

Training anSwitch V7

# CONNECTING & MANAGING PHONES & SIP DEVICES

Date: 22.6.2023  
Author: D. Bochsler  
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# INTRODUCTION & MOTIVATION

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This training covers the topics:

- ▶ Assigning SIP-Phones to a PBX Extension
- ▶ Managing of SIP-Phones via Portal UI
- ▶ Connecting and Managing of DECT base-stations of the PBX
- ▶ How to check a SIP device registration

After this training, the trainee is enabled:

- ▶ To understand how and where to create new SIP devices
- ▶ To configure and manage SIP devices
- ▶ To check if a SIP device is registered
- ▶ To advise users and customers how to connect and manage SIP devices



*IT'S NOT  
MAGIC  
IT'S "KNOW  
HOW"*

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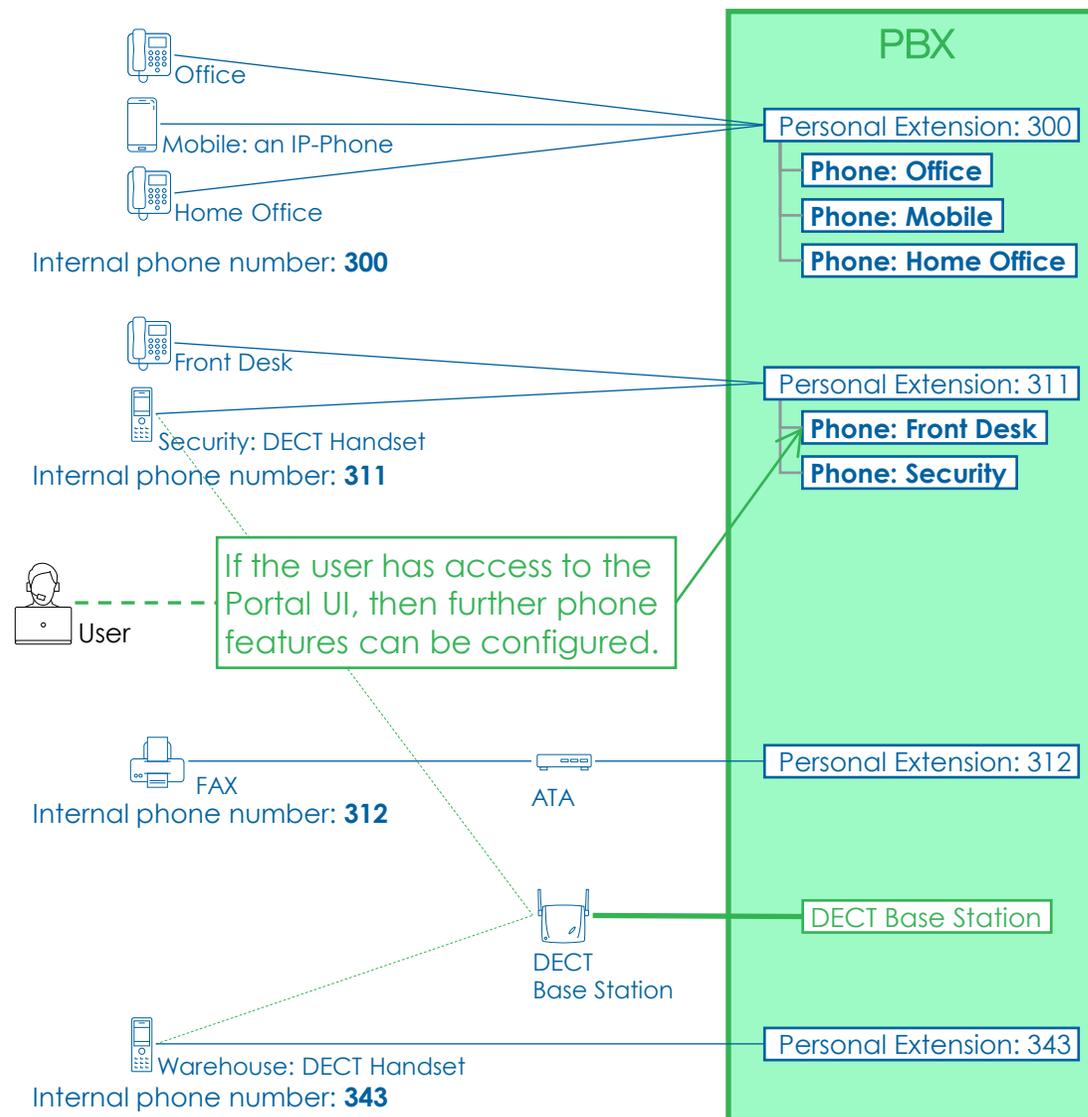
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# 1 OVERVIEW SIP DEVICE MANAGING

# OVERVIEW SIP DEVICE MANAGING

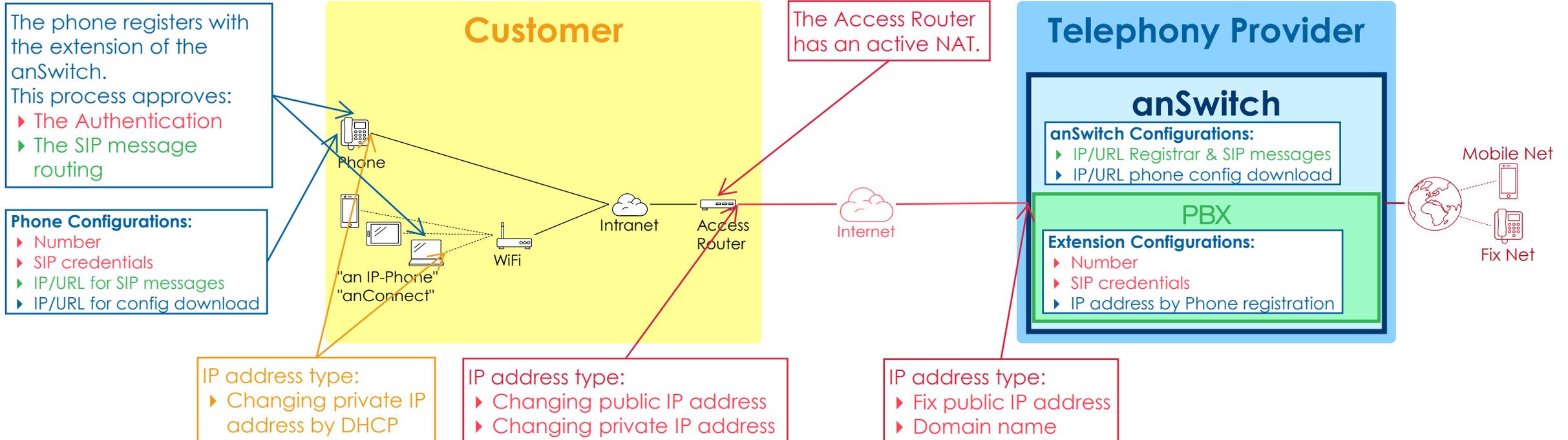
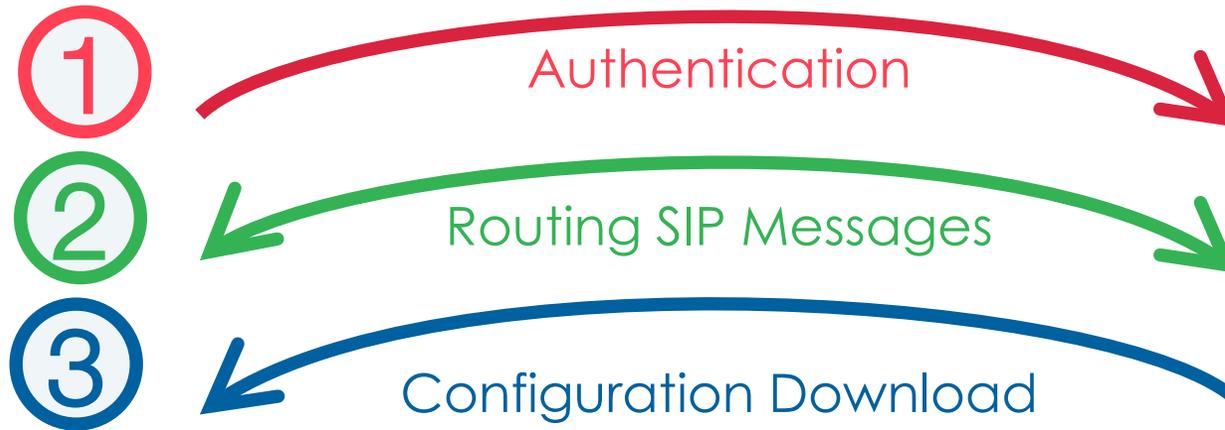
- ▶ The anSwitch V7 allows the usage of a wide range of SIP device types:
  - ▶ Any type of SIP device can be registered to an extension: phones, ATAs, etc.
  - ▶ Any number of SIP devices can be registered to an extension.
- ▶ A selection of SIP device types can be configured, deployed and managed out of the Portal UI directly.
- ▶ Selected DECT Base stations types can be configured, deployed and managed as a PBX resource.



## Note

In the coming slides the term "phone" is used instead of SIP device.

# WORKING ENVIRONMENT FOR THE PHONES



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# 2 INTRODUCTION HOW TO PROVISION A PHONE

# PROVISIONING OPTIONS OF THE CONFIGURATION OF A PHONE

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- ▶ The anSwitch V7 offers different options for configuring the different types of phones.
- ▶ Provisioning options for standard SIP devices
  - ▶ Auto-provisioning for selected phone types:
    - ▶ The phone requests the download URL from a manufacturer redirection service and downloads its configuration from the Portal.
  - ▶ Configure the download URL for selected phone types:
    - ▶ The user gets a URL where the phone can download its configuration from the Portal and configures this URL directly on the phone.
  - ▶ Fully manual configuration:
    - ▶ The user gets the SIP credentials and phone number and configures them directly on the phone.

# PROVISIONING OPTIONS OF THE CONFIGURATION OF A PHONE

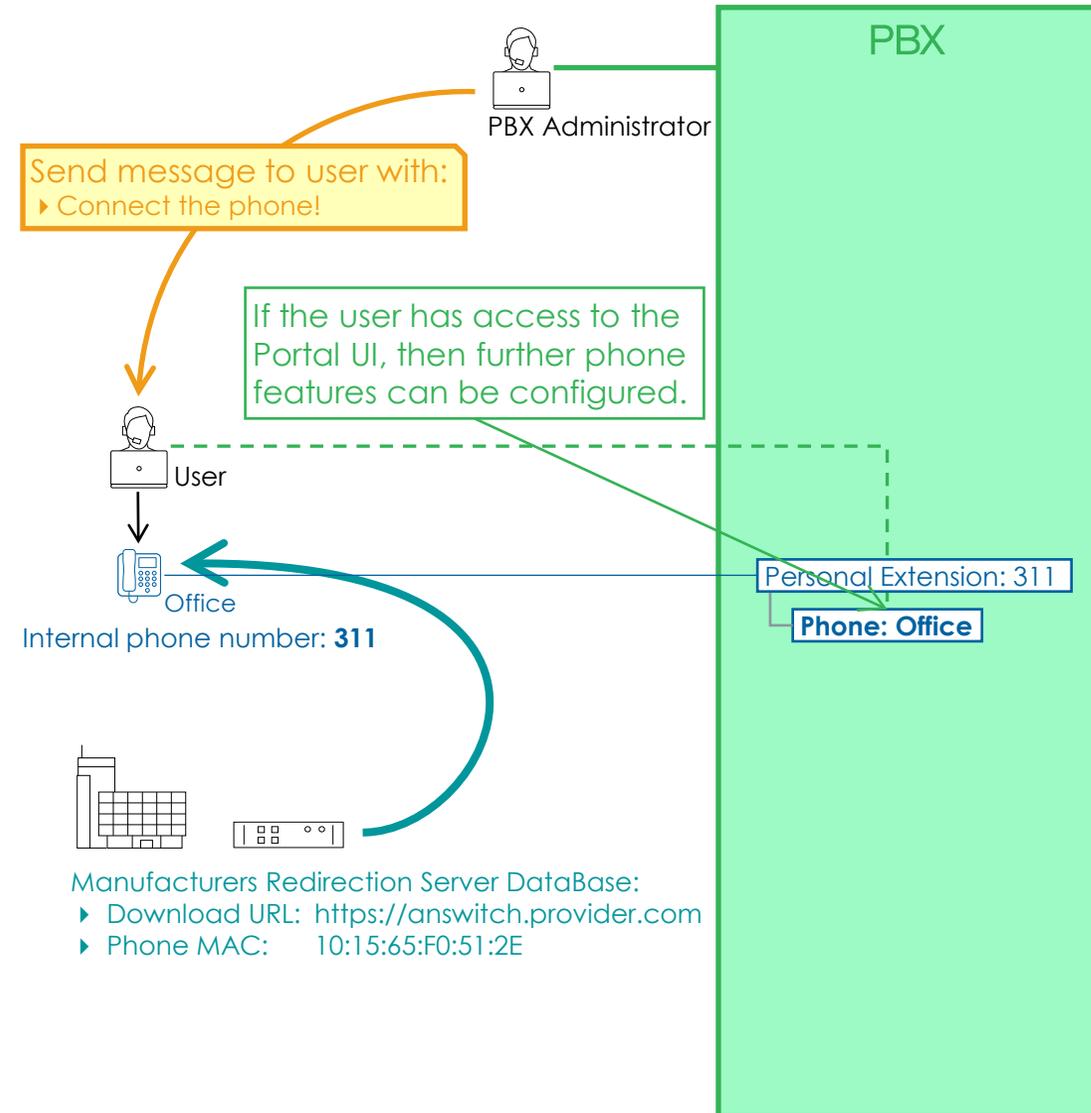
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- ▶ Provisioning options for Aarenet SIP devices and applications
  - ▶ Provisioning of an "an IP-Phone":
    - ▶ The user gets a QR-code which can be scanned by the application "an IP-Phone".
  - ▶ Provisioning of a "Webphone" web application and "Click-to-Call" Web button:
    - ▶ The user receives a Terminal-ID. This must be configured in the user's web client together with the username and password of the user account.
    - ▶ The Webphone application and Click-to-Call button must use the Aarenet CTI API.

