

CLOUD IS CALLING YOU.



4PSA VoipNow Core[®] 2.0.3

Administrator's Guide

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Administrator's Guide

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Preface

Who Should Read This Guide

This User's Guide must be read by the 4PSA VoipNow Core administrator.

This manual does not cover the installation procedure. For detailed installation instructions, please check the Release Notes.

Chapter 1



General Account Management

Manage the Administrator Account



Caution

After the first install, you will be required to fill in your contact information from the **Admin Contact Information** page. You will not be able to access and manage the application until all the required details are set up in the system.

In order to update your contact information, click the  [Settings](#) link available in the left navigation panel. Next, click the  Admin contact icon located in the `Infrastructure settings` area.

4PSA VoipNow Core allows you to update your account information:

- Update your contact information.
- Change your login password.

You can modify the following contact details:

- Company name
- Contact name
- Password – Use this text box to change the password for the admin account.



Caution

Based on the chosen password strength, you are not allowed to fill in dictionary words or passwords containing only digits or sequences of more than three identical characters.

All security levels ask for a minimum five characters long password.

For more information, please check [Configure Global Login Preferences](#)



Note

The password must contain only the following character types:



- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: **! ? @ # \$ % ^ * () _ + = { } ` ~ [] ; : , . | ^ &**.

- Confirm Password
- Phone
- Fax
- Email – The email address where 4PSA VoipNow Core can send you notifications about events that occur in the system.



Caution

The system can send automatic notifications when predefined events occur. In order to change your notification preferences, as well as the email templates

used for sending these notifications, go to  [Settings](#) >>  **Email templates** page.



- Address

- City
- Region
- Postal/ZIP code
- Country
- Region - Use the drop-down list to select the region of the country you are located in.
- Timezone - Use the drop-down list to select the timezone specific for your location. By default, the timezone of the chosen location is selected.

Click the OK button to submit the data. When all the required information has been filled in and you choose not to change it, the Cancel button will return you to the previous page without any modification.

Global Account Management


The Single Sign On (SSO) mechanism was designed to provide the user a centralized login point for multiple applications. The user creates a special account (Global Account) that will be later used by the other applications to make the connection between the interfaces.

To access this page, click the  [Settings](#) link available in the left navigation panel. Next, click the  Global account icon located in the Infrastructure settings area.

Connecting to a Global Account

You can connect to a global account with an existing user, or you can create a new global account.

Before connecting to a global account, you must first specify the parameters required in the SSO Settings page.

After specifying the respective parameters, click the  Connect to global account icon.

In the new opened page, make sure that the Use existing global account check box is selected, specify the global account user name and password and then click OK to connect to the global account.



Note

After the SSO package is installed on the VoipNow Core server, when logging in to the interface, the system will check if the respective account is a global account registered on the SSO server. If not, the account will be logged in as a local account.



Note

If you create a global account with the same login user name as for an existing local account (ex: `user_name`), when the local account's user will attempt to login to the interface, he will be logged in as the global account.



Note

If several local accounts are connected to a global account, when logging in to the VoipNow Core interface using the global account, the user will be asked to select from the local accounts connected to the same global account.

To create a new global account, select the Create new global account check box, set the user name and password for the new account and click OK to create the new global account.



Note

When creating a new global account, the respective account will be created on the SSO server.

Changing the Password for a Global Account

You can change the password for the connected global account by pressing

the  Change password icon.

In the new opened page, replace the existing password with the new one.




Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.


- Special characters like: !?@#%\$V*()_+={}~[];:.,|^&.

Disconnecting from a Global Account

If you are connected to a global account and wish to disconnect, click the  Disconnect from global account icon. In the new opened page, select the Confirm disconnection from global account check box and click OK.

SSO Settings

This page allows you to configure the parameters required to connect to the SSO server.

To configure the SSO settings, click the  SSO settings button located in the Global Account Setup page.

In the SSO Settings page, the following parameters can be configured:

- SSO Enabled - This check box allows you to temporarily enable/disable SSO.



Note

When you deselect this check box, you will not lose any information regarding your global accounts or any links between global and local accounts, despite the fact that SSO is disabled. When you check it back, SSO will be activated along with all the accounts' settings.



- Server identifier - Use this text box to specify your server's identifier. By default it is set to 4PSA VoipNow Core.
- SSO server URL - Use this text box to specify the SSO server's URL.
- Server URL - Use this text box to specify your server's URL.

Chapter 2

Manage the Application

Manage Interface Preferences

4PSA VoipNow Core allows the administrator to customize the application's default look and settings in the Interface Preferences page. Here, you can define the interface language, the application's skin and the number of rows in the records list. The administrator can also set some default values available for other users of the application. These default settings can be changed afterwards by the user from the same Interface Preferences page.

To access this page, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Interface preferences icon available in the Application settings area.

You can adjust the following preferences:

- Default interface preferences

- Remove manufacturer links - Enable this option to hide all skin references to 4PSA VoipNow Core manufacturer in the top and left areas.



Note

This option is available only for special 4PSA VoipNow Core licenses.

- Default system-wide rows in list tables – Use this text box to set the number of list items that will be displayed by default on a page in the user context. It can be any number between 1 and 9,999, the default value being 50.
- Default expanded alerts - Use this text box to set the number of alerts displayed by default in the user context. It can be any number between 1 and 10. The default value is 3.
- Default system-wide interface skin – Use this drop-down list to choose one of the available interface skins that will be displayed by default in all the user interfaces.
- Default system-wide language – Use this drop-down list to set the language that will be used by default in all the user interfaces. The list contains the language packs installed in the system.



Caution

4PSA VoipNow Core does not allow you to use language packs that were created for earlier versions of the interface. The following warning message is displayed:

Outdated versions of the following language packs are installed:
{Language1} ({version}), {Language2} ({version})

4PSA VoipNow Core {current version} is installed. Until you install the correct versions of the above language packs, the interface will be displayed in English, regardless of the user language preference.

The reseller, client and endpoint account users will also see an English interface, if the version of their interface language is lower than the current version of the product. You can fix this problem by installing a language pack corresponding to the current version of the 4PSA VoipNow Core.



- Default application browser title – Use this text box to fill in the name that will be displayed in the 4PSA VoipNow Core interface browser title bar.
 - Show build number in application title – Use this option if you want to display the 4PSA VoipNow Core build number in the browser's title bar.
- Interface settings

- Default country - Use this drop-down list to select the country you are located in.
- Default region - Use the drop-down list to select the region of the country you are located in.
- Default timezone - Use the drop-down list to select the timezone specific for your location. By default, the timezone of the chosen location is selected.
- Default phone language - Use this drop-down list to select the default language used by the phone terminals.
- Maximum uploaded file size - Use this text box to set the maximum size of an uploaded file. It can be any number between 0 and 100,000 KB. The default value is 2,000 KB.

Click OK to save your changes. Click Cancel to go back to the previous page without updating the preferences. The Default button overwrites your own account settings with the default ones.


My Interface Settings

4PSA VoipNow Core allows you to customize the application's default look and settings from the My Interface Settings page. You can define the interface language, the application's skin, the number of rows in the records list for the logged in user (admin in your case) and several other options.

To access this page, you can either click the  [My interface](#) link from the right corner of the top frame, either the  My interface button located in the Tools area of the Interface Preferences management page.

You can adjust the following preferences based on your needs:


- Rows in table – Use this text box to set the number of rows that will be displayed in your interface. It can be any number between 1 and 9,999. The default value is 50.
- Expanded alerts - Use this text box to set the number of alerts displayed in the user context. It can be any number between 1 and 10. The default value is 3.
- Interface skin – Use this drop-down list to choose the skin used by the logged in user interface.
- System language – Use this drop-down list to choose the language used by the logged in user interface.


 Caution

4PSA VoipNow Core does not allow you to use language packs that were created for earlier versions of the interface. The following warning message is displayed:

```
Impossible to switch to preferred interface language
{outdated language}, because an outdated language pack is
installed on the system. Please contact your provider to
correct this situation.
```

Only the system administrator can fix this problem.

- Display tool tip – Select this check box to enable/disable application tool tips displayed on mouse over images/icons.
- Display context help – Select this check box to enable/disable context help, displayed in the top area of the page, under the title.
- Program logo – Choose the logo that will be displayed at the top of the user's interfaces. Fill in the text box with the location of the file on your computer or use the  button to locate the file.

 Caution


It is recommended to use an image file in a GIF, JPEG, or PNG format with a height of 50 pixels.

- Logo URL – The logo file has a hyper link attached to it. Use this text box to fill in the destination of this hyper link. It can be your business website for example.

Click OK to save your changes. Click Cancel to go back to the previous page without updating the preferences. The Default button overwrites your own account settings with the default settings.



Restore Dismissed Alerts

Alerts present on any page in the application can be hidden by pressing the [Dismiss alert](#) link. These settings are only available for the logged in user.

To restore all the dismissed alerts, click the  Restore dismissed alerts button available in the Tools area.

Manage System Login Preferences

4PSA VoipNow Core login module was designed to provide flexibility and protection against the common forms of break-in techniques. You can configure a series of login preferences that apply to all the system users. You can also choose to allow or deny system access for administrator user with certain IP addresses.

To access this page, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Login preferences icon available in the Application settings area.

Configure Global Login Preferences

You can configure the following settings that will be applied to all the system users:

- Login preferences – This section includes login related settings that allow the administrator to configure the login session policy.




Note

In order to prevent Denial Of Service attacks, after an invalid login attempt, 4PSA VoipNow Core will block your IP for 5 seconds.

- Login expiration time – Use this text box to set after how many seconds a logged in user is automatically logged out due to the lack of activity. After this interval expires, in order to be able to use the interface, the user will have to re-log in. It can be any number between 0 and 86,400 seconds. The default value is 7,200 seconds.
- Expiration time for new password – When a user forgets his password, 4PSA VoipNow Core can assign a random one and send it to the user. Use this text box to set for how many seconds the password will be valid after generation. The default value is 3,600 seconds.
- Log messages on level - The system can keep logs of all the events or specific events types. From this drop-down list you can choose which event will be logged. The following options are available:
 - LOG_EMERG - This option is inactive, it will be used for future development.
 - LOG_ALERT - This option is inactive, it will be used for future development.

- LOG_CRIT - This option is inactive, it will be used for future development.
- LOG_ERR - This option logs the following events:
 - A user trying to log in from the interface with an invalid password.
 - A user from a banned network trying to log in from the interface.
- LOG_WARNING - This option logs all the events logged by the LOG_ERR option, plus the following:
 - A user with a disabled account trying to log in.
 - A user without control panel access trying to log in.
 - A user with an expired account trying to log in.
 - A user whose parent account has expired, trying to log in.
- LOG_NOTICE - This option logs all the events logged by the LOG_WARNING option, plus the following:
 - Any successful login from any type of user.
- LOG_INFO - This options logs all the events mentioned above.
- LOG_DEBUG - This options logs all the events mentioned above.
- Password strength – This section includes password related settings that allow the administrator to configure the login policy.
 - Password strength – Use the available drop-down list to select the login policy suitable for your environment:
 - Very High - The password cannot contain the login name, must contain different case characters, cannot be a dictionary word and must contain at least one non alphanumeric character.
 - High - The password cannot contain the login name, must contain different case characters and cannot be a dictionary word.
 - Medium - The password cannot contain the login name and cannot be a dictionary word.
 - Low - The password cannot contain the login name.

Set up an Access Policy

4PSA VoipNow Core allows you to set up an access policy for the administrator account. To enter the Access policy page, click the  Access icon available in the `Tools` area.

There are two types of access policies:

- Deny - When this policy is configured, the administrator is not allowed to log in to the 4PSA VoipNow Core interface if his computer's IP is listed on the deny list. All the other IPs that are not included in the deny list can access the interface with the administrator account.
- Allow - When this policy is configured, the administrator can login to the 4PSA VoipNow Core interface only if his computer's IP address is listed in the allow list. All the other IPs that are not included in the allow list cannot access the interface with the administrator account.



Note

You cannot set up both types of policies at the same time for the same IP (Network).

View the Networks List

In the Network Access Policy page you can see a list with all the allowed and denied networks available in the system. The following information is available:

- N - The network's order number.
- A - The network's permission:
 - - Allowed
 - - Denied
- P - Use these icons to change the position of a certain network inside the list:
 - Up
 - Down



Note



When you change the order, 4PSA VoipNow Core displays the number of changes you have performed to remind you to save them before navigating away from the page. In the top left corner of the network list 4PSA VoipNow Core displays {x} changes pending in the rules order.

Click the [Apply changes](#) link to save the changes you have performed in the network list.

- IP - The network's IP address.
- Mask - The network's subnet mask.

Searching the Network List

When the network list is too long and you are searching for a specific one, you can use the following features:





- Search – Fill in the text you are looking for in the text box. Click the  button or the search label to display only the networks that match your search criteria.
- Show all – Click this  button or the show all label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.


You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Add Allowed or Denied Network

In order to add allowed or denied networks, follow these steps:


1.  Click the  Access icon. A new page where you can enter the subnet or IP addresses to which you want to allow/deny access opens.
2. Subnet or IP address - Use the drop-down list to specify if you want to allow or to deny access for the subnet or IP address filled in the first text box. Use the second text box to specify the position of the address inside the networks list.
3. Use the   buttons to add several subnet or IP addresses at the same time.
4. Click Ok to add the IP(s) to the allow/deny list. Click Cancel to go back to the previous page.

Remove a Network

To remove a network, select its corresponding check box and then click the  [Remove selected](#) link. You will be asked to confirm the removal.

Manage Interface Languages

View the Language List



In the Language Management page, you can view the list of all the available languages installed with the product. The interface languages are very important because they allow the system to be presented in the user's native language. To access this page, click the  [Settings](#) link situated in the left

navigation panel. Next, click the  Languages icon available in Application settings area.

Multiple actions can be performed:

- Add a new language.
- Enable/disable an existing language.

4PSA VoipNow Core displays the following information about each language:

- S – The status of the language pack is displayed using an icon:
 -  Enabled
 -  Disabled
- Language pack – The language's 2-letter code (for example en for English).
- Language – The language's name in English.
- Version – The version of the 4PSA VoipNow Core product for which the language pack was translated.

Caution

4PSA VoipNow Core allows you to add language packs that correspond to earlier versions of the product. But you cannot use them in the interface. For more details on this topic, see [this note](#) .

- Used – The number of entities currently using this language on their interfaces.





Note

The table row(s) that displays the skin(s) currently selected by users is displayed with **bold** characters.

Searching the Languages List

When the language list is too long and you are searching for specific languages, you can use the following features:



- Search – Fill in the text you are looking for in the text box. Click the  button or the `Search` label to display only the languages that match your search criteria.
- Show all – Click this  button or the `Show all` label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

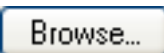
The languages list can be filtered by language pack, language, version and the number of entities currently using that language. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the languages list was sorted. The sort direction can be changed by another click on the corresponding header.

Add Interface Languages

To add a new interface language to the system, click the  Languages icon available in the  [Settings](#) page, in the `Application settings` area and follow these steps:

1.

In the Language Management page, click the  Add language icon.

2. In the new opened page, set the Path to the language pack file location. You can use this text box to fill in the language pack file's computer location or you can use the  `Browse...` button to manually locate it.




Note

The accepted format for the language pack file is `.tar.gz`.

3. Click OK to add the new language to the system. Click Cancel to go back to the previous page without adding it.

Remove Interface Languages

To remove interface languages from the system, click the  Languages icon available in the Infrastructure Features page, in the Application settings area and follow these steps:

1. Choose the languages you want to remove by selecting their corresponding check boxes in the records list.
2. Click the  [Remove selected](#) link. A new page displaying the list of languages that will be deleted opens.
3. Review the list. If you want to proceed with the removal, select the `Confirm the removal` check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.



Note

English cannot be removed and therefore 4PSA VoipNow Core automatically disables its corresponding check box.

Also, you cannot remove languages that are currently selected by system users for their interfaces. Their corresponding check boxes are disabled.

Manage Interface Skins

View the Skins List

In the Skins Repository page you can view a list of all the skins available in the system and you can add ore remove skins. To access this page, click the





[Settings](#) link situated in the left navigation panel. Next, click the  Skins icon available in the Application settings area.

4PSA VoipNow Core displays the following information about each skin:

- Name – The name that identifies the skin.
- Description – A short description of the skin.
- Author – The skin's designer.
- Used – The number of entities currently using this skin in their interface.

Searching the Skins List

When the skin list is too long and you are searching for specific skins, you can use the following features:



- Search – Fill in the text you are looking for in the text box. Click the  button or the `Search` label to display only the skins that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.


You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.


The skins list can be filtered by name, description, author and the number of entities currently using the skin. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the skins list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Skin

To add a new interface skin to the system, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Skins icon available in the `Application settings` area and follow the next steps:

1.

In the Skin Repository page, click the  Add skin icon.

2. In the new opened page, set the Path to the skin package file . You can use this text box to fill in the skin package file's computer location or you can use the  button to manually locate it.





Note

The accepted format for the skin package file is `.tar.gz`.

3. Click OK to add the new skin to the system. Click Cancel to go back to the previous page without adding the skin.

Remove Skins

To remove interface skins from the system, click the  Skins icon available in the Infrastructure Features page, in the Application settings area and follow these steps:

1. Choose the skins you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link. A new page displaying the list of skins that will be deleted opens.
3. Review the list. If you want to proceed with the removal, select the Confirm the removal check box and click OK. Otherwise click Cancel to return to the previous page without deleting anything.



Note

You cannot remove skins that are currently selected by system users for their interfaces, Their corresponding check boxes are disabled.



Manage Custom Buttons

4PSA VoipNow Core allows you to customize the functionality of the control panel by adding custom buttons linked to specific URLs.

In the Custom Buttons page you can:









- View the list of custom buttons defined at system level.
- Add new custom buttons to the system.

- Edit the settings of the existing custom buttons.
- Delete custom buttons from the system.

To access this page, click the  [Settings](#) link situated in the left navigation panel. In the new opened page, click the  Custom buttons icon available in the Infrastructure settings area.

View the Custom Buttons List

In the Custom Buttons page you can view the following details about existing custom buttons:

- S – The icon displays the button's status:
 -  Enabled
 -  Disabled
- A – The button's availability is displayed using one of these icons:
 -  Available only for the current user.
 -  Available for the first inheritance level.
 -  Available for the first two inheritance levels.
 -  Available for all the three inheritance levels.
- L – The button's location:
 -  shows that the button is displayed in the left panel.
 -  shows that the button is placed in the right panel.
- I – The icon associated with the button.



Note



If the default icon is associated with the button, 4PSA VoipNow Core displays




- Label – The button's tag that will be displayed, allowing the user to click it in order to access the specified location.
- URL – The URL linked with the button.

- Priority – A value that defines the order in which buttons are displayed in the interface.
- Display method - Shows the button's visibility.
- Display to owner - Shows if the button is visible to its owner account or not.

Add a New Custom Button

To add a new custom button, click the  [Settings](#) link situated in the left navigation panel. In the new opened page, click the  Custom buttons icon available in the Infrastructure settings area and follow the next steps:

1.

In the Custom Buttons page click the  Add custom button icon. A new page listing the parameters associated with the new button opens.

2. Use the following settings to define the button's look and behaviour:




- Code - Use this text box to fill in an unique reference code which will represent this button's key. The code's minimum length is three characters.



Note

The objects which have an unique reference code can be edited based upon this ID.

- Label – Use the available text box to specify the button's tag. The user will be able to click this name in order to access the specified location.
- Location – Use the radio buttons to choose where the new custom button will be displayed:
 - Navigation panel - The button will be displayed on the left panel, in the navigation panel.
 - User's context - The button will be displayed on the right panel, in the user's context.
- Default image for all skins – When this option is enabled, 4PSA VoipNow Core displays a default icon for the button. If you disable this check box, 4PSA VoipNow Core displays additional controls that allow you to load custom icons for the button:

- Use the  button to locate a graphic file on your computer.
- Select the check box corresponding to the skin where the icon will be used.
- Select the All skins check box if you want to use the same icon for all the 4PSA VoipNow Core skins installed on the server.
- You can use the   buttons to add icons for different skins at the same time.



Note

The maximum file size for an icon is 10 KB.

- Include reseller ID – When this option is selected, 4PSA VoipNow Core appends the ID of the currently selected reseller to the URL linked with the button.
- Include client ID – When this option is selected, 4PSA VoipNow Core appends the ID of the currently selected client to the URL linked with the button.
- Include endpoint ID – When this option is selected, 4PSA VoipNow Core appends the ID of the currently selected endpoint to the URL linked with the button.
- Include endpoint internal number – When this option is selected, 4PSA VoipNow Core appends the internal number of the currently selected endpoint to the URL linked with the button.
- Include endpoint public number – When this option is selected, 4PSA VoipNow Core appends the public phone number of the currently selected endpoint to the URL linked with the button.
- Include charging plan – When this option is selected, 4PSA VoipNow Core appends the ID of the currently selected user to the URL linked with the button.
- Priority – The value in this text box defines the order in which the custom buttons are displayed in the interface.
- URL – Use this text box to fill in the URL that will be opened when the button is clicked.
- Tooltip – Use this text box to specify a short description of the button's purpose.
- Display method - You can use the available radio buttons to choose between two display methods:

- Level inheritance
- Level selection
- Inheritance level – Use this drop-down list to specify the button's visibility:
 - 0 – The button is visible only to the system administrator.
 - 1 – The button is visible only to the system administrator and reseller users.
 - 2 – The button is visible only to the system administrator, reseller and client users.
 - 3 - The button is visible to the system administrator, reseller, client and endpoint users.
- Display on level - Use this drop-down list to specify the button's visibility:
 - RESELLER - The button is visible only to the reseller users.
 - CLIENT - The button is visible only to the client users.
 - ENDPOINT - The button is visible only to the endpoint users.



Note


The main difference between the `Level inheritance` and the `Level selection` is the button's visibility. If you choose `Level selection`, the button will only be visible to the specified level, without having to be available to all the other upper levels.

- Also display on owner account - If selected, the button will be visible to its owner account and to the client and endpoint accounts



Note

The **Also display on owner account** option is only available if the **Display method** is `Level selection`.



- Action – Use the radio buttons to choose if the URL will be opened in the:
 - Current window or
 - New window
3. Use the Custom button expiration date option to specify when the custom button becomes invalid by deselecting the `Unlimited` check box and providing a date using the text box or the available  calendar button.


4. Click OK to create the button. Click Cancel to go back to the previous page without adding the button to the system.

Edit Custom Buttons

To edit the parameters associated with a custom button, click the name of the chosen button in the custom buttons list. In the new opened page, use the available controls to change the current settings. For more information see [Add a New Custom Button](#) .

Remove Custom Buttons



To remove custom buttons, click the  [Settings](#) link available in the left navigation panel, click the  Custom buttons icon available in the Infrastructure settings area and follow the next steps:

1. Choose the buttons you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Manage Your License


4PSA VoipNow Core requires a license in order to use the product. The license key is generated based on the server's IP.

In the License management page you can view several details about the license such as license key, its status, and license key ownership. You can also update your license by uploading a license key file from your computer or get a license key from the license server.

To access this page, click the  License management icon available in  [Settings](#) page, in the Application settings area.

The information is grouped into several sections:

- License key status – In this section you can view more details about the status of the uploaded license key.

- Your server IP – This your server's main IP address. The license key must be issued for this IP, otherwise it will not work.
- License key status - The status of the currently loaded license key.
- Upload license key – Use this section to upload a new license key from your computer.
 - License key file - Use this form to upload the license key to the server. Click the  icon to locate the license key file on your computer.
- License by activation code - Use this section to activate the application using a code.
 - Activation code - Use this text box to fill in the activation code that will be used to extend the license.
- Get license key from the licensing server – Use this form to query the licensing server. This function can only be used when there is a license key loaded on the server. The first time you install the product is required to upload the license key.
 - Last licensing server answer - This is the answer received on the last query on the license server. Click the Get license button to obtain the answer from the license server.
- License key properties – This section contains a report with details about the current license.
 - License vendor - The name of the license vendor, [4PSA](#). Click the link to be redirected to the company's web page.
 - License for version - The license type, which determines the number of options the user can access:
 - Professional
 - Express
 - White box
 - License key number – The current loaded license key number.
 - Issued for client – The name of the client for whom the current loaded license key was issued.
 - Client email address – The email address of the client for whom the current loaded license key was issued.
 - License key ownership – The license key type. Possible values are:
 - Evaluation
 - Owned

- Leased
- License key issued for IP – The IP address for which the license key was issued.
- Maximum number of endpoints – The maximum number of endpoints that 4PSA VoipNow Core will handle.
- License key expires on – The license key's expiration date. After this date, the purchased product is no longer functional.
- License key renewed on – The date when the license key was last renewed.
- License key only for Virtuozzo - If your license supports this feature (the value is `YES`), then you can install 4PSA VoipNow Core on a virtual machine using the Virtuozzo VPS.
- White box license key - The key for the `white box` license type, which allows the user to remove or to replace from the application all the references to the 4PSA VoipNow Core product.

License report example:

License key number: 430669.0000

Issued for client: John Smith

Client email address: john_smith@emaliclient.com

License key ownership: Owned

License key issued for IP: 192.168.9.190

Maximum number of endpoints: Unlimited

License key expires on: 2006-08-19

License key renewed on: -

Chapter 3


Server Management

Manage Your Server



Manage Encryption Keys

4PSA VoipNow Core allows RSA encryption for IAX channels. RSA is an algorithm for public-key cryptography. It involves a public key and a private key. The public key can be known to everyone and it is used for encrypting messages. Messages encrypted with the public key can only be decrypted using the private key.

View the Encryption Keys List



To access the Encryption Keys Management page, click the  Encryption keys icon, located in the Infrastructure Features page, in the Infrastructure area.

4PSA VoipNow Core displays the following information about the existing encryption keys:

- Pr - The  icon, available in this column, shows that a private key is present. If the icon is grayed out, no private key is present. Click this icon if you wish to save the respective private key on your local computer.
- Pu - The  icon, available in this column, shows that a public key is present. If the icon is grayed out, no public key is present. Click this icon if you wish to save the respective public key on your local computer.
- Name - The name of the certificate.
- Creation date - The date when the encryption key was created.

Searching the Encryption Keys List

When the encryption keys list is too long and you are searching for specific keys, you can use the following features:


- Search – Fill in the text you are looking for in the text box. Click the  button or the `search` label to display only the keys that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The encryption keys list can be filtered by name and the creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the encryption keys list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Encryption Key

To add a new encryption key, press the  Add key icon, located in the `Tools` area of the Encryption Keys Management page. In order to add a new key, you must submit the information required in the four sections of the new opened page:

- Certificate name

- Certificate name - Use the available text box to specify the name of the certificate.
- Preferences
 - Validity - Use the drop-down list to select the certificate's validity. It can range from 1 to 10 years.
 - Country - Use the drop-down list to select the country for which the certificate applies.
 - State or province - Use the available text box to specify the state or the province of the certificate's owner.
 - Location (City) - Use the available text box to specify the town of the certificate's owner.
 - Organization department/division name - Use the available text box to specify the part of the organization for which the certificate applies.
 - Domain name - Use the available text box to specify the web address of the organization for which the certificate applies.
 - Email - Use the available text box to specify the organization's email address.



Note

The required fields are marked with an asterisk.


- Upload existing as file - You can upload private and public keys from files.
 - Public key - Specify the location of the file containing the public key, or press the button to locate it.
 - Private key - Specify the location of the file containing the private key, or press the button to locate it.
- Upload existing as text - You can upload private and public keys as text.
 - Public key - Upload the private key as text in this area.
 - Private key - Upload the public key as text in this area.

Edit an Encryption Key

To edit an encryption key, select it from the list and click its name. For more information see [Add a New Encryption Key](#) .

Remove an Encryption Key



To remove one or more encryption keys, follow the next steps:

- Select the check boxes corresponding to the items that you want to remove from the encryption keys list.
- Click the  [Remove selected](#) link.
- You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Backing up the VoipNow Core Server

4PSA VoipNow Core is able to back up the following directories:

- /etc/asterisk
- /etc/voipnow
- /etc/astmanproxy
- /usr/local/voipnow
- /var/lib/asterisk
- /var/lib/mysql
- /var/lib/voipnow
- /var/log/voipnow
- /var/log/asterisk
- /var/spool/asterisk

To access the Backup Management page, click the  Backup button located in the Infrastructure area of the  [Settings](#) page.

The parameters that can be configured are grouped in the following sections:

- Backup preferences
 - Backup storage directory on local machine - Use this text box to specify the location on the local machine where the backup files will be stored.



Note

You must specify the absolute path on the local server.

- Compression for backups - Use the drop-down list to choose the compression type for the backup files:
 - GZIP
 - BZIP2
 - None
- Backup type - Choose the backup type by selecting the appropriate radio button. The available options are:
 - `full` - backup for the entire VoipNow Core server.
 - `incremental` - backup only for the files that have been changed since the last backup.
- Backup cycle - Use this text box to specify the number of `incremental` backups in a cycle. After each completed backup cycle, 4PSA VoipNow Core will run a `full` backup, and start a new `incremental` backup cycle.
- Keep on local server { value } entries - Use this text box to specify the number of backups (for `full` backups) or backup cycles (for `incremental` backups) that are kept on the local server.
- Don't start backup if disk space less than { x } % - If the available space on the hard disk is less than the specified percentage, 4PSA VoipNow Core will not start a backup.
- Backup administrator email - Use this text box to specify the email of the backup administrator. 4PSA VoipNow Core will send email notifications to this address every time an error occurs during a backup operation. The administrator will also be notified after every successful backup operation.
- Remote storage
 - Use remote storage - Select this check box if you wish to keep the backup files on a remote server.



Note

If this option is not enabled, the following options are not available.

- Backup storage directory on remote machine - Use this text box to specify the location where the backup files will be stored on the local machine.



Note

When using a SSH connection, an absolute path on the remote server must be specified. Your machine should be able to login without any password to

the remote server, using key passing. The public key of your server must be placed in the remote server's authorized key list. This technique is called key exchange.

You must perform the following command on the local server:

```
ssh-keygen -t dsa
```

Press **Enter** in order to accept the suggested path. In this way, the SSH key generator is generated. When asked for a pass phrase, press **Enter**. This will enable remote connections that don't require a password. The generated key will then be copied on the remote server by using the command:

```
scp ~/.ssh/id_dsa.pub ip_of_remote_server:~/.ssh/authorized_keys2
```

It is very important to acknowledge these SSH key generators, otherwise you will not be able to connect to the remote server.

When using an FTP connection, you must specify the relative path on the remote server for the FTP user.

If this option is not enabled, the following options are not available.

- Remote storage hostname - Use this text box to specify the remote server's hostname.
- Remote storage connection - Choose the type of the connection from the drop-down list. The available options are:
 - ftp
 - ssh
- Remote storage user - Use this text box to specify the login user name for the remote server.
- Remote storage password - Use this text box to specify the password for the remote server, if the connection's type is ftp.



Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: **!@#%&*()_+={}~[];:.,|^&**.

- Confirm password - Use this text box to confirm the remote storage password.
- Keep on remote server { value} entries:
 - For full backup - specify the number of backups that will be kept on the remote server.
 - For incremental backup - specify the number of backup cycles that will be kept on the remote server.
- Backup scheduling - This section allows you to schedule a backup.
 - Run backup according to below schedule - Select this text box if you wish to run a scheduled backup.



Note

If this option is disabled, the following options are not available.



- Month - Use the drop-down list to select the month when the scheduled backup will run.
- Day of month - Use the drop-down list to select the day of the month when the scheduled backup will run.
- Day of week - Use the drop-down list to select the day of the week when the scheduled backup will run.
- Hour - Use the drop-down list to select the hour when the scheduled backup will run.
- Minute - Use the drop-down list to select the minute when the scheduled backup will run.

Backup History

4PSA VoipNow Core keeps logs of the backup operations. In order to view

these logs, click the  Backup history button.

In the Backup History page, the backup logs are displayed in a table. The following information is available:

- R - The icon in this column shows the result of the backup operation:
 -  Succeeded
 -  Failed

- Description - This column displays the stage of the backup operation. The following messages may be displayed:
 - Starting configuration check.
 - Completed configuration check.
 - Starting full/incremental backup #X with compression {compression}.
 - Completed full/incremental backup #X with compression {compression}.
 - Starting full/incremental backup #Y transfer to {remote server} with {connection}.
 - Completed full backup #Y transfer to {remote server} with {connection}.



Note

If a critical error occurs at any of the backup stages, the error will be logged and the backup operation will stop at the respective stage.


- Error - The error message for a failed backup operation.



Note

Some of the error messages are too long to be fully displayed in the interface. To see the full error messages, please access `backup.log`, located in the `VOIPNOW_ROOT_D` directory.

- Time - The date of the backup operation.

You can choose to see the logs from a certain time interval. Use the Display backups between {date_1} and {date_2} text boxes or the  calendar icons to define the time interval. The default {date_1} is the beginning of the current month, while the default {date_2} is the current date. You can also filter the displayed logs by the result of the backup operations: (success or failure), using the desired option from the available drop-down list.

Restoring the VoipNow Core Server

If you have enabled Backup scheduling and you have at least one backup archive in your backup directory, you can restore the VoipNow Core server to a previous state:

- To restore the VoipNow Core server to the latest backup, at the command line, enter:

```
vnrestore <backup_storage_directory>
```

where <backup_storage_directory> is the backup files' location that you have entered for the Backup storage directory on local machine option in the Backup preferences section of the Backup page. VoipNow Core will automatically choose the most recent backup archive and restore it.

- To restore the VoipNow Core server to a particular backup of your choice:
 1. Open the backup storage directory (the directory that you entered for the Backup storage directory on local machine option in the Backup preferences section of the Backup page).
 2. Select the desired backup.



Note

For an incremental backup, you will have to select all the archives that make up the backup. For this purpose, you will have to locate all the archives with the corresponding time stamp. For instance, if your backup cycle is set to 3, you will need the following archives: `hostname_timestamp_x_i_1`, `hostname_timestamp_x_i_2` and `hostname_timestamp_x_i_3`

3. Copy the backup archive(s) to a new directory on your disk.
4. From the command line, enter:

```
vnrestore <new_directory>
```

where <new_directory> is the directory where you copied the backup archive(s) previously. VoipNow Core will restore the server to your backup.


Chapter 4


Manage Settings

Most settings that change the system behaviour can be managed starting from this page. The settings are grouped based on the target profile, for example, an endpoint account will not have the same options available as an administrator account.

To access this page, click on the  [Settings](#) link from the left navigation panel.

Manage System Preferences

In the System Preferences page, you can customize the system behavior by configuring general system settings. This page can be accessed from the Infrastructure settings area by clicking the  [Settings](#) link available in the

left navigation panel and then the  System preferences icon. Some of the customisable options are:

- The currency that will be used in charging plans.
- The Q.931 standard.
- The SIP preferences.

These customisable options are grouped into several classes which will be detailed in the next sections.

General System Preferences

This section contains important information about the application's general setup.

- Endpoint settings – Options referring to the system's endpoints.
 - Number of seconds to call – Use this text box to configure the default number of seconds a call rings before 4PSA VoipNow Core considers the user as being unavailable.
 - Maximum call duration { value } seconds – Use this text box to set the maximum number of minutes allowed for a conversation. 4PSA VoipNow Core allows only values between 1 and 2,400.
 - Allowed endpoint codecs – The codecs that can be used by the server in order to communicate with the endpoints.
 - Default ping endpoint to check its status – The server can check the endpoints for presence regularly. If the endpoint does not answer in a predefined time, it is considered offline. To enable this option, select the available check box.
- Message notifications – This section contains settings for notification emails sent by 4PSA VoipNow Core.
 - Server sends emails from address – Use this text box to specify the email address used for sending notification email.
 - In the 'From' email field appears – Use this text box to specify the sender's name for email notifications sent by 4PSA VoipNow Core.

Click OK to save the settings or Cancel to return to the previous page without any modification.

SIP Preferences

This section allows setting up the SIP preferences.

- Global SIP Preferences

- Endpoint number length - Use this text box to set or to modify the number of digits in an endpoint number. 4PSA VoipNow Core allows only values between 2 and 7.



Note

This option can only be modified before the system is initialized.

- Separator between client ID and endpoint number - Use this text box to set or to modify the symbol that represents the separator between the client ID and the endpoint's number.



Note

This option can only be modified before the system is initialized.



- Maximum length of allowed incoming registration { x } seconds – Use this text box to set up the maximum time interval allowed for an endpoint's SIP registration to the system. The allowed values range from 3 to 84,000 seconds. The default value is 3,600 seconds.
- Default length of incoming/outgoing registrations { x } seconds – Use this text box to set up the default time interval allowed for an endpoint's SIP registration to the system. The allowed values range from 3 to 3,600 seconds. The default value is 3,600 seconds.
- Interval between registration attempts { x } seconds – Use this text box to set up the time interval between two system consecutive registration attempts to a SIP provider. The allowed values range from 3 to 3,600 seconds. The default value is 60 seconds.
- Maximum number of register attempts { x } – Use this text box to set up the maximum number of attempts the system will retry to register to a SIP provider. Use the text box to fill in a number between 1 and 3,600. If you do not want to limit the number of attempts, fill in 0. The default value is 0.
- Terminate calls if no activity for { x } seconds (without Hold time) – If a call is inactive for { x } seconds, 4PSA VoipNow Core will end it. { x } does not include the time interval that the call is on hold. The allowed values range from 3 to 3,600 seconds. The default value is 180 seconds.
- Terminate calls if no activity for { x } seconds (with Hold time) – If a call is inactive for { x } seconds, 4PSA VoipNow Core will end it. { x } includes the time interval when the call is on hold. The allowed values range from 3 to 3,600 seconds. The default value is 600 seconds.


- User agent - This is the user agent that is set up in the SIP packets sent by the server.
- Infrastructure hostname - It is used at setting the P-Asserted-Identity SIP header. This header is used by some providers to identify the users instead as an alternative method to the callerID. The default value is the localhost IP.



Note

This SIP header is set to < sip: \${PIDENTITY}@
 \${MACHINEHOSTNAME} >.

- Add accepted domain for SIP - Use the available text box to specify the IP address and the port of the domains that are accepted to use the SIP server. You can use the   buttons to add/remove several domains.
- Accepted SIP domains

The added IP/host names are visible in the Accepted SIP domains list. Here, you can remove a domain by selecting its corresponding check box and clicking the  [Remove selected](#) link.

Click OK to save the settings or Cancel to return to the previous page without any modification.


Q.931 Standard


This section offers the possibility to manage the Q.931 standard, a layer 3 protocol, mainly used for the ISDN call establishment, maintenance, and release of network connections between two DTEs on the D channel. A Q.931 frame contains the following elements:

- Protocol discriminator (PD) - Specifies which signaling protocol is used for the connection.
- Call reference value (CR) - Addresses different connections which can exist simultaneously. The value is valid only during the actual time period of the connection
- Message type (MT) - Specifies the type of a layer 3 message out of the Q.931-defined message type set for call control (e.g. SETUP). There are messages defined for the call setup, the call release and the control of call features.

- Information elements (IE) - Specify further information which is associated to the actual message. An IE contains the IE name (e.g. bearer capability), their length and a variable field of contents.

The information is grouped into several sections:

- Q.931 Hangup cause sound - This section will allow to play the customer a certain sound file when the Q.931 status is returned when the dialed channel is in a certain range that can be defined by the customer.
 - Play sound – Use this text box to specify the sound file that is played for the chosen event. Clicking the  icon will open a pop-up window that displays a list of all the available sounds matching what you have filled in the text box. If have not wrote anything in the text box, the list with all the sounds available in the system is displayed. The following information is available:

- P - Click the  icon to play or to download the sound.
- Name - The name of the sound file. Click the link in order to select this sound.
- Folder - This column displays the file's folder location.

If you are searching for a particular sound, you can use the available controls.

In order to display all the sounds available in the system for all the events, click the [Display all](#) link located under the search controls.



You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

- When hangup cause is - Use the drop-down list to select the event type for which the sound will be played. The possible causes are:
 - Unallocated
 - No route to network
 - No route to destination
 - Channel unacceptable
 - Call awarded delivered
 - Normal clearing
 - User busy
 - No user response

- No answer
- Subscriber absent
- Call rejected
- Number changed
- Destination out of order
- Invalid number format
- Facility rejected
- Response to status enquiry
- Normal unspecified
- Normal circuit congestion
- Network out of order
- Normal temporary failure
- Switching equipment congestion
- Access info discarded
- Requested channel unavailable
- Pre emptied
- Facility not subscribed
- Outgoing call barred
- Incoming call barred
- Barer capability not authorized
- Barer capability not available
- Barer capability not implemented
- Channel not implemented
- Facility not implemented
- Invalid call reference
- Incompatible destination
- Invalid message unspecified
- Mandatory information element missing
- Message type nonexist
- Wrong message
- Information element nonexist

- Invalid information element contents
- Wrong call state
- Recovery on timer expired
- Mandatory information element length error
- Protocol error
- Interworking





You can use the   icons to add/remove multiple hangup causes.




Note

It is not possible to add duplicate hangup cases.

- Q.931 Hangup cause mappings - This section displays a table with all the combinations made by the customer. The available columns are:
 - S - The icon displays the sound's status:
 -  Enabled
 -  Disabled



Click this icon to change the sound's status.
 - Hangup cause - The reason for which the call was terminated, as it was selected from the When hangup cause is drop-down list.
 - Sound played - The file path of the sound that is played when this type of event occurs.
 - Created - The date when the hangup mapping was created.

To remove one or more mappings, select the corresponding check boxes and then click the  [Remove selected](#) link.

Charging Plans Preferences

This section includes settings about the currency used for the charging plans. Also, from here charging can be globally enabled/disabled.

- Charging settings
 - Charging enabled - Select this check box to globally enable/disable the charging options in all the application and for all user levels.

- Number portability engine - Selecting this check box will enable the `Portability` check routing rule. For more details about it, check the [Add an Outgoing Routing Rules Group](#) section.
- Currency name – Use this text box to specify the currency used in charging plans (e.g. USD).
- Currency sound file – Use this text box to specify the currency sound file that is played each time the user interrogates his credit. Clicking the  icon will open a pop-up window that displays a list of all the available sounds matching the currency filled in the text box. The following information is available:
 - P - Click the  icon to play or to download the sound.
 - Name - The name of the sound file. Click the link in order to select this sound.
 - Folder - This column displays the file's folder location.

If you are searching for a particular sound, you can use the available controls.

In order to display all the sounds available in the system for all the events, click the [Display all](#) link located under the search controls.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

- Currency subdivision – Use this text box to specify the subunit of the currency used in charging plans (e.g. Cents).
- Show numeric values with { x} decimals - Use this text box to specify the number of decimals used for setting the charging plan fees.



Click OK to save the settings or Cancel to return to the previous page without any modification.

Manage Time Intervals

View Time Intervals




Time intervals are used to match calls to a certain period of time. This can be done for charging reasons or in order to filter incoming/external calls. In the

Time Interval Management page, you can view a list of all the available time intervals added to the system.

To access this page, click the  [Settings](#) link located in the left navigation panel. Next, click the  Time intervals icon available in the Infrastructure settings area. Multiple operations can be performed:

- Add a new time interval.
- Searching the time intervals list.
- Edit an existing time interval.
- Delete time intervals.

