PORTA ONE

PortaSwitch

New Features
Guide

54

Maintenance
Release

Documentation

www.portaone.com

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Preface

PortaSwitch® Maintenance Release 54 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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New Versions of Linux

PortaSwitch® Maintenance Release 54 utilizes **Oracle Enterprise Linux version 7.2**. Oracle Enterprise Linux version 7.2 includes a new version of kernel and an updated collection of applications that offer the following benefits:

- Faster performance.
- Even better security.
- Better support for modern hardware.
- Higher reliability.

IP Aliasing in PortaSIP® Cluster

Beginning with this release, IP aliasing is a simplest way to migrate customers from the classic PortaSIP® installation or even from external providers to the PortaSIP® cluster.

Consider the following example. A service provider has configured a PortaSIP® cluster and uses it. This service provider then acquires some new customers but their IP phones are configured to use another provider's SIP server – and the service provider would like to migrate them to the PortaSIP® cluster.

With IP aliasing functionality, the tedious reconfiguration of each customer's IP phone is not required. Instead, an administrator configures the IP address of the external SIP server as an alias to the PortaSIP® cluster's IP address.

Along with the IP alias, the administrator can also define additional transport ports for the following protocols: UDP, TCP and TLS. This step is optional and only required if standard transport ports for these protocols are blocked for some reason or cannot be used.

The IP aliasing functionality significantly simplifies the migration procedure to the PortaSIP® cluster and makes the entire process of migration fully transparent for end users.

Complete Destination Group Sets

A new type of destination group set, complete destination group set, has been introduced with this release.

In a complete destination group set any prefix that is used in the system belongs uniquely to only one destination group. This allows service providers to clearly recognize traffic sent through their networks by their target destinations.

When an administrator creates a complete destination group set, it comes with a **Default Group** that includes all the prefixes available in the system. Upon adding new destination groups in the complete destination group set, the administrator moves the prefixes from the **Default Group** to these new groups.

A destination group in a complete destination group set (except **Default Group**) can have sub-groups. This allows the administrator to further distinguish the traffic flow. For example, to monitor calls sent to premium-rate numbers in the UK, the administrator defines **UK Proper** and **UK Mobile** sub-groups for the **UK** destination group. In this case, the **UK** destination group contains all of the prefixes added to its sub-groups.


At this time, complete destination group sets can only be used for configuring the **fraud traffic profiles** that monitor calling activities for the purpose of early toll fraud detection. However, in the future, complete destination group sets will be used for configuring volume discount plans, bundle promotions and tariffs.

Toll Fraud Prevention

Toll fraud becomes an issue when a hacker breaks into a company phone system and routes unauthorized calls to international (long-distance) numbers. This type of fraud cannot be stopped by merely compiling an IP blacklist and, when it occurs, it usually results in substantial losses for the company. That is why it is important that administrators take timely measures to prevent it.

In this release, PortaBilling® presents a solution that promotes early stage toll fraud detection and sends alerts whenever any potential toll fraud activities take place.

An administrator defines the destinations that will be monitored for toll fraud (for example, Algeria and Ethiopia) by configuring a complete destination group set. Then the administrator creates a fraud traffic profile and selects the previously created complete destination group set for it. For each destination group in the set, the administrator configures a threshold that defines call durations during a span of time that are considered normal (for example, 50 minutes per day).
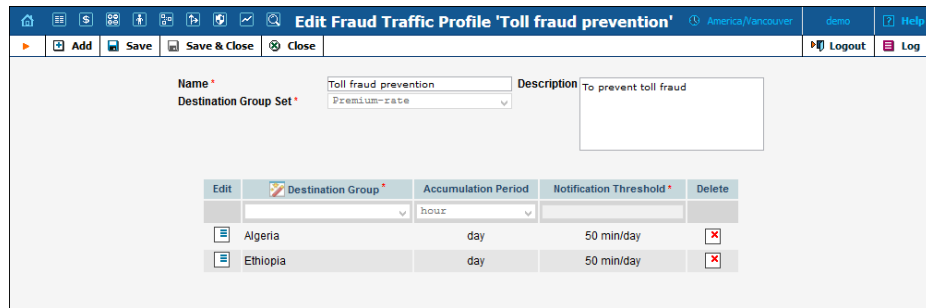
The administrator assigns the fraud traffic profile to a customer class or directly to a customer. If required, the administrator can override thresholds configured in the fraud traffic profile for an individual customer (for example, if sending larger / smaller volumes of traffic to monitored destinations is considered normal for this customer).

Whenever the duration of calls exceeds the set threshold, an alert is sent to the administrator. The administrator can review these automatically generated alerts on the **Alert History** page. To locate a specific alert, the administrator can filter the alerts by customer, customer class, destination group and time interval.
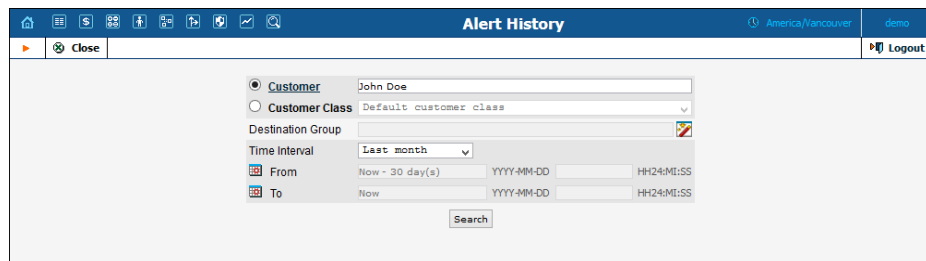
The same approach is used for early detection of unauthorized calls made to premium-rate numbers.

This allows service providers to promptly detect suspicious calling activities and take the necessary measures to mitigate potential losses.

IMGate in the PortaSIP® Cluster

Starting with this release, IMGate has been embedded into the PortaSIP® cluster. This simplifies the messaging services configuration and increases their high-availability.

IMGate is a constituent component of each PortaSIP® cluster processing node. Therefore, individual configuration of IMGate is not required as it is configured automatically within the PortaSIP® cluster.

When a MESSAGE request arrives at the PortaSIP® cluster via SIP or SMPP, the dispatching node delivers it to the *active* IMGate.

NOTE: To ensure accurate message transfer and delivery, only one IMGate server is active within the PortaSIP® cluster. All other IMGate servers remain in *waiting* mode (ready, but not involved in the work process).

