



PortaSwitch



New Features Guide

Maintenance
Release

52



Documentation

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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

PortaSwitch® Maintenance Release 52 is the next leap-forward release, consistent with our “fast releases, precisely on time” ideology.

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**.
- Terminal sessions, console screens, or system file names are displayed in `fixed width font`.



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

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



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



Archivist explains how the feature worked in previous releases.



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



Tips provide information that might help you solve a problem.

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Multi-site PortaSIP® Cluster Solution

We are pleased to announce that the PortaSIP® cluster solution has been further extended:

- The PortaSIP® cluster now combines the functions of both SIP Switching and Media servers. The Media Server operates on the cluster processing node(s) and is integral to it. Thus, the PortaSIP® cluster contains unified code that simplifies its support, maintenance and further development.
- Now each of your geo-redundant installation sites can have a PortaSIP® cluster with a single point of entry. Though they operate independently, the sites are interconnected, allowing you to provision services without disruption if any of the sites are down or unavailable for any reason.

The deployment of the PortaSIP® cluster on each site simplifies the network and services configuration for administrators. Users are provided with a single visible IP address for each cluster to register with. For example, PortaSwitch® is deployed across two sites: the main site is located in the US and the secondary site is located in Singapore. Each site has the PortaSIP® cluster configured. To start providing services to end users, the administrator provisions only two IP addresses: the US site IP address and the Singapore site IP address. This simplifies service provisioning to users who have previous-generation devices.

Though the PortaSIP® cluster is extensible and can contain virtually an unlimited number of nodes (servers), only one logical node representing the whole cluster, (i.e. the dispatching node) is provisioned in PortaBilling® and defined in the **Usage Charges** section of a product. This significantly simplifies service configuration and product management and serves to reduce the load on administrators.

When using the multi-site PortaSIP® cluster solution, service providers will be able to:

- Provide services without disruption, despite whatever disaster may occur to any of the sites within the PortaSwitch® network (fire, flood, power outage, etc.).
- Increase the number of processed call requests and balance loads among nodes within the PortaSIP® cluster on every site.
- Improve the quality of the services provided by defining the IP address of the site that is geographically closest to the user as the primary one to register on (from the example above, users from the US will register with the US site IP address as the primary one while users from Singapore will use the Singapore IP address as their primary one to register).

The ability to perform a software upgrade of a clustered site redundancy solution to newer releases with zero-downtime will be added in future releases.

Billing Based on Measured Resource Consumption

Services are typically billed based on individual events such as voice calls. There is, however, another popular billing model in which billing is based on the continuous usage of allocated resources such as number of concurrent calls (SIP trunks) permitted for a particular customer. PortaBilling® now has this ability to measure allocated resources. The aggregated value of measured resources can be used for statistics and, additionally, for applying charges to customers.

The parameters that can be measured and billed for are as follows:

- The number of concurrent calls allowed (SIP trunks). This is the number of simultaneous outgoing calls allowed for a particular customer. The number of simultaneous outgoing calls is defined by an administrator as part of the customer service configuration for all customer accounts or for this customer's individual site (in the **Limit Simultaneous Calls** service feature).
- The number of active calls. This is the *actual* number of connected calls at a specific moment in time.

This list is provided by default; however, it is easily extensible and in future releases will include storage space for call recordings, number of IP Centrex phone lines and other parameters.

The screenshot shows the 'Edit Customer Class' interface for 'IP Centrex customers'. The 'Measured Services' tab is active, displaying a table with columns: Name, Apply Charge, Charge Base On, Price per Item, Free Items, Rate Code, Service, and Delete. A dropdown menu is open for 'Measured Parameter', showing options: 'Active calls' (Measure the number of active call), 'Allowed concurrent calls' (Measure the number of allowed calls), and 'Charges'. The 'Update' button is visible.

Resource consumption is measured periodically at different time intervals for different parameters. Thus, the measurement frequency is as follows:

- The number of active calls is measured every 5 minutes.
- The number of permitted concurrent calls is measured daily.

This measured data is aggregated and used for displaying consumed resource statistics and for calculating charges.