4PSA VoipNow Core displays the following information about each time interval:

- T – The method used to define the time interval:
 -  Individual days method
 -  Interval method
 -  Interval belonging to the owner user
- Name – The time interval's descriptive name. Click this link to edit the time interval's information.
- Intervals - The number of different time intervals defined for the specific time interval block. Click the link to see further information regarding the time intervals:
 - Hours - The hours used as the time interval limits.
 - Week days - The days used as the time interval limits.
 - Days of the month - The month period to which the time interval applies.
 - Month - The month to which the time interval applies.
- Created – The date when the time interval was created.





Note

There is one default time interval for each user in the system named `Full month` that covers the entire month.

Searching the Intervals List

When the time intervals list is too long and you are searching for a specific one, you can use the following features:

- Search – Fill in the text you are looking for in the text box. Click the  button or the `Search` label to display only the time intervals that match your search criteria.
- Show all – Click this  button or the `Show all` label to display the entire list.



The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.


The time intervals list can be filtered by name and creation date. To do so, click on a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the time intervals list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Time Interval

Time intervals are used on call filtering, call routing, charging plans, etc. Whenever a new account is created, the endpoint must have a charging plan associated to this account. The endpoint can be charged differently based on the call time interval.

To add a new time interval, click the  [Settings](#) link located in the left navigation panel. Next, click the  Time intervals icon, available in the `Infrastructure settings` area, and follow the next steps:

1.

In the Time Interval Management page, click the  Add time intervals icon.

2. A new page opens, allowing you to enter information about the new time interval:

- The Time interval definition area has two fields which represent the generic description of the time interval block:





- Name – Use the text box to fill in a descriptive name which will help to identify the time interval.
- Matching algorithm – A time interval block can be described in two ways:
 - Individual days – This method allows 4PSA VoipNow Core to match the same time interval in different days. See the example below.
 - Interval – This method allows 4PSA VoipNow Core to match a continuous time interval that extends over several days. See the example below.
- Timezone – Use the drop-down list to select the time zone for which your time interval is defined. The default value is `server_default`.



Note

This information is also displayed in the list of time intervals, next to the name of the time interval.

In the description of a charging plan, this information is listed in the `Outgoing calls charges area`.

- The Matching intervals area allows you to enter multiple time intervals in order to have a more complex and comprehensive overview of the calls. Here you can enter the following parameters:
 - Start at hour and End at hour – Use the available text boxes to specify the limits of the time slot.
 - Start weekday and End weekday – Use these drop-down lists to select the days of the week that define the time slot.
 - Start day of month and End day of month – Use these drop-down lists to select the days of the month that define the time slot.
 - Month - Use this drop-down list to select the month that defines the time slot.
3. Use the   buttons if you want to add/remove several time intervals:
-  removes the corresponding time interval.
 -  adds another time interval.
4. Click OK to add the new time interval(s). Click Cancel to go back to the previous page without adding the interval(s).



Note

You can enter up to **ten** different time intervals to a single time interval block.

Example of a time interval defined in individual days

In the below time interval, 4PSA VoipNow Core matches the calls made or received between 8:00 – 20:00 hours, on Monday, Tuesday, Wednesday, Thursday and Friday between 1 and 31 of every month.

Time interval definition	
Name *	<input type="text" value="Individual"/>
Matching algorithm	<input type="text" value="Individual days"/>
Matching intervals	
Start at hour *	<input type="text" value="08"/> : <input type="text" value="00"/>
End at hour *	<input type="text" value="20"/> : <input type="text" value="00"/>
Start weekday	<input type="text" value="Monday"/>
End weekday	<input type="text" value="Friday"/>
Start day of the month	<input type="text" value="1"/>
End day of the month	<input type="text" value="31"/>
Month	<input type="text" value="--"/>

A time interval defined in individual days

Example of a contiguous time interval

In the below time interval, 4PSA VoipNow Core matches the calls made or received between Monday, 8:00 and Friday, 20:00, between 1 and 31 of every month.

Time interval definition	
Name *	Interval
Matching algorithm	Interval
Matching intervals	
Start at hour *	08 : 00
End at hour *	20 : 00
Start weekday	Monday
End weekday	Friday
Start day of the month	1
End day of the month	31
Month	--

A continuous time interval

Example of a time interval block with two different time intervals defined for individual time frames

In the below time interval block, 4PSA VoipNow Core matches the calls made or received between 8:00 - 18:00 hours on Monday, Tuesday, Wednesday, Thursday and Friday, every month between 1 and 31, as well as the calls made or received between 18:01 - 07:59 hours on Monday, Tuesday, Wednesday, Thursday and Friday, every month between 1 and 31.

Time interval definition

Name *

Matching algorithm

Matching intervals

Start at hour * :

End at hour * :

Start weekday

End weekday

Start day of the month

End day of the month

Month

Start at hour * :

End at hour * :

Start weekday

End weekday

Start day of the month


End day of the month

Month

A time interval block with two different time intervals

Edit a Time Interval



To edit the properties of a time interval, click the  Time intervals icon available in the Infrastructure Features page, in the Infrastructure settings area, and follow these steps:

1. In the time interval list, click the name of the time interval you want to change.

2. A new page where you can rename the time interval and modify its start/end hours, days, dates will open. You can also change the matching algorithm.




Note


For more information on the fields in these sections, read the [Add Time Intervals](#) section.

3. Click OK to save the changes you have made to the time interval. Click Cancel to return to the previous page without saving the changes.

Remove a Time Interval



To remove a time interval, click the  Time intervals icon available in the Infrastructure settings area and follow the next steps:

1. Choose the time intervals you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Manage Sounds



Caution

The sounds can be managed only by the system administrator.

There is one particular sound type: announcements.

An announcement sound is played when the user is notified on an event or when information is requested from the user. These sounds have different files for different languages, allowing the user to listen to the sound version specific to his language preferences. If the files in the requested language do not exist, than the default sounds will be played. This type of sound can be either uploaded or recorded over the phone.

A system sound is a sound that can be seen by all users registered in the system, regardless of their level. Lower level users, like resellers and clients can also define shared sounds, but these can be seen only by the users belonging to

their account. Non-system or non-shared sounds can only be used by the user that created them.

Once a system sound is added, it cannot be removed from the system. System sound files can be overwritten by replacing their content with a different sound. Sound files can be deleted or changed only by the user who added them.

View the Sound List



In the Sound Management page, you can view a list of the sounds available in the system.

To access this page, click the  [Settings](#) link situated in the left navigation panel. In the new opened page, click the  Sounds icon available in the Infrastructure settings area.

You can perform multiple operations:

- Add and delete sounds from the system.
- Search for specific sounds in the system.
- Organize sound files by using sound languages and folders.

4PSA VoipNow Core displays the following information about each sound:

- S – This icon displays the sound's status:
 -  Enabled
 -  Disabled

Click the icon to change the sound's status.

- Name – The name of the sound. Click this link to edit the sound.
- Folder – The folder where the sound is located in the system.
- Languages – The number of languages for which this sound is defined.





Note

If the sound is used as Music on hold, this field displays '-'.

- Updated – The date when the sound was last modified.

Searching the Sounds List

When the sound list is too long and you are searching for specific sounds, you can use the following features:



- Search – Fill in the text you are looking for in the text box. Click the  button or the Search label to display only the sounds that match your search criteria.
- Show all – Click this  button or the show all label to display the entire list.


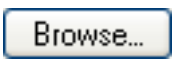
The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The sounds list can be filtered by name, folder and update date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the sounds list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Sound

A new sound can be added only if there is at least one sound language available. To add a new sound, click the  [Settings](#) link and than the  Sounds icon available in the Infrastructure settings area. Next, follow these steps:

1.  Click the Add sound icon available in the Tools area.
2. A new page opens, allowing you to enter information about the new sound:
 - Sound form
 - Name – The descriptive name of the sound.
 - Folder – Use this drop-down list to select the folder where the sound will be stored.
 - Upload sound files
 - Filename – Click the  button to locate the sound file on your computer and upload it.



Note

4PSA VoipNow Core accepts the following extensions for sound files:
.mp3, .wav, .gsm and .raw.

- Language – Use this drop-down list to specify the language of the sound file uploaded in the system.
- Default sound file – When this option is enabled, this file is set as default for the sound. The default file is played for the callers with a phone language that is unavailable for the sound.

For example, let's assume you have created a sound that announces callers that the endpoint user is on holiday. You have added versions of the announcement in English, French, and Dutch and set the English file as default. The English sound version will be played to any caller that has other phone language set.







Note

Each sound object must have one default sound file associated. When uploading several sound files at the same time, make sure you select only one default file. Otherwise, 4PSA VoipNow Core will display an error message.

3.



You can use the   buttons to remove/add versions of the sound in different languages:

-  removes the Upload sound files section.
-  adds another Upload sound files section.





Note

This controls are available only if there is more than one sound language defined in the system.

4. Click OK to add the new sound. Click Cancel to go back to the previous page without adding the sound.

Edit Sound Information

To edit the information on an existing sound, click the  [Settings](#) link and then the  Sounds icon available in the Infrastructure settings area. In the new opened page, you can modify the sound's properties. For example, you can:

- Add and delete files containing versions of the sound for different languages
- Change the shared flag of an announcement sound

To edit the properties of a sound, follow these steps:

1. Click the name of the sound you want to modify.
2. A new page opens, allowing you to change the details of the sound. The information is grouped into the following sections:
 - Sound properties - This section cannot be modified.
 - Upload sound files – Use this section to upload files containing versions of the sound in different languages.







Note

When you upload a sound file associated with a language that already exists, 4PSA VoipNow Core replaces the old file with the new version. Before this operation is performed, 4PSA VoipNow Core asks you to confirm the replacement.

3.



Use the   buttons to remove/add versions of the sound in different languages:

-  removes the corresponding Upload sound files section.
-  adds another Upload sound files section.



Note


These controls are available only if there is more than one sound language defined in the system.

You can use this section to replace the current music file. For more details, see the [Add a New Sound](#) section.

4. Click OK to save your changes. Click Cancel to go back to the previous page without changing the sound.

Remove a Sound

To remove a sound, click the  Sounds icon available in the Infrastructure settings area and follow the next steps:

1. Choose the sounds you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.



Caution

You cannot remove a sound file if:



- It is currently in use.
- The folder where the sound is located is used.
- The sound is the only one left in the folder.


Manage Sound Folders

View the Folder List

In the Sound Folder Management page, you can view a list of the sound folders available in the system. Multiple operations can be performed:

- Add a new sound folder.
- Delete sound folders and their content.
- Search for specific folders.

To access this page, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Sounds icon available in the Infrastructure



settings area. In the new opened page, click the  Folders icon located in the Tools area.

4PSA VoipNow Core displays the following information about each folder:

- Folder name – The name of the sound folder.
- Sounds – The number of sounds stored in the folder. Click this link to open a new page listing these sounds.
- Created – The date when the folder was added to the system.

Searching the Folders List

When the time folder list is too long and you are searching for specific time intervals, you can use the following features:

- Search – Fill in the text you are looking for in the text box. Click the  button or the Search label to display only the folders that match your search criteria.
- Show all – Click this  button or the Show all label to display the entire list.



Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.






The sound folders list can be filtered by folder name, sounds and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the folder list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Sound Folder



Each time you add new sound files in the system you choose the folder name where you want them to be stored. If you want to store a sound in a specific folder, other than the ones already existent, you can add a new sound folder before adding sound files.


To create a new sound folder, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Sounds icon located in the

Infrastructure settings area. In the new opened page, click the  Folders icon available in the Tools area and follow the next steps:

1. In the Sound Folder Management page, click the  Add folder icon.
2. A new page opens, allowing you to enter the name of the new folder. Use the available text box to do so.
3. Use the   buttons to add several folders at the same time:
 -  adds a new folder input text box.
 -  removes the corresponding text box.
4. Click OK to add the new sound folder(s). Click Cancel to go back to the previous page without adding the folder(s).

Remove a Sound Folder

To remove a sound folder, click the  Sounds icon available in the Infrastructure settings area. In the new opened page, click the  Folders icon located in the Tools area and follow the next steps:

1. Choose the folders you want to delete by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link. A new page displaying the list of folders and the sounds located in the folders that will be deleted opens.



Note

When you delete a folder, you also delete all the sounds located in the folder.

3. Review the list. If you want to proceed with the removal, select the Confirm the removal check box and click OK. Otherwise click Cancel to return to the previous page without deleting anything.



Note

It is not possible to delete the sounds from a folder if they are currently used by endpoints. The folder that contains them cannot be deleted either.




Manage Sound Languages

View the Language List

A sound file can be recorded in several languages so that the endpoint can listen to the specified announcement in his chosen language if available in the system. If the endpoint's language does not exist, then the announcement will be played in the default sound language.

In the Sound Language Management page, you can view a list of the languages available in the system. Multiple operations can be performed:

- View a detailed list of the system languages.
- Add a new sound language.
- Search for specific languages.
- View the sounds that have files in different languages.
- Delete sound languages from the system.

To access this page, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Sounds icon available in the Infrastructure settings area. In the new opened page, click the  Sound languages icon located in the Tools area.

4PSA VoipNow Core displays the following information about each sound language:

- Language name – The name of the language.





Note

When there is no sound file associated with the language, you can click the language name to rename the language properties.

- Sound files – The number of sound files in this language. Click this link to view the list of all the sound files.
- Created – The date when the language was added to the system.

Searching the Languages List

When the language list is too long and you are searching for specific languages, you can use the following features:




- Search – Fill in the text you are looking for in the text box. Click the  button or the Search label to display only the languages that match your search criteria.
- Show all – Click this  button or the show all label to display the entire list.






Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.




The languages list can be filtered by name, sound files and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the languages list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Language

To create a new language, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Sounds icon available in the Infrastructure settings area. In the new opened page, click the  Sound languages icon located in the Tools area and follow the next steps:



1. In the Sound Language Management page, click the  Add sound language icon.
2. A new page opens, allowing you to provide the name of the new sound language. Use the drop-down list to add one of the available languages to the system.
3. Use the   buttons to add several languages at the same time:
 -  adds another drop-down list so you can create another language.
 -  removes the corresponding drop-down list.
4. Click OK to add the new sound language(s). Click Cancel to go back to the previous page without adding the language(s).


Edit Language Details

To change a language's details, click the  [Settings](#) link situated in the left navigation panel. Next, click the  Sounds icon available in the Infrastructure settings area. In the new opened page, click the  Sound languages icon located in the Tools area and follow the next steps:

1. Click the name of the language that you want to modify.
2. A new page in which you can use the Name drop-down list to choose another name for the language opens.
3. Click OK to save your changes. Click Cancel to return to the previous page without renaming the language.

Remove a Sound Language

To remove sound languages, click the  Sounds icon available in the Infrastructure settings area. In the new opened page, click the  Sound languages icon located in the Tools area and follow the next steps:

1. Choose the languages you want to delete by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link. A new page displaying the list of languages and their associated sounds that will be deleted opens.
3. Review the list. If you want to proceed with the removal, select the Confirm the removal check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

4Grid Layers

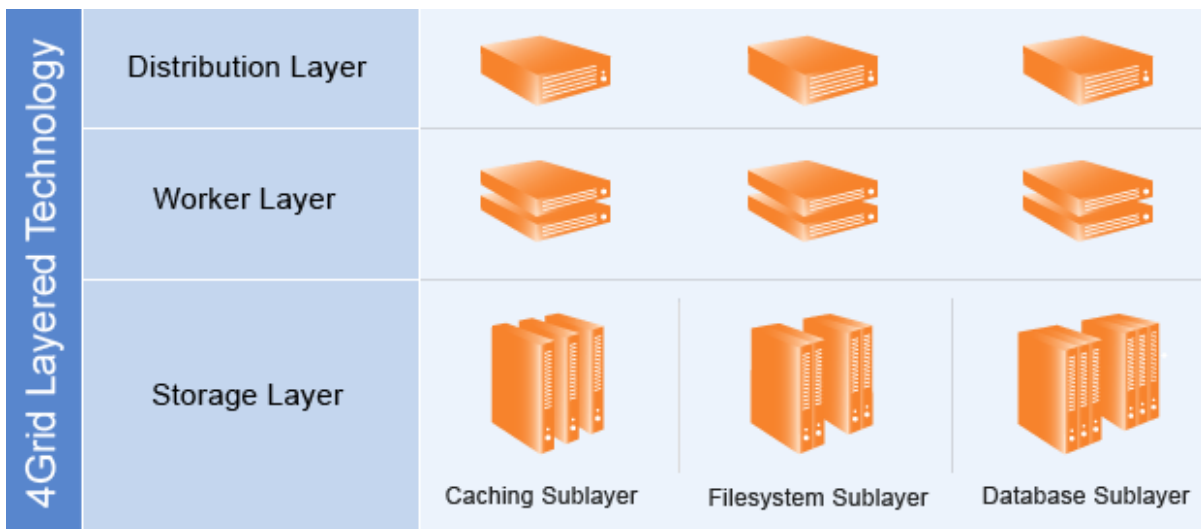
The grid technology allows resources on various servers to be combined in order to offer an increased processing capacity, targeted for the same application. 4PSA VoipNow Core offers the possibility to manage several nodes that are part of the same infrastructure through a single interface.

Layers are organizational foundations that, in most cases, due to security concerns, must be turned off. A layered system can be managed better because of the different security constraints that can be applied at each level.

4PSA VoipNow Core is organized in three layers:



- Interface - On this layer, the interaction with the outside world is performed. All the customers will connect to this layer. The services grouped under this layer provide an entrance to the system, allowing the customers to interact with the application. The roles on this layer are:
 - SIP server/Kamailio router
 - HTTP interface
- Worker - On this layer, the internal processing is performed. Many requests are passed to this layer for processing. The role on this layer is:
 - Telephony/Asterisk telephony server
- Storage - On this layer, all the persistent and non-persistent information storage takes place. The roles on this layer are:
 - Caching/Memcached server
 - MySQL server

These layers are represented in the below image.



4Grid Layers technology

For more information on this technology, please read the [4Grid presentation](#).

To access this page, click the  [Settings](#) link located in the left navigation panel. Next, click the  4Grid Layers icon available in the Infrastructure settings area. Multiple operations can be performed:



- Configure the various available servers.
- Save the nodes' configurations.
- Define the node infrastructure's preferences.

The information is grouped into several tabs which will be detailed in the next sections.

4Grid Overview


This section is organised into two areas: 4Grid operations and 4Grid overview.

In the 4Grid overview area, a table with all the nodes from the infrastructure is displayed. For each node you can set up the availability options depending on each role. These roles represent server types and can be enabled from the Nodes tab. The table offers the following details about each node:

- Status - The node's status inside the cluster is displayed using an icon:
 -  Enabled
 -  Disabled



Note

4Grid will be enabled for a specific node only after you have saved the chosen availability options for the available roles. To do so, you have to click the 

Save only or the  **Save and regenerate** icons.



Important

A role is usually equal to a macro-function that the system performs and it is usually associated with a server. For example, Kamailio is actually a role in the system as it provides a multi-purpose SIP server.

It is usually best that a node (a machine) that participates in the infrastructure to handle roles for a single layer. It is not uncommon, however, for a machine to have roles from multiple layers (usually on small deployments).

- Node - The node's identification number and the infrastructure hostname.

Clicking the link will open a pop-up panel that allows you to edit two important details:

- Infrastructure IP - This text box displays the IP address currently defined for this infrastructure. You can change it depending on your preferences.
- Infrastructure hostname - This text box displays the hostname currently defined for this infrastructure. The hostname can be the same as the node's identification number. You can edit the infrastructure hostname depending on your preferences.

To save your changes, click Apply. If you want to discard your modifications, click Cancel.



Note

If you change any of the two fields, a HTML alert will be displayed in red:

```
{x} change(s) are pending in your infrastructure. The last change was made {change_date_time}.
```

- MySQL - If this role has been enabled for the current node, than you can choose its availability. In this case, the cell is displayed in green. Use the drop-down list to select one of the available options for the MySQL server:



Note

If no option has ever been selected for this role, here it will displayed Not configured.

- Always start
- Never start
- Telephony - If this role has been enabled for the current node, than you can choose its availability. In this case, the cell is displayed in green. Use the drop-down list to select one of the available options for the Asterisk server:



Note

If no option has ever been selected for this role, here it will displayed Not configured.

- Always start
- Never start
- SIP Server - If this role has been enabled for the current node, than you can choose its availability. In this case, the cell is displayed in green. Use the drop-down list to select one of the available options for the Kamailio server:



Note

If no option has ever been selected for this role, here it will displayed Not configured.

- Always start
- Never start
- Caching - If this role has been enabled for the current node, than you can choose its availability. In this case, the cell is displayed in green. Use the drop-down list to select one of the available options for the Memcached server:



Note

If no option has ever been selected for this role, here it will displayed Not configured.

- Always start
- Never start
- HTTP Interface - If this role has been enabled for the current node, than you can choose its availability. In this case, the cell is displayed in green. Use the drop-down list to select one of the available options for the HTTP interface server:



Note

If no option has ever been selected for this role, here it will displayed Not configured.

- Always start
- Never start



Note

From resources' point of view, the availability options have the following interpretation:



- Always start - The resource starts before a floating IP is assigned to a node.
- On fail over only - The resource can be optionally started on the node.
- Never start - The resource will never start on this node.



Note

If a role has not been enabled for a certain node, then the drop-down list has the same availability options previously described. The difference is that now, the Always start and the On fail over only options are grayed out, the user being able to choose only the Never start one. In this case, the cells are displayed in red.

The 4Grid operations area displays two icons that allow you to manage the changes performed on the nodes:

-  Save only - Clicking this icon will save the changes for all the nodes.
-  Save and regenerate - Clicking this icon will save the changes and will generate an XML file for the Pacemaker cluster.

Pacemaker achieves maximum availability for your cluster services (resources) by detecting and recovering from node and resource-level failures. This is done by making use of the messaging and membership capabilities provided by your preferred cluster infrastructure. Pacemaker can manage clusters of practically any size and comes with a powerful dependency model for accurately modeling your environment.











Caution

You will not be able to use this icon if the hostname was not set up for all the infrastructure's nodes.

Nodes

This section displays a table with all the nodes in the infrastructure. From this page you can choose for each node the roles you want to enable.

The Nodes in infrastructure {ID} table displays the following details about each node:

- S - The node's status from a hardware perspective:
 -  Enabled
 -  Disabled
- Layers - The system is organised in three layers. Their status is displayed here, using different icons:
 - Interface
 -  The layer is activated on this node.
 -  The layer is deactivated on this node.
 - Worker
 -  The layer is activated on this node.
 -  The layer is deactivated on this node.
 - Store
 -  The layer is activated on this node.
 -  The layer is deactivated on this node.



Note

A layer's status can not be changed.



Note

If all the layers are activated, than the entire row is displayed with bold characters.

- NodeID - The node's logical address.

Clicking the link will open a pop-up panel that allows you to edit two important details:

- Infrastructure IP - This text box displays the IP address currently defined for this infrastructure. You can change it depending on your preferences.
- Infrastructure hostname - This text box displays the hostname currently defined for this infrastructure. The hostname can be the same as the node's identification number. You can edit the infrastructure hostname depending on your preferences.

To save your changes, click Apply. If you want to discard your modifications, click Cancel.



Note

If you change any of the two fields, a HTML alert will be displayed in red:

`{x}` change(s) are pending in your infrastructure. The last change was made `{change_date_time}`. You *should save and regenerate cluster* . Clicking the link will redirect you to the **Overview**



tab, where you will have to click the **Save and regenerate** icon in order to put in place the changes.

- Role - This column allows you to choose the roles that will be available for the specific node. When you click a role, a new page will open allowing you to configure its features. They will be described in the next sections. The following roles are available:
 - MySQL
 - Telephony - For more details on how to configure this role, see the [Setting up the Telephony Role](#) section.
 - SIP server - For more details on how to configure this role, see the [Setting up the SIP Server Role](#) section.



Note

An (R) will be displayed after the [SIP server](#) link if a SIP server is selected from the **Send SIP channel registrations through node** drop-down list, available in the **Preferences** tab.

- Caching - For more details on how to configure this role, see the [Setting up the Caching Role](#) section.
- HTTP interface - For more details on how to configure this role, see the [Setting up the HTTP Interface Role](#) section.



Note

The roles that are enabled for a node are displayed with bold characters.

The `SIP server` role has a (R) displayed next to it if the node is used to send SIP registrations to channels.





Note

The `MySQL server` is the only one that cannot be configured or enabled from this column.

- Storage connection - This column displays the local address of the MySQL server, if configured. If not, [None](#) is displayed. You can click the link to set up or to edit the server address. A new page that is described in the [Storage Connection](#) section will open.
- Created - The date when the node was added to the infrastructure.

Searching the Nodes List

When the nodes list is too long and you are searching for specific ones, you can use the following features:

- Search node – Fill in the text you are looking for in the text box. Click the  button or the `search` label to display only the nodes that match your search criteria.
- with role - Use the drop-down list to specify the roles of the nodes you are looking for. The available options are:
 - All
 - Telephony
 - SIP server
 - Caching
 - HTTP interface
- Show all – Click this  button or the `show all` label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The nodes list can be filtered by status, nodeID, storage connection and creation date. To do so, click on a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the nodes list was sorted. The sort direction can be changed by another click on the corresponding header.

Storage Connection

This page is accessed when clicking the link available in the Storage connection column of the Nodes in infrastructure {ID} table. Here you can set up or edit the MySQL logical address using the following control:

- MySQL connection
 - Nodes roles are connected to - Use the drop-down list to select the MySQL logical address that will be used by the nodes to connect to the storage layer.

Click OK to save the changes you have made. Click Cancel to return to the previous page without saving them.

Setting up the Telephony Role

This page allows you to configure the telephony role if you want to enable it for a certain node. The page can be accessed by clicking the [Telephony](#) link available in the Roles column of the Nodes in infrastructure {ID} table. The information is grouped into several sections:



- You are managing node {nodeID}
 - Enable Telephony on this node - Select this check box if you want to enable the Asterisk server for this node.
- Logical and Physical addresses
 - Telephony SIP listens to {IP} {port} (IP/Hostname:Port) - This is the IP address and the port that Asterisk listens on. The Asterisk service handles the PBX system.



Caution

If you intend to use multiple IP addresses, it is recommended to fill in the following IP address, in order to avoid voice problems: 0.0.0.0.

- Telephony SIP logical address {IP} {port} (IP/Hostname:Port) - Use the available text boxes to specify the logical IP address and the port of the Asterisk server.

- Telephony SIP additional addresses {IP} {port} (IP/Hostname:Port) - A telephony server may have more than one logical address and therefore it is possible to send a request to one of these IPs that will not be accepted by Kamailio. In order to allow Kamailio to accept the request, all the Asterisk server's IPs must be stored. You can use the   icons to add/remove the server's IP addresses.
- Telephony capacity
 - Maximum number of concurrent SIP calls - Use the available text box to specify the maximum number of concurrent SIP calls. The allowed values range from 0 to 9,999. The default value is 300.
 - Maximum number of PSTN calls - Use the available text box to specify the maximum number of PSTN calls, which is given by the number of active PRI channels. The allowed values range from 0 to the maximum number of active PRI channels.



Note

This line is not displayed if there are no PRI channels defined in the system.

- Service monitoring
 - Telephony server monitoring - Select this check box if you want to enable the Asterisk server monitoring.
 - Call routing monitoring - Select this check box if you want to enable the call routing daemon monitoring.
 - Portability number monitoring - Selecting this check box will enable the `Portability` check routing rule. For more details about it, check the [Add an Outgoing Routing Rules Group](#) section.

Click OK to save the changes you have made. Click Cancel to return to the previous page without saving them.

Setting up the SIP Server Role

This page allows you to configure the SIP server role if you want to enable it for a certain node. The page can be accessed by clicking the [SIP Server](#) link available in the Roles column of the Nodes in infrastructure {ID} table. The information is grouped into several sections:

- You are managing node {nodeID}
 - Enable multi-purpose SIP server on this node - Select this check box if you want to enable the Kamailio server for this node.



Note

This option cannot be disabled if the node is used to send SIP registrations to channels.

- Logical and Physical addresses
 - Multi-purpose SIP server listens to {IP} {port} (IP/Hostname:Port) - This is the IP address and the port that Kamailio listens on.



Caution

To use multiple IP addresses, the Kamailio server IP address must be set to 0.0.0.0, thus enabling the server to use all the IP addresses available in the system.


- Multi-purpose SIP server logical address {IP} {port} (IP/Hostname:Port) - Use the available text boxes to specify the logical IP address and the port of the Kamailio server.
- Service monitoring
 - SIP server monitoring - Select this check box if you want to enable the Kamailio server monitoring.

Click OK to save the changes you have made. Click Cancel to return to the previous page without saving them.

Setting up the Caching Role

This page allows you to configure the caching role if you want to enable it for a certain node. The page can be accessed by clicking the [Caching](#) link available in the Roles column of the Nodes in infrastructure {ID} table. The information is grouped into several sections:

- You are managing node {nodeID}
 - Enable 4Grid caching server on this node - Select this check box if you want to enable the Memcached server for this node.
- Logical and Physical addresses
 - 4Grid caching server listens to {IP} {port} (IP/Hostname:Port) - This is the IP address and the port that Memcached listens on. Memcached is a generic high-performance distributed memory object caching system which is intended for speeding up dynamic web applications by alleviating the database load.

 Caution

To use multiple IP addresses, the Memcached server IP address must be set to 0.0.0.0, thus enabling the server to use all the IP addresses available in the system.

- 4Grid caching server logical address {IP} {port} (IP/Hostname:Port) - Use the available text boxes to specify the logical IP address and the port of the Memcached server.
- Service monitoring
 - 4Grid caching server monitoring - Select this check box if you want to enable the Memcached server monitoring.

Click OK to save the changes you have made. Click Cancel to return to the previous page without saving them.

Setting up the HTTP Interface Role

This page allows you to configure the HTTP interface role if you want to enable it for a certain node. The page can be accessed by clicking the [HTTP interface](#) link available in the Roles column of the Nodes in infrastructure {ID} table. The information is grouped into several sections:

- You are managing node {nodeID}
 - Enable HTTP interface server on this node - Select this check box if you want to enable the HTTP interface server for this node.
- Logical and Physical addresses
 - HTTP interface server listens to {IP} {port} (IP/Hostname:Port) - This is the IP address and the port that HTTP interface listens on.
 - HTTP interface server logical address {IP} {port} (IP/Hostname:Port) - Use the available text boxes to specify the logical IP address and the port of the HTTP interface server.
- Service monitoring
 - HTTP interface server monitoring - Select this check box if you want to enable the HTTP interface server monitoring.

Click OK to save the changes you have made. Click Cancel to return to the previous page without saving them.

Preferences



In the Preferences tab you can customize the infrastructure behaviour by configuring the general infrastructure settings.

These customisable options are grouped into several sections:

- 4Grid transfer - This section allows you to set up the cluster's general parameters:
 - Migrate resource after {value_1} attempts - Use the available text box to specify the number of attempts the application will try to start the resource. If after the chosen number of attempts, the resource could not be started, then the application will try to transfer it to another node. The allowed values range between 1 and 999 attempts. The default value is 10 attempts.
 - Wait resource to start for {value_2} seconds - Use the available text box to specify the number of seconds the application will wait for the resource to start. The allowed values range between 1 and 999 seconds. The default value is 10 seconds.
 - Wait resource to stop for {value_3} seconds - Use the available text box to specify the number of seconds the application will wait for the resource to stop. The allowed values range between 1 and 999 seconds. The default value is 10 seconds.
 - Check resources every {value_4} seconds - Use the available text box to specify the time frame in which the application will check all the cluster's resources. The allowed values range between 1 and 999 seconds. The default value is 60 seconds.
 - Reset fail count after {value_5} seconds - Use the available text box to specify the number of seconds the application will wait before resetting the failed attempts count. The allowed values range between 60 and 65,000 seconds. The default value is 60 seconds.
- SIP registration engine - This section allows you to select the engine used for SIP registration:
 - Send SIP channel registrations through node - Use the available drop-down list to select the logical address of the SIP server that will be used at registration. The list displays all the identification numbers of the servers that have the SIP component installed.
- Storage layer permissions - This section allows you to choose the addresses that are allowed to connect to a certain storage layer.



- Allow connections from { address} IP/Mask - Use the available text box to specify the IP address or the mask of the remote user that is allowed to connect to a storage layer.
- To storage layer - Use the drop-down list to select the storage layer to which you want to permit access to the users defined in the previous field.



You can use the   icons if you want to add or to remove several storage layer permissions.

- Allowed connections - This table displays all the IP/Mask addresses that are allowed to connect to certain storage layers. 4PSA VoipNow Core offers the following details:
 - From network - The IP/Mask address of the network that is allowed to connect to one of the layers.
 - To - The storage layer to which the network is allowed to connect.


When the time allowed connections list is too long and you are searching for a specific one, you can use the following features:

- Search – Fill in the text you are looking for in the text box. Click the  button or the `search` label to display only the allowed connections that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.


The allowed connections list can be filtered by both of the columns. To do so, click on a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the allowed connections list was sorted. The sort direction can be changed by another click on the corresponding header.

To remove an allowed connection, select its corresponding check box and then click the  [Remove selected](#) link. You will be asked to confirm the removal.

Chapter 5

Manage Your Interconnections



View Your Channel List

Channels are used in order to communicate with the other servers or with the outside world. In the Interconnection Management page, you can view a list of all the channels available in the system. To access this page, click the  [Interconnection](#) link available in the left navigation panel. Some of the possible actions are:

- Add a new channel to the system
- Search for existing channels
- Edit the channel's details
- Manage channel groups
- Manage outgoing routing rules
- Manage the public phone numbers (DID) channel
- Access channel reports

- Delete channels from the system

4PSA VoipNow Core displays the following information about each channel:








- S – The channel status is displayed using an icon:
 -  Enabled
 -  Disabled

Click this icon to change the channel status.





Note

You can change a channel status only if it is not currently used.

- T – The channel type is displayed using an icon:
 -  SIP
 -  PRI
 -  IAX
 -  ENUM
- F – From a charging perspective, the channel type is displayed using an icon:
 -  Free
 -  Paid
- Channel – The channel name. Click this link to edit the channel parameters.
- State – This field specifies if the 4PSA VoipNow Core server is registered to the remote server using this channel.
- Updated – The date when the channel was last modified.
- C – Click the  Costs icon to manage the costs associated with this channel.

Searching the Channels List

When the channel list is too long and you are searching for specific channels, you can use the following features:

- Search – Fill in the text you are looking for in the text box. Click the  button or the `Search` label to display only the channels that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The channels list can be filtered by name and update date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the channels list was sorted. The sort direction can be changed by another click on the corresponding header.


Add a New Channel

A new channel must be added when you want to add a new connection path between 4PSA VoipNow Core and the provider.

SIP Channel



To add a new SIP channel to the system, follow these steps:

1.

In the Interconnection Management page, click the  Add SIP channel icon available in the `Tools` area. A new page opens, allowing you to enter information about the new channel.

2. The information is grouped into several sections:

- Channel form
 - Clone settings from channel - Use this option to copy the settings of an existing channel. This feature is intended to help you create channels with similar or identical structure faster.
 - Name – Use this text box to fill in a descriptive name used to identify the channel.
 - Send calls to – Use this text box to specify the hostname or IP address of the SIP provider server.

- Accept calls from IPs/network – Use this text box to specify the IP addresses of which the system should accept calls. You can add/remove multiple IPs by using the  Add or the  Remove buttons.
- Username – Use this text box to fill in the login used to connect to the provider.



Note

The username must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: `_-@.`

- Password – Use this text box to fill in the password used to connect to the provider.



Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: `!@#%&*()_+={}~[];:.,|^&`

- Confirm password - Use the available text box to confirm the password that it is used to connect to the provider.
- Do not register - Select this check box if you do not want to register before connecting to the provider.
- Authorization username – Some SIP providers require an authorization username in order to connect to their server. To verify if the channel requires this parameter, please check with the SIP provider.
- Concurrent calls (outgoing+incoming) – If your SIP provider limits the number of concurrent calls through the channel, fill out this text box. This is very useful because the channel will no longer be selected

by the routing engine when the limit is reached and your provider will no longer accept more calls on that channel.

- Charging plan – Use the drop-down list to specify the channel type:
 - Paid – The channel charges a fee every time it is used.
 - Free – The channel can be used for free to call any destination.
- Channel capabilities – Use these radio buttons to select the channel functionality:
 - Incoming – Only incoming calls can be received through the channel.
 - Outgoing – Only outgoing calls can be sent through the channel.
 - Both – The channel can both receive and send calls.
- DTMF mode – Use this drop-down list to choose the DTMF mode. The default option is `rfc2833`. If you choose the `auto` option, Asterisk automatically detects whether the channel supports `rfc2833` or not. If it does not support it, Asterisk uses `inband` mode.
- Behind NAT – Select this check box, if the channel is located behind a NAT (Network Address Translation) router.
- CallerID for outgoing calls – Use this text box to specify the number that will be displayed by the phones with an active callerID feature.




Note

Usually, the callerID is the same as the public phone number.

- From user – Some SIP providers require a `From user` parameter to identify the user. To verify if the channel requires this parameter, please check with the SIP provider.
- From domain – Some SIP providers require a `From domain` parameter to identify its users. To verify if the channel requires this parameter, please check with the SIP provider.



Note


The value displayed in this field is the value set up in the  [Settings](#)



>> **4Grid Layers** >> **Preferences** >> **SIP registration engine** section.

- Authorization endpoint – An endpoint that must be sent to the channel provider in the register phase to determine the server that authenticates.
- Get DID from custom header - If a valid DID number is not present in the request line of the SIP packet, it will be taken from a custom header. Use this text box to define the name of that header. For example, if you fill in Test and the DID number is 12345, the custom header will be Test: 12345.
- Qualify value – The server checks the remote party for presence regularly. If it does not answer in a time below this setting, the device is considered offline. This feature can be disabled if you select the option None. Use the drop-down list to specify the desired value.
- Prefix all calls with – The prefix that will be added to all the destination numbers of the calls routed through this channel.
- Trusted channel – When this option is selected, 4PSA VoipNow Core considers all communication through this channel to come from a trusted source (based on IP) and does not authenticate incoming calls.
- Trust Remote-Party-ID SIP header – When this option is selected, 4PSA VoipNow Core trusts and uses the Remote-Party-ID headers in the SIP messages received on the channel.
- Send Remote-Party-ID SIP header – When this option is selected, 4PSA VoipNow Core includes Remote-Party-ID headers in the SIP messages sent through the channel.
- Channel Codecs – Use the available check boxes to select the codecs for encoding–decoding the voice signal over this channel:
 - g723
 - ulaw
 - alaw
 - gsm
 - g726
 - slin
 - g729
 - speex
 - ilbc
 - lpc10
 - h261

- h263
 - h263p
 - g726aal2
 - h264
 - Use MD5 – When this option is enabled, 4PSA VoipNow Core encrypts the passwords used in the authentication process. The method used is an MD5 hash function.
 - Channel notes – Use this text box to fill in comments on the channel.
 - Channel group – Use this section to assign the channel to one or more channel groups.
 - All groups – This list contains all the groups in the system. To assign the channel to a group, click the desired channel and it will be automatically moved into the `Assigned groups` pool.
 - Assigned groups - This list contains the groups where the channel is assigned to. To remove a channel from the pool, click the desired channel and it will be automatically moved back into the `All groups` list.
3. The Setup public phone numbers assigned to the channel check box allows you to configure the public phone numbers and the DIDs as they are sent by the channel provider:
- Select the check box and click OK to add the new channel and go to the next step (set the public phone numbers).
 - Deselect the check box and click OK if you want to add the new channel without configuring the public phone numbers. If you choose to set up the public phone numbers later, skip steps 4 and 5.
 - Click Cancel to go back to the previous page without adding the channel.
4. A new page opens, allowing you to add public phone numbers and their DID association. The public phone number is the number dialed from a public network in order to make a call to an endpoint on the server.
- Add phone numbers from file - In this section you can choose to upload a group of public phone numbers:
 - Import phone numbers from file - Select this box if you want to upload numbers from a file. Leave it deselected if you want to manually introduce a number in the second section of the page. In this case, the two fields below will be grayed out.

- Upload phone numbers - Click the corresponding  button to select the file's location.



Note

Example of a valid public phone numbers file.

Each line in the .csv file must have the following format:

```
{Public phone number}, {DID}, {Location}, {Monthly cost}, {Incoming call charge}, {Incoming call charging interval}, {Assignment method}
```

The possible values for {Assignment method} are described below:

- The values for exclusive type channels can be "e", "exclusive" or "0".
- The values for stacked type channels can be "s", "stacked" or "1".

Example of valid entry:555205,201,10,1,5,e

- Field separator - Insert the field separator type (e.g. "," - comma).
- Public phone number form - In this section you can manually set up a public phone number:
 - Public phone number – Use this text box to specify the public phone number associated with the channel, in the form you want to present it to your client. This is the number that must be called from the public network in order to access an endpoint on the server.
 - DID (Direct Inward Dialing) number – The number sent by the provider to the server when the corresponding public phone number is contacted.
 - Location – This field is used to specify the location of the public phone number.
 - Monthly amount paid to provider – The fee associated with the use of the DID number. This is for information purposes only, it is not used in the charging process.
 - Incoming calls cost {x} {currency} every {y} seconds – The charge {x} applied to all the incoming calls routed through this channel every {y} seconds. Use the first text box to specify the fee and the second one to specify the number of seconds.
 - Assignment method – There are two types of phone numbers you can choose from:



- **Exclusive** – These numbers must be assigned by the administrator to the resellers in order to be used for their clients and endpoints. The administrator does not have to explicitly assign these numbers to reseller accounts.

This is the default type of phone number.

- **Stacked** – These numbers can be used by resellers for their clients and endpoints if they have the See stacked phone numbers permission enabled.



Note

If the channel supports it, you can add more phone numbers on the same channel. You can do this by using the  **Add** or the  **Remove** buttons.

DO NOT add more phone numbers if the channel does not support it! You will have incoming call routing problems.

5. The Setup channel costs check box allows you to configure the costs charged by the channel's provider based on the call destination.



Note

This option is only available if, in the channel's setup, the **Charging plan** was set to **Paid**.

- Select the check box and click OK to add the new channel and go to the next step (set the channel costs).
 - Deselect the check box and click OK if you want to add the new channel without configuring its costs. If you choose to set up the costs later, skip steps 6 and 7.
6. A new page opens, allowing you to add channel costs. The information in this page is grouped into several sections:



Caution

The **Add cost**, **Clone channel costs** and **Upload cost file** sections cannot be used at the same time.




Note

For a more detailed overview of the channel costs setup, please check the [Manage Channel Costs](#) section.

- Clone channel costs - Use this section if you want to use a cost structure already defined for another channel.
 - Upload cost file – Use this section to replace all the costs currently associated with the channel with the charges from the uploaded cost file.
 - Add costs - Use this section to manually add costs to the specific channel.
7. Click OK to save the channel costs. Click Cancel to exit without saving them.


