



PortaSwitch



New Features Guide



Maintenance
Release



Documentation

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Preface

PortaOne has been developing the company's flagship communication services delivery platform since 2002. As a result of these 13 years of work we now offer our anniversary "Long-Life" PortaSwitch® Release.

Maintenance Release 50 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:



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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Auto-charging for Subscriptions and Service Usage Balance

With this release you can implement another popular business model in which subscriptions are automatically charged to a customer's credit card. This way you can provide prepaid customers with a "service balance," that is, you allow them to spend their funds on service usage only (e.g. international calls, SMS, etc.). This helps to prevent a situation in which available funds might be consumed by subscription charges.

To automatically charge customers for subscriptions, configure a customer class as follows:

- Enable the **Separate Invoice for Recurring Fees** option;
- Enable the **Auto-charge invoice balance to credit card** option;
- Specify the invoice template;
- Specify the grace period, for example, 5 days;
- Specify when to charge the credit card for the unpaid invoice, for example, 2 days after the invoice due date.

The screenshot shows the 'Add Customer Class' configuration page. The 'General Info' tab is selected. The 'Name' field is 'Prepaid customers' and 'Currency' is 'USD - US Dollar'. The 'Managed By' field is 'Administrator Only'. The 'Invoice Generation' section is expanded, showing the 'Separate Invoice for Recurring Fees' option checked. Other options include 'Taxation Method' (Fixed VAT Rate), 'Statistics Generation' (On/Off), 'Send statistics via email' (Do Not Send), 'Billing period is closed' (Automatically), 'But no later than' (days after the period is over), 'Suspend On Insufficient Funds For Subscriptions' (Yes), and 'Close customer's account' (120 Days after Provisional Termination). The 'Description' field contains 'Separate auto-charging for subscriptions'.

This is how it works:

The sum of subscription charges and calculated taxes for those charges is generated as a separate invoice at the end of the billing period. The invoice amount is automatically deducted from the customer's credit card, thus leaving the amount of available funds intact.

If the payment transaction is unsuccessful (e.g. if the credit card is expired or there are insufficient funds on it), the invoice remains unpaid and a corresponding notification is sent to the customer.

The customer has some grace period days for updating their credit card information. During the grace period the amount of available funds remains unchanged because a special correction xDR for the sum of the

invoice is generated and inserted into the database. Thus, the customer can continue to use other services, such as make international calls.

NOTE: An invoice that contains subscription charges and taxes is paid automatically by a credit card only and cannot be paid manually via the web interface.

If credit card information is not updated within the grace period, the customer's service is suspended until the credit card information has been updated and the payment has gone through.

Consider the following example:

Prepaid customer John Doe has \$15 in available funds and signs up for a \$10 monthly subscription on April 1st. He is charged 10% in taxes for service usage.

During April, John Doe makes international calls that total \$6. His amount of available funds is now \$9.

On May 1st two invoices are produced for him:

- An invoice that covers the \$10 subscription charge and \$1 tax ($\$10 * 10\% = \1). This is an out-of-turn invoice in PortaBilling®.
- An invoice that covers \$6 for voice calls. Since this is a prepaid customer the invoice status is “do not pay.”

These invoices are mostly used for administrative accounting and are not usually sent to customers.

The sum of the out-of-turn invoice ($\$10 + \$1 = \$11$) is automatically deducted from John's credit card so the status of the invoice is “paid.”

In May, John makes international calls totaling \$7, therefore his amount of available funds is now \$2. The invoices produced for him in June are as follows:

- An out-of-turn invoice that covers his \$10 subscription charge and a \$1 tax; and
- An invoice that covers \$7 for voice calls and has a “do not pay” status.

On May 31st John's credit card expires, and consequently the out-of-turn invoice is not paid. The correction xDR for the sum of this invoice ($-\$11$) is generated and inserted into the database, leaving the amount of available funds unchanged (\$2).

