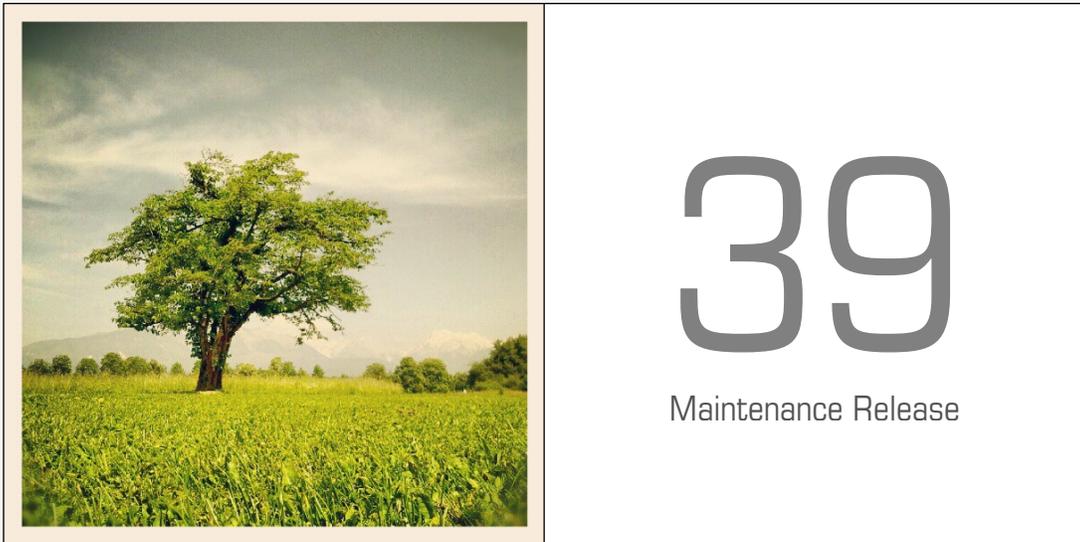


Porta  Switch[®]



New Features Guide

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Maintenance Release 39
V1.39.4

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

PortaSwitch® Maintenance Release 39 is the next leap-forward release, consistent with our “fast releases, precisely on time” ideology introduced in 2012.

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 introduced between major 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**



The **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 performing the action described here.



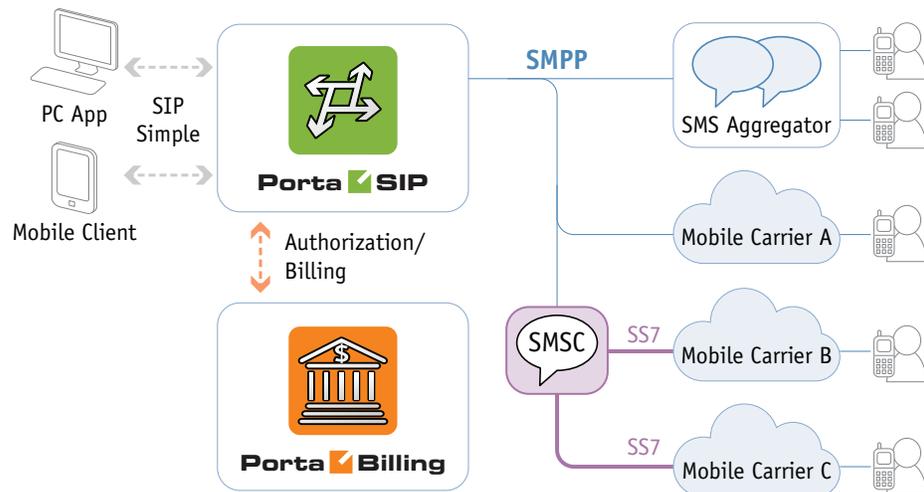
Tips provide information that might help you solve a problem.

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SMS Message Processing

In its latest releases, PortaSwitch® has been turning into a platform that not only handles voice calls and instant messaging, but also handles SMS messaging. In order to allow ITSP to offer SMS services (such as instant messaging to mobile users, premium number SMS, SMS campaigns and wholesale SMS) while using an all-IP infrastructure, we have added native support of the industry standard SMPP protocol within PortaSIP® and have conducted successful interoperability tests with an SMSC (short message service center) from [NewNet](#).



