



PortaBilling



Web Reference

Maintenance
Release
45



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Maintenance Release 45

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Please address your comments and suggestions to: Sales Department,
PortaOne, Inc. Suite #408, 2963 Glen Drive, Coquitlam BC V3B 2P7
Canada.

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Preface

This document provides a general overview of the PortaBilling® administrator 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 information or actions.

NOTE: Notes contain helpful suggestions about or references to materials not contained in this manual.



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



Tips provide information that might help you solve a problem.

Trademarks and Copyrights

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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 (e-mail: support@portaone.com) can supply quick answers to specific inquiries regarding product features and technical questions. You can visit our website (<http://www.portaone.com>) for more information.

Hardware and Software Requirements

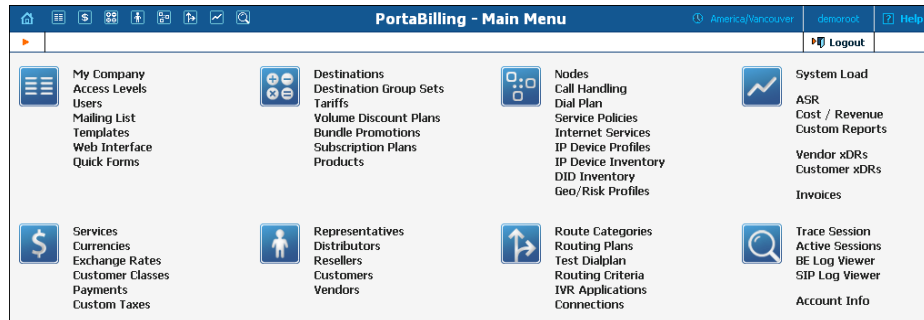
Client System Recommendations

- OS: Windows XP, Vista, 7 or 8, UNIX or Mac OS X
- Web browser: Internet Explorer 8.0 (or higher), Mozilla Firefox 3.6 (or higher)
- JavaScript and cookies enabled in web browser
- Spreadsheet processor (MS Excel or OpenOffice Calc)
- Display settings:
 - Minimum screen resolution: 1024 x 768

NOTE: To view downloaded CSV (Comma-Separated Values) files in Windows, please do the following to match PortaBilling's default list separator: My Computer -> Control Panel -> Regional Settings -> Number -> List Separator type ",",.

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 IP device 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.

PortaBilling Security

PortaBilling® is compliant with Visa Security Standards.

User interface

- Inactivity logout
- Unconditional logout

User passwords:

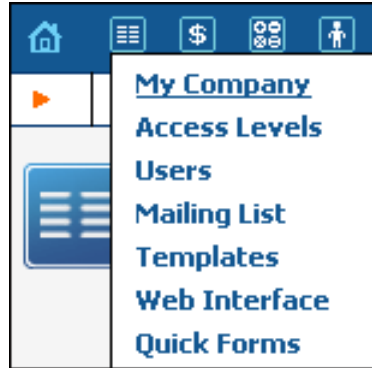
- The minimum password length is six (6) characters and the maximum password length is sixteen (16) characters.
- Passwords include both alphabetical and numerical components.
- Passwords are stored under irreversible encryption.
- The user's last six (6) passwords cannot be re-used.
- Passwords must *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® interfaces:

Admin – Shortcut to this interface; same result as clicking the **Home** icon

Customer Self-Care Portal – Customer self-care interface

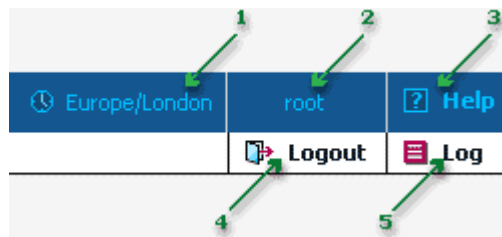
CC-Staff – Customer Care Staff interface

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:



1. The time zone where the current user operates. Click on this link to select a time zone for your current session.
2. Login name of the user currently logged in.
3. Context help for the current screen. Click this link and the Help window will pop up.
4. Logout button. Used to end the current session or, when necessary, to re-login as another user.


5. Log button. This link is only available to users with corresponding access rights and where applicable. Clicking it will open a window showing all logged activities performed on the current screen.

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.

The screenshot shows the 'Tariff Management' interface. At the top, there are navigation tabs: 'Add', 'Close', 'Off-Peak Periods', 'xDR Re-rating', and 'LCR Rates'. Below the tabs is a search area with dropdown menus for 'Applied To' (set to ANY), 'Service' (set to ANY), and 'Managed By' (set to ANY), along with a 'Search' button. The main content is a table with the following data:

Rates	Name	Currency	Applied To	Service	Managed By	Routing	Description	Delete
	DID supplier costs	USD	Vendor	Voice Calls		No		
	Internet Access	USD	Vendor	Broadband		No		
	Prepaid cards	USD	Customer	Voice Calls	Administrator only			
	SIP Phone Subscribers	USD	Customer	Voice Calls	Administrator only			

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.

Edit Customer 'EasyCall Ltd.' Europe/Andorra TechWriting-root Help

Save Save & Close Close xDRs Batches Sites Accounts E-Payments Log Invoices Logout Log

Out-Of-Turn Invoice Terminate Objects

Customer ID: EasyCall Ltd. Customer Class: Default customer class
 Balance Control: Postpaid
 Balance: 648.04000 USD
 Current Credit Limit: 1000.00000 USD

Life Cycle	Taxation	Abbreviated Dialing	Subscriptions	Volume Discounts	Trouble Tickets	Notepad	Service Configuration	Permitted SIP Proxies	Override Tariffs
Address Info		Balance Adjustments	Web Self-Care	Additional Info	Payment Info	Extensions	Huntgroups	Custom Fields	

Company Name: EasyCall Ltd. Contact: John Doe
 Mr./Ms./...: Mr. Phone:
 First Name: John Fax:
 M.I.: Alex Alt. Phone:
 Last Name: Doe Alt. Contact:
 Address: Suite 408, 2963 Glen Drive E-Mail:
 Province/State: BC BCC:
 Postal Code: Description:
 City:
 Country/Region: Canada

Edit Customer 'EasyCall Ltd.' Europe/Andorra TechWriting-root Help

Save Save & Close Close xDRs Batches Sites Accounts E-Payments Log Invoices Logout Log

Out-Of-Turn Invoice Terminate Objects

Customer ID: ACL EasyCall Ltd. Customer Class: ACL Default customer class
 Balance Control: ACL Postpaid
 Balance: ACL 648.04000 ACL USD
 Current Credit Limit: ACL 1000.00000 ACL USD

Life Cycle	Taxation	Abbreviated Dialing	Subscriptions	Volume Discounts	Trouble Tickets	Notepad	Service Configuration	Permitted SIP Proxies	Override Tariffs
Address Info		Balance Adjustments	Web Self-Care	Additional Info	Payment Info	Extensions	Huntgroups	Custom Fields	

Company Name: ACL EasyCall Ltd. Contact: ACL John Doe
 Mr./Ms./...: ACL Mr. Phone: ACL
 First Name: ACL John Fax: ACL
 M.I.: ACL Alex Alt. Phone: ACL
 Last Name: ACL Doe Alt. Contact: ACL
 Address: Suite 408, 2963 Glen Drive E-Mail: ACL
 Province/State: ACL BC BCC: ACL
 Postal Code: ACL Description: ACL
 City: ACL
 Country/Region: ACL Canada

The screenshot shows the 'Edit Customer' interface for 'EasyCall Ltd.'. The top navigation bar includes options like 'Save', 'Save & Close', 'Close', 'xDRs', 'Batches', 'Sites', 'Accounts', 'E-Payments Log', 'Invoices', 'Logout', and 'Log'. Below this, the customer details are displayed, including 'Customer ID', 'Customer Class', 'Balance Control', 'Balance', and 'Current Credit Limit'. A secondary navigation bar lists various tabs such as 'Life Cycle', 'Taxation', 'Abbreviated Dialing', 'Subscriptions', 'Volume Discounts', 'Trouble Tickets', 'Notepad', 'Service Configuration', 'Permitted SIP Proxies', and 'Override Tariffs'. The main form area is divided into sections for 'Address Info', 'Balance Adjustments', 'Web Self-Care', 'Additional Info', 'Payment Info', 'Extensions', 'Huntgroups', and 'Custom Fields'. The 'Address Info' section contains fields for 'Company Name', 'Mr./Ms./...', 'First Name', 'M.I.', 'Last Name', 'Address', 'Province/State', 'Postal Code', 'City', and 'Country/Region'. The 'Additional Info' section contains fields for 'Contact', 'Phone', 'Fax', 'Alt. Phone', 'Alt. Contact', 'E-Mail', 'BCC', and 'Description'.

Sorting tables

on	Connect Time	Disconnect Time	Duration, min:sec	Acc
atch es	24 Aug 2002 01:35:35	24 Aug 2002 01:35:35	0:00	
atch es	23 Aug 2002 20:51:50	23 Aug 2002 21:30:12	38:22	
atch	23 Aug 2002	23 Aug 2002		

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

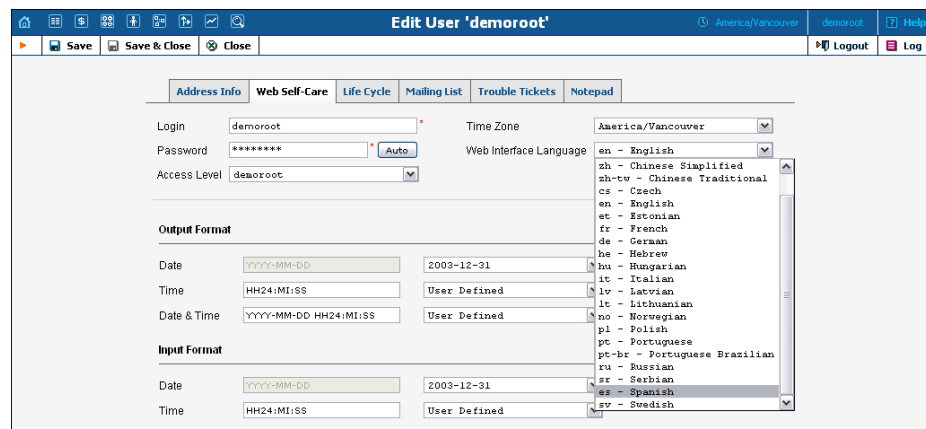
Currently, in addition to English as the main language, the PortaBilling® administrative interface is available in the following languages:

- Arabic
- Chinese (traditional and simplified)
- Czech

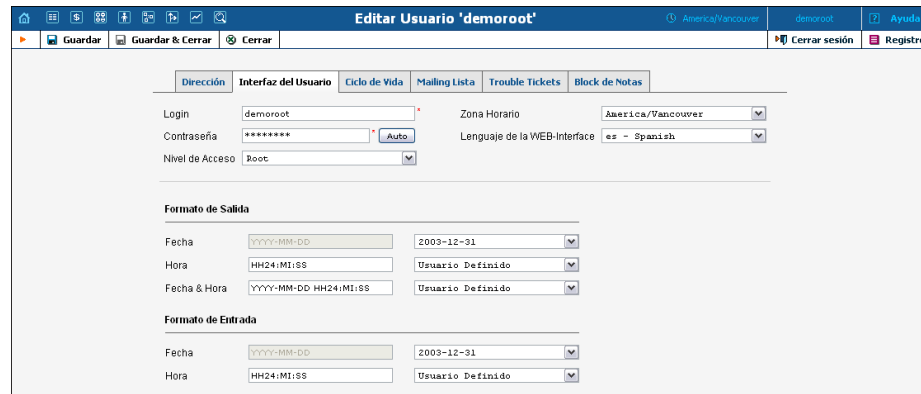
- Estonian
- French
- German
- Hebrew
- Hungarian
- Italian
- Latvian
- Lithuanian
- Norwegian
- Polish
- Portuguese (from Portugal *and* Brazil)
- Russian
- Serbian
- Slovenian
- Spanish
- Swedish

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.



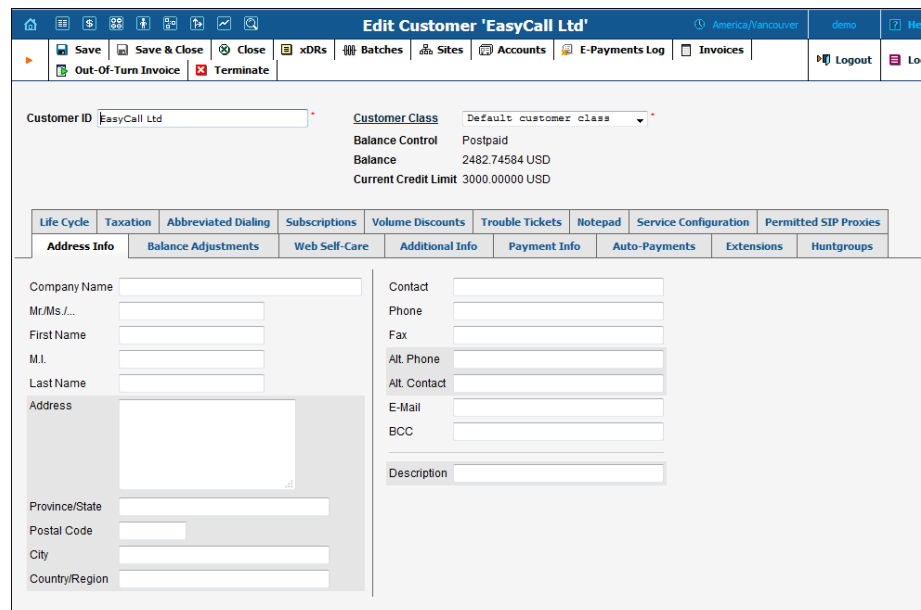
The screenshot displays the 'Edit User' interface for user 'demoroot'. The top navigation bar includes 'Save', 'Save & Close', and 'Close' buttons. The main content area is divided into several tabs: 'Address Info', 'Web Self-Care', 'Life Cycle', 'Mailing List', 'Trouble Tickets', and 'Notepad'. The 'Web Self-Care' tab is active, showing fields for 'Login' (demoroot), 'Password' (masked), 'Access Level' (demoroot), and 'Time Zone' (America/Vancouver). A 'Web Interface Language' dropdown menu is open, listing various languages including English, Chinese, German, Hebrew, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Russian, Serbian, Spanish, and Swedish. The interface also includes sections for 'Output Format' and 'Input Format' with fields for Date and Time.



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.

Output Format		
Date	DD-MM-YYYY	31-12-2003
Time	HH24:MI:SS	User Defined
Date & Time	DD-MM-YYYY HH24:MI:SS	User Defined
Input Format		
Date	DD-MM-YYYY	31-12-2003
Time	HH24:MI:SS	User Defined

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.

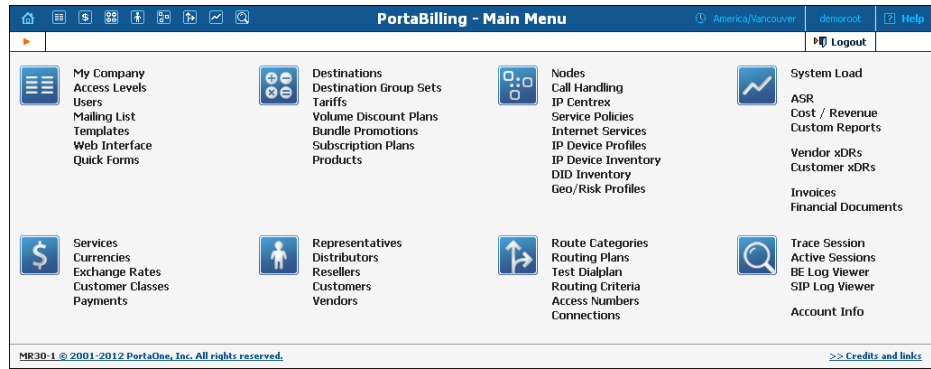
In the following table, the specifiers are given in upper case. Formats are case-insensitive.

Specifier	Value	Description
<i>Date</i>		
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
<i>Time</i>		
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	
<i>Separators</i>		
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 screen, you can see information about the maintenance release and build of the software currently installed, e.g. MR44-1 means “Maintenance Release 44” and “Build 1”.

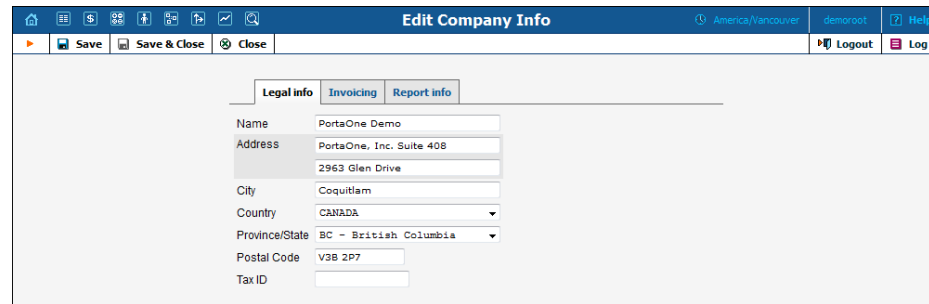


2. System Management

My Company

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

Legal Info



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 drop-down list, depending on the Country option selected.
Postal Code	Postal code for the company’s registered location.
Tax ID	Locally-designated tax number.

Invoicing

The screenshot shows the 'Edit Company Info' interface with the 'Invoicing' tab selected. The form includes the following fields and values:

- Company Name:** PortaOne Demo
- Address:** PortaOne, Inc. Suite 408, 2963 Glen Drive, Coquitlam BC V3B 2P7
- Country:** CANADA
- Phone:** (empty)
- Fax:** (empty)
- Email:** contact@portaone.com
- Web:** (empty)
- Invoice Number Sequence:** Individual for Environment

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 drop-down list.
Phone	Primary telephone number for the company.
Fax	Primary fax number.
E-mail	Primary e-mail 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.
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: <ul style="list-style-type: none"> • 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

	<p>sequential numbering for all of his subcustomers</p> <ul style="list-style-type: none"> • Individual for Customer – every customer (direct customer, distributor, subcustomer and reseller) will have his own sequential numbering
--	--

Report Info

The screenshot shows the 'Edit Company Info' window with the 'Report info' tab active. The fields are: Time Zone: America/Vancouver, Reconciliation Period: Daily, and Currency: USD. The window title is 'Edit Company Info' and it includes navigation buttons like Save, Save & Close, Close, Logout, and Log.

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 <i>Statistics</i> section below.)
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

Introduction to the ACL System

Different types of users have different responsibilities within the billing system. Some users may not be allowed to use or see certain portions of the system. To this end, PortaBilling® supports the concept of **Access Control Lists (ACL)**. ACLs allow the PortaBilling® administrator to decide, for example, that a particular sales representative can look at customers’ data, but cannot create new customers.

ACLs 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.

ACL Types

An access level can be of the following types:

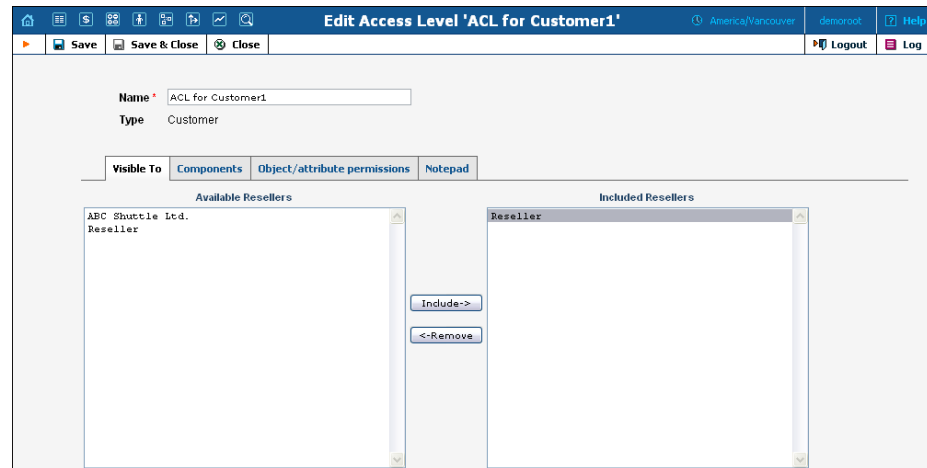
- Account (to be applied to your account)
- CC Staff (to be applied to your customer care support)
- Component (cannot be assigned to users; used only as a building block to construct other access levels)
- Customer (to be applied to retail customers or sub-customers)
- Distributor (to be applied to your distributor)
- Representative (to be applied to your representative)
- Reseller (to be applied to your resellers)
- User (access level for users of the admin interface)
- Vendor (to be applied to your vendors)

These access levels are composed of **permissions** and, optionally, other **components (as dependencies)**. Permission is a basic unit in the ACL system.

Newly created ACLs will be available in the **Access Level** select menu of the corresponding form when creating a new object or modifying an existing object's details. For instance, a User ACL will appear in the **Access Level** select menu of the **Add User** form (see below), a Customer ACL will be available when creating or editing a customer, and so on.

ACLs' Visibility under Reseller

Normally you would not want reseller A to be able to use ACLs, which were designed for reseller B. To ensure that this never happens, ACLs are not visible to resellers by default. To allow a certain reseller to use the ACL, include this reseller in the ACL's **Visible To** tab:



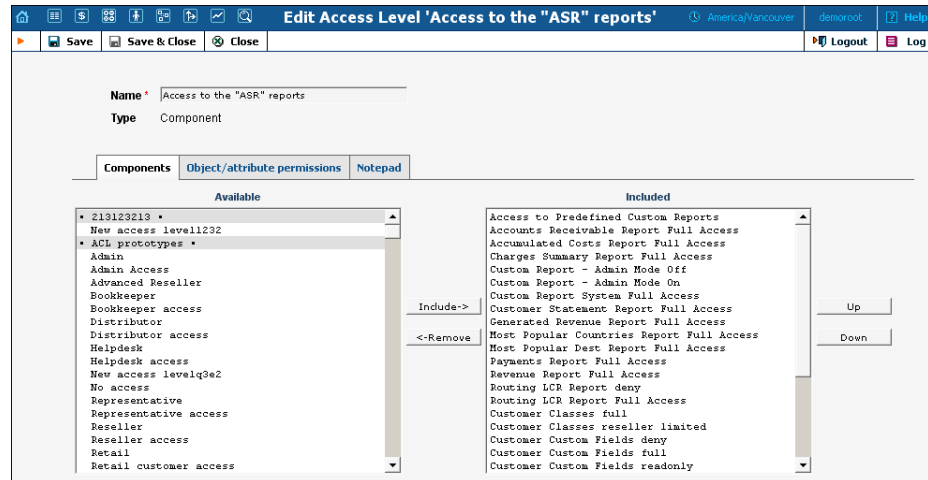
Visibility can be applied for Customers, Accounts, Representatives and CC Staff ACLs.

Components

As was mentioned before the system includes a set of default ACLs that consists of components. These are used as a building block for constructing other access levels. Components will be made up of zero or more permissions, and can include other components (as dependencies). If access level ACLX includes access levels ACL1, ACL2 and ACL3 (or, in other words, is *derived* from ACL1, ACL2 and ACL3), then ACLX will contain all the permissions defined in ACL1, ACL2 and ACL3 (along with all of the access levels they in turn are derived from).

What happens if there is a contradiction; for example, if ACL1 denies read access to Accounts.password and ACL2 grants it? In such a case, the first available definition will be used. Thus, in the example above, access will be denied according to ACL1, which is first in the list of included access levels. Keep in mind that the sequence of ACLs matching is held top-down. In addition to these, a component has several other aspects.


When editing a component, you will first see a screen as on the following screenshot:



Including components as dependencies within other components gives the system its power. Here we see that the “Admin access” level is defined by over a dozen dependent components. Note that this component does not actually define permission itself, but rather relies on the implementation of its dependents.

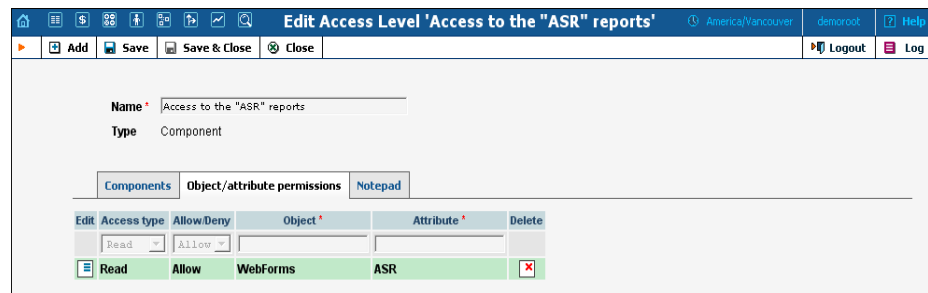
By deriving new components from the existing ones in the system, you can implement fine-grain access control and define User ACLs specific to your operational environment.

Permissions

Permission is the fundamental unit of exchange in the PortaBilling® security model. Permissions are composed of an **access type**, **Allow / Deny permission** (whether or not this is an allowed action), **the relevant object**, and **the relative attribute of the object**. To browse the permissions available for a certain page on the web interface, click the  **Objects** icon.

NOTE: The  **Objects** icon is available for root users only.

Let’s take the example. An access level called “Access to ‘ASR’ reports” is provided within the PortaBilling® installation. It defines only one permission, which appears as in the following screenshot:



The “Access type” is set to “Read,” and the permission to “Allow.” This permission applies only to “WebForms” objects which have the attribute “ASR.”

There are four possible access types:

- **read** – view the specified resource
- **update** – modify the resource
- **insert** – create new instances of the resource type
- **delete** – remove instances of the resource from the system

The field “Allow / Deny” defines whether this permission has been granted or withheld.

You should never have to provide fine-grain permission information yourself, as all possible permissions are already encapsulated in the components of your PortaBilling® installation. For this reason, we will not discuss the “Object” and “Attribute” fields further in this section. However, it may be useful to know that wildcards can be used in these fields. For example, to allow Read access to all web pages, an ACL could be defined with the following permissions:

Access type:	“Read”
Allow/Deny:	“Allow”
Object:	“WebForms”
Attribute:	“*”



As may be guessed, the “*” in the attribute field means “all attributes.”

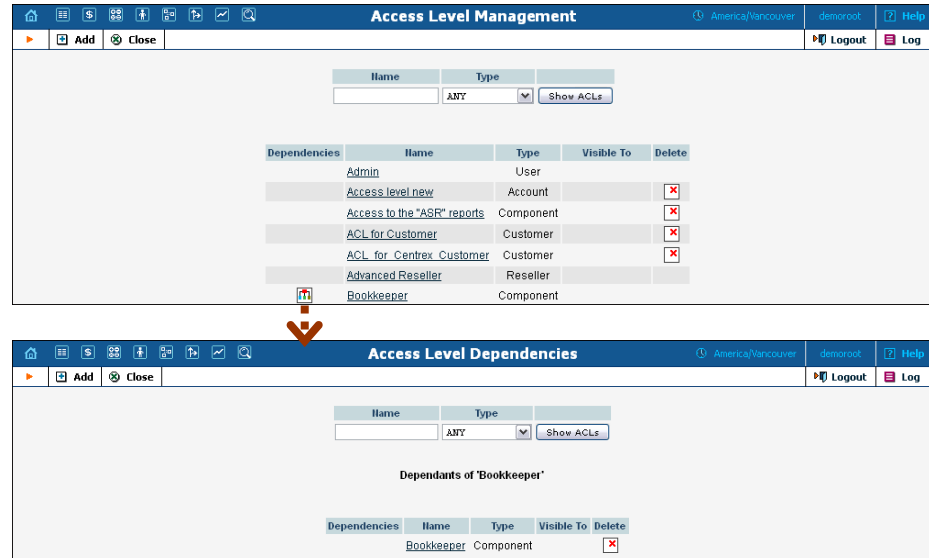
NOTE: Should you find it necessary to create new components, please contact PortaOne Support. We can provide you with a list of Object and Attribute resources, or otherwise assist you in maintaining ACLs.

Access Level Management Interface

In this discussion of the ACL system, we have proceeded by starting with the fundamentals and building up your skills from there. Now we will discuss the entry point for ACL management. On the PortaBilling® administrative interface you will find a link to “Access Levels.” This link takes you to the Access Level Management main screen pictured below.

This screen is similar to many others in the PortaBilling® system, including a search interface at the top and a results listing at the bottom. (By default, all ACLs are shown in a paged format on this screen.) You may search for ACLs using any combination of Name and Type.

In the results listing, you may also see the **Dependencies** icon  and **Delete** icon . ACLs can only be deleted when they are not in use. If a component contains any included components, you will be able to click on the dependencies and see search results for all dependents. The following screenshot shows all dependents for “Accounts full access.” Note that some of the dependents have their own dependencies.



Add / Edit a New User ACL

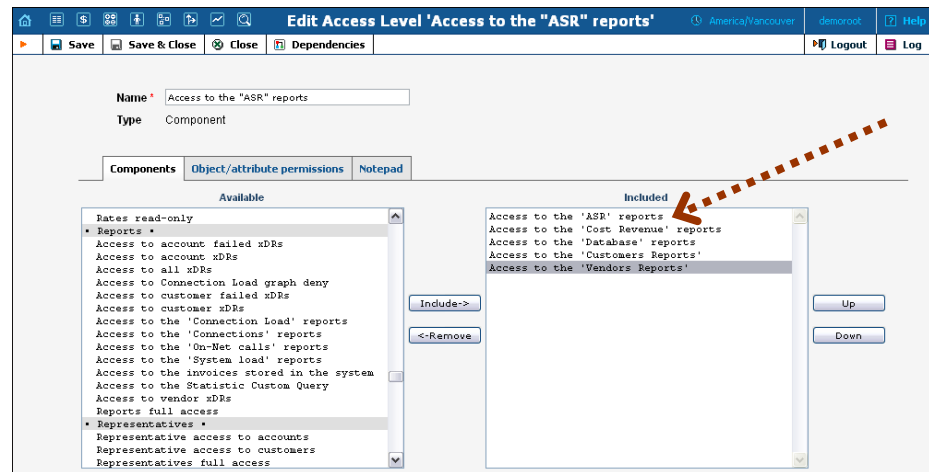
From time to time you will find that the predefined user ACLs (Admin, Helpdesk, and so on) offer too few, or too many, restrictions for a particular class of user. In such a case, it is time to create a new user ACL.

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.

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. Examples are “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.

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 screen 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 screen 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	Super User, read and write access to all PortaBilling® objects.
Admin	Like Root user, but with some limitations: - cannot create new users - cannot modify company info - read-only access to Destinations, Currencies, Nodes
Bookkeeper	Read-only access to billing information (Tariffs, Products); can change balances for Accounts / Customers, block / unblock; no access to xDRs; access to reports.
Helpdesk	Read-only access to billing information (Tariffs, Products); can modify Customer and Account parameters; access to Trace Call.

Default customer ACLs

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

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 sub-customers 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 a Default ACLs

In order to view a default ACL’s components and permissions, select *Admin* from the *ACL.Mode* list on the configuration server. 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:

- Select **Access Levels** from the **Management** functional block;
- Open an ACL you are interested in;
- 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.

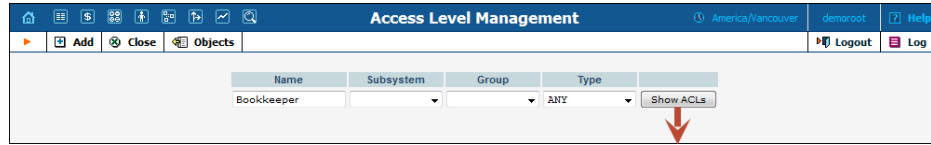
The Access Level Management screen within *Admin* mode has some additional fields:

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.

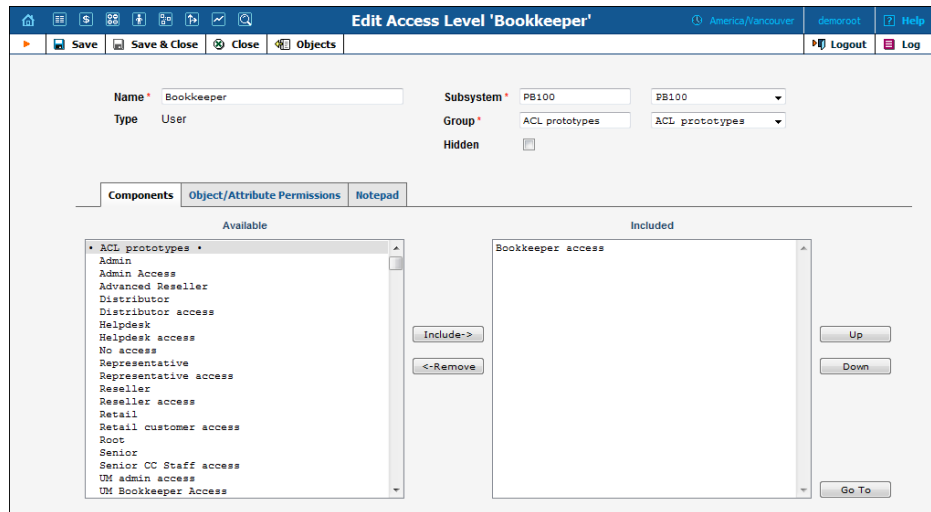
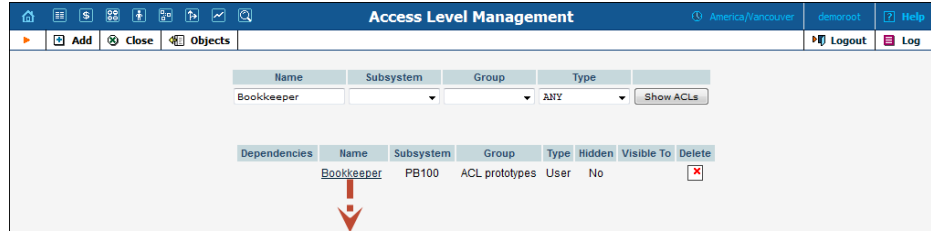
Here’s an example: let’s say you need to assign an ACL to your new employees and you want to see exactly which rights they will have. In this case you would do the following:

- Enable the Admin ACL mode via the configuration server;
- Open the **Access Level Management** page;

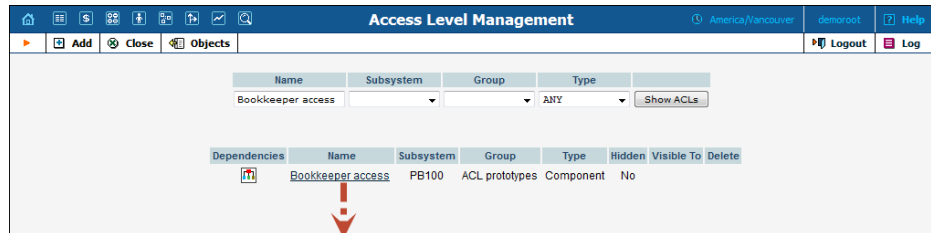
- Type *Bookkeeper* in the **Name** field and click **Show ACLs**;

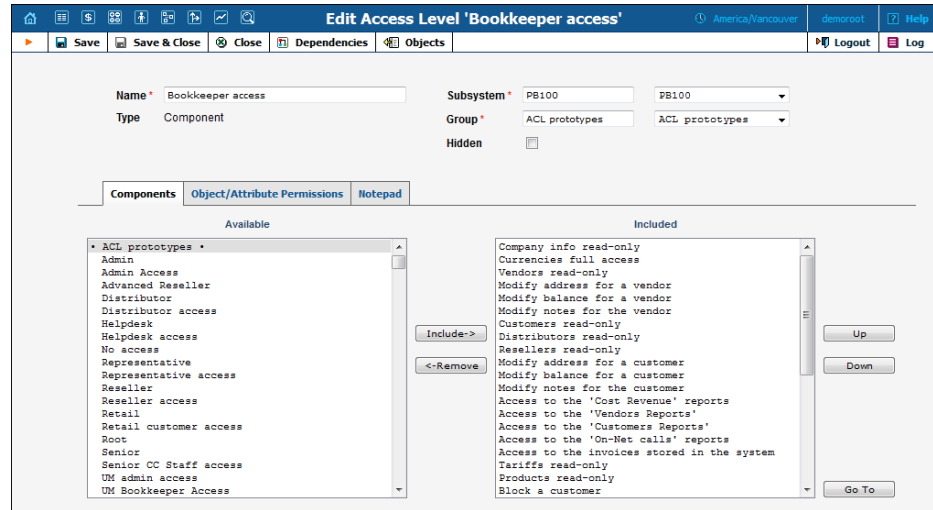


- Then click on the ACL that you located where you will see a component named *Bookkeeper access*;



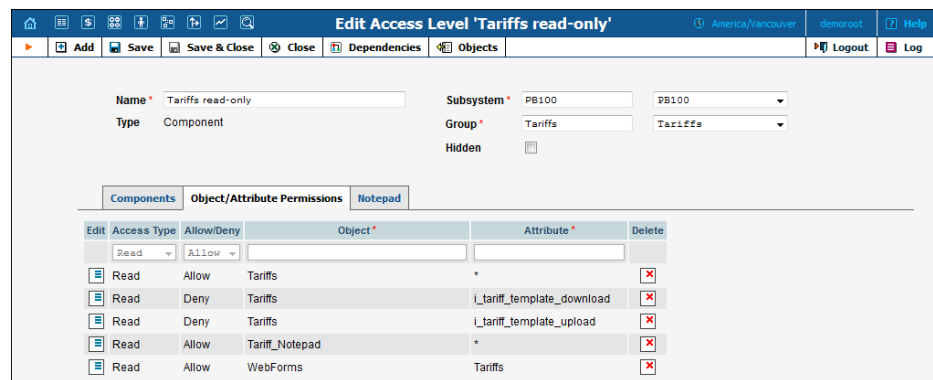
- Open the *Bookkeeper access* ACL;



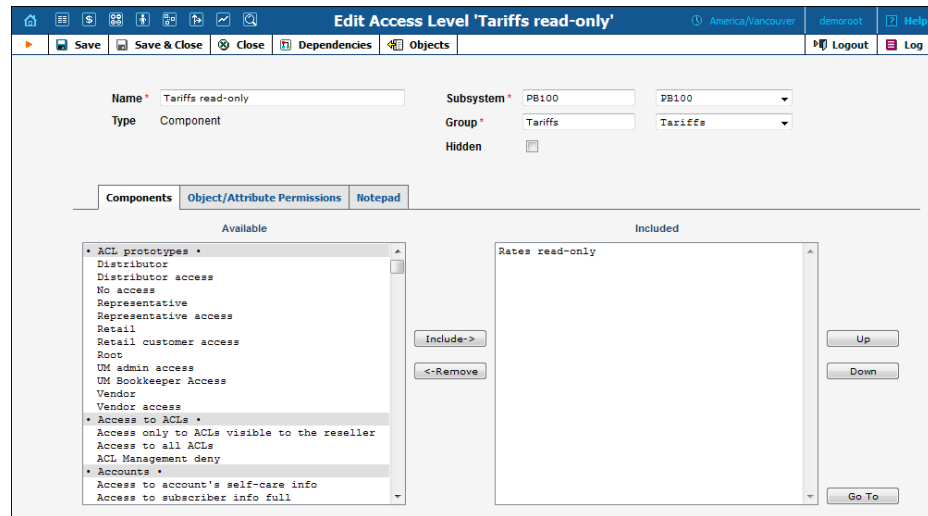


- View all the components and make sure that the user will be able to view the tariffs but not modify them, and then open the **Tariffs read-only** component. There you can view the following permissions:

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

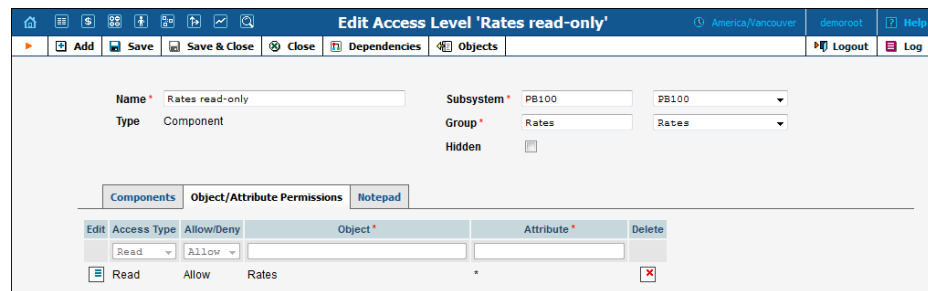


There is one more component inside of the **Tariffs read-only** component: the **Rates read-only** component.



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.

ACL for the New Self-care Portal

In order to create an ACL for the new self-care portal, follow these steps:

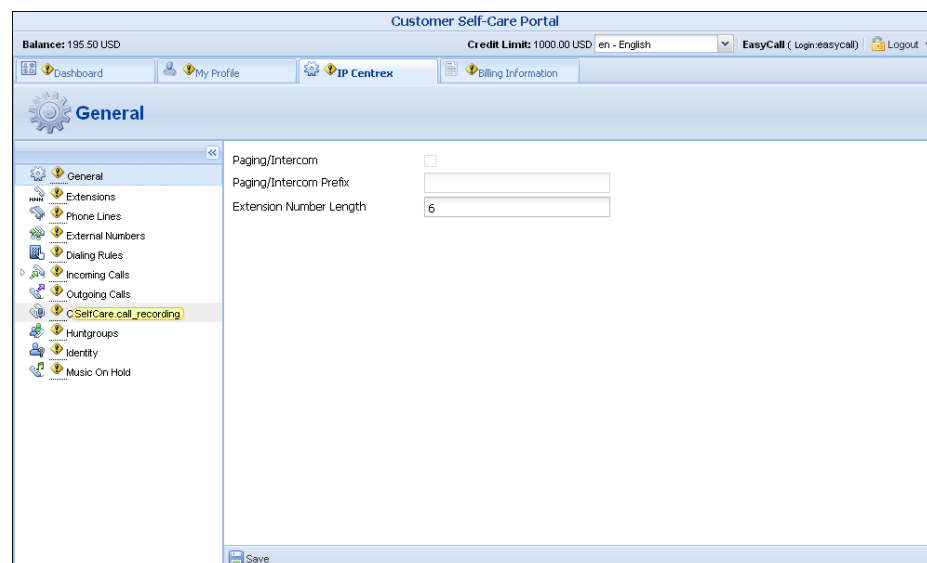
- Open the **Access Levels** page
- Click the **Add** button
- Select *Account* or *Customer* from the **Type** field
- On the **Components** tab include the following components, depending on the ACL type:
 - *Account Self-Care Permissions* and *Account Self-Care* or
 - *Customer Self-Care Permissions* and *Retail Customer Access*
- 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

- After saving the newly created ACL you will be able to assign it to a Customer or an Account, respectively

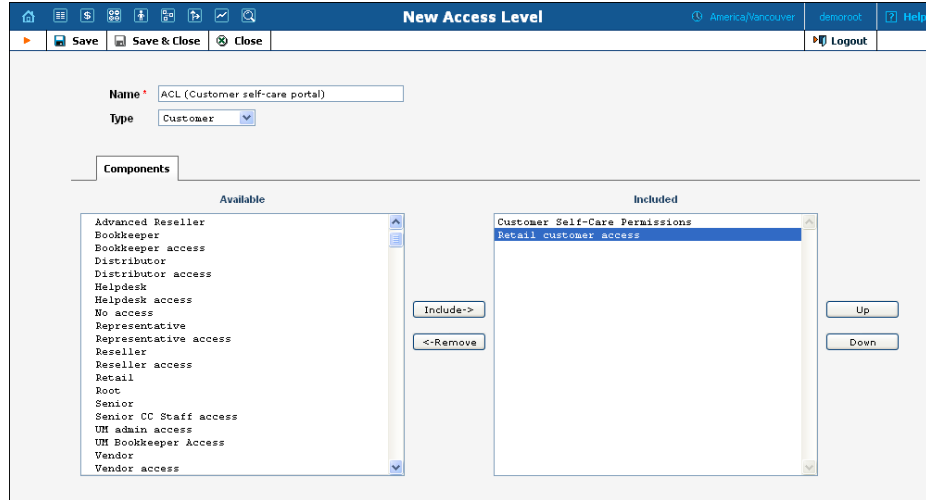
NOTE: You can use test customer / account in order to view the Objects / Attributes of the pages of the new self-care portal. In order to allow this customer / account to do this add the ID of the customer / account into the *ACL TipsForAccounts* or *ACL TipsForCustomers* field respectively on the configuration server web interface.

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

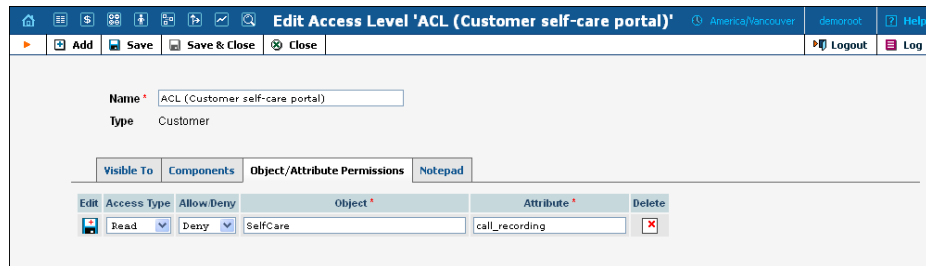
1. Using a test customer, go to the self-care portal and point the cursor at the exclamation mark near the **Call Recording** tab in order to see the Object / Attribute of this page (in our example, the Object is *SelfCare* and the Attribute is *call_recording*).



2. Go to the **Error! Unknown document property name.** web interface and create an ACL for the Customer self-care portal with the following parameters:
 - **Type** – Customer;
 - On the **Components** tab include *Customer Self-Care Permissions* and *Retail Customer Access* components.

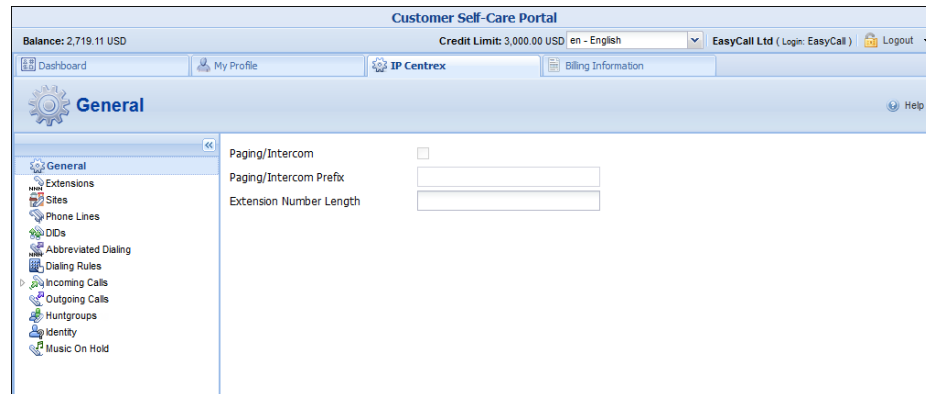


3. Click the **Save** button.
4. Open the **Object / Attribute Permissions** tab.
5. Click the **Add** button and specify the following settings:
 - **Access Type** – Read
 - **Allow / Deny** – Deny
 - **Object** – *SelfCare*
 - **Attribute** – *call_recording*



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

Now the **Call Recording** tab will be hidden within the customer self-care portal.



How to Grant a User Permission to Login to the Participant Self-care Interface with User's Own ACL


By default, only users with ACLs that contain the components **Admin**, **Admin Access**, **Reseller** and **Reseller Access** can see and use the **Login with your own ACL** option.

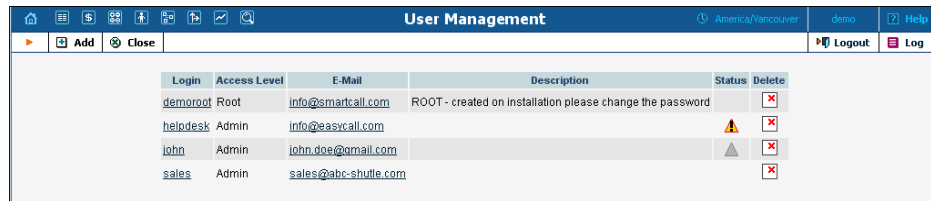
But even if required users don't have this permission by default, it can still easily be granted to them. Just modify the users' ACLs following these steps:







1. In the **Management** section of the **Main Menu** select **Access Levels**.
2. Select the user's access level.
3. Select the **Object / Attribute Permissions** tab.
4. Click the **+ Add** button.
5. Fill in the form with the following settings:
 - **Object:** WebForms
 - **Attribute:** login_with_current_acl
 - **Access Type:** Read
 - **Allow / Deny:** Allow
6. Click **Save** to save this permission entry.



Remember that by doing this, you automatically grant permission to all users with this access level. If you want to grant permission to only some of the users, create a separate access level entry, modify it as described and then assign it to the users that you want to have this permission.

User Management

The User Management screen 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, select the  **Add** button from the User Management screen. The user list table contains the following information and operations:



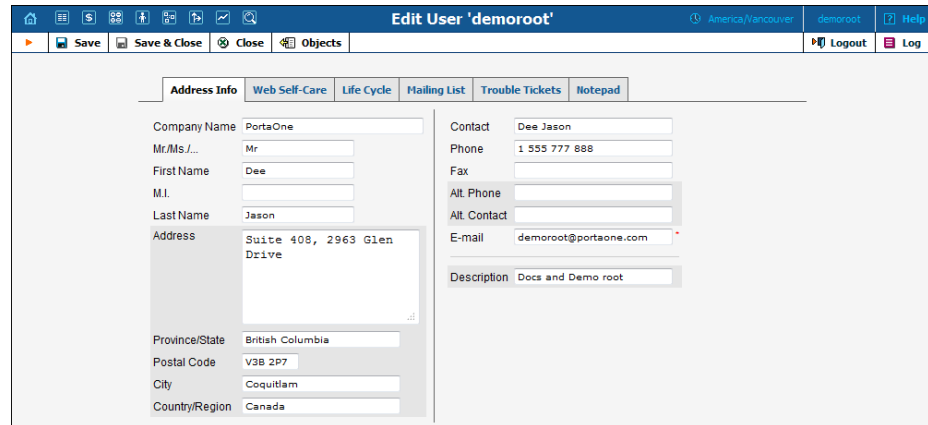
Login	Access Level	E-Mail	Description	Status	Delete
demoroot	Root	info@smartcall.com	ROOT - created on installation please change the password		
helodesk	Admin	info@seasvcall.com			
john	Admin	john.doe@gmail.com			
sales	Admin	sales@abc-shuttle.com			

Column	Description
Login	The username for login and user identification. It is provided as a link to the edit screen 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.
E-mail	An e-mail contact for the user. For convenience, this is provided as a link, so you can send an e-mail to the user directly from this screen.
Description	A short description associated with the user.
Status	The status of the user’s account. The user can have the following statuses: <ul style="list-style-type: none"> Expired  – is assigned when Expiration Date has already passed Inactive  – is assigned when Start Using date has not yet arrived
Delete	A 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 screen allows you to enter details to create a new user account. The Edit User screen allows you to change details for a particular user account.

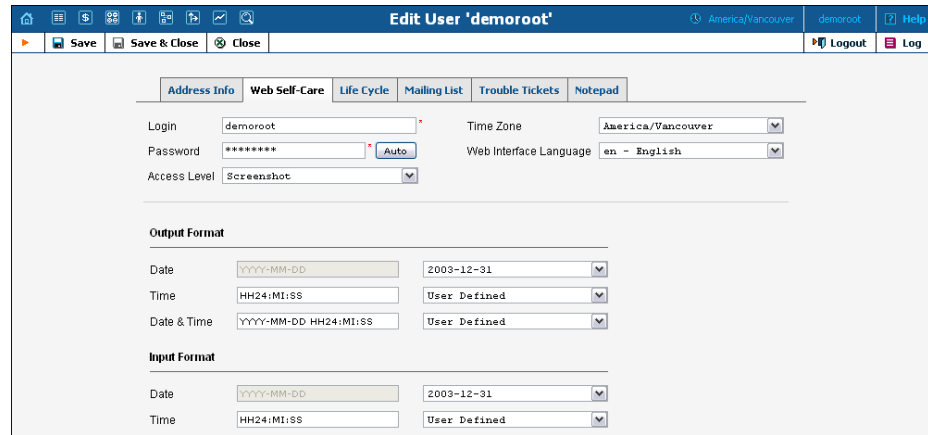
Address Info



Mandatory field for user contact information:

Field	Description
E-Mail	An e-mail contact for this user. The user will receive notifications for which he is subscribed via this e-mail.

Web Self-Care

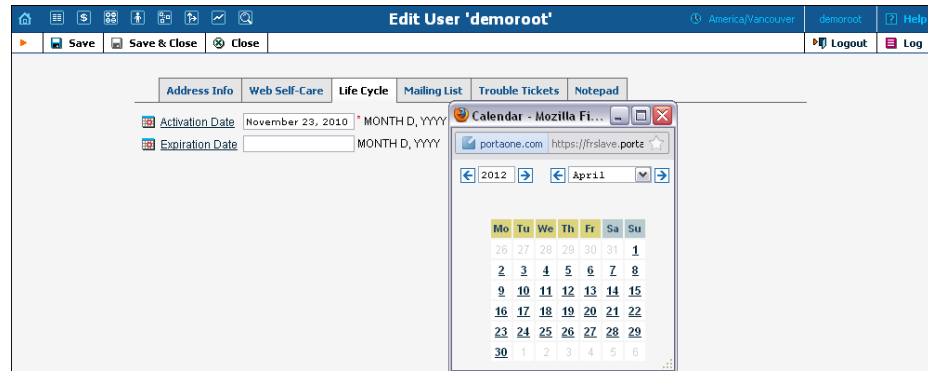


Field	Description
Login	The new user ID to be used at login and elsewhere throughout the system.
Password	The password for this login. A secure and hard-to-guess password may be automatically generated by pressing the “Auto” button.
Access Level	The privileges or role associated with this user. See the Access Levels section for more information.
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

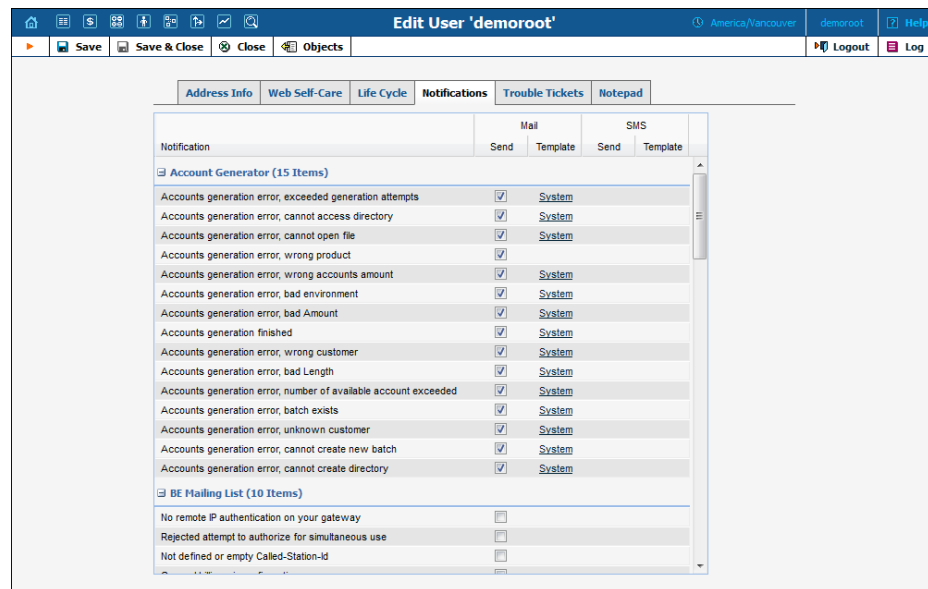
This allows the administrator to set up the user account’s activation and expiration dates.



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

Notifications

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 e-mail and / or SMS notifications to send to the users.



Among the available notification types and their conditions of activation are as follows:

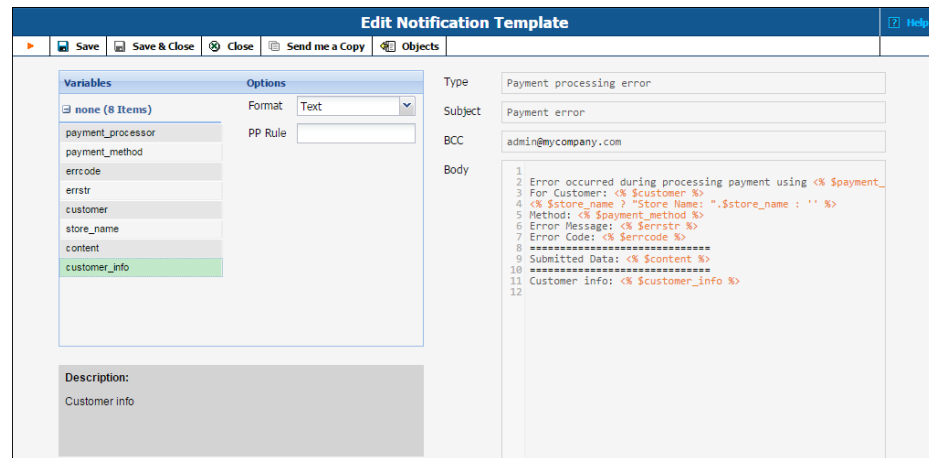
Notification Type	Description
Adaptive routing penalty threshold reached	The adaptive routing module detects that some qualitative parameters of the connection have dropped below the specified acceptable level. The vendor is penalized, and the connection is temporarily moved to the bottom of the routing list.
Adaptive routing warning threshold reached	The adaptive routing module detects that some qualitative parameters of the connection have dropped below the specified level.
Error in translation rule	A translation rule could not be properly applied, due to a programming error.
General billing misconfigurations	A debit account made a call that cost more than its available funds; an unresolved call was detected (unresolved calls may be normal when they are on-net calls, but in most cases they indicate connection misconfiguration); and so on.
Mismatch in the Destinations or Rates table	The cost of a call could not be determined, because no matching rate was found in the specific tariff.
Missing critical billing information (Account / Tariff)	A call could not be billed due to missing information (e.g. unable to identify the account which is to be charged for the call).
No currency exchange rate found	Unable to do cost / revenue reconciliation for some calls, since no exchange rate is defined for the base currency and currency used for those calls.
No remote IP authentication on your gateway	It seems that your gateway accepts all incoming VoIP calls. See the <i>Implement Authentication for Incoming VoIP Calls</i> section in PortaSwitch Wholesale and Traffic Exchange Services Handbook for more details.
No routes to destination	Customer attempted to place a call to a destination, which is covered by his tariff plan – but there are no valid routes for it in the system.
Not defined or empty Called-Station-ID	The Called-Station-ID (DNIS) field is empty in the request, so PortaBilling® is unable to determine which number was dialed. This might happen due to a firmware problem on Quintum.
Periodic Payment error	Unable to perform periodic payment (credit card is blocked or no funds are available).
Profit monitor event	Sends an alert if the call cost (amount charged

detected	by a vendor) is greater than the revenue (amount charged to the customer).
Rejected attempt to authorize for simultaneous use	Sends a notification if PortaBilling® cannot establish one more simultaneous session due to overdraft protection.
Replication problems	Database replication may be performing poorly or not at all, so that CDRs for the most recent calls are absent from the slave database.
Task rejected	A deferred task (such as account generation) could not be run.
Time problems (NTP / Format / Suspicious)	This alert may be generated if the time in the accounting record is in the wrong format or seems suspicious (such as a point in the future, or one too far in the past).
User error report	Your customer support may discover a problem they are unable to solve themselves (e.g. only the network administrator can do it) and thus may need to escalate this problem to your technical staff. When they send an error report from the web interface, it will be received by the admin users subscribed to this mailing list.

To add different notifications for a specific user, select / clear one or more check boxes next to the Notification type.

Column	Description
Notification	The notification type.
Mail	<ul style="list-style-type: none"> • Send – If this is checked, the corresponding notification will be sent to user via email. • Template – This shows the template status: System (the default template) or Custom (the modified one). <p>Upon clicking on the Custom / System link you will be redirected to the Edit Notification Template page.</p>
SMS	<ul style="list-style-type: none"> • Send – If this is checked, then the corresponding notification will be sent to your users via SMS. • Template – This shows the template status: System (the default template) or Custom (the modified one). <p>Upon clicking on the Custom / System link you will be redirected to the Edit Notification Template page.</p>

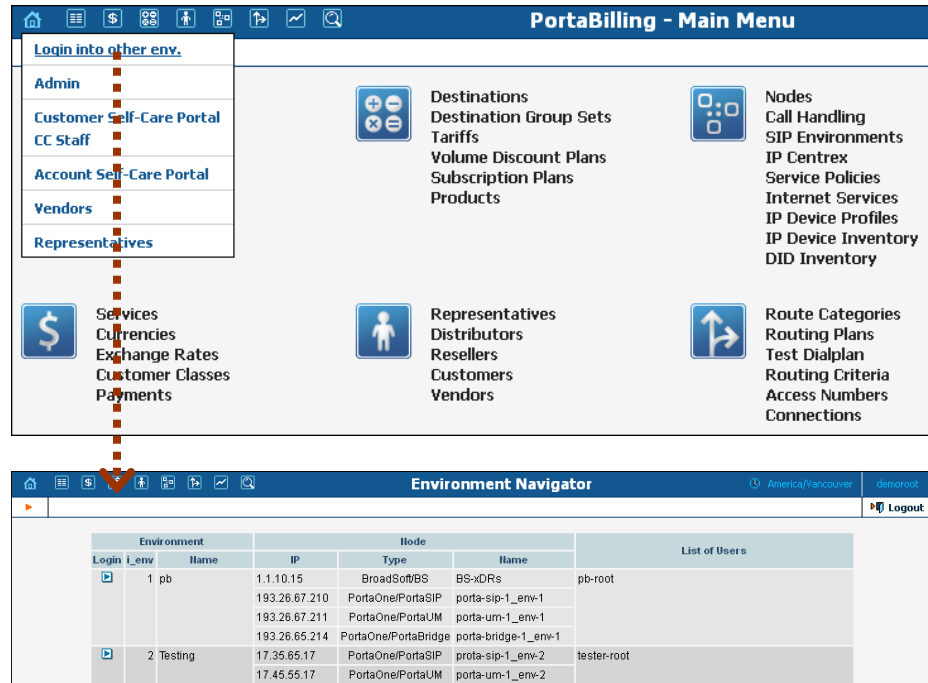
The **Edit Notification Template** page allows you to modify the subject, body, format and post processing rule for variables (**PP Rule** on the web interface).



