



# New Features Guide

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**PortaSwitch® New Features Guide, May 2021**  
**Maintenance Release 92**  
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## Preface

PortaSwitch® Maintenance Release 92 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/](http://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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## Collect recurring fees for customer subscriptions sold via resellers

Increase your profitability by billing resellers based on the packages they sell and not just on service usage. Previously you could only charge resellers based on the volume of services their customers consume, e.g., per minute or GB. By offering subscriptions (e.g., 1000 minutes of voice calls for \$10) resellers have been keeping all the profit on “unused” minutes. Plus, while a reseller could charge for access to certain features such as call recording, this has not been reflected on your bill to the reseller, which is based on the service consumption.

You can charge your resellers a set recurring fee for every customer they sign up to a service package. For example, as a service provider, you create a service package with a call recording feature, sell this package to a reseller for a \$10 monthly fee and recommend to resell it at \$20. The reseller can then offer this package at the recommended price or a marked up price. They can also sell a service package at a lower price than what they pay you, e.g., to enter the market. Whatever your reseller charges their customers, you always receive your \$10 per month even if customers do not use the service (e.g., service is suspended).

The administrator creates a product/add-on product with:

- reseller subscription – contains a recurring fee that you charge the reseller for each customer account;
- account subscription – contains your recommended recurring fee that resellers can charge their customers for each account.

Note that the billing period of the customer and reseller may differ, and each of them is charged according to their billing period. Subscription charges do not synchronize.

Reseller subscriptions and account subscriptions are independent and may be configured differently. For example, a reseller subscription activates immediately after assigning the product to the account, while the account subscription becomes active upon the account’s first usage date.

The reseller can adjust a recurring fee for an individual account. The reseller can provide a discount or mark up account subscription. Change in price (or any other change) for an account subscription doesn’t influence the price of a reseller subscription.

For example, reseller ABC Shuttle negotiates with their service provider that they would buy the call recording service package for a \$10 monthly

fee per account. ABC Shuttle intends to sell the call recording service package to their accounts at the price of \$20. The service provider creates a product where it defines reseller charges (\$10 per account) and account charges (\$20). On May 1st, 50 accounts sign up for the call recording service package at \$20. This means that 50 subscriptions for \$10 become active for ABC Shuttle. When the reseller's billing period closes, PortaBilling® calculates the charges for all accounts' subscriptions: \$10 monthly price x 50 customers = \$500. On July 1st, ABC Shuttle receives an invoice for \$500 total for May.

ABC Shuttle negotiates with a new customer, John Doe, and John signs up for a service package for a \$25 monthly fee (instead of recommended \$20). To mark the price up for a specific customer, the reseller's administrator performs the following steps:

- creates the account for John Doe and assigns the product with the call recording feature;
- opens **Finances > Subscriptions** > clicks **Edit** for a specific subscription;
- selects **Fixed upcharge** in the **Periodic fee adjustment** option;
- defines **5** in the **Upcharge** option > **Saves**.

The periodic fee for John Doe becomes \$25.

The screenshot shows the 'Subscriptions' page for account '12065550014'. The page has a blue header with 'Account' and navigation options like 'SAVE', 'CHANGE STATUS', and 'PORT IN'. Below the header, there's a sidebar with account details like 'Account role', 'Phone line', 'Type', 'Credit', 'Customer', 'Main product', 'Balance control', 'Subordinate', 'xDRs', 'Personal info', 'General info', 'Account aliases', 'Phone book', 'Finances', and 'Subscriptions'. The main content area shows a table of subscriptions. The table has columns for 'Subscription name', 'Monthly fee, USD', 'Activation date', and 'Start date'. The first row shows 'Call recording (customer)' with a monthly fee of 20 and a start date of 2021-04-23. Below the table, there's a section for 'Periodic fee adjustment' with a dropdown menu set to 'Fixed upcharge', an 'Upcharge, USD' field set to '5', and a 'Periodic fee, USD' field set to '25'. There are 'CANCEL' and 'SAVE' buttons at the bottom right of the form.

The administrator can see all the active subscriptions the reseller is charged for on the PortaBilling® web interface.

The screenshot displays the 'Reseller' interface for 'ABC Shuttle'. The left sidebar contains navigation options: xDRs, Subcustomers, Distributors, Company info, General info, Finances, General info, and E-payments. The main content area is divided into three sections:

- General info:** Shows financial metrics such as 'Total outstanding balance, USD' (0.00), 'Overdue balance, USD' (0.00), and 'Unallocated payments, USD' (0.00000). It also includes 'LAST INVOICE DETAILS' and 'Billing period'.
- Subscriptions assigned via products:** A table listing active subscriptions with columns for 'Subscription name', 'Associated with account', 'Monthly fee, USD', and 'Start date'. The table shows five entries, all with a monthly fee of 10 USD and start dates in 2021.

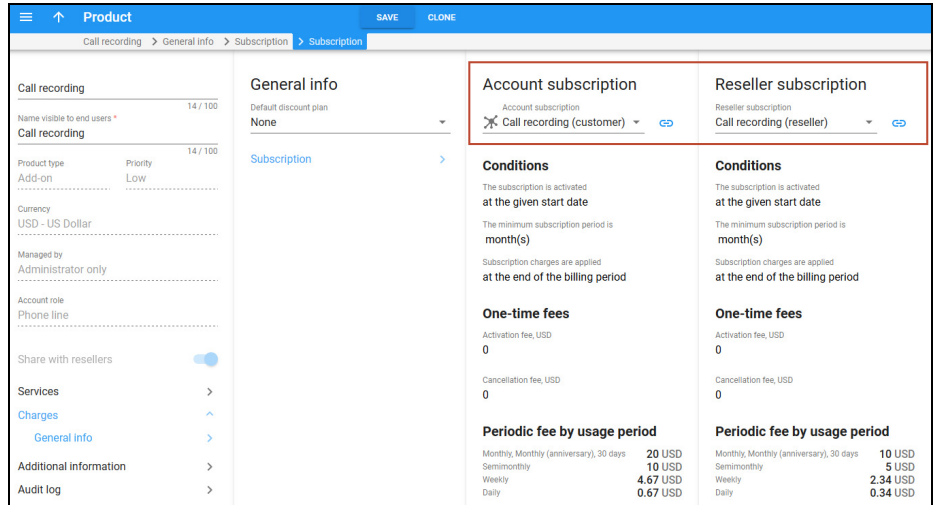
By default, the reseller's recurring fees stop for a specific customer under the following conditions:

1. The account has become closed.
2. The reseller replaces the account's product with one that doesn't include the reseller subscription.
3. The reseller subscription is removed from the product.

