



# PortaSwitch



# New Features Guide

Maintenance  
Release

# 43



Documentation

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## Preface

PortaSwitch® Maintenance Release 43 is the next leap-forward release, consistent with our “fast releases, precisely on time” ideology introduced in 2012.

### Where to get the latest version of this guide

The hard copy of this guide is updated upon major releases only and does not always contain the latest material on enhancements introduced between major releases. The online copy of this guide is always up-to-date and integrates the latest changes to the product. You can access the latest copy of this guide at: [www.portaone.com/support/documentation/](http://www.portaone.com/support/documentation/).

## Conventions

This publication uses the following conventions:

- Commands and keywords are given in **boldface**



The **exclamation mark** draws your attention to important information or actions.

**NOTE:** Notes contain helpful suggestions about or references to materials not contained in this manual.



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



**Tips** provide information that might help you solve a problem.

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## Customer Types

With the traditional scheme of creating customers who consume prepaid services, the customer's balance usually appears as a negative value. Sometimes end users misunderstood this as debt.

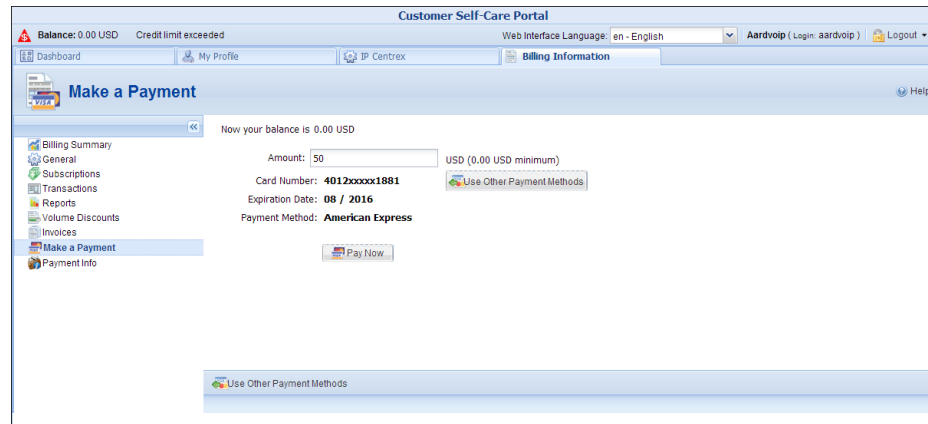
To avoid these misunderstandings, customers are now divided into prepaid and postpaid categories, depending on how their balance is controlled.

Prepaid customers now see a positive amount reflecting their available funds, and administrators have a clearer understanding about which category of customers they are working with.

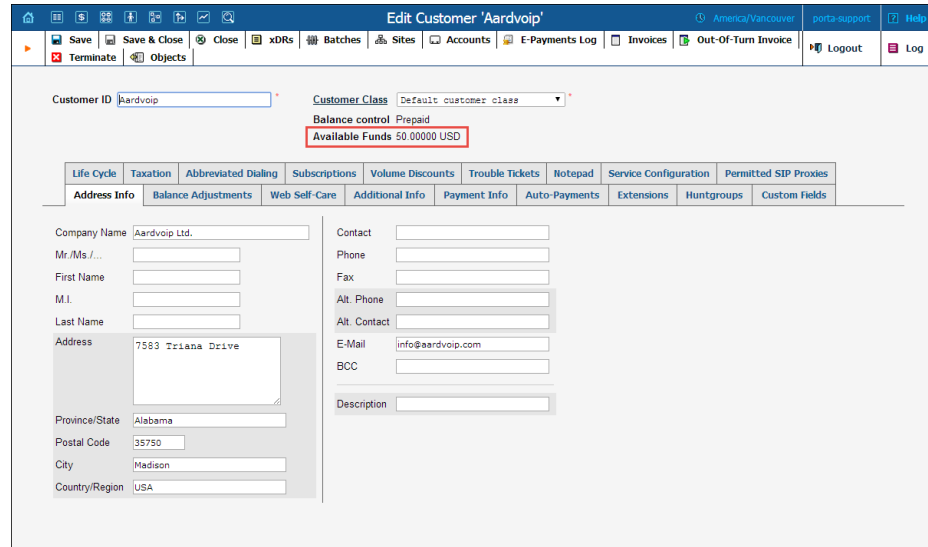
For example, an administrator creates a customer who pays for services in advance.