So now PortaBilling® can perform authorization, rating, and billing for outgoing SMS messages.

Future releases will implement rating and billing for incoming SMS messages and the routing of SMS messages to multiple vendors. This will allow you to configure the routing of SMSs in the same manner as you now route voice calls. With this improvement, everything that is required is in place to provide full-scale SMS messaging services.

Together with instant messaging, presence services and voice calls, this new feature offers your customers a full real-time communication experience.

Step-by-step instructions on how to configure the messaging service can be found in the Unified PortaSwitch® Handbook Collection.

Add-on Products

General Concept of Add-on Products

Add-on products are a great way to sell additional features / services to your customers and to boost your sales revenue.

Now you only need to implement one step since add-on products come with a feature and a subscription attached to them. You only need to assign the add-on product to an account. The feature activates and the customer is automatically charged for it.

Add-on products have the following features:

- multiple add-on products can be added to an account, creating a desired service configuration;
- some service features may be defined, so the actual service configuration of an account may have a combination of the service features / attributes of all the products (main and add-ons) and service features / attributes configured on the account directly;
- they may include a definition of extra entries for volume discount plans to be applied to add-on products; and
- they often have subscriptions included – so, an account that consumes this add-on product will obligatorily have those subscriptions assigned.

Once a single process for changing a service configuration and applying charges for it are established, there will be an opportunity to:

- efficiently manage a set of products;
- avoid revenue leakage (when a service is activated, but a customer is not charged for it); and
- avoid billing disputes (when a customer is charged for a service that was never provisioned).

Add-on Products Service Configuration

Correct service configuration is an important step of product setup since it:

- ensures that customers are supplied with the quality services that they need; and
- decreases the workload on administrators as it is easier to manage those products in future.

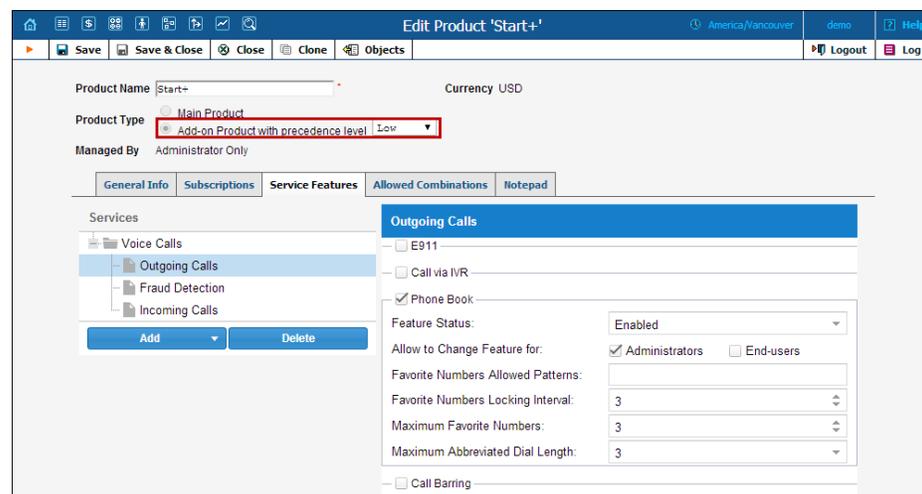
The configuration itself starts from the product, which consists of services consumed by end users. Each service is defined by service type

(for example, Voice Calls), which describes the physical service provided to an end-user. Every service type consists of service features such as **Call waiting**, **CNAM**, etc., which can be activated or deactivated by an administrator. Apart from enabling / disabling for certain features – when they are enabled, additional parameters called “service attributes” must be defined. For example, when the **Call via IVR** feature is enabled, that’s not enough for that functionality to work properly. Specific IVR applications must also be selected, and these will be used for calls by the end user. These applications should be selected from the **Voice Application** list on the **Service Features** tab of the product. In this case, the **Voice Application** is a service attribute of the **Call via IVR** functionality.

When configuring services, the services that your customers can use and how they use them can be specified. The service configuration is calculated based on the settings performed within assigned products (main ones and add-on ones).