On June 2nd John updates his credit card and the payment transaction for the out-of-turn invoice is successful. The invoice status becomes “paid” and the correction xDR is removed from the database.

If John did not update his credit card, his service would be suspended on June 3rd and terminated on June 18th.

With auto-charging for subscriptions, there is improved cash flow since there is pre-defined recurring revenue.

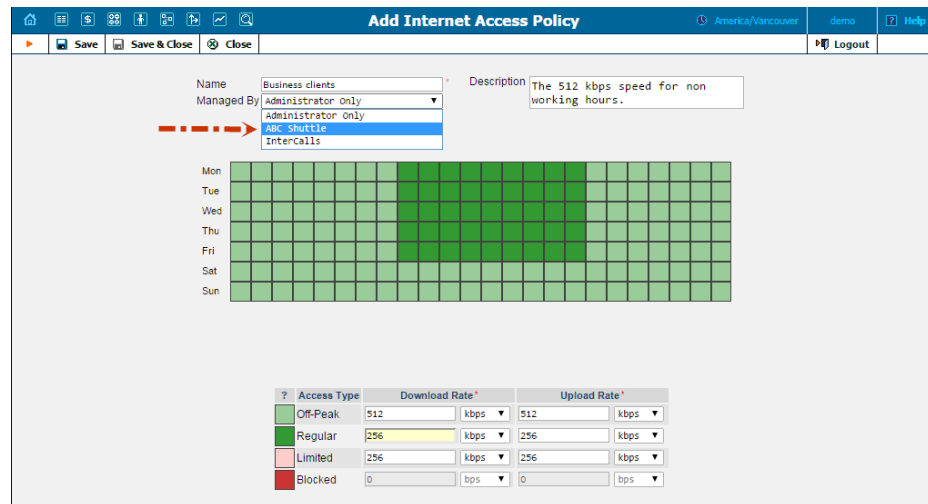
Customers are better able to control their available funds since these funds are only used for services.

Resellers Can Manage Internet Access Policy

Starting with this release, resellers at all levels can create, edit and delete Internet access policies. This gives resellers even more flexibility for managing their Internet services without administrator involvement.

There are two ways to create an Internet access policy that is managed by a reseller in PortaBilling®:

The administrator creates a new Internet access policy and assigns it to a reseller in the **Managed by** list.



The reseller creates a new Internet access policy via the reseller self-care interface.

Note that the administrator can see and manage an Internet access policy that either he or any top level reseller manages. Resellers of all levels can only see and manage their own Internet access policies.

This feature speeds up the Internet access configuration process for resellers at all levels. As a result, the workload for PortaBilling® administrators is considerably decreased.

Bitcoin Support in PortaBilling®

We are pleased to announce that starting with this release, service providers and their resellers are able to accept Bitcoin crypto currency payments for services provided.

To enable Bitcoin payments in PortaBilling® an administrator / reseller needs to specify the address of a centralized Bitcoin wallet which will store all received bitcoins and define a minimum payment.

The screenshot shows the 'Payments' configuration page with the 'Bitcoin' tab selected. The interface includes a top navigation bar with 'Payments', 'America/Vancouver', 'demo', and 'Help'. Below the navigation bar are tabs for 'Payment Systems', 'Payment Remittance', and 'Bitcoin'. The main content area contains the following configuration options:

- Accept Bitcoin Payments:
- Bitcoin Wallet Public Address:
- Minimum payment: BTC

For each end user, the centralized Bitcoin wallet generates a unique address where payments are sent. This address is shown on the self-care interface when the end user chooses the **Pay with Bitcoin** option. The end user then sends the top-up amount to this address from his / her individual Bitcoin wallet. Once the payment is received, it is transferred to the centralized Bitcoin wallet that is owned by the service provider or reseller and that end user's balance is topped up.

For user convenience, the Bitcoin address can be scanned with a QR code.

