PORTA ONE

PortaSwitch

New Features Guide

64
MAINTENANCE
RELEASE

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Preface

PortaSwitch® Maintenance Release 64 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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Billing for the LTE Service in Roaming

To stay competitive in the mobile market, wireless operators provide their subscribers with roaming Internet service when their subscribers visit other regions or countries. With this release, wireless operators can bill their subscribers differently – according to the country and mobile network within which the Internet is actually used. The country and network are identified by the MCC / MNC codes.

NOTE: The ASN-GW must send the 3GPP-SGSN-MCC-MNC attribute in Diameter (Gy) requests.

Consider the following example:

MVNO GoMobile provides home network Internet access for $0.1/MB. For roaming Internet, GoMobile charges $0.5/MB in Australia and $0.7/MB in the UK.

John Doe is going to travel abroad so he tops up his available funds by $100. In Australia he uses 20 MB of roaming Internet service for $10 ($0.5/MB * 20 MB = $10). And from Australia, John visits the UK where he uses 35 MB of roaming Internet service and is charged $24.5 ($0.7/MB * 35 MB = $24.5).

At the end of the trip John still has $65.5 left ($100 - ($10 + $24.5) = $65.5). When John returns to his home network and begins browsing the Internet, he is once again charged $0.1/MB.

To configure the billing for roaming Internet service based on the country and network, a wireless operator must:

- enable the **RateMatchWithE212** option on the Configuration server, and
- create a customer tariff in the E.212 format.

By using this solution, wireless operators can bill subscribers differently based on the MCC / MNC codes and thereby improve their cash-flow.

Gradual Customer Data Migration from MR50x to MR60x

As an alternative to updating the whole system to a new maintenance release, you can move customer data, in portions, to a new system of a

desired release by using Porter. This way, you verify your service flow under these new conditions while performing a gradual and controlled migration. Since Porter was introduced only recently, it performs data transfer in full for PortaSwitch® MR60 and higher.

With this release, Porter supports customer data transfer for older yet still popular long-term releases. And now, the latest Porter can collect customer data from MR 50 and MR55 and transfer it with little administrative configuration effort to more recent releases.

These are the following options available for transfer:
- For PortaSwitch® MR50 you can transfer customers to the latest builds of MR60 (i.e. MR60-4 and higher), directly.
- For PortaSwitch MR55, use Porter to transfer customers to any upcoming release up to MR64.

This way you can literally "jump" across releases and perform very efficient customer data migration.

The table below illustrates the range of releases compatible for transfer.

Target Release / Source Release	55	56	57	58	59	60	61	62	63	64
50						x				
55	x	x	x	x	x	x	x	x	x	x
56		x	x	x	x	x	x	x	x	x
57			x	x	x	x	x	x	x	x
58				x	x	x	x	x	x	x
59					x	x	x	x	x	x
60						x	x	x	x	x
61							x	x	x	x
62								x	x	x
63									x	x
64										x

For detailed information about the transfer capabilities available for your current release and build – as well as for assistance in performing the transfer, contact PortaOne Support.

The ability to "jump" across releases by using the latest Porter enables you to quickly migrate data to a chosen release and thereby deliver new features to targeted groups of customers more efficiently. As a result, you

continue to be competitive in the market and increase customer experience of the services you provide.

Other Features and Enhancements

- **Improved DID number provisioning** – In previous releases, customers with on-demand DID provisioning could only allocate numbers from external DID providers (DIDWW, DIDX, etc.). Now these customers have access to both your DID number pool and that of other external DID providers.

  Consider the following example:

  EasyCall has a pool of DID numbers for Canada. The service provider SmartNet (with whom EasyCall exchanges DID numbers) owns DID numbers for the New York area.

  EasyCall enables on-demand DID provisioning for their customer John Doe. So now John is able to self-provision Canadian and New York DIDs via his customer self-care interface.

  To enable this functionality, the administrator adds the *[DID]MixedSources=1* option for the **WebCustom** group on the Configuration server.

  This enhancement helps generate additional revenue, since your customers allocate DID numbers from both your DID inventory and those of other DID providers.

- **Overdraft protection for volume discount plan usage** – By using quotas, service providers can allocate some free services (e.g. minutes, Gb, etc.) to their users. Previously, when several accounts shared the same quota and started using it simultaneously (e.g. making concurrent calls), PortaBilling® performed a simplified quota check. This could potentially lead to overdraft in cases where two accounts initiate calls at around the same time.