When configuring add-on products, keep in mind the following peculiarities of the add-on product functionality:

1. **Precedence.** Add-on products have precedence over main products, so no matter what is defined within a main product it will be overridden by settings defined within the add-on products (this applies only to the options that are supplied with add-on products). In order to differentiate between the add-on products there is also an “override priority” parameter for each add-on product. If more than one add-on product is assigned to an account, they will be sorted according to the specified priority.

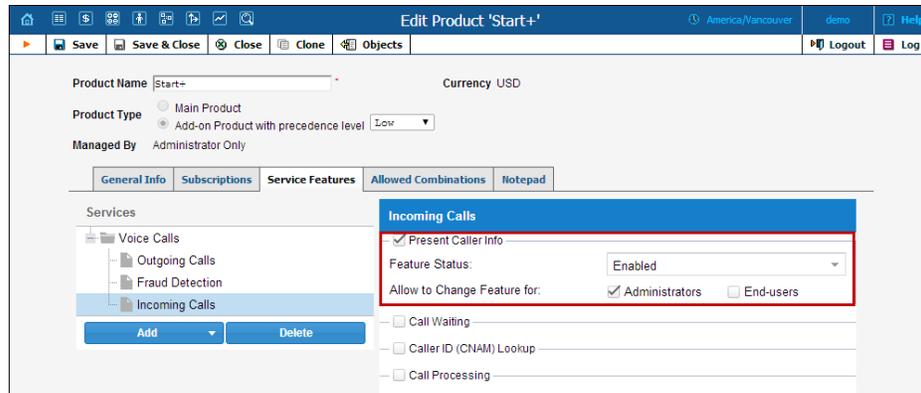


The screenshot shows the 'Edit Product' interface for 'Start+'. The product name is 'Start+' and the currency is 'USD'. The product type is set to 'Add-on Product with precedence level Low', which is highlighted with a red box. The 'Managed By' field is 'Administrator Only'. The interface has tabs for 'General Info', 'Subscriptions', 'Service Features', 'Allowed Combinations', and 'Notepad'. The 'Service Features' tab is active, showing a tree view of services on the left and configuration options for 'Outgoing Calls' on the right. The 'Outgoing Calls' configuration includes checkboxes for 'E911', 'Call via IVR', and 'Phone Book' (checked). The 'Feature Status' is set to 'Enabled'. The 'Allow to Change Feature for' section has 'Administrators' checked and 'End-users' unchecked. The 'Favorite Numbers Allowed Patterns', 'Favorite Numbers Locking Interval', 'Maximum Favorite Numbers', and 'Maximum Abbreviated Dial Length' are all set to '3'. There is also a 'Call Barring' checkbox at the bottom.

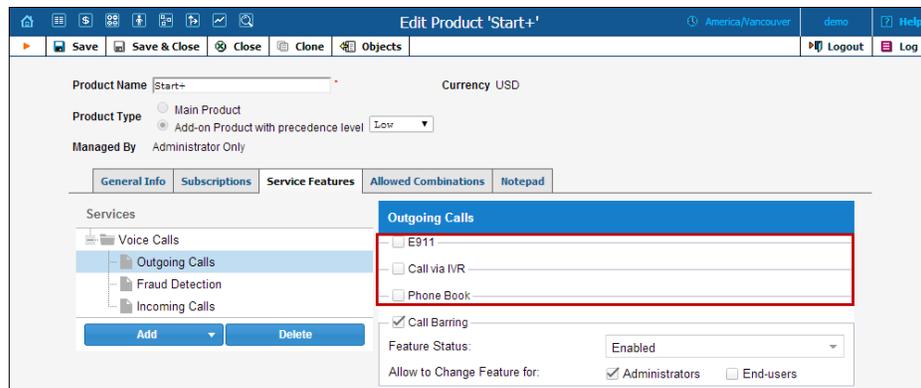
For example, an account with a “Basic Call” main product is assigned a “Smart Call” (low precedence level) add-on product with the **Conferencing** feature disabled. Then the customer decides that he needs the conferencing service, so he orders the “Conferencing+” (high

precedence level) add-on product with the **Conferencing** feature enabled. In order for the system to apply the correct values, it weighs the precedence level of each add-on product. As a result of service calculation, the conferencing service is enabled for that account.