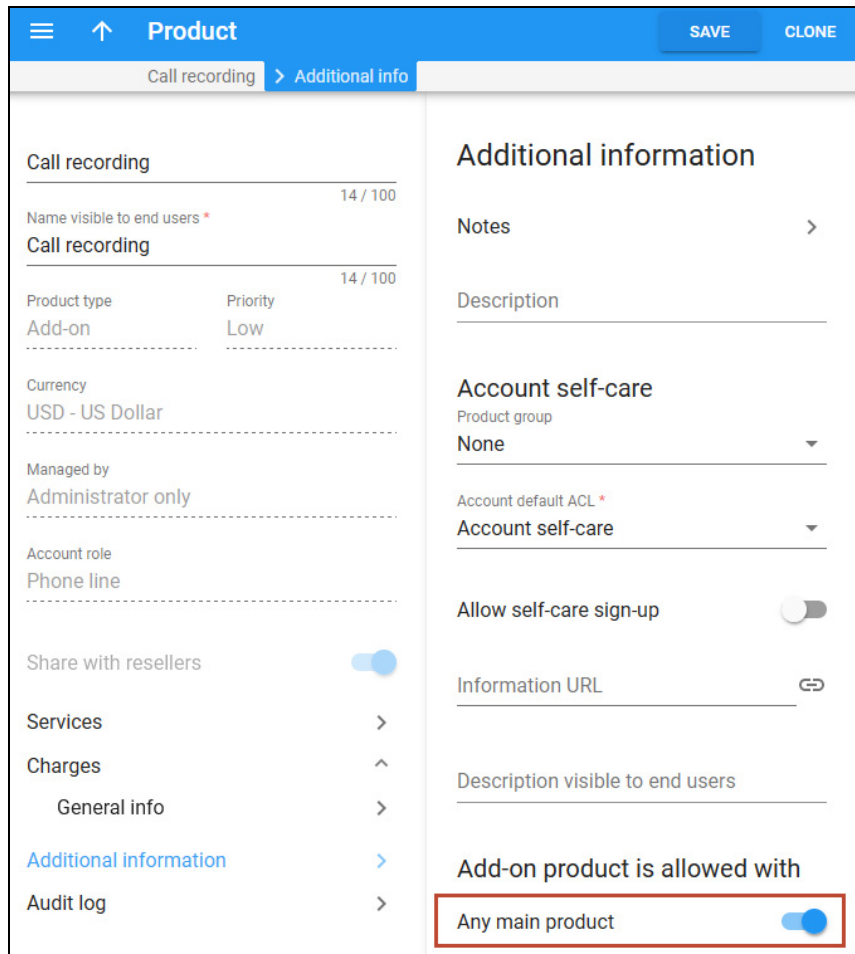
To charge resellers recurring fees for a service package with call recording, the administrator performs the following steps:

1. Creates a reseller subscription:
  - Defines a \$10 recurring fee;
  - Selects **Admin** for **Managed by** option;
  - Leaves **At the given start date** for **Activation mode** so that a reseller subscription activates immediately after adding it to the account;
  - Selects the **Can be applied more than once** checkbox.
2. Creates an account subscription:
  - Defines a \$20 recurring fee;
  - Selects **Admin** for **Managed by** option;
  - Turns on the **Share with resellers** toggle (mandatory for subscriptions managed by administrator).
3. Creates add-on product (or main product):
  - Selects **Admin** for **Managed by** option;
  - Turns on the **Share with resellers** toggle;
  - **Charges > General info > Subscription > selects an Account subscription and Reseller subscription;**





- **Additional information > Add-on product is allowed with >** turns on the **Any main product** toggle;





- On the **Voice calls configuration** panel, turns on the **Call recording** feature.

Now the reseller can assign this product to accounts. Note that subscription charges apply to a reseller only if they assign this very product to the account.

The scenario above can be configured the other way – when the main/add-on product, account subscription and reseller subscription are managed by a specific reseller. In this case the reseller can edit the main/add-on product and account subscription (reseller subscription is read-only). But the other resellers have no access to this very product.

### ***Benefit***

Service providers can increase their profitability by selling services via resellers.

### ***Implementation specifics***

If the main product/add-on product is managed by administrator, the reseller can't replace the account subscription.

## **Allow customers to control self-care access with individual credentials and roles**

Business customers can now provide their employees with individual credentials and role-based permissions to access the customer self-care portal.

For example, separate credentials can be provided to a Hosted PBX administrator who has access to the PBX configuration only and to an operations manager who can view the financial information only.

To create these credentials, the PortaBilling® administrator creates customer individuals with specific roles assigned. The credentials are sent to the specified employees' emails.

Customer individuals that have corresponding permissions can also add/manage other individuals via the self-care portal. Note that currently it's available via PortaBilling® API only.

With this feature, the PortaBilling® administrator can trace who made the changes on the customer portal if a customer requires this information.

## Benefits

Business customers:

- gain tighter control over users' access to the company data;
- can request audit information about each user's activity from the service provider;
- can manage access to the portal on their own without the need to contact the service provider.