Field	Description
Type	The notification type.
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	Shows a list of available variables.
Options	<ul style="list-style-type: none"> • Format – the format of the variable. • PP Rule – post processing rule for variables that can be specified using regular expressions in Perl.
Description	The description of the selected variable.

Superusers

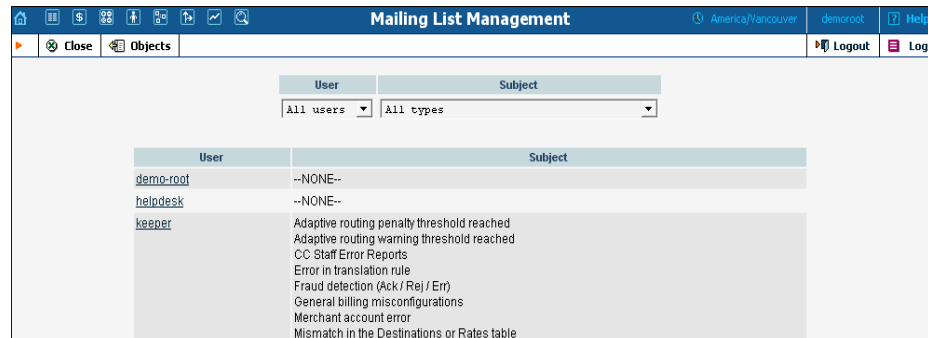
“Ordinary” administrator-level users can be promoted to “superuser” status – this is done by adding their numeric IDs (*i_user*) to the Superusers variable that is managed from the web interface of the PortaSwitch configuration server. Superuser status permits certain operations that ordinary users do 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 e-mail alerts are to be sent to different users (see [Mailing List](#)).



Select a user from the **User** drop-down list to view which mailing lists a particular user is subscribed to. Select a mailing list from the **Subject** drop-down 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® Template Guide, available for download from: www.portaone.com/support/documentation/


Add a New Template

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

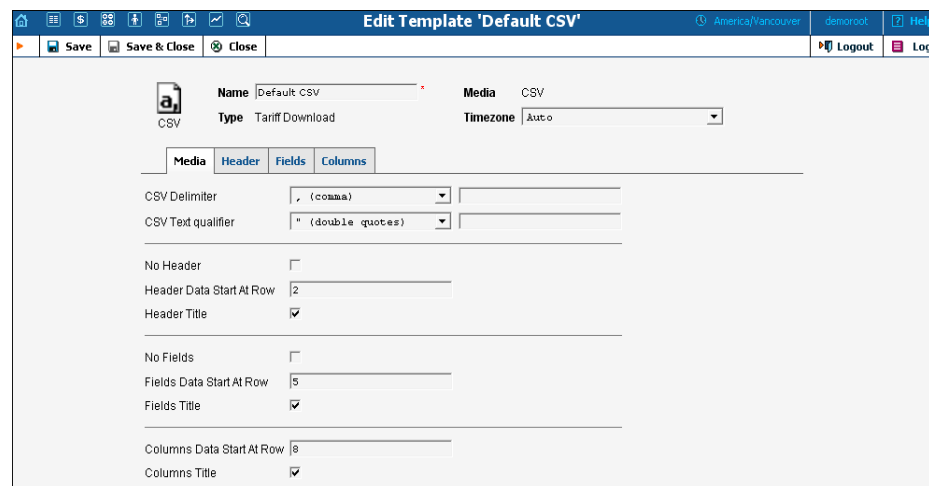
Field	Description						
Name	The logical name of the template object.						
Type	One of the following: <ul style="list-style-type: none"> • Custom Invoice File • Invoice (Custom File and Design template using the built-in editor) • Tariff Download 						
Media	One of the following media types: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td>CSV – Comma Separated Values (only applicable for templates of the Tariff Download type)</td> </tr> <tr> <td style="text-align: center;"></td> <td>XLS – Excel (only applicable for templates of the Tariff Download type)</td> </tr> <tr> <td style="text-align: center;"></td> <td>Print format (HTML, PDF; only applicable for templates of the Invoice type)</td> </tr> </table>		CSV – Comma Separated Values (only applicable for templates of the Tariff Download type)		XLS – Excel (only applicable for templates of the Tariff Download type)		Print format (HTML, PDF; only applicable for templates of the Invoice type)
	CSV – Comma Separated Values (only applicable for templates of the Tariff Download type)						
	XLS – Excel (only applicable for templates of the Tariff Download type)						
	Print format (HTML, PDF; only applicable for templates of the Invoice type)						
As copy of	PortaBilling® is supplied with a set of default templates for each type of document for information download. Documents in print format, e.g. invoices, can only be “downloaded” from the system. After selecting Type and Media , the list will be populated with the default template (always at the top of the list); all existing templates with the current Type and Media formats will be listed under the “-----” separator.						
Options	Permits the changing / altering of the default column set						

<p><i>(only for Tariff Download type)</i></p>	<p>for the created template. The following options are available:</p> <ul style="list-style-type: none"> • 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 the option Routing is selected, the fields Route Category, Preference and Huntstop are enabled by default.
<p>Pages <i>(only for Type Invoice)</i></p>	<ul style="list-style-type: none"> • 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 single page with totals only invoice template. Additionally, it contains multiple pages with details of calls related to the invoice.
<p>Subtotal per Service <i>(only for Type Invoice)</i></p>	<p>This allows you to calculate (and respectively, show in the invoices) subtotals per service.</p>
<p>Taxation <i>(only for Type Invoice)</i></p>	<p>This allows you to choose the taxation method. The following options are available:</p> <ul style="list-style-type: none"> • Via Taxation Plug-in (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.)
<p>Managed By <i>(only for Type Invoice)</i></p>	<p>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 Customer Self-Provisioning web interface.</p>

<p>Template File <i>(only for Custom Invoice File)</i></p>	<p>This allows you to upload a previously designed invoice template from a 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.</p>
<p>Image <i>(only for Custom Invoice File)</i></p>	<p>You can add an image to (or update an image in) the invoice template. For example, to upload an <i>image.gif</i> file and display it in customer invoices, the template should contain code similar to the following <code></code>.</p>

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

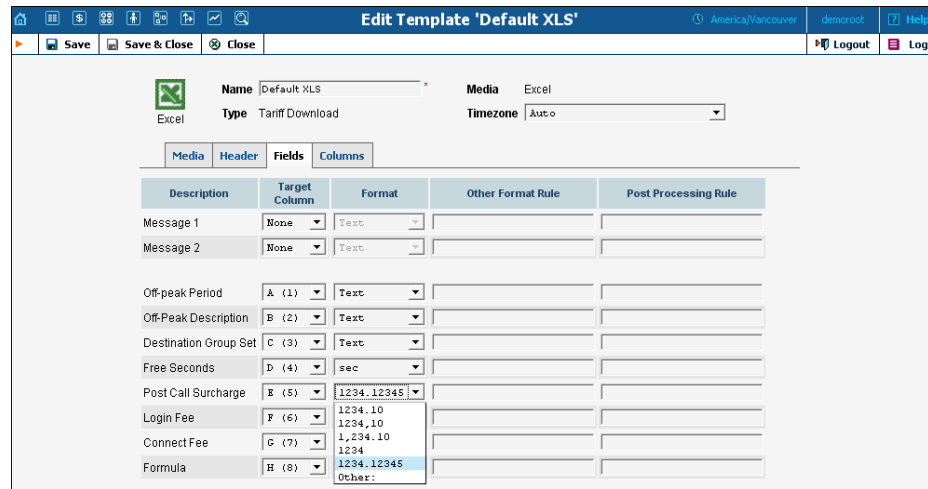
Edit Template



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.

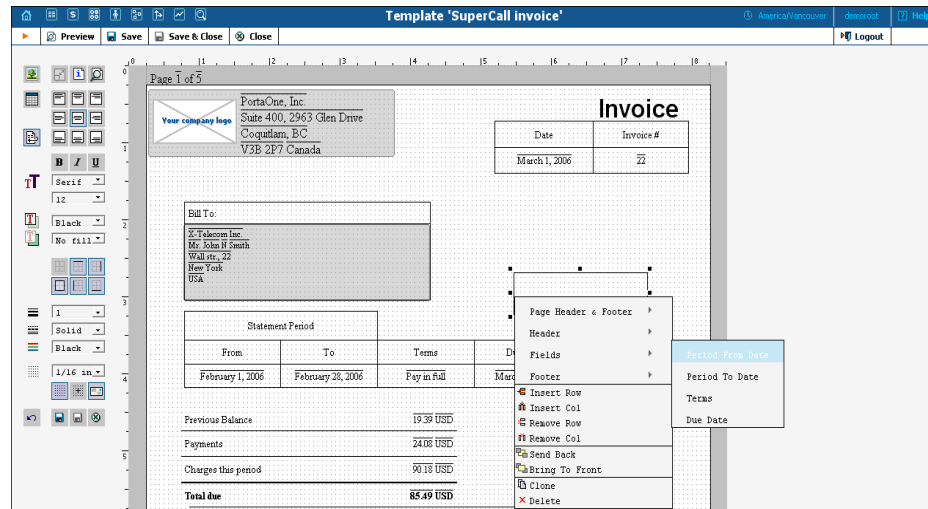


The content of the Header, Fields, Columns, and Footer tabs is arranged in a similar way, and allows flexible mapping of information related to user documents and information in the PortaBilling® database.

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 choose 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 in the Template Management window. The sliding toolbar on the left side provides most of the controls for manipulating content in the editor window. 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 window. 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.

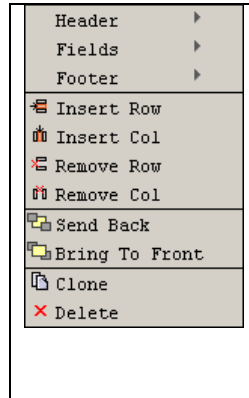
Table

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

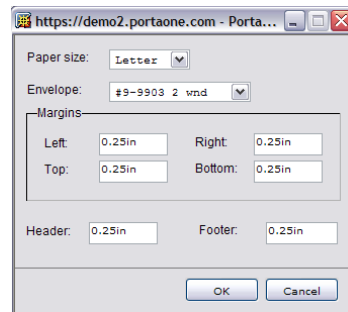


The context (right-click) menu provides you with greater control over tables and other objects, and allows certain data located in the PortaBilling® database to be displayed in the table cell. To show the menu, right-click on a table or cell. The three top elements of the context menu correspond to the 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 window, 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 <i>Italic</i> .
Ctrl-B	Change selected text style to Bold .
Ctrl-U	Change selected text style to <u>Underline</u> .
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** button 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** button to switch your Mozilla, Netscape 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® web interface.

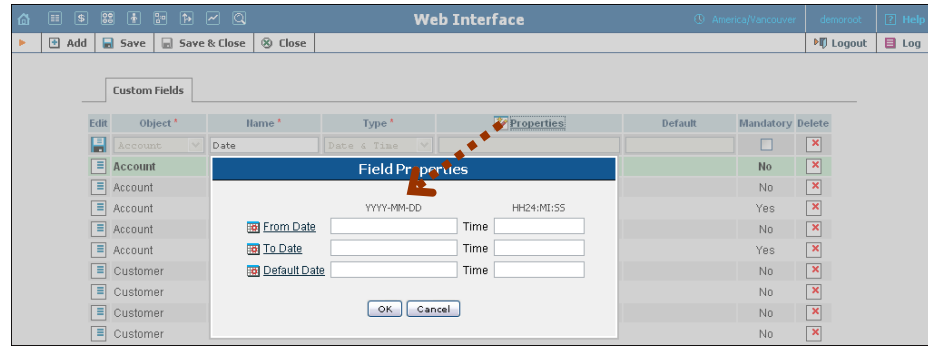
Custom Fields

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 Customer / Account Info page.
Type	Choose the type of field: <ul style="list-style-type: none"> • 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. <p>NOTE: Once a custom field is created, the Type field cannot be changed.</p>
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.

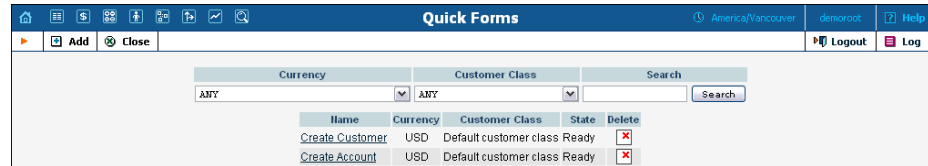


You can delete a custom field at any time. All records of its values will also be deleted then.


Quick Forms

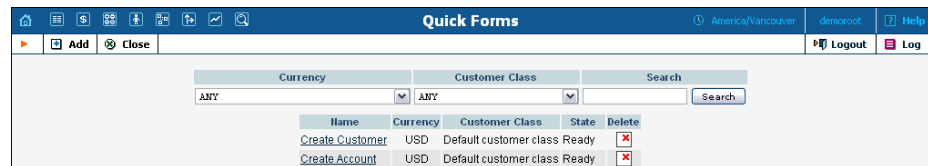
The **quick form** is used to simplify and make faster the process of creating new customers and accounts and avoid mistakes when filling in parameters. The administrator fills in most of the important details (e.g. customer class, currency or product for an account), so that later the person entering data only has to input a few remaining ones (e.g. customer name) to create a customer and an account (or multiple accounts) under it.

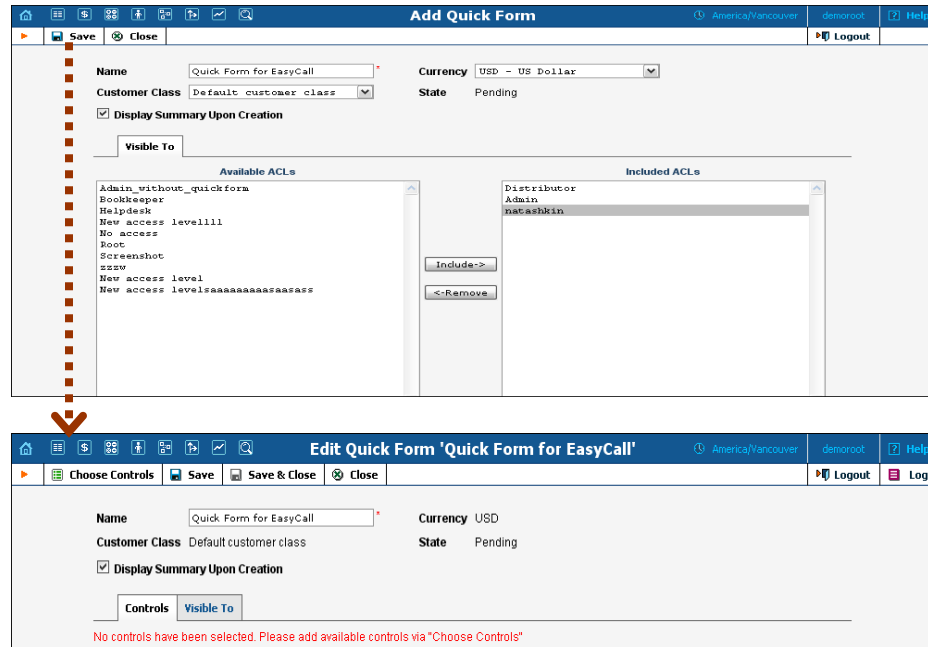
The Quick Forms screen shows the quick forms currently in the system.






Add a New Quick Form


To add a new quick form, select 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** in the toolbar.
2. Enter the details that customers (being created by this quick form) have in common.
3. Click  **Save** in the toolbar to save the details.
4. Now click on **Accounts** in the toolbar to enter the details that accounts (being created by this quick form) have in common.
5. Then click  **Save** in the toolbar.

If you want to use this quick form to create several accounts, click **Next** in the toolbar to access the information screen for the following account, then press  **Save**.

Repeat step 6 until all the information for all accounts has been entered. Finally, click **Close** in the toolbar to return to the Quick Form management screen.

The checkbox next to the field defines its status with regard to data entry. If the box is checked, 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 box is unchecked, 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 manual for a detailed explanation of individual fields in the forms.




3. Adjusting Billing Parameters

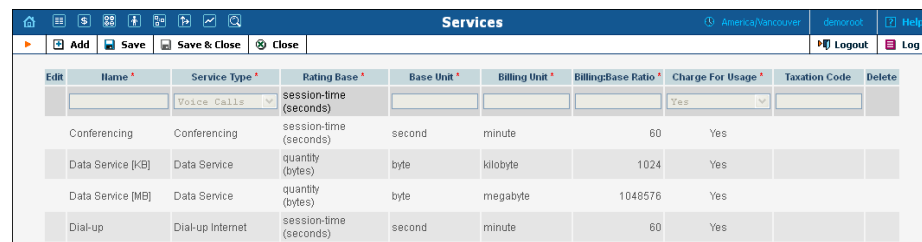
Services

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. Press the  **Save** button to save your work when done.



Edit	Name *	Service Type *	Rating Base *	Base Unit *	Billing Unit *	Billing:Base Ratio *	Charge For Usage *	Taxation Code	Delete
	<input type="text"/>	Voice Calls	session-time (seconds)				Yes		
	Conferencing	Conferencing	session-time (seconds)	second	minute	60	Yes		
	Data Service (KB)	Data Service	quantity (bytes)	byte	kilobyte	1024	Yes		
	Data Service (MB)	Data Service	quantity (bytes)	byte	megabyte	1048576	Yes		
	Dial-up	Dial-up Internet	session-time (seconds)	second	minute	60	Yes		

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 BillSoft (it should be in the following format – 12:35) or SureTax (an ordinary number is used here, for example – 050105) taxation plugins.

Supported Service Types

Once installed, **Error! Unknown document property name.** 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.
Messaging Service	Q	Rating messages (text, SMS, MMS, other) 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.

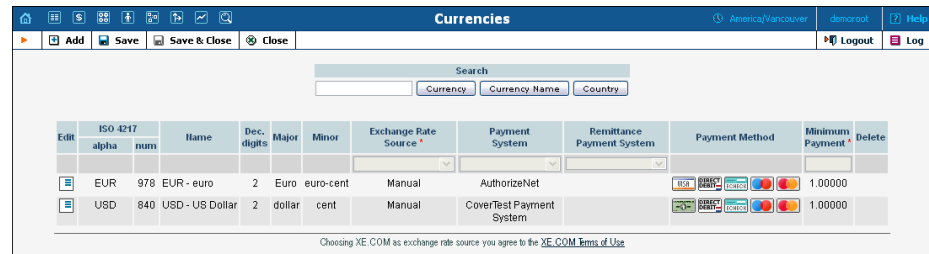
To define an exchange rate source for a currency, first click **+** **Add** in the toolbar.

The screenshots illustrate the steps to add a new exchange rate source:

- Initial State:** The 'Currencies' page shows a table with columns for ISO 4217, Name, Dec. digits, Major/Minor, Exchange Rate Source, Payment System, Remittance Payment System, Payment Method, and Minimum Payment. The 'Add' button in the toolbar is highlighted with a red dashed arrow.
- Adding a New Source:** The 'Add' button is clicked, and a new row is added to the table. The 'Exchange Rate Source' dropdown menu is open, showing options like 'Manual', 'XE.com', and 'Yahoo.com'. The 'Payment System' is set to 'CoverTest Payment System'.
- Exchange Rate Dialog:** A dialog box titled 'Exchange Rate' appears, prompting the user to specify the currency exchange rate. It shows '1 EUR = 1.28990 USD' and includes 'OK' and 'Cancel' buttons.

From the Exchange Rate Source drop-down list, choose “Manual,” “yahoo.com,” or “xe.com.” (The specific exchange rate is defined in the popup window when adding a new currency or changing the exchange rate source for an existing one.)

The next drop-down 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	Selects an online payment processor to process



System	payments in this currency.
Remittance Payment System	<p>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.</p> <p>Note that one currency entry can be assigned to a payment or remittance system or to neither of those options.</p>
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.




Obsolete currencies





In the course of time, some currencies become obsolete (e.g. coupons). The obsolete currency cannot be added to the system or selected as a base currency. But if it was added and used in the system before becoming obsolete the system will continue working with this currency as before. Note that when updating the list of exchange rates for existing currencies, if there are any exchange rates for obsolete currencies they will not be updated.

Exchange Rates

All exchange rates used within the system are listed. The **Effective** drop-down 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:



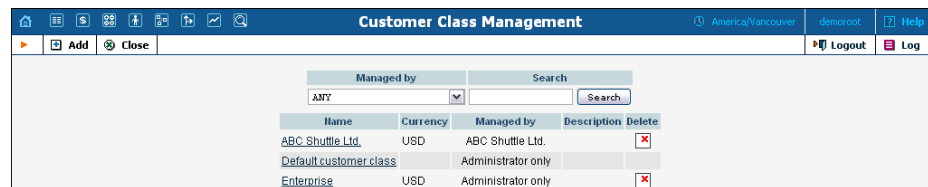
Field	Description
Edit	Click the Edit  icon to modify the given exchange rate. Select  Save or click the  Save icon in the Edit field to make your changes take effect.
Name	The currency unit name (for example, “Canadian Dollar”).
Exchange Rate	Currency exchange rate. Defines the number of units of the 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 screen, 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.
Description	A logical description of this customer class.

Add / Edit Customer Class

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 a specific customer class.
Currency	This is the main parameter that is used for a particular Customer Class. Customer Class currency must be defined to set the Collection Threshold. Once saved, the currency cannot be changed.
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.
<i>The following specifies various parameters to be assigned by default to customers within</i>	

<i>this customer class:</i>	
Suspend On Insufficient Funds For Subscriptions	<p>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.</p> <p>If set to 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.</p> <p>If set to 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).</p>
Send statistics via email	<p>Defines what kind of xDR statistics should be delivered to the customer by email:</p> <ul style="list-style-type: none"> • 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. <p>For more details, see <i>Additional Info</i> in the <i>Add / Edit Customer</i> section.</p>
Invoice Template	<p>Choose either “Do not create invoice” (in this case no invoices will be created, only CSV xDR statistics) or a particular invoice template.</p>
Send invoices via email	<p>Defines the way of delivering the invoice to the customer via email. Select one of the available options:</p> <ul style="list-style-type: none"> • Automatically – A PDF copy of the invoice is automatically sent to the customer when a new invoice is created. • After review and approval by admin (Hold for review) – A PDF copy of the invoice is sent to the customer only after review and approval by admin. • Never – A PDF copy of the invoice is not sent to the customer.

<p>Auto-charge invoice balance to credit card</p>	<p>Automatically charge the customer’s on-file credit card for the full amount due when his billing period is closed; as a result, an invoice will be created with a zero amount due.</p>
<p>Invoice Rounding</p>	<p>A pattern that defines the rounding of the invoice total. 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.</p>
<p>Payment is expected within</p>	<p>Invoice terms, i.e. how many days after invoice generation payment is expected.</p>
<p>Do not charge if the amount due is less than</p>	<p>If the amount due on an invoice is lower than the specified threshold, no payment is required immediately and notifications concerning the invoice will not be sent yet.</p> <p>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 <i>No payment required</i>.</p> <p>Note that this field is only available when the currency for the customer class has been defined.</p> <p>For example, if the collection threshold is \$300:</p> <ul style="list-style-type: none"> • For invoice #1 with charges for the first billing period equal to \$100 and an invoice total of \$100, the invoice status is <i>No payment required</i>, 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 <i>No payment required</i>, 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

	<p>the customer makes a \$50 payment, then invoice #2 is partially paid.</p> <ul style="list-style-type: none"> 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 <i>No payment required</i>, 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.
Notify customer about upcoming due date	<p>Comma-separated list of numbers; each number represents a number of days prior to the invoice due date when a notification regarding an unpaid invoice should be sent. 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.</p>
Re-send unpaid invoice	<p>Comma-separated list of numbers; each number represents a number of days after the invoice due date when a notification regarding the overdue invoice should be sent. 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.</p>
Charge credit card if invoice is unpaid	<p>Comma-separated list of numbers; each number represents a number of days after the invoice due date when an attempt should be made to charge a customer's credit card for the invoice amount due. 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.</p>
Send suspension warning if invoice is unpaid	<p>Defines 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) notification will be sent to the customer. Leave this field empty to disable such notification.</p>

Suspend customer's services if invoice is unpaid	Defines how many days after the due date the suspension of customer's services will take place if the invoice is still unpaid. Leave this field empty to disable service suspension.
Send closing warning if invoice is unpaid	Defines how many days before the closing date notification will be sent to the customer. Leave this field empty to disable this notification.
Close customer's account if invoice is unpaid	Defines how many days after the due date passes until the customer's account will be closed if the invoice is still unpaid. Leave this field empty to disable automatic account closing. Note that, if defined, the Suspension Warning Time must be less than the Suspension Time , and the Suspension Time must be less than the Closing Time .
Close customer's account	Defines 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).
Billing period is closed	Defines whether billing period closes automatically or upon administrator's approval. <ul style="list-style-type: none"> • Automatically – closes the billing period and immediately generates customer invoice at the end of the billing cycle. • Upon Administrator's Approval – allows for customer balance adjustments to be made and includes these transactions in the still-open previous billing period and on customer's current invoice.
But no later than	The maximum number of days for administrator to approve billing period closure in order to avert the situation of customer not receiving invoice because administrator forgot to approve it. This option is only available when the Billing period is closed parameter is set to <i>Upon Administrator's Approval</i> .
Description	A logical description of this Customer Class.

Taxation tab

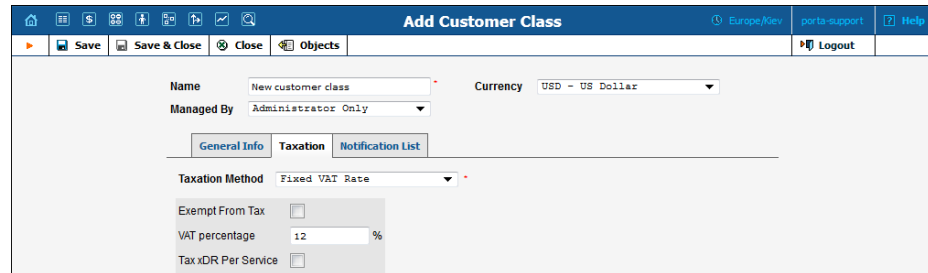
In this tab you can configure the taxes that are to be applied to the customers of this class.

The following options are available:

- **Tax Already Included in xDRs** – This option is automatically set when an invoice that includes taxes is selected. The rates must be entered with the tax already included. The charged amount in xDRs includes the tax and the template provides the calculation of the pre-tax and tax amounts; therefore no external taxation plug-ins are available.
- Via one of the taxation plug-ins such as **Fixed VAT Rate**, **Custom Taxation** or the external module from the **Billsoft** company (US, Canada).

Fixed VAT Rate

The **Fixed VAT Rate** allows you to add a certain percentage of value-added tax.

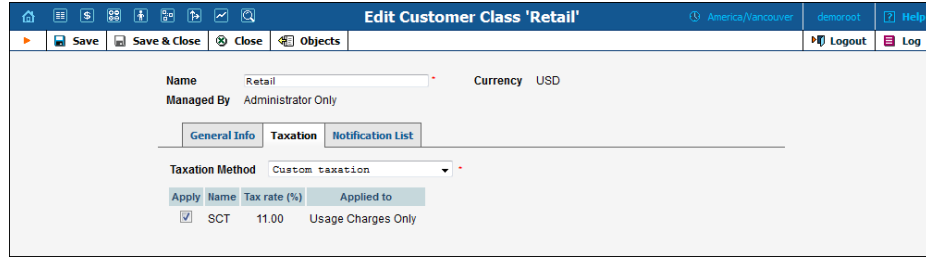


The screenshot shows the 'Add Customer Class' form with the 'Taxation' tab selected. The 'Taxation Method' dropdown is set to 'Fixed VAT Rate'. Below it, there are three fields: 'Exempt From Tax' (checkbox), 'VAT percentage' (text input with '12' and a '%' sign), and 'Tax xDR Per Service' (checkbox).

Field	Description
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).

Custom Taxation

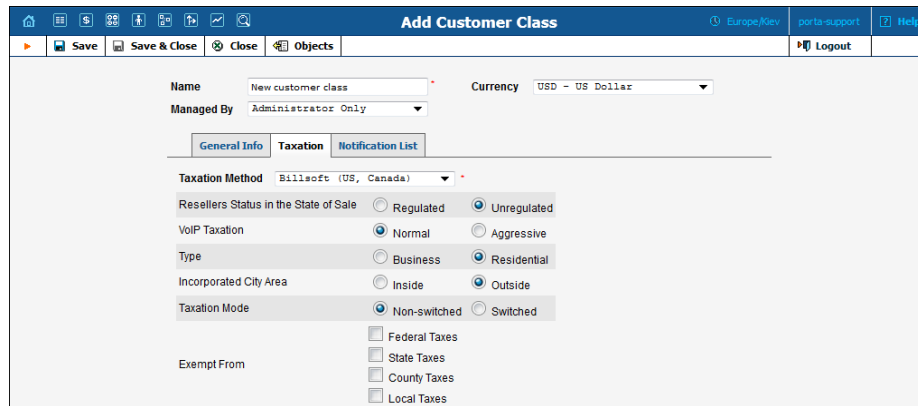
This taxation plug-in is similar to VAT and is specifically designed for those who need to charge INT and UFS fees. When a checkbox is selected, the customer in this assigned customer class is charged a corresponding tax.



Billsoft

When selected, the following will be done for all customers in this assigned customer class:

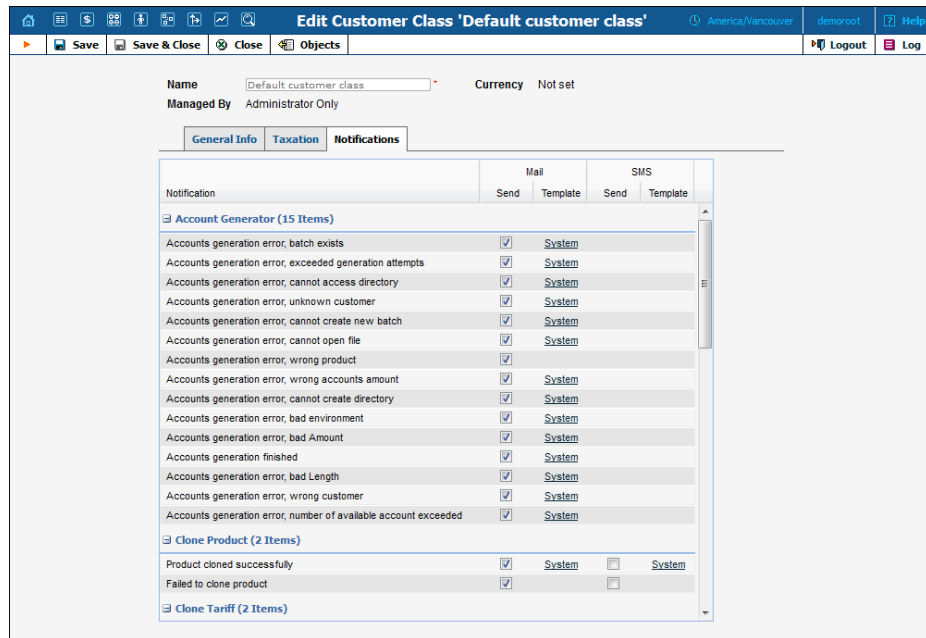
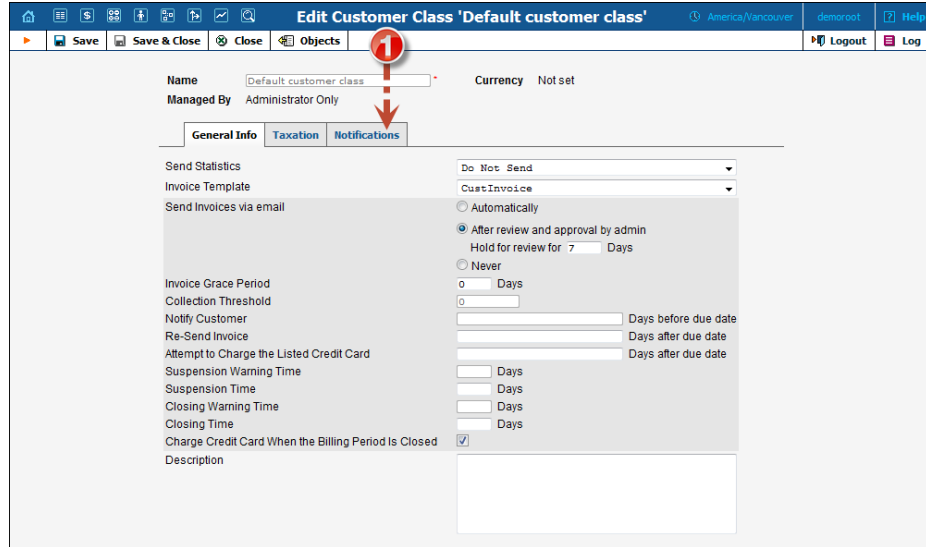
1. All accumulated transactions (xDRs, refunds, etc.) will be sent to EZTax along with the customer’s information (used to determine tax jurisdiction).
2. EZTax will calculate all applicable taxes and send the information to PortaBilling® so that it can be inserted as extra xDRs for the specific customer (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.



Please consult the [PortaBilling Administrator Guide](#) for more information about **Billsoft**.

Notifications tab

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

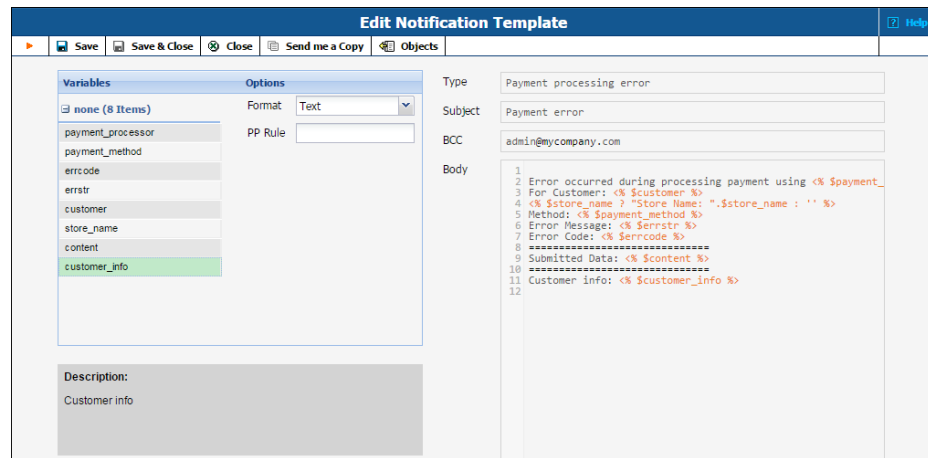


To send different notifications for customers, check / uncheck boxes on the right for the corresponding Notification.

Column	Description
Notification	The notification type.

<p>Mail</p>	<ul style="list-style-type: none"> • Send – If this is checked, the corresponding notification will be sent to customer via email. • Template – This shows the template status: System (the default template) or Custom (the modified one). <p>Upon clicking on the Custom / System link you will be redirected to the Edit Notification Template page.</p>
<p>SMS</p>	<ul style="list-style-type: none"> • Send – If this is checked, then the corresponding notification will be sent to your customers via SMS. • Template – This shows the template status: System (the default template) or Custom (the modified one). <p>Upon clicking on the Custom / System link you will be redirected to the Edit Notification Template page.</p>

The **Edit Notification Template** page allows you to modify the subject, body, format and post processing rule for variables (**PP Rule** on the web interface).



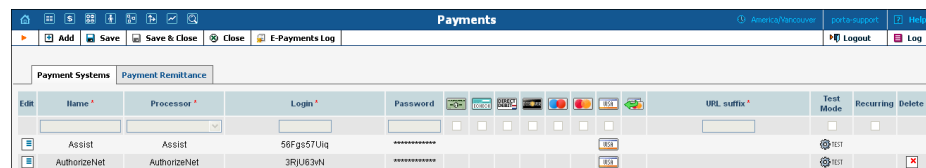
Field	Description
Type	The notification type.
Subject	The subject as it appears in an email to a customer.
BCC	The area to put email addresses of persons who want to receive a copy of this notification. You can specify more than one valid email address; make sure you separate them with commas.
Body	The content of the message.
Variables	Shows a list of available variables.
Options	<ul style="list-style-type: none"> • Format – the format of the variable. • PP Rule – post processing rule for variables

	that can be specified using regular expressions in Perl.
Description	The description of the selected variable.

Payments

Payment Systems

The **Payment Systems** tab lists all existing payment systems, and allows you to enter information related to payment gateways used to receive payments from customers.







Field	Description
Name	The logical name of the payment system.
Processor	A real-time transaction processing system that functions as a payment service and uses a secure transaction server on the Internet.
Login	A login ID to use with your payment processor account.
Password	A password to use with your payment processor account.
URL suffix	This option is applicable for PayPal configuration and permits the PayPal payment processor to function in multiple virtual environments.
Test Mode	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.
Recurring	Allows customers to set up periodic payments on this payment system.
Delete	Click this button to remove this payment system from the current virtual environment.

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* merchants, as shown below:

* Supported means that a corresponding Business: OnlinePayment plugin 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

Name	Web Page
AuthorizeNet	www.authorize.net
Beanstream	www.beanstream.com
Chase Paymentech	www.chasepaymentech.com
eSELECTplus	www.moneris.com
GlobalCollect	www.globalcollect.nl
LinkPoint	www.linkpoint.com
Luottokunta	http://www.luottokunta.fi/
Moneybookers	www.moneybookers.com
Netaxept	www.paynet.no
NetaxeptBBS	www.betalingsterminal.no/Netthandel-forside/
Ogone	www.ogone.com
PayflowPro	www.verisign.com/products-services/payment-processing/online-payment/payflow-pro/
PaymentExpress	www.paymentexpress.com
PayNearMe	http://www.paynearme.com
PayPal	https://www.paypal.com
ProxyPay3	www.eurobank.gr
SecureHosting	www.securehosting.com
SecurePay	www.securepay.com.au
TripleDeal	www.docdatapayments.com
WorldPay Invisible	www.worldpay.com
WorldPay Junior	www.worldpay.com

To add a new payment system, click  **Add** and enter the Account Name, Login, Password and Merchant in the edit row at the top of the listing. Choose one or several payment methods which will be used for payments made by these payment systems. To edit an existing account, click  **Edit** and copy the information from the current row into the form above. Save changes using the  **Save** button. A recurring payment allows customers to set up periodic payments on this payment system. Payment systems with recurring payment enabled are indicated by the  icon.



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

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.

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.

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 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.

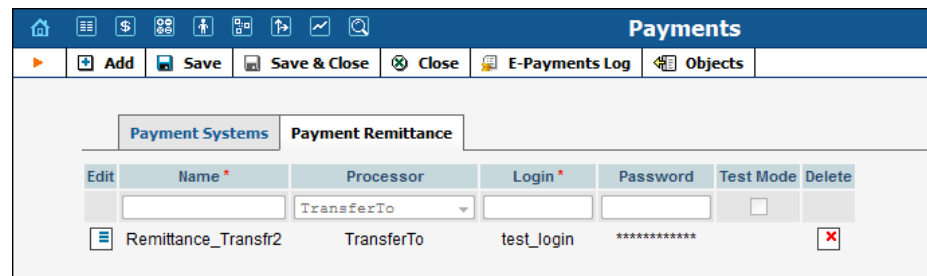
Once your payment system is set up and “live” on the credit card system, you can begin accepting credit cards from customers. It is your responsibility to configure the payment processor to meet your own needs, and to provide a hosting environment which is appropriate for the choices you have made within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


 The **E-Payments Log** button in the toolbar allows you to access information about credit card or direct debit charge attempts for the whole environment. Please see the *E-payments Log* section for further details.

Payment Remittance

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.



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.

Custom Taxes

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

Edit	Name *	Tax rate (%) *	Applied to *	Alias *	Delete
			Usage Charges		
	FUSF	12.30	Usage Charges Only	100	
	GCT	25.00	Usage Charges Only	101	

Field	Description
Name	The name of the taxation plugin 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: <ul style="list-style-type: none"> • Usage Charges Only – All charges except for subscriptions and credits / adjustments. • All Charges – Applied to all services. • All Recurring Charges – Applied only to subscriptions.
Alias	The unique identifier for the tax (it is unique for a specific environment).
Delete	Click this button to remove this custom tax from the system.

NOTE: Custom taxes are not applied to other taxes specified for this customer.

4. Rating

Destinations

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

In the case of a non-telephony service (e.g. video-on-demand), 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 whole service, since there is no further differentiation.

Destinations may be edited and, if a destination is not being used in any tariff, it will also have a Delete button. Of course, it is not necessary to include every destination in a given price list; only enter the prefixes (destinations) used by this particular vendor or customer.

PortaBilling® can support different numbering plans, but it is highly recommended to keep all of your destinations in the E.164 numbering space. The Destinations table contains the valid E.164 prefixes. Different standardization and governmental bodies control the E.164 numbering space, and some private numbering spaces also exist.



[Click here to view the Official ITU Dialing Procedures document \(PDF\)](#)

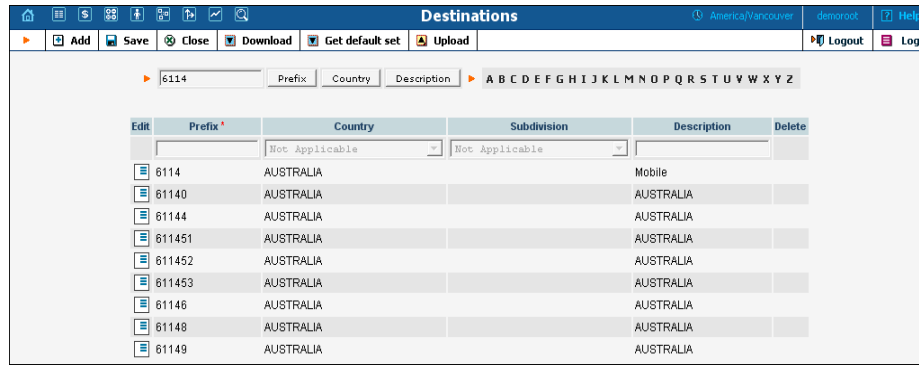
PortaBilling® is supplied with a file containing a basic set of destinations. It covers all countries of the world and some of the major destinations in each country, linking prefix information to:



- country (if applicable)
- subdivision (if applicable)
- description

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

Add / Edit Destinations Online

To add new destinations, click the  **Add** button. The **Save New**  icon will appear on the Destinations form. Enter the prefix and choose a country from the drop-down list. After selecting the country, the subdivision field will be refreshed. Choose a subdivision if necessary. Click the **Save New** icon to save the new destination.



To edit an existing destination, enter a prefix, country or description (i.e. proper, mobile, etc.) in the search field and click the corresponding button. You can also select a country alphabetically from the top right-hand part of the interface. Choose the destination you wish to edit from the list by clicking the  **Edit** icon. The content of the row will be copied into the Destinations form above, and the **Save Edit** icon  will appear in the first column. Choose Subdivision from the refreshed drop-down list and type in the Description, if any. Save your work by clicking the **Save Edit** icon.

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 <i>except</i> for manually specifying a country during upload. If Admin uploads a new destination, the system chooses the appropriate country automatically, using the longest match from the available destinations.
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.

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.
Two-letter ISO Country Code	Value to be stored in Destinations.iso_3166_1_a2. Note: <i>Ignored</i> if the uploader is not Root or does not have "Use country code during upload" in his ACL; in this case, the system chooses the appropriate country automatically, using the longest match from the available destinations. 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 chooses the appropriate country automatically, using the longest match from the available destinations.
Description	Value to be stored in Destinations.

Download

The CSV file header contains the following fields: Action, Prefix, Country Code (iso_3166_1_a2), Description.

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

NOTE: For tariff uploads, new destinations will be e-mailed as a CVS attachment in an error report using the Destinations Upload format: Action, Prefix, Country Code (iso_3166_1_a2), Description.

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

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, we need to be able to maintain different sets of destination groups.

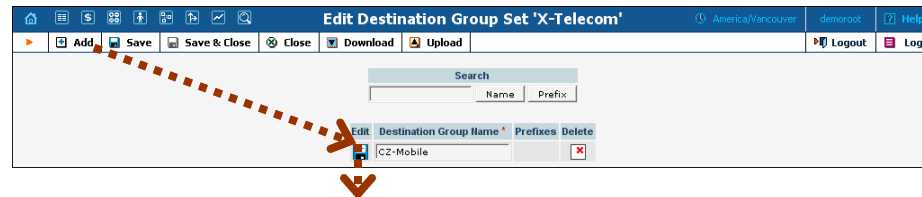
Creating a new destination group set

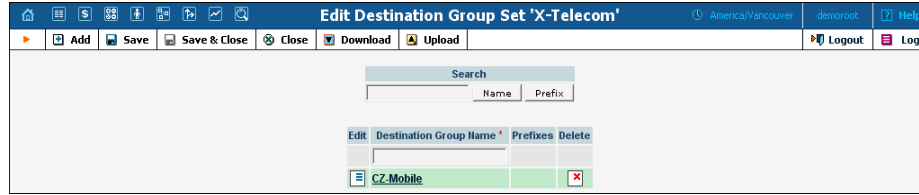
To add a new destination group set, click the  **Add** button. The **Save New**  icon will appear next to the name.



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


Creating a destination group

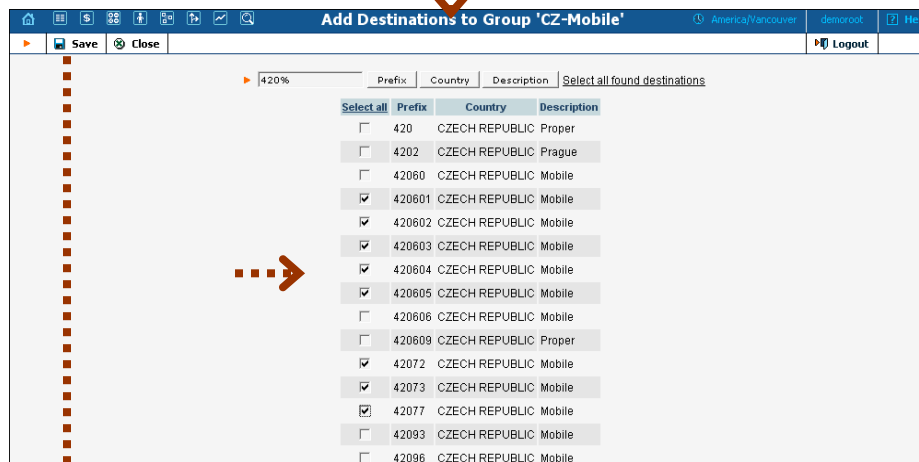
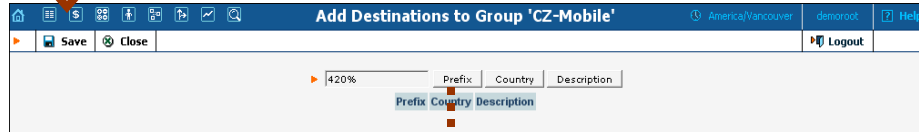


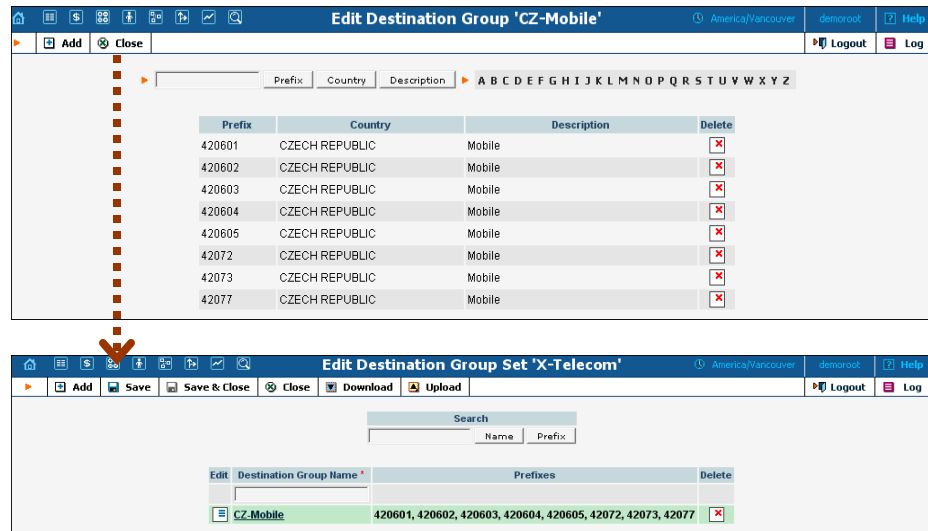


Column	Description
Destination Group Name	Convenient short name for the destination group, e.g. UK-Mobile . This will be used to enter new rates for this group of destinations.
Prefixes	List of prefixes included in this group. For a destination group with many prefixes, only the first few will be displayed. Click on Destination Group Name to see a complete list of destinations belonging to this group.

Managing destinations (prefixes) within a group

Click on the hyperlinked destination group name to edit its contents. Click on  **Add** to add more prefixes to the destination group.

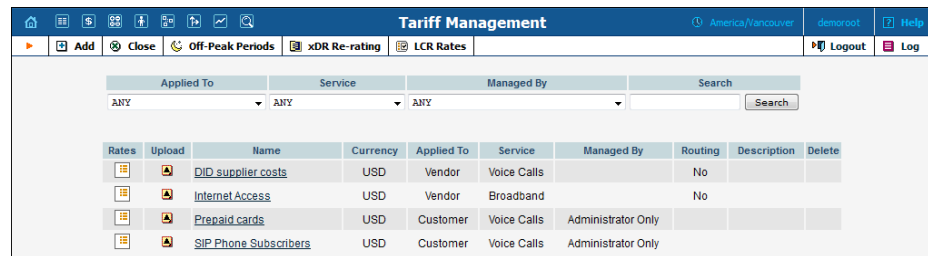







Tariffs

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 screen shows a list of all existing tariffs. Tariffs can be located using the Search form, by selecting a reseller from the drop-down 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 screen. 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	(Only available for tariffs of the Customer type). 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 sub-customers).
Routing	(Only available for tariffs of the Vendor type). The tariff contains information about the carrier's routing preferences, in addition to the usual cost data.
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 choose Not defined .
Destination Group Set	A set of destination groups (UK-Mobile, CZ-Mobile, etc.) you would like to use for more convenient rate entry.

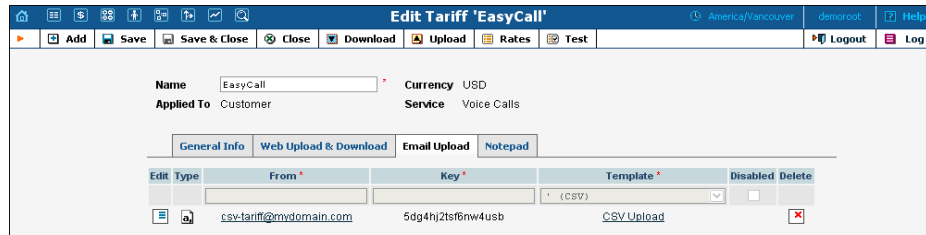
Free Seconds	Number of free seconds granted for each call. In order to claim free seconds, the length of the call must be at least one billing unit (i.e. the first interval; see the 'Enter Rates' section above).
Post Call Surcharge	Increases the total call cost by the given value.
Login Fee	Amount to 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 get updated. <ul style="list-style-type: none"> – If you select Only by billable records the fields will be updated by generating a successful toll call / event. – If you select 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 e-mail 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 e-mail; to prevent unauthorized access, only trusted e-mail 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

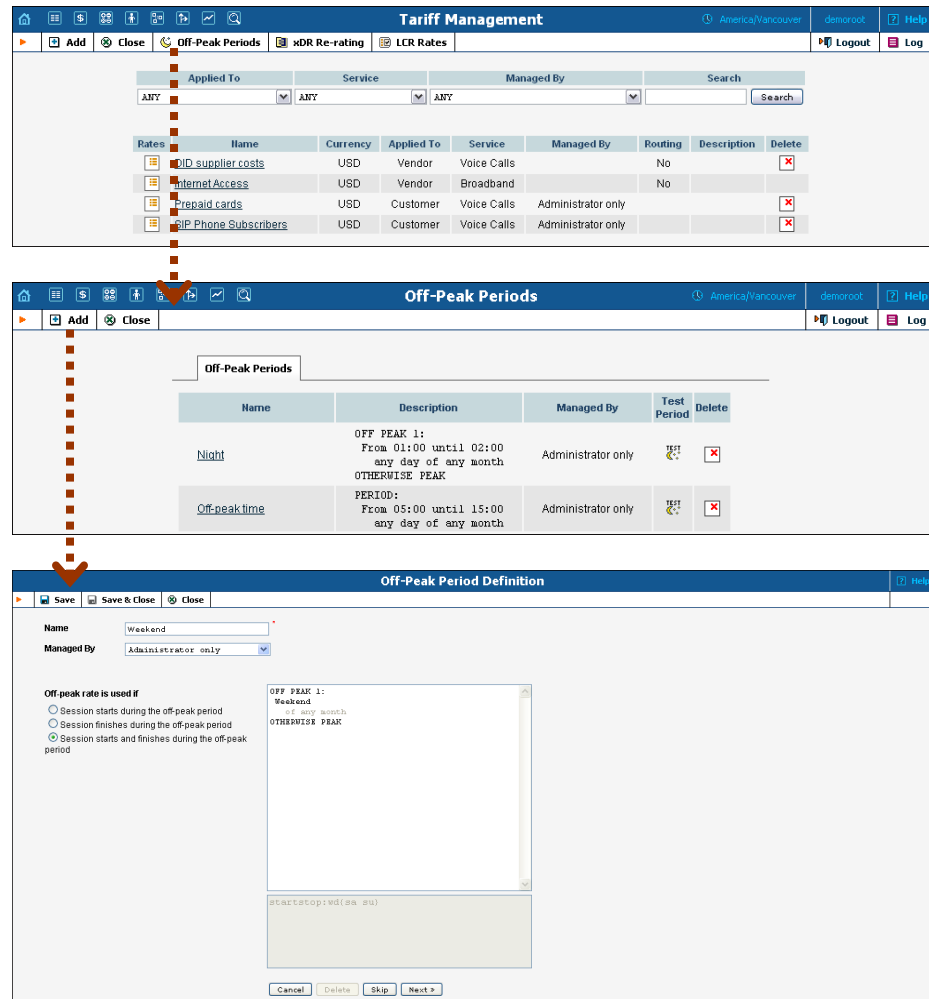
It is possible to have two different sets of prices, one for peak and one for off-peak time. In fact, you can have two separate off-peak periods (e.g. nighttime and weekends), meaning there are three separate sets of prices. A call is always billed using one particular rate; this also applies to calls 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 9pm to 7am including weekends and another from 8pm to 8am 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** screen.



The Off-Peak Period wizard provides users with a flexible tool for defining a new off-peak period. On a sequence of screens, 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 6pm 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.

In the first screen, select 6pm in the **From** column, and 6am in the **Until** column. Now click the **Next** button. The two text areas on the right of the screen 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 screens by pressing the **Skip** or **Next** button until the “Period definition completed” message is displayed, then press the **Add** button to add another definition to this period. The wizard now returns to the first screen.

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: pressing the **Skip** or **Next** button, go to the second screen and select *Weekend*, or, holding down the <Ctrl> key, select *Saturday* and *Sunday* from the list. Select the **Next** button and skip until the “Period definition completed” message is displayed. Press 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 screen, and select *1*. Click the **Next** button. Now select *January*, click **Next**, skipping forward to the next screen. Follow the same steps to select the December 24-26 interval. Hold the <Ctrl> key down to select multiple entries.

On the next screen, 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.

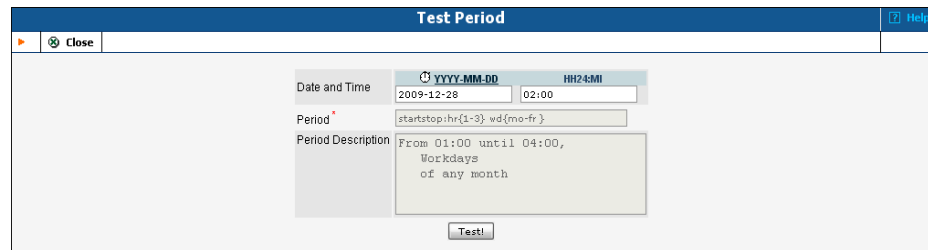
To evaluate your work, look at the top text area. The following text should be displayed:

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  icon on the off-peak periods page, or use the **Test Period** button on the last page of the off-peak period wizard.

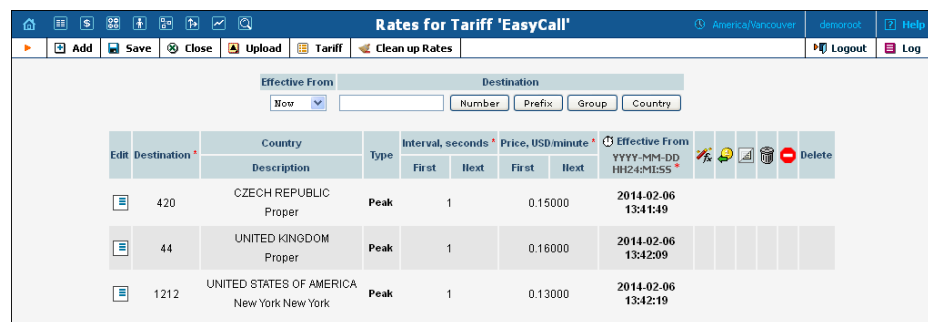


Now simply enter any time / date and click the Test button to check whether this moment fits into the off-peak period definition.


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.




Edit	Destination	Country	Description	Type	Interval, seconds *		Price, USD/minute *		Effective From YYYY-MM-DD HH24:MI:SS *	Actions
					First	Next	First	Next		
	420	CZECH REPUBLIC	Proper	Peak	1		0.15000		2014-02-06 13:41:49	
	44	UNITED KINGDOM	Proper	Peak	1		0.16000		2014-02-06 13:42:09	
	1212	UNITED STATES OF AMERICA	New York New York	Peak	1		0.13000		2014-02-06 13:42:19	

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

The filter at the top of the screen 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:

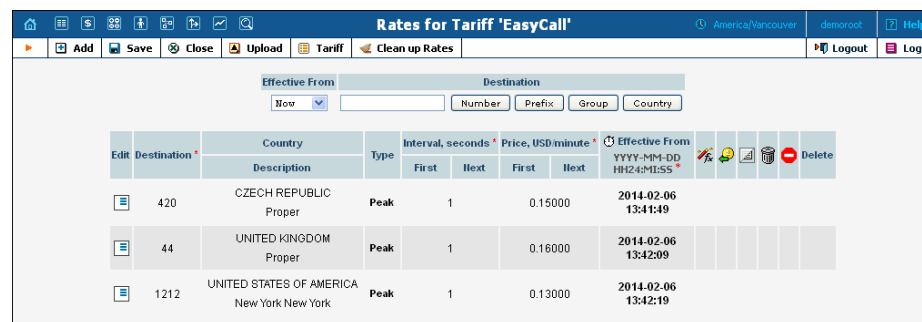
- “All” shows all rates (used until now including current rates and scheduled for the future).
- “->Now” shows rates used until now including current rates.
- “Now” shows only currently effective rates.
- “Now->” shows current rates and those that will become effective in the future.

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



Edit	Destination *	Country	Type	Interval, seconds *		Price, USD/minute *		Effective From YYYY-MM-DD HH:MM:SS *	Actions
				First	Next	First	Next		
	420	CZECH REPUBLIC Prager	Peak	1		0.15000		2014-02-06 13:41:49	
	44	UNITED KINGDOM Prager	Peak	1		0.16000		2014-02-06 13:42:09	
	1212	UNITED STATES OF AMERICA New York New York	Peak	1		0.13000		2014-02-06 13:42:19	

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 pop-up window, you can search for the desired prefix by country name.
Set Inter / Intra State <i>(only for US destinations) /</i> Set Normal Rating	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.
Type	Specifies the off-peak period for this particular rate.
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  icon to make the rate effective immediately. Click the DD-MM-YYYY link to set up the desired date using the pop-up 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.