Charging for measured resource consumption

Charges for resource usage are calculated based on the following criteria:

- the minimum,
- maximum, or
- average resource consumption.

These charges are applied to customers or resellers as part of closing their billing period (an xDR is created and added to the invoice on a separate line). Criteria for charges are defined for a customer class and if necessary, can be overridden for individual customers or resellers.

Consider the following example:

The company EasyCall Ltd. has a limit of 30 simultaneous outgoing calls according to their contract with their service provider. Yet this month they are organizing a calling campaign to their customers to inform them about their legal address change, so they have requested that the service provider increase their simultaneous calls limit to 100.

After a week, their calling campaign is finished and their threshold of simultaneous calls is limited once again to 30. At the end of the month, the simultaneous calls for the current billing period are averaged up and calculated as 46.3, which is rounded up to 47.

Thus, EasyCall Ltd. is charged for 47 simultaneous calls.

As a rule, a customer's service bundle already includes some amount of allocated resources covered by a subscription fee. This amount is specified in the **Do not apply charges for the first items** field.

Edit Customer Class 'IP Centrex customers'

Name: IP Centrex customers Currency: USD
Managed By: Administrator Only

General Info Invoices Taxation **Measured Services** Notifications

Name	Apply Charge	Charge Base On	Price per Item	Free Items	Rate Code	Service	Delete
Active calls	<input checked="" type="checkbox"/>	Average	5.00000		ACTIVECALLS	Voice Calls	

General Info Charges

Measured Parameter: Active calls

Apply Charge: ☒

Charge Base On: Average value within period

Charge: 5.00000 USD for each item

Do not apply charges for the first: 30 items

Charge Rate Code: ACTIVECALLS

Service: Voice Calls


Update Cancel

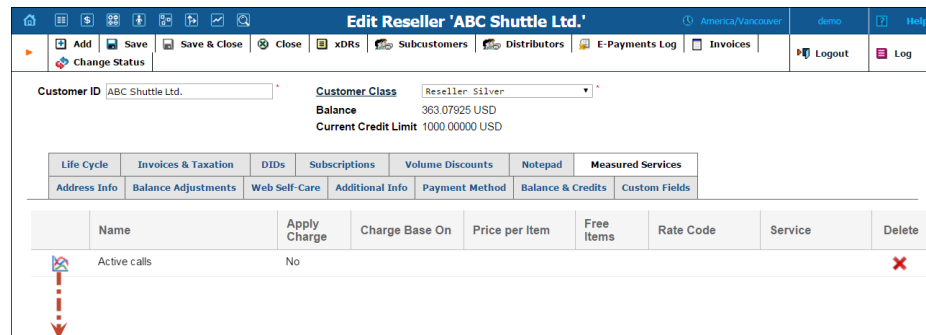
If customers consume more of an allocated resource than is defined in their service bundle, they are charged extra for additional resource usage. Thus, if a customer's service bundle includes 30 active calls in their \$30 monthly subscription and the average number of active calls for this customer within the current billing period is 50, they are only charged for 20 active calls ($50 - 30 = 20$).

Measured resources statistics

The measured resources statistics are available as a graph on administrator, reseller and customer self-care interfaces. Thus, administrators and resellers can browse their direct customers' and resellers' statistics on the **Measured Services** tab of the **Edit Customer** page. Resellers can also browse their own statistics on the **Measured Services** tab of the **My Company Info** page.


Statistics for customers are provided on the **Billing Information** tab of the customer self-care interface.

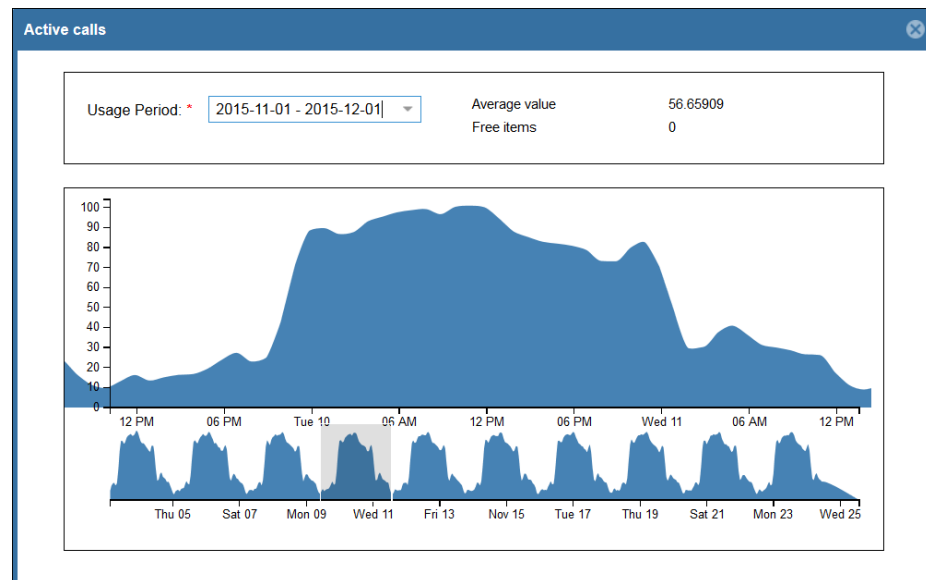
To browse a customer's statistics, the administrator clicks the  icon next to the necessary resource metric.



Edit Reseller 'ABC Shuttle Ltd.'

Customer ID: ABC Shuttle Ltd. Customer Class: Reseller Silver
 Balance: 363.07925 USD
 Current Credit Limit: 1000.00000 USD

Name	Apply Charge	Charge Base On	Price per Item	Free Items	Rate Code	Service	Delete
Active calls	No						




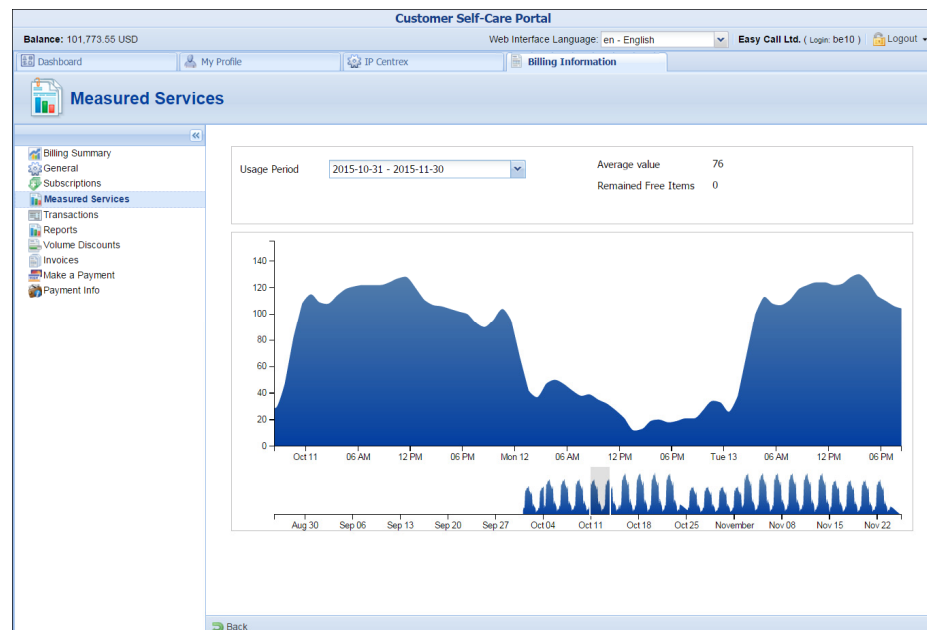
The statistics window consists of two graphs. The bottom graph displays resource usage for the previous three months; the upper graph displays a detailed view of resource usage for a particular time interval selected from the three-month period, below.

The topmost part of the window provides additional information about the selected resource as follows:

- **The usage period** – the customer's billing period. Either the current and / or any of the previous billing periods can be selected.
- **Minimum / Maximum / Average Value** – the measured resource value for the current billing period, depending on the charging criteria defined for this customer.
- **Free items** – the number of allocated resources included in the service bundle for the current billing period;
- **Amount charged** – if a customer is charged for resource consumption, those charges are reflected in the selected billing period.

NOTE: The charges for the current billing period will not be displayed since this billing period is not yet closed.

The same information is provided for customers on the customer self-care interface by clicking the  icon.



Thereby the measurement of allocated resources serves as an additional system control tool and at the same time, charging for actual resource consumption improves your revenue flow.

To enable measurement and billing for consumed resources, perform the following configuration steps:

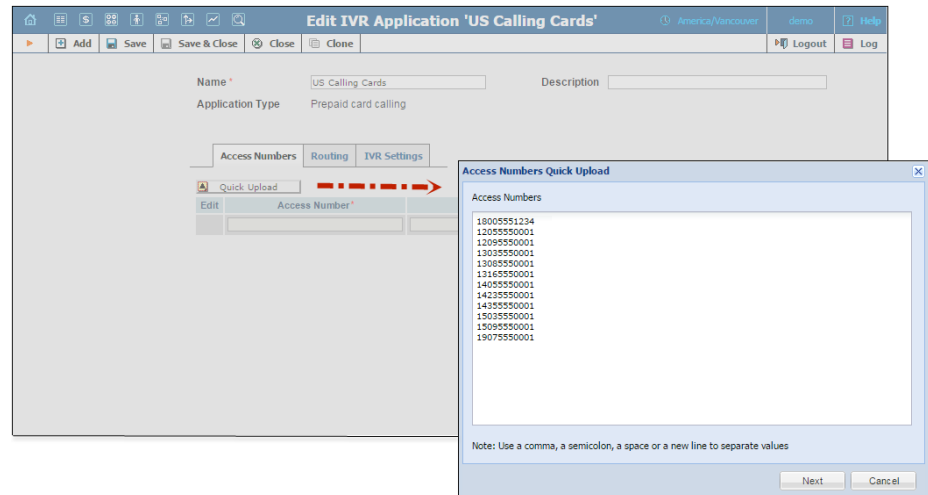
- Enable the **Metrics.StorageEnabled** option on the configuration server.
- Define the measurement parameters and charges associated with them on the administrator web interface.

Improved Management of IVR Access Numbers

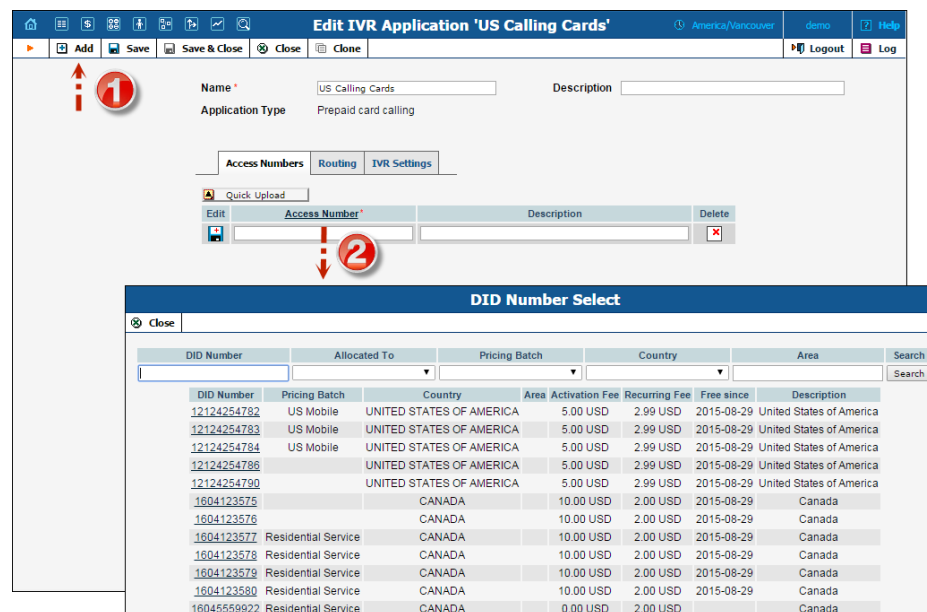
With this release, you can configure a single IVR application to be used with multiple access numbers. This service configuration with several access numbers is easier and quicker.

To assign access numbers to an IVR application, select the most convenient option:

1. If you provide service with one access number (e.g. *98 for balance info), add it by using the **Add** button.
2. If you provide service with multiple access numbers (e.g. prepaid card calling with toll-free access number and local access numbers in every state), type in or paste the access numbers by using **Quick Upload**.



3. It is also possible to assign *DID numbers* from the DID Inventory. To do this, click on the **Access Number** link.



NOTE: The system lists only the DID numbers that have *Free* status.

When access numbers are assigned, they inherit the settings of the given IVR application.

This enhancement saves administration time, helps avoid manual mistakes and makes working with access numbers even more flexible and user-friendly.

OLI-based Call Costing Enhancement

Vendors that provide toll-free numbers to service providers charge a different price for calls that originate from a payphone or a paystation.

Call origination type is determined based on the Origination Line Information (OLI) parameter. The OLI is transmitted over PSTN networks as signals. There is no common standard for carrying OLI over SIP, but one popular way is to use the “isup-oli” SIP URI parameter and include it in the “From:” header.

This way is supported by PortaSIP® starting with the previous release when service providers have received the option to alter customer charges depending on the OLI for calls that arrive via the Calls from Vendor via SIP connections. With this current release, PortaBilling® factors in the OLI when calculating costs for calls on these connections.

To configure an OLI-based call costing, perform the following:

1. Create a separate vendor tariff for each call origination that is differently charged by a vendor.
2. For each of these call origination types, create a Calls from Vendor via SIP connection. In the connection settings, select the required tariff and OLI value (use the **Info Digits** list) that corresponds with this tariff.

If a vendor has, for example:

Tariff 1 – for calls made from “payphones using coin control signaling,”

Tariff 2 – for “private paystations” calls, and

Tariff 3 – for all other call originations,

then the administrator must create 3 tariffs and 3 connections. For the third connection’s settings the administrator selects Tariff 3 and matches it to the ANY value from the **Info Digits** list.

The screenshot shows the 'Add Connection for 'One Telecom' Vendor' configuration window. The 'Description' is 'One Tim - Payphone' and the 'Type' is 'Calls from Vendor via SIP'. The 'Service Type' is 'Voice Calls' and 'Active' is checked. The 'General Info' tab is selected, showing fields for Node, Remote IP, RTP Proxying, Tariff, Caller Identity, Service Policy, Rate Match Mode, and SAR Access Code. The 'Info Digits' dropdown is open, showing a list of call origination types. The 'Tariff' is set to 'SE_VendorTariff_101' and the 'Info Digits' is set to 'payphone using coin control signaling'.

More accurate and detailed accounting helps to reconcile costs with vendors and ensure cost monitoring effectiveness.

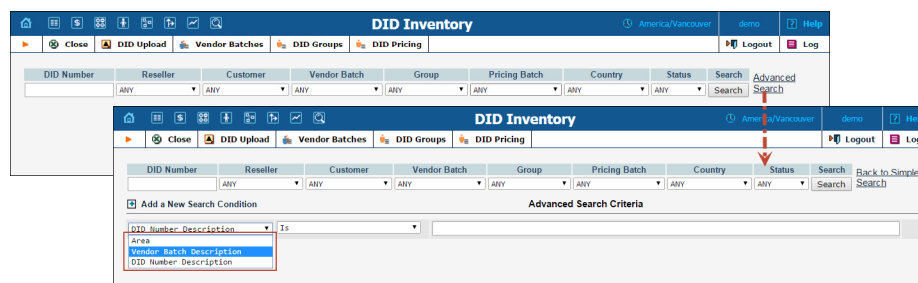
Other Features and Enhancements

- The opportunity to add blocks of IP addresses to the MySQL white list** – An administrator can specify a subnet in the CIDR notation format (X.X.X.X/Y) to permit the connection between this block of IP addresses and the MySQL database instances. This can be done on the Configuration server using the **DatabaseServer.allow_connections_from** option. This enhancement saves the administrator's time and simplifies access to the MySQL database for a range of secured external servers.
- Minerva service packages have become available via PortaBilling®** – While Minerva's channel packages include sets of IPTV channels only, service packages can include both channel sets and additional services such as VOD catalogue, WHDVR and Caller ID presentation. This feature allows you to provide better service to your customers.

The screenshot displays the 'New Product' configuration interface. At the top, there are navigation buttons: 'Save', 'Save & Close', 'Close', 'Rate Lookup', and 'Close'. Below these are input fields for 'Product Name' (Best Choice IPTV), 'Currency' (USD - US Dollar), 'Product Name visible to End User' (Best Choice IPTV), 'Managed By' (Administrator Only), and 'Product Type' (Main Product). A tabbed interface is shown with 'Included Services', 'Service Configuration', 'Usage Charges', 'Volume Discount', 'Recurring Charges', 'Additional Info', and 'Notepad'. The 'Service Configuration' tab is selected, showing a table for 'IPTV' services. The table has columns for 'Feature Status', 'Feature can be edited by', 'Service Package', and 'Channel Package'. The 'Feature Status' is set to 'Enabled'. The 'Feature can be edited by' is set to 'Administrators'. The 'Service Package' is set to 'Start'. The 'Channel Package' is set to 'Basic'. The table also shows 'WHDVR', 'Caller ID Presentation', 'Sport (5 Channels)', and 'Education (8 Channels)'. At the bottom, there are 'Back', 'Next', and 'Done' buttons.

- All tabs are now active during product creation** – This way, a user can complete the stages of product creation in an order that is convenient for him. In addition, it is no longer necessary to pass through all of the tabs to create a product – an administrator can save an incomplete product at any stage of its creation. This enhancement makes it possible to partially configure a product and come back to it later, once the remaining configuration has been decided upon and executed on the other pages (e.g. tariffs, subscriptions, etc.)

- **The advanced search for DID numbers is enhanced** – Now you can specify additional search conditions such as the DID number area or vendor batch description in the **Advanced Search** mode. For this, click the **Advanced Search** link, select the desired search criterion and specify the condition (e.g. the area is British Columbia). If necessary, you can add several conditions to narrow down the DID search.



This enhancement further simplifies the search for a particular DID number or group of DIDs within the DID inventory.

- **Release of DID numbers with the In Use status to the DID pool** – The administrator or resellers can release previously used DID numbers as an account, account alias or access number to the DID pool. DID numbers, in this case, become unassigned from customers and from pricing batches and therefore no more charges are incurred for the customer. The corresponding accounts, account aliases or access numbers are not removed, so a user can continue using their accounts.

In order to provision the released DID numbers as another customer's accounts, account aliases or as other access numbers, the former accounts must be renamed.

- **New interface for volume discount plans** – In this release, you will discover a completely new interface for managing volume discount plans. The redesigned interface is more intuitive and user-friendly – plus has an entirely new look and feel. In addition, it operates on the Ext JS 5 framework, which decreases web page response waiting time.

Edit Discount Plan "Retail customers discount" America/Vancouver demo Help

Save Save & Close Close Clone Logout Log

Plan Name: * Retail customers discount Currency: * USD - US Dollar
Managed By: Administrator Only

General Info **Discounts**

Destination Group: Retail Set: Description: Discount plan for retail customers

Destination group lookup type: ☒ Same Destination as Rate
☐ By Prefix of Rate Destination
☐ By full rating pattern match

Charged Amount: XXXXX.XX000 Rounding: XXXXX.XX000

Edit Discount Plan "Retail customers discount" America/Vancouver demo Help

Add Save Save & Close Close Clone Logout Log

Plan Name: * Retail customers discount Currency: * USD - US Dollar
Managed By: Administrator Only

General Info **Discounts**

Destination Group	Service	Type	Usage Type	Scheme	Delete
Canada	Voice Calls	Volume, minute	Repeat Monthly, Prorated	Peak 0.200 - 100% Off-Peak 2nd Off-Peak Always	✗

General Info

Service: * Voice Calls
Destination Group: * Canada
Type: * Volume, minute

Discount Scheme

Usage Period

Usage Period: * Monthly
☒ Prorate thresholds for first usage period
☐ Rollover unused minutes to the next usage period
Allow no more than: rollover(s)
☒ Use separate Discount Scheme for Off-peak
☒ Separate two off-peak periods (e.g. night / weekend)

Discount Scheme

Another important change in this new interface is the ability to clearly differentiate among discounts and free quotas. This helps make their configuration more understandable and therefore, easier.

Combine with Other Discounts **Discount Scheme** **Off-Peak Discount Scheme** **2nd Off-Peak Discount Scheme**

Threshold	Interval	Discount	Send Warning	Send Notification	Split xDRs	Delete
First 200 minute(s)	0 - 200 minute(s)	100	<input checked="" type="checkbox"/> 90%	<input checked="" type="checkbox"/> 200 minute(s)	<input type="checkbox"/>	✗

Threshold

☒ Following 200 minute(s)
☐ Unlimited

Discount

☐ 100 %
☒ 100% (Free Service)

Notifications

☒ Notify Customer/End User when 180 minute(s)
☒ Notify Customer/End User when Threshold reached

Additional Info

☐ Split xDRs

When a session spans several rating periods (e.g. covers both peak and off-peak periods) it is divided into portions. 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.

Add

With the new interface, the volume discount plan management is faster, more fluid and more convenient for administrators, and improves their overall experience with PortaBilling®.

- **Changing products for a callshop** – Callshop resellers can now easily adapt their sales rates by changing product offerings in their callshops. Once a new product is chosen, this new product is assigned to all booths in this callshop.

This allows callshop resellers to quickly respond to shifting market demands – plus gives them more flexibility in the administration of their callshops.

- **Charging subscription fees in advance to customers with monthly anniversary billing periods is improved** – This enhancement addresses the scenario in which subscriptions that are charged for in advance are activated immediately. This is for customers with monthly anniversary billing periods, wherein the customer's billing date is shifted to some date in the future. In this case, the customer's invoice will reflect the subscription charges for the first incomplete billing period (from the subscription activation date to the billing date) and the charges for N billing periods in advance.

For example, a subscription that is charged for two months in advance is assigned to the customer on November 10th although their billing period ends on November 20th. The invoice produced for the customer on November 21st will include the pro-rated subscription charge for the period from November 10th till November 20th and the subscription charges for the two subsequent billing periods from November 21st till January 20th.

This helps the administrators maintain correct accounting for customers whose billing periods have not yet closed when they migrate them to PortaBilling®.

- **Reapplying the same subscription for accounts** – The limitation has been removed that doesn't permit the same

subscription to be reapplied for cases when a product is changed for an account and then assigned back.

In such cases the subscription can be successfully reapplied to the account. Note that the subscription becomes active only on the day after the previous product (or product with the same subscription) is assigned back.

NOTE: This only applies for scenarios in which subscriptions that cannot be applied more than once are used.

- **Customer Premises Equipment (CPE) profile creation for resellers** – Starting with this release, resellers can create their own CPE profiles. CPE profiles permit the auto-provisioning of a large number of IP phones without each unit having to be configured individually.

Name	Type	Effective From	Discontinued	Description	Delete
Cisco ATA 186 02.xx	Cisco ATA 186 02.xx	2015-11-26 12:28:03			

With this enhancement, customer IP phone deployment and subsequent provisioning are much simpler and faster for resellers.

- **The opportunity to clone IVR applications** – With this release, you can clone an existing IVR application and transfer its access numbers to a new IVR application. This enables you to quickly configure access numbers for new products.

Clone IVR Application

Name: Texas Calling Cards
Description:

Move selected Access Number(s) to the cloned Application

Access Number	Description
<input type="checkbox"/> 1612355500	
<input type="checkbox"/> 16123555003	
<input type="checkbox"/> 1604123575	
<input type="checkbox"/> 16123555004	
<input checked="" type="checkbox"/> 16123555005	
<input type="checkbox"/> 16123555002	
<input type="checkbox"/> 16123555010	
<input type="checkbox"/> 16123555006	
<input type="checkbox"/> 16123555008	
<input type="checkbox"/> 16123555009	
<input type="checkbox"/> 16123555001	
<input type="checkbox"/> 16123555007	

Clone Cancel

- **Enhancement of dialing rules' representation for end users – Dialing rules** on customer and account self-care interfaces now enable end users to:
 - Review whether a caller's number will be translated according to the selected rule for incoming and outgoing calls. (Note that only administrators can turn the translation feature on and off.)
 - Control whether the area code must be dialed or can be left off for local calls.

These options help end users more effectively manage and troubleshoot dialing rules.

- **The IVR applications support Sierra Leonean currency –** The IVR application prompts can now announce the account balance in Sierra Leonean Leones (SLL). The language for prompts is English.

Web Interface Changes

- **The DIDs tab is added to the Customer and Reseller Management pages –**The **DIDs** tab makes it possible for an administrator to easily view full information about a customer's DID numbers on that customer's page. The new tab represents:
 - the total quantity of DID numbers assigned to a customer or a reseller,
 - the total monthly charges, and
 - a table with DID number information.

If a customer or a reseller has more than 25 DID numbers assigned to them, then the DID table is not displayed and the

Total DIDs link may be used for viewing all of the numbers in the DID Inventory.

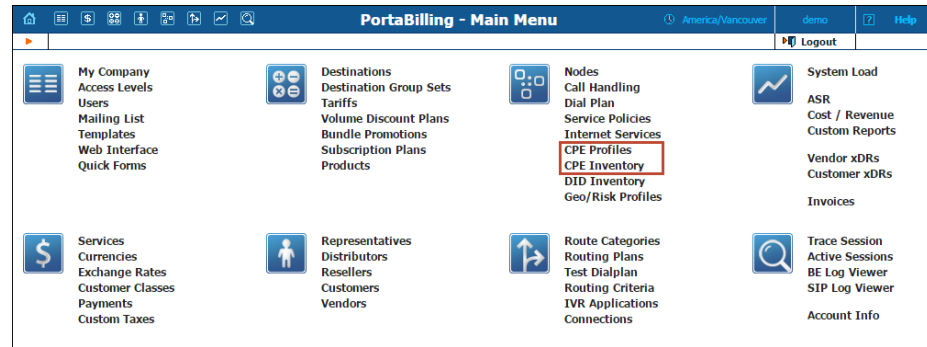
NOTE: The **DIDs** tab becomes visible on the page when at least one DID number is assigned to a customer / reseller.

This enhancement simplifies DID number tracking and accounting for each particular customer or reseller.

DID Number	Group	Country	Area	Activation Fee	Recurring Fee	Description
12065551234		UNITED STATES OF AMERICA		0.00 USD	1.10 USD	Washington
12065551235		UNITED STATES OF AMERICA		2.00 USD	3.02 USD	Washington
12065559928	Free DIDs	UNITED STATES OF AMERICA		2.00 USD	7.00 USD	North America
12124254781		UNITED STATES OF AMERICA		7.00 USD	9.99 USD	United States of America

- The **DID Upload** is triggered from a **dialog box** – This allows the administrator to start a DID upload without having to leave a currently active page.

- The **PortaUM Email Domain** field has been renamed – The field's new name is **Media Server Domain**. It is still within the **Voicemail / Auto Attendant** section of the **Voice Applications Settings** page.
- **CPE Profiles and CPE Inventory** – The **IP Device Profiles** and **IP Device Inventory** have been renamed **CPE Profiles** and **CPE Inventory**, correspondingly.



Important Upgrade Notes

- **Web services have been moved from the PortaSIP® cluster –**
With this release, the following web services run on a PortaBilling® Web server:
 - Webmail,
 - Web callback,
 - SMS callback, and
 - API access.

Please pay attention to the following changes in system usage:

- To access web services, use the admin interface hostname.
- To access webmail, use the 8943 port instead of the 443 port.

NOTE: These changes are applied only to the installations that have the PortaSIP® cluster configured. For installations with separate PortaSIP® Switching and Media servers the hostname and the port remain unchanged.