## Configuration

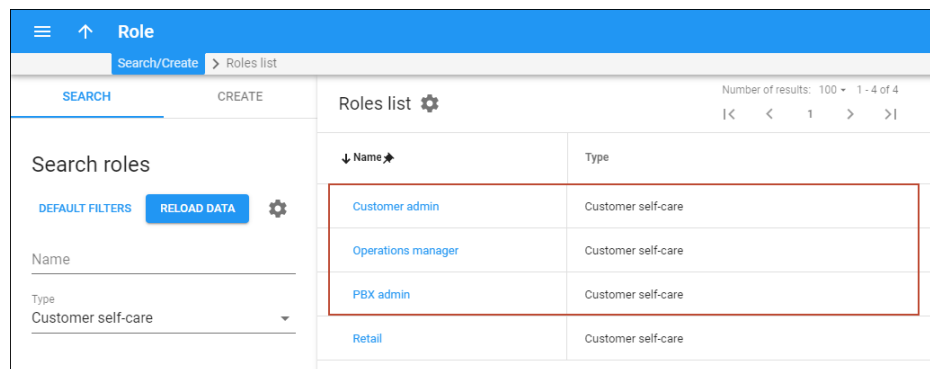
For example, ABC company manages their PBX via the customer self-care portal. ABC wants to provide access to the portal to the following employees:

- Bob, IT support team lead – can access all portal data and add/manage portal users as the customer portal administrator;
- Steve, a PBX administrator – configures the extensions and other PBX features, doesn't need access to payments and invoices;
- Adam, an operations manager – responsible for processing invoices and payments, doesn't need access to the PBX configuration.

To set this up, the PortaBilling® administrator needs to perform the following steps:

1. Create needed roles for access to the customer self-care portal.

Open **My company > Access control > Roles > create roles** “Customer admin”, “PBX admin”, “Operations manager” with the **Customer self-care** role type.



The screenshot shows the 'Role' management interface. On the left, there is a search filter for 'Customer self-care'. The main area displays a table of roles:

↓ Name ↕	Type
Customer admin	Customer self-care
Operations manager	Customer self-care
PBX admin	Customer self-care
Retail	Customer self-care

2. Configure the access permissions for each role.

Open a specific **Role > Permissions > select Modify, Read, or Restrict** option for each section.


The screenshot displays the 'Role permissions' configuration for the 'PBX admin' role. The interface includes a header with 'Role' and 'Role permissions' tabs, and buttons for 'SAVE' and 'CLONE'. The left sidebar shows the role name 'PBX admin', its type 'Customer', and navigation links for 'Permissions' and 'Audit log'. The main content area lists various permissions with their current settings:

Permission	Setting
Self-care access	Modify
Customer individuals	Restrict
Trouble tickets	Restrict
Allowed roles	Restrict
Dashboard	Restrict
IP centrex	Modify
Brief billing information	Restrict
Product discounts	Restrict
My profile	Restrict
Top balance funds	Restrict
Call recording	Restrict
Other features	Restrict
Billing information	Restrict

Note that the permission to add/manage the other users of the customer portal is configured in the **Customer individuals** section.

The permission to view the list of allowed roles is configured in the **Allowed roles** section. Select either **Read** or **Restrict** option here.

3. Assign roles to the ABC customer to control which roles they can use for their individuals.

Open **Customer > Personal > General info > Web self-care > Allowed roles** > click **Add**  > select a needed **Role**.

Web self-care	Allowed roles
Login	Role Customer admin
Password	Role PBX admin
Allow access only from trusted IP addresses <input type="checkbox"/>	Role Operations manager
API token access <input type="checkbox"/>	
Role Retail	
Time zone America/Vancouver	
Web interface language en - English	
Output format	
Input format	
<b>Allowed roles</b>	
Customer individuals	

4. Add a customer individual with a specific role assigned.

Open **Customer > Personal > General info > Web self-care > Customer individuals** > click **Add** > select the “Customer admin” role for Bob, specify the credentials, Bob’s email, and other parameters.

The screenshot displays the 'Web self-care' configuration page. On the left, there is a sidebar with various settings: Login, Password, Allow access only from trusted IP addresses (toggle), API token access (toggle), Role (Retail), Time zone (America/Vancouver), Web interface language (en - English), Output format, Input format, and Allowed roles. The main content area is titled 'Customer individuals' and features an 'ADD' button. Below this, a form is filled out for a customer individual: Login (Bob.Rogers), Role (Customer admin), Email (bob.rogers@abc.compa...), Password (masked), Activation date, Expiration date, Time zone (America/Vancouver), Web interface language (en - English), and Allow access from IP a... (Any IP address). At the bottom right of the form, there are 'CANCEL' and 'SAVE' buttons, with the 'SAVE' button highlighted by a red box.

When the individual is created, Bob receives an email with his credentials and the link to the customer portal. Bob logs in to the portal and adds individuals for Steve and Adam with the corresponding roles (this feature is available via PortaBilling® API only).

The above scenario can also be configured the other way: the PortaBilling® administrator can create individuals for all three employees – not only for Bob but also for Steve and Adam.

**NOTE:** The customer credentials available at **Customer > Personal > General info > Web self-care** are still usable. The PortaBilling® administrator could have used these credentials for Bob instead of creating a separate individual.

### *Activation and expiration date for an individual record*

It's possible to specify the activation and expiration date for an individual record (the individual's time zone is used). Let's say, Adam, the operations manager, can access the portal only after his probation period in the ABC company ends, e.g., from April 20. To provide access from this date, Bob, the customer portal administrator, specifies the **Activation date** for Adam's individual. When Adam receives an email with his credentials, he gets a notification that these credentials are available only from April 20.