If an active IMGate server becomes unavailable for some reason, the dispatching node activates the next IMGate server to handle MESSAGE request processing.
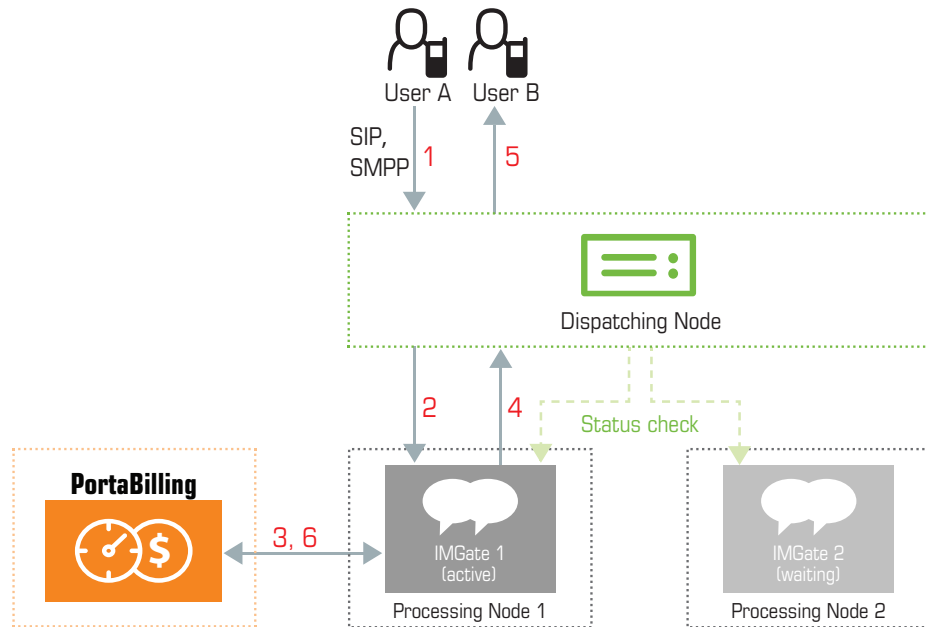
When an active IMGate server receives a request, it processes the message according to a defined configuration. Upon processing, IMGate routes the message to one of the vendors via SIP or SMPP.
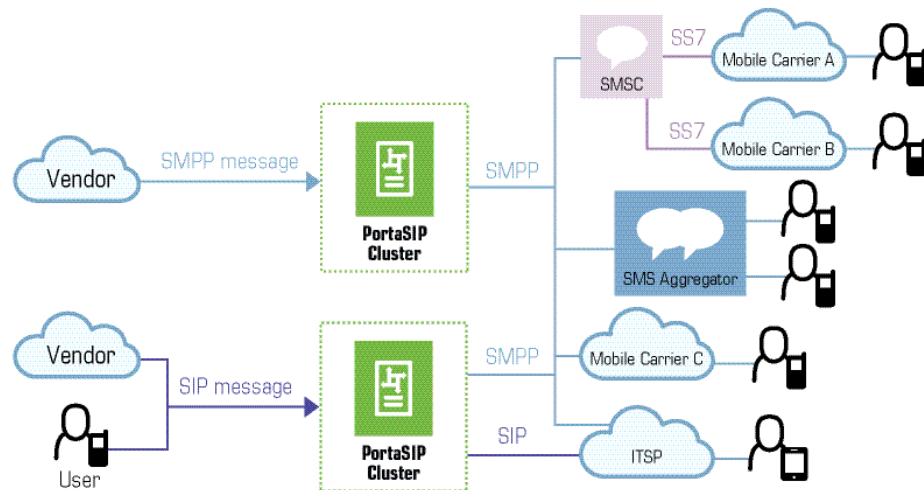
Note that a geo-redundancy solution for IMGate will become available in upcoming releases.

Messaging flow

A basic instant message flow looks like this:

1. User A sends an instant message. The MESSAGE request arrives at the PortaSIP® cluster dispatching node **(1)**.
2. The dispatching node forwards the request to the active IMGate **(2)**.
3. IMGate matches the corresponding domain service policy (using a match pattern) that defines how the instant message must be processed.
4. Based on the results, IMGate authorizes the message in the billing engine and receives a routing list for further message delivery **(3)**.
5. IMGate checks whether the recipient is registered in the network. If he is, IMGate forwards the message to the dispatching node informing it about the route **(4)**. If the recipient's UA is not registered, IMGate stores the message until the recipient's UA sends the REGISTER request to a cluster's processing node.
6. The message is delivered to user B **(5)**.
7. IMGate sends accounting records to the billing engine to charge user A for the outgoing message **(6)**.

The unified architecture of the PortaSIP® cluster provides high-availability of services, simplified network configuration and efficient scalability. Moreover, the availability of IMGates on each processing node ensures that SMS and instant messaging services are provided uninterrupted.

Conferencing in Geo-Redundant Installations

Conferencing services are fully supported for the multi-site PortaSIP® cluster configuration as of this release. Information about a conference room and its participants is stored in the database and shared among the sites. This makes it possible for users registered on different sites to talk with each other within the same conference room.

If one of the sites is down or for some reason unavailable, the system creates a "local" conference room for new users who dial the conference access number. For example, a conference room is enabled on site A of your geo-redundant installation and for some reason (power outage, lost connectivity, etc.), this site becomes unavailable. Users registered on site B would dial the access number to enter the conference room. The PortaSIP® cluster of site B verifies that the site A conference room is unavailable and therefore creates a site B conference room that permits users to talk with each other.

When the connection between the sites is restored, calls already in progress are handled by site B until they are completed; meantime, all new calls to the conference room are routed to site A.

This enhancement adds an additional layer of high-availability and security to the conferencing services you provide.

Routing Margin Tariff

PortaBilling® supports a "profit-guarantee" mode for routing. The service provider can define a relative ("choose routes that guarantee 5% profit") and / or absolute ("choose routes that guarantee $0.05 profit") margin between carriers' and customers' tariffs. Only those termination carriers who satisfy a service provider's conditions for the minimum required profit will be used.

In some cases, however, setting a single profit margin for all destinations is not flexible enough for obtaining the best results.

For example, the service can be profitable when a service provider sells it to customers at "10% above the carrier' price". Market research, however, shows that certain destinations can be charged a higher rate and customers will buy the service anyway. The service provider sets a higher price for such destinations (e.g. 25% above the standard carrier's price), and now wants to exclude those carriers that produce less profit from the routing.

With this release, a routing margin tariff is introduced that offers service providers an opportunity to maximize their profits. This is a special customer tariff that is used exclusively to compare carriers' prices against it. Only carriers having prices lower than or equal to those specified in this tariff will be selected for routing.

The routing margin tariff must be created as 'applied to customer.' It can be combined as usual with other profit-guarantee settings. When the option to use a routing margin tariff is selected, a regular customer tariff is excluded from the profit guarantee calculation and is used solely to charge the customer. However, if a certain destination is not present or is prohibited in the routing margin tariff, the price from the regular customer tariff is used for profit guarantee calculation.

To enable this feature, on the Configuration server web interface go to **Admin → Routing** and set the **ProfitGuaranteeTariff** option to **Yes**. You can enable this option globally for the entire PortaSwitch® installation, or per individual environment.
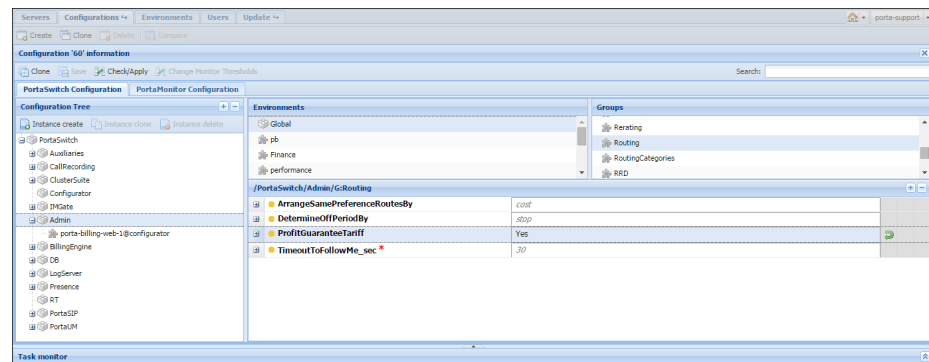
To configure the routing margin tariff, complete the following steps:
1. On the **Profit Guarantee** tab of the **Routing Plan** page, select the **Replace the actual Customer Tariff with another one for revenue calculations** check box.
2. In the **Tariff** list, select the tariff against which the vendor tariff will be compared.
3. Save the routing plan and assign it to the customer.

ZTE Provisioning

PortaBilling® supports the ZTE provisioning of LTE / 3G services to EPC (Evolved Packet Core) and quota control for these services. You can combine PortaBilling® as the online charging system and SIM card provisioning system with ZTE equipment.

When a PortaBilling® administrator makes changes for an account (creating, blocking, changing product / Internet access policy, etc.), PortaBilling® immediately provisions updated data to the ZTE HSS (Home Subscriber Server) or ZTE SPR (Subscription Profile Repository). HSS then provides centralized user authentication across the network and SPR manages users' service policies. This way, user data is always up-to-date in ZTE.

PortaBilling® can also independently serve as the B/OSS system for LTE services. It manages customer data (including unified balance), service configuration details, product / rate tables, etc. for LTE just as for other services. Therefore, by using PortaBilling® as a unified platform you reduce your administration costs and improve user experience.

Enhanced Real-Time Billing

In real-time billing for sessions that span several peak and off-peak periods, it is important to calculate the exact amount of traffic consumed during each time period.

