Vendor via SIP connections with Voice Calls service type



Field	Description
Remote IP	The IP of the remote gateway, e.g. `23.45.67.89`. If a connection has an empty Remote IP attribute, calls going to any IP address (not explicitly defined in some other connection) will be regarded as going via this connection. If there are multiple connections with an unknown IP address, then the **Remote Gateway ID** and **CLD Tech Prefix** can be used to help identify a specific connection.
RTP Proxying	Describes the NAT traversal capabilities of the remote gateway (the default value is set to **Optimal**): • **Direct** – RTP stream should be sent directly to this node; RTP proxy should not be used. • **Optimal** – This node is capable of NAT traversal; no RTP proxying is required unless specifically requested. • **OnNat** – This node is not capable of NAT traversal; engage RTP proxy if the other party is behind NAT. • **Always** – When sending a call to this node, always engage RTP proxy, so that no media stream goes to it directly.

Tariff	The tariff used to calculate the cost of terminating calls via this connection.
Vendor Authorization	Defines which username / password should be used for authorization of calls via this connection.
Translate CLD	Select one of the following options: • **Do not translate**– The number is not converted from / to a vendor-specific format and is treated as defined in E.164 format. • **Create a new translation rule** – Launches **Dialing Rules Wizard** for creating a new translation rule. • **Apply an existing translation rule** – Select the existing translation rule from the list. You can click the **Wizard** icon at the right to launch the **Dialing Rules Wizard** and view parameters specified for this rule. If the translation rule is explicitly defined, it will convert a number from / to a vendor-specific format into / from the unified format used in billing. This is only applicable if the node that routes the call retrieves the routing information from PortaBilling® (e.g. PortaSIP® or MVTS).
Translate CLI	Select one of the following options: • **Do not translate** – The number is not converted from / to a vendor-specific format and is treated as defined in E.164 format. • **Create a new translation rule** – Launches **Dialing Rules Wizard** for creating a new translation rule. • **Apply an existing translation rule** – Select the existing translation rule from the list. You can click the **Wizard** icon at the right to launch the **Dialing Rules Wizard** and view parameters specified for this rule. If the translation rule is explicitly defined, it will translate the CLI (ANI) to / from a vendor-specific format when routing a call to / from the vendor's network. This is only applicable if the node that routes the call retrieves the routing information from PortaBilling® (e.g. PortaSIP® or MVTS).

Service Policy	This specifies a predefined set of options that are applied to calls going through this connection. Note that options may be overridden by those defined for the caller or called account (depending on the connection type).
The following fields are only available for "Calls to Vendor via SIP" connections:	
Remote IP Port	The port to connect to on the remote end. The default port for the chosen protocol (5060 for SIP, 1720 for H323) is used where no value is provided.
Remote Gateway ID	A distinctive name for the remote gateway. This is used when it is not possible to determine the identity of the remote party (and thus the connection / vendor that the call goes to) by its IP address alone. This ID will then be used to identify the connection, based on additional information available in the accounting record. The value in this field should take one of the following forms: • A domain name (translated into the actual IP address using a DNS query at the time the call is routed). This must be a fully qualified domain name, i.e. it should contain at least two names separated by a dot, for instance `mytelecom.net`. All other restrictions related to the domain name (e.g. permitted characters) apply as well. • The special matching keywords `SIP-URI`, `INTERNAL` or `SIP-UA` used internally in routing. • Another custom name that helps to identify the connection. Given in uppercase without any dots.
CLD Tech Prefix	If you have several connections with the same IP address (e.g. the same carrier offers you routes of different quality) and these can only be distinguished using the tech-prefix in the destination number, enter that tech-prefix here. This also automatically modifies the translation rules for this connection, such that the tech-prefix is appended to the number when a call is routed there, and removed from it when CDRs are being processed.
Caller Identity	Describes how outgoing calls for which the caller has requested privacy are to be displayed to the vendor. • **Do not Supply** – PortaSwitch® will

	remove all information about the caller from the call initiation info sent to the vendor. • **Supply** – The outgoing call initiation request will contain special privacy headers which will contain the information about real CLI number.
Additional Settings	Additional settings for some call scenarios, for example routing based on Point of Presence.
The following fields are only available for "Calls from Vendor via SIP" connections:	
Node	Name of the node used for this connection.
Caller Identity	Describes how the system processes the calls for which the caller has requested privacy. • **Do not Accept** – Special privacy headers will not be processed. • **Accept** – The information about real CLI number will be retrieved from the special privacy headers.
S&R Access Code	This parameter allows you to use different rate plans for the same service, based on where the call originates from. Define **Assign Access Code** for the authorization of the call in order to allow the appropriate entry specified in the product's **Services and Rating** tab to be selected. This field is mandatory and by default, is set to 'INCOMING.'
Info Digits	If call cost depends on OLI, select the corresponding Info Digits value from the list. For more information please refer to the *OLI-Based Billing* section of the **PortaBilling Administrator Guide**.
Rate Match Mode	This parameter allows you to rate calls either based on their destination or the caller's number. • **Default** – Rating based on the destination number. • **Calling number** – Allows the use of the caller's number to calculate the billing charges (e.g. for charging the owner of a toll-free number for incoming calls).

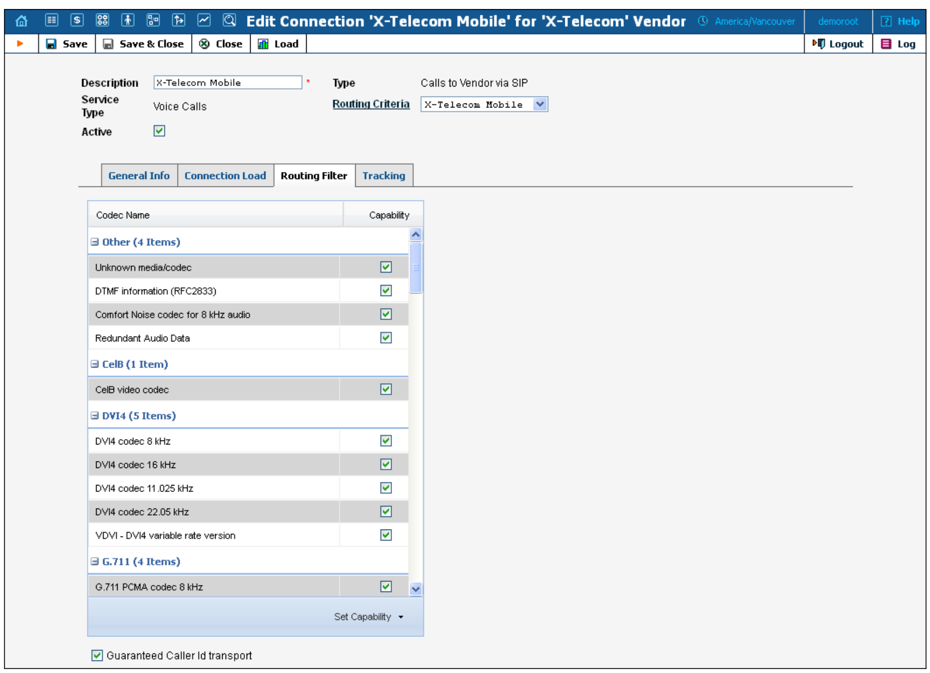
Connection Load tab

Field	Description
Capacity	Specifies the maximum number of simultaneous calls the connection can support. If **Limit Utilization by Capacity** is active, when the number of simultaneous

	calls established via the connection reaches its specified limit, this connection will become excluded from all further routing attempts. Otherwise, this parameter is only used to correctly scale the load graph for the connection.
The following fields are only available for "Calls to Vendor via SIP/PSTN" connections:	
Limit Utilization By Capacity	Select this check box to enable load-balancing based on utilization of this connection and to limit the number of simultaneous calls routed through it.
Start Utilization Balancing After	Start performing load-balancing using other connections (that would normally assume a lower position in the routing list) when the number of simultaneous calls reaches this threshold.

Routing Filter tab

For *"Calls to Vendor via SIP"* connections, the routing filter allows you to define the capabilities of the remote party (such as the gateway of a carrier) and your preferences for using them.

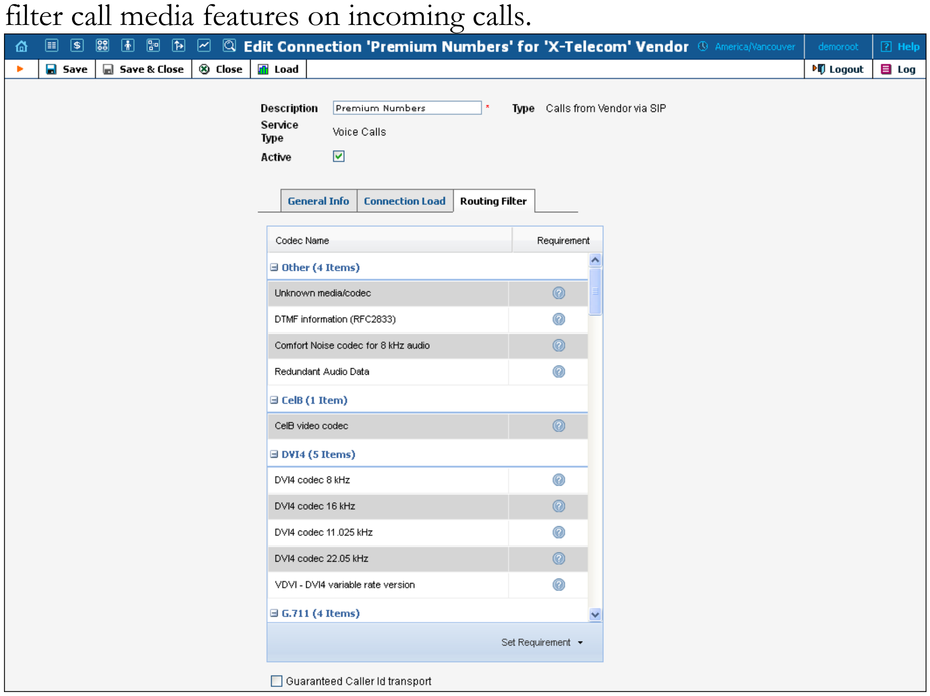


Column	Description
Codec Name	Name of the call media feature (such as a specific codec or T.38 fax capability).
Capability	This parameter allows you to specify remote party capabilities or prohibit the use of a call media feature for the connection. The following options are available: • **Supported** – This means that you are

	sure that this equipment supports this feature and are therefore allowing it. • **Not supported** – This means that this equipment is unable to support this particular feature (e.g. G.723 codec). Your administrator may decide to prohibit it. For example, although you do not know whether a vendor's gateway supports the G.722 codec, by marking it "not supported" you will ensure that even if the originating codec end-point appears available, it will be removed from the codec list that is sent to the carrier in the SIP call initiation request, and thus will not be used.

Guaranteed Caller Id transport – Select this option for carriers that are capable of delivering caller ID information.

For *"Calls from Vendor via SIP"* connections, the routing filter allows you to filter call media features on incoming calls.



Column	Description
Codec Name	Name of the call media feature (such as a specific codec or T.38 fax capability).
Requirement	This parameter describes the filters applied to call media features. The following options are available: • **Suppressed** – This means that PortaSwitch will prevent the use of this

		particular feature (e.g. G.722 codec) and will remove the information about this codec from SIP requests received from a remote party. • **Not required** – This means that PortaSwitch does not do any special processing for this feature. It will be preserved in the incoming SIP request and may be used if the other party supports it. This is the default value for all features.

Enforce codec order (available for *Calls from Vendor via SIP* connections) – When this option is selected during the connection establishment, codecs are used in an order defined by the service policy assigned to this connection.

Connection Load

PortaBilling® automatically updates load graphs based on the number of calls going through a connection. To access the load graph for a specific connection, open the connection details page and click the **Load** icon on the toolbar.

9. Statistics

Graphs

The default timeframe for all graphs is 30 hours. The dates above the graph are the boundary timeframe for the current graph. If the graph is shown in more than one color, a legend for color use will be displayed below the graph. If there are two graphs, captions will be provided on the left. The use of navigation is explained in the table below.

Icon	Description
	**Zoom Out**. Click the icon or the top part of the graph to see a 50% longer time interval.
	**Zoom In**. Click the icon or the bottom part of the graph to see a 50% shorter time interval and a more detailed graph.
	**Back in time.** Click the icon or the left part of the graph to move back in time by 50% of the current timeframe.
	**Forward in time**. Click the icon or the right part of the graph to move forward in time by 50% of the current timeframe.

Reports

The middle portion of the report page is a one-year calendar.

PortaBilling® keeps reports for one year, after which they are removed from the system. The current month is displayed in the bottom right-hand corner of the calendar.

Look at the following diagram of a calendar:

1. If present, this arrow notifies the user that a report for this month is available for download by clicking the month link.
2. Three-letter abbreviation for the month, followed by the year.
3. If present, this arrow notifies the user that two semi-monthly reports are available for download by clicking the links on the right.

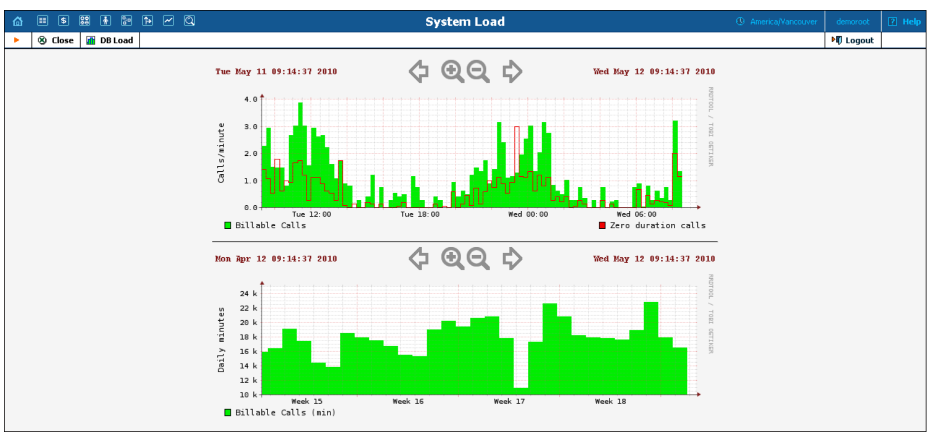
4. Click this icon to download statistics for the first half of the month.
5. Click this icon to download statistics for the second half of the month.
6. The number of the week in the current year. No report was generated for this week, so there is no link.
7. Same as 6, but here a report has been generated and may be downloaded by clicking the link.
8. The day of the month. No report has been generated, so the link is inactive.
9. Days with linked reports are bolded and underscored. Click to download the report.

If a report is available, the corresponding link is bolded and underscored.

NOTE: Links are not displayed if reports have not been configured.

System Load

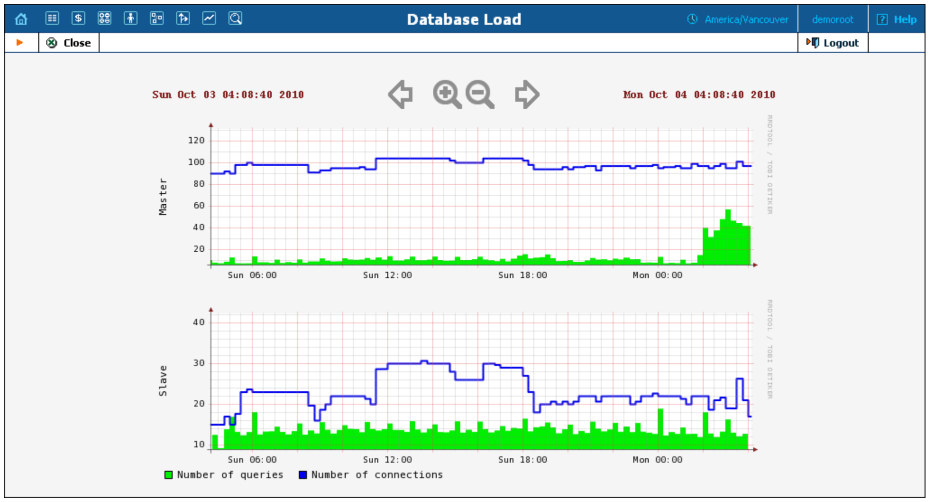
The **System Load** graph provides a general overview of the billing system status in terms of the number of call attempts per minute and the total volume of calls per day.