## Enable customers to add extensions and assign subscriptions via the API

With this release, IP Centrex customers can create extensions and assign service packages with subscriptions without contacting a service provider. Now, the PortaBilling® API allows for creating new extensions while the corresponding accounts are generated automatically in PortaBilling®. Service providers can use this feature when creating self-care portals for their customers.

To control the products a specific IP Centrex customer can assign to their extensions, a service provider creates a customer agreement. The agreement contains:

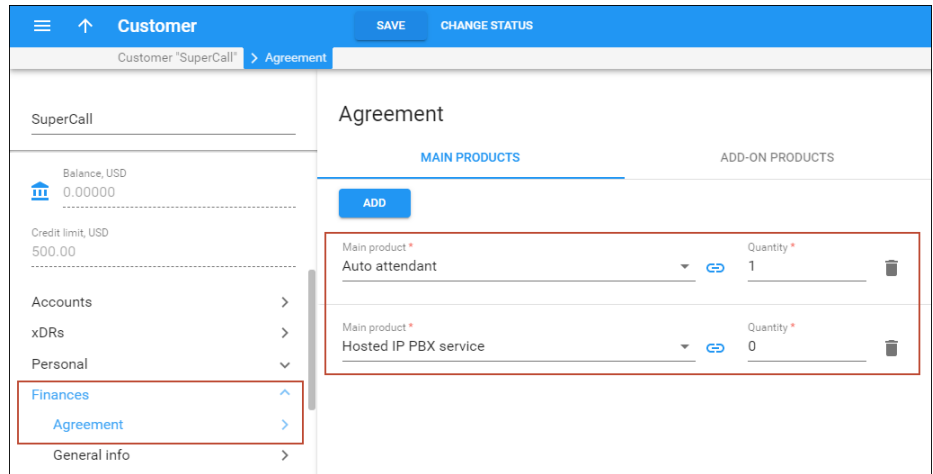
- the list of the main and add-on products allowed, and
- the number of accounts that can use a specific product, where 0 (zero) means that the product can be assigned to an unlimited number of accounts.

IP Centrex customers can also block/unblock a specific extension if it is allowed by their customer self-care role. But if the extension is blocked by PortaBilling® administrator, the customer cannot manage it.

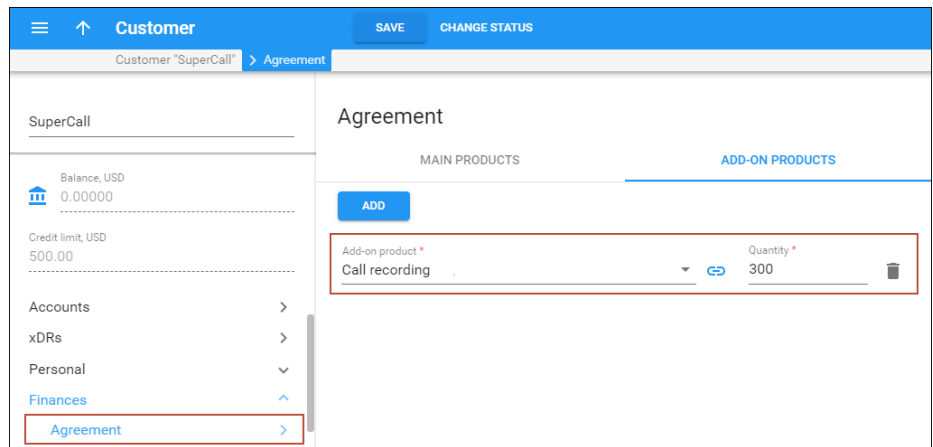
This is how it works:

Let's say a service provider has a new IP Centrex customer, ABC. ABC will manage their extensions via a service provider's self-care portal. According to the customer agreement, the service provider allows ABC to use the following products:

- The main product, Auto attendant, can be assigned to one extension. The **Quantity** option is set to 1.
- The main product, Hosted IP PBX service, can be assigned to unlimited number of extensions. The **Quantity** option is set to 0 (zero).



- The add-on product, Call recording, can be assigned to 300 extensions. The **Quantity** option is set to 300.



ABC needs to create the auto attendant and an extension for a new employee, John Doe.

To create the auto attendant, the PBX administrator opens the external self-care portal, adds the auto attendant, and assigns the Auto attendant product to it. The account with an universal account role and corresponding assigned Auto attendant product is automatically generated in PortaBilling® in the following format:  $ph\{i\_customer\}aa\{num\} \rightarrow ph46170aa1$ . When the PBX administrator assigns a DID number 12094555948 to the auto attendant, the alias with a corresponding DID number is assigned to the  $ph46170aa1$  account in PortaBilling®.

Then the PBX administrator creates an extension for John Doe (e.g., 466) and assigns both the Hosted IP PBX product and add-on product for call recording. The account with a universal account role and corresponding assigned product is automatically generated in PortaBilling® in the following format:  $ph\{i\_customer\}x\{extension\_id\} \rightarrow ph46170x466$ .



### *Benefits*

- Service providers save time since they do not receive requests from customers to create accounts for new extensions.
- Service providers can still control what products their customers assign to new extensions.
- The IP Centrex customers can add new extensions without asking the service provider to create an account.

### **Configuration**

To add the main and/or add-on products to a customer agreement, the PortaBilling® administrator should perform the following steps:

1. open the **Customer > Finances > Agreement**;
2. click **Main products** or **Add-on products > Add**;
3. select the main or add-on product from the list; go to the **Quantity** option and specify the number of accounts this product can be assigned to. To assign the product to an unlimited number of accounts, specify 0 (zero) here.

## **Allocate IP phones to customers**

IP Centrex customers may prefer purchasing a batch of IP phones in advance to have a reserve for future employees. Now, service providers/resellers can allocate Customer Premises Equipment (CPE), such as IP phones, to a customer. Thus, when a service provider/reseller assigns an IP phone to a customer's account for automatic provisioning, they can select either a phone allocated to this customer or a phone that doesn't yet belong to any customer. This avoids human error such as assigning a device sold to one customer to another customer.