To manage this task, PortaBilling® now sends the exact time of the period switch to the gateway so that traffic consumption can be separately calculated for each period. Then the gateway sends these two figures to PortaBilling®. This allows providers of such services as LTE, 3G, etc. to

introduce precision billing for separate time periods and preserve the continuity of the connection.

This is how it works:

A gateway sends recurring credit control requests to PortaBilling® in which the amount of traffic already consumed is reported. PortaBilling® sends the information about the traffic and time available to provide the service in the credit control answer. If PortaBilling® detects that the peak / off-peak switch will occur during the permitted time, then it includes the time of the switch in the credit control answer. The gateway then calculates traffic consumption separately for each period and sends these two numbers to PortaBilling®. PortaBilling® matches these numbers to peak and off-peak rates and creates two xDRs for charging the user accordingly.

NOTE: Your gateway must support the **Tariff-Time-Change** attribute.

Consider the following example:

The LTE service provider ABC Mobile provides Internet at two rates:
- $20 per gigabyte at peak time (8:00 a.m. – 6:00 p.m.), and
- $10 at off-peak time (6:00 p.m. – 8:00 a.m.).

The administrator defines a 60 minute interval between credit control requests and permits 1 Gb of traffic per session.
John Doe is an ABC Mobile customer. At 4:25 p.m. he starts to use the mobile Internet. The gateway sends a credit control request to PortaBilling® and receives permission to transfer up to 1 Gb of Internet traffic until 5:25 p.m. At 5:25 the gateway sends another credit control request informing PortaBilling® that John Doe has consumed 200 Mb. PortaBilling® decreases the available funds for John Doe by $4 (0.2 Gb * $20) and permits another gigabyte of usage until 6:25 p.m. The time switch from peak to off-peak is scheduled to occur at 6:00 p.m., therefore PortaBilling® includes the time of the switch in the credit control answer.

The gateway continues to transfer data and calculate its amount. At 6:00 p.m. it states that John Doe has used 100 Mb during peak time and resets the counter. At 6:25 p.m. the gateway states that John Doe has consumed 200 Mb during off-peak time and sends the two numbers, 100 Mb and 200 Mb, to PortaBilling®. John Doe is charged $4 (0.1 Gb * $20 + 0.2 Gb * $10).

To configure the rate switch, define peak and off-peak rates in the product's tariff.

To adjust the policy, you write *TTC=true* in the **Description** field.

This enhanced functionality enables you to provide precise real-time billing when peak and off-peak periods are involved in your business models. Besides improving your revenue stream, it will help keep your accounting organized.

Billing for the Number of Extensions

Beginning with this release, you can measure usage and bill customers for the number of extensions that a customer defines within their IP Centrex environment. This parameter is monitored daily and, similar to existing metrics, is used for displaying consumed resource statistics and calculating charges.

The introduction of a method to bill for the number of extensions allows you to fine-tune your Hosted IP PBX solutions and subsequently enhance your revenue stream.

Simplified Definition of Taxes Included into the Rate

Starting with this release, you can define and edit taxes for the **Tax Included into the Rate** taxation method on the **Custom Taxes** page. This allows you to avoid the complex post processing rules that were used in the invoice template prior to this release. Tax editing on the **Custom Taxes** page is much easier and now all taxes defined by a customer can be configured on a single page.

NOTE: Taxes used in the **Tax Included into the Rate** taxation method are always applied to all charges (regardless of your selection on the **Custom Taxes** page).

Once the taxes are created, the administrator can select particular taxes from the list and assign them to a customer class or a customer on their taxation tabs.

NOTE: If you select taxes defined on the **Custom Taxes** page together with an old invoice template (created prior to this release), only the taxes defined in the invoice template are applied.

Convert an old template

For backward compatibility, taxes included in the rate defined on the **Templates** page prior to this release are still editable using the post processing rules. If you want to define the taxes for an old invoice template on the **Custom Taxes** page, go to the **Footer** tab and apply the default values to all of the fields. Once you do this, the post processing rules become available in read-only mode and the taxes must be defined on the **Custom Taxes** page.
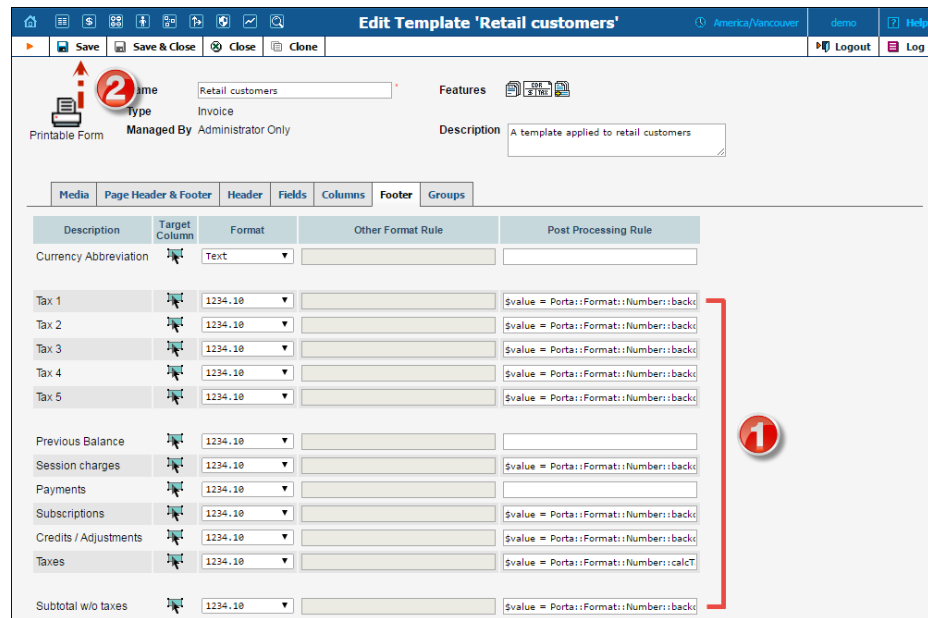
This new method of defining the taxes that are included in the rate is more user-friendly. Moreover, being able to select the required taxes for each individual customer is another way to demonstrate excellent customer service.

Enhanced Huntgroup Management

Starting with this release, IP Centrex configuration is done solely from the customer self-care interface. This transfers control of IP Centrex management tools to customers, thus reducing the load on administrators. Administrators, however, can still log on to a customer self-care interface and assist the customer with configurations, if needed.

Furthermore, huntgroup management has become more flexible. Now during huntgroup configuration, a customer can define whether or not an extension rings when a call arrives at the huntgroup. When inactive (does not ring during a call to a huntgroup), the extension owner can still make and receive direct calls and perform call pickup. Of course, a customer

can further change this extension's activity within the huntgroup, if desired, with just a few mouse clicks.
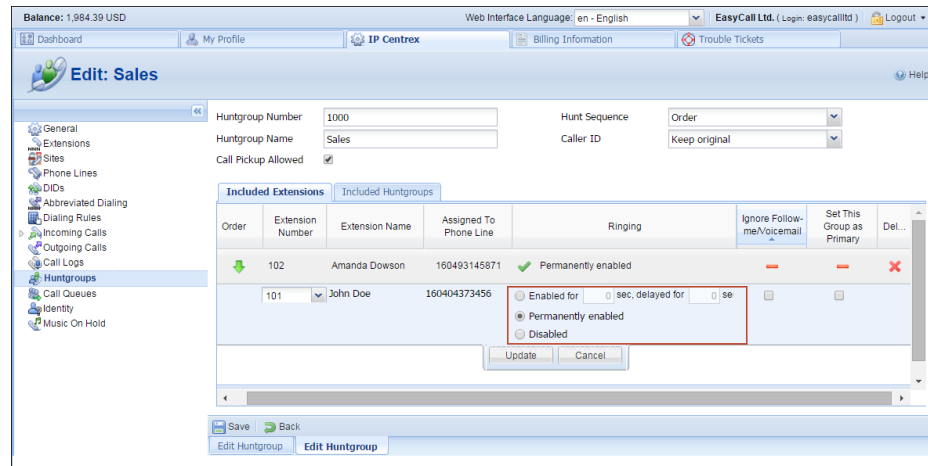
Consider the following example:

A customer, "EasyCall Ltd," has five people working in their Sales department. John Doe, the head of the Sales department, is leaving for a week's vacation starting tomorrow. The company administrator therefore disables John's extension from the Sales huntgroup so that his extension does not ring while he is away.