<p>Rate Properties</p>	<p> 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).</p> <p> 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.</p> <p> 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.</p> <p> Forbidden. This means that no calls are authorized for this particular destination.</p>
<p>Delete</p>	<p>Click the Delete icon to delete this rate. Only rates which are not yet active can be deleted.</p>

Vendor rates

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



Edit	Destination	Country	Type	Routing			Interval, seconds		Price, USD/minute		Effective From YYYY-MM-DD HH:MM:SS	Actions	
				Route Category	Preference	Huntstop	First	Next	First	Next			
<input type="checkbox"/>	3356745	FRANCE France	Peak	Default	5	30	1	0.25000		2014-06-06 01:30:29			
<input type="checkbox"/>	00	Not Applicable	Peak	PBX	5		1	0.01000		2014-06-06 01:31:11			
<input type="checkbox"/>	48123000	POLAND Poland	Peak	Default	5		1	0.09000		2014-06-06 01:32:36			
<input type="checkbox"/>	44118000	UNITED KINGDOM UK National	Peak	Default	5	60	10	0.50000	0.10000	2014-06-06 01:33:37			

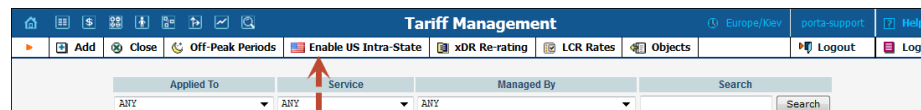
Field	Description
Route Category	You can split rates into categories such as “Premium”, “Cheap”, etc. and use these categories in routing plans. See the <i>Route Categories</i> section for more info.
Preference	Routing priority (0-10), higher values mean higher priority, 0 means do not use this rate for routing at all. See the <i>Call Routing</i> 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.
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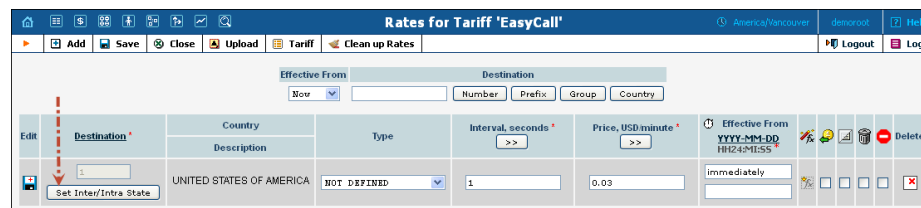
US Inter / Intra state rates

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 web page.

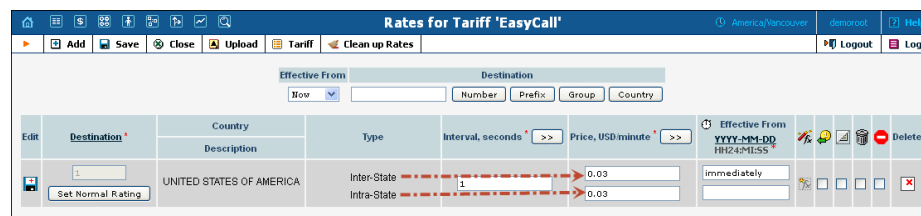


In order for PortaBilling® to recognize whether the call is intra / inter state, you must specify whether the destination belongs to one of those categories by clicking the **Set Inter / Intra State** button.



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

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



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:

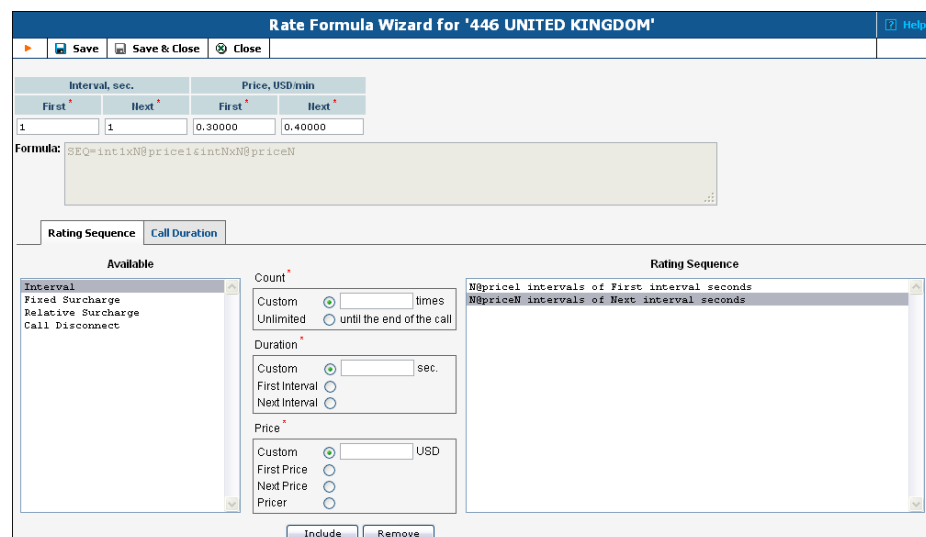
Rating Sequence:

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.

The screenshot shows the 'Rate Formula Wizard' interface for '446 UNITED KINGDOM'. It includes a table for intervals with columns for 'Interval, sec.' and 'Price, USD/min', each with 'First' and 'Next' sub-columns. A 'Formula' text area contains: `HIN=5|ADD=#300:20&600:10&1200:5&0|SEQ=int1xN@price1&intNxN@priceN`. Below the formula, there are tabs for 'Rating Sequence' and 'Call Duration'. Under 'Call Duration', there is a field 'Do not bill calls shorter than' set to 5 seconds. A 'Call Duration Modifiers' table is shown below:

Edit	Up/Down	Interval, sec.	Extend By, %	Delete
		seconds		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	First 300 seconds	20	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Following 300 seconds	10	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Following 600 seconds	5	<input type="checkbox"/>
<input type="checkbox"/>		Remaining call duration	0	<input type="checkbox"/>


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 <i>first</i> 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** window, click the  **Upload** icon.
3. In the **Upload Rates** window, click **Browse ...**
4. Locate the Tariff-sample.csv file, then click **Open**.
5. On the **File Upload** 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 in 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. By default this check box is disabled and a rate that has an 'effective from' date that has passed will be rejected and not included in the tariff. Alternatively, you may choose to insert these rates into the tariff and make them effective from the current moment; to do so enable this check box.
 - **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 enable 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.

- 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.

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.

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.

- 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.

- On the **Summary** page, click **Start Import**.
- In the **Edit Tariff** window, click **Close**.

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

Test Rating

This screen 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.

The screenshot shows the 'Edit Tariff' window for 'EasyCall'. The interface includes a top navigation bar with icons for home, search, and help, and a menu bar with options like Save, Save & Close, Close, Download, Upload, Rates, Test, and Clone. The main content area displays the tariff details: Name (EasyCall), Currency (USD), Applied To (Customer), Service (Voice Calls), and Managed By (Administrator only). Below this are tabs for General Info, Web Upload & Download, Email Upload, and Notepad. The General Info tab is active, showing 'Default Off-Peak Period' set to 'Weekend' and 'Destination Group Set' set to 'X-Telecom'.

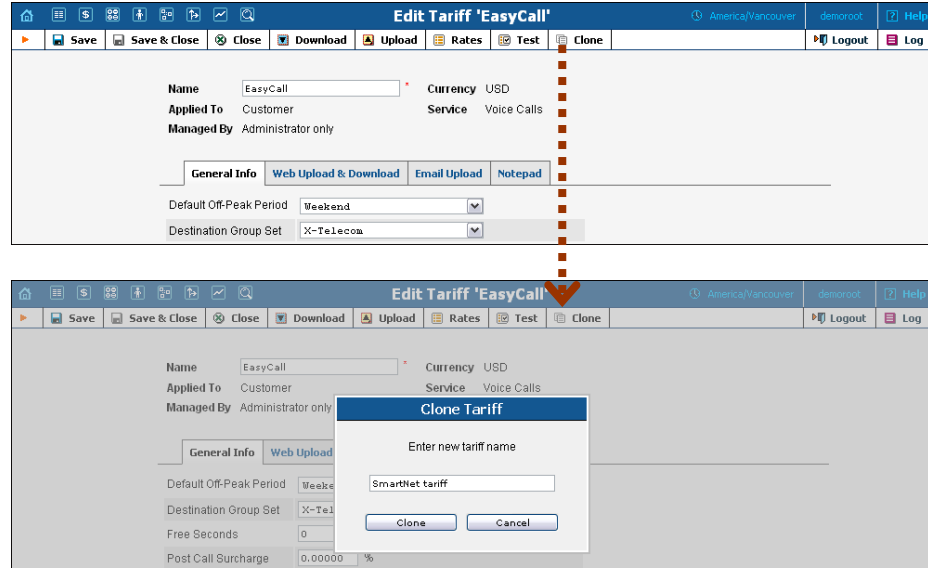
The screenshot shows the 'Test Rating for Tariff' window for 'EasyCall'. The interface includes a top navigation bar with icons for home, search, and help, and a menu bar with a Close button. The main content area is divided into two columns. The left column contains input fields for 'Date and Time' (YYYY-MM-DD and HH:MM:SS), 'Destination' (1604584680546), and 'Session time' (HH:MM:SS, MI:SS or SS). There are radio buttons for 'Simulate session charges based on the session duration' (selected) and 'Simulate authorization based on the available funds'. A 'Test' button is at the bottom of this column. The right column displays the 'Result of the testing', including the 'Formula' (MIN = 1)SEQ = 60x1x0.02 & 6x0.02), the 'Expanded Formula', the 'Charged amount' (0.2 USD), and the 'Real charge history' (+1x60x0.02+90x6x0.02).

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” 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.
<i>If the formula calculates the call cost based on its duration</i>	
Charged amount	Charged amount for test call
Real charge history	A short description of how the Charged amount was calculated
<i>If the formula calculates the call duration based on available funds</i>	
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 in the toolbar on the **Edit Tariff** page. Give the new tariff a name, then click the **Clone** button.

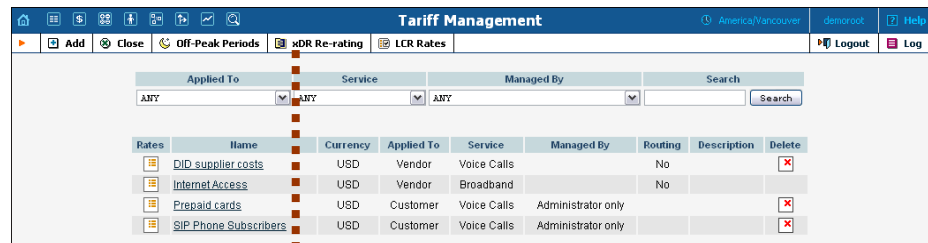




xDR Re-rating

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  icon to set up the desired date using the pop-up calendar.
To Date	Specify the end of the time interval for xDRs to be re-rated. Click the  icon to set up the desired date using the pop-up 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.

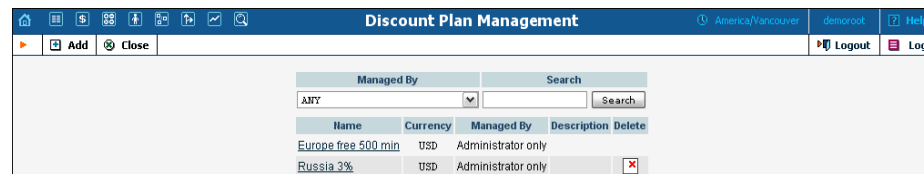
NOTE: This type of report is available for root and admin users only.

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

Volume Discount Plans

Volume discount plans allows you to dynamically modify your rates depending on how much traffic a customer has already sent you. For instance, after he makes calls for 200 minutes (charged at the normal rate) he will get a 10% discount for every minute he calls over this limit.

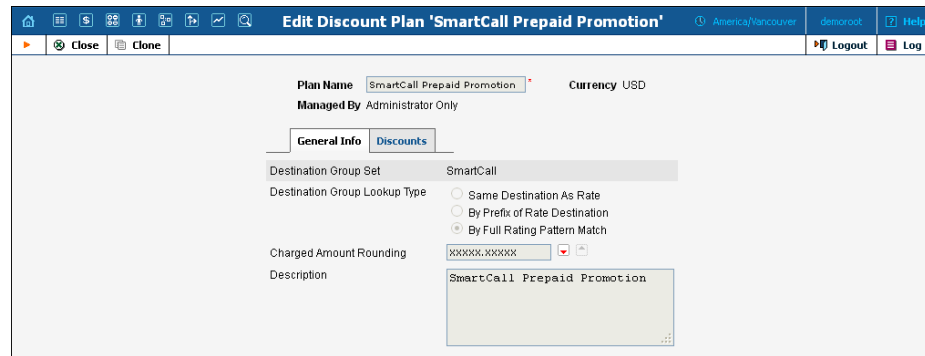
A discount plan includes one or more discount schemes applicable to a certain destination group. “First 200 minutes for free, then normal rate with 10% discount over 500 minutes” is one such discount scheme, and it may be applied to the destination group “Asia,” which includes China, Hong Kong, Singapore, Thailand and other countries.



Use the main Discount Plan Management screen to list all existing plans. Plans can be located using the search form, by selecting a reseller from the drop-down list, or entering the plan’s name. To edit a discount plan, click on its name in the list. The **Delete** icon will be visible only when a discount plan is not in use (not assigned to any customer, account or product), and enables permanent deletion of the discount plan.

Add / Edit a Discount Plan

To add a new discount plan to the system, select Add to go to the discount plan creation screen. An existing discount plan can be edited by clicking on its name in the list.



The screenshot shows the 'Edit Discount Plan' interface for a plan named 'SmartCall Prepaid Promotion'. The interface includes a header with navigation icons, a title bar, and a toolbar with 'Close' and 'Clone' buttons. The main content area displays the following fields:

- Plan Name:** SmartCall Prepaid Promotion
- Currency:** USD
- Managed By:** Administrator Only
- General Info / Discounts:** A tabbed interface with 'Discounts' selected.
- Destination Group Set:** SmartCall
- Destination Group Lookup Type:** Radio buttons for 'Same Destination As Rate', 'By Prefix of Rate Destination', and 'By Full Rating Pattern Match' (which is selected).
- Charged Amount Rounding:** A dropdown menu set to 'XXXXX.XXXXX'.
- Description:** SmartCall Prepaid Promotion

Field	Description
Plan Name	The logical name of the discount plan.
Currency	Indicates which currency is used for billing calculations. All discounts in a plan are to be defined in this currency. A 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 Customer Self-Provisioning web interface.
Destination Group Set	Discounts can be defined for individual groups (e.g. US&Canada, Asia, Western Europe) within this set. Once chosen for discount plan creation, the destination group set cannot be changed later on.
Destination Group Lookup Type	<ul style="list-style-type: none"> • 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.

	<ul style="list-style-type: none"> • By Full Rating Pattern Match – Match the originally dialed phone number against all available destinations in the volume discount plan. Needless to say, this is the most resource-intensive option. See the details below regarding the different matching models.
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 discount plan.

Phone number matching in discount plans

When volume discounts are involved alongside “normal” rating as per the tariff plan, the billing engine must obviously match the ID of the service used (e.g. the phone number dialed) with one of the destination groups used in the volume discount definition.



The fastest and the most efficient way is to check whether the destination in the customer’s tariff applicable to this call is included in any destination groups in the volume discount plan, and then keep using this volume discount. For instance, if a customer makes a phone call to 4206025551234 and a matching rate is defined in his tariff for 420602 (Czech Republic, Mobile), the billing engine will search whether any discounts in the volume discount plan are assigned to a destination group containing 420602.

But what if you would like to include the whole Czech Republic in your volume discount? One option would be to simply list all applicable prefixes (420, 4202, 420602, etc.) in a destination group, then use this group in the volume discount definition. Alternatively, you could use the other discount plan lookup option – “by prefix.” In this case, the billing engine will look not for the exact same prefix, but rather for a destination group which contains a **matching** prefix. So if a call is made to 4206025551234 and there is a 420602 rate applied in the tariff, the billing engine will search for a destination group in the volume discount plan that includes a prefix matching 420602; such matching prefixes could be 420602, 420, or even 4. In this case you could just enter 420 in your volume discount definition, and it will then be used for calls rated by different tariff rates (e.g. 4202 and 420602).

Such extensive lookups put a higher load on the billing engine, so they should be used with caution, and only in volume discount plans where they are truly needed.

Another possibility is a full rating pattern match. This method disregards the destination used in the tariff entirely, and simply performs a lookup of applicable destinations in the volume discount plan using the phone number dialed by the customer. This is done in the same way as a rate lookup is done in a tariff; thus if the customer dialed 4206021345678, the billing engine will choose a discount with a destination group that includes 420, 420602, or any other destination matching the dialed number. Since several matches can potentially be found (e.g. a first discount is defined for destination group A, which includes 420, and a second discount for destination group B, which includes 420602), the longest match is used (in our example, this would be the second discount). As noted above, this is obviously the most resource-intensive option.

Defining Discounts for Individual Destination Groups

After a volume discount plan has been saved, the Discounts tab will become available. To add a new discount to the plan, click the **Add**  button. An existing discount can be edited by clicking the **Edit**  icon on the row containing its details.

Discount Wizard Help

Add Save Save & Close Close

Destination Group:
 Service:
 Type:
 Usage Period:
 Prorate Thresholds for First Usage Period:
 Combine With Other Discounts:
 Rollover Unused Minutes to the Next Usage Period:

Peak Off-Peak 2nd Off-Peak

Edit	Threshold *	Discount, % *	Notification	Split xDRs	Delete
	<input type="text" value="Unlimited"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	
	200	100	Y	Y	
	600	0	Y	Y	
	1300	10	Y	Y	
	Unlimited	20	Y	Y	

Edit Discount Plan 'UK Mobile discount' America/Vancouver demo Help

Add Save Save & Close Close Clone Logout Log

Plan Name: Currency: USD
 Managed By: Administrator Only

General Info Discounts

Edit	Destination Group	Service	Type	Usage Type	Peak Level	Discount Scheme	Delete
	UK MOBILE	Voice Calls	Volume, minute	Repeat Weekly, Prorated	N/A	0..200 - 100%; 200..600 - 0%; 600..1300 - 10%; unlimited - 20% Never	

It is possible to define a volume discount plan which will have a different structure of thresholds / discounts for the service used in a peak, off-peak, or second off-peak period. You can also “synchronize” the definition of the thresholds, so that the discount will be applied irrespective of whether the service was used in a peak or off-peak period (this is the default behavior, providing backward compatibility with earlier releases). It is also possible to create a volume discount plan which would offer discounts on service use during one time period (e.g. off-peak), but not in another (peak) period. In this case, you are basically defining an empty list of discounts for one of these periods.

Field	Description
Destination Group	Enter the name of a destination group manually, or click the column header link (Destination Group) to choose a group from a searchable list inside the pop-up window.
Service	Choose a specific service (voice calls, messaging, data transfer, etc.) that this volume discount will apply to. You can bundle discounts for multiple services into the same volume discount plan.
Type	Select the threshold type: will you use thresholds based on the charged amount, or on the total call time? <ul style="list-style-type: none"> • Amount 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 call before the volume discount was applied. • Volume means the unit is minutes, and the counters will go up by the same value as the charged call duration. Note the difference between <i>call duration</i> and <i>charged call duration</i>. For instance, if a rate specifies 5 minutes rounding and a customer has spoken for 3 minutes 42 seconds, he will be charged for 5 minutes and the counter will go up by 5 minutes as well.

<p>Usage Period</p>	<p>This defines how often the volume discount is reset.</p> <p>For example, if you have defined a “500 minutes for free” offer for your customer then the volume discount counter will be reset when the customer’s next usage period begins. In our example, the customer will receive 500 free minutes during every usage period (day, week, month, etc.)</p> <p>The following types of usage periods are available:</p> <ul style="list-style-type: none"> • One time – A volume discount is applied one time only; this option may be used in add-on products to top up user’s quota while remaining unused minutes are preserved. • Daily – A volume discount is applied every day; • Weekly – A volume discount is applied every week; • Bi-weekly – A volume discount is applied every two weeks; • Monthly – A volume discount is applied every month.
<p>Prorate Thresholds for First Usage Period</p>	<p>This prorates volume discount thresholds according to the number of days remaining in the first usage period after the volume discount assignment.</p> <p>For example, if a volume discount plan is created with a 100% discount for up to 1000 minutes, a regular rate is applied after that. If a customer has a <i>monthly</i> 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.</p>

Combine with Other Discounts	<p>Defines the possibility of combining various discount plans when more than one discount plan is applicable for the same session (call):</p> <ul style="list-style-type: none">• Never – the full override, when the higher priority discount prevents the use of lower priority ones.• Always – the discount is added, up to 100% (we never give money back for the call). For example, two 30% discounts will result in a 60% discount, 70% + 40% discounts will only add up to a 100% discount.• When discount lower than 100 is active – as long as a higher priority discount defines a 100% rate, <i>no</i> lower priority discounts are applied. Only after the volume exceeds the 100% discount threshold, can the rest of the discounts be applied. For example, Germany discounted calls by 100% for 50 minutes exclusively, followed by 1000 minutes at a 50% discount, while another discount for the EU is at 30%. The EU discount will only become applicable if the 50 minutes are used up, and then the total discount will be 30+50=80% discounted for a call to Germany.• After reaching the last threshold limit – the higher priority discount prevents the use of lower priority ones until the last limited threshold is reached (regardless of discount rate). For example, Germany 100% discounted calls for 50 minutes exclusively, followed by 1000 minutes of 50% discount rate, while another discount for EU has 30% discount rate. The EU discount will only become applicable if the 1050 minutes are used up.
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Rollover Unused Minutes to the Next Usage Period	<p>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.</p> <p>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 (same destination group, service and thresholds.)</p>
Allow no more than	<p>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.</p> <p>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.</p>
Peak Level	<p>N/A indicates that the discount is provided regardless of whether the service is used in a peak or off-peak period. Otherwise, this column contains the period names.</p>
Discount Scheme	<p>Contains a definition of the discount structure for each period (peak and off-peak ones) in a separate row.</p>

Discount Definition Wizard

The discount wizard provides users with a flexible tool for defining threshold values and corresponding discount values. A threshold defines the maximum counter value (call duration 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 – normal rate, up to 500 minutes – 10% discount, and 20% discount after that) then this last discount will be created with a special “unlimited” threshold.

Discount Wizard
Help

▶ Add
Save
Save & Close
Close

Destination Group:

Service:

Type:

Usage Period:

Prorate Thresholds for First Usage Period:

Combine With Other Discounts:

Peak
Off-Peak
2nd Off-Peak

Edit	Threshold *	Discount, % *	Notify Customer		Split xDRs	Delete
			Warning	Threshold reached		
<input type="checkbox"/>	<input type="text" value="Unlimited"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="text" value="200"/>	<input type="text" value="100"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Field	Description
Destination Group	Enter the name of a destination group manually, or click the column header link (Destination Group) to choose a group from a searchable list inside the pop-up window.
Service	Choose a specific service (voice calls, messaging, data transfer, etc.) that this volume discount will apply to. You can bundle discounts for multiple services into the same volume discount plan.
Type	<p>Select the threshold type: will you use thresholds based on the charged amount, or on the total call time?</p> <ul style="list-style-type: none"> Amount 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 call before the volume discount was applied. Volume means the unit is minutes, and the counters will go up by the same value as the charged call duration. Note the difference between <i>call duration</i> and <i>charged call duration</i>. For instance, if a rate specifies 5 minutes rounding and a customer has spoken for 3 minutes 42 seconds, he will be charged for 5 minutes and the counter will go up by 5 minutes as well.

<p>Usage Period</p>	<p>This defines how often the volume discount is reset.</p> <p>For example, if you have defined a “500 minutes for free” offer for your customer then the volume discount counter will be reset when the customer’s next usage period begins. In our example, the customer will receive 500 free minutes during every usage period (day, week, month, etc.)</p> <p>The following types of usage periods are available:</p> <ul style="list-style-type: none"> • One time – A volume discount is applied one time only • Daily – A volume discount is applied every day; • Weekly – A volume discount is applied every week • Bi-weekly – A volume discount is applied every two weeks • Monthly – A volume discount is applied every month
<p>Prorate Thresholds for First Usage Period</p>	<p>This prorates volume discount thresholds according to the number of days remaining in the first usage period after the volume discount assignment.</p> <p>For example, if a volume discount plan is created with a 100% discount for up to 1000 minutes, a regular rate is applied after that. If a customer has a <i>monthly</i> 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.</p>

Combine with Other Discounts	<p>Defines the possibility of combining various discount plans when more than one discount plan is applicable for the same session (call):</p> <ul style="list-style-type: none">• Never – the full override, when the higher priority discount prevents the use of lower priority ones.• Always – the discount rate is summed up to 100% (we never give money back for the call). For example, two 30% discounts will result in 60% resulting discount, 70% + 40% discount rates will only result in 100% discount.• When discount lower than 100 is active – as long as a higher priority discount defines 100% rate, all the lower priority discounts are not applied. Only after the volume exceeds the 100% discount rate threshold of the discount, the rest of the discounts can be applied. For example, Germany 100% discounted calls for 50 minutes exclusively, followed by 1000 minutes of 50% discount rate, while another discount for EU has 30% discount rate. The EU discount will only become applicable if the 50 minutes are used up, then the total discount rate will be 30+50=80% for a call to Germany.• After reaching the last threshold limit – the higher priority discount prevents the use of lower priority ones until the last limited threshold is reached (regardless of discount rate). For example, Germany 100% discounted calls for 50 minutes exclusively, followed by 1000 minutes of 50% discount rate, while another discount for EU has 30% discount rate. The EU discount will only become applicable if the 1050 minutes are used up.
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Rollover Unused Minutes to the Next Usage Period	<p>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.</p> <p>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 (same destination group, service and thresholds.)</p>
Allow no more than	<p>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.</p> <p>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.</p>
Threshold	<p>The threshold value is measured either in currency units or time units (minutes), according to the type of discount. 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. You cannot have two discount rows with the same threshold values.</p>
Discount	<p>The percentage discount value must be numeric (with a period allowed) in the 0 – 100 range. A 0% discount means “standard rate applied,” while a 100% discount means “free call.”</p>
Notify Customer	<p>This allows you to set up different notifications for your customers.</p>
Warning	<p>When selected, this option allows you to define an additional threshold. When that 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.</p>

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.
Split xDRs	When a session spans several rating periods (e.g. covers both peak and off-peak periods) it is divided into portions. Check the Split xDRs 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	<p>This column is only available for services based on the Internet Access service type. In this case, when the discount period is active and the threshold has been crossed, the level of service provided can also be adjusted. The possible values are:</p> <ul style="list-style-type: none"> • No restriction. • Limit usage (customer can still use the service, but with limits, e.g. the upload / download speed is significantly decreased). • Block service – Refuse to provide any further service. <p>Typically, this is done to reduce the amount of available bandwidth when the data transfer quota has been reached.</p>

The billing engine decides which discount is to be applied, depending on whether the counter for the given destination has reached one of the defined thresholds. Note that the “charged amount” counters record charges as they are defined in the tariff, i.e. before a volume discount is applied. If there is no “Unlimited” threshold discount, and the counter exceeds the last (i.e. biggest) threshold, any further calls will be billed according to the standard tariff rate.

For example:

Discount type – Volume, minutes

- A. The discount is defined as 0..100 – 50%; 100..200 – 20%;
200..unlimited – 10%

The first 100 minutes are billed at a 50% discount (half the price specified in the tariff), the next 100 minutes are billed at a 20% discount, and thereafter all calls receive a 10% discount.

- B. The discount is defined as 0..100 – 100%

The first 100 minutes are free; all minutes above that are billed at the tariff rate.

Discount type – Amount, USD

- C. The discount is defined as 0..10 – 0%; 10..20 – 10%; 20..unlimited – 20%

When the customer begins making calls, each call is charged according to the normal rate until the total charged amount exceeds \$10. After that, the customer is given a 10% discount on calls. When the total charged amount exceeds \$20, all calls receive a 20% discount.

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. Thus the counter will go up by \$6, to become \$16.00.

Bundle Promotions

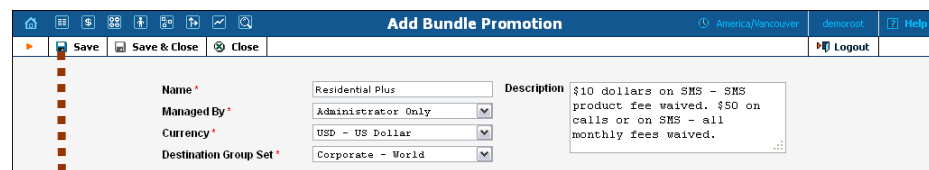
The Bundle (Inter-service) promotions feature allows you to offer promotional discounts based on monthly amounts spent and apply charges based on usage minimum.




Bundle Promotion Management					
		Managed By	Search		
		ANY	<input type="text"/>		<input type="button" value="Search"/>
Edit	Name	Currency	Managed By	Description	Delete
	10% voice calls disc. on \$1000	USD	Administrator Only	10% discount for voice calls on minimum spending of \$1000	
	Corporate Plus	USD	Administrator Only	up to \$50 - no discount, up to \$100 - 10%, over - 20% discount	

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 the **Edit** button next to its name.



Add Bundle Promotion		
<input type="button" value="Save"/> <input type="button" value="Save & Close"/> <input type="button" value="Close"/>		
Name *	<input type="text" value="Residential Plus"/>	Description
Managed By *	<input type="text" value="Administrator Only"/>	<input type="text" value="\$10 dollars on SMS - SMS product fee waived. \$50 on calls or on SMS - all monthly fees waived."/>
Currency *	<input type="text" value="USD - US Dollar"/>	
Destination Group Set *	<input type="text" value="Corporate - World"/>	

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 Customer Self-provisioning web 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 and accounts using 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  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 <i>Subscriptions</i> 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 customer’s own subscriptions and *all* of his 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.

Edit	Threshold, USD *	Credit, % *	Delete
	Unlimited <input checked="" type="checkbox"/> Unlimited	10	
	1000	0	

Field	Description
Promotion Amount	Defines whether the promotion is based on a percentage or a fixed sum of money: <ul style="list-style-type: none"> • 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%**.

Edit Bundle Promotion '10% voice calls disc. on \$1000' America/Vancouver demoot Help

Name * 10% voice calls disc. on \$1000 Description 10% discount for voice calls on minimum of \$1000 spent
 Managed By * Administrator Only
 Currency * USD - US Dollar
 Destination Group Set * Corporate - World

Analyze		Criteria			Apply To		Delete
Service	Destination Group	Apply	Structure	Invoice Comment	Service	Subscription	
Conferencing		Credit			Whole Bill		
Voice Calls	World	Credit	0..1000 USD - 0 % 1000..Unlimited USD - 10 %		Whole Bill		

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%.

Edit Bundle Promotion 'Corporate Plus' America/Vancouver demoot Help

Name * Corporate Plus Description up to \$50 - no discount, up to \$100 - 10%, over - 20% discount
 Managed By * Administrator Only
 Currency * USD - US Dollar
 Destination Group Set * Corporate - World

Analyze		Criteria			Apply To		Delete
Service	Destination Group	Apply	Structure	Invoice Comment	Service	Subscription	
Conferencing		Credit			Whole Bill		
Voice Calls	Asia	Credit	0..50 USD - 0 % 50..100 USD - 10 % 100..Unlimited USD - 20 %		Voice Calls		

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.

Charges based on usage minimum

The charge structure is defined as: 0..5000 USD – 1000 USD, 5000..Unlimited USD – 0 USD.

Edit Bundle Promotion 'Wholesale \$5000 usage minimum' America/Vancouver demoot Help

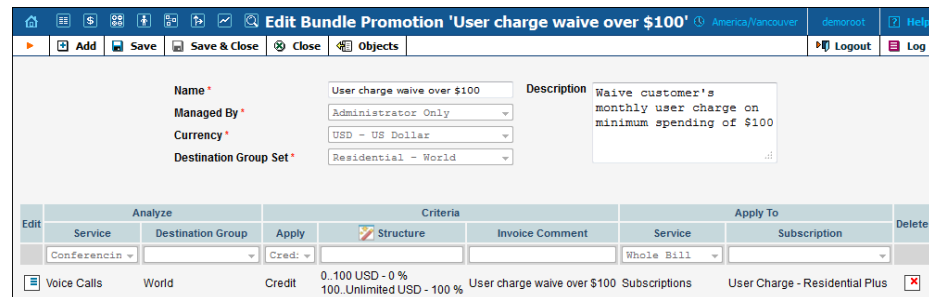
Name * Wholesale \$5000 usage minimum Description Charge \$1000 if customer spends less than \$5000
 Managed By * Administrator Only
 Currency * USD - US Dollar
 Destination Group Set * Wholesale - World

Analyze		Criteria			Apply To		Delete
Service	Destination Group	Apply	Structure	Invoice Comment	Service	Subscription	
Conferencing		Credit			Whole Bill		
Voice Calls	Asia	Charge	0..5000 USD - 1000 USD 5000..Unlimited USD - 0 USD	\$5000 usage minimum	Subscriptions		

For *Voice Calls* service usage of below \$5000 a \$1000 fine will be applied; for service usage above \$5000 no fine will be applied.

Bundle promotion based on a defined percentage

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



The screenshot shows the 'Edit Bundle Promotion' interface. The title is 'Edit Bundle Promotion 'User charge waive over \$100''. The 'Name' field is 'User charge waive over \$100' and the 'Description' is 'Waive customer's monthly user charge on minimum spending of \$100'. Other fields include 'Managed By' (Administrator Only), 'Currency' (USD - US Dollar), and 'Destination Group Set' (Residential - World). Below the form is a table with columns: Analyze, Criteria, and Apply To. The table contains two rows of criteria:

Analyze	Criteria	Apply To
Service: Conferencin, Destination Group: [blank], Apply: Credit	Structure: [blank], Invoice Comment: [blank]	Service: Whole Bill, Subscription: [blank]
Voice Calls, World, Credit	0..100 USD - 0%, 100..Unlimited USD - 100%, User charge waive over \$100	Subscriptions, User Charge - Residential Plus


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

Subscription plans enable automation of recurring non-call related charges applied to your customers: for instance, basic monthly fees or fees for additional services such as voicemail or hardware rental.



The screenshot shows the 'Subscription Plan Management' interface. It includes a search bar and a table of subscription plans:

Name	Currency	Managed By	Description	Delete
Follow-me	USD	Administrator only		
Voice Mail	USD	Administrator only	Voice mail	
Call Display	USD	Administrator only		
Traveller's Plus	USD	Administrator only		

Use the main Subscription Plan Management screen 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 subscription plan creation screen. 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 Customer Self-Provisioning web 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.

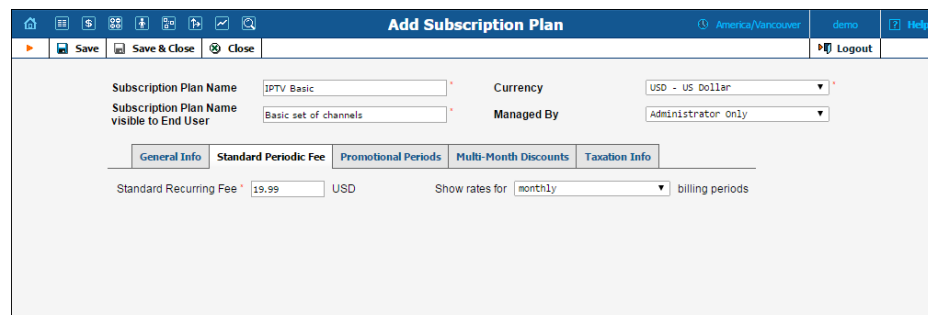
General Info tab

Field	Description
Charge Suspended Customers	<p>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.)</p> <p>For new subscriptions, the Charge Suspended Customers option is off by default (so that subscription charges will <i>not</i> be applied for those days when services</p>

	were suspended).
Can Be Applied More than Once	<p>Select this check box to assign the same subscription multiple times to one account.</p> <p>Note that you can use this option only when you are adding a new subscription plan.</p> <p>For new subscriptions, the Can Be Applied More than Once option is off by default (so that subscription charges will <i>not</i> be applied multiple times for one account).</p>
Subscription Is Activated	<p>If the subscription is assigned to an account, this parameter specifies the date upon which the subscription charges will apply:</p> <ul style="list-style-type: none"> • At the given start date – The first billed day is the subscription start date. • Upon the account’s first usage – Charges are only applied from the later of the subscription start date or the account first usage date.
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	<p>If the subscription is cancelled earlier than the minimum subscription period a one-time fee is applied. The following options are available:</p> <ul style="list-style-type: none"> • 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 \times 11 + \\$30/30 \times 10 = \\$330 + \\$10 = \\$340$.

<p>Subscription Charges Applied</p>	<p>Defines the way subscription charges are applied to a customer's account:</p> <ul style="list-style-type: none"> • At the end of the billing period – The customer is charged the full subscription fee at the end of the billing period. • Progressively – A prorated service charge is applied on a day-by-day basis, depending on the time the service was used during this period. 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. • In advance – Subscription charges are applied in a such way that when a billing period is closed, the customer is charged for N consecutive billing periods following the current one. For instance, if N is set to 2, and the customer has a monthly billing period, subscription charges for May and June will be made when the April billing period is closed.
<p>Periods In Advance</p>	<p>Only available for subscription plans charged in advance; specifies for how many periods advance charges should be made.</p>
<p>Round Charged Amount</p>	<p>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.</p>
<p>Description</p>	<p>An extended description of this subscription plan.</p>

Standard Periodic Fee tab



Add Subscription Plan America/Vancouver demo Help

Save Save & Close Close Logout

Subscription Plan Name Currency

Subscription Plan Name visible to End User Managed By

General Info **Standard Periodic Fee** Promotional Periods Multi-Month Discounts Taxation Info



Standard Recurring Fee USD Show rates for billing periods


Field	Description
Standard Recurring Fee	The value of the recurring fee that will be applied to the customer while a subscription is active if no special promotional fees or bulk discounts are defined.
Show rates for	Shows how the defined recurring fee will be applied to customers with a specific billing period (e.g. if a \$10 recurring fee is defined for customers with a monthly billing period, a \$2.33333 recurring 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** in the toolbar for this.)

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

Taxation Info tab

Field	Description
Taxation	Select here Billsoft (US, Canada) method of taxation –

Method	external module from the Billsoft® company (US, Canada).
Billsoft Taxation Method (US, Canada)	
Transaction	Type of transaction (e.g. Intrastate, Interstate).
Service	Type of service (e.g. Toll, Toll Free).
Activation	The service type that is associated with activation procedure (e.g. activation of voicemail, cellular or PCS service).
Cancellation	The service type that is associated with cancellation procedure.
Usual	The service type that is associated with usual transactions and service.

Multi-Months Discounts tab (only available for Subscriptions charged in advance)

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).

Edit	months	Standard Fee, USD / months	Discount, %	Discount Fee, USD / months	Delete
	6	119.94 USD / 6 months	15	101.949 USD / 6 months	
	12	239.88 USD / 12 months	25	179.91 USD / 12 months	

Field	Description
Discount type	Defines whether a discount is based on a percentage or on a fixed sum: <ul style="list-style-type: none"> • Percentage – the discount is provided as a defined percentage, calculated from the standard recurring fee. • Fixed amount – the discount is provided for a defined amount.
Months	Shows the number of months this bulk discount applies

	to.
Standard Periodic fee / months	Shows the value of the standard recurring 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, where the call originates on the PSTN network). 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.

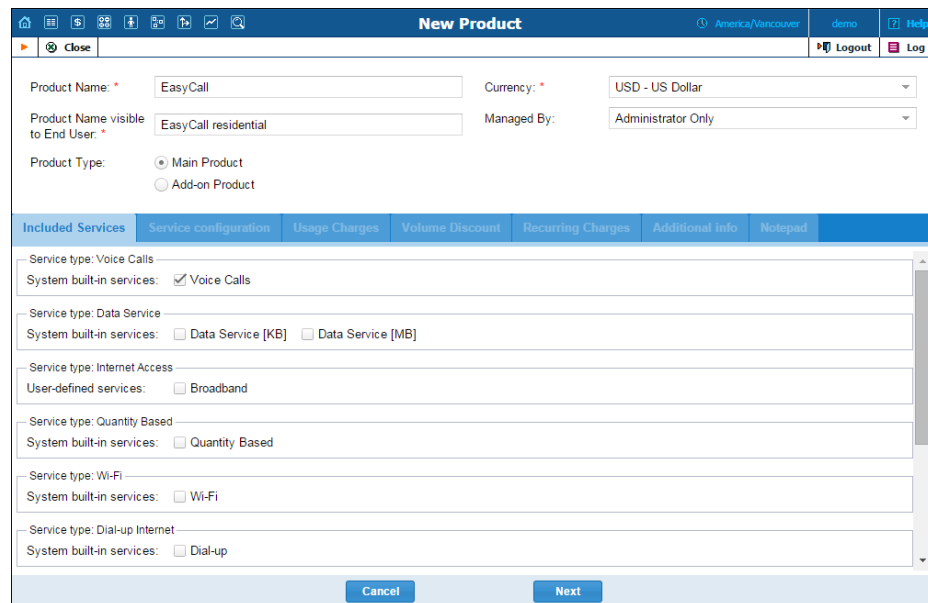
The basic information for defining a product is as follows:

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: <ul style="list-style-type: none"> • Main Product – A basic product that assigns all the basic services that are available to your customers. • Add-on Product with precedence level – An

	<p>additional product by which you can increase or limit the services provided to your customers.</p> <p>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).</p> <p>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.</p>
Managed By	<p>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.</p>
Currency	<p>The currency in which the product will be maintained. To edit a currency, delete all rating entries for this product.</p>

Included Services Tab

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



The screenshot shows the 'New Product' configuration page. At the top, there are navigation icons and the title 'New Product'. Below the title, there are several input fields: 'Product Name' (EasyCall), 'Currency' (USD - US Dollar), 'Product Name visible to End User' (EasyCall residential), and 'Managed By' (Administrator Only). There are also radio buttons for 'Product Type' (Main Product selected, Add-on Product). Below this is a tabbed interface with 'Included Services' selected. Under 'Included Services', there are several sections with checkboxes: 'Service type: Voice Calls' (checked), 'Service type: Data Service' (Data Service [KB] and Data Service [MB] unchecked), 'Service type: Internet Access' (User-defined services: Broadband unchecked), 'Service type: Quantity Based' (unchecked), 'Service type: Wi-Fi' (unchecked), and 'Service type: Dial-up Internet' (unchecked). At the bottom of the form are 'Cancel' and 'Next' buttons.

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).

Field	Description
	The <i>Voice Calls</i> 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: <ul style="list-style-type: none"> • 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
<i>The Incoming Calls section</i>	
UM Enabled	Allows the account users with this product to access the unified messaging system. See the PortaSIP® Media Server Administrator Guide for more details.
Present Caller Info	Display caller info on incoming calls.
Call Waiting	This 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.
Call Forwarding	Assigns call forwarding mode to the accounts with this product: <ul style="list-style-type: none"> • No Forwarding disables call forwarding entirely. • Follow-Me enables the standard follow-me forwarding. • Advanced Forwarding activates the advanced call forwarding mode. • With Forward to SIP URI forwarding your customers can enter a forwarding destination as a CLD@IP. • Simple Forwarding allows you to specify a single phone number to which all calls will be sent.
Call Screening	Enables selective call processing / conditional call forwarding features.

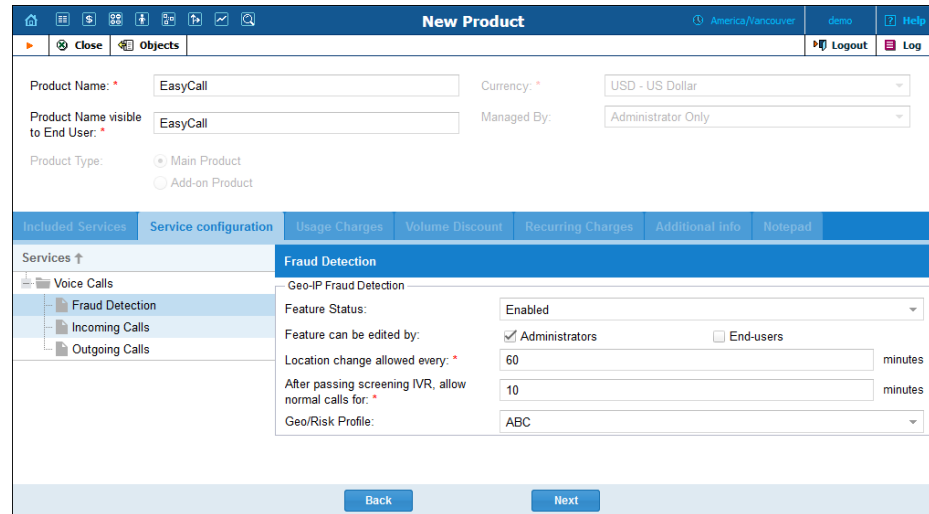
Auto-attendant	Activates the Auto-attendant functionality for accounts with this product.
<i>The Outgoing Calls section</i>	
E911	Activates emergency services for accounts with this product.
Routing Plan	This enables the selection of the routing plan to be used for outgoing calls when the end-user dials a number without using a specific selection code.
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.
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.
Maximum Abbreviated Dial Length	The maximum allowed length (0-10) of speed dial codes. Zero means that although the account will still have the capability for adding frequently dialed numbers, the customer will not be able to assign speed dial codes to them.
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.

	<p>This field can contain the following special symbols:</p> <ul style="list-style-type: none"> • ‘%’ – wildcard for any number of symbols, and • ‘_’ – equivalent wildcard for one symbol. <p>If this field is empty, then any number can be marked as a favorite.</p>
Call Barring	<p>Activates the Call Barring feature for accounts with this product. Call barring allows your customers to prohibit outgoing calls to specific destinations.</p> <p>The <i>Internet Access</i> service type</p>
Internet Access Policy	<p>The most common option is Product default. In rare cases, for a certain account, you may need to set a special policy that will override the product’s parameters. In such cases, select the appropriate internet access policy from the list, or select ‘empty’ if you do not want to limit the bandwidth on the account with this product.</p>
Hotlining	<p>Select Enabled if your NAS supports a hotline.</p>
Static IP	<p>Select Enabled if you want to assign a static IP address to accounts with this product.</p>
Session Limit	<p>Defines the maximum number of concurrent sessions that can be initiated.</p>
Max Simultaneous Sessions	<p>Specify the maximum allowable number of concurrent sessions (only available when the Session Limit feature is enabled).</p> <p>The <i>IPTV</i> service type</p>
Channel Package	<p>This feature defines a set of broadcast channels that are available to accounts with this product.</p>
Activation PIN	<p>Specifies a numeric code to be entered from end user’s STB (Set-Top Box) remote controller to activate IPTV services.</p> <p>The <i>Wi-Fi</i> service type</p>
Limit Bandwidth	<p>The most common option is Product default. In rare cases, for a certain account, you may need to define special bandwidth values that would override the product’s parameters. In such cases, select Yes to define these values, or No if you do not want to limit the bandwidth for the account with this product.</p>
Max Upload Rate	<p>Specifies the maximum upload rate for the accounts with this product.</p>
Max Download Rate	<p>Specifies the maximum download rate for the accounts with this product.</p>

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.
Geo / Risk Profile	Assign a Geo/ Risk Profile depending on the area where you sell the service and what type of service it is.
Location change allowed every:	Allows the end-user to change location once per specified time interval without inputting the PIN again.
After passing screening IVR, allow normal calls for:	Allows the end-user to make calls for a specified period of time after passing the screening IVR without inputting the PIN again.

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.

Edit Product "EasyCall" America/Vancouver demo Help

Save Save & Close Close Rate Lookup Clone Logout Log

Product Name: * EasyCall Currency: * USD - US Dollar
 Product Name visible to End User: * EasyCall Managed By: Administrator Only
 Product Type: Main Product Add-on Product

Included Services **Service configuration** **Usage Charges** **Volume Discount** **Recurring Charges** **Additional info** **Notepad**

Edit	Log	Service Used At			Charges Applied			Delete
		Node	Access Code	Service	Tariff	Advanced Config		
<div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> ↓ Add Help Overdraft Protection: All accounts </div>								

Edit Product "EasyCall" America/Vancouver demo Help

Save Save & Close Close Rate Lookup Clone Logout Log

Product Name: * EasyCall Currency: * USD - US Dollar
 Product Name visible to End User: * EasyCall Managed By: Administrator Only
 Product Type: Main Product Add-on Product

Included Services **Service configuration** **Usage Charges** **Volume Discount** **Recurring Charges** **Additional info** **Notepad**

Edit	Log	Service Used At			Charges Applied			Delete
		Node	Access Code	Service	Tariff	Advanced Config		
Service type: Unknown <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> PortaSip Voice Calls EasyCall Update Cancel </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> ↓ Add Help Overdraft Protection: All accounts </div>								

Edit Product "EasyCall" America/Vancouver demo Help

Save Save & Close Close Rate Lookup Clone Logout Log

Product Name: * EasyCall Currency: * USD - US Dollar
 Product Name visible to End User: * EasyCall Managed By: Administrator Only
 Product Type: Main Product Add-on Product

Included Services **Service configuration** **Usage Charges** **Volume Discount** **Recurring Charges** **Additional info** **Notepad**

Edit	Log	Service Used At			Charges Applied			Delete
		Node	Access Code	Service	Tariff	Advanced Config		
Service type: Voice Calls <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> PortaSip Any code Voice Calls EasyCall X </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> ↓ Add Help Overdraft Protection: All accounts </div>								

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).
Overdraft Protection	<ul style="list-style-type: none"> • No protection – When the locking of funds is requested, this will be done separately for each session, and will not affect other sessions; so, effectively, there will be no “locked” funds. This method provides backward compatibility with “Fraud Protection Off” mode in previous releases. For obvious reasons, it is not recommended for general use. • Debit accounts only – Fund locking is done only for debit accounts. This is identical to PortaBilling’s default behavior in Maintenance Release 18 and older. • All accounts – Fund locking is done for all account types.
<i>Advanced Config</i>	
Service Allowed to Suspended Users	<p>This parameter allows / disallows end users to use certain services when their accounts are suspended:</p> <ul style="list-style-type: none"> • 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 accounts to be billed depending on where the call originates from. Simply associate the corresponding tariff with any OLI in Usage Charges. Please note that the gateway should be configured to support OLI.
Rate Match Mode	This parameter allows you to rate calls either based on the destination or the caller's number: <ul style="list-style-type: none"> • 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).
<i>Overdraft Protection</i>	
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	<p>Select this 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).</p> <p>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.</p> <p>Or you can use this option together with the Each subsequent fund lock allocates no more than option to provide additional protection for simultaneous session use. (For example, select the Each subsequent fund lock allocates no more than option from the Lock at least list and more funds will be locked without changing the sessions' duration).</p>

<p>Limit maximum locked funds for each session to</p>	<p>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.</p> <p>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.</p>
<p>Each subsequent fund lock allocates no more than</p>	<p>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.</p> <p>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.</p>
<p>Send alerts when overdraft is detected</p>	<p>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.</p>

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** screen.
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.

Edit Product "EasyCall" America/Vancouver demo Help

Product Name: * EasyCall Currency: * USD - US Dollar
 Product Name visible to End User: * Easy Call Managed By: Administrator Only
 Product Type: Main Product Add-on Product

Included Services **Service configuration** **Usage Charges** **Volume Discount** **Recurring Charges** **Additional info** **Notepad**

Edit	Log	Service Used At			Charges Applied		Delete
		Node	Access Code	Service	Tariff	Advanced Config	
Service type: Unknown							
<input type="button" value="Add"/>	<input type="button" value="Help"/>	Any node		Voice Calls		<input type="button" value="Assign Tariff per Routing Plan"/> <input type="button" value="Update"/> <input type="button" value="Can"/>	<input type="button" value="X"/>
					ABC Shuttle - Incoming Calls ABC Shuttle - Outgoing Calls ABC Shuttle Prepaid Cards		

Overdraft Protection: All accounts

Edit Product "EasyCall" America/Vancouver demo Help

Product Name: * EasyCall Currency: * USD - US Dollar
 Product Type: Main Product Add-on Product

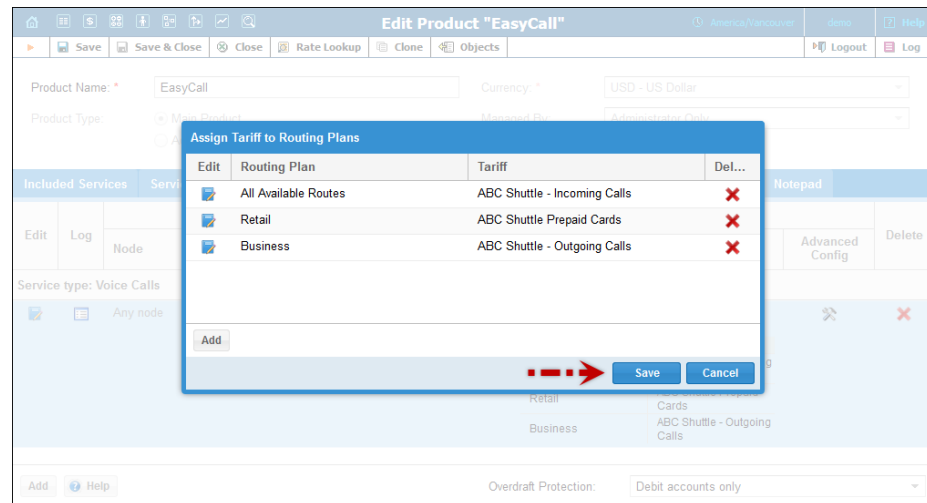
Included Services **Service configuration** **Usage Charges** **Volume Discount** **Recurring Charges** **Additional info** **Notepad**

Edit	Log	Service Used At			Charges Applied		Delete
		Node	Access Code	Service	Tariff	Advanced Config	
Service type: Unknown							
<input type="button" value="Add"/>	<input type="button" value="Help"/>	Any node		Voice Calls		<input type="button" value="Assign Tariff per Routing Plan"/> <input type="button" value="Update"/> <input type="button" value="Can"/>	<input type="button" value="X"/>

Assign Tariff to Routing Plans



Edit	Routing Plan	Tariff	Del...
<input checked="" type="checkbox"/>	All Available Routes	ABC Shuttle - Incoming Calls	<input type="button" value="X"/>

Overdraft Protection: Debit accounts only

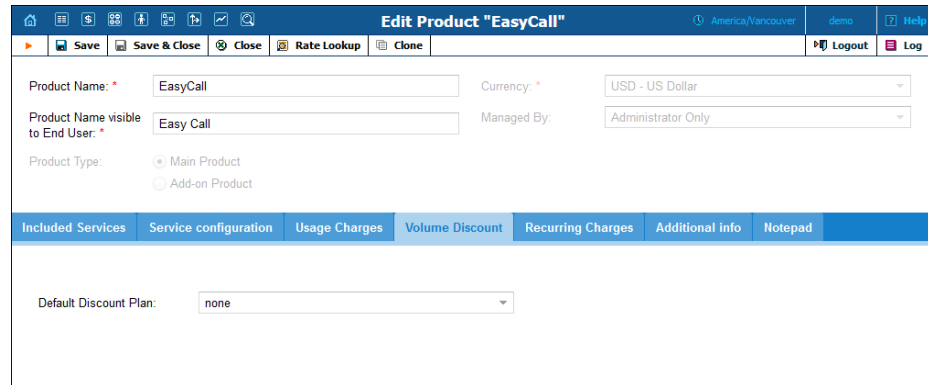


Switching from the “simple” use of one tariff for outgoing calls, regardless of the routing plan, is a step that requires attention to detail. You are already able to assign any routing plan to any customer; and all accounts will automatically be assigned the same routing plan that was previously assigned 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 in the Access Code value, if any.
4. Change the overdraft protection parameters, if necessary.
5. Click the  **Update** button.

Volume Discount Tab



The screenshot shows the 'Edit Product "EasyCall"' interface. The 'Volume Discount' tab is active. The form contains the following fields:

- Product Name: EasyCall
- Currency: USD - US Dollar
- Product Name visible to End User: Easy Call
- Managed By: Administrator Only
- Product Type: Main Product, Add-on Product
- Default Discount Plan: none

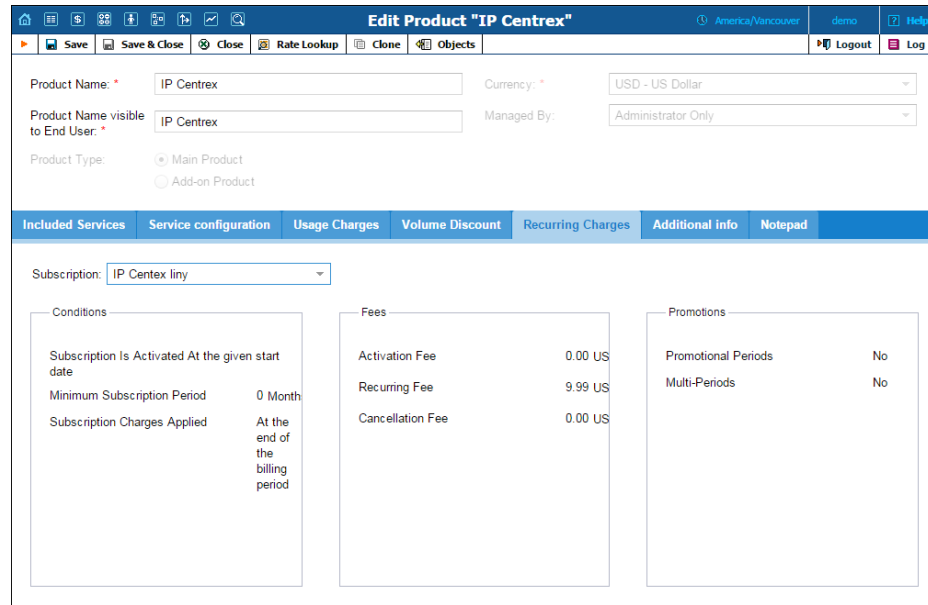
Field	Description
Default Discount Plan	Specifies a discount plan to be applied to all accounts by default.

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 (same destination group, service and thresholds.)

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.



Edit Product "IP Centrex"

Product Name: * IP Centrex Currency: * USD - US Dollar

Product Name visible to End User: * IP Centrex Managed By: Administrator Only



Product Type: Main Product Add-on Product

Subscription: IP Centrex liny

Conditions	Fees	Promotions
Subscription Is Activated At the given start date	Activation Fee 0.00 US	Promotional Periods No
Minimum Subscription Period 0 Month	Recurring Fee 9.99 US	Multi-Periods No
Subscription Charges Applied At the end of the billing period	Cancellation Fee 0.00 US	

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: <ul style="list-style-type: none"> • Activation fee – a one-time fee applied when the subscription is activated • Recurring 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: <ul style="list-style-type: none"> • 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 new Subscription entry:

1. Click the  **Add** button.
2. Choose a subscription plan from the list.
3. Click the  **Save** button.

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

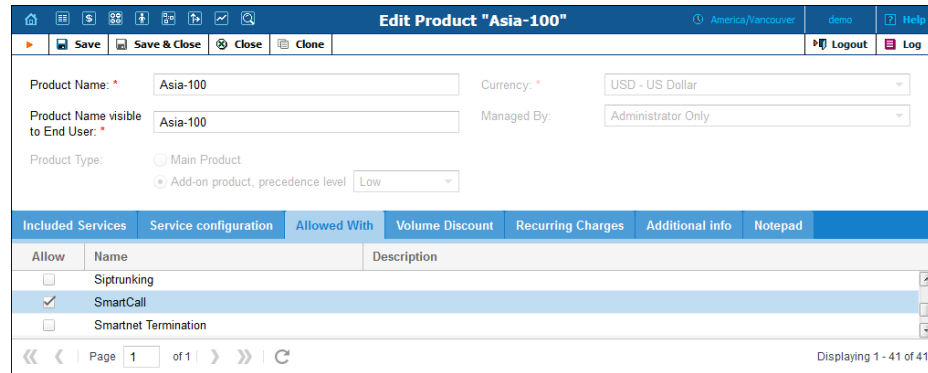
The screenshot shows the 'Edit Product "EasyCall"' interface. The 'Additional Info' tab is selected. The form contains the following fields and values:

- Product Name: EasyCall
- Currency: USD - US Dollar
- Product Name visible to End User: EasyCall
- Managed By: Administrator Only
- Product Type: Main Product, Add-on Product
- Breakage: 0.00
- Account Default ACL: Account self-care
- Allow Self-care Sign-up:
- Description visible to End User: (empty text area)
- Info URL: (empty text field)
- Description: (empty text area)

Field	Description
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 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

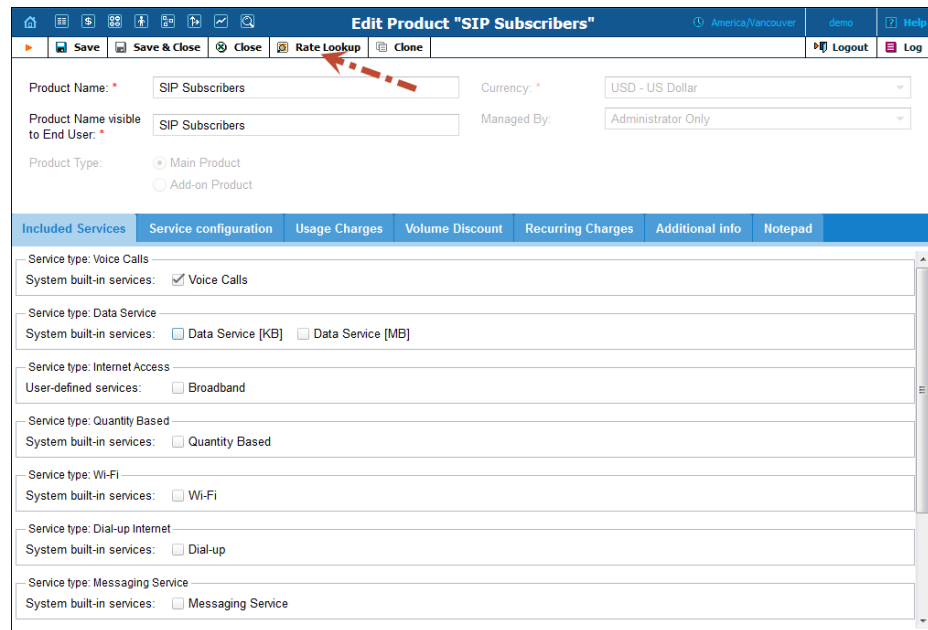
Every add-on product has a list of allowable main products that are compatible with it, and can be assigned to an account together with this main product.