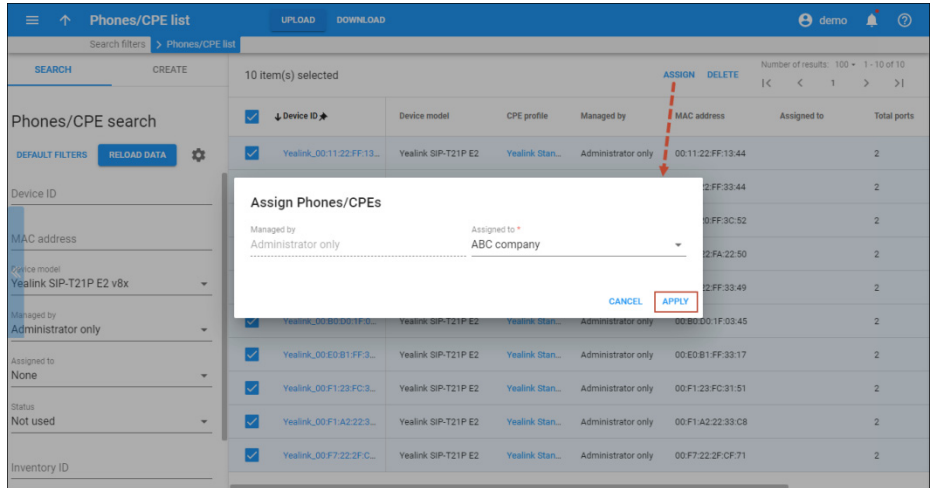
Additionally, the PortaBilling® API now allows not only **creating extensions** but also assigning IP phones to extensions by customers themselves. With this feature, service providers can create self-care portals where a customer can provision an IP phone for a new employee's extension. To do that, the customer simply picks an IP phone from the purchased batch and looks it up by the MAC address.

This is how it works:

For example, the ABC company plans to hire new employees and orders 10 IP phones from their service provider Panda Telecom. Panda Telecom's warehouse employee picks 10 phones to be shipped to the ABC company. They scan the phone barcodes and send their MAC addresses to the PortaBilling® administrator.

The PortaBilling® administrator finds these phones in the **Phones/CPEs** inventory and allocates them to the ABC company. To do this, the administrator needs to perform the following steps:

1. Open **Inventory > Phones/CPEs > Phones/CPE list** > look up the phones sent to the ABC company by the MAC address.
2. Select the checkboxes for the needed phones and click **Assign** on the toolbar;
3. Select the ABC company in the drop-down list and click **Apply**.



Now the IP phones that are shipped to the ABC company are allocated to this customer in PortaBilling®.

<input type="checkbox"/> Device ID	Device model	CPE profile	Managed by	MAC address	Assigned to	Total ports	Free ports	Inventory ID
<input type="checkbox"/> Yealink_0011:22:FF:13...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:11:22:FF:13:44	ABC company	2	2	6864122
<input type="checkbox"/> Yealink_0011:22:FF:33...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:11:22:FF:33:44	ABC company	2	2	576743534
<input type="checkbox"/> Yealink_0014:20:FF:3...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:14:20:FF:3C:52	ABC company	2	2	576743542
<input type="checkbox"/> Yealink_001C:22:FA:2...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:1C:22:FA:22:50	ABC company	2	2	576743540
<input type="checkbox"/> Yealink_00A1:22:FF:3...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:A1:22:FF:33:49	ABC company	2	2	576743539
<input type="checkbox"/> Yealink_00B0:D0:1F:0...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:B0:D0:1F:03:45	ABC company	2	2	576743535
<input type="checkbox"/> Yealink_00E0:B1:FF:3...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:E0:B1:FF:33:17	ABC company	2	2	576743537
<input type="checkbox"/> Yealink_00F1:23:FC:3...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:F1:23:FC:31:51	ABC company	2	2	576743541
<input type="checkbox"/> Yealink_00F1:A2:22:3...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:F1:A2:22:33:C8	ABC company	2	2	576743538
<input type="checkbox"/> Yealink_00F7:22:2F:C...	Yealink SIP-T21P E2	Yealink Stan...	Administrator only	00:F7:22:2F:CF:71	ABC company	2	2	576743536

**NOTE:** It's possible to allocate IP phones to a specific customer at the time of **uploading** these IP phones to the inventory from a file.

When a new employee joins the ABC company, the ABC's PBX administrator picks an available phone, e.g., with MAC address 00:11:22:FF:13:44, from the purchased batch. On the custom portal that

uses PortaBilling® API, the PBX administrator creates an extension, finds the needed phone in the list, and assigns it to the extension for automatic provisioning. The custom portal creates the corresponding account with an assigned IP phone in PortaBilling® using customer credentials.

The PBX administrator turns on the phone. The new employee can now use it to make calls.

Note that the PortaBilling® API allows the PBX administrator to assign the allocated IP phones to existing extensions as well. The PBX administrator can also unassign an IP phone from any extension.

### ***Benefits***

- Service providers/resellers can avoid human errors when assigning IP phones to accounts;
- Service providers/resellers can track which IP phones are allocated to a specific customer;
- Customers can assign IP phones purchased in advance without contacting the service provider (available via API only);
- Reduced workload for PortaBilling® administrators when IP phones are assigned by customers.

## **SIP UPDATE requests for keep-alive call monitoring**

With this release, PortaSIP® can send SIP UPDATE instead of SIP INVITE requests for keep-alive call monitoring. SIP UPDATE is used to periodically check whether calling parties are still online – if one party has gone offline, the call is promptly disconnected. This prevents inaccurate charging in the case of a dropped Internet connection. Thus, if the end user's IP phone or a vendor's VoIP gateway doesn't support SIP INVITE for keep-alive, PortaSIP® can send SIP UPDATE.