In a week, when John Doe is back at the office, his extension is again enabled. However, since John is a lead sales manager, his phone starts ringing 10 seconds later than his colleagues' phones (if the call is still unanswered).
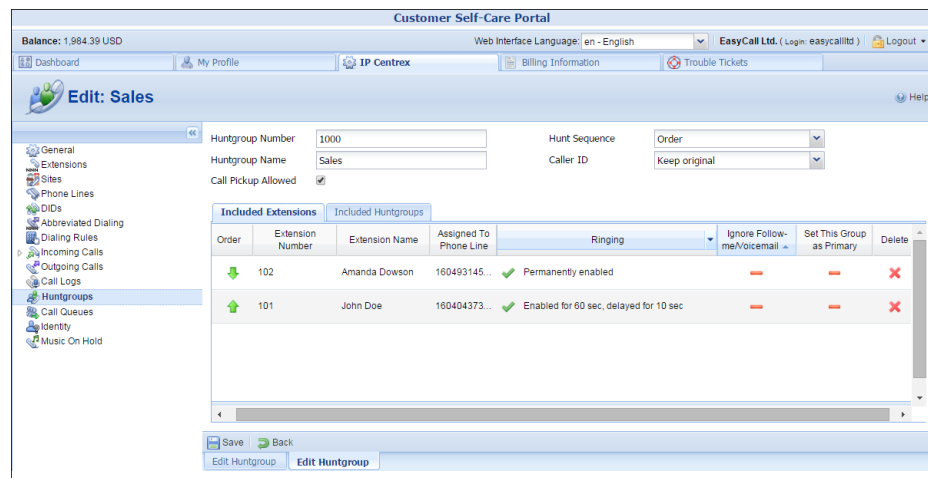
Thus, the ability for a customer to enable or disable an extension's activity during calls to a huntgroup simplifies huntgroup management and therefore, that of the whole IP Centrex.

Alerts about Suspicious Activities

Time is critically important when a fraudulent incident occurs. The sooner one acts, the better chance they have to mitigate possible losses.

Starting with this release, PortaBilling® provides notifications to alert customers whenever the following events take place:

- A call made from a customer's account originates from a high-risk location and is therefore redirected to the screening IVR. The account's status is changed to **Screened**.
- A call made from a customer's account originates from a high-risk location and is therefore immediately rejected. The account's status is changed to **Quarantined**.

To automatically notify your customers about these events, the **Fraudulent Activity on Account** notification templates must be enabled in the customer class.
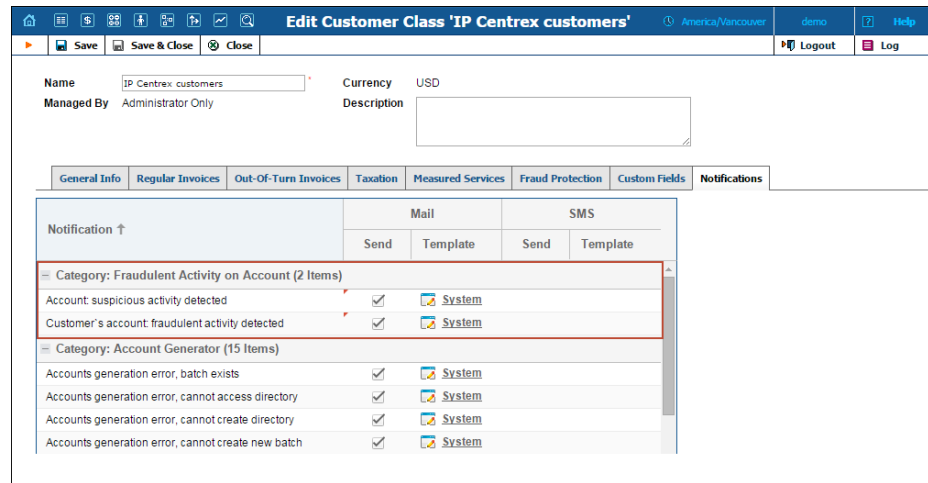
When customers are promptly notified about suspicious activities, they are able to detect fraud early and take necessary protective measures to avoid possible losses.

Service Wallet Top up by End Users

With this release, end users can transfer money to their service wallets via their account self-care web interface. Money can be transferred either from the main balance or covered by a credit card.

NOTE: To enable service wallet top up for end users, configure the payment method and enable the e-commerce check box for the required accounts.

Service wallet top up via the account self-care web interface is available for debit accounts and accounts with an individual credit limit. Note that end users can top up only their own service wallets (i.e. ones assigned to them via a product or account).

This top-up functionality for end users improves the user experience, increases cash flow and decreases the workload on the administrator.

Custom Fields Visibility Control

Custom fields are used for storing additional attributes that supplement the standard PortaBilling® information. This can be information about a customer's bonus, driving license ID, a code name that maps an Internet customer to a certain vendor, etc. and can be very useful for troubleshooting.

In some cases an administrator may prefer to hide certain information from end users. Thus, in the above example, a vendor's code name is internal service information and therefore should be visible only to administrative users.

With this release PortaSwitch® administrators have the opportunity to control custom fields visibility. Visibility can be set on the **Web Interface** page. The custom fields that existed before the system upgrade to MR54 will be visible by default, however, an administrator can edit their visibility at any time.

This feature appreciably facilitates customer support. Even privileged additional information that is required for support and troubleshooting can now be shown on the web interface without the risk of exposing it to end users.

Other Features and Enhancements

- **High-availability mail cluster** – To both provide scalable and reliable mail service and unify the system's architecture, the MailProxy component has been introduced into the PortaSIP® cluster. The Mail-proxy supports IMAP, SMTP and SMTPS (Simple Mail Transfer Protocol Secure). It runs on the dispatching node and listens on the usual service ports on the PortaSIP® cluster's virtual IP address. When an email arrives through a particular port, the MailProxy forwards it to an available processing node where a mail server further handles it.

  If you are using email clients such as MS Outlook, Thunderbird, etc. and they were configured to use a PortaUM® IP address, you need to reconfigure them using a virtual IP address or the corresponding domain name of a PortaSIP® cluster.

- **Separate service for measured resources** – The **Services** list now contains a new service and service type – **Measured Service**.

This service is used for calculating the charges for consumed resources, reflected in customer xDRs and invoices.

Similar to quantity-based services such as messaging, IPTV, etc., the rating for a measured service is done based on **units** – the amount of resources consumed within a customer's billing period.

The xDRs with charges for consumed resources are displayed as a separate section in the xDR browser, allowing customers and administrators to clearly distinguish among different types of charges.

- **Test dial plan for messaging service** – With this release an administrator can test how a message will be delivered to a recipient. The routing results are displayed for both SIP and SMPP protocols on separate tabs. Therefore, the administrator can manage customers' message routing and then make adjustments as needed.

- **Read-only statistics and invoicing settings for resellers** – Resellers view their statistics and invoicing settings on the reseller self-care web interface. These settings can be defined or changed for resellers by administrator or top-level reseller, while resellers define these settings for their subresellers and subcustomers.

- **Enhanced integration with NetNumber** – North American MVNOs use the NetNumber database for accurate SMS and MMS routing. This entails storing their DIDs in NetNumber and keeping them up-to-date.