2. **Service Features.** Each add-on product provides only those functionalities that are explicitly defined within its service features. If you need to specify the product default value of a certain feature, select a check box on the left of the service feature name.



All other service features that are not defined within the add-on product are ignored during the service calculation. In this case, the definition of the feature is taken from another product (in which it is explicitly defined) or from account settings. On the web interface, such service features can be identified by an empty check box on the left of the service feature name (this is the default position of the check box).

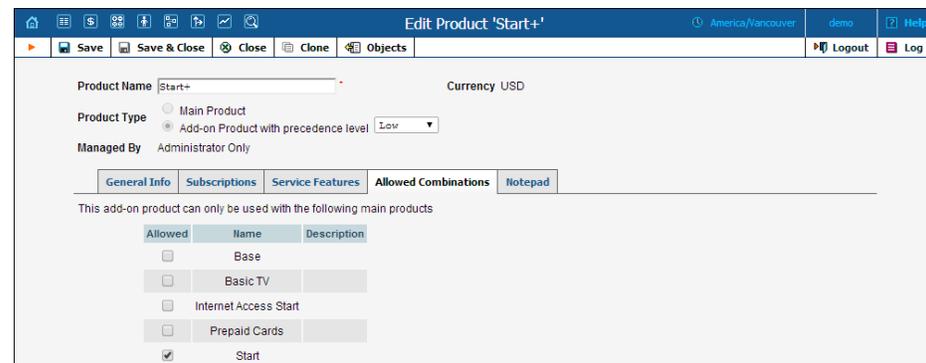


3. **Service Attributes.** All attributes can be sorted into three categories:
 - Those that are defined on the product level only – they are usually the ones that have some business value and should be controlled by a product.

- Those that are defined for every account separately, e.g. the list of follow-me numbers or the value of “Outgoing CLI” should be defined for each account individually.
- Those that can be defined on both product and account levels. For example, the maximum number of forwarded calls is normally defined on the product level, so residential customers have it set to 3, and IP Centrex customers to 10. However, for some accounts, it may be set to a higher value (for example, there are 12 people in the customer’s sales department and the customer wants to forward calls to all of them).

Note that a service feature that is defined on the account level overrides the one provided by the product.

4. **Product compatibility.** Every add-on product has a list of allowed main products with which this add-on product is compatible and with which it can be assigned to an account. For example, the main product “EasyCall” only has basic and inexpensive services. Of course, every customer can order additional features, but to do this, the main product must be upgraded to an advanced version – i.e. the “Smart Call” product, with which additional services “a la carte” can easily be assigned. In this case, all add-on products will have the “Smart Call” product allowed.



The screenshot shows the 'Edit Product' interface for 'Start+'. The product name is 'Start+' and the currency is 'USD'. The product type is 'Add-on Product with precedence level' set to 'Low'. The managed by field is 'Administrator Only'. The 'Allowed Combinations' tab is active, showing a table of allowed main products:

Allowed	Name	Description
<input type="checkbox"/>	Base	
<input type="checkbox"/>	Basic TV	
<input type="checkbox"/>	Internet Access Start	
<input type="checkbox"/>	Prepaid Cards	
<input checked="" type="checkbox"/>	Start	

5. **Service features conflict.** A situation where the same service feature is set by different add-on products with the same precedence level cannot occur. The system doesn’t allow such configurations to be saved and will notify an administrator concerning which features and add-on products caused the conflict. For example, an administrator tries to apply the “Unconditional forwarding” add-on product with **Call Waiting** functionality disabled and the “Advanced forwarding” add-on product which has **Call Waiting** functionality enabled. Both add-on products have the same precedence level, so saving this configuration will not be allowed since it is unclear whether the **Call Waiting** functionality should be enabled or disabled.

New Model of Applying Subscriptions

Add-on product introductions will greatly facilitate and improve the process of monthly recurring revenue.

Previously, particular features for an account had to be enabled, and only then would a subscription be assigned for that feature.

