



PortaSwitch New Features Guide

MAINTENANCE RELEASE 86

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Preface

PortaSwitch® Maintenance Release 86 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`.



The **exclamation mark** draws your attention to important actions that must be taken for proper configuration.

NOTE: Notes contain additional information to supplement or accentuate important points in the text.



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



Archivist explains how the feature worked in previous releases.



Gear points out that this feature must be enabled on the Configuration server.



Tips provide information that might help you solve a problem.

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Commitments

Commitments enable service providers to retain customers for long periods (usually from one to several years). A typical commitment might offer that a customer “sign up for a two-year commitment and save \$5 per month on Internet service.” Customers who take advantage of these discounts also receive special offers and the option to pause service, and thereby, the charges.

Commitments offer services with discounts for set periods of time. If customers cancel a commitment before a discount’s end date, they pay a penalty. When a discount ends, customers pay a full recurring fee to continue to use the services although they can cancel the services at any time without a penalty. Plus they can still benefit from special offers and even pause their services.

For example, the standard monthly price for Internet service is \$20. If customers sign up for a 24-month commitment, they pay \$15 monthly.

Internet package	Standard price	Price for 24-month commitment
Turbo 1 GB	\$20	\$15 (with \$5 discount)

To configure the Turbo 1 GB 24-month commitment, the administrator performs the following steps:

- Creates a subscription with a \$20 recurring fee and defines a minimum subscription period for 24 months.
- Creates a 1 GB Internet quota within a volume discount plan.
- Creates an add-on product with Internet service and adds 1 GB of Internet quota.
- Creates a commitment and sets the discount duration for 24 billing periods.
- On the Recurring fees panel, the administrator selects the subscription and add-on product and specifies a discount of \$5, which changes the total monthly fee to \$15.

Now, the administrator can assign the Turbo 1 GB commitment to accounts.

Subscription	Add-on product	Recurring discount, USD	Recurring discounted fee, USD
Turbo 1 GB	Turbo 1 GB	5.00000	15

After signing up for the commitment, customers pay recurring fees for using the service. When their billing period closes, PortaBilling® calculates the charges for any commitments that were active during this period. Customers may have several active commitments at a time, for example, Internet and IPTV packages. When customers sign up or cancel the commitment in the middle of a billing period, they are charged a prorated fee by default.

Important conditions:

1. Commitments can only be assigned to accounts.
2. The minimum subscription period must be set to calculate possible cancellation penalties.
3. Add-on products must be allowed with the main product.
4. If the subscription discount rate is set for the customer, it overrides the commitment discounts for all accounts.

Benefits

With the help of commitments, service providers:

- Retain customers for long periods;
- Increase revenue by using upselling.

Customers:

- Receive discounts for extended periods;
- Save money with the commitment pause option;
- Can try new packages without paying extra.

Synchronize discount end dates for two commitments

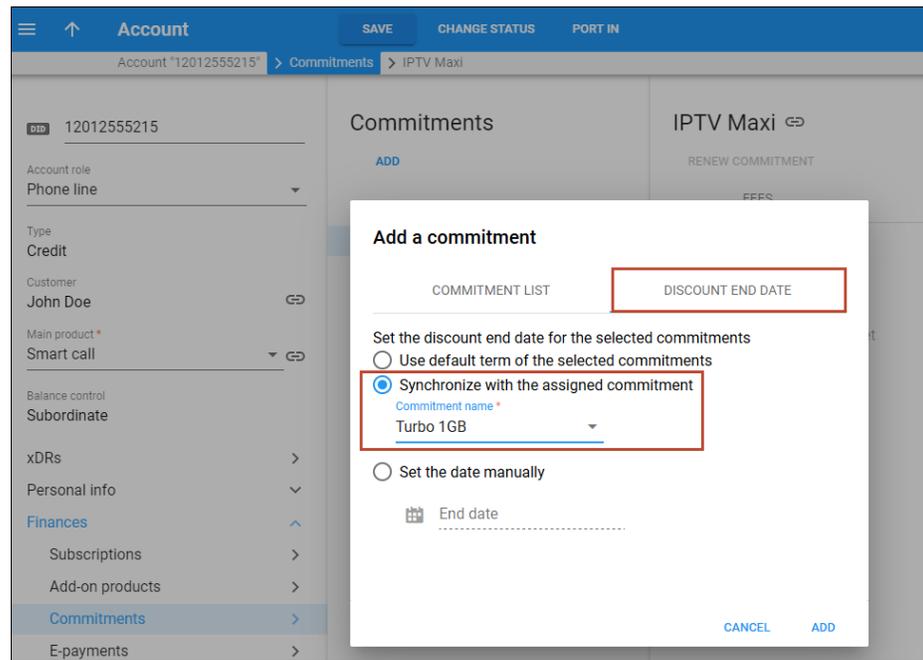
By default, the end date of a discount is defined by the number of billing periods set in the commitment. For example, for a commitment that includes 24 billing periods, the end date will arrive in 24 months. The administrator can change the default discount end date or synchronize it with one of the already assigned commitments.

When synchronizing discount end dates, a new commitment inherits the discount end date of the previous one. As a result, the discounts share an end date and expire at the same time.

Let’s say that John Doe has been using the Turbo 1 GB package for 3 months. The discount on his 24-month commitment ends in 21 months, on August 15, 2022. To receive more Internet traffic, John signs up for the Turbo 2 GB commitment. The administrator opens his account and assigns a new Turbo 2 GB commitment to it in addition to the Turbo 1 GB. To synchronize the discount end date with his Turbo 1 GB commitment, the administrator:

- Opens the Discount end date tab.
- Selects the option “Synchronize with the assigned commitment.”
- Selects the Turbo 1 GB commitment from the list.