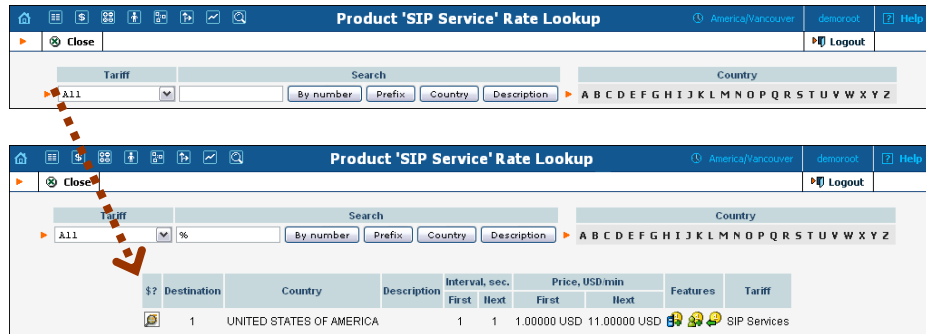


Rate Lookup

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 Edit Product page.

Alternatively, you can click on the icon  next to the product name on the Product Management screen. Then on the Product Rate Lookup page use search filters to display (a) specific rate(s):



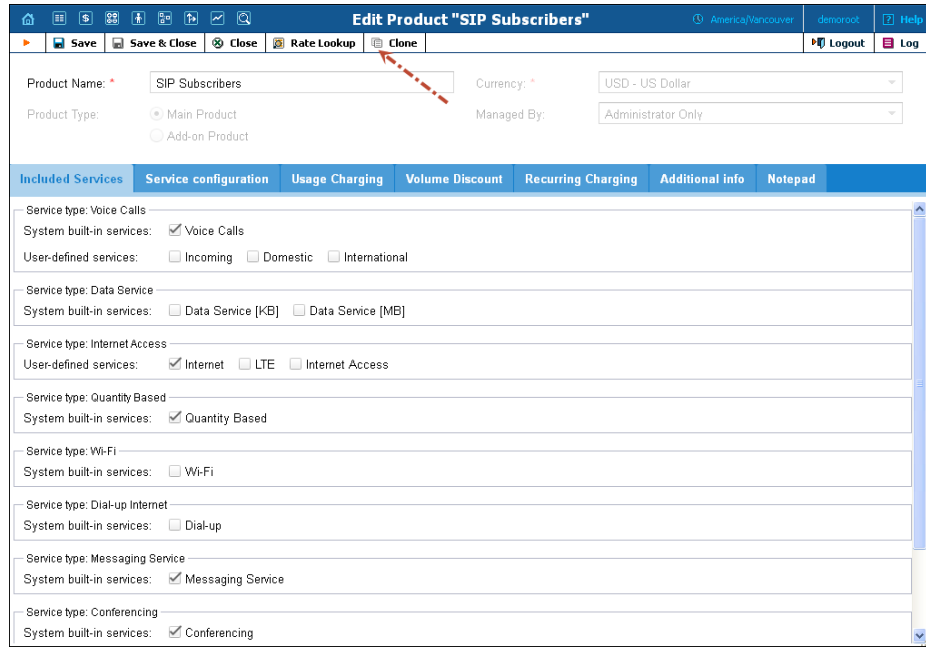


In addition to the mandatory rate information (e.g. Destination, Country, Interval and Price) there may also be icons that indicate features which have been applied to the rate, such as Maintenance Fee, Surcharges, Payback Rate and Call Rate Formula (this indicates if the rate uses a call rating formula).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

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 in the toolbar on the Edit Product page. Give the new product a name, then click the **Save** button.



Edit Product "SIP Subscribers"

Product Name: * SIP Subscribers Currency: * USD - US Dollar
 Product Type: Main Product Add-on Product Managed By: Administrator Only

Included Services | Service configuration | Usage Charging | Volume Discount | Recurring Charging | Additional info | Notepad

Service type: Voice Calls
 System built-in services: Voice Calls
 User-defined services: Incoming Domestic International

Service type: Data Service
 System built-in services: Data Service [KB] Data Service [MB]

Service type: Internet Access
 User-defined services: Internet LTE Internet Access

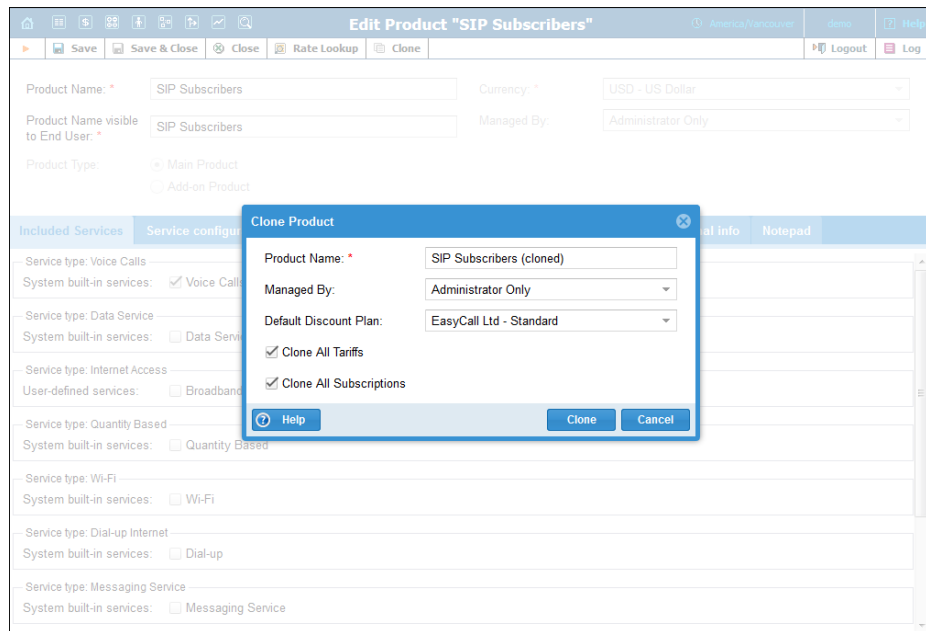
Service type: Quantity Based
 System built-in services: Quantity Based

Service type: Wi-Fi
 System built-in services: Wi-Fi

Service type: Dial-up Internet
 System built-in services: Dial-up

Service type: Messaging Service
 System built-in services: Messaging Service

Service type: Conferencing
 System built-in services: Conferencing



Edit Product "SIP Subscribers"

Product Name: * SIP Subscribers Currency: * USD - US Dollar
 Product Name visible to End User: * SIP Subscribers Managed By: Administrator Only
 Product Type: Main Product Add-on Product

Included Services | Service configuration | Usage Charging | Volume Discount | Recurring Charging | Additional info | Notepad

Service type: Voice Calls
 System built-in services: Voice Calls

Service type: Data Service
 System built-in services: Data Service [KB] Data Service [MB]

Service type: Internet Access
 User-defined services: Broadband

Service type: Quantity Based
 System built-in services: Quantity Based

Service type: Wi-Fi
 System built-in services: Wi-Fi

Service type: Dial-up Internet
 System built-in services: Dial-up

Service type: Messaging Service
 System built-in services: Messaging Service

Clone Product

Product Name: * SIP Subscribers (cloned)
 Managed By: Administrator Only
 Default Discount Plan: EasyCall Ltd - Standard

Clone All Tariffs
 Clone All Subscriptions

[Help](#) [Clone](#) [Cancel](#)

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.

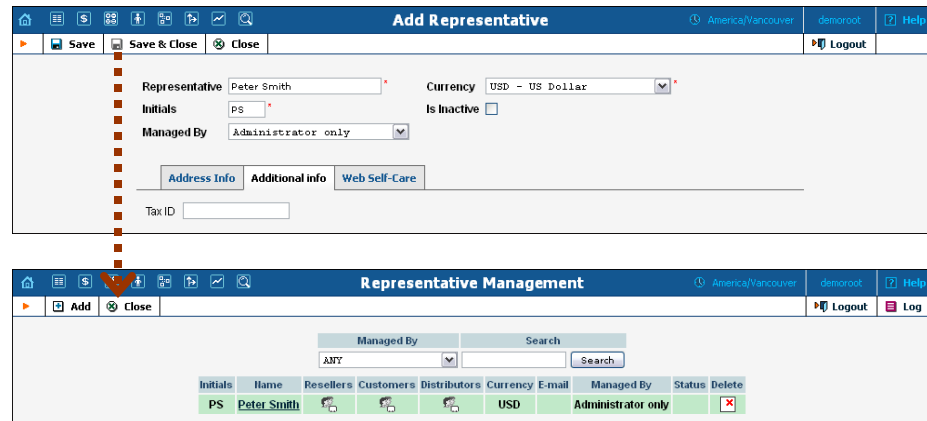
5. Participants

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 reps with specific sales in order to track their income.

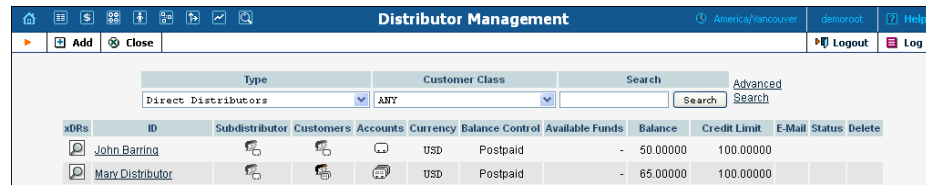


NOTE: Once a new representative is created, the **Currency** and **Managed By** properties cannot be changed.

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.

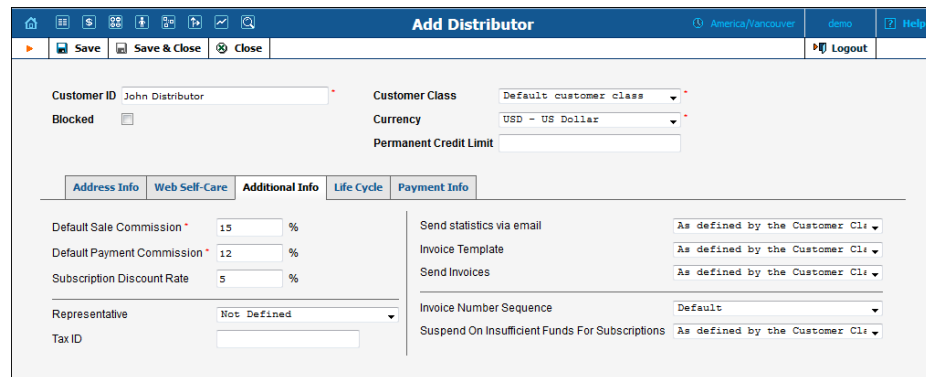
The Distributor Management screen shows the distributors currently in the system.



xDRs	ID	Subdistributor	Customers	Accounts	Currency	Balance Control	Available Funds	Balance	Credit Limit	E-Mail	Status	Delete
	John Barring				USD	Postpaid	-	50.00000	100.00000			
	Mary Distributor				USD	Postpaid	-	65.00000	100.00000			

Add a New Distributor

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



Customer ID John Distributor **Customer Class** Default customer class
Blocked **Currency** USD - US Dollar
Permanent Credit Limit

Address Info **Web Self-Care** **Additional Info** **Life Cycle** **Payment Info**


Default Sale Commission 15 %
Default Payment Commission 12 %
Subscription Discount Rate 5 %

Representative Not Defined
Tax ID

Send statistics via email As defined by the Customer Clr
Invoice Template As defined by the Customer Clr
Send Invoices As defined by the Customer Clr
Invoice Number Sequence Default
Suspend On Insufficient Funds For Subscriptions As defined by the Customer Clr

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).

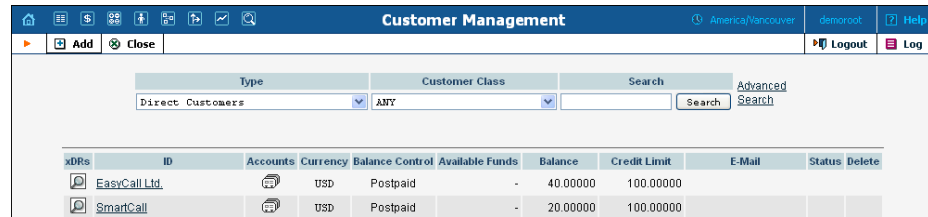
To generate a batch of accounts, you can use the account generator and assign the distributor to these accounts. The account generator only permits the creation of an inactive debit when a distributor has been selected.










Customer Management

On the Customer Management screen, 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.
Sub-customers of Reseller NNN	All sub-customers 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)
<i>The following search filter is only available for Resellers:</i>	
All Resellers	Only customers of the reseller type.
<i>The following search filter is only available for Distributors:</i>	
All Distributors	Only customers of the distributor type.
Distributors of Reseller NNN	All distributors of a specific reseller.


The screen provides the following information and activities:

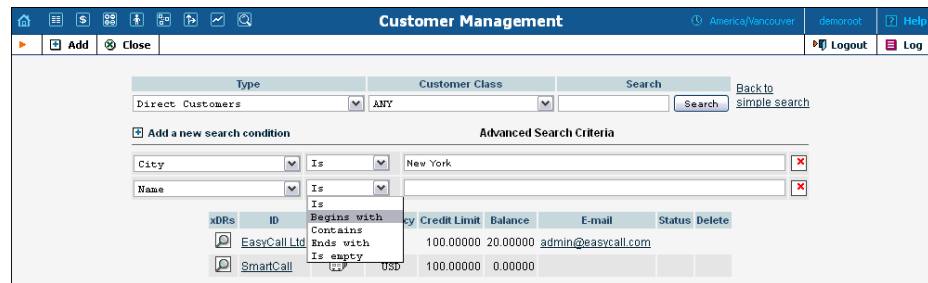


Column	Description
xDRs	Click the View  icon to go to the xDR view page.
ID	The customer's name.
Owned By	The name of the reseller owning the customer (none are displayed if the Direct Customers filter is applied).
Accounts	Click the Accounts  icon to go to the Account Management screen (for retail customers). If there are no accounts under the customer, the icon changes accordingly to  , 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 funds available for the user to spend on services.
Credit Limit	The credit limit applicable to the customer's account (if any).
Balance	The customer's current balance.
E-mail	E-mail contact for this customer.
Status	The status of the customer's account. The  icon will appear if the customer's credit has been exceeded. The customer blocked  icon means that all accounts of this customer have been administratively blocked. The  icon means all services to this customer have been suspended because of an overdue invoice, and the  icon means that this customer was closed. 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®).
Delete	Click the Delete  icon to remove the customer. The delete icon will only appear if there are no xDRs, accounts or sub-customers owned by the customer, or other entities (products, tariffs, etc.)

	managed by the customer.
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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 on  **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



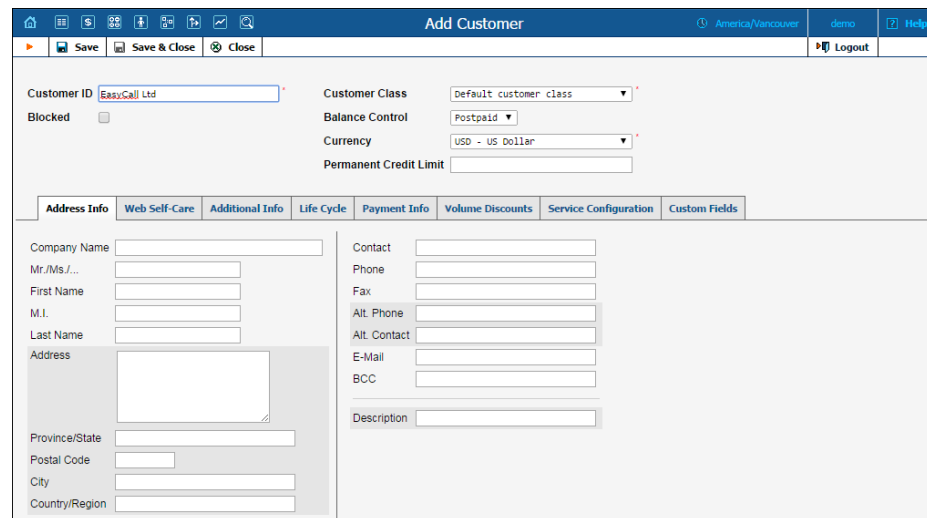
scan, meaning an increased load on the server and a longer time to produce the final result. Please avoid using such search operations if not necessary.

By clicking on **Back to simple search** you can switch the form to its original mode.

Add / Edit Customer

To add a new customer manually, select  **Add** in 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).
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 link “Customer Class.” When adding a Customer, be aware that if you select a class with a defined currency, the field Currency 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 field Customer Class will only contain classes with the <i>same</i> currency, or classes with no defined currency.

Address Info

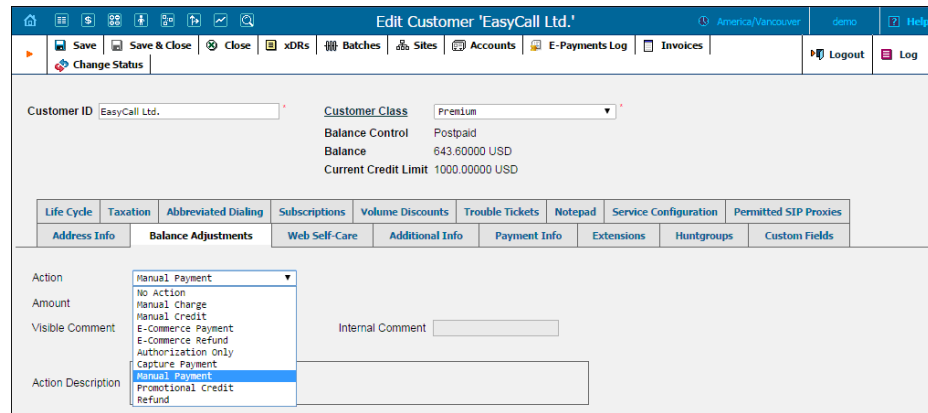
The Address Info tab provides most of the commonly required contact information. Also note that you may enable your account manager to receive a copy of every e-mail sent to the customer by entering his e-mail address in the **BCC** field.



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

Balance Adjustments

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



Field	Description
<p>Action</p>	<p>Manual Charge: Use this transaction to manually charge a customer for a specific service they used; for instance, if you are selling SIP phones to a customer. This means the balance will be changed so that the customer is able to make fewer calls.</p> <p>Manual Credit: Use this transaction to manually give compensation related to a specific service; for instance, if the customer 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.</p> <p>E-Commerce Payment: Use this transaction to charge the customer’s credit card and apply the amount to the customer’s balance as payment.</p> <p>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 added to the user’s account balance.</p> <p>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. This does not affect the user’s account balance in PortaBilling® or his credit card balance. Note: the transaction ID will be written to the customer’s Notepad entry.</p> <p>Capture Payment: Charges the customer’s credit card and applies the amount to his balance as a payment (decreases the customer’s balance). Requires a transaction ID from the Authorization Only transaction. The amount must be less than or equal to the amount of the corresponding</p>

	<p>Authorization Only transaction.</p> <p>Manual Payment: Use this transaction when receiving a payment (e.g. cash or check) directly from the customer. This means the balance will be changed so that the customer is able to make more calls.</p> <p>Promotional Credit: Use this transaction to give the customer 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 customer for future use.</p> <p>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.</p>
Service <i>(only for Manual charge and Manual credit)</i>	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.
Amount	Amount to charge / refund.
Tax Transaction Code <i>(only for Manual charges and credits)</i>	This is available for balance adjustments that are performed for customers with an assigned Billsoft taxation plugin. Here you can select a specific tax type to assign to this transaction, ensuring correct total tax calculations.
Date <i>(only for Manual charge and Manual credit)</i>	<p>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.</p> <p>Note that if the selected date falls within a previous (closed) billing period the transaction will be included in the next invoice.</p>
Include into Out-Of-Turn Invoice <i>(only for Manual charge and Manual credit transactions)</i>	<p>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.</p> <p>Transactions included in an out-of-turn invoice that was <i>generated</i> on the Out-Of-Turn Invoice page</p>

	won't be reflected on the regular invoice issued at the end of the billing period.
Transaction ID <i>(only for E-Commerce Refund and Capture Payment)</i>	The transaction ID obtained via the <i>Authorization Only</i> transaction. This is required to use the reserved earlier amount for a current transaction.
Visible Comment	A comment on this transaction visible to the administrator as well as the customer, in the xDR browser or on the invoice.
Internal Comment	An internal comment on this transaction; not visible in the xDR browser, and accessible only from the database directly.

Additional Info

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.
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 <i>only</i> the subscription's periodic fees.
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. The first are Main Office (HQ) customers, the rest are 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.
Tax ID	Customer’s tax ID.
Override Tariffs Enabled	This defines whether the override tariff feature is enabled. Check the box next to this field and the Override Tariffs tab will appear.
Suspend On Insufficient Funds For Subscriptions	<p>This option allows you to suspend a customer when his / her balance or available funds are insufficient to cover subscription charges of subscriptions assigned to them.</p> <p>If set to 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.</p> <p>If set to 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).</p>
Send Statistics via email	<p>Defines what kind of xDR statistics should be delivered to the customer by email:</p> <ul style="list-style-type: none"> • 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.

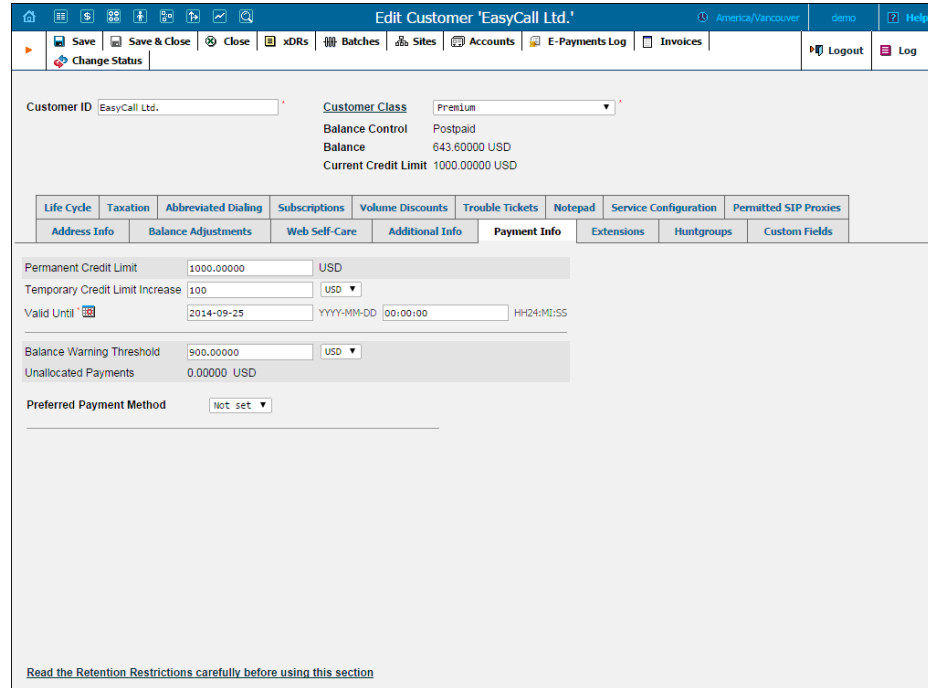
Invoice Template	Defines the invoice template for this customer. Choose As defined by the Customer Class in order to apply the invoice template defined for this class, and so avoid defining an invoice template for each customer specifically. See the Templates section for more information.
Send Invoices	Defines whether new invoices should be delivered to the customer by email. As defined by the Customer Class – Use the settings for the customer class.
Invoice Number Sequence	Select an invoice number sequence that will be used for this customer: <ul style="list-style-type: none"> • Default – the default numbering sequence will be selected for this customer’s invoices • Individual for Environment – this customer’s invoices will have <i>globally sequenced</i> invoice numbering (throughout the environment) • Individual for Customer – this customer’s invoices will have their own sequential numbering

Regarding statistics, the default choice is **Full Statistics**, whereby the customer receives an e-mail after the billing period has closed, including an attached CSV file containing all the calls made by his accounts. If invoices are generated for this customer and invoice delivery is enabled, an invoice will also be attached to the e-mail. The CSV file containing all the calls may be rather large, so it is possible to use the **Summary Only** option. In this case, the customer receives only a brief summary of calls by e-mail. Finally, it is possible to disable e-mail statistics by choosing the **Do Not Send** option. 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.

Shifting the billing date may be required if, for instance, your customer has a monthly anniversary billing cycle in which his billing period closes on the 3rd day of each month. Since this may be inconvenient either for customers or your administrators (who are busy with corporate reports during the first week of the month), it may be desirable to change the billing date to some other day of the month. In this case, you can specify a new date which is later than the next billing date. Upon reaching this date, an “intermediate” invoice will be created (covering the period from the end of the current billing period to that date), and subsequent billing will start from that date in the normal way.

Payment Info

The **Payment Info** screen defines customer payment characteristics. For example, customary payment information (e.g. preferred payment method, credit card number, etc.).



The screenshot shows the 'Edit Customer' interface for 'EasyCall Ltd.' with the 'Payment Info' tab selected. The 'Customer Class' is 'Premium'. The 'Balance Control' is 'Postpaid', the 'Balance' is '643.60000 USD', and the 'Current Credit Limit' is '1000.00000 USD'. The 'Payment Info' section includes the following fields:

- Permanent Credit Limit: 1000.00000 USD
- Temporary Credit Limit Increase: 100 USD
- Valid Until: 2014-09-25 YYYY-MM-DD 00:00:00 HH:MM:SS
- Balance Warning Threshold: 900.00000 USD
- Unallocated Payments: 0.00000 USD
- Preferred Payment Method: NOT SET

Read the Retention Restrictions carefully before using this section

Field	Description
Current Credit Limit	Customer’s current credit limit may differ from their Permanent Credit Limit if the Temporary Credit Limit Increase is set.
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.
Temporary Credit Limit Increase	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 Credit Limit value).
Valid Until	Specify the date and time for when an increased credit limit value will automatically be reverted to a permanent state.
Balance Warning Threshold	If a Balance Warning Threshold is defined and the customer balance reaches this value (defined either as an amount or as a percentage of a positive Credit Limit value), an alarm will be sent to the customer.
Delay Suspension	Sometimes it is necessary to delay a customer’s suspension for several days (e.g. allow the customer to

<p>Until (<i>only for suspended customers</i>)</p>	<p>use the service over the weekend <i>although</i> 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 if the invoice remains unpaid.</p>
<p>Unallocated Payments</p>	<p>Unallocated payments show that the customer “overpaid” you sometime in the past, and are used to correct the paid/unpaid status of future invoices.</p> <p>NOTE: Unallocated payments do not represent a “cash reserve.” When a payment is made, the amount is immediately applied to the customer’s balance.</p>

The **Preferred Payment Method** drop-down contains a list of available payment methods. Some of these, e.g. Cash and Cheque, are “virtual” methods that do not allow manual e-commerce transactions from the administrator interface, payments from customer self-care, or running periodic payments. Any other online methods will be available only if a payment system with such methods has been defined, and is assigned to the same currency as the customer’s currency. Other Payment Info fields depend on the currently selected **Preferred Payment Method**, and may vary accordingly.


NOTE: There are a few payment systems which use external authorization. If such a system has been chosen as a preferred method, no other payment information details may be entered. This is because the payment processor does not allow the system to store and reuse customer payment credentials. For example, if you add a payment system with the Moneybookers payment processor and VISA payment method, and then assign it to the currency USD, customers defined in the USD currency and using VISA as their preferred payment method will not be able to enter their payment credentials. Therefore, it will not be possible to run periodic payments for them or make manual e-commerce transactions with them.

NOTE: Only resellers, direct retail customers, and their accounts are allowed to use a company’s payment systems and payment methods for e-commerce payments, both manual and periodic. A reseller should define his own payment systems and assign these to the appropriate currencies in his self-care, so that those payment systems will be used by his sub-customers and their accounts.

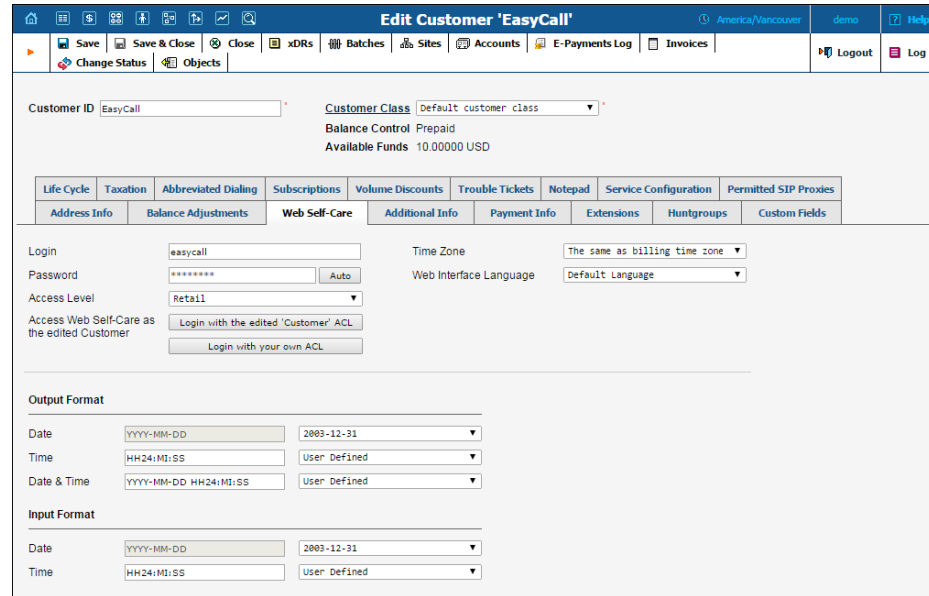
Retention Restrictions



IMPORTANT! A merchant may not use account and transaction information for any purpose other than assisting 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 completion of a payment card transaction.

You may click the  **Invoices** button in the toolbar to quickly access the list of all customer's invoices.

Web Self-Care



Field	Description
Login	Customer login for his web Self-care interface.
Password	Web Self-care interface password for the customer. A hard-to-guess password may be generated automatically by clicking the Auto button.
Access Level	Access level assigned to the customer.
Access Web Self-care as the edited Customer	In this section you can choose which ACL to use when you login to the customer self-care interface. <ul style="list-style-type: none"> • Click Login with edited 'Customer' ACL to login to the customer self-care interface with the access level currently assigned to the customer. • Click Login with your own ACL to login to the customer self-care interface with your own ACL settings. Note that this button is visible only to those users whose ACLs include <i>corresponding permission</i>.
Time Zone	Time zone for the customer web Self-care interface.
Web Interface Language	Displays the customer Self-care interface in a particular language.

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-Provisioning Interface, on invoices, and so on (see the screenshot below).

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

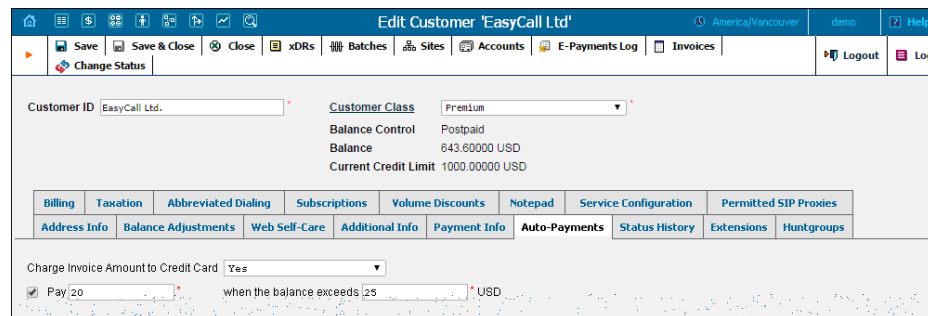
Auto-Payments

NOTE: The Auto-Payments tab will appear only if a suitable payment system has been set up (with **Recurring** enabled) for the customer’s currency, and the appropriate online payment method has been selected as the customer’s preferred payment method.

Auto-Payment management allows the administrator and customers to set up the following parameters for automated periodic payments.

The **Charge Invoice Amount to Credit Card** list allows you to define whether a customer’s credit card should be charged when the billing period is closed.

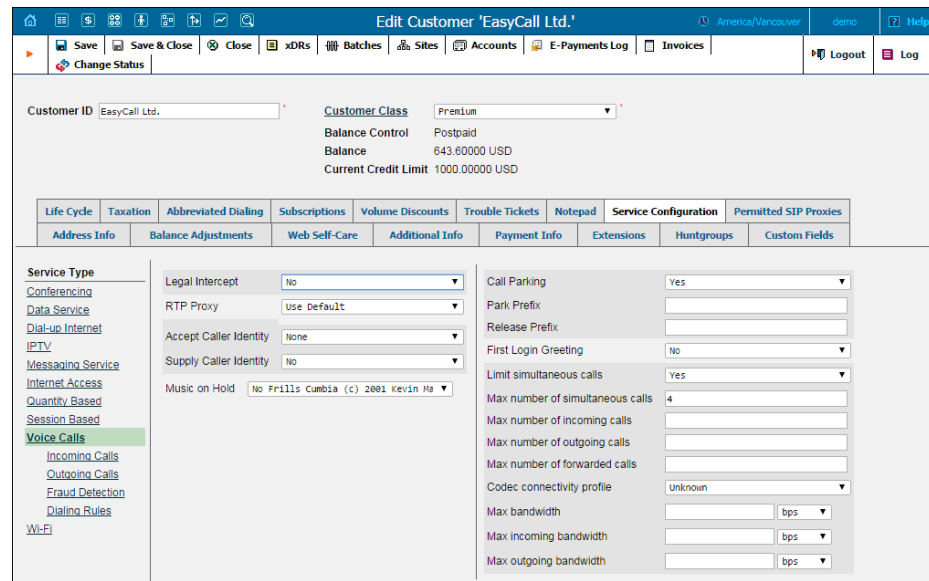
If you want to charge a customer’s credit card whenever his balance crosses a specified threshold, select the **When the balance exceeds** check box, and when the customer’s balance crosses this threshold their credit card will be charged for the amount specified in the **Pay** field.



Service Configuration

Using this tab, the administrator can activate / deactivate various features of the services 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 **Service Type** links on the left allow you to specify for which service type you would like to define parameters.

Field	Description
	The <i>Voice Calls</i> service type
Legal Intercept	Intercepts all incoming and outgoing calls of this customer for law enforcement purposes.
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.
Accept Caller Identity	This option indicates acceptance. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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.

Music On Hold	Defines the music on hold to be used with the IP Centrex environment. Choose None to disable this feature, or select the default setting for the customer. To upload your own music, 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. 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 <i>Audio File Formats Supported by Music on Hold Feature</i> chapter.
Call Parking	Enables call parking for this customer's IP Centrex.
Park Prefix	Only appears if Call Parking is activated; allows you to specify a key combination to park a call. Keep in mind that the "Park Prefix" value should only contain digits.
Release Prefix	Only appears if Call Parking is activated; allows you to specify a key combination to dial from the original phone which parked a call in order to remove the call from parked status and continue the conversation. Keep in mind that the "Release Prefix" value should only contain digits.
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.
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 a "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 in the Default site.
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.
<i>The Incoming Calls section</i>	
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.
Group Pickup	Activates the Group Pickup feature, which allows phones in the same IP Centrex environment (all accounts under the same customer) to answer each other's calls by dialing a Group Pickup Prefix on their phones.
Group Pickup Prefix	Only appears if Group Pickup is activated. Specify the special code for picking up calls here.
Endpoint Redirection	This allows the end-user to configure call redirection on their SIP phones (if this feature is supported by the SIP phone).
<i>The Outgoing Calls section</i>	

<p>Override Identity</p>	<p>Here you can set the following options for overriding identity information:</p> <ul style="list-style-type: none"> • 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
<p>Batch</p>	<p>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).</p>
<p>Identity</p>	<p>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.</p>

<p>Override Display Number</p>	<p>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:</p> <ul style="list-style-type: none"> • 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 <i>If Different From Account ID And Aliases</i> 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 <code>From:</code> 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.
<p>Override Display Name</p>	<p>This allows you to override the caller name used by the calling account. The possible values are:</p> <ul style="list-style-type: none"> • 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

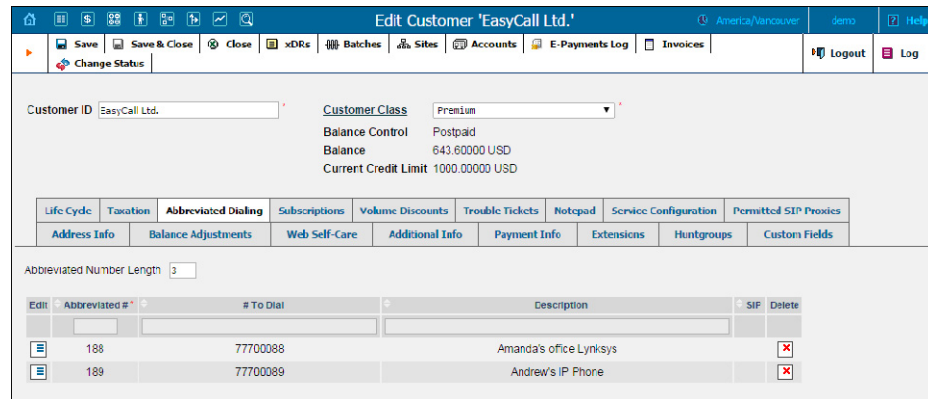
Hide CLI	This allows you to remove CLI (ANI) information for outgoing calls. The following options are available: <ul style="list-style-type: none"> • Never – Always show CLI. Privacy service is not even permitted for an account • Always – Always hide CLI. Privacy service is permitted and in effect (all calls private) • Automatic – Allows flexible configuration for CLI hiding. It depends on the prefix number dialed and the privacy headers provided by the UA
Hide CLI Prefix	Prefix to be dialed before an outgoing number in order to prevent the called party from seeing your phone number. (Only available when Hide CLI option is set to “Automatic”).
Show CLI Prefix	Prefix to be dialed before an outgoing number in order to allow the called party to see your phone number. (Only available when Hide CLI option is set to “Automatic.”)
Paging / Intercom	This allows you to enable the intercom feature for accounts under this customer.
Paging / Intercom Prefix	Only appears if Paging / Intercom has been activated; allows you to specify a key combination to answer a call on someone else’s extension.
<i>The Dialing Rules section</i>	
Dialing Rules	This permits you to enable / disable the dialing rules for this customer.
Dialing Format	Select one of the existent dialing rule formats.
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.


Abbreviated Dialing

Here the customer 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.



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.

Volume Discounts

Discount Plan	Permits the selection of which Discount Plan to be used with this customer.
History	Opens a popup window that shows extended information about the discount plan.
Destination Group	Destination groups included in the customer's volume discount plan.
Service	Shows the service type for which the discount is valid.
Volume Discount Plan	The name of the <i>active</i> volume discount plan that applies to this customer.
Discount	The value of the discount currently applied to the customer.
Previous Threshold	The threshold value for the last used discount level.

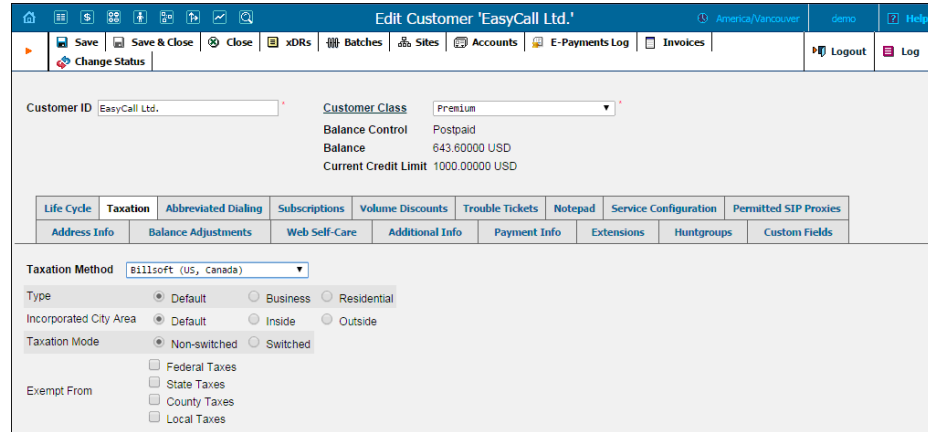
Used / Remaining	Shows the current value of both consumed and remaining discount volume (in minutes or funds). The progress bar graphically reflects how much of the discounted service has been consumed.
Current Threshold	The threshold value for the currently used discount level. When a customer's internal 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.
<i>Discount History window</i>	
Status	The current status of the discount plan: <ul style="list-style-type: none"> • Active Discount Plans – are the discount plans currently in use • Consumed – are the discount plans that have been used up • Not Yet Active – are currently inactive discount plans
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 Level	The value of the discount currently applied to the customer during peak and / or off-peak periods.
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.
Combine With Other Discounts	Shows the way this discount plan is combined with other discount plans that apply to a session.

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 (same destination group, service and thresholds.)

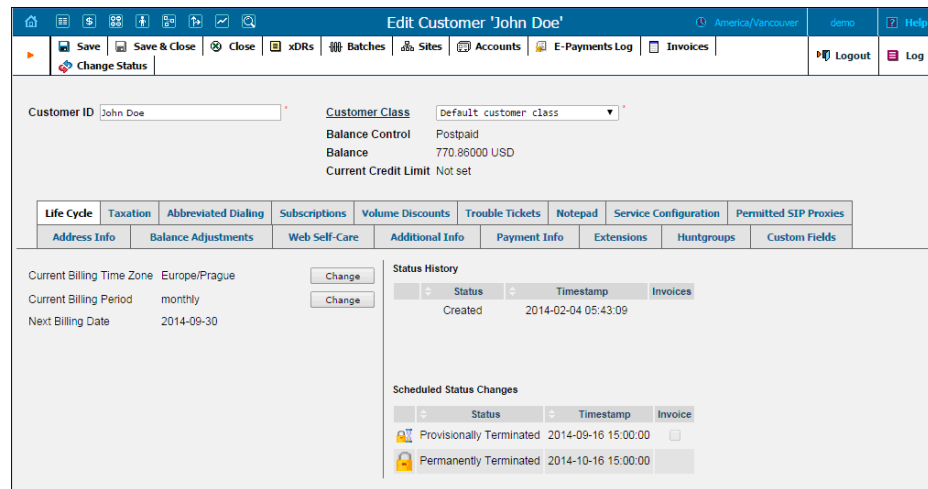
Taxation

On this tab you can choose which plug-in module will be used to make tax calculations and set up parameters that affect taxation.



Since these parameters depend on the specific taxation module and your local tax laws, please consult your tax attorney for details regarding their use.

Life Cycle

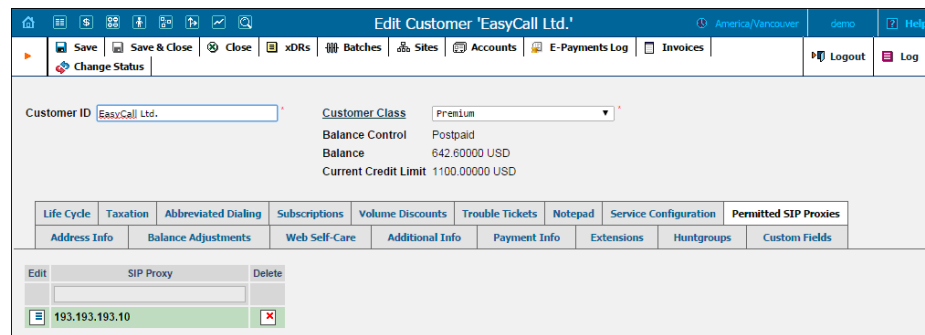


Field	Description
Billing Time Zone / Current Billing Time Zone	Defines / shows time zone in which customer's billing period will be closed and invoices will be generated.
Billing Period / Current Billing Period	Defines / shows the frequency of invoicing for this customer.
Next Billing Date	Read-only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

Permitted SIP Proxies

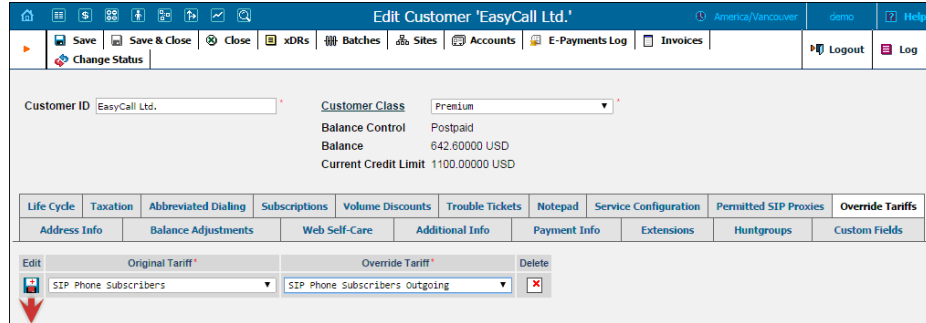
On this tab you can choose to which external SIP proxies customer can forward calls using “SIP URI forward” feature.



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: The **Override Tariffs** tab will only appear if the **Override Tariffs Enabled** check-box is enabled on the Additional Info tab.



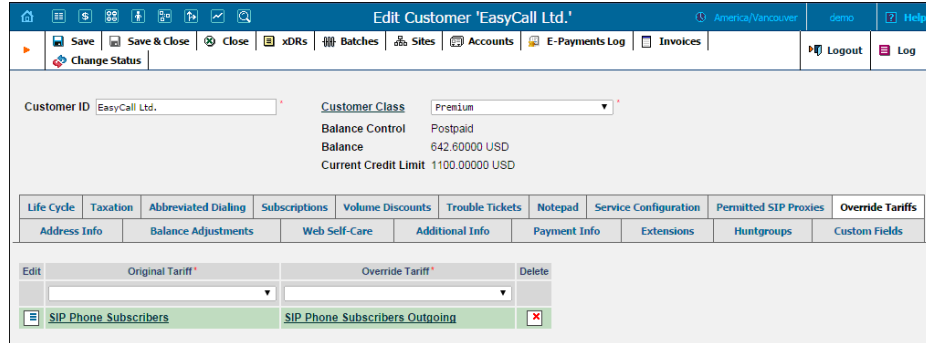
Edit Customer 'EasyCall Ltd.'

Customer ID: EasyCall Ltd. Customer Class: Premium

Balance Control: Postpaid
Balance: 642.60000 USD
Current Credit Limit: 1100.00000 USD

Original Tariff: SIP Phone Subscribers

Override Tariff: SIP Phone Subscribers Outgoing



Edit Customer 'EasyCall Ltd.'

Customer ID: EasyCall Ltd. Customer Class: Premium

Balance Control: Postpaid
Balance: 642.60000 USD
Current Credit Limit: 1100.00000 USD

Original Tariff: SIP Phone Subscribers

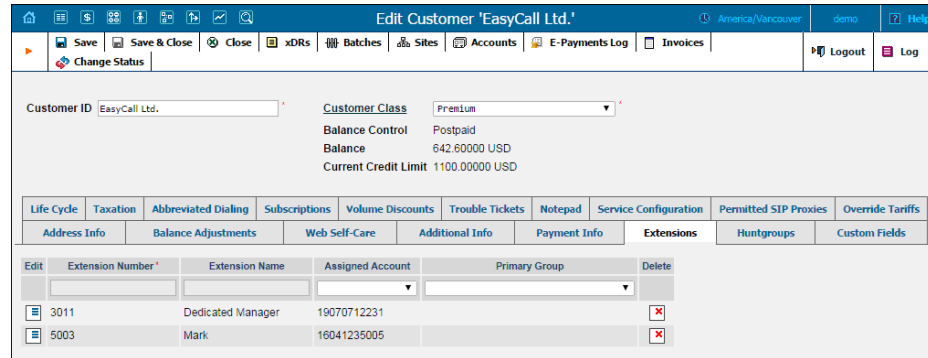
Override Tariff: SIP Phone Subscribers Outgoing


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

Extensions

Using this tab, the customer can define a list of extensions for phone lines within his IP Centrex environment. The customer can add new extensions or change existing ones without any actual phone configuration.



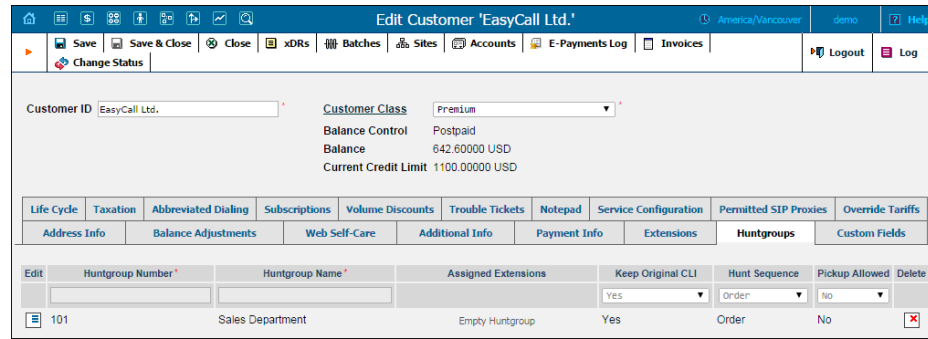
To add a new extension number, click the  **Add** button and enter the following information:

Field	Description
Extension Number	The number the end-user will dial on his phone (an extension number should contain only digits).
Extension Name	Logical name for this extension (e.g. name of the person using this line: “John”).
Assigned Account	The number that calls will be forwarded to. Here you should specify the ID of one of the customer’s accounts (this can be selected from the drop-down list). NOTE: Each account should have only one extension; thus it is possible to add an extension only if an unassigned account exists.
Primary Group	Select the huntgroup to which this extension belongs to allow calls within a group to be picked up by dialing the group pickup prefix (without specifying the group number).
Delete	Click the Delete  icon to remove the extension from the list.

NOTE: The account assigned to the extension should have the VOICEONNETRX rate in its tariff, otherwise calls cannot be made.

Huntgroups


On this tab, the customer can configure a scheme for call distribution in such a way that incoming calls are delivered to one or more assigned extensions.



The screenshot shows the 'Edit Customer' window for 'EasyCall Ltd.' with the 'Huntgroups' tab selected. The window title is 'Edit Customer 'EasyCall Ltd.''. The top navigation bar includes 'Save', 'Save & Close', 'Close', 'xDRs', 'Batches', 'Sites', 'Accounts', 'E-Payments Log', 'Invoices', 'Logout', and 'Log'. The main content area displays customer details: Customer ID 'EasyCall Ltd.', Customer Class 'Premium', Balance Control 'Postpaid', Balance '642,60000 USD', and Current Credit Limit '1100,00000 USD'. Below this are several tabs: Life Cycle, Taxation, Abbreviated Dialing, Subscriptions, Volume Discounts, Trouble Tickets, Notepad, Service Configuration, Permitted SIP Proxies, and Override Tariffs. Underneath are more tabs: Address Info, Balance Adjustments, Web Self-Care, Additional Info, Payment Info, Extensions, Huntgroups, and Custom Fields. The 'Huntgroups' tab is active, showing a table with columns: Edit, Huntgroup Number*, Huntgroup Name*, Assigned Extensions, Keep Original CLI, Hunt Sequence, Pickup Allowed, and Delete. The table contains one entry: Huntgroup Number '101', Huntgroup Name 'Sales Department', Assigned Extensions 'Empty Huntgroup', Keep Original CLI 'Yes', Hunt Sequence 'Order', and Pickup Allowed 'No'.

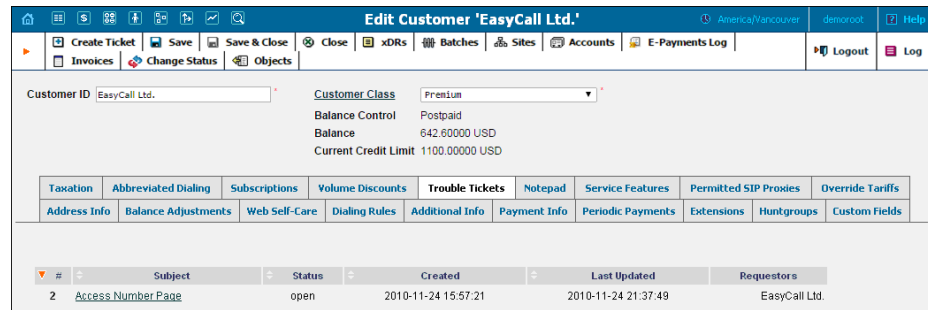
To add a new huntgroup, click the  **Add** button and enter the following information:

Field	Description
Huntgroup Number	The number that the end-user dials on his phone to reach one or more assigned extensions. Note that a huntgroup number should contain no more than five digits.
Huntgroup Name	Logical name for this group of extensions, e.g. “Sales department.”
Assigned Extension	Specify one or several extensions that calls will be delivered to. Click the Assigned Extensions link to invoke the window for extensions selection, and check the boxes on the left of the desired extensions; select the Huntstop check box to disable forwarding for calls made to this huntgroup. Ringling Delay (for assigned extensions only) – Delay (in seconds) before the extension starts to ring. Ringling Time (for assigned extensions only) – Duration (in seconds) of ring.
Keep Original CLI	<ul style="list-style-type: none"> • Yes – The call is redirected with the phone number and name of the original caller. • No – The call is redirected with the phone number and name of the huntgroup. • Id Only – The call is redirected with the phone number of the original caller and name of the huntgroup.
Hunt Sequence	Specifies the order for delivering a call to one or more extensions. Order: Call every extension one by one from the first (topmost) number to the last until the call is answered. Random: Use a random order. Simultaneous: The call goes to every extension from the list simultaneously until the call is answered.

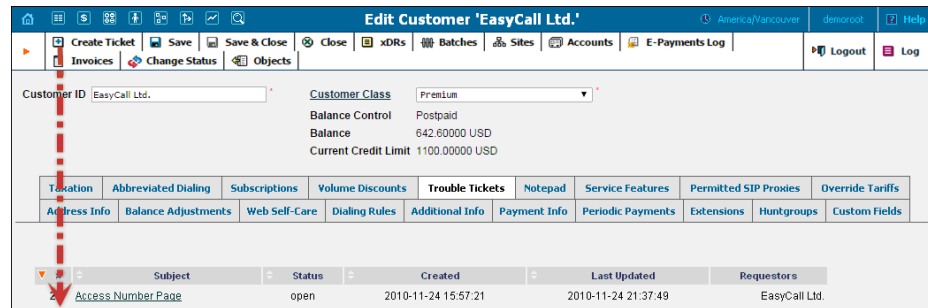
	<p>Least Used: Sort the accounts in descending order of their last usage, and deliver the call to their extensions accordingly. For example, account 777111 with extension 111 was last used on 2010-12-11, and account 777222 with extension 222 was last used on 2010-12-12; in this case the call goes to extension 111 and then, if not answered, to extension 222.</p>
Pickup Allowed	Set the Pickup Allowed option to <i>Yes</i> for a huntgroup to allow extensions to pick up calls made to the members of this huntgroup.
Delete	Click the Delete  icon to remove the huntgroup from the list.

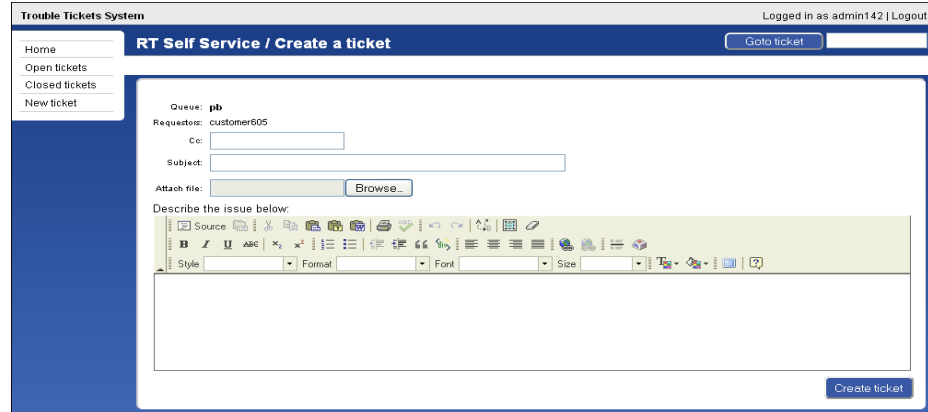
Trouble Tickets

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.



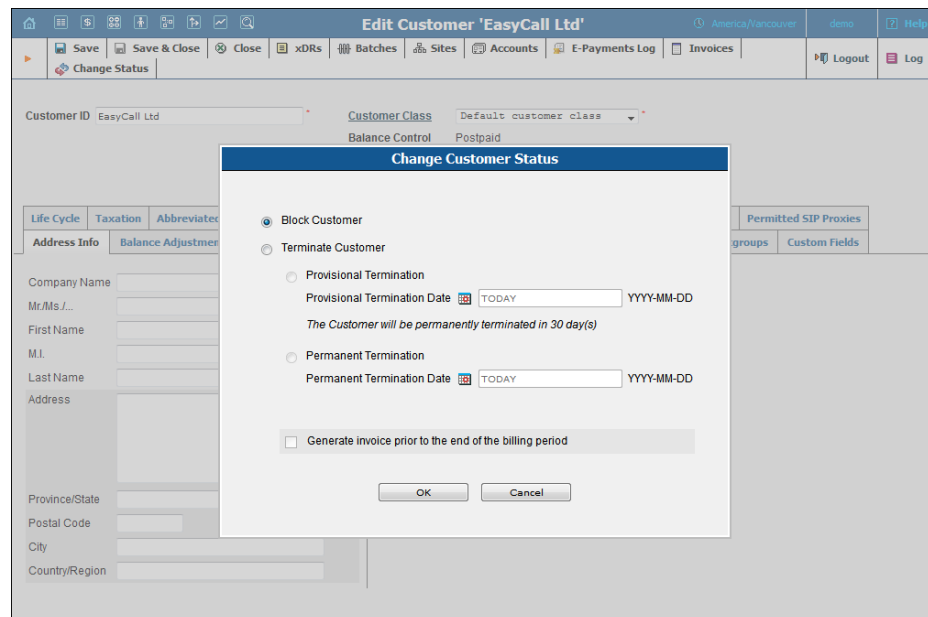
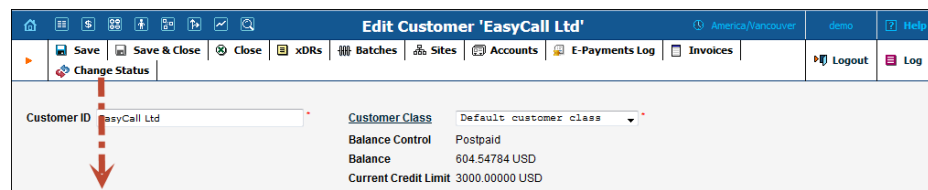
To create a new ticket, click  **Create Ticket** in the toolbar.





Change Customer Status

In the **Change Customer Status** window you can block / unblock the customer, terminate the customer (provisionally or permanently) and restore the customer after having provisionally terminated them.



Block / Unblock a Customer

Select the **Block Customer** option to block *all* of this customer's accounts. Once this option is selected, all of this customer's accounts will become unusable.

Select the **Unblock Customer** option to unblock all of this customer's accounts. Once unblocked, all of this customer's accounts will become operable again. Note, that the **Unblock Customer** option is only available for blocked customers.

Permanent Customer Termination

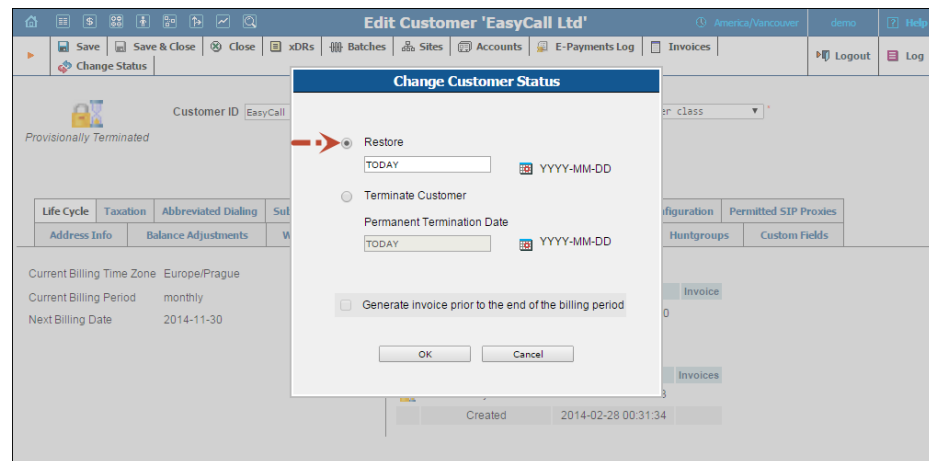
You may terminate a customer, including all his accounts. If for some reason you do not want a customer to remain in your PortaBilling® environment any longer, select the **Permanent Termination** option and choose the **Permanent Termination Date**.

The **Permanent Termination** option allows you to stop all the customer's activities, and later to remove him and all his accounts. When terminated, the customer is no longer available for any operations. The only way to trace such a customer is by using Advanced Search with the "closed status" filter.

Provisional Customer Termination

In addition to permanent termination you can use the *provisional termination* functionality. To provisionally terminate a customer, select the **Provisional Termination** option and choose the **Provisional Termination Date**.

Once a customer is provisionally terminated, all their services are closed (that is, no services can be used). But there is still an option to reactivate services that were disconnected if the customer should change their mind later on. Select the **Restore** option to restore this customer's services so that they can be used exactly as before. Note that the **Restore** option is only available for provisionally terminated customers.



If a customer ultimately decides to discontinue services, the administrator can permanently terminate this customer in the system. In case of

permanent termination, all customers' services are closed and cannot be restored.