Edit a SIP Channel's Parameters

To edit the parameters of a SIP channel, follow these steps:

1. In the Interconnection Management page, click the name of the SIP channel that you want to edit.
2.  Click the Edit channel icon
3. A new page allowing you to modify the information opens. The data is grouped into the following sections:
 - Channel form – Use this section to modify the parameters that control the channel behaviour. For more details on the available fields, see the [SIP Channel](#) section.
 - Channel group – Use this section to assign the channel to one or more channel groups.
4. Click OK to your changes. Click Cancel to exit without modifying the channel parameters.

PRI Channel

To add a new PRI channel to the system, follow these steps:

1.  In the Interconnection Management page, click the Add PRI channel icon available in the Tools area. A new page opens, allowing you to enter information about the new channel.



Note

4PSA VoipNow Core automatically determines the available (i.e. unassigned) physical PRI channels installed on the server. If there are no PRI channels



available, the system display the icon. If you place the mouse over this icon, an explanation will be displayed.


2. The information is grouped into several sections:


- Channel definition
 - Clone settings from channel - Use the drop-down list if you want to replicate all the settings of an existing channel.
 - Name {text} (For internal use) – Use this text box to fill in a descriptive name used to identify the channel.
 - Get channels from node - 4PSA VoipNow Core allows you to set up in the same time groups of channels belonging to the same node. Use the drop-down list to select the node for which you want to configure the channels.
 - Use channels From ID {number} To ID {number} - Use the drop-down lists to select which channels, belonging to the previously selected node, you want to group. The lists display only the available channels, which were not used in other configurations.

You can add/remove more channel intervals by using the   icons.

- Group ID – Use the drop-down list to select the ID of the channels group previously defined.
- Channel capabilities – Use these radio buttons to select the channel functionality:
 - Incoming – Only incoming calls can be received through the channel.
 - Outgoing – Only outgoing calls can be sent to the channel.
 - Both – The channel can both receive and send calls.
- Charging plan – Use the drop-down list to specify the channel's type:
 - Paid – The channel charges a fee every time it is used.
 - Free – The channel can be used for free to call any destination.
- Default language – The channel will have a default language code that determines the language of the sound files played on this channel.

The default language is `English`. Use the drop-down list to select your language.

- Channel notes – Use this text box to fill in comments on the channel.
- Signaling and voice quality – These settings determine the signaling method and the parameters applied on the channel. Click the  button to view the content of this section.
- Signaling method - Use this drop-down list to choose the signaling method used on the channel. The default method is `fxo_ls`.

 **Caution**

Before adding the channel, 4PSA VoipNow Core verifies if the method you have selected is actually supported by the physical channel. If the method is not supported, 4PSA VoipNow Core will display an error message informing you which methods are allowed.

- `em` – E & M
- `em_w` – E & M Wink
- `featd` – Feature Group D. The fake, Adtran style, DTMF
- `featdmf` – Feature Group D. The real thing, MF (domestic, US)
- `featdmf_ta` – Feature Group D. The real thing, MF (domestic, US) through a Tandem Access point
- `featb` – Feature Group B. MF (domestic, US)
- `fxs_ls` – FXS (Loop Start)
- `fxs_gs` – FXS (Ground Start)
- `fxs_ks` – FXS (Kewl Start)
- `fxo_ls` – FXO (Loop Start)
- `fxo_gs` – FXO (Ground Start)
- `fxo_ks` – FXO (Kewl Start)
- `pri_cpe` – PRI signaling, CPE side
- `pri_net` – PRI signaling, Network side
- `gr303fxoks_net` – GR-303 signaling, FXO loopstart, Network side
- `gr303fxsks_cpe` – GR-303 signaling, FXS loopstart, CPE side
- `sf` – SF (Inband Tone) Signaling

- `sf_w` – SF Wink
- `sf_featd` – SF Feature Group D. The fake, Adtran style, DTMF
- `sf_featdmf` – SF Feature Group D. The real thing, MF (domestic, US)
- `sf_featb` – SF Feature Group B. MF (domestic, US)
- `e911` – E911 (MF) style signaling
- `fxs_rx` – Receive audio/COR on an FXS kewl start interface (FXO at the channel bank)
- `fxs_tx` – Transmit audio/PTT on an FXS loop start interface (FXO at the channel bank)
- `fxo_rx` – Receive audio/COR on an FXO loop start interface (FXS at the channel bank)
- `fxo_tx` – Transmit audio/PTT on an FXO ground start interface (FXS at the channel bank)
- `em_rx` – Receive audio/COR on an E&M interface (1-way)
- `em_tx` – Transmit audio/PTT on an E&M interface (1-way)
- `em_txx` – Receive audio/COR AND Transmit audio/PTT on an E&M interface (2-way)
- `em_rxtx` – This is an alias name for `em_txx`
- `sf_rx` – Receive audio/COR on an SF interface (1-way)
- `sf_tx` – Transmit audio/PTT on an SF interface (1-way)
- `sf_txx` – Receive audio/COR and Transmit audio/PTT on an SF interface (2-way)
- `sf_rxtx` – This is an alias name for `sf_txx`
- `r2`
- Echo cancellation - When this setting is `Yes`, 4PSA VoipNow Core will apply an echo cancellation algorithm to the voice transmitted over this channel.
- Echo cancellation when bridged - When this setting is `Yes`, 4PSA VoipNow Core will apply an echo cancellation during pure TDM bridging.
- Enable echo training - Use this setting to train the echo cancelling algorithm. When you select a value different from `No`, 4PSA VoipNow Core will mute the channel, send an impulse and use the impulse's response to pre-train the echo canceller. The values available are: `Yes`, `No`, or a number of milliseconds the training to be delayed with.

- Relax DTMF detection - Use this setting if you are having problems with the DTMF tones detection. When this option is set to *Yes*, the DTMF detector is more likely to experience "talk off" (i.e. the detector identifies some voice signals as tones).
- Receive gain - Use this drop-down list to set a receive gain. The values from the list are expressed in dB.
- Transmit gain - Use this drop-down list to set a transmit gain. The values from the list are expressed in dB.
- Answer the channel immediately - Use this setting to specify whether the channel should be answered immediately or if the simple switch should provide dial tone, read digits, etc.
- Tones are played on the channel for - Use this text box to specify how long the generated tones (DTMF and MF) will be played on the channel. The allowed values range between 1 and 9,999 ms. The default value is 100 ms.
- Distinctive ringing on FXO lines - This setting specifies whether or not to attempt to recognize distinctive ring styles on incoming calls.
- Enable ADSI - If the phone device connected to this channel has ADSI (Analog Display Services Interface) capabilities, set Enable ADSI to *Yes*. The default value is *No*.
- Enable busy detection - When this setting is set to *Yes*, the incoming audio signals during a call or a dial attempt will be analyzed in order to recognize busy signals. The default value is *Yes*.



Note

This setting is useful on analog trunk interfaces both to detect a busy signal when dialing out, and for detecting when the person has hung up.



Caution

Make sure that you don't use this on digital interfaces like QuadBri cards. Otherwise you will have "broken calls" problems.


- How many busy tones to wait before hangup - This parameter specifies how many busy tones the system waits for before hanging up. The allowed values range between 2 and 10. The default value is 4 tones.



Note

A higher number of busy tone means a higher time needed to hangup a channel and a lower probability to experience random hangups.

- Busy tone cadence - This setting allows you to specify the pattern of the busy signal. The default pattern is 500 ms on, 500 ms off. The system will check the length of the sound (tone) and silence which will reduce the probability of hanging up randomly. The values accepted range between 50 and 9,999 ms.
- Use polarity reversal to mark answered remote calls - This setting specifies whether the system must check for a polarity reversal to know when an outgoing call is answered by the remote party. The default value is Yes.
- Hangup on polarity reversal - This setting specifies whether a polarity reversal is used to signal the disconnection of a phone line. If this setting is Yes, a call will be considered "hung up" on a polarity reversal. The default value is Yes.
- Detect call progress - When this setting is Yes, the system attempts to determine answer, busy and ringing events on the channel.
- Call progress zones - This setting defines the timing and frequencies for call progress detection. The default value is United States/North America.
- Ring timeout - Use this text box to specify how long it takes before the system considers a non-ringing line to have hangup. FXO (FXS signaled) devices must have a timeout to determine if there was a hangup before the line was answered. The allowed values range between 1,000 and 99,999 ms. The default value is 8,000 ms.
- Dial pulse - For FXO (FXS signaled) devices, this setting specifies whether to use pulse dial instead of DTMF. The default value is No.
- Fax detection - This parameter specifies whether the system will try to detect incoming, outgoing, both types of faxes or it will not detect faxes at all.
- Jitter buffer - Use this text box to specify the length of the jitter buffer. The jitter buffer is used to compensate for jitter (the variation between packet delays) and out of order delivery of packets. The default value is 4 ms.

- CallerID preferences - These settings determine the behaviour of the channel in connection with callerID information. Click the  button to view the content of this section.
 - Use callerID name - Use this text box to specify the callerID name that will be sent for all the outgoing calls that are routed through this channel.
 - Use callerID number - Use this text box to specify the callerID name that will be sent for all the outgoing calls that are routed through this channel.



Note

You are allowed to fill in a number in the format "+39203991739".

- Use callerID - For phones, when this option is set to *yes*, the system sends the callerID data to the phone when ringing it. For trunk lines, when this option is set to *yes*, the system looks for the callerID on the incoming calls.
- CallerID signaling - Use this drop-down list to select the callerID signaling method. The default method is *Be11* (used in the United States). You can also choose among *v23* (used in the UK) and *DTMF* (used in Denmark, the Netherlands and Sweden).
- What signals the start of callerID - Use this drop-down list to specify the type of signal that marks the start of the callerID. *Ring* means that a ring signals the start of the callerID while *Polarity* means that a polarity reversal signals the start of the callerID.
- Hide callerID - For FXS phones, when this setting is *yes*, the system will stop sending this channel's callerID information to the called party. The default setting is *No*.
- Call waiting - When this setting is *yes*, the system activates the call waiting function for all the calls routed through the channel. The default setting is *No*.




Note

If the channel has **Call waiting** set to *yes*, a user can deactivate the call waiting function temporarily for the duration of a call by dialing *70 on their phone keypad.

- Restrict callerID presentation - When this setting is *No*, the system will restrict the destination phone device from accessing the callerID

information of the user that initiated the call. This setting only applies to PRI channels.


- Use callerID presentation - When this setting is `No`, the system will not send callerID information to the destination phone device. This setting only applies to PRI channels.
- Send callerID after - Some countries (e.g. UK) have ring tones with different ring patterns. A ring may be made up of a sequence of simple rings. This means that the callerID must be sent after this sequence and not after the first ring. Use the drop-down list to specify the number of rings in the sequence. The default value is 1 ring.
- CallerID on call waiting - Sets whether Asterisk will send callerID data to the handset during call waiting indication.
- Channel features - These settings determine the functions that will be available for the channel. Click the  button to view the content of this section.
 - Transfer to busy endpoints - When this setting is `Yes`, the system performs flash-hook transfers even if the destination channel is busy. When the value is `No` and if the destination channel is busy, the system returns the call to the user that performed the transfer.



Note

Flash-hook transfers are used in the call waiting feature. If a new call rings while the called party is involved in a conversation, instead of producing a busy signal, the new caller hears the ringing sound and the called party hears a special beep tone. If he chooses so, the called party can depress **send a flash-hook** by briefly pushing the phone's hook-switch. The original caller is put on hold, and the new caller is connected. Repeated flash-hooks will swap between the two callers. On a PBX, a flash-hook will produce a new dial-tone, allowing a three-way conference or call transfer.

- Support three-way calling - When this setting is `Yes`, the channel supports conferences made up of three participants.
- Support flash-hook call transfer - When this setting is `Yes`, the channel supports call transferring by performing a flash-hook and then dialing the transfer destination's number.
- Support call forward - When this setting is `Yes`, the channel supports call forwarding features.

- Support call parking - When this setting is `Yes`, the channel supports call parking/unpacking features.
- PRI Preferences - If you have a PRI line, you can use this section to specify its parameters. Click the  button to view the content of this section.



Note

PRI is an ISDN type, typically used to connect a PBX to a telephone exchange.

- Switch type - Use this drop-down list to choose the PRI switch type your PRI line is connected to. The default type is `National`. The other available values are: `dms100`, `4ess`, `5ess`, `EuroISDN`, `nil`, `qsig`.
- Network specific facility - Some PRI switches (AT&T for example) require that you provide the network specific facility. The default value is `none`. The other values possible include `sdn`, `megacom`, `accunet`.
- PRI dial plan (Rarely used!) - This setting controls the Type of Number (TON) and the Numbering Plan Index (NPI) associated with the called party information element. The available values are:
 - `Unknown` - The receiving switch will interpret the digits according to the standard used by the PSTN in that country. For example, a switch in Sweden will interpret the number "00461234567" as the national Swedish number "1234567".
 - `Private`
 - `Local`
 - `National` - The receiving switch will interpret the digits as a national number (i.e. with an area code at the beginning). Escape digits, like leading zero for the area, code are not interpreted.
 - `International`
 - `Dynamic` - The receiving switch will parse the dialed number and try to find a matching prefix in the settings international prefix, national prefix, local prefix, private prefix, unknown prefix.

The default value is `National`.



Note

This is the recipient of the call. This parameter is required only by a few types of PRI switches. If your switch does not require this parameter, it will simply be ignored.

- PRI local dial plan (Rarely used!) - This setting controls the Type of Number (TON) and the Numbering Plan Index (NPI) associated with the calling party information element. The available values are:
 - `Unknown` - The receiving switch will interpret the digits according to the standard used by the PSTN in that country. For example, a switch in Sweden will interpret the number "00461234567" as the national Swedish number "1234567".
 - `Private`
 - `Local`
 - `National` - The receiving switch will interpret the digits as a national number (i.e. with an area code at the beginning). Escape digits, like leading zero for the area code, are not interpreted.
 - `International`
 - `Dynamic` - The receiving switch will parse the dialed number and try to find a matching prefix in the settings international prefix, national prefix, local prefix, private prefix, unknown prefix.

The default value is `National`.

- PRI callerID international prefix - This parameter specifies the international prefix part of the dialed number. The default value is `00`. Another example of a valid international prefix is `+`.
- PRI callerID national prefix - This parameter specifies the national prefix part of the dialed number. The default value is `0`. Another example of a valid national prefix is `+49`.
- PRI callerID local prefix - This parameter specifies the local prefix part of the dialed number. This text box can be empty. Examples of valid local prefixes: `0711` or `+49711`.
- PRI callerID private prefix - This parameter specifies the private prefix part of the dialed number. This text box can be empty. Examples of valid private prefixes: `07115678` or `+497115678`.
- PRI callerID unknown prefix - This text box can be empty.
- PRI reset interval - This parameter specifies the time interval between resetting unused channels. The default value is `3,600 s`.



Note


Some PBXes have problems with channel resetting. In these cases, you can set the time interval to a larger value (e.g. 86,400 s).



- Send overlap digits - This parameter specifies whether a dialed phone number's digits should be sent to the switch by using the overlap sending procedure or the en-bloc procedure. When this setting is *Yes*, overlap sending will be used. The default value is *Yes*.



Note

The **overlap sending** procedure means that the system sends each dialed digit in its own ISDN *information* message. The **en-bloc** procedure means that all digits are sent in the same ISDN *setup* message.


- PRI indications - This setting specifies the type of signalling used for indicating the events busy and congestion. When the setting is *In band*, the system signals busy or congestion using in-band tones and does not answer. When the setting is *Out of band*, the system disconnects with busy or congestion information code and the switch will play the indication tones to the caller.
- Force all PRI channels to be marked exclusively selected - When this setting is *Yes*, the system will override the existing channels selection routine. As a result, all PRI channels will be marked as exclusively selected.
- ISDN Preferences - This section contains more ISDN parameters. Click the  button to view the content of this section.
 - Transmit facility-based ISDN - When this setting is *Yes*, the transmission of facility-based ISDN supplementary services is enabled.
 - Set ISDN timer t{numeric_value_1} to {numeric_value_2} ms. Use the available text boxes to set ISDN timers. {numeric_value_1} and {numeric_value_2} accept values between 1 and 99,999.


You can create several ISDN timers; use the   buttons to add more text boxes.

- Timing parameters - In this section you can set timing parameters used for non-PRI T1 lines.

All text boxes accept numeric values that range between 1 and 9,999 ms.

Click the  button to view the content of this section.

- Pre-wink time - The default value is 50 ms.
 - Pre-flash time - The default value is 50 ms.
 - Wink time - The default value is 150 ms.
 - Flash time - The default value is 750 ms.
 - Start time - The default value is 1,500 ms.
 - Receiver wink time - The default value is 300 ms.
 - Receiver flash time - The default value is 1,250 ms.
 - Debounce timing - The default value is 600 ms.
 - Channel group – Use this section to assign the channel to one or more channel groups. Click the  button to view the content of this section.
 - All groups – This list contains all the groups in the system. To assign the channel to a specific group, click the desired channel and it will be automatically moved into the `Assigned groups` pool.
 - Assigned groups - This list contains the groups where the channel is assigned to. To remove the channel from a group, click the desired channel and it will be automatically moved back into the `All groups` pool.
3. The Setup public phone numbers assigned to the channel check box allows you to configure the public phone numbers and the DIDs as they are sent by the channel provider.
- Select the check box and click OK to add the new channel and go to the next step (set the public phone numbers).
 - Deselect the check box and click OK, if you want to add the new channel without configuring the public phone numbers. If you choose to set up the public phone numbers later, skip steps 4 and 5.
 - Click Cancel to go back to the previous page without adding the channel.
4. A new page opens, allowing you to add public phone numbers and their DID association. The public phone number is the number dialed from a public network in order to make a call to an endpoint on the server.
- Add phone numbers from file - In this section you can choose to upload a group of public phone numbers:
 - Import phone numbers from file - Select this box if you want to upload numbers from a file. Leave it deselected if you want to manually introduce a number in the second section of the page. In this case, the two fields below will be grayed out.

- Upload phone numbers - Click the corresponding  button to select the file's location.



Note

Example of a valid public phone numbers file.

Each line in the .csv file must have the following format:

```
{Public phone number}, {DID}, {Location}, {Monthly cost}, {Incoming call charge}, {Incoming call charging interval}, {Assignment method}
```

The possible values for {Assignment method} are described below:

- The values for exclusive type channels can be 'e', 'exclusive' or "0".
- The values for stacked type channels can be 's', 'stacked' or '1'.

Example of valid entry:555205,201,10,1,5,e

- Field separator - Insert the field separator type (e.g. ',').
- Public phone number form - In this section you can manually set up a public phone number:
 - Public phone number – Use this text box to specify the public phone number associated with the channel, in the form you want to present it to your client. This is the number that must be called from the public network in order to access an endpoint on the server.
 - DID (Direct Inward Dialing) number – The number sent by the provider to the server when the corresponding public phone number is contacted.
 - Location – This field is used to specify the location of the public phone number.
 - Monthly amount paid to provider – The fee associated with the use of the DID number. This is for information purposes only, it is not used in the charging process.
 - Incoming calls cost {x} EUR every {y} seconds – The charge {x} applied to all incoming calls routed through this channel every {y} seconds. Use the first text box to specify the fee and the second one to specify the number of seconds.
 - Assignment method – There are two types of phone numbers you can choose from:



- **Exclusive phone numbers** – These numbers must be assigned by the administrator to the resellers in order to be used for their clients and endpoints. The administrator does not have to explicitly assign these numbers to reseller accounts.

This is the default type of phone number.

- **Stacked phone numbers** – These numbers can be used by resellers for their clients and endpoints if they have the See stacked phone numbers permission enabled.



Note

If the channel supports it, you can add more phone numbers on the same channel. You can do this by using the  **Add** or the  **Remove** buttons.

DO NOT add more phone numbers if the channel cannot support them! You will have incoming call routing problems.

5. The Setup channel costs check box allows you to configure the costs charged by the channel's provider based on the call destination.
 - Select the check box and click OK to add the new channel and go to the next step (set the channel costs).
 - Deselect the check box and click OK, if you want to add the new channel without configuring its costs. If you choose to set up the costs later, skip steps 6 and 7.
6. A new page opens, allowing you to add channel costs. The information in this page is grouped into several sections:



Caution

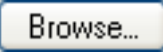
The **Add cost**, **Clone channel costs** and **Upload cost file** sections cannot be used at the same time.



Note

For a more detailed overview of the channel costs setup, please check the [Manage Channel Costs](#) section.


- **Clone channel costs** - Use this section if you want to use a cost structure already defined for another channel.

- Import costs from another channel - Select this check box if you want to import the cost structure used for another channel. Leave it deselected if you want to upload or to manually add the costs. In this case, the field below will be grayed out.
- Get costs from channel - Use the drop-down list to select the channel whose cost structure you want to replicate.
- Upload cost file – Use this section to replace all the costs currently associated with the channel with the charges from the uploaded cost file.
 - Agree to replace ALL channel costs - Select this check box if you want to replace all the channel costs with the ones you will upload. Leave it deselected if you want to clone or to manually add the costs. In this case, the two fields below will be grayed out.
 - File to upload - Click the corresponding  button to select the file's location
 - Field separator - Insert the field separator type (e.g. ',').

- Add costs - Use this section to manually add costs to the specific channel:

Cost {value_1} USD/{value_2} seconds for call to area code {value_3}. Network code {value_4}. Description {text}, where:

- {value_1} - Use the text box to specify the amount you want to charge for the call.
- {value_2} - Use the text box to specify the number of seconds for which you want to set the charging rule. The default value is 60 seconds.
- {value_3} - Use the text box to specify for what area code the calls will be charged.
- {value_4} - Use the text box to specify the network code.
- {text} - Use the text box to enter a brief description of the charging rule.

You can add/remove charging rules by using the   buttons.

7. Click OK to save the channel costs. Click Cancel to exit without saving the costs.

Edit a PRI Channel's Parameters

To edit the parameters of a PRI channel, follow these steps:


1. In the Interconnection Management page, click the name of the PRI channel that you want to edit.

2.



Click the Edit channel icon







3. A new page allowing you to modify the information opens. The data is grouped into the following sections:

- Channel definition - Use this section to change the channel's identification information such as name or ID. For more details on the available fields, see the [PRI Channel](#) section.
- Signaling and voice quality – These settings determine the signaling method and parameters applied on the channel. Click the  button to view the content of this section.



Note

If the PRI channel is currently busy, you are not allowed to change the **Signaling method** parameter. When you click the **OK** button, 4PSA VoipNow Core will display an error message asking you to try to modify the signaling method at a later time, when the channel is free.


- CallerID preferences - These settings determine the channel's behaviour in connection with the callerID information. Click the  button to view the content of this section.
- Channel features - These settings determine the functions that will be available on the channel. Click the  button to view the content of this section.
- PRI Preferences - If you have a PRI line, you can use this section to specify its parameters. Click the  button to view the content of this section.
- ISDN Preferences - This section contains more ISDN parameters. Click the  button to view the content of this section.
- Timing parameters - In this section you can set timing parameters used for non-PRI T1 lines. Click the  button to view the content of this section.
- Channel group – Use this section to assign the channel to one or more channel groups. Click the  button to view the content of this section.

4. Click OK to save your changes. Click Cancel to exit without modifying the channel.

IAX Chanel

To add a new IAX channel to the system, follow these steps:

1.

In the Interconnection Management page, click the  Add IAX channel icon available in the Tools area.

2. A new page opens, allowing you to enter information about the new channel.

The information is grouped into several sections:

- Channel form
 - Clone settings from channel - Use this option to copy the settings of an existing channel. This feature is intended to help you create channels with similar or identical structure faster.
 - Name {text} (For internal use) – Use this text box to fill in a descriptive name used to identify the channel.
 - Send calls to – Use this text box to specify the hostname or the IP address and the port of the SIP provider server.
 - Mask - Subnet mask for the host.
 - Do not register - Select this check box if you do not want to register before connecting to the provider.
 - Authorization type - Use the radio buttons to choose the authorization type. The available options are:
 - Plain text - No encryption used.
 - MD5 - Password will be encrypted using MD5 (Message-Digest algorithm 5).
 - RSA - Encryption using the RSA algorithm for public key cryptography. RSA involves a public key and a private key. The public key can be known to everyone and is used for encrypting messages. Messages encrypted with the public key can only be decrypted using the private key.

For more information on encryption keys, please read the [Managing Encryption Keys](#) section.
 - User name - The user name required for authentication.

- Password - The password required for authentication.



Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: **! ? @ # \$ % ^ * () _ + = { } ` ~ [] ; : , | ^ & .**

- Confirm password - Password confirmation.
- Outgoing encryption key - Choose the outgoing encryption key.



Note

This field only is available if the **Authorization type** was set to `RSA`.

- Incoming encryption key - Choose the incoming encryption key from the available list:
 - Available public keys – This list contains all incoming encryption keys in the system. To assign a key, click the desired key and it will be automatically moved into the `Assigned public keys` pool.
 - Assigned public keys - This list contains all the assigned incoming encryption keys. To unassign a key, click the desired key and it will be automatically moved back into the `Available public keys` pool.



Note

This fields are only available if the **Authorization type** was set to `RSA`.

- Concurrent calls (outgoing+incoming) - If your provider limits the number of concurrent calls through the channel, fill in this text box. This is very useful because the channel will no longer be selected by the routing engine when the limit is reached and your provider will no longer accept more calls on that channel.
- Charging plan – Use the drop-down list to specify the channel's type:
 - Paid – The channel charges a fee every time it is used.
 - Free – The channel can be used for free to call to any destination.

- Channel capabilities – Use these radio buttons to select the channel functionality:
 - Incoming – Only incoming calls can be received through the channel.
 - Outgoing – Only outgoing calls can be sent through the channel.
 - Both – The channel can both receive and send calls.
- CallerID for outgoing calls – Use this text box to specify the number that will be displayed by phones with an active callerID feature.



Note

Usually, the callerID is the same as the public phone number.


- Qualify value - The server checks the remote party for presence regularly. If it does not answer in a time below this setting, the device is considered offline. The service can be disabled if you choose the value None.
- Prefix all calls with – The prefix that will be added to all the destination numbers of the calls routed through this channel.
- Permit from network - The server accepts packets only from the specified networks.
- Deny from network - The server denies packets from the specified networks.




Note

If the same network address is specified in the **Permit from network** and the **Deny from network** fields, the server will NOT accept packets from the respective address.

- Channel codecs – Use the available check boxes to select the codecs for encoding–decoding the voice signal over this channel.
 - g723
 - ulaw
 - alaw
 - gsm
 - g726
 - slin
 - g729

- speex
- ilbc
- lpc10
- h261
- h263
- h263p
- g726aal2
- h264
- Send peer context to remote - The default context requested in order the calls to peer.
- IAX native transfer - Use the drop-down list to select the status of the IAX native transfers:
 - Yes - Enabled.
 - No - Disabled.
 - Media only - Only media type transfers are allowed.
- Allow trunking - If set to Yes, the application will use IAX2 trunking for this context.
- Enable jitterbuffer - You can turn on/off the jitter buffer individually, for every channel. Variations in packet arrival time, called jitter, can occur because of network congestion, timing drift or route changes. The jitter buffer, which is located at the receiving end of the voice connection, intentionally delays the arriving packets so that the end user experiences a clear connection, with very little sound distortion.
- Channel notes - Use this text box to fill in comments on the channel.
- Channel group – Use this section to assign the channel to one or more channel groups. Click the  button to view the content of this section.
 - All groups – This list contains all the groups in the system. To assign the channel to a specific group, click the desired channel and it will be automatically moved into the Assigned groups pool.
 - Groups where the channel is assigned to - This list contains the groups where the channel is assigned to. To remove the channel from a group, click the desired channel and it will be automatically moved back into the All groups pool.

3. The Setup public phone numbers assigned to the channel check box allows you to configure the public phone numbers and the DIDs as they are sent by the channel provider.
 - Select the check box and click OK to add the new channel and go to the next step (set the public phone numbers).
 - Deselect the check box and click OK, if you want to add the new channel without configuring the public phone numbers. If you choose to set up the public phone numbers later, skip steps 4 and 5.
 - Click Cancel to go back to the previous page without adding the channel.
4. A new page opens, allowing you to add public phone numbers and their DID association. The public phone number is the number dialed from a public network in order to make a call to an endpoint on the server.
 - Add phone numbers from file - In this section you can choose to upload a group of public phone numbers:
 - Import phone numbers from file - Check this box if you want to upload numbers from a file. Leave it deselected if you want to manually introduce a number in the second section of the page. In this case, the two fields below will be grayed out.
 - Upload phone numbers - Click the corresponding  button to select the file's location.



Note

Example of a valid public phone numbers file.

Each line in the .csv file must have the following format:

```
{Public phone number}, {DID}, {Monthly cost}, {Incoming call charge}, {Incoming call charging interval}, {Assignment method}, {Location}
```

The possible values for {Assignment method} are described below:

- The values for exclusive type channels can be 'e', 'exclusive' or '0'.
- The values for stacked type channels can be 's', 'stacked' or '1'.

Example of valid entry:555205,205,10,1,5,e,LocationTag

- Field separator - Insert the field separator type (e.g. ',' - comma).
- Public phone number form - In this section you can manually set up a public phone number:



- Public phone number – Use this text box to specify the public phone number associated with the channel, in the form you want to present it to your client. This is the number that must be called from the public network in order to access an endpoint on the server.
- DID (Direct Inward Dialing) number – The number sent by the provider to the server when the corresponding public phone number is contacted.
- Location – This field is used to specify the location of the public phone number.
- Monthly amount paid to provider – The fee associated with the use of the DID number. This is for information purposes only, it is not used in the charging process.
- Incoming calls cost { x } EUR every { y } seconds – The charge { x } applied to all incoming calls routed through this channel every { y } seconds. Use the first text box to specify the fee and the second one to specify the number of seconds.
- Assignment method – There are two types of phone numbers you can choose from:
 - Exclusive phone numbers – These numbers must be assigned by the administrator to the resellers in order to be used for their clients and endpoints. The administrator does not have to explicitly assign these numbers to reseller accounts.

This is the default type of phone number.

- Stacked phone numbers – These numbers can be used by resellers for their clients and endpoints if they have the See stacked phone numbers permission enabled .



Note

If the channel supports it, you can add more phone numbers on the same channel. You can do this by using the  **Add** or the  **Remove** buttons.

DO NOT add more phone numbers if the channel cannot support them! You will have incoming call routing problems.

5. The Setup channel costs check box allows you to configure the costs charged by the channel's provider based on the call destination.

- Select the check box and click OK to add the new channel and go to the next step (set the channel costs).
 - Deselect the check box and click OK, if you want to add the new channel without configuring its costs. If you choose to set up the costs later, skip steps 6 and 7.
6. A new page opens, allowing you to add channel costs. The information in this page is grouped into several sections:



Caution

The **Add cost**, **Clone channel costs** and **Upload cost file** sections cannot be used at the same time.



Note

For a more detailed overview of the channel costs setup, please check the [Manage Channel Costs](#) section.

- Clone channel costs - Use this section if you want to use a cost structure already defined for another channel.
 - Upload cost file – Use this section to replace all the costs currently associated with the channel with the charges from the uploaded cost file.
 - Add costs - Use this section to manually add costs to the specific channel.
7. Click OK to save the channel costs. Click Cancel to exit without saving the costs.

Edit a IAX Channel's Properties

To edit the parameters of an IAX channel, follow these steps:

1. In the Interconnection Management page, click the name link of the SIP channel that you want to edit.

2.



Click the Edit channel icon

3. A new page allowing you to modify the information opens. The data is grouped into the following sections:


- Channel form – Use this section to modify the parameters that control the channel behaviour. For more details on the available fields, see the [Add a New IAX Channel](#) section.

- Channel group – Use this section to assign the channel to one or more channel groups.
4. Click OK to your changes. Click Cancel to exit without modifying the channel parameters.

ENUM Channel

To add a new ENUM channel to the system, follow these steps:


1.

In the Interconnection Management page, click the  Add ENUM channel icon available in the `Tools` area.

2. A new page opens, allowing you to enter information about the new channel.

The information is grouped into several sections:

- Channel form
 - Clone settings from channel - Use this option to copy the settings of an existing channel. This feature is intended to help you create channels with similar or identical structure faster.
 - Name {text} (For internal use) – Use this text box to fill in a descriptive name used to identify the channel.
 - Protocols allowed - Select the protocols allowed by the channel: `SIP`, `IAX` or both of them.
 - Zone suffix - Use the text box to specify the zone suffix. The default value is `e164.arpa`.
 - Charging plan – Use the drop-down list to specify the channel's type:
 - Paid – The channel charges a fee every time it is used.
 - Free – The channel can be used to call to any destination for free.
 - Do not try more than {x} destinations - Use the text box to specify the maximum number {x} of destinations the channel will try to connect to.
 - Prefix all calls with - Use the text box to specify the symbol used to dial numbers outside the channel. The default value is '+'.
 - Channel codecs – Use the available check boxes to select the codecs for encoding–decoding the voice signal over this channel.
 - g723

- ulaw
 - alaw
 - gsm
 - g726
 - slin
 - g729
 - speex
 - ilbc
 - lpc10
 - h261
 - h263
 - h263p
 - g726aal2
 - h264
- Channel notes - Use this text box to fill in comments on the channel.
- Channel group – Use this section to assign the channel to one or more channel groups. Click the  button to view the content of this section.
 - All groups – This list contains all the groups in the system. To assign the channel to a specific group, click the desired channel and it will be automatically moved into the `Assigned groups` pool.
 - Groups where the channel is assigned to - This list contains the groups where the channel is assigned to. To remove the channel from a group, click the desired channel and it will be automatically moved back into the `All groups` pool.
3. The Setup channel costs check box allows you to configure the costs charged by the channel's provider based on the call destination.
 - Select the check box and click OK to add the new channel and go to the next step (set the channel costs).
 - Deselect the check box and click OK, if you want to add the new channel without configuring its costs. If you choose to set up the costs later, skip steps 4 and 5.
 4. A new page opens, allowing you to add channel costs. The information in this page is grouped into several sections:



Caution

The **Add cost**, **Clone channel costs** and **Upload cost file** sections cannot be used at the same time.




Note

For a more detailed overview of the channel costs setup, please check the [Manage Channel Costs](#) section.

- Clone channel costs - Use this section if you want to use a cost structure already defined for another channel.
 - Upload cost file – Use this section to replace all the costs currently associated with the channel with the charges from the uploaded cost file.
 - Add costs - Use this section to manually add costs to the specific channel.
5. Click OK to save the channel costs. Click Cancel to exit without saving the costs.

Edit a ENUM Channel's Properties

To edit the parameters of an ENUM channel, follow these steps:

1. In the Interconnection Management page, click the name of the ENUM channel that you want to edit.
2.  Click the Edit channel icon
3. A new page allowing you to modify the information opens. The data is grouped into the following sections:
 - Channel form – Use this section to modify the parameters that control the channel behaviour. For more details on the available fields, see the [Add a New ENUM Channel](#) section.
 - Channel group – Use this section to assign the channel to one or more channel groups.
4. Click OK to your changes. Click Cancel to exit without modifying the channel parameters.

Manage Channel Costs





Note

This option is only available if, in the channel's setup, the **Charging plan** was set to `Paid`.

View Current Channel Costs List

In the Channel Cost Management page, you can view a list of the costs associated with the selected channel, for various call destinations. Multiple operations can be performed:

- Add new costs for the channel.
- Replace all the costs associated with the channel.
- Delete costs from the database.

To access this page, click the  Costs icon corresponding to the chosen channel in the Interconnection Management page or the  Manage channel costs icon located in the `Tools` area of every channel. A new page that displays the following information about each cost opens:

- Area code – The prefix of the destination phone number. This prefix indicates the call destination's geographical location.
- Cost – The amount charged by the channel provider to connect calls to phone numbers prefixed by the area code.
- Network - The code of the network used by this channel.
- Description – A note associated with the area code.
- Created – The date when the cost was added to the database.



Note

The costs are defined relatively to the `Charge interval per cost record`. If the channel cost list is not present, no call cost is currently defined on the channel.

Add Channel Costs

4PSA VoipNow Core offers three methods for setting up the costs associated with a channel:

- Replicate the costs of another channel.
- Upload a cost file in .csv format.
- Add costs manually using the interface.

Clone Another Channel's Costs

For automating the process of adding channel costs, you can copy the costs defined for another channel. This feature is useful when you have just created a new channel and you want to copy the area codes defined for an existing one. You will be able to manually add other costs or edit the existing ones after the cloning.

To copy the costs that have already been defined for another channel use the controls in the Clone channel costs section:

- Import costs from another channel – Select this check box to confirm the fact that you want to import the costs associated with an existing channel.
- Get costs from channel – Use this drop-down list to choose one of the existing channels whose costs you want to import.



Note

This function will only replicate the costs for area codes that **are not already defined** for the channel.

Let's take this simple example: you have manually defined the cost for the area code 011. You import the costs from a channel that has defined the area codes 01 and 011. 4PSA VoipNow Core will replicate the cost for area code 01 but **will not** overwrite the cost for area code 011.



Caution

Be careful when importing costs from another channel because it can affect the way in which 4PSA VoipNow Core routes calls.

For example, let's assume you have manually defined the cost for the area code 02. This means that the calls to the numbers 0219999999 and 0229999999 are charged the same cost.

When you import the costs from a channel that has defined the area code 021, the calls to the number 0219999999 will be charged differently from the calls to number 0229999999.

Review the imported costs to make sure the channel will charge calls the way you intended.

Upload a Cost File



Note


Uploading a cost file is a risky operation because it replaces all the costs currently associated with the channel. It is advisable to disable the channel before performing this operation.

- Agree to replace ALL channel costs – Before uploading a cost file, you must select this check box.



Note

If you do not select the check box, the **File to upload** and **File separator** fields are disabled.

- File to upload – Use the  button to locate the cost file that you want to upload.
- Field separator – The character used to separate the values in the .csv file.



Note

This field is not required. If you leave the text box empty, 4PSA VoipNow Core assumes that the field separator is ',' (comma).

Example of a valid cost file

Each line in the .csv file must be written in one of the following formats:

- {Prefix}, {Cost}, {Charge interval}, {Description}, {Network}
- {Prefix}, {Cost}, {Charge interval}, {Description}
- {Prefix}, {Cost}, {Charge interval}

The following record is valid: 0033, 0.02, 60, Description, MobiCom.

This cost rule signifies that for the calls prefixed with the 0033 code, the endpoint is charged 0.02 {currency} every 60 seconds. The {currency} is the one defined in the System Preferences page. This cost rule applies to the MobiCom network (the network code must be provided). The Description field can be used for associating a note to the cost rule.

Other examples of valid records:

043, 0.02, 60
0040, 0.20, 60, Romania
030, 0.07, 30
0433, 0.23, 60
0040, 0.15, 15, Romania, RomTelco



Note

If the cost file you are trying to upload is not valid, 4PSA VoipNow Core displays an error message informing you about the first line that contains errors.



Manually Add Costs

You can specify the channel costs by using the available text boxes in the Add costs section:

- Cost {cost} {currency} / {charge_interval} seconds for call to area code {number_1} . Network code {number_2} . Description {text} .
 - {cost} – Use this text box to specify the cost charged by the channel.
 - {currency} – This is the currency set up by the system administrator and used by the entire system.
 - {charge_interval} – Use this text box to specify the time interval to which the {cost} applies to. The default value is 60 seconds.
 - {number_1} – Use this text box to specify the prefix of the destination phone number. This prefix indicates the geographical location of the destination phone number.
 - {number_2} - Use this text box to specify the code of the network used by the channel.
 - {text} - Use this text box to associate a maximum 128 characters description to the area code cost.

Example: Cost 0.20 USD/ 60 seconds for call to 0040. Network code 1234. Description Romania.

Use the   buttons to add/remove several cost entries at the same time:

-  removes the cost entry.
-  adds another cost entry.




Note


The system will not be able to route all the calls if you do not add costs for all the destinations.

Export Costs

4PSA VoipNow Core allows you to export channel costs in .csv format in order to share them among 4PSA VoipNow Core servers or in order to backup them.

Click the  [Export all costs](#) link placed above the costs table. Then, save the .csv file to the desired location.

Remove Costs





Choose the costs you want to remove by selecting their corresponding check boxes. Then, click the  [Remove selected](#) link. You will be asked to confirm the removal.

Manage Public Phone Numbers

View Public Phone Numbers


In the Interconnection Management page you will be able to see the public phone numbers assigned to the selected channel. In order to see this, click the desired channel link.

4PSA VoipNow Core displays the following information about each phone number:

- T – This icon displays the number type:
 -  Stacked phone number
 -  Exclusive phone number
- C - This icon displays if the public phone number is assigned to an endpoint or not:
 -  Not assigned
 -  Assigned



Note


If you click the  icon, you will be directed to the endpoint account.

For more information on how to associate an endpoint with a phone number, see the explanation on incoming phone number selection in the [Edit Permissions and Phone Numbers](#) section.

- Public phone number – The public phone number associated with the channel, in the form you want to present it to your client. This is the number that must be called from the public network in order to access an endpoint on the server. Click this link to edit the public phone number.
- DID – The code used by the remote party to contact the server when then corresponding phone number is called.
- Location - The phone number's location.
- Monthly amount paid to provider – The monthly fee charged by the provider for the use of the channel.
- Reseller – The name of the reseller that have this public phone number allocated. Click this link to enter the reseller's account.
- Client – The name of the client that have this public phone number allocated. Click this link to enter the client's account.
- Endpoint – The name of the endpoint that have this public phone number allocated. Click this link to enter the endpoint's account.
- Date added – The date when the channel was added to the system.

Add a Public Phone Number to a Channel


In order to add a public phone number to a channel, in the Interconnection Management page, choose the wanted channel and click its

name. Than, in the new opened page, click the  Add phone numbers icon.

A new page opens, allowing you to add public phone numbers and their DID association. The public phone number is the number dialed from a public network in order to make a call to an endpoint on the server.

- Add phone numbers from file - In this section you can choose to upload a group of public phone numbers:
 - Import phone numbers from file - Check this box if you want to upload numbers from a file. Leave it deselected if you want to manually introduce

a number in the second section of the page. In this case, the two fields below will be grayed out.

- Upload phone numbers - Click the corresponding  button to select the file's location.



Note

Example of a valid public phone numbers file.

Each line in the .csv file must have the following format:

```
{Public phone number}, {DID}, {Monthly cost}, {Incoming call charge}, {Incoming call charging interval}, {Assignment method}, {Location}
```

The possible values for {Assignment method} are described below:

- The values for exclusive type channels can be 'e', 'exclusive' or '0'.
- The values for stacked type channels can be 's', 'stacked' or '1'.

Example of valid entry:555205,205,10,1,5,e,LocationTag

- Field separator - Insert the field separator type (e.g. ',').
- Public phone number form - In this section you can manually set up a public phone number:
 - Public phone number – Use this text box to specify the public phone number associated with the channel, in the form you want to present it to your client. This is the number that must be called from the public network in order to access an endpoint on the server.
 - DID (Direct Inward Dialing) number – The number sent by the provider to the server when the corresponding public phone number is contacted.
 - Location – This field is used to specify the location of the public phone number.
 - Monthly amount paid to provider – The fee associated with the use of the DID number. This is for information purposes only, it is not used in the charging process.
 - Incoming calls cost {x} {currency} every {y} seconds – The charge {x} applied to all incoming calls routed through this channel every {y} seconds. Use the first text box to specify the fee and the second one to specify the number of seconds.
 - Assignment method – There are two types of phone numbers you can choose from:

- **Exclusive** – These numbers must be assigned by the administrator to the resellers in order to be used for their clients and endpoints. The administrator does not have to explicitly assign these numbers to reseller accounts.