The screenshot shows the 'Add Customer' form in the PortaSwitch system. The form is titled 'Add Customer' and has a blue header bar with navigation icons and user information. Below the header, there are buttons for 'Save', 'Save & Close', 'Close', and 'Objects'. The main form area contains several fields: 'Customer ID' (Aardvoip), 'Blocked' (checkbox), 'Customer Class' (Default customer class), 'Balance Model' (Prepaid, highlighted with a red box), 'Currency' (USD - US Dollar), and 'Available Funds' (0). Below these fields is a tabbed interface with tabs for 'Address Info', 'Web Self-Care', 'Additional Info', 'Life Cycle', 'Payment Info', 'Volume Discounts', 'Service Configuration', and 'Custom Fields'. The 'Address Info' tab is active, showing fields for 'Company Name' (Aardvoip Ltd.), 'Mr./Ms./...', 'First Name', 'M.I.', 'Last Name', 'Address' (7583 Triana Drive), 'Province/State' (Alabama), 'Postal Code' (35750), 'City' (Madison), 'Country/Region' (USA), 'Contact', 'Phone', 'Fax', 'Alt. Phone', 'Alt. Contact', 'E-Mail' (info@aardvoip.com), 'BCC', and 'Description'.

So the administrator defines the customer balance as **Prepaid**.



When the customer makes a payment, the amount paid is displayed as **Available funds** and is a positive value.



## Types of Credit Accounts

In most cases, a customer makes a unified payment for all accounts and controls their own credit limit. Therefore, displaying the balance of individual accounts on the web interface is not necessary.

To simplify working with customer accounts, a new subtype of credit account has been introduced.

The administrator now operates with the customer’s balance only.

Consider the following example: a company has several phone lines (accounts). The users make calls, and therefore, the balance for the whole company increases. At the end of the billing period the company receives

a consolidated invoice showing activities from all the accounts and sends a single payment which covers and is then applied to all accounts. Therefore, the company's balance decreases with one action.

The screenshot shows a web application interface for adding an account. The title bar reads 'Add Account for Customer 'John Doe''. Below the title bar are navigation buttons: Save, Save & Add Another, Save & Close, Close, and Logout. The main form area contains the following fields and options:

- Account ID: 160455581203
- Blocked:
- Account Info tab selected, with sub-tabs: Products, Web Self-Care, Subscriber, Additional Info, Life Cycle, Service Configuration, Custom Fields.
- Type: Radio buttons for Debit, Credit (selected), and Voucher.
- Balance Control: Dropdown menu with 'Subordinate' selected.
- Batch: Dropdown menu with 'Individual Credit Limit' selected.
- Service Password: Text field with '3s5cvc' and an 'Auto' button.
- E-Mail: Empty text field.
- Customer Site: Dropdown menu with 'None' selected.

## Linked Customers

With the *linked customers* functionality, administrators can now easily configure the distributed infrastructure of a company with several functional departments (for example, the support and sales departments) so that their billing-related activities are maintained separately. Moreover, features such as extensions and huntgroups have only to be configured once before they can be shared among all of a company's departments. This is achieved by introducing two types of customers within one linked customers' group:

- **Main Office (HQ)** – This defines the “main” customer in the group for which the basic service configuration is done. All extensions and huntgroups added for this customer become available for all of its linked customers.
- **Branch Office (site)** – This defines the “subordinate” customer created under the **Main Office (HQ)** customer. This customer inherits all of the main customer's extensions and huntgroups.

The *linked customers'* functionality is also useful for when an administrator needs to configure a company's geographically-distributed infrastructure. In this case, the company has multiple independent offices and requires individual billing statistics for each of them.