Now the discount end date for both commitments is August 15, 2022 so the discounts will end simultaneously, in 21 months.



Penalty

A penalty is determined by the sum of all the discounts provided to the customers since they signed up for the commitment. The administrator applies the penalty when they cancel their commitments before the discount end date.

Let’s say John Doe decides to cancel his two-year commitment after 20 months of usage. He calls the administrator and asks to cancel the Turbo 1 GB commitment on October 31. According to his package conditions, he received a \$5 discount and, therefore, paid \$15 per month. So then

John's penalty is \$100, which is the sum of the discounts for his 20 months of service usage. On November 1st, John receives the invoice and sees the \$115 total for October:

- \$100 is the sum of discounts for 20 months of service usage ($\$5 \times 20 = \100);
- \$15 is the recurring fee.

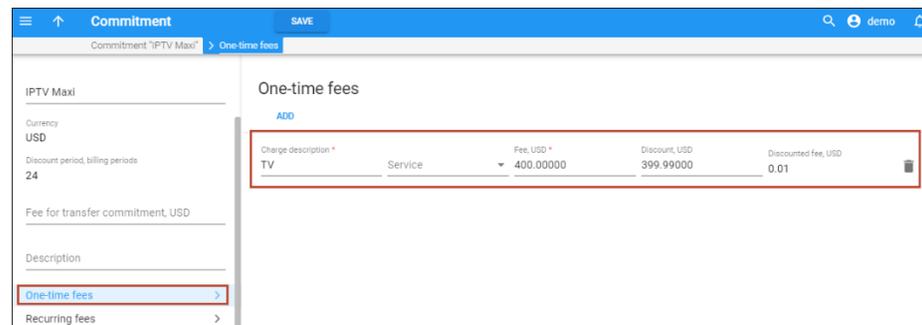
Note: The periods during which the commitment is paused or the customer is suspended (due to non-payment) are excluded from the penalty calculation.

One-time fee

A one-time fee is a fixed amount of money that applies only once, when customers sign up for the commitment. The administrator can set a discount for the one-time fee. Let's say that the standard price for a TV set is \$400. Customers can buy it for just \$0.01 with a \$399.99 discount if they sign up for a two-year IPTV Maxi commitment. If the customers cancel their commitment before the discount end date, they pay the full price of the TV set as a penalty because the discount is also cancelled.

To configure the one-time fee, the administrator:

- Creates an IPTV Maxi commitment.
- Opens One-time fees panel and defines the description – TV.
- Specifies the full fee of \$400 with a discount of \$399.99, which changes the total one-time fee to \$0.01.



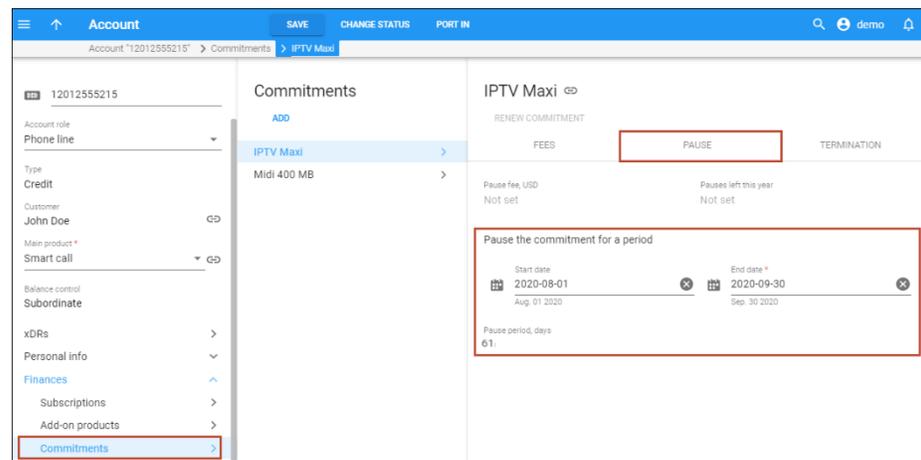
So when John Doe signs up for the IPTV Maxi commitment, he pays only \$0.01 for the TV set but if he cancels the commitment before the discount end date, the penalty is \$399.99.

Pause the service

To encourage customers to sign up for long-term commitments, service providers can offer to temporarily pause the service for a specific period. During this period, customers won't receive any service, therefore, no charges apply. When the service pause period ends, the commitment is automatically re-activated, the service is resumed and charges apply starting as of the next day.

Note: The discount end date shifts according to the number of days the service was paused.

For example, John Doe has the IPTV Maxi commitment with a discount that expires on October 31, 2020. John takes a vacation and, on July 15, calls the customer service representative (CSR) to pause the IPTV Maxi commitment for 2 months – August and September (61 days). To pause the commitment, the CSR opens John Doe’s account, selects the IPTV Maxi commitment, clicks the Pause option and sets the pause dates for from August 1 – September 30. No charges apply during this period. The discount period of the commitment now shifts to December 31, 2020, since the commitment was paused for 61 days. On October 1, the IPTV Maxi commitment is re-activated and John can use the services again.



The administrator can also schedule the pause period for a future date, for example, if a customer wants to use the service until the end of the present month. Once the date is set, PortaBilling® pauses and activates the commitment automatically. No additional actions are required from the administrator.