Note

This is the default phone number type.

- **Stacked phone numbers** – These numbers can be used by resellers for their clients and endpoints if they have the See stacked phone numbers permission enabled .



Note

If the channel supports it, you can add more phone numbers on the same channel. You can do this by using the  **Add** or the  **Remove** buttons.

DO NOT add more phone numbers if the channel cannot support them! You will have incoming call routing problems.

Edit a Public Phone Number

To edit a public phone number's parameters, click the chosen channel name from the Interconnection Management page and then the wanted number. In the new opened page, you can modify:

- **Public phone number** – The public phone number associated with the channel, in the form you want to present it to your client. This is the number that must be called from the public network in order to access an endpoint on the server.
- **DID (Direct Inward Dialing) number** – The number sent by provider to the server when the corresponding public phone number is contacted.
- **Monthly amount paid to the provider** – The monthly fee charged by the provider for the use of the channel.
- **Incoming calls cost {x} {currency} every {y} seconds** – The charge {x} applied to all incoming calls routed through this channel every {y} seconds. Use the first text box to specify the fee and the second one to specify the number of seconds.

- Assignment method – There are two types of phone numbers you can choose from:
 - Exclusive – These numbers must be assigned by the administrator to the resellers in order to be used for their clients and endpoints. The administrator does not have to explicitly assign these numbers to reseller accounts.




Note

This is the default phone number type.

- Stacked phone numbers – These numbers can be used by resellers for their clients and endpoints if they have the See stacked phone numbers permission enabled .

Remove a Public Phone Number

To remove public phone numbers from a channel, follow the next steps:

1. Choose the numbers you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link. A new page displaying the list of the numbers that will be deleted opens.
3. Review the list. If you want to proceed with the removal, select the `confirm the removal` check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.




Note

You cannot remove public phone numbers that are assigned to endpoints.



Public Phone Numbers Report

In the Public Phone Numbers Report page you can view a list of all the public phone numbers and the resellers, clients and endpoints they had been


assigned to. To access this page, click the  Public phone numbers icon in the Interconnection Management page, in the Tools area.

View the Public Phone Numbers List

4PSA VoipNow Core displays the following information about each public phone number:


- T - The type of the public phone number:
 -  Exclusive
 -  Stacked
- Public phone number - The public phone number.
Click the link if you want to edit the number.
- DID - The DID (Direct Inward Dialing) number.
- Channel - The channel the public phone number has been assigned to.
If you click the link, the Interconnection Management page will open, allowing you to manage the specific channel.
- Reseller - The reseller the public phone number has been assigned to.
If you click the link, the Reseller Management page will open, allowing you to manage the specific reseller.
- Client - The client the public phone number has been assigned to.
If you click the link, the Client Management page will open, allowing you to manage the specific client.
- Endpoint - The endpoint the public phone number has been assigned to.
If you click the link, the Endpoint Management page will open, allowing you to manage the specific endpoint.
- Date added - The date when the public phone number was added in the system.


Move Public Phone Numbers Amongst Channels

Public phone numbers can be moved amongst channels. In the public phone numbers' list, select the respective numbers and click the  [Move to channel](#) link located above the table. A new page will open. Confirm that you want to move the phone numbers by selecting the Agree to move public phone numbers to channel check box and use the available drop-down list to select the channel the phone numbers will be assigned to.

Click OK to apply the changes.


Export to an Easy-to-Edit Format

 [Export to Excel](#) - Click this link to export the public phone numbers report to a Microsoft Excel file.

 [Export to CSV](#) - Click this link to export the public phone numbers report to a .csv format file.

Manage Channel Groups

View Channel Groups List

In the Channel Group Management page you can view a list of all the channel groups available in the system. To access this page, click the  Channel groups icon available in the Interconnection Management page, in the **Tools** area. Multiple operations can be performed:



- Add new groups to the system.
- Searching the existing groups.
- Edit a group's membership.
- Delete channel groups from the system.

4PSA VoipNow Core displays the following information about each group:

- **Name** – The descriptive name of the group. Click this link to edit the group details.
- **Created** – The date when the group was added to the system.
- **Channels** – The number of group members. Click this link to view a list of the channels belonging to the group.

Searching the Groups List

When the group list is too long and you are searching for specific groups, you can use the following features:

- **Search** – Fill in the text you are looking for in the text box. Click the  button or the **Search** label to display only the groups that match your search criteria.
- **Show all** – Click this  button or the **Show all** label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.


The channel groups list can be filtered by name, creation date and channels. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the channel groups list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Channel Group

Channel groups are reserved for further usage. To create a new group of channels, follow these steps:

1.



Click the  Add channel group icon available in the Interconnection Management page, in the `Tools` area. A new page opens, allowing you to enter information about the new group.

2. The information is grouped into several sections:

- Channel groups form
 - Group name – Use this text box to give a descriptive name to the channel group.
 - Channel group notes – Use this text area to insert comments on the new group.
- Choose channels
 - Available channels – This list contains all the channels in the system. To assign the channel to a specific group, click the desired channel and it will be automatically moved into the `Group channels` pool.
 - Group channels – This list contains channels in the respective channel group. To remove a channel from a group, click the desired channel and it will be automatically moved back into the `Available channels` pool.

Channels are displayed in the following format: Channel name (public phone number).




Note

A channel can be a member of several groups at the same time.


3. Click OK to create the new channel group. Click Cancel to go back to the previous page without creating the group.


Edit the Channel Group's Details

To edit a channel group's properties, click the  Channel groups icon available in Interconnection Management page, in the Tools area and follow these steps:

1. In the Channel Group Management page, click the name of your chosen channel.
2. A new page opens, allowing you to modify the group's details. The information is displayed in several sections:
 - Channel group form – Use this section to modify the name of the group or to edit the notes associated with it.
 - Choose channels – Use this section to add or remove channels from the group.
3. Click OK to save the changes to the group. Click Cancel to return to the previous page without saving the changes.

Remove a Channel Group

To remove channel groups from the system, click the  Channel groups icon available in the Interconnection Management page, in the Tools area and follow these steps:

1. Choose the groups you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link. A new page displaying the list of the groups that will be deleted opens.
3. Review the list. If you want to proceed with the removal, select the `Confirm the removal` check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Caution

When you remove a group of channels, all its members will be deleted!

Manage Outgoing Routing Rules

Outgoing Routing Rules Overview



4PSA VoipNow Core can route calls using selected channels based on the time interval when the call was placed and on its destination. 4PSA VoipNow Core can perform predefined actions, such as block the call, transfer it through a particular channel or through the channel that provides the best cost for that

destination. To access this page, click the  Outgoing routing rules icon available in Interconnection Management page, in the Tools area.

In the Outgoing Routing Rules Management page, you can view a list of the routing rule groups available in the system. Multiple operations can be performed:

- Add new routing rule groups.
- Search existing groups.
- Edit a group's details.
- Save routing rule groups on your computer.
- Delete routing rule groups.

4PSA VoipNow Core displays the following information about each group:

- S – This icon displays the group's status:
 -  Enabled
 -  Disabled

Click this icon to change the group's status.





Note

You cannot change the status of the groups that are currently included in charging plans.

- Name – The descriptive name of the outgoing routing rule group. Click this link to edit the group's details.
- Rules – The number of rules inside the rule group.
- Charging plans - The number of charging plans that are using a particular outgoing rules group.
- Updated – The date when the group was added to the system.

Searching the Routing Rules Groups List

When the routing rules group list is too long and you are searching for specific routing rules, you can use the following features:


- Search – Fill in the text you are looking for in the text box. Click the  button or the Search label to display only the routing rules that match your search criteria.
- Show all – Click this  button or the Show all label to display the entire list.


Even if you navigate to other pages, the search criteria is retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available on the right side of the table. The total number of records is shown on the left side.

The routing rules group list can be filtered by name, rules, charging plan and update date. To do so, click a table header link. The order criterion is marked by the highlighted table header and the arrow indicates how the routing rules group list was sorted. The sort direction can be changed by another click on the corresponding header.

Add an Outgoing Routing Rules Group

To add outgoing routing rules to the system, click the  Outgoing routing rules icon available in Interconnection Management page, in the Tools area and follow these steps:

1.  Click the Add outgoing routing rules icon available in the Tools area.
2. A new page opens, allowing you to enter information about the routing rules group. The information is displayed in several sections:
 - Routing group management
 - Name – Use this text box to give a descriptive name to the outgoing routing rule group.
 - Set as default routing group - Select the available check box if you want this routing group to be set as the default one.


- Agree to replace existing routing rules – You can use this option to upload an XML file that was previously saved using the [Save rules](#) option.



Caution

4PSA VoipNow Core deletes the selected rules group from the database and replaces it with the uploaded rules.

The rules group in the XML file must have the **same name** as the group in the interface. Otherwise, 4PSA VoipNow Core does not delete the current rules and ignores the uploaded file.

- Upload rules – When the option Agree to replace existing routing rules is enabled, you can use the  button to locate the file containing the routing rules group that you want to upload.



Note

The last two options are available only after you have set up the first rule.

- Add new outgoing routing rules – In this section you can find buttons, text boxes and drop-down lists that allow you to define one or more routing rules for outgoing calls.

Use the first drop-down list to choose the action to be performed if the destination number is matched. The available actions are:

- Route – 4PSA VoipNow Core directs the call through a particular channel. If you select this action, the following routing rule will be displayed:

Route number {number_1} if in time interval {time_int} coming from {number_2} route through {channel} and than {action} (with) {number_3} Add in position {number_4} and make it final, where:

- {number_1} - Use this text box to specify the number dialed by the endpoint user.
- {time_int} - Use this drop-down list to select the time interval when this rule applies.
- {number_2} - Use this text box to specify the number of the endpoint where the call originates.



Note

You can specify any combination of the digits 0-9 and the characters '!', '*', and '.'.

The number entry supports the Asterisk number matching. You can enter a basic regular expression containing:

- any digit.
- * - Matches 0, 1 or any number of the previous expression.
- . - Matches one or more characters.

- {channel} - Use this drop-down list to select the channel through which the call will be connected. If you select the Best cost option, 4PSA VoipNow Core finds the lowest cost route and uses it to connect the outgoing call. If the transfer fails, the application will search for the next available lowest cost route and so on, moving upwards to more expensive routes.
- {action} - Use this drop-down list to select the action that will be performed if the dialed number matches the one specified in this rule:
 - Prefix - Use the {number_3} text box to fill in the number that will prefix the phone number dialed by the endpoint user.
 - Replace - Use the {number_3} text box to fill in the number that will replace the phone number dialed by the endpoint user.
 - Delete - Use the two text boxes that appear to specify the number of digits that will be removed from the dialed number and the position of the first removed digit.
 - Insert - Use the two text boxes that appear to specify the digits that will be inserted in the dialed number and the position where they will be inserted.
- {number_4} - Use this text box to specify the rule's position inside the group.



Caution

The rule's position in the group is very important because it defines the order in which 4PSA VoipNow Core matches the call rules. The **Block** rule is final. This means that when a rule is matched, the other rules are no longer checked.

The **Route** rule can be made final by selecting the `and make it final` check box. An extra **(F)** will be displayed in the **Action** column of the existing rules list.

- **Process** – This rule can be used to perform complex operations on one number before directing the call through a particular channel. It performs the operation specified later in the rule (e.g. deleting or inserting digits, adding a prefix, etc.). The options available to design the rule are the same as for the Route action, the only one removed being `{chanel}`.



Note

You can add a sequence of **Process** rules. In a sequence, each **Process** rule operates on the number resulted from the previous rule. However, they must use the same expression in the `{number_1}` text box.

For example, you can have a rule that deletes the first 3 digits of the dialed number:

```
Process number 021XXXXXXXX if in time interval Business hours
coming from XXX and Delete with 3 digits starting from digit 0. Add
in position 1
```

Next you can have another rule that adds a 2 digit prefix to the number resulted from the previous rule:

```
Process number 021XXXXXXXX if in time interval Business hours
coming from XXX and Prefix with 555. Add in position 2
```

Note that the second rule will add the 555 prefix to the number resulted from the previous rule (i.e. you will obtain 555XXXXXXXX, you will **not** obtain 555021XXXXXXXX)



Note

If you have a sequence of **Process** rules referring to the same external number, the matched number is the original dialed number, no matter the other intermediary rules.

For example, you have a rule that prefixes the dialed number with 4:

```
Process number 123XXXXXXXX if in time interval Business hours
coming from XXX and Prefix with 4. Add in position 1
```

The resulted dialed number is 4123XXXXXXXX

Next you have another rule which prefixes the dialed number with 0:

Process number 4123XXXXXXX if in time interval Business hours coming from XXX and Prefix with 0. Add in position 2

The resulted dialed number is 04123XXXXXXX

Next you have another rule which prefixes the dialed number with 5:

Process number 123XXXXXXX if in time interval Business hours coming from XXX and Prefix with 5. Add in position 3


The resulted dialed number is 54123XXXXXXX

This shows that the second rule reefers to an external number identical with the one resulted from the first rule, but this will not affect the third rule, where the system will match the original dialed number, 123XXXXXXX, and not the result

- Portability check – This rule is used to identify the network to which a number belongs to and thus to choose the appropriate charging method which allows to determine the cost of the call. The routing rules which follow this one select the cost of the call based on the results provided by this rule.



Note

This routing rule is available only if the **Number portability engine** option is enabled. By default, this option is disabled. To enable it, navigate to the  [Settings](#) >> **System preferences** page. You should find the option under the **Charging** tab.

VoipNow Core provides the engine that checks for portability, but if a certain customer wants to create a portability client (s)he should contact the customer support center for detailed information.

To identify the number, the portability client makes a portability request to a remote or a local engine. There are two possibilities:

- The portability client cannot find the network which the number belongs to, hence the number is not ported and nothing is changed in the call flow.
- The number is in the portability database. In this case, the portability client may return:
 - The network, the cost of the call (using the default currency) and the cost of the call per unit (in seconds). In this situation, the call is ported through the appropriate channel and charged accordingly to the information returned by the portability client.

- If the portability client returns only the network the number is ported, but the charging rules must be taken from the channel through which the call is routed. There are two possibilities:
 - a. Best cost - In this case, all the rules based on the best cost option are ignored. To transfer the call the application employs the next direct transfer rule which is matched.
 - b. Direct transfer - In this case, the maximum cost per channel for that network is selected and used as channel cost.
- Block – 4PSA VoipNow Core blocks the call to that number. If you select this action, the following routing rule will be displayed:

Block number { number_1 } if in time interval { time_int } coming from { number_2 } Add in position { nnumber_3 } , where:

- { number_1 } - Use this text box to specify the number dialed by the endpoint user.
- { time_int } - Use this drop-down list to select the time interval when this rule will be applied.
- { number_2 } - Use this text box to specify the number of the endpoint where the call originates.
- { number_3 } - Use this text box to specify the rule's position inside the group.



Note

You can specify any combination of the digits 0-9 and the characters '.', '*'.

The number entry supports the Asterisk number matching. You can enter a basic regular expression containing:

- X - matches any digit from 0-9.
- Z - matches any digit form 1-9.
- N - matches any digit from 2-9.
- [] - matches any digit or letter in the brackets.
- * - matches 0, 1 or any number of the previous expression.
- . - matches one or more characters.





For example:

- Number 0. will match any number starting with 0.


- Number 1X[123]N will match any number starting with 1, followed by any digit between 0 and 9, followed by 1,2 or 3 and followed by any digit between 2 and 9.

In the example below if the user dials 08004 on Sunday, the call is routed through the cheapest channel and prefixed with 022.

Example of a valid outgoing rule

3. Use the   buttons to remove/add several new routing rules at the same time.
 -  removes the outgoing routing rule definition.
 -  adds new outgoing routing rule definition.
4. Click OK to add the new routing group to the system. Click Cancel to go back to the previous page without adding the rule group.

Edit a Routing Rule Group

To edit the properties of an outgoing routing rule group, click the  Outgoing routing rules icon in the Interconnection Management page, in the Tools area and follow these steps:



1. In the Outgoing Routing Rules Management page, click the name of the group.
2. A new page opens, allowing you to modify the details of the group. The information is displayed in several sections:
 - Routing group management – Use this section to rename the group.
 - Add new outgoing routing rules – Use this section to add new rules to the group.
 - Existing rules – Use this section to review the existing rules, change their order in the group or remove rules from the group.





Note

For more information on how to edit the rule, see the [Add an Outgoing Routing Rules Group](#) section.

4PSA VoipNow Core displays the following information about each existing routing rule:

- No – The position of the rule inside the group.
- S – This icon displays the rule's status:
 -  Enabled
 -  Disabled

Click this icon to change the rule's status.

- P – Use the available  up and  down arrow icons to change the position of the rule in the group.
- Crt – The position of the rule that was last saved by the user. This number differs from the number in the No column only if the user has changed the rules' positions, but has not applied the changes yet.
- Action – The action performed when 4PSA VoipNow Core matches the number dialed by the user.

For the Route rule, an (F) is displayed if the rule is final.

- Number – The number chosen to match the number dialed by the endpoint user.
- Change/prefix – If the action is Route, this field displays one of the following:
 - (P): 0223, where 0223 is the number that will be added as a prefix to the number dialed by the endpoint user
 - (R): 343443, where 343443 is the number that will replace the number dialed by the endpoint user and that will be sent through the channel
 - (D): 4 at pos 7, where 4 is the number of digits that will be removed from the number dialed starting with digit number 7.
 - (I): 12 at pos 2, where 12 is the number that will be inserted in the dialed number starting at digit number 2.
- In time interval – The time interval when the rule will be executed.
- Coming from – The number of the endpoint where the call originated.
- Through – If the action is Route, this column displays the channel that used to connect the call. Otherwise this field displays '-'.


To change the order of the routing rules, follow these steps:

1. In the routing rules list, use the ▲ up and ▼ down icons to change the position of a certain rule inside the group.
2. To move a certain rule to a higher position, click the ▲ up arrow. To move a certain rule to a lower position, click the ▼ down arrow.




Note

When you change the order of the call rules in the list, 4PSA VoipNow Core displays the number of changes you have performed to remind you to save them before navigating away from the page. In the top left corner of the call list 4PSA VoipNow Core displays {x} changes pending in the rules order.

3. Click the  [Apply changes](#) link to save the changes you have performed in the call routing list.


To remove routing rules from a group, follow these steps:


1. Choose the routing rules you want to delete by checking their corresponding check box.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK . Otherwise, click Cancel to return to the previous page without deleting anything.

Save Outgoing Routing Rule Groups


4PSA VoipNow Core gives you the possibility to back-up and restore your routing rules. You can export routing rules to XML files and download them to your computer. You can later upload these files to the 4PSA VoipNow Core rules database. You can save either individual groups or all groups available in the 4PSA VoipNow Core system.


To save a specific group from the system onto your computer:

1. In the Outgoing Routing Rules Management page, click the name of the group you want to save.
2. A new page listing all the rules available in the group opens. Click the  [Save rules](#) link.

To save all the groups currently available in your database, in the Outgoing Routing Rules Management page click the  [Save rules](#) link.

Remove Outgoing Routing Rule Groups

To remove channel groups from the system, click the  Outgoing routing rules icon available in the Interconnection Management page, in the Tools area, and follow these steps:


1. Choose the routing rules you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.




Note

You cannot remove routing rule groups that are used in charging plans.

Remove a Channel

To remove channels from the system, click the  [Channels](#) link available in the left navigation panel and follow these steps:


1. Choose the channels you want to delete by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link. A new page displaying the list of the channels that will be deleted opens.
3. Review the list. If you want to proceed with the removal, select the `confirm` the `removal` check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Chapter 6


Manage Charging Plans



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >> **System Preferences** >> **Charging** section.

View Your Charging Plans



A charging plan is a collection of rules which defines how a reseller will be charged for the calls made by his endpoints. To view the charging plans list, click the  [Charging plans](#) link available in the left navigation panel.

In the Charging Plan Management page, you can view the list of all charging plans available in the system. You can also perform the following actions on these plans:

- Add a new charging plan

- Search for specific charging plans
- Edit a charging plan's details
- Delete charging plans

4PSA VoipNow Core displays the following information about each charging plan:








- S – The charging plan's status is displayed using an icon:
 -  Enabled
 -  Disabled

Click this icon to change the charging plan's status.



Note


You can change a charging plan's status only if it is not currently used.

- I – The permission for incoming calls is displayed using an icon:
 -  Allowed and free
 -  Allowed and charged
 -  Not allowed
- O – The permission for outgoing external calls is displayed using an icon:
 -  Allowed
 -  Not allowed
- E – The permission for direct calls between endpoints is displayed using an icon:
 -  Allowed
 -  Not allowed
- Name – The descriptive name of the charging plan. Click the link to edit the details of the charging plan.
- Type – The type of the charging plan: prepaid or postpaid.
- ExtOutCredit – The credit limit for the external outgoing calls.
- ExtInCredit – The credit limit for external incoming calls.

- Resellers – The number of resellers using this charging plan.
- Created – The date when the charging plan was added to the system.




Note

You can filter the columns you would like to display in this page by clicking the  [Show columns](#) button. After choosing the desired columns, click **Apply** in order to save the changes. Likewise, if you cannot see some of the above columns, it is likely that they have been disabled using this control.



Searching the Charging Plans List



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >> **System Preferences** >> **Charging** section.

When the charging plan list is too long and you are searching for specific charging plans, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  icon or the Search label to display only the plans that match your search criteria.
- Show all – Click this  icon or the Show all label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.


The charging plans list can be filtered by name, type, ExtOutCredit, ExtInCredit, resellers number, and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the charging plan list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Charging Plan



Caution


This section will be displayed only if charging is enabled on the 4PSA VoipNow Core

server. To enable/disable it, go to the  [Settings](#) >>




System Preferences
>> **Charging** section.


4PSA VoipNow Core offers the possibility of adding a new charging plan that can be later applied to a new reseller account.

To add a new charging plan, click the  [Charging plans](#) link available in the left navigation panel and follow these steps:

1.

In the Charging Plan Management page, click the  Add charging plan icon. A new page opens, allowing you to enter information about the new charging plan.

2. The information is grouped into several sections:

- Charging plan description
 - Name – Use the text box to give a descriptive name to the charging plan.
 - Set as default charging plan - Select this check box located next to the Name text box if you wish to set the charging plan as default for the new reseller accounts.
 - Outgoing routing rule – Use the drop-down list to select one of the available *Outgoing routing rule groups*. Outgoing routing rule groups are defined in  [Channels](#) » Outgoing routing rules. They contain guidelines that 4PSA VoipNow Core follows when choosing the route of an outgoing call.
 - Allow incoming calls – When this option is enabled, the user is able to receive calls from endpoints registered into the system as well as from endpoints outside the system.
 - Allow outgoing external calls – When this option is enabled, the user is able to make calls to endpoints outside the server.
 - Allow direct calls between endpoints – When this option is enabled, the direct calls between endpoints are allowed.

- Charging policy
 - Charging plan types – 4PSA VoipNow Core offers two types of charging plans:
 - a. **Prepaid** - The reseller will have a limited credit. Once the credit is consumed, the client will no longer be allowed to place or receive calls.
 - b. **Postpaid** - The reseller will pay a monthly fee which will include a predefined number of minutes. The minutes that exceed that limit will be charged after predefined rates.
 - Limit for external outgoing calls {currency} – In order to prevent abuse, you can assign a money limit for the total costs of outgoing external calls. When the cost of the calls exceeds this limit, the endpoints will no longer be able to make calls to external destinations. If you do not want to limit the endpoints, select the Unlimited check box.



Note

This field is displayed only for **Postpaid** charging plans. The value in this field represents a *monthly* limit (i.e. the amount limits the total costs of the external outgoing calls in one month).



- Limit for external incoming calls {currency} – In order to prevent abuse, you can assign a money limit for the total costs of incoming external calls. When the cost of the calls in a month exceeds this limit, the endpoints will no longer be able to receive calls from external numbers. If you do not want to limit the endpoints, select the Unlimited check box.



Note

This field is displayed only for **Postpaid** charging plans. The value in this field represents a *monthly* limit (i.e. the amount limits the total costs of the external incoming calls in one month).

- Available external outgoing minutes – {m} in time interval {T}
 - The outgoing minutes available on the account where the charging plan will be applied.

You can use the   buttons to remove/add available minutes for different time intervals:

-  removes the minutes corresponding to the selected time interval.

-  adds another time interval to the charging plan.

You can add outgoing minutes blocks as long as you still have unused time intervals available.



Note

The **Available external outgoing minutes** fields can be edited only if the **Allow outgoing external calls** setting has been enabled in the previous section.



Note

This field is displayed only for `Postpaid` charging plans. The value entered in this field represents a *monthly* limit (i.e. the number of minutes limits the total duration of the external outgoing calls in one month).

- External outgoing over usage – $\{\text{multiplication_factor}\} \times \{\text{m}\}$ included outgoing minutes + $\{\text{m}\}$ minutes – This is the number of outgoing minutes the user can consume after having exceeded the available minutes in the time intervals.



Note

This field is displayed only for `Postpaid` charging plans. The value entered in this field represents a *monthly* limit (i.e. the number of minutes limits the total duration of the external outgoing calls in one month).

You can set for the reseller charging plans limits that exceed the limits of the charging plan currently associated to the reseller account.

- Charging segments
 - Charge outgoing indivisible for the first $\{\text{x}\}$ seconds – If an outgoing call lasts less than $\{\text{x}\}$ seconds, the user will be charged the price corresponding to a $\{\text{x}\}$ seconds call.
 - Then charge every $\{\text{y}\}$ seconds – 4PSA VoipNow Core computes the cost of an outgoing call every $\{\text{y}\}$ seconds, if a call lasts more than the indivisible interval $\{\text{x}\}$ set above.
 - Charge external incoming indivisible for the first $\{\text{w}\}$ seconds – If an external incoming call lasts less than $\{\text{w}\}$ seconds, the user will be charged the price corresponding to a $\{\text{w}\}$ seconds call.

- Then charge every { z } seconds – 4PSA VoipNow Core computes the cost of an external incoming call every { z } seconds, if a call lasts more than the indivisible interval { w } set above.
- Fees
 - Initial outgoing credit { currency } – The credit offered to the reseller on account creation. This money can be used only for outgoing calls. If you do not want to limit the reseller, select the Unlimited check box.



Note

This field is displayed only for Prepaid charging plans.

- Initial incoming credit { currency } – The credit offered to the reseller on account creation. This money can be used only for incoming calls. If you do not want to limit the reseller, select the Unlimited check box.



Note

This field is displayed only for Prepaid charging plans.



- Charge method – Two methods for charging calls are provided: Fixed prices and Relative to call cost. They are mutually exclusive and must be used based on the system application.



Note

The external charge field can be disabled no matter what the charge method is, if the **Allow outgoing external calls** check box is deselected.

- Charging fixed price – This method charges the same price for calls that are made in the same time interval. It does not take into consideration the real cost of the calls (i.e. the price charged by the channel provider or the call destination). The following fields are displayed:
 - Charge direct calls { value } { currency } /second – The charge for the direct calls made to endpoints.
 - Charge external incoming calls { value } { currency } /second – The charge for the calls received from outside the system.
 - Charge external outgoing calls { value_1 } { currency } /second in time interval { time_interval } { value_2 }

{currency}/second outside these intervals - The charge for the calls made outside the system. Use the {time_interval} drop-down list to select the time interval(s) to which this charge will apply. Outside the chosen interval(s), the {value_2} will be charged. You can add/remove several time intervals by using the   icons.



Note

You can choose the time interval only if the **Charging plan type** was set to Prepaid.



Caution

The fixed prices method does not take advantage of 4PSA VoipNow Core's capabilities to route calls through channels that offer the best cost. The fixed prices policy is risky especially for telephony resellers. If the fixed price is not carefully chosen, the reseller could end up paying to his provider a higher price than his clients pay him.

- Charging relative to call costs – This method calculates the call costs by using the real amount charged by the channel provider, based on call destination. It uses the following cost function:

$n \times \text{call cost} + \text{adjustment}$, where:

- n and adjustment are parameters that can be set.

The call cost variable depends on the user's level in the system hierarchy (i.e. system owner, reseller account owner, client account owner, endpoint account owner):

- If the charging plan is applied to a reseller, the call cost is the amount charged by the telephony channel.
- If the charging plan is applied to a client, the call cost is the price paid by the reseller that owns the client account.
- If the charging plan is applied to an endpoint, the call cost is the price paid by the client that owns the endpoint account.

For the Charging relative to call costs method the following fields are displayed:

- Charge direct calls {value_1} x call cost + {value_2} {currency}/second
- Charge external incoming calls {value_1} x call cost + {value_2} {currency}/second

- Charge external outgoing calls $\{value_1\} \times \text{call cost} + \{value_2\} \{currency\} / \text{second}$



Note


The **{currency}** is the one defined when 4PSA VoipNow Core was set up for the first time.




Note

4PSA VoipNow Core allows you to customize prices only for calls made to certain area codes. For more information on this, see section [Edit a Charging Plan](#) .

- Sound files
 - Play custom sound file when outgoing access is blocked – Select the folder and the sound file to play when the user tries to make a call and external calls are blocked due to charging constraints.

Clicking the  icon will open a pop-up window that displays a list of all the available sounds matching the name filled in the text box. The following information is available:

- P - Click the  icon to play or to download the sound.
- Name - The name of the sound file. Click the link in order to select this sound.
- Folder - This column displays the file's folder location.

If you are searching for a particular sound, you can use the available controls.

In order to display all the sounds available in the system for all the events, click the [Display all](#) link located under the search controls.



You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

3. Click OK to add the new charging plan. Click Cancel to return to the previous page without adding the plan.

Edit a Charging Plan




Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.

When you edit a charging plan, you can make two types of changes:

- Edit the charging plan's details.
- Edit the list of charging exceptions for area codes.


To edit the details of a charging plan, follow these steps:

1. Click the  [Charging plans](#) link available in the left navigation panel.
2. Choose the charging plan you want to edit from the charging plans list by clicking its name.
3. A new page opens, allowing you to modify the information, which is grouped into the following sections:
 - Charging plan description – Use this section to modify general information about the charging plan.
 - Charging policy – Use this section to change the number of outgoing minutes available in the time intervals as well as the over-usage minutes.
 - Charging segments – Use this section to define the frequency of the charging operation during a call.
 - Fees – Use this section to choose a different charging method and set the costs for local, extended local, external incoming and outgoing calls.
 - Sound files – Use this section to change the sound files that will inform the caller that the call he is trying to make is blocked by the system.For more information, please read the [Add a New Charging Plan](#) section.
4. Click OK to save the changes to the charging plan. Click Cancel to return to the previous page without saving the changes.

Manage Destination Charging Exceptions

4PSA VoipNow Core allows the definition of charging exceptions for certain area codes that override the costs set up in the charging plan.

View Destination Charging Exception Costs



In the Charging plans table, click the  icon. A new page opens, allowing you to manually add, edit and remove charging exceptions or to upload cost files.

4PSA VoipNow Core displays the following information about each destination charging exception:

- Area code - The area code for which the destination charging exception applies. Click the link to edit the exception.
- Cost algorithm - This column provides the charging rule for the specified area code.
- Free minutes - The available free minutes set for the specified area code.
- Description - The additional information about the destination charging exception.
- Created - The date when the destination charging exception was added in the system.

Searching the Destination Charging Exception Costs List

When the costs list is too long and you are searching for specific entries, you can use following features:

- Search - Use the text box to specify the words you are looking for. Click the  button or the Search label to display only the items that match your search criteria.
- Click this Show all  button or the Show all label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The costs list can be filtered by area code, cost, free minutes, description and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the costs list was

sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Destination Charging Cost Exception




Note

The charging cost exceptions can be added only for the charging plans that have the **Allow outgoing external calls** or the **Allow direct calls between endpoints** options enabled.

The new cost exceptions can be added either by uploading a cost file, either by manually entering each cost exception.

To add a new destination charging cost exception, click the  icon available in the Charging plans table.

The information is grouped into several sections:

- Upload cost file - Use this section to upload a .csv format cost file. The following fields are available:
 - Charging method - This field displays the method chosen to charge the calls:
 - Fixed prices
 - Relative to call costs
 - Agree to replace ALL destination costs – Select this check box to confirm the fact that the uploaded file will replace all the exception costs currently associated with the charging plan.
 - Upload cost file – Click the  button to locate the .csv file on your computer.
 - Field separator – Use this text box to specify the character that separates the values in the .csv file. The default character is ',' (comma).

The entries from a cost file must be in the following format:



- If the charging method is Fixed prices:
 - {Area code},{Indivisible cost},{Indivisible interval},{Cost},{Charging interval}
 - {Area code},{Indivisible cost},{Indivisible interval},{Cost},{Charging interval},{Description}



Example of a valid entry: 021,1,60,0.20,10,Metropolitan

- If the charging method is Relative to call cost:
 - {Area code},{n},{adjustment},{Charging interval}
 - {Area code},{n},{adjustment},{Charging interval},{Description}



Example of a valid entry: 021,1,0.20,60,Metropolitan

Click OK to upload the file and replace the current exception costs. Click Cancel to clear the Upload cost file section.

- Add costs - Use this section to manually add exception costs. Creating a destination exception cost depends on the charging method set up in the charging plans details:
 - For the Fixed prices charging method, 4PSA VoipNow Core displays the following controls:
 - For calls to {area code}, description {description}, where:
 - {area code} - Use this text box to specify the desired call destination.
 - {description} - Use this text box to give a brief description of the cost.
 - Cost {indivisible cost} {currency} for the first {indivisible interval} seconds, then charge {cost} {currency} every {charging interval} seconds - Select the check box if you wish to define an exception cost for the calls initiated to the chosen area code:
 - {indivisible cost} – Use this text box to set up a fixed cost that will be charged even if the call duration is less than {indivisible interval}.
 - {currency} – This is the system currency, as it can be seen in the  [Settings](#) >>  System Preferences >> Charging section.
 - {indivisible interval} - If an outgoing call lasts less than {indivisible interval} seconds, the user will be charged the price corresponding to a {indivisible interval} seconds call. Use this text box to specify the time interval.
 - {cost} – Use this text box to set up a fixed cost for all the outgoing calls.
 - {charging interval} - 4PSA VoipNow Core computes the cost of an outgoing call every {charging interval} seconds, if a call lasts more than the indivisible interval {indivisible interval} previously set. Use this text box to specify the time interval.

- Free minutes every month from package {free minutes package} - Select the text box if you wish to grant a free minutes package for the chosen area code:
 - {free minutes package} - Use the available drop-down list to select a free minutes package.
- For the Relative to call costs charging method, 4PSA VoipNow Core displays the following controls:
 - For calls to {area code}, description {description}, where:
 - {area code} - Use this text box to specify the desired call destination.
 - {description} - Use this text box to give a brief description of the cost.
 - Cost {n} x call cost + {adjustment} {currency} / {charging interval} seconds for call to {area code} - Select the check box if you wish to define an exception cost for the calls initiated to the chosen area code:
 - {n} - Use this text box to specify the call cost's multiplier based on the real cost charged by the channel.
 - {adjustment} - Use this text box to specify the amount that will be added to the call cost every {charging interval} seconds.
 - {currency} – This is the system currency, as it can be seen in the  [Settings](#) >>  System Preferences >> Charging section.
 - {charging interval} - Use this text box to specify the number of seconds after that the {adjustment} will be added to the call cost.
 - Free minutes every month from package {free minutes package} - Select the text box if you wish to grant a free minutes package for the chosen area code:
 - {free minutes package} - Use the available drop-down list to select a free minutes package.

Click OK to add the cost(s) to the charging plan. Click Cancel to clear the Add costs section.

Use the   buttons to add several area code exception costs at the same time.



Note

You cannot add different costs for the same area code. 4PSA VoipNow Core displays an error message if you try to override an area code that is already in the exceptions list.

Edit a Destination Charging Cost Exception

To manually edit costs, use the Current cost exceptions section available in the Charging Destination Exceptions page.

- Click the Area code link corresponding to the cost you want to edit. For more details on how to edit a cost exception, see the [Add a New Destination Charging Cost Exceptions](#) section.
- Click OK to save your changes. Click Cancel to go back to the previous page without saving your changes.


Export a Destination Charging Exception Cost

In 4PSA VoipNow Core you can export call cost exceptions in .csv format for sharing them among 4PSA VoipNow Core servers or for backup purposes.

Click the  [Export all exceptions](#) link placed above the cost exceptions table and save the .csv file to the desired location.

Remove a Destination Charging Exception Cost

To remove destination charging exception costs from the system, follow these steps:

1. Choose the costs you want to delete by selecting their corresponding check boxes in the Charging Destination Exceptions page.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Manage Free Minutes Packages

View the Free Minutes Packages List

To access the Free minutes packages management page, click the





Manage packages button located in the **Tools** area of the Charging Destination Exceptions management page.

In the Free minutes packages management page, all the existing packages are displayed in a table. The following information is available on each package:

- Package name - The name of the package.
- Free minutes - The number of free minutes included in the package.
- Created - The date when the package was created.

Searching the Free Minutes Packages List

When the packages list is too long and you are searching for specific ones, you can use the following features:


- Search – Use the text box to specify the words you are looking for. Click the  button or the **Search** label to display only the customers that match your search criteria.
- Show all – Click this  button or the **Show all** label to display the entire list of customers.

The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The packages list can be filtered by package name, free minutes and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the packages list was sorted. The sort direction can be changed by another click on the corresponding header.


Add a New Free Minutes Package

To add a free minutes package, click the  [Manage package](#) button located in the **Tools** area of the Charging Destination Exceptions management page and specify the required information:


- Package name - Use this text box to specify the name of the package.
- Included minutes - Use this text box to specify the number of free minutes included in the package.


Remove a Free Minutes Package

To remove free minutes packages from the system, follow these steps:

1. Choose the packages you want to delete by selecting their corresponding check boxes in the Free Minutes Packages page.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Remove a Charging Plan

To remove charging plans from the system, click the  [Charging plans](#) link available in the left navigation panel and follow the next steps:

1. Choose the plans you want to delete by selecting their corresponding check boxes in the Charging Plan Management page.
2. Click the  [Remove selected](#) link.
3. Review the list. If you want to proceed with the removal, select the **Confirm the removal** check box and click OK. Otherwise click Cancel to return to the previous page without deleting anything.



Note

You cannot remove charging plans that are currently used by resellers. 4PSA VoipNow Core automatically disables their corresponding check boxes.

Chapter 7

Manage System Templates

Manage Reseller Templates

View the Reseller Templates List

Reseller templates are useful when adding new reseller accounts that have similar permissions, limits, and charging plans. Instead of setting each time their permissions and phone numbers, the administrator can choose a reseller template from a given selection list. However, if some of the template parameters do not meet the requirements, then the user can edit them or create a new template.

To access this page, click the  [Settings](#) link available in the left navigation panel and then, the  Reseller templates icon located in the System templates area.

In the Reseller Templates page, you can view a list of all the reseller templates available in the system. Multiple operations can be performed:

- Add a new reseller template.
- Search for existing templates.
- Edit a reseller template.
- Delete reseller templates.

4PSA VoipNow Core displays the following information about each template:

- S – This icon displays the reseller template's status:

-  Enabled



-  Disabled

Click this icon to change the reseller template's status.

- Template name – The name that identifies the template.
- Charging plan – The charging plan associated with this template.
- Resellers – The number of resellers created using this template. Click the available link to view a list of all the resellers currently using a particular template.
- Updated – The date when the reseller template was last modified.

Searching the Reseller Templates List

When the templates list is too long and you are searching for specific ones, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  button or the Search label to display only the client templates that match your search criteria.
- Show all – Click this  button or the show all label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.




You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The reseller templates list can be filtered by name, charging plan and update date. To do so, click a table header link. The order criteria is marked by

the highlighted table header and the arrow indicates how the reseller templates list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Reseller Template

If you want to create a new reseller template, follow the next steps:

1. Click the  [Settings](#) link available in the left navigation panel.
2.  Than, click the Reseller templates icon located in the System templates area.
3.  In the Reseller Templates page, click the Add reseller template icon.
4. A new page opens, allowing you to fill in the information about the new reseller template. The customizable details are grouped into several sections:
 - Reseller template form
 - Name – Use this text box to provide a descriptive name for the reseller template.
 - Permissions – Use this section to control the behavior of the reseller created using this template.



Note

These options are visible only if the reseller has them enabled in his setup.

- Client management
- Permission and limit management
- Endpoint management
- Endpoint feature management
- Endpoint SIP management
- Charging plan management
- Phone numbers management
- See stacked phone numbers



Note

For comprehensive details about these permissions, read the [Edit Permissions and Phone Numbers](#) section.

- Limits – Use this section to set up limitations for the reseller created using this template.
 - Maximum number of clients
 - Maximum number of endpoints
 - Maximum concurrent calls
 - Maximum disk space for call recording
 - Account expires in {x} Days - Use the available text box to specify the number of days the endpoint account will be valid, starting with the creation date.



Note

If you do not want to limit the user, select the **Unlimited** check box.



Note



For comprehensive details about these limits, read the [Add a New Reseller](#) section.

- Charging plan



Caution

This section will be displayed only if charging is enabled on the 4PSA

VoipNow Core server. To enable/disable it, go to the  [Settings >>](#)  **System Preferences >> Charging** section.

- Charging plan – The charging plan associated with the reseller account. The list contains all the charging plans available in the administrator account.
5. Click OK to add the new client template. Click Cancel to go back to the previous page without adding the template.


Edit a Reseller Template

4PSA VoipNow Core allows users to edit an existent reseller template. The resellers that are created using the edited template will have the new features, while the ones already in the system created using the original reseller template will keep the old permissions and phone numbers. To modify a reseller's limits, permissions and charging plans you have to edit these features as described in the [Edit Reseller Details](#) and [Edit Permissions and Phone Numbers](#) sections.

To edit the details of a reseller template, follow these steps:

1.



In the Infrastructure Features page, click the  Reseller templates icon available in the System templates area.

2. Choose from the list the template you want to modify and click its name.

3. A new page where you can view and edit the settings of the selected reseller template opens. The data is grouped into several sections:

- Reseller template form – Use this section to rename the template.
- Permissions – Use this section to change the permissions of the reseller account owners.



Note

For comprehensive details about these permissions, read the [Edit Permissions and Phone Numbers](#) section.

- Limits – Use this section to change the limitations for the template.



Note



For comprehensive details about these limits, read the [Add a New Reseller](#) section.

- Charging plan – Use this section to choose another charging plan for the template.



Caution

This section will be displayed only if charging is enabled on the 4PSA

VoipNow Core server. To enable/disable it, go to the  [Settings >>](#)  **System Preferences >> Charging** section.

4. Click OK to save the changes to the reseller template. Click Cancel to return to the previous page without saving the changes.





Note

When you modify a template, the accounts that were created using this template will not be affected!

Remove a Reseller Template



To remove reseller templates from the system, click the  Reseller templates icon available in the Infrastructure Features page, in the System templates area, and follow these steps:

1. Choose the reseller templates you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.





Caution

When you delete a template, the accounts created with it will not be affected!