# PROVISIONING OPTION: AUTO-PROVISIONING

## ▶ Auto-provisioning of phone types offered by the Portal :

1. The PBX Administrator creates the new phone for the extension and configures the MAC address of the phone.
2. The PBX Administrator informs the user that the phone can be connected.
3. The user makes sure that the phone is in factory-setting mode and connects the phone to the IP network.
  - ▶ During the start-up, the phone downloads its configuration from the Portal automatically.



### Note

The phone must have Internet access to contact the redirection servers.

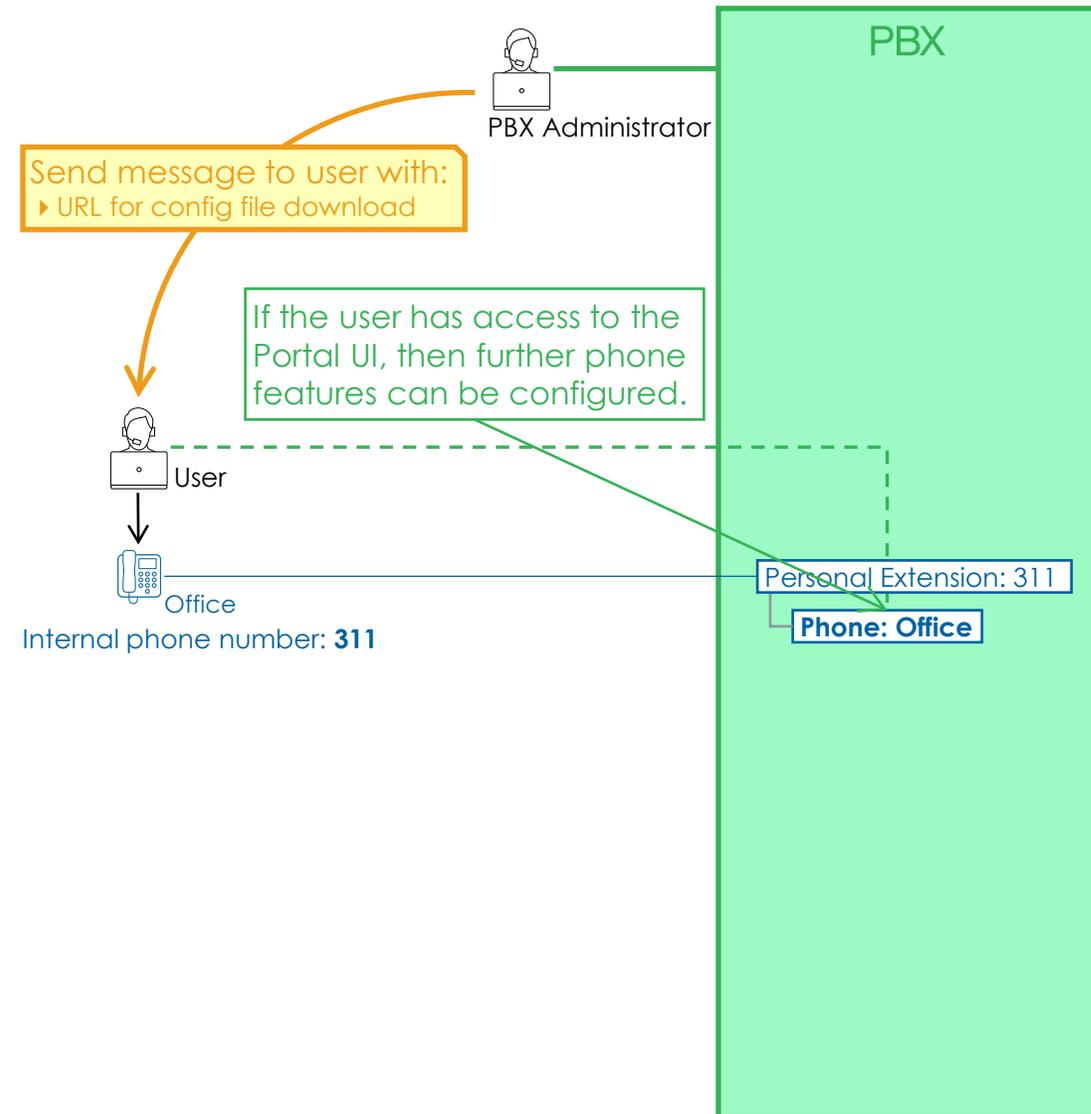
### Note

For more information about the redirection service see section:  
[Managing Manufacturer Redirection Service](#)

# PROVISIONING OPTION: CONFIGURE THE DOWNLOAD URL

## ► Configure the download URL for phone types offered by the Portal:

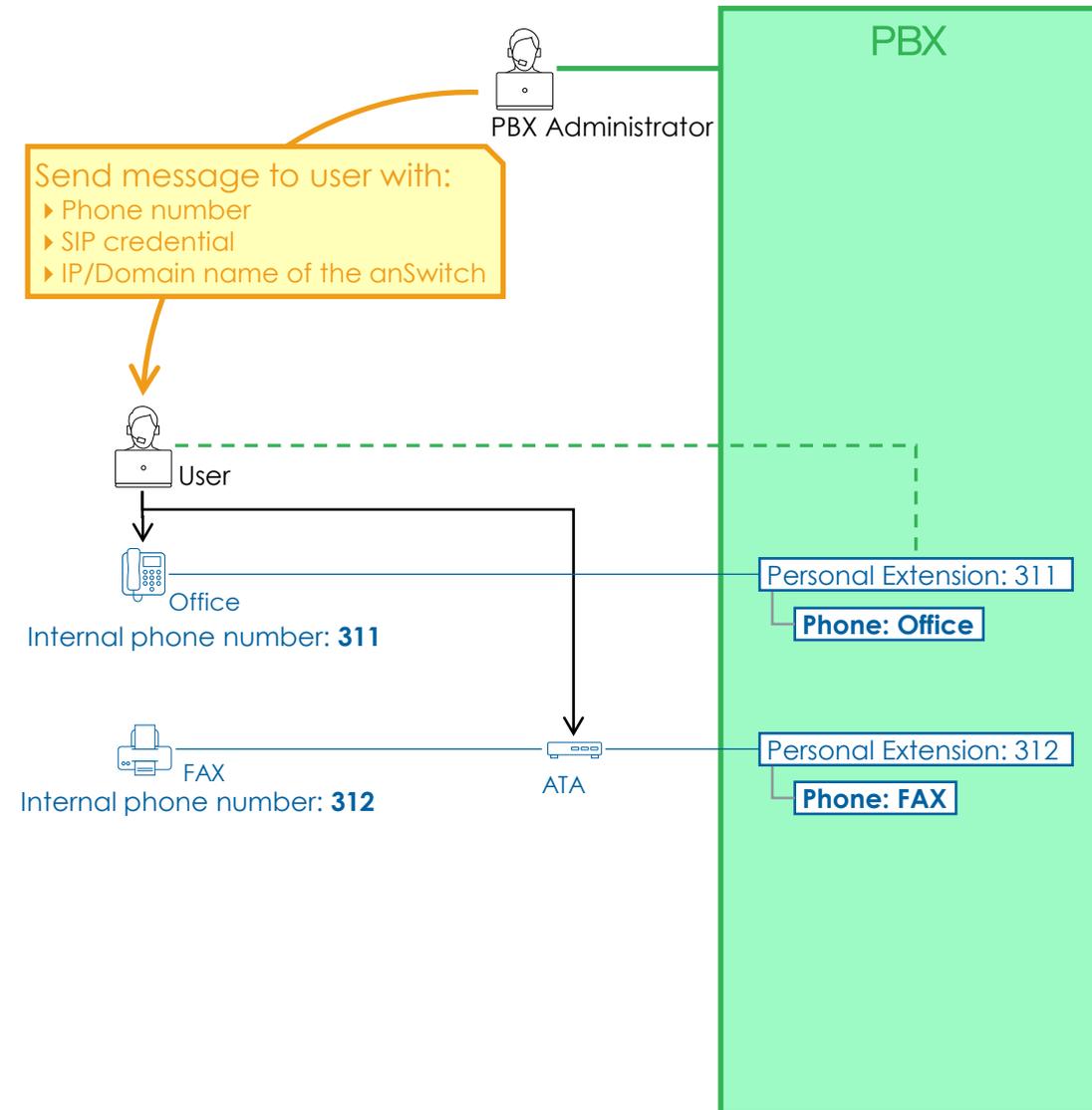
1. The PBX Administrator creates the new phone for the extension.
2. The PBX Administrator sends the URL for the configuration file download to the user.
3. The user configures the URL value on the phone via its configuration interface according the instructions of the manufacturer.
4. The user configures its extension and phone features via the Portal.



# PROVISIONING OPTION: MANUAL CONFIGURATION OF SIP CREDENTIAL

## ► The manual configuration of any type of SIP devices:

1. The PBX Administrator creates a new phone/device for the extension.
2. The PBX Administrator sends a message with the authentication values to the user.
3. The user configures the SIP credentials and phone number directly on the SIP device via its configuration interface according to the instructions of the manufacturer.

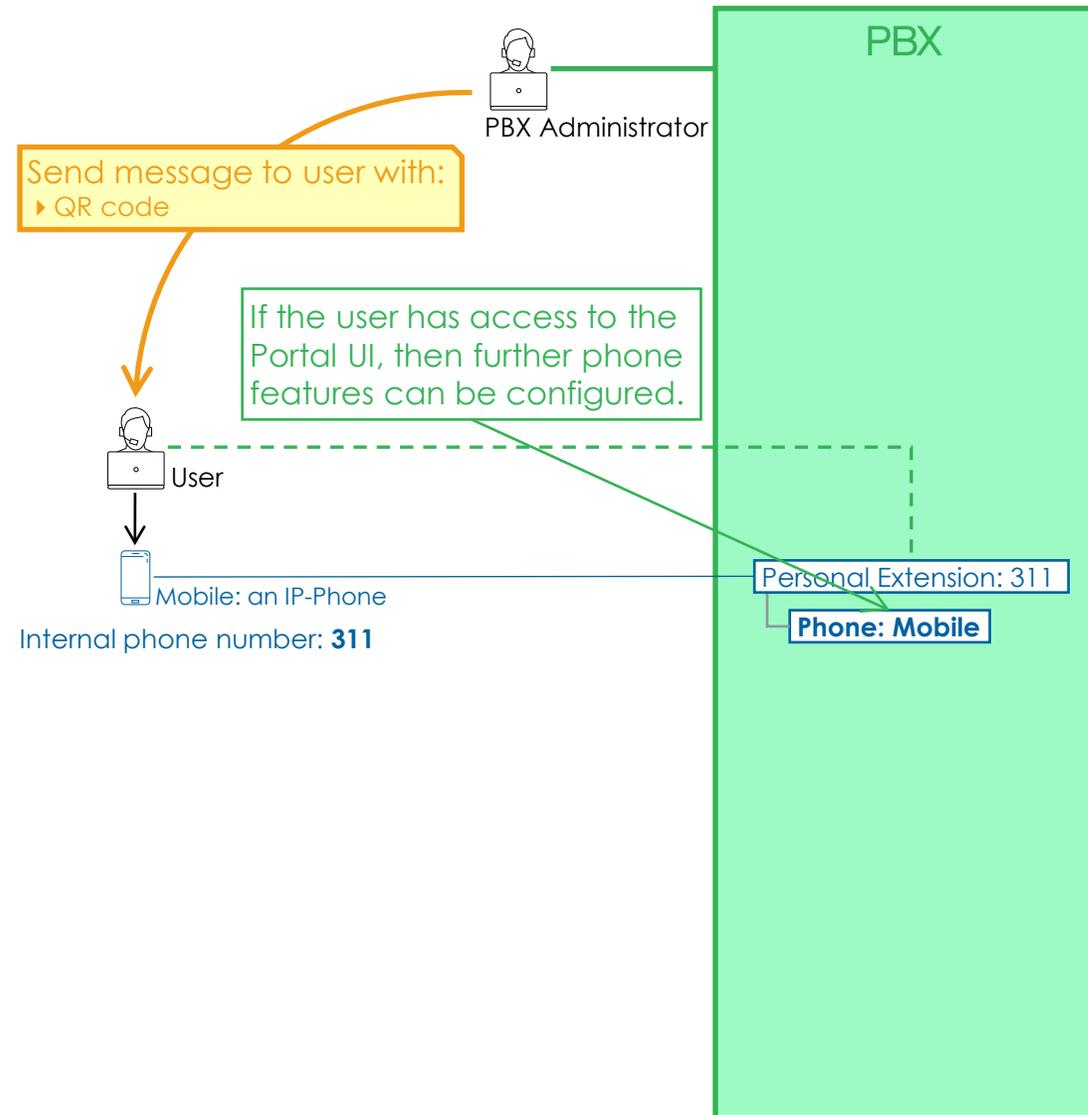


## Note

- This works for all types of SIP devices but means handy work and consultation of the manufacturer's device manual.
- It may produce support efforts as there may be configurations error of the user.