The screenshot shows the 'Customer Self-Care Portal' with the 'Make a Payment' page. The page includes a top navigation bar with 'Balance: 0.00 USD', 'Web Interface Language: en - English', and 'Easy Call Ltd. (Login: easycalltd) Logout'. Below the navigation bar are tabs for 'Dashboard', 'My Profile', 'IP Centrex', and 'Billing Information'. The main content area displays the following information:

- Payment amount: 25 USD (0.1095 BTC)
- Exchange rate: 1 BTC = 228.40 USD
- QR code for scanning
- Send 0.1095 BTC to this address:
- Buttons:

The principal strength of Bitcoin is that it offers anonymity to end users. When a Bitcoin transaction takes place, no personal identifying

information such as name and address are required. With this enhancement, service providers and resellers are able to offer their services to their customers who care about privacy and want it preserved.

Hotlining for LTE, WiMAX and 3GPP Services

With this release, different services can be provided (e.g. for residential and airport hotspots; resellers, etc.) and a hotlining link for each of them can be configured through an individual Internet access policy. Hotlining is a convenient way to redirect all end users to a defined website. There they can quickly get information about how to subscribe or prolong their Internet service if their traffic quota or balance are insufficient to allow access to use the Internet.

With this release, it is also possible to configure hotlining for users who are not registered in PortaBilling®. Find out more about hotlining configuration for registered and unregistered accounts in the [PortaBilling® Administrator Guide](#).

Here is a simple sample case of hotlining usage:

A service provider has two resellers – LuckyNet and NY Inter. The administrators of LuckyNet and NY Inter create pages on their corporate websites – www.luckynet.com and www.ny-inter.com, that provide detailed information about tariffs, payment methods, working hours, etc. Then the administrators configure individual Internet access policies with hotline redirection to the webpages created and assign these Internet access policies to the companies' products.

John Doe is LuckyNet's customer. When he exceeds the traffic quota allocated to him, PortaBilling® redirects him to www.luckynet.com/hotlining, since this page is configured for LuckyNet's Internet access policy. On this page, John Doe can read why his Internet service is blocked and what steps he must take to resume the service.

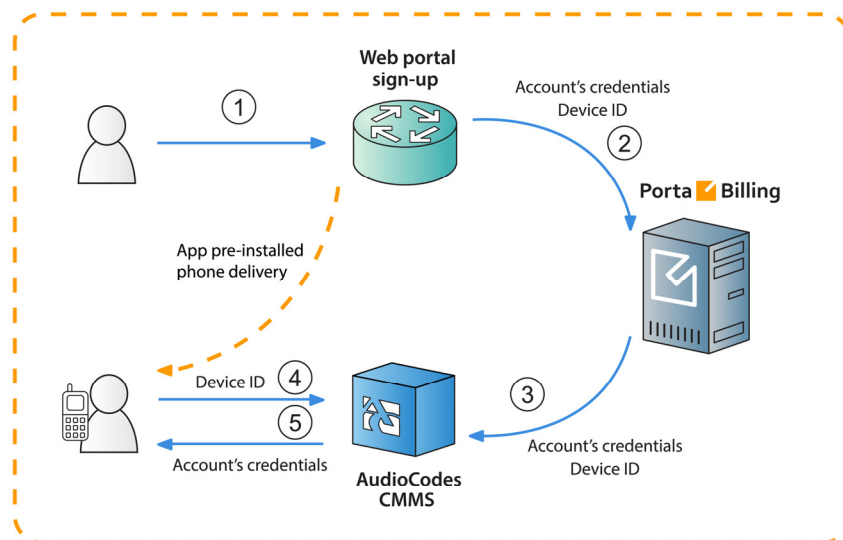
Mark Smith subscribes to NY Inter's services, so when his traffic quota is exceeded, PortaBilling® redirects him to www.ny-inter.com/resume. Thus, although John and Mark physically share the same network, they can hotline only to their own service providers' websites.