Consider the following, for example. The company has its main office on shore and its petroleum towers at sea. The personnel who work on the towers need to communicate with the main office via extensions and they also make calls to the main office's huntgroups. Their chief accountant wants each tower's billing and payments activities managed individually.

The administrator creates a **Main Office (HQ)** customer in PortaBilling and configures the extensions and huntgroups for it. Then he creates a group of **Branch Office (site)** customers and links them to the **Main Office (HQ)** customer created earlier. Since the extensions and

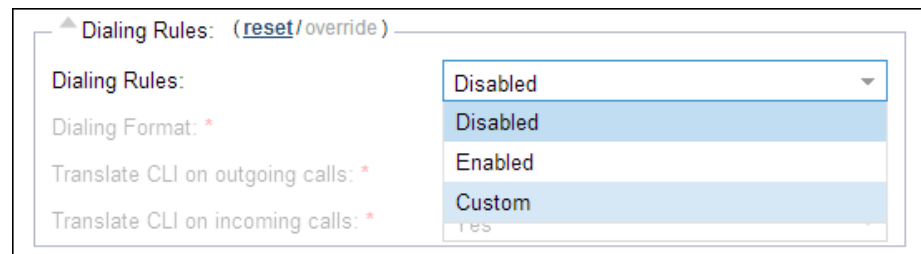
huntgroups defined for the **Main Office (HQ)** customer are available for this group of linked customers, no additional configuration is required. The administrator then configures the billing-related activities (such as invoice generation, balance management, amount due tracking) for each customer he created, and billing-related statistics for each of them can be tracked individually.

## Custom Dialing Rules per Customer Site

Now administrators may define a site's custom dialing rules and then use them for all extensions associated with this site.

Let's assume that a company has two offices: office A in the United States and office B in Germany. To make international calls to Great Britain, personnel working in office A need to dial 011 + 44 + area code + a local number (for example: 011-44-2070315677). Personnel working in office B need to dial 00 + 44 + area code + a local number (for example: 00-44-2070315677). Therefore different dialing rules must be configured for each of these two offices.

To simplify the configuration procedure, the administrator creates site A, defines the custom dialing rules for it and associates the extensions used in office A with site A. Then he creates site B, defines the custom dialing rules for it exactly as he did for site A, and associates the extensions used in office B with site B.



▲ Dialing Rules: (reset/override)

Dialing Rules: Disabled

Dialing Format: \*

Translate CLI on outgoing calls: \*

Translate CLI on incoming calls: \*

res

Thus, with the sites' custom dialing rules functionality the administrator does not need to configure individual custom dialing rules for each extension. Instead, he defines them once for a customer site and then associates the corresponding extensions with this site.

## Reversible Customer Termination

It could happen that a customer requests the cancelation of services. To do this, administrators can now use the *provisional termination* functionality.



Once a customer is provisionally terminated, all their services are closed (that is, no services can be used). But there is still an option to reactivate services that were disconnected if the customer should change their mind later on. The administrator is easily able to restore this customer's services so that they can be used exactly as before.

If a customer ultimately decides to discontinue services, the administrator can permanently terminate this customer in the system. In case of permanent termination, all customers' services are closed and cannot be restored.

Note: please keep in mind that if you are going to provisionally terminate a customer, this customer won't be charged for any DID numbers assigned to him / her. At the same time, the DID provider will still charge you a fee (e.g. \$5/month) because these DID numbers remain allocated to your network until the customer is permanently terminated.

## Invoice Generation Together with Customer Termination

There might be cases where in the middle of a billing period, a customer requests the cancelation of services. For such customers, administrators may now generate invoices at the same time that they terminate a customer.

Let's assume that a customer decides to discontinue services and informs the administrator about this. The administrator generates the invoice (by enabling the **Generate invoice prior to the end of the billing period** check-box) and terminates the customer (provisionally or permanently). The invoice is sent to the customer within the hour.

With this new feature, you can invoice customers and receive immediate payments, thereby eliminating the wait for the end of their billing period.

## Distributor Commission Report

For each transaction performed by a distributor, an xDR is created and the commission is calculated. However, showing the distributor's actual profit could be more advantageous.