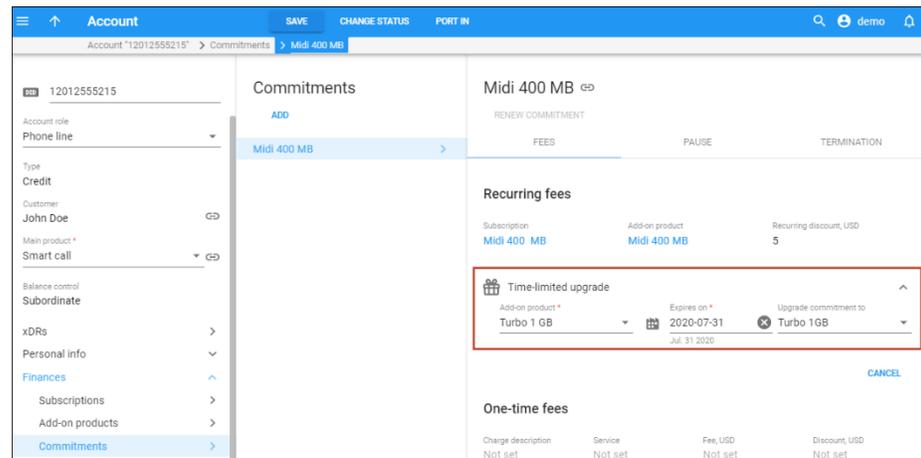
When end users pause their services in the middle of a billing period, recurring charges are prorated. For example, if John Doe pauses his commitment on August 7, he is still charged for seven days of service (August 1-7).

This feature helps customers save money (when they do not use the service) and guarantees service providers that their customers continue using their services. It also helps service providers to predict their future revenue.

Time-limited upgrade

Service providers can offer more expensive packages to their customers to try for no extra cost to encourage them to upgrade permanently.

Let's say that John Doe signs up for 400 MB Internet service for \$10 per month. The CSR calls John and offers the Turbo 1 GB package for 3 months for the same price. John agrees and gets to enjoy increased Internet speed while paying \$10 per month. In 3 months, when the CSR asks John whether he wants to upgrade to the Turbo 1 GB package for \$15 per month, John agrees, since he thought it was great, and the CSR changes his package.



Delivering incoming calls to customers with redirect servers

With this release, PortaSIP® can deliver incoming calls to big SIP trunk customers (a government sector, helpline, contact centers, or big corporations, etc.) equipped with redirect servers. A redirect server is usually deployed on customer premises to distribute the traffic among several PBXs for load balancing and routing purposes. Now, an administrator can enable the processing of redirects and specify addresses (IPs and domain names) which PortaSIP® is allowed to redirect incoming calls to. By sending calls only to trusted IPs, you help prevent fraudulent activities from occurring, for example, when a call is redirected to external Vendor IPs.

Let's say, a service provider has sold a toll-free number **80032555939** to Easy Call, a big contact center with multiple offices. The number of Easy Call's employees is growing rapidly. In a few months, Easy Call starts to use a redirect server to balance the load on their PBXs. Thus, all calls to **80032555939** should now be sent to the redirect server for further redirect to PBXs.

Easy Call provides the administrator with the following data:

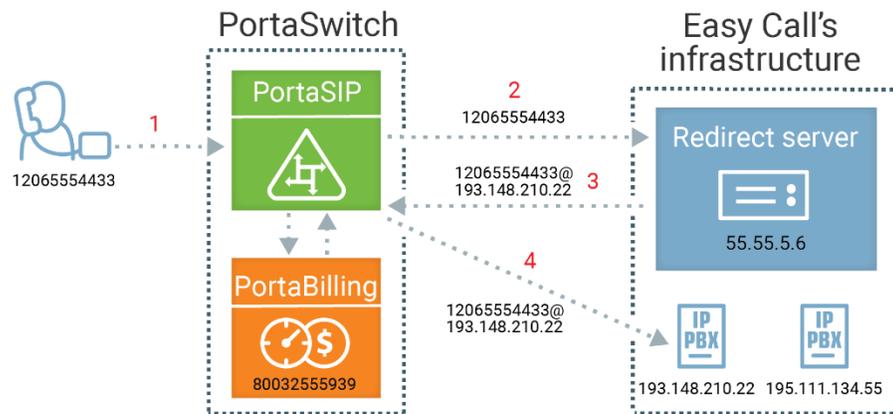
- The redirect server IP address – 55.55.5.6

- IPs of PBXs which PortaSIP® is allowed to redirect incoming calls to – 193.148.210.22 and 195.111.134.55

The administrator enables sending incoming calls to the redirect server for the **80032555939** account in PortaBilling® and adds the IP addresses of the PBXs to the list of addresses allowed for call redirection.

This is how it works:

1. PortaSIP® receives an incoming call to the **80032555939** account (1).
2. PortaSIP® sends a request to the redirect server IP address 55.55.5.6 (2).
3. The redirect server sends a 302 (“Moved Temporarily”) response, which includes a new IP address, 193.148.210.22, to send the call to (3).
4. PortaSIP® checks whether the IP address 193.148.210.22 is included in the list of allowed IPs and sends the call to 193.148.210.22 without additional authorization in PortaBilling® (4).
5. After the call connects, PortaSIP® creates an incoming xDR and PortaBilling® charges the incoming call according to the **80032555939** account tariff.