Now only one step is necessary because a feature and a subscription are attached to add-on products, so you only need to assign the add-on product to an account. The feature will be activated and a customer will automatically be charged for it.

For example, a customer is assigned the “Call Waiting” add-on product with the Call Waiting feature enabled and a subscription associated with it that applies recurring charges for its usage. If the customer no longer needs Call Waiting functionality, the administrator can remove the add-on product from the account properties with a single mouse click.

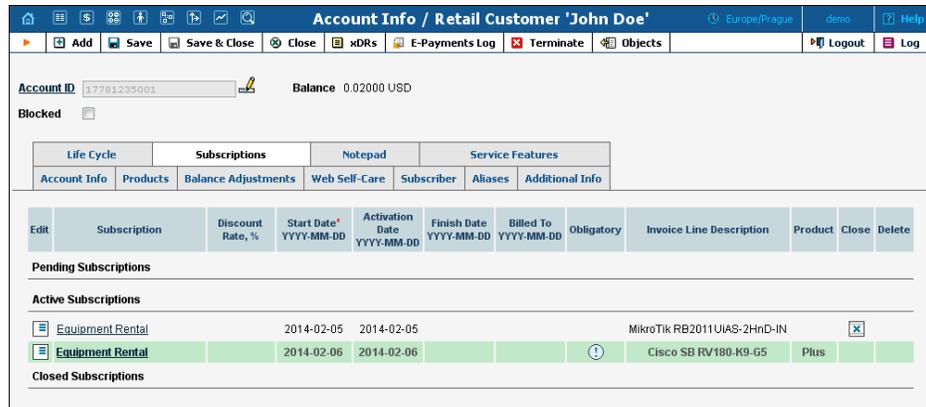
Multiple Subscriptions

In most cases, every single subscription is charged only once even if this subscription is included in with several add-on products assigned to the account.

For example, a customer is assigned two add-on products that provide two different sets of features. Both add-on products include “Call Waiting” subscriptions that apply recurring charges for the usage of Call Waiting functionality. As it is a single subscription, it will only be charged once per billing period.

But in some cases it is necessary to assign the same subscription multiple times.

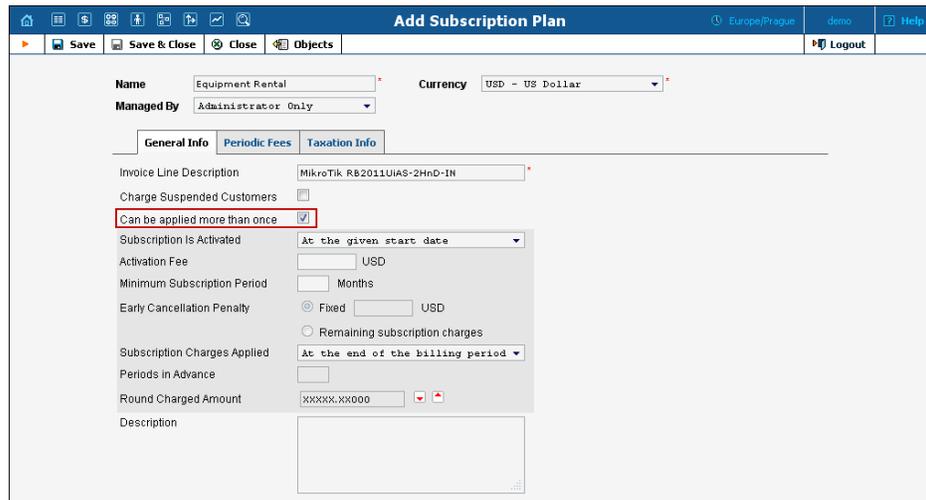
Let’s have a look at the following example. One of your customers is assigned a subscription for renting a router from you. Another day he wants to rent a second router. Since this customer’s account already has the subscription for renting a router, using the same subscription, a new add-on product needs to be created and assigned the same subscription for the rental of the second router. This subscription has the “Apply more than once” option enabled. According to these circumstances, the customer will be charged for the same subscription twice: once for the already rented router and a second time for the newly rented one.



For this reason, a new option that makes it possible to assign the same subscription multiple times to one account has been added to the subscription plan properties. To do this, select the **Can Be Applied More than Once** check box on the **General Info** tab.