Now distributors have the ability to track the profits they gain from sales and payment collections and the relative commission percentage and commission amount are provided in the form of a report.

When enabled on the Configuration Server, commission reports are accessible for distributors via the self-care interface.

Consider the following example:

The administrator creates the ABC distributor with a 20% commission. The ABC distributor creates the John subdistributor with a 10% commission.

The John subdistributor makes a manual payment of \$10 for the retail customer.

The John subdistributor launches the commission report where the commission percentage (10%), original amount of funds (\$10), payout amount of funds (\$9) and commission amount (\$1) are declared.

| Name               | Applied To | Description                    | Date/Time           | Relative Commission Percentage | Original Amount, USD | Payout Amount, USD | Commission Amount, USD |
|--------------------|------------|--------------------------------|---------------------|--------------------------------|----------------------|--------------------|------------------------|
| John A:47286329458 |            | Distributor: Payment collected | 2014-09-11 14:59:20 | 5.00 %                         | 10.00000             | 9.00000            | 0.50000                |
| <b>TOTAL</b>       |            |                                |                     |                                |                      |                    | <b>0.50000</b>         |

**Note:** As the operation was performed by the John subdistributor, the commission percentage for the ABC distributor is the difference between ABC’s total commission (20%) and the commission assigned to John (10%).

The commission report for the ABC distributor reflects the operation performed by the John subdistributor with the ABC distributor’s commission applied: the commission percentage 10%, original amount of funds \$10, payout amount of funds \$8 (\$10-10%-10%) and the \$1 commission amount.

Thus, using commission report tools, distributors have a clear idea of the profits received from performing business operations.

The ITSPs are able to receive general information about all the distributors or only for a particular one.

## Subscription Charges Management

When assigning subscriptions charged in advance to prepaid customers, the administrator must make sure that customers have sufficient funds to cover the subscriptions and must suspend customers’ service when they don’t.

To do this, you now have the option to automatically suspend prepaid customers whose funds are not sufficient to cover pending subscription charges.

This is how it works:

- Customers who have sufficient available funds have their subscription charges applied normally;
- Customers who have insufficient available funds are automatically suspended. When they are suspended, they no longer receive the service and therefore no subscription charges are generated. As soon as funds become available, the service is resumed and new charges are generated.

An administrator has the authority to suspend service due to insufficient funds for either a specific customer or for an entire customer class.

Let us consider the following example:

The customer has \$20 available funds and is assigned a \$30 monthly subscription for DID number usage charged one month in advance.

On November 1<sup>st</sup> the system calculates the subscription charges for the period between November 1<sup>st</sup> and November 30<sup>th</sup> (\$30) and compares that to the amount of available funds (\$20). The available funds are insufficient, thus the customer's service is immediately suspended.

On November 5<sup>th</sup> the customer makes a \$50 payment. The customer's service is therefore reinstated. The amount of available funds is now \$70.

The system recalculates the subscription charges.

The customer did not use the service until November 5<sup>th</sup>, so the subscription charges are generated for the period between November 5<sup>th</sup> and November 30<sup>th</sup> (\$25). These charges are compared to the amount of available funds (\$70), and applied. The amount of available funds then becomes \$45.

**Note:** Currently the system applies subscription charges calculated for a whole billing period (\$30). At the end of a billing period a refund is generated for any period during which the service was suspended ( $5 * \$30/30 = \$5$  where 5 is the number of days of suspension, \$30 is the total for subscription charges and 30 is the number of days in the billing period.) This refund is then awarded to the customer.

Thus, prepaid customers can consume services only when they have sufficient available funds to cover their next subscription charges.

The ITSPs have improved cash flow and quick payment collection from customers: to use the service, the customer must make timely payments or pay at the end of each billing period to prevent suspension.

## LRN (Local Routing Number) Dipping

More and more users keep their telephone numbers when changing service providers. To significantly decrease a customer's call cost, when a dialed number is ported from carrier A to carrier B, the ITSP should route the call through a vendor offering the lowest *carrier B* price. This not only offers lower termination costs, but also makes it easier and faster to reconcile invoices from various vendors (their charges won't seem "unexpected"), since their invoices will match your statistics.