  With this release, quota usage is overdraft protected. That is, PortaBilling® now allocates a portion of the available quota and locks that allocated portion for the authorized session. Then it excludes that locked quota portion when it authorizes simultaneous customer sessions.

  When locking a quota, PortaBilling® considers the following:
  - customer balance;

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- o tariff rates;
- o maximum session duration either defined by the administrator or provided by NAS; and
- o the fund locking configuration defined within the product.

Consider the following example:
Let's say John Doe has a $0 balance and a $10 credit limit. His tariff plan allows him and his wife Jane to make calls to Canada for $0.5 per minute. They also share a quota for 50 free minutes to Canada. For them to make simultaneous calls and at the same time, not exceed their credit limit, PortaBilling® authorizes their calls for $3. The administrator has defined that all calls may last no longer than 30 minutes.

When John calls 16045556754, PortaBilling® considers the available quota against the maximum allowed call duration – 30 minutes. Since 50 > 30, PortaBilling® locks 30 minutes from the quota, and leaves 20 minutes available.

Five minutes later, Jane dials 16045557785. PortaBilling® considers the remaining quota – 20 minutes, against the maximum allowed call duration – 30 minutes. Since 20 < 30, PortaBilling® locks the remaining quota and adds another 6 minutes to it, calculated based on the call cost and the authorization amount ($3 * $0.5/min = 6 min). Thus, Jane is authorized to make a 26-minute call.

After 15 minutes, John hangs up. Since John's call lasted 15 minutes, PortaBilling® unlocks those unused 15 minutes and makes them available for other calls.

PortaBilling® locks the counters for any type of volume discount plan (discounts, quotas and service wallets) for both RADIUS- and Diameter- based sessions. To enable this functionality, your service configuration must meet the following conditions:
- o Your product must have **Overdraft protection** functionality enabled; and
- o The value of the discount threshold must have a limit.

This enhanced functionality facilitates your customers' overdraft protection and ensures the correct distribution of shared quotas among all simultaneous sessions.

- **Porter enhancements** – This release introduces the following enhancements to the Porter data transfer tool:
  - o **A unified script.** Porter is now a single script that grants administrators additional flexibility when managing the

data transfer process. It contains three actions that can be executed separately or together within a single script run:

- Export – Porter exports customer data from the source system and marks those customers **Exported**.
- Dryrun – Porter emulates a data transfer on the target system without actually making the transfer. This action helps administrators verify which additional configuration might be necessary for a successful transfer.
- Import – Porter imports customer data to the source system, thereby finalizing the data transfer process. Upon import, customers' service provisioning and billing resume.

o **Immediate data transfer.** Now Porter creates a lineup of entities to transfer and processes them one by one. In other words, it exports customer A's data from the source system and immediately imports it to the target. Then it repeats that same procedure to transfer customer B, etc. This reduces downtime when individual customers are "in-between" systems and cannot use their services.

These enhancements provide additional flexibility in system management and facilitate customer migration.

- **Assigning an account role when cloning products** – An account role is a connecting point for accounts and products (since a product can only be assigned to an account that has the same role). With this release, an administrator can change account roles when cloning a product.

  This is especially convenient for those who have products with a general account role and want to assign them a specific role. For instance, to be able to add aliases to accounts, select the **Phone line** account role for the new product, then assign this product to those accounts.

This enhancement saves time for administrators and simplifies product management.

- **Improved auto-provisioning for IP phones** – When service providers use auto-provisioning for customer IP phones, PortaBilling® generates configuration files for the IP phones and then uploads them on a provisioning server. For large numbers of IP phones (1000 and more) this process can be time consuming.

  To speed up configuration file generation, administrators can now make a parallel processing mode available for this task. To do this, they enable the **UA_Profiles.Enable_Parallel_Generation** option on the Configuration server.

  This reduces time for configuration file generation, and is especially useful when auto-provisioning large numbers of IP phones.

- **Notifications about unsuccessful provisioning events** – PortaBilling® provisions events that occur in the system (e.g. the creation of a new account, product changes, etc.) to other platforms via an External System Provisioning Framework (Sokoban). If an issue occurs during event provisioning, the corresponding error is written to the sokoban.log file.

  Beginning with this release, administrators can receive email notifications about provisioning event failures. On the Configuration server, they must specify an email address for the **ProvisioningFramework.AlertRecipient** parameter.

  This allows administrators to intercept and resolve event-provisioning issues before they have any significant impact on end users.

- **Extended service wallet usage history** – Service wallet functionality enables customers to buy additional services while leaving their balance intact.