The **Calls/minute** graph at the top shows the number of calls, and is broken down into "Billable" and "Zero Duration" calls.
The **Daily minutes** graph shows the total call volume (in minutes) that passes through your system per day.

Database

The **Database Load** graph shows the load (in number of queries) and the number of active threads on the master and slave databases. This information may be useful in the event that database interactions seem slow, or for other debugging scenarios.

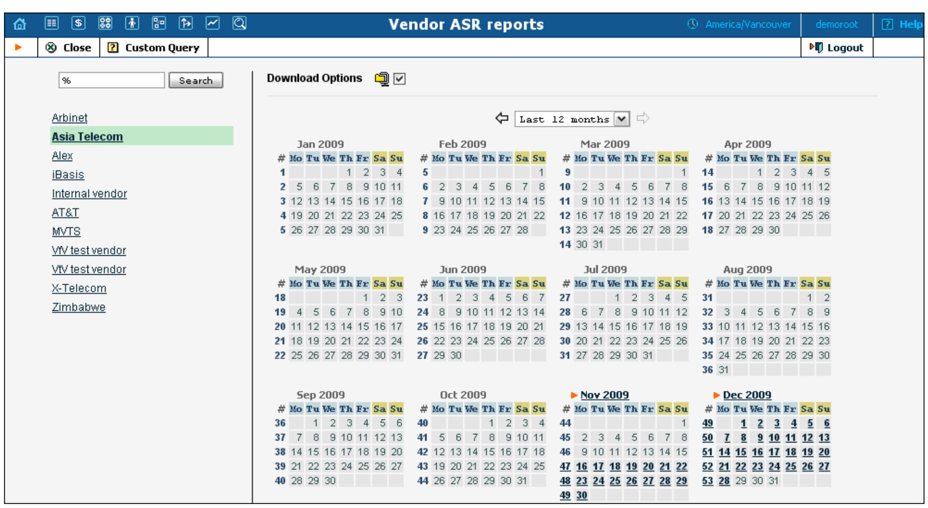


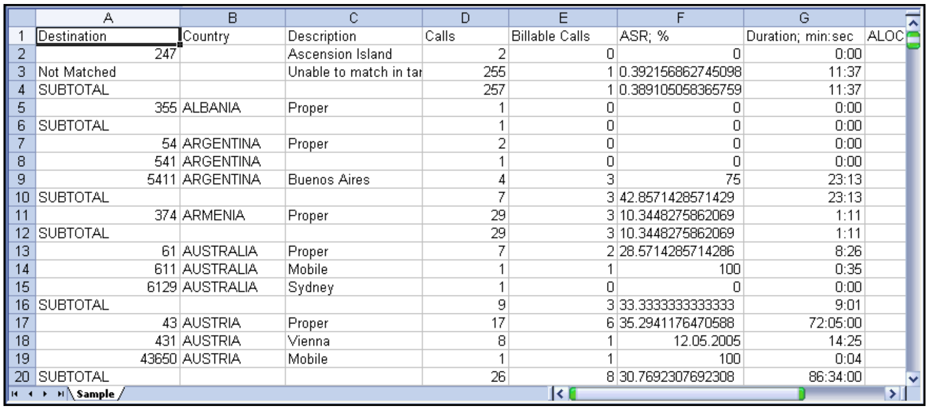
ASR

The **Vendor ASR reports** page gives the user easy access to downloads of all ASR reports that have been defined for a vendor. Reports for the desired vendor may be found by selecting the vendor from a list on the left side of the page, or by entering the vendor's name in the search field and clicking the **Search** button. The wildcard symbol '%' may also be used for the search.

Download Options

The default report download format is .csv. Select the check box next to the **ZIP** icon to download zipped .csv files.



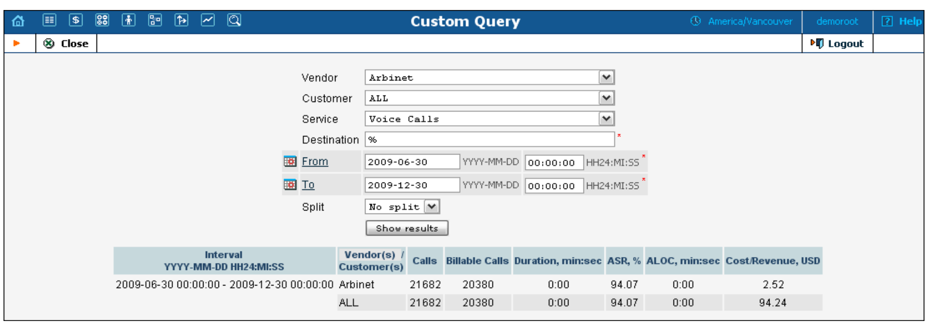


	A	B	C	D	E	F	G	
1	Destination	Country	Description	Calls	Billable Calls	ASR; %	Duration; min:sec	ALOC
2	247		Ascension Island	2	0	0	0:00	
3	Not Matched		Unable to match in tar	255	1	0.392156862745098	11:37	
4	SUBTOTAL			257	1	0.389105058365759	11:37	
5	355	ALBANIA	Proper	1	0	0	0:00	
6	SUBTOTAL			1	0	0	0:00	
7	54	ARGENTINA	Proper	2	0	0	0:00	
8	541	ARGENTINA		1	0	0	0:00	
9	5411	ARGENTINA	Buenos Aires	4	3	75	23:13	
10	SUBTOTAL			7	3	42.8571428571429	23:13	
11	374	ARMENIA	Proper	29	3	10.3448275862069	1:11	
12	SUBTOTAL			29	3	10.3448275862069	1:11	
13	61	AUSTRALIA	Proper	7	2	28.5714285714286	8:26	
14	611	AUSTRALIA	Mobile	1	1	100	0:35	
15	6129	AUSTRALIA	Sydney	1	0	0	0:00	
16	SUBTOTAL			9	3	33.3333333333333	9:01	
17	43	AUSTRIA	Proper	17	6	35.2941176470588	72:05:00	
18	431	AUSTRIA	Vienna	8	1	12.05.2005	14:25	
19	43650	AUSTRIA	Mobile	1	1	100	0:04	
20	SUBTOTAL			26	8	30.7692307692308	86:34:00	

Custom Query

The Custom Query utility, which can be accessed by clicking the **Custom Query** button, enables you to view ASR and cost / revenue information for all calls going from selected customer(s) to selected vendor(s). This query can also be filtered by destination and a precise time interval. The **Split** selector allows the report to be divided into hourly and daily intervals.

Select a customer or vendor, or a destination (which may be specified exactly), or use a wildcard. (For example, all calls to England may be specified as "44%" in the destination field.) A date and time range for the search must be specified. To initiate the query, click the **Show results** button.



Interval YYYY-MM-DD HH24:MI:SS	Vendor(s) / Customer(s)	Calls	Billable Calls	Duration, min:sec	ASR, %	ALOC, min:sec	Cost/Revenue, USD
2009-06-30 00:00:00 - 2009-12-30 00:00:00	Arbinet	21682	20380	0:00	94.07	0:00	2.52
	ALL	21682	20380	0:00	94.07	0:00	94.24

The results table contains two rows, one each for the customer and the vendor.

- Calls.
- Billable Calls.
- Duration, min:sec.
- ASR (Average Success Rate).
- ALOC (Average Length of Call), min:sec.
- Cost / Revenue, in the PortaBilling® owner's currency.

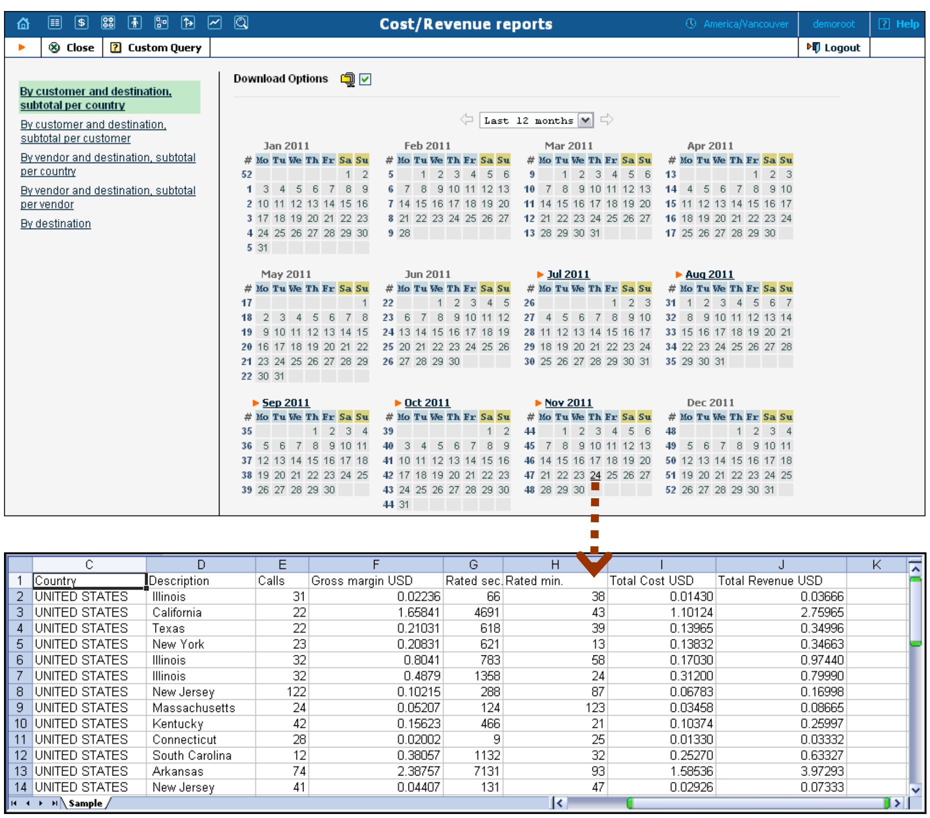
The Custom Query utility is a tool for monitoring various parameters of your current call flow. It should **not** be used to obtain billing statistics for a particular vendor (use the xDR statistics for the corresponding vendor), and should **never** be used to obtain information such as “total minutes for a particular customer.” Since this report operates with the vendor’s xDR, it will provide figures according to the vendor’s time rounding, not the customer’s. This can make a significant difference (e.g. your vendor uses 1 second rounding, while customers are billed on a per-minute basis).

Cost / Revenue Reports

The **Cost / Revenue reports** page allows users to easily download all **Cost / Revenue reports** that have been generated in the system. Reports are grouped by the following call types:

- By customer and destination, subtotal per country (default).
- By customer and destination, subtotal per customer.
- By vendor and destination, subtotal per country.
- By vendor and destination, subtotal per vendor.
- By destination.

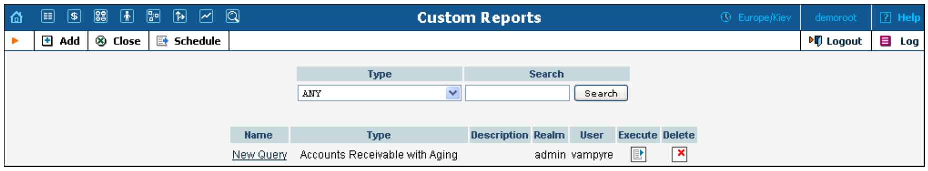
The active selection is highlighted in green.



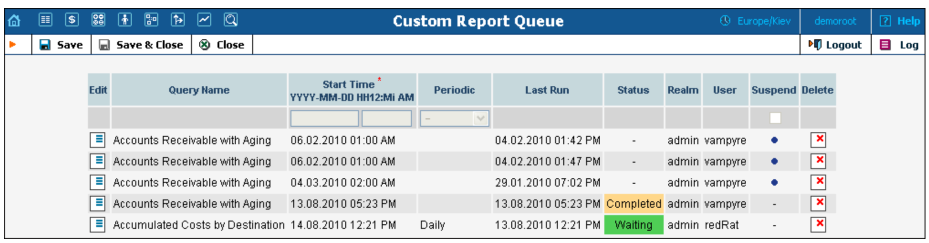
	C	D	E	F	G	H	I	J	K
1	Country	Description	Calls	Gross margin USD	Rated sec.	Rated min.	Total Cost USD	Total Revenue USD	
2	UNITED STATES	Illinois	31	0.02236	66	38	0.01430	0.03666	
3	UNITED STATES	California	22	1.65841	4691	43	1.10124	2.75965	
4	UNITED STATES	Texas	22	0.21031	618	39	0.13965	0.34996	
5	UNITED STATES	New York	23	0.20831	621	13	0.13832	0.34663	
6	UNITED STATES	Illinois	32	0.8041	783	58	0.17030	0.97440	
7	UNITED STATES	Illinois	32	0.4879	1358	24	0.31200	0.79990	
8	UNITED STATES	New Jersey	122	0.10215	288	87	0.06783	0.16998	
9	UNITED STATES	Massachusetts	24	0.05207	124	123	0.03458	0.08665	
10	UNITED STATES	Kentucky	42	0.15623	466	21	0.10374	0.25997	
11	UNITED STATES	Connecticut	28	0.02002	9	25	0.01330	0.03332	
12	UNITED STATES	South Carolina	12	0.38057	1132	32	0.25270	0.63327	
13	UNITED STATES	Arkansas	74	2.38757	7131	93	1.58536	3.97293	
14	UNITED STATES	New Jersey	41	0.04407	131	47	0.02926	0.07333	

Custom Reports

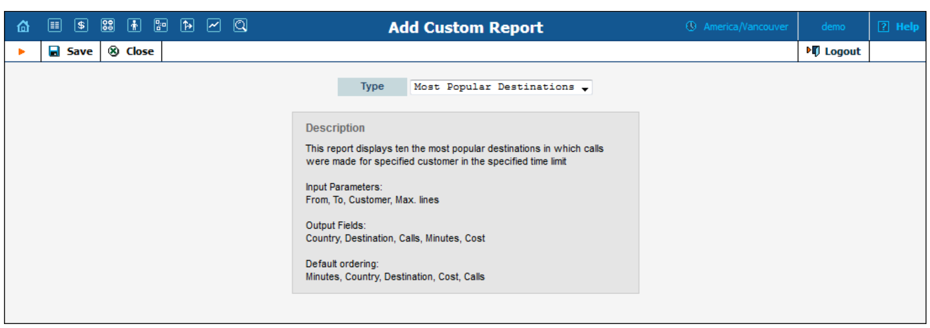
The Custom Reports section allows you to manage and execute custom report queries.