  With this release, PortaBilling® has the ability to notify NetNumber about the creation and termination of accounts. Upon receiving a notification, NetNumber updates the corresponding DID number configuration in their database. Similarly to how things worked in previous releases, PortaBilling® informs NetNumber if a number has been ported-in or ported-out from the system.
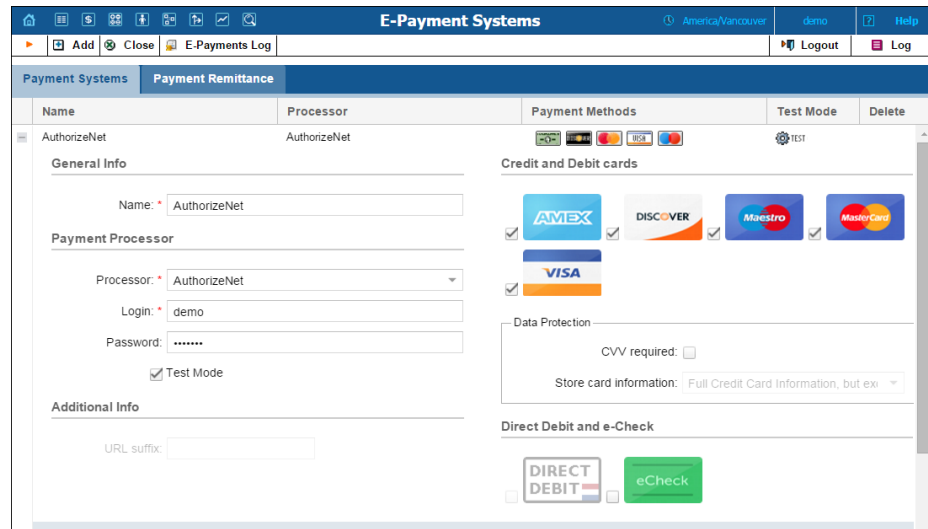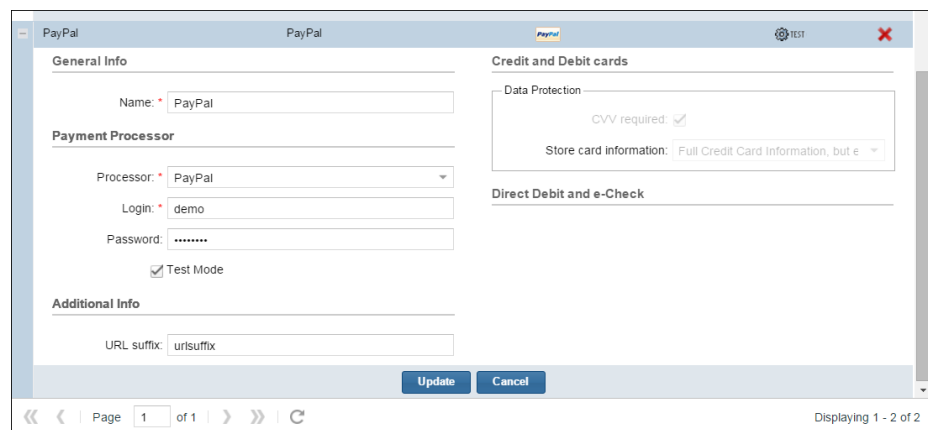
  The cooperation with NetNumber ensures easy and accurate routing for SMS and MMS in North America, thereby reducing messaging transmission costs for MVNOs.

- **Account activation date** – Regardless of time zone of an administrator, an account is activated based on the customer's billing time zone, i.e. the time zone in which customer's billing periods are closed. Time zone of the account web interface is used only for convenient information representation (e.g. xDRs) and does not impact the account activation date.

  This ensures consistency in billing for the services used by the account owner.

- **Enhanced payment system configuration** – When configuring a payment system in PortaBilling®, you are now prompted to define only the options relevant for this payment system. For example, for an external payment processor like PayNearMe, you enter your account credentials only. For an online payment processor such as AuthorizeNet, you also specify which supported payment method(s) you will use and configure data protection. For your convenience, all payment methods are grouped into card

types and amount of withdrawal from your bank account (Direct Debit and e-Check).
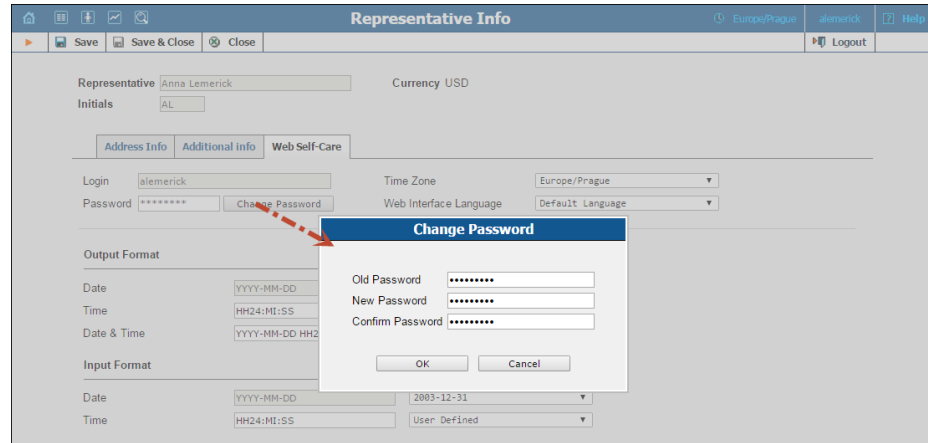

This simplifies payment system configuration and prevents human error.

• **Improved credit card verification process** – When a customer or an administrator enters a new credit card number in PortaBilling®, the system verifies it using the **Authorization Only** transaction. This transaction reserves an amount of funds on the credit card. Then once the Authorization Only transaction has been successfully completed, it is automatically cancelled, releasing the reserved funds.

NOTE: The Authorization Only transaction is automatically cancelled for payment processors that support tokens.

This reduces the time that funds are reserved, thereby permitting a customer to use this money on other services.

Granting customer access to the DID pool adds additional flexibility to DID number selection, reduces configuration efforts for the administrator and speeds up the DID selling process for the service provider.

- **Control number length is configurable for.csv files** – The control number is the account identifier in a batch. It is usually printed on a calling card, so an administrator or helpdesk operator can easily find the account in the system.

  With this release, an administrator can establish the control number length in the **ControlNumberLength** field on the Configuration server so that all cards within a batch will have standardized control numbers.

  NOTE: Enable the **ControlNumberFixedLength** option prior to adjusting the length.

  In order to arrive at a defined length, PortaBilling® adds a quantity of zeros before the actual control number. For example, if the control number length is 4, then the control numbers 1 and 101 will be written in the *.csv file as 0001 and 0101, respectively.

  NOTE: Control numbers are padded with zeros only in the .csv file. In PortaBilling®, they remain as originally created.
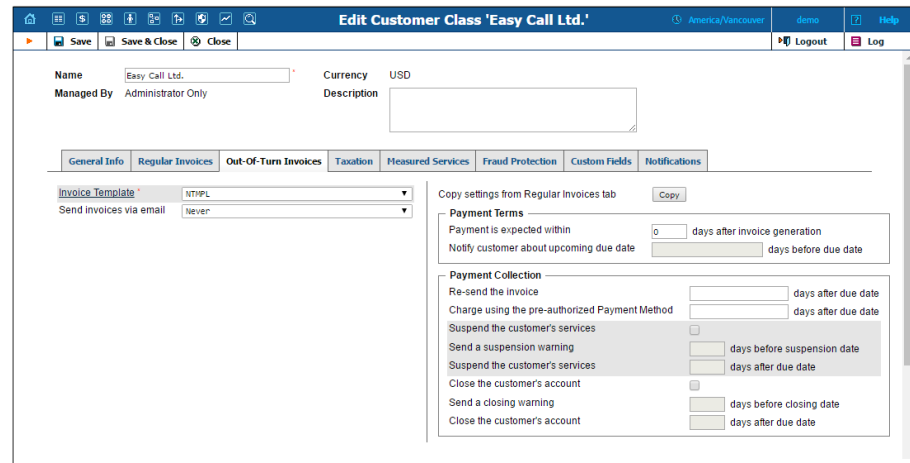
  This enhancement makes it possible to adjust the control number length so as to respect a service provider's specific needs and wishes.