  With this release, administrators and their resellers can track individual customer or account usage of a particular service wallet. Thus, they can see the top-up transactions and the amount of service usage between top-ups.

  This information is now shown in the **Service Wallet History** dialog window (previously known as the **Top-Up History** dialog window) on the **Edit Customer / Account** page.

  For example, Mark Green has signed up for several service wallets and makes several top-ups so he can use them. But after a while he becomes confused about how much he spent on domestic calls so he calls the administrator for the information.

  The administrator opens Mark's "Domestic Calls" service wallet usage history and sees his top-up transactions, how many calls he made, their duration and the charges incurred for these calls.
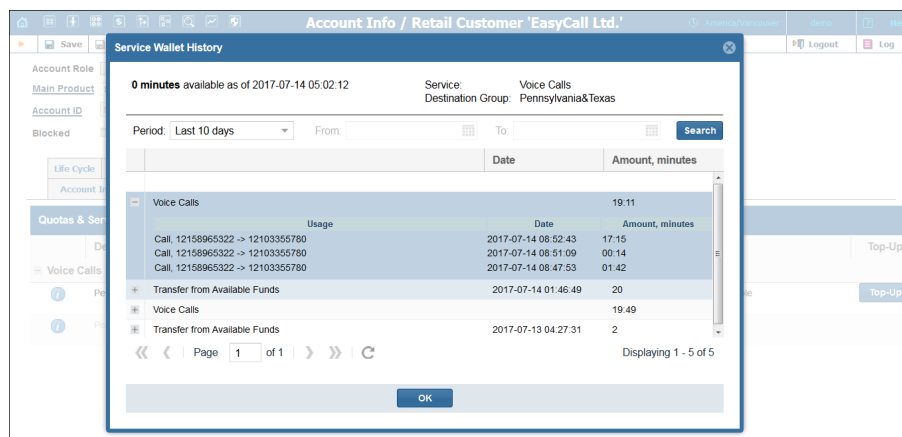
  This enhancement collects the information on service wallet usage in one place and makes it easier to analyze the service usage.

- **Preserving the price for released DID numbers** – To generate the anticipated revenue for using DID numbers, a service provider distributes DIDs among the pricing batches with markups. Then all of the customers are able to provision these DIDs themselves via the customer self-care interface. Previously, when a customer deleted the DID numbers, they were released to the DID pool and their pricing parameters were lost. The administrator had to review the DIDs and manually redefine their prices.

With this release, the whole process is made more efficient – when the customer deletes a DID, the pricing batch it previously belonged to is preserved.

Consider the following example:

John Doe deletes a 10555333777 DID number for which he paid a $10 monthly fee (as defined within the pricing batch this number was associated with). The DID number appears in the DID inventory and is now available for all customers (regardless of whether or not they are allowed to provision DID numbers themselves).

Jane Smith goes to look for a DID number and selects the 10555333777 number. Now she is charged a $10 monthly fee at the end of her billing period for using this number.

By preserving DID pricing information the administrative load is reduced and this allows the service providers to more easily generate revenue.

• **Charge Branch Office (site) customers for the number of their extensions** – A popular model for billing in a hosted IP PBX environment is to bill customers for the number of extensions they use. For customers who have two or more offices that are configured in PortaBilling® as **Main Office (HQ)** and **Branch Office (site)**, the **Main Office (HQ)** customer is always the one that is charged for the service.

With this release, administrators can individually charge the **Branch Office (site)** customers for the number of extensions they use. Since the price for extensions is set in the **Measured Services** tab on the **Edit Customer** page, administrators configure the metrics for the number of extensions to charge each **Branch office (site)** customer.

Let's say, for example, that customer EasyCall Ltd. is a main office and it has 2 branch offices (Branch 1 and Branch 2). EasyCall Ltd. has the following extensions at their branch offices:
Branch 1 – 101, 102, 103 etc.
Branch 2 – 205, 206, 207 etc.

Since there is a $10 charge for each extension, the administrator configures the measured services for each branch office customer.

Then, when EasyCall Ltd. assigns extensions to their branch office phone lines, each office is individually charged. So, Branch 1 is charged $10 for 101 and Branch 2 is charged $10 for 202. Those charges are added to the customer's (Branch 1 and Branch 2) invoices at the end of the billing period. The customer EasyCall Ltd. is not charged in this case.

Note that in this release, you can either charge a **Main Office (HQ)** customer for all extensions in use – or you can charge the **Branch Office (site)** customers for the extensions assigned to their office's phone lines.