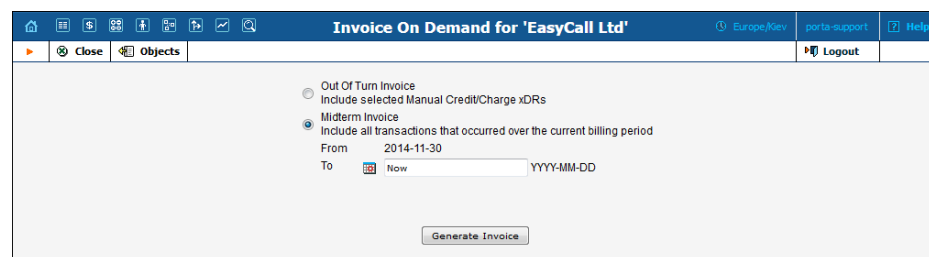
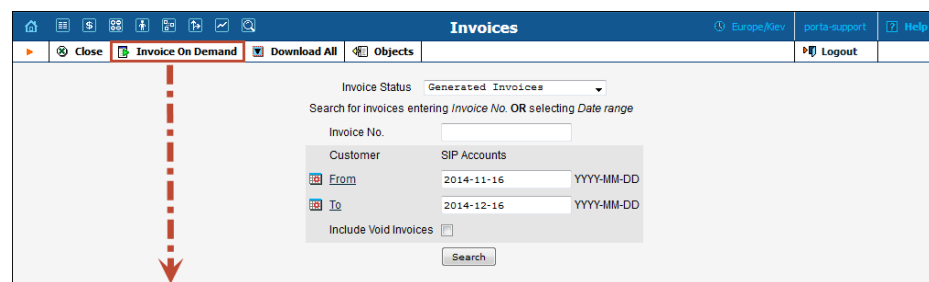
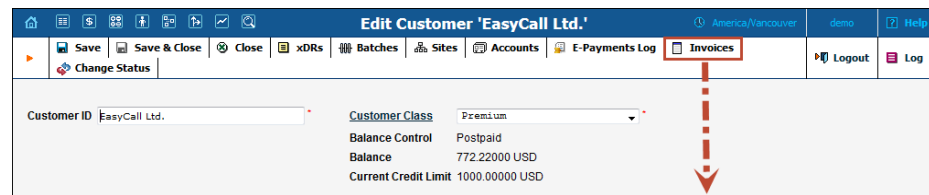
You may also generate a midterm invoice for the customer you are going to terminate (provisionally or permanently). For this, click to select the **Generate invoice prior to the end of the billing period** check-box. The invoice will be generated within the hour.

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.

Invoices on Demand

In the **Invoice on Demand** window, you can generate out-of-turn invoices (which include manual credit / charge transactions) and midterm invoices, which cover a billing period's shorter intervals.

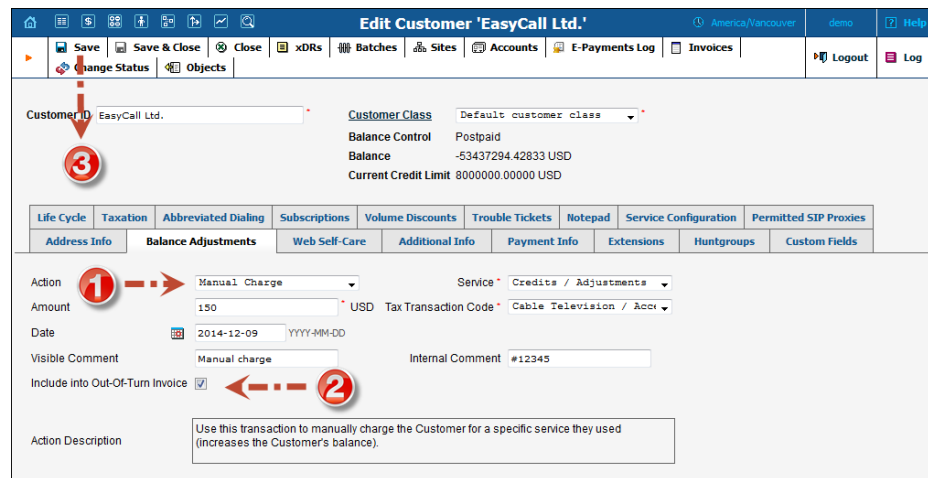
The **Invoice on Demand** window is invoked with the **Invoice On Demand** button located on the **Invoices** window toolbar.



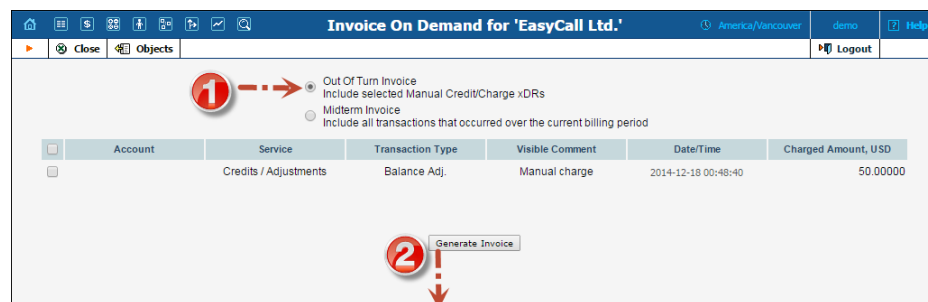
Out-Of-Turn Invoices

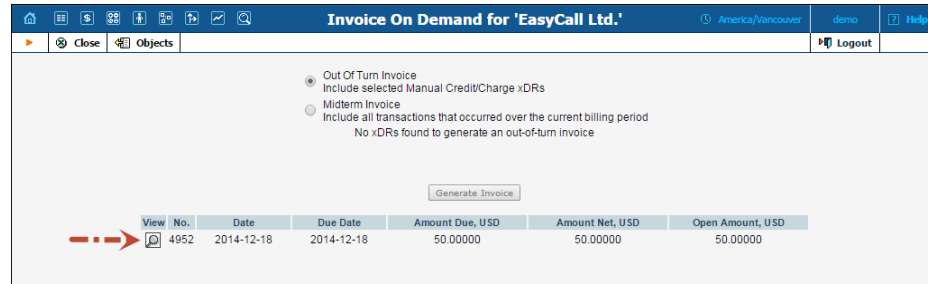
Sometimes invoices for extra services such as a technician visit or an equipment purchase need to be provided at the time when such service is rendered so the customer can immediately proceed with payment. The administrator can generate an out-of-turn invoice (to cover only a few specific items) on demand.

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 in the **Invoice On Demand** window. Once selected, the xDRs available for out-of-turn invoices will be displayed. Select the xDR you want to include in your invoice and click the **Generate Invoice** button.





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.

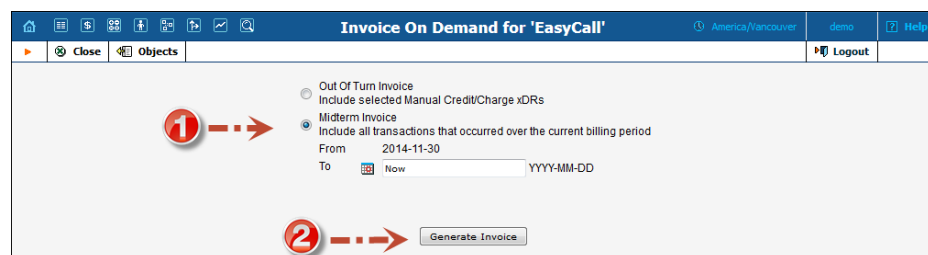
NOTE: To generate an out-of-turn invoice define the Invoice Template for the customer beforehand. If the customer has **Customer Class Default** selected in the **Invoice Template** field then the *Default customer class* should have a defined invoice template.

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 in the **Invoice on Demand** window. Then specify the period the invoice should cover and click the **Generate Invoice** button.



View	No.	Date	Due Date	Amount Due, USD	Amount Net, USD	Open Amount, USD
	4962	2014-12-18	2014-12-18	-46.45000	13.55000	13.55000

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.

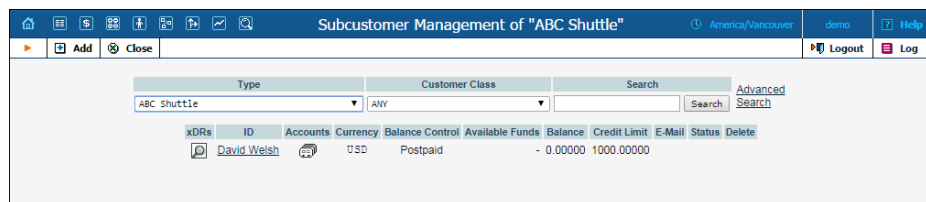
Additional Info

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 sub-customers using this product.

<p>Invoice Number Sequence</p>	<p>Select an invoice number sequence which will be used for this reseller:</p> <ul style="list-style-type: none"> • Default – the default numbering sequence will be selected for this reseller’s invoices • Individual for Environment – this reseller’s invoices will have globally sequenced numbering (throughout the environment) • Individual for Customer – this reseller’s invoices will have their own sequential numbering
<p>Invoice Number Sequence for Subcustomers</p>	<p>Select an invoice number sequence that will be used for this reseller’s subcustomers:</p> <ul style="list-style-type: none"> • 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

Add / Edit Customer under a Reseller

This is essentially the same as management of customers as described above, the difference being that you can only create sub-customers of the Retail type. See below for a description of additional fields not available for direct retail customers.



Additional Info

The screenshot shows the 'Edit Subcustomer' interface for 'David Welsh' of 'ABC Shuttle Ltd.'. The interface includes a top navigation bar with buttons for Save, Save & Close, Close, xDRs, Batches, Sites, Accounts, Invoices, Change Status, Logout, and Log. Below the navigation bar, there are fields for Customer ID (David Welsh) and Customer Class (ABC Shuttle Ltd.). Further down, there are fields for Balance Control (Postpaid), Balance (0.00000 USD), and Current Credit Limit (Not set). A tabbed interface is visible with tabs for Life Cycle, Taxation, Abbreviated Dialing, Subscriptions, Volume Discounts, Trouble Tickets, Notepad, Service Configuration, and Permitted SIP Proxies. Under the 'Additional Info' tab, there are several configuration options: Auto-Provision DIDs via Batch, Bundle Promotion (None), Subscription Discount Rate, Distributor (Not Defined), Representative (Not Defined), Use Hierarchy of Offices (checkbox), Tax ID, Callshop Enabled (checkbox, checked), and Override Tariffs Enabled (checkbox). On the right side, there are dropdown menus for Send statistics via email, Invoice Template, Send Invoices, Invoice Number Sequence, and Suspend On Insufficient Funds For Subscriptions.

Field	Description
Callshop Enabled	Defines whether callshop features (timer, receipt, etc.) are available. To use the callshop functionality with accounts of a particular sub-customer, you should first enable this option for the reseller, and then enable it for the sub-customer as well.

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. The Account Management screen, accessible from the Customer interface by clicking the **Accounts** button, shows you a query screen for listing existing accounts.

Account Listing

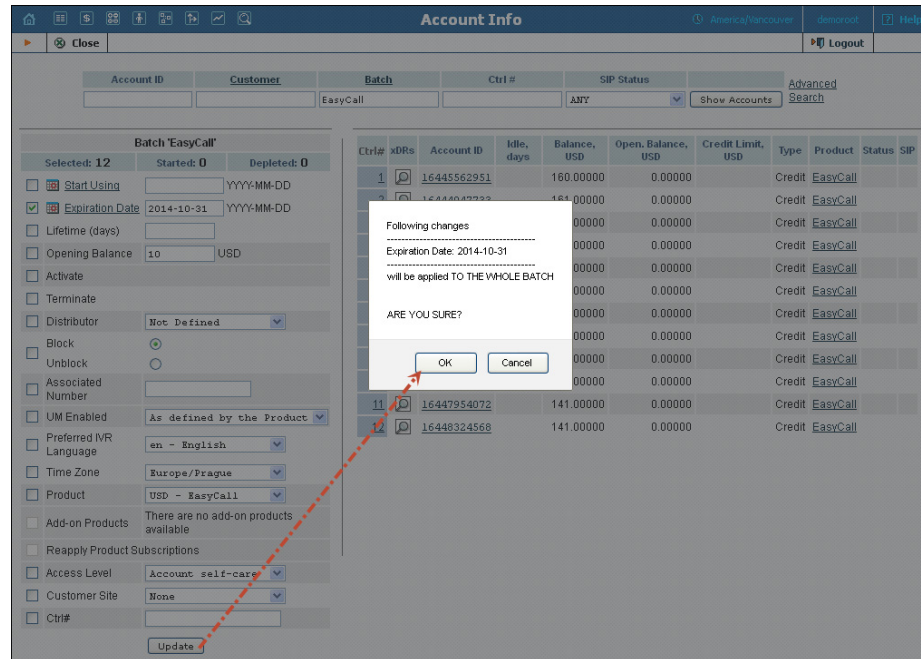
Search filter

























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: 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	<table border="0"> <tr> <td> Zero balance</td> <td> Blocked</td> </tr> <tr> <td> Inactive</td> <td> Customer blocked (see Edit Customer)</td> </tr> <tr> <td> Credit exceeded</td> <td> Screened</td> </tr> <tr> <td> Not yet active</td> <td></td> </tr> <tr> <td> Expired</td> <td></td> </tr> </table>	 Zero balance	 Blocked	 Inactive	 Customer blocked (see Edit Customer)	 Credit exceeded	 Screened	 Not yet active		 Expired	
 Zero balance	 Blocked										
 Inactive	 Customer blocked (see Edit Customer)										
 Credit exceeded	 Screened										
 Not yet active											
 Expired											
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:

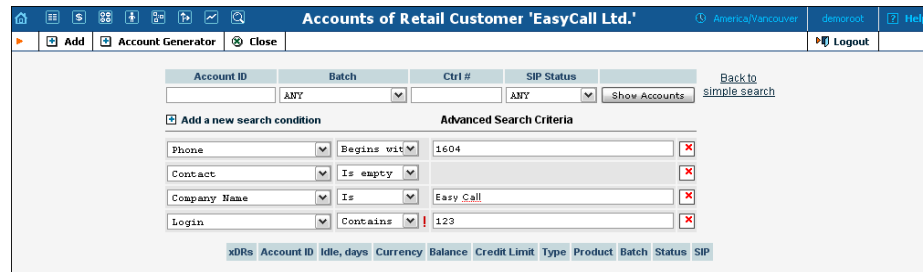
- Check the box next to **Opening Balance** to indicate that this is one of the updates that should occur,
- Enter “10” next to **it**,
- Click the **Update** button at the bottom, and
- Approve the changes when the confirmation dialog appears.

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 CDRs. 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 on  **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.
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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 on **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), select  **Add** in the toolbar and then (if a quick form selection dialog – select **Manually** at the bottom of the list). For bulk account generation, select  **Account Generator**.

The Account Info page provided for the administrator is similar to the Add Account interface; 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 selecting  **Save** or  **Save&Close**.

Field	Description
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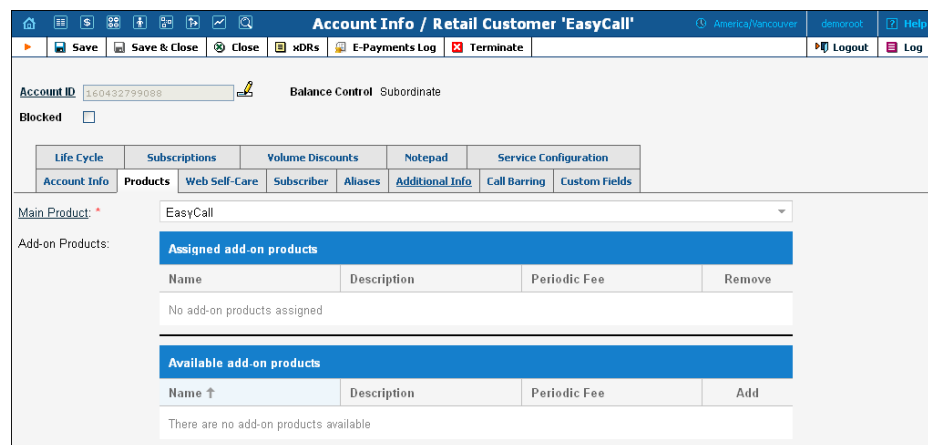
Account ID	The primary identification of this account. The ID is read-only by default; you can modify it by clicking the Edit ID  icon. The maximum allowed ID length is 64 characters.
Blocked	Specifies whether the account is blocked or unblocked. If this is checked, the account will be unusable.
Balance control	<p>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:</p> <ul style="list-style-type: none"> Subordinate – no individual account balance and credit limit. Select this if balance management is done for a whole company (a customer); <p>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.</p> <ul style="list-style-type: none"> 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

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	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.
E-mail	If an account has e-mail 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 e-mail address.
Customer	Places this account (phone line) with a specific site so

Site	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 could be selected from the drop-down list. If you leave this field empty, the created account will not be tied to any specific batch.
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.
Refunds	The amount refunded to the account owner.
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

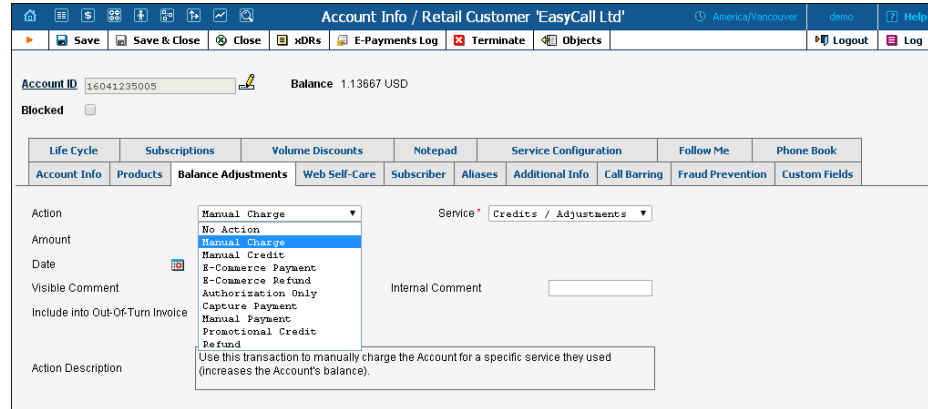


The screenshot shows a web interface for managing a retail customer account named 'EasyCall'. The account ID is 160432799088. The interface includes a navigation menu with options like 'Life Cycle', 'Subscriptions', 'Volume Discounts', 'Notepad', and 'Service Configuration'. Under 'Subscriptions', there are sub-tabs for 'Account Info', 'Products', 'Web Self-Care', 'Subscriber', 'Aliases', 'Additional Info', 'Call Barring', and 'Custom Fields'. The 'Main Product' is set to 'EasyCall'. Below this, there are sections for 'Assigned add-on products' (currently empty) and 'Available add-on products' (also empty).

Field	Description
Main Product	A basic product to which you assign all the basic services that can be available to your customers.
Add-on Products	An additional product by which you can increase or limit the services provided to your customers

Balance Adjustments

The **Balance Adjustments** tab allows the administrator to correct an account's balance (this tab is only available in **Edit Account** mode).

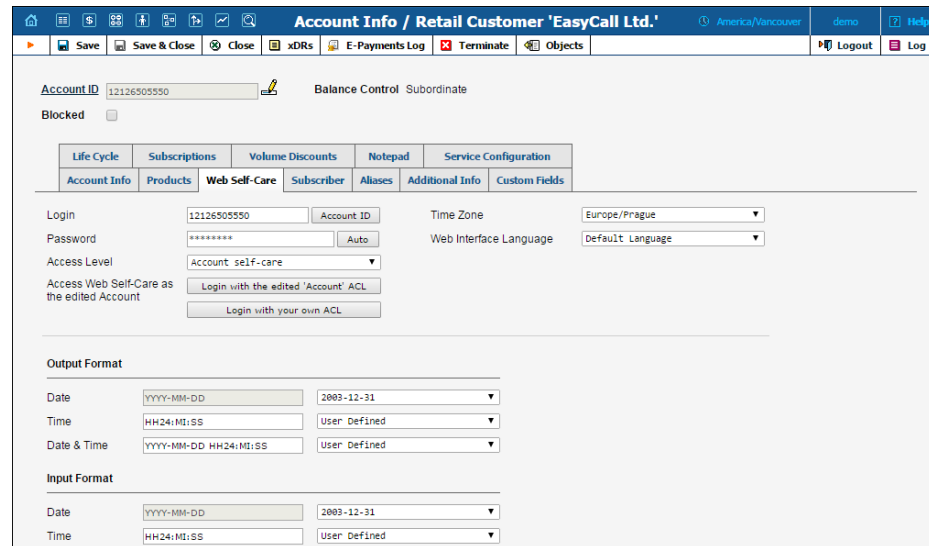


Field	Description
Action	<p>Manual charge: Use this transaction to manually charge an account for a specific service they used; for instance, if you are selling a SIP phone to a user. This means the balance will be changed so that the user is able to make fewer calls.</p> <p>Manual credit: Use this transaction 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.</p> <p>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.</p> <p>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 added to the user's account balance.</p> <p>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. Note: the transaction ID will be written to the user's account Notepad entry.</p> <p>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</p>

	<p>transaction ID from the Authorization Only transaction. The amount must be less than or equal to the amount of the corresponding Authorization Only transaction.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Service <i>(only for Manual charge and Manual credit)</i>	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.
Amount	Amount to charge / refund.
Date <i>(only for Manual charge and Manual credit)</i>	<p>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.</p> <p>Note that if the selected date falls within a previous (closed) billing period the transaction will be included in the next invoice.</p>
Transaction ID <i>(only for E-Commerce Refund and Capture Payment)</i>	The transaction ID obtained via the <i>Authorization Only</i> transaction. This is required to use the reserved earlier amount for a current transaction.
Visible Comment	A comment on this transaction visible to the customer in the xDR browser.
Include into Out-Of-Turn Invoice <i>(only for Manual charge and Manual credit for credit accounts)</i>	<p>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.</p> <p>Transactions included in an out-of-turn invoice that was</p>

	<i>generated</i> on the Out-Of-Turn Invoice page won't be reflected on the regular invoice issued at the end of the billing period.
Internal Comment	An internal comment on this transaction; not visible in the xDR browser, and accessible only from the database directly.

Web Self-Care tab



The screenshot shows the 'Web Self-Care' tab for account ID 12126505550. The form includes the following fields and options:

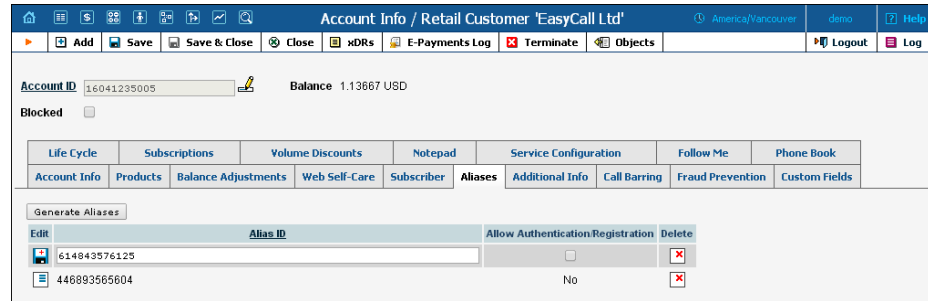
- Login:** 12126505550 (Account ID)
- Password:** [Redacted]
- Access Level:** Account self-care
- Time Zone:** Europe/Prague
- Web Interface Language:** Default Language
- Buttons:** Login with the edited 'Account' ACL, Login with your own ACL
- Output Format:** Date (YYYY-MM-DD), Time (HH24:MI:SS), Date & Time (YYYY-MM-DD HH24:MI:SS)
- Input Format:** Date (YYYY-MM-DD), Time (HH24:MI:SS)

Login	Account login for the account self-care interface. Click the Account ID button to make the login identical to the Account ID.
Password	Self-care interface password for the account.
Access Level	Access level assigned to the account.
Access Web Self-care as the edited Account	<p>In this section you can choose which ACL to use when you login to the account self-care interface.</p> <ul style="list-style-type: none"> Click Login with edited 'Account' ACL to login to the account's self-care interface using the access level currently assigned to the account. Click Login with your own ACL to login to the account's self-care interface using your own ACL settings. Note that this button is visible only to those users whose ACLs include <i>corresponding permission</i>.
Time Zone	Time zone for the account.
Web Interface Language	Displays the account self-care interface in a particular language.

Subscriber

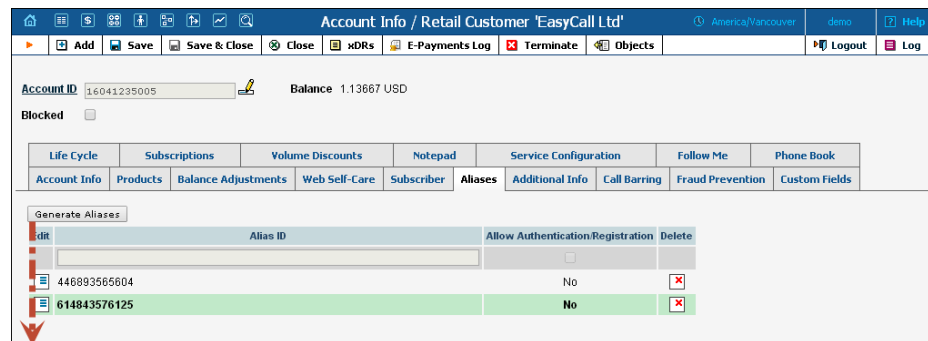
The Subscriber tab provides most of the commonly required contact information for the account's owner.

Aliases



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 DID's 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 in Account Info.

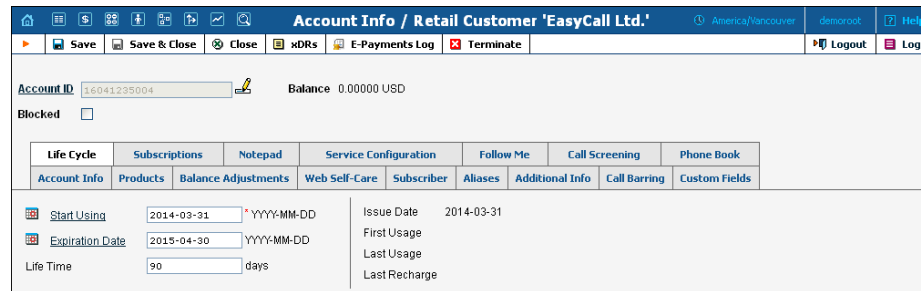
Alias ID	Allow Authentication/Registration	Delete
16041225001	No	[X]
16041225002	No	[X]
16041225003	No	[X]
16041225004	No	[X]
16041225005	No	[X]

Additional Info

IP Device, IP Device Port	Indicates the IP phone 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 IP Device inventory, provisioned with PortaPhone profile type).
E-commerce Enabled	Allows the account’s owner to make online payments or set up periodic payments on the account self-care page. 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	Assign a discount plan to this account. When a new account is created, it will be assigned by default a discount plan associated with the account's product.

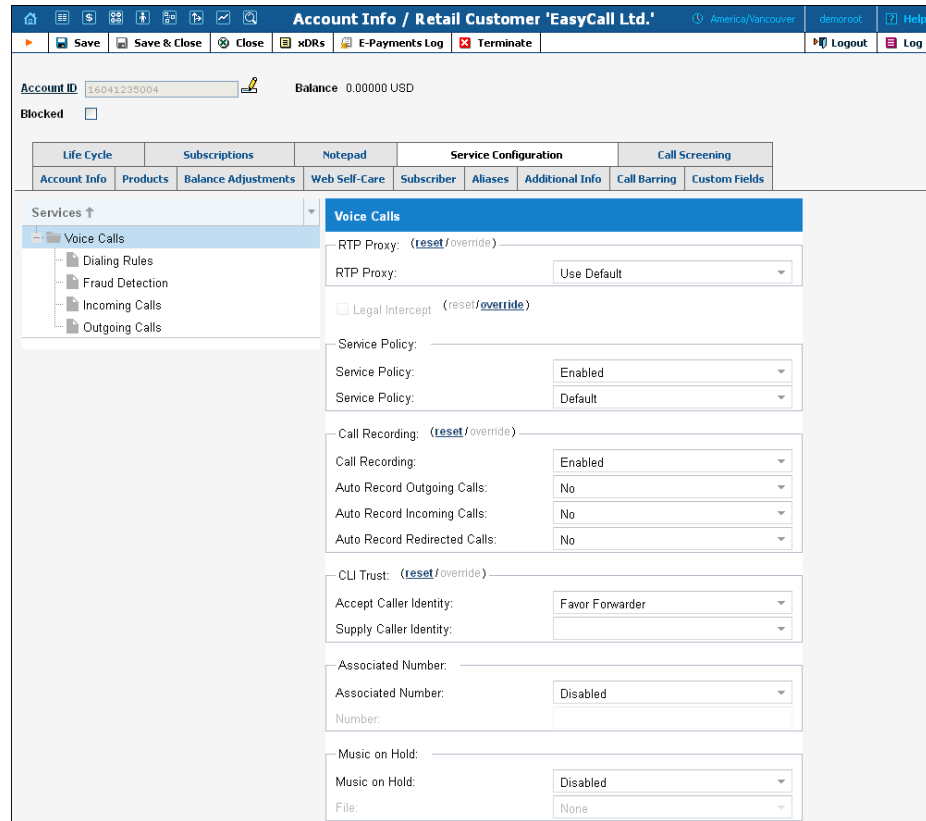
Life Cycle



Life Cycle		Subscriptions	Notepad	Service Configuration	Follow Me	Call Screening	Phone Book
Account Info	Products	Balance Adjustments	Web Self-Care	Subscriber	Aliases	Additional Info	Call Barring
Custom Fields							
Start Using	2014-03-31	YYYY-MM-DD	Issue Date	2014-03-31	First Usage	Last Usage	Last Recharge
Expiration Date	2015-04-30	YYYY-MM-DD					
Life Time	90	days					

Start Using	The date from which the account is usable. Note: When adding a new account, it can be activated immediately. Just specify the special value “IMMEDIATELY” here.
Expiration Date	The date from which the account will be unusable. If you do not want the account to expire, leave this field blank. Note: This date is assumed to be in the billing server's time zone, not the account's one.
Life Time	Defines the number of days the account remains active after the date of its first use. The account will expire on the first usage date + lifetime days. If you do not want to use this feature, leave the field blank.
Issue Date	The date when the account was created.
First Usage, Last Usage	The time stamp when the account was in use for the first / last time.
Last Recharge	Specifies the last time the account was recharged using a voucher (either via the self-care page or IVR).

Service Configuration



The screenshot shows the 'Service Configuration' page for a customer named 'EasyCall Ltd.'. The page is divided into several sections: 'Account Info', 'Products', 'Balance Adjustments', 'Web Self-Care', 'Subscriber', 'Aliases', 'Additional Info', 'Call Barring', and 'Custom Fields'. The 'Voice Calls' service is selected, and its configuration is displayed. The settings include:

- RTP Proxy:** (reset/override) Use Default
- Legal Intercept:** (reset/override)
- Service Policy:** Enabled
- Call Recording:** (reset/override) Enabled
- Auto Record Outgoing Calls:** No
- Auto Record Incoming Calls:** No
- Auto Record Redirected Calls:** No
- CLI Trust:** (reset/override) Favor Forwarder
- Associated Number:** Disabled
- Music on Hold:** Disabled

You have the option of expressly specifying the value of a given parameter or using the “Customer 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).

Field	Description
	The <i>Voice Calls</i> service type
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	<p>Automatically record outgoing calls made by this specific account.</p> <p>Note that calls made to the voice mailbox to retrieve messages will not be auto-recorded.</p>
Auto Record Incoming Calls	Automatically record calls received by this specific account.
Auto Record Redirected Calls	<p>Automatically record calls redirected by this specific account.</p> <p>Note that:</p> <ul style="list-style-type: none"> • 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
RTP Proxy	<p>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.</p> <ul style="list-style-type: none"> • 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	<p>This option indicates acceptance.</p> <ul style="list-style-type: none"> • 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	<p>This option indicates acceptance.</p> <ul style="list-style-type: none"> • 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	<p>This specifies a predefined set of options for this account. The Default option means that no service policy is currently assigned.</p>

Music on Hold	<p>Defines the music on hold to be used with the account. Choose None to disable this feature, or select the default setting for the account's customer. To upload your own music, 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. The uploaded music will replace the previous entry in the list, and is usually enabled within 10 minutes.</p> <p>For a list of supported audio file formats, see the <i>Audio File Formats Supported by Music on Hold Feature</i> chapter.</p>
<i>The Incoming Calls section</i>	
UM Enabled	<p>Allows the account user to access the unified messaging system. See the PortaSIP® Media Server Administrator Guide for more details. Please note that if an account has UM Enabled 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 UM Enabled, it most likely will not work yet.</p>
Mailbox Limit, MB	Allows you to define / change mailbox limit.
Call Forwarding	<p>Assigns a call forwarding mode to this account:</p> <ul style="list-style-type: none"> • No Forwarding: Disables call forwarding entirely. • Follow-Me: Enables standard follow-me forwarding. • Advanced Forwarding: Activates advanced call forwarding mode. • Forward to SIP URI: Replaces the Follow-me tab with a simplified Forward tab, where you can enter a forwarding destination as a CLD@IP. • Simple Forwarding: A simplified type of forwarding where you specify a single phone number to which calls will be sent.

Maximum Forwards	When you select follow-me or advanced call forwarding, you must also provide a value for the Maximum Forwards parameter, so as to limit 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 .
Timeout, sec	How long the IP phone will ring before a call goes to follow-me numbers (if any) or voicemail.
Call Screening	Enables selective call processing / 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 selective call screening has been disabled, or if none of the selective call screening rules apply.
Auto-attendant	Enables Auto-attendant functionality for this account.
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.
Sip Static Contact	Enable this feature if customer's IP PBX can't perform SIP registration to PortaSwitch®.
Host	This contains a valid IP address of customer's IP PBX (four numbers separated by points, e.g. 12.34.56.78).


Port	The port to connect to on the remote end. Default port 5060 is used where no value is provided.
Use TCP	Enables you to choose the TCP transport protocol. You can use the TCP protocol instead of UDP for SIP communications for PBXs that do not support UDP.
<i>The Outgoing Calls section</i>	
Override Identity	<p>This allows you to set the following options for overriding identity information:</p> <ul style="list-style-type: none"> • 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	<p>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:</p> <ul style="list-style-type: none"> • 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 <i>If Different From Account ID And Aliases</i> 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	Remove CLI (ANI) information for outgoing calls. The following options are available: <ul style="list-style-type: none"> • As defined by the Customer – Assumes the value defined in the customer’s configuration • Never – Always show CLI. Privacy service is not even permitted for an account • Always – Always hide CLI. Privacy service is permitted and in effect (all calls private) • Automatic – Allows flexible configuration for CLI hiding. It depends on the prefix number dialed and the privacy headers provided by the UA
Hide CLI Prefix	Prefix to be dialed before an outgoing number in order to prevent the called party from seeing your phone number. (Only available when Hide CLI option is set to “Automatic.”)
Show CLI Prefix	Prefix to be dialed before an outgoing number in order to allow the called party to see your phone number. (Only available when Hide CLI option is set to “Automatic.”)
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 enables or disables the selection of the routing plan from the Routing Plan list.
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.
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.

Maximum Abbreviated Dial Length	The maximum allowed length (0-10) of speed dial codes. Zero means that although the account will still have the capability for adding frequently dialed numbers, the customer will not be able to assign speed dial codes to them.
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	<p>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.</p> <p>This field can contain the following special symbols:</p> <ul style="list-style-type: none"> • ‘%’ – wildcard for any number of symbols, and • ‘_’ – equivalent wildcards for one symbol. <p>If this field is empty, then any number can be marked as a favorite.</p>
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.
The <i>Fraud Detection</i> section	


Location Information	<p>This defines the user location for geo-IP fraud prevention.</p> <p>The most common option is Product's default. In rare cases, you may need to disable fraud prevention for a specific account (in this case select Disabled) or define a different location for this specific account (select Account has its own).</p>
Current Location	Type in a user's permanent location. It should contain a country code top-level domain (in <i>iso_3166_1_a2</i> format, e.g. <i>fr</i> for France, <i>de</i> for Germany etc.)
Allowed Mobility	<p>Only available when Geo-IP Fraud Detection Enabled is set to Yes and a profile is selected in the Geo / Risk Profile option of the account's product.</p> <p>Select Stationary user (constant location) if this account is not authorized to make calls from various countries (e.g. as a residential customer would make calls from his SIP phone). Calls made from any other countries will be screened. The Roaming user (frequent location) option can be used for customers who travel frequently. In this case, a location change would be considered acceptable.</p>
Voice Authentication	If the call has been made from a "suspicious" location, this feature will enable or disable a customer's authentication when a legitimate customer attempts to make a call.
Service Unblock Code	The account's unique code that is usually provided upon sign-up and can be used later to confirm that a legitimate customer is attempting to make a call, if the call was made from a "suspicious" location.
The <i>Dialing Rules</i> section	
Dialing Rules	<p>The following options are available:</p> <ul style="list-style-type: none"> • Disabled – This deactivates the dialing rules for this account. • Enabled – This activates the dialing rules for this account. • Custom – This allows a user to create and use their own set of dialing rules.

Dialing Format	Select existing dialing format defined earlier or create a new one by clicking the wizard  icon. You can define new dialing rule settings on the Dial Plan page.
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 <i>Internet Access</i> service type	
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 'empty' 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 the previous field, type in an IP.
Static IP Netmask	Type in a netmask, or leave the default value: 255.255.255.255
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 is checked).
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 <i>Conferencing</i> service type	
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 administrator interface: Manage Conferences. By clicking on it you will automatically go to the account's Conferences page where multiple conferences can be managed.

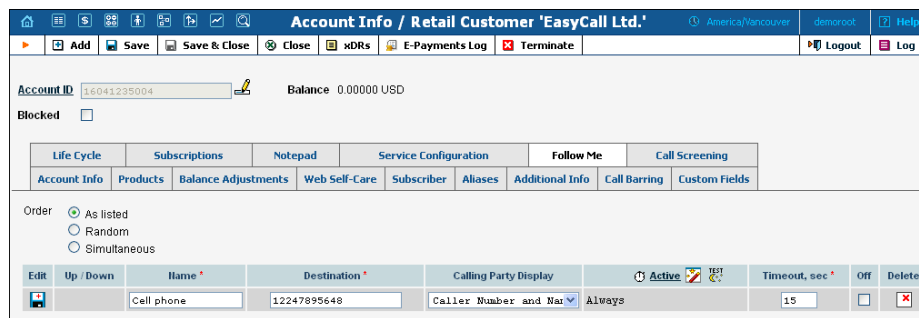
Number of Simultaneous Participants	Specify the maximum number of concurrent connections allowed for the conference. Note that you may also limit the Number of Simultaneous Participants for a particular account (in the Service Configuration tab). The <i>Wi-Fi</i> service type
Limit Bandwidth	The most 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. In such cases, select Yes to define these values, or 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 <i>IPTV</i> service type
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

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: <ul style="list-style-type: none"> • Work • Home



	<ul style="list-style-type: none"> • Mobile • Other
Abbreviated Dial Assigned	<p>This is the speed dial number that the end-user can dial on his phone to place a call to an external phone number.</p> <p>Note that the length of this number is limited by the Maximum Abbreviated Dial Length option on the Service Configuration tab.</p>
Lock	<p>This allows you to lock a phone book contact:</p> <ul style="list-style-type: none"> • None – Contacts are not locked in the phonebook, allowing the end-user to add, edit or remove contacts. <p>NOTE: The end-user is also able to select contacts to which a special "favorite" rate applies.</p> <ul style="list-style-type: none"> • 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	<p>Select this checkbox 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.</p>
Delete	<p>Click the Delete  icon to remove a contact from the user’s phone book.</p>


Follow Me



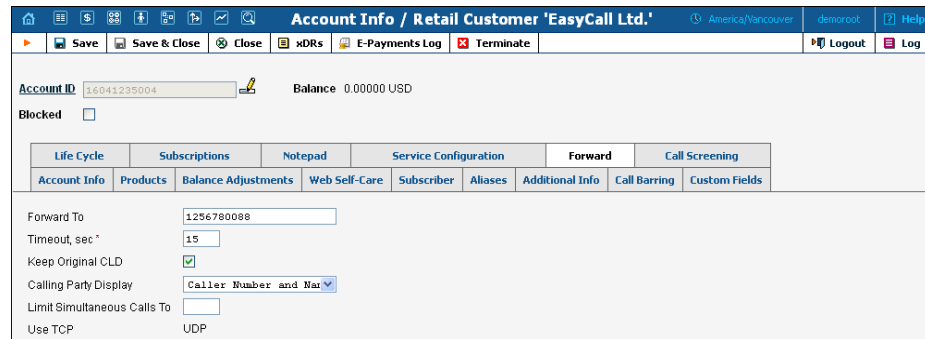
This tab is only available when **Forward Mode** on **Service Configuration** tab is set to **Follow-me** or **Advanced Forwarding**.

Order	<p>Specifies the order for redirecting a call.</p> <p>As listed: call every active follow-me number from the first (topmost) number to the last, until the call is</p>
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	<p>answered.</p> <p>Simultaneous: call every active follow-me number from the list at the same time until the call is answered.</p> <p>Random: use a random order.</p>
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	<p>Allows you to choose how to display the caller’s info during forwarding. The following options are available:</p> <ul style="list-style-type: none"> • 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 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

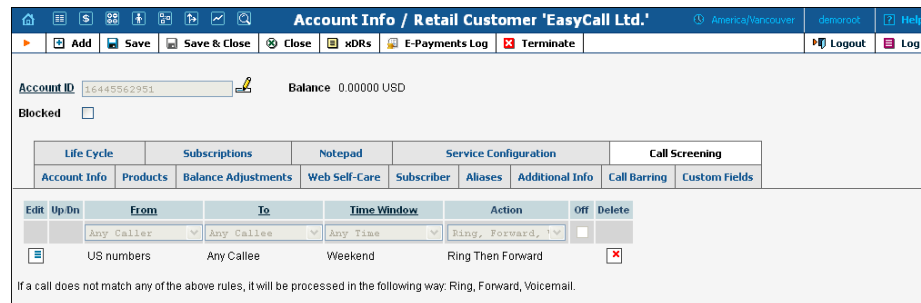


This tab is only available when **Forward Mode** on **Service Configuration** tab is set to **Forward to SIP URI** or **Simple Forwarding**.

Forward To / SIP URI	<p>Here you will enter CLD or two parts of the SIP URI:</p> <ul style="list-style-type: none"> 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) <p>Calls will be forwarded to a local account if the SIP Proxy has not been specified.</p>
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: <ul style="list-style-type: none"> 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

	<p>who is calling).</p> <ul style="list-style-type: none"> • 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.
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

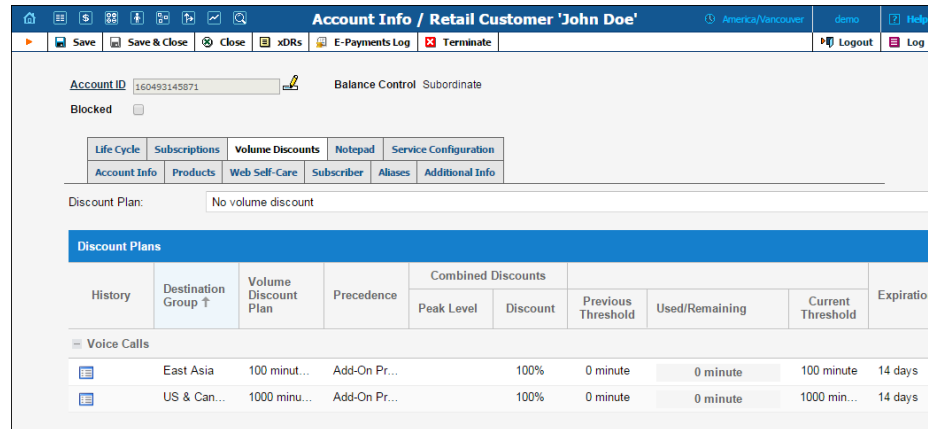


This tab allows you to define a list of rules for handling incoming calls to this account. It is only available when **Call Screening** check box is selected on **Service Configuration** tab.

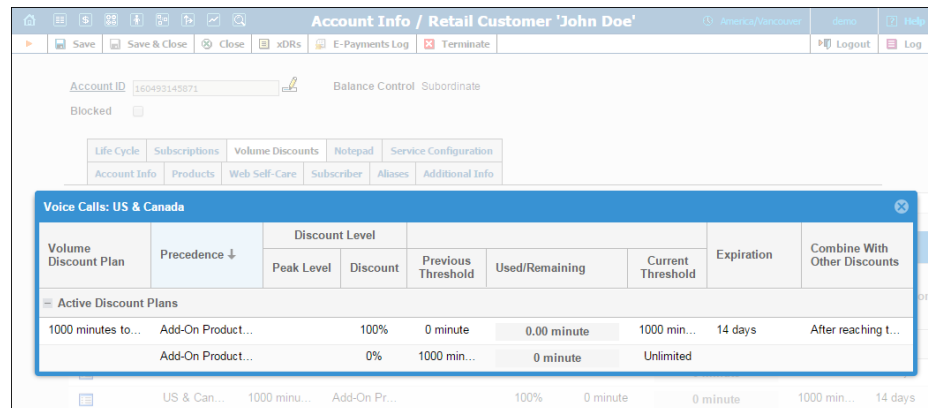
From	Allows you to select a condition applicable to an incoming phone number (phone number of a person trying to contact you). Click on the column header with the corresponding rule to invoke the wizard, which will enable you to define a new rule or change an existing one.
To	Allows you to select a condition 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).

Volume Discounts



History	Destination Group ↑	Volume Discount Plan	Precedence	Combined Discounts		Previous Threshold	Used/Remaining	Current Threshold	Expiration
				Peak Level	Discount				
Voice Calls									
	East Asia	100 minut...	Add-On Pr...	100%	0 minute	0 minute	100 minute	14 days	
	US & Can...	1000 minu...	Add-On Pr...	100%	0 minute	0 minute	1000 min...	14 days	



Volume Discount Plan	Precedence ↓	Discount Level		Previous Threshold	Used/Remaining	Current Threshold	Expiration	Combine With Other Discounts
		Peak Level	Discount					
Active Discount Plans								
1000 minutes to...	Add-On Product...	100%	0 minute	0.00 minute	1000 min...	14 days	After reaching t...	
	Add-On Product...	0%	1000 min...	0 minute	Unlimited			

Discount Plan	Permits the selection of which Discount Plan to be used with this account.
History	Opens a popup window that shows extended information about the discount plan.
Destination Group	Destination groups included in volume discount plans that apply to this account.
Service	Shows the service type for which the discount is valid.
Volume Discount Plan	The name of the <i>active</i> volume discount plan that applies to this account.
Precedence	This is the priority level for the current discount plan that specifies the order in which certain discounts are to be applied. Discounts with high priority take precedence over discounts with low priority.

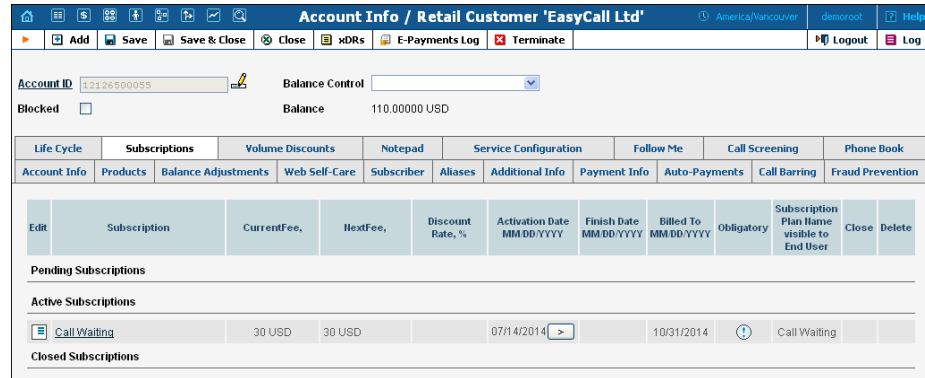
Combined Discounts	Shows the total discount value currently applied to the account for different periods (peak and off-peak).
Peak Level	The blank field indicates that the discount is provided regardless of whether the service is used during a peak or off-peak period. Otherwise, this column contains 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 volume discount plan.
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.
<i>Discount History window</i>	
Status	The current status of the discount plan: <ul style="list-style-type: none"> • Active Discount Plans – are discount plans that are currently in use • Consumed – are discount plans that have already been used up • Not Yet Active – are currently inactive discount plans
Peak Level	The empty 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 Level	The level of the discount currently applied to the account.
Combine with Other Discounts	Shows the way this discount plan is combined with other discount plans applicable to a session.

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 (same destination group, service and thresholds.)

Subscriptions



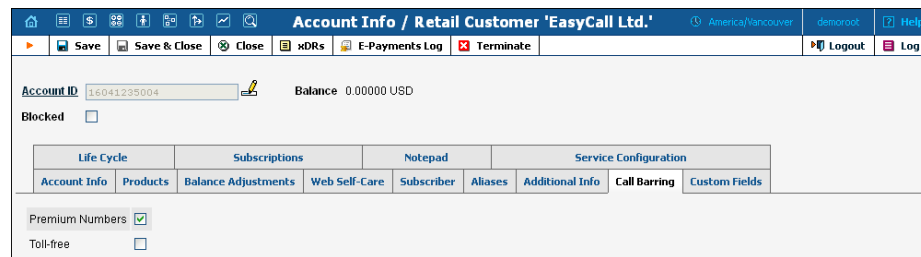
This tab displays the subscription plans currently applied to this account. Subscriptions are divided into three groups

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

Subscription	Choose one of the available subscription plans from the list.
Current Fee	Shows the amount of the subscription fee currently applied to the account for the defined period.
Next Fee	Shows the amount of the subscription fee that will be applied to the account for the next defined period.
Discount Rate, %	Enter a discount rate to be applied to the periodic fees for this subscription. If you leave this field empty, it means that the discount rate defined in the customer information should be applied. If you enter any value, it will override the customer discount rate. 0 means no discount (i.e. the rate defined in the subscription plan is applied).
Start Date	Enter the desired subscription activation date: immediately, or sometime in the future.
Activation	(Read-only) Displays the date when the subscription was

Date	activated.
Finish Date	Enter the date when this subscription should be automatically canceled.
Billed To	(Read-only) The date to which subscription charges have already been applied.
Obligatory	A flag indicating that this subscription comes from the account's product, and so cannot be closed until the account has this product assigned to it.
Subscription Plan Name Visible to End User	The subscription plan name as the end-user will see it on their Self-care interface and their invoice.
Close	Allows you to close one of the optional subscriptions.
Delete	Allows you to delete subscriptions that were assigned to the account by mistake. This option is available for pending subscriptions only.

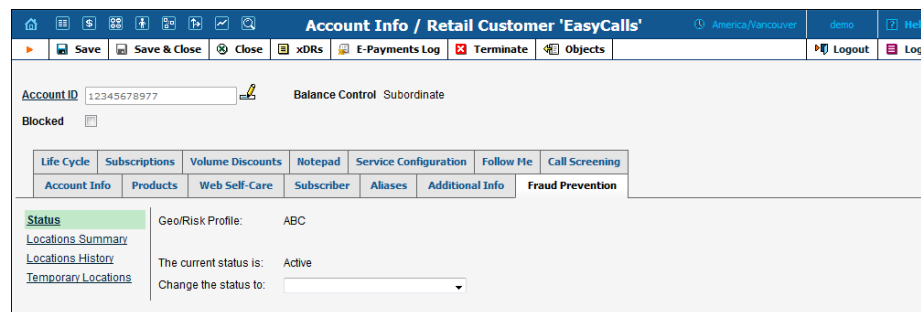
Call Barring



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 Prevention

The **Fraud Prevention** tab will only appear if **Geo-IP Fraud Detection Enabled** is set to **Yes** in the account's product.



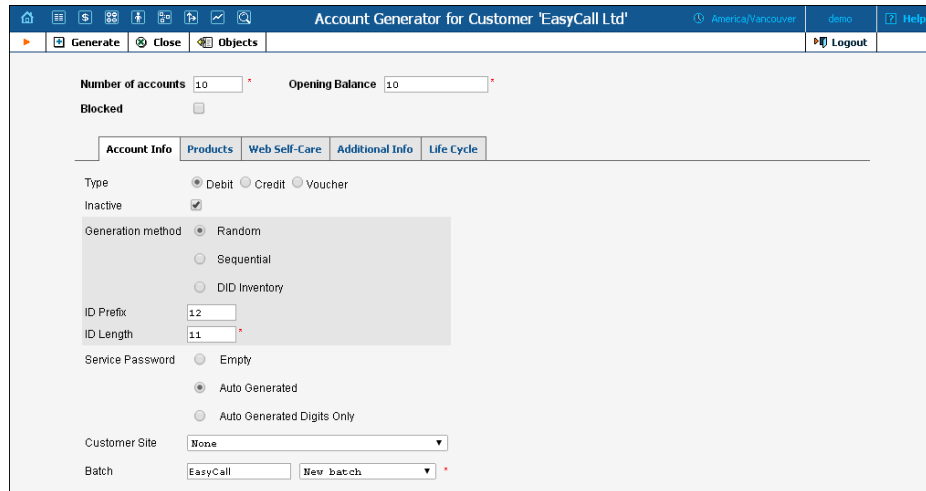
Field	Description
	The <i>Status</i> section

Geo / Risk Profile	This shows the account’s assigned Geo / Risk Profile as defined in its product.
The current status	This shows the account’s current condition: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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. <p>Note that neither a Screened nor a Quarantined status influences on-net calls.</p>
<i>The Locations Summary section</i>	
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.
<i>The Locations History section</i>	
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.
<i>The Temporary Locations section</i>	
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.

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 e-mail notification regarding completion of the task, as well as another e-mail listing all the accounts in CSV format, including the values “Batch”, “Control Number” (a sequential index), “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.
<i>Account Info tab</i>	
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.” Check this 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 drop-down list.
<i>Web Self-Care tab</i>	
Login	Can be set as identical to the account ID, or left empty to disable access to the account self-provisioning interface.
Password	Can be generated automatically, or left empty to allow end-users to login using account ID only.

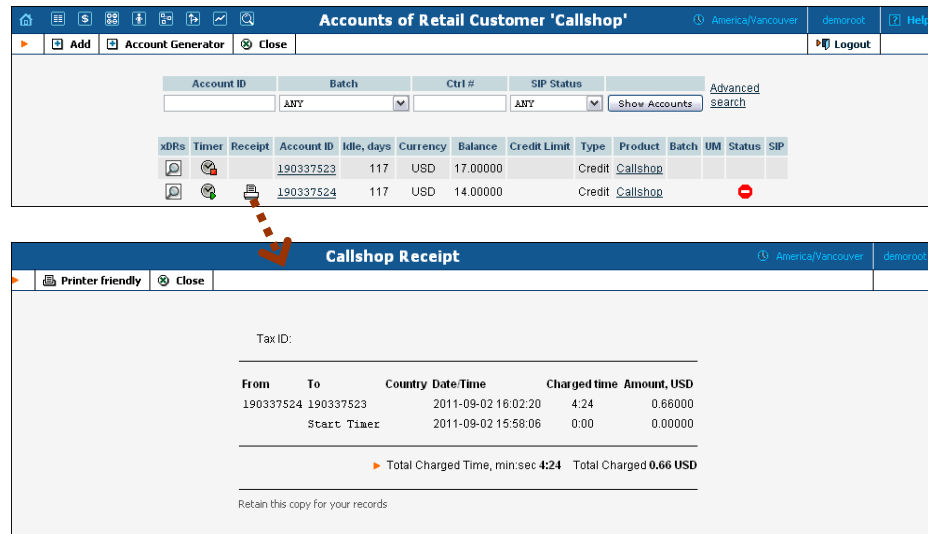
Assigning an account ID

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 e-mail will be sent immediately.

Callshop Features



The screenshot shows two parts of the software interface. The top part is a table titled 'Accounts of Retail Customer 'Callshop''. It has columns for Account ID, Batch, Ctrl #, SIP Status, xDRs, Timer, Receipt, Idle, days, Currency, Balance, Credit Limit, Type, Product, Batch, UM, Status, and SIP. Two rows are visible, both with Account ID 190337524. The second row has a red stop timer icon in the Status column. A red dashed arrow points from this icon to the bottom screenshot.

The bottom screenshot is a 'Callshop Receipt' pop-up window. It displays a table with columns: From, To, Country, Date:Time, Charged time, and Amount, USD. The data shows a call from 190337524 to 190337523 on 2011-09-02 at 16:02:20, with a charged time of 4:24 and an amount of 0.66000. A 'Start Timer' entry shows a time of 0:00 and amount of 0.00000. A summary line indicates 'Total Charged Time, min:sec 4:24 Total Charged 0.66 USD'. Below the table, it says 'Retain this copy for your records'.

The account list screen can be used by a callshop operator to track calls made in callshop cabins, to block an account after a call has been placed, and to print receipts for services provided. When a user wants to place a call, the operator clicks the Start Timer  icon, which automatically unblocks the account. After the call, when the user is ready to pay, the operator clicks the Stop Timer  icon, and the **Print Receipt** icon appears. Clicking this icon will initialize the receipt pop-up.

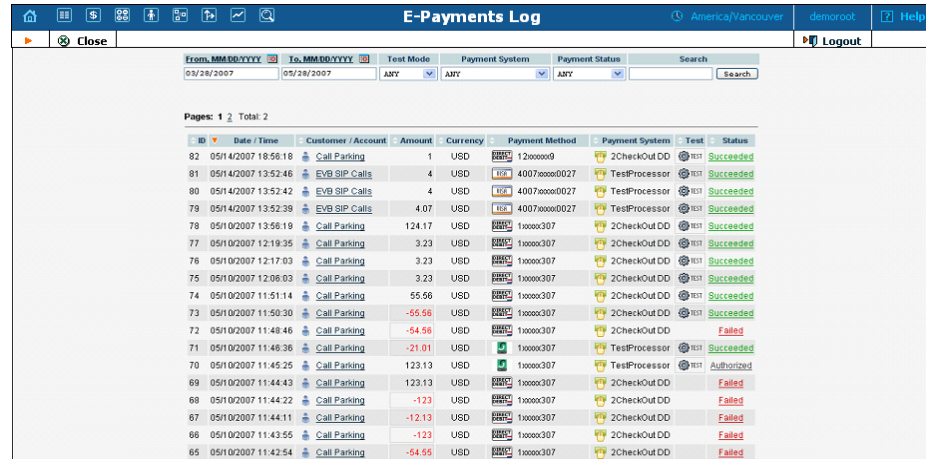
NOTE: Callshop features are not available for accounts of direct retail customers. In order to enable these features for accounts of a reseller’s sub-customer, both the reseller and the sub-customer must have “Callshop enabled” on.

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 press the **Search** button.




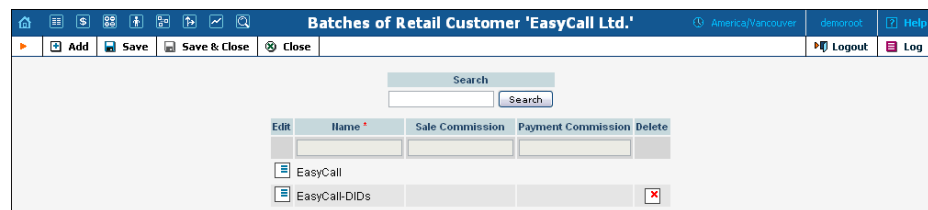
ID	Date / Time	Customer / Account	Amount	Currency	Payment Method	Payment System	Test	Status
82	05/14/2007 18:56:18	Call Parking	1	USD	12xxxx009	2CheckOut DD	Success	Succeeded
81	05/14/2007 13:52:46	EVB SIP Calls	4	USD	4007xxxx0027	TestProcessor	Success	Succeeded
80	05/14/2007 13:52:42	EVB SIP Calls	4	USD	4007xxxx0027	TestProcessor	Success	Succeeded
79	05/14/2007 13:52:39	EVB SIP Calls	4.07	USD	4007xxxx0027	TestProcessor	Success	Succeeded
78	05/10/2007 13:56:19	Call Parking	124.17	USD	1xxxx307	2CheckOut DD	Success	Succeeded
77	05/10/2007 12:19:35	Call Parking	3.23	USD	1xxxx307	2CheckOut DD	Success	Succeeded
76	05/10/2007 12:17:03	Call Parking	3.23	USD	1xxxx307	2CheckOut DD	Success	Succeeded
75	05/10/2007 12:06:03	Call Parking	3.23	USD	1xxxx307	2CheckOut DD	Success	Succeeded
74	05/10/2007 11:51:14	Call Parking	55.56	USD	1xxxx307	2CheckOut DD	Success	Succeeded
73	05/10/2007 11:50:30	Call Parking	-55.56	USD	1xxxx307	2CheckOut DD	Success	Succeeded
72	05/10/2007 11:48:46	Call Parking	-54.56	USD	1xxxx307	2CheckOut DD	Failed	Failed
71	05/10/2007 11:48:36	Call Parking	-21.01	USD	1xxxx307	TestProcessor	Success	Succeeded
70	05/10/2007 11:45:25	Call Parking	123.13	USD	1xxxx307	TestProcessor	Authorized	Authorized
69	05/10/2007 11:44:43	Call Parking	123.13	USD	1xxxx307	2CheckOut DD	Failed	Failed
68	05/10/2007 11:44:22	Call Parking	-123	USD	1xxxx307	2CheckOut DD	Failed	Failed
67	05/10/2007 11:44:11	Call Parking	-12.13	USD	1xxxx307	2CheckOut DD	Failed	Failed
66	05/10/2007 11:43:55	Call Parking	-123	USD	1xxxx307	2CheckOut DD	Failed	Failed
65	05/10/2007 11:42:54	Call Parking	-54.55	USD	1xxxx307	2CheckOut DD	Failed	Failed

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: <ul style="list-style-type: none"> • 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


pressed the “cancel” button when entering credit card info on the remote processor website).