- **DID number removal on the customer self-care interface** – Now when a customer removes a DID number on the customer self-care interface, the DID number is released from this customer, and the customer is no longer charged for the usage of this DID number.
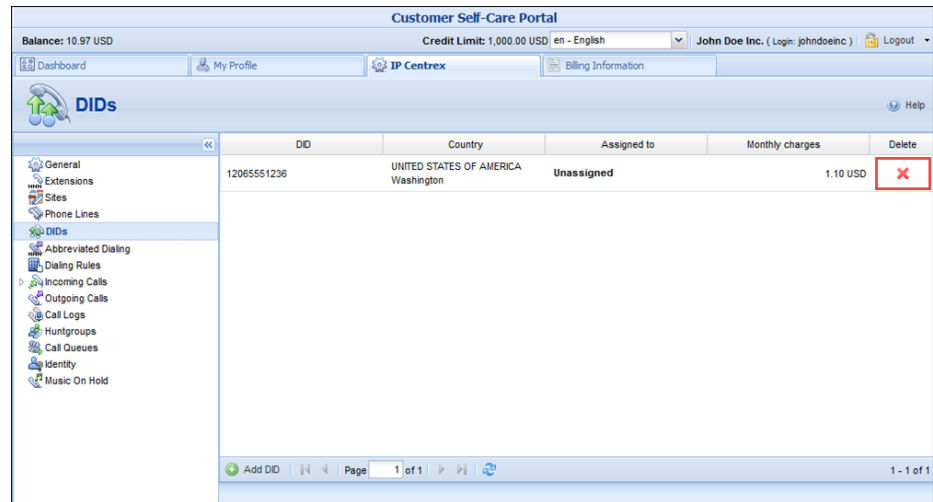
The DID number remains in the pricing batch from which it was allocated. Other customers having this pricing batch assigned to them can provision this DID number for their own use.

- **Individual configuration settings for out-of-turn invoices** – Beginning with this release, an administrator can configure out-of-turn invoices separately from regular ones. The configuration options are grouped in the **Out-Of-Turn Invoices** tab in a customer class.

Some configuration options can be defined for customers individually.

This provides more flexible invoice processing and payment collection control.

- **Enhanced recognition of dialing rules exceptions** – Beginning with this release, translation rules do not apply for exceptions that are marked with an asterisk (e.g. *11). This allows you to define special dial codes (e.g. the access to voicemail number *98 defined as the exception, is recognized as is, and is not translated).

  Other exceptions are recognized as national exceptions and are marked with the specific country code before the local number (e.g. the exception 089% that is defined for North American dialing rules is translated into 1089%; therefore the number dialed as 0895554125 is changed to 10895554125).

  This permits you to fine-tune the system according to your customers' dialing habits.

- **Simultaneous tariff upload** – Now administrators can initiate virtually an unlimited number of tariff upload sessions simultaneously. The only limitations here are the hardware resources: the amount of free disk space and available random-access memory on the PortaBilling® Web server

- **Prepopulated rules for dialing North America** – For your convenience, dialing rules for North American customers are prepopulated with common parameters such as **Country Code, International Dialing Prefix** and **Emergency Number**. This serves to speed up the dialing rule configuration.

- **Enhancements for the midterm invoice wizard** – When generating a midterm invoice, an administrator now sees this additional information:
  - The previous balance (amount due for unpaid invoices) in the Summary section.
  - A note that all invoices have now been paid (if payment for outstanding balance has been applied successfully).

- **Dialing rules for callshops** – Callshop owners can now configure the dialing rules for their callshops. Dialing rules are used for converting numbers dialed by end users to the E.164 format for further call processing by PortaBilling®.

  This allows callshop owners to use a custom numbering format in their callshops.

- **Rate deletion is logged** – Beginning with this release, PortaBilling® records when a rate was deleted either manually or during the cleanup procedure. You can find this record by clicking the 📋 **Log** button in the upper right-hand side of the **Edit Tariff** page. This provides you with an additional tool for troubleshooting.

- **Extended notification about active calls** – If an administrator tries to disconnect a call that is not already in progress (the user hung up) via the web interface, he receives a notification that shows the ID of this call and the reason why it cannot be disconnected.
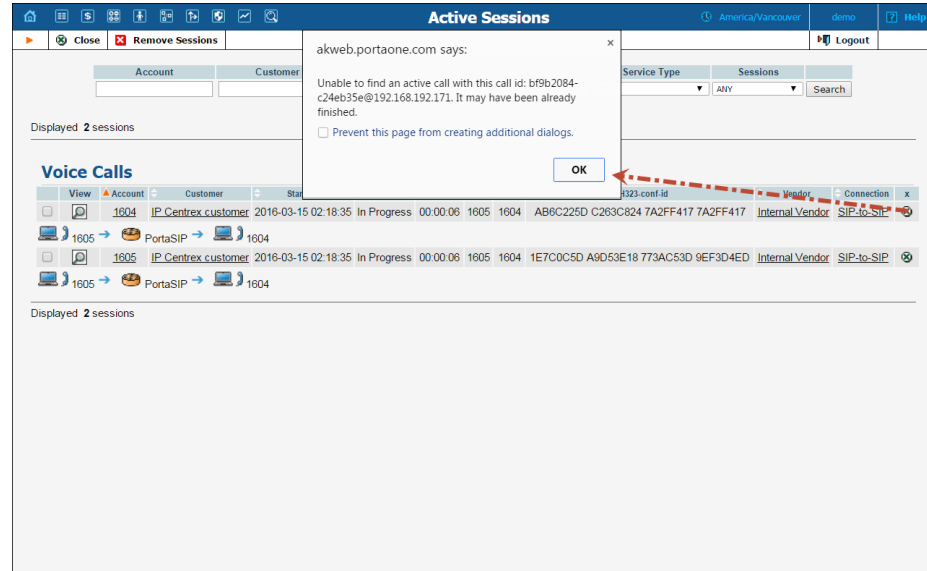
This comprehensive notification improves the customer experience and may also help with troubleshooting.

- **Extended service wallet top up for customers** – With this release, customers can transfer money from their main balance to their service wallets via their customer self-care web interface. This provides additional flexibility in service wallets usage.

- **Support for the Adaptec RAID health monitoring tool has been added** – Beginning with this release the PortaOne monitoring system can collect and analyze disk health information for the Adaptec RAID. This will help you be sure that your hard drives are capable of safely storing your data.

- **Italian version of self-care interfaces** – We have now added Italian language to the customer and account self-care interfaces. Translation has been provided and will be further maintained by the PortaOne customer community. We encourage PortaOne customers to make translations into other languages as we have witnessed that this kind of localization approach is very effective.

- **Fraud traffic profile** – In this release we are glad to introduce the fraud traffic profile, an effective tool for detecting toll fraud. Toll fraud is a term used to describe when organizations are billed for long-distance calls made fraudulently through their phone systems.

  The fraud traffic profile allows service providers to monitor traffic sent through their networks and receive alerts whenever a toll

fraud calling pattern is detected. For example, for the service provider who provides VoIP services mostly for the USA and Canada, an administrator can configure the fraud traffic profile to receive alerts when an unusual burst of international traffic is detected. For the service provider who normally has lots of international traffic, the administrator can configure the fraud traffic profile to receive alerts when an unusual amount of traffic is sent to premium-rate numbers.

This new tool allows service providers to promptly identify unusual calling activities and react appropriately, therefore mitigating potential losses.

Web Interface Changes

- **"Bi-weekly" has been renamed "Semimonthly"** – This term is used on the web interface to indicate a particular action that occurs twice per month (e.g. define a billing period, apply a subscription, etc.) Thus, if a customer has a semimonthly billing period, it means that PortaBilling® applies charges for the following dates:
  - from the 1st till the 15th, and
  - from the 16th till the end of the month.

 This pattern is relevant for all months, including February.

  The term "semimonthly" is much clearer and fully reflects its actual application.