Manage Client Templates

View the Client Templates List



Client templates are useful when adding new client accounts that have similar permissions and phone numbers. Instead of setting up each time the client's permissions and phone numbers, the reseller or the administrator can choose a client template from an available list. However, if some of the template parameters do not meet the requirements, than the user can edit them or create a new template.

To access this page, click the  [Settings](#) link available in the left navigation panel and then, the  Client templates icon located in the System templates area.

In the Client Templates page, you can view a list of all client templates available in the system. Multiple operations can be performed:

- Add a new client template.
- Search existing templates.
- Edit a client template.
- Delete client templates.

4PSA VoipNow Core displays the following information about each template:



- S – This icon displays the client template's status:
 -  Enabled
 -  Disabled

Click this icon to change the client template's status.

- Template name – The name that identifies the template.
- Clients – The number of clients created using this template. Click the available link to view a list of all the clients currently using a particular template.
- Updated – The date the client template was last modified.

Searching the Client Templates List

When the client template list is too long and you are searching for specific ones, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  button or the Search label to display only the client templates that match your search criteria.
- Show all – Click this  button or the Show all label to display the entire list.




Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The client templates list can be filtered by name and update date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the client templates list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Client Template

If you want to create a new client template, follow the next steps:

1. Click the  [Settings](#) link available in the left navigation panel.
2.  Than, click the Client templates icon located in the System templates area.
3.  In the Client Templates page, click the Add client template icon.
4. A new page opens, allowing you to fill in the information about the new client template. The customizable details are grouped into several sections:
 - Client template form
 - Name - Use this text box to provide a descriptive name for the client template.
 - Permissions – Use this section to control the behavior of the client created using this template.
 - Endpoint management
 - Endpoint features management
 - Permission and limit management
 - Endpoint SIP management
 - Charging plans management
 - Phone numbers management



Note

For comprehensive details about these permissions, read the [_Edit Permissions and Phone Numbers](#) section.

- Limits – Use this section to set up limitations for the client created using this template.
 - Maximum number of endpoints
 - Maximum concurrent calls
 - Maximum disk space for call recording
 - Account expires in { x } Days - Use the available text box to specify the number of days the endpoint account will be valid, starting with the creation date.



Note

If you do not want to limit the user, select the **Unlimited** check box.



Note



For comprehensive details about these limits, read the [Add a New Client](#) section.

- Charging plan



Caution

This section will be displayed only if charging is enabled on the 4PSA

VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.

- Charging plan – The charging plan associated with the client account. The list contains all the charging plans available in the administrator account.
5. Click OK to add the new client template. Click Cancel to go back to the previous page without adding the template.

Edit a Client Template

4PSA VoipNow Core allows users to edit an existent client template. The resellers that are created using the edited template will have the new features, while the ones already in the system created using the original reseller template will keep the old permissions and phone numbers. To modify the client's limits, permissions and charging plans you have to edit these features like described in the [Edit Client's Details](#) and [Edit Permissions and Phone Numbers](#) sections.

To edit the details of a client template, follow these steps:

1.



In the Infrastructure Features page, click the  Client templates icon available in the `System templates` area.

2. Choose from the list the template you want to modify and click its name.

3. A new page where you can view and edit the settings of the selected client template opens. The data is grouped into several sections:

- Client template form – Use this section to rename the template.
- Permissions – Use this section to change the permissions of the client account owners.



Note

For comprehensive details about these permissions, read the [_Edit Permissions and Phone Numbers](#) section.

- Limits – Use this section to change the limitations for the template.




Note

For comprehensive details about these limits, read the [Add a New Reseller](#) section.

- Charging – Use this section to select the charging plan associated with the template.



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >> **System Preferences** >> **Charging** section.


4. Click OK to save the changes to the client template. Click Cancel to return to the previous page without saving the changes.




Caution

When you modify a template, the accounts that were created using this template will not be affected!

Remove a Client Template

To remove client templates from the system, click the  Client templates icon available in the Infrastructure Features page, in the System templates area, and follow these steps:

1. Choose the client templates you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.





Caution

When you delete a template, the accounts created with it will not be affected!

Manage Endpoint Templates

View the Endpoint Templates List

Endpoint templates are useful when adding new endpoint accounts that use similar settings. Instead of configuring each endpoint, the reseller, the client or the administrator can choose one of the templates available in the system. However, if some of the template parameters do not meet the requirements, than the user can edit them or create a new template.



To access the Endpoint Templates page, click the  [Settings](#) link available in the left navigation panel and than, the  Endpoint templates icon located in the System templates area.

In the Endpoint Templates page, you can view a list of all endpoint templates available in the system. Multiple operations can be performed:

- Add a new endpoint template.
- Search existing templates.
- Edit an endpoint template.

- Remove endpoint templates.

4PSA VoipNow Core displays the following information about each template:



- S – This icon displays the endpoint template's status:
 -  Enabled
 -  Disabled

Click this icon to change the endpoint template's status.

- Template name – The name that identifies the template.
- Endpoints – The number of endpoints created using this template. Click the available link to view a list of all the endpoints currently using a particular template.
- Updated – The date the endpoint template was last modified.

Searching the Endpoint Templates List

When the templates list is too long and you are searching for specific ones, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  button or the `Search` label to display only the endpoint templates that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.




Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The endpoint templates list can be sorted by name and update date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the endpoint templates list was sorted. The sort direction can be changed by another click on the corresponding header.

Add a New Endpoint Template

If you want to create a new endpoint template, follow the next steps:

1. Click the  [Settings](#) link available in the left navigation panel.
2.  Than, click the Endpoint templates icon located in the System templates area.
3.  In the Endpoint Templates page, click the Add endpoint template icon.
4. A new page opens, allowing you to fill in the information about the new endpoint template. The customizable details are grouped into several sections:
 - Endpoint template form
 - Name – Use this text box to provide a descriptive name for the endpoint template.
 - Permissions – Use this section to control the behavior of the endpoint created using this template:
 - Endpoint SIP management – Select this check box if you want to allow the endpoint user to customize the SIP settings from the Endpoint Setup page.
 - Limits – Use this section to set up limitations for the endpoint created using this template.
 - Maximum concurrent calls – Use the available text box to limit the number of calls that can be active at the same time for any endpoint created using this template. If you do not want to limit the endpoint, select the `unlimited` check box.
 - Account expires in { x } Days - Use the available text box to specify the number of days the endpoint account will be valid, starting with the creation date.
 - Basic settings - Use this section to configure all the core settings that will be used by the endpoints created with this template.



Note

For comprehensive details about these settings, read the [Endpoint Features](#) section.

- Call recording - Use this section to choose whether the user will be able to record its calls or not.



Note

For comprehensive details about the call recording features, read the [Endpoint Features](#) section.


5. Click Ok to add the new endpoint template. Click Cancel to go back to the previous page without saving the changes.

Edit an Endpoint Template

4PSA VoipNow Core allows users to edit an existent endpoint template. The endpoints that are created using the edited template will have the new features, while the ones already created using the original template will keep the old permissions and settings. To modify the endpoint's limits, permissions and settings, you have to edit these features as described in the [Edit Endpoint Features](#) section.

To edit the details of an endpoint template, follow these steps:

1.

In the Infrastructure Features page, click the  Endpoint templates icon available in the `System templates` area.

2. Choose from the list the template you want to modify and click its name.

3. The data that can be edited is grouped into several sections:

- Endpoint template form – Use this section to rename the template.
- Permissions – Use this section to change the endpoint account owners' permissions.
- Limits – Use this section to change the limitations.
- Basic settings - Use this section to edit all the core settings that are used by the endpoints created with this template.



Note

For comprehensive details about these settings, read the [Endpoint Features](#) section.

- Call recording - Use this section to choose whether the user will be able to record its calls or not.



Note

For comprehensive details about the call recording features, read the [Endpoint Features](#) section.

4. Click OK to save the changes to the extension template. Click Cancel to return to the previous page without saving the changes.





Caution

When you modify a template, the accounts that were created using this template will not be affected!

Remove an Endpoint Template



To remove endpoint templates from the system, click the  Endpoint templates icon available in the Infrastructure Features page, in the `System templates` area, and follow these steps:

1. Choose the endpoint templates you want to remove by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.





Caution

When you delete a template, the accounts created with it will not be affected!

Manage Email Templates

4PSA VoipNow Core can send email notifications to its users when standard events occur. The text of the notifications can be customized. The system can be set up to send only some notifications and only to certain users.

To access this page, click the  [Settings](#) link available in the left navigation panel and then, in the new opened page, the  Email templates icon located in the `System templates` area.

The system administrator can set the notification preferences for a series of events displayed in the first column. The users interested in receiving notifications are:

- The system administrator – This user could be interested in monitoring all events in the system.
- The reseller account owners – These users could be interested in the events targeting the clients and endpoints on their account.
- The client account owners – These users could be interested in the events targeting the endpoints on their account.
- The endpoint account owners – These users could be interested in the events targeting their account.



Note

If you want all the email notifications from a specific category to be sent to a certain user, select the check box from the user's column header.

If you want to manage the users that will receive certain notifications, follow the next steps:

1. From the available check boxes, select the ones corresponding to the users you want to notify.
2. Click **OK** to save your options. Click **Cancel** to return to the previous page without saving the changes you have made.

Therefore, the administrator can enable email notifications for reseller, client and endpoint account owners as well as for his own account. However, the settings made by the administrator are available until the user targeted by the notification (reseller, client or endpoint) changes them. When a new account is created, it inherits the upper level account email notification options. Afterwards, the account owner can change these options in the same way in the Email Template Management page.

When an account is created, the new owner can receive a mail notifying him that the account was registered. This notification is made only if the upper level account owner has the notification enabled.



Note

The email notification will be sent to the email address specified in the account information.

Notification emails can also be sent to an email address specified in the E-mail address column. This email address can be different for each selected event.

The Preferences section can be used by the administrator to specify the conditions required for sending the warning emails:

- Send expiration notices {x} days in advance – Use this text box to specify how many days before the account expiration a notification is dispatched to the users.
- Send charging limit warnings when the account is below {y} minutes or {credit_limit} {currency} – A charging limit warning is generated in one of the following cases:

- The minutes remaining in the Available external outgoing minutes plus the minutes remaining in the External outgoing over usage go below a certain limit.

Use the first text box to specify this time limit.


- The credit remaining in Limit for external outgoing calls goes below a certain limit.

Use the second text box to specify this money limit.

- The credit remaining in Limit for external incoming calls goes below a certain limit.

The money limit you specified for external outgoing calls in the above text box, includes the external incoming calls money limit.

You can customize the subject and the content of an email notification by following the next steps:

1. Click the  icon corresponding to the chosen event.
2. A new page allowing you to edit the email subject and email body opens. Modify the text, keeping in mind the following rules:
 - You may use only plain text when writing the email subject and content. The email is also sent in plain text format.
 - You can include tags that will be automatically replaced by the system with the appropriate content. Examples:

[recipient_name] is replaced with the name of the person receiving the notification.

3. Click OK to save the changes to the email. Click Cancel to return to the previous page without saving the changes.

The events that can trigger an email notification are displayed in Email Template Management page and will be described in the next sections, along with the tags used by every notification.

The Reseller Email Templates

These notifications can be sent only to the system administrator, the reseller and/or to a custom email address.

The 'Reseller Account Creation' Email Template

This email notification is triggered by the creation of a new reseller account.

The default tags used by this notification are listed below:

- [contact_name] - The name of the reseller that has just been created, as it was specified in the provided reseller information.
- [recipient_name] - The name of the person who receives the email.
- [login] - The username that will be used to connect to the reseller account, as it was specified in the provided reseller information.
- [password] - The password that will be used to connect to the reseller account, as it was specified in the provided reseller information.
- [billing_plan] - The name of the billing plan employed for this particular account.
- [template] - The name of the reseller template used to create this account.
- [interface_language] - The language used by the 4PSA VoipNow Core interface when this user is logged in.
- [company_name] - The name of the company, as it was specified in the provided reseller information.
- [phone] - The user's telephone number, as it was specified in the provided reseller information.
- [fax] - The user's fax number, as it was specified in the provided reseller information.
- [address] - The user's address, as it was specified in the provided reseller information.

- [email] - The user's email address, as it was specified in the provided reseller information.
- [city] - The user's city of residence, as it was specified in the provided reseller information.
- [state] - The user's state of residence, as it was specified in the provided reseller information.
- [country] - The user's country of residence, as it was specified in the provided reseller information.
- [zip] - The user's postal/zip code, as it was specified in the provided reseller information.
- [notes] - The notes/comments that were filled in the provided reseller information.

The 'Reseller Account Expiration Warning' Email Template

The email notification triggered by this event is sent { x } days in advance, as specified in the Send expiration notices field available in the Email Template Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the reseller whose account is set to expire. This is the name specified in the provided reseller information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided reseller information.
- [login] - The username used to connect to the reseller account, as it was specified in the provided reseller information.
- [expire_date] - The date when the user's account expires.

The 'Reseller Account Expired' Email Template

The email notification triggered by this event is sent after the reseller account has expired.

The default tags used by this notification are listed below:

- [contact_name] - The name of the reseller whose account has just expired. This is the name specified in the provided reseller information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided reseller information.

- [login] - The username used to connect to the reseller account, as it was specified in the provided reseller information.
- [expire_date] - The date when the user's account expired.

The 'Reseller Charging Limit Warning' Email Template

The email notification triggered by this event is sent when the available number of minutes is below {y} minutes or when the credit is below the {credit_limit}, as specified in the Send charging limit warnings when the account is below field available in the Email Template Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the reseller whose credit/number of minutes is below the customized limit. This is the name specified in the provided reseller information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided reseller information.
- [login] - The username used to connect to the reseller account, as it was specified in the provided reseller information.
- [minutes_out] - The number of outgoing minutes left for this user.
- [money_left] - The credit for outgoing calls currently available to this user.
- [money] - The currency used in the system.
- [money_left_incoming] - The credit for incoming calls currently available to this user.
- [month] - The month when the notification is sent.
- [minutes_limit] - The minutes limit specified in the Send charging limit warnings when the account is below field.
- [money_limit] - The credit limit specified in the Send charging limit warnings when the account is below field.

The 'Reseller Charging Limit Exceeded' Email Template

The email notification triggered by this event is sent after the charging limit specified in the Send charging limit warnings when the account is below field available in the Email Template Management page is exceeded.

The default tags used by this notification are listed below:

- [contact_name] - The name of the reseller whose credit/number of minutes exceeded the customized limit. This is the name specified in the provided reseller information.

- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided reseller information.
- [login] - The username used to connect to the reseller account, as it was specified in the provided reseller information.
- [minutes_out] - The number of outgoing minutes left for this user.
- [money_left] - The credit for outgoing calls currently available to this user.
- [money] - The currency used in the system.
- [month] - The month when the notification is sent.
- [minutes_limit] - The minutes limit specified in the Send charging limit warnings when the account is below field.
- [money_limit] - The credit limit specified in the Send charging limit warnings when the account is below field.

The Client Email Templates

These notifications can be sent to the system administrator, the reseller, the client and/or to a custom email address.

The 'Client Account Creation' Email Template

This email notification is triggered by the creation of a new client account.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client that has just been created, as it was specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [login] - The username that will be used to connect to the client account, as it was specified in the provided client information.
- [password] - The password that will be used to connect to the client account, as it was specified in the provided client information.
- [billing_plan] - The name of the billing plan employed for this particular account.
- [template] - The name of the client template used to create this account.
- [interface_language] - The language used by the 4PSA VoipNow Core interface when this user is logged in.
- [company_name] - The name of the company, as it was specified in the provided client information.

- [phone] - The user's telephone number, as it was specified in the provided client information.
- [fax] - The user's fax number, as it was specified in the provided client information.
- [address] - The user's address, as it was specified in the provided client information.
- [email] - The user's email address, as it was specified in the provided client information.
- [city] - The user's city of residence, as it was specified in the provided client information.
- [state] - The user's state of residence, as it was specified in the provided client information.
- [country] - The user's country of residence, as it was specified in the provided client information.
- [zip] - The user's postal/zip code, as it was specified in the provided client information.
- [notes] - The notes/comments that were filled in the provided client information.

The 'Client Account Expiration Warning' Email Template

The email notification triggered by this event is sent {x} days in advance, as specified in the Send expiration notices field available in the Email Template Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client whose account is set to expire. This is the name specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided client information.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [expire_date] - The date when the user's account expires.

The 'Client Account Expired' Email Template

The email notification triggered by this event is sent after the client account has expired.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client whose account has just expired. This is the name specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided client information.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [expire_date] - The date when the user's account expired.

The 'Client Charging Limit Warning' Email Template

The email notification triggered by this event is sent when the available number of minutes is below {y} minutes or when the credit is below the {credit_limit}, as specified in the Send charging limit warnings when the account is below field available in the Email Template Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client whose credit/number of minutes is below the customized limit. This is the name specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided client information.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [minutes_out] - The number of outgoing minutes left for this user.
- [money_left] - The credit for outgoing calls currently available to this user.
- [money] - The currency used in the system.
- [money_left_incoming] - The credit for incoming calls currently available to this user.
- [month] - The month when the notification is sent.
- [minutes_limit] - The minutes limit specified in the Send charging limit warnings when the account is below field.
- [money_limit] - The credit limit specified in the Send charging limit warnings when the account is below field.

The 'Client Charging Limit Exceeded' Email Template

The email notification triggered by this event is sent after the charging limit specified in the Send charging limit warnings when the account is below field available in the Email Template Management page is exceeded.

The default tags used by this notification are listed below:

- [contact_name] - The name of the client whose credit/number of minutes exceeded the customized limit. This is the name specified in the provided client information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided client information.
- [login] - The username used to connect to the client account, as it was specified in the provided client information.
- [minutes_out] - The number of outgoing minutes left for this user.
- [money_left] - The credit for outgoing calls currently available to this user.
- [money] - The currency used in the system.
- [month] - The month when the notification is sent.
- [minutes_limit] - The minutes limit specified in the Send charging limit warnings when the account is below field.
- [money_limit] - The credit limit specified in the Send charging limit warnings when the account is below field.

The Endpoint Email Templates

These notifications can be sent to the system administrator, the reseller, the client, the endpoint owner and/or to a custom email address.

The 'Endpoint Account Creation' Email Template

This email notification is triggered by the creation of a new endpoint account.

The default tags used by this notification are listed below:

- [ext_number] - The telephone number assigned to the newly created endpoint account.
- [login] - The username that will be used to connect to the endpoint account, as it was specified in the provided endpoint information.
- [password] - The password that will be used to connect to the endpoint account, as it was specified in the provided endpoint information.
- [billing_plan] - The name of the billing plan employed for this particular account.

- [template] - The name of the endpoint template used to create this account.
- [interface_language] - The language used by the 4PSA VoipNow Core interface when this user is logged in.
- [phone_login] - The password used when the user registers and/or makes calls using a SIP phone.
- [public_number] - The number used on the public phone network for this endpoint.
- [phone_lang] - The language the phone interface is displayed in.
- [company_name] - The name of the company, as it was specified in the provided endpoint information.
- [contact_name] - The name of the contact person specified in the provided endpoint information.
- [phone] - The user's telephone number, as it was specified in the provided endpoint information.
- [fax] - The user's fax number, as it was specified in the provided endpoint information.
- [address] - The user's address, as it was specified in the provided endpoint information.
- [email] - The user's email address, as it was specified in the provided endpoint information.
- [city] - The user's city of residence, as it was specified in the provided endpoint information.
- [state] - The user's state of residence, as it was specified in the provided endpoint information.
- [country] - The user's country of residence, as it was specified in the provided endpoint information.
- [zip] - The user's postal/zip code, as it was specified in the provided endpoint information.
- [notes] - The notes/comments that were filled in the provided endpoint information.

The 'Endpoint Account Expiration Warning' Email Template

The email notification triggered by this event is sent { x } days in advance, as specified in the Send expiration notices field available in the Email Template Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the user whose endpoint account is set to expire. This is the name specified in the provided endpoint information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided endpoint information.
- [login] - The username used to connect to the endpoint account, as it was specified in the provided endpoint information.
- [ext_number] - The telephone number assigned to the endpoint account.
- [public_number] - The number used on the public phone network for this endpoint.
- [expire_date] - The date when the user's account expires.

The 'Endpoint Account Expired' Email Template

The email notification triggered by this event is sent after the endpoint account has expired.

The default tags used by this notification are listed below:

- [contact_name] - The name of the user whose endpoint account has just expired. This is the name specified in the provided endpoint information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided endpoint information.
- [login] - The username used to connect to the endpoint account, as it was specified in the provided endpoint information.
- [ext_number] - The telephone number assigned to the endpoint account.
- [public_number] - The number used on the public phone network for this endpoint.
- [expire_date] - The date when the user's account expired.

The 'Endpoint Charging Limit Warning' Email Template

The email notification triggered by this event is sent when the available number of minutes is below {y} minutes or when the credit is below the {credit_limit}, as specified in the Send charging limit warnings when the account is below field available in the Email Template Management page.

The default tags used by this notification are listed below:

- [contact_name] - The name of the contact person specified for the endpoint account whose credit/number of minutes is below the customized limit. This is the name specified in the provided endpoint information.

- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided endpoint information.
- [login] - The username used to connect to the endpoint account, as it was specified in the provided endpoint information.
- [ext_number] - The telephone number assigned to the endpoint account.
- [public_number] - The number used on the public phone network for this endpoint.
- [minutes_out] - The number of outgoing minutes left for this user.
- [money_left] - The credit for outgoing calls currently available to this user.
- [money] - The currency used in the system.
- [month] - The month when the notification is sent.
- [minutes_limit] - The minutes limit specified in the Send charging limit warnings when the account is below field.
- [money_limit] - The credit limit specified in the Send charging limit warnings when the account is below field.

The 'Endpoint Charging Limit Exceeded' Email Template

The email notification triggered by this event is sent after the charging limit specified in the Send charging limit warnings when the account is below field available in the Email Template Management page is exceeded.

The default tags used by this notification are listed below:

- [contact_name] - The name of the contact person specified for the endpoint account whose credit/number of minutes exceeded the customized limit. This is the name specified in the provided endpoint information.
- [recipient_name] - The name of the person who receives the email.
- [company_name] - The name of the company, as it was specified in the provided endpoint information.
- [login] - The username used to connect to the endpoint account, as it was specified in the provided endpoint information.
- [ext_number] - The telephone number assigned to the endpoint account.
- [public_number] - The number used on the public phone network for this endpoint.
- [minutes_out] - The number of outgoing minutes left for this user.
- [money_left] - The credit for outgoing calls currently available to this user.

- [money] - The currency used in the system.
- [money_left_incoming] - The credit for incoming calls currently available to this user.
- [month] - The month when the notification is sent.
- [minutes_limit] - The minutes limit specified in the Send charging limit warnings when the account is below field.
- [money_limit] - The credit limit specified in the Send charging limit warnings when the account is below field.

The Security Email Templates

The 'Forgot Password' Email Template

For this event, 4PSA VoipNow Core will send an email message containing a temporary password to the user who has forgotten his own and requested a new one. This password is valid only for the time period specified in the Login Preferences page, in the Expiration time for new password field.

The default tags used by this notification are listed below:

- [recipient_name] - The name of the person who receives the email.
- [login] - The username used to connect to the 4PSA VoipNow Core interface, as it was specified in the provided reseller/client/endpoint information.
- [new_password] - The new password, generated in order to replace the forgotten one.
- [valid_minutes] - The new password can be activated only for the time specified here.
- [url] - The new password activation URL.
- [ip] - The IP address of the user who has requested the new password.



Note

This notification can be sent only to a custom email address.

The 'Plug-in Failure' Email Template

The default tags used by this notification are listed below:

- [plugin_name] - The name of the plug-in that has triggered the error.
- [plugin_version] - The version of the plug-in that has triggered the error.

- [recipient_name] - The name of the person who receives the email.
- [datetime] - The date and the time the plug-in error occurred.
- [plugin_err_backtrace] - The pug-in error PHP backtrace.



Note

This line is only available in the **Administrator** context.

Restore the Default Settings

To restore the default notification settings and email contents, click the Default button.



Note


When you click the **Default** button, 4PSA VoipNow Core will not overwrite the other email address destination.


Chapter 8

Manage Customer Accounts

Manage Your Resellers

Resellers' Management Page

In order to view the list of the resellers registered in the system or to add a new reseller account, click the  [Resellers](#) link available in the left navigation panel. This link will open the Reseller Management page that has two distinct sections:






- Tools - This section allows you to add a new reseller account by clicking the  Add reseller icon.
- Resellers - In this section, 4PSA VoipNow Core displays a list with all the resellers registered in the system. To manage a certain reseller account, choose its name and click it.

Multiple operations can be performed on a reseller accounts:

- Add a new reseller to the system.
- Searching the existing resellers' list after specific criteria.
- Enable/disable reseller accounts.
- Enable/disable control panel access for a reseller.
- Manage individual reseller accounts.
- Delete reseller accounts.

4PSA VoipNow Core displays the following information about each reseller:

- S – This icon displays the reseller account's status:

-  Enabled
-  All local calls are permitted
-  Only incoming call are permitted
-  No calls are permitted
-  Disabled

Click this icon to change the customer account's status. When you click this icon the Global and phone account status panel is displayed. This panel has two main areas:

- Global account status settings - From this area you can choose to enable or disable an account. There are two options:



Caution

Disabling an active account also disables all its child accounts.

- Customer is fully enabled - The customer can use all system functions, but phone access permissions may apply.
- Customer is disabled - The customer cannot access any system function and cannot use the phone service.
- Phone account status settings - From this area you can manage the phone permissions for an enabled account. The following options are available:



- Customer can dial out and receive calls - The customer has no phone restrictions.
- Customer can be called and can call internally - Only local outgoing calls are permitted. Incoming calls are not restricted.
- Customer can be called only - No outgoing calls are allowed, but all incoming calls are permitted.
- Customer cannot use phone service - The customer can neither make, nor receive calls.



Note

If you select any of these options, its permissions/restrictions apply to all the child accounts of the current account.

If a parent account has set a restriction for a child account, than that child account cannot remove that restriction for any of the accounts under it, but it can set more restrictions. For example: if the administrator has set for a reseller the **Customer can be called and can call internally** restriction, than the reseller cannot set for his clients full access to the phone service, but that reseller can decide to set for any or all of his clients the **Customer can be called only** restriction.

- A – This button specifies whether the reseller has permission to log in and use the 4PSA VoipNow Core interface:
 -  Allowed
 -  Not allowed

Click this icon to enable/disable the control panel access.



Caution


If the reseller does not have control panel access, neither will his child accounts.

- Reseller – The name of the reseller account owner. Click this link to enter the reseller account context.
- Company – The owner's company name.
- Created – The date when the reseller account was added to the system.
- Clients – The number of clients currently available under the reseller account.

- Endpoints – The number of endpoints currently available under the reseller account. Click this link to view the endpoints list.
- R – Click the icon to view a short report on the reseller.





Note

You can filter the columns displayed in the resellers' list table by clicking the  [Show columns](#) button. After choosing the desired columns, click **Apply** in order to save the changes. Likewise, if you cannot see some of the above columns, it is likely that they have been disabled using this control.

Searching the Resellers List

When the reseller list is too long and you are searching for specific resellers, you can use the following features:



- Search – Use the text box to specify the words you are looking for. Click the  button or the `search` label to display only the resellers that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The resellers list can be sorted by name, company and update date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the resellers list was sorted. The sort direction can be changed by another click on the corresponding header.

View the Reseller's Report

The reseller report provides statistic information upon the reseller's resources usage. To view the report on a particular reseller, click the  icon in the Reseller Management page or the  Report icon in the reseller context page.

4PSA VoipNow Core displays the following information about the reseller:

- System usage overview for {m} month, {y} year - {m} is the current month and {y} is the current year:

- Total length of incoming calls - The total duration of the incoming calls in the current month
- Total length of outgoing calls - The total duration of the outgoing calls in the current month
- Maximum length of an incoming call - The maximum duration of an incoming call from all the endpoints belonging to the reseller in the current month.
- Maximum length of an outgoing call - The maximum duration of on an outgoing call from all the endpoints belonging to the reseller in the current month.
- Accounts overview – This section displays information regarding the reseller account.
 - Account created – The location from which the reseller has been created.
 - Total clients – The total number of clients belonging to the reseller.
 - Enabled clients - The number of enabled client accounts.
 - Suspended clients - The number of disabled client accounts.
 - Total endpoints - The total number of endpoint accounts.
 - Enabled endpoints - The number of enabled endpoints accounts.
 - Suspended endpoints - The number of disabled endpoints accounts.
 - Registered endpoints - The number of phone terminal endpoints registered from a phone.
- Charging plans overview
 - Reseller level charging plans – The number of charging plans owned by the reseller.
 - Client level charging plans – The number of charging plans owned by the client.
- Disk space overview
 - Disk space for recorded calls - The disk space used by all the recorded calls.
 - Total disk space - The total disk space used by the reseller.

Enable/Disable a Reseller

If you want to enable/disable a reseller account, you have to click the chosen reseller's name in the Reseller Management page and than on the

[Disable/Enable reseller](#) link, located under the page title. A pop-up window will ask you to confirm this action.



Note

Disabling a reseller account will also disable all the accounts belonging to it.

Impersonate a Reseller

4PSA VoipNow Core offers the possibility to impersonate a reseller account owner. This option allows management access for the parent account owners in order to modify the child account's permissions and limits.

If you impersonate, you will be able to view the interface from a reseller's perspective. To do so, click the respective reseller's name in the Reseller Management page and then the [Impersonate](#) link, located under the page title.



Note


The **Impersonate** feature can only be used for enabled users with control panel access. Any attempt to use this feature for a disabled account or an account without control panel access will trigger the following error message:

You cannot use impersonate on an user that is disabled or doesn't have control panel access.




Note

When you impersonate a reseller, the application will change the skin to the one used by the chosen reseller, if different from the one you are currently using.

To return to normal view mode, just click the [Return to my account](#) link located in the right panel, next to the  [Help](#) icon.




Add a New Reseller

4PSA VoipNow Core allows the possibility to create reseller accounts without an associated charging plan.


If you want to create a reseller account with an associated charging plan, make sure you have enabled the Charging enabled option from the  [Settings](#)

>>  System Preferences >> Charging section.

If there is no charging plan in the system, you must create one:

- First, make sure that the time intervals you want to use for the charging plan are defined.
- If you want to use another time interval, click the  [Settings](#) link from the left navigation panel, then the  Time intervals icon and follow the steps described in the [Add a New Time Interval](#) section.
- After all time intervals have been created, click the  [Charging plans](#) link available in left navigation panel and create plan. For more information, see the [Add a New Charging Plan](#) section.

You can add a new reseller account by following these steps:

1.  Click the Add reseller icon. A new page opens, allowing you to enter the new reseller's details.
2. The information is grouped into several sections:
 - Reseller form
 - Create using template – Use the drop-down list to choose one of the available templates as a base for the new reseller. If you do not want to create the account based on a template, make sure the '—' option is selected.



Note

A template contains predefined settings that will be used to create the reseller. For more information on reseller templates, see the [Manage Reseller Templates](#) section.

- Company name
- Contact name
- Login



Note

The username must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII).



The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.

- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: `_.-@`.

- Password auto generation – When this option is enabled, a password matching the chosen strength is automatically computed. Also, you will not be required to fill in the next two fields.



Note



To set up the password strength, click the  [Settings](#) link available in the left navigation panel and then the  **Login preferences** icon.

- Password – In order to be valid, the password must be at least five characters long and must comply with the setup strength level.

While you type in your password, a colored bar will inform you about the strength of the chosen combination.



Note

To set up the password strength, click the  [Settings](#) link available in the left navigation panel and then the  **Login preferences** icon.




Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: `! ? @ # $ % ^ * () _ + = { } ` ~ [] ; : , . | ^ & .`

- Confirm password
- Phone
- Fax

- Email
- Address
- City
- Region
- Postal/ZIP code
- Country – The default-selected country is specified in the [Manage Interface Preferences](#) page.
- Region - The regions of a country are listed in alphabetical order. The one selected by default is the first one on the list.
- Timezone - The time zone selected by default is one you have previously set up in the  [Settings](#) >> Interface Preferences page.
- Interface language – Use this drop-down list to choose the language in which the interface will be displayed. The list contains all the available languages.



Note



If you choose the `Default` option, the language that will be used for the reseller account interface is the one specified by the administrator in the [Manage Interface Preferences](#) section.

- Reseller notes – Use this text box to insert comments on the reseller account.
- Charging and outgoing call filtering
 - Charging plan – Use this drop-down list to choose one of the available charging plans that will apply to the new reseller account.



Note

If you want to create a reseller account with a charging plan, make sure

the option is enabled from the  [Settings](#) >>  **System preferences** >> **Charging** section and then follow the steps described in the [Add a New Charging Plan](#) section.

- Charging identifier - When a call is made from an endpoint setup as trusted in that account and a valid chargingID is sent (of another endpoint in the same client), the account pointed by that charging identifier is charged. This allows to send calls on a Core

server that are authenticated on a single channel, but charged on multiple channels. Use the available text box to specify an alphanumeric (plus -,_,*) value between 6 and 32 characters long that it is used at identifying the parent accounts. When the administrator adds a new account, he will see the charging identifier auto-filled with the value of the parent account. If the parent account does not have any charging identifier, this field will be blank.



Note

When any other entity (reseller, client) adds an account, it will not be able to see the charging identifier field, even though it is automatically set up with the value of the parent account.



Note

When administrator edits the account, he can edit the charging identifier as well.

3. The Select reseller permissions and phone numbers check box allows you to specify the limits and permissions for the account owner:
 - If you click OK, you will be directed to the next step: specifying the reseller's permissions, limits and phone numbers.



Note

The information on the new created account will be sent by email to the account owner (Contact person) after clicking the **OK** button if the administrator had enabled the **Reseller account creation** option from the



[Settings](#) >> **Email Templates** page.

- Deselect the check box and click OK if you want to add the new reseller account without configuring its permissions. If you choose to set limitations later, skip steps 4 and 5.
- Click Cancel to go back to the previous page without adding the reseller or OK to proceed.



Note

A reseller that does not have its limitations and permissions set will have all permissions disabled and all limits set to 0. The account expiration date is unlimited.

4. A new page allowing you to change the account permissions, limits and phone numbers opens.

- Permissions

- Client management – When this option is enabled, the reseller is able to add and remove clients from his account.



Note

Even if this permission is disabled on his account, the reseller can edit the client's contact details.

- Permission and limit management - When this option is enabled, the reseller is able to change clients' permissions and limits.



Note

When you enable the **Client management** check box, 4PSA VoipNow Core automatically enables the **Permission and limit management** check box and blocks the edit option.

- Endpoint management – When this option is enabled, the reseller is able to add and remove endpoints belonging to the clients from his account.



Note

Even if this permission is disabled on his account, the reseller can still edit the contact details of his endpoints.

When you enable the **Endpoint management** check box, 4PSA VoipNow Core automatically enables the **Endpoint feature management** and the **Permission and limit management** check boxes and blocks the edit option.

- Endpoint feature management – When this option is enabled, the reseller is able to manage endpoint setup parameters.
- Endpoint SIP management – When this option is selected, the endpoint user is allowed to customize the SIP settings from the Endpoint Setup page.

The reseller is also able to view and set the Endpoint SIP management permission for his clients.

- Charging plan management – When this option is enabled, the reseller is able to add, remove or change charging plans' parameters.

These charging plans can be applied on his client accounts and are used at charging his clients.


- Phone number management – When this option is enabled, the reseller is able to assign public phone numbers to clients and endpoints from his own public phone numbers pool.
- See stacked phone numbers – When this option is enabled, the reseller is able to assign public phone numbers to clients and endpoints from the system's stacked phone numbers pool.



Note

The **See stacked phone numbers** cannot be enabled if the **Phone number management** option is not enabled as well.

• Limits

- Maximum number of clients – Use the available text box to specify the maximum number of clients for the reseller account. If you do not want to limit the number of clients, select the `Unlimited` check box.
- Maximum number of endpoints – Use the available text box to specify the maximum number of endpoints for the reseller account. If you do not want to limit the number of endpoints, select the `Unlimited` check box. The maximum number of endpoints for a reseller account limits the maximum number of endpoints for each client account.
- Maximum concurrent calls – Use the available text box to limit the number of calls that can be active at the same time for any endpoint on the reseller's account. If you do not want to limit the reseller, select the `Unlimited` check box. The maximum number of concurrent calls for a reseller account limits the maximum number for each client account.
- Maximum disk space for call recording – Use the available text box to specify the maximum storage space reserved for call recordings. If you do not want to limit the disk space, select the `Unlimited` check box. The maximum disk space for call recording for a reseller account limits the maximum disk space for a client account.
- Account expiration date – Use the available text box or the  calendar button to specify the expiration date for the reseller account. To enable the text box, deselect the `Unlimited` check box.



Note

If the reseller account expires, all the clients and endpoints belonging to it also expire.


- Phone number selection – Use the available controls to assign/unassign public phone numbers for the reseller account.
 - Available public phone numbers – The list contains all the available public phone numbers in the system. To assign a public phone number to the reseller, click the desired number and it will be automatically moved into the `Assigned public phone numbers` pool.
 - Assigned public phone numbers – This list contains all the public phone numbers assigned to the reseller. To remove a phone number from the pool, click the desired number and it will be automatically moved back into the `Available public phone numbers` list.
5. Click OK to set the permissions, limits and phone numbers for the new reseller. Click Cancel to add the reseller without saving the permissions and phone numbers.

Edit Reseller's Permissions and Phone Numbers

The reseller's permissions, limits and phone numbers can be modified based on the current account usage. For example, if a reseller has five clients on his account, the maximum number of clients can only be set at values greater than five.

To modify the permissions and phone numbers of a particular reseller, follow these steps:

1. In the Reseller Management page, choose the desired reseller and click on his name.

2. Next, click the  Reseller permissions and phone numbers icon available in the `Tools` area. The next page contains the following sections:

- Permissions – This section allows you to enable or disable permissions such as client and endpoint management, phone number management, etc.



Note

For more details, see the [Add a New Reseller](#) section.

- Limits – This section allows you to set limitations for the maximum number of clients and endpoints allowed in the reseller account. It also allows you to set an expiration date for the reseller account.



Note

For more details, read the [Add a New Reseller](#) section.

- Incoming phone number selection – This section allows you to select the phone numbers that can be used by the reseller for his clients and endpoints, if the Phone Number Management check box is selected. The administrator can assign phone numbers to the reseller's clients and endpoints from the same pool.




Note

This section is displayed only if there are exclusive or stacked phone numbers available in the system pool or the reseller's pool.

3. Click OK to save the changes to the account. Click Cancel to return to the previous page without saving the changes.


Remove a Reseller

To remove reseller accounts from the system, follow these steps:

1. Choose the resellers you want to delete by selecting their corresponding check boxes in the Reseller Management page.
2. Click the  [Remove selected](#) link. A new page displaying the list of clients and endpoints associated with the reseller account opens. These clients and endpoints will be removed as well.
3. Review the list. If you want to proceed with the removal, select the `confirm` the removal check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Group Operations on Reseller Accounts

4PSA VoipNow Core allows you to edit the permissions, limits and phone numbers for several resellers at the same time:

1. From the Reseller Management page, choose the resellers for which you want to modify the permissions and the phone numbers by selecting their corresponding check boxes.
2. Click the  [Group Operations](#) link. A new page containing the following sections opens:

- Permissions – This section allows you to make changes on all resellers' permissions. For each permission, you have the following options:
 - Do not change – When you choose this option, the corresponding permission is not modified for any of the resellers you have selected.
 - Enable – When you choose this option, the corresponding permission is enabled for all the resellers you have selected.
 - Disable – When you choose this option, the corresponding permission is disabled for all the resellers you have selected.



Note

For a detailed explanation upon each permission, see the [Add a New Reseller](#) section.

- Limits – This section allows you to make the same changes for all resellers' limits – maximum number of clients, endpoints, mailboxes, etc. For each limit, you have the following options:
 - Do not change – When you select this option, the corresponding limit is not modified for any of the reseller accounts you have selected.
 - Unlimited – When you select this option, the corresponding limit is set to unlimited.
 - Value – When you select this option, the adjacent text box is enabled; you must fill in a value that limits the corresponding feature value.
 - Increase – When you select this option, the adjacent text box and drop-down list are enabled. Use the drop-down list to select the increase method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding limit is increased.
 - Decrease – When you select this option, the adjacent text box and drop-down list is enabled. Use the drop-down list to select the decrease method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding limit is decreased.



Note

For a detailed explanation upon each limit, see the [Add a New Reseller](#) section.

3. Click OK to save the changes to the selected accounts. Click Cancel to return to the previous page without saving the changes.

Edit a Reseller's Details

To edit the details of a reseller account, follow these steps:


1. In the Reseller Management page, choose the desired reseller and click on his name.

2.



Next, click the Edit reseller icon available in the **Tools** section.

3. A new page opens, allowing you to edit details of the selected reseller account and its owner. The data is grouped into several sections:

- Reseller form – Use this section to change the account owner's contact information or the login user name and password.
- Charging and outgoing call filtering – Use this section to choose another charging plan for this account or to view the Charging identifier specific to this reseller.
- Resend reseller contact details - Select this check box if you want to resend contact details to the email address specified for the reseller account. The contact details will also be resent to the administrator of the system, if the appropriate parameters have been set in the  [Settings](#) » Email Templates page.



Note

The password will be sent only if it has been modified.




Note

For more information on how to modify these fields, see the [Add a New Reseller](#) section.

4. Click OK to save the changes to the account. Click Cancel to return to the previous page without saving the changes.

Manage Reseller's Custom Buttons

To access this page, choose the desired reseller from the Reseller

Management page and click the name link. Next, click the  Custom buttons icon available in the **Tools** area.

For a detailed overview, see the [Manage Custom Buttons](#) section from the Manage the Application chapter.

Add Reseller's Custom Buttons

If you want to add a new custom button to the reseller account, click the



Add Custom Button icon available in the reseller's **Tools** area. For more detailed information, see the [Add a New Custom Button](#) section.

The difference between the administrator's custom buttons and the reseller's is the inheritance level. For the reseller, only three levels are available:

- 0 – The button is visible only to the reseller user. Always, inheritance level 0 represents the logged in user. For each child user, the level is incremented with 1.
- 1 – The button is visible to the reseller and the client users.
- 2 – The button is visible to the reseller, the client and the endpoint users.

Edit Reseller's Custom Buttons


For more details on how to edit the reseller's custom buttons, see the [Edit Custom Buttons](#) section.

Manage Reseller's Time Intervals

Time intervals can only be seen by the users who have created them. Other system users can only see the properties of the time intervals directly associated with their account; for example, if an user has been created with a charging plan that uses the respective time interval, he will be able to see the properties of that particular time interval.

A reseller can see both his own time intervals and the ones created by his clients. To be able to see the time intervals defined on a client account, a reseller has to enter into the client context.

To access this option, choose the desired reseller from the Reseller

Management page and click the name link. Next, click the  Time intervals icon available in the **Tools** area.

For a detailed overview, see the [Manage Time Intervals](#) section from the Manage Settings chapter.