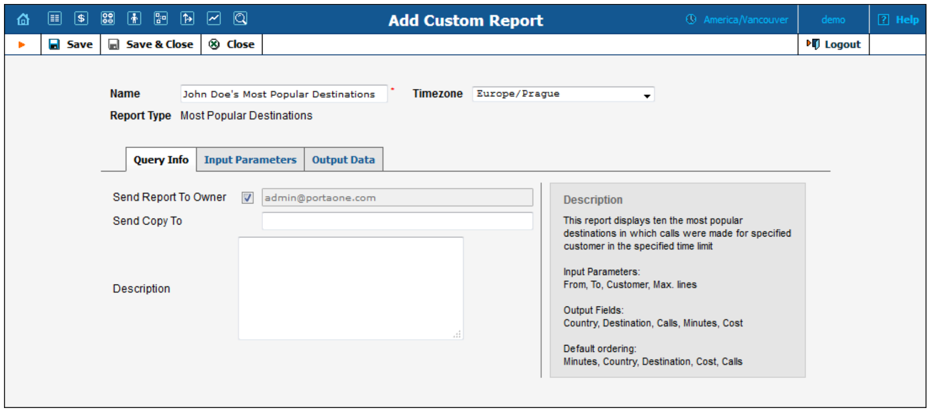


On the initial **Custom Reports** page, you can view already existing reports. To execute one of them and see the result immediately, click the **Execute** icon for a particular report. Click the **Schedule** button on the toolbar to see information about scheduled report execution.



To create a new report, click **Add** and choose the type of the report (one of the pre-defined types). Click **Save** to proceed in defining the report.

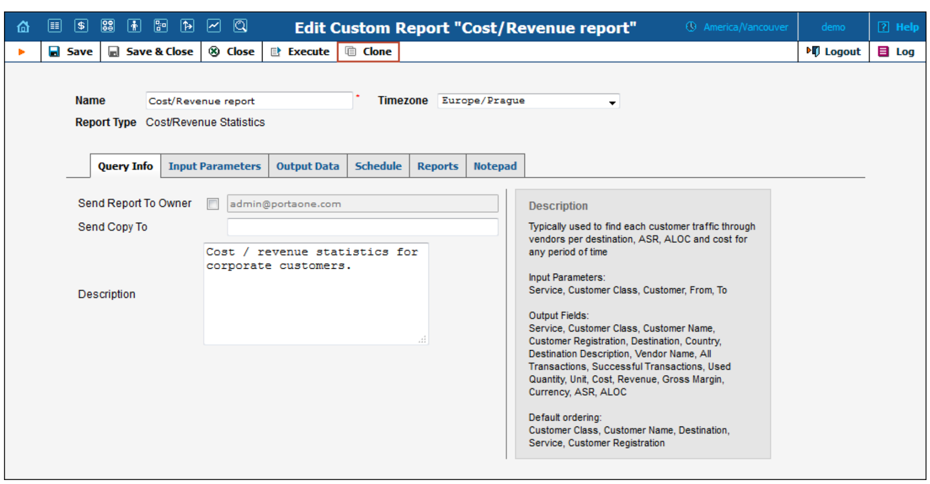




Type in a descriptive name for the new report. This is the name that will be displayed on the **Custom Reports** page. Choose the time zone that will be applied to the date ranges of the report execution. This time zone will be applied to the date(s) in the report execution results and will also appear in the filename with the result report. Keep in mind that the *user's* time zone will be applied to all the *execution* dates (**Start Time**, **Last Run** and **Completion Time**).

If the time zone for the report execution coincides with the user's time zone, you can simply set the time zone to **Auto**. In that case, the report will be executed in the user's time zone.

You can also create a new custom report as a clone of an existing one. For this, open the report you want to clone and click the **Clone** button. The cloned report inherits all of the parameters from the original report and can then be customized as desired.



On the **Edit Custom Report** page, you can alter various parameters of this report. Click the **Execute** button on the toolbar to run the report and immediately see the result in your web browser.

Query Info tab

Field	Description
Send Report To Owner	If this check box is selected, after every query execution the user who executes the report will receive a copy of the report result by email. (Make sure you have defined your email address in the user settings.)
Send Copy To	Send a copy of the report result to another email address.
Description	General description of this report.

Input Parameters tab

The contents of this tab are based on a particular report, and allow you to manage report parameters, e.g. for "Most popular destinations" you are able to specify the date range and customers.
For input parameters which contain date / time values, there are two methods of entering values:

- You can type in a specific value, e.g. "01-Jan-2007"; this value will always stay the same for any report execution.
- You can specify a moment in time as an offset from the scheduled report execution date. For instance, you can set up the "Customer's most popular destinations" report to run every night at 5 am, and specify that it should cover an interval from 21 hours to 10 hours **prior** to the report time. As a result, you will always receive a report that includes calls made by the customer during business hours on the previous day. Parameters may also be populated automatically with a date **after** the actual report time: for instance, every Monday you can run a report to obtain a list of invoices that will become overdue during the next seven days.

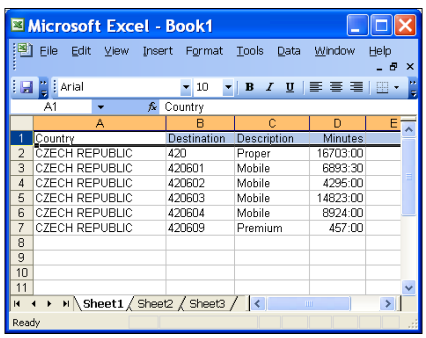
Output Formats tab

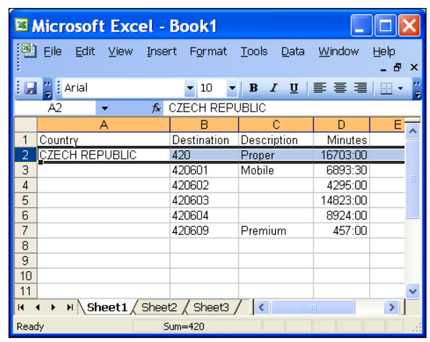
This tab includes two separate areas: **Output Format**, where you can define how the values of columns should be presented in the report, and **Data Sorting**, where you define how the report data should be sorted.

Column	Description
Column	Name of the report column.
Visible	Whether this column should be included in the report. If you uncheck this option, the given column will simply be skipped in the report result.
Format	Formatting of the column data (e.g. whether the total number of minutes should be displayed as 380 or 380:00).

Post Processing Rule	This field functions like the post-processing rules in templates (for more details, see the PortaBilling Templates Guide). It allows you to modify the actual value extracted from the database before it is shown in the report. For instance, if the value in the database gives the total number of seconds, you can divide it by 60 to display the value in minutes to the user.
Suppress Dup	If activated, duplicate column values in adjacent rows will not be displayed – see the example below.

The **Suppress Duplicates** option allows you to make your reports more readable by removing excess information. Compare the two datasheets below, in which the same data is shown, but where the right one has **Suppress Duplicates** enabled for certain columns.



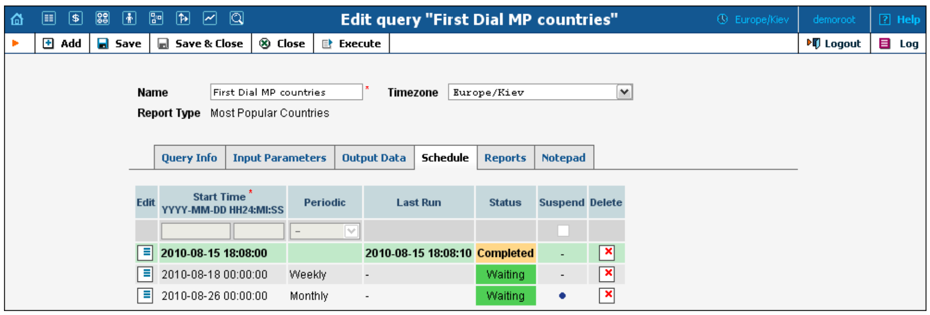


Column	Description
Column	Name of the report column.
Sort	Specifies the sorting mode for this column: • **From A to Z** – Data is sorted in ascending order (i.e. **Andrew** will be at the top of the list, and **Zack** at the bottom). • **From Z to A** – Data is sorted in descending order (i.e. **Zack** will be at the top of the list, and **Andrew** at the bottom). • — **Dash** – This column is not used for data sorting at all.
Up / Down	If there are multiple columns used in sorting, their order is very important. Here you can arrange the sequence of the sort columns. For instance, if you want to sort data first by

	country name and then by the number of minutes, use the and arrows to move the **Country** column above the **Minutes** column.

Schedule tab

This tab allows you to schedule automatic report execution (single time or periodic) in the future, and to see when a report was last generated. Click the **Add** button on the toolbar to add a new entry.

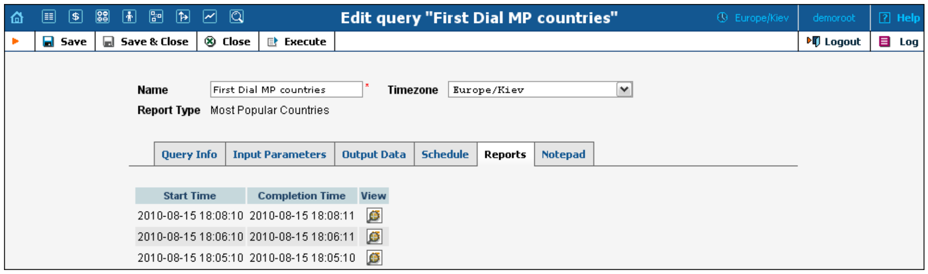


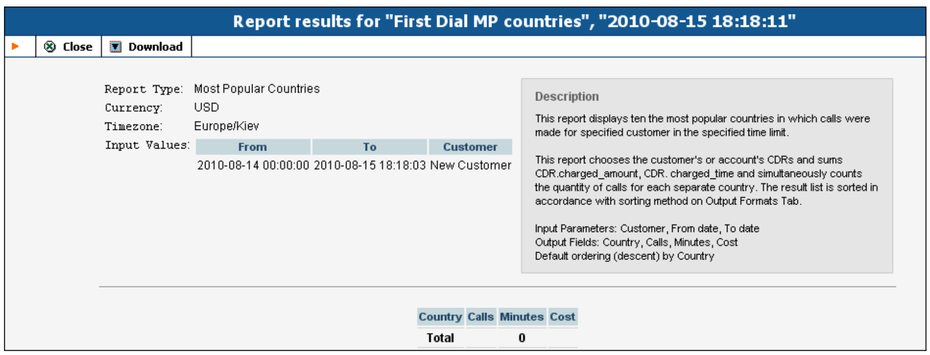
Column	Description
Start Time	Date and time when the report should be produced.
Periodic	Specifies whether the report should only be produced once, or generated every day, week or month.
Last Run	The date when the report was last executed (if applicable).
Status	Current status of the report: • **Waiting** – Report execution has not started yet, and is scheduled for the future. • **Completed** – The report was to be executed only once, and this has already been done. • **Running** – The report is being currently produced.
Suspend	Allows you to temporarily disable report execution (but not delete the entry from the report schedule). This may be convenient if you are leaving for vacation and would like to avoid having reports piling up in your inbox during your absence.

NOTE: Start Time specifies only the "preferred" start time for the report. Report execution will not start earlier than the specified time, but it may start later if there are some other conflicting tasks at the specified time. For instance, if two reports are scheduled to be executed at 06:00, only one of them will start at that time, while the other will start only after the first one has finished.

Reports tab

This tab allows you to browse results for the ten previous report executions. Thus, if you did not save the original result, you do not have to run the reports over again. Click the **View** icon to see the corresponding file.





Traffic Usage Trending Report

The **Traffic Usage Trending** report allows you to view selected customers' daily voice minutes per destination group set. This report evaluates historic data to indicate whether a customer's voice traffic has gone up, down or remained constant. When the report is configured and generated you will find the following indicators:

- **Green** indicator color demonstrates an increase of **Total Minutes** over **Average Minutes**.
- **Red** indicator color indicates a decrease of **Total Minutes** over **Average Minutes**.
- **Blue** indicator color indicates that there was no significant change between the **Average Minutes** and the **Total Minutes**.

List of input fields:

Name	Mandatory	Range of Values	Description
Reseller	Y	Existing Resellers	Whether to generate report for direct

			customer / subcustomer or specific reseller.
Customer / Subcustomer	N	Direct customers and subcustomers. "All" by default	Shows a report for one or more customers depending on what is selected.
From	Y	Date	The date of comparison used.
To	Y	Date	A specific date used for comparison.
Number of Weeks	Y	Numeric, "4" by default	Number of weeks that should be used to calculate Average Minutes.
Destination Group Sets	N	The names of the existing destination group sets	The choice of one or more destination group sets. If no destination group set is required, select "blank."
Variance	Y	Percentage ratio, values from "1" to "100"	Defines which variance is significant for demonstrating trending changes. (For example, if the **Variance** is 10%, the difference in minutes between two compared days that is greater than 10% signifies a change in traffic, negative or positive. If the values stay within 10% then it is considered to be unchanged.

List of output fields:

Column	Description
Reseller	Reseller's name.
Customers	The name of the corresponding customer.
Date	Date in the specified format.
Total Minutes	Total daily minutes per customer.
Indicator	• **Green** if **Total Minutes** value is greater than **Average Minutes**. • **Red** if less. • **Blue** if **Total Minutes** and

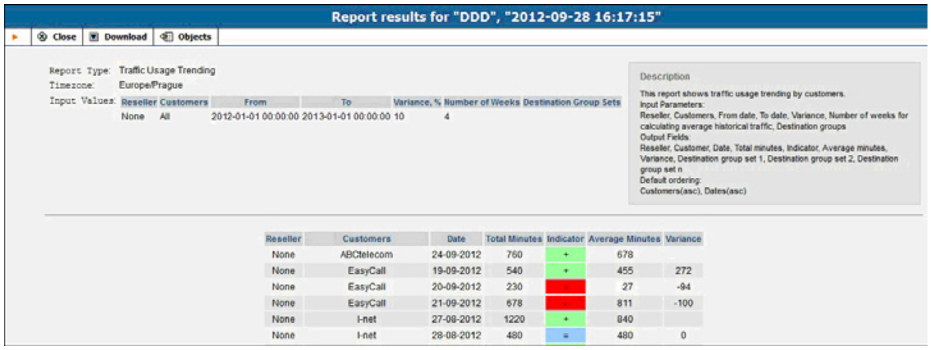
	Average Minutes values are within the predefined **Variance**.
Average Minutes	Average minutes per customer based on dividing the minutes by the number of weeks (4 by default). For example: to determine the billing for October 30th, PortaBilling® looks up the total minutes for October 30th, the 23rd, the 16th and the 9th (based the **Number of Weeks** option). Then the system estimates the average mean for this data, which becomes the value for **Average Minutes**.
Variance	Difference between the two days compared.

How it works

For example, you need to know the statistics for December 2012 and compare them with those from December 2011. In the **Input Parameters** tab, specify the reseller and the customer / subcustomer, put January 1st 2012 into the **From** field and January 1st 2013 into the **To** field. Let's use a **Variance** of 10% and for the **Number of Weeks** use 4 (the default). This way the minutes for each day of week will be calculated over the previous 4 week's corresponding days. Then select one or several destination group sets. If several are selected, then the report will show how much traffic went through each of the destinations in each destination group set. In the **Output data** tab select all of the check boxes in the **Visible** column, so that all available information will be included in the report. Click **Save** and then click **Execute**.

To evaluate the **Average Minutes** and generate a report, the system will look up the avarage value of minutes for January 1st 2013, December 25th 2012, December 18th 2012 and December 4th 2012. The same action will be applied to January 1st 2012: the system will look up and calculate the **Average Minutes** for January 1st 2012, December 25th 2011, December 18th 2011 and December 4th 2011.

The two values will be compared and depending on the **Variance**, the appropriate indicator will be applied.



Cost / Revenue Statistics' Advanced Report

The **Advanced** report shows more cost / revenue report details. It allows the grouping of data by customer name and account billing mode or shows details for a specific customer site. It also shows additional customer information (e.g. tax code, contract number, etc.) and uses that to group data in the report.