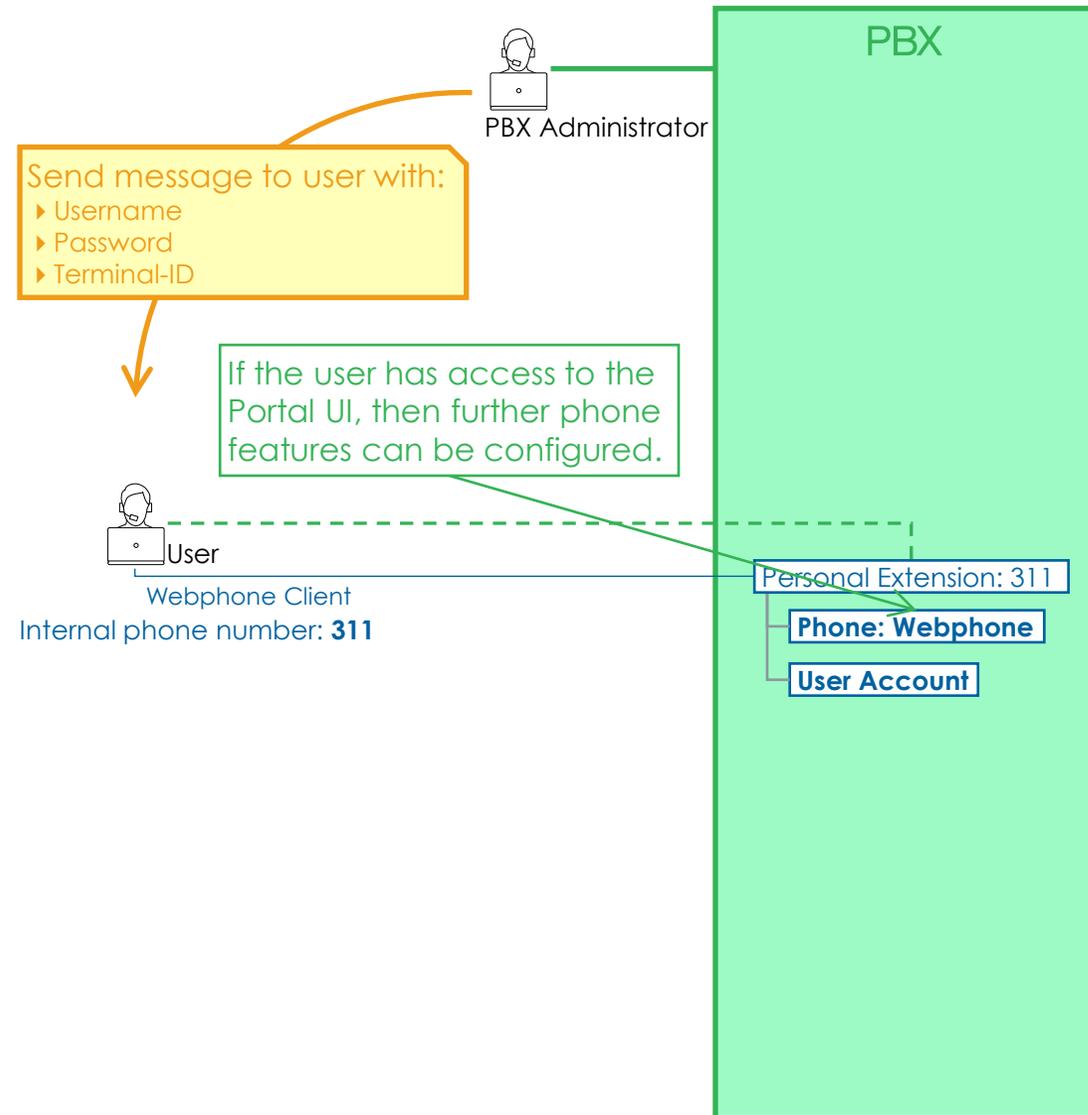
# PROVISIONING OPTION: "AN IP-PHONE"

- ▶ Apply an "an IP-Phone":
  1. The PBX Administrator creates a new "an IP-Phone" for the extension.
  2. The PBX Administrator sends the user the generated QR code.
  3. The user must do on its mobile/cell phone:
    - ▶ Install the application "an IP-Phone"
    - ▶ Start the "an IP-Phone" application and scan the QR-code.



# PROVISIONING OPTION: "WEBPHONE"

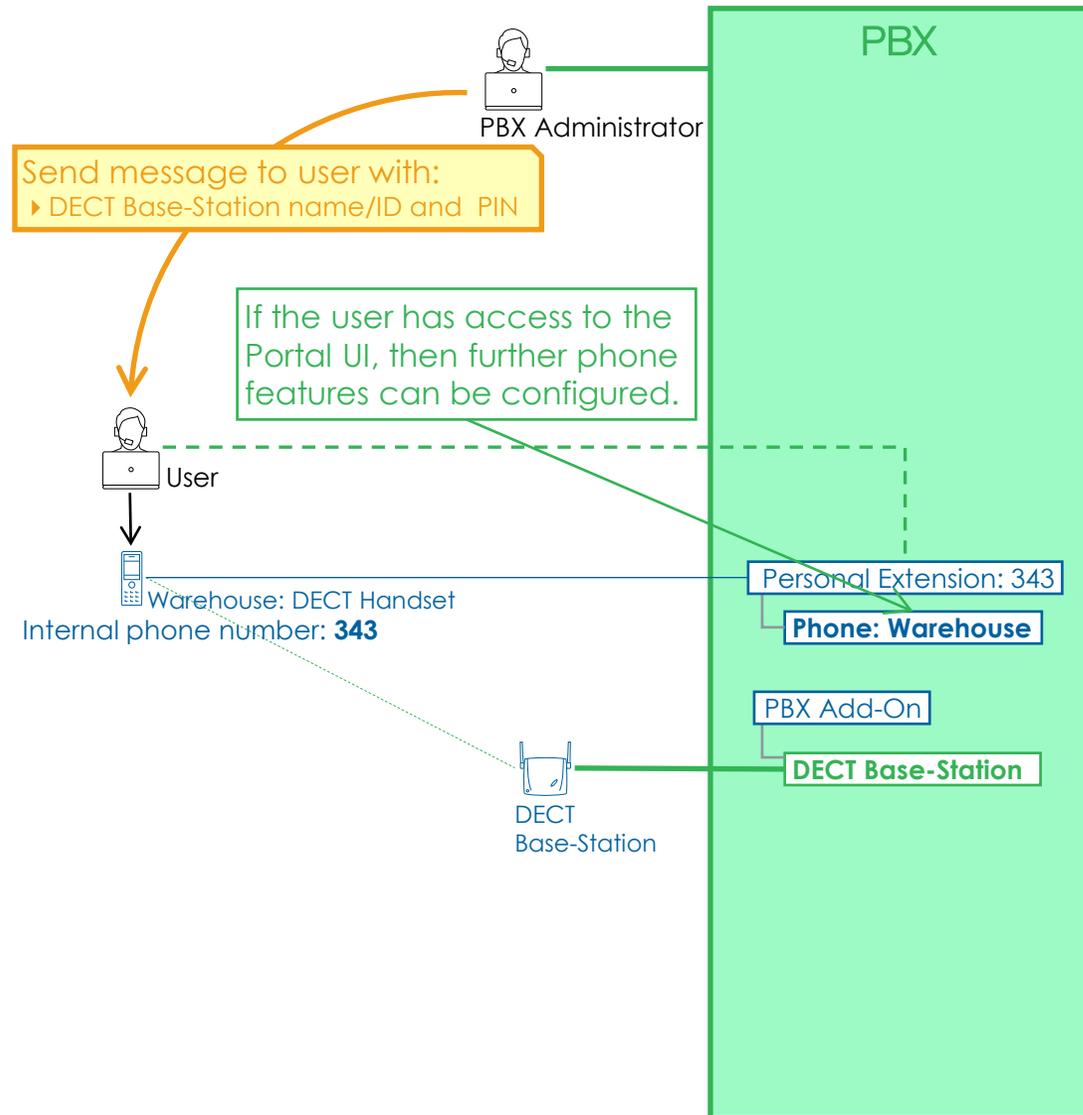
- ▶ Apply a "Webphone" or "Click-To-Call" web button:
  1. The PBX Administrator creates a new "Webphone" for the extension.
  2. The PBX Administrator sends the user the presented terminal-id and if not yet known by the user account username and password.
  3. The user must configure on its web client:
    - ▶ The Terminal-ID
    - ▶ The user account's authentication data



# PROVISIONING A "DECT BASE-STATION" & ASSIGN "DECT HANDSET"

## ► Provisioning a "DECT Base-Station" & assign "DECT Handset":

1. The PBX Administrator creates a new "DECT Base-Station" as add-on equipment of the PBX.
2. The PBX Administrator assigns "DECT Handsets" to the extensions.
3. The PBX Administrator sends the user the DECT base-station PIN.
4. The user must do on the DECT handset:
  - Start the DECT handset
  - Couple to the correct DECT base-station and enters the PIN according the instructions of the manufacturer.



## SECURITY ASPECTS FOR THE PHONE PROVISIONING

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- ▶ The anSwitch generates a unique configuration for each phone with a one-time key and unique SIP credentials.
- ▶ The used transfer protocol is HTTPS.
  - ➔ The configuration file is transferred encrypted!
- ▶ Whenever possible use a configuration file download procedure:
  - ➔ The SIP credentials and the other configuration data remains hidden by the encrypted configuration file and the used transfer protocol!
  - ➔ The download of a configuration file to a phone is granted just 1 time!

### Note

Whenever there is a suspicion that a phone has been misused/frauded in any way, then the phone should be re-provisioned immediately. The re-provisioning provides:

- ▶ New SIP credentials
- ▶ New one-time key

Page [Deploy a Re-Provisioning: Problems with Downloads and Fraud](#) describes how to recreate the configuration file for a phone.

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# 3 CREATE A PHONE FOR AN EXTENSION

## PREPARE THE PHONE SETTINGS

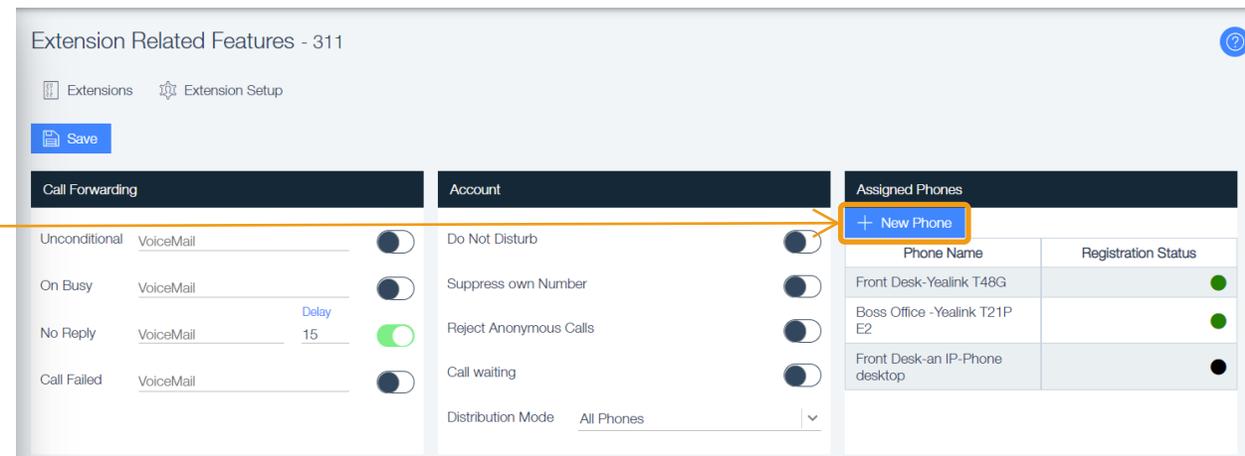
- ▶ Depending on the selected provisioning option and phone type various values are not needed:

Topic	Example	Value	Description
<b>Phone</b>			
Provisioning Option	Auto-Provisioning	.....	Mandatory: Selection of the provision type: <ul style="list-style-type: none"> <li>▶ Auto-Provisioning</li> <li>▶ Configuration of the provisioning file URL</li> <li>▶ Manual configuration of SIP-Credentials</li> <li>▶ an IP-Phone</li> <li>▶ Webphone</li> </ul>
Telephone Type	Yealink T40	.....	Select the desired phone type
Name	Boss Office Phone	.....	Choose a good name for uniquely identifying the phone. Note: The phone name is used in different places of the Portal UI for the identification of a phone.
Password for Web access	*****	.....	Select a good password.
MAC Address	10:5:65:F0:51 2E	.....	For auto-provisioning configure the MAC address of the phone.
Time Zone	Europe/Zurich	.....	Select the time zone which must be used for the time display on the phone.

# CREATION & CONFIGURATION OF THE PHONE SETTINGS

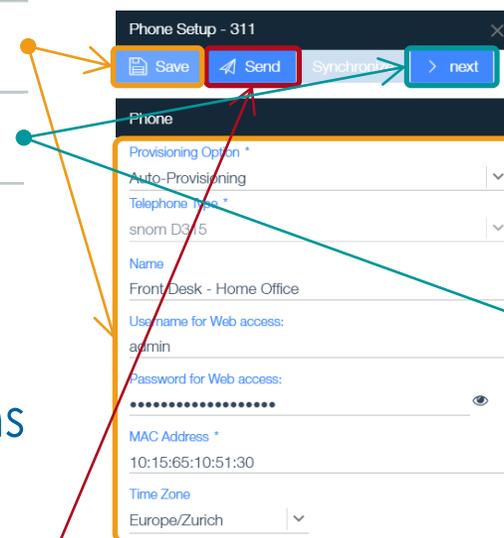
## 1. Access the Portal with sufficient rights, usually: PBX Administrator

- > Menu: PBX or Department Administrator
- > Sub-Menu: Extension
- > Click the row of the desired extension
- > Click button: + New Phone



## 2. With the wizard configure the basic phone parameters and finalize.

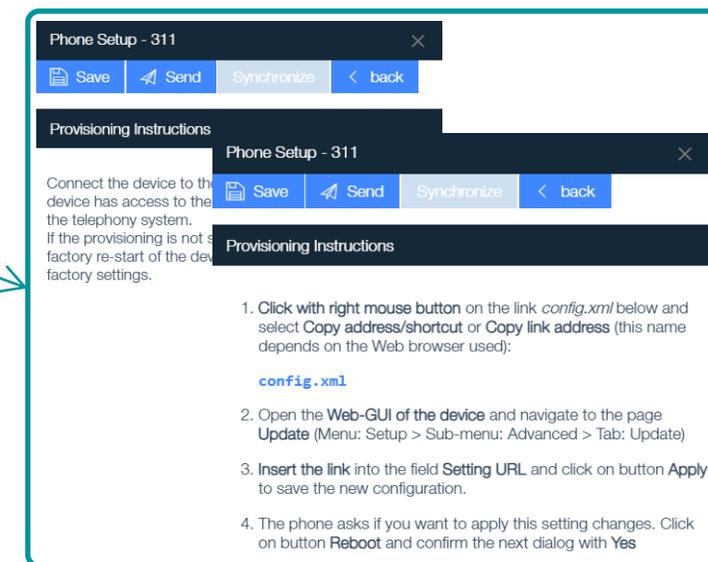
- > Configure the prepared Phone Setup parameters
- > Click button: Save
- > For displaying the provision instructions, click button: > Next



## 3. Follow the installation and provisioning instructions for the phone.

## 4. Optionally send the provision instructions to the e-mail address of the associated user account.

- > Click button: Send



# PROVISION THE CONFIGURATION TO THE PHONE

1. Set the phone to factory settings and connect the phone to the IP network.
  2. Follow the installation and provisioning instructions for the phone.
    - > Menu: PBX Administrator
    - > Sub-Menu: Phones
    - > Click on the row of the desired phone
  3. When a phone has downloaded its configuration then it automatically:
    - ▶ registers to its PBX Extension.
    - ▶ configures its keys and other features according the phone settings in the Portal UI.
- ▶ Display of a successful configuration download and registration is displayed

The screenshot shows the 'Phone Setup - Front Desk - Home Office' interface. It includes a 'Phone' section with fields for 'Provisioning Option', 'Configuration of the download URL', 'Telephone Type', 'Name', 'Username for Web access', 'Password for Web access', and 'Time Zone'. A 'Provisioning Instructions' box on the right contains a 4-step guide: 1. Click with right mouse button on the link `config.xml` below and select Copy address/shortcut or Copy link address (this name depends on the Web browser used); 2. Open the Web-GUI of the device and navigate to the page Update (Menu: Setup > Sub-menu: Advanced > Tab: Update); 3. Insert the link into the field Setting URL and click on button Apply to save the new configuration; 4. The phone asks if you want to apply this setting changes. Click on button Reboot and confirm the next dialog with Yes. A green box explains that the display changes from instructions to state when download and registration are successful, and to reload the page. A 'Provisioning State' table at the bottom right shows the current status.