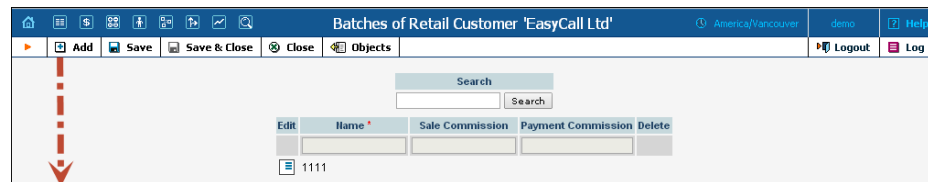
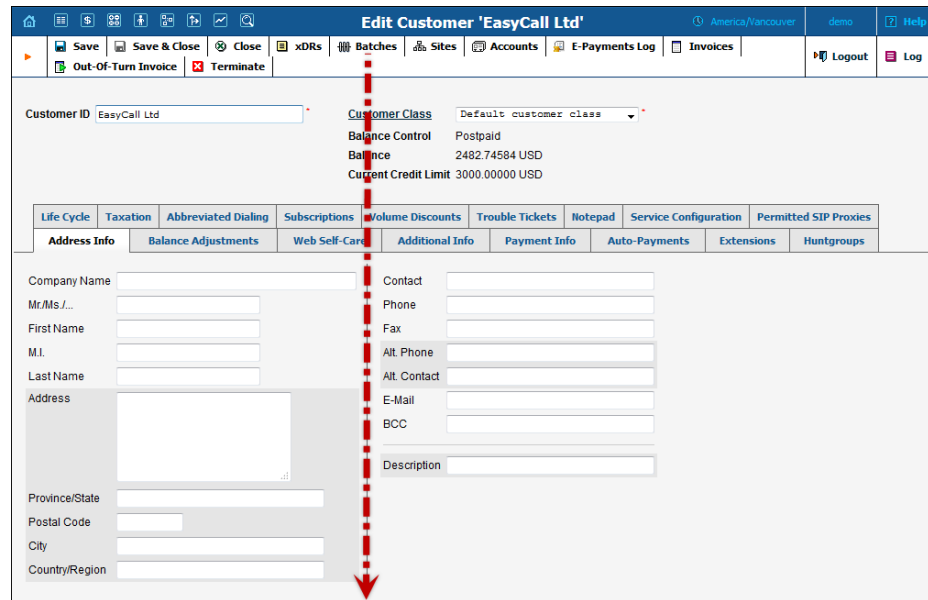
Batch Management

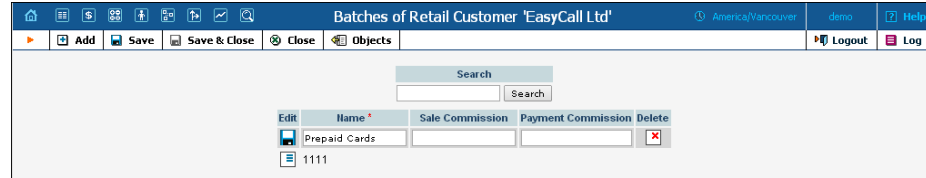
Batch is a logical name for a group of accounts, which simplifies account management procedures. Accounts can be grouped into batches, but also can exist without being tied to a specific batch. The Batch Management screen, accessible from the Edit Customer page by clicking the  **Batches** button, shows you a screen for listing existing batches for a specific customer.



Adding a New Batch

To add a new batch, select  **Add**.





When you add the account and provide a new batch name in the text field, the new batch will be also created.

On the Batches page, you can create a new batch, edit the existed batches (e.g. change batch's name) and set two parameters: Sale Commission and Payment Commission. These parameters are associated with Distributor (see [Distributor](#) section for more information).

Site Management

A site is a group of customer's accounts that can be conveniently managed as a single entity. For instance, all of the phone lines used in a sales department or in 'office building A' can be joined into a single group. This allows you to apply certain configuration parameters or service restrictions to the accounts in that group. You can limit the combined number of simultaneous calls for all accounts of a particular site. This is useful if, for instance, 'office building A' has limited bandwidth and can only support 30 calls – no more calls will be allowed in order to avoid severe degradation of the sound quality on all calls in progress.

Adding a New Site

There is always one entry in the customer site list called Default. Initially, all accounts are added into this site, therefore this site cannot be deleted. If you need to apply the exact same limitations on all of the accounts of a particular customer – just specify them in the Default site.

If a customer has more than one location you can set the limitations for each location separately. To do this, create an independent site entry with specific options for each of the customer's locations. Then assign these sites to the corresponding accounts in the Customer Site drop-down list. Any account that is not assigned to a specific site will share the limitations of the Default site.

Customer Sites of 'EasyCall Ltd.' America/Vancouver demoroot Help

Add Save Save & Close Delete Close Logout Log

Sites List	Site Info
Site Name ↑ Office building A	Site Name: Office building A Limit Simultaneous Calls: (reset/override) Limit Simultaneous Calls: No Max Number of Simultaneous Calls: <input type="text"/> Max Number of Forwarded Calls: <input type="text"/> Max Number of Incoming Calls: <input type="text"/> Max Number of Outgoing Calls: <input type="text"/> Codec Connectivity Profile: Unknown Max Bandwidth: <input type="text"/> bps Max Incoming Bandwidth: <input type="text"/> bps Max Outgoing Bandwidth: <input type="text"/> bps Location Information: (reset/override) Location Information: Disabled Allowed Mobility: Stationary User (Permanent Location) Current Location: <input type="text"/> Dialing Rules: (reset/override) Dialing Rules: Disabled Dialing Format: <input type="text"/> Translate CLI on outgoing calls: Yes Translate CLI on incoming calls: Yes

Customer Sites of 'EasyCall Ltd.' America/Vancouver demoroot Help

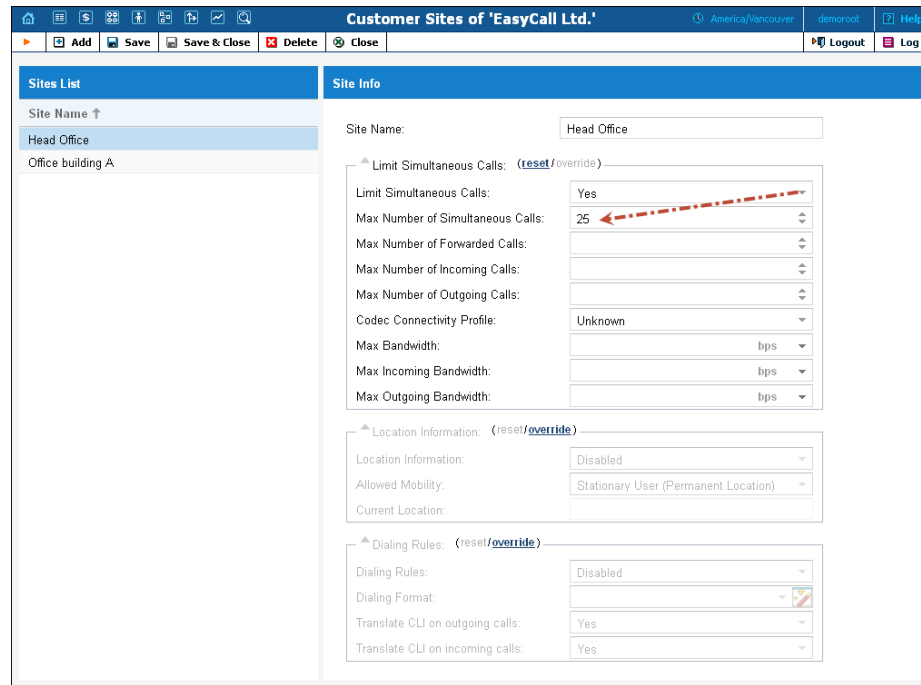
Add Save Save & Close Delete Close Logout Log

Sites List	Site Info
Site Name ↑ Office building A	Site Name: Office building A Limit Simultaneous Calls: (reset/override) Limit Simultaneous Calls: No Max Number of Simultaneous Calls: <input type="text"/> Max Number of Forwarded Calls: <input type="text"/> Max Number of Incoming Calls: <input type="text"/> Max Number of Outgoing Calls: <input type="text"/> Max Bandwidth: <input type="text"/> bps Max Incoming Bandwidth: <input type="text"/> bps Max Outgoing Bandwidth: <input type="text"/> bps Location Information: (reset/override) Location Information: Disabled Allowed Mobility: Stationary User (Permanent Location) Current Location: <input type="text"/> Dialing Rules: (reset/override) Dialing Rules: Disabled Dialing Format: <input type="text"/> Translate CLI on outgoing calls: Yes Translate CLI on incoming calls: Yes


Add a new site ✕

Site Name:

Submit Cancel



Site Name	Name for a group of accounts
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 a “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 in the Default site.
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.
Location Information	This allows you to define customer's permanent location for geo-IP fraud prevention.
Current Location	Type in a customer's permanent location. It should contain a country code top-level domain (in <i>iso_3166_1_a2</i> format, e.g. <i>fr</i> for France, <i>de</i> for Germany etc.)
Allowed Mobility	Select Stationary user (constant location) if this customer is not authorized to make calls from various countries (e.g. as a residential customer would make calls from his SIP phone). Calls made from any other country will be screened. The Roaming user (frequent location) option can be used for customers who travel frequently. In this case, a change in location would be considered acceptable.
Dialing Rules	The following options are available: <ul style="list-style-type: none"> • Disabled – This deactivates the dialing rules for accounts within this site; • Enabled – This activates the dialing rules for accounts within this site; • Custom – This allows users to create and use their own sets of dialing rules.
Dialing Format	Select existing dialing format defined earlier or create a new one by clicking the wizard  icon. You can define new dialing rule settings on the Dial Plan page.
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.

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 screen, you can view a list of all registered vendors. This list provides the following information and activities:

xDRs	Name	Connections	Currency	Balance	E-mail	Delete
	Arbinet	2	USD	0.00000		
	Basis	2	USD	0.00000		
	SintoSip_Calls	2	USD	2.51865		
	Voxbone	1	USD	0.00000		

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 below.
Currency	The currency in which the vendor's account is maintained and paid.
Balance	The vendor's current balance.
E-mail	E-mail 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

Vendor Name: X-Telecom
 Currency: USD - US Dollar
 Opening Balance: 0

Address Info | Additional Info | Web Self-Care

Company Name: _____
 Mr./Ms./...: _____
 First Name: _____
 M.I.: _____
 Last Name: _____
 Address: 11 Broadway, #710
 Province/State: NY
 Postal Code: 01202
 City: New York
 Country/Region: USA

Contact: _____
 Phone: 915-555-1243
 Fax: _____
 Alt. Phone: _____
 Alt. Contact: _____
 E-mail: billing@x-telecom.net
 Description: _____

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	<p>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.</p> <p>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.</p> <p>Manual payment: Use this transaction to manually enter the information about a payment you have made. Credits (or decreases) the vendor's balance.</p> <p>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.</p>
Service (<i>only for Manual charge and Manual credit</i>)	A service for which the manual charge / credit is made.
Amount	Amount to charge / refund.
Date (<i>only for Manual</i>)	A date associated with the manual charge /

<i>charge and Manual credit)</i>	credit. For example, you can specify a date for manual credit action for when an item is credited.
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.

Additional Info

Field	Description
Billing Period	Defines the frequency of generating xDR reports for this vendor.
Offset Balance with Customer	<p>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.</p> <p>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).</p>
Minimum Amount to Offset	<p>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.</p> <p>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).</p> <ul style="list-style-type: none"> • 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®

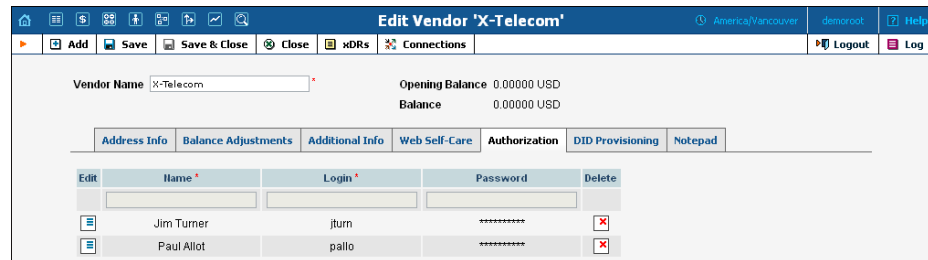
	<p>make a \$105 offset.</p> <ul style="list-style-type: none"> The vendor's balance becomes \$35 and the customer's balance becomes \$0. <p>The xDR records for both the vendor and the customer are created for this transaction.</p>
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Web Self-Care

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.



Edit Vendor 'X-Telecom'

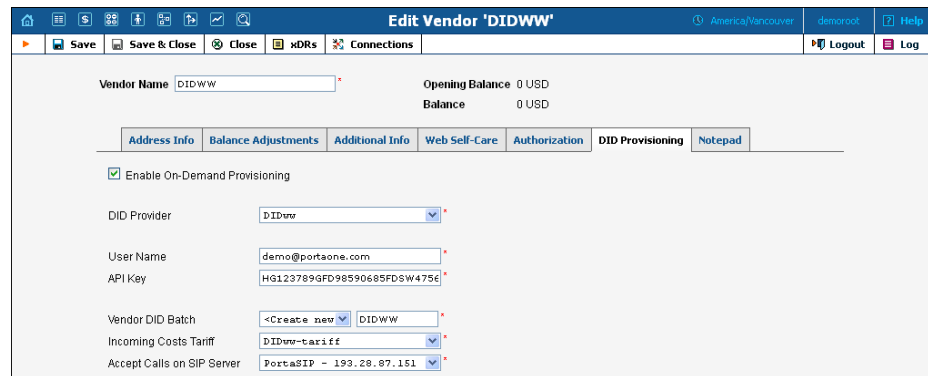
Vendor Name: X-Telecom

Opening Balance: 0.00000 USD
Balance: 0.00000 USD

Address Info | Balance Adjustments | Additional Info | **Web Self-Care** | **Authorization** | DID Provisioning | Notepad

Edit	Name *	Login *	Password	Delete
	Jim Turner	jturn	*****	X
	Paul Allot	pallo	*****	X

DID Provisioning



Edit Vendor 'DIDWW'

Vendor Name: DIDWW

Opening Balance: 0 USD
Balance: 0 USD

Address Info | Balance Adjustments | Additional Info | Web Self-Care | Authorization | **DID Provisioning** | Notepad

Enable On-Demand Provisioning

DID Provider: DIDww

User Name: demo@portaone.com

API Key: HG123789GFD98590685FDSW4756

Vendor DID Bath: -Create new | DIDWW

Incoming Costs Tariff: DIDww-tariff

Accept Calls on SIP Server: PortaSIP - 193.28.87.151

Field	Description
Enable	Enables the interconnection with DID vendors such

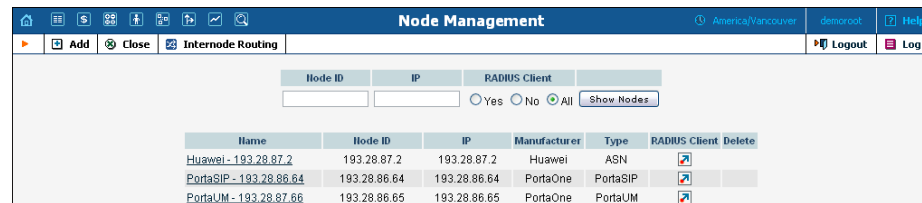
on-demand provisioning	as DIDWW or DIDx, offering extra DID numbers as a value-added-service. On-demand DID provisioning enables the end-user to browse, sign-up and release DIDs or toll-free numbers available on the DID vendor side, online.
DID Provider	Select the DID provider for interconnection.
User 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	<p>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.</p> <p>You may either create a new batch or select an existing one.</p>
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 screen 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 screen the user is provided with a list of all nodes currently registered.

The search form at the top of the screen 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.



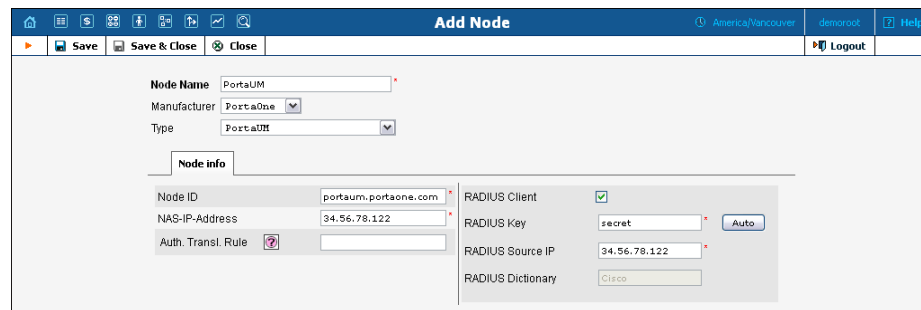
The following information is provided within the listing:

Column	Description
Name	Logical name of the node. This is also a link to the edit screen 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.

<p>Type</p>	<p>Node type. The options are as follows:</p> <p>Cisco</p> <ul style="list-style-type: none"> • 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 <p>Quintum</p> <ul style="list-style-type: none"> • VOIP-GW: the node functions as a gateway <p>PortaOne</p> <ul style="list-style-type: none"> • PortaSIP: the PortaSIP® Switching Server • PortaUM: the PortaSIP® Media Server • Generic: PortaOne generic node <p>ALOE Systems (formerly MERA Systems)</p> <ul style="list-style-type: none"> • MVTS Pro: Mera Networks VoIP Softswitch <p>BroadSoft</p> <ul style="list-style-type: none"> • BS: BroadWorks VoIP communications application server <p>Mikrotik</p> <ul style="list-style-type: none"> • Router: Mikrotik Router OS • Genband (formerly Nextone) • MSX: Nextone MSX <p>Huawei</p> <ul style="list-style-type: none"> • ASN: Huawei ASN gateway for WiMAX <p>Dialogic</p> <ul style="list-style-type: none"> • IMG: Dialogic Integrated Media Gateway <p>ECI</p> <ul style="list-style-type: none"> • BRAS: ECI Broadband Remote Access Server
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Add / Edit Node

To add a new node to the system, click  **Add** in the toolbar.



The screenshot shows the 'Add Node' configuration page. At the top, there is a toolbar with 'Save', 'Save & Close', and 'Close' buttons. Below the toolbar, the form contains the following fields:

- Node Name:** Text input field containing 'PortaUM'.
- Manufacturer:** Dropdown menu set to 'PortaOne'.
- Type:** Dropdown menu set to 'PortaUM'.
- Node info:** A section containing:
 - Node ID:** Text input field containing 'portaum.portaone.com'.
 - NAS-IP-Address:** Text input field containing '34.56.78.122'.
 - Auth. Transl. Rule:** Text input field with a question mark icon.
 - RADIUS Client:** Check box, which is checked.
 - RADIUS Key:** Text input field containing 'secret' and an 'Auto' button.
 - RADIUS Source IP:** Text input field containing '34.56.78.122'.
 - RADIUS Dictionary:** Text input field containing 'Cisco'.

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 drop-down list, depending on the manufacturer of the equipment.
Type	Node type. The options are as follows: Cisco <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • VOIP-GW: the node functions as a gateway PortaOne <ul style="list-style-type: none"> • PortaSIP: the PortaSIP® Switching Server • PortaUM: the PortaSIP® Media Server • Generic: PortaOne generic node ALOE Systems (formerly MERA Systems) <ul style="list-style-type: none"> • MVTIS Pro: Mera Networks VoIP Softswitch BroadSoft <ul style="list-style-type: none"> • BS: BroadWorks VoIP communications application server Mikrotik <ul style="list-style-type: none"> • Router: Mikrotik Router OS • Genband (formerly Nextone) • MSX: Nextone MSX

	<p><i>Huawei</i></p> <ul style="list-style-type: none"> • ASN: Huawei ASN gateway for WiMAX <p><i>Dialogic</i></p> <ul style="list-style-type: none"> • IMG: Dialogic Integrated Media Gateway <p><i>ECI</i></p> <ul style="list-style-type: none"> • BRAS: ECI Broadband Remote Access Server
RTP Proxying	<p>Describes the NAT traversal capabilities of this node:</p> <ul style="list-style-type: none"> • 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	<p>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).</p> <p><i>Note that this parameter is only applicable to Quintum gateways.</i></p>
Telephony User-Name	<p>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).</p> <p><i>Note that this parameter is only applicable to Quintum gateways.</i></p>
Radius Client	<p>Check this box if the node will provide accounting records to the Radius server.</p>
Radius Key	<p>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 selecting the Auto button.</p>
Radius Source IP	<p>More than one interface can be present on the node; specify the IP address of the one that communicates with the Radius server.</p>
<i>The following fields are only available for Cisco, Mikrotik, Huawei and ECI nodes</i>	
POD Server	<p>This enables the event-triggered interaction with the RFC 3576-based service controlling the network</p>

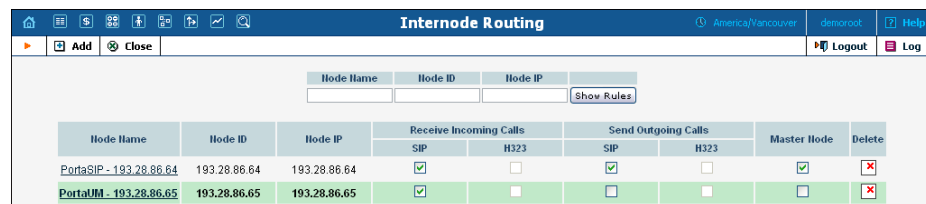
	sessions on the NAS. The system will send a special PoD, DM or CoA message to this server, for example, when an internet-connected account runs out of balance, exceeds its data transfer limit, switches access policy or expires. The POD server will then terminate or alter the properties of the session(s) 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 screen enables the creation of rules for routing calls between nodes. This screen 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 screen allows filtering by any combination of node name, node ID, or node IP address. Provide any of this information and press **Show Rules** to display the specific list of node routing rules only.




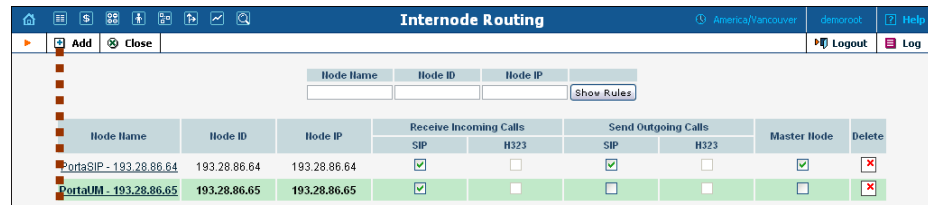
Node Name	Node ID	Node IP	Receive Incoming Calls		Send Outgoing Calls		Master Node	Delete
			SIP	H323	SIP	H323		
PortaSIP - 193.28.86.64	193.28.86.64	193.28.86.64	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PortaIM - 193.28.86.65	193.28.86.65	193.28.86.65	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The Internode Routing screen provides the following information:

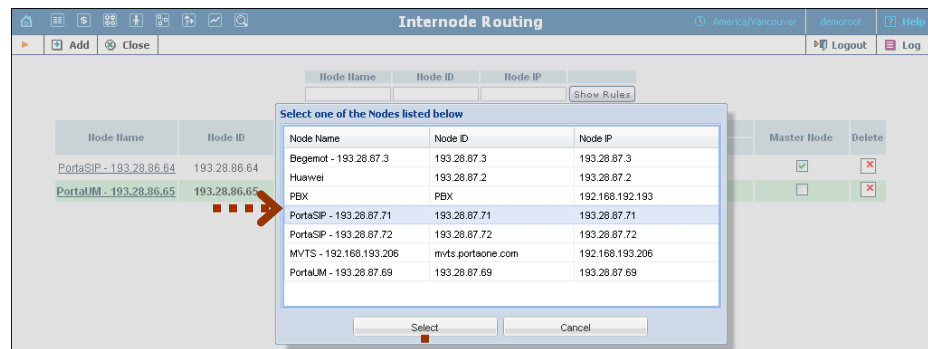
Field	Description
Node Name	The logical name of the node for use within PortaBilling®.
Node ID	For a VoIP node, this is equivalent to a hostname for an internet server (e.g. mail1.cyberdyne.com), i.e. a descriptive, human-readable name used for identification purposes.
Node IP	IP address of the node.
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 checkbox 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 checkbox 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** in the toolbar, and follow the steps shown in the following sequence of screenshots:



When the node selection window 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.



Node Name	Node ID	Node IP	Receive Incoming Calls		Send Outgoing Calls		Master Node	Delete
			SIP	H323	SIP	H323		
PortaSIP - 193.28.86.64	193.28.86.64	193.28.86.64	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PortaUM - 193.28.86.65	193.28.86.65	193.28.86.65	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PortaSIP - 193.28.87.71	193.28.87.71	193.28.87.71	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 screen 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 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 [PortaOne Support Department](#).

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.

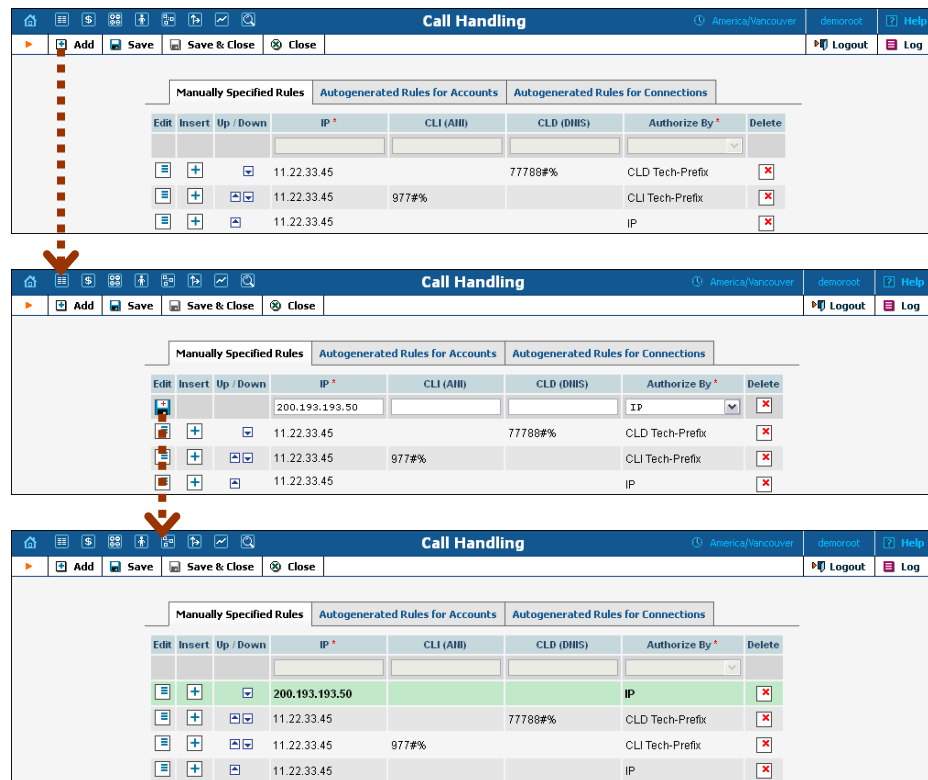
Please consult the *Call Handling Rules* section of the **PortaSIP® Switching Server Administrator Guide** for more details on how PortaSIP® processes the call if multiple call handling rules satisfy the call request.



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** screen, 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: <ul style="list-style-type: none"> • Digits • the ‘*’ and ‘#’ symbols, and • ‘%’ – 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.

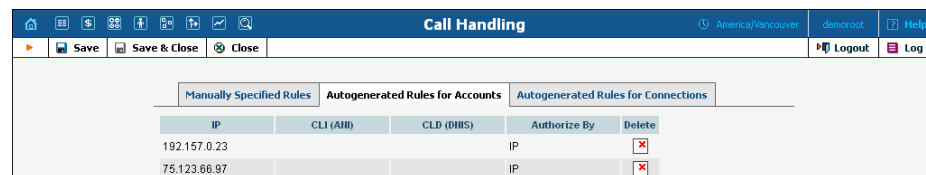
You can manage rules using the following controls:

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



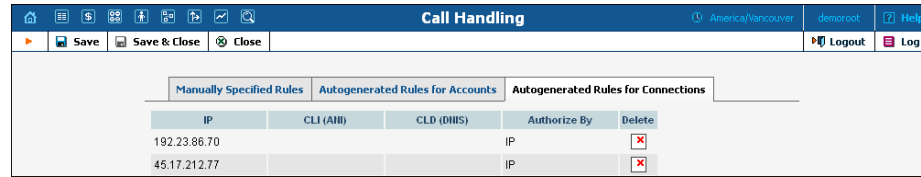
The screenshot shows a web interface for 'Call Handling' with a navigation bar at the top containing 'Save', 'Save & Close', and 'Close' buttons. Below the navigation bar, there are three tabs: 'Manually Specified Rules', 'Autogenerated Rules for Accounts', and 'Autogenerated Rules for Connections'. The 'Autogenerated Rules for Accounts' tab is active, displaying a table with the following data:

IP	CLI (ANI)	CLD (DNIS)	Authorize By	Delete
192.157.0.23			IP	
75.123.86.97			IP	

On this tab you can view the list of rules that were generated automatically while creating an account with an IP address in the ID field. When the 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.

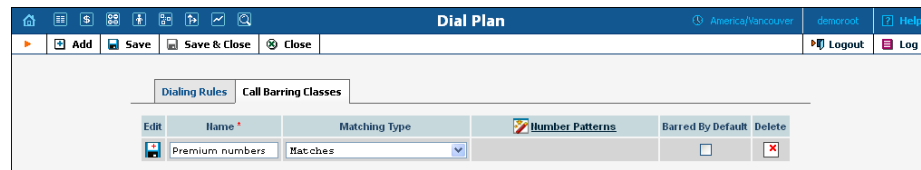
NOTE: If a Vendor Authorization has been defined for the connection, a rule will not be generated.

Dial Plan


This section describes the parameters of IP Centrex (hosted IP PBX) services which may be used later to configure this service for a particular customer.

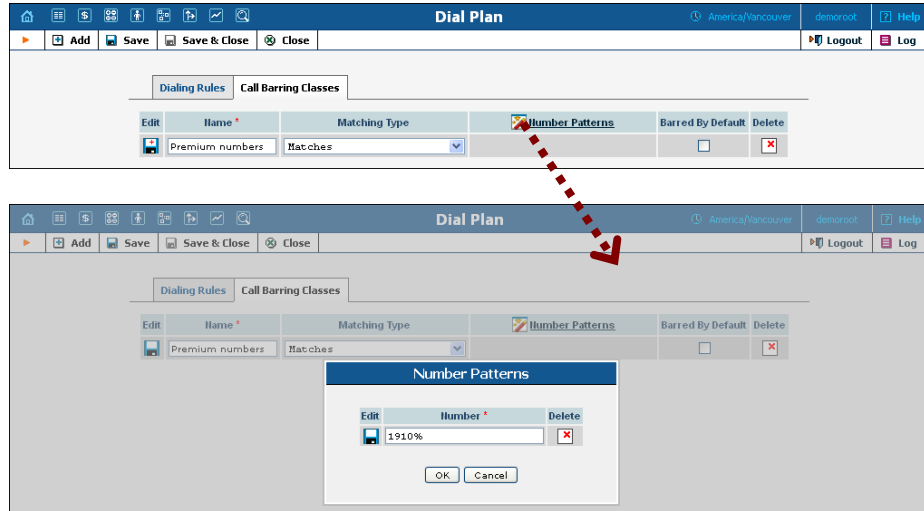
Call Barring Classes

Here you can define call barring classes, each of which describe a set of phone numbers (e.g. “Premium numbers,” “Toll-free,” “Mobile,” etc.). These enable you to easily grant or deny permission to call these numbers, as part of an account’s service configuration.



Field	Description
Name	A descriptive name for this class of phone numbers.
Matching Type	Checks whether a dialed number corresponds to the list of number patterns (see below) and then processes the call accordingly. The following options are available: <ul style="list-style-type: none"> • Matches – Denies calls to numbers that are specified in the Number Patterns column. • Does Not Match – Allows calls to numbers that are specified in the Number Patterns

	column and denies calls to other destinations.
Number Patterns	A list of patterns that define the phone numbers for this class (see below).
Barred By Default	Determines whether calls to this Barring Class should be prohibited by default for newly create accounts with the Call Barring feature enabled.
Delete	Click the Delete  icon to remove the call barring class.

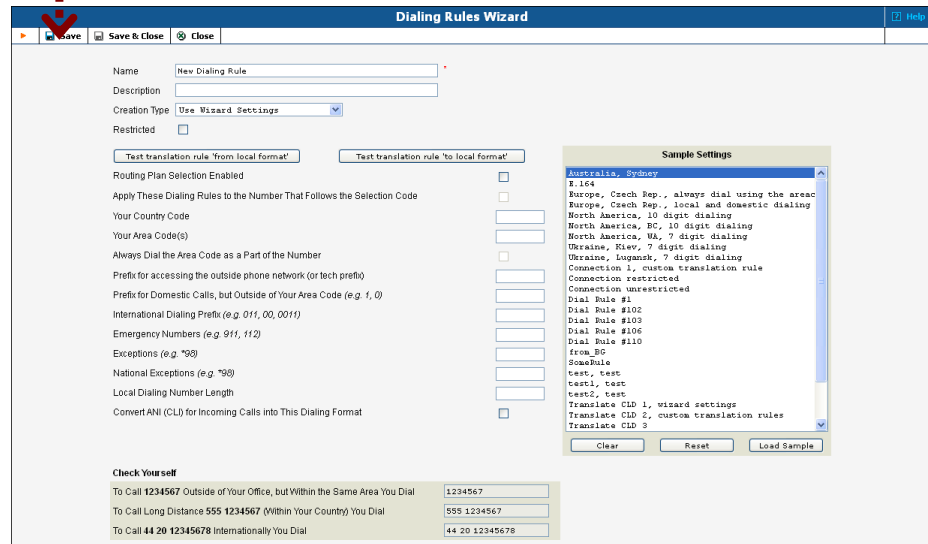
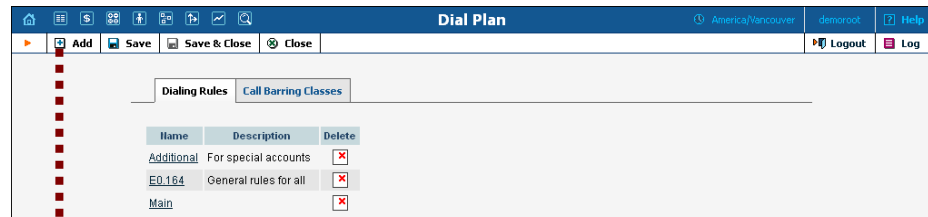


A number pattern is a set of pattern strings which phone numbers are matched against. A pattern string can be an exact pattern (a sequence of digits to be compared with the phone number dialed), where the number is regarded as matching if it is exactly identical to the pattern, or it can include wildcards (see below). If the dialed phone number matches one of the patterns, it will then be regarded as belonging to this barring class. You can use the following wildcards as part of a pattern string:

- **x** or **_** (underscore) matches any digit in this position, e.g. if the pattern is 420609x23456, both 420609123456 and 420609723456 would match it;
- **%** matches a sequence of digits (any number of digits, including no digits at all); thus 420609% would match 4206091, 420609123456 and 420609.

Dialing Rules

Dialing rules tab is used to edit samples of dialing rules.



Field	Description
Name	The logical name of the dialing rule.
Description	The description of the dialing rule.
Creation Type	The following options are available: <ul style="list-style-type: none"> • Use Wizard Settings – Create dialing rule with the help of wizard. • Use Custom Translation Rules – Type in your own number translation rules (as Perl regular expressions).
Restricted	Select this check box to prohibit your customers from making changes to these rules.
Test translation rule ‘from local format’	Click this button to open the Test Rule window where you can specify a number and then click the Test button to see how this number is translated.
Test translation rule ‘to local format’	Click this button to open the Test Rule window where you can specify a number and then click the Test button to see how this number is translated.
Sample Settings	Examples provided for your convenience in configuration.
Routing Plan Selection Enabled	Select this check box to offer your customers the opportunity to choose the quality for each particular call.

Apply These Dialing Rules to the Numbers That Follows the Selection Code	Select this check box to enable dialing rules for the destination numbers following the selection code.
Your Country Code	Enter your customer's country code. It will be added to the destination number as a prefix if the end user dials without a country code.
Your Area Code(s)	Enter your customer's area (region) code(s). If more than one area code is specified, then the first one is the default. It will be added to the destination number as a prefix if the end user dials without an area code.
Always Dial the Area Code as Part of the Number	<p>Select this check box if you want your customers to always dial the area code as part of the phone number.</p> <p>This feature is used to detect wrongly dialed destination numbers in local format, e.g. if the end user dials a destination number without an area code in the Your Area Code(s) field, the call will be rejected.</p>
Prefix for Accessing the Outside Phone Network (or Tech Prefix)	<p>Enter a prefix that your customers will have to dial to make calls outside their phone network (IP Centrex environment).</p> <p>This is an optional feature that can be used to simulate old-style PBX and detect incorrectly dialed local destination numbers.</p>
Prefix for Domestic Calls, but Outside of Your Area Code (e.g. 1, 0)	Enter a prefix that your customers will have to dial to make domestic calls, but outside of their area.
International Dialing Prefix (e.g. 011, 00, 0011)	Enter the international dialing prefix which must be dialed before a country code to access the international network.
Emergency Numbers (e.g. 911, 112)	Enter emergency numbers that are available in your customer's area. Dialing rules won't be applied to these numbers.
Exceptions (e.g. *98)	Enter numbers to which dialing rules will not be applied.
National Exceptions (e.g. *98)	Enter national numbers to which dialing rules will not be applied.

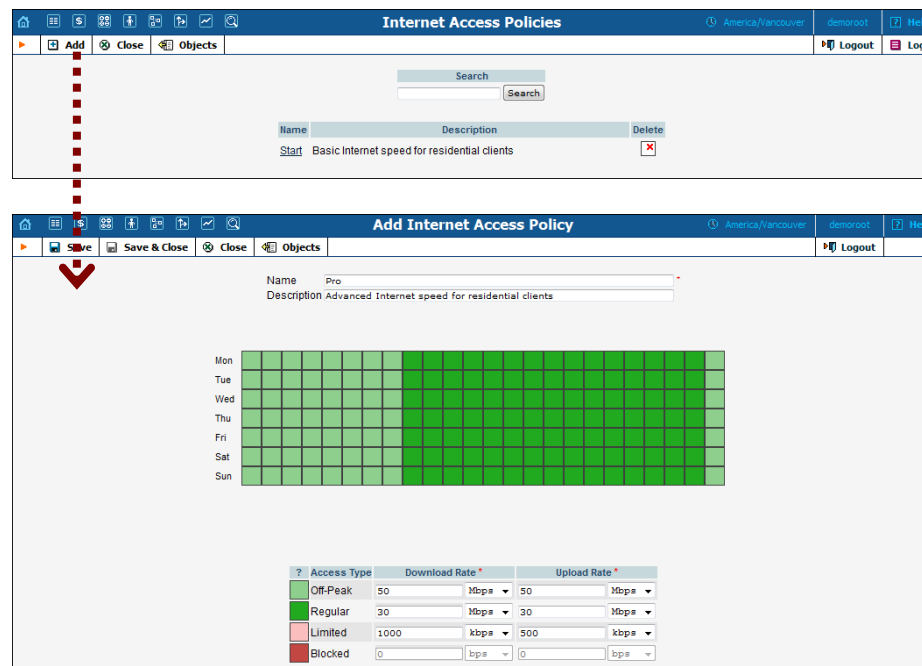
Local Dialing Number Length	Specify how many digits must be dialed to make a local phone call.
Convert ANI (CLI) for Incoming Calls into This Dialing Format	Select this check box to enable ANI (CLI) conversion to this dialing format for incoming calls.

The wizard screen allows you to enter important dialing parameters for your customers, such as the international dialing prefix. 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.

In the bottom part of the wizard screen you can check whether you have described the numbering format correctly. Make sure that this is the way your customers will dial the numbers for all three examples provided (local, domestic and international calls).

Internet Services

A policy is a collection of rules and parameters which define how an end-user is allowed to access the Internet.



The screenshot shows two parts of the software interface. The top part is the 'Internet Access Policies' management screen, which displays a table with columns for Name, Description, and Delete. A red dashed arrow points from the 'Add' button in the top left to the 'Add Internet Access Policy' wizard screen below. The wizard screen includes fields for Name (set to 'Pro') and Description (set to 'Advanced Internet speed for residential clients'). It features a grid for selecting access times across days of the week (Mon-Sun) and a table for defining access rates.

Access Type	Download Rate *	Upload Rate *
Off-Peak	50 Mbps	50 Mbps
Regular	30 Mbps	30 Mbps
Limited	1000 kbps	500 kbps
Blocked	0 bps	0 bps

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 telecommunication industry is growing rapidly, with new technologies and devices being introduced into the market every year. Networks have become more flexible and customers have become more demanding about the services that they subscribe to. Under these conditions, it is essential not only to continually offer new services and products and therefore keep up with market demand, but also to do this in the most qualitative and flexible manner. This is what PortaBilling enables you to do!

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.

Dynamically matched policies

The service policy has the ability to match dynamically when the **Match Pattern** is specified. For the calling party, PortaSIP extracts the *User-Agent* header from the incoming INVITE request (e.g. “Linksys/SPA941-5.1.8”) and matches it against all of the dynamic policies. If more than one policy matches, the one with the highest **Match Priority** is used.

For the called party, the procedure is quite similar. The only difference is that the *User-Agent* header of a called UA is taken from its registration information.

Policy precedence for VoIP services

More than one service policy can be considered while the call is being established so it is important to know how different service policies correlate with each other and how that affects the call.

The final set of attributes applied to each party is *derived* from service policies assigned at different levels (a dynamically matched policy is also considered.)

What happens if there is a contradiction in service policies? For example, if a dynamically matched service policy has the *keep_alive_interval* attribute set to 60 seconds, another service policy assigned to a called party has its attribute value set to 120 seconds and the third service policy assigned to a connection has its attribute set to 90 seconds?

Several simultaneously applied service policies will function according to the precedence of defined attributes that are exact matches:

- If there is a dynamically matched policy that corresponds with the called UA name, then its attributes are considered.
- In that case, the attributes from the service policy statically assigned to the called party will take precedence over a dynamically matched one.
- A service policy that is statically assigned to an account will also override the policy assigned to the connection.

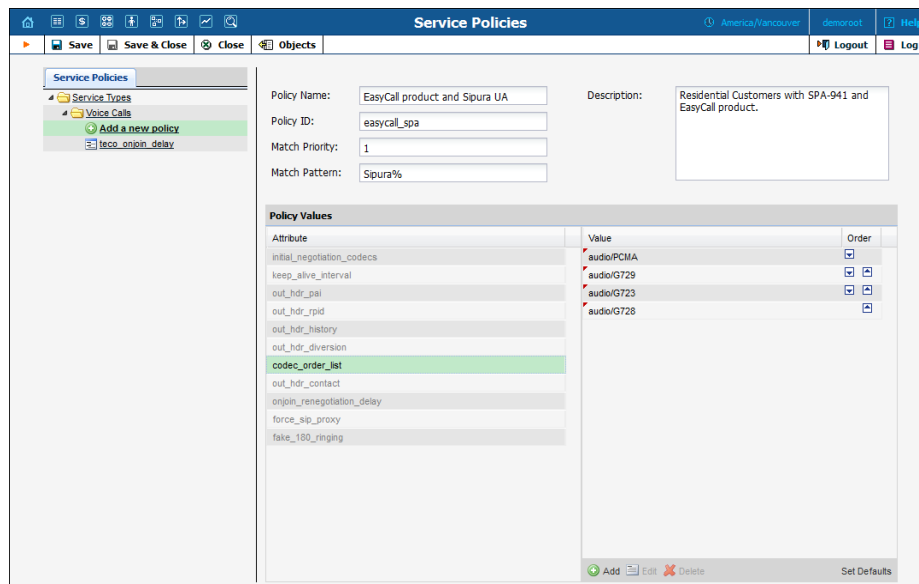
Built-in policy attributes

There is also an attribute-specific prevalence among the service features assigned to both caller and called accounts:

- The *codec_order_list* attribute is taken from the caller’s account (called account’s attribute is ignored).

- The “header” attributes (*out_hdr_pai*, *out_hdr_rpid*, *out_hdr_history*, *out_hdr_diversion*) defined for a called account will take precedence over the ones defined for a caller account.
- The *keep_alive_interval* attributes are individually defined for the caller and called parties, so there is no predominance between them. Therefore the value for the caller party is taken either from the dynamically matched service policy or the one assigned to his account. The value for a called party is taken either from the dynamically matched service policy in case the called party is one of your accounts or the service policy assigned to the connection.

Note that service policy attributes that have been statically assigned to an account receive the highest priority.



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.

IP Device Profiles

IP device profiles and the IP device 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.

The screenshot displays the 'IP Device Profiles' management interface. At the top, there is a navigation bar with 'Add' and 'Close' buttons. Below this is a search and filter section with dropdown menus for 'Effective From' (set to 'Nov->'), 'Name', 'Type' (set to 'ANY'), and 'Managed By' (set to 'ANY'), along with a 'Search' button. A table lists existing profiles:

Name	Type	Effective From	Managed By	Discontinued	Description	Delete
Cisco	Cisco SPA-504G	2011-11-18 09:21:54	Administrator only			
Sipura 2000	Sipura 2000	2011-06-21 11:26:25	Administrator only			

A red dashed arrow points from the 'Add' button in the top toolbar to the 'Add IP Device Profile' form below. The form contains the following fields:

- Name:** SPA-941
- Managed By:** Administrator only
- Type:** Linksys SPA-941
- As Copy Of:** None
- Effective From:** Date: immediately, YYYY-MM-DD
- Time:** HH24:MI:SS

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:

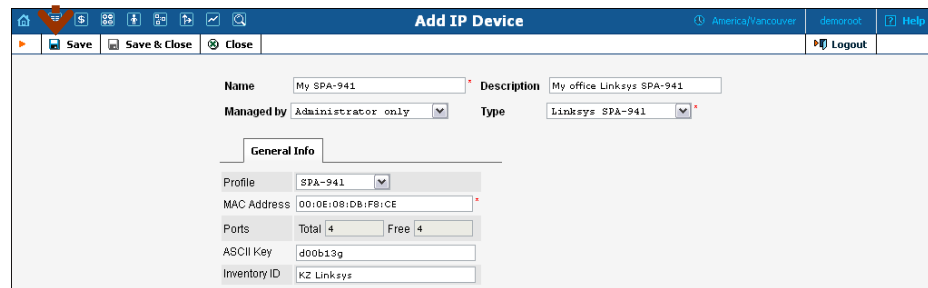
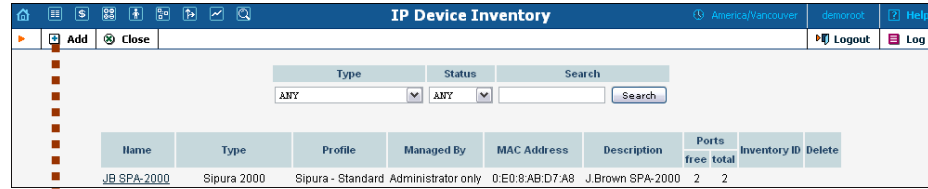
Column	Description
As copy of	Similar to templates; a user can create new profiles using previously created ones, so there is no need to re-enter a large amount of information.
Effective From	Set the time when the profile is to become effective. Click the Stopwatch icon for the profile to become effective immediately.

In Edit mode, the Profile Management screen will differ depending on the UA.

IP Device Inventory

The IP device inventory allows you to keep track of IP 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 (basically representing a phone number) to a specific port (phone line) on the IP phone. PortaBilling® will create a config file for auto-provisioning all of these devices, thus allowing you to easily manage thousands of user IP phones remotely.



Field	Description
Name	IP device name.
Description	Short description.
Managed by	Administrator only (default) means that this IP device will be used for your direct customers and is accessible only to your administrators. Select a PortaBilling® reseller to assign this IP device for use by a particular reseller.
Type	One of the available device types (e.g. Cisco ATA, Sipura, etc.).
Profile	Select one of the defined IP device profiles.
MAC Address	MAC Address of the IP device.
Ports	Number of the IP phone 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).

DID Inventory

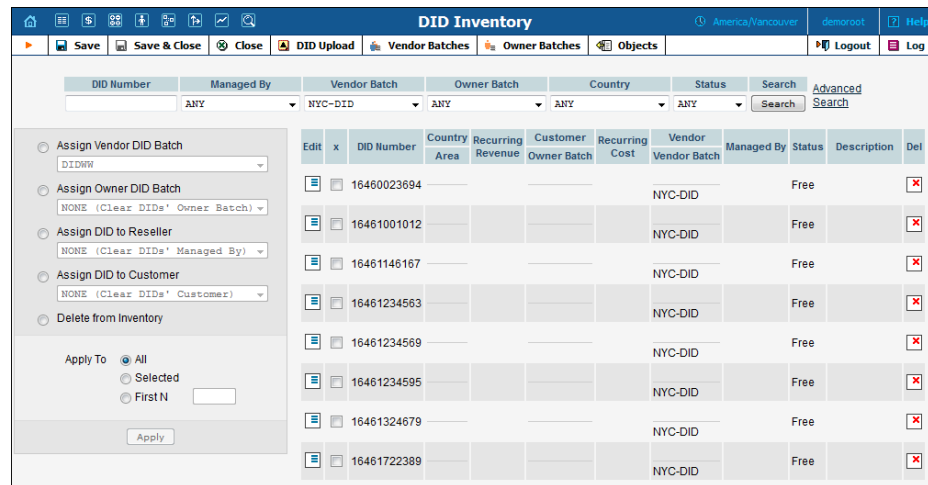
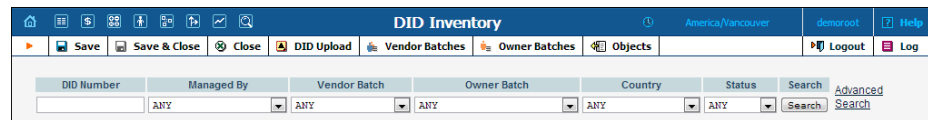
DID inventory allows you to keep track of phone numbers (DIDs) that you purchase from various telco partners for distribution to your customers or resellers. In order to see the DID numbers currently available in the database, choose **DID Inventory** in the Management

section of the admin interface, specify the search filters, and click **Search**. You can search for DID numbers which:

- match a specific phone number pattern, e.g. enter 1800% to find all 1-800 numbers;
- belong to a particular country;
- belong to a particular owner batch (to search for unallocated DID numbers, choose **NONE (Unassigned DID numbers)**);
- belong to a specific vendor batch;
- are in use (there is an account using this DID) or are free (not 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.

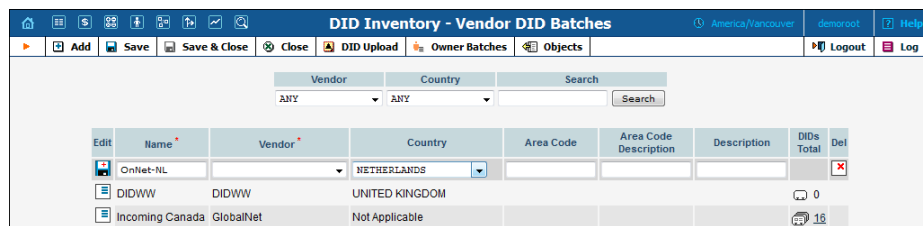


Column	Description
DID Number	Phone number.
Country / Area	A country and area that this number belongs to.
Recurring Revenue	A monthly amount charged to a customer for using this DID.
Customer	The name of the customer currently using this DID.
Owner Batch	Name of owner batch this DID is assigned to (if empty, the DID is unallocated).
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 vendor batch this DID belongs to.
Managed By	This shows who manages the DID number. If the DID number is used by your administrators for direct customers, this field will be empty. If the DID number is available to a reseller, you will see the reseller's name here.
Status	In this column you can see whether the DID is used by an account or if it is available. For DIDs used in the past but now available, the date when they became available is displayed.
Description	Comments about a particular DID number.

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, first select **Vendor Batches** in the toolbar, then click **Add** in the toolbar. The **Country**, **Area Code**, **Area Code Description**, and **Description** columns are optional, and serve only to simplify management of multiple batches. 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.

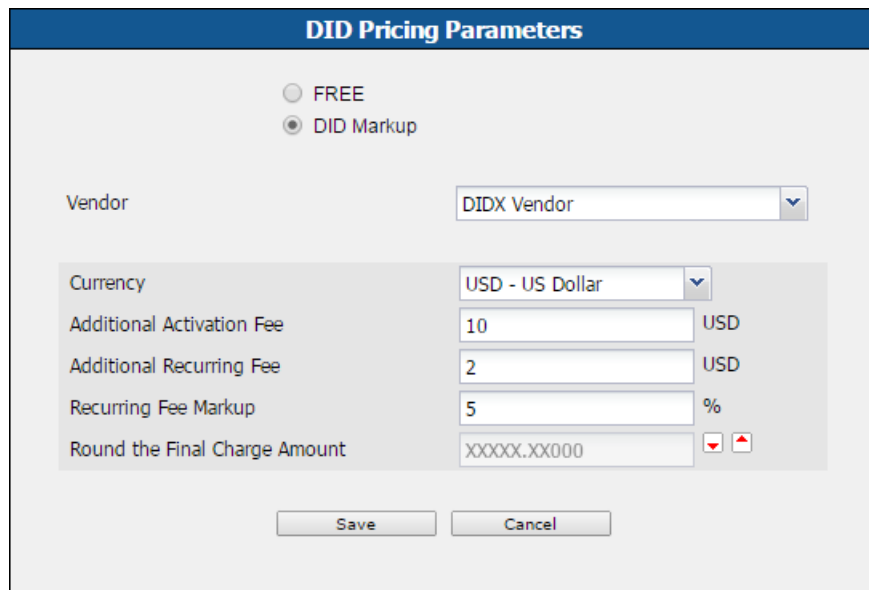
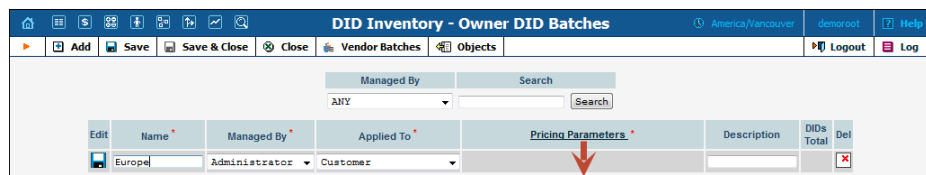
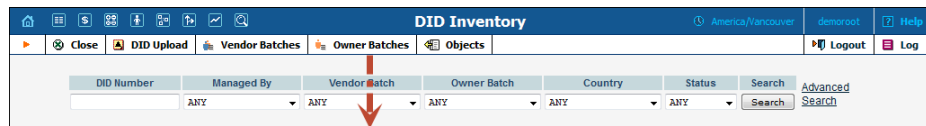
Owner Batches

After the DIDs have been entered into the system (you already created a DID batch for a vendor and uploaded the DIDs), you can create owner

batches and allocate some of the numbers to them. An owner 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 that is used for grouping DID numbers or for online web signup
- a batch with the *DID markup* that contains additional charges to be applied to your customers for DID usage. The latter batch should be assigned to a customer so that this customer's provisioned DID numbers will be automatically added to the batch. The customer will be charged for every provisioned DID according to the pricing parameters defined within the owner batch.



To add a new owner batch, first select  **Owner Batches** in the toolbar, then click  **Add** in the toolbar.

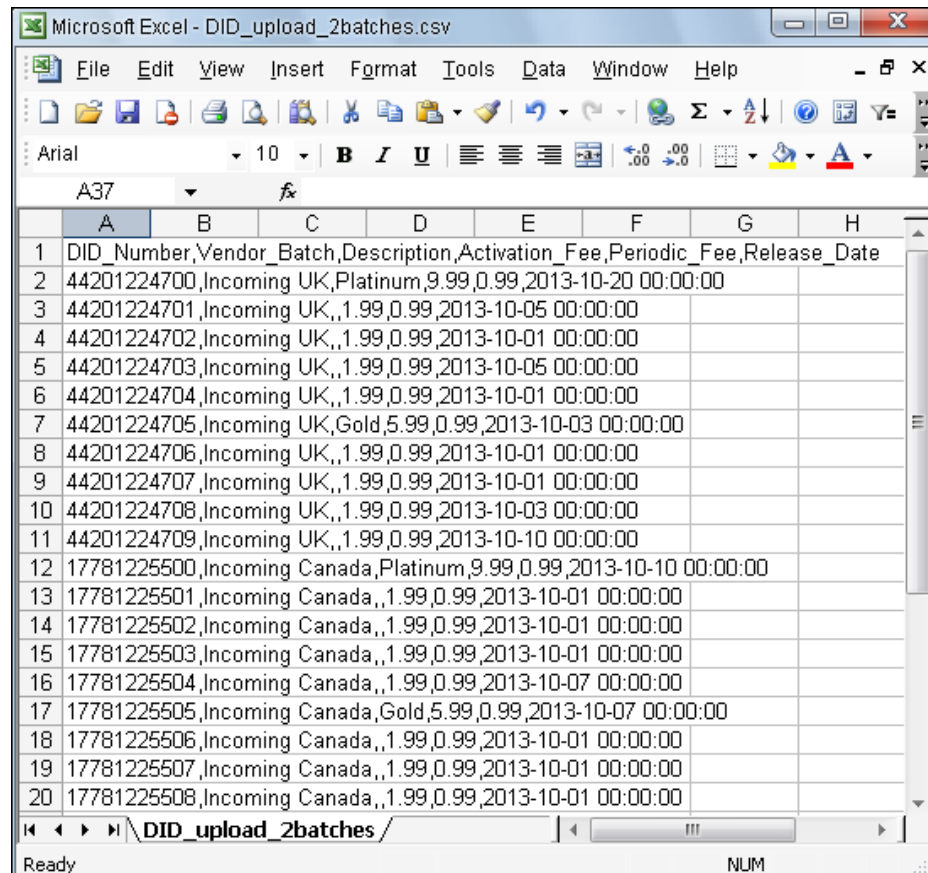
Column	Description
Name	Unique name of the batch.
Managed By	Designates who will be using the DID numbers in this batch. If you plan for the numbers to be used by your administrators for direct customers, choose Administrator only . If you plan to make these numbers available to a reseller, select the reseller's name here.
Applied To	Designates whether this batch will be used to charge your customers or resellers.
Pricing Parameters	Specify the owner's batch type by clicking one of the available options: <ul style="list-style-type: none"> • Free – The owner's batch will not contain pricing parameters and will serve internal purposes (e.g. for grouping DID numbers) • DID Markup – Define the DID price using the following parameters: <ul style="list-style-type: none"> ○ Vendor – Select the vendor providing DID numbers for this batch. ○ Currency – Select the currency that will be 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 the 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 to save this row.

Importing Numbers into the DID Inventory

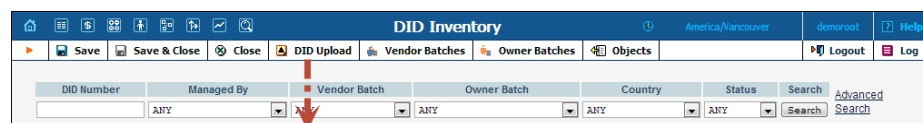
You can upload DID numbers from a CSV file. The structure of the CSV file should be as shown in the picture below:

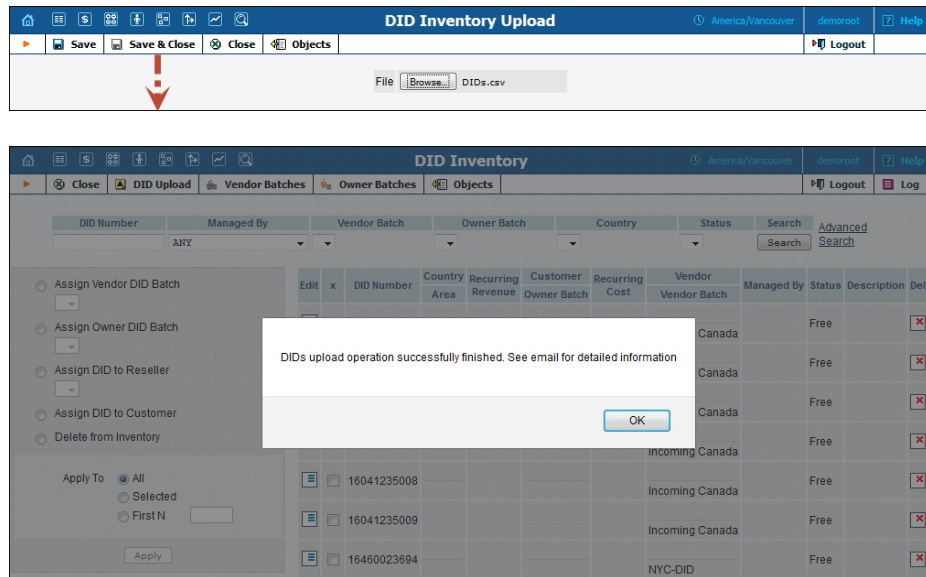
- the first column contains the DID phone number (in E.164 format)
- the second column contains the vendor batch name
- the third column contains an optional description, the activation fee, the periodic fee and the release date (i.e. the date this number was terminated)



NOTE: The first row in the file is skipped, since it usually contains column titles and not actual data.

To upload a DID file, first select  **DID Upload** in the toolbar, then specify the file location (you can use the **Browse** button to select a file in the explorer window), and then click  **Save & Close** in the toolbar.