List of input parameters

Name	Mandatory	Range of Values	Description
Service	N	List of Services. "All" by default.	Shows the report for one or all services.
Customer	N	Customers. "All" by default.	Shows the report for one or all customers.
Customer Site	N	Sites for a selected customer	Shows the report for all customer accounts or accounts of a specific customer site.
From	Y	Date	Starting date of the period.
To	Y	Date	Ending date of the period.
Vendor	N	Vendors. "All" by default.	Shows the report for one or all vendors.
Country	N	List of countries. "All" by default.	Shows the report for calls made to a specific country.
Destination Description	N	Categories of destinations of a specific country. "All" by default.	Shows the report for a category of destinations (e.g. mobile numbers, or numbers for some region.)
Account Billing Model	N	Types of accounts.	Shows the report for accounts of a specific billing model.

Output data tab

Column	Description
Service	Type of service.
Customer Name	The name of the corresponding customer.
Customer Registration	The unique ID of the customer record used in the database.
Customer Site	The name of the corresponding customer site.
Billing Model	Account billing model.
Destination	Destinations dialed.
Country	The name of the corresponding country.
Destination Description	Description of destinations dialed.
Vendor Name	The name of the corresponding vendor.
All Transactions	The total number of session initiation attempts.
Successful transactions	The total number of successful sessions.
Used quantity	Total amount of traffic consumed.
Unit	Measurement unit of quantity used.
Cost	The cost amount.
Revenue	The revenue amount.
Gross Margin	The gross margin amount.
Currency	The currency value.
ASR	The value of ASR.
ALOC	The value of average call length.

CDRs for all Subcustomers of a Reseller Report

The report provides information about CDRs produced within a specified period for all subcustomers of a reseller. With this report, you will have comprehensive information about charges applied to all reseller's subcustomers in one place.

List of input parameters

Name	Mandatory	Range of Values	Description
Reseller	Y	A particular reseller from the existing resellers list.	Shows the report for all subcustomers of the selected reseller.
Date From	Y	Date	Starting date of the period.

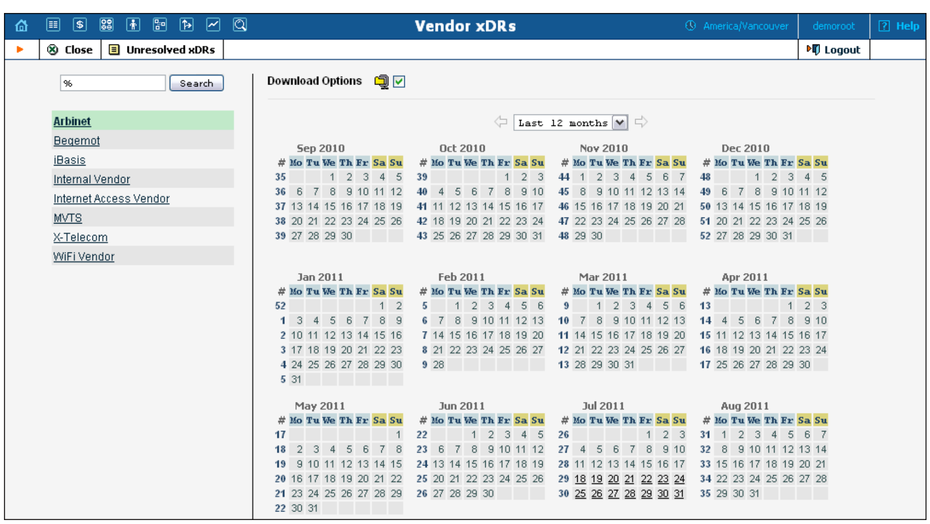
Date To	Y	Date	Ending date of the period.

Output data tab

Column	Description
Customer Name	The name of a reseller's subcustomer.
Account ID	The account ID (or phone number).
From	The calling party's number. There might be situations when a calling party's number is suppressed for incoming calls.
To	Destinations dialed.
Country	The name of the corresponding country.
Description	Description of the transaction made.
Connect Time	The timestamp indicating when a charge was made.
Charged Time, hour:min:sec	The time period a subcustomer is charged for.
Charged Amount	The amount charged for a service.
Service Name	Type of service.
Service Unit	Measurement unit of quantity used.
Currency	The currency value.

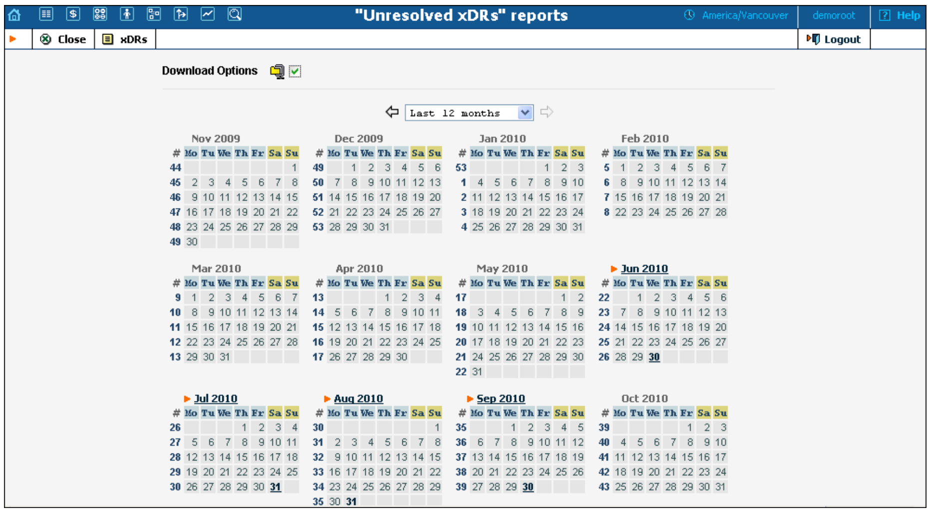
Vendor xDRs

The Vendor xDRs page allows users to easily download xDRs that have been defined for a vendor. xDRs for the desired vendor may be found by selecting the vendor from the list on the left side of the page, or by entering the vendor's name in the search field and clicking the **Search** button. The wildcard symbol '%' may also be used.



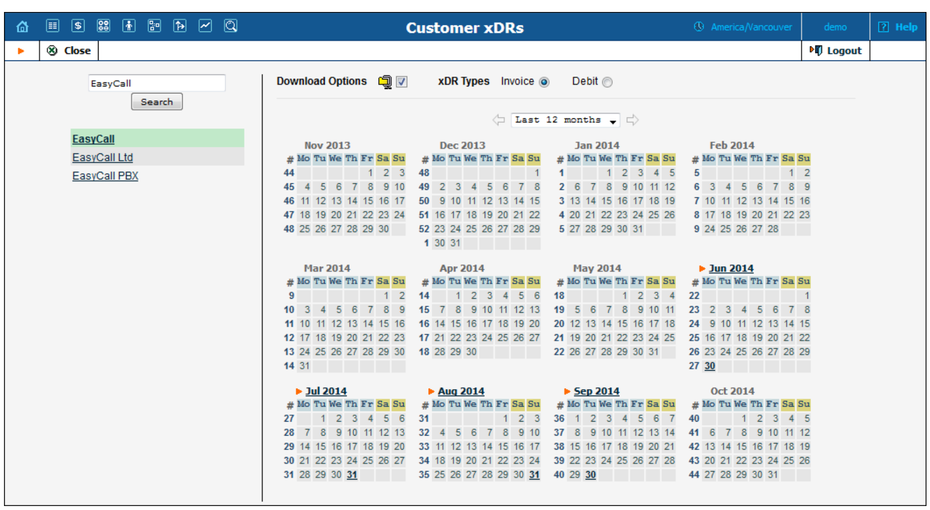
Unresolved xDRs

The **Unresolved xDRs** page is accessible from the Vendor xDRs. It allows users to easily download all available xDRs for calls which were not identified as crossing any connection to a vendor. The xDR report periodicity can be set up on the **My Company** page -> the **Report Info** tab -> **Reconciliation Period**.



Customer xDRs

The **Customer xDRs** page allows users to easily download xDRs that have been defined for a customer. xDRs for the desired customer may be found by selecting from the list of existing customers on the left side of the page, or by entering the customer's name in the search field and clicking the **Search** button. The wildcard symbol '%' may also be used.

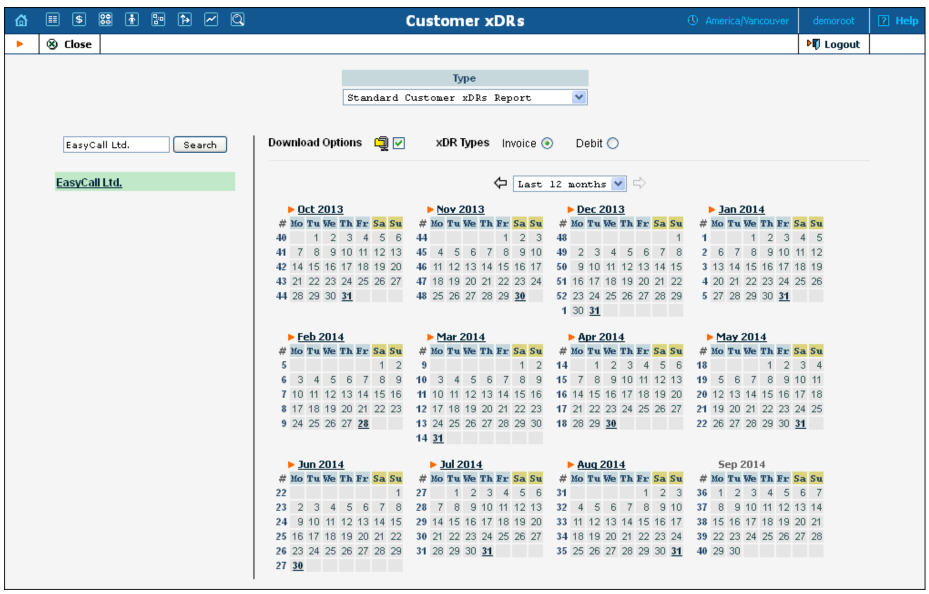


Site-based Reports

In addition to the standard customer xDR report it is possible to obtain site-based reports. These reports can be downloaded by customers and administrators in .csv and .pdf formats. Fields shown in the report can be configured separately for .csv and .pdf files.

This solution was implemented as an extensible framework that allows for quickly adding more support for different file formats and adjusting their content according to customer needs.

It provides a convenient reporting tool for companies that have several functional departments (e.g. the support department and the sales department) and that pay for the services independently.



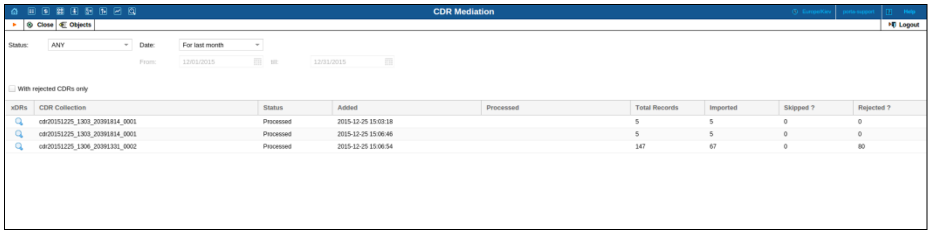
Types of Report:

- **Standard Customer xDRs Report** – Report generated for a customer's accounts.
- **Distributor Commission Report** – Report generated for a distributor.
- **Site Based Report (.csv and .pdf)** – Report generated for a customer site's accounts.

CDR Mediation

On this page you can view xDR collections that have already been imported or are still in process of being imported. An xDR collection is a set of xDRs that can contain processed data from multiple source files.

How xDR collections are arranged is defined during the xDR import configuration.



The search panel on the top of the page allows you to filter xDR collections using multiple criteria.

Field	Description
Status	Select the status of the xDR collections you want to view: • **In Queue** – The collections added to the import queue by the xDR Rating utility. • **Processing** – The collections being processed by PortaBilling®. • **Processed** – The collections already processed by PortaBilling®. • **ANY** – Collections of all types.
Date	Filter xDR collections by when they were added to the import queue by the xDR Rating utility. • **For last month** • **For last week** • **For 24 hours** • **Specific** – Select this value to enter the required start and end dates.
From	Enter the start date of when the xDR collections were added. This option is available when **Specific** is selected from the **Date** list. Click the **Calendar** icon to select the date in the date navigator.
till	Enter the end date of when the xDR collections were added. This option is available when **Specific** is selected from the **Date** list. Click the **Calendar** icon to select the date in the date navigator.

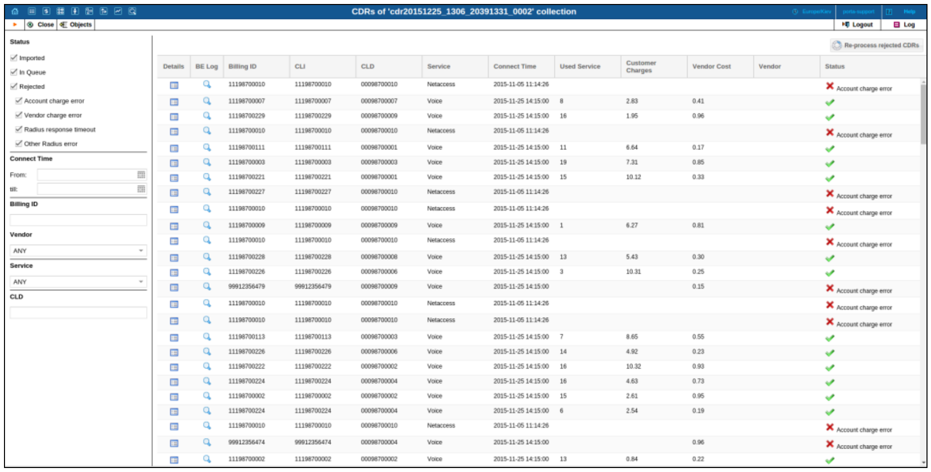
With rejected CDRs only	Select this check box to view only those collections that have rejected xDRs within.

The main part of the page contains a table with xDR collections' parameters.

Field	Description
xDRs	Click the **xDRs** icon to review xDRs from a particular collection.
CDR Collection	The name of the xDR collection.
Status	The status of the collection: • **In Queue** – The collection is added to the import queue by the xDR Rating utility. • **Processing** – The collection is being processed by PortaBilling®. • **Processed** – The collection was already processed by PortaBilling®.
Added	The date and time of when the collection was added to the import queue.
Processed	• For the collection already processed: The date and time that the collection processing was completed. • For the collection being processed: The collection import progression displayed as a progress bar.
Total Records	The total number of xDRs in the collection.
Imported	The number of the collection's xDRs that were imported.
Skipped	The number of the collection's records that were skipped at the extraction stage. These are xDRs that the Extraction utility hasn't been able to parse.
Rejected	The number of the collection's records that were rejected at the rating stage. Click the **Re-process rejected CDRs** button to launch the reprocessing of rejected xDRs.

CDRs of Collection

On this page you can review xDRs from a particular collection and see their real-time status. Multiple selection parameters are available. From this page you can launch the reprocessing of the rejected xDRs.



There is a search panel at the left-hand side of the page. Enter the criteria by which you want to filter the xDRs.