Add Reseller's New Time Intervals

If you want to add a new time interval to the reseller account, click the



Add time interval icon available in the reseller's **Tools** area. For more detailed information, see the [Add a New Time Interval](#) section.

Edit Reseller's Time Intervals


For more details on how to edit the reseller's time intervals, see the [Edit a Time Interval](#) section.

Manage Reseller's Outgoing Routing Rules

4PSA VoipNow Core allows resellers to block certain outgoing calls, based on the time interval when the call was dialed and the callerID of the system user that dialed the number.

View Reseller's Outgoing Routing Rules



To access this option, choose the desired reseller from the Reseller

Management page and click the name link. Then, click the  Outgoing routing rules icon available in the **Tools** area.

In the Outgoing Routing Rules Management page, you can view a list of the routing rule groups available in the reseller's account. The following operations can be performed:

- Add new routing rules.
- Replace existing routing rules.

4PSA VoipNow Core displays the following information about each group:

- S – This icon displays the group's status:
 -  Enabled
 -  Disabled

Click this icon to change the group's status.





Note

You cannot change the status of the groups that are currently included in charging plans.

- Name – The descriptive name of the outgoing routing rules group. Click this link to edit the group's details.
- Rules – The number of rules inside the rule group.
- Updated – The date when the group was added to the system.

Searching the Routing Rules Groups List

When the routing rules group list is too long and you are searching for specific routing rules, you can use the following features:


- Search – Use the text box to specify the words you are looking for. Click the  button or the `search` label to display only the routing rules that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.



Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The outgoing routing rule group list can be filtered by name, rules number and update date. To do so, click the header link. The order criteria is marked by the highlighted table header and the arrow indicates how the routing rules list was sorted. The sort direction can be changed by another click on the corresponding header.

Add an Outgoing Routing Rules Group

To add outgoing routing rules to the system, click the name of the reseller in the Reseller Management page and then click the  Outgoing routing rules icon available in the `Tools` area, and follow these steps:

1.  Click the  Add outgoing routing rules icon available in the `Tools` area.
2. A new page opens, allowing you to enter the details of the new routing rules group. The information is displayed in several sections:
 - Routing group management
 - Name – Use this text box to give a descriptive name to the outgoing routing rule group.

- Add new outgoing routing rules – In this section you can find buttons, text boxes and drop-down lists that allow you to define one or more routing rules for outgoing calls.

The first drop-down list displays the available actions. On this level, 4PSA VoipNow Core blocks the call to that number if the number is matched. If you select this action, the following routing rule will be displayed:

Block number {number_1} if in time interval {time_int} coming from {number_2}, where:

- {number_1} - Use this text box to specify the number dialed by the endpoint user.
- {time_int} - Use this drop-down list to select the time interval when this rule will be applied.
- {number_2} - Use this text box to specify the number of the endpoint where the call originates.



Note

You can specify any combination of the digits 0-9 and the characters '.', '*'.

The number entry supports the Asterisk number matching. You can enter a basic regular expression containing:

- X - matches any digit from 0-9.
- Z - matches any digit form 1-9.
- N - matches any digit from 2-9.
- [] - matches any digit or letter in the brackets.
- * - matches 0, 1 or any number of the previous expression.
- . - matches one or more characters.

For example:

- Number 0. will match any number starting with 0.
- Number 1X[123]N will match any number starting with 1, followed by any digit between 0 and 9, followed by 1,2 or 3 and followed by any digit between 2 and 9.




Note

You can specify any combination of the digits 0-9 and the characters '.', '*'.

The number entry supports the Asterisk number matching. You can enter a basic regular expression containing:


- any digit.
- * - Matches 0, 1 or any number of the previous expression.
- . - Matches one or more characters.


 Caution


The **Block** rule is final. This means that when the rule is matched, other rules are no longer checked.

3. Click OK to add the new routing group to the system. Click Cancel to go back to the previous page without adding the rule group.

Edit an Outgoing Routing Rule Group


To edit the properties of an outgoing routing rule group, click the reseller's name in the Reseller Management page and then click the  Outgoing routing rules icon available in the **Tools** area and follow these steps:

1. In the Outgoing Routing Rules Management page, click the name of the group.
2. A new page allowing you to modify the details of the group opens. The information is displayed in several sections:
 - Routing Group Management – Use this section to rename the group or replace existing routing rules.
 - Name – Use this text box to give a descriptive name to the outgoing routing rule group.
 - Agree to replace existing routing rules – You can use this option to upload an XML file that was previously saved with the  [Save rules](#) option.

 Caution

4PSA VoipNow Core will delete from the database the selected group of rules and replace it with the uploaded rules.

The group of rules in the XML file must have the **same name** as the group in the interface. Otherwise, 4PSA VoipNow Core will not delete the current rules and ignore the uploaded file.

- Upload rules – When the option Agree to replace existing routing rules is enabled, you can use the  button to locate the file containing the group of routing rules that you want to upload.
- Add new outgoing routing rules – Use this section to add new rules to the group.



Note

For more information on how to edit the rule, see the [Add an Outgoing Routing Rules Group](#) section.

- Existing rules – Use this section to review the existing rules, change their order in the group or remove rules from the group.

4PSA VoipNow Core displays the following information about each routing rule:

- S – This icon displays the rule's status:

-  Enabled


-  Disabled

Click this icon to change the rule's status.

- Action – The action performed when 4PSA VoipNow Core matches the number dialed by the user.
- Number – The number chosen to match the number dialed by the endpoint user.
- In time interval – The time interval when the rule will be executed.
- Coming from – The number of the endpoint where the call originated.

Remove a Routing Rule from a Group


To remove routing rules from a group, follow the steps:


1. Choose the routing rules you want to delete by enabling their corresponding check box.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Save Outgoing Routing Rule Groups


4PSA VoipNow Core gives you the possibility to back-up and restore your routing rules. You can export routing rules to XML files and download them to your computer. You can later upload these files to the 4PSA VoipNow Core rules database. You can save either individual groups or all groups available in the 4PSA VoipNow Core system.


To save a specific group from the system onto your computer:

1. In the Outgoing Routing Rules Management page, click the name of the group you want to save.
2. A new page listing all the rules available in the group opens. Click the  [Save rules](#) link.

To save all the groups currently available in your database, in the Outgoing Routing Rules Management page, click the  [Save rules](#) link.

Remove an Outgoing Routing Rule Group

To remove routing rule groups from the system, click the  Outgoing routing rules icon available in the Reseller Management page and follow the next steps:

1. Choose the groups you want to delete by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.





Note

You cannot remove routing rule groups that are used in the reseller's charging plans.

Manage Reseller's Charging Limits




Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.



Note

If you have added a reseller without an associated charging plan, you will not be able to set any **Charging Limits** for him. The  icon will not be available in the **Tools** area of the **Reseller Management** page.

4PSA VoipNow Core allows you to set charging limits when the reseller operates under a `postpaid` charging plan. If you choose to adjust the charging rules of a particular reseller, you can add extra limits to his account.



Note

If the reseller operates under a `prepaid` charging plan, you can adjust his charging rules only by adding *charging credits*.

View Reseller's Charging Limits History

4PSA VoipNow Core allows you to view detailed information about a reseller's charging limits. To access this information, follow the next steps:

1. In the Reseller Management page, choose the desired reseller and click the name link.

- 2.

In the new opened page, click the  Charging limits icon available in the **Tools** area.

The Charging limits left section displays the remaining charging limits that can still be used by the reseller:

- Outgoing money limit
- Incoming money limit

The charging limits history table contains the following columns:

- Incoming money limit – Displays the supplementary credit for external incoming calls.
- Outgoing money limit – Displays the supplementary credit for external outgoing calls.
- Over usage minutes – Displays the supplementary over usage minutes limit.
- Every month – Displays the time frame for the charging limits:
 - Yes - If the imposed charging limits are automatically added every month.
 - No - If the imposed charging limits apply only to the current month.
- Order number – Displays the number of the request made for allocating the new charging limits.
- Date added – Displays the date and time the charging limits were enforced.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Add Limits to a Reseller Account

In this section you can manage the charging limits for a reseller by adjusting his time and money limits. The following fields are displayed:

- Incoming money limit {value} {currency} – Fill in the amount of money which you want to add to the external outgoing calls limit that was initially set in this reseller's charging plan.



Note

This field will be grayed out if the charging limit for the incoming calls was set to `unlimited` during the reseller's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 12 USD left)`).

- Outgoing money limit {value} {currency} – Fill in the amount of money which you want to add to the external incoming calls limit that was initially set in this reseller's charging plan.



Note

This field will be grayed out if the charging limit for the outgoing calls was set to `unlimited` during the reseller's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 12 USD left)`).

- Over usage minutes { number } minutes – Fill in the amount of minutes you want add to the external outgoing over usage minutes set up in the reseller's charging plan.



Note


4PSA VoipNow Core displays between parantheses the total number of minutes left to be used (e.g. `(currently 1999 minutes left)`).

- Order number – Insert the identification number of the request for allocating these charging limits.
- These limits should be added every month - Select this check box if you want to add these limits automatically every month.

Click OK to save your settings, or Cancel to go back to the previous page.

Remove Reseller's Charging Limits

To remove monthly charging limits, choose the desired reseller from the


Reseller Management page and click the name link. Then, click the Charging limits icon available in the `Tools` area and follow the next steps: 

1. Choose the charging limits you want to delete by selecting their corresponding check boxes from the Limits history table.



Note



You cannot delete a charging limit that is set for one month only. However, if you have made a mistake and you want to modify the limit you have added, insert a new charging limit with a similar negative value (with a minus in front). Then, click the **OK** button to save the new setting, or **Cancel** to go back without making any changes.

2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed with the removal, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Manage Reseller's Charging Credits




Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.



Note

If you have added a reseller without an associated charging plan, you will not be able to set any **Charging Credits** for him. The  icon will not be available in the Tools area of the **Reseller Management** page.

4PSA VoipNow Core allows you to set charging credits when the reseller operates under a `prepaid` charging plan.




Note

If the reseller operates under a `postpaid` charging plan, you can only adjust his *charging limits*.

View Reseller's Charging Credits History

4PSA VoipNow Core allows you to view detailed information about the reseller's account credit history. To access this information, follow the next steps:

1. In the Reseller Management page, choose the desired reseller and click the name link.
2. In the new opened page, click the  Charging credits icon available in the Tools area.

The Charging credits left section displays the remaining credit that can still be used by the reseller:

- Outgoing calls credit
- Incoming calls credit

The credit history table contains the following columns:

- Outgoing calls credit – Displays the supplementary credit for outgoing calls.
- Incoming calls credit – Displays the supplementary credit for incoming calls.
- Order number – Displays the number of the request for allocating the new charging credits.
- Date added – Displays the date and time the charging credits were enforced.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Add Credits to a Reseller Account

In this section you can manage the charging credits for a reseller by adjusting his available credit. The following fields are displayed:

- Outgoing calls credit { value } { currency} – Use the text box to specify the amount which you want to be added to the reseller's credit used for outgoing external calls.



Note

This field will be grayed out if the charging credit for the outgoing calls was set to `unlimited` during the reseller's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 12 USD left)`).

- Incoming calls credit { value } { currency} – Use the text box to specify the amount which you want to be added to the reseller's credit used for incoming external calls.



Note

This field will be grayed out if the charging credit for the incoming calls was set to `unlimited` during the reseller's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. (currently 12 USD left)).

- Order number – Insert the identification number of the request for allocating the charging credits.

Click OK to save your settings, or Cancel to go back to the previous page.

Decrease Reseller Charging Credits

In the Reseller Management page, choose the desired reseller and click

his name. Then, click the  Charging Credits icon available in the next page.

You cannot delete a charging credit. However, if you have made a mistake and you want to modify the credit you have previously added, insert a new charging credit with a smaller negative value (with a minus in front). Afterwards, click the OK button to save the new setting, or Cancel to go back without making any changes.

Manage Reseller's Charging Plans



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core

server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.

The Charging Plan Management page displays a list with all the charging plans available in the reseller account. For more details, see the [View Your Charging Plans](#) section.

Add Reseller's New Charging Plans



Note

In 4PSA VoipNow Core, the child account does not inherit the charging plan of his parent account.

The reseller can also create new charging plans that can be used by himself or by his clients. To do so, in the Charging Plan Management page, click the



Add a charging plan icon available in the `Tools` area.



Note

The reseller can create new charging plans within the limits set to him by his own charging plan. Therefore, he cannot add any of the following permissions if they hadn't been enabled in his charging plan:

- **Allow incoming calls**
- **Allow outgoing external calls**
- **Allow direct calls between endpoints**

In this conditions, not all the lines described in the [Add a New Charging Plan](#) section will be available.



Caution

If the reseller was created without an attached charging plan, than, when adding a new one, he will not be able to set any permissions or limits. The only options available to him will be:

- **Name**
- **Charging plan type**
 - Prepaid
 - Postpaid
- **Play custom sound file when outgoing access is blocked**

The first added charging plan will be set as the default one.

For more details on how to add a new charging plan to the reseller account, see the [Add a New Charging Plan](#) section.

Edit Reseller's Charging Plans

Clicking a charging plan's name in the Charging Plan Management page allows you to modify its parameters, as shown in the [Edit a Charging Plan](#) section.

Manage Reseller's Destination Charging Exceptions

4PSA VoipNow Core allows the definition of charging exceptions for certain area codes that override the costs set up in the charging plan.

For more details on the reseller's charging exceptions, see the [Manage Destination Charging Exceptions](#) section.

Manager Reseller's Free Minutes Packages

4PSA VoipNow Core allows the definition of free minutes packages that can be offered to certain child users. For more information, see the [Manage the Free Minutes Packages](#) section.

My Charging Plan


4PSA VoipNow Core allows you to view detailed information about a reseller account's current charging plan. To access this information, follow these steps:

1. In the Reseller Management page, choose the desired reseller and click the name link.

2.

In the new opened page, click the  Charging plans icon available in the Tools area.

3.

Next, click the  Reseller charging plan icon to view details about the prices charged for the calls made by the reseller account. The information is grouped into several sections:

- Charging plan description
 - Charging plan name – The descriptive name of the charging plan.
 - Charging plan type – The type of the charging plan: prepaid or postpaid.
 - Allow incoming calls - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can receive calls from endpoints that belong to the system as well as from endpoints outside the system.
 - Allow outgoing external calls - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can make calls to destinations outside the system.

- Allow direct calls between endpoints - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can directly call other endpoints.
- Remaining incoming calls credit – The amount currently available for incoming calls.



Note

This information is available only for prepaid charging plans.

- Remaining outgoing calls credit – The amount currently available for outgoing calls.



Note

This information is available only for prepaid charging plans.

- Number of recharges



Note

This information is available only for prepaid charging plans.

- Incoming money limit – The supplementary credit for external incoming calls.



Note

This information is available only for postpaid charging plans.

- Outgoing money limit – The supplementary credit for external outgoing calls.



Note

This information is available only for postpaid charging plans.

- External outgoing limits – The number of outgoing minutes available, per time interval. The number of outgoing minutes is displayed for each time interval included in the charging plan in the following format:

{ m } minutes limit in time interval { T }

The number of remaining minutes in current month is also displayed in format:

{m} minutes limit in over usage. {m} minutes and 0 seconds remaining in {month}



Note

This information is available only for `postpaid` charging plans.

4PSA VoipNow Core displays this section only if the reseller can make calls to destinations outside the system.

- Outgoing calls charges – These are the charges applied to conversations after the user has exceeded the number of available minutes.
 - Calls are charged indivisible for the first {T} seconds and then every {U} seconds - For the first {T} seconds the call is taxed as one minute; afterwards, taxing is done every {U} seconds.
 - Direct calls between endpoints are charged {money unit}/second - The fee charged for direct calls between endpoints.

If the charges for external calls are computed using a fixed prices method, 4PSA VoipNow Core displays the costs for each time interval in the following format:

- Calls made in time interval {T} are charged with {money unit}/second – The price charged for external calls made in time interval {T} .

4PSA VoipNow Core displays the costs for the calls outside the time intervals specified above:

- Calls made outside these time intervals are charged {money unit}/second – The price charged for external calls made outside time interval {T}.
- External incoming calls charges – These charges apply to calls received from outside the system.
 - Calls are charged indivisible for the first {T} seconds and then every {U} seconds - For the first {T} seconds the received call is taxed as one minute; afterwards, taxing is done every {U} seconds.

If the charges for external calls are computed using a fixed prices method, 4PSA VoipNow Core displays the costs for the external incoming calls in the following format:

- External incoming calls are charged {money unit}/second - The price charged for the external incoming calls.



Note

4PSA VoipNow Core displays this information only if the reseller is allowed to receive external calls.

- Free minutes - This section provides an overview of the free minutes included in this user's charging plan.



Note


Some of these sections may not be displayed, depending on the user's charging plan.

All these fields are related to the permissions and fees set for the current user in his charging plan.

Manage Reseller's Client Templates


When creating an client account, the administrator can select an endpoint template from his own list or from the reseller's.

When creating an client account, the reseller can select endpoint templates from his own templates list.

To access the templates list, choose a reseller from the Reseller Management page and click the name link. Next, click the  Client templates icon available in the Tools area.

For a detailed overview, see the [Manage Client Templates](#) section from the Manage System Templates chapter.

Add Reseller's New Client Templates

If you want to add a new client template, click the  Add client template icon available in the Tools area. For more information, see the [Add New Client Template](#) section.


Edit Reseller's Client Templates

Clicking a client template's name in the Client Templates page allows you to modify its parameters, as shown in the [Edit Client Templates](#) section.

Manage Reseller's Endpoint Templates


When creating an endpoint account, the administrator can select an endpoint template from his own list or from the reseller's.

When creating an endpoint account, the reseller can select endpoint templates from his own templates list.

To access the templates list, choose a reseller from the Reseller Management page and click the name link. Next, click the  Client templates icon available in the Tools area.

For a detailed overview, see the [Manage Endpoint Templates](#) section from the Manage System Templates chapter.

Add Reseller's New Endpoint Templates

If you want to add a new endpoint template, click the  Add endpoint template icon available in the Tools area. For more information, see the [Add New Endpoint Template](#) section.

Edit Reseller's Endpoint Templates

Clicking a endpoint template's name in the Endpoint Templates page allows you to modify its parameters, as shown in the [Edit Endpoint Templates](#) section.


Manage Reseller's Email Templates

To access this page, click the  Email templates icon available in the Tools area.

For a detailed overview, see the [Manage Email Templates](#) section of the Manage System Templates chapter.

Note that some of the functions described in the Manage Email Templates section may not be available or may be modified, depending on the access level.

You can customize the subject and the content of an email notification by following the next steps:

1. Click the  icon corresponding to the chosen event.
2. A new page allowing you to edit the email subject and email body opens. Modify the text, keeping in mind the following rules:

- You may use only plain text when writing the email subject and content. The email is also sent in plain text format.
 - You can include tags that will be automatically replaced by the system with the appropriate content. Examples:
[recipient_name] is replaced with the name of the person receiving the notification.
3. Click OK to save the changes to the email. Click Cancel to return to the previous page without saving the changes.

The email templates that can be customized for a reseller account are presented in the next sections.

The Reseller's 'Reseller Account Expiration Warning' Email Template

For more details about how to customize this template, see [The 'Reseller Account Expiration Warning' Email Template](#) section.

The Reseller's 'Reseller Account Expired' Email Template

For more details about how to customize this template, see [The 'Reseller Account Expired' Email Template](#) section.

The Reseller's 'Reseller Charging Limit Warning' Email Template

For more details about how to customize this template, see [The 'Reseller Charging Limit Warning' Email Template](#) section.

The Reseller's 'Reseller Charging Limit Exceeded' Email Template

For more details about how to customize this template, see [The 'Reseller Charging Limit Exceeded' Email Template](#) section.

The Reseller's 'Client Account Creation' Email Template

For more details about how to customize this template, see [The 'Client Account Creation' Email Template](#) section.

The Reseller's 'Client Account Expiration Warning' Email Template

For more details about how to customize this template, see [The 'Client Account Expiration Warning' Email Template](#) section.

The Reseller's 'Client Account Expired' Email Template

For more details about how to customize this template, see [The 'Client Account Expired' Email Template](#) section.

The Reseller's 'Client Charging Limit Warning' Email Template

For more details about how to customize this template, see [The 'Client Charging Limit Warning' Email Template](#) section.

The Reseller's 'Client Charging Limit Exceeded' Email Template

For more details about how to customize this template, see [The 'Client Charging Limit Exceeded' Email Template](#) section.

The Reseller's 'Endpoint Account Creation' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Creation' Email Template](#) section.

The Reseller's 'Endpoint Account Expiration Warning' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Expiration Warning' Email Template](#) section.

The Reseller's 'Endpoint Account Expired' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Expired' Email Template](#) section.

The Reseller's 'Endpoint Charging Limit Warning' Email Template

For more details about how to customize this template, see [The 'Endpoint Charging Limit Warning' Email Template](#) section.

The Reseller's 'Endpoint Charging Limit Exceeded' Email Template

For more details about how to customize this template, see [The 'Endpoint Charging Limit Exceeded' Email Template](#) section.

The Reseller's 'Forgot Password' Email Template

For more details about how to customize this template, see [The 'Forgot Password' Email Template](#) section.

Restore the Default Settings

To restore the default notification settings and email contents, click the Default button.





Note

When you click the **Default** button, 4PSA VoipNow Core will not overwrite the other email address destination.

Manage Your Reseller's Clients


Clients' Management Page

4PSA VoipNow Core offers two ways of accessing a client account and performing operations on it, as shown below:

1. By following the  [Clients](#) link available in the left navigation panel. In the Clients Management page, 4PSA VoipNow Core displays a list with all the clients registered in the system. To view a certain client account, choose the client name of your choice and click on it.
2. By following the  [Resellers](#) link available in the left navigation panel. In the Reseller Management page, click the reseller name of your choice. The next page displays the list of all the clients of that reseller account.

Both ways allow the user to perform the same operations on a client account, the only difference being that in the second one the administrator has access to all the clients of a specified reseller, while in the first case the administrator views all the clients in the system along with their respective reseller. The manual describes in detail the first mentioned way.

The Client Management page has two distinct sections:






- Tools - This section allows you to add a new client account by clicking the  Add client icon.
- Clients - In this section, 4PSA VoipNow Core displays a list with all the clients registered in the system. To manage a certain client account, click its name.

Multiple operations can be performed on a reseller's client account:

- Add a new client to the reseller account.
- Edit existing clients.
- Manage a client's charging plans and time intervals.
- Delete clients from the reseller account.
- Edit the reseller's contact details.


4PSA VoipNow Core displays the following information about each client:

- S – This icon displays the client account's status:

-  Enabled
-  All local calls are permitted
-  Only incoming call are permitted
-  No calls are permitted
-  Disabled

Click this icon to change the customer account's status. When you click this icon the Global and phone account status panel is displayed. This panel has two main areas:

- Global account status settings - From this area you can choose to enable or disable an account. There are two options:
 - Customer is fully enabled - The customer can use all system functions, but phone access permissions may apply.
 - Customer is disabled - The customer cannot access any system function and cannot use the phone service.

 Caution



Disabling an active account also disables all its child accounts.

- Phone account status settings - From this area you can manage the phone permissions for an enabled account. The following options are available:
 - Customer can dial out and receive calls - The customer has no phone restrictions.
 - Customer can be called and can call internally - Only local outgoing calls are permitted. Incoming calls are not restricted.
 - Customer can be called only - No outgoing calls are allowed, but all incoming calls are permitted.
 - Customer cannot use phone service - The customer can neither make, nor receive calls.


 Note

If you select any of these options, its permissions/restrictions apply to all the child accounts of the current account.

If a parent account has set a restriction for a child account, than that child account cannot remove that restriction for any of the accounts under it, but it can set more restrictions. For example: if the administrator has set for a reseller the **Customer can be called and can call internally** restriction, than the reseller cannot set for his clients full access to the phone service, but that reseller can decide to set for any or all of his clients the **Customer can be called only** restriction.


- A – This button specifies whether the client has permission to log in and use the 4PSA VoipNow Core interface:
 -  Allowed
 -  Not allowed


Click this icon to enable/disable the control panel access.


 Caution

If the client does not have control panel access, neither will his child accounts.

- Client – The name of the client. Click this link to enter the client account context.
- Company – The name of the client's company.
- Created – The date when the client account was added to the reseller.
- Endpoints – The number of endpoints currently available under the client account.
- R – Click the icon to view a short report on the client.



 Note

You can filter the columns displayed in the client's list table by clicking the  [Show columns](#) link. Likewise, if you cannot see some of the above columns, it is likely that they have been disabled using this control.

In order to transfer clients between resellers, check the desired clients inside the list and click the  [Move clients](#) link. This displays a warning stating the consequences of this action. If you choose to proceed, you will be required to confirm the operation and select the new reseller and the associated charging plan.

Searching the Clients List

When the client list is too long and you are searching for specific clients, you can use the following features:



- Search – Use the text box to specify the words you are looking for. Click the  button or the Search label to display only the clients that match your search criteria.
- Show all – Click this  button or the show all label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The clients list can be sorted by client name, company and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the clients list was sorted. The sort direction can be changed by another click on the corresponding header.

View the Client's Report

The client report provides statistic information to the administrator upon the client's resources usage. To view the report on a particular client, click the  icon in the Client Management page or the  icon in the client context page.

4PSA VoipNow Core displays the following information about the client:

- System usage overview for { m } month, { y } year - { m } is the current month and { y } is the current year:
 - Total length of incoming calls - The total duration of the incoming calls in the current month.
 - Total length of outgoing calls - The total duration of the outgoing calls in the current month.
 - Maximum length of an incoming call -The maximum duration of an incoming call from all the endpoints belonging to the client in the current month.
 - Maximum length of an outgoing call - The maximum duration of an outgoing call from all the endpoints belonging to the client in the current month.

- Accounts overview – This section displays the number of accounts from the client account and their status.
 - Account created – The location from which the client has been created.
 - Total endpoints – The total number of endpoint accounts belonging to the client.
 - Enabled endpoints - The number of enabled endpoint accounts belonging to the client.
 - Suspended endpoints - The number of disabled endpoint accounts belonging to the client.
 - Registered endpoints - The number of endpoints registered from a phone.
- Charging plans overview
 - Client level charging plans – The number of charging plans owned by the client.
- Disk space overview
 - Disk space for recorded calls - The disk space used by all the recorded calls.
 - Total disk space - The total disk space used by the client.

Enable/Disable a Client

If you want to enable/disable a client, you have to click the chosen client's name in the Client Management page and then the [Disable/Enable client](#) link, located under the page title. A pop-up window will ask you to confirm this action.



Note

Disabling a client account will also disable all the accounts belonging to it.

Impersonate a Client

4PSA VoipNow Core offers the possibility to impersonate a client account owner. This option allows management access for the parent account owners in order to modify the child account's permissions and limits.

If you impersonate, you will be able to view the interface from a client's perspective. To do so, click the respective client's name in the Client Management page and then the [Impersonate](#) link, located under the page title.



Note


The **Impersonate** feature can only be used for enabled users with control panel access. Any attempt to use this feature for a disabled account or an account without control panel access will trigger the following error message:

```
You cannot use impersonate on an user that is disabled or
doesn't have control panel access.
```





Note

When you impersonate a client, the application will change the skin to the one used by the chosen client, if different from the one you are currently using.




To return to normal view mode, just click the [Return to my account](#) link located in the right panel, next to the  [Help](#) icon.

Add a New Client

4PSA VoipNow Core allows the possibility to create client accounts without an associated charging plan.


If you want to create a client account with an associated charging plan, make sure you have enabled the Charging option from the  [Settings](#) >>  System Preferences >> Charging section.

If there is no charging plan in the system, you must create one:

- First, make sure that the time intervals you want to use for the charging plan are defined.
- If you want to use another time interval, click the  [Settings](#) link available in the left navigation area, then the  Time intervals icon and follow the instructions in the [Add a New Time Interval](#) section.
- After all the time intervals have been created, click the  [Charging plans](#) link available in left navigation panel and create a new plan. For more information, see the [Add a New Charging Plan](#) section.


To add a new client account to a specific reseller, follow the next steps:


1. 4PSA VoipNow Core offers two ways of adding a new client account, as shown below:

- a. By following the  [Clients](#) link available in the left navigation panel. In the Client Management page, 4PSA VoipNow Core displays a list with all the clients registered in the system. To add a new one, just click the




Add client icon available the `Tools` area. This will open the Select Reseller page that allows you to choose the reseller account to which the new client will be added to. For more information, see the [Select Reseller](#) section.

- b. By following the  [Resellers](#) link available in the left navigation panel. In the Reseller Management page, choose the reseller you want to add

the new client to and click the name link. In the next page, click the  Add client icon available the `Tools` area.



Note

If the maximum number of clients had been reached and you cannot add another one to that particular reseller, the  icon is displayed.

2. The information is grouped into several sections:

- Client form
 - Create using template – Use the drop-down list to choose one of the available templates as a base for the new client. The list contains all the templates designed by the administrator and by the reseller. If you do not want to create the account based on a template, make sure the '—' option is selected.



Note

A template contains default settings that will be used to create the client. For more information on client templates, see the [Manage Reseller's Client Templates](#) section.

- Company name
- Contact name
- Login



Note



The username must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: **_.-@**.

- Password auto generation – When this option is enabled, a password matching the chosen strength is automatically computed.



Note



To set up the password strength, click the  [Settings](#) link available in the left navigation panel and then the  **Login preferences** icon.

- Password – In order to be valid, the password must be at least five characters long and must comply with the setup strength level.

While you type in your password, a colored bar will inform you about the strength of the chosen combination.



Note

To set up the password strength, click the  [Settings](#) link available in the left navigation panel and then the  **Login preferences** icon.




Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.

▪ Special characters like: !?@#%\$%^*()_+={}~[];:.,|^&

- Confirm password
- Phone
- Fax
- Email
- Address
- City
- Region
- Postal/ZIP code
- Country
- Region - The regions of a country are listed in alphabetical order. The one selected by default is the first one on the list.
- Timezone - The time zone selected by default is one you have previously set up in the  [Settings](#) >> Interface Preferences page.
- Interface language – Use this drop-down list to choose the language in which the interface will be displayed. The list contains all the available languages.



Note

If you choose the `Default` option, the language that will be used for the client account interface is the one specified by the administrator in [Manage Interface Preferences](#) section.

- Client notes – Use this text box to insert comments on the client account.
- Charging and outgoing call filtering
 - Charging plan – Use this drop-down list to choose one of the available charging plans that can be applied to the new client account.
 - Outgoing routing group – Use this drop-down list to choose one of the outgoing routing rule groups previously defined by the reseller for its clients. The purpose of this rule group is to restrict the outgoing calls placed by the endpoints on the new client account.
 - Charging identifier – The information entered in this field may be used by other applications which connect to 4PSA VoipNow Core for charging.



Note

This option is available only to the administrator. The administrator can set up this option for all account levels. The client and endpoint level accounts inherit this option from the parent account.


3. The Select client permissions and phone numbers check box allows you to specify what the client will be able to do in the system:

- If you click OK, you are directed to the next step: specifying the client's permissions and phone numbers.



Note

The information on the new created account will be sent by email to the account owner (Contact person) after clicking the **OK** button if the reseller

had enabled the **Client account creation** option from his  **Email Templates** page.

- If you want to add the new client account without configuring its permissions, deselect the check box and click OK. If you choose to set the limitations later, skip steps 4, 5.



Note

A client that does not have his limitations and permissions set will have all the **Permissions** disabled and all the limits set to 0. The account expiration date is unlimited.

- Click Cancel to go back to the previous page without adding the client or click OK to go further.
4. A new page opens, allowing you to change the account permissions, limits and phone numbers.
- Permissions
 - Permission and limit management - When this option is enabled, the client is able to change endpoints' permissions and limits.
 - Endpoint management – When this option is enabled, the client is able to add and remove endpoints from his account.



Note

Even if this permission is disabled in client account, the respective client can edit the contact details of endpoints.

When you select the **Endpoint management** check box, 4PSA VoipNow Core automatically enables the **Endpoint features management** and the **Permission and limit management** check boxes and blocks the edit option.

- Endpoint feature management – When this option is enabled, the client is able to manage endpoint setup parameters.



Note

When the **Endpoint management** check box is selected, the **Endpoint features management** and the **Permission and limit management** check boxes cannot be deselected.

- Endpoint SIP management – When this option is selected, the endpoint user is allowed to customize the SIP settings from the Endpoint Setup page.

The client is also able to view and set the Endpoint SIP management permission for his endpoints.

- Charging plan management – When this option is enabled, the client is able to add, remove or change charging plans' parameters. These charging plans can be applied on his endpoint accounts and are used at charging them.
- Phone number management – When this option is enabled, the client is able to assign public phone numbers to endpoints from his own public phone numbers pool.

- Limits



Caution

The maximum number of endpoints, as well as the maximum disk space depends on the values set for the **Reseller**.


If you try to fill in for the **Client** a maximum number of endpoints or a maximum disk space bigger than it was set for the **Reseller**, an error message will pop up, informing you that the chosen value must be at most the value set for the **Reseller**.

Also, if you fill in for the **Reseller** a smaller value than the one set for the **Client**, the application will automatically decrease the **Client's** limit in order to match the **Reseller's** limit.

Therefore, the `Unlimited` check box might be disabled for certain items for



which a limit is set in the **Reseller permissions and phone numbers** page, available in the `Tools` area.

- Maximum number of endpoints – Use the available text box to specify the maximum number of endpoints for the client's account. If you do not want to limit their number, select the `Unlimited` check box.
- Maximum concurrent calls – Use the available text box to limit the number of calls that can be active at the same time for any endpoint on the client's account. If you do not want to limit the number of calls, select the `Unlimited` check box.
- Maximum disk space for call recording – Use the available text box to specify the maximum storage space reserved for call recordings in the client account. If you do not want to limit the disk space, select the `Unlimited` check box.
- Account expiration date – Use the available text box or the  calendar button to specify the expiration date for the client account. To enable the text box, deselect the `Unlimited` check box.



Note

If the client account expires, all the endpoints belonging to it also expire.

- Phone number selection – Use the available controls to assign/unassign public phone numbers for the client account.



Note

This section is displayed only if one of the following conditions is fulfilled:


- There are exclusive phone numbers available in the reseller's pool.
 - The client's reseller has the **See stacked phone numbers** permission enabled and there are stacked phone numbers available in the system pool.
- Available public phone numbers – The list contains all the available public phone numbers in the system. To assign a public phone number

to the client, click on the desired number and it will be automatically moved into the Assigned public phone numbers pool.






- Assigned public phone numbers – This list contains all the public phone numbers assigned to the client. To remove a phone number from the pool, click the desired number and it will be automatically moved back into the Available public phone numbers list.
5. Click OK to set the permissions, limits and phone numbers for the new client. Click Cancel to add the client without saving the permissions and phone numbers.

Select Reseller

When you want to add a new client directly from the Client Management page, you have to select a reseller account to which this client will be added to.

After you have clicked the  Add client icon, the Select Reseller page will be displayed, allowing you to choose the desired reseller account.

4PSA VoipNow Core displays a table with all the resellers available in the system, providing the following information about each one of them:

- S – This icon displays the reseller account's status:
 -  Enabled
 -  All local calls are permitted
 -  Only incoming call are permitted
 -  No calls are permitted
 -  Disabled

Click this icon to change the customer account's status. When you click this icon the Global and phone account status panel is displayed. This panel has two main areas:

- Global account status settings - From this area you can choose to enable or disable an account. There are two options:

 Caution

Disabling an active account also disables all its child accounts.



- Customer is fully enabled - The customer can use all system functions, but phone access permissions may apply.
- Customer is disabled - The customer cannot access any system function and cannot use the phone service.
- Phone account status settings - From this area you can manage the phone permissions for an enabled account. The following options are available:
 - Customer can dial out and receive calls - The customer has no phone restrictions.
 - Customer can be called and can call internally - Only local outgoing calls are permitted. Incoming calls are not restricted.
 - Customer can be called only - No outgoing calls are allowed, but all incoming calls are permitted.
 - Customer cannot use phone service - The customer can neither make, nor receive calls.



Note

If you select any of these options, its permissions/restrictions apply to all the child accounts of the current account.

If a parent account has set a restriction for a child account, than that child account cannot remove that restriction for any of the accounts under it, but it can set more restrictions. For example: if the administrator has set for a reseller the **Customer can be called and can call internally** restriction, than the reseller cannot set for his clients full access to the phone service, but that reseller can decide to set for any or all of his clients the **Customer can be called only** restriction.

- A – This button specifies whether the reseller has permission to log in and use the 4PSA VoipNow Core interface:
 -  Allowed
 -  Not allowed

Click this icon to enable/disable the control panel access.




Caution

If the reseller does not have control panel access, neither will his child accounts.

- Reseller – The name of the reseller account owner. Click the link to select this reseller.



Note

If the maximum number of clients had been reached and you cannot add another one to that particular reseller, the  icon is displayed. Also, the reseller's name is not underlined anymore.

- Company – The owner's company name.
- Created – The date when the reseller account was added to the system.
- Clients – The number of clients currently available under the reseller account.
- R – Click the icon to view a short report on the reseller.

When the reseller list is too long and you are searching for specific resellers, you can use the available controls.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Edit Client's Details

To edit the details of a client account, follow these steps:


1. In the Client Management page, choose the desired client and click his name.

2.



Next, click the  Edit client icon available in Tools section.

3. A new page opens, allowing you to edit details about the selected client account and its owner. The data is grouped into several sections:

- Client form – Use this section to change the contact information of the account owner or the login user name and password.
- Charging and outgoing call filtering – Use this section to choose another charging plan or another outgoing routing group for this account.
- Resend client contact details - Select this check box if you want to resend contact details to the email address specified for the client account and to the reseller who owns the client, as well as to the system administrator, if the appropriate parameters have been set in the [Settings](#) » Email Templates page. 



Note

The password will be sent only if it has been modified.



Note

For more information on how to modify these fields, see the [Add a New Client](#) section.

4. Click OK to save the changes to the account. Click Cancel to return to the previous page without saving the changes.

Edit Client's Permissions and Phone Numbers


The clients' permissions, limits and phone numbers can be modified based on the current account usage. For example, if a client has five endpoints on his account, the maximum number of endpoints can only be set at values greater than five.

To modify the permissions, limits and phone numbers of a particular client, follow the steps:

1. Click the chosen client name in Client Management page.

2.



Next, click the  Client permissions and phone numbers icon available in the **Tools** area. The next page contains the following sections:

- Permissions – This section allows you to enable or disable permissions such as endpoint management, phone numbers management, etc.



Note

For more information, please read the [Add a New Client](#) section.

- Limits – This section allows you to set limitations for the maximum number of endpoints, concurrent calls, etc. allowed in the client account. It also allows you to set an expiration date for the client account.



Note

For more information, please read the [Add a New Client](#) section.

- Incoming phone number selection – This section allows you to select the public phone numbers that the client is allowed to use for the endpoints on his account if the Phone number management check box

is selected. The administrator can assign phone numbers to the client's endpoints from the same pool.



Note


This section is displayed only if one of the following conditions is fulfilled:

- There are exclusive phone numbers available in the reseller's pool.
- The client's reseller has the **See stacked phone numbers** permission enabled and there are stacked phone numbers available in the system pool.
- There are phone numbers available in the client's pool.

3. Click OK to save the changes to the account. Click Cancel to return to the previous page without saving the changes.


Move Clients

To transfer clients between resellers, follow these steps:

1. Choose the clients you want to allocate to another reseller by selecting their corresponding check boxes in the Client Management page.
2. Click the  [Move clients](#) link. A new page warning you about the consequences of this action opens.
3. If you want to proceed, select the Agree to move clients to reseller check box, choose the new reseller and the corresponding charging plan and click OK . Otherwise click Cancel to return to the previous page without moving any client.


Remove a Client

To remove client accounts from the system, follow these steps:

1. Choose the clients you want to delete by selecting their corresponding check boxes in the Client Management page.
2. Click the  [Remove selected](#) link. A new page displaying the list of the endpoints associated with the client account opens. These endpoints will be removed as well.
3. Review the list. If you want to proceed with the removal, select the Confirm the removal check box and click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Group Operations on Client Accounts

4PSA VoipNow Core allows you to edit the permissions and the phone numbers for several clients at the same time:

1. In the Reseller Management page, click the reseller for who's clients you want to modify the permissions and the phone numbers.
2. Choose the clients for whom you want to make the changes by selecting their corresponding check boxes.
3. Click the  [Group Operations](#) link. A new page containing the following sections opens:

- Permissions – This section allows you to make changes on all clients' permissions.

For each permission, you have the following options:

- Do not change – When this option is enabled, the corresponding permission is not modified for any of the clients you have selected.
- Enable –When this option is enabled, the corresponding permission is enabled for all the clients you have selected.
- Disable – When this option is enabled, the corresponding permission is disabled for all the clients you have selected.



Note

For a detailed explanation upon each permission, read the [Add a New Client](#) section.

- Limits – This section allows you to make the same changes for all clients' limits, like the maximum number of endpoints, etc.

For each limit, you have the following options:

- Do not change – When this option is selected, the corresponding limit is not modified for any of the client accounts you have selected.
- Unlimited – When this option is selected, the corresponding limit is set to Unlimited.
- Value – When this option is selected, the adjacent text box is enabled; you must fill in a value that limits the corresponding feature value.
- Increase – When this option is selected, the adjacent text box and drop-down list are enabled. Use the drop-down list to choose the increase method: units or percent. Use the text box to specify the

number of units or the percent by which the corresponding limit is increased.

- Decrease – When you choose this option, the adjacent text box and drop-down list is enabled. Use the drop-down list to select the decrease method: units or percent. Use the text box to specify the number of units or the percent by which the corresponding limit is decreased.




Note

For detailed explanation upon each limit, see the [Add a New Client](#) section.


4. Click OK to save the changes to the selected accounts. Click Cancel to return to the previous page without saving the changes.

Manage Client's Custom Buttons

To access this page, choose the desired client from the Client Management page and click the name link. Next, click the  Custom buttons icon available in the `Tools` area.

For a detailed overview, see the [Manage Custom Buttons](#) section from the Manage the Application chapter.

Add a Client's Custom Button

If you want to add a new custom button for the client account, click the  Add Custom Button icon available in the client's `Tools` area. For more detailed information, see the [Add a New Custom Button](#) section.

The difference between the administrator's custom buttons and the reseller's is the inheritance level. For the client, only two levels are available:


- 0 – The button is visible only to the client user. Always, inheritance level 0 represents the logged in user. For each child user, the level is incremented with 1.
- 1 – The button is visible to the client and the endpoint users.

Edit Client's Custom Buttons

For more details on how to edit the client's custom buttons, see the [Edit Custom Buttons](#) section.


Manage Client's Time Intervals

Time intervals can only be seen by the users who have created them. Other system users can only see the properties of the time intervals directly associated with their account; for example, if an user has been created with a charging plan that uses the respective time interval, he will be able to see the properties of that particular time interval.

To access this option, choose the desired client from the Client Management page and click the name link. Then, click the  Time intervals icon available in the Tools area.

For a detailed overview, see the [Manage Time Intervals](#) section from the Manage Settings chapter.

Add a New Client's Time Interval

If you want to add a new time interval for the client account, click the  Add time interval icon available in the client's Tools area. For more detailed information, see the [Add a New Time Interval](#) section.