This is how it works:

By default, PortaSIP® sends both *invite* and *update* in the Allow header in the initial INVITE request. Thus, if the called party replies with both *invite* and *update* or only *update* in the Allow header, PortaSIP® will send SIP UPDATE requests for keep-alive call monitoring. If the called party replies with only *invite*, then PortaSIP® will send SIP INVITE request for keep-alive call monitoring.

Let's say an administrator enables keep-alive call monitoring for IP Centrex customers who use Yealink IP phones. The keep-alive interval is 300 seconds. John Doe, an IP Centrex customer, makes a call to

12095550000. PortaSIP® sends both *invite* and *update* in the Allow header in the initial INVITE request:

```
INVITE sip:12095550000@192.168.0.111:5071 SIP/2.0
Allow: ACK, BYE, CANCEL, INFO, INVITE, UPDATE, NOTIFY, OPTIONS,
REFER
...
```

12095550000 replies with *update*.

```
SIP/2.0 200 OK
Allow: ACK, BYE, CANCEL, INFO, UPDATE, NOTIFY, OPTIONS, REFER
...
```

Thus, PortaSIP® sends SIP UPDATE requests for keep-alive call monitoring every 300 seconds to check whether the 12095550000 is still online.

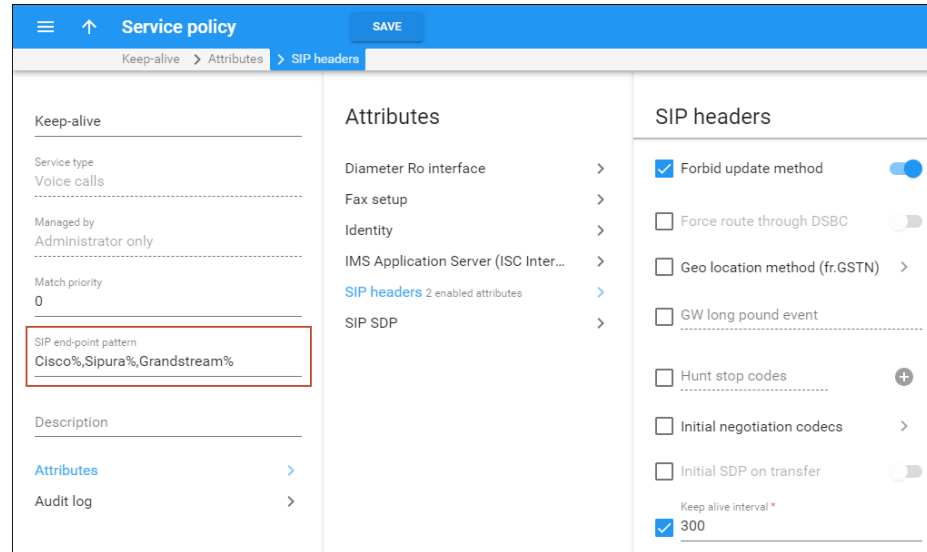
### Forbid sending SIP UPDATE requests

Sometimes, the customer's or vendor's equipment claims to support SIP UPDATE requests but does not handle it properly. In this case, the administrator can create a separate service policy for these devices to disable sending SIP UPDATE (e.g., exclude *update* from the Allow header in the initial INVITE request.) To do this, the administrator needs to enable the **Forbid update method** option in a service policy of voice calls service type that is assigned to a product, account, or connection.

When the service policy is assigned to a product or account, the **Forbid update method** option is applied to both outgoing and incoming calls. But when the service policy is assigned to a vendor connection, then the **Forbid update method** option is applied either to outgoing or incoming calls depending on the type of vendor connection.

The screenshot shows the 'Service policy' configuration page for a 'Keep-alive' service. The 'SIP headers' tab is active, and the 'Forbid update method' option is checked and highlighted with a red box. Other options include 'Force route through DSBC', 'Geo location method (fr.GSTN)', 'GW long pound event', 'Hunt stop codes', 'Initial negotiation codecs', and 'Initial SDP on transfer'. The 'Keep alive interval' is set to 300 seconds.

Also, you can use a dynamically applied service policy to forbid sending SIP UPDATE requests depending on the customer/vendor equipment. To do this, enable the **Forbid update method** option in a service policy of voice calls service type and specify either a full name of a SIP phone (e.g., Linksys/SPA941-5.1.8) or a comma-separated list of patterns (e.g., Cisco%,Sipura%,Grandstream%) in the **SIP end-point pattern** option.



### *Benefit*

Service providers prevent inaccurate charging for hung calls if the customer/vendor equipment supports only SIP UPDATE requests.

## Manage IP Centrex features using a single token in all API calls

Custom self-care portals can use a single token in all API calls to manage IP Centrex features like auto attendant, conferencing, and voicemail. The external applications such as CRM, etc., can manage the IP Centrex features under the administrator or reseller realm.

For example, custom self-care portals can be built to use a single token so that the IP Centrex administrator can configure auto attendant for a company, set up conferencing service for each employee, add extensions, and assign add-on products from a single place. A switchboard app can also use the same token to manage calls. Upon successful user authentication, the PortaBilling® API server provides the access token, JSON Web Token (JWT). To manage the features, authorize a user action using the JWT, instead of the session ID.

This is how it works:

The user logs in to the custom self-care portal. The PortaBilling® API server returns an additional token containing information about the user (login, the ID of the customer, reseller, etc.) in case of successful authentication. When the custom self-care portal sends requests to the PortaSIP® API server on behalf of the user (e.g., configure the auto attendant), it passes the JWT token in the authorization header, login, and domain of the account in the *auth\_info* structure. Custom self-care portal can also send the same token in the PortaBilling® API request, e.g. to assign a new add-on product. The same token can be used in the call control API requests sent from a switchboard app.