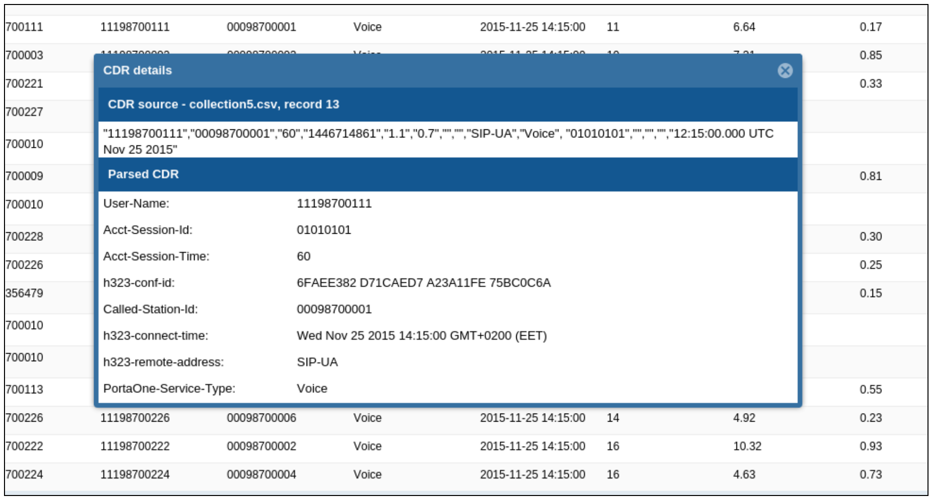
Field	Description
Status	This block describes xDR collection status-specific filters.
Imported	Select this check box to view imported xDRs.
In Queue	Select this check box to view xDRs that are awaiting import.
Rejected	Select this check box to view rejected xDRs.
Account charge error	Select this check box to view xDRs that were rejected because PortaBilling® was not able to charge the account (e.g. the account was not found or rates were not defined, etc.).
Vendor charge error	Select this check box to view xDRs that were rejected because PortaBilling® was not able to calculate the cost of the consumed service (e.g. the vendor was not found or the vendor tariff was not defined, etc.).
Radius response timeout	Select this check box to view xDRs that were rejected because PortaBilling® did not send any response message to the xDR Rating on time (e.g. because of network issues).
Other Radius error	Select this check box to view xDRs that were rejected because of any other issues with RADIUS requests or responses.
Connect Time	This block describes the time period during which the service session was established (e.g. when a voice call was established or a message sent).
From	Enter when the **Connect Time** period starts. Click the **Calendar** icon to select a date in the

	date navigator.
till	Enter when the **Connect Time** period ends. Click the **Calendar** icon to select a date in the date navigator.
Other	This block describes other available search filters.
Billing ID	Enter the account's name for which you want to view xDRs.
Vendor	Select the vendor for which you want to view xDRs.
Service	Select the type of service for which you want to view xDRs.
CLD	Enter the call destination for which you want to view xDRs.

The main part of the page contains a table with a list of xDRs and their parameters.

Field	Description
Details	Click the icon to inspect the xDR – both how it looks in the source file and in the parsed format. See **CDR details dialog box.**
BE Log	Click the icon to view the BE log for this session.
Billing ID	The name of the account that was charged for the service.
CLI	The session initiator (e.g. a caller ID for Voice services, etc.).
CLD	The session receiving party (e.g. a called ID for Voice services, etc.).
Service	The consumed service.
Connect Time	A date and time for when the session was established (e.g. when the voice call was made or the message sent, etc.).
Used Service	The amount of the consumed service (e.g. the duration of the voice call).
Customer Charges	How much the end user was charged for this session.
Vendor Cost	Your costs associated with this session (i.e. how much you owe the vendor).
Vendor	The vendor associated with the consumed service.
Status	The status of the xDR.

CDR details dialog box



Field	Description
CDR source	The xDR the way it looks in the source file.
Parsed CDR	The xDR the way it looks in the parsed format.

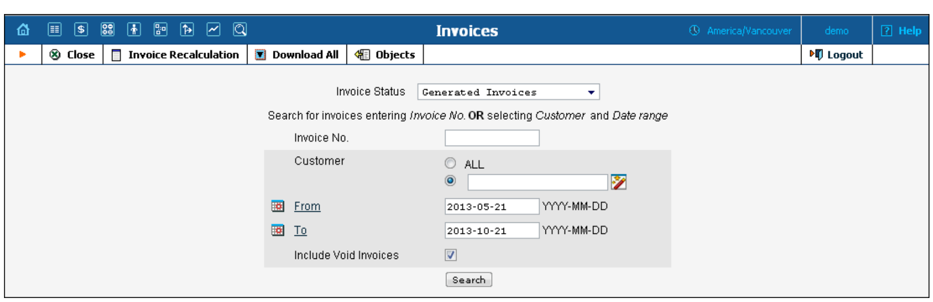
How to reprocess rejected xDRs

To launch the reprocessing of rejected xDRs, complete the following:

1. Adjust the PortaBilling® settings, if required: add missing rates, accounts, vendors, etc.
2. Click the **Re-process rejected CDRs** button on the top right-hand side of the page.

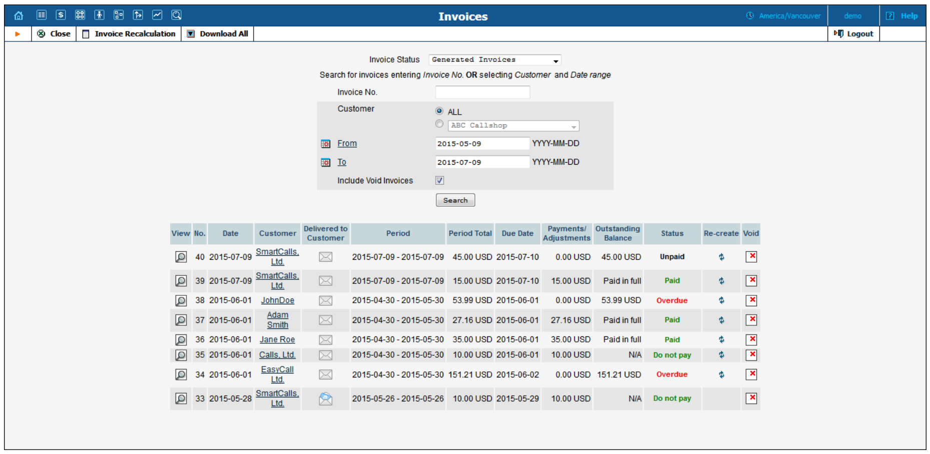
Invoices

The **Invoices** page lets the administrator view all invoices generated by the system or all invoices under review in the current environment. To view specific type of invoices select one of the options in the **Invoice Status** list.



Generated Invoices

To view all invoices generated by the system in the current environment select **Generated Invoices** in the **Invoice Status** list. The desired invoice can be found by its number. Groups of invoices can be searched by selecting a customer and a date range.



How to download all displayed invoices

The **Download All** button allows you to download all displayed invoices in just one click.

How to recalculate an invoice / recrecate a .pdf file for invoice

To recalculate an invoice or to recreate a .pdf file for it, click the **Invoice Recalculation** button. On the **Invoice Recalculation** page, select the required invoice, specify the action and then click **Save**.

Field	Description
View	Click the **View** icon to download invoice in the .pdf file format.
No.	The invoice number.
Date	The invoice generation date.

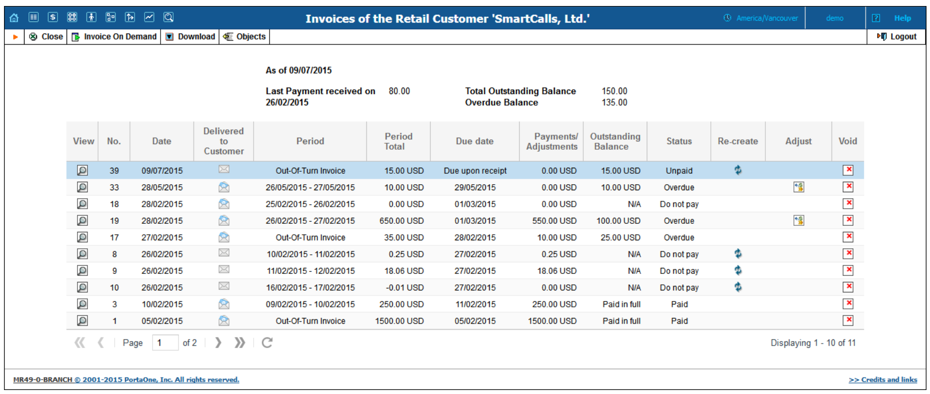
Delivered to Customer	This indicates whether the invoice has been delivered to the customer. • **Not Delivered** – The invoice has not been delivered to the customer and is open to changes – it can be recreated. Click the icon to lock the invoice against changes. • **Delivered** – The invoice has been delivered to the customer and is now locked against changes. Click this icon to allow changes. An invoice is considered delivered when the customer receives an email with the invoice attached, or clicks the **View** icon in the **Invoice** section of the customer self-care interface.
Period	This shows the billing period start and end dates.
Period Total	This represents the current billing period's charges.
Due date	This represents the date by which payment must be received.
Payments/ Adjustments	This shows payments / adjustments made for the invoice.
Outstanding Balance	This represents the remaining amount the customer must pay to cover the current invoice in full.
Status	This shows the invoice payment status. Detailed description of invoice payment statuses can be found in the PortaBilling® Administrator Guide.
Re-create	Click the **Re-create** icon to re-create the invoice. This will not affect any changes except layout attributes, customer and / or company info and .pdf file renewal. Invoice re-creation is useful when you have made some changes to a particular invoice template, or if certain customer or company attributes have been changed.
Void	Click the **Void** icon to void the invoice and create it anew.

Fields below are applicable only for invoices under review:

Field	Description
Payments	This shows customer unallocated payments, i.e. payments that the customer "overpaid" sometime in the past. Unallocated payments are used to correct the paid / unpaid status of future invoices.

Adjust	Click the **Adjust** icon to adjust the balance on the invoice. You will be redirected to the **Balance Adjustments** tab for the customer. There you insert the amount of the balance adjustment and update the date for the transaction if necessary.
Approve	Click the **Approve** icon to approve the invoice.

If you open **Invoices** page from the **Edit customer** page, you can also see a section that contains aggregates of invoiced amounts.



Field	Description
Last Payment received on	Read-only field, visible only when at least one payment is received from the customer. Displays the amount of the last payment received and the date of its receipt.
Total Outstanding Balance	Displays what a customer must pay to fully cover all unpaid and partially paid invoices. For example, a customer receives 3 invoices for the amounts of $50, $35 and $40 and makes a payment of $20. The customer's outstanding balance is now: $50 + $35 + $40 - $20 = $105. Read-only field.

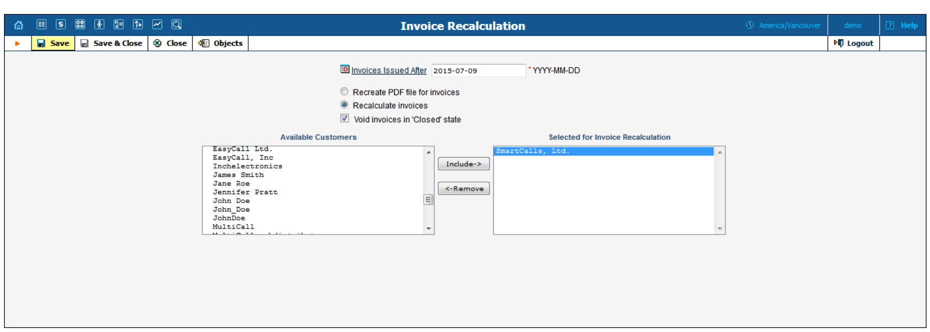
Overdue Balance	Displays a customer's total overdue invoiced debt. For example, a customer receives 4 invoices for the amounts of: $30 due date 2015-01-01, $15 due date 2015-02-01, $20 due date 2015-03-01, $25 due date 2015-04-01, and makes a payment of $10. Then on 2015-02-15, the customer's overdue balance is: $30 + $15 - $10 = $35. Read-only field, visible only if at least one invoice isn't fully paid by the due date.

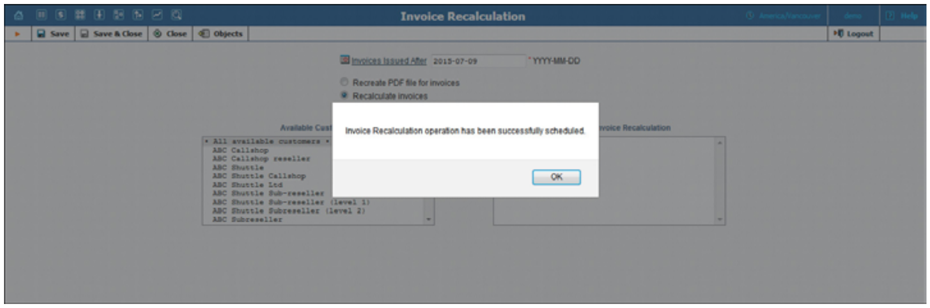
There is one additional action available from this page:

Field	Description
Adjust	Click the **Adjust** icon to adjust an invoice amount and leave the invoice unchanged. The adjustment transaction is only reflected in the invoice for the current billing period. If an adjustment is made to an invoice issued several billing periods ago, all subsequent invoices are also left unchanged.

Invoice Recalculation

Administrators can use the **Invoice Recalculation** page to recalculate invoices generated in the system since a certain date and for a specific customer (or customers). This may need to be done if calculations for a certain period were based on incorrect data (wrong rates, errors in tariffs, and so on).





Fill in the required information or perform one of the following operations:

Field	Description
Invoices Issued After	Click on this link to open a calendar in a new browser window, from which you can select the desired date. Alternatively, you can type the date in the box next to the link, using the required date format.
Recreate PDF file for invoices	Select this option to only recreate .pdf files, representing invoices. This is used when there was a mistake in the invoice template (e.g. an incorrect text, a wrong company logo or another graphic design issue). This will generate new .pdf files according to the current template settings, so the new .pdf files may look different, but no figures (e.g. total or sub-totals) in the original invoice will be affected.
Recalculate invoices	Select this option to fully recalculate invoices – recalculate the amount of charges, payments, refunds, etc. for the given period, calculate a new invoice total and produce a new set of .pdf files.
Void invoices in 'Closed' state	This check box appears only if your choice is to recalculate invoices. Select it to void closed invoices and create them anew.
Available Customers and **Selected for Invoice Recalculation**	In the **Available Customers** box, select a customer (or customers) for whom you wish to recalculate invoices. To choose all customers at once, select the line **All available customers** on top. Then click the **Include->** button. The customers selected will appear in the **Selected for Invoice Recalculation** box.

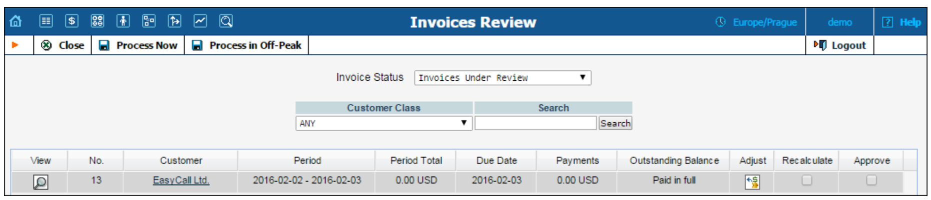
After you have made your choice, click **Save**. You will receive confirmation that the recalculation has been successfully scheduled. The system will perform it during the next statistics calculation period and send you a confirmation email upon completion.

To check if an invoice has been recalculated, go to the **Invoices** page and click on the **View** icon before the invoice number.

NOTE: During recalculation, xDR statistics for the relevant customers are also updated.

Invoices Review

To view all under review invoices select **Invoices Under Review** in the **Invoice Status** list. On this page you can review invoices before sending them to customers so if any errors are detected they can be fixed before the customer receives the invoice. You can search for all invoices for a certain customer class by selecting it from the **Customer Class** list. To see all the invoices that are under review select **ANY** in the **Customer Class** list. You can review the invoices of a particular customer by typing their name in the **Search** field.