In the United States and Canada, the only way to determine whether a number has been ported is to subscribe to an LRN dipping service that looks up ported numbers in real-time from a remote database.

Since PortaSwitch® is now connected with Telnyx, an LRN dipping service provider, it provides this opportunity to determine whether a number has been ported – and it routes the call to the most suitable and most economic vendor.

When a call processing request arrives at PortaBilling®, the following happens:

- PortaBilling® checks the destination number and if necessary sends a request to the LRN service provider (e.g. PortaBilling® will only check US & Canadian numbers and skip the rest).
- If the number is not ported, the provider's response indicates that the call should be routed, based on the original dialed number. However, let us assume that a customer dials a number (for example, 1206-313-1234), that originally belonged to the mobile operator T-Mobile, but was recently ported to AT&T. In this case, the provider returns the LRN number (e.g. 1206-554-9080) and PortaBilling® uses *it* to route the call directly to the AT&T network.
- When the call finishes, the same LRN number is used to calculate the termination costs and then the charges are applied to the customer – in this case, according to AT&T's rates. The number originally dialed is stored in the CDR record, but is linked to the destination used for charging the call. So the end-user will see "1206-313-1234 – USA, AT&T" in the CDR report.
- In addition, to improve speed and flow, PortaBilling® will *temporarily* add an entry for this number and its corresponding LRN number to the list of ported numbers.

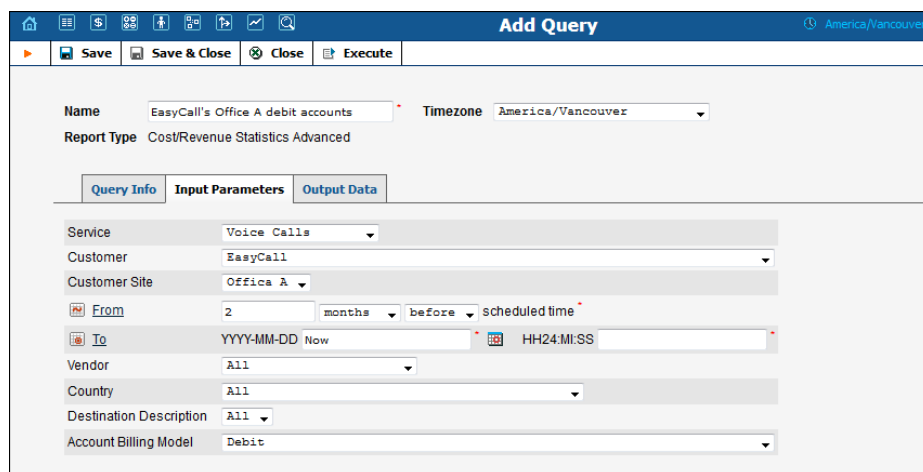
Since PortaSwitch® is already interconnected with Telnyx, it can offer this flexible plugin solution that allows for easy integration with other LRN service providers.

This new feature allows you to route calls to ported numbers at the best rates and provides more accurate vendor billing, which leads to more precise customer charges and greater profit.

## A New Custom Cost / Revenue Report

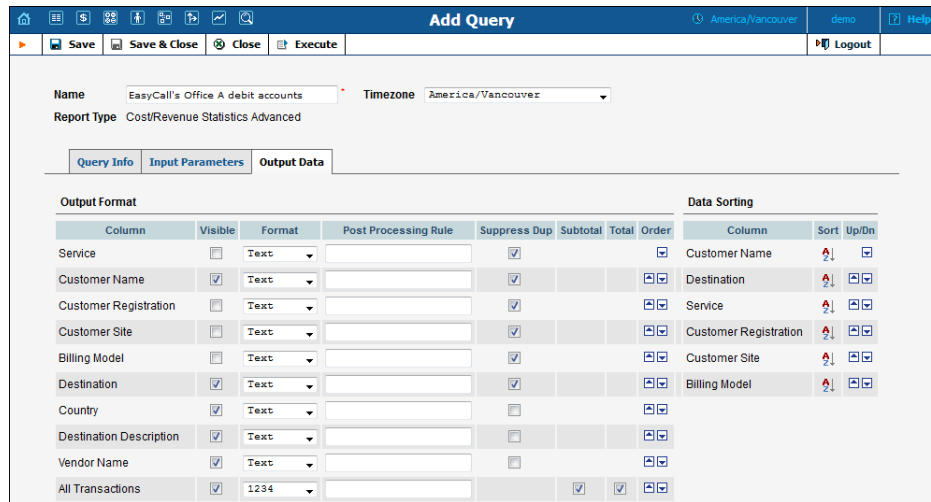
A new custom report has been introduced to provide you with more cost / revenue report details. New input fields were also introduced to filter out the data:

- **Site Name** – Customer site to which the account belongs
- **Credit or Debit** – Account’s billing model
- **Country** – Destination country
- **Description** – Destination description
- **Vendor** – Call-terminating vendor



New output fields were introduced to group and sort the data:

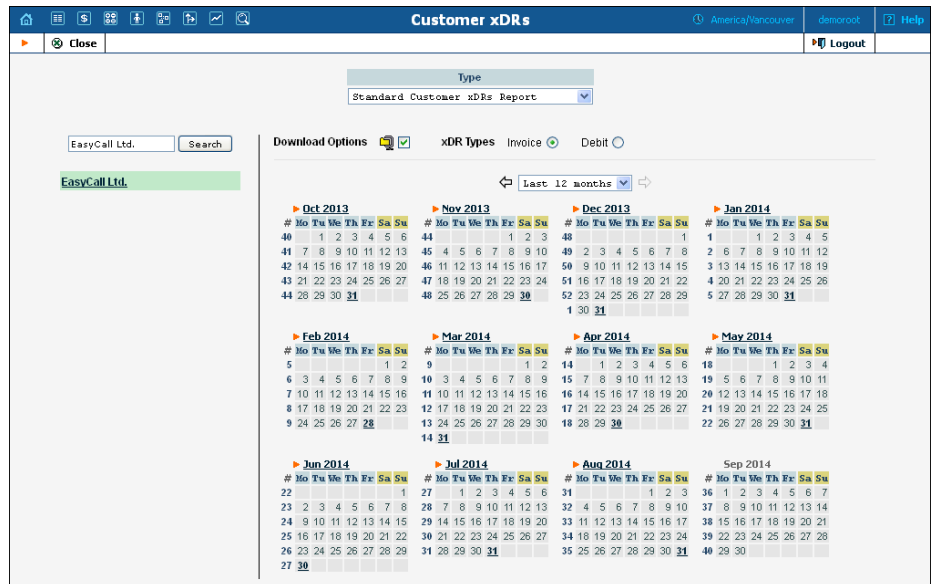
- **Site Name** – Customer site to which the account belongs
- **Credit / Debit** – Account’s billing model
- **Custom fields** – Customer’s fields including additional information



This now makes it possible to group data by customer name and account billing mode or show details for a specific customer site. It is also now possible to show additional customer information (e.g. tax codes, contract numbers, etc.) and use that for grouping the data in the report.

## Customer xDR Report Improvement

In addition to the standard customer xDR report it is now possible to obtain site-based reports. These reports can be downloaded by customers and administrators in CSV and PDF formats. Fields shown in the report can be configured separately for CSV and PDF files.



This new solution was implemented as an extensible framework that allows for quickly adding more support for different file formats and adjusting their content according to customer needs.

It provides a convenient reporting tool for companies that have several functional departments (e.g. the support department and the sales department) and that pay for the services independently.

## Integration with CISCO SCE Service Control Engine

PortaBilling® allows ISPs to control the amount of Internet bandwidth allocated to various types of customers – or even to override the default bandwidth policy for an individual customer. In addition to this, PortaBilling® is now integrated with Cisco SCE, a network element specifically designed for carrier-grade deployments that require high-capacity stateful application and session-based classification and control of application-level IP traffic, per subscriber.

This solution facilitates content-based charging and allows the ISP to granularly track Internet usage, permitting varied pricing schemes for truly differentiated IP service offerings, while at the same time keeping costs low.