Hotlining is a user-friendly way to provide your and your resellers' end users with all kinds of relevant information about their Internet service. With this feature your end users are immediately informed about how to top up their balance once it drops to an insufficient level for using the service, which in turn, helps bring more revenue to your company.

Integration with AudioCodes Mobile Application

PortaBilling® can provision the AudioCodes mobile application for service providers and their resellers. Auto-provisioning makes the configuration of services quick and convenient for end users while saving time and expense for service providers.

This multifeatured AudioCodes mobile application provides a wide range of services: voice and video calls, SMS, IM and more. To provision the application, PortaBilling® is in constant interaction with the AudioCodes CMMS (Clients' Management Server) which is responsible for customized profiles, user level control, time-based licensing and other functions. CMMS, in turn, is in constant interaction with users' mobile phones and tablets, so when a user's information is changed on the PortaBilling® side (e.g. user's credentials), it is quickly updated on the user's side, too.



MVNOs

The AudioCodes mobile application registration and configuration process for the MVNO business model is detailed in the following example:

John Doe wants to subscribe to EasyCall's services. **(1)** He visits the service provider's website and makes a request for a new mobile phone and a list of services to be provided with that phone (e.g. call forwarding, voicemail, etc.). **(2)** A new account is created for John Doe in PortaBilling® that contains information such as account ID, password, IMEI (device ID), etc. **(3)** At the next stage, PortaBilling creates the account in the AudioCodes CMMS with all of the required parameters – the account's credentials, IMEI, etc. The phone with the installed

AudioCodes mobile application is then sent to the user. John Doe receives his new phone and switches on the AudioCodes application. **(4)** It automatically connects to the CMMS, provides the IMEI (device ID) and requests the user's credentials. **(5)** The AudioCodes CMMS parses this information and provides those credentials. Thus, the mobile application is configured, John Doe has avoided having to manually set it up and the requested services can be used immediately.

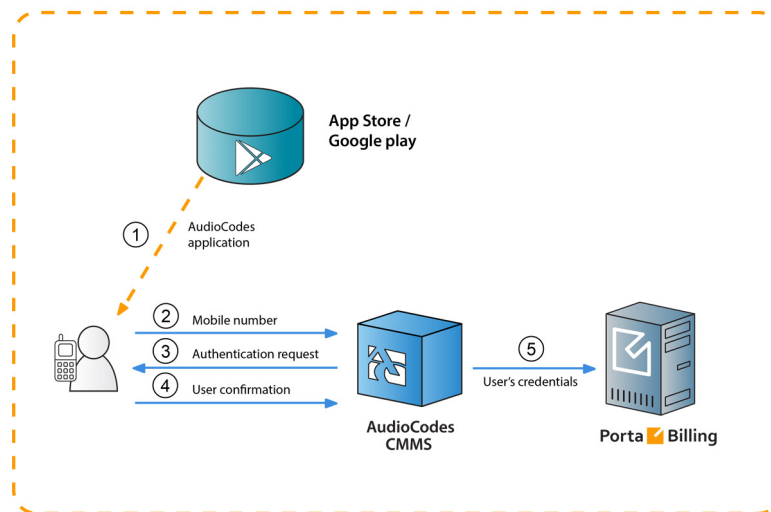
NOTE: AudioCodes CMMS is compatible with Android and iOS only.

OTT service providers

The business model for downloading the AudioCodes mobile application from the App Store or from Google play is applicable to a wide circle of service providers. For this model, creation of a new account in PortaBilling® is initiated by registration of a new user in AudioCodes mobile application. The whole process is described in this following example:

The TelePlus service provider wants to provide voice calls, messaging and other custom services via their own SIP mobile application. TelePlus obtains the mobile application from AudioCodes and brands it as TelePlus.