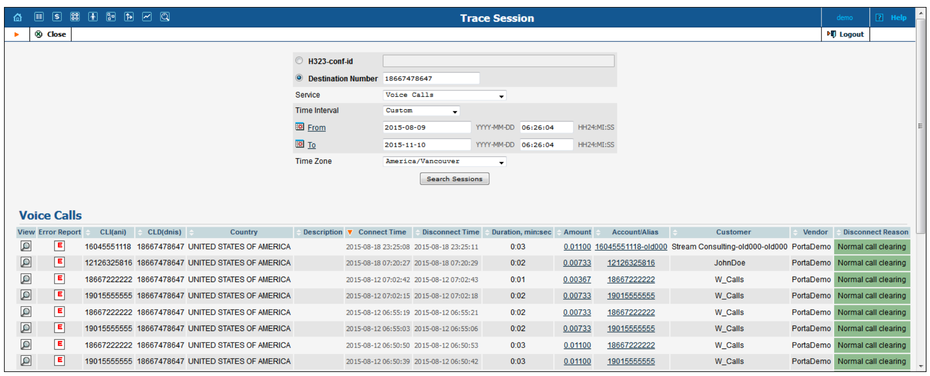
To approve an invoice select the **Approve** check box or click the **Approval** button at the bottom of the page and select the **Select all** check box to approve all the invoices. To recalculate an invoice select the **Recalculate** check box or you can recalculate all the invoices by clicking the **Regeneration** button and selecting **Select all** check box. If you need to make a balance adjustment for a certain invoice, then click the **Adjust** button. Upon clicking the **Adjust** button you will be redirected to the **Balance Adjustments** tab for the customer. There you insert the amount of the balance adjustment and update the date for the transaction if necessary. The **Process Now** button allows you to send approved invoices to customers / regenerate invoices immediately. The **Process in Off-Peak** button allows you to schedule delivery of approved invoices to customers / regenerate selected invoices for off-peak.

10. Help Desk

Trace Session

The trace session utility allows you to determine the characteristics of a specific call when you know the **h323-conf-id** or the **destination number**, which may be specified exactly, or by using a wildcard. (For example, all calls to England may be specified as “44%” in the destination field). A date range for the search must be specified; however, it is highly recommended to set it to the smallest range necessary, in order to reduce waiting time and server load. Ideally, the search page should contain one day only.

To initiate a query, click the **Search Sessions** button. If no results appear, try broadening the query. When the results appear, locate the desired call within the result set. If there are too many results, they will be divided across pages, although in this case it is advisable to narrow the query.



The result listing shows the origination number, the number dialed, the destination location, connect and disconnect times, duration, account and customer (in the case of product usage), vendor (in the case of normal vendor termination), and the call status while disconnecting, which is color-coded according to the table below. Click the **View** icon to go to a detailed page describing the call.

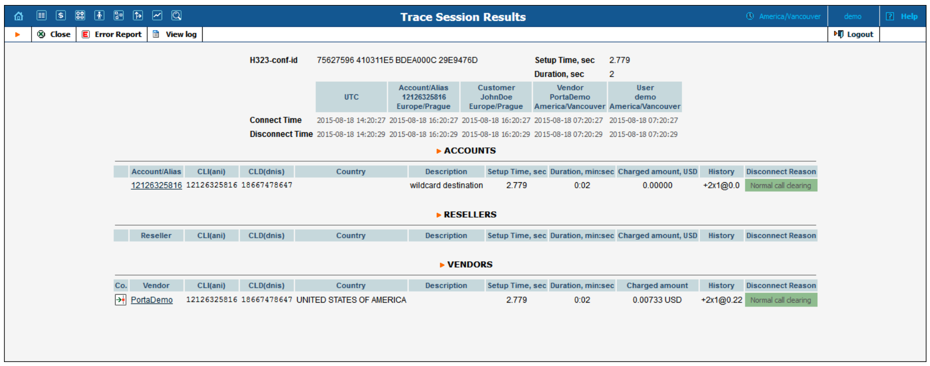
Possible reasons for disconnect:

Reason	Color		Reason	Color
Normal completed call			Calling side error	
Normal uncompleted call			Called side error	
Call progress code			Network error	

Trace Session Detail

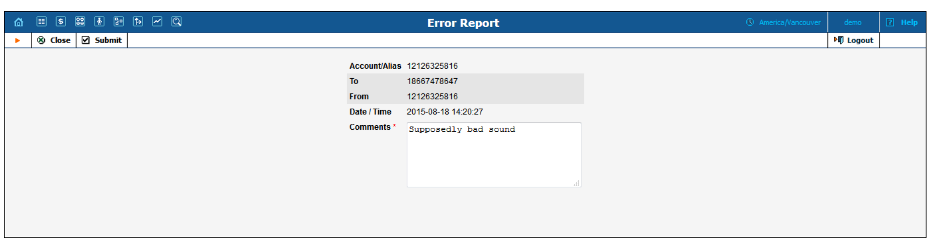
The **Trace Session Results** page shows additional call details, such as the h323-conf-id for the call and the setup time, as well as a detailed breakdown of the charges applied to each entity (accounts, resellers, and vendors).

You may view the connection details for a particular vendor by clicking the **Connection** icon.



Error Report

You are provided with ability to submit error reports which will be send to correspondent mailing list set up by system administrator. Click the **Error Report** icon on the to go to the **Error Report** page.



In order to submit the report, fill in the **Comments** field describing the error details and click the **Submit** button.

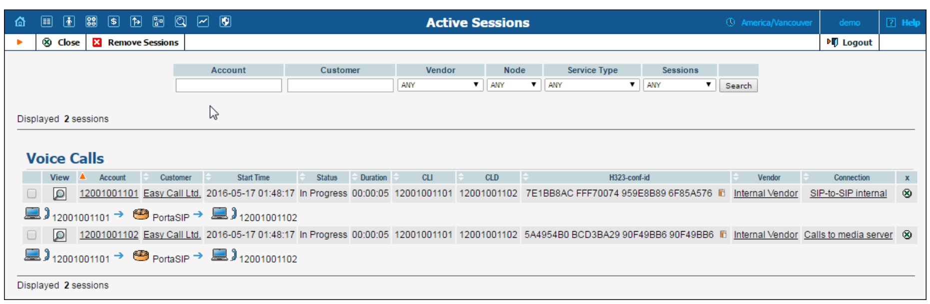
Active Sessions

The **Active Sessions** page shows calls that are currently in progress or have been completed recently. It indicates the time the call started, the elapsed call duration, and who is making the call, and describes which gateways the call is going through.

NOTE: To enable the Active Session feature, activate the **send_start_acct** option for the PortaSIP instances on the Configuration Server.

Since the total number of simultaneous calls in your system can be quite large, you can display only a certain subset of all calls, by setting a filter for:

- **Account** – The account ID (or phone number) of the caller / called party.
- **Customer** – Name of the customer who is using a service.
- **Vendor** – Carrier to whom the call has been terminated.
- **Node** – Element of your network (PortaSIP® server, gateway, etc.) the call is going through (e.g. you would like to see all calls originating on your Cisco AS5300 gateway in New York).
- **Service Type** – The physical service provided to the user .
- **Sessions** – The type of session. If the **ANY** option is selected then sessions of all types are displayed (e.g. for an on-net call both outgoing and incoming calls are displayed). If the **Initial Only** option is selected then only the original sessions are displayed (e.g. for an on-net call only outgoing is displayed).



Field	Description
Check box	By selecting this check box for a particular call, you can group several active calls into a single group for further operations (e.g. remove them from the active call registry)
View	Click this button to see BE log of the certain active session.
Account	Account ID of the call originator.
Customer	Customer who originated the call.
Start Time	The time when the call was connected.
Status	The current status of the session.
Duration	The total call duration.
CLI	Calling station ID (ANI) for the originator.

CLD	Called station ID (DNIS) – the destination number.
H323-conf-id	This shows the H323-conf-id of calls, messages or Internet sessions that are currently in progress. The H323-conf-id is required to locate a particular billing engine log. Click the **Copy to Clipboard** icon to copy an H323-conf-id to the clipboard.
Vendor	Carrier used for call termination.
Connection	Specific connection for this vendor.
Disconnect the session	Click this button to disconnect the current call.

The line below these fields shows a schematic call flow diagram.

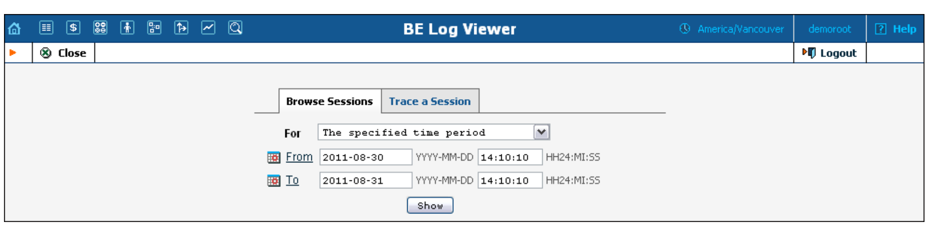
Sometimes a call displayed in the active calls registry may have already been disconnected (the most common reason for this being that one of your gateways was rebooted and calls were cut off, although billing never received accounting records about this). In this case, you are able to clean up such “stalled” calls from the web.

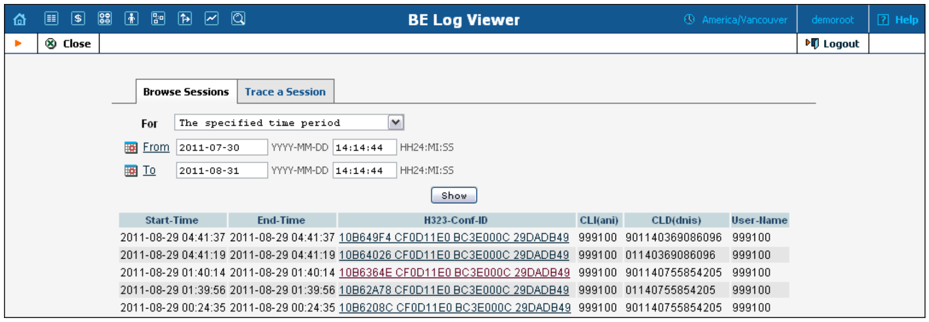
NOTE: A cleanup operation only affects billing’s internal registry of active calls, and will not disconnect a call that is still in progress.

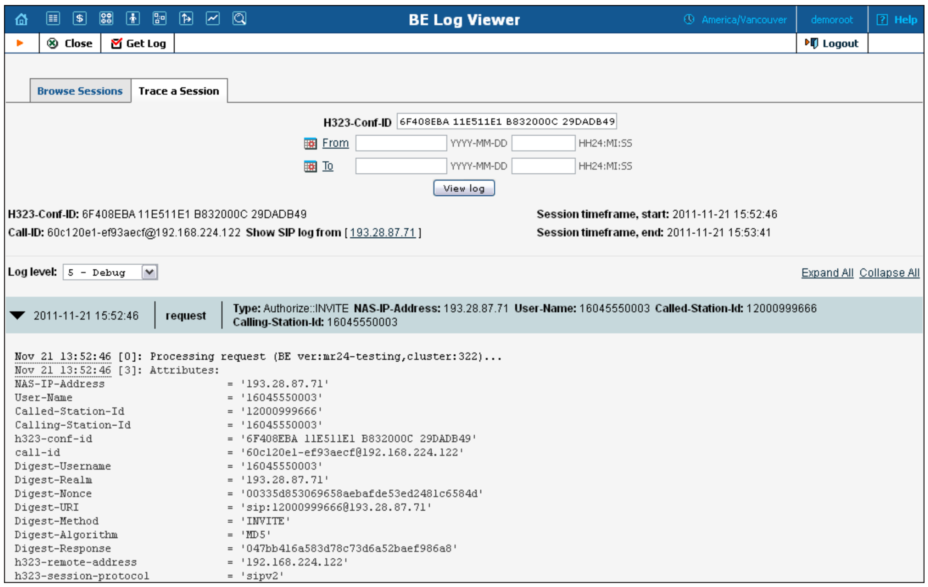
If you want to delete such calls, just mark all of them (using the check box in the column on the far right) and click the **Remove sessions** button.

BE Log Viewer

The **Log Viewer** page allows you to see a list of all sessions (voice calls, Internet access, etc.) processed by the billing engine, and to examine a detailed processing log for each of them, if required.







Browse Sessions tab

Field	Description
Type of Events	Select whether to show only billable sessions or all events: • **Sessions** – Show only billable sessions. • **All Events** – Show all events including the following requests: SUBSCRIBE / PUBLISH / MESSAGE / REGISTER / DIALPLAN.
For	Display all sessions in a recent time period.
From, To	Choose a specific time period.

Trace a Session tab

Field	Description
H323-Conf-ID	The H323-Conf-ID of a call.
Including	Select this check box to see sub-sessions

Subsessions	related to a specific call or an internet session in one billing engine log.
From, To	Choose a specific time period.

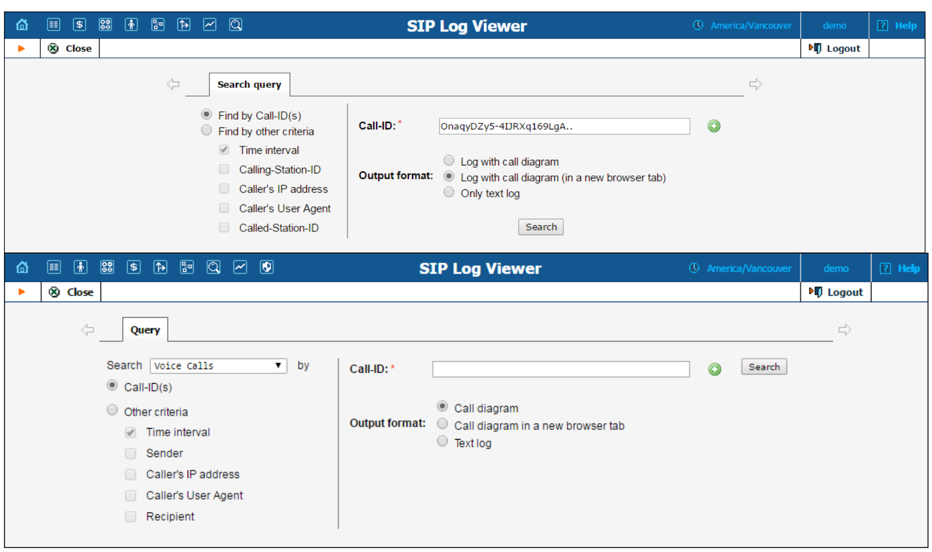
If you do not know the H323-Conf-ID for a call you have just made, you can use the right side of the form to display all call attempts made within a certain interval (this will also include failed call attempts, which makes it extremely useful for troubleshooting problems when you are unable to make outgoing calls, e.g. due to an authorization failure).

You will see a list of call attempts, with the call initiation time, H323-Conf-ID and CLI / CLD for each; click on the underlined H323-Conf-ID to see the billing engine log for it.

SIP Log Viewer

You can view PortaSIP® call and message logs on the **SIP Log Viewer** page. You need to know the Call-ID of the specific call or message in order to view its log.

If you do not know the Call-ID (e.g. you just made a phone call or sent a message from a SIP phone and it failed), you can create another search query by specifying one or more parameters. All call and message attempts that match the defined search criteria will be displayed on a separate tab so you can locate the Call-ID of "your" call or message.