Edit Client's Time Intervals

For more details on how to edit the client's time intervals, see the [Edit a Time Interval](#) section.

Manage Client's Outgoing Routing Rules

4PSA VoipNow Core allows clients to block certain outgoing calls, based on the time interval when the call was dialed and the CallerID of the system user that dialed the number.



View Client's Outgoing Routing Rules

To access this option, choose the desired client from the Client Management page and click the name link. Then, click the  Outgoing routing rules icon available in the Tools area.

In the Outgoing Routing Rules Management page, you can view a list of the routing rule groups available in the client account. The following operations can be performed:

- Add new routing rules.
- Replace existing routing rules.

4PSA VoipNow Core displays the following information about each group:

- S – This icon displays the group's status:
 -  Enabled
 -  Disabled

Click this icon to change the group's status.





Note

You cannot change the status of the groups that are currently included in charging plans.

- Name – The descriptive name of the outgoing routing rules group. Click this link to edit the group's details.
- Rules – The number of rules inside the rule group.
- Updated – The date when the group was added to the system.

Searching the Routing Rules Groups List

When the routing rules group list is too long and you are searching for specific routing rules, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  button or the `search` label to display only the routing rules that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.


Even if you navigate to other pages, the search criteria will be retained until a new search is performed.


You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The outgoing routing rule group list can be filtered by name, rules number and update date. To do so, click the header link. The order criteria is marked by the highlighted table header and the arrow indicates how the routing rules list was sorted. The sort direction can be changed by another click on the header.

Add an Outgoing Routing Rules Group

To add outgoing routing rules to the system, click the name of the client

in the Client Management page, then click the  Outgoing routing rules icon available in the **Tools** area and follow these steps:

1.  Click the Add outgoing routing rules icon available in the **Tools** area.
2. A new page opens, allowing you to fill in details about the routing rules group. The information is displayed in several sections:
 - Routing group management
 - Name – Use this text box to give a descriptive name for the outgoing routing rule group.
 - Add new outgoing routing rules – In this section you can find buttons, text boxes and drop-down lists that allow you to define one or more routing rules for outgoing calls.

The first drop-down list displays the available actions. On this level, 4PSA VoipNow Core blocks the call to that number if the number is matched. If you select this action, the following routing rule will be displayed:

Block number { number_1 } if in time interval { time_int } coming from { number_2 }, where:

- { number_1 } - Use this text box to specify the number dialed by the endpoint user.
- { time_int } - Use this drop-down list to select the time interval when this rule will be applied.
- { number_2 } - Use this text box to specify the number of the endpoint where the call originates.



Note

You can specify any combination of the digits 0-9 and the characters '.', '*'.

The number entry supports the Asterisk number matching. You can enter a basic regular expression containing:

- X - matches any digit from 0-9.
- Z - matches any digit form 1-9.
- N - matches any digit from 2-9.

- [] - matches any digit or letter in the brackets.
- * - matches 0, 1 or any number of the previous expression.
- . - matches one or more characters.

For example:

- Number 0. will match any number starting with 0.
- Number 1X[123]N will match any number starting with 1, followed by any digit between 0 and 9, followed by 1,2 or 3 and followed by any digit between 2 and 9.



Note

You can specify any combination of the digits 0-9 and the characters '.', '*'.

The number entry supports the Asterisk number matching. You can enter a basic regular expression containing:

- any digit.
- * - Matches 0, 1 or any number of the previous expression.
- . - Matches one or more characters.




Caution


The **Block** rule is final. This means that when the rule is matched, other rules are no longer checked.

3. Click OK to add the new routing group to the system. Click Cancel to go back to the previous page without adding the rule group.

Edit a Routing Rule Group

To edit the properties of an outgoing routing rule group, click the name of the client in the Client Management page, then click the  Outgoing routing rules icon available in the Tools area and follow these steps:

1. In the Outgoing Routing Rules Management page, click the name of the group.
2. A new page allowing you to modify the details of the group opens. The information is displayed in several sections:
 - Routing Group Management – Use this section to rename the group.


- Name – Use this text box to give a descriptive name to the outgoing routing rule group.
- Agree to replace existing routing rules – You can use this option to upload an XML file that was previously saved with the  [Save rules](#) option.





Caution

4PSA VoipNow Core will delete from the database the selected group of rules and replace them with the uploaded rules.

The group of rules in the XML file must have the **same name** as the group in the interface. Otherwise, 4PSA VoipNow Core will not delete the current rules and ignore the uploaded file.

- Upload rules – When the option Agree to replace existing routing rules is enabled, you can use the  button to locate the file containing the group of routing rules that you want to upload.
- Add new outgoing routing rules – Use this section to add new rules to the group.
- Existing rules – Use this section to review the existing rules, change their order in the group or remove rules from the group.


4PSA VoipNow Core displays the following information about each existing routing rule:

- S – This icon displays the rule's status:
 -  Enabled
 -  Disabled

Click this icon to change the rule's status.
- Action – The action performed when 4PSA VoipNow Core matches the number dialed by the user.
- Number – The number chosen to match the number dialed by the endpoint user.
- In time interval – The time interval when the rule will be executed.
- Coming from – The number of the endpoint where the call originated.

Remove a Routing Rule from a Group


To remove routing rules from a group, follow the next steps:

1. Choose the routing rules you want to delete by enabling their corresponding check box.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.


Save an Outgoing Routing Rule Group


4PSA VoipNow Core gives you the possibility to back-up and restore your routing rules. You can export routing rules to XML files and download them to your computer. You can later upload these files to the 4PSA VoipNow Core rules database. You can save either individual groups or all groups available in the 4PSA VoipNow Core system.

To save a specific group from the system onto your computer, follow the next steps:

1. In the Outgoing Routing Rules Management page, click the name of the group you want to save.
2. A new page listing all the rules available in the group opens. Click the  [Save rules](#) link.

Remove an Outgoing Routing Rule Group

To remove routing rule groups from the system, click the  Outgoing routing rules icon available in the Client Management page and follow the next steps:

1. Choose the groups you want to delete by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.





Note

You cannot remove routing rule groups that are used in the client's charging plans.

Manage Client's Charging Limits



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.




Note

The **Charging limits** section is only available for `postpaid` charging plans.



Note

If you have added a client without an associated charging plan, you will not be able to set any **Charging Limits** for him. The  **Charging limits** icon will not be available in the `Tools` area of the **Client Management** page.

4PSA VoipNow Core allows you to set charging limits when the client operates under a `postpaid` charging plan. If you choose to adjust the charging rules of a particular client, you can add extra limits to his account.



Note

If the client operates under a `prepaid` charging plan, you can adjust his charging rules only by adding *charging credits*.

View Client's Charging Limits History

4PSA VoipNow Core allows you to view detailed information about a client's charging limits. To access this information, follow the next steps:

1. Click the chosen client name in the Client Management page.
- 2.

In the new opened page, click the  **Charging limits** icon available in the `Tools` area.

The **Charging limits left** section displays the remaining charging limits that can still be used by the client:

- Outgoing money limit
- Incoming money limit

The charging limits history table contains the following columns:

- Incoming money limit – Displays the supplementary credit for external incoming calls.
- Outgoing money limit – Displays the supplementary credit for external outgoing calls.
- Over usage minutes – Displays the supplementary over usage minutes limit.
- Every month – Displays the time frame for the charging limits:
 - Yes - If the imposed charging limits are automatically added every month.
 - No - If the imposed charging limits apply only to the current month.
- Order number – Displays the number of the request made for allocating the new charging limits.
- Date added – Displays the date when the charging limits were enforced.

Add Limits to a Client Account

In this section you can manage the charging limits for a client by adjusting his time and money limits. The following fields are displayed:

- Incoming money limit {value} {currency} – Fill in the amount of money which you want to add to the external outgoing calls limit that was initially set in this client's charging plan.



Note

This field will be grayed out if the charging limit for the incoming calls was set to `unlimited` during the client's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 250 minutes left)`).

- Outgoing money limit {value} {currency} – Fill in the amount of money which you want to add to the external incoming calls limit that was initially set in this client's charging plan.



Note

This field will be grayed out if the charging limit for the outgoing calls was set to `unlimited` during the client's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 78 minutes left)`).

- Over usage minutes { number } minutes – Fill in the amount of minutes you want add to the external outgoing over usage minutes set up in the client's charging plan.



Note

4PSA VoipNow Core displays between parantheses the total number of minutes left to be used (e.g. `(currently 1999 minutes left)`).

- Order number – Insert the identification number of the request for allocating these charging limits.
- These limits should be added every month - Select this check box if you want to add these limits automatically every month.

Click OK to save your settings, or Cancel to go back to the previous page.

Remove Client's Charging Limits

To remove monthly charging limits, choose the desired client from the


Client Management page and click the name link. Then, click the Charging limits icon available in the **Tools** area and follow the next steps: 

1. Choose the charging limits you want to delete by selecting their corresponding check boxes from the Limits history table.



Note



You cannot delete a charging limit that is set for one month only. However, if you have made a mistake and you want to modify the limit you have added, insert a new charging limit with a similar negative value (with a minus in front). Then, click the **OK** button to save the new setting, or **Cancel** to go back without making any changes.

2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.

Manage Client's Charging Credits



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.




Note

The **Charging credits** section is only available for prepaid charging plans.



Note

If you have added a client without an associated charging plan, you will not be able to set any **Charging Credits** for him. The  icon will not be available in the Tools area of the **Client Management** page.

4PSA VoipNow Core allows you to set charging credits when the client operates under a prepaid charging plan.



Note

If the client operates under a postpaid charging plan, you can only adjust his *charging limits*.

View Client's Charging Credits History

4PSA VoipNow Core allows you to view detailed information about the client's charging credit history. To access this information, follow these steps:

1. Click the chosen client name in the Client Management page.

2.

In the new opened page, click the  Charging credits icon available in the Tools area.

The Charging credits left section displays the remaining credit that can still be used by the client:

- Outgoing calls credit
- Incoming calls credit

The credit history table contains the following columns:

- Outgoing calls credit – Displays the supplementary credit for outgoing calls.
- Incoming calls credit – Displays the supplementary credit for incoming calls.
- Order number – Displays the number of the request for allocating the new charging credits.
- Date added – Displays the date when the charging credits were enforced.

Add Credits to a Client Account

In this section you can manage the charging credits for a client by adjusting his available credit. The following fields are displayed:

- Outgoing calls credit { value } { currency} – Enter the amount of money with which you want to recharge this client's credit, in order to be used for outgoing external calls.



Note

This field will be grayed out if the charging credit for the outgoing calls was set to unlimited during the client's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. (currently 12 USD left).

- Incoming calls credit { value } { currency} – Enter the amount of money with which you want to recharge this client's credit, in order to be used for incoming external calls.



Note

This field will be grayed out if the charging credit for the incoming calls was set to `unlimited` during the client's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. (currently 28 USD left)).

- Order number – Insert the identification number of the request for allocating the charging credits.

Click OK to save your settings, or Cancel to go back to the previous page.

Decrease Client's Charging Credits

In the Client Management page, choose the desired client and click his

name. Then, click the  Charging Credits icon available in the `Tools` area.

You cannot delete a charging credit. However, if you have made a mistake and you want to modify the credit you added, insert a new charging credit with a smaller negative value (with a minus in front). Then click the OK button to save the new setting, or Cancel to go back without making any changes.

Manage Client's Charging Plans



Caution

This section will be displayed only if charging is enabled on the 4PSA VoipNow Core

server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.

The Charging Plan Management page displays a list with all the charging plans available in the client account. For more details, see the [View Your Charging Plans](#) section.

Add Client's New Charging Plans



Note

In 4PSA VoipNow Core, the child account does not inherit the charging plan of his parent account.

The client can also create new charging plans that can be used by himself or by his endpoints. To do so, in the Charging Plan Management page, click



the **Add a charging plan** icon available in the **Tools** area.



Note

The client can create new charging plans within the limits set to him by his own charging plan. Therefore, he cannot add any of the following permissions if they hadn't been enabled in his charging plan:

- **Allow incoming calls**
- **Allow outgoing external calls**
- **Allow direct calls between endpoints**

In this conditions, not all the lines described in the [Add a New Charging Plan](#) section will be available.



Caution

If the reseller was created without an attached charging plan, than, when adding a new one, he will not be able to set any permissions or limits. The only options available to him will be:

- **Name**
- **Charging plan type**
 - Prepaid
 - Postpaid
- **Play custom sound file when outgoing access is blocked**

The first added charging plan will be set as the default one.

For more details on how to add a new charging plan to the client account, see the [Add a New Charging Plan](#) section.

Edit Client's Charging Plans

Clicking a charging plan's name in the Charging Plan Management page allows you to modify its parameters, as shown in the [Edit a Charging Plan](#) section.

Manage Client's Destination Charging Exceptions

4PSA VoipNow Core allows the definition of charging exceptions for certain area codes that override the costs set up in the charging plan.

For more details on the client's charging exceptions, see the [Manage Destination Charging Exceptions](#) section.

Manager Client's Free Minutes Packages

4PSA VoipNow Core allows the definition of free minutes packages that can be offered to certain child users. For more information, see the [Manage the Free Minutes Packages](#) section.

My Charging Plan


4PSA VoipNow Core allows you to view detailed information about a client account's current charging plan. To access this information, follow these steps:

1. In the Client Management page, choose the desired client and click the name link.

2.

In the new opened page, click the  Charging plans icon available in the Tools area.

3.

Next, click the  Client charging plan icon to view details about the prices charged for the calls made by the client account. The information is grouped into several sections:

- Charging plan description
 - Charging plan name – The descriptive name of the charging plan.
 - Charging plan type – The type of the charging plan: prepaid or postpaid.
 - Allow incoming calls - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can receive calls from endpoints that belong to the system as well as from endpoints outside the system.
 - Allow outgoing external calls - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can make calls to destinations outside the system.

- Allow direct calls between endpoints - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can directly call other endpoints.
- Remaining incoming calls credit – The amount currently available for incoming calls.



Note

This information is available only for prepaid charging plans.

- Remaining outgoing calls credit – The amount currently available for outgoing calls.



Note

This information is available only for prepaid charging plans.

- Number of recharges



Note

This information is available only for prepaid charging plans.

- Incoming money limit – The supplementary credit for external incoming calls.



Note

This information is available only for postpaid charging plans.

- Outgoing money limit – The supplementary credit for external outgoing calls.



Note

This information is available only for postpaid charging plans.

- External outgoing limits – The number of outgoing minutes available, per time interval. The number of outgoing minutes is displayed for each time interval included in the charging plan in the following format:

{ m } minutes limit in time interval { T }

The number of remaining minutes in current month is also displayed in format:

{m} minutes limit in over usage. {m} minutes and 0 seconds remaining in {month}



Note

This information is available only for `postpaid` charging plans.

4PSA VoipNow Core displays this section only if the endpoints on the client account can make calls to destinations outside the system.

- Outgoing calls charges – These are the charges applied to conversations after the user has exceeded the number of available minutes.
 - Calls are charged indivisible for the first {T} seconds and then every {U} seconds - For the first {T} seconds the call is taxed as one minute; afterwards, taxing is done every {U} seconds.

If the charges for external calls are computed using a fixed prices method, 4PSA VoipNow Core displays the costs for each time interval in the following format:

- Calls made in time interval {T} are charged with {money unit} / second – The price charged for external calls made in time interval {T}.

4PSA VoipNow Core displays the costs for the calls outside the time intervals specified above:

- Calls made outside these time intervals are charged {money unit} / second – The price charged for external calls made outside time interval {T}.
- External incoming calls charges – These charges apply to calls received from outside the system.



Note

4PSA VoipNow Core displays this information only if the endpoints are allowed to receive external calls.

- Free minutes - This section provides an overview of the free minutes included in this user's charging plan.



Note


Some of these sections may not be displayed, depending on the user's charging plan.

All these fields are related to the permissions and fees set for the current user in his charging plan.

Manage Client's Endpoint Templates


When creating an endpoint account, the administrator can select an endpoint template from his own list or from the client's.

When creating an endpoint account, the client can select an endpoint template from his own templates list.

To access the templates list, choose a client from the Client Management page and click the name link. Next, click the  Endpoint templates icon available in the `Tools` area.

For a detailed overview, see the [Manage Endpoint Templates](#) section of the Manage Endpoint Templates chapter.

Add Client's New Endpoint Templates

If you want to add a new endpoint template, click the  Add endpoint template icon available in the `Tools` area. For more information, see the [Add New Endpoint Template](#) section.

Edit Client's Endpoint Templates

Clicking an endpoint template's name in the Endpoint Templates page allows you to modify its parameters, as shown in the [Edit Endpoint Templates](#) section.


Manage Client's Email Templates

To access this page, click the  Email templates icon available in the `Tools` area.

For a detailed overview, see the [Manage Email Templates](#) section of the Manage System Templates chapter.

Note that some of the functions described in the Manage Email Templates section may not be available or may be modified, depending on the access level.

You can customize the subject and the content of an email notification by following the next steps:

1. Click the  icon corresponding to the chosen event.
2. A new page allowing you to edit the email subject and email body opens. Modify the text, keeping in mind the following rules:
 - You may use only plain text when writing the email subject and content. The email is also sent in plain text format.
 - You can include tags that will be automatically replaced by the system with the appropriate content. Examples:
[recipient_name] is replaced with the name of the person receiving the notification.
3. Click OK to save the changes to the email. Click Cancel to return to the previous page without saving the changes.

The email templates that can be customized for a client account are presented in the next sections.

The Client's 'Client Account Expiration Warning' Email Template

For more details about how to customize this template, see [The 'Client Account Expiration Warning' Email Template](#) section.

The Client's 'Client Account Expired' Email Template

For more details about how to customize this template, see [The 'Client Account Expired' Email Template](#) section.

The Client's 'Client Charging Limit Warning' Email Template

For more details about how to customize this template, see [The 'Client Charging Limit Warning' Email Template](#) section.

The Client's 'Client Charging Limit Exceeded' Email Template

For more details about how to customize this template, see [The 'Client Charging Limit Exceeded' Email Template](#) section.

The Client's 'Endpoint Account Creation' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Creation' Email Template](#) section.

The Client's 'Endpoint Account Expiration Warning' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Expiration Warning' Email Template](#) section.

The Client's 'Endpoint Account Expired' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Expired' Email Template](#) section.

The Client's 'Endpoint Charging Limit Warning' Email Template

For more details about how to customize this template, see [The 'Endpoint Charging Limit Warning' Email Template](#) section.

The Client's 'Endpoint Charging Limit Exceeded' Email Template

For more details about how to customize this template, see [The 'Endpoint Charging Limit Exceeded' Email Template](#) section.

The Client's 'Forgot Password' Email Template

For more details about how to customize this template, see [The 'Forgot Password' Email Template](#) section.

Restore the Default Settings

To restore the default notification settings and email contents, click the Default button.



Note

When you click the **Default** button, 4PSA VoipNow Core will not overwrite the other email address destination.

Manage Your Clients' Endpoints

Endpoints' Management Page

4PSA VoipNow Core offers two ways of accessing an endpoint account and performing operations, as shown below:

1. By following the [Endpoints](#) link available in the left navigation panel. In the Endpoint Management page, 4PSA VoipNow Core displays a list with all the endpoints registered in the system. You can access a certain endpoint account by clicking its name.
2. By following the [Clients](#) link available in the left navigation panel. In the new opened page, Client Management, click the client name whose endpoints you want to see. The next page displays the list of all the endpoints available in that client account.

Both ways allow the user to perform the same operations on an endpoint account, the only difference being that, in the second one, the administrator has access to all the endpoints belonging to a specified client, while in the first one, the administrator views all the endpoints in the system along with their corresponding clients. The manual describes in detail the first mentioned way.

The Endpoint Management page has two distinct sections:

- Tools - This section allows you to add a new endpoint account by clicking

the  Add endpoint icon.

- Endpoints - In this section, 4PSA VoipNow Core displays a list with all the endpoints registered in the system. To manage a certain endpoint account, click its name.

Multiple operations can be performed on the client's endpoint account:

- Add a new endpoint.
- Manage features for existing endpoints.
- Delete endpoints from the client account.






To access a client's endpoints list, click the chosen client name in the Client Management page or search for the endpoints of that particular client in the Endpoint Management page.



Note

In the **Endpoint Management** page, 4PSA VoipNow Core displays the name of the client account to which the endpoint belongs to in the **Client** column.

In the Endpoint Management page, 4PSA VoipNow Core displays the following information about each endpoint:

- S – This icon displays the endpoint account's status:
 -  Enabled
 -  All local calls are permitted
 -  Only incoming call are permitted
 -  No calls are permitted
 -  Disabled

Click this icon to change the customer account's status. When you click this icon the Global and phone account status panel is displayed. This panel has two main areas:

- Global account status settings - From this area you can choose to enable or disable an account. There are two options:



Caution

Disabling an active account also disables all its child accounts.

- Customer is fully enabled - The customer can use all system functions, but phone access permissions may apply.
- Customer is disabled - The customer cannot access any system function and cannot use the phone service.
- Phone account status settings - From this area you can manage the phone permissions for an enabled account. The following options are available:
 - Customer can dial out and receive calls - The customer has no phone restrictions.
 - Customer can be called and can call internally - Only local outgoing calls are permitted. Incoming calls are not restricted.
 - Customer can be called only - No outgoing calls are allowed, but all incoming calls are permitted.
 - Customer cannot use phone service - The customer can neither make, nor receive calls.



Note

If you select any of these options, its permissions/restrictions apply to all the child accounts of the current account.

If a parent account has set a restriction for a child account, than that child account cannot remove that restriction for any of the accounts under it, but it can set more restrictions. For example: if the administrator has set for a reseller the **Customer can be called and can call internally** restriction, than the reseller cannot set for his clients full access to the phone service, but that reseller can decide to set for any or all of his clients the **Customer can be called only** restriction.


- A – This icon specifies if the endpoint has the permission to access the control panel or not:

-  Enabled
-  Disabled

Click this icon to enable/disable the control panel access.



- Endpoint – The endpoint contact name and number displayed in the format `Contact_Name(Client_ID*Local_Endpoint_Number)`. Click this link to go to the endpoint context.
- Client - The name of the client the endpoint belongs to.
- State – This field specifies if the endpoint has a phone terminal connected:
 - Registered - A phone terminal is connected to the endpoint.
 - If there is no phone terminal connected to the endpoint, 4PSA VoipNow Core displays '-'.
- CallerID – The public phone number assigned to the endpoint. If the endpoint has several phone numbers associated, 4PSA VoipNow Core displays the number selected for the setting Use the following callerID. For more information, see the [Edit Permissions and Phone Numbers](#) section. If there is no public phone number assigned, 4PSA VoipNow Core displays '-'.
- Created – The date when the endpoint was added to the system.

Note

You can filter the columns displayed in the endpoints list by clicking the  [Show columns](#) button. After choosing the desired columns, click **Apply** in order to save the changes. Likewise, if you cannot see some of the above columns, it is likely that they have been disabled using this control.

Searching the Endpoints List

When the endpoints list is too long and you are searching for specific endpoints, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  button or the `search` label to display only the endpoints that match your search criteria.
- Show all – Click this  button or the `show all` label to display the entire list.

Even if you navigate to other pages, the search and filter criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The endpoints list can be filtered by name, state and creation date. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the endpoints list was sorted. The sort direction can be changed by another click on the corresponding header.

View the Endpoint's Report

4PSA VoipNow Core offers an easy way to keep track of each endpoint's calls and their costs.

To access this page, follow the next steps:

1. Choose the desired endpoint from the Endpoint Management page and click its name.

2.





In the new opened page, click the  Call reports icon available in the Tools area.

Here you can view a detailed calls list for the current and previous months. Multiple operations can be performed:

- Search for specific calls.
- Export the call list to a Microsoft Excel file.
- Export the call list to a .csv file.

4PSA VoipNow Core displays a table containing the calls registered in the current month. To view the calls from a previous month, use the drop-down list available in the page.


The table includes the following details about each call:

- F – The call flow is displayed using an icon:
 -  Incoming call
 -  Outgoing call
- T – The call type is displayed using an icon:
 -  External call
 -  Direct calls between endpoints


- From – The callerID and the endpoint (if the call is initiated from inside the system) of the person who made the call.
- To – The callerID and the endpoint (if the call is to an inside endpoint) of the person who answered the call.
- Call started – The date and time when the call was started.
- Answered – The date and time when the call was answered.
- Call duration – The call duration.
- CallID – The unique number generated by Asterisk to identify the call.
- SIP-CallID - It is used to identify all SIP packets that belong to a particular call.
- Called DID - The Direct Inward Dialing (DID) number that was called.
- PRI channel - This is the ID of the PRI card that contains the channel through which the call was made.
- 4PSA VoipNow calling extension – The name of the extension from the 4PSA VoipNow server that initiated the call.
- 4PSA VoipNow infrastructureID – The infrastructure ID of the particular 4PSA VoipNow server that initiated the call.
- Received chargingID - The chargingID helps pointing out the endpoint that will be charged for the call.
- Node ID - The node's logical address.
- Call cost – The call cost for the endpoint owner.



Note

You can filter the displayed columns by clicking the  [Show columns](#) button. After choosing the desired columns, click **Apply** in order to save the changes. Likewise, if you cannot see some of the above columns, it is likely that they have been disabled using this control.


Searching the Endpoints List Call Reports

4PSA VoipNow Core automatically displays only the current month's calls. If you want to view a call list for the previous months or search for specific calls, you have to click the  Search calls icon available in the Call Reports page. Then, define your search criteria by filling in the available fields.



1. Use the following options to carry out an advanced search:


- From number - Use this text box to fill in the phone number of the person who made the call.

- To number - Use this text box to fill in the phone number of the person who answered the call.
- CallID – Use this text box to fill in the unique number that Asterisk generated to identify the call.
- Calls on node - Use the available drop-down list to select the node on which you want to perform the search. If you want to check for the calls on all the nodes, select `All` .
- Through channel - Use this drop-down list to search only for the calls that were directed through a specific channel.
- Selected channel prefix - Use this text box to fill in the selected channel prefix.
- SIP-CallID - It is used to identify all SIP packets that belong to a particular call.
- PRI channel - Use the available text box to specify the ID of the PRI card that contains the channel through which the call was made.
- 4PSA VoipNow calling extension – Use the available text box to filter calls by the name of the 4PSA VoipNow extension from the 4PSA VoipNow server that initiated the call.
- 4PSA VoipNow infrastructureID – Use the available text box to filter calls by the infrastructure ID of the particular 4PSA VoipNow server that initiated the call.
- Received chargingID - Use the available text box to specify the chargingID that helps pointing out the endpoint that will be charged for the call.
- Called DID - Use the available text box to specify the Direct Inward Dialing (DID) number that was called.
- Call duration – Use this section to specify the call duration limitations by filling in the fields from the next rule:
Higher than {} seconds and/or lower than {} seconds
- Call cost – Use this section to specify call cost limitations by filling in the fields from the next rule:
Higher than {} and/or lower than {}
- Call ended with – Use the drop-down list to filter calls that ended with:
 - Answered
 - No answer
 - Busy

- Failed
 - Unknown
 - Not allowed
 - Start search on { x } and end on { y } - Use the text boxes or click the corresponding  calendar icon to specify the period you are searching for.
 - Display - Use these radio buttons to filter the search results:
 - All – Select this option to display all the call types in the list.
 - Incoming calls – Select this option to display only the received calls.
 - Outgoing calls – Select this option to display only the placed calls.
 - Limit search by call context – Use these radio buttons to filter the search results:
 - All calls – Select this option to display all the calls.
 - Direct calls between endpoints – Select this option to display only the calls made between endpoints.
 - External calls – Select this option to display only the calls received from outside the system or sent to external destinations.
2. Click OK to display only the records that match your search criteria. Click Show all to display all the records from the data base.

Export to an Easy-to-Edit Format

-  [Export to Excel](#) – Click this link to export the call costs report to a Microsoft Excel file.
-  [Export to CSV](#) - Click this link to export the call costs report to a .csv format file.

You have the possibility to customize the exported call cost report by choosing the columns you want to include in your report. To select the relevant columns that will appear in the exported report, click the  Export columns icon. Select the check boxes corresponding to the columns you want to export.

This is the list of all possible columns you can export in your customized report:

- Call flow - The call direction: incoming or outgoing.
- Call type - The received call type.

- To number - The phone number of the person who answered the call.
- From number - The phone number of the person who made the call.
- Call started - The date and time when the call started ringing on the destination phone.
- Call answered - The date and time when the call was answered. If the call was not answered, 4PSA VoipNow Core records the value: 0000-00-00 00:00:00
- Call duration - The total length of the received call.
- Call disposition - The way the call was terminated: it was either answered, not answered, failed, etc.
- Charging plan - The charging plan that generated the call cost.
- Call cost - The cost of the call as charged by the channel.
- Money unit - The currency currently used for charging.
- Call ID - The call unique ID, generated by Asterisk.
- Transfer source - If the call was transferred to another endpoint, this column will list the source endpoint.
- Transfer destination - If the call was transferred to another endpoint, this column displays the destination endpoint.
- Initially called endpoint - If the call was picked up from another endpoint, this column displays the endpoint that was originally called.

View an Endpoint Overview

The endpoint overview displays detailed information about the endpoint's settings.

To access this overview, in the Endpoint Management page, choose the desired endpoint and click its name. The following information is displayed:

- Your endpoint login – The login that you must use on your endpoint in order to login to the server. The password is either identical with the endpoint account password, either it is set up in the Phone authentication section of the endpoint features page.
- Public phone number(s) – If one or more public phone numbers are assigned to the endpoint, they will be displayed here (e.g. 49932040495). Otherwise, 4PSA VoipNow Core displays '-'.
- Endpoint internal number – The phone number assigned when the endpoint was added to the system.
- Endpoint terminal – If the endpoint is registered to the system, the terminal advertised by the endpoint.

- Endpoint state – The state of the endpoint from the network connection perspective.
- Endpoint IP address – The IP address of the endpoint that is registered into the system.
- Endpoint registration – The date and time when the endpoint's registration expires.
- Calls cost for {month}/{year} – The calls' cost for the current month. The total amount is split between the incoming and outgoing calls costs (e.g. 130.00 USD (22.000 USD incoming external calls, 108.000 USD outgoing external calls)).
- Outgoing time spent on {month}/{year} – The outgoing calls' total duration and the total number of outgoing calls in the current month (e.g. 00:06:19 in 2 phone calls).
- Incoming time spent on {month}/{year} – The incoming calls' total duration and the total number of incoming calls in current month (e.g. 00:03:52 in 6 phone calls).

Enable/Disable an Endpoint

If you want to enable/disable an endpoint account, you have to click the chosen endpoint's name in the Endpoint Management page and then the [Disable/Enable endpoint](#) link, located under the page title. A pop-up window will ask you to confirm this action.

Impersonate an Endpoint

4PSA VoipNow Core offers the possibility to impersonate an endpoint account owner. This option allows management access for the parent account owners in order to modify the child account's permissions and limits.

If you impersonate, you will be able to view the interface from an endpoint's perspective. To do so, click the respective endpoint's name in the Endpoint Management page and then the [Impersonate](#) link, located under the page title.



Note


The **Impersonate** feature can only be used for enabled users with control panel access. Any attempt to use this feature for a disabled account or an account without control panel access will trigger the following error message:

```
You cannot use impersonate on an user that is disabled or
doesn't have control panel access.
```



Note



When you impersonate an endpoint, the application will change the skin to the one used by the chosen endpoint, if different from the one you are currently using.

To return to normal view mode, just click the [Return to my account](#) link located in the right panel, next to the  [Help](#) icon.




Add a New Endpoint

The endpoint accounts can be created without an associated charging plan.


If you want to create an endpoint account with an associated charging plan,

make sure you have enabled the Charging option from the  [Settings](#) >>  System Preferences page.

If there is no charging plan in the system, you must create one:



- First, make sure that the time intervals you want to use for the charging plan are defined.
- If you want to use another time interval, click the  [Settings](#) link available in the left navigation panel, than the  Time intervals icon and follow the instructions from the [Add a New Time Interval](#) section.
- After all the time intervals have been created, click the  [Charging plans](#) link available in left navigation panel and create a new plan. For more information, see the [Add a New Charging Plan](#) section.

4PSA VoipNow Core offers two ways of adding a new endpoint account to a specific client, as shown below:

1. By following the  [Endpoints](#) link available in the left navigation panel. In the Endpoint Management page, 4PSA VoipNow Core displays a list with all the endpoints registered in the system. To add a new one, just click the




Add endpoint icon available in the **Tools** area. This will open the Select Client page that allows you to choose the client account to which the new endpoint will be added to. For more information, see the [Select Client](#) section.

2. By following the  [Clients](#) link available in the left navigation panel. In the Client Management page, choose the client you want to add the new endpoint to and click the name link. In the next page, click the  Add endpoints icon from the Tools area.



Note

If the maximum number of endpoints had been reached and you cannot add another one to that particular client, the  icon is displayed.

Both ways allow the user to perform the same operations on an endpoint account. The information is grouped into several successive pages that will be described hereafter.

Enter the New Endpoint Information

This section allows you to set up the primary information about the endpoint owner or the charging and outgoing call filtering:

- Endpoint setup
 - Number – The value in this field is automatically generated and it represents the lowest endpoint number in the client account that is not currently used. To specify a different endpoint number, use the text box to fill in the desired one.



Note

The endpoint number's length is based on the administrator's preference. This number is the so-called `local endpoint number`. It can be used to access endpoints on the same client account.

- Endpoint owner – Fill in details about the person that will be using the endpoint and his login.
 - Create using template – Use the drop-down list to choose one of the available templates as a base for the new endpoint. If you do not want to create the account based on a template, make sure the '—' option is selected.



Note

A template contains default settings that will be used to create the endpoint. For more information on endpoint templates, see the [Manage Endpoint Templates](#) section.

- Company name
- Contact name
- Login





Note

The username must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
 - Any combination of the **10 decimals [0-9]**, also included in the ASCII.
 - Special characters like: **_.-@**.
- Password auto generation – When this option is enabled, a password matching the chosen strength is automatically computed. Also, you will not be required to fill in the next two fields.



Note



To set up the password strength, click the  [Settings](#) link available in the left navigation panel and then the  **Login preferences** icon.

- Password – In order to be valid, the password must be at least five characters long and must comply with the setup strength level.

While you type in your password, a colored bar will inform you about the strength of the chosen combination.



Note


To set up the password strength, click the  [Settings](#) link available in the left navigation panel and then the  **Login preferences** icon.



Note

The password must contain only the following character types:

- Any of the **26 letters of the Latin alphabet [a-z]**, also included in the American Standard Code for Information Interchange (ASCII). The scripts of non-Latin languages (such as Arabic, Cyrillic, Chinese, Greek, Indian, Korean or Japanese) are illegible.
- Any combination of the **10 decimals [0-9]**, also included in the ASCII.
- Special characters like: **!@#%*^_+={}`~[];:.,|^&**.

- Confirm password
- Phone
- Fax
- Email
- Address
- City
- Region
- Postal/ZIP code
- Country
- Region - A country's regions are listed in alphabetical order. The region selected by default is the first one on the list.
- Timezone - The time zone selected by default is one you have previously set up in the  [Settings](#) >> Interface Preferences page.
- Interface language – Use this drop-down list to choose the interface language of the endpoint account. The list contains all the available interface languages.



Note

If you choose the `Default` option, the language that will be used for the endpoint account interface is the one specified by the administrator in the [Manage Interface Preferences](#) section.

- Phone language – Use this drop-down list to select the language of the sound files that will be played over the phone. The default language is the one specified by the administrator in the [Manage Interface Preferences](#) section.
- Endpoint notes – Use this text box to insert comments about the endpoint.
- Charging and outgoing call filtering
 - Charging plan – Use this drop-down list to choose one of the available charging plans that will apply to the new endpoint account.
 - Outgoing routing group – Use this drop-down list to choose one of the available outgoing routing rule groups that will apply to the new endpoint account.
 - Charging identifier – The information entered in this field may be used by other applications which connect to 4PSA VoipNow Core for charging.




Note


This option is available only to the administrator. The administrator can set up this option for all account levels. The client and endpoint level accounts inherit this option from the parent account.

- Trust this account to impersonate calls - When this option is enabled, the `ChargingIds` sent by the device connected to the endpoint will be searched on the same client account and the call will be considered for that endpoint.
- The Select endpoint permissions and phone numbers check box allows you to specify what the endpoint will be able to do in the system:
 - If you click OK, you will be directed to the next step: specifying the endpoint's permissions and phone numbers. For details, see the next section.



Note

When you click **OK**, the information on the newly created account will be sent by email to the account owner (Contact person), if specified in the 

[Settings](#) >>  **Email templates** page.

- Deselect the check box and click OK if you want to add the new endpoint account without configuring its permissions. If you choose to set limitations later, skip steps 4 and 5. Click Cancel to go back to the previous page without adding the endpoint.




Note

An endpoint that does not have its limitations and permissions set will have all permissions disabled and all limits set to 0. The account expiration date is Unlimited.

Select Endpoint Permissions and Phone Numbers

A new page opens, allowing you to change the account permissions and phone numbers:

- Permissions
 - Endpoint SIP management – When this option is selected, the endpoint user is allowed to customize the SIP settings from the Endpoint Setup page.
- Limits
 - Maximum concurrent calls – Use the available text box to limit the number of calls that can be active at the same time for any endpoint on the reseller's account. If you do not want to limit the endpoint, select the Unlimited check box.
 - Account expiration date – To specify the date when the endpoint account becomes invalid, deselect the Unlimited check box and provide a date using the text box or the available  calendar button.
- Incoming phone number selection – Use the two lists to associate one or more public phone numbers from the client's pool with the endpoint.



Note


This section is displayed only if there are phone numbers available in the client account to which the endpoint belongs to.

When you assign a public phone number to an endpoint, the phone number becomes exclusive to that endpoint. No other endpoint can use it. From that moment on, callers from outside the 4PSA VoipNow Core system can reach that endpoint by dialing the phone number.




- The Select endpoint type parameters check box allows you to configure the active features of the new endpoint:
 - Select the check box and click OK to save the endpoint permissions and to go to the next step (activate endpoint features). For details, see the next section.
 - Deselect the check box and click OK to save the endpoint permissions and add the endpoint with the default features.
 - Click Cancel to exit without saving the endpoint permissions and phone numbers.

Endpoint Features


A new page opens, allowing you to activate the endpoint features:

- Basic settings - This section displays all the important settings available to configure an endpoint.
 - CallerID name in public calls – This option is used when the endpoint is calling public destinations. You can choose from the drop-down list one of the 3 setup options:
 - `Set by server` - If this option is selected, phones with callerID display the endpoint owner's name.
 - `Set by equipment` - If this option is selected, phones with callerID display the caller name as it is set up from the phone terminal apparatus.
 - `Anonymous` - If this option is selected, phones with callerID display the string `Anonymous`.
 - Use the following callerID – Use the text box to specify the phone number that will be displayed when the endpoint user is calling external destinations. Also, you can click the  icon to see a list with all the available phone numbers. A pop-up window will be displayed, allowing you to choose the number.



The Endpoint list pop-up window displays the following details:

- T - This icon displays the endpoint type:
 -  Endpoint
- S - This icon displays the endpoint's status:
 -  Enabled
 -  Disabled
- Endpoint - The name of the endpoint.
Click the link to select the callerID associated to the endpoint.
- Endpoint number - The endpoint number.
- CallerID - The public phone number that will be displayed when the endpoint use will call external destinations.

If the endpoints list is too long, you can use the available controls to search for a specific one.

- CallerID number in public calls – This option is used when the endpoint is calling public destinations. You can choose from the drop-down list one of the 3 setup options:
 - *Set by server* - If this option is selected, phones with callerID display the public phone number of the endpoint.
 - *Set by equipment* - If this option is selected, phones with callerID display the phone number of that particular phone terminal apparatus.
 - *Anonymous* - If this option is selected, phones with callerID display the string *Anonymous*.
- Use the following callerID – Use the text box to specify the phone number that will be displayed when the endpoint user is calling external destinations. Also, you can click the  icon to see a list with all the available phone numbers. A pop-up window will be displayed, allowing you to choose the number.

The Endpoint list pop-up window displays the following details:

- T - This icon displays the endpoint type:
 -  Endpoint
- S - This icon displays the endpoint's status:
 -  Enabled

-  Disabled


- Endpoint - The name of the endpoint.



Click the link to select the callerID associated to the endpoint.


- Endpoint number - The endpoint number.
- CallerID - The public phone number that will be displayed when the endpoint use will call external destinations.

If the endpoints list is too long, you can use the available controls to search for a specific one.



- CallerID on internal calls like on public calls – If this option is enabled and a public callerID is available, than that public callerID is used in local calls, as well as in external calls.
- Send SIP P-Asserted-Identity header – When enabled, a new header is added to all outgoing INVITE requests sent from this endpoint. The header contains the endpoint's callerID number (i.e. P-Asserted-Identity: sip:0003*003@localhost.localdomain).
- Ring endpoint for {time} seconds - Use the available text box to specify the maximum number a seconds an endpoint will be ringed. The default value is 30 seconds.
- DTMF - Use this drop-down list to choose the Dual-Tone Multi-Frequency mode:
 - rfc2833 - This is the default option.
 - inband
 - info - If you choose this option, Asterisk automatically detects whether the channel supports rfc2833 or not. If the channel does not support it, Asterisk uses the inband mode.
- Ping endpoint to check its status - When this option is enabled, the server can check the endpoints for presence regularly. If the endpoint does not answer in a time below this setting, it is considered offline.
- Allowed codecs - Use these check boxes to select the codecs supported by the phone device.

 Note

You can modify the codecs displayed here from the  [Settings >>](#)  **System Preferences >> General** page.


 Caution

The users that log in to the 4PSA VoipNow Core interface with a reseller, client or endpoint account will be able to see **Allowed codecs** only if they have the **Endpoint SIP management** permission enabled.

- Endpoint does not register and is always on IP { IP } Port { Port }
 - Use the available text boxes to specify the endpoint's IP address and port so that it will no longer have to register to the server. All the calls will be redirected to that server.
- Permit usage of endpoint only from IP(s) - You can limit the usage of an endpoint only from certain IP(s). Use the available text box to specify the IP address. You can add/remove multiple IPs using the   icons.
- Equipment description - Use the available text box to specify a brief description of the apparatus.
- Call recording – This feature allows the user to record phone conversations.
 - Call recording function enabled – When this option is enabled, all the call recording functions may be used.
 - Call recording storage space – Use this text box to specify the number of Mb that the recorded calls should not exceed. If you do not want to set a size limit, select the `unlimited` option.
 - Record triggered – Use the available radio buttons to specify when/how call recording will be triggered:
 - Never – Although the call recording feature is enabled, it is not used.
 - All calls are recorded – When this option is enabled, 4PSA VoipNow Core will record all the endpoint's conversations.






Select Client

When you want to add a new endpoint directly from the Endpoint Management page, you have to select a client account to which this endpoint

will be added to. After you have clicked the  Add endpoint icon, the Select Endpoint page will be displayed, allowing you to choose the desired client account.