(1) John Doe downloads the TelePlus application. The first time he runs it, the application requests his mobile number. **(2)** He inputs his number and the application sends it to the CMMS server. **(3)** The server generates a special security code and texts it to John Doe via SMS to confirm that the owner of that number indeed made the request. **(4)** John Doe enters this security code which is then passed to CMMS. **(5)** The server accepts the code and sends the request to PortaBilling® with the user's credentials. Then a new account is created in PortaBilling® with John Doe's mobile number used as the account ID. Starting from this moment, PortaBilling® charges John Doe for service usage.



The account information configuration and the updates for the AudioCodes mobile application occur immediately and automatically. Auto-provisioning decreases the workload on the service provider and ensures continuous and smooth service provision, leading to user satisfaction with service quality.

New Language Support

The New Media Server now fully supports the Persian language (Farsi) for IVR applications.

Auto-provisioning for New Models of IP Phones

The list of IP phones that are auto-provisioned by PortaSwitch® has been extended to include the following phones:

- RCA Telefield IP110
- RCA Telefield IP160
- RCA Telefield IP170
- RCA Telefield IPX500
- Yealink T19P E2.

Other Features and Enhancements

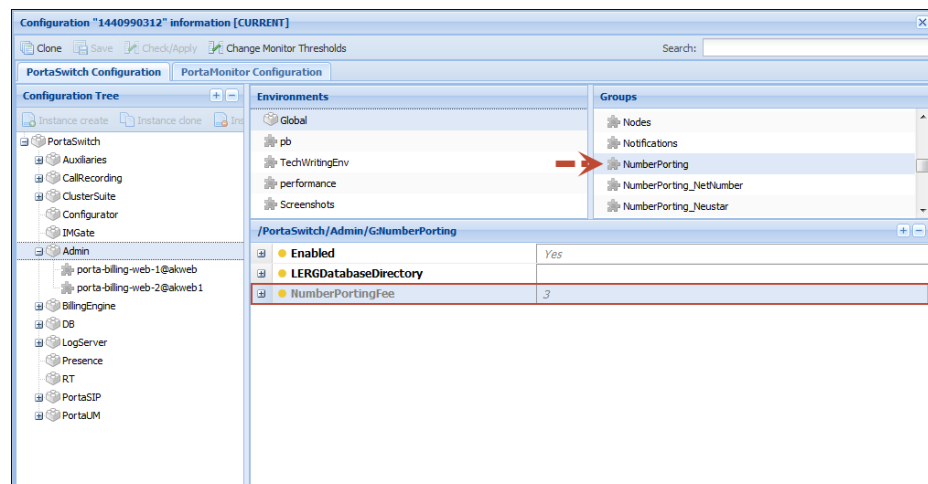
- **Geo / risk profile creation for resellers** – Starting with this release, resellers can create their own geo /risk profiles. This functionality allows resellers to control the locations from which end users are permitted or prohibited to make calls.

A geo / risk profile divides all of the world's countries into three zones: **No Restrictions** (those countries where customers intend to use the service), **Suspicious** (those countries where it would be unusual for a customer to use the service) and **High-risk** (from these countries all usage attempts are treated as potential hacking threats).

Resellers then assign geo / risk profiles to the corresponding products, depending on which area the services are provided to. This helps prevent hackers' attacks by prohibiting potentially fraudulent calls to pass through.

- **Charging resellers for number porting** – Service providers can now charge their resellers a number porting fee for each submitted number porting request.

The number porting fee is fixed for all the resellers of one billing environment and is charged for both port-in and port-out requests. The fee amount is set up in the **NumberPortingFee** option on the Configuration server. If the **NumberPortingFee** is not specified or set to zero, no charge occurs.



This enhancement allows service providers to compensate for costs incurred in providing number portability services for resellers' customers. It can also provide additional revenue each

time a reseller’s customer switches to / from another telephone carrier.