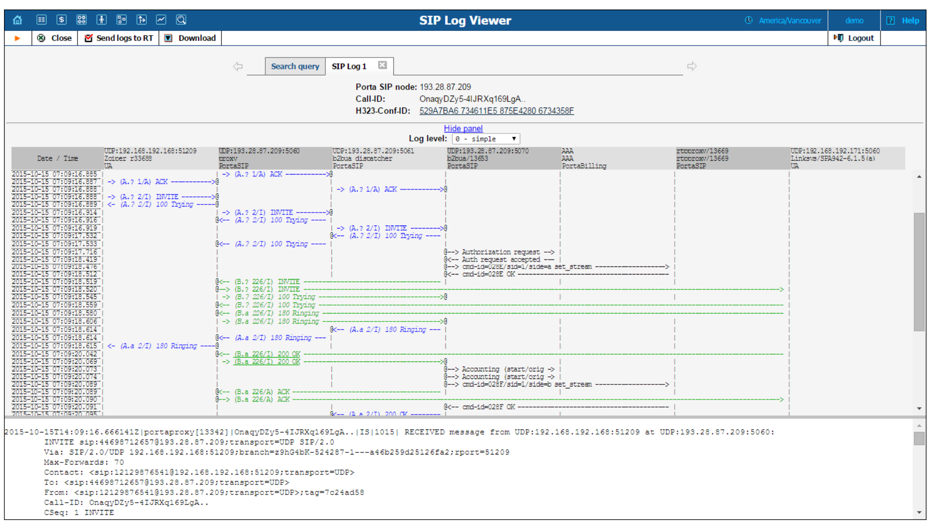
Search query tab

Field	Description
Search by	• Select **Voice Calls** from the list to search for call logs. • Select **Messaging Services** from the list to search for message logs.
Call-ID	This allows you to search for logs by the SIP Call-ID header (the typical format is `XXXXX@some.domain` or `XXXX@IP`). The SIP Call-ID header serves as a unique identifier of a call or a message.
merge with	Click the **Add** icon to add another Call-ID (for example, to trace callback calls when one logical call consists of several independent SIP calls. These calls will be merged into a single call log). The number of Call-IDs that can be added in the search query is limited to 5.
Output format	• **Call diagram** – This shows logs in the form of a diagram in a separate **SIP log** tab on the **SIP Log Viewer** page. • **Call diagram in a new browser tab** – This shows logs in the form of a diagram in a separate browser tab. • **Text log** – This shows logs as raw text.
Other criteria	If a Call-ID is unknown, a call or message log can be found by using other search criteria. The available options are: • **Time interval** – This displays logs for all call and message attempts performed within the specified time interval. • **Sender** – This filters logs by originating phone number (ANI number). • **Caller's IP address** – This filters logs by originating IP address. • **Caller's User Agent** – This option is only available when you search for call logs. It

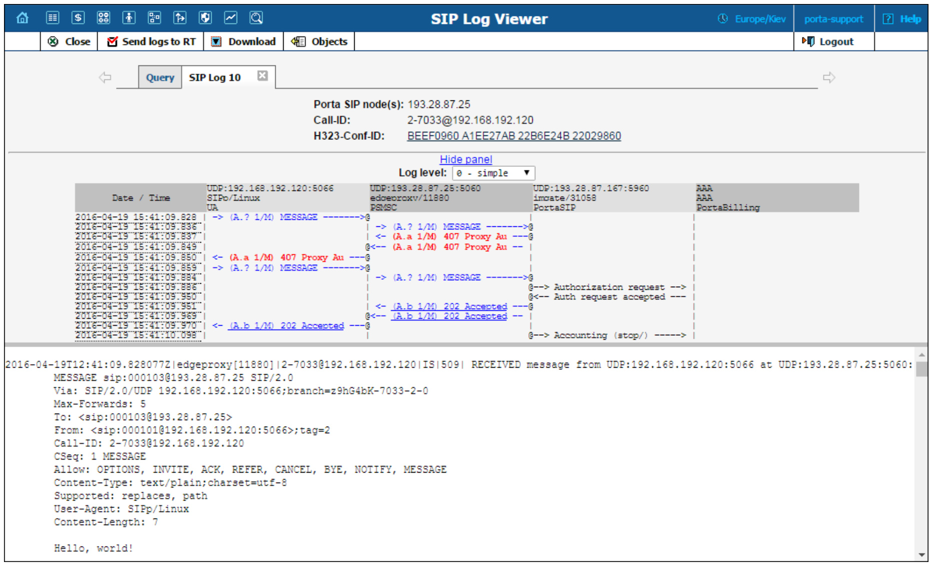
	filters calls made from a SIP phone or dialer application according to brand. • **Recipient** – This filters logs by destination phone number. **NOTE**: If the originating or dialed numbers were specified in a local format that is different from E.164 format (e.g. 02065550236), these numbers must be entered in the same format to trace the call. Alternatively, you can use the % pattern to substitute unknown symbols (e.g. %2065550236, 206555% or %206555%). Click the **Add** icon to add another value for the selected criterion. The number of values for each criterion is limited to 5.

Note that it is possible to configure which search parameters can be used. For more information please refer to the *… configure search parameter list for the SIP Log Viewer?* subsection of the *How to ..* section of the **PortaSwitch Configuration Server Web Reference Guide**.

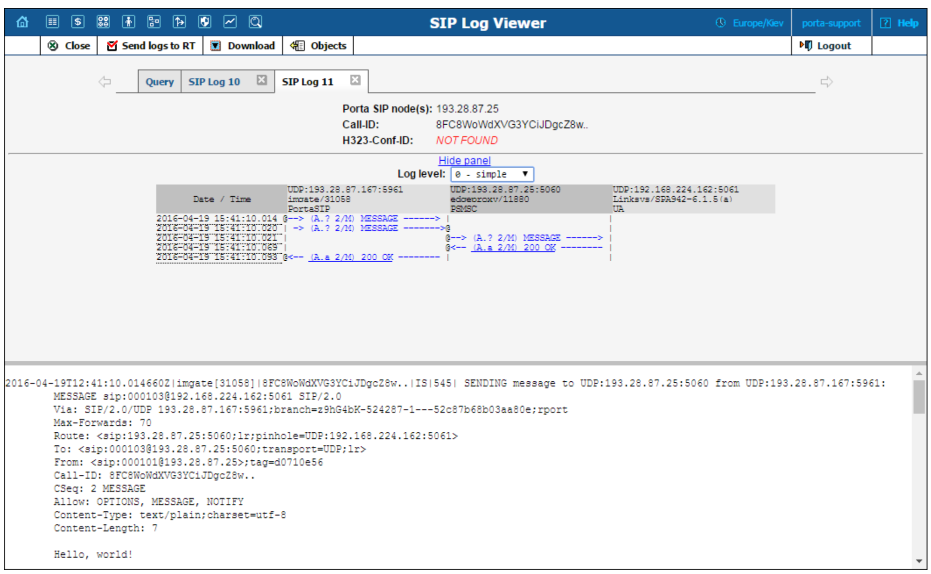
Call flow diagram



SIP message flow diagram (the first part of the log)



SIP message flow diagram (the second part of the log)



NOTE: For messages delivered via the SIP protocol, message logs are split into two parts. The first part of the log includes information related to message delivery from the sender to the IMGate and message authorization in the billing engine. The second part of the log includes information related to message delivery from the IMGate to the recipient.

The second part of the log has a different Call-ID. It is provided in the first part of the log as the **Outgoing message call-id** header field.

For logs shown in the form of a diagram you can choose the level of details:

- 0 - simple – SIP messages to / from UAs, AAA requests, RTP Proxy commands.

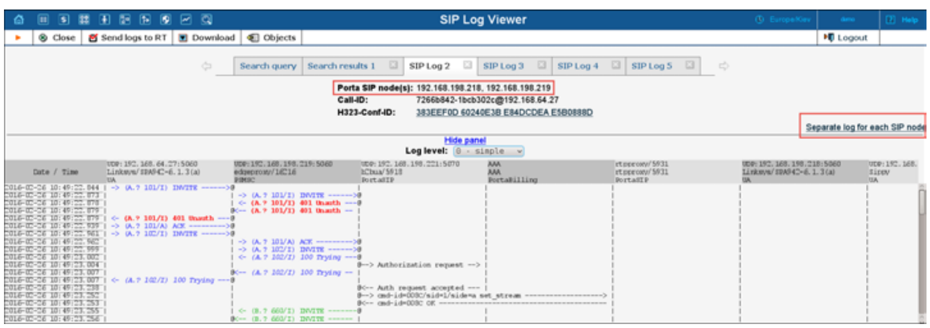
- 1 - extended – All SIP messages, AAA requests, RTP Proxy commands.
- 2 - whole – All messages from sip.log with corresponding Call-ID.

To submit a log with all the relevant details to the PortaOne®'s support ticketing system first click the **Send logs to RT** icon on the toolbar and then specify the relevant trouble ticket number and comment (available for C**all diagram** and for **Call diagram in a new browser tab**).

To download a log, click the **Download** icon on the toolbar.

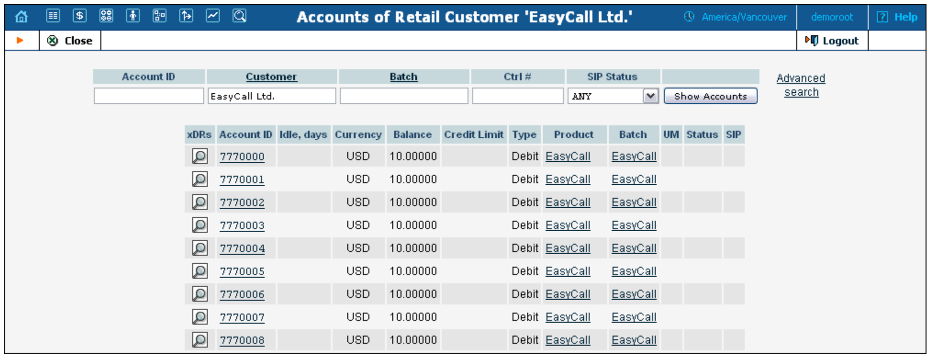
Internode call logs

These logs are shown on a single diagram. Thus, you can view all SIP requests and responses, all PortaSIP® nodes involved and an entire call flow in one place. By default, the **SIP Log Viewer** displays a single diagram, however, there is the option of seeing all of the call history for each node separately. To do this, click on the **Separate log for each SIP node** link.

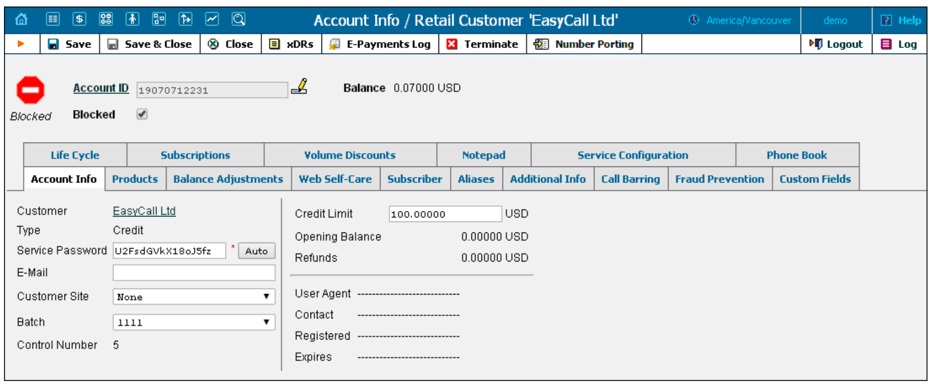


Account Info for Help Desk Staff

The **Account Info** page is provided for Help Desk staff responsible for answering questions from account holders. The interface requires the account holder to give the Help Desk an account ID or a batch and control number. The Help Desk operator can also browse xDRs for this account by selecting the **Browse xDRs** icon.



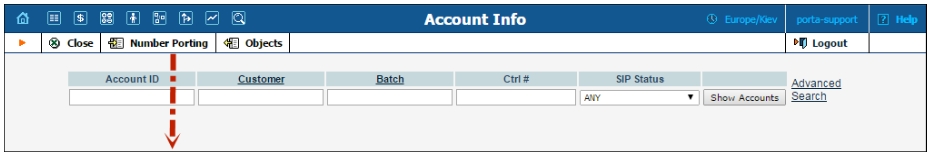
Once specified, clicking on **Account ID** will take the user to the **Account Info** for that account.

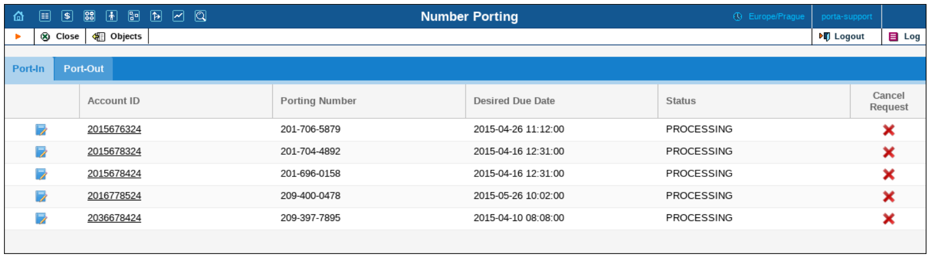


Some account details on the **Account Info** page are read-only. This interface is similar to the one accessible via the customer's accounts. Help Desk staff have the ability to modify preferences like **Web Password**, **Service Password**, **Account Balance**, **Time Zone**, **Redirect Number**, **Blocked Status** and **Preferred Language**. When making changes, Help Desk staff should also provide a comment detailing the reason for these changes (for example, "user unable to call due to network outage, credited $5"). Changes may be confirmed by clicking **Save** or **Save&Close**.

Number Porting

There is an option to port numbers from / to PortaBilling®. The PortaBilling® administrator may monitor all requests from his system (the **Port-in** tab) and to his system (**Port-out** tab) by clicking the **Number Porting** button on the **Account Info** page.





Field	Description
Account ID	The primary identification for this account.
Porting Number	A number that must be ported to PortaBilling® from another telecom (**Port-In** tab) or from the PortaBilling® system to another telecom (**Port-Out** tab).
Desired Due Date	The date by which the customer's request must be completed.
Status	The status of the number porting process. • **NEW** – Number porting request has been created. **NOTE: The request has not yet been sent to the number porting company.** • **PROCESSING** – Number porting request has been sent; waiting for confirmation or cancelation. • **RESOLUTION_REQUIRED** – Request is not complete; additional information is required. • **CONFIRMED** – Number porting is confirmed by all involved entities. • **ERROR** – External error towards PortaBilling® has been detected. • **INTERNAL_ERROR** – Internal error towards PortaBilling® has been detected. • **CANCELLED** – Number porting request has been cancelled by the owner of the requested number. • **FINISHED** – Number porting has been successfully completed.
Cancel Request	Click the ✖ **Cancel Request** icon to cancel the number porting request.

11. How To ...

View downloaded .csv (comma-separated values) files in Windows

To view downloaded .csv (comma-separated values) files in Windows, please do the following to match PortaBilling® default list separator: Control Panel → Region and Language → Formats → Additional Settings… → List Separator ",".

