

Training anSwitch V7

# PBX CREATION & MANAGEMENT

Classification:	For Internal Use
Status:	Released
Version:	E1.4
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# INTRODUCTION & MOTIVATION

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This Training covers the topics:

- ▶ Creating a PBX:
  - ▶ Collecting all needed information
  - ▶ Create a PBX with its public phone numbers
  - ▶ Configuring a PBX Administrator user account
- ▶ To understand the needed settings on a peering PSTN carrier device

After this training, the trainee is enabled:

- ▶ To create and configure a PBX
- ▶ To configure a peering anSwitch V6
- ▶ To advise users and customers about accessing their PBX



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

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# 1 OVERVIEW OF THE PBX CREATION TASKS

# OVERVIEW OF THE PBX CREATION TASKS

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## ▶ **Task 1: Prepare all needed data of the new PBX**

- ▶ PBX owner data as administrative customer identification and customer information
- ▶ Public numbers and/or number ranges
- ▶ Offering and administrative configurations of the PBX
- ▶ Date & time of activation
- ▶ etc.

## ▶ **Task 2: Initial configuration of the PBX**

- ▶ Create the PBX on the anSwitch V7 with the given data of Task 1

## ▶ **Task 3: Make sure the call routing to and from the PSTN telephone network**

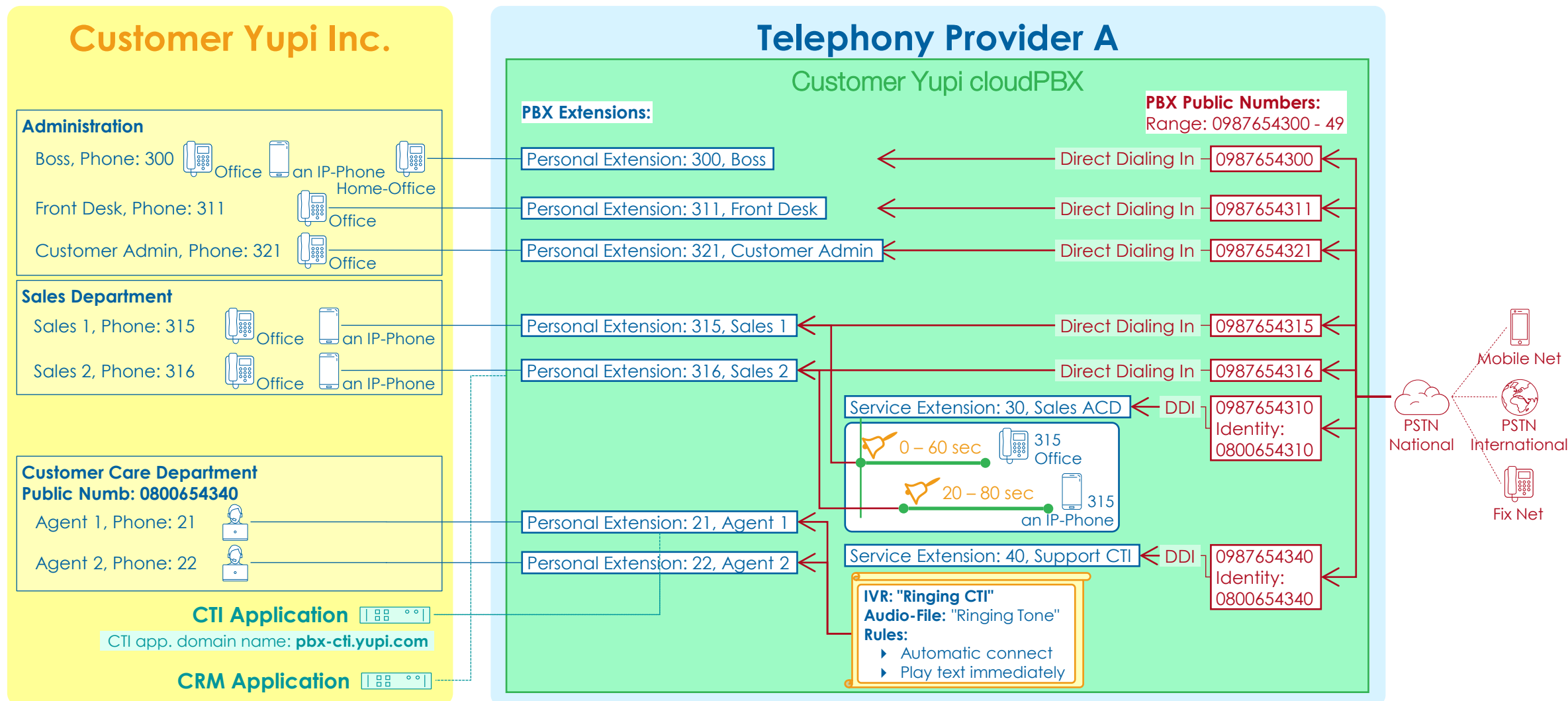
- ▶ Make sure that the routing of the PBX's public numbers to and from the PSTN is ready at the date & time of the PBX activation:
  - ▶ Public number porting finalized
  - ▶ PSTN carrier is routing the public PSTN numbers to and from the PBX