Therefore, when you charge customers with several offices for the number of extensions in use, select the configuration scenario that best meets your needs.

This enhancement provides a more flexible billing structure for those companies that have distributed infrastructure.

- **Backup of Elasticsearch database** – Starting with this release, you can include the Elasticsearch database (storage for various log files and raw CDRs for xDR mediator) with backup data by using the Archivist utility. The Elasticsearch database is incrementally backed up and stored on the same server where the Elasticsearch instance is deployed. From there it can be copied to a remote destination.

  To ensure incremental backup, local storage is preserved and, therefore, requires additional disk space. Contact PortaOne Support to estimate how much disk space is required for your backup.

- **Access to custom fields for representatives –** When representatives are involved in sales, they sometimes require additional information such as a customer's driver's license ID. This information is usually stored in the custom fields set either for customers or their accounts.

  As of this release, representatives can browse customer / account extra user information on the **Custom Fields** tab of the **Edit Customer / Account** page on their web self-care interface.


NOTE: This tab is only available when custom fields are visible for end users.

When necessary, administrators can allow representatives to edit customer / account custom fields. To do that, they first create access control lists (ACL) that permit the custom fields to be edited and then assign that ACL to the representatives.

This enhancement facilitates the exchange of information among you and your representatives.

Web Interface Changes

- **Extended notification about extensions / huntgroups removal –** Starting with this release, when customers either remove extensions included in a huntgroup or remove a huntgroup used for a call queue, PortaBilling® contacts them to request their confirmation.
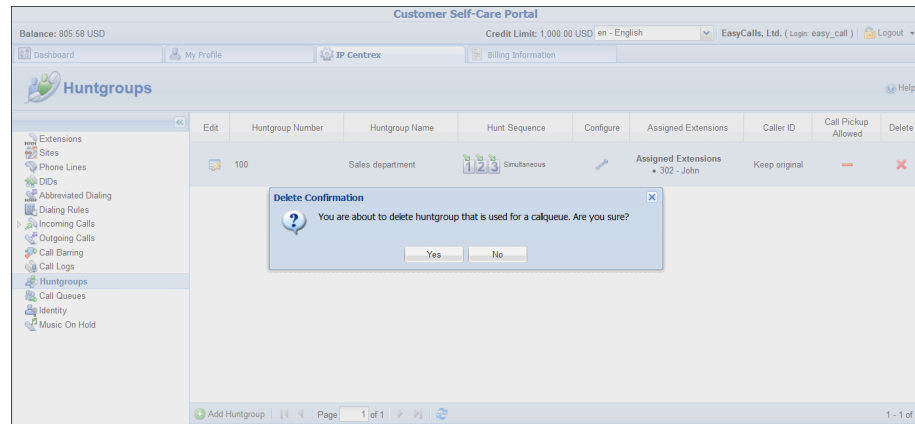
This prevents errors from occurring when customers configure their own services on their self-care interfaces.

Important Upgrade Notes

- **Updated access codes for IP device registration and calls to a huntgroup** – Beginning with this release, PortaBilling® uses the following access codes to authorize users for:
  - **IP device registration** – Your product rating lists can now include a rating entry with either the INCOMING or OUTOING access code so that a user's phone can register on the PortaSIP® server.
  - **Calls to a huntgroup** – If someone makes a direct call to a huntgroup (e.g. dials the huntgroup number from their extension), PortaBilling® authorizes this call using the OUTGOING access code. If a call either arrives to a huntgroup from the auto-attendant or is forwarded to it from another extension, PortaBilling® authorizes it with the FOLLOWME access code. Therefore, verify that your product configuration has a "default" rating entry with the access code area left blank if you charge the same price for outgoing and forwarded calls. Otherwise, make sure it has the rating entry with the FOLLOWME access code to apply different charges for forwarded calls.

- **SSL and early TLS removal** – According to the latest PCI Council Data security standards, version 3.1, SSLv3.0 and TLSv1.0 are considered insecure and can no longer be used in communications between a user's web browser and the web server. Therefore, SSLv3.0 and TLSv1.0 are being disabled in PortaSwitch® by default, starting with this release.

Modern browsers support higher TLS versions by default, therefore, these changes will not affect your users. If you have customized Apache web server configurations (i.e. have generated additional configuration files that are not managed via the Configuration server), the SSLv3.0 and TLSv1.0 will not be automatically removed. Therefore, change them so they only contain secure TLSv1.1 and / or TLSv1.2 protocols.

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