### ***Benefit***

This feature makes the development of external applications easier by introducing a unified authorization method for all API requests.

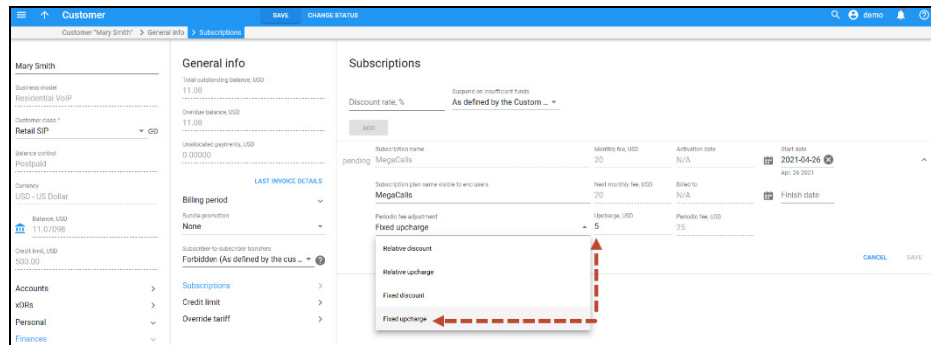
## **Adjust a recurring fee for a specific subscription**

You can mark up or discount a recurring fee for a specific account, customer, or reseller (only subscriptions assigned directly). Four options are available:

- Relative discount – a discount percentage that reduces the standard subscription fee, e.g., 20%. A 100% discount means “free service.”
- Relative upcharge – an upcharge percentage that increases the standard subscription fee, e.g., 10%.
- Fixed discount – a fixed amount that reduces the standard subscription fee, e.g., \$20.
- Fixed upcharge – a fixed amount that increases the standard subscription fee, e.g., \$10.

For example, the standard price for a MegaCalls package is \$20. The sales manager negotiated with Mary Smith so that she signs up for the MegaCalls package for a \$25 monthly price. To define the upcharge, the sales manager performs the following steps:

- opens Mary Smith’s **Account > Finances > General info > Subscriptions**;
- assigns the MegaCalls subscription > **Save**;
- clicks **Edit** for the MegaCalls subscription;
- selects **Fixed upcharge** in the **Periodic fee adjustment** option;
- specifies **5** in the **Upcharge** option > **Save**.



Note that you can adjust a recurring fee only after the subscription is assigned.

### ***Benefit***

Service providers can adjust recurring fees according to their business needs.

### ***Implementation specifics***

1. A fixed upcharge/discount can't be applied to subscriptions that are charged progressively (**Keep total charge only** xDR generation mode).
2. The upcharge/discount can't be applied to multi-month prepaid plans.

## **New version of Linux PortaSwitch®**

Maintenance Release 92 utilizes Oracle Enterprise Linux version 7.8.

Oracle Enterprise Linux version 7.8 includes a new version of kernel and an updated collection of applications that offer the following benefits:

- Straightforward administration.
- Better support for modern hardware.
- Higher reliability.
- Superior security introduced with cryptography enhancements.

## **Other features and enhancements**

### **Integration with SeaChange IPTV platform**

With this release, PortaBilling® is integrated with yet another IPTV platform, **SeaChange**. Thus, service providers can use SeaChange IPTV platform to offer IPTV services to their customers and expand their business.



## Upload a batch of devices to the CPE inventory

Now it's possible to upload a batch of devices to the Customer Premises Equipment (CPE) inventory from a .csv, .xls, or .xlsx file. This enhancement allows the administrator to add multiple CPE records at once in a few clicks.

For example, a service provider purchases 1000 IP phones from their CPE supplier. The supplier provides the list of phone MAC addresses to the service provider. To add the purchased IP phones to the CPE inventory, the administrator needs to perform the following steps:

1. Prepare a file to upload a batch of CPE devices.

To get the file template (with all available columns in the required order), the administrator can download the file: open **Inventory > Phones/CPEs > Phones/CPE list** > click **Download** on the toolbar.

The file has mandatory columns:

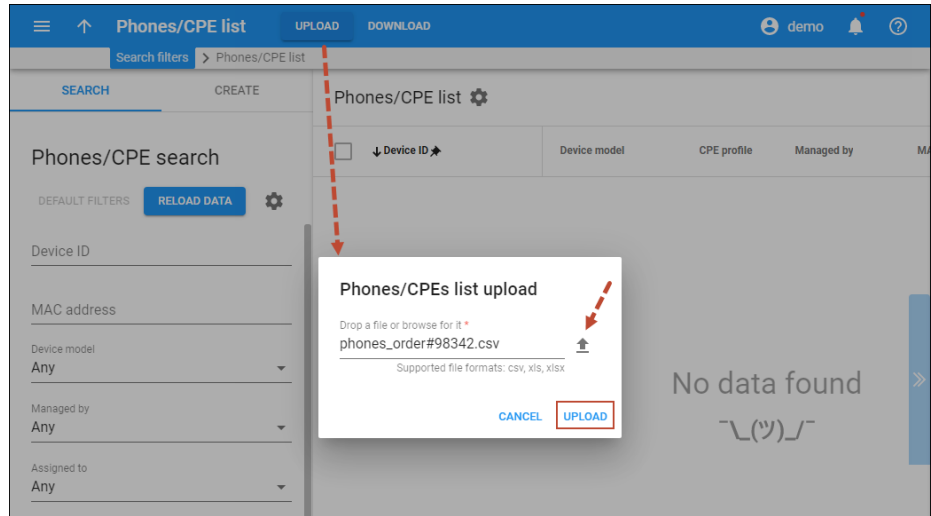
- **Action** – contains the “Add” value (another option is “Remove”);
- **Name** – contains the device ID;
- **Device model** – contains the IP phone model, e.g., Yealink SIP-T21P E2;
- **MAC address** – contains the device MAC address, e.g., 00:14:20:FF:3C:52.