## ▶ **Task 4: Inform the PBX Owner**

- ▶ URL of the Portal UI
- ▶ PBX administrator access

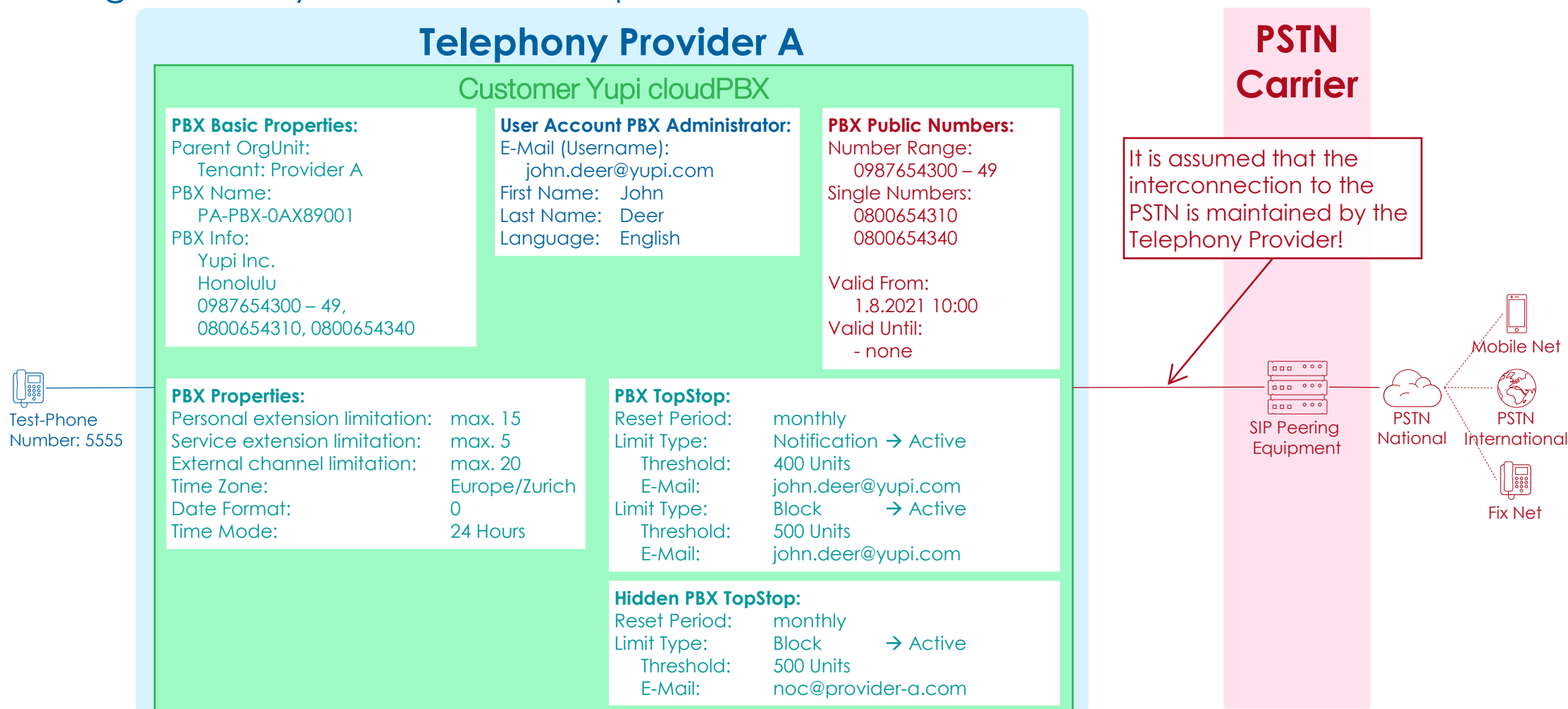
# OVERVIEW OF THE EXAMPLE PBX

- For the following training we use this PBX scheme as the goal we want to achieve:



# OVERVIEW OF THE EXAMPLE PBX CREATION

- ▶ With the creation of the PBX, we "install an empty" PBX with the initial configuration by the Provider A operations:





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# 2 TASK 1: PREPARE ALL NEEDED DATA OF THE NEW PBX

# OVERVIEW OF THE PREPARATION TASK

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- ▶ **Task 1: Prepare all needed data of the new PBX**
- ▶ Collect all needed data for the initial PBX creation
  - ▶ PBX owner data as administrative customer identification and customer information
  - ▶ Public numbers and/or number ranges
  - ▶ Offering and administrative configurations of the PBX
  - ▶ Date & time of activation
  - ▶ Hidden TopStop thresholds
  - ▶ Optional PBX access configurations

# PREPARE THE BASIC DATA OF THE PBX

## ► Prepare the basic PBX data:

Topic	Example	Value	Description
<b>PBX</b>			
Name	PA-PBX-0AX89001	.....	Unique identification name of the PBX. Usually, it corresponds to an administrative identification of the customer
Description	Yupi Inc, Honolulu, 0987654300 – 49, 0800654310 0800654340	.....	Any optional information. Note: ► As the name often is a cryptic identification, fill in something you can search, like the company name.
Member of	Provider A	.....	Defines the parent OrgUnit, usually a Tenant
Teams Domain		.....	Optional: Only needed if an MS Teams integration is required. MS Teams domain configuration, see presentation: training_answitch_804_ms_teams_e

# PREPARE THE PUBLIC NUMBERS DATA OF THE PBX

## ► Prepare the PBX public number data:

Topic	Example	Value	Description
<b>Public Phone Numbers</b>			
Number range	0987654300- 49,0800654310,0800654 340	.....	Define the public numbers of the PBX ► Multiple entries are comma separated, e.g. ► Single numbers: 0600,0605 ► Ranges: 0650-3 This generates 4 numbers → 0650,0651,0652,0653
Valid from	20.4.2021 06:00	.....	Define from which date/time the number are valid for routing. This means before this date no call are possible from and to this numbers.
Valid until	-	.....	

### Note

Always configure a "Valid from" date/time when the customer already has a PBX and uses these public numbers somewhere in the PSTN e.g., with another telephony provider. Without a "Valid from" other OnNet users dialing a public number of this new PBX will not be routed to the PSTN but to this new and probably not ready PBX of the customer.



# PREPARE THE PROPERTY DATA OF THE PBX

## ► Prepare the PBX properties:

Topic	Example	Value	Description
<b>PBX Properties</b>			
Personal Extensions	10	.....	Define the maximum number of PBX personal extensions for SIP phones <b>Note</b> If no personal extension number is configured no PBX extensions can be created.
Service Extensions	5		Define the maximum number of PBX service extensions for ACD or IVR
External channels	20	.....	Define the maximum number of external connections to and from the PBX. 0 : No connections to and from the PBX are possible. <b>Note</b> If no external channels number is configured no outgoing and incoming calls to public numbers are possible!
Public prefix		.....	Define the PBX number prefix for fetching a line for a call to the PSTN Default: (empty) Digit: 0 – 9
Time Zone	Europe/Zurich	.....	Select the time zone of the PBX
Date Format	dd.mm.yyyy	.....	Select Europe or USA date style
Time Mode	24 hours	.....	Select 24/12hour time mode

# PREPARE THE INCOMING CALL ROUTING DATA OF THE PBX

## ► Prepare the PBX incoming call parameters:

Topic	Example	Value	Description
<b>PBX Properties</b>			
Time mode	Timetable	.....	<p>Select the PBX call routing mode for incoming calls:</p> <ul style="list-style-type: none"> <li>► Timetable (default): The selected timetables in the Advanced Call Distributions ACD and Interactive Voice Response IVR of the PBX extensions are applied.</li> <li>► Night: The call routing of the selected timetable that is valid at 24:00 of this day is applied. It is reset to mode 'Timetable' automatically at 24:00 of this day.</li> <li>► Weekend: The call routing of the selected timetable that is valid at 24:00 of the next Sunday is applied. It is reset to mode 'Timetable' automatically at 24:00 of the next Sunday.</li> <li>► Night permanent: The call routing of the selected timetable that is valid at 24:00 of this day is applied. It can only be reset manually by selecting e.g. "Timetable".</li> <li>► Weekend permanent: The call routing of the selected timetable that is valid at 24:00 of the next Sunday is applied. It can only be reset manually by selecting e.g. "Timetable".</li> </ul>

# PREPARE THE PBX ADMINISTRATOR ACCOUNT DATA OF THE PBX

## ► Prepare the PBX Administrator configuration parameters:

Topic	Example	Value	Description
<b>PBX Administrator</b>			
E-Mail	john.deer@yupi.com	.....	The e-mail is the username of this user account.
First Name	John	.....	Any string
Last Name	Deer	.....	Any string
Language	English	.....	Select the language to be used in the Web Portal UI

### Note

There is no password to define yet!