Consider a few examples of services that you could offer using this solution:

- Offer high speed Internet service to your business customers but disallow bandwidth-consuming peer-to-peer (P2P) applications.
- Provide residential customers with standard Internet speed, but offer enhanced latency-sensitive services such as online gaming, by assigning a high priority for identified users of this service.

PortaBilling® currently works with the Cisco SCE integrated with PDSN nodes that already allow CDMA operators to raise their mobile broadband services to new heights. In the future, this solution can be enhanced to support various equipment bundled with Cisco SCEs, thereby benefitting ISPs that provide other Internet services.

## Monitoring Solution for Companies with a Tight Security Policy

Companies have different security policies. For example, some companies forbid connections from their internal network to be established with

outside Internet hosts. This makes it impossible to send monitoring data from PortaSwitch® servers to the PortaOne monitoring system.

A new solution – to include an intermediate server within the company’s DMZ zone – has been developed to resolve this issue. It is this server that will proxy the monitoring data.

The solution is based on the NSCA-NG package, which uses TLS encryption and shared-secret authentication that satisfy additional security rules.

## Help in French for Self-care Interfaces

We are happy to announce that online help for PortaSwitch® customer and account self-care interfaces is now available in French.

As the popularity of PortaOne products continues to grow, we’ve received many requests for support in additional languages, particularly from French-speaking customers. We are therefore happy to introduce the French-language version of self-care interfaces’ online help, which will facilitate understanding of PortaSwitch® products for our growing global audience.

## New API Methods

New API methods for assigning add on products for a specific period, defining a site’s custom dialing rules, obtaining site-based customer reports, managing disconnect queues have been added.

## Other Enhancements

### PortaBilling®

- **DID vendor billing has been improved** – In previous releases, a DID vendor was not automatically billed for number activation. Now the DID vendor’s number activation fee is automatically billed upon numbers on-demand provisioning or upload into the DID inventory. The billing for a DID number’s recurring cost (monthly amount charged by a vendor for the provisioned DID number) hasn’t changed: cost calculation starts immediately when a new number is provisioned on demand or uploaded into the DID inventory.



- **DID number activation and recurring fees charged to customers and resellers have been improved** – In previous releases customers and resellers were charged DID number activation and recurring fees *only* when a DID number was provisioned from DIDX or DIDWW providers on demand. Now customers are charged both activation and recurring fees, even if a DID number was just allocated without creating either an account or an alias. The same goes for resellers: a reseller is now charged both activation and recurring fees when a DID number is allocated to this reseller (even if the reseller doesn't use this number).
- **The ability to remove a stored card on the Payment Info page** – Now administrators, customers and end-users are able to remove credit card information saved earlier.

### PortaSIP® Switching Server

- **A new attribute, `initial_sdp_on_transfer`, was added to the Service Policies page** – This attribute forces the *initial* codec list received from the transferee to be sent to the transfer target.

With this attribute disabled, the INVITE request to the transfer target will contain the *last* received codec list that was negotiated with the transferee.

### PortaSIP® Media Server

- **Announce Extension Numbers Options** – If a caller does not know the extension number of the person he is trying to reach, he may look up the called party by name. With the announce extension numbers option, you can define what the user will hear when one or more matching persons are found:
  - their names and extension numbers;
  - their names and action numbers.
- **A new option *Access Code* has been added to the *One's Own Voice Mailbox Access* application on the *Voice Applications Settings* page** – This allows you to apply a special rating to outgoing calls made by customers from their voice mailboxes. For example, if an administrator specifies the **VOICEMAIL** access code in the application settings, then PortaBilling® will use a rating entry with this very access code from the account's product to authorize outgoing calls from users' voice mailboxes.
- **New Media Server supports one more application** – The New Media Server now supports the **Balance information** application.

## Important Upgrade Notes

- **The default user quota unit has changed on the Configuration server** – The parameter used to set the default users' maximum allowed mailbox size (UM\_IMAP.UserQuota) has changed units, from bytes to megabytes. The default value is now 10 Mb.