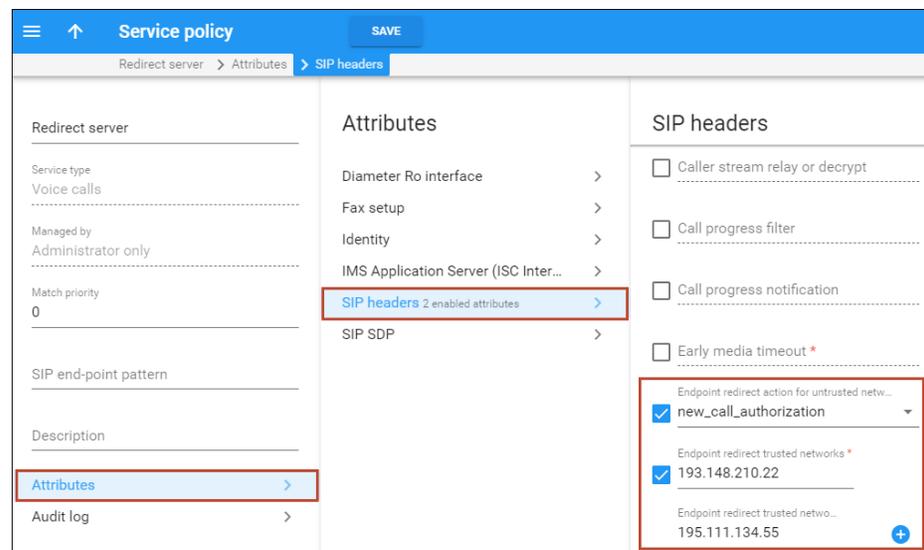
The redirect server can send the first incoming call to 12035554433@193.148.210.22, and the second call to 12065551201@195.111.134.55. This way, the redirect server implements dynamic routing with load balancing.

With this feature, service providers can configure the delivery of incoming calls to a redirect server in PortaBilling®. Thus, they can serve bigger and more demanding customers who have complex SIP infrastructures.

Configuration

Configure a service policy:

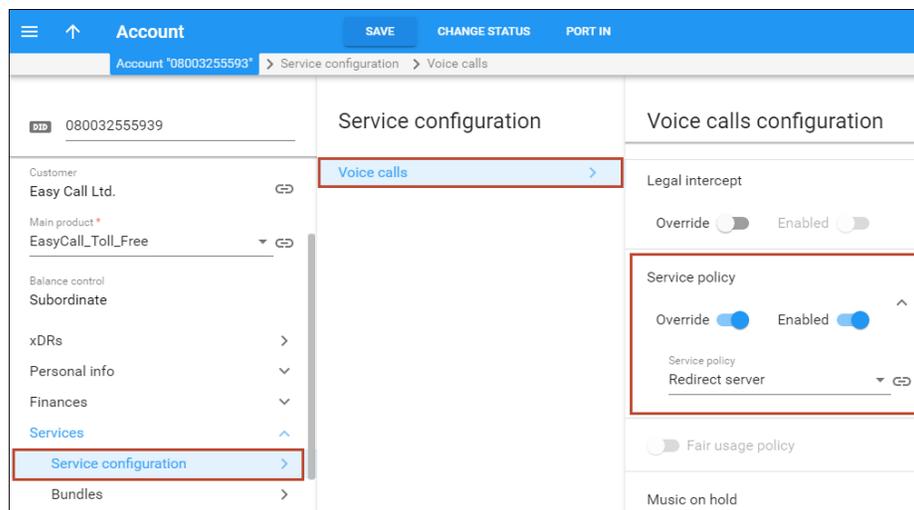
1. Create a service policy for Voice calls.
2. Go to the Attributes panel, then select SIP headers, and configure the following parameters:
 - **Endpoint redirect action for untrusted network** – select the check box to enable this option. Select **new_call_authorization** from the list.
 - **Endpoint redirect trusted networks** – select the check box to enable this option. Specify the trusted IP address or domain name here. Click the **Add** icon to add another IP / domain name.



3. Save the changes.

Configure the account:

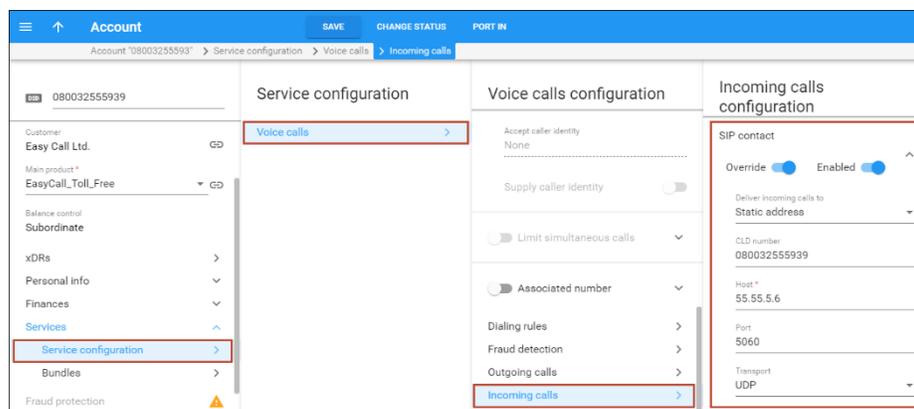
1. Assign the service policy to the account:
 - Go to the **Service configuration** panel, then select **Voice calls** and assign the previously created **Service policy** here.



- Save the changes.

2. Configure the SIP contact feature:

- Go to the **Incoming calls configuration** panel, enable the **SIP contact** feature and specify these parameters:
 - **Deliver incoming calls to** – select the **Static address** option.
 - **Host** – enter the address of the redirect server.
 - **Port** – enter the redirect server port for SIP communication where requests are sent (for example, port 5060).
 - **Transport** – select the transport protocol to use for SIP communication.



- Save the changes.

Integration with Zendesk

CSPs can now use Zendesk as a support ticketing system that's integrated with PortaBilling®. Zendesk is an advanced alternative to the RT ticketing system. Customer support agents can now track and process customer requests using all the advantages of Zendesk (e.g., user-friendly agent workspace, conversation update notifications, multi-channel communication).

To give more Zendesk capabilities to support agents, CSPs can install an application for PortaBilling® on Zendesk. This application is designed to display a subset of customer data from PortaBilling® in the Zendesk web interface. This allows support agents to process common customer requests faster, eliminating the need to search for customer records in PortaBilling® manually.