Optionally, the administrator can fill in the other columns such as:

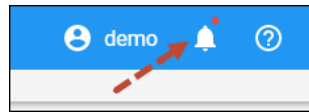
- **Managed by** – specify a reseller's name to allow only a specific reseller to manage a CPE device;
- **CPE profile** – fill in to assign a CPE profile to a CPE device;
- **Shared with reseller** – specify “Y” (Yes) to make a CPE device available not only to the administrator but also to all resellers;
- **Tenant customer name** – fill in to allocate a CPE device to a specific customer.

	A	B	C	D	E	F	G	H	I
1	Action	Name	Device model	Managed by	CPE profile	Inventory ID	MAC	Shared with reseller	Tenant customer name
2	Add	Yealink_00:11:22:FF	Yealink SIP-T21P E2 v8x	ABC Shuttle Ltd.		983341321	00:11:22:FF:33:44		
3	Add	Yealink_00:14:20:FF	Yealink SIP-T21P E2 v8x		Yealink Standard	983341322	00:14:20:FF:3C:52		ABC company
4	Add	Yealink_00:1C:22:FA	Yealink SIP-T21P E2 v8x		Yealink Standard	983341323	00:1C:22:FA:22:50		ABC company
5	Add	Yealink_00:A1:22:FF	Yealink SIP-T21P E2 v8x		Yealink Standard	983341324	00:A1:22:FF:33:49		ABC company
6	Add	Yealink_00:80:D0:1F	Yealink SIP-T21P E2 v8x		Yealink Standard	983341325	00:80:D0:1F:03:45	Y	
7	Add	Yealink_00:E0:B1:FF	Yealink SIP-T21P E2 v8x		Yealink Standard	983341326	00:E0:B1:FF:33:17	Y	
8	Add	Yealink_00:F1:23:FC	Yealink SIP-T21P E2 v8x		Yealink Standard	983341327	00:F1:23:FC:31:51	Y	
9	Add	Yealink_00:F1:A2:22	Yealink SIP-T21P E2 v8x		Yealink Standard	983341328	00:F1:A2:22:33:C8	Y	
10	Add	Yealink_00:F7:22:2F	Yealink SIP-T21P E2 v8x		Yealink Standard	983341329	00:F7:22:2F:CF:71	Y	

- Open **Inventory > Phones/CPEs > Phones/CPE list** > click **Upload** on the toolbar > select the file to upload > **Upload**.



When the upload is completed, the administrator receives a notification with the upload results. The notification is available on the toolbar.



If any errors occurred during the upload, the administrator can download the error list.

The administrator can see the successfully uploaded CPE records on the **Phones/CPE list** page.

Phones/CPE list ⚙								
<input type="checkbox"/> ↓ Device ID ↗	Device model	CPE profile	Managed by	MAC address	Assigned to	Total ports	Free ports	Inventory ID
<input type="checkbox"/> Yealink_00:11:22:F...	Yealink SIP-T21P E2		ABC Shuttle Ltd.	00:11:22:FF:33:44		2	2	983341321
<input type="checkbox"/> Yealink_00:14:20:F...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:14:20:FF:3C:52	ABC company	2	2	983341322
<input type="checkbox"/> Yealink_00:1C:22:F...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:1C:22:FA:22:50	ABC company	2	2	983341323
<input type="checkbox"/> Yealink_00:A1:22:F...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:A1:22:FF:33:49	ABC company	2	2	983341324
<input type="checkbox"/> Yealink_00:80:D0:1...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:80:D0:1F:03:45		2	2	983341325
<input type="checkbox"/> Yealink_00:E0:B1:F...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:E0:B1:FF:33:17		2	2	983341326
<input type="checkbox"/> Yealink_00:F1:23:F...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:F1:23:FC:31:51		2	2	983341327
<input type="checkbox"/> Yealink_00:F1:A2:2...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:F1:A2:22:33:C8		2	2	983341328
<input type="checkbox"/> Yealink_00:F7:22:2...	Yealink SIP-T21P E2	Yealink Standard	Administrator only	00:F7:22:2F:CF:71		2	2	983341329

This enhancement saves administrators time and helps to avoid human errors when adding CPE records to the CPE inventory.

## Dispatching PortaSIP® API requests in Dual Version PortaSwitch®

External applications, e.g., CRM or custom self-care portals may use PortaSIP® API to allow users to configure such features as auto-attendant, conferencing, voicemail. With this release, WebDispatcher supports distributing PortaSIP® API requests between the current release (source) system and the newer release (target) system in Dual Version PortaSwitch®. Thus, the external applications that use PortaSIP® API can work as usual without additional adjustment, no matter whether a customer record is located on the source or the target system.

When WebDispatcher accepts a PortaSIP® API request from an application, it sends the request to the source and the target system simultaneously. The system where the corresponding customer record is active sends a response and WebDispatcher returns the result to the application.

This enhancement allows service providers who are migrating their PortaSwitch® system via Dual Version PortaSwitch® to avoid delays and extra costs associated with adjusting their external applications.

## Call control API for Dual Version PortaSwitch®

With this release, WebDispatcher supports call control API in Dual Version PortaSwitch®. WebDispatcher serves as a single entry point for call control API requests and distributes them between the source and the target system.

WebDispatcher accepts the call control API requests from external applications (e.g., click-to-dial, web-based switchboard). Then WebDispatcher passes on these requests either to the source or the target system depending on where the corresponding customer record is active.

With this enhancement, service providers who migrate their PortaSwitch® system from MR85 to MR95, and the above via Dual Version PortaSwitch®, can avoid extra costs associated with adjusting their external applications that use call control API.