- **The Huntgroups and Extensions tabs are removed from the admin web interface** – Starting with this release, huntgroups and extensions are managed only from the customer self-care interface. This brings the IP Centrex configuration into one place and therefore reduces the load on administrators. If necessary, administrators can log on to a customer self-care interface to assist the customer with IP Centrex management.

- **The Overdraft Protection and Breakage options have moved to the Additional Info tab of the product configuration page** – Now administrators can easily find these options in the **Advanced Configuration for Usage Charges** section and consequently augment the product configuration.
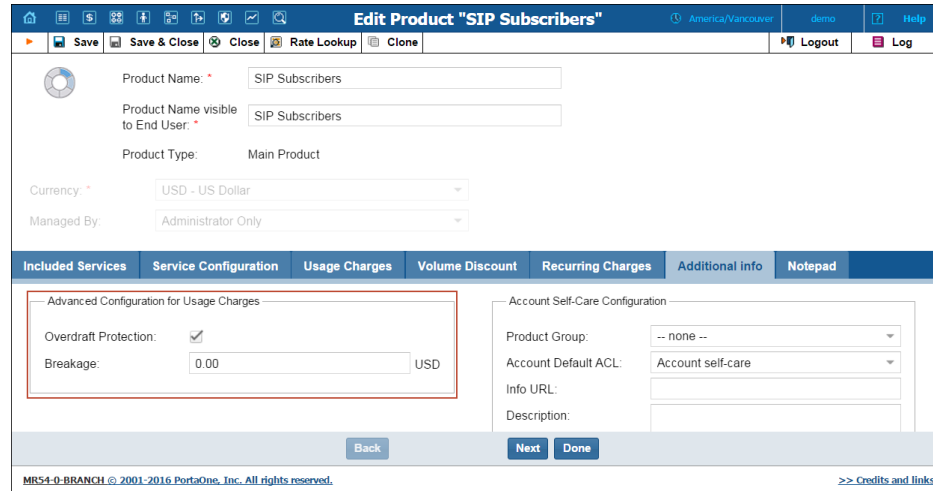
- **Default value for the Apply To option in the DID Inventory is changed** – All actions in the DID inventory are now applied to "Selected" numbers by default. This serves to eliminate human error when working with DID numbers.
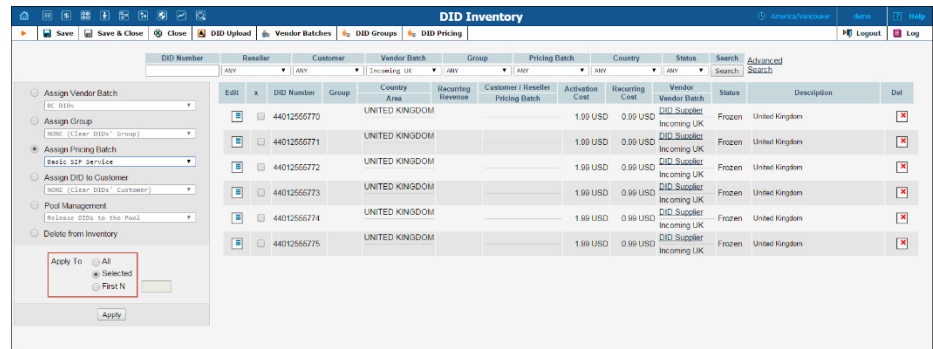
- **Changes in the volume discount plan structure** – The volume discount plan structure has been further optimized and ensures a better user experience. The main changes are the following:
  1. Service wallet is defined as a separate scheme type.
  2. Ways to combine discounts or quotas have moved to the **Additional Info** section.
  3. The scheme column also shows the usage period (e.g. monthly quota, daily discount, etc.).
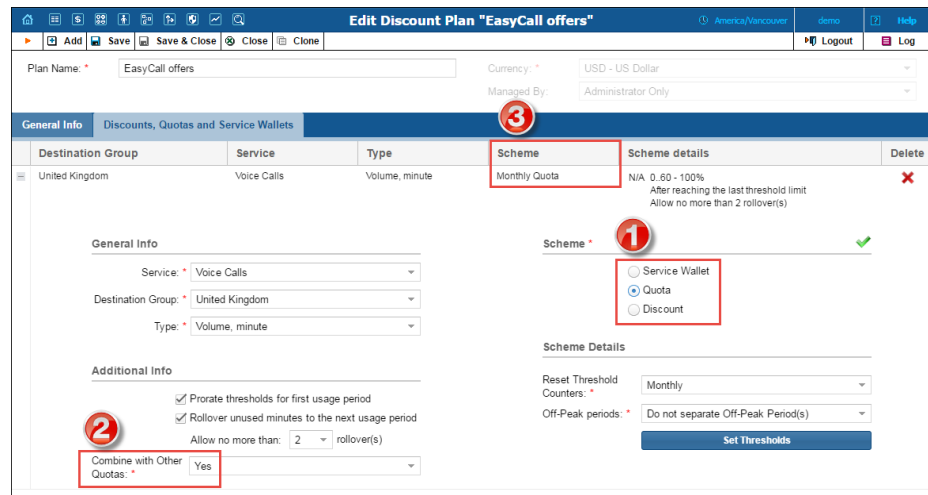
- **The Notification tab and Edit Notification page layout have
been improved** – PortaBilling® can send notifications to users
about various events: account generation, custom reports, DID
upload, etc. The **Notifications** tab belongs to an admin user's
configuration as well as a customer class configuration.

  In this release, a new 🖼 **Custom** icon has been introduced to the
Notification tab. It helps you to quickly identify whether a
notification template has been modified.
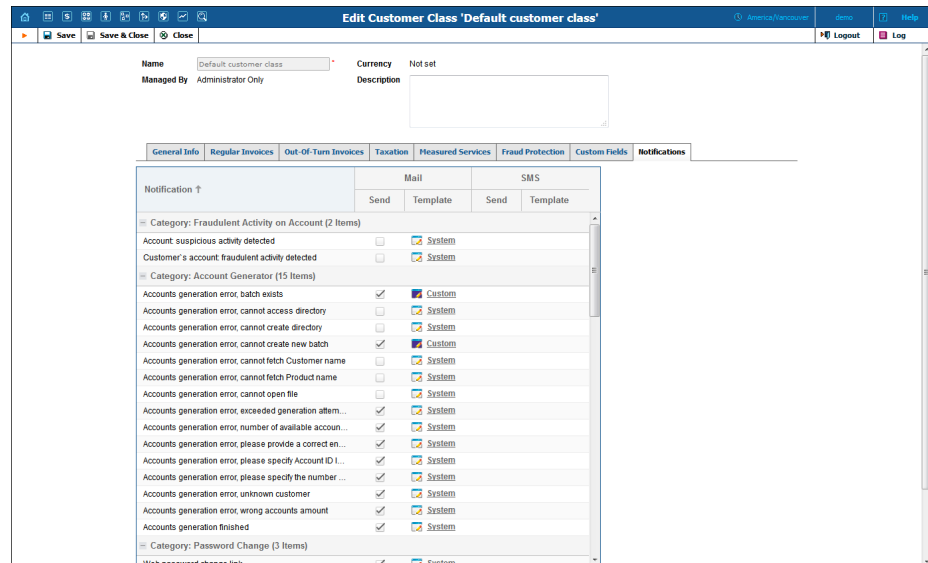
  To edit a notification template, click the **System** / **Custom** link
or the corresponding icon on the **Notification** tab. On the page
that opens, you can modify the subject, BCC and body of the
notification.

The page title now reflects the type of template being edited and can be either **Edit Email Template** or **Edit SMS Template**.
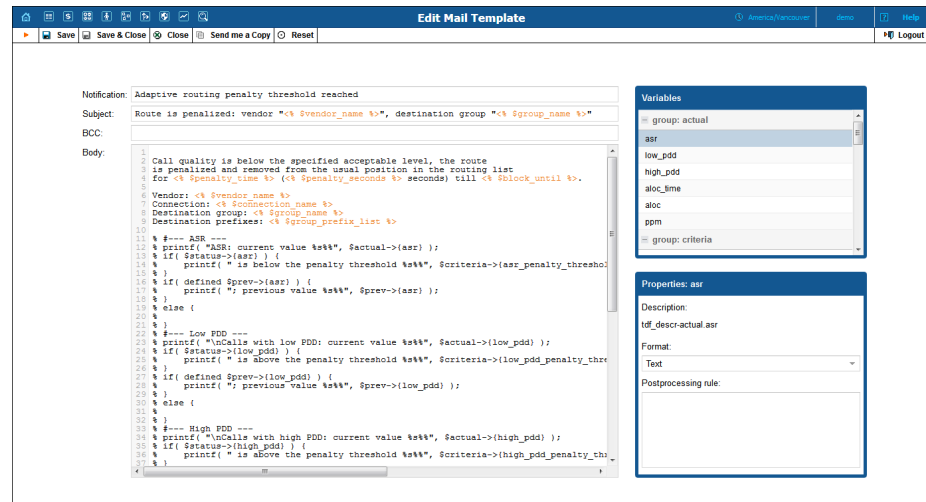

The layout of the page has been changed and is now more organized and user-friendly.

The editing area is on the left-hand side of the page and the variables list has been moved to the right-hand side of the page. The **Options** column has been separated into the individual area and renamed **Properties**. The variable whose properties are displayed at any moment appears in the **Properties** area title.

These changes help you to more easily and quickly configure the required set of notifications.

- **Fraud Protection section** – A new **Fraud Protection** section has been added to the PortaBilling® main page. The section includes links to:
    - **Geo / Risk Profiles** – A tool that provides fraud protection based on the location from where services are used.
    - **Fraud Traffic Profiles** – A tool that provides fraud protection based on the destinations to which calls are made.
    - **Spending Plans** – A tool that limits the amount of money that a customer can spend per day on services.
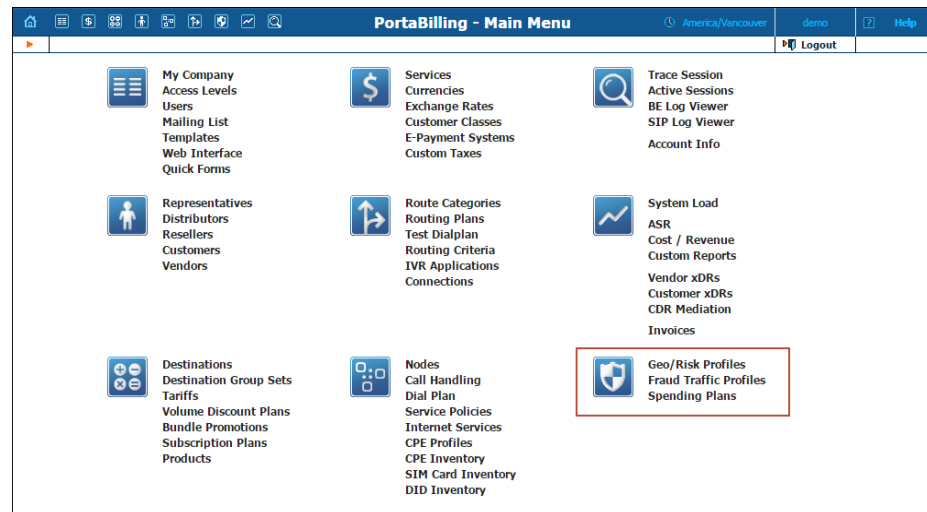
- **Geo / Risk profile is now a link** – The **Geo / Risk Profile** field on the **Account Info** page is now a link that redirects to the **Edit Geo / Risk Profile** page. On this page, an administrator can adjust the geo / risk profile settings as they deem necessary.

Important Upgrade Notes

- **Improved web interface security** – To increase web interface security and comply with PCI requirements, PortaBilling® users are redirected to the **Main Menu** page after their re-login.

- **Elasticsearch and LogServer must be configured before the software upgrade to MR54** – The LogServer and Elasticsearch components are responsible for SIP log storage, etc. Their instances must be present in any PortaSwitch® configuration beginning from MR51. PortaOne customers that upgraded their systems to MR51–MR53 were required to add the LogServer and Elasticsearch instances to the configuration during the upgrade procedure.

  When upgrading PortaSwitch® to MR54 from MR50, you must configure the Elasticsearch and LogServer instances *before* starting the upgrade procedure, i.e. to your current release. The system performs the pre-upgrade check and will not proceed with the upgrade if those instances are not found.

- **Changes in the Moneybookers and WorldPay Junior configurations** – Starting with this release, payment methods for Moneybookers and WorldPay Junior external payment processors must be selected on the payment processor side.
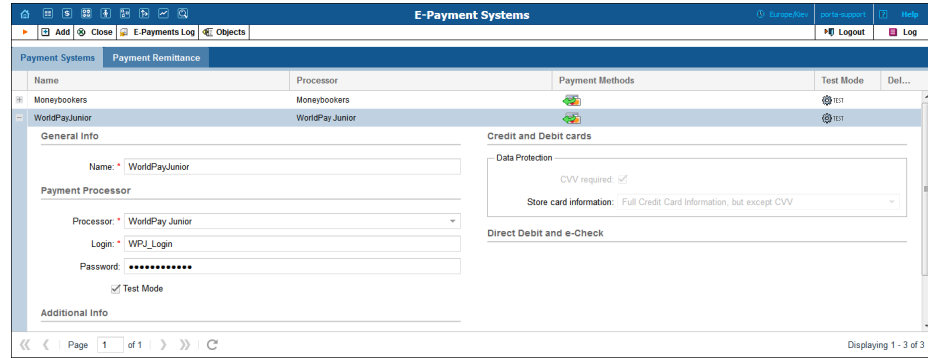
NOTE: If you have, for example, two payment systems that use Moneybookers (or WorldPay Junior) payment processors – one for VISA and another for MasterCard payments, you will be required to remove one of them upon upgrading the software to MR54.

Therefore you can now either set one of these payment processors or both in parallel to a payment system that has internally stored payment methods (e.g. AuthorizeNet) to process same-currency payments. Your customers that have VISAs, for example, will have the opportunity to choose which way to pay is best for them.
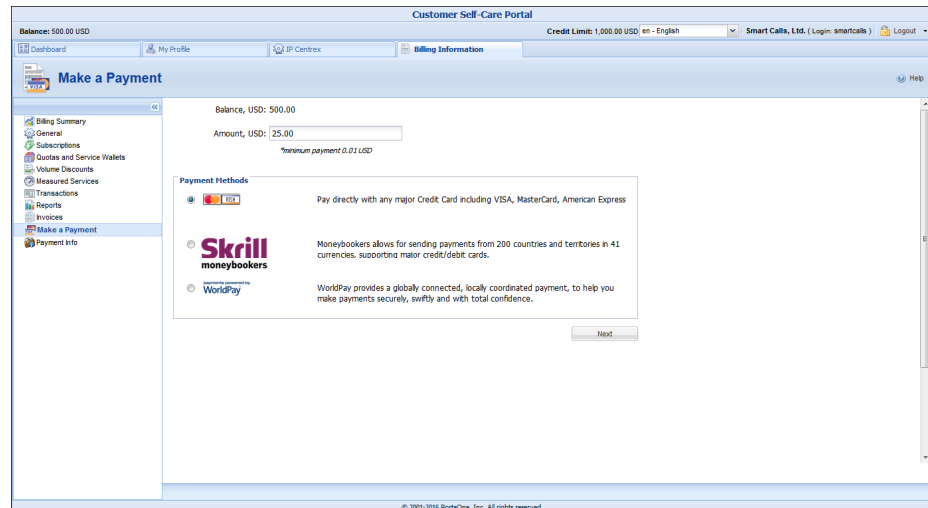
- **Account top-up with vouchers** – Now administrators and end users can top up a credit account (both subordinate and with an individual credit limit) with a voucher that has a different product assigned. To top up a debit account, a voucher must be assigned the same product as the account being recharged.