→ The PBX Administrator must create the password at the first contact with the login dialog by using the password recovery process.

# PREPARE THE TOPSTOP DATA OF THE PBX

## ► Prepare the PBX & hidden TopStop parameters:

Topic	Example	Value	Description
<b>PBX &amp; Hidden TopStop</b>			
Reset Period	monthly	.....	Select the period for resetting the max. values: <ul style="list-style-type: none"> <li>► monthly (default): Automatic reset at the beginning of every month</li> <li>► daily: Automatic reset at the beginning of every day</li> <li>► manually: Manual reset by an administrator or operator</li> </ul>
Limit:			Add as many limits as needed, e.g. for the notification of several e-mail addresses
Active	active		Select if the limit is active or not
Threshold	400	.....	Define the currency threshold when an e-mail must be sent
Type	Notification	.....	Select the action that must be taken when the threshold value is reached: <ul style="list-style-type: none"> <li>► Notification (default): Send a message to the defined e-mail address</li> <li>► Block: Send a message to the defined e-mail address and interrupt all active connections of this PBX and prevent any further outgoing calls.</li> </ul>
E-Mail	john.deer@yupi.com	.....	Define the e-mail address that must be informed

### Note

The configuration of TopStop limits is only possible when a customer price list is assigned in its PBX OrgUnit or the parent OrgUnit of the PBX e.g.: Tenant.



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# 3 TASK 2: INITIAL CONFIGURATION OF THE PBX

# OVERVIEW OF THE PBX CREATION TASK

---

- ▶ **Task 2: Initial Configuration of the PBX**
  - ▶ Create the PBX with the prepared parameters of Task 1
    - ▶ Configure the PBX basics & properties
    - ▶ Configure the public telephone numbers
    - ▶ Configure the PBX Administrator user access
    - ▶ Configure the PBX and hidden TopStop

# START THE INITIAL CREATION OF THE PBX

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

- > Menu: Operator
- > Sub-Menu: PBX List
- > Click button: + New

PBX List

[+ New](#) [Delete](#)

	Name	Description	Member of	E-Mail
<input type="checkbox"/>	Duck Town	anConnect Sandbox for the Trainee	Provider A	ohara@ducktown.com

## 2. With the PBX wizard configure the parameters and finalize

- > Click button: Save

Settings

< Back > Next

PBX

Name

PA-PBX-OAX89001

Description

Yupi Inc, Honolulu, 0987654300 - 49, 0800654310 0800654340

Member of

Provider A

Teams Domain

CTI Device ID:

ou.0

Settings

< Back > Next

Properties

Extensions

10

Service Extensions

5

External channels

20

Public Prefix

Time Zone

Europe/Zurich

Date Format

dd.MM.yyyy

Time Format

24 Hours

Time mode

Timetable

Settings

< Back > Next

Public numbers

Number range

0987654300-49,0800654310,0800654340

Valid from

12.09.2023 06:00

Valid until

Settings

< Back > Next

Topstop

Hidden Topstop

☒

Pricelist Type

Customer Price List

Reset Period

monthly

Limits

+ New

X Delete

	Type	Threshold	Currency	Active
<input type="checkbox"/>	Block	900.00	UNIT	<input checked="" type="checkbox"/>

Save

Threshold

900.00

UNIT

Type

Block

E-Mail

noc@provider-a.com

Settings

Save < Back > Next

PBX Administrator

E-Mail

john.deer@yupi.com

First Name

John

Last Name

Deere




Language

English

## RESULT OF THE PBX CREATION

- ▶ After the initial PBX creation process the new PBX appears in the PBX list

PBX List

<input type="checkbox"/>	Name ▾	Description ▾	Member of ▾	E-Mail ▾
<input type="checkbox"/>	Duck Town	anConnect Sandbox for the Trainee	Provider A	ohara@ducktown.com
<input type="checkbox"/>	PA-PBX-0AX89001	Yupi Inc, Honolulu, 0987654300 – 49, 0800654310, 0800654340	Provider A	john.deer@yupi.com



# MANAGE/CHECK THE PBX

1. After the initial PBX creation, check the result is as follows:

- > Menu: Operator
  - > Sub-Menu: PBX List
    - > Click the row of the newly created PBX