4PSA VoipNow Core displays a table with all the clients available in the system, providing the following information about each one of them:

- S – This icon displays the client account's status:

-  Enabled
-  All local calls are permitted
-  Only incoming call are permitted
-  No calls are permitted
-  Disabled

Click this icon to change the customer account's status. When you click this icon the Global and phone account status panel is displayed. This panel has two main areas:

- Global account status settings - From this area you can choose to enable or disable an account. There are two options:



Caution

Disabling an active account also disables all its child accounts.



- Customer is fully enabled - The customer can use all system functions, but phone access permissions may apply.
- Customer is disabled - The customer cannot access any system function and cannot use the phone service.
- Phone account status settings - From this area you can manage the phone permissions for an enabled account. The following options are available:
 - Customer can dial out and receive calls - The customer has no phone restrictions.
 - Customer can be called and can call internally - Only local outgoing calls are permitted. Incoming calls are not restricted.
 - Customer can be called only - No outgoing calls are allowed, but all incoming calls are permitted.
 - Customer cannot use phone service - The customer can neither make, nor receive calls.




Note

If you select any of these options, its permissions/restrictions apply to all the child accounts of the current account.

If a parent account has set a restriction for a child account, then that child account cannot remove that restriction for any of the accounts under it, but it can set more restrictions. For example: if the administrator has set for a reseller the **Customer can be called and can call internally** restriction, then the reseller cannot set for his clients full access to the phone service, but that reseller can decide to set for any or all of his clients the **Customer can be called only** restriction.


- A – This button specifies whether the client has permission to log in and use the 4PSA VoipNow Core interface:
 -  Allowed
 -  Not allowed


Click this icon to enable/disable the control panel access.

 Caution

If the client does not have control panel access, neither will his child accounts.

- Clients – The name of the client account owner. Click the link to select this client.

 Note

If the maximum number of extensions had been reached and you cannot add another one to that particular client, the  icon is displayed. Also, the client's name is not underlined anymore.

- Company – The owner's company name.
- Reseller - The name of the reseller the client belongs to.
- Created – The date when the client account was added to the system.
- R – Click the icon to view a short report on the client.



When the client list is too long and you are searching for specific clients, you can use the available controls.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Edit an Endpoint

Edit General Information

To edit the details of an endpoint account, follow these steps:

1. In the Endpoint Management page, choose the desired endpoint and click its name.
2.  Click the Edit endpoint icon available in the Tools area.
3. A new page where you can view and edit the details of the selected endpoint and its owner opens. The data is grouped into several sections:
 - Endpoint owner – Use this section to modify endpoint owner's personal information like his username, password or timezone.
 - Charging and outgoing call filtering – Use this section to change the charging plan, the outgoing routing group or the charging identifier associated with the endpoint.
 - Resend endpoint contact details - Select this check box if you want to resend contact details to the email address specified for the endpoint account and to the client and the reseller who own the client, as well as to the system administrator, if the appropriate parameters have been set in the  [Settings](#) » Email Templates page.



Note

The password will be sent only if it has been modified.

4. Click OK to save the changes or Cancel to return to the previous page without modifying anything.




Note

For more details on how to modify these settings, see the [Enter the New Endpoint Information](#) section.

Edit Endpoint Features

If you want to edit the endpoint's features and functionalities, follow the next steps:

1. In the Endpoint Management page, choose the desired endpoint and click its name.

2.  Click the Endpoint setup icon available in the Tools area.
3. The Edit Endpoint page will open, displaying two sections that can be customized:
 - Basic settings
 - Call recording




Note

For more detail on how to edit this options, check the [Endpoint Features](#) section.

Edit Endpoint's Permissions and Phone Numbers

To modify the permissions and phone numbers of a particular endpoint, in the Endpoint Management page, choose the endpoint that you want to edit and click its name. Next, follow these steps:

1.  Click the Endpoint permissions and phone numbers icon available in the Tools area.
2. A new page opens, allowing you to modify the following fields:
 - Permissions
 - Limits
 - Incoming phone number selection



Note

This section is displayed only if there are phone numbers available in the client account to which the endpoint belongs to.

3. Click OK to save the changes to the account. Click Cancel to return to the previous page without saving the changes.




Note


For more detail on how to edit this options, check the [Select Endpoint Permissions and Phone Numbers](#) section.

Remove an Endpoint

To remove endpoint accounts from the system, follow these steps:


1. Choose the endpoints you want to delete by selecting their corresponding check boxes in the Client Management page.
2. Click the  [Remove selected](#) link. A new page displaying the list of the endpoints that will be removed opens.
3. Review the list. If you want to proceed with the removal, select the `Confirm the removal` check box and click OK. Otherwise click Cancel to return to the previous page without deleting anything.

Manage Endpoint's Time Intervals

To access this option, in the Endpoint Management page, choose the desired endpoint and click its name. Then, click the  Time intervals icon available in the `Tools` area.

For a detailed overview, see the [Manage Time Intervals](#) section of the Manage Settings chapter.

Add a New Endpoint's Time Interval

If you want to add a new time interval to the endpoint account, click the  Add time interval icon available in the endpoint's `Tools` area. For more detailed information, see the [Add a New Time Interval](#) section.

Edit Endpoint's Time Intervals


For more details on how to edit the endpoint's time intervals, see the [Edit a Time Interval](#) section.

Manage Endpoint's Call Rules

Manage Endpoint's Outgoing Call Rules

4PSA VoipNow Core allows endpoints to block certain outgoing calls, based on the time interval when the call was dialed and the callerID of the system user that dialed the number.

Outgoing Call Rules Overview

To access the outgoing call rules option, choose the desired endpoint from the Endpoint Management page and click its name. Next, click the  Outgoing call rules icon available in the `Tools` area.

In the new opened page, you can view a list of all the rules available to the endpoint account. The following operations can be performed:

- Add new outgoing call rules.
- Change the priorities of the rules.
- Remove existing outgoing call rules.

4PSA VoipNow Core displays the following information about each group:

- S – This icon displays the rules group's status:

-  Enabled


-  Disabled

Click this icon to change the group's status.

- Action – The measures taken by the application against a certain phone number.
- Number - The phone number affected by the chosen action.
- In time interval – The time frame in which the rule is applied.

Add an Outgoing Call Rule

To add new outgoing call rules, choose the desired endpoint from the

Endpoint Management page and click its name. Next, click the  Outgoing call rules icon available in the `Tools` area.

In the new opened page, you can find buttons, text boxes and drop-down lists that allow you to define one or more routing rules for outgoing calls. The following steps should be followed:

1. The first drop-down list displays the available actions. 4PSA VoipNow Core blocks the call to a certain number if the number is matched.
2. Use the number text box to match the number dialed by the endpoint user.

Caution

Pay attention to the **number** entry. The number supports the Asterisk number matching system. You can enter an expression that matches multiple numbers. Remember that:

X - matches any digit from 0-9

Z - matches any digit form 1-9

N - matches any digit from 2-9

[] - matches any digit or letter in the brackets

. - matches one or more characters

* - matches 0, 1 or any number of the previous expression

For example:

- Number 0. will match any number starting with 0.
- Number 1X[123]N will match any number starting with 1, followed by any digit between 0 and 9, followed by 1,2 or 3 and followed by any digit between 2 and 9.

3. Use the third drop-down list labeled if in time interval to select the time interval that this rule applies to.




Caution


The `Block` rule is final. This means that when the rule is matched, other rules are no longer checked.

4. Click OK to add the new routing group to the system. Click Cancel to go back to the previous page without adding the rule group.

Remove an Outgoing Call Rule




To remove call rules, click the  Outgoing call rules icon available in the `Tools` area and follow the next steps:

1. Choose the rules that you want to delete by selecting their corresponding check boxes.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Manage Endpoint's Recorded Calls

Endpoint's Recorded Calls Overview




To access the recorded calls option, choose the desired endpoint from the

Endpoint Management page and click its name. Next, click the  Recorded calls icon available in the `Tools` area.



When the call recording feature is enabled, in the Recorded Message Management page you can view a list of the calls recorded by the endpoint owner. Multiple operations can be performed on these recorded calls:

- Search for specific calls.
- Download recorded conversations on your computer.
- Delete recorded conversations.
- Activate/deactivate the call recording feature.

4PSA VoipNow Core displays the following details for each recorded call:

- T – This icon displays the call type:
 -  Incoming
 -  Outgoing
 -  Unknown
- From – The name of the file. It is automatically generated by 4PSA VoipNow Core using a specific format:
 - `date_time-type.ext` (e.g. `20051230_182345-in.wav`). Click this link to download the recorded file.
- Size – The size of the recorded file.
- Created – The date and time when the conversation recording started.
- Length - The recorded call duration.



Enable or Disable Call Recording

-  Activate Recording – Use this icon to activate call recording.
-  Deactivate Recording – Use this button to deactivate call recording.

>

Searching the Recorded Calls List

When the recorded conversations list is too long and you are searching for specific recordings, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click on the  button or the search label to display only the recorded calls that match your search criteria.
- Show all – Click this  button or the show all label to display the entire list.


Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Another way to simplify the listing is to sort the recorded conversations by clicking a table header. The order criteria is marked by the highlighted table header and the arrow indicates how the recorded calls list was sorted. The sort direction can be changed by another click on the corresponding header.

Remove a Recorded Call



To remove recorded calls from the system, follow the next steps:

1. Choose the calls you want to delete by selecting their corresponding check boxes in the Recorded Messages Management page.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel.

Manage Endpoint's Charging Limits

Caution

This section will be displayed only if:

- Charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.
- The endpoint was created with a charging plan attached to it.

4PSA VoipNow Core allows you to set charging limits when the endpoint operates under a postpaid charging plan. If you choose to adjust the charging rules of a particular endpoint, you can add extra limits to his account.




Note

If the endpoint operates under a prepaid charging plan, you can only offer *charging credits*.

View Endpoint's Charging Limits History

4PSA VoipNow Core allows you to view detailed information about an

endpoint's charging limits. To access this information, click the  Charging limits icon available in the **Tools** area.

The Charging limits left section displays the remaining charging limits that can still be used by the endpoint:

- Outgoing money limit
- Incoming money limit

The charging limits history table contains the following columns:

- Incoming money limit – Displays the supplementary credit available for the external incoming calls.
- Outgoing money limit – Displays the supplementary credit available for the external outgoing calls.
- Over usage minutes – Displays the supplementary over usage minutes limit.
- Every month – Displays the time frame for the charging limits:
 - Yes - If the imposed charging limits are automatically added every month.
 - No - If the imposed charging limits apply only to the current month.
- Order number – Displays the number of the request for allocating the new charging limits.
- Date added – Displays the date and time when the charging limits were enforced.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Add Limits to an Endpoint Account

To access this page, follow these steps:

1. Choose the desired endpoint from the Endpoint Management page and click its name.

2.



In the new opened page, click the  Charging limits icon available in the Tools area.

In this section you can manage the charging limits for an endpoint by adjusting its time and money limits. The following fields are displayed:

- Incoming money limit {value} {currency} – Fill in the amount of money which you want to add to the external outgoing calls limit that was initially set in this endpoint's charging plan.



Note

This field will be grayed out if the charging limit for the incoming calls was set to `unlimited` during the endpoint's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 250 minutes left)`).

- Outgoing money limit {value} {currency} – Fill in the amount of money which you want to add to the external incoming calls limit that was initially set in this endpoint's charging plan.



Note

This field will be grayed out if the charging limit for the outgoing calls was set to `unlimited` during the endpoint's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. `(currently 78 minutes left)`).

- Over usage minutes {number} minutes – Fill in the amount of minutes you want add to the external outgoing over usage minutes set up in the endpoint's charging plan.



Note


4PSA VoipNow Core displays between parantheses the total number of minutes left to be used (e.g. `(currently 1999 minutes left)`).

- Order number – Insert the identification number of the request for allocating these charging limits.
- These limits should be added every month - Select this check box if you want to add these limits automatically every month.

Click OK to save your settings, or Cancel to go back to the previous page.

Remove Endpoint's Charging Limits

To remove monthly charging limits, choose the desired endpoint from the


Endpoint Management page and click its name. Then, click the  Charging limits icon available in the **Tools** area and follow the next steps:

1. Choose the charging limits you want to delete by selecting their corresponding check boxes.



Note

You cannot delete a charging limit that is set for one month only. However, if you have made a mistake and you want to modify the limit you have added, insert a new charging limit with a similar negative value (with a minus in front). Then, click the **OK** button to save the new setting, or **Cancel** to go back without making any changes.

2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed, click OK. Otherwise, click Cancel to return to the previous page without deleting anything.



Manage Endpoint's Charging Credits



Caution

This section will be displayed only if:

- Charging is enabled on the 4PSA VoipNow Core server. To enable/disable it,

go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.

- The endpoint was created with a charging plan attached to it.

4PSA VoipNow Core allows you to set charging credits when the endpoint operates under a prepaid charging plan. You can access this page every time the endpoint needs to recharge its account.



Note

If the endpoint operates under a postpaid charging plan, you can only offer *charging limits*.

View Endpoint's Charging Credits History

4PSA VoipNow Core allows you to view detailed information about the history of recharges for the endpoint's charging credit. To access this information, follow the next steps:

1. Choose the desired endpoint from the Endpoint Management page and click its name.
- 2.

In the new opened page, click the  Charging credits icon available in the Tools area.

The Charging credits left section displays the remaining credit that can still be used by the endpoint:

- Outgoing calls credit
- Incoming calls credit

The credit history table contains the following columns:

- Incoming calls credit – Displays the supplementary credit available for the incoming calls.
- Outgoing calls credit – Displays the supplementary credit available for the outgoing calls.
- Order number – Displays the number of the request for allocating the new charging credits.
- Date added – Displays the date and time when the charging credits were enforced.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

Add Credits to an Endpoint Account

In this section you can manage the charging credits for an endpoint by adjusting its available credit. The following fields are displayed:

1. Choose the desired endpoint from the Endpoint Management page and click its name.

2.

In the new opened page, click the  Charging credits icon available in the Tools area.

Here you can insert extra time and money limits for the endpoint by filling in the following fields:

- Outgoing calls credit { value } { currency} – Enter the amount of money with which you want to recharge this endpoint's credit, in order to be used for outgoing external calls.



Note

This field will be grayed out if the charging credit for the outgoing calls was set to `unlimited` during the endpoint's setup.



Note

4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. (currently 12 USD left)).

- Incoming calls credit { value } { currency} – Enter the amount of money with which you want to recharge this endpoint's credit, in order to be used for incoming external calls.



Note

This field will be grayed out if the charging credit for the incoming calls was set to `unlimited` during the endpoint's setup.



Note


4PSA VoipNow Core displays between parantheses the total money amount left to be used (e.g. (currently 28 USD left)).

- Order number – Insert the identification number of the request for allocating the charging credits.

Click Ok to save your settings, or Cancel to go back to the previous page.

Decrease Endpoint's Charging Credits

You can access this option from the Endpoint Management page by



clicking the chosen endpoint's name and the  Charging credits icon available in the `Tools` area.

You cannot remove a charging credit. However, if you have made a mistake and you want to modify the added credit, insert a new charging credit with a smaller negative value (with a minus in front). Then click OK button to save the new setting, or Cancel to go back without making any changes.

View Endpoint's Charging Plan

Caution


This section will be displayed only if:

- Charging is enabled on the 4PSA VoipNow Core server. To enable/disable it, go to the  [Settings](#) >>  **System Preferences** >> **Charging** section.
- The endpoint was created with a charging plan attached to it.

4PSA VoipNow Core allows you to view detailed information about an endpoint account's charging plan. To access this information, follow the next steps:

1. Choose the desired endpoint from the Endpoint Management page and click its name.

2.

In the new opened page, click the  Endpoint charging plan icon available in the `Tools` area. The information is grouped into several sections:

- Charging plan description
 - Charging plan name – The descriptive name of the charging plan.
 - Charging plan type – The type of the charging plan: prepaid or postpaid.
 - Allow incoming calls - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can receive calls from

endpoints that belong to the system as well as from endpoints outside the system.

- Allow outgoing external calls - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can make calls to destinations outside the system.
- Allow direct calls between endpoints - Yes – 4PSA VoipNow Core displays this information only if your account's endpoints can directly call other endpoints.
- Remaining incoming calls credit – The amount currently available for incoming calls.



Note

This information is available only for prepaid charging plans.

- Remaining outgoing calls credit – The amount currently available for outgoing calls.



Note

This information is available only for prepaid charging plans.

- Number of recharges



Note

This information is available only for prepaid charging plans.

- Incoming money limit – The supplementary credit for external incoming calls.



Note

This information is available only for postpaid charging plans.

- Outgoing money limit – The supplementary credit for external outgoing calls.



Note

This information is available only for postpaid charging plans.

- External outgoing limits – The number of outgoing minutes available, per time interval. The number of outgoing minutes is displayed for each time interval included in the charging plan in the following format:

{ m } minutes limit in time interval { T }

The number of remaining minutes in current month is also displayed in format:

{ m } minutes limit in over usage. { m } minutes and 0 seconds remaining in { month }



Note

This information is available only for `postpaid` charging plans.

4PSA VoipNow Core displays this section only if the endpoints on the client account can make calls to destinations outside the system.

- Outgoing calls charges – These are the charges applied to conversations after the user has exceeded the number of available minutes.
 - Calls are charged indivisible for the first { T } seconds and then every { U } seconds - For the first { T } seconds the call is taxed as one minute; afterwards, taxing is done every { U } seconds.

If the charges for external calls are computed using a fixed prices method, 4PSA VoipNow Core displays the costs for each time interval in the following format:

- Calls made in time interval { T } are charged with { money unit } / second – The price charged for external calls made in time interval { T }.

4PSA VoipNow Core displays the costs for the calls outside the time intervals specified above:

- Calls made outside these time intervals are charged { money unit } / second – The price charged for external calls made outside time interval { T }.
- External incoming calls charges – These charges apply to calls received from outside the system.



Note

4PSA VoipNow Core displays this information only if the endpoints are allowed to receive external calls.

- Calls are charged indivisible for the first {T} seconds and then every {U} seconds - For the first {T} seconds the call is taxed as one minute; afterwards, taxing is done every {U} seconds.
- External incoming calls are charged {money unit} /second - The fee charged to the endpoint for each incoming external call.
- Free minutes - This section provides an overview of the free minutes included in this user's charging plan.



Note

Some of these sections may not be displayed, depending on the user's charging plan.

All these fields are related to the permissions and fees set for the current user in his charging plan.

Manage Endpoint's Email Templates

To access this page, follow the next steps:


1. Choose the desired endpoint from the Endpoint Management page and click its name.
- 2.

In the new opened page, click the  Email templates icon available in the Tools area.

For a detailed overview, see the [Manage Email Templates](#) section from the Manage System Templates chapter.

Note that some of the functions described in the Manage Email Templates section may not be available or may be modified, depending on the access level.

You can customize the subject and the content of an email notification by following the next steps:

1. Click the  icon corresponding to the chosen event.
2. A new page allowing you to edit the email subject and email body opens. Modify the text, keeping in mind the following rules:
 - You may use only plain text when writing the email subject and content. The email is also sent in plain text format.

- You can include tags that will be automatically replaced by the system with the appropriate content. Examples:

[recipient_name] is replaced with the name of the person receiving the notification.

3. Click OK to save the changes to the email. Click Cancel to return to the previous page without saving the changes.

The email templates that can be customized for an endpoint account are presented in the next sections.

The Endpoint's 'Endpoint Account Expiration Warning' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Expiration Warning' Email Template](#) section.

The Endpoint's 'Endpoint Account Expired' Email Template

For more details about how to customize this template, see [The 'Endpoint Account Expired' Email Template](#) section.

The Endpoint's 'Endpoint Charging Limit Warning' Email Template

For more details about how to customize this template, see [The 'Endpoint Charging Limit Warning' Email Template](#) section.

The Endpoint's 'Endpoint Charging Limit Exceeded' Email Template

For more details about how to customize this template, see [The 'Endpoint Charging Limit Exceeded' Email Template](#) section.

The Endpoint's 'Forgot Password' Email Template

For more details about how to customize this template, see [The 'Forgot Password' Email Template](#) section.

Restore the Default Settings

To restore the default notification settings and email contents, click the Default button.




Note

When you click the **Default** button, 4PSA VoipNow Core will not overwrite the other email address destination.

Chapter 9

Reports and Statistics

View System Reports

The Reports section provides the best overview on the system status. To access this page, click the  [Reports](#) link available in the left navigation panel. Multiple statistics are available:

- A general overview of the 4PSA VoipNow Core system
- View the active calls in the system
- An overview of the nodes work load

Report Overview

In this page, you can view statistics about the number of objects (accounts, charging plans, active calls, etc.) currently available in the system.

To access this page, click the Overview tab available in the Report Management page. 4PSA VoipNow Core displays the following information about the system:

- System usage overview for { month} , { year}
 - Total length of outgoing calls – The total time spent on outgoing calls in the current month.
 - Total length of incoming calls - The total time spent on incoming calls in the current month.
 - Maximum length of an outgoing call – The maximum time spent on outgoing calls by the endpoints belonging to the logged in user.
 - Maximum length of an incoming call – The maximum time spent on incoming calls by endpoints belonging to the logged in user.
- Account overview – This section displays the number of accounts in the system and their status.
 - Total resellers – The total number of reseller accounts.
 - Enabled resellers - The number of enabled reseller accounts.
 - Suspended resellers - The number of disabled reseller accounts.
 - Total clients – The total number of client accounts.
 - Enabled clients – The number of enabled client accounts.
 - Suspended clients– The number of disabled client accounts.
 - Total endpoints– Total number of endpoint accounts.
 - Enabled endpoints– The number of enabled endpoint accounts.
 - Suspended endpoints– The number of disabled endpoint accounts.
 - Registered endpoints - The number of endpoint registered from a phone.
- Channels overview
 - Total channels – The total number of channels.
 - Enabled channels – The number of enabled channels.
 - Suspended channels – The number of disabled channels.
 - Registered channels – The number of channels registered to the remote servers.
- Sound files overview

- Total sounds – The total number of system and personal sounds in the system. The sounds owned by the logged in user and the sounds owned by users belonging to the logged in user are counted.
- System sounds – The total number of system sounds. System sounds are defined in the administrator context. System sounds can be used by all 4PSA VoipNow Core users belonging to the user that added the sound.
- Personal sounds – These sounds can be used only by the user that has created them.
- Charging plans overview
 - Admin level charging plans – The number of charging plans created by the administrator.
 - Reseller level charging plans – The number of charging plans created by resellers.
 - Client level charging plans – The number of charging plans created by clients.

Call Reports

4PSA VoipNow Core offers an easy way to keep track of the calls made by all the endpoints in the system.



In the Call Report page, you can view a monthly report of all registered calls. You can also:



- Search for specific calls.
- Export the call list to a file in one of the available formats: Microsoft Excel or .csv.

To access this page, click the Call reports tab available in the Report Management page.

4PSA VoipNow Core displays a table containing the calls registered in the current month. To view the calls from a previous month, use the drop-down list available in the page.

The table includes the following details about each call:

- F – The call flow is displayed using an icon:
 -  Incoming call
 -  Outgoing call

- T – The call type is displayed using one of the icons:
 -  External call
 -  Direct calls between endpoints
- From – The number of the endpoint that initiated the call.
- To – The number of the endpoint that answered the call.
- Call started – The date and time when the call was initiated.
- Answered - The date and time when the call was answered.
- Call duration – The duration of the call.
- Call ID – The unique number that Asterisk generated to identify the call.
- Client – The name of the client who owns the endpoint.
- SIP-Call ID - The ID of the SIP packets belonging to a particular call.
- Called DID - The Direct Inward Dialing (DID) number that was called.
- PRI channel - The ID of the PRI card that contains the channel through which the call was made.
- 4PSA VoipNow calling extension – The name of the extension from the 4PSA VoipNow server that initiated the call.
- 4PSA VoipNow infrastructure ID – The infrastructure ID of the particular 4PSA VoipNow server that initiated the call.
- Received charging ID - The charging ID helps pointing out the endpoint that will be charged for the call.
- Node ID - The node's logical address.
- Call cost – The cost of the call for the logged in user.
- Profit – The profit made by the logged in user from this call.




Caution

It is highly advisable to hunt for the call costs that have a negative profit!




Note

You can filter the displayed columns by clicking the  [Show columns](#) button. After choosing the desired columns, click **Apply** in order to save the changes. Likewise, if you cannot see some of the above columns, it is likely that they have been disabled using this control.

Searching the Calls List



To search the calls database, follow these steps:


1. 4PSA VoipNow Core automatically displays only the calls from the current month. If you want to view the call list for previous months, use the following options:
 - From number - Use this text box to fill in the number of the person who made the call.
 - To number - Use this text box to fill in the number of the person who answered the call.
 - Account name – Use this text box to fill in the account name (on reseller, client or endpoint levels) you are searching for.
 - Charging plan - Use this text box to fill in the name of the charging plan that generated the call cost you are searching for.
 - CallID – Use this text box to fill in the unique number that Asterisk generated to identify the call.
 - Calls on node - Use the available drop-down list to select the node on which you want to perform the search. If you want to check for the calls on all the nodes, select `All` .
 - Through channel - Use this drop-down list to search for the calls that were directed through a specific channel only.
 - Selected channel prefix - This value is only available for outgoing external calls. It contains the prefix of the dialed number that was matched with one of the area codes defined in the routing channel's costs.
 - SIP-CallID - It is used to identify all SIP packets that belong to a particular call.
 - Called DID - The Direct Inward Dialing (DID) number which was called.
 - PRI channel - This is the ID of the PRI card which contains the channel through which the call was made.
 - 4PSA VoipNow calling extension – Use the available text box to filter calls by the name of the 4PSA VoipNow extension from the 4PSA VoipNow server that initiated the call.
 - 4PSA VoipNow infrastructure ID – Use the available text box to filter calls by the infrastructure ID of the particular 4PSA VoipNow server that initiated the call.
 - Received chargingID - Use the available text box to specify the chargingID that helps pointing out the endpoint that will be charged for the call.

- Call duration – Use this section to specify the call duration limits by filling in the fields from the rule:
Higher than { x } seconds and/or lower than { y } seconds
- Call cost – Use this section to specify the call cost limits by filling in the fields from the rule:
Higher than { x } and/or lower than { y }
- Profit – Use this section to specify the profit limits by filling in the fields from the rule:
Higher than { x } and/or lower than { y }
- Call ended with – Use the drop-down list to filter calls that ended with:
 - Answered
 - No answer
 - Busy
 - Failed
 - Unknown
 - Not allowed
- Start search on { x } and end on { y } - Use these text boxes or click the  calendar icon to specify the period you want to search.
- Display - Use these radio buttons to filter the search results:
 - All calls – Select this option to display all the call types in the list.
 - Incoming calls – Select this option to display only the calls that were received.
 - Outgoing calls – Select this option to display only the calls that were placed.
- Limit search by call context – Use these radio buttons to filter the search results:
 - All calls – Select this option to display all the calls.
 - Direct calls between endpoints – Select this option to display only the calls made between endpoints.
 - External calls – Select this option to display only the calls received from outside the system or sent to external destinations.

2. Click OK to display only the records that fit your search criteria.

Export Reports to an Easy-to-Edit Format

-  [Export to Excel](#) – Click this link to export the call costs report to a Microsoft Excel file.
-  [Export to CSV](#) - Click this link to export the call costs report to a .csv format file.

You have the possibility to customize the exported call cost report by choosing the columns you want to include in your report. To select the relevant columns that will appear in the exported report, click the  Show export button in the upper right corner of the screen. Select the check boxes corresponding to the column names you want to export. Disable the check boxes corresponding to the column names you want to leave out.

This is the list of all possible columns you can export in your customized report:

- Call flow - The direction of the call: incoming or outgoing.
- Call type - The received call type.
- To number - The phone number of the person who answered the call.
- From number - The phone number of the person who made the call.
- Call started - The date and time when the call started ringing on the destination phone.
- Call answered - The date and time when the call was answered. If the call was not answered, 4PSA VoipNow Core records the value: 0000-00-00 00:00:00
- Call duration - The total length of the received call.
- Call disposition - The way the call was terminated: it was either answered, not answered, failed, etc
- Reseller - The user name of the reseller account where the call originated.
- Client - The user name of the client account where the call originated.
- Reseller ID - The ID of the reseller account where the call originated.
- Client ID - The ID of the client account where the call originated.
- Charging plan - The charging plan that generated the call cost.
- Call cost - The call cost as charged by the channel.
- Call profit - The difference between the cost paid by the owner of the reseller account where the cost originated and the cost charged by the channel.

- Money unit - The currency currently used for charging.
- Original channel - The channel used to route the call.
- Call ID - The unique ID of the call generated by 4PSA VoipNow Core.
- Transfer source - If the call was transferred to another endpoint, this column will list the source endpoint.
- Transfer destination - If the call was transferred to another endpoint, this column will list the destination endpoint.
- Initially called endpoint - If the call was picked up from another endpoint, this column will display the endpoint that was originally called.
- Selected channel prefix - This value is available only for outgoing external calls. It contains the prefix of the dialed number that was matched with one of the area codes defined in the routing channel's costs.



Note

This information is especially useful for debugging.

For example, the endpoint user dials the external number 8010400.

Let's assume the channel that routes the call has 2 costs defined:

- Area code 80 charges 0.2 USD
- Area code 801 charges 0.5 USD

Since area code 801 is the closest matching prefix for the dialed number, the caller will be charged 0.5 USD. If the entry corresponding to 801 would have been deleted, the closest matching prefix would be 80 and the caller would be charged only 0.2 USD. Let's assume it was an error caused by the administrator; when updating the channel costs, the administrator forgot to delete the entry corresponding to 801.

This error would be hard to trace if the channel had more than 20 costs defined.

- Parent call ID - This column will display the number which originated a received call.



Note

This is useful for tracing phone calls that have multiple entries in the call cost table. For example, when a call that is received by an endpoint and transferred to another, the system records two separate entries and gives the impression that two different calls have been made.

- Channel name - This column will display the name of the channel through which the call has been routed.



Note

The name of the channel will be displayed only for outgoing external calls.



- Calls on node - This column displays the calls made through a specific node.
- SIP-Call ID - It is used to identify all SIP packets that belong to a particular call.
- Called DID - The Direct Inward Dialing (DID) number which was called.
- PRI channel - This is the ID of the PRI card which contains the channel through which the call was made.
- 4PSA VoipNow calling extension – The name of the extension from the 4PSA VoipNow server that initiated the call.
- 4PSA VoipNow infrastructure ID – The infrastructure ID of the particular 4PSA VoipNow server that initiated the call.
- Received charging ID - The charging ID that helps pointing out the endpoint that will be charged for the call.

Node Load

4PSA VoipNow Core offers the possibility to view the load of the working nodes.

To access this page, click the Node load tab available in the Report Management page.

The following information is displayed for each worker node:


- S – The node's status:
 -  Enabled
 -  Disabled
- Node ID – The node's ID, including its IP address and port.
- PSTN capacity – The maximum capacity of the Public Switched Telephone Network.
- PSTN usage – The current usage of the Public Switched Telephone Network.
- SIP capacity – The maximum capacity of the Session Initiation Protocol (SIP) server. This is a signaling protocol, widely used for controlling


multimedia communication sessions such as voice and video calls over Internet Protocol (IP).

- SIP usage – The current usage of the SIP server.

Manage Sessions





View the Sessions List

This page lists the server sessions currently in progress. In order to access the Manage Sessions page, click the  [Settings](#) link available in

the left navigation panel and then the  Sessions button located in the Infrastructure settings area. Multiple operations can be performed:


- Search the existing sessions.
- Delete sessions.


4PSA VoipNow Core displays the following information about each session:

- T – The type of the user that logged in the system displayed using an icon:
 -  Admin
 -  Reseller
 -  Client
 -  Endpoint
- Login – The user name of the person who logged in to the system.
- IP - The IP of the machine from which the user logged in to the system.
- Login time - The time when the user logged in to the system.

Searching the Sessions List

When the sessions list is too long and you are searching for specific sessions, you can use the following features:

- Search – Use the text box to specify the words you are looking for. Click the  button or the search label to display only the sessions that match your search criteria.

- Show all – Click this  button or the show all label to display the entire list.


The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The sessions list can be filtered by login name, IP and log in time. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the sessions list was sorted. The sort direction can be changed by another click on the corresponding header.

Remove a Session

To remove registered sessions, follow these steps:


1. Choose the sessions you want to remove by selecting their corresponding check boxes in the Manage Sessions page.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed with the removal, click OK, otherwise click Cancel.





Note






You cannot delete your own sessions, but only those of the other users connected to the server.

Login History

You are able to see a detailed history of the login sessions by clicking the  Login history button located in the Tools area of the Session Management page.



The following information is available:

- T - The user's level is shown using an icon:
 -  Admin
 -  Reseller

-  Client
-  Endpoint
-  Unknown level
- O - The icon in this column shows if the respective user is logged in or not. The icon can be:
 -  User is online
 -  User is offline
- Username - The user names of the persons that logged in to the system.
- Number of logins - The number of login sessions establish by the respective user.
- First login - The date and time when the user logged in for the first time.
- Last login - The date and time when the user last logged in.

Searching the Login History List

When the login history list is too long and you are searching for specific sessions, you can use the following features:

- Search - Use the text box to specify the words you are looking for. Then click the  button or the `search` label to display only the records that match your search criteria.
- Show all - Click the  button or the `show all` label to display the entire list.


The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The login history list can be filtered by user name, number of logins, first login date and last login time. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the login history list was sorted. The sort direction can be changed by another click on the corresponding header.


Clear Logs

You are able to clear logs according to two criteria:

- Clear logs starting from { date} to { date} - You can choose to clear the logs for a distinct period of time. Click the  Calendar icon to specify the start and end date of the time interval.
- Clear logs older than - You can choose to clear logs older than a specified number of days/weeks/years. Select the time unit from the drop-down list and specify the number of time units in the text box.



Login History of a Specific Account

You are able to see the login history of a specific account by clicking the respective user name in the login history list. The page containing the login history of a specific account displays the following information:

- Login time - The date and time when the user logged in.
- IP address - The IP address the user logged in from.
- Hostname - The hostname where the user logged in from.
- L - This column shows that the user logged in from the interface:
 -  Control panel log in

Searching the Account's Login History List

When the account's login history list is too long and you are searching for a specific record in the list, you can use the following features:

- Search - Use the text box to specify the words you are looking for. Then click the  button or the Search label to display only the records that match your search criteria.
- Show all - Click the  button or the Show all label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.


You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The account's login history list can be filtered by login time, IP address, host name and login type. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the account's login history list was sorted. The sort direction can be changed by another click on the corresponding header.

Clear Logs for an Account

The procedure is identical to the one described in the [Clear Logs](#) section.

Failed Logins



You can see a list of the failed login attempts by pressing the  Failed logins button in the `Tools` section of the Sessions Management page.

The following information is available:

- L - This column shows that the user logged in from the interface.
- Login time - The date and time of the login attempt.
- Username - The user name used for the login attempt.
- Message - The reason for which the login attempt failed.
- IP Address - The IP address of the user who attempted to log in.
- Hostname - The hostname of the user who attempted to login.

Searching the Failed Login History List

When the failed login history list is too long and you are searching for specific records, you can use the following features:

- Search - Use the text box to specify the words you are looking for. Then click the  button or the `Search` label to display only the records that match your search criteria.
- Show all - Click the  button or the `Show all` label to display the entire list.

The search criteria will be retained even if you navigate to other pages until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The failed login history list can be filtered by login time, user name, message, IP address and hostname. To do so, click a table header link. The order criteria is marked by the highlighted table header and the arrow indicates how the failed login history list was sorted. The sort direction can be changed by another click on the corresponding header.

Clear Logs

The procedure is identical to the one described in the [Clear Logs](#) section.

Live Monitor

Live Monitor is a feature that allows the 4PSA VoipNow Core users real time tracking for several important components of the application.



Note


Live Monitor is only available for the **administrator** account.

To access this page, click the  [Settings](#) link available in the left navigation panel. In the new opened page, click the  Live Monitor icon located in the Infrastructure area.

Live Monitor Statistics

The Live Monitor statistics tab displays all the components that can be monitored. You can enable/disable tracking for the desired components from the [Live Monitor services](#) tab. The status will be displayed through a message located in the component's name:

- (enabled) if tracking for that component is turned on.
- (disabled) if tracking for that component is turned off.

You can update the statistics by clicking the  Refresh icon available in the tool bar.

The following components can be monitored:


- Endpoints



displayed if there are recorded statistics about this component.



displayed if there are no recorded statistics about this component.


Clicking the  icon will open the statistics page. The graphics contain the following information about the endpoints:

- Total endpoints - The total number of endpoints registered in the system.
- Registered endpoints - The number of new endpoints registered in the system over the specific time frame.
- Fixed IP endpoints - The number of endpoints with a fixed IP address.

- Database

-  displayed if there are recorded statistics about this component.

-  displayed if there are no recorded statistics about this component.


Clicking the  icon will open the statistics page. The graphics contain the following information about the database:

- Connections - The number of connections to the MySQL server.
- Slow queries - The number of slow queries received by the MySQL server.
- Queries/second - The number of queries per second compiled by the MySQL server.
- Threads - The number of opened MySQL instances.
- Opened tables - The number of opened tables in the database.

- Management interface

-  displayed if there are recorded statistics about this component.

-  displayed if there are no recorded statistics about this component.

Clicking the  icon will open the statistics page. The graphics contain the following information about the management interface:

- Sessions - The total number of open sessions.

- Calls




- displayed if there are recorded statistics about this component.



- displayed if there are no recorded statistics about this component.



Clicking the  icon will open the statistics page. The graphics contain the following information about the calls:

- Concurrent calls - The number of concurrent calls.

- Disk




- displayed if there are recorded statistics about this component.



- displayed if there are no recorded statistics about this component.



Clicking the  icon will open the statistics page. The graphics contain the following information about the disk space:

- Total disk space in Gb - The total disk space of the partition where the application is installed.
 - Used disk space in Gb - The used disk space of the partition where the application is installed.
 - Disk space used by 4PSA VoipNow Core in Gb - The disk space used by the application.

- Performance




- displayed if there are recorded statistics about this component.



- displayed if there are no recorded statistics about this component.



Clicking the  icon will open the statistics page. The graphics contain the following information about the system's performance:

- System load - How much from the server's resources are used by the application.
- Running processes - The number of processes that were running in the same time.
- CPU load in % - The processor's usage.
- Memory




displayed if there are recorded statistics about this component.



displayed if there are no recorded statistics about this component.



Clicking the  icon will open the statistics page. The graphics contain the following information about the system's memory:

- Total memory (Mb) - The total Random Access Memory available for the application.
- Used memory (Mb) - The total Random Access Memory used by the application.
- Total Swap (Mb) - The total disk space available for swap.
- Used Swap (Mb) - The total disk space used for swap.
- Traffic




displayed if there are recorded statistics about this component.



displayed if there are no recorded statistics about this component.



Clicking the  icon will open the statistics page. The graphics contain the following information about the traffic:

The graphics will display the values for all the used network interfaces.

- Incoming traffic on { } (bytes) - The value of the incoming traffic for the specific network interface.
- Outgoing traffic on { } (bytes) - The value of the outgoing traffic for the specific network interface.



Note

All these statistics are displayed for three time frames:

- last 24 hours (daily)
- last 30 days (monthly)
- last 12 months (yearly)

For each item, 4PSA VoipNow Core provides the maximum, minimum and average values recorded over the specific time frame.

Live Monitor Services

4PSA VoipNow Core allows the user to choose the components he wants to be monitored over time. This can be done by selecting the appropriate check boxes in the Live Monitor services tab. The following components, grouped under the LiveMonitor resources section, can be monitored:

- Endpoints
- Database
- Management interface
- Calls
- Disk
- Performance
- Memory
- Traffic

Chapter 10

Manage Developer Plug-ins

The Plug-ins Management area is designed for developers wishing to modify, extend, or contribute to 4PSA VoipNow Core with the use of event triggered plug-ins. Third-party products can interact with the system and customize it to meet their needs. Developers can build plug-ins and upload them in the control panel.



View the Developer Plug-ins List

To view the plug-ins list, click the  [Settings](#) link available the left navigation panel and than the  Developer plug-ins icon located in the Infrastructure settings area.

In the Plug-ins Management page, you can view the list of all the developer plug-ins available in the system. You can also perform the following actions:

- Add a new plug-in
- Search for specific plug-ins
- Edit a plug-in details
- Delete plug-ins

4PSA VoipNow Core displays the following information about each plug-in:



- S – This icon displays the plug-in status:
 -  Enabled
 -  Disabled

Click this icon to change the plug-in status.

- Name - The plug-in name.
- Plug-in - The plug-in type.
- Events - The events triggered before and after running the plug-in.
- Priority - The plug-in execution priority.
- Updated - The date when the plug-in was last modified.

Searching the Developer Plug-ins List

When the plug-ins list is too long and you are searching for specific plug-in, you can use the following features:

- Search – Fill in the text you are looking for in the text box. Click the  button or the `Search` label to display only the plug-ins that match your search criteria.
- Show all – Click this  button or the `Show all` label to display the entire list.

Even if you navigate to other pages, the search criteria will be retained until a new search is performed.

You can change the number of entries per page by clicking the [10](#), [25](#) and [100](#) links available in the right side of the table. The total number of records is shown in the left side.

The plug-ins list can be filtered by name, priority and update date. To do so, click a table header link. The order criteria is marked by the highlighted table

header and the arrow indicates how the plug-ins list was sorted. The sort direction can be changed by another click on the corresponding header.


Plug-ins Development Guide

You can find more information about creating and uploading plug-ins by reading the [Developer guide](#).

Add a New Developer Plug-in

To add a new plug-in to the system, follow these steps:

1.

In the Plug-ins Management page, click the  Add plug-in icon available in the Tools area. A new page opens, allowing you to enter information about the new plug-in.

2. The information is grouped under the Add plug-in section:



Note

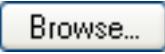
To add/remove an event to/from the **Assigned events** list, just click the event name.



Note

For a detailed overview of this events please see the [Developer guide](#).

- Plug-in name - Use the available text box to specify the name that will describe the plug-in.
- Execute plug-in **Before** event - Use the Available events list to select the event before which the plug-in will be executed. 4PSA VoipNow Core provides only one option:
 - EndpointHomePageDisplay
- Execute plug-in **Post** event - Use the Available events list to select the event after which the plug-in will be executed. 4PSA VoipNow Core provides the following options:
 - AccountAdd
 - AccountDelete

- AccountRolesUpdate
- AccountUpdate
- ChannelAdd
- ChannelDelete
- ChannelUpdate
- EndpointsPrefsUpdate
- Execution priority - Use the available text box to specify the priority with which the event will be executed. It ranges from 1 (highest) to 99 (lowest).
- Upload plug-in - Use the available text box or the  button to specify the location of the plug-in you want to add.




Note

The accepted file formats are: `.tar.gz`, `.tar.bz2`, `.zip` and `.tar`.

3. Click OK to add the plug-in. Click Cancel to exit without saving.

Remove a Developer Plug-in

To remove developer plug-ins, follow these steps:

1. Choose the plug-ins you want to remove by selecting their corresponding check boxes in the Plug-ins Management page.
2. Click the  [Remove selected](#) link.
3. You will be asked to confirm the removal. If you want to proceed with the removal, click OK, otherwise click Cancel.