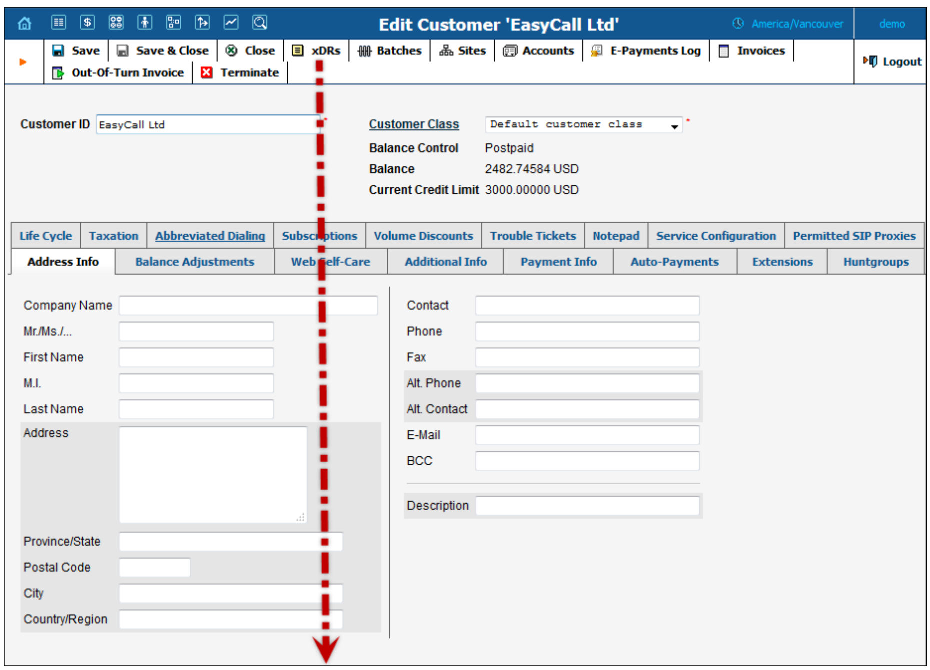
12. Appendices

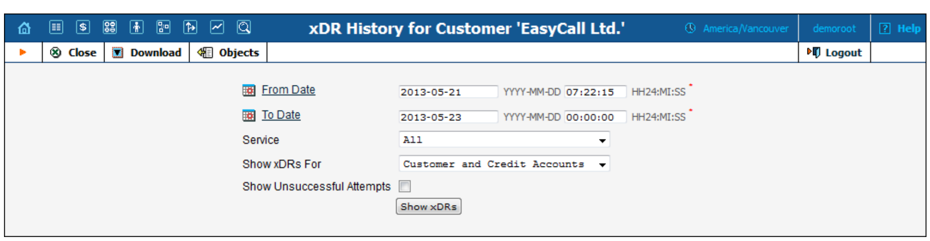
APPENDIX A. xDR Browser

To easily view the xDR history for a particular entity you can use the **xDR browser**. It is not directly accessible from the main menu, since it needs to be accessed in the context of a specific customer / account etc.

Let's assume that you want to view the xDR history for a particular customer. To go to the xDR view page click the **View** icon on the **Customer Management** page.

The browser is also accessible from the **Edit Customer** page by clicking the **xDRs** button.



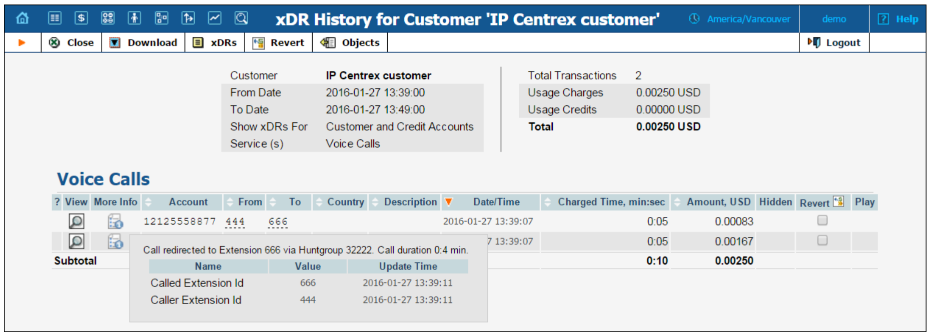


On the **xDR History** page you can make an extensible search via:

- A date and time range by clicking the icon.
- A certain service type.
- The required accounts type (for customers only).

If you want the information about the CDR_Failed to be included in the results list, select **Show Unsuccessful Attempts**.

To initiate a query, click the **Show xDRs** button. The result page will contain a summary displayed on the top of the page and a table listing all of the calls and charges from a specified time period.



To browse for additional information about a call, with your mouse cursor point at the **More Info** icon next to the required xDR. A dialog window displaying the following information appears:

- The extension number to which the call was redirected.
- **Via** – The extension or huntgroup number that dispatched the cal.
- **Call duration** – The time during which the owner of the account to be billed was speaking.
- **Caller Extension ID** – The extension number where the call originated from.
- **Called Extension ID** – The extension number that accepted the call.
- **Calling Party Identity** – The actual caller identity from where the call originated.

This information is available for the following IP Centrex calls:

- Calls to voicemail (direct and missed calls).
- Forwarded / follow-me calls.
- Call pick-up.
- Transferred calls (via blind and attended transfer).

Revert xDRs

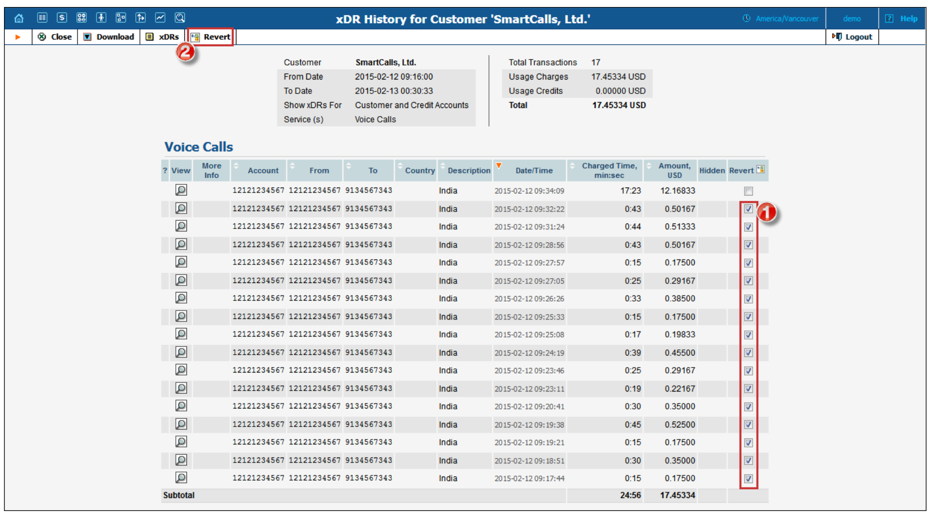
If you want to reverse any type of transaction (voice calls, credits / adjustments, etc.), complete the following steps:

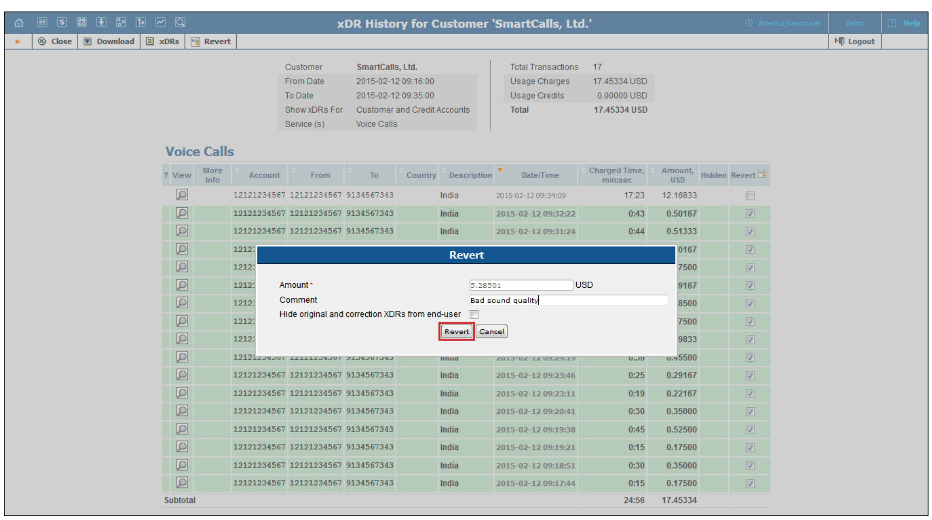
1. Select the xDRs you want to reverse.
2. Click the **Revert** button.
3. In the **Revert** dialog box define the following:

- Transaction amount to be reversed (only if you have selected the sole xDR in step 1).
- Comment (for example, the reason for reversing this amount; keep in mind that this comment is visible to the customer).
- Whether to hide the original and correction xDRs from the end user.

4. Click **Revert**.

Note that the **Amount** field in the **Revert** dialog box is inactive if you select multiple xDRs in step 1 – the transaction amount in this case is always equal to the sum of all selected xDRs amounts.



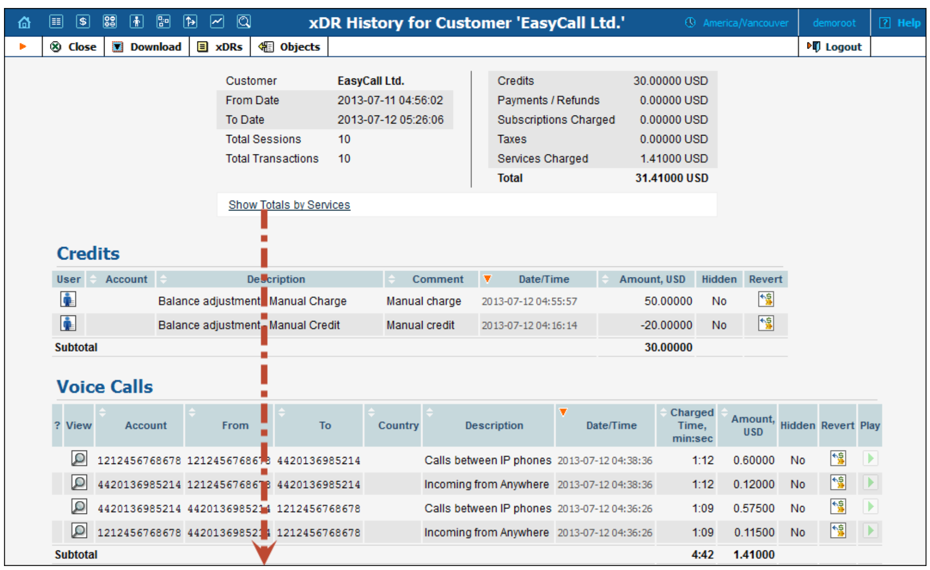


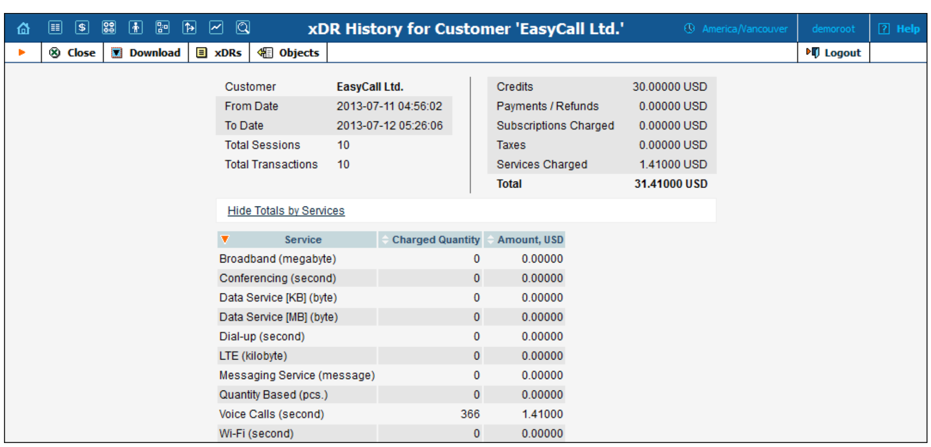
In case you want to reverse a transaction as if it never happened, use the **Hide original and correction xDRs from end-user** option in step 3. Therefore, both the original and correction xDRs will be given the Hidden xDR icon in the **Hidden** column and end users will neither see these xDRs in their invoices, nor on self-care interfaces or in statistics.

This option is only available when the reverse transaction amount is equal to the original transaction(s) amount and all of the transaction xDRs are included in the open billing period or an invoice that is under review.

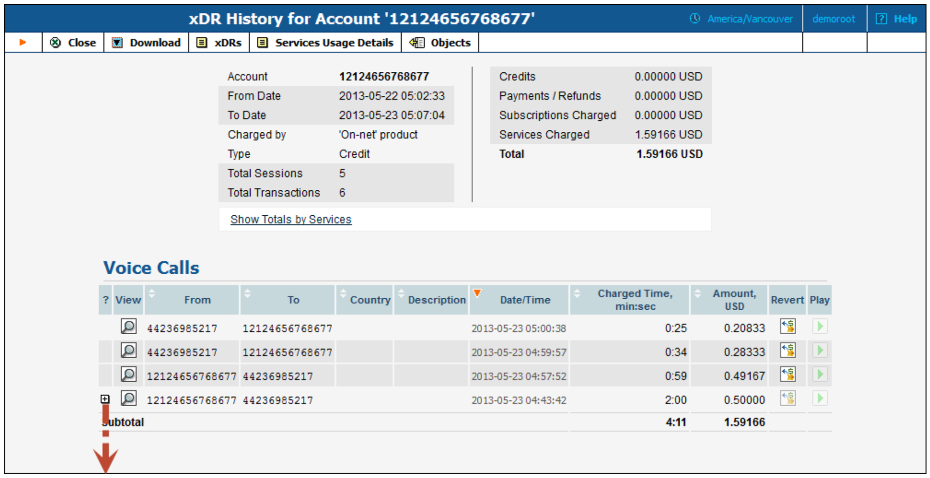
Note that you must be very careful when applying **Hide original and correction xDRs from end user** – once an xDR becomes hidden, it's not possible to reverse it. So if you reverse a transaction by mistake and mark it as hidden, you can only correct this by manually charging for the transaction amount or by importing an analogous xDR.

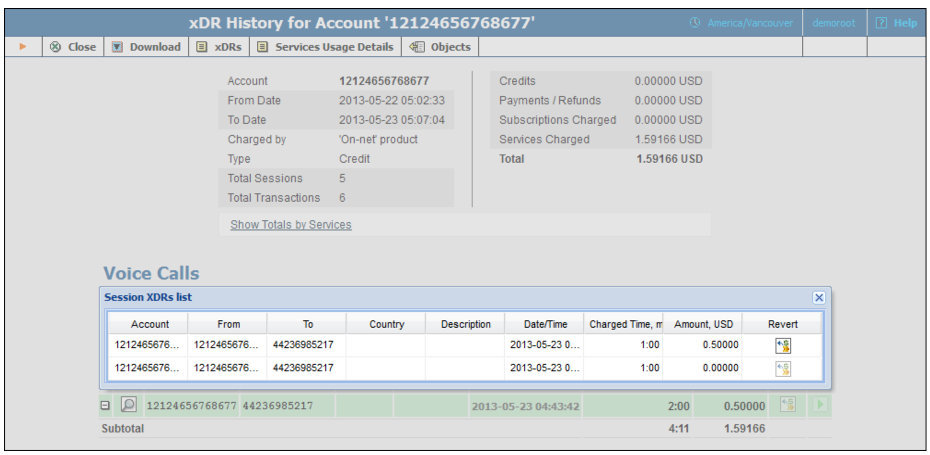
If you want to view information (charged quantity and amounts due) for all of the services, click the **Show Totals by Services** button.





A call session with several rating periods produces multiple xDR records, each linked to the applicable discount level / rate. This makes it very easy for both administrators and end users to check the accuracy of all transactions billed. To view xDRs records for the same session, click on the plus sign:





APPENDIX B. Audio File Formats Supported by Music on Hold Feature

The Music on Hold feature supports the following file formats:

8svx, aif, aifc, aiff, aiffc, al, amb, au, avr, caf, cdda, cdr, cvs, cvsd, cvu, dat, dvms, f32, f4, f64, f8, fap, flac, fssd, gsm, hcom, htk, ima, ircam, la, lpc, lpc10, lu, mat, mat4, mat5, maud, mp2, mp3, nist, ogg, paf, prc, pvf, raw, s1, s16, s2, s24, s3, s32, s4, s8, sb, sd2, sds, sf, sl, smp, snd, sndfile, sndr, sndt, sou, sox, sph, sw, txw, u1, u16, u2, u24, u3, u32, u4, u8, ub, ul, uw, vms, voc, vorbis, vox, w6, wav, wavpcm, wve, xa, xi.

Please note that the uploaded media file should have an appropriate filename extension.