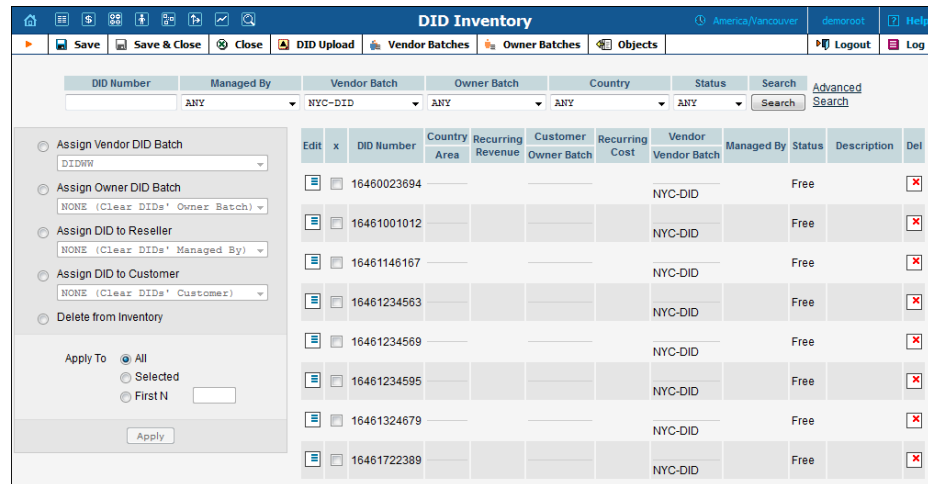
A popup window will inform you of the import results.

Managing DID Number Allocation

On the main screen 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 allocation for some of these numbers. This includes:

- re-assigning 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);
- allocating numbers to an owner batch, or returning them to the unallocated pool;
- 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.



DID Number	Managed By	Vendor Batch	Owner Batch	Country	Status	Search	Advanced Search
	ANY	NYC-DID	ANY	ANY	ANY	Search	Advanced Search

Assign	Vendor DID Batch	Assign	Owner DID Batch	Assign	DID to Reseller	Assign	DID to Customer	Delete	from Inventory
<input type="radio"/>	DID#	<input type="radio"/>	NONE (Clear DIDs' Owner Batch)	<input type="radio"/>	NONE (Clear DIDs' Managed By)	<input type="radio"/>	NONE (Clear DIDs' Customer)	<input type="radio"/>	

Apply To	All	Selected	First N
	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Edit	x	DID Number	Country Area	Recurring Revenue	Customer Owner Batch	Recurring Cost	Vendor Vendor Batch	Managed By	Status	Description	Del
<input type="checkbox"/>		16460023694					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461001012					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461146167					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461234563					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461234569					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461234595					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461324679					NYC-DID		Free		<input type="checkbox"/>
<input type="checkbox"/>		16461722389					NYC-DID		Free		<input type="checkbox"/>

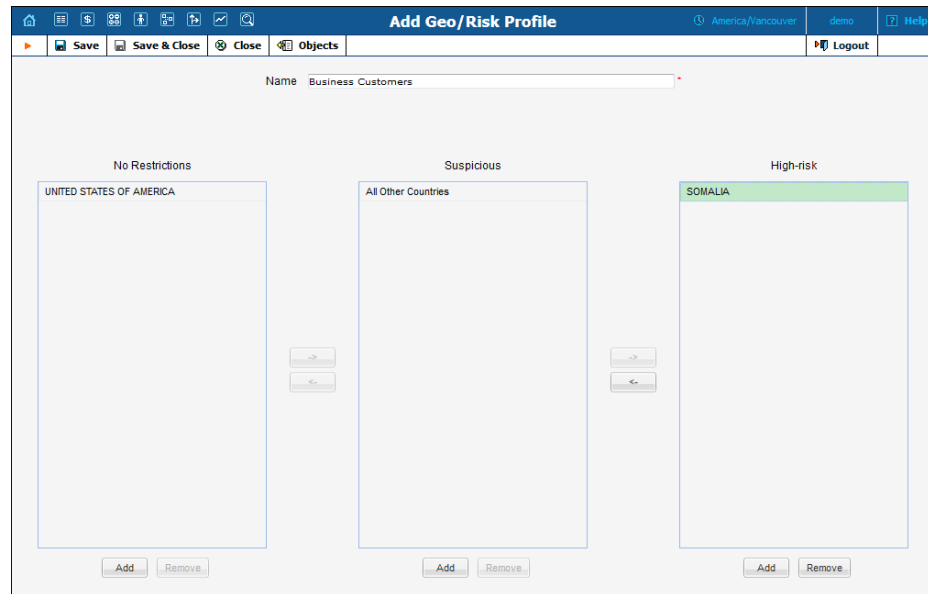


Hint: If you would like to assign the first N unused numbers from some vendor batch to an owner batch, specify the vendor batch and NONE (Unassigned DIDs) as the **Owner Batch** select menu, then apply an assign operation to the **First N** numbers. If you just select DIDs from a vendor batch and then assign the first N to an owner batch, you might also re-assign to it some numbers which are already in another owner batch.

Press **Apply** to submit the changes. After the update is completed, a pop-up window will inform you of the results.

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 **Restricted** (high-risk 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** in the toolbar.

Column	Description
Name	Specify a unique name for the profile.
No Restrictions	Specify a country (or countries) where users intend to use the service. Service usage is allowed without restrictions.
Suspicious	Specify countries where it would be unusual (but still possible on a relatively low number of calls) for a customer to use the service without screening. 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 is indeed a legitimate user.
High-risk	Specify high-risk countries here. Any usage attempt from these countries will be treated as a potential security breach and immediately screened, and the caller must provide additional credentials to prove that he is indeed a legitimate user.




Note: In one of the three columns, the *All Other Countries* 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.

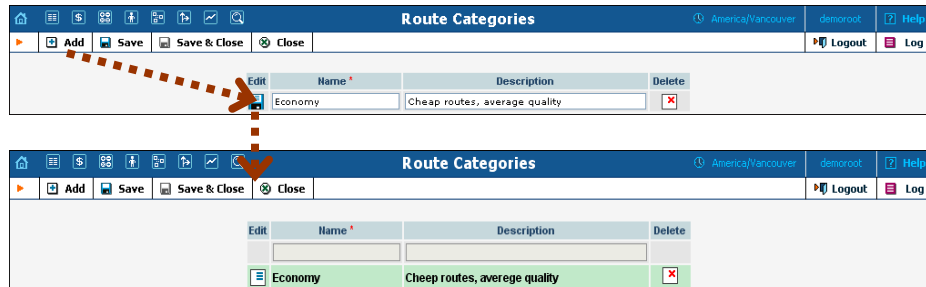
The *Not Applicable* entry is used for private or indefinite IP addresses.


Note: the number of calls that can be made without screening is 5, by default, and can be configured on the Configuration Server web interface.

7 ■ Routing

Route Categories

This screen allows you to define new categories into which you can divide your available routes. To create a new category, select  **Add** from the toolbar.



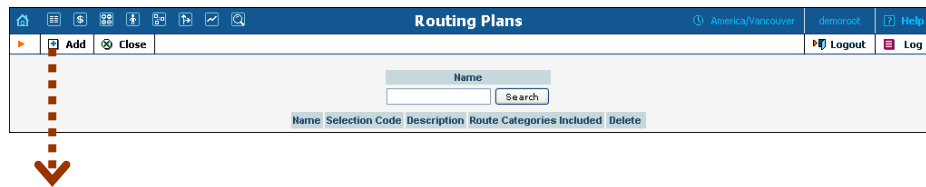
Column	Description
Name	Name of the route category. This is the name you will see in the select menu when assigning a route category for the rate.
Description	A description of this route category.
Delete	Click the Delete  icon to remove this route category.

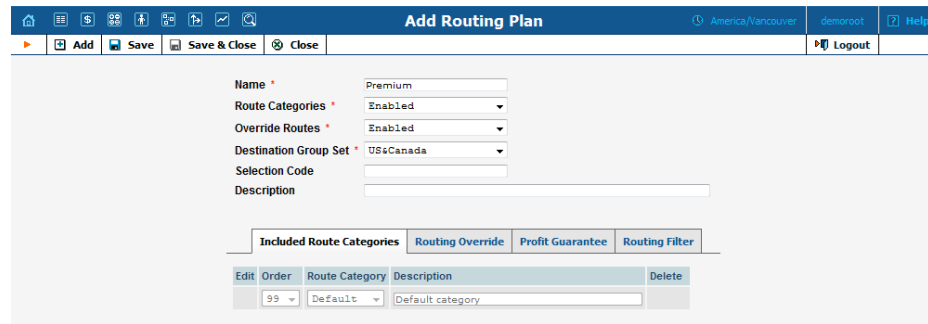
If you do not wish to define any custom route categories, the **Default** route category is always available.

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.

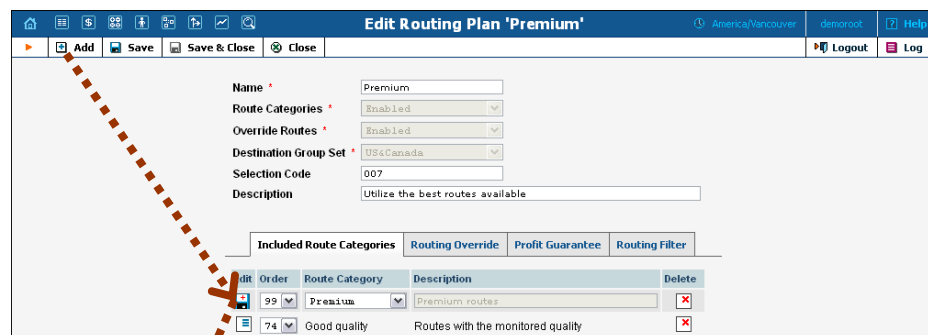
NOTE: In order to use the selection codes you must enable the Dialing Rules on the Edit Customer page and check "Routing plan selection enabled."

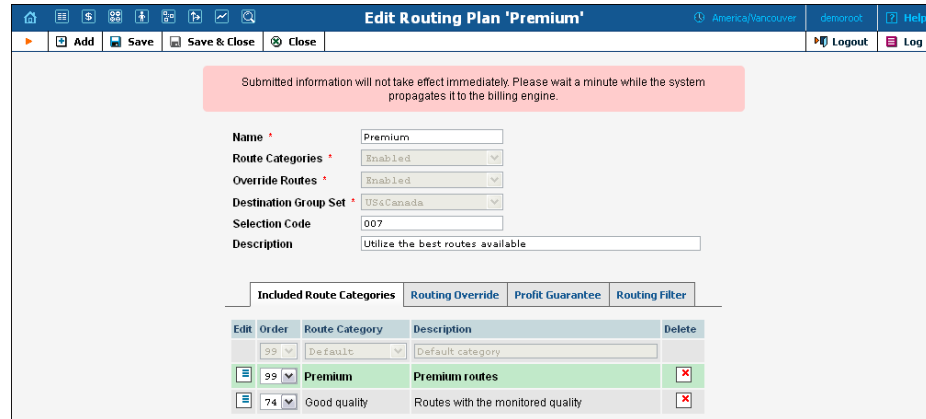





Column	Description
Name	Name of the routing plan.
Route Categories	Enable this option to define which categories of vendors will be available for termination and in what sequence.
Override Routes	This option enables the LCR override functionality. You can define a list of connections for a destination 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. US&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, select  **Add** from 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).

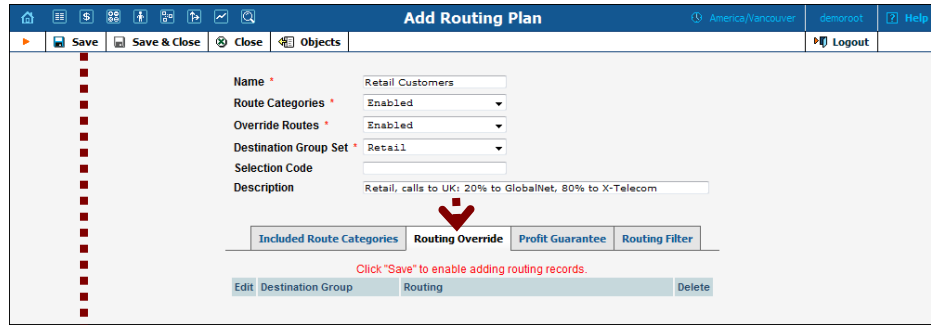
Routing Override tab

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	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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.



Add Routing Plan

Name: Retail Customers

Route Categories: Enabled

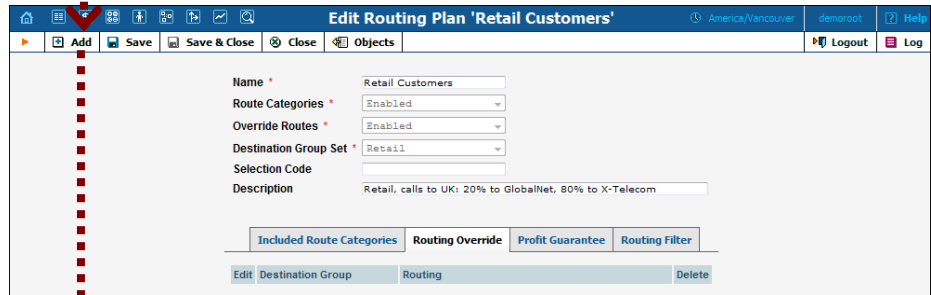
Override Routes: Enabled

Destination Group Set: Retail

Description: Retail, calls to UK: 20% to GlobalNet, 80% to X-Telecom

Buttons: Included Route Categories, Routing Override, Profit Guarantee, Routing Filter

Footer: Edit, Destination Group, Routing, Delete



Edit Routing Plan 'Retail Customers'

Name: Retail Customers

Route Categories: Enabled

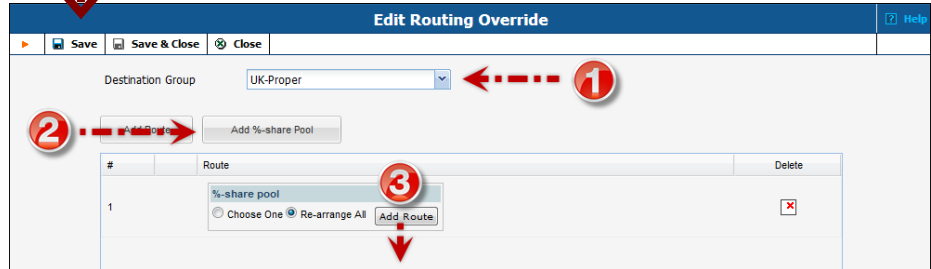
Override Routes: Enabled

Destination Group Set: Retail

Description: Retail, calls to UK: 20% to GlobalNet, 80% to X-Telecom

Buttons: Included Route Categories, Routing Override, Profit Guarantee, Routing Filter

Footer: Edit, Destination Group, Routing, Delete

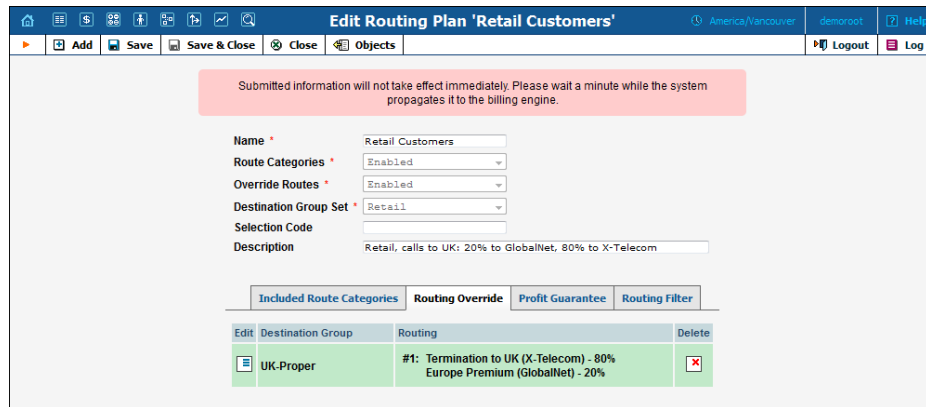
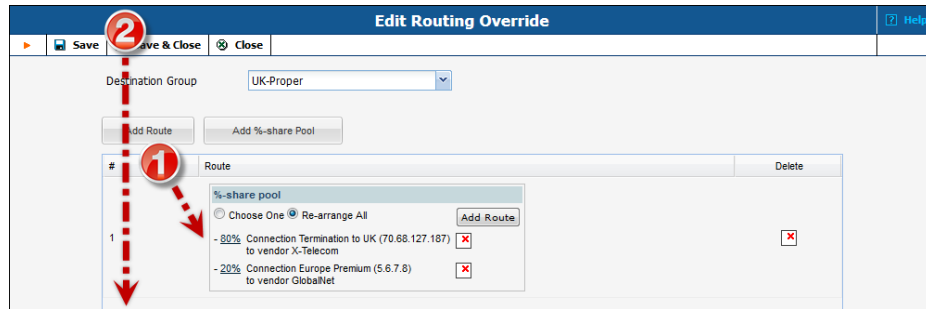
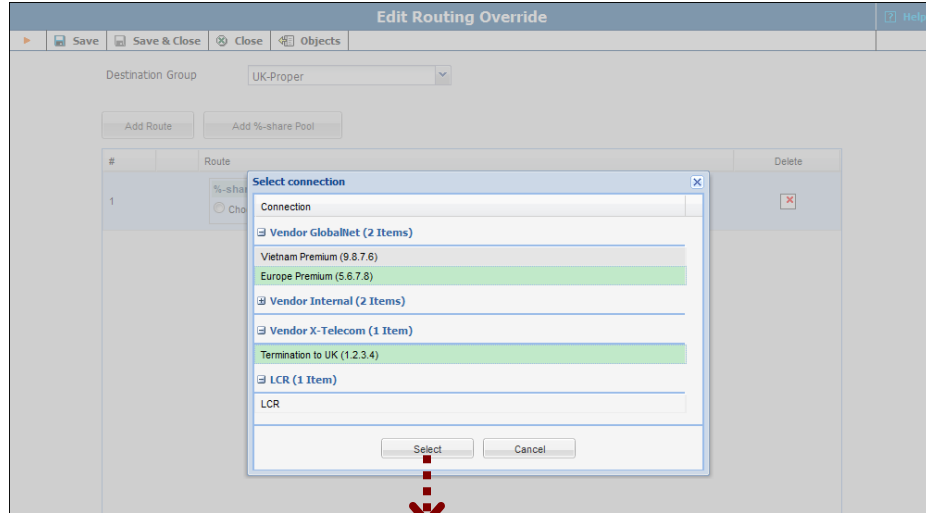


Edit Routing Override

Destination Group: UK-Proper

Buttons: Add %-share Pool

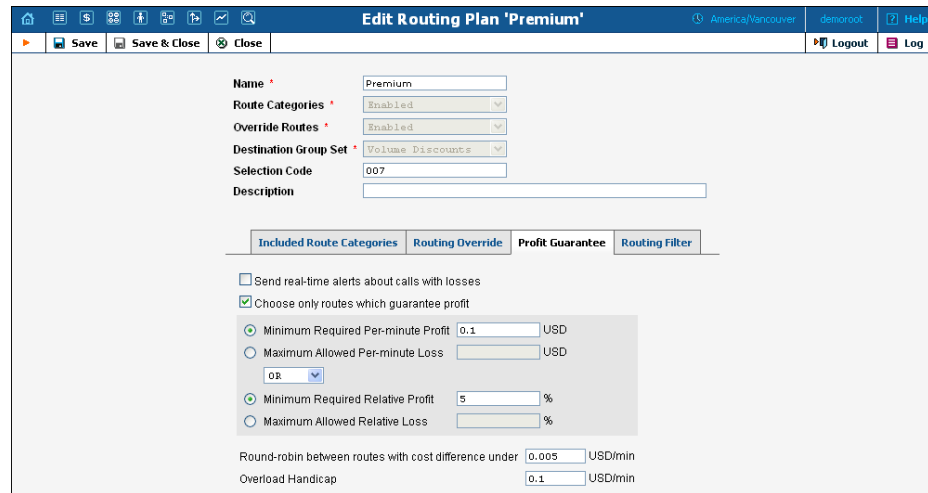
#	Route	Delete
1	%-share pool Choose One Re-arrange All Add Route	X



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
-------	-------------

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.
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.
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.
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.
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.

Edit Routing Plan 'Premium'

Name: Premium
 Route Categories: Enabled
 Override Routes: Enabled
 Destination Group Set: Volume Discounts
 Selection Code: 07
 Description: Use only the cheapest routes available

Routing Filter

Codec Name	Capability	Requirement
Other (4 Items)		
Unknown media/codec	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DTMF information (RFC2833)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comfort Noise codec for 8 kHz audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Redundant Audio Data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CelB (1 Item)		
CelB video codec	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DV14 (5 Items)		
G.711 (4 Items)		
G.711 PCMA codec 8 kHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.711 PCMU codec 8 kHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.711.1 PCMA-WB codec 16 kHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.711.1 PCMU-WB codec 16 kHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.718 (1 Item)		

Guaranteed Caller Id transport
 Enforce codec order


Column	Description
Codec Name	Name of the call media feature (such as a specific codec or T.38 fax capability).
Capability	<p>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:</p> <ul style="list-style-type: none"> • 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	<p>This parameter describes the filters applied to call media features requested by the calling party. The following options are available:</p> <ul style="list-style-type: none"> • 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 screen allows users to test a dialplan for a specific telephone number or certain destinations at any moment in time.

Field	Description
Phone Number	Type either a full number or a prefix into this field to see how the resulting list of routes will look for it.
Routing Plan	Select a routing plan to be used for a dialplan test. The system will offer a different set of routes depending on the routing plan. Select All Available Routes to test a dialplan using all 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	Clear this checkbox to see the resulting list of routes regardless of the currently applied adaptive routing penalties.
Date and Time	The search can be performed in real time: select the Stopwatch  icon or click the date input format link to set a date using the pop-up calendar.

As a result you will see the following columns:

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 screen.
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 routes with a lower route category or preference will be ignored.
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 screen.
Vendor	Call terminating vendor.

Routing Criteria

This screen 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** in the toolbar. An existing routing criterion can be edited by clicking on its name in the list.




Minimum Calls	Penalty Time, min	Threshold	ASR, %	Min. PDD, ms	Low PDD Calls, %	Max. PDD, ms	High PDD Calls, %	ALOC, sec	Profit per Minute, USD
100	120	Warning	35	100		3000		180	0.00500
		Penalty	30					120	0.00100

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.

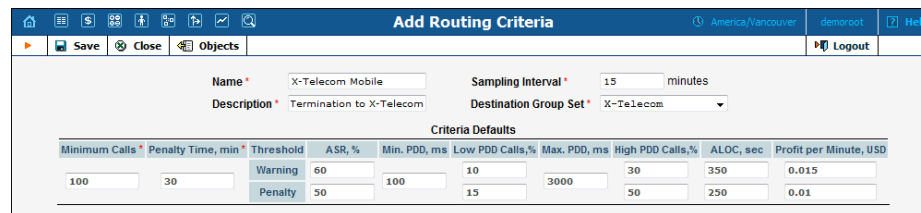
Field	Description
Minimum Calls	The minimum required amount of calls via a given connection within the sampling interval in order for the statistics to be considered representative. If the number of calls is below the specified value, the quality parameters will not be matched against the threshold, 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.
<i>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.</i>	
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** in 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.

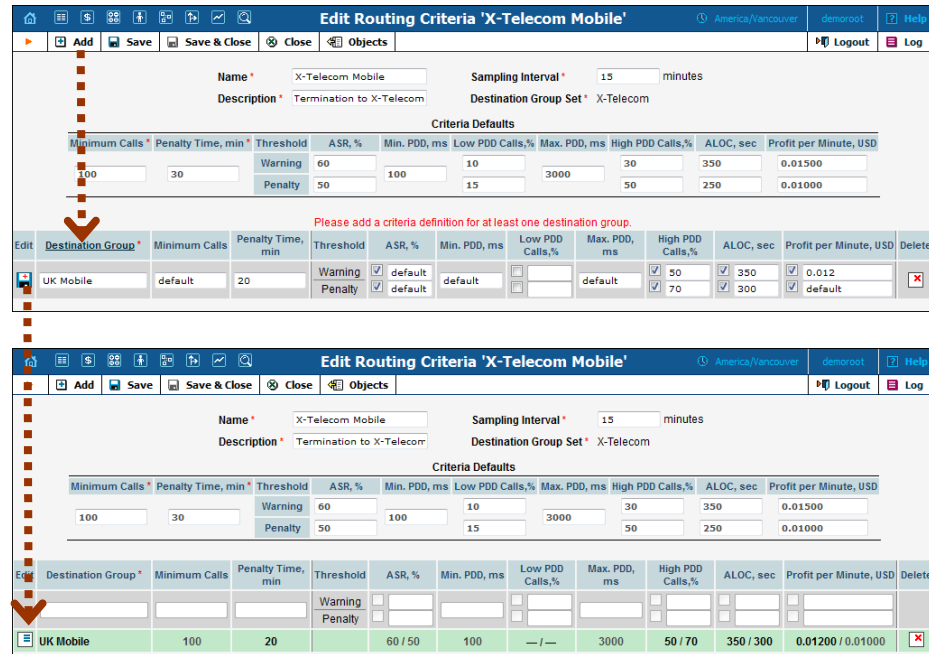


Minimum Calls	Penalty Time, min	Threshold	ASR, %	Min. PDD, ms	Low PDD Calls, %	Max. PDD, ms	High PDD Calls, %	ALOC, sec	Profit per Minute, USD
100	30	Warning	60	100	10	3000	30	350	0.015
		Penalty	50		15		50	250	0.01

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 pop-up window.

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

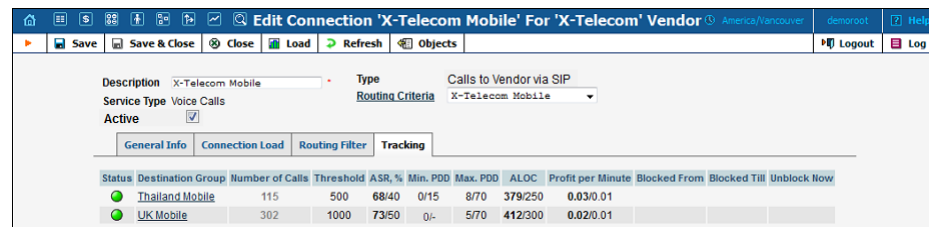
When the value of a parameter reaches the predetermined threshold, the administrator receives an e-mail alert about the latest connection threats. Moreover, the administrator can track the current connection status on the **Tracking** page. This status is represented by different colors, as follows:



-  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.

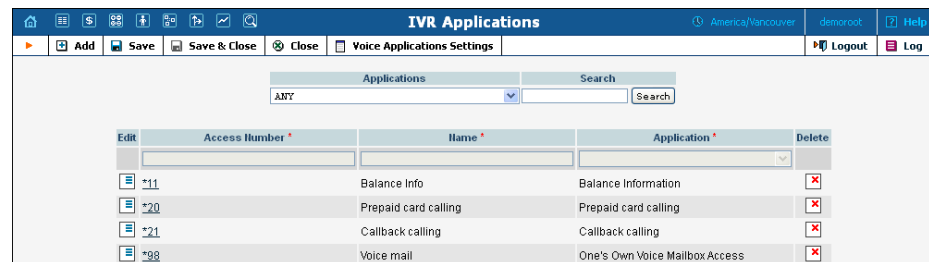
-  RED – the route was manually unblocked; this status will remain unchanged till the next time interval for which the statistics will be computed.











Status	Destination Group	Number of Calls	Threshold	ASR, %	Min. PDD	Max. PDD	ALOC	Profit per Minute	Blocked From	Blocked Till	Unblock Now
	Thailand Mobile	115	500	68/40	0/15	8/70	379/250	0.03/0.01			
	UK Mobile	302	1000	73/50	0/-	5/70	412/300	0.02/0.01			

IVR Applications

This screen allows users to quickly and conveniently define how PortaSwitch® should process calls to special IVR applications.



Edit	Access Number *	Name *	Application *	Delete
	*11	Balance Info	Balance Information	
	*20	Prepaid card calling	Prepaid card calling	
	*21	Callback calling	Callback calling	
	*98	Voice mail	One's Own Voice Mailbox Access	

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
Access Number	This column shows the actual phone number to be dialed by the user.
Name	This column shows the access number name.
Application	This column shows which application is to be used to process the call.

To register a new access number in PortaBilling®, click **Add** in the toolbar. To edit an existing access number, click the **Edit** icon next to it.

IVR Applications options

Click on an access number to get the IVR Applications options page. On the **Instance Parameters** tab you can view a list of all options for the selected access number and modify them.

The screenshot shows the IVR Applications management interface. The top section displays a list of applications with columns for Access Number, Name, and Application. An arrow points from the 'Edit' icon next to the application '16047899001' to the 'Instance Parameters' tab in the detailed view below.

Instance Parameters

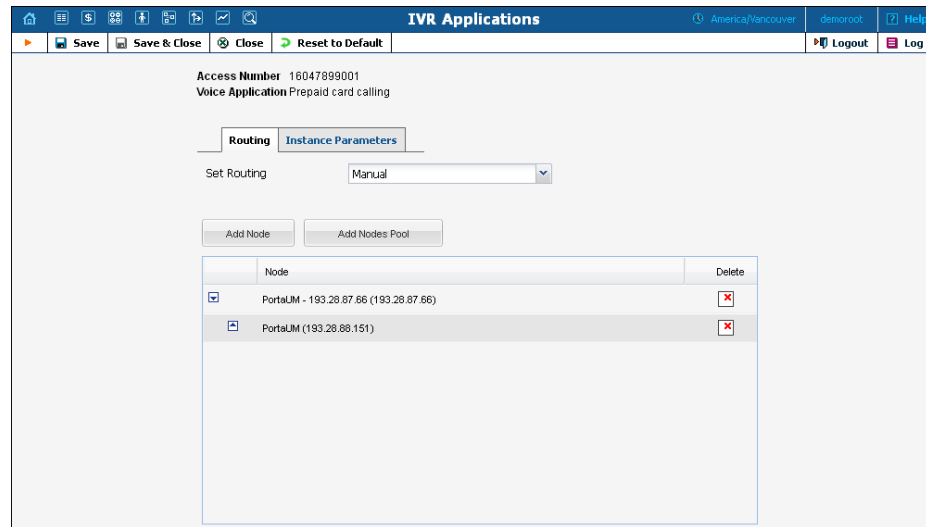
Option	Value	Option	Value
ANI Authentication	<input type="checkbox"/>	Credit Accounts Balance Announcement	backward coop
ANI Translation Rule	<input type="text"/>	Announce Credit Limit	<input type="checkbox"/>
Use ANI and Auth Code	<input type="checkbox"/>	Enable Self-Care menu	<input type="checkbox"/>
Minimum Auth Code Length	4	Play an announcement about Self-Care menu	<input type="checkbox"/>
Maximum Auth Code Length	4	Check Associated Number	<input type="checkbox"/>
Manual Authentication	<input checked="" type="checkbox"/>	Announce Time	<input checked="" type="checkbox"/>
PIN Translation Rule	<input type="text"/>	Use Special Access Code for First Calls	<input type="checkbox"/>
Auto Registration	<input type="checkbox"/>	Use Fixed Access Code for First Calls	<input checked="" type="checkbox"/>
Auto Registration Without Confirmation	<input type="checkbox"/>	Use Announcement Tariff	<input type="checkbox"/>
Minimum Card Length	11	Select Outgoing Tariff Based on ANI	<input type="checkbox"/>
Maximum Card Length	11	Seconds Rounding Mode	none
Maximum Login Attempts	3	Play Pre-ring MOH	<input type="checkbox"/>
Authorize with IVR Session ID	<input checked="" type="checkbox"/>	Dynamic Reauthorization	<input type="checkbox"/>
Check Service Password	none	Music on Hold Class	ringtone
Minimum Password Length	4	End Announce Time, sec	0
Maximum Password Length	4	Repeat Every, sec	0
Languages	<input type="text"/>	End Announce Type	beep
Conf Language List is Preferred	<input type="checkbox"/>	Disconnect Call Before, sec	0
Prompts Brand	<input type="text"/>	Maximum Dial Attempts	3
Play Welcome Message	<input type="checkbox"/>	Premium Number Subscribe Command	<input type="text"/>
Restriction for Calling with Low Balance	none	Premium Number SMS Number	<input type="text"/>
Minimum Voucher Length	11	Premium Number Deposited Amount	<input type="text"/>
Maximum Voucher Length	11	Premium Number Currency	<input type="text"/>
Announce Balance	<input checked="" type="checkbox"/>		



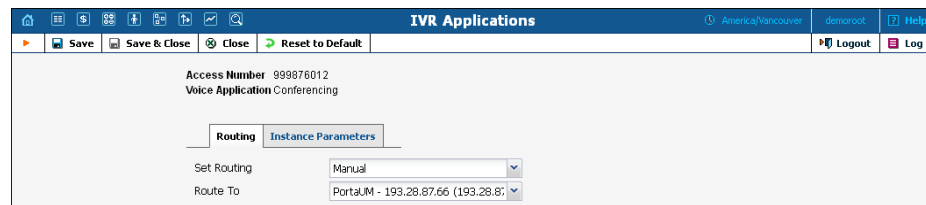
There is a helpful tool-tip for each option. Just point your mouse to the desired option to invoke it.

Routing tab

Here you can assign incoming calls on a particular access number to a chosen subset of available PortaSIP® 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.



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.

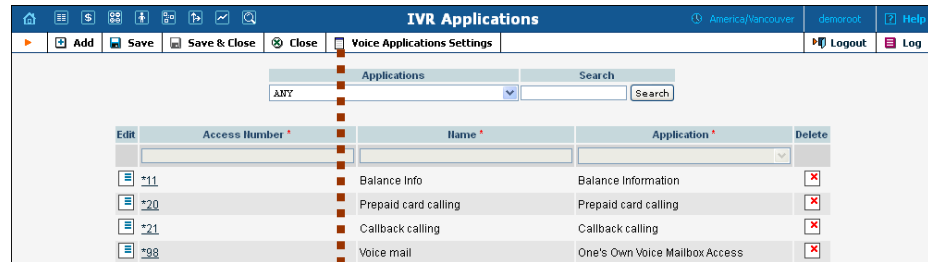


Column	Description
Set Routing	Here you can select which PortaUM® nodes (PortaSIP® Media Servers) incoming calls on this access number will be routed to: <ul style="list-style-type: none"> • Automatic – Calls will automatically be routed to randomly sorted PortaUM® nodes • Manual – Set custom routing configuration
Add Node <i>(Only for multi-node routing)</i>	Add PortaUM® nodes (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 telcos to the Media Servers located in the same region. This configuration will improve call quality by reducing network delay between the telco’s originating gateway and the PortaUM® server.
Add Nodes Pool <i>(Only for multi-node routing)</i>	Add a pool of PortaUM® nodes (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.

<p>Route To <i>(Only for single-node routing)</i></p>	<p>Select a single PortaUM® node (PortaSIP® Media Server) for where calls made to access numbers that do not support multi-node routing can be routed.</p>
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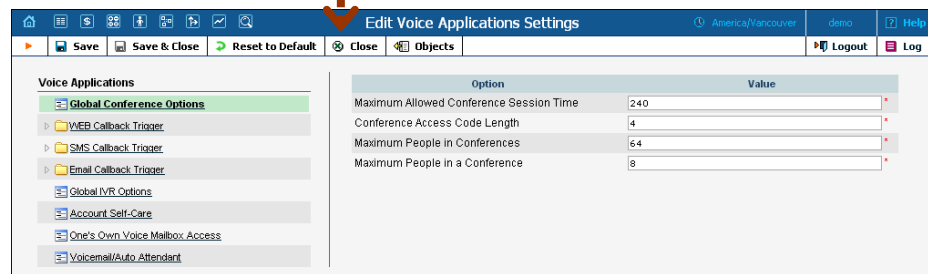
Voice Applications Settings

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.



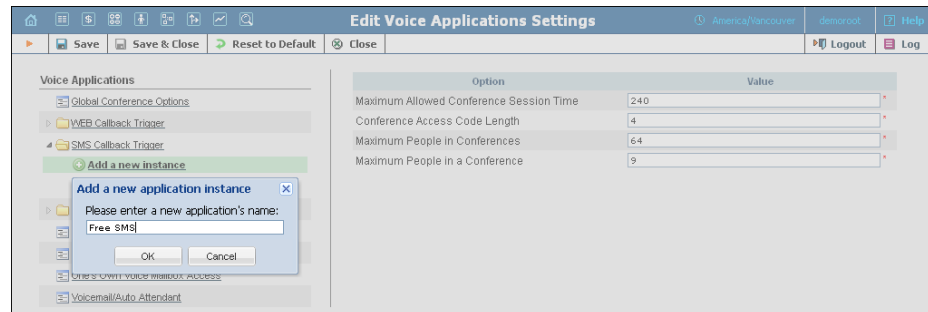
The screenshot shows the 'IVR Applications' page. At the top, there are navigation buttons: Add, Save, Save & Close, Close, and Voice Applications Settings. Below this is a search bar with 'ANY' selected. The main content is a table with columns: Access Number, Name, Application, and Delete. The table contains the following data:

Access Number	Name	Application	Delete
*11	Balance Info	Balance Information	[X]
*20	Prepaid card calling	Prepaid card calling	[X]
*21	Callback calling	Callback calling	[X]
*98	Voice mail	One's Own Voice Mailbox Access	[X]



The screenshot shows the 'Edit Voice Applications Settings' page. On the left, there is a tree view of 'Voice Applications' with 'Global Conference Options' selected. On the right, there is a table of options and their values:

Option	Value
Maximum Allowed Conference Session Time	240
Conference Access Code Length	4
Maximum People in Conferences	64
Maximum People in a Conference	8





The screenshot shows the 'Edit Voice Applications Settings' page. In the left tree view, 'SMS Callback Trigger' is selected, and 'Add a new instance' is highlighted. A dialog box titled 'Add a new application instance' is open, asking for a name. The input field contains 'Free SMS'.

Edit Voice Applications Settings America/Vancouver demoroot ? Help

Save Save & Close Reset to Default Close Logout Log

Option	Value
Callback Access Number	
Callback Engine	PIN
Callback Engine Host	
Authenticate Account Command	P
Registration Command	R
Change Service Password Command	CP
Check Balance Command	CB
Inbound Provider	Csofc
Outbound Provider	Csofc
Send SMS Login	
Send SMS Password	
Send SMS URL	
Company Name Template	
Company WEB Site Template	
Check Balance SMS Template	Your balance is <% \$balance %> <% \$iso_4217 %>
Recharging Account SMS Template	Your account has been updated. Your new balance is
Registration SMS Template	Account ID: <% \$id %> PIN: <% \$h323_password %>
Use Account ID as ANI	<input type="checkbox"/>
Account ID Translation Rule	sf~/cb/
ANI Translation Rule	
Send Authorization	<input checked="" type="checkbox"/>
Minimum Sufficient Time, sec	0
Destination Translation Rule	
Second Dialed Number Translation Rule	
Template Account	
Languages	
Conf Language List Is Preferred	<input type="checkbox"/>
Brand Prompts	
Play Welcome Message	<input type="checkbox"/>
Restrict Calls for Accounts with Low Balance	none
Announce Balance	<input checked="" type="checkbox"/>
Credit Accounts Balance Announcement	backward compatibility
Announce Credit Limit	<input type="checkbox"/>
Access Code	SMSCALLBACK
LegA CLD Prefix	
LegB CLD Prefix	
Expected Connect Time, sec	20

To add a new instance for the desired callback application, click on it and then press the  **Add a new instance** button. Enter a name for the new application in the pop-up window and then press **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 press  **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.

Edit Voice Applications Settings

Save Save & Close Reset to Default Close Logout Log

Option	Value
CallbackWEB Page Address	http://v/v/plum.portaone.com/8901.*
Callback Engine	YON
Callback Engine Host	
The Second Number to Connect	
Use Account ID as ANI	<input type="checkbox"/>
Account ID Translation Rule	*/~/
ANI Translation Rule	
Send Authorization	<input checked="" type="checkbox"/>
Minimum Sufficient Time, sec	0
Destination Translation Rule	
Second Dialed Number Translation Rule	
Minimum Card Length	5
Maximum Card Length	11
Maximum Login Attempts	3
Internal Account	
Languages	
Conf Language List Is Preferred	<input type="checkbox"/>
Brand Prompts	
Play Welcome Message	<input type="checkbox"/>
Restrict Calls for Accounts with Low Balance	none
Announce Balance	<input checked="" type="checkbox"/>
Credit Accounts Balance Announcement	backward compatibility
Announce Credit Limit	<input type="checkbox"/>
Access Code	WEBCALLBACK
LegA CLD Prefix	
LegB CLD Prefix	
Expected Connect Time, sec	20
Special Charge if LegB Fails	<input type="checkbox"/>
Strict Authorization	<input type="checkbox"/>
Announce Time	<input checked="" type="checkbox"/>
Use Announcement Tariff	<input type="checkbox"/>
Seconds Rounding Mode	none
Play Pre-ring MOH	<input type="checkbox"/>
Music on Hold Class	ringtone
Disconnection Warning Interval, sec	180
Repeat Every, sec	60
Type of Disconnection Warning	voice

Connections

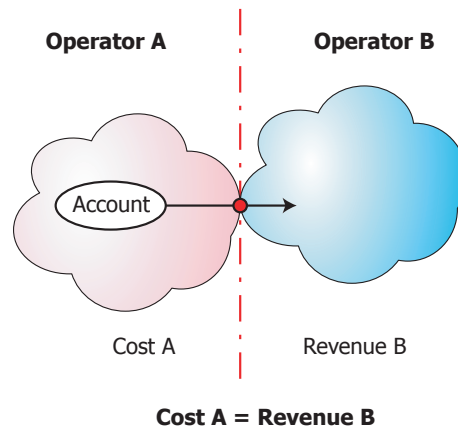
Definitions

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.

Description	Vendor	Service Type	Type	Gateway/Node	IP	Port	Access Code/Tech Prefix	Vendor Authorization	Tariff	Active	Delete
Arbinet	Arbinet	Voice Calls	Calls to Vendor via SIP		3.4.5.6				Arbinet	<input type="checkbox"/>	<input type="checkbox"/>
GlobalNet	GlobalNet	Voice Calls	Calls to Vendor via SIP		71.65.126.186				GlobalNet	<input type="checkbox"/>	<input type="checkbox"/>

Alternatively, you can access a list of connections for a particular vendor. To do so, click the  icon next to the vendor name in the vendor list, or click  **Connections** in the toolbar on the vendor info screen.

xDRs	Name	Connections	Currency	Balance	E-mail	Delete
	Arbinet	2	USD	0.00000		<input type="checkbox"/>
	iBasis	3	USD	0.00000		<input type="checkbox"/>
	Sip-to-Sip calls	3	USD	2.51665		<input type="checkbox"/>
	Voxbone	3	USD	0.00000		<input type="checkbox"/>
	X-Telecom	1	USD	0.00000		<input type="checkbox"/>

Description	Service Type	Type	Gateway/Node	IP	Port	Access Code/Tech Prefix	Vendor Authorization	Tariff	Active	Delete
Arbinet1	Voice Calls	Calls to Vendor via SIP		3.4.5.6				Arbinet	<input type="checkbox"/>	<input type="checkbox"/>
Arbinet2	Voice Calls	Calls to Vendor via SIP		9.6.7.3				Arbinet	<input type="checkbox"/>	<input type="checkbox"/>

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 select  **Add**.

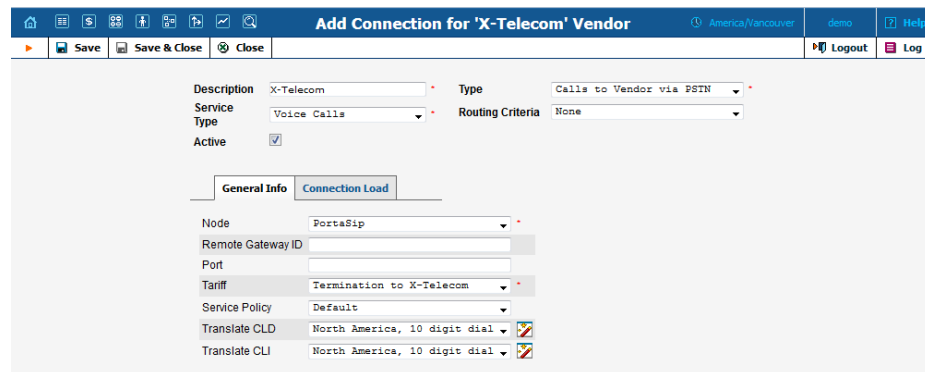
Field	Description
Description	A logical description of the connection.
Service Type	The type of service this connection is used to transport (voice calls, Internet connectivity, etc.) NOTE: While services are used to represent and bill your customers' activities to them, you use service types to define 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: <ul style="list-style-type: none"> • 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 DID) 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.
	<i>The following field is only available for “Calls to Vendor via SIP” and “Calls to Vendor via PSTN” connections:</i>
Routing Criteria	Defines what routing criteria will be applied to this connection.

Other available fields on the **Add Connection** form 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: <ul style="list-style-type: none"> • ‘_’ – 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: <ul style="list-style-type: none"> • Do not translate the number (treat as E.164) – 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 drop-down list. You can click the Wizard  icon at the right


	<p>to launch the Dialing Rules wizard and view parameters specified for this rule.</p> <p>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).</p>
<p><i>The following fields are only available for “Calls from Vendor via PSTN” connections:</i></p>	
CLD (DNIS)	<p>Specifies the access number the customer dialed in order to reach your network.</p>
Info Digits	<p>Info Digits is ISDN Originating Line Information sent by the gateway, which allows accounts to be billed depending on where the call is originated from. Simply associate the corresponding tariff with any OLI in Services and Rating.</p> <p>Please note that the gateway should be configured to support OLI.</p>
<p><i>The following fields are only available for “Calls to Vendor via PSTN” connections:</i></p>	
Remote Gateway ID	<p>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.</p> <p>The value in this field should take one of the following forms:</p> <ul style="list-style-type: none"> • 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. • 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. One possible use is termination to multiple remote ports on the same IP; then the Remote Gateway ID can help to distinguish the routes, e.g. PORT5020, PORT5021.

<p>Service Policy</p>	<p>Specifies a predefined set of options which are applied to calls going through this connection.</p> <p>Note that the options may be overridden by those defined for the caller or called account (depending on the connection type).</p>
<p>Translate CLI</p>	<p>Select one of the following options:</p> <ul style="list-style-type: none"> • Do not translate the number (treat as E.164) – 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 drop-down list. You can click the Wizard  icon at the right to launch the Dialing Rules wizard and view parameters specified for this rule. <p>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).</p>

Calls to/from Vendor via SIP connections with Voice Calls service type

Field	Description
<p>Remote IP</p>	<p>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</p>

	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	<p>Describes the NAT traversal capabilities of the remote gateway (the default value is set to Optimal):</p> <ul style="list-style-type: none"> • 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	<p>Select one of the following options:</p> <ul style="list-style-type: none"> • Do not translate the number (treat as E.164) – 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 drop-down list. You can click the Wizard  icon at the right to launch the Dialing Rules wizard and view parameters specified for this rule. <p>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).</p>

Translate CLI	<p>Select one of the following options:</p> <ul style="list-style-type: none"> • Do not translate the number (treat as E.164) – 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 drop-down list. You can click the Wizard  icon at the right to launch the Dialing Rules wizard and view parameters specified for this rule. <p>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).</p>
Service Policy	<p>This specifies a predefined set of options that are applied to calls going through this connection.</p> <p>Note that options may be overridden by those defined for the caller or called account (depending on the connection type).</p>
<i>The following fields are only available for "Calls to Vendor via SIP" connections:</i>	
Remote IP Port	<p>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.</p>
Remote Gateway ID	<p>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.</p> <p>The value in this field should take one of the following forms:</p> <ul style="list-style-type: none"> • 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 <code>mytelecom.net</code>. All other restrictions related to the domain name (e.g. permitted characters) apply as well.

	<ul style="list-style-type: none"> • The special matching keywords <code>SIP-URI</code>, <code>INTERNAL</code> or <code>SIP-UA</code> used internally in routing. • Another custom name that helps to identify the connection. Given in uppercase without any dots. One possible use is termination to multiple remote ports on the same IP; then the Remote Gateway ID can help to distinguish the routes, e.g. <code>PORT5020</code>, <code>PORT5021</code>.
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. <ul style="list-style-type: none"> • 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.
<i>The following fields are only available for "Calls from Vendor via SIP" connections:</i>	
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. <ul style="list-style-type: none"> • 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.'
Rate Match Mode	This parameter allows you to rate calls either based on their destination or the caller's number.

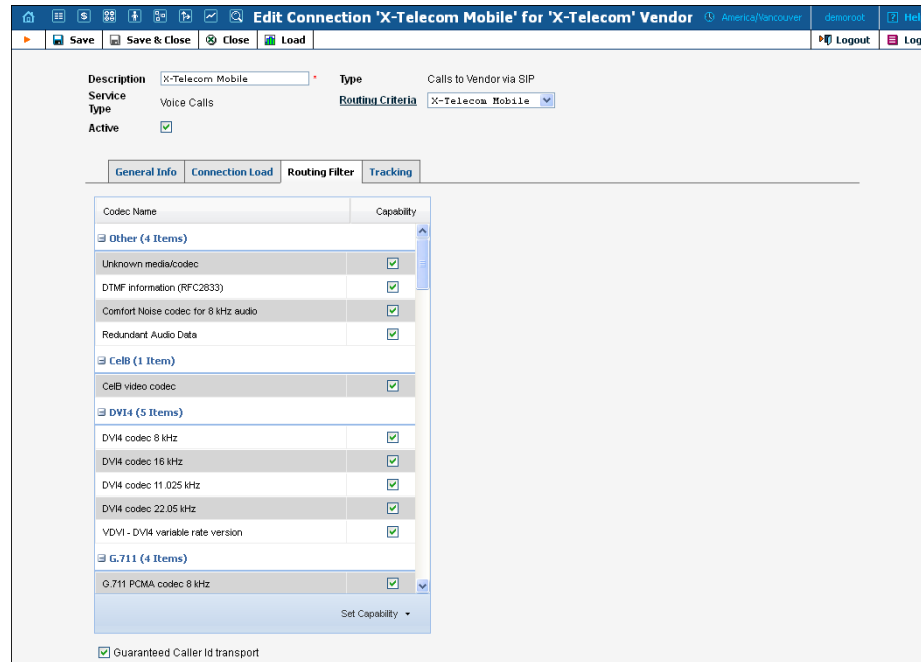
	<ul style="list-style-type: none"> • Default – Rating based on the destination number. • Calling number – Allows the use of the caller’s number to calculate the billing charges (e.g. for charging the owner of a toll-free number for incoming calls).
--	--

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.
<i>The following fields are only available for “Calls to Vendor via SIP/PSTN” connections:</i>	
Limit Utilization By Capacity	Check this 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

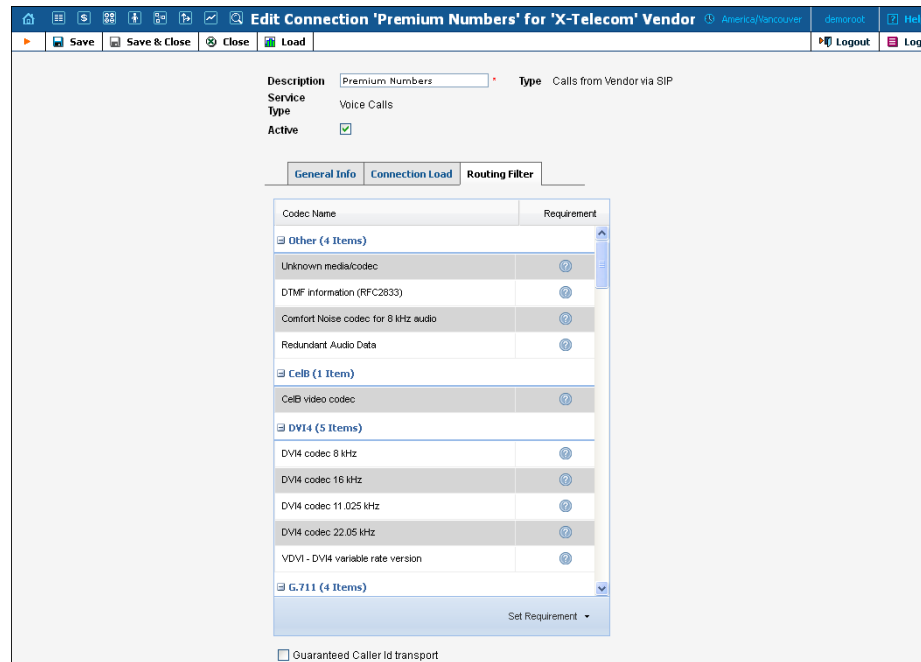
For “Calls to Vendor via SIP” connections, the routing filter allows you to define the capabilities of the remote party (such as the gateway of a carrier) and your preferences for using them.



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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 in the toolbar.

8 ■ 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.

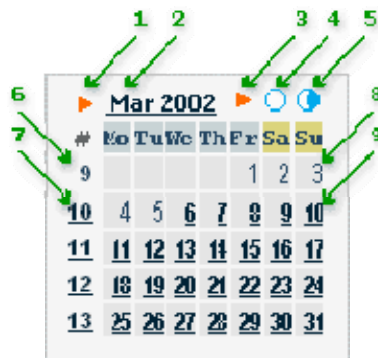
Icon	Description
	Zoom Out. Click the icon or the top part of the graph to see a 50% longer time interval.
	Zoom In. Click the icon or the bottom part of the graph to see a 50% shorter time interval and a more detailed graph.
	Back in time. Click the icon or the left part of the graph to move back in 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 screen 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.

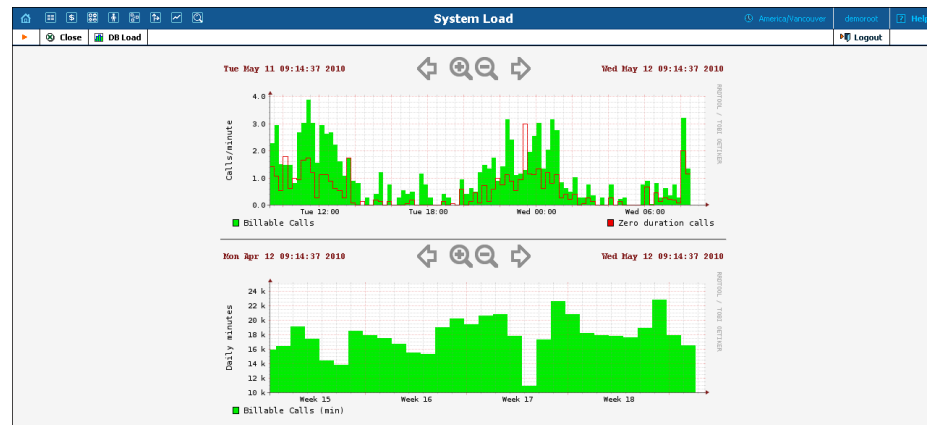
4. Click this icon to download statistics for the first half of the month.
5. Click this icon to download statistics for the second half of the month.
6. The number of the week in the current year. No report was generated for this week, so there is no link.
7. Same as 6, but here a report has been generated 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.

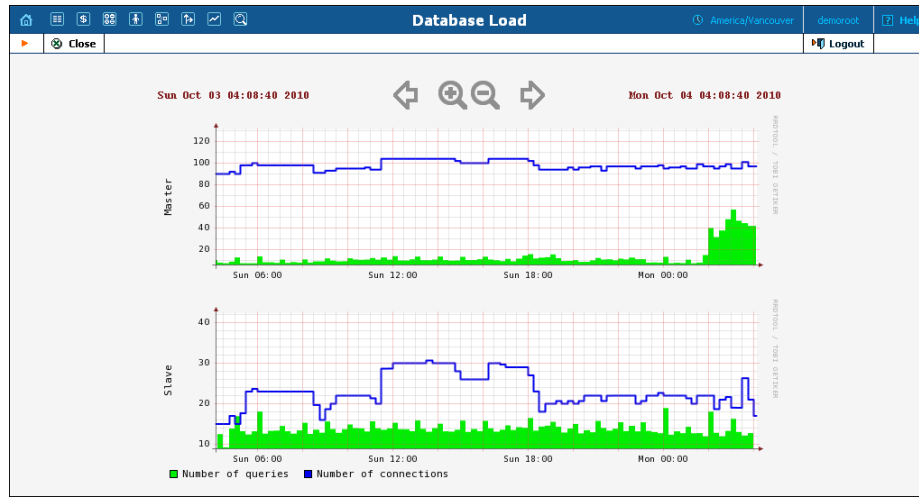


The **Calls/minute** graph at the top shows the number of calls, and is broken down into “Billable” and “Zero Duration” calls. The **Daily minutes** graph shows the total call volume (in minutes) that passes through your system per day.

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.

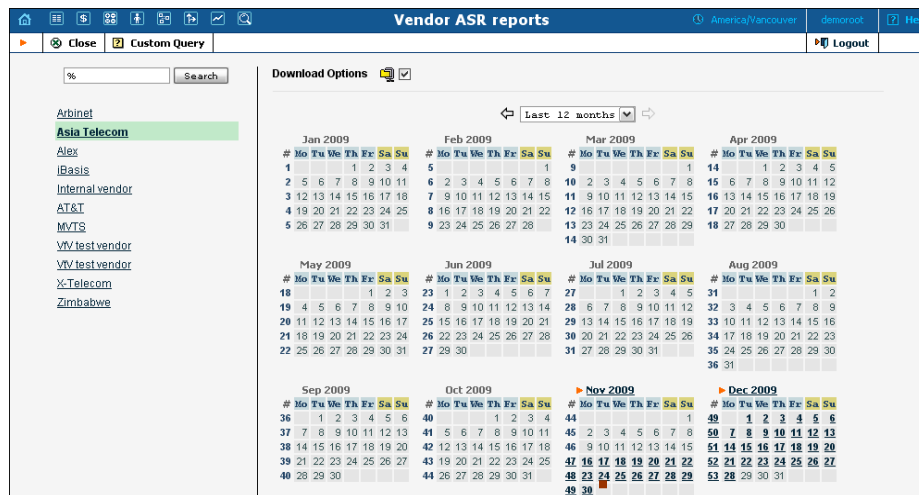


ASR

The Vendor ASR reports screen 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 screen, 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. Check the 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	2	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.

Close
Custom Query
America/Vancouver
demoroot
Help

Vendor:

Customer:

Service:

Destination:

From: YYYY-MM-DD HH:MM:SS

To: YYYY-MM-DD HH:MM:SS

Split:

Interval	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

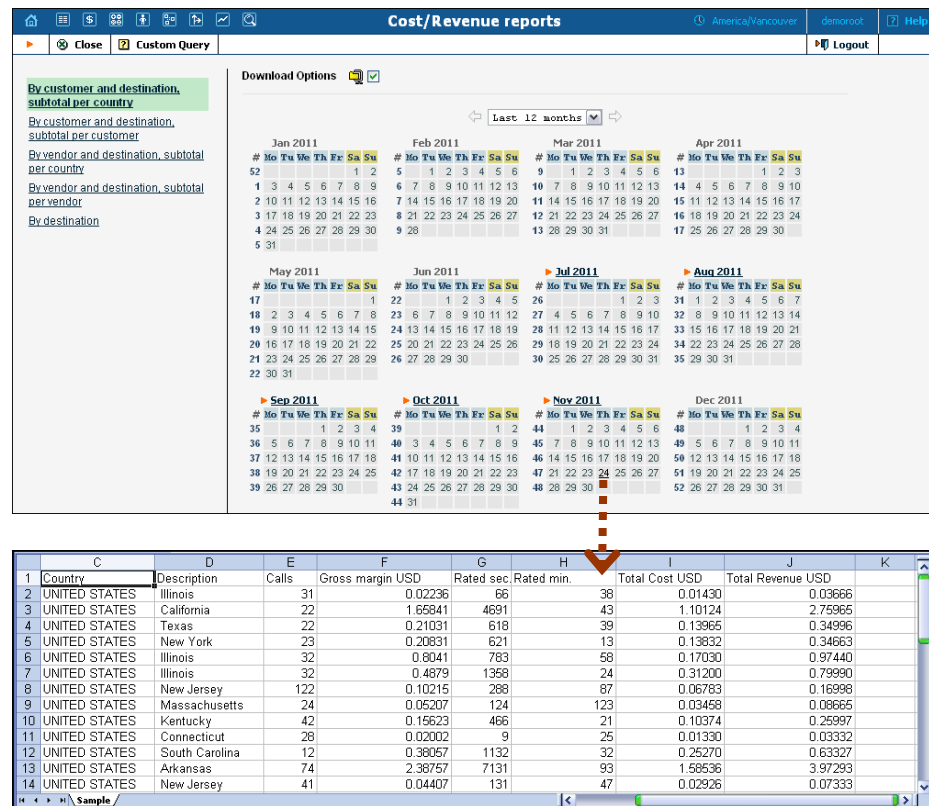
a particular vendor (use the xDR statistics for the corresponding vendor), and should **never** be used to obtain information such as “total minutes for a particular customer.” Since this report operates with the vendor’s xDR, it will provide figures according to the vendor’s time rounding, not the customer’s. 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 screen 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.

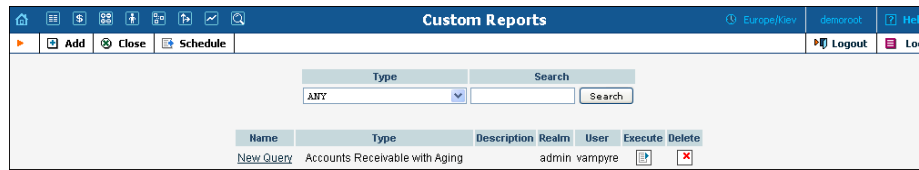




The screenshot shows the 'Cost/Revenue reports' interface. On the left, there are download options: 'By customer and destination, subtotal per country' (highlighted in green), 'By customer and destination, subtotal per customer', 'By vendor and destination, subtotal per country', 'By vendor and destination, subtotal per vendor', and 'By destination'. The main area shows a calendar view for 'Last 12 months' with data for each day of the month. Below the calendar is a table with columns C through K. A red arrow points from the '24' in the calendar to the '24' in column H of the table.