Provisioning State	
Configuration downloaded:	04.01.2022 21:04
SIP registration valid until:	04.01.2022 22:14
IP-Address:	185.150.4.193
Registration Status:	Registered

## Note

If the provisioning is not successful, then:

- ▶ Make sure that the phone is powered on, connected to the IP network and has contact to the PBX network.
- ▶ Perform a factory re-start of the phone in order to reset to a defined state.

# ASSIGN A "WEBPHONE" TO A PBX EXTENSION

## 1. Assign the Web phone client as "Webphone" to the PBX Extension

- > Click menu: PBX
  - > Click sub-menu: Extensions
    - > Select the desired PBX extension
- > Tile 'Assigned Phones' click button: + New Phone
  - > Configure:
    - ▶ Select Provisioning Option: Webphone
    - ▶ The name for the terminal
- > Click button: Save

Phone Setup - 21

Save Back Next

Phone

Provisioning Option \*

Webphone

Name

Agent 1 - Webphone

Click to Call Destination Number

## 2. Check the assigned unique CTI device ID:

- > Find the page of the newly created Webphone: Phone Setup
- > Check the parameter: CTI Device ID

Phone

Provisioning Option \*

Webphone

Name

Agent 1 - Webphone

CTI Device ID:

term.237

Click to Call Destination Number

## 3. For the configuration of the web phone client the following information are needed:

- ▶ The username and password of the user assigned to the PBX Extension.
- ▶ The CTI Device ID

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# 4 CREATE A DECT SYSTEM FOR A PBX

## OVERVIEW OF A DECT SYSTEM HANDLING

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- ▶ A DECT base-station is created and managed as add-on of a PBX by the PBX Administrator.
  - ▶ It is possible to assign several DECT base-stations to a PBX.
  - ▶ The provisioning options and process are like the SIP phone ones.
  - ▶ The provisioning of the base station is accomplished by the DECT wizard of the Portal UI.
- ▶ The DECT handsets are added to a DECT base-station and assigned to a PBX Extension.
  - ▶ The assigning of the handsets is accomplished by the DECT wizard of the Portal UI.
- ▶ After assigning the DECT handsets to a PBX Extension the user can manage its handset as any other phone in its extension.

## PREPARE THE DECT BASE-STATION SETTINGS

- ▶ The provisioning of a SIP DECT base-station follows the same rules as for a SIP phone:

Topic	Example	Value	Description
<b>Phone</b>			
Provisioning Option	Auto-Provisioning	.....	Mandatory: Selection of the provision type: <ul style="list-style-type: none"> <li>▶ Auto-Provisioning</li> <li>▶ Configuration of the provisioning file URL</li> </ul>
Device Type	Yealink W60B	.....	Select the desired device type
Name	Warehouse – Yealink W60B	.....	Choose a good name for uniquely identifying the phone device. Note: The device name is used in different places of the Portal UI for the identification of a device.
Password for Web access	*****	.....	Select a good password.
Base-Station PIN	*****	.....	Define an access PIN for the DECT base-station.
MAC Address	10: 5:65:F0:5 36	.....	For auto-provisioning configure the MAC address of the device.

### Note

Only the offered DECT base-station types at parameters "Device Type" can be used in this PBX.

# DECT SYSTEM WIZARD: CONFIGURE THE DECT BASE-STATION

## 1. Access the Portal with sufficient rights, usually: PBX Administrator

- > Menu: PBX
- > Sub-Menu: +Add-ons
- > Click button: + New

## 2. With the wizard configure the basic base-station parameters.

- > Configure the prepared DECT System Setup parameters
- > Click button: Save
- > For adding a DECT handset to this base-station, click button: > Next

PBX Add-ons

PBX Dashboard

+ New X Delete

Device Name	Extension Name	Size	Device Type	Local IP Address	State
No entries found					

DECT System Setup for PBX: PA-PBX-0AX89001

Save < Back > Next

DECT Manager

A Yealink W60B DECT system simply consists of one base device and at least one handset.

Please enter the settings stated below for the base device

Provisioning Option \*

Auto-Provisioning

Device Type \*

Yealink W60B

Name

Warehouse – Yealink W60B

Password for Web access:

.....

System PIN:

....

MAC Address \*

10:15:65:f0:51:36

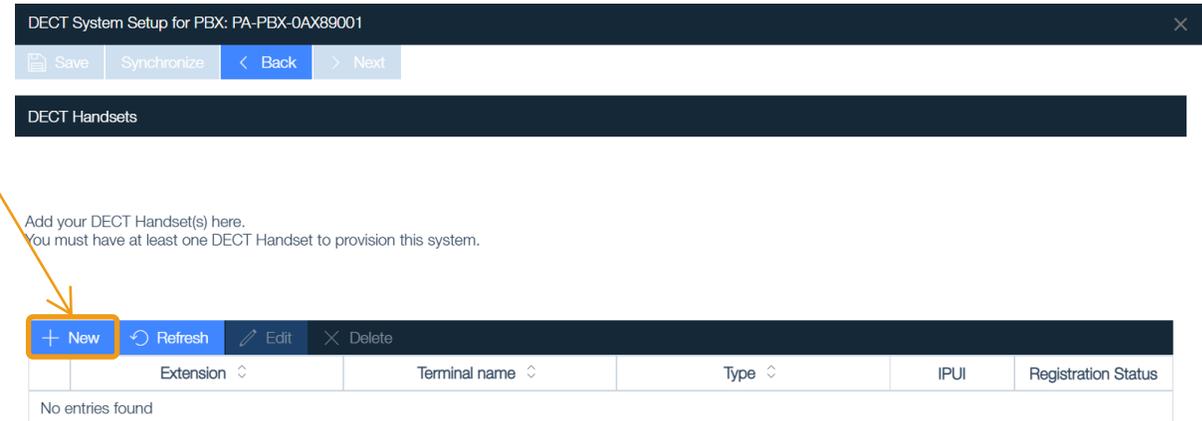
Time Zone

Europe/Zurich

# DECT SYSTEM WIZARD: ASSIGN THE DECT HANDSETS

## 3. Assign DECT handsets to this base-station

> Click button: + New



DECT System Setup for PBX: PA-PBX-0AX89001

Save Synchronize < Back > Next

DECT Handsets

Add your DECT Handset(s) here.  
You must have at least one DECT Handset to provision this system.

+ New Refresh Edit Delete

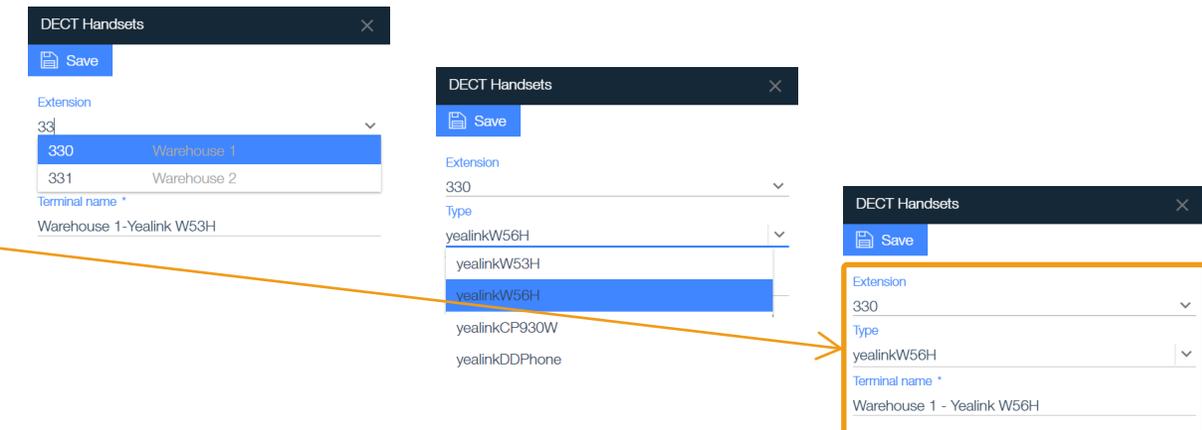
Extension	Terminal name	Type	IPUI	Registration Status
No entries found				

## 4. In the wizard dialog "DECT Handset" configure the parameters

> Configure:

- ▶ Extension: Select the number of the desired PBX Extension
- ▶ Type: Select the desired DECT handset type
- ▶ Terminal name: Insert a good name

> Click button: Save



DECT Handsets

Save

Extension  
330 Warehouse 1

Terminal name \*  
Warehouse 1 - Yealink W53H

DECT Handsets

Save

Extension  
330

Type  
yealinkW56H

DECT Handsets

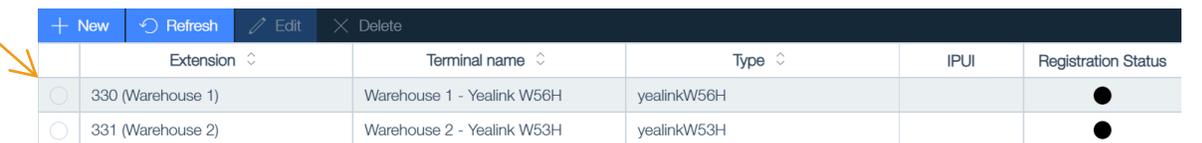
Save

Extension  
330

Type  
yealinkW56H

Terminal name \*  
Warehouse 1 - Yealink W56H

- ▶ Repeat step 4. for all DECT handset that must be associated with this DECT base-station.



+ New Refresh Edit Delete

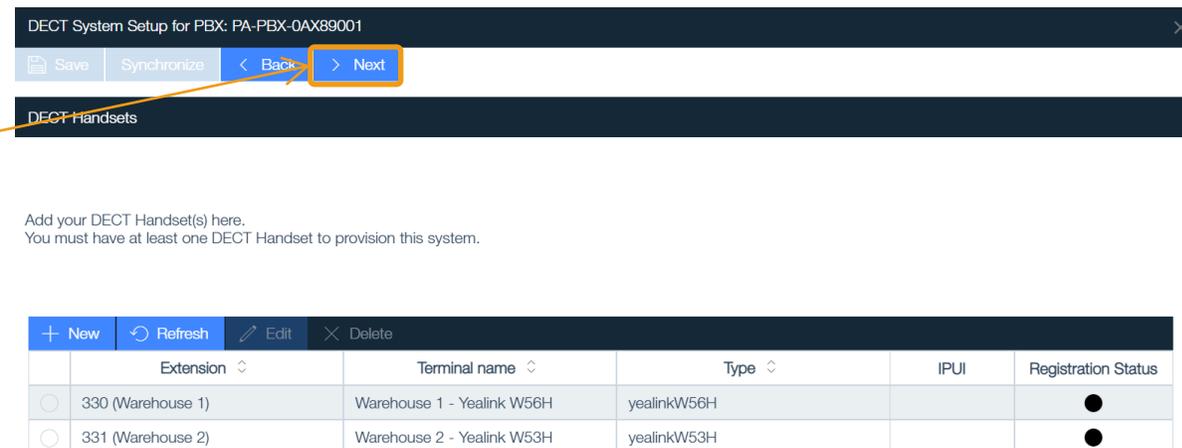
Extension	Terminal name	Type	IPUI	Registration Status
330 (Warehouse 1)	Warehouse 1 - Yealink W56H	yealinkW56H		●
331 (Warehouse 2)	Warehouse 2 - Yealink W53H	yealinkW53H		●

# DECT SYSTEM WIZARD: PROVISION THE DECT BASE-STATION

## 5. Finalize and provision the DECT base-station configuration

> Click button: + Next

> For displaying the provision instructions, click button: > Next



DECT System Setup for PBX: PA-PBX-0AX89001

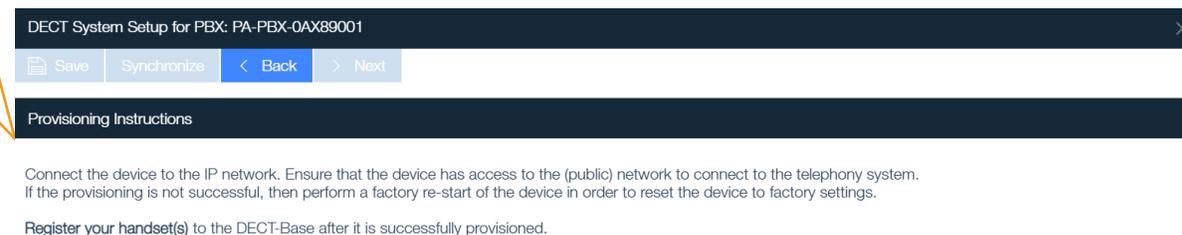
Save Synchronize < Back > Next

DECT Handsets

Add your DECT Handset(s) here.  
You must have at least one DECT Handset to provision this system.