NOTE: Now you can edit the **Invoice Line Description** field directly on the account by pressing the **Edit** button for the appropriate subscription.

NOTE: During the software upgrade to MR39, all existing subscription plans will be migrated with this option disabled.



This new model of applying subscriptions will make it possible to:

- provide revenue assurance, because using an add-on product guarantees that the feature will be activated, and the customer automatically charged for it; and
- save time, because everything can be done in one place using an add-on product.

New Versions of Linux and MySQL

PortaSwitch® Maintenance Release 39 utilizes **Oracle Enterprise Linux version 6.5**. Oracle Enterprise Linux version 6.5 includes a new version of kernel and an updated collection of applications that offer the following benefits:

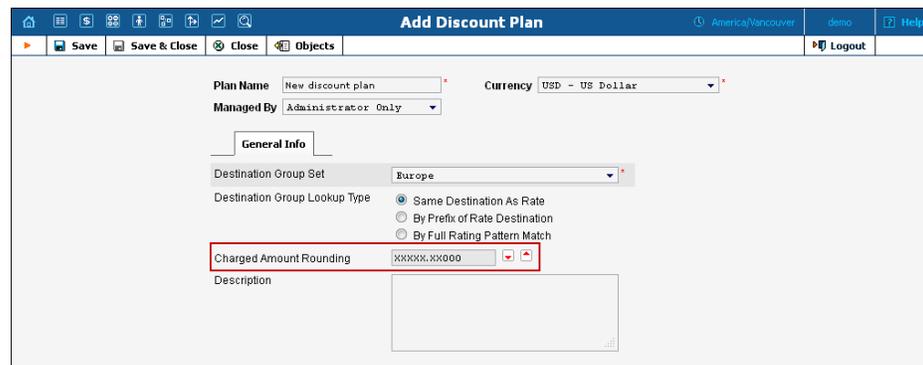
- Faster performance
- Even better security
- Better support for modern hardware
- Higher reliability

Maintenance Release 39 also introduces the latest stable version of MySQL database server (5.6), which besides important performance and stability improvements, includes the following:

- The online DDL enhancements improve many DDL operations that formerly required a table copy, blocked DML operations on the table, or both. This enables a decrease in service downtime during software upgrades.
- Improved scalability on multi-core systems. This enables increased database productivity by installing CPUs with more cores onto database servers. Furthermore, on the same hardware, more requests to the database can be processed within the same period of time.
- The **PERFORMANCE_SCHEMA** features have been improved for performance monitoring and tuning. The information in the performance_schema tables makes it possible to see how various low-level items factor into overall database performance, and which ones are the “hottest” under various workloads and system configurations. This makes it possible to spot bottlenecks, therefore optimizing database productivity.
- Many parameters for MySQL fine-tuning can now be set on the Configuration server. This allows the optimization of the database to specific server hardware (number of CPUs, amount of RAM, Input-Output Subsystem).
- If SSD arrays are used on the database servers, further improvements to database productivity can be made by setting the **DatabaseServer.innodb_flush_neighbors** option to “0” on the Configuration server web interface. For more information, read the [MySQL web site](#).

Rounding off for Counters in Volume Discount Plans

You can specify to what number after the decimal point the charged amount for a volume discount (VD) should be rounded off. The charged amount 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. This parameter is only applicable for discounts based on the amount of money.



The screenshot shows the 'Add Discount Plan' web interface. The 'Charged Amount Rounding' field is highlighted with a red box and contains the value 'XXXXX.XX000'. Other fields include 'Plan Name' (New discount plan), 'Currency' (USD - US Dollar), 'Managed By' (Administrator Only), 'Destination Group Set' (Europe), and 'Destination Group Lookup Type' (Same Destination As Rate).

For example, if you do not round off the amount, the call is charged at \$0.045782, and thus the VD counter is increased by \$0.045782.