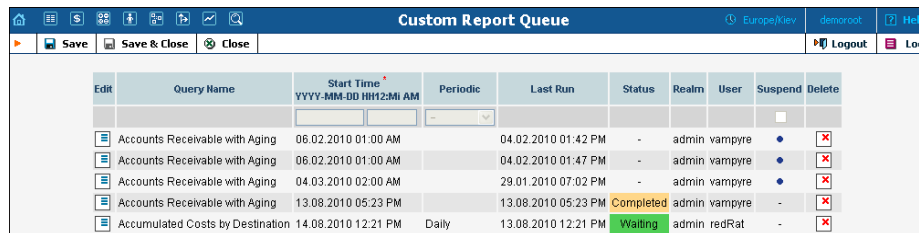
	C	D	E	F	G	H	I	J	K
1	Country	Description	Calls	Gross margin USD	Rated sec.	Rated min.	Total Cost USD	Total Revenue USD	
2	UNITED STATES	Illinois	31	0.02236	66	38	0.01430	0.03686	
3	UNITED STATES	California	22	1.65841	4691	43	1.10124	2.75965	
4	UNITED STATES	Texas	22	0.21031	618	39	0.13965	0.34996	
5	UNITED STATES	New York	23	0.20831	621	13	0.13832	0.34663	
6	UNITED STATES	Illinois	32	0.6041	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

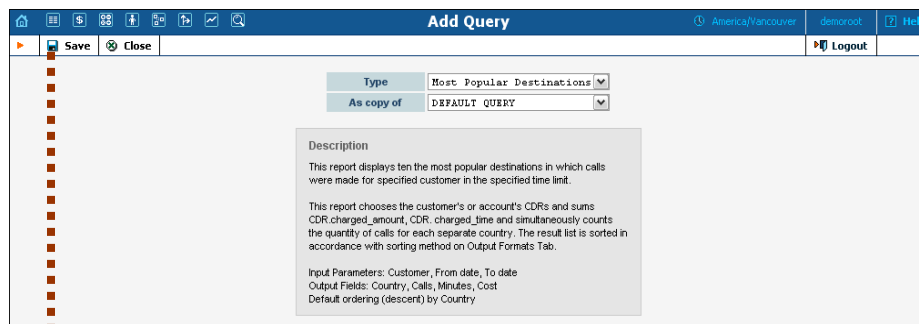
The Custom Reports section allows you to manage and execute custom report queries.



On the initial Custom Reports screen, 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 in the toolbar to see information about scheduled report execution.




Click  **Add** to create a new report by choosing the type of report (one of the pre-defined types) and whether this report should be created as a clone of some existing report (inheriting all parameters defined in that report), or just as a blank copy. Press  **Save** to proceed in defining the report.



Type in a descriptive name for the new query. This is the name that will be displayed on the Custom Reports screen. Define the Custom Reports time zone that will be applied to the date ranges of the query execution. This TZ will be applied to the date(s) in the query 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 TM for the query execution coincides with the User's TZ, you can simply set the time zone to '**Auto**'. In that case, the query will be executed in the User's TZ.

On the Edit query page, you can alter various parameters of this query. Click the  **Execute** button in the toolbar to run the query and immediately see the result in your web browser.

Query Info tab

Field	Description
Send Report To Owner	If this check box is ticked, 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:

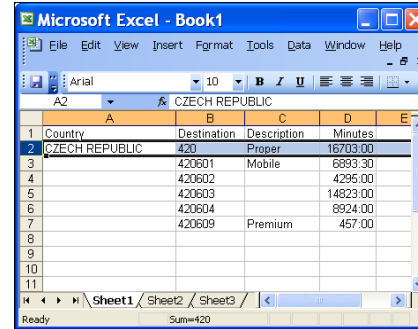
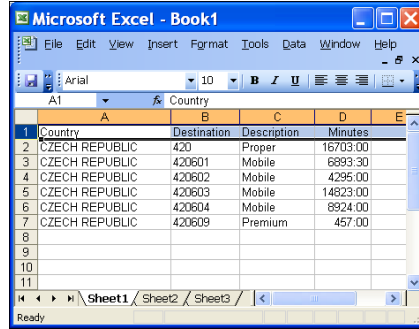
- You can type in a specific value, e.g. “01-Jan-2007”; this value will always stay the same for any report execution.
- You can specify a moment in time as an offset from the scheduled report execution date. For instance, you can set up the “Customer’s most popular destinations” report to run every 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.

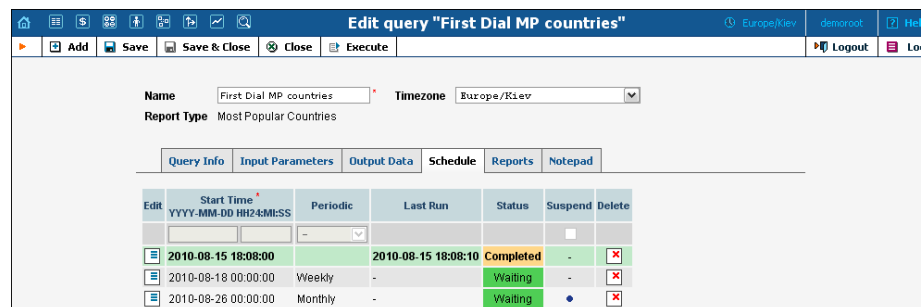
The Suppress Duplicates option allows you to make your reports more readable by removing excess information. Compare the two datasheets below, in which the same data is shown, but where the right one has Suppress Duplicates enabled for certain columns.



Column	Description
Column	Name of the report column.
Sort	Specifies the sorting mode for this column: <ul style="list-style-type: none">  - Data is sorted in ascending order (i.e. Andrew will be at the top of the list, and Zack at the bottom).  - Data is sorted in descending order (i.e. Zack will be at the top of the list, and Andrew at the bottom). — - 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 in the toolbar to add a new entry.

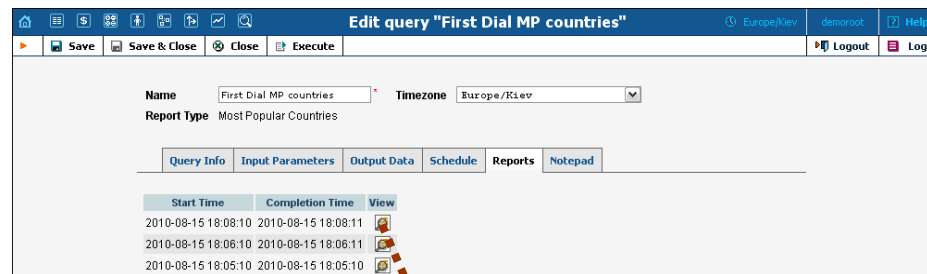


Column	Description
Start Time	Date and time when the report should be produced.
Periodic	Specifies whether the report should only be produced once, or generated every day, week or month.
Last Run	The date when the report was last executed (if applicable).
Status	Current status of the report: <ul style="list-style-type: none"> • 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  icon to see the corresponding file.



Report results for "First Dial MP countries", "2010-08-15 18:18:11"

Report Type: Most Popular Countries
 Currency: USD
 Timezone: Europe/Kiev
 Input Values:

From	To	Customer
2010-08-14 00:00:00	2010-08-15 18:18:03	New Customer

Description

This report displays ten the most popular countries in which calls were made for specified customer in the specified time limit.

This report chooses the customer's or account's CDRs and sums CDR charged_amount, CDR. charged_time and simultaneously counts the quantity of calls for each separate country. The result list is sorted in accordance with sorting method on Output Formats Tab.

Input Parameters: Customer, From date, To date
 Output Fields: Country, Calls, Minutes, Cost
 Default ordering (descent) by Country

Country	Calls	Minutes	Cost
Total			0

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	Existing 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	N	The names of	The choice of one or

Sets		the existing destination group sets	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 <i>Total Minutes</i> value is greater than <i>Average Minutes</i> , Red if less, Blue if <i>Total Minutes</i> and <i>Average Minutes</i> 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 tick all the checkboxes in the **Visible** column, so that all available information will be included in the report. Click **Save** and then press **Execute**.

To evaluate the **Average Minutes** and generate a report, the system will look up the average 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.

Report results for "DDD", "2012-09-28 16:17:15"

Close Download Objects

Report Type: Traffic Usage Trending
 Timezone: Europe/Prague

Input Values: Reseller Customers From To Variance, % Number of Weeks Destination Group Sets
 None All 2012-01-01 00:00:00 2013-01-01 00:00:00 10 4

Description
 This report shows traffic usage trending by customers.
 Input Parameters:
 Reseller, Customers, From date, To date, Variance, Number of weeks for calculating average historical traffic, Destination group
 Output Fields:
 Reseller, Customer, Date, Total minutes, Indicator, Average minutes, Variance, Destination group set 1, Destination group set 2, Destination group set n
 Default ordering:
 Customers(asc), Dates(desc)

Reseller	Customers	Date	Total Minutes	Indicator	Average Minutes	Variance
None	ABCTelecom	24-09-2012	760	+	678	
None	EasyCall	19-09-2012	540	+	455	272
None	EasyCall	20-09-2012	230	-	27	-94
None	EasyCall	21-09-2012	678	+	811	-100
None	I-net	27-08-2012	1220	+	840	
None	I-net	28-08-2012	480	=	480	0

Cost / Revenue Statistics' Advanced Report

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 Sub-customers 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 sub-customers 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 sub-customers of the selected Reseller.
Date From	Y	Date	Starting date of the period.
Date To	Y	Date	Ending date of the period.

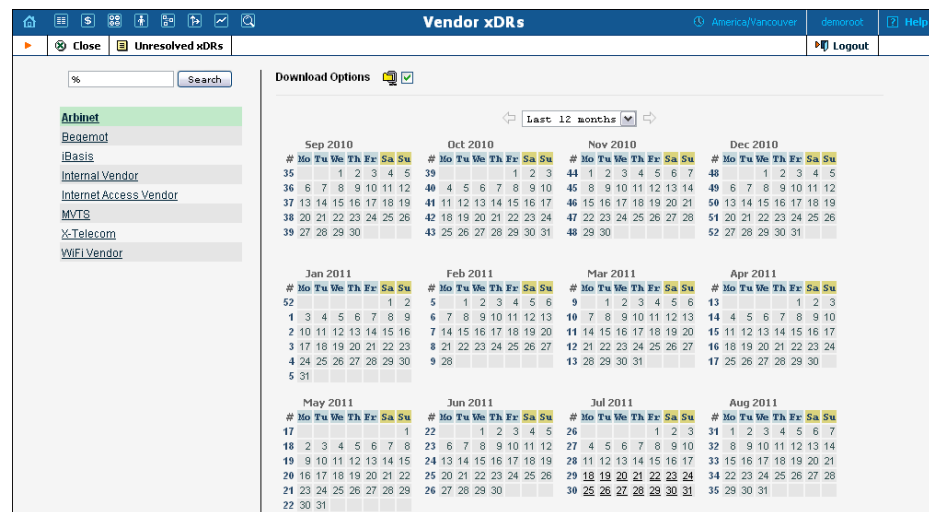
Output data tab:

Column	Description
Customer Name	The name of a reseller's sub-customer.
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 sub-customer 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 screen 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 screen, or by entering the vendor’s name in the search field and clicking the **Search** button. The wildcard symbol ‘%’ may also be used.



The screenshot shows the 'Vendor xDRs' interface. On the left, there is a search bar with a '%' wildcard and a 'Search' button. Below it is a list of vendors: Arbinet, Begetnet, iBasis, Internal Vendor, Internet Access Vendor, MVTs, X-Telecom, and WiFi Vendor. On the right, there is a 'Download Options' section with a checked checkbox and a 'Last 12 months' dropdown menu. The main area displays a calendar grid for xDRs from September 2010 to August 2011. Each day in the grid has a number representing the count of xDRs for that day. The grid is organized by month and year, with days of the week (Mo, Tu, We, Th, Fr, Sa, Su) indicated at the top of each column.

Unresolved xDRs

The “Unresolved xDRs” screen 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** screen -> **Report Info** Tab -> **Reconciliation Period**.

"Unresolved xDRs" reports

Download Options

← Last 12 months →

Nov 2009					Dec 2009					Jan 2010					Feb 2010																
#	Mo	Tu	We	Th	Fr	Sa	Su	#	Mo	Tu	We	Th	Fr	Sa	Su	#	Mo	Tu	We	Th	Fr	Sa	Su	#	Mo	Tu	We	Th	Fr	Sa	Su
44						1	49	1	2	3	4	5	6	53							1	2	3	5	1	2	3	4	5	6	7
45	2	3	4	5	6	7	8	50	7	8	9	10	11	12	13	4	5	6	7	8	9	10	6	3	9	10	11	12	13	14	
46	9	10	11	12	13	14	15	14	15	16	17	18	19	20	2	11	12	13	14	15	16	17	7	15	16	17	18	19	20	21	
47	16	17	18	19	20	21	22	21	22	23	24	25	26	27	3	18	19	20	21	22	23	24	8	22	23	24	25	26	27	28	
48	23	24	25	26	27	28	29	28	29	30	31				4	25	26	27	28	29	30	31									
49	30																														

Mar 2010 Apr 2010 May 2010 Jun 2010

Jul 2010 Aug 2010 Sep 2010 Oct 2010

Customer xDRs

The Customer xDRs screen 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 screen, or by entering the customer's name in the search field and clicking the **Search** button. The wildcard symbol '%' may also be used.

Customer xDRs

Download Options xDR Types Invoice Debit

← Last 12 months →

EasyCall

- EasyCall
- EasyCall Ltd
- EasyCall PBX

Nov 2013					Dec 2013					Jan 2014					Feb 2014																			
#	Mo	Tu	We	Th	Fr	Sa	Su	#	Mo	Tu	We	Th	Fr	Sa	Su	#	Mo	Tu	We	Th	Fr	Sa	Su	#	Mo	Tu	We	Th	Fr	Sa	Su			
44						1	2	3	48	1	1	1	2	3	4	5	5	1	1	2	3	4	5	5	1	2								
45	4	5	6	7	8	9	10	49	2	3	4	5	6	7	8	2	6	7	8	9	10	11	12	6	3	4	5	6	7	8	9			
46	11	12	13	14	15	16	17	50	9	10	11	12	13	14	15	3	13	14	15	16	17	18	19	7	10	11	12	13	14	15	16			
47	18	19	20	21	22	23	24	51	16	17	18	19	20	21	22	4	20	21	22	23	24	25	26	8	17	18	19	20	21	22	23			
48	25	26	27	28	29	30	31	52	23	24	25	26	27	28	29	5	27	28	29	30	31			9	24	25	26	27	28					

Mar 2014 Apr 2014 May 2014 Jun 2014

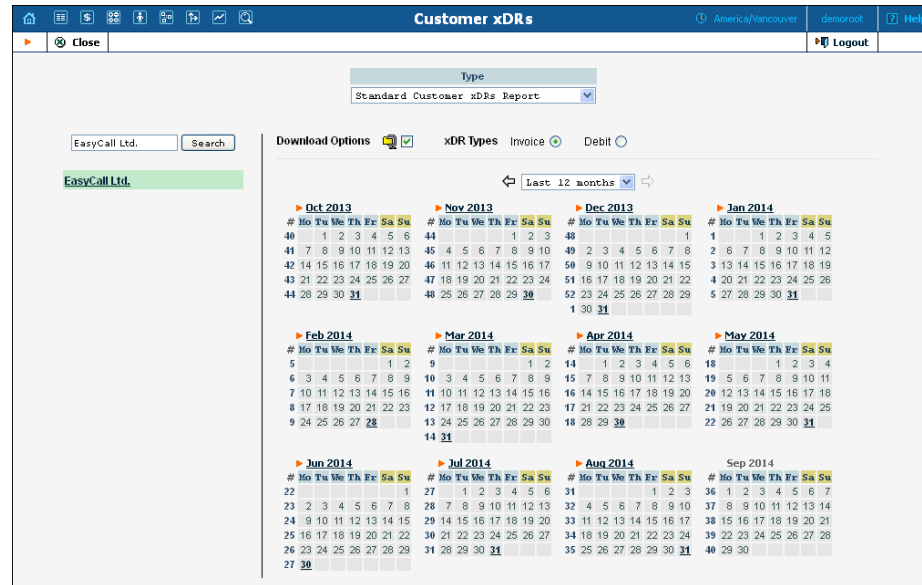
Jul 2014 Aug 2014 Sep 2014 Oct 2014

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:









1. Standard Customer xDRs Report – Report generated for a customer’s accounts.
2. Distributor Commission Report – Report generated for a distributor.
3. Site Based Report (csv and pdf) – Report generated for a customer site’s accounts.

Invoices



The Invoices screen 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.


View	No.	Customer	Date	Payment Status	Status	Re-create	Period From	Period To	Due Date	Amount Due	Amount Net	Open Amount	Void
	5164	SIP Accounts	2013-06-30	Do not pay			2013-06-01	2013-06-30	2013-06-30	-3271.65 USD	1.68 USD	N/A	
	4689	SIP Accounts	2013-05-31	Do not pay			2013-05-01	2013-05-31	2013-05-31	-7.33 USD	0.01 USD	N/A	

Field	Description
Amount Due	The total of the previous invoice amount due plus the current invoice total.
Amount Net	The sum of all charges in this billing period minus credits / refunds. (The same as Invoice Total.)
Open Amount	The difference between Amount Net and Amount Paid (amount already paid for this invoice). This shows the amount customer must pay to cover the current invoice in full.

Select the **View**  icon in the result list to view or print the selected invoice. The **Closed**  icon appears when an invoice has been delivered to the customer and cannot be changed. An invoice is considered delivered when the customer receives an e-mail with the invoice attached, or clicks the **View** icon in the Invoice section of the Customer Self-care interface. If the invoice is not locked, it will be automatically updated if the balance changes (re-costing of calls, for example); otherwise, a new invoice with a re-costing adjustment will be generated.

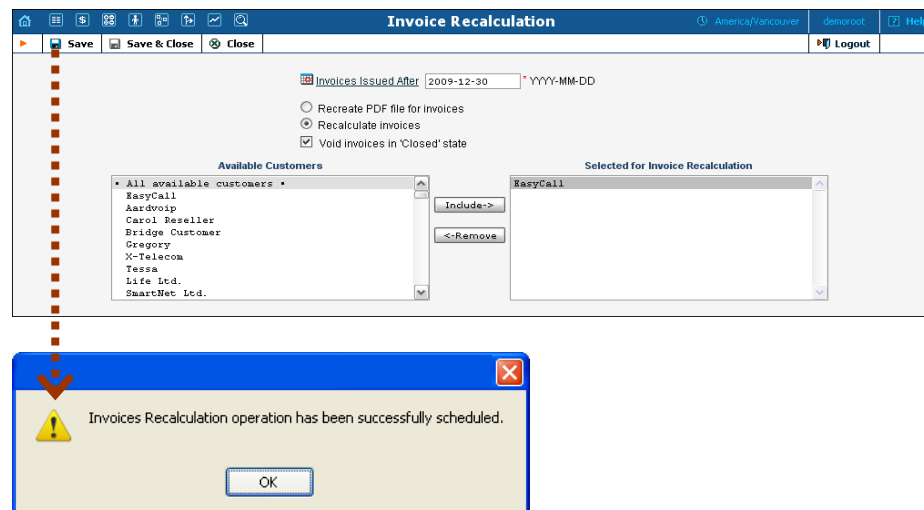
You can change the status of an invoice manually by clicking the **Status** icon.

The **Re-create**  icon allows you to recreate an invoice. By clicking this icon you can schedule invoice recreation. This will not affect any changes except layout attributes, customer and / or company info, and PDF file renewal. Invoice recreation is useful when you have made some changes to a particular invoice template, or if certain customer or company attributes have been changed.

The **Download All**  button allows you to download all displayed invoices in just one click.

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 box appears only if your choice is to recalculate invoices. Check 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 <i>All available customers</i> on top. Then click the Include-> button. The customers selected will appear in the Selected for Invoice Recalculation box.

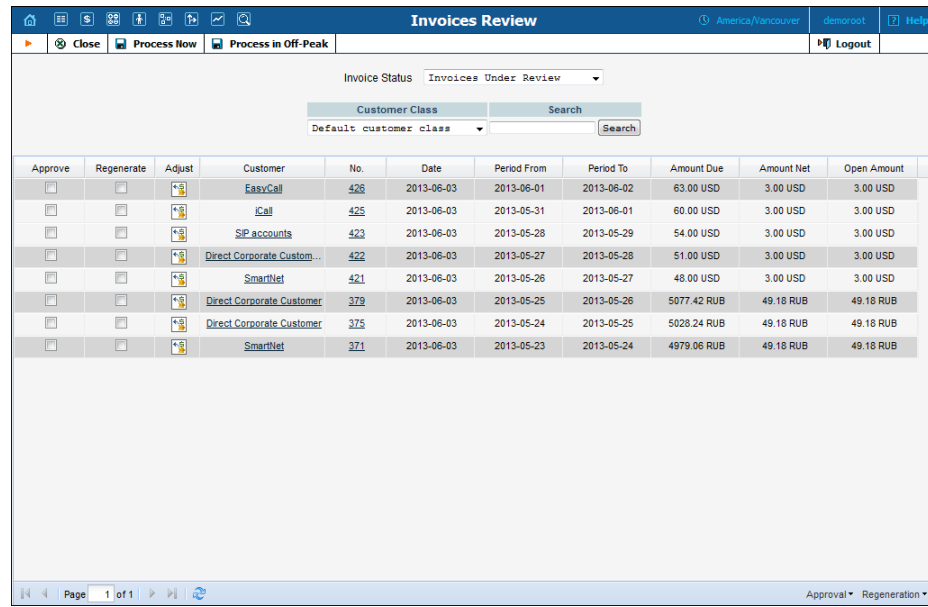
After you have made your choice, click **Save**. You will receive confirmation that the recalculation has been successfully scheduled. The system will perform it during the next statistics calculation period and send you a confirmation e-mail upon completion.









To check if an invoice has been recalculated, go to the **Invoices** screen 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.



Approve	Regenerate	Adjust	Customer	No.	Date	Period From	Period To	Amount Due	Amount Net	Open Amount
<input type="checkbox"/>	<input type="checkbox"/>		EasyCall	426	2013-06-03	2013-06-01	2013-06-02	63.00 USD	3.00 USD	3.00 USD
<input type="checkbox"/>	<input type="checkbox"/>		iCall	425	2013-06-03	2013-05-31	2013-06-01	60.00 USD	3.00 USD	3.00 USD
<input type="checkbox"/>	<input type="checkbox"/>		SIP accounts	423	2013-06-03	2013-05-28	2013-05-29	54.00 USD	3.00 USD	3.00 USD
<input type="checkbox"/>	<input type="checkbox"/>		Direct Corporate Custom...	422	2013-06-03	2013-05-27	2013-05-28	51.00 USD	3.00 USD	3.00 USD
<input type="checkbox"/>	<input type="checkbox"/>		SmartNet	421	2013-06-03	2013-05-26	2013-05-27	48.00 USD	3.00 USD	3.00 USD
<input type="checkbox"/>	<input type="checkbox"/>		Direct Corporate Customer	379	2013-06-03	2013-05-25	2013-05-26	5077.42 RUB	49.18 RUB	49.18 RUB
<input type="checkbox"/>	<input type="checkbox"/>		Direct Corporate Customer	375	2013-06-03	2013-05-24	2013-05-25	5028.24 RUB	49.18 RUB	49.18 RUB
<input type="checkbox"/>	<input type="checkbox"/>		SmartNet	371	2013-06-03	2013-05-23	2013-05-24	4979.06 RUB	49.18 RUB	49.18 RUB

Field	Description
Amount Due	The total of the previous invoice amount due plus the current invoice total.
Amount Net	The amount charged to cover the invoice for services consumed during the billing period.
Open Amount	The difference between Amount Net and Amount Paid. This shows the amount customer must pay to cover the current invoice in full.

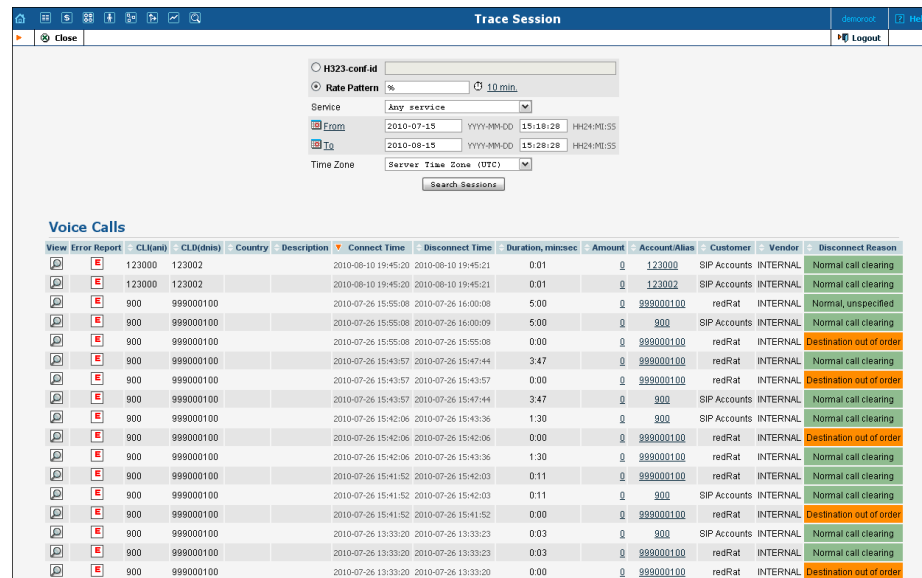
To approve an invoice select the **Approve** check box or click the **Approval** button at the bottom of the page and tick the **Select all** check box to approve all the invoices. To regenerate an invoice select the **Regenerate** check box or you can regenerate all the invoices by clicking the **Regeneration** 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.

9. 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 **rate pattern (destination)**, 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 window 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.



View	Error Report	CL(ani)	CLD(dnis)	Country	Description	Connect Time	Disconnect Time	Duration, min:sec	Amount	Account/Alias	Customer	Vendor	Disconnect Reason
		123000	123002			2010-08-10 19:45:20	2010-08-10 19:45:21	0:01	0	123000	SIP Accounts	INTERNAL	Normal call clearing
		123000	123002			2010-08-10 19:45:20	2010-08-10 19:45:21	0:01	0	123002	SIP Accounts	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:55:08	2010-07-26 16:00:08	5:00	0	999000100	redRat	INTERNAL	Normal, unspecified
		900	999000100			2010-07-26 15:55:08	2010-07-26 16:00:09	5:00	0	900	SIP Accounts	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:55:08	2010-07-26 15:55:08	0:00	0	999000100	redRat	INTERNAL	Destination out of order
		900	999000100			2010-07-26 15:43:57	2010-07-26 15:47:44	3:47	0	999000100	redRat	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:43:57	2010-07-26 15:43:57	0:00	0	999000100	redRat	INTERNAL	Destination out of order
		900	999000100			2010-07-26 15:43:57	2010-07-26 15:47:44	3:47	0	900	SIP Accounts	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:42:06	2010-07-26 15:43:36	1:30	0	900	SIP Accounts	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:42:06	2010-07-26 15:42:06	0:00	0	999000100	redRat	INTERNAL	Destination out of order
		900	999000100			2010-07-26 15:42:06	2010-07-26 15:43:36	1:30	0	999000100	redRat	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:41:52	2010-07-26 15:42:03	0:11	0	999000100	redRat	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:41:52	2010-07-26 15:42:03	0:11	0	900	SIP Accounts	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 15:41:52	2010-07-26 15:41:52	0:00	0	999000100	redRat	INTERNAL	Destination out of order
		900	999000100			2010-07-26 13:33:20	2010-07-26 13:33:23	0:03	0	900	SIP Accounts	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 13:33:20	2010-07-26 13:33:23	0:03	0	999000100	redRat	INTERNAL	Normal call clearing
		900	999000100			2010-07-26 13:33:20	2010-07-26 13:33:20	0:00	0	999000100	redRat	INTERNAL	Destination out of order



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. Select 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	
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Trace Session Detail

The detailed 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 selecting the **Connection**  icon. On the subsequent Connection detail page, you may view all connections for a particular vendor by clicking the **Connections**  icon.

Trace Session Results										
H323-conf-id: EFFC18BAF49D11DEA2EC00304858DBC8										Setup Time, sec: 0
										Duration, sec: 5
UTC	Account/Alias	Customer	Vendor	User						
	123001	SIP Accounts Europe/Prague	Internal vendor Europe/Prague	demoroot America/Vancouver						
Connect Time										
2009-12-30 09:59:56	2009-12-30 10:59:56	2009-12-30 10:59:56	2009-12-30 10:59:56	2009-12-30 01:59:56						
Disconnect Time										
2009-12-30 10:00:02	2009-12-30 11:00:02	2009-12-30 11:00:02	2009-12-30 11:00:02	2009-12-30 02:00:02						
ACCOUNTS										
Account/Alias	CLI(ani)	CLD(dnis)	Country	Description	Setup Time, sec	Charged time, minsec	Charged amount, USD	History	Disconnect Reason	
123001	001	123000		On Network	0	0:05	0.03333	+1x1x0.2+4x1x0.2+100%	Normal call clearing	
RESELLERS										
Account/Alias	CLI(ani)	CLD(dnis)	Country	Description	Setup Time, sec	Charged time, minsec	Charged amount, USD	History	Disconnect Reason	
No resellers data shown.										
VENDORS										
Co.	Account/Alias	CLI(ani)	CLD(dnis)	Country	Description	Setup Time, sec	Charged time, minsec	Charged amount	History	Disconnect Reason
Internal vendor	001	123000			ALL Destinations	0	0:05	0.00000 USD	+1x1x0+4x1x0	Normal call clearing

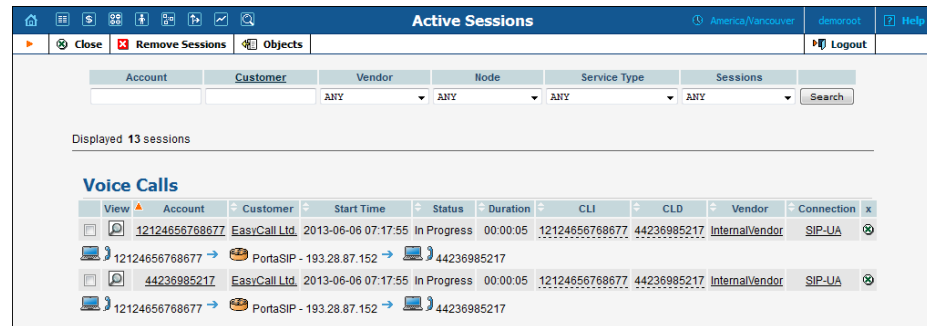
Edit Connection 'SIP-UA' For 'Internal vendor' Vendor	
Description: SIP-UA	Type: VoIP to Vendor
Service Type: Voice Calls	Routing Criteria: new_test
<div style="display: flex; justify-content: space-between;"> General Info Tracking </div>	
Routing Protocol: <input type="checkbox"/> H323 <input checked="" type="checkbox"/> SIP	
Remote IP: SIP-UA	
Remote IP Port: []	
Remote Gateway ID: []	
CLD Tech Prefix: []	
RTP Proxying: On Nat	
Tariff: SIP (local termination)	
Capacity: 10	
Caller Identity: Supply	
Vendor Account: None	
Translation Rule: []	
Outgoing Rule: []	
CLI Translation Rule: []	
Additional SIP Settings: []	

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.

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 making a call;
- **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
Checkbox	By ticking this checkbox 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.

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.

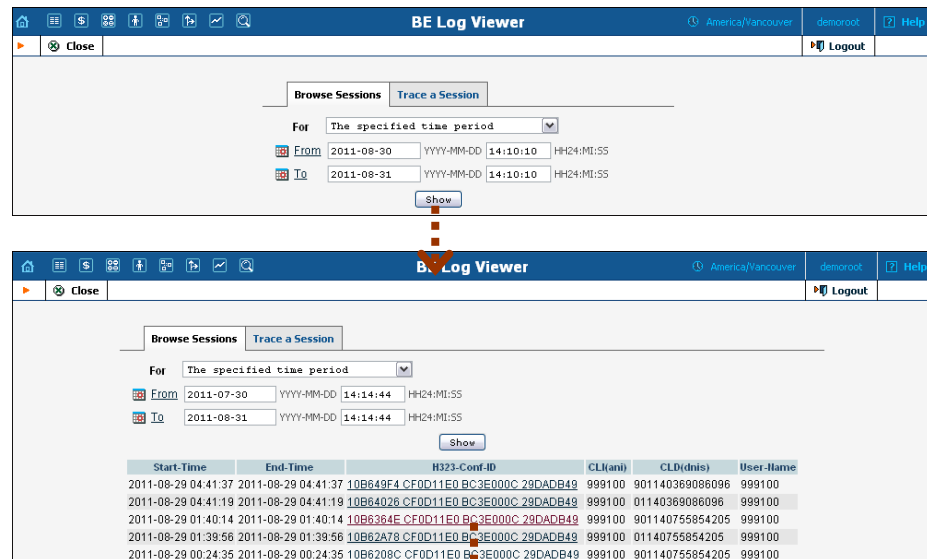
Sometimes a call displayed in the active calls registry may have already been disconnected (the most common reason for this being that one of your gateways was rebooted and calls were cut off, although billing never received accounting records about this). In this case, you are able to clean up such “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 checkbox in the column on the far right) and press the “Remove sessions” button.

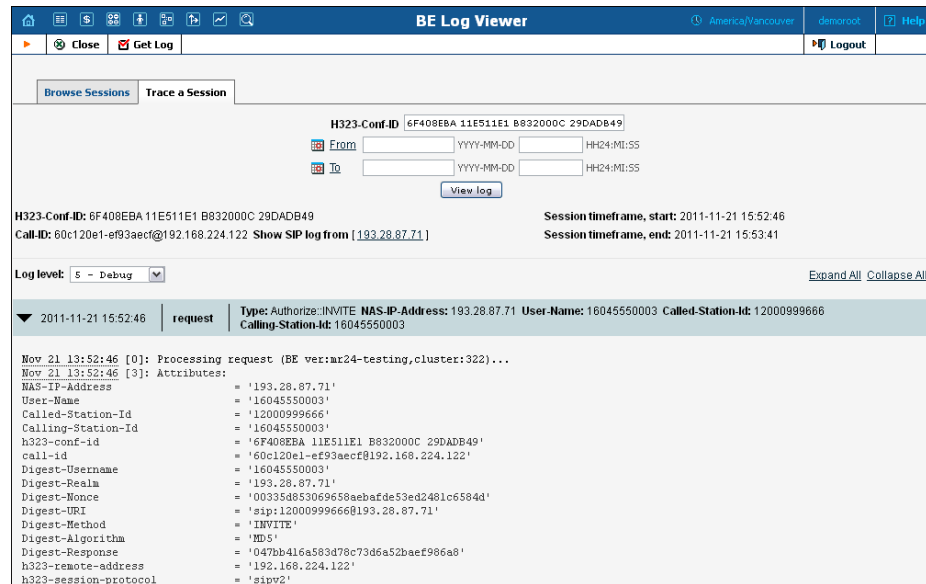
BE Log Viewer

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.



The screenshot shows the BE Log Viewer interface. At the top, there are navigation icons and a title bar with "BE Log Viewer", "America/Vancouver", "demoroot", and "Help". Below the title bar, there are "Close" and "Logout" buttons. The main content area has two tabs: "Browse Sessions" (selected) and "Trace a Session". Under "Browse Sessions", there is a search form with a "For" dropdown set to "The specified time period". Below this are "From" and "To" date and time pickers. The "From" field is set to "2011-08-30 14:10:10" and the "To" field is set to "2011-08-31 14:10:10". A "Show" button is located below the form. A red arrow points from the "Show" button in the first screenshot to the "Show" button in the second screenshot. The second screenshot shows the results of the search, which is a table with the following columns: Start-Time, End-Time, H323-Conf-ID, CLl(ani), CLD(dnis), and User-Name. The table contains several rows of session data.

Start-Time	End-Time	H323-Conf-ID	CLl(ani)	CLD(dnis)	User-Name
2011-08-29 04:41:37	2011-08-29 04:41:37	10B649F4 CF0D11E0 BC3E000C 29DADB49	999100	901140369086096	999100
2011-08-29 04:41:19	2011-08-29 04:41:19	10B64026 CF0D11E0 BC3E000C 29DADB49	999100	01140369086096	999100
2011-08-29 01:40:14	2011-08-29 01:40:14	10B6364E CF0D11E0 BC3E000C 29DADB49	999100	901140755854205	999100
2011-08-29 01:39:56	2011-08-29 01:39:56	10B62A78 CF0D11E0 BC3E000C 29DADB49	999100	01140755854205	999100
2011-08-29 00:24:35	2011-08-29 00:24:35	10B6208C CF0D11E0 BC3E000C 29DADB49	999100	901140755854205	999100



The screenshot shows the 'BE Log Viewer' application. At the top, there are navigation icons and the title 'BE Log Viewer'. Below the title, there are buttons for 'Close', 'Get Log', and 'Logout'. The main area has two tabs: 'Browse Sessions' and 'Trace a Session'. Under 'Trace a Session', there is a form to search for sessions by 'H323-Conf-ID' and date ranges. Below the form, session details are displayed, including 'H323-Conf-ID: 6F408EBA 11E511E1 B832000C 29DADB49' and 'Call-ID: 60c120e1-ef93aacf@192.168.224.122'. A 'Log level' dropdown is set to '5 - Debug'. A log entry for '2011-11-21 15:52:46' is expanded, showing a 'request' type with various attributes like 'NAS-IP-Address', 'User-Name', 'Called-Station-Id', etc.

Browse Sessions tab

Field	Description
Type of Events	Select whether to show only billable sessions or all events: <ul style="list-style-type: none"> 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 Subsessions	Tick this check box to see 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

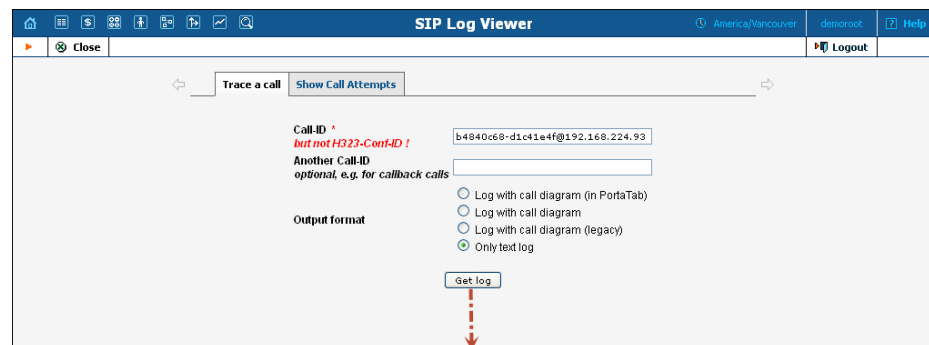
The SIP Log Viewer page allows you to view billing logs of PortaSIP® calls. You need to know the Call-ID of the specific call in order to trace it. If you do not know the call-id (e.g. you just made a phone call from a SIP phone and it failed), you can display all call attempts for a recent period and locate the call-id of “your” call according to CLD or other parameters.

Trace a call tab

Field	Description
Call-ID	The SIP Call-ID (typical format is XXXXX@some.domain or XXXX@IP).
Another Call-ID	The Call-ID used to trace callback calls when one logical call consists of several independent SIP calls.
Output format	Raw text log, or with diagram, or log with diagram in separate tab of your browser, or log with diagram in a separate tab within the SIP Log Viewer page.

Show Call Attempts tab

Field	Description
PortaSIP Node	The PortaSIP® node (virtual SIP instance) whose log files will be processed.
Time Interval	Displays all call attempts on this node, so that you can find the call-id for a call and use it to obtain log information.



Only text log:

```

0 Dec 09:59:54.791/GLOBAL/proxy[1549]: RECEIVED message from 91.212.34.242:64253:
INVITE sip:123000@193.28.87.36 SIP/2.0
Cseq: 1 INVITE
From: "Anonymous" <sip:anonymous@anonymous.invalid>;tag=2
Content-Length: 169
Content-Type: application/sdp
Max-Forwards: 70
Via: SIP/2.0/UDP 192.168.0.48:5060;branch=z9hG4bK-1-0-3-55601
P-Preferred-Identity: sip:001@193.28.87.36
P-Sipper-Session: #0;id=session:0xb6eb595d
Supported: 100rel, path
To: <sip:123000@193.28.87.36>
Contact: <sip:123000@192.168.0.48:5060>
Call-ID: 3-8814@192.168.0.48

v=0
o=nkhan 1262167196 1262167196 IN IP4 10.10.10.10
s=Slipper Session
c=IN IP4 10.10.10.10
t=3471155996 0
m=audio 6060 RTP/AVP 0
a=sendrecv
a=rtpmap:0 PCMU/8000

0 Dec 09:59:54.816/GLOBAL/proxy[1549]: SENDING message to 91.212.34.242:64253:
SIP/2.0 100 Trying
Via: SIP/2.0/UDP 192.168.0.48:5060;branch=z9hG4bK-1-0-3-55601;received=91.212.34.242;rport=64253
To: <sip:123000@193.28.87.36>
From: "Anonymous" <sip:anonymous@anonymous.invalid>;tag=2
Call-ID: 3-8814@192.168.0.48
Cseq: 1 INVITE
Content-Length: 0

0 Dec 09:59:54.817/GLOBAL/proxy[1549]: SENDING message to 193.28.87.36:5061:
INVITE sip:123000@193.28.87.36 SIP/2.0
Via: SIP/2.0/UDP 193.28.87.36:5060;branch=z9hG4bK-d8754e-e3eec2339fad8b6f-1---d8754e-rport
Via: SIP/2.0/UDP 192.168.0.48:5060;branch=z9hG4bK-1-0-3-55601;received=91.212.34.242;rport=64253
    
```

Log with call diagram (legacy):

Send logs to RTTrouble ticket

PortaSIP node: 193.28.87.168
Call-ID: 81c6114e-915f1379@192.168.192.65
H323-Conf-ID: 641B4906 EABC11E2 96D8000C 295A00E7

Show sent SIP messages (internal):

PortaSIP server timestamp	Linksys/SPA942-6.1.5(a) UA	PortaSIP Proxy	PortaSIP PortaSIP	AAA AAA	PortaSIP PortASBilling	PortaSIP PortASMedia Server
2013-07-15 10:59:38.072	→ (A ? 101/1) / INVITE →→→→→					
2013-07-15 10:59:38.072	← (A ? 101/1) 100 Trying →→→→→					
2013-07-15 10:59:38.162			→ (A ? 101/1) / INVITE →→→→→			
2013-07-15 10:59:38.162			← (A ? 101/1) 401 Unauthorized →→→→→			
2013-07-15 10:59:38.166	← (A ? 101/1) 401 Unauthorized →→→→→					
2013-07-15 10:59:38.191			→ (A ? 101/A) ACK →→→→→			
2013-07-15 10:59:38.209	→ (A ? 102/1) / INVITE →→→→→					
2013-07-15 10:59:38.209	← (A ? 102/1) 100 Trying →→→→→					
2013-07-15 10:59:38.234			→ (A ? 102/1) / INVITE →→→→→			
2013-07-15 10:59:38.244	b2bua[11823] Source conf-id is not trusted, generating new conf-id					
2013-07-15 10:59:38.244	← (A ? 102/1) 100 Trying →→→→→					
2013-07-15 10:59:38.245				→→ Authorization request →→→→→		
2013-07-15 10:59:38.269				←← Auth request accepted →→→→→		
2013-07-15 10:59:38.271	b2bua[11823] New calling state session=3					
2013-07-15 10:59:38.271	b2bua[11823] New calling state session=3					
2013-07-15 10:59:38.271	b2bua[11823] Location Lookup failed, treat this as NAT crecence					
2013-07-15 10:59:38.271	b2bua[11823] Use rtrccov: calculated=TRUE, called behind NAT OR recording=False OR local intersec=False OR forced=False => True					
2013-07-15 10:59:38.271	b2bua[11823] new leg call-id: 81c6114e-915f1379@192.168.192.65					
2013-07-15 10:59:38.271	rtrccov[11666] new session on a port 36568 created, tag a.33004493789					
2013-07-15 10:59:38.271	rtrccov[11666] pre-filling caller's address with 192.168.192.65:16414					
2013-07-15 10:59:38.271	→ (B ? 410/1) / INVITE →→→→→					
2013-07-15 10:59:38.271	→ (B ? 410/1) 100 Trying →→→→→					
2013-07-15 10:59:38.271	→ (B ? 410/1) 480 Tempora →→→→→					
2013-07-15 10:59:38.271	rtrccov[11666] forcefully deleting session 1 on ports 36568/0					
2013-07-15 10:59:38.271	rtrccov[11666] RTP stats: 0 in from caller, 0 in from callee, 0 relayed, 0 dropped					
2013-07-15 10:59:38.271	rtrccov[11666] session on ports 36568/0 is cleaned up					
2013-07-15 10:59:38.271	b2bua[11823] Use rtrccov: calculated=False, Never/Occtinal OR recording=False OR local intersec=False OR forced=False => False					
2013-07-15 10:59:38.271	b2bua[11823] new leg call-id: 81c6114e-915f1379@192.168.192.65					
2013-07-15 10:59:38.271				→→ (C ? 376/1) / INVITE →→→→→		
2013-07-15 10:59:38.271				←← (C ? 376/1) 100 Trying →→→→→		

2013-07-15 10:59:38.072[portaprox[12004]] 81c6114e-915f1379@192.168.192.65[10411] RECEIVED message from UDP:192.168.192.65:5062 at UDP:193.28.87.168:5060:
INVITE sip:99902624442@193.28.87.168 SIP/2.0
Via: SIP/2.0/UDP 192.168.192.65:5062;branch=z9hG4bK-e9c31180
Max-Forwards: 70
Contact: "ani99902644429" <sip:ani9990264442@192.168.192.65:5062>
To: <sip:99902624442@193.28.87.168>
From: "ani99902644429" <sip:ani9990264442@193.28.87.168>;tag=8ff0e765679e5f10e2
Call-ID: 81c6114e-915f1379@192.168.192.65
CSeq: 101 INVITE
Expires: 240
Allow: ACK, BYE, CANCEL, INFO, INVITE, NOTIFY, OPTIONS, REFER
Content-Type: application/sdp
Supported: replaces
User-Agent: Linksys/SPA942-6.1.5(a)
Content-Length: 403

v=0
o= 25719279 25719279 IN IP4 192.168.192.65


You can automatically submit this call log, with all the relevant details, to PortaOne's support ticketing system from the result page. Simply enter the relevant trouble ticket number in the input field. (First you need to open a ticket and provide a general description of the problem you are experiencing).

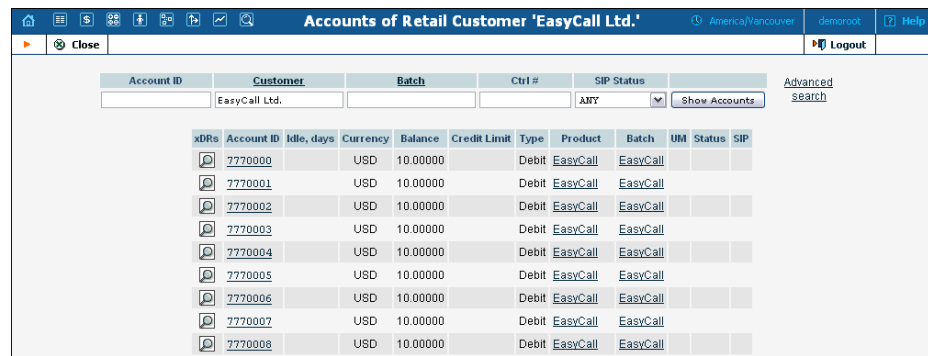
Log with call diagram, here you can select the level of detailing of the current SIP log:

- 0 - simple – SIP messages to/from UAs, AAA requests, RTP Proxy commands;









for **Log with call diagram** and for **Log with call diagram (in PortaTab)**).

Account Info for Help Desk Staff

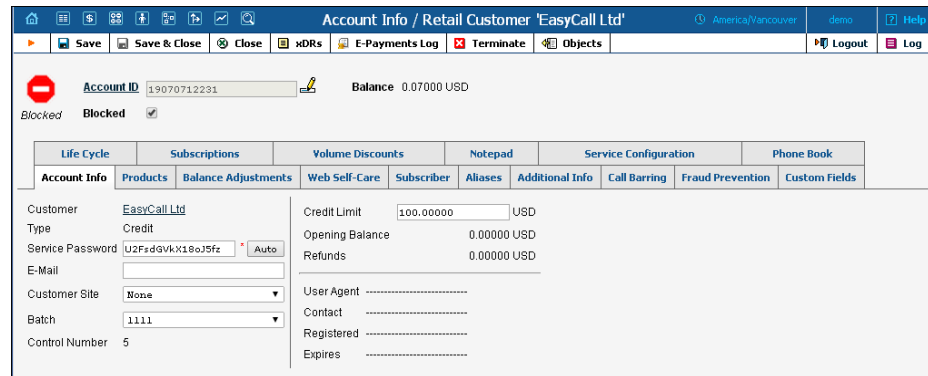
The **Account Info** page is provided for Help Desk staff responsible for answering questions from account holders. The interface requires the account holder to give the Help Desk an account ID or a batch and control number. The Help Desk operator can also browse xDRs for this account by selecting the **Browse xDRs**  icon.



Account ID	Customer	Batch	Ctrl #	SIP Status	
	EasyCall Ltd.			ANY	Show Accounts

xDRs	Account ID	Idle, days	Currency	Balance	Credit Limit	Type	Product	Batch	UM	Status	SIP
	7770000		USD	10.00000		Debit	EasyCall	EasyCall			
	7770001		USD	10.00000		Debit	EasyCall	EasyCall			
	7770002		USD	10.00000		Debit	EasyCall	EasyCall			
	7770003		USD	10.00000		Debit	EasyCall	EasyCall			
	7770004		USD	10.00000		Debit	EasyCall	EasyCall			
	7770005		USD	10.00000		Debit	EasyCall	EasyCall			
	7770006		USD	10.00000		Debit	EasyCall	EasyCall			
	7770007		USD	10.00000		Debit	EasyCall	EasyCall			
	7770008		USD	10.00000		Debit	EasyCall	EasyCall			

Once specified, clicking on **Account ID** will take the user to the Account Info for that account.



Account ID: 19070712231 Balance: 0.07000 USD

Blocked Blocked

Life Cycle	Subscriptions	Volume Discounts	Notepad	Service Configuration	Phone Book				
Account Info	Products	Balance Adjustments	Web Self-Care	Subscriber	Aliases	Additional Info	Call Barring	Fraud Prevention	Custom Fields

Customer: EasyCall Ltd Credit Limit: 100.00000 USD

Type: Credit Opening Balance: 0.00000 USD



Service Password: U2FzdGvkX16oJ5fz Refunds: 0.00000 USD

E-Mail: User Agent:

Customer Site: None Contact:

Batch: 1111 Registered:


Control Number: 5 Expires:

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**.

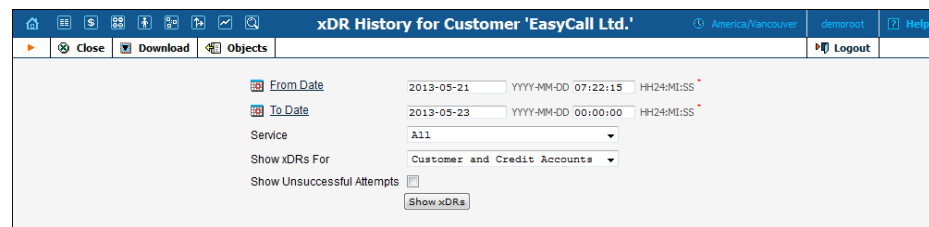
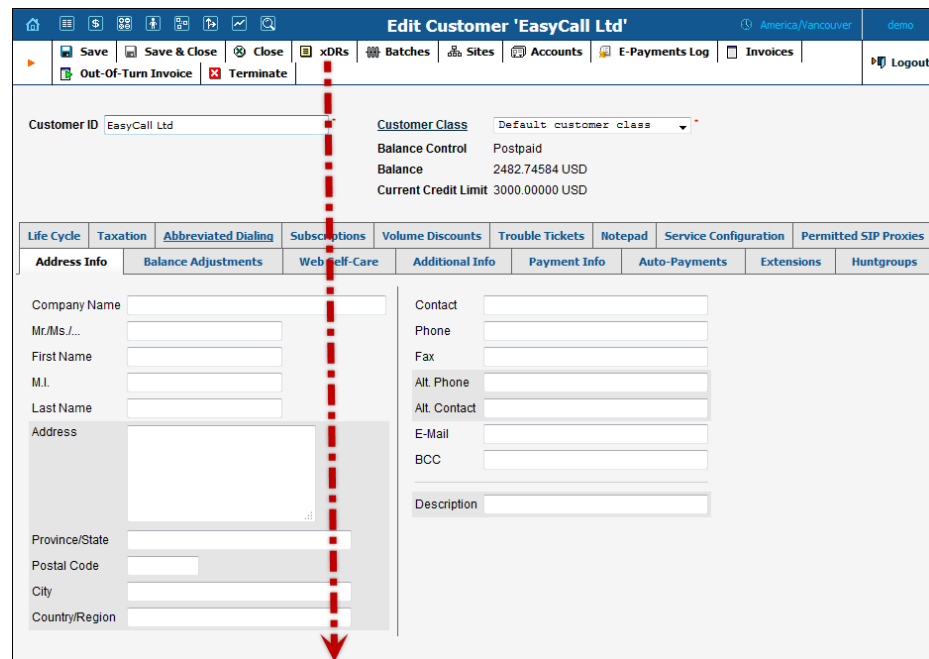
10. Appendices

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 screen.

The browser is also accessible from the Edit Customer screen by clicking the **xDRs** button.



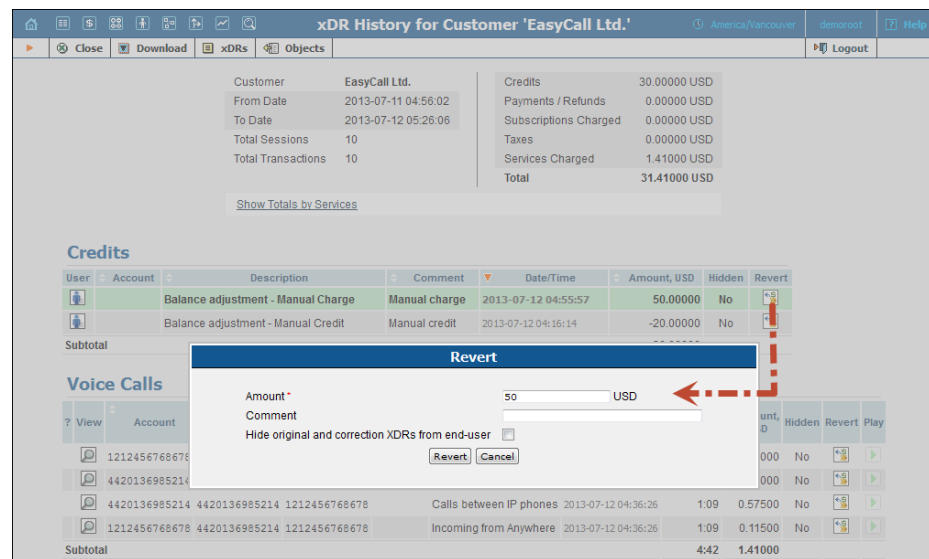
On the xDR view page you can make an extensible search via:

- a date and time range by clicking the  icon
- a certain service type
- required accounts type (for customers only)

If you want the information about the CDR_Failed to be included in the results list, check the **Show Unsuccessful Attempts** box.

To initiate a query, click the **Show xDRs** button. The result page will contain a summary displayed on the top of the screen and a table listing all of the calls and charges from a specified time period.

If you want to reverse any type of transaction (voice calls, credits / adjustments, etc.), click the **Revert** button. A new transaction will then be created and a pop-up window will appear where you can specify the amount of the transaction to be reverted, write a comment and even hide this transaction by selecting the **Hide original and correction XDRs from end-user** check box. Note that this check box is active only when the reverted transaction amount is equal to the original transaction amount and the transaction xDR is included in the open billing period or invoice that is under review. All hidden xDRs are marked with a **Yes** value in the **Hidden** column. For hidden xDRs, the **Revert** button is disabled. Hidden xDRs are not reflected in statistics, invoices or on account or customer Self-care portals.



The screenshot displays the 'xDR History for Customer 'EasyCall Ltd.' interface. At the top, there is a summary of the customer's account, including 'Credits' (30.00000 USD), 'Payments / Refunds' (0.00000 USD), 'Subscriptions Charged' (0.00000 USD), 'Taxes' (0.00000 USD), 'Services Charged' (1.41000 USD), and a 'Total' of 31.41000 USD. Below this, there is a 'Show Totals by Services' button. The main section is titled 'Credits' and contains a table with columns: User, Account, Description, Comment, Date/Time, Amount, USD, Hidden, and Revert. The table lists two entries: 'Balance adjustment - Manual Charge' (Manual charge, 2013-07-12 04:55:57, 50.00000, No) and 'Balance adjustment - Manual Credit' (Manual credit, 2013-07-12 04:16:14, -20.00000, No). A 'Subtotal' row is also present. A 'Revert' dialog box is overlaid on the table, with a red dashed arrow pointing from the 'Revert' button in the table to the dialog box. The dialog box has fields for 'Amount' (50 USD) and 'Comment', and a checkbox for 'Hide original and correction XDRs from end-user'. There are 'Revert' and 'Cancel' buttons at the bottom of the dialog box.

If you want to view information (charged quantity and amounts due) for all of the services, click the **Show Totals by Services** button.

xDR History for Customer 'EasyCall Ltd.'

Customer: EasyCall Ltd.
 From Date: 2013-07-11 04:56:02
 To Date: 2013-07-12 05:26:06
 Total Sessions: 10
 Total Transactions: 10

Credits: 30.00000 USD
 Payments / Refunds: 0.00000 USD
 Subscriptions Charged: 0.00000 USD
 Taxes: 0.00000 USD
 Services Charged: 1.41000 USD
Total: 31.41000 USD

[Show Totals by Services](#)

Credits

User	Account	Description	Comment	Date/Time	Amount, USD	Hidden	Revert
		Balance adjustment	Manual Charge	Manual charge	2013-07-12 04:55:57	50.00000	No
		Balance adjustment	Manual Credit	Manual credit	2013-07-12 04:16:14	-20.00000	No
Subtotal					30.00000		

Voice Calls

View	Account	From	To	Country	Description	Date/Time	Charged Time, min:sec	Amount, USD	Hidden	Revert	Play
	1212456768678	1212456768678	4420136985214		Calls between IP phones	2013-07-12 04:38:36	1:12	0.60000	No		
	4420136985214	1212456768678	4420136985214		Incoming from Anywhere	2013-07-12 04:38:36	1:12	0.12000	No		
	4420136985214	4420136985214	1212456768678		Calls between IP phones	2013-07-12 04:36:26	1:09	0.57500	No		
	1212456768678	4420136985214	1212456768678		Incoming from Anywhere	2013-07-12 04:36:26	1:09	0.11500	No		
Subtotal								4:42	1.41000		


xDR History for Customer 'EasyCall Ltd.'

Customer: EasyCall Ltd.
 From Date: 2013-07-11 04:56:02
 To Date: 2013-07-12 05:26:06
 Total Sessions: 10
 Total Transactions: 10

Credits: 30.00000 USD
 Payments / Refunds: 0.00000 USD
 Subscriptions Charged: 0.00000 USD
 Taxes: 0.00000 USD
 Services Charged: 1.41000 USD
Total: 31.41000 USD

[Hide Totals by Services](#)

Service	Charged Quantity	Amount, USD
Broadband (megabyte)	0	0.00000
Conferencing (second)	0	0.00000
Data Service [KB] (byte)	0	0.00000
Data Service [MB] (byte)	0	0.00000
Dial-up (second)	0	0.00000
LTE (kilobyte)	0	0.00000
Messaging Service (message)	0	0.00000
Quantity Based (pcs.)	0	0.00000
Voice Calls (second)	366	1.41000
Wi-Fi (second)	0	0.00000

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  icon:

xDR History for Account '12124656768677' America/Vancouver demoacct Help

Close Download xDRs Services Usage Details Objects

Account	12124656768677	Credits	0.00000 USD
From Date	2013-05-22 05:02:33	Payments / Refunds	0.00000 USD
To Date	2013-05-23 05:07:04	Subscriptions Charged	0.00000 USD
Charged by	'On-net' product	Services Charged	1.59166 USD
Type	Credit	Total	1.59166 USD
Total Sessions	5		
Total Transactions	6		

[Show Totals by Services](#)

Voice Calls

View	From	To	Country	Description	Date/Time	Charged Time, min:sec	Amount, USD	Revert	Play	
	44236985217	12124656768677			2013-05-23 05:00:38	0:25	0.20833			
	44236985217	12124656768677			2013-05-23 04:59:57	0:34	0.28333			
	12124656768677	44236985217			2013-05-23 04:57:52	0:59	0.49167			
	12124656768677	44236985217			2013-05-23 04:43:42	2:00	0.50000			
	Subtotal						4:11	1.59166		

xDR History for Account '12124656768677' America/Vancouver demoacct Help

Close Download xDRs Services Usage Details Objects

Account	12124656768677	Credits	0.00000 USD
From Date	2013-05-22 05:02:33	Payments / Refunds	0.00000 USD
To Date	2013-05-23 05:07:04	Subscriptions Charged	0.00000 USD
Charged by	'On-net' product	Services Charged	1.59166 USD
Type	Credit	Total	1.59166 USD
Total Sessions	5		
Total Transactions	6		

[Show Totals by Services](#)

Voice Calls

Account	From	To	Country	Description	Date/Time	Charged Time, min:sec	Amount, USD	Revert
1212465676...	1212465676...	44236985217			2013-05-23 0...	1:00	0.50000	
1212465676...	1212465676...	44236985217			2013-05-23 0...	1:00	0.00000	

Subtotal 4:11 1.59166

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, aifc, 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.