	Extension	Terminal name	Type	IPUI	Registration Status
<input type="radio"/>	330 (Warehouse 1)	Warehouse 1 - Yealink W56H	yealinkW56H		●
<input type="radio"/>	331 (Warehouse 2)	Warehouse 2 - Yealink W53H	yealinkW53H		●

## 6. Follow the installation and provisioning instructions for the DECT base-station.



DECT System Setup for PBX: PA-PBX-0AX89001

Save Synchronize < Back > Next

Provisioning Instructions

Connect the device to the IP network. Ensure that the device has access to the (public) network to connect to the telephony system.  
If the provisioning is not successful, then perform a factory re-start of the device in order to reset the device to factory settings.

Register your handset(s) to the DECT-Base after it is successfully provisioned.

# DEPRECATED: CREATION & CONFIGURATION OF THE DECT BASE-STATION SETTINGS

1. Access the Portal with sufficient rights, usually: PBX Administrator

- > Menu: PBX
- > Sub-Menu: Phones
- > Click button: + New Phone

PBX Phones & Devices

PBX Dashboard

+ New

Phone/Device Name	Extension Name	Extension	Phone/Device Type	State
Agent 1 - snom D735	Agent 1	21 (Agent 1)	snom D735	●
Agent 2 - snom D785	Agent 2	22 (Agent 2)	snom D785	●
Boss - an IP-Phone Desktop	Boss	300 (Boss)	an IP-Phone desktop	●
Boss - Grandstream GRANDSTREAM GRP2613	Boss	300 (Boss)	Grandstream GRP2613	●

2. With the wizard configure the basic phone parameters and finalize.

- > Configure the prepared DECT Base-Station Setup parameters
- > Click button: Save
- > For displaying the provision instructions, click button: > next

3. Follow the installation and provisioning instructions for the DECT base-station.

Deprecated  
v17.9

DECT System Setup for PBX: PA-PBX-0AX89001

Save Synchronize > next

Device

Provisioning Option \*

Configuration of the provisioning file URL

Device Type \*

Yealink W80DM

Name

Warehouse - Base-Station

Password for Web access:

Base-Station PIN:

DECT System Setup for PBX: PA-PBX-0AX89001

Save Synchronize < back

Provisioning Instructions

1. Click with right mouse button on the link `config.xml` below and select Copy address/shortcut or Copy link address (this name depends on the Web browser used):
2. Open the Web-GUI of the phone and navigate to the parameter Server URL (Menu: Settings > Sub-menu: Auto-Provision)
3. Insert the link and click on button Confirm to save the new configuration.
4. Click on button Autoprovision Now and confirm the next dialog with OK

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# 5 CONFIGURE PHONE KEYS AND RINGTONES

## OVERVIEW PHONE KEY AND RINGTONES

- ▶ After a phone is created, the phone's freely configurable keys can be configured with selected features and the ringtones for internal or external calls can be configured too.

### Note

The configurations for phone keys and ringtones via this web page are only possible for those phones which were created via the web page "Extension Related Features". For other phone types, their own user interfaces must be used for such configurations.

- ▶ For most phone types, the following functions are available for configuration on the keys:
  - ▶ "Speed Dial"
  - ▶ "Team Key"
  - ▶ "Parking Space"
  - ▶ "Line"

### Note

- ▶ The available features and functionality depend on the manufacturer's phone implementation.
- ▶ Check the exact feature functionality of the phone in the manual of the manufacturer.

# CONFIGURE PHONE KEYS

## 1. Access the Portal with sufficient rights, usually: PBX Member

- > Menu: PBX Member
- > Sub-Menu: Features
- > Click on the row of the desired phone

### Variant for the PBX Administrator

- > Menu: PBX Administrator
- > Sub-Menu: Phones
- > Click on the row of the desired phone

## 2. Configure the phone keys as described on the next pages:

- > Click on the row of the desired key or ringtone

Phone Related Features - Front Desk-Yealink T48G

Extension Related Features Phone Setup Phone Related Status

Synchronize

Phone Keys

	Type	Value	Label	Identity
1	Line	-	311 Front Desk	311 Front Desk
2	Parking Space	1	Boss park	311 Front Desk
3	None	-		Current

Phone Notification

Type	Ringtone
External Call	Ringtone1
Internal Call	Ringtone2

Phone Key 3

Save

Type

Team Key

Internal Number

Label

Phone Notification

Save

Type

External Call

Ringtone

Ringtone1

# CONFIGURE PHONE KEY FEATURE: SPEED DIAL

- ▶ With feature "Speed Dial" the configured number will be immediately dialed.

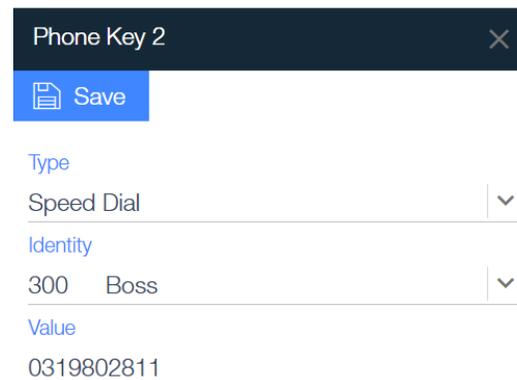
- ▶ Any dialable phone number or #-code can be configured

Examples:

- ▶ 315 : PBX internal number
- ▶ 0319802811 : National number
- ▶ 0041319802811 : International number
- ▶ \*14 : Tell my number
- ▶ \*86 : Connect to the VoiceMail Box of this PBX Extension
- ▶ \*86315 : Connect to the VoiceMail Box of the PBX Extension 315

- ▶ At the destination, the configured identity is displayed.

- ▶ Phone key "Speed Dial" configuration:



Phone Key 2

Save

Type  
Speed Dial

Identity  
300 Boss

Value  
0319802811

# CONFIGURE PHONE KEY FEATURE: TEAM KEY

- ▶ With feature "Team Key" you can do with the configured internal number:
  - ▶ Place a call to the internal number by pressing the key.
  - ▶ Pickup an incoming call to the internal number by pressing the key.
  - ▶ The state of the internal number is often monitored and indicated with a LED light:
    - ▶ Idle state – LED is off
    - ▶ Ringing State – LED is blinking
    - ▶ Connected State – LED is on

- ▶ Phone key "Team Key" configuration:

Phone Key 2

Save

Type  
Team Key

Internal Number  
311

21	Agent 1
22	Agent 2
311	Front Desk
315	Sales 1
316	Sales 2
330	Warehouse 1
40	Support CTI
45	Sales ACD

## Note

This is a very popular and handy feature for PBX internal communication. Therefore, there exists a lot of different names for this feature, like: Busy Lamp Field BLF, extensions, call pick up ... Check the manufacturers manual for the name used on the phone type.

# CONFIGURE PHONE KEY FEATURE: PARKING SPACE

- ▶ With feature "Parking Space" you can place the call on 10 PBX parking spaces.
  - ▶ Park the call:
    - ▶ By pressing the parking key
      - ▶ When a call is parked then it is indicated on the key.
  - ▶ Pickup a parked call from any phone of the PBX:
    - ▶ If the phone has configured the "Park Space" on a key: Press this key
- ▶ Use the parking spaces without configured parking keys.
  - ▶ Use \*-code \*77SpaceNumber
  - ▶ For example, using park space number 2:
    - Park a call, dial: \*772
    - Pickup a call, dial: \*772

- ▶ Phone key "Park Space" configuration:
  - ▶ Select the desired parking space number

Phone Key 7
✕

📄 Save

Type

Parking Space ▼

Value

5 ▼

Label

## Note

- To park a call is not the same as put a call on hold:
- ▶ Call on Hold:
    - You can retrieve the call only on the same phone on which it was put on hold.
  - ▶ Call Parked:
    - You can retrieve the call on any phone of the PBX.

# CONFIGURE PHONE KEY FEATURE: LINE

- ▶ With feature "Line" you can place an outgoing call with a different identity:
  - ▶ Place an outgoing call with a different identity by pressing the line key and dial the destination number.
  - ▶ Pickup an incoming call to the line by pressing the line key.
  - ▶ The state of the line is often monitored and indicated with a LED light:
    - ▶ Idle state – LED is off
    - ▶ Ringing State – LED is blinking
    - ▶ Connected State – LED is on

## ▶ Use case of a line:

- ▶ The boss wished to do outgoing calls without displaying the own direct call number 0987654300 at the called side.
- ▶ The boss wishes to do these outgoing calls with the identity of the Front Desk 0987654311. So that call backs go first to the Front Desk.

## ▶ Phone key configuration:

Phone Key 2 ✕

Save

Type  
Line ▼

Identity  
311 Front Desk ▼

300 Boss

311 Front Desk

This phone key has the identity of 311 Front Desk

## Note

The purposes of a "Line" is different than that of a "Team Key" even when they seem to be similar:

- ▶ A "Team Key" is used for fast PBX internal communication.
- ▶ A "Line" is primarily used for changing the own identity for an outgoing call.

Phone Keys			
	Type	Value	Identity
1	Line	-	300 Boss
2	Line	1	311 Front Desk

# MAKE AVAILABLE THE 'LINE' IDENTITY TO ANOTHER PBX PHONE

- ▶ In order that a 'Line' key can be configured on a phone (e.g. 300 Boss), the PBX Extension (e.g. 311 Front Desk) whose identity is needed must give the grant to the other phone (e.g. 300 Boss) to use its identity.

## 1. Access the Portal with sufficient rights, usually: PBX Member

- > Menu: PBX Member → Activate the Expert-Mode
- > Sub-Menu: Features
- > Click button: Add Phone

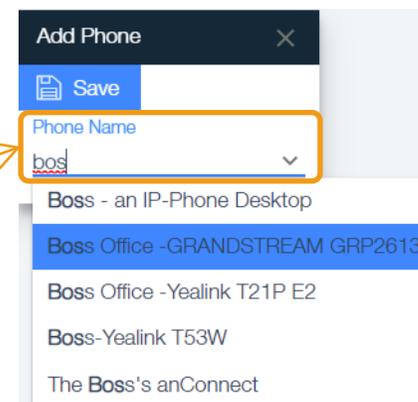
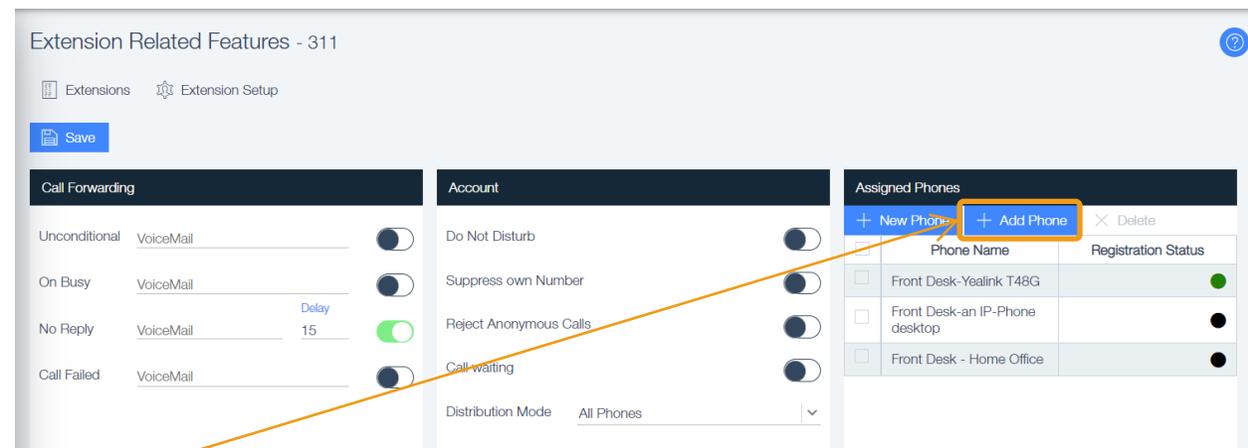
### Variant for the PBX Administrator

- > Menu: PBX Administrator → Activate the Expert-Mode
- > Sub-Menu: Extension
- > Click on the row of the extension (e.g. Front Desk)
- > Click button: Add Phone

## 2. Add the PBX phone (e.g. Boss Office -Grandstream) that needs the identity of this PBX Extension

- > Select the phone that must have granted the identity
- > Click button: Save

## 3. Configure the "Line" on the other phone (e.g. 311 Front Desk)



---

# 6 MANAGE AND SYNCHRONIZE THE CONFIGURATION TO THE PHONE

# OVERVIEW PHONE MANAGEMENT AND SYNCHRONIZATION

- ▶ Any configuration of the phone basic settings or key features are first saved in the database.
- ▶ If the phone is connected to the IP network and has registered, the changes are automatically synchronized to the phone.
  - ▶ If it happens that a phone does not synchronize automatically, then you must start the synchronization manually
    - On different pages it is possible to:
      - > Click button: Synchronize
  - ▶ The successful synchronization can be checked by comparing the date/time of the last download.

Phone Setup - Front Desk-Yealink T48G

Extension Related Features Phone Related Features Phone Related Status

Save Phone Configuration Re-Provisioning Send Synchronize

Phone	Provisioning State
Provisioning Option *	
Auto-Provisioning	
Telephone Type *	
Yealink T40G	
Name	
Front Desk-Yealink T48G	
Password for Web access:	
••••••••	
MAC Address *	
00:15:65:b0:21:1c	
Time Zone	
Europe/Zurich	
	Configuration downloaded: 27.12.2021 16:27
	SIP registration valid until: 04.01.2022 21:55
	IP-Address: 185.150.4.193
	Registration Status: Registered

## Note

The devices of the different manufacturers react differently to a synchronization. Some accept the changes immediately, while others restart several times.

---

# 7 RE-PROVISIONING THE CONFIGURATION TO THE PHONE

## OVERVIEW RE-PROVISIONING THE PHONE

---

- ▶ The re-provisioning of a phone becomes necessary when:
  - ▶ The phone is defect and must be replaced.
  - ▶ The phone must be replaced by another phone type.
- ▶ The device was able to download its configuration successfully. But could not complete the configuration for some reason. If the device was able to register, but the configuration data in the device may be incomplete or incorrect.
- ▶ The phone was already registered but no longer behaves properly.
- ▶ The configuration data of the device has been **frauded**.