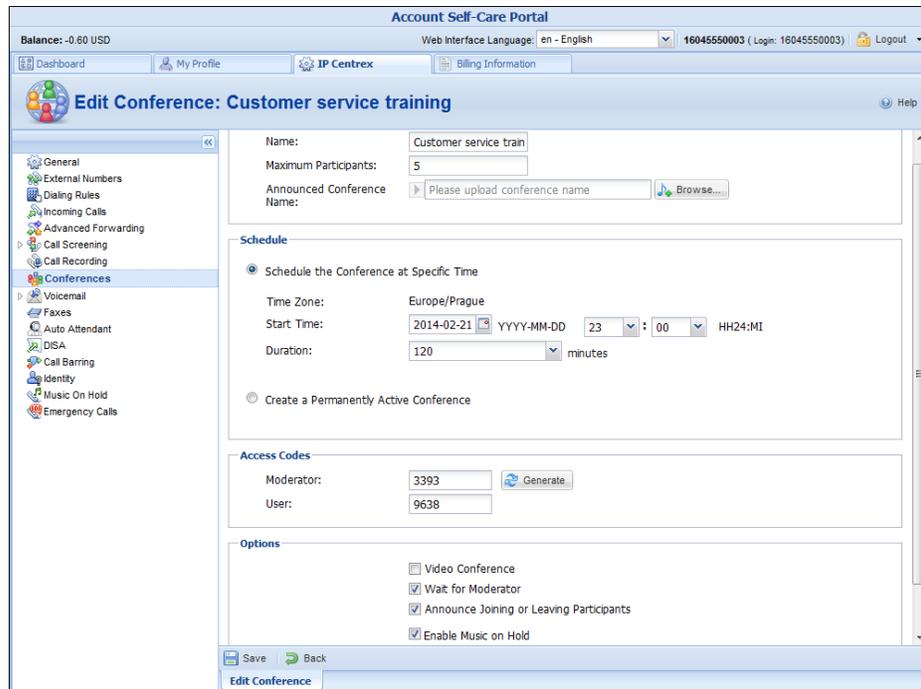
Another example, when the charged amount \$0.045782 is rounded up two decimal points (XXXXX.XX000), the VD counter is increased by \$0.05.

NOTE: Rounding off is always done upwards.

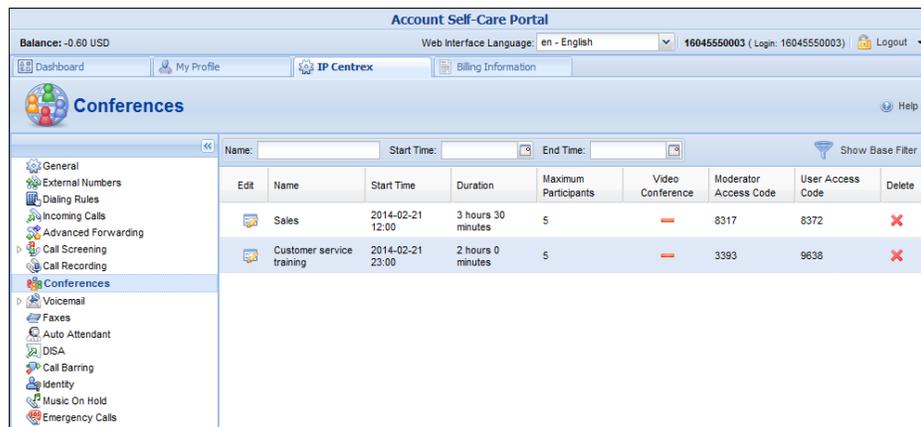
This new functionality makes it possible to avoid customer confusion and prevent revenue leakage.

Conference Has Moved to the New Self-care

The configuration and management of conferencing functionality has been moved to the new self-care interface. Now your customers are able to schedule audio and video conferences within their self-care interface.



All options remain the same as they were in the UM Self-care interface. In addition to the filter that shows conferences according to the holding time (all, previous, current and future), there is an advanced filter that shows conferences that are holding within the specified date frame. You may also search using the name of a conference.



Now your customers may manage their conferences together with other functionalities via the self-care interface, thus making the conferencing service configuration easier and more practical to use.

New API Methods

New API methods have been added, and now an external application can manage data related to:

- Destination group sets and destination groups
- Exchange rates
- Routing plans and routing simulation (test dialplan)
- Automatic payments
- PDF Invoice files