The application is currently available with basic functionality (as a minimum viable product). It allows support agents to:

- Quickly open a customer's record in PortaBilling® via a link in Zendesk.
- Look up a PortaBilling® customer record by name or account ID and link it with the corresponding Zendesk entity.

Extension of application functionality is planned to cover the most common support agents' tasks. If your company would benefit from such integration or if you have particular feature requests (e.g., to see the recent customer's xDRs or to change product right in Zendesk), **contact** our Sales department.

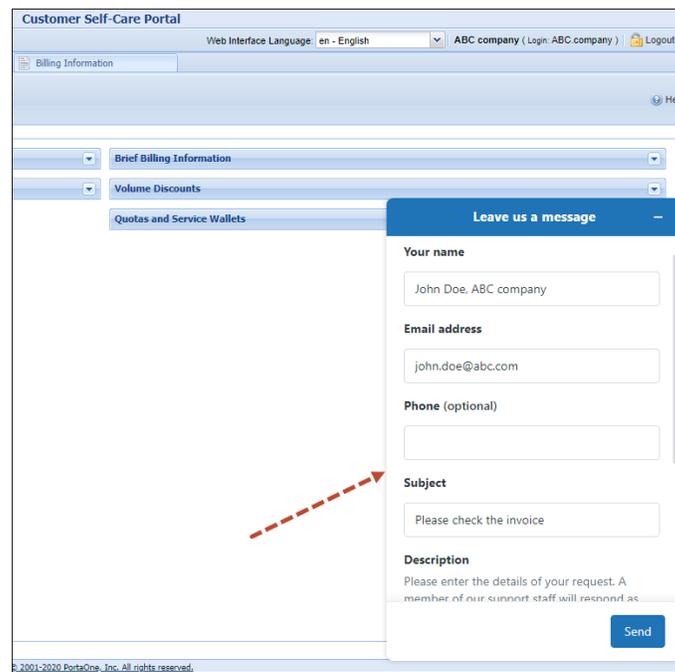
The integration with Zendesk works as follows:

1. Customer records in PortaBilling® are connected to Organizations in Zendesk.
2. When a new customer is created in PortaBilling®, its record with contact information (customer's name, domain, email, phone number) is automatically provisioned to Zendesk (i.e., a new Organization is created).
3. PortaBilling® customer records and Zendesk Organizations that were created before configuring this integration can be linked:
 - The support agent can find the customer by name or account ID and link the organization with the customer manually – via the Zendesk application for PortaBilling®.
 - The PortaBilling® administrator can link the customer with the Organization on the PortaBilling® side.
4. When a new query arrives to Zendesk from a customer's authorized email or phone number, Zendesk identifies it and creates a ticket for this customer.

5. A customer can send a query directly from the PortaBilling® self-care web interface.
6. All Zendesk tickets for a particular customer are displayed in the PortaBilling® web interface.
7. When Zendesk cannot identify a ticket (for example, the customer writes from a different email address), a support agent can manually assign it to the Zendesk Organization linked with that specific customer in PortaBilling®.
8. All changes to customer contact information in PortaBilling® are automatically updated in Zendesk, too.

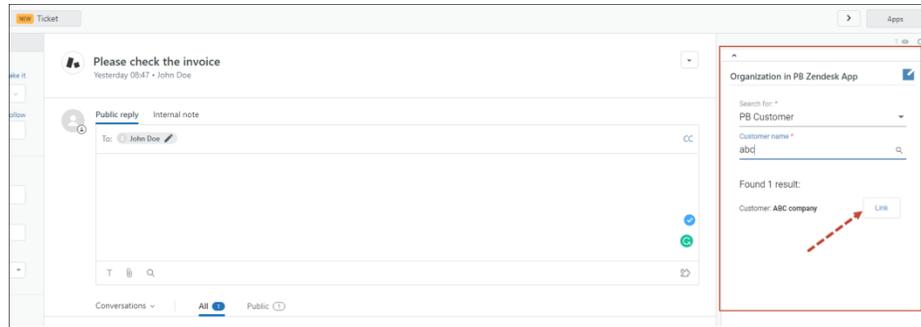
Let's consider an example:

1. John Doe, an accountant at the ABC company, has a concern about a new invoice. John opens the self-care web interface, fills in the form, and sends a message to CSP's customer support.

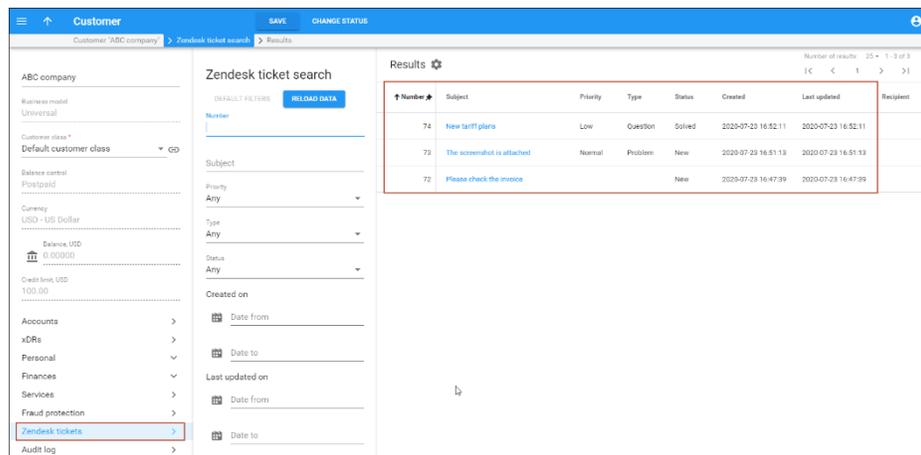


The screenshot displays the 'Customer Self-Care Portal' interface. At the top, it shows 'Web Interface Language: en - English' and 'ABC company (Login: ABC company) Logout'. Below this, there are navigation tabs for 'Billing Information', 'Brief Billing Information', 'Volume Discounts', and 'Quotas and Service Wallets'. A 'Leave us a message' form is overlaid on the right side of the page. The form contains the following fields: 'Your name' (filled with 'John Doe, ABC company'), 'Email address' (filled with 'john.doe@abc.com'), 'Phone (optional)' (empty), 'Subject' (filled with 'Please check the invoice'), and 'Description' (with a placeholder text: 'Please enter the details of your request. A member of our support staff will respond as...'). A 'Send' button is located at the bottom right of the form. A red dashed arrow points to the 'Subject' field.