## OVERVIEW RE-PROVISIONING THE PHONE

---

- ▶ With a re-provisioning you can avoid that the phone at the extension must be deleted and completely set up again.
- ▶ Re-provisioning of a device replaces in its configuration:
  - ▶ The SIP Credentials
    - This ensures that only this phone can register.
  - ▶ The one-time key of the configuration file
    - This ensures that the previous configuration file can no longer be downloaded.

### Note

The device must have already been registered once for re-provisioning to be possible.

# RE-PROVISIONING THE CONFIGURATION TO THE PHONE

## Re-provisioning procedure:

1. Reset the device to factory settings.
2. If it is new phone check and adjust the Phone basic configuration e.g.:
  - ▶ New telephone type
  - ▶ New MAC address
3. Execute the re-provisioning
  - > Menu: PBX Administrator
  - > Sub-Menu: Phones
  - > Click the row of the phone that must be re-provisioned
  - > Click link: Phone Setup
  - > Click button: Phone Configuration Re-Provisioning

Phone Setup - Front Desk-Yealink T48G

Extension Related Features Phone Related Features Phone Related Status

Save Phone Configuration Re-Provisioning Send Synchronize

Phone

Provisioning Option \*  
Auto-Provisioning

Telephone Type \*  
Yealink T40G

Name  
Front Desk-Yealink T48G

Password for Web access:  
\*\*\*\*\*

MAC Address \*  
00:15:65:b0:21:1c

Time Zone  
Europe/Zurich

Provisioning State

Configuration downloaded: 15.12.2021 16:23

SIP registration valid until: 15.12.2021 16:43

IP-Address: 194.230.147.73

Registration Status: Registration expired since 20 Day(s), 5 Hour(s) and 53 Minutes

## Note

Make sure when it is a new device that it get the same IP address as the old device.

---

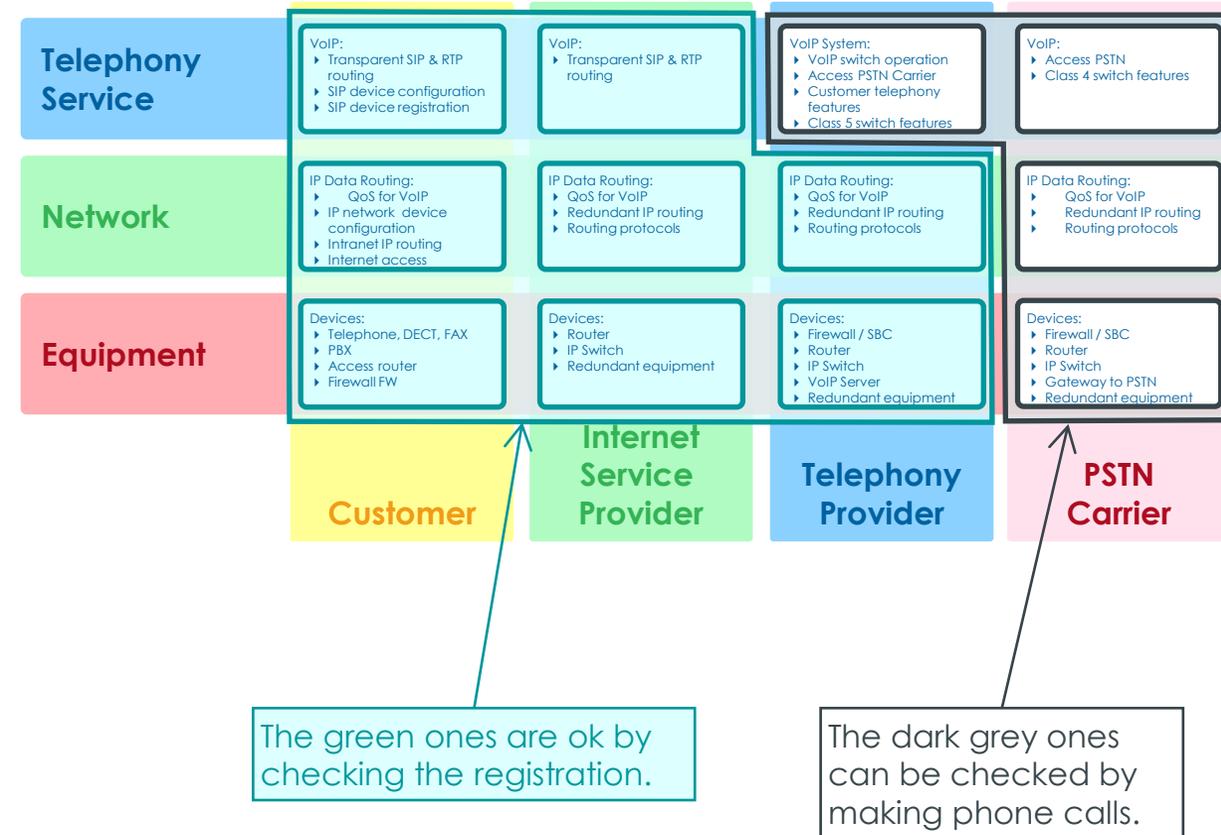
# 8 CHECK THE SIP DEVICE REGISTRATION

# WHY CHECKING THE REGISTRATION IS IMPORTANT

► By checking the registration, we learn:

1. All equipment is running!
2. The IP network is working between the anSwitch and the phone
3. The phone is online and has the correct SIP credentials.

➔ For a safety of ~90% you know that the telephony service is ok!



# HOW TO CHECK THE REGISTRATION STATUS

- ▶ There are several locations in the Portal where a general overview of the registration situation is given:

- Green: At least one phone has registered
- Red: No active registration currently, but there were registered phone already
- Black: No phone registered ever

- ▶ Overview in the PBX Dashboard:

Phone Information		
Phone Name	Internal Number	Registration Status
Sales 1-Yealink T21P E2	315 (Sales 1)	●
Agent 1-snom D735	21 (Agent 1)	●
Front Desk-Yealink T48G	311 (Front Desk)	●
Sales 2-Yealink T40G	316 (Sales 2)	●
Agent 2-snom D785	22 (Agent 2)	●
Boss Office -Yealink T21P E2	300 (Boss), 311 (Front Desk)	●
Boss-an IP-Phone	300 (Boss)	●
Warehouse 1-Yealink W53H	330 (Warehouse 1)	●
Boss Office - GRANDSTREAM GRP2613	300 (Boss)	●
Warehouse 2 - Polycom		●

- ▶ Overview in the Phone List:

+ New × Delete					
<input type="checkbox"/>	Phone/Device Name	Extension Name	Extension	Phone/Device Type	State
<input type="checkbox"/>	Agent 1-snom D735	Agent 1	21 (Agent 1)	snom D735	●
<input type="checkbox"/>	Agent 2-snom D785	Agent 2	22 (Agent 2)	snom D785	●
<input type="checkbox"/>	Boss - an IP-Phone Desktop	Boss	300 (Boss)	an IP-Phone desktop	●
<input type="checkbox"/>	Boss Office - GRANDSTREAM GRP2613	Boss	300 (Boss)	Grandstream GRP2613	●

- ▶ Overview in the extension:

Assigned Phones		
<input type="checkbox"/>	Phone Name	Registration Status
<input type="checkbox"/>	Boss Office -Yealink T21P E2	●
<input type="checkbox"/>	Boss-an IP-Phone	●
<input type="checkbox"/>	Boss Office - GRANDSTREAM GRP2613	●
<input type="checkbox"/>	The Boss's anConnect	●
<input type="checkbox"/>	Boss-Yealink T53W	●
<input type="checkbox"/>	Boss - an IP-Phone Desktop	●

# HOW TO CHECK THE REGISTRATION DETAILS

- Detailed information about the SIP registration and presence/message subscriptions can be found in the phone status.

## 1. Access the Portal with sufficient rights, usually: PBX Administrator

- > Menu: PBX Administrator
  - > Sub-Menu: Phones
    - > Click the row of the phone that must be checked
    - > Click link: Phone Related Status

## 2. Analyze the SIP registration and subscription details

Phone Related Status - Boss Office -Yealink T21P E2

Extension Related Features Phone Setup Phone Related Features

Synchronize

Last Synchronization 19.10.2021 19:38

ACD Membership Boss - 300

Registrations

Deactivate

Status	Expires	IP Address	Extension	Endpoint	UserAgent	Contact
●	5:05	185.150.4.193:60844	300	Public	Yealink SIP-T21P_E2 52.84.0.125	sip:300@10.10.0.95:5060
●	5:04	185.150.4.193:60844	311	Public	Yealink SIP-T21P_E2 52.84.0.125	sip:311@10.10.0.95:5060

Subscriptions

Status	Expires	IP Address	Endpoint	From Number	To Number	Event
●	45:03	185.150.4.193	Public	300	300	message-summary
●	45:03	185.150.4.193	Public	300	300	as-feature-event
●	45:03	185.150.4.193	Public	311	311	message-summary
●	45:03	185.150.4.193	Public	311	311	as-feature-event

Subscriptions for signaling:

- ▶ New VoiceMail Box messages
- ▶ Team key status changes
- ▶ Line key status changes

Phones and other SIP devices that have registered to the extension.

Note:  
The registrations of Line keys are also displayed.

Information when the configurations were the last time synchronized to the phone.

### Note

Information about debugging registration problems, see the training presentation:

- ▶ training\_answitch\_301\_support\_debugging

---

# 9 MANAGING OFFERED PHONE TYPES

## ADD PHONE TYPES

---

- ▶ Aarenet is offering only a limited number of built-in Phone Types.
- ▶ Additional phone types can be added by uploading Phone Type Templates. This eases:
  - ▶ Finding the best suiting configuration
  - ▶ Doing interop test with the anSwitch V7
  - ▶ etc.

### Note

The supported features in phones configured using uploaded Phone Type Templates is lower than for those configured using the built-in Phone Types.

- ▶ Aarenet maintains a repository of Phone Type Templates
  - ▶ These Phone Type Templates are provided by Aarenet and are also contributed by various customers.
  - ▶ Contact your your Aarenet account manager which Phone Templates are available.
- ▶ The uploading of Phone Type Templates is described in document: "Managing Phone Types & Phone Templates"

## CREATING PROPRIETARY PHONE TYPE TEMPLATES

---

- ▶ It is possible to create proprietary Phone Type Templates.
  - ▶ For proprietary Phone Type Templates, it can be defined that only their owner can select them.
- ▶ Creating proprietary Phone Type Templates can be useful in situations like
  - ▶ Unsupported phone devices
  - ▶ Specific phone setups for a customer's sales agents
- ▶ Aarenet can support you with the creation of proprietary Phone Type Templates.
  - ▶ Contact your your Aarenet account manager for the realization of proprietary Phone Type Templates
- ▶ The creation of Phone Type Templates is described in document:  
"Phone Type Toolkit"

## MANAGING OFFERED PHONE TYPES IN THE PORTAL UI

---

- ▶ The selectable phone types in the Phone Setup dialog of the Portal UI can be customized according to the needs of the customers.
- ▶ Specific phone sets can be provided for the system, per tenant and even per PBX.
  - ▶ Contact your your Aarenet account manager for the realization of specific phone sets.
- ▶ The realization is described in document:  
"Managing Phone Types & Phone Templates"

---

# 10 PHONE SPECIALS

## MEDIA STREAM: CODECS, PACKET TIME

- ▶ The anSwitch V7 defines for the phone configurations the following default list of audio codecs:

Prio 1: Opus  
 Prio 2: G.722  
 Prio 3: G.711 aLaw, PCMA  
 Prio 4: G.711 uLaw, PCMU  
 Prio 5: G.729

- ▶ The packet time is set by default to : pTime=20ms

- ▶ Other available audio codes are:

```
1 opus,g722,pcma,pcmu,g729,
2 gsm,g723,g726x16,g726x24,g726x32,g726x40
3 aal2xg726x16, aal2xg726x24, aal2xg726x32, aal2xg726x40
4 g723x53,g723x63,ilbc20,ilbc30
```

- ▶ The anSwitch MediaControl transcodes automatically the media streams if in a connection the call legs use different codecs of the list above.

- ▶ The codecs of the anSwitch V7 are defined on system level in the OrgUnit "System":

- ▶ Standard codec settings in attribute "common.codecs":

The screenshot shows a configuration window titled 'Attribute' with a close button (X). Below the title bar is a blue 'Save' button. The 'Name' field contains 'common.codecs' and the 'Value' field contains 'opus,g722,pcma,pcmu,g729'.

- ▶ Codec settings for the mobile application "an IP-Phone" in attribute "anIpPhone.codecs":

The screenshot shows a configuration window titled 'Attribute' with a close button (X). Below the title bar is a blue 'Save' button. The 'Name' field contains 'anIpPhone.codecs' and the 'Value' field contains 'opus'.

# GRANDSTREAM: "BRING YOUR OWN DEVICE BYOD"

- ▶ The anSwitch V7 supports the feature "Bring Your Own Device BYOD" for Grandstream devices.
  - ▶ BODY enabled devices will be handled specifically by the redirection service GAPS of Grandstream.
  - ▶ This feature can only be used by Grandstream devices that support BYOD.
- ▶ BYOD for Grandstream is activated by a terminal attribute at the appropriate OrgUnit level, e.g. Tenant:
  - ▶ Activate Grandstream BYOD "terminal.grandstream.brand " with value "GRANDSTREAM-BYOD":

Attribute

Save

Name  
terminal.grandstream.brand

Value  
GRANDSTREAM-BYOD

## TERMINAL TYPE BASED "BUSY" SIGNALIZATION

- ▶ The feature "Phone Based "Busy" Signalization" enables the fine tuning of the user's busy interpretation.
- ▶ If a user upon an incoming call is signalling that this terminal is busy, the CallControl can be instructed to handle the ringing of other terminals assigned to the same number as follows:
  - ▶ All terminals of the number are busy. If other terminals are ringing, then their ringing will be cancelled.
  - ▶ Only this terminal is busy. The other terminals shall continue ringing.