- **Extended integration with CISCO Service Control Engine –** PortaBilling® can now provision / de-provision a range of static IP addresses that were assigned to an account to Cisco SCE via the “Framed-Route” RADIUS attribute. The benefit of this approach is that it permits provisioning services for corporate clients who have sub-networks routed to them.
- **Customers can now manage their caller’s identity –** With this release, the **Identity** functionality configuration is available on the customer self-care interface. Thus, customers with special permissions can manage their caller identity that will be used for outgoing calls (for example, for using the main company’s phone number for all outgoing calls made by the company’s extensions).

To allow customers to manage their caller identity, the administrator creates a special access level and defines the permission Update / Allow / SelfCare / Identity within it.

This enhancement provides an additional tool for particular customers to exercise control, thereby decreasing the administrative load.

- **DID numbers’ activation costs are shown on the DID Inventory page –** Thereby administrators and resellers have a clearer idea of all costs that occur during DID number provisioning.

| DID Number | Reseller | Vendor Batch | Owner Batch | Country | Status | Activation Cost | Recurring Cost | Vendor | Vendor Batch | Status | Description | Del |
|------------|--------------------------|--------------|-------------|-----------------------------|----------|-----------------|----------------|----------|--------------|------------------|-------------|-----|
| 1203556200 | UNITED STATES OF AMERICA | | | ResidentialService | Incoming | 3.00 USD | 10.00 USD | John_Doe | | In Use | US&Canada | X |
| 1203556201 | UNITED STATES OF AMERICA | | | ResidentialService | Incoming | 3.00 USD | 10.00 USD | | | Free for 82 days | US&Canada | X |
| 1203556202 | UNITED STATES OF AMERICA | | | ResidentialService | Incoming | 3.00 USD | 10.00 USD | | | Free for 81 days | US&Canada | X |
| 1203556203 | UNITED STATES OF AMERICA | | | ABC Shuttle | Incoming | 3.00 USD | 10.00 USD | | | In Use | US&Canada | X |
| 1203556204 | UNITED STATES OF AMERICA | | | ResidentialService Reseller | Incoming | 3.00 USD | 10.00 USD | | | Free for 79 days | US&Canada | X |
| 1203556205 | UNITED STATES OF AMERICA | | | ABC Shuttle | Incoming | 3.00 USD | 10.00 USD | | | Free for 78 days | US&Canada | X |
| 1203556206 | UNITED STATES OF AMERICA | | | ResidentialService Reseller | Incoming | 3.00 USD | 10.00 USD | | | Free for 77 days | US&Canada | X |
| 1203556207 | UNITED STATES OF AMERICA | | | ABC Shuttle | Incoming | 3.00 USD | 10.00 USD | | | Free for 76 days | US&Canada | X |

- **Custom sender address for resellers –** Now the sender address for notifications, faxes and voicemail messages that are sent to resellers’ customers can be customized.

The sender address is configured in the **Sender email for Customer Notifications** field on the reseller’s **Additional Info** tab. If this field is left empty, the sender address is taken from the reseller’s contact information.

For faxes and voicemail messages the sender address is displayed in the following format: xxxxxxxxxxx@reseller.com, where xxxxxxxxxxx – represents the number of the calling party.

The screenshot shows the 'Edit Reseller' interface for 'ABC Shuttle Ltd.'. The 'Additional Info' tab is selected. The 'Sender email for Customer Notifications' field is highlighted with a red box and contains the value 'support@abcshuttle.com'. Other fields include 'Auto-Provision DIDs via Batch', 'Default Tariff for Voice Calls', 'Routing Plan', 'Subscription Discount Rate', 'Representative', 'Tax ID', and 'Override Tariffs Enabled'. The right side of the form contains settings for 'Send statistics via email', 'Invoice Template', 'Send Invoices', 'Invoice Number Sequence', 'Invoice Number Sequence for Subcustomers', and 'Suspend On Insufficient Funds For Subscriptions'.

With custom sender address functionality resellers may choose a desired address to appear in the **From:** field of emails sent to their customers.