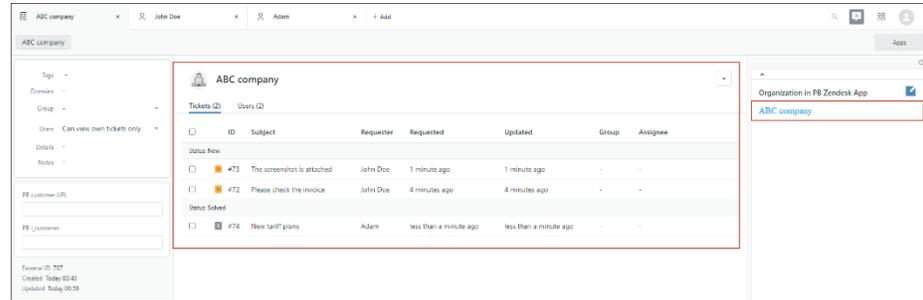
2. The ticket is automatically created and linked to the ABC organization in Zendesk.
3. A support agent sees that the ABC organization is not linked to any customer in PortaBilling®. The support agent then opens the Zendesk application for PortaBilling®, searches for the ABC customer, and links the organization to the customer.



4. Let's say John Doe sends a screenshot with invoice details to the CSP's support email. Zendesk identifies John by email as a user who belongs to the ABC organization/customer, and creates another ticket for ABC.
5. Then John asks his new colleague Adam to call support and ask about new tariff plans. Adam calls the CSP's support line using his own mobile phone number. A ticket is created in Zendesk for an unknown user.
6. The support agent finds out that it's a question from ABC, and assigns this ticket to the ABC organization (i.e., to the corresponding customer in PortaBilling®).
7. The PortaBilling® administrator opens the ABC customer page in PortaBilling®, selects the Zendesk tickets tab, and sees all the recent tickets. The administrator clicks on the first one to open it in Zendesk and read the issue details.



8. The support agent opens a ticket in Zendesk regarding the invoice issue. To quickly check the charges, the agent clicks on the ABC company link in the Zendesk application, which redirects them to the customer's page in PortaBilling®.



Benefits

As every ticket in Zendesk is linked to a particular PortaBilling® customer, CSPs can track spent time and calculate the cost of support per customer.

- Better user experience for support agents with Zendesk as a ticketing system (compared to RT).
- Instant access to PortaBilling® customer records for support agents and to Zendesk tickets for PortaBilling® administrators.

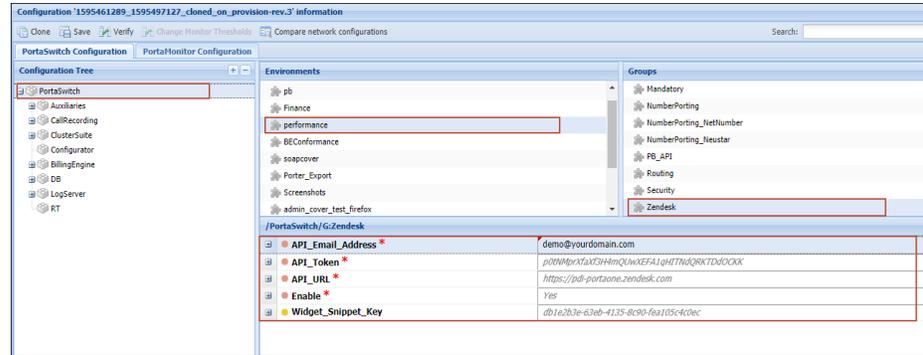
With future versions of the Zendesk application for PortaBilling®, support agents will be able to solve the most common queries via Zendesk. Thus, CSPs can reduce the time and expenses spent on support operations.

Configuration

The Zendesk application for PortaBilling® is designed as a private application. To install it on Zendesk, make sure you use the Zendesk Support Suite “Professional” package or higher.

1. Configure the External Systems Provisioning Framework (ESPF) in PortaBilling®.
2. On the Configuration server, configure the following:

Attribute	Description
Zendesk.API_Email_Address	Email address for API authentication of the Zendesk administrator.
Zendesk.API_Token	Token for API authentication of the Zendesk administrator. You can get the token from your_subdomain.zendesk.com/agent/admin/api/settings .
Zendesk.API_URL	Your Zendesk account URL (your_subdomain.zendesk.com).
Zendesk.Enable	Set to Yes to enable Zendesk integration.
Zendesk.Widget_Snippet_Key	The Zendesk web widget snippet key for the customer self-care interface. You can get the key from your_subdomain.zendesk.com/agent/admin/widget (the Setup tab).



NOTE: Each PortaBilling® environment is associated with a separate Zendesk domain.

3. Install and configure the Zendesk application for PortaBilling®. Contact the PortaOne® support team for assistance.
4. In PortaBilling®, create a user with read-only permissions to provide read-only access to PortaBilling® from the Zendesk application.