- ▶ This feature is activated via a terminal attribute on OrgUnit level and can be assigned to specific phone types. For example, when the home office phone of the PBX Extension "Boss" is in a connection then all other phones of this extension shall ring upon an incoming call:

Attribute

Save

Name  
terminal.snom.evalBusy

Value  
terminal

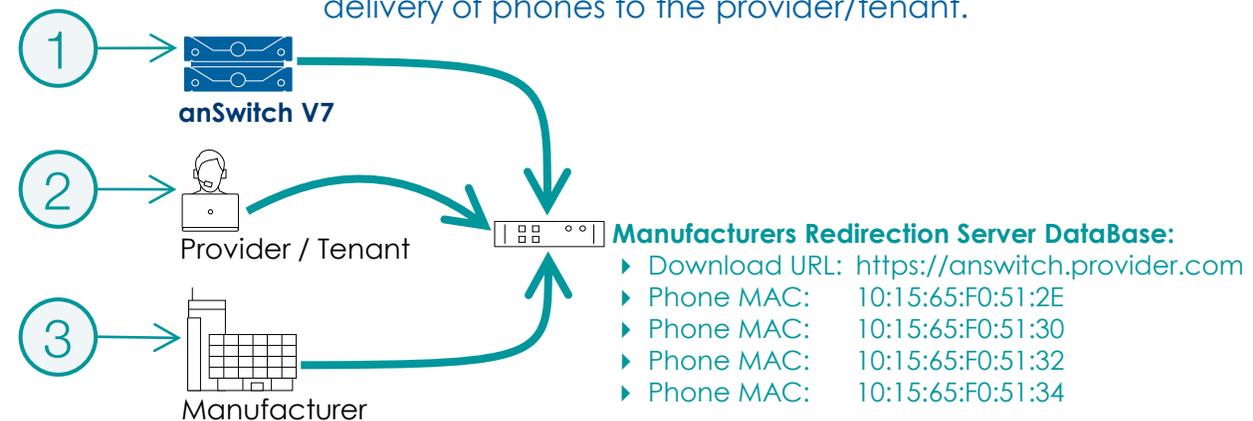
Terminal Attribute Name	Value	Example	Description
evalBusy	[ terminal   address ]  Default values on system level: ▶ All an IP-Phone: terminal ▶ All other CPE types: address	terminal.snom.evalBusy	Defines the terminal "Busy" interpretation: ▶ terminal: Only this phone is busy ▶ address: All phones of the number are busy.

---

# 11 MANAGING MANUFACTURER REDIRECTION SERVICE

# CONFIGURATION OF THE MANUFACTURER REDIRECTION SERVICE

- ▶ In any case the provider/tenant must have an account for the manufacturer redirection service.
  - ▶ Information see next page.
- ▶ Prior to the phone deployment, the association "MAC address – provisioning URL" must be configured into the Manufacturers Redirection Server DataBase.
  - ▶ There are different variants:
    1. The anSwitch configures the database directly.
    2. The provider/tenant configures the database manually.
    3. The manufacturer configures the database upon delivery of phones to the provider/tenant.



## OBTAINING MANUFACTURER REDIRECTION SERVICE ACCOUNT

- ▶ For obtaining a manufacturer redirection service account for the supported by anSwitch V7 start here:
  - ▶ SNOM Secure Redirection and Provisioning Service SRAPS:  
Login page: <https://sraps.snom.com>
  - ▶ Yealink Device Management DM Platform:  
Login page: <https://dm.yealink.com/manager/login>
  - ▶ Grandstream Automated Provisioning System GAPS:  
Login page: <https://fm.grandstream.com/app>
  - ▶ Polycom® Zero Touch Provisioning ZTP:  
Login page: <https://support.polycom.com/content/support.html>

### Note

#### Disclaimer:

This document may contain active links to third-party websites. Aarenet AG does not control such websites nor do we accept any liability with respect to content, accuracy or completeness of such websites. These third-party links are provided only as information and a service to visitors of the website. The inclusion of a third-party website link does not imply approval or endorsement of the content of the linked website by us nor does it imply any approval or endorsement of any other information provided by such third-party website or company. Furthermore, Aarenet AG is not liable for any postings or messages published by users of discussion boards, guest books or mailing lists provided on his page.

# SNOM: CONFIGURATION DETAILS & HINTS FOR THE REDIRECTION SERVICE

## ▶ SNOM:

The anSwitch V7 configuration is done by an Aarenet system engineer!

The redirection service configuration is done by a customer or telephone provider engineer!

### anSwitch V7 Configurations

system.yaml

terminalProfiles:

snom:

```
redirectServer: "SERVER_URL"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

For example:

```
redirectServer: "https://ch-anx-
training.aarenet.com:443/cfg/provisioning.
cfg?mac={mac}"

redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

Must be identical!

OrgUnit  
Attribute on  
level:

- ▶ System
- ▶ Tenant
- ▶ PBX

Name:  
terminal.common.provisioningBaseUr1

Value:  
https://DOMAIN\_NAME

For example:  
https://ch-anx-training.aarenet.com

### Redirection Service Configurations

Example SNOM SRAPS page "Phones":

#### Edit phone

Add new phone(s) by MAC address, and assign them to one of your companies and a provisioning profile.

MAC address\*

000413924dc9

Company\*

Your Company

Provisioning Profile

Leave empty to remove provisioning from the phone

VPN

Install VPN patch with firmware update, details

Product

Snom D785

Registered

8/18/2021, 12:01 PM

#### Phone Settings

Build here your provisioning profile. These selected settings will be applied.

#### Redirection

Define the URL the phone(s) should be redirected to

Setting Server

× https://ch-anx-training.aarenet.com:443/cfg/1 RW

Setting Server for Desk phone

The following information must be defined by the customer or telephone provider engineer:

- ▶ Domain name where the phones must download their configuration.
- ▶ Access credentials for the redirection service

→ This information must be delivered to the Aarenet system engineer!

URL of the download path, e.g.:  
https://ch-anx-training.aarenet.com:443/cfg/provisioning.cfg?mac={mac}"

# YEALINK: CONFIGURATION DETAILS & HINTS FOR THE REDIRECTION SERVICE

## ▶ Yealink:

The anSwitch V7 configuration is done by an Aarenet system engineer!

The redirection service configuration is done by a customer or telephone provider engineer!

### anSwitch V7 Configurations

system.yaml

terminalProfiles:

yealink:

```
redirectServer: "PROFILE_NAME"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

For example:

```
redirectServer: "an-training-anx-04"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

Must be identical!

OrgUnit  
Attribute on  
level:

- ▶ System
- ▶ Tenant
- ▶ PBX

Name:

terminal.common.provisioningBaseUr1

Value:

https://DOMAIN\_NAME

For example:

https://ch-anx-training.aarenet.com

### Redirection Service Configurations

Example Yealink DM page "Server Management":

Yealink | Management Cloud Service - RPS

Home

Device Management

Server Management

Log Management

System Settings

← Edit server | Server management

Basic Settings

\* Server name

an-training-anx-04

\* Server URL

https://ch-anx-training.aarenet.com/cfg

User Name

Please enter the user name, maximum 128 characters

Password

Please enter the password, maximum 128 characters

The following information must be defined by the customer or telephone provider engineer:

- ▶ Domain name where the phones must download their configuration.
- ▶ Access credentials for the redirection service

→ This information must be delivered to the Aarenet system engineer!

URL of the download path, e.g.:  
https://ch-anx-training.aarenet.com/cfg

# GRANDSTREAM: CONFIGURATION DETAILS & HINTS FOR THE REDIRECTION SERVICE

## ▶ Grandstream:

The anSwitch V7 configuration is done by an Aarenet system engineer!

The redirection service configuration is done by a customer or telephone provider engineer!

### anSwitch V7 Configurations

system.yaml

terminalProfiles:

grandstream:

```
redirectServer: "PROFILE_NAME"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

For example:

```
redirectServer: "ch-anx-training.aarenet"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

Must be identical!

The following information must be defined by the customer or telephone provider engineer:

- ▶ Domain name where the phones must download their configuration.
- ▶ Access credentials for the redirection service

→ This information must be delivered to the Aarenet system engineer!

### Redirection Service Configurations

Example Grandstream GAPS page "Profile Management":

Profiles Management -> Choose Meta Profile -> New Profile

Name:

Default Profile:  Yes  No

Company: Aarenet AG

Update Associated Devices

IdGenerator:

Groups

Basic

Firmware Server Path:

Automatic Upgrade:  No  
 Yes, check for upgrade based on minute(s) setting  
 Yes, check for upgrade based on Hour of Day setting  
 Yes, check for upgrade based on Day of Week setting

Config upgrade via:  TFTP  
 HTTP  
 HTTPS  
 FTP  
 FTPS

Config Server Path:

Allow DHCP Option 66 to override server:  No  
 Yes

Check for new update:

Config File Prefix:

Config File Postfix:

3CX Auto Provision:  No  
 Yes

The download path, e.g.:  
ch-anx-training.aarenet.com/cfg

OrgUnit  
Attribute on level:

- ▶ System
- ▶ Tenant
- ▶ PBX

Name:

terminal.common.provisioningBaseUr1

Value:

https://

For example:

https://ch-anx-training.aarenet.com

# POLYCOM: CONFIGURATION DETAILS & HINTS FOR THE REDIRECTION SERVICE

## ► Polycom:

The anSwitch V7 configuration is done by an Aarenet system engineer!

The redirection service configuration is done by a customer or telephone provider engineer!

### anSwitch V7 Configurations

system.yaml

The following information must be defined by the customer or telephone provider engineer:

- Domain name where the phones must download their configuration.
- Access credentials for the redirection service

→ This information must be delivered to the Aarenet system engineer!

terminalProfiles:

polycom:

```
redirectServer: "PROFILE_NAME"
redirectAccountId: "USER_REFERENCE_ID"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

For example:

```
redirectServer: "ch-anx-training"
redirectAccountId: "ABCxyz123"
redirectUsername: "USERNAME"
redirectPassword: "PASSWORD"
```

Must be identical!

OrgUnit  
Attribute on  
level:

- System
- Tenant
- PBX

Name:

terminal.common.provisioningBaseUrl

Value:

https://**DOMAIN\_NAME**

For example:

https://ch-anx-training.aarenet.com

### Redirection Service Configurations

Example Polycom ZTP page "Profile Management":

URL of the download path, e.g.:  
https://ch-anx-training.aarenet.com/cfg/config.xml

# TROUBLE SHOOTING THE REDIRECTION SERVICE CONFIGURATION

## ► Check as Administrator the Portal Log:

- > Menu: Operator
- > Sub-Menu: Logs
- > Select Log Type: Portal
- > Search for Regex Pattern: **(redirect|methodResponse)**

1. The device with MAC will always be deleted first on the redirection server.

2. The device with MAC will be configured

c. Errors will be indicated:  
a. Script error: 1  
b. UI error message  
c. Error description

Logs

Show log Download log

Log type	Contains Regex Pattern	From	Until
Portal	(redirect methodResponse)	18.08.2021 08:00	18.08.2021 08:20

```

2021-08-18-08:01:01.969 [DEBUG] ContextBean (po1/qtp900593187-49) redirecting to extensionFeatures
2021-08-18-08:01:05.470 [DEBUG] FacesUtil (po1/qtp900593187-251) redirecting to phoneFeatures
2021-08-18-08:01:07.600 [DEBUG] ContextBean (po1/qtp900593187-251) redirecting to phoneSetup
2021-08-18-08:01:15.287 [DEBUG] Script (po1/qtp900593187-24) starting script: /home/portal/bin/redirect.py
2021-08-18-08:01:16.908 [INFO] Script (po1/qtp900593187-24) out: data: <?xml version="1.0" ?><methodCall><methodName>redirect.deRegisterDevice</methodName><params><param><value><string><![CDATA[80:5e:c0:46:9f:94]]</string></value></param></params></methodCall>
2021-08-18-08:01:16.908 [INFO] Script (po1/qtp900593187-24) out: data: b'<?xml version="1.0" encoding="UTF-8"?><methodResponse xmlns:ex="http://ws.apache.org/xmlrpc/namespaces/extensions"><params><param><value><array><data><value><boolean>0</boolean></value><value>Error:Invalid MAC(s):80:5e:c0:46:9f:94</value></data></array></value></param></params></methodResponse>'
2021-08-18-08:01:16.908 [INFO] Script (po1/qtp900593187-24) out: data: <?xml version="1.0" ?><methodCall><methodName>redirect.registerDevice</methodName><params><param><value><string><![CDATA[80:5e:c0:46:9f:94]]</string></value></param><param><value><string><![CDATA[ch-anx-training.aarenet.com]]</string></value></param></params></methodCall>
2021-08-18-08:01:16.908 [INFO] Script (po1/qtp900593187-24) out: data: b'<?xml version="1.0" encoding="UTF-8"?><methodResponse xmlns:ex="http://ws.apache.org/xmlrpc/namespaces/extensions"><params><param><value><array><data><value><boolean>0</boolean></value><value>Error:Invalid server</value></data></array></value></param></params></methodResponse>'
2021-08-18-08:01:16.914 [DEBUG] Script (po1/qtp900593187-24) finished script: /home/portal/bin/redirect.py with status code: 1
2021-08-18-08:01:16.915 [TRACE] ResourceBean (po1/qtp900593187-24) return resource: phoneSetup_redirect_Warning' value: 'The settings are saved but could not be provisioned on the manufacturer's redirection server. Please contact your administrator for more information.'
2021-08-18-08:14:07.739 [DEBUG] Script (po1/qtp900593187-258) starting script: /home/portal/bin/redirect.py
2021-08-18-08:14:09.245 [INFO] Script (po1/qtp900593187-258) out: data: <?xml version="1.0" ?><methodCall><methodName>redirect.deRegisterDevice</methodName><params><param><value><string><![CDATA[80:5e:c0:46:9f:94]]</string></value></param></params></methodCall>
2021-08-18-08:14:09.245 [INFO] Script (po1/qtp900593187-258) out: data: b'<?xml version="1.0" encoding="UTF-8"?><methodResponse xmlns:ex="http://ws.apache.org/xmlrpc/namespaces/extensions"><params><param><value><array><data><value><boolean>0</boolean></value><value>Error:Invalid MAC(s):80:5e:c0:46:9f:94</value></data></array></value></param></params></methodResponse>'
2021-08-18-08:14:09.245 [INFO] Script (po1/qtp900593187-258) out: data: <?xml version="1.0" ?><methodCall><methodName>redirect.registerDevice</methodName><params><param><value><string><![CDATA[80:5e:c0:46:9f:94]]</string></value></param><param><value><string><![CDATA[ch-anx-training.aarenet.com]]</string></value></param></params></methodCall>
2021-08-18-08:14:09.245 [INFO] Script (po1/qtp900593187-258) out: data: b'<?xml version="1.0" encoding="UTF-8"?><methodResponse xmlns:ex="http://ws.apache.org/xmlrpc/namespaces/extensions"><params><param><value><array><data><value><boolean>0</boolean></value><value>Error:Invalid server</value></data></array></value></param></params></methodResponse>'

```

# TROUBLE SHOOTING THE REDIRECTION SERVICE CONFIGURATION

## ► Check as Administrator the Portal Log: Variant with checking the redirection script logs

- > Menu: Operator
- > Sub-Menu: Logs
- > Select Log Type: Portal
- > Search for Regex Pattern: `[INFO].*Script`

Logs

Show log Download log

Log type	Contains Regex Pattern	From	Until
Portal	[INFO].*Script	24.08.2021 09:35	

