



PortaSwitch



New Features Guide

55

Maintenance
Release



Documentation

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V1.55.10**

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Preface

PortaSwitch® Maintenance Release 55 is the next long-life release which is mainly focused on improved system stability. It is supported with bug fixes, contains minor improvements and offers other software support for an extended period of time, thereby enabling customers to better plan the evolution of their PortaSwitch® systems.

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`.



The **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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SMS Routing with Real-Time HLR Lookup

In mobile networks, message routing is based on a combination of the mobile country code (MCC) and the mobile network code (MNC). The MCC / MNC pair identifies the mobile carrier within the network and is used to build routing lists. Mobile carriers also operate with MCC / MNC codes to generate SMS pricing.

To facilitate effective SMS delivery, message routing with real-time HLR lookup has now been introduced in PortaSwitch®. This means that PortaSwitch® requests subscriber information from the HLR (Home Location Registry) in real-time. It obtains the MCC / MNC codes of the destination number and then uses them for SMS delivery and billing.

Thus, two aspects of SMS provisioning are considered in the scope of this document: MCC / MNC rate management and HLR lookup.

MCC / MNC rate management

The majority of mobile carriers operate with MCC / MNC codes for destinations and rates. Therefore, for convenience in working with these carriers, you may now define destinations in the E.212-MCC-MNC format in PortaBilling®.

Destinations						
<div> Home Settings Tools Help Logout Log </div>						
<div> Add Close Loading </div>						
<div> Number Format: E.212 MCC: <input type="text"/> Country: ANY Network: <input type="text"/> Description: <input type="text"/> Search </div>						
Edit	MCC	MNC	Country	Network	Description	Delete
	311	800	UNITED STATES OF AM...			
	311	810	UNITED STATES OF AM...	Bluegrass Wireless LLC		
	234	03	UNITED KINGDOM			
	302	221	CANADA			
	724	01	BRAZIL			
	364	30	BAHAMAS			
	204	05	NETHERLANDS	Elephant Talk Communica...		
	255	01	UKRAINE	Vodafone		
	283	05	ARMENIA	MTS		
	365	840	ANGUILLA			
	722	310	ARGENTINA			

You can then upload your rates for these destinations in the tariffs for Messaging services and test the routing by using the Test Dialplan.

HLR lookup

HLR lookup serves two goals: to identify which mobile network the destination number belongs to and to perform correct SMS routing and billing.

To identify which mobile network the destination number belongs to and to which mobile carrier route the message, PortaSIP® performs HLR

lookup. This is done by sending an HLR lookup request to the external provider – www.hlr-lookups.com. This is the default HLR lookup provider, however, other providers can be integrated upon request.

Upon successful HLR lookup, PortaSIP® receives the MCC and MNC codes for the destination number. The MCC / MNC pair defines which mobile carrier handles this number, even if it was ported from another carrier.

The MCC / MNC codes are passed to PortaBilling® to compute a routing list and calculate vendor costs and user charges.

Configuration

To provide SMS services using real-time HLR lookup, set up an account within the HLR lookup provider (www.hlr-lookups.com) and configure the **HLRNumberLookup** module on the configuration server.

Please refer to the **Unified PortaSwitch Handbook** collection for a detailed configuration description.

NOTE: Delays in message delivery to a carrier are possible.



If you enable HRL lookup, only vendors that support the E.212-MCC-MNC format will participate in the SMS routing. Therefore, define the rates within the tariffs for both vendors and customers using the MCC-MNC pattern.

The support of MCC / MNC codes simplifies rate management and the configuration of SMS providers within PortaBilling®. Real-time HLR lookup assures the accuracy of SMS routing and billing. Consequently, you boost your competitiveness within the mobile telecommunications market and attract more customers.

Moving Billing Data Between Installations

Prior to moving services to a new installation (e.g. from staging to production), you may want to test the service flow for existing customers in the new billing environment. To eliminate human error during service configurations and ensure their correctness, with this release we present the data transfer tool.

Using Porter functionality, you can transfer some of your existing customers to the new billing environment and immediately run services there with minimum reconfiguration efforts.

Porter is a set of scripts with which you export a customer's service and billing configurations and all of the dependent entities (accounts, products, service features, xDRs, invoices, etc.) from a previous "source" system and import them into the target using the API.

NOTE: Customers are transferred singly (one by one).

As a result, the following data is transferred:

Entity	Transferred Data
Customer	<p>Customers' configuration:</p> <ul style="list-style-type: none"> • Customers and their accounts. • Customer and account service features. • xDRs. • Invoices. • Payment methods. • Customer sites. • IP Centrex elements: extensions and huntgroups. <p>Generic configuration:</p> <ul style="list-style-type: none"> • Customer classes. • Customer products and product groups. • Customer tariffs and rates. • Subscriptions. • Volume discount plans and counters. • Dialing rules.
Vendor	<ul style="list-style-type: none"> • Vendors and connections. • Vendor DID batches. • Vendor tariffs and rates.

By default, customer xDRs that pertain to the current billing period are transferred. However, you can reconfigure Porter to transfer all of a customer's xDRs, if necessary.


Reseller data is similarly transferred: the reseller configuration and that of their subcustomers is transferred.

For the administrator's convenience, the following **general configuration** data can be separately transferred (either assigned or not to a customer or an account):

- Products.
- Subscriptions.
- Volume discount plans.

- Tariffs and rates.
- Customer classes.

Porter operates in interactive mode. This means that if during a data transfer some entity appears to already exist in the source system (e.g. you transferred the product earlier), you may choose to use this entity or create a new one.

When transferred, a customer acquires the  **Exported** status in the source system. This means that customer service provisioning and billing is stopped in the source system. As soon as the administrator imports the customer, it resumes in the target system.

NOTE: Customer .csv files with xDRs and UM configurations (voicemail, auto-attendant) are not transferred. Therefore, you need to manually reconfigure the unified messaging services.

For the data transfer to take place, the following entities must be pre-configured in the target billing environment:

- A PortaBilling® root user.
- Currencies.
- Destinations.
- Nodes.
- Templates (invoice, tariff upload / download).
- Destination groups and destination group sets.
- Off-peak periods.
- CPE inventory records.

These functionalities must also be pre-configured in the target system if a customer or an account uses them:

- Subresellers.
- Bundle promotions.
- Routing plans.
- Routing categories.
- Routing criteria.
- Service policies.
- Internet access policies.
- DID pricing batches for DID provisioning.
- Geo-risk profiles.
- Spending plans.
- Fraud traffic profiles.
- Custom field names.



Any custom configuration (e.g. an access level with modified rules for a customer) that is defined in the source system must be pre-configured in the target system as well.

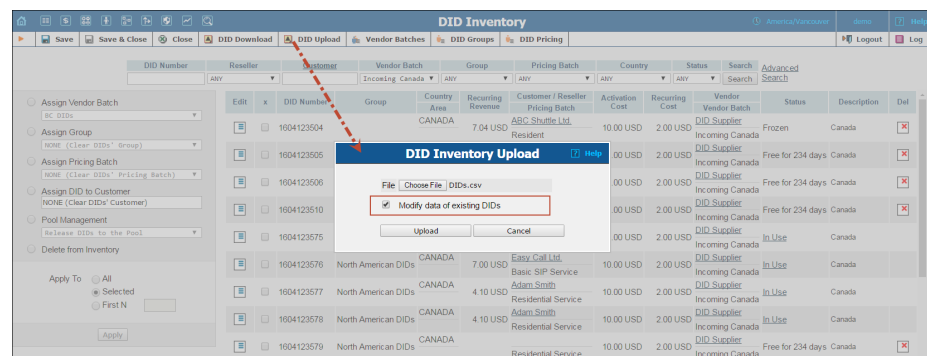
In future releases we plan to introduce data transfer between installations of different releases (e.g. from MR55 to MR57).

In the meantime, Porter functionality helps you evaluate your business under new conditions and reduce the administrative load during the migration process to a new billing environment or installation.

DID Costs Management

Beginning with this release you can easily adjust your vendor costs associated with the DID numbers you provide. Thus, when your DID supplier changes their pricing and sends you an updated DID list, all you have to do is upload it to the DID inventory.

To update the vendor costs in the DID inventory, select the **Modify data of existing DIDs** option during the DID upload. The new DID numbers from the .csv file, if any, will simply be uploaded to their respective vendor batches in the DID inventory.



Upon upload, the new vendor costs override previous costs for all DID numbers regardless of their status (Free, In Use, etc.). The administrator receives a notification stating the number of both new and updated DIDs that have been uploaded to the DID inventory.

DID fees (calculated as the sum of vendor costs and DID markup) are also modified automatically. Thus, customers using DID numbers are charged updated recurring fees. Activation fees will not be recalculated.

This enhancement simplifies DID inventory management and reduces the administrative load.

Extended ACL Possibilities

The access control list (ACL) defines which features a PortaBilling® user can view and modify on the web interface. In previous releases, an administrator could only define the access level to an entire service feature. Now he can do it for each service feature field. This provides extended possibilities for fine-tuning the ACLs and optimizing the web interface view for different PortaBilling® users.

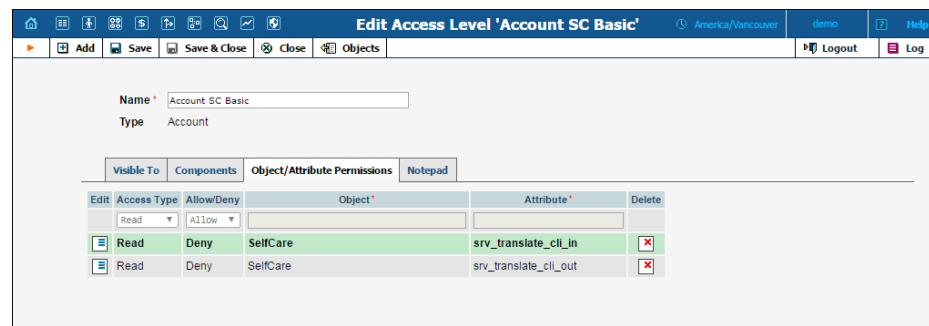
Consider the following example:

On the account self-care interface, the following default parameters are available for dialing rules: international dialing prefix, service feature codes, etc. There are two advanced fields among them that may confuse a regular end user – **Translate CLI on outgoing calls** and **Translate CLI on incoming calls**. The administrator hides these fields from the account self-care interface so that the end user only sees relevant information. To do this, the administrator needs to add the appropriate rules for the end users' ACL.

While in the account self-care interface, the administrator can point the mouse cursor to a desired field to see its object and attribute names in the yellow highlighted area.

NOTE: To see the object and attribute names, the account's ID from within the PortaBilling® database must be added to the **ACLTipsForAccounts** field on the Configuration server.

The administrator then creates a new ACL on the **Access Levels** page of the admin web interface and defines new rules for the required fields.



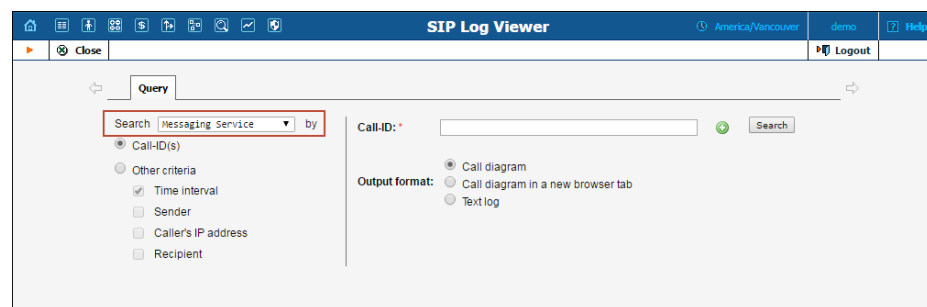
Now end users only see the permitted fields on the web interface.

With this enhancement, you can hide specific fields of service features or set them as read-only, so that PortaBilling® users only see information that is relevant for them. This can be done both on the administrator and self-care interfaces.

Message Logs in the SIP Log Viewer

When an administrator troubleshoots a message-related problem (for example, unsuccessful message delivery), it is essential to locate the particular message log to find out the root of the issue.

Now, along with call logs, the administrator can view message logs with the **SIP Log Viewer** tool. The administrator needs to know the Call-ID of a specific message in order to view its log. If the Call-ID is unknown, the administrator can filter message logs by time interval, originating phone number and / or by originating IP address or destination phone number to locate the message log needed.



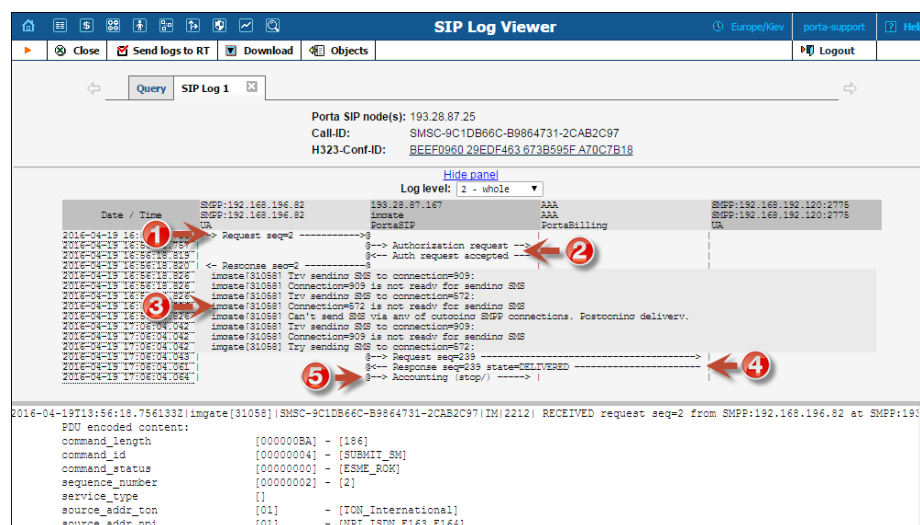
From the message logs the administrator can obtain the following information:

- A matched domain service policy. This policy defines which transport protocol is used for message delivery (SIP or SMPP).
- A routing list for message delivery.
- Routes that have been tried for message delivery.

- The service policy assigned to the vendor connection that is chosen for message delivery.
- A reason for message delivery delay.
- The external services involved in message delivery.

The administrator can view a message log either in plain text or as a message flow diagram. On the message flow diagram the administrator can see the main entities participating in message delivery and the sequence of messages sent among them.

An example of the message flow diagram is shown below. In this scenario, a wholesale provider sends messages via the SMPP protocol. The message arrives at the PortaSIP® cluster from the endpoint (1). The PortaSIP® cluster authorizes the endpoint in the billing engine and receives a routing list for message delivery (2). The IMGate tries the routes returned by the billing engine one by one (3) until a RECEIVED response arrives from the SMSC (short message service center) or the SMS aggregator (4). The IMGate sends accounting records to the billing engine for this message (5).



NOTE: For messages delivered via the SIP protocol, message logs are split into two parts. The first part of the log includes information related to message delivery from the sender to the IMGate and message authorization in the billing engine. The second part of the log includes information related to message delivery from the IMGate to the recipient.

The second part of the log has a different Call-ID. It is provided in the first part of the log as the **Outgoing message call-id** header field.

Having the capability to locate and analyze message logs substantially improves the message troubleshooting process and reduces the time it takes to isolate and fix a problem.

Integration with Alcatel-Lucent Service Router

PortaBilling® is now integrated with the Alcatel-Lucent Service Router (SR), used by service providers worldwide for providing broadband Internet services.

In this configuration, the Alcatel-Lucent SR is deployed as a DSL access point within a service provider's network. It communicates with PortaBilling® via the RADIUS protocol to authorize end users when they connect to the Internet. When an Internet session is established, the Alcatel-Lucent SR periodically sends interim (also called keep-alive) accounting requests with information about the current transferred data volume. When an end user's balance is not sufficient for using the service or their Internet quota is reached, PortaBilling® sends the Alcatel-Lucent SR a CoA (change of authorization) request. The Alcatel-Lucent SR then switches the session to a hotlined state – i.e. redirects the end user to a defined website.

PortaBilling® acts as an OCS (Online Charging System). It communicates with the Alcatel-Lucent SR via the RADIUS protocol for real-time session authorization and rating. PortaBilling® also provisions Alcatel-Lucent SR information about the bandwidth speed (for example, 1 Mbps or 10 Mbps) and Internet quota allocated to a particular customer. The bandwidth options and quota amounts are defined by the product configuration in PortaBilling®.

This integration extends the variety of equipment that PortaOne's clients can use for broadband Internet service provisioning. Service providers who have already chosen the Alcatel-Lucent SR and are looking for a flexible and reliable billing system, can explore the advantages of choosing PortaBilling®.

Geo-Redundancy Solution for IMGate

The IMGate component of the PortaSIP® cluster is responsible for the exchange of text messages between users, including wholesale messaging and SMS messages sent to cell phones. Now the owners of multi-site PortaSwitch® installations can be sure that even in case of a failure at the main site (e.g. power outage or simply a connectivity problem between the remote and main sites), users of the secondary site will not even notice.

The support of geo-redundancy for IMGate ensures that users can send messages as usual and be correctly charged for them if any of the sites are unavailable for any reason.


Other Features and Enhancements


- **Add DIDs via the PortaBilling® API** – The *add_number* method that enables adding DID numbers via the SOAP / JSON API has now been implemented. With its use you can achieve functionality similar to on-demand DID provisioning – even if a DID provider is not interconnected with PortaBilling® by default.
- **Internode call logs are shown on a single diagram** – With this release, you can view all SIP requests and responses, all PortaSIP® nodes involved and an entire call flow in one place. The **SIP Log Viewer** displays a single diagram, by default; however, there is the option of seeing the call flow for each node separately. To do this, click on the **Separate log for each SIP node** link.

This enhancement simplifies log analysis and facilitates troubleshooting.

- **Due date adjustment in the invoice wizard** – An administrator can now set the desired due date for all invoice types. This allows you to override the invoice's due date defined in the customer class and satisfy specific arrangements with customers.

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

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

Invoice Type		Fees	Summary	Payment	Invoice
Balance Due		11.00 USD		Invoice Date 2016-04-18	
Charges:	11.00 USD			Payment Terms Due on 2016-06-02 (in 45 days)	
Credits:	0.00 USD			<input type="radio"/> Due on 2016-04-28 (As defined by the Customer Class)	
<hr/>				<input checked="" type="radio"/> Due: <input type="text" value="NET 45"/>	
Total:	11.00 USD			<input type="radio"/> Custom: <input type="text"/> 	

This enhancement provides additional opportunities for regulating your payment flow.

- **Enhanced search by customer status** – Three new statuses have been added to the **Advanced Search** on the Customer management page:
 - Frozen,
 - Spending Limit Reached, and
 - Exported.

Note that **Frozen** and **Spending Limit Reached** statuses can be combined with any other statuses within a single search query:

xDR#	ID	Accounts	Currency	Balance Control	Available Funds	Balance	Credit Limit	Email	Status	Delete
	Adam Smith		USD	Postpaid	-	-13.08311	100.00000			
	Asgard Telecom		USD	Postpaid	-	18.35000	1000.00000			

This enhancement simplifies customer search and management. Moreover, now you can combine more than one status to devise a more accurate search request.

- **Improved management of customer statuses** – The list of key enhancements on the **Change Customer Status** dialog window includes:
 1. The option to manage suspended and exported statuses.
 2. The option to apply several statuses simultaneously (e.g. schedule both provisional and permanent termination dates).
 3. A list of scheduled changes displayed in the **Actions** section.

Current Status: Suspended

Update Status:

☐ Blocked

☐ Suspended

Lift the Suspension until *

☒ Provisionally Terminated

Provisional Termination Date *

☒ Generate invoice prior to the end of the billing period

The Customer will be permanently terminated in 30 day(s)

☒ Permanently Terminated

Permanent Termination Date *

☐ Generate invoice prior to the end of the billing period

Actions:

Provisional termination will be scheduled on 2016-05-16

Permanent termination will be scheduled on 2016-05-30

OK Cancel

The improved management of customer statuses ensures a better user experience and saves the administrator's time.

- **Improved call forwarding mode switching** – In previous releases, changing a call forwarding mode via the account self-care interface implied removing previously defined information (e.g. phone numbers, ringing time, etc.).

With this release, the call forwarding information is retained for the following interchangeable modes:

- Follow-Me and Advanced Forwarding.
- Simple Forwarding and Forward to SIP URI.

For example, if you change the forwarding mode from **Follow-Me** to **Advanced Forwarding**, then phone numbers, descriptions, ring schedules and other mutual parameters are retained – you do not need to enter them twice. If you change a forwarding mode from **Follow-Me** to **Simple Forwarding**, then previously defined data is treated as obsolete (because the modes are not interchangeable). The system automatically erases this data, saving you from having to do it manually.

This improved call forwarding configuration ensures a better user experience and saves time for your end users.

- **Test the SMS routing using the MCC / MNC codes** – By default, message routing lookup is performed for vendors that support the E.164 format. Now you can also test the E.212 routes for SMSs. To do this, configure the **HLRNumberLookup** module on the Configuration server and enable the **HLR lookup** option on the **Test Dialplan** page.

The system will perform the HLR lookup and you will see the routing results based on the MCC / MNC codes of the destination number.

The screenshot shows the 'Test Dialplan' interface. At the top, there's a header 'Test Dialplan'. Below it, there's a form with several fields: 'Phone Number' (420604123456), 'Service Type' (Messaging Service), 'Transport Protocol' (Any), 'Routing Plan' (All Available Routes), 'Routing Mode' (Generic Routing), and 'HLR lookup' (checked). There's also a 'Date and Time' field with 'YYYY-MM-DD' and 'HH:MM:SS' sub-fields, and a 'Search' button. Below the form, there's a table with columns: '#', 'Route CLD', 'Route To', 'Connection', 'Penalization', 'Route Category', 'Preference', 'Huntstop', 'Price, USD', 'Destination', 'Country', 'Description', 'Tariff', and 'Vendor'. The table contains one row with the following data: '# 1', 'Route CLD 420604123456', 'Route To smpp:127.0.0.1:6200', 'Connection SMSE1 Test connection', 'Penalization', 'Route Category Default', 'Preference 5', 'Huntstop N', 'Price, USD 1.00000', 'Destination E212-230-01', 'Country CZECH REPUBLIC', 'Description', 'Tariff g212', and 'Vendor SMSE1 Vendor'.

- **Test Dialplan displays ignored routes for destinations** – When testing routing for a destination you will see both the routes that will be tried and the routes that are ignored. The ignored routes are displayed as dimmed; point to one of them with the mouse cursor to see a tool tip and explanation.

The screenshot shows the 'Test Dialplan' window with the following data:

Phone Number	Service Type	Routing Plan	Routing Mode	Apply Penalties	Date and Time
42055521542	Voice Calls	All Available Routes	Generic Routing	<input checked="" type="checkbox"/>	YYYY-MM-DD HH24:MI:SS

#	Route CLD	Route To	Connection	Penalization	Route Category	Preference	Huntstop	Price, USD	Destination	Country	Description	Tariff	Vendor
1	42055521542	sip: 11.11.11.11	Termination to Z-telecom		Default	8	Y	0.50000	420	CZECH REPUBLIC	Proper	Termination to Z-Telecom	Z-Telecom
Any remaining potential routes of lower preference are ignored because of the huntstop													
	42055521542	sip: 192.168.52.64	Connection to ITIT		Default	5	N	0.10000	420	CZECH REPUBLIC	Proper	X-Telecom Termination	ITIT vendor
	42055521542	sip: 111.111.11.11	PSTest53-V-T0		Default	5	N	0.10000		Not Applicable	Default	PSTest53-VT	PSTest53-V
	42055521542	sip: 90.90.90.90	Retail		Retail	5	N	0.10000	420	CZECH REPUBLIC	Proper	Wholesale	Retail
	42055521542	sip: 5.5.5.5	X-telecom termination		Default	5	N	0.10000	420	CZECH REPUBLIC	Proper	X-Telecom Termination	X-Telecom vendor

This gives you all of the information about the routing results and you can adjust them if necessary.

- **Extended xDR history view for messages** – The xDR History page now displays the sender's phone number (CLI) in the **From** field. This enhances xDR messaging analysis and simplifies troubleshooting.
- **Enhanced self-provisioning of DID numbers for customers** – With this release, customers can allocate any available DID numbers from the DID inventory using the self-care interface. To do this, the administrator distributes the DID numbers in pricing batches and defines their markups. Customers then filter the DID numbers by country and country area and pay the charges associated with their selected DID.

This enhancement enlarges the selection of DID numbers available for customers, reduces the load on administrators and boosts your sales.

- **DID numbers download** – To analyze the DID inventory and / or modify the parameters for existing DIDs, you can now download them from the DID inventory. To start the download, click the **DID Download** button on the toolbar on the **DID Inventory** page.

The screenshot shows the 'DID Inventory' window with the following toolbar buttons: Save, Save & Close, Close, **DID Download** (highlighted), DID Upload, Vendor Batches, DID Groups, DID Pricing, Logout, and Log.

Use the downloaded file to update the DID activation and periodic costs and then upload it back to the DID inventory or use it as a tool for analysis.

- **When an end user clears a custom field on the self-care interface**, that field displays the default value set by an administrator. If the default value has been defined prior to this release, the custom field becomes blank once it has been cleared.

- **A new attribute, `on_hold_media_direction`, has been added to the Service Policies page** – This attribute defines the media stream direction between PortaSIP® and an IP device when a call is on hold. You must define the right attribute mode for your IP device to ensure that music on hold is functioning correctly.

NOTE: The `on_hold_media_direction` attribute defines the media stream direction only if it is sent through the RTP proxy.

Select one of the **available** modes:

- **Sendrecv** – This mode enables PortaSIP® to exchange a media stream with an IP device when a call is on hold. This is the recommended option for IP devices located behind the NAT, since it ensures both NAT traversal functionality and playing music on hold.
- **Sendonly** – This mode enables only PortaSIP® to send a media stream to an IP device when a call is on hold. This is the recommended option for IP devices that are directly reachable from a WAN.
- **Auto** – This is the default option that automatically defines a media stream direction. If an IP device is located behind the NAT, PortaSIP® sends and receives the media stream (behaves as if in *sendrecv* mode); if not, PortaSIP® sends only the media stream (behaves as if in *sendonly* mode).

The option to fine-tune this attribute ensures the correct working of the music on hold feature for each IP device, regardless of its location.

- **A new attribute, `sdp_ptime_remove`, has been added to the Service Policies page** – *Ptime* is the SDP attribute that defines the duration of the media stream in milliseconds for a RTP package. The service policy with `sdp_ptime_remove` configured makes it possible to remove *ptime* from SDP messages in case a legacy IP device cannot process this attribute.

Define one of these values for `sdp_ptime_remove`:

- **no** – Type in this value for *ptime* to always be available in SDP message (the default option).
- **all** – Type in this value to remove *ptime* from SDP messages.


NOTE: This is a case sensitive field – use lower case.

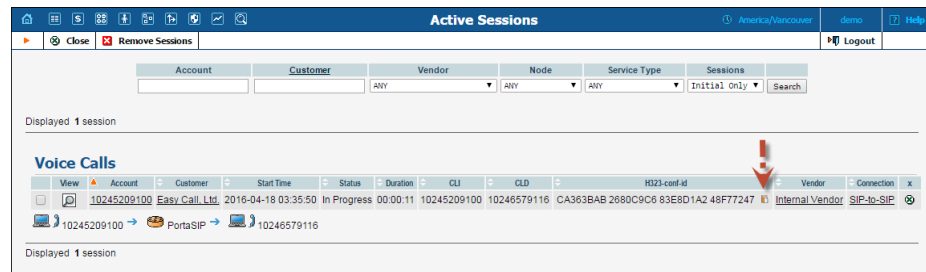
- **<number>** – Define the length of media streams in milliseconds; B2BUA removes *ptime* if it equals this value.

The opportunity to manage *ptime* in service policies simplifies the voice calls configuration. Moreover, you can set a custom value for each IP device or vendor connection by assigning the service policy with this attribute.

- **Improved DID number upload** – With this release, you can upload DID numbers to the **DID Inventory** and associate them with only those vendors that have on-demand DID provisioning disabled. Therefore, vendor batches of external DID providers (e.g. DIDW, DIDWW) will only contain auto-provisioned DID numbers. This enhancement prevents the uploading of DIDs to the wrong batch and therefore ensures correct DID handling.
- **Debit accounts and their aliases can only be created from free DID pricing batches** – This prevents overdraft issues and improves the customer experience.
- **Changes in voicemail configuration for end users** – With this release, you can provide access to voicemail and disallow end users to modify its settings (e.g. password, greeting prompts, etc.). To do this, apply the following configuration:
 - Enable voicemail via a product and clear the **End-users** check box.
 - Disable the voicemail feature at the account level.

This enhancement ensures that only the permitted settings are applied to the voicemail service.

- **Extended threshold definition in volume discount plans** – Now you can accurately define discounts, quotas and service wallets to within five decimals (e.g. 5.12345, 10.33000, etc.) This is applicable for both volume and monetary threshold types. This enhancement gives you more space for adjusting volume discount plans and improves your cash flow.
- **Copying H323-conf-id to clipboard** – Now administrators can copy an H323-conf-id on the **Active Sessions** page by simply clicking the  **Copy to Clipboard** icon. The H323-conf-id acts a unique identifier of a call, message or Internet session and is extremely important to the troubleshooting process.

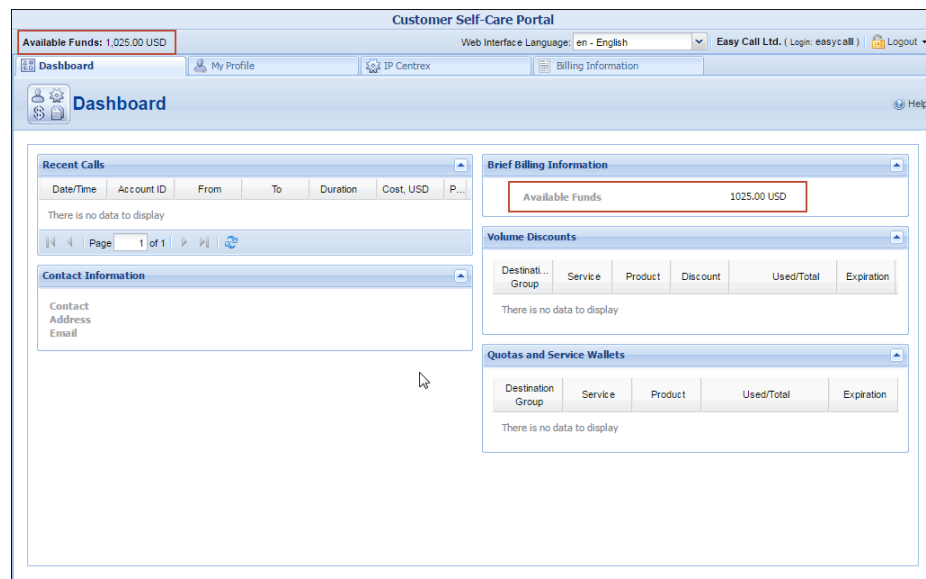


Along with added convenience, this new copy to clipboard functionality also works in web browsers that do not support Adobe Flash plug-in.

This enhancement makes it easy for administrators to shuttle the H323-conf-id information among different web pages and programs (for example, to investigate an issue related to a specific call or share an H323-conf-id with the PortaOne® support team), thereby improving the user experience.

- **ACL control for Balance / Available Funds** – An access level (ACL) control has been added to the **Balance / Available Funds** web element on the customer self-care interface.

This allows administrators to show or hide customers' balance / available funds information, depending on the service provider's needs and / or demands.



- **Subscription information for resellers and distributors** – Now resellers and distributors can see the subscriptions assigned to them on their self-care interface.

This allows resellers and distributors to keep close track of their recurring charges and thereby plan their budgets more effectively.

- **Handling a resale tariff change** – Now when a service provider or reseller changes a resale tariff (for example, from tariff A to tariff B), the corresponding wholesale tariff for their subresellers also changes.

For example, the reseller network includes:

- The service provider,
- Company InterCalls, which is an authorized reseller for the service provider, and
- Panda Telecom, a local Chinese community that acts as a subreseller for InterCalls.

The service provider wants to charge InterCalls using tariff A. So, an administrator chooses tariff A as the *resale* tariff to be applied for InterCalls.

InterCalls can see tariff A as the *wholesale* tariff on their self-care interface (the tariff by which InterCalls is billed by the service provider). InterCalls clones this *wholesale* tariff (by applying a profit markup) to create a *resale* tariff for charging Panda Telecom.

Edit Subreseller 'Panda Telecom'

Customer ID: Panda Telecom Customer Class: VoIP Reseller
Balance: 0.00000 USD
Current Credit Limit: Not set

Usage Charges

When I am charged: Wholesale Tariff
Charge Subreseller using Resale Tariff
Description

Voice Calls
Tariff A: Tariff to charge subresellers

Later on, the service provider decides to charge InterCalls using tariff B. So the administrator changes the *resale* tariff A to tariff B.

Edit Product "InterCalls product"

Product Name: InterCalls product Currency: USD - US Dollar
Product Name visible to End User: InterCalls product Managed By: VoIP Reseller
Product Type: Main Product

Usage Charges

Service Used At	Charges Applied				
Node	Access Code	Service	Tariff	Advanced Config	Delete
Any node	Any code	Voice Calls	InterCalls customer tariff	Tariff B	

Service type: Voice Calls

Add Help

This tariff change results in the following:

- InterCalls can now see tariff B as their *wholesale* tariff.
- Tariff A is no longer used for charging InterCalls and thereby does not appear on InterCalls' self-care interface.
- The resale tariff that was created by cloning tariff A remains unchanged and is still used for charging Panda Telecom.

Edit Subreseller 'Panda Telecom'

Customer ID: Panda Telecom Customer Class: VoIP Reseller
Balance: 0.00000 USD
Current Credit Limit: Not set

Usage Charges

When I am charged: Wholesale Tariff
Charge Subreseller using Resale Tariff
Description

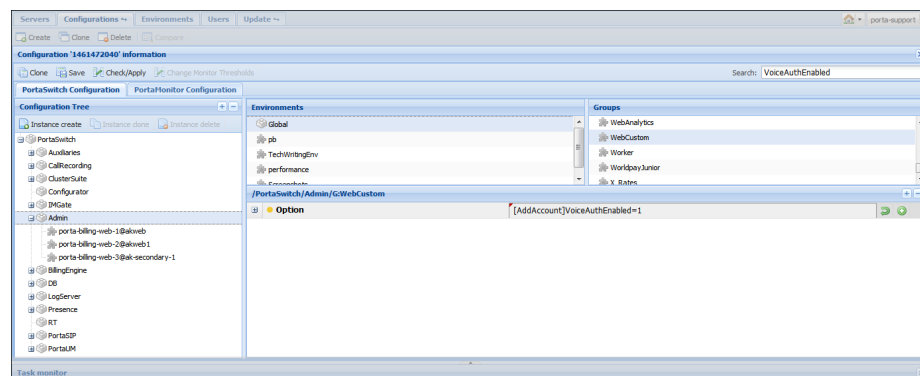
Voice Calls
Tariff B: Tariff to charge subresellers

This ensures that a *resale* tariff change does not interrupt the functionality of the entire reseller network. Thus, service providers and resellers can smoothly change their *resale* tariffs depending on current market demands.

- **Enable reinforced security for voice calls by default** – When an outgoing call is considered a potential security breach, the fraud detection function launches a special IVR which performs the ‘human check’ wherein it asks the end user to enter a 3-digit code that they hear. For additional security, you can specify that the IVR must also ask the end user for the unlock code you provided previously.

Starting with this release, you can make the unlock code check mandatory for each new end user in case of fraud risk situations.

To do this, on the configuration server web interface go to the **Admin** node → the **Global** environment → the **WebCustom** group and then type `[AddAccount]VoiceAuthEnabled=1` into the **Option** field.



These settings guarantee that for each new account added to the system, an administrator will not miss a step of configuring an unlock code. This ensures that all users are well-protected against fraud.

- **Strictly prohibit users from showing CLI** – Even if a user’s CLI is hidden by default, a user can reveal it by dialing a special service code. In some cases, however, security arrangements require that users be prevented from revealing their identity. For example, users who have been granted police protection must be safeguarded from dialing the code accidentally.

Beginning with this release you can eliminate the chance that a user will dial the “show CLI” code. To do this, enable the hide CLI feature for the user, configure it to hide CLI by default, create

a dialing rule with an empty “show CLI” code and assign this dialing rule to the user.

This enhancement helps service providers adapt the system to different users’ demands and gives users a feeling of safety and security when using the service, no matter what the situation.

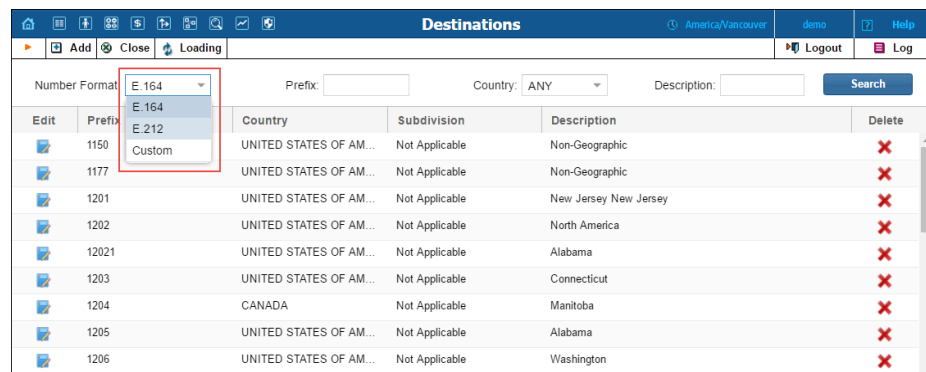
- **Backup radacc files with Archivist** – Every RADIUS request received by PortaBilling® is stored in a separate radacc file. These files can be used later for recreating xDRs. This is very useful when fixing billing issues such as missing connections to the vendor or an incorrect rate.

Therefore, it is convenient to keep radacc files in a safe place for as long as required. Beginning with this release, you can easily configure the Archivist utility to regularly back up radacc files to either a remote or local storage place. This significantly saves the time and effort of your support team and facilitates troubleshooting.

- **Store files of any size in Cassandra DB** – The size restriction for files that can be saved to the Cassandra database in PortaSwitch® has been lifted. So now the database can store files up to any size. This is very opportune if you use extremely long rate lists, for example.

Web Interface Changes

- **Destinations page redesign** – The **Destinations** registry page has been redesigned to include the E212 format for destinations. This helps you to differentiate between different destinations formats displaying only the relevant ones based on format selection: E164, E212 and / or a custom format for special destinations.



The screenshot shows the 'Destinations' web interface. At the top, there's a header with navigation icons, the title 'Destinations', and user information 'America/Vancouver demo Help'. Below the header is a toolbar with 'Add', 'Close', and 'Loading' buttons, along with 'Logout' and 'Log' links. The main area features a search bar with fields for 'Number Format' (a dropdown menu), 'Prefix', 'Country' (set to 'ANY'), and 'Description'. The dropdown menu is open, showing options: 'E.164', 'E.212', and 'Custom'. Below the search bar is a table with columns: 'Edit', 'Prefix', 'Country', 'Subdivision', 'Description', and 'Delete'. The table contains several rows of destination data.

Edit	Prefix	Country	Subdivision	Description	Delete
	1150	UNITED STATES OF AM...	Not Applicable	Non-Geographic	
	1177	UNITED STATES OF AM...	Not Applicable	Non-Geographic	
	1201	UNITED STATES OF AM...	Not Applicable	New Jersey New Jersey	
	1202	UNITED STATES OF AM...	Not Applicable	North America	
	12021	UNITED STATES OF AM...	Not Applicable	Alabama	
	1203	UNITED STATES OF AM...	Not Applicable	Connecticut	
	1204	CANADA	Not Applicable	Manitoba	
	1205	UNITED STATES OF AM...	Not Applicable	Alabama	
	1206	UNITED STATES OF AM...	Not Applicable	Washington	

The page layout is adjusted for the destinations format respectively, simplifying their management and their search functions.

In addition, the **Destinations** page operates on the ExtJS5 framework, which decreases the waiting time for web page response.

- **Define all quota settings on a single page** – With this release, you can define such parameters as quota amount, notification settings, etc. on a single page along with other quota parameters. This enhancement makes quota definition more user-friendly.

The screenshot displays the 'Discounts, Quotas and Service Wallets' configuration page. It features a table with columns: Destination Group, Service, Type, Scheme, Scheme details, and Delete. Below the table, the 'General Info' section contains dropdown menus for Service (LTE), Destination Group (USA), and Type (Volume, megabyte). The 'Additional Info' section includes checkboxes for 'Prorate thresholds for first usage period', 'Rollover unused minutes to the next usage period', 'Allow no more than: 1 rollover', 'Notify Customer / End User when 1900 megabytes used', 'Notify Customer / End User when Threshold reached', and 'Split xDRs'. The 'Scheme' section has radio buttons for 'Service Wallet', 'Quota' (selected), and 'Discount'. The 'Scheme Details' section includes 'Reset Threshold Counters' (Monthly), 'Off-Peak periods' (Do not separate Off-Peak Period), 'Peak Quota' (2000 megabytes), and 'When Peak Quota Exhausted' (Limit Usage). A red box highlights the 'Additional Info' section.

Important Upgrade Notes

- **The Separate Invoice for Recurring Fees option is configurable** – This option is used for deducting subscription charges directly from customers' credit cards. It is not displayed on the web interface and is disabled by default. To display the **Separate Invoice for Recurring Fees** option and configure separate charges for subscriptions to credit cards, enable the **AllowSubscriptionsExtraInvoice** option on the configuration server. If you have charged customers separately for subscriptions in previous releases, enable the **AllowSubscriptionsExtraInvoice** after the software upgrade.
- **Changes in cloning templates with taxes included in the rate** – With this release, a cloned invoice template does not inherit the taxes defined in the post processing rules. Hence, you need to

define these taxes on the **Custom Taxes** page and assign them to a customer or customer class.

- **The generic ACL attribute “service_features” has been removed for accounts.** To manage accessing the service features at the account level, use the ACL attributes that control individual service features.