Sending invoice-related events to Odoo CRM

PortaBilling® is integrated with the Odoo customer relationship management (CRM) system. Odoo CRM helps automate sales actions, communicate with customers and streamline operations, etc.

With this integration, PortaBilling® automatically notifies Odoo CRM about invoice-related events and customer status changes. CSPs can use this information for customer interactions via Odoo – in particular, to send invoice notifications and payment reminders in SMS messages or emails.

Previously, CSPs who use PortaBilling® required PortaSIP® to send SMS notifications. Now, they can also use the Odoo CRM for this.

PortaBilling® notifies Odoo about the following events:

- invoice is generated;
- unpaid/partially paid invoice is overdue;
- customer is suspended; and
- commitment is terminated.

PortaBilling® sends corresponding data to Odoo via the API. The communication between Odoo and PortaBilling® is minimized as it only happens when such an event takes place in PortaBilling®. This approach allows to minimize the load on both systems.

For example, customer John Doe is charged \$30 per month for the Internet service. When his monthly invoice is generated, PortaBilling® notifies Odoo by provisioning the invoice number and the amount due. After that, Odoo sends an SMS notification to the customer. John Doe can rely on that notification to remind him to pay for the Internet on time and thereby avoid having to check it on the self-care web interface. If the invoice is overdue, John Doe also receives a notification.

If John Doe stops paying for the Internet service, PortaBilling® suspends the customer for non-payment and blocks the service. At the same time, PortaBilling® sends a notification to Odoo about the suspended customer. Odoo then sends an SMS message to alert John that the service has been blocked because of the overdue invoice.

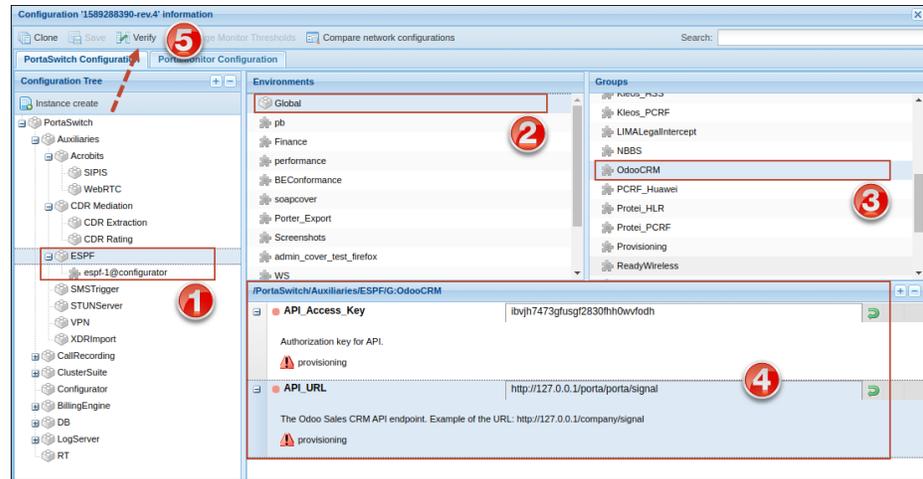
Benefits

With this feature, CSPs can send payment reminders to customers via Odoo and thus, improve the payment collections process.

Configuration

To enable data provisioning to the Odoo CRM, do the following:

1. Request from Odoo:
 - **API_Access_Key** – the Odoo administrator's authorization key for the Odoo CRM API.
 - **API_URL** – the Odoo CRM API endpoint.
2. On the Configuration server:
 - Create an ESPF instance (if it doesn't exist);
 - Fill in the **API_Access_Key** and **API_URL** values for the **Global.OdooCRM** group using the data from the step 1.
 - Click **Verify** to apply the configuration.



3. Configure the External Systems Provisioning Framework (ESPF) in PortaBilling®.

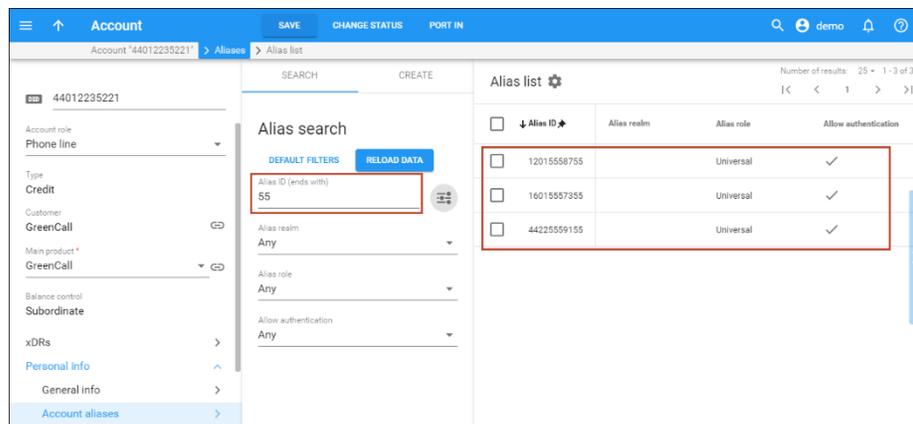
Other features and enhancements

- **The Italian language is now fully supported for all IVR applications** such as conferencing, voice mailbox, auto attendant, etc. Find the full list of supported IVR applications in the [PortaSIP® Media Applications](#) guide.

As a result, service providers become more appealing to native Italian-speaking customers since they can now provide services with IVR applications in their native language.

- **Improved search filters for account aliases** – With this release, you can search for aliases by using the alias ID that exactly matches, starts with, contains or ends with the characters you input.

By default, the PortaBilling® filters search for alias IDs that start with your input. To change the search filter, click the filter  icon and select another option.



For example, you change the alias ID search filter to search for aliases that end with “55.” Thus, the search result for “55” lists all aliases that end with “55” – 44227799155, 12011788755, 16013687355, etc.

This enhancement gives administrators more specific search results for account aliases.

- **New credit limit field behavior helps prevent overdrafts.** The credit limit field has moved to the top of the Create customer/reseller/distributor panel. When an administrator creates a customer, reseller, or distributor, the credit limit is now set to zero by default, which makes it impossible to leave the credit limit field empty by mistake.

Customer

Search filters > Customer list

SEARCH CREATE

Create customer

SAVE & ADD ANOTHER SAVE

Name *
Easy Call Ltd.

Balance control *
Postpaid

Currency
USD - US Dollar

Credit limit , USD
0.00000

Business model
Residential VoIP

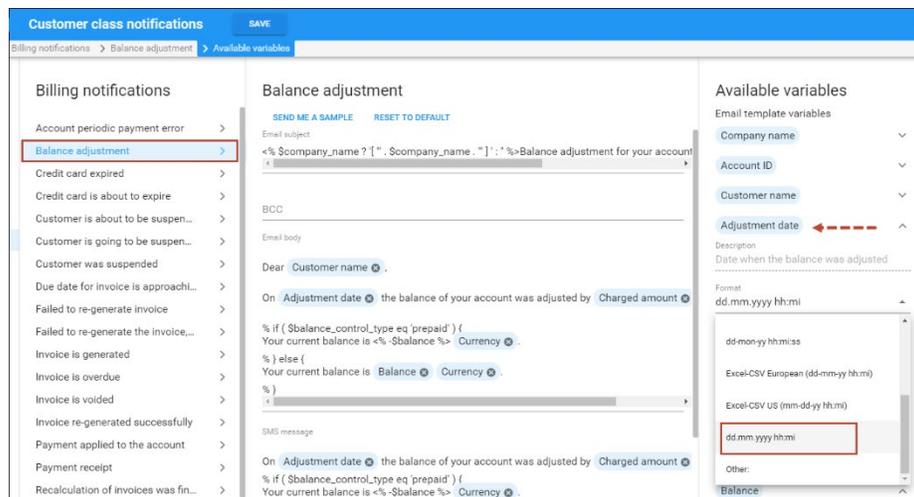
Customer class *
Retail SIP

Billing period
Monthly

Billing period timezone
America/Vancouver

This enhancement makes the web GUI more user friendly and helps to limit potential frauds in case of misconfiguration.

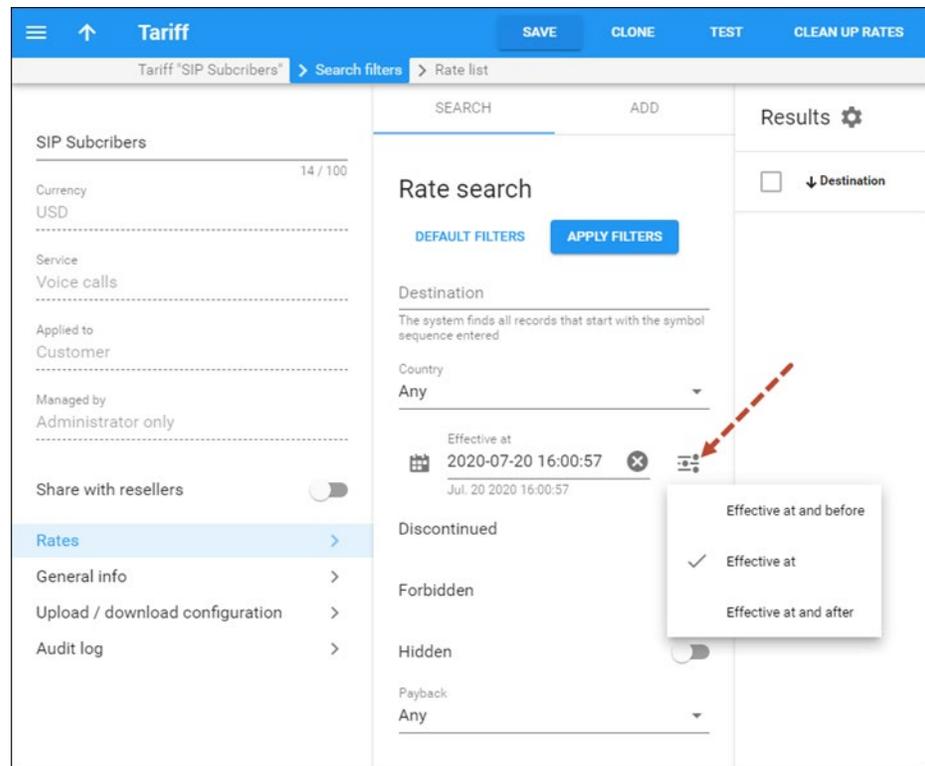
- **European date format for customer class / user notification templates** – The European date format (dd.mm.yyyy hh:mi) has been added to the list of available date formats in the customer class/user notification templates. Thus, an administrator can quickly select the European date format in the drop-down list instead of entering it manually for each notification template. This enhancement saves the administrator's time and makes the web GUI more user friendly.



- **Enhanced rate filtering by “Effective at” date** – Previously, it was only possible to filter rates that are effective on a particular date. Now, an administrator can choose one of these filtering options:

- **Effective at and before** – shows which rates are effective on the selected date and the rates that were effective before.
- **Effective at** – shows which rates are effective on the selected date.
- **Effective at and after** – shows which rates are effective on the selected date and the rates that will be effective in the future.

For example, the administrator can filter the rates in a tariff to check how rates have been changing for the particular destination (from past rates to rates effective today) or to find future rates.



This enhancement enables the administrator to review the history of rate changes and to check the new rates scheduled.