```

2021-08-24-09:37:14.055 [INFO ] Script (po1/qtp1821370276-53) out: Traceback (most recent call last):
2021-08-24-09:37:14.055 [INFO ] Script (po1/qtp1821370276-53) out: File "/home/portal/bin/redirect.py", line 438, in <module>
2021-08-24-09:37:14.055 [INFO ] Script (po1/qtp1821370276-53) out: device.variables(dict(os.environ))
2021-08-24-09:37:14.055 [INFO ] Script (po1/qtp1821370276-53) out: AttributeError: 'NoneType' object has no attribute 'variables'
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: {'PATH': '/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/lib/aareswitch:/root/bin', 'S6_LOGGING': '0', 'HISTCONTROL': 'ignoredups', 'UNREGISTER': 'true', 'TZ':
'Europe/Zurich', 'HISTSIZ': '1000', 'APP_VERSION': '7.4', 'LANG': 'en_US.UTF-8', 'ACCID': 'RD_MS_210527a', 'CWD': '/', 'MAIL': '/var/spool/mail/root', 'SERVER': 'ch-anx-training', 'USERNAME': '4002964726', 'LOGNAME': 'portal', 'PWD': '/home/portal', '_':
'/usr/bin/java', 'PYTHONPATH': '/usr/lib/aareswitch', 'APP_ID': 'po1', 'REGISTER': 'true', 'LESSOPEN': '|/usr/bin/lesspipe.sh %s', 'SHELL': '/bin/bash', 'NO_CHECK_UNREGISTER': 'true', 'OLDPWD': '/', 'USER': 'portal', 'MAC': '64:16:7f:f8:bc:c2', 'BRAND':
'POLYCOM', 'HOSTNAME': 'training-anx-04', 'PASSWORD': 'N8!Amy+xp6QHT-cH', 'SHLVL': '3', 'HOME': '/home/portal', 'LC_CTYPE': 'C.UTF-8'}
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: starting unregistor
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: creating connection to host ztpconsole.polycom.com
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: sending POST request to /inboundervlet/GenericServlet
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: data: b'<?xml version="1.0" encoding="UTF-8"?><request messageid="1001" password="N8!Amy+xp6QHT-cH" userid="4002964726"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation=""><delete-sip-device account-id="RD_MS_210527a"><device-params><deviceld>64167f8bc2</deviceld></device-params></delete-sip-device></request>'
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: received status 200 reason OK
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: data: b'<?xml version="1.0"?><n<response xmlns="http://schemas.alopa.com/Inbound"><status ErrorCode="9042" ErrorMessage="Other user is currently working on
RD_MS_210527a"/></n></response>'
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: 9042
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: unregistor result False
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: starting register
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: creating connection to host ztpconsole.polycom.com
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: sending POST request to /inboundervlet/GenericServlet
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: data: b'<?xml version="1.0" encoding="UTF-8"?><request messageid="1002" password="N8!Amy+xp6QHT-cH" userid="4002964726" xmlns="http://schemas.alopa.com/Inbound"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://schemas.alopa.com/Inbound C:\GenericInbound\schema\Generic-inbound-V1.1.xsd"><add-sip-device account-id="RD_MS_210527a" implementation="sipnodhcp">
<device-params><deviceld>64167f8bc2</deviceld><serialNo></serialNo><vendor>Polycom</vendor><vendorModel>Polycom_UCS_Device</vendorModel></device-params><sip-device-common-params><templateCriteria>ch-anx-training</templateCriteria>
</sip-device-common-params><package-data><base-package-name>default</base-package-name></package-data></add-sip-device></request>'
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: received status 200 reason OK
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: data: b'<?xml version="1.0"?><n<response xmlns="http://schemas.alopa.com/Inbound"><status ErrorCode="9042" ErrorMessage="Other user is currently working on
RD_MS_210527a"/></n></response>'
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: 9042
2021-08-24-09:39:38.265 [INFO ] Script (po1/qtp1821370276-54) out: register result False
2021-08-24-09:39:40.942 [INFO ] Script (po1/qtp1821370276-63) out: {'PATH': '/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/lib/aareswitch:/root/bin', 'S6_LOGGING': '0', 'HISTCONTROL': 'ignoredups', 'UNREGISTER': 'true', 'TZ':
'Europe/Zurich', 'HISTSIZ': '1000', 'APP_VERSION': '7.4', 'LANG': 'en_US.UTF-8', 'ACCID': 'RD_MS_210527a', 'CWD': '/', 'MAIL': '/var/spool/mail/root', 'SERVER': 'ch-anx-training', 'USERNAME': '4002964726', 'LOGNAME': 'portal', 'PWD': '/home/portal', '_':
'/usr/bin/java', 'PYTHONPATH': '/usr/lib/aareswitch', 'APP_ID': 'po1', 'REGISTER': 'true', 'LESSOPEN': '|/usr/bin/lesspipe.sh %s', 'SHELL': '/bin/bash', 'NO_CHECK_UNREGISTER': 'true', 'OLDPWD': '/', 'USER': 'portal', 'MAC': '64:16:7f:f8:bc:c2', 'BRAND':
'POLYCOM', 'HOSTNAME': 'training-anx-04', 'PASSWORD': 'N8!Amy+xp6QHT-cH', 'SHLVL': '3', 'HOME': '/home/portal', 'LC_CTYPE': 'C.UTF-8'}

```

1. The device with MAC will always be deleted first on the redirection server.

2. The device with MAC will be configured

c. Error information from the manufacturer redirection service.

---

# 12 MANAGING DISPLAYED PHONE TYPES

## MANAGING DISPLAYED PHONE TYPES IN THE PORTAL UI

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- ▶ The list of selectable native phone types in the Portal UI is manageable on system level.
  - ▶ Exclude native phone types
  - ▶ Exclude or change the postfix name of phone types derived from phone templates
- ▶ This concept can be extended for tenants or other roles
  - ▶ See documentation "Portal User Interface UI & User Account"

### Note

This feature requires specific configurations on the system and may incur a project or license fee. Please ask your Aarenet account manager for details

# MANAGING DISPLAYED PHONE TYPES IN THE PORTAL UI

## ► Prepare the customized phone type selection configuration file.

1. Get from R&D the "System Phone Types" XLSX-formatted file that matches the installed anSwitch V7 version.

2. Rename the XLSX-file to your needs, e.g.:

- SYS\_exclude\_native\_phone\_type\_system.xlsx
- SYS\_exclude\_native\_phone\_type\_provider-a.xlsx

3. Configure the display of phone types for each role:

- rw : Display the phone type for the role
- : Don't the phone type for the role

► Configure if the postfix "Custom" of a phone configured via a phone template shall be displayed.

For example: "Sales Agent Custom" → "Sales Agent"

► List all phone types that shall be excluded and configure the roles with: -

► If by a preceding exclusion file a certain phone type was disabled, then it can be reactivated if needed: rw

	key	lang.en	role.admin	role.operator	role.pbx	role.department	role.extension	role.subscriber	role.guest
<b>Phone Types</b>									
4	phoneSetup_dev_type_custom_postfix	Custom	-	-	-	-	-	-	-
6	parentPhoneSetup_dev_type_yealinkW60B	Yealink W60B	-	-	-	-	-	-	-
7	parentPhoneSetup_dev_type_yealinkW70B	Yealink W70B	-	-	-	-	-	-	-
8	parentPhoneSetup_dev_type_yealinkW80B	Yealink W80B	-	-	-	-	-	-	-
10	phoneSetup_dev_type_yealinkT21PE2	Yealink T21P E2	-	-	-	-	-	-	-
11	phoneSetup_dev_type_yealinkT40G	Yealink T40G	-	-	-	-	-	-	-
12	phoneSetup_dev_type_yealinkT53W	Yealink T53W	-	-	-	-	-	-	-
13	phoneSetup_dev_type_yealinkT54W	Yealink T54W	-	-	-	-	-	-	-
14	phoneSetup_dev_type_yealinkT57W	Yealink T57W	-	-	-	-	-	-	-
15	phoneSetup_dev_type_yealinkT58A	Yealink T58A	-	-	-	-	-	-	-
16	phoneSetup_dev_type_yealinkW60B	Yealink W60B	-	-	-	-	-	-	-
17	phoneSetup_dev_type_yealinkW70B	Yealink W70B	-	-	-	-	-	-	-
18	phoneSetup_dev_type_yealinkW53H	Yealink W53H	-	-	-	-	-	-	-
19	phoneSetup_dev_type_yealinkW56H	Yealink W56H	-	-	-	-	-	-	-
21	phoneSetup_dev_type_snomD315	snom D315	-	-	-	-	-	-	-
22	phoneSetup_dev_type_snomD335	snom D335	-	-	-	-	-	-	-
23	phoneSetup_dev_type_snomD385	snom D385	-	-	-	-	-	-	-
24	phoneSetup_dev_type_snomD715	snom D715	-	-	-	-	-	-	-
25	phoneSetup_dev_type_snomD717	snom D717	-	-	-	-	-	-	-
26	phoneSetup_dev_type_snomD735	snom D735	-	-	-	-	-	-	-
27	phoneSetup_dev_type_snomD745	snom D745	-	-	-	-	-	-	-
28	phoneSetup_dev_type_snomD785	snom D785	-	-	-	-	-	-	-
29	phoneSetup_dev_type_snomM25	snom M25	-	-	-	-	-	-	-
30	phoneSetup_dev_type_snomM65	snom M65	-	-	-	-	-	-	-
31	phoneSetup_dev_type_snomM70	snom M70	-	-	-	-	-	-	-
32	phoneSetup_dev_type_snomM80	snom M80	-	-	-	-	-	-	-
33	phoneSetup_dev_type_snomM85	snom M85	-	-	-	-	-	-	-
34	phoneSetup_dev_type_snomM90	snom M90	-	-	-	-	-	-	-
35	phoneSetup_dev_type_snomA190	snom A190	-	-	-	-	-	-	-
37	phoneSetup_dev_type_grandstreamGRP2612	GRANDSTREAM GRP2612	rw	rw	rw	rw	rw	-	-
38	phoneSetup_dev_type_grandstreamGRP2613	GRANDSTREAM GRP2613	rw	rw	rw	rw	rw	-	-
39	phoneSetup_dev_type_grandstreamGRP2614	GRANDSTREAM GRP2614	-	-	-	-	-	-	-
40	phoneSetup_dev_type_grandstreamGRP2615	GRANDSTREAM GRP2615	-	-	-	-	-	-	-
41	phoneSetup_dev_type_grandstreamGXP1615	GRANDSTREAM GXP1615	-	-	-	-	-	-	-
42	phoneSetup_dev_type_grandstreamGXP1625	GRANDSTREAM GXP1625	-	-	-	-	-	-	-
43	phoneSetup_dev_type_grandstreamGXP1628	GRANDSTREAM GXP1628	-	-	-	-	-	-	-
44	phoneSetup_dev_type_grandstreamGXP2130	GRANDSTREAM GXP2130	-	-	-	-	-	-	-
45	phoneSetup_dev_type_grandstreamGXP2135	GRANDSTREAM GXP2135	-	-	-	-	-	-	-
46	phoneSetup_dev_type_grandstreamGXP2140	GRANDSTREAM GXP2140	-	-	-	-	-	-	-
47	phoneSetup_dev_type_grandstreamGXP2160	GRANDSTREAM GXP2160	-	-	-	-	-	-	-
48	phoneSetup_dev_type_grandstreamGXP2170	GRANDSTREAM GXP2170	-	-	-	-	-	-	-

## MANAGING DISPLAYED PHONE TYPES IN THE PORTAL UI

---

▶ Activating the customized phone type selection.

1. Upload the prepared phone type exclusion file to the servers/hosts with active Portal components into the directory /portal

```
[root]# cd /etc/aareswitch/portal
```

2. Make sure that the directory /portal and its contents belong to the portal user

```
[root]# chmod -R portal:portal /etc/aareswitch/portal
```

3. Restart all Portal components

---

# TIME TO EXERCISE

## BASIC EXERCISE: ASSIGN A PHONE TO A PBX EXTENSION

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- ▶ Connect phones with different provisioning procedures to the Personal Extension/s of the PBX.
  
- ▶ Goal:
  - ▶ Provision a phone via the manufacturer redirection server.
  - ▶ Provision a phone via configuring the URL of the phone.
  - ▶ Provision an 'an IP-Phone'
  - ▶ Make phone calls
  - ▶ Configuring features on the phone keys
  
  - ▶ Optional for the ones on the fast lane:
    - ▶ Explore the user features with the \*-codes
      - ▶ For example: Call Flip: \*78 , Call Pickup: \*76<NUMBER>
  
- ▶ Duration: 45min

# LAST PAGE

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Date	Doc-ID	Description	Changes
7.4.2023	training_as7_701_phone_configuration_e12	V7.11	
22.6.2023	training_as7_701_phone_configuration_e13	V7.12: Terminal Type Based "Busy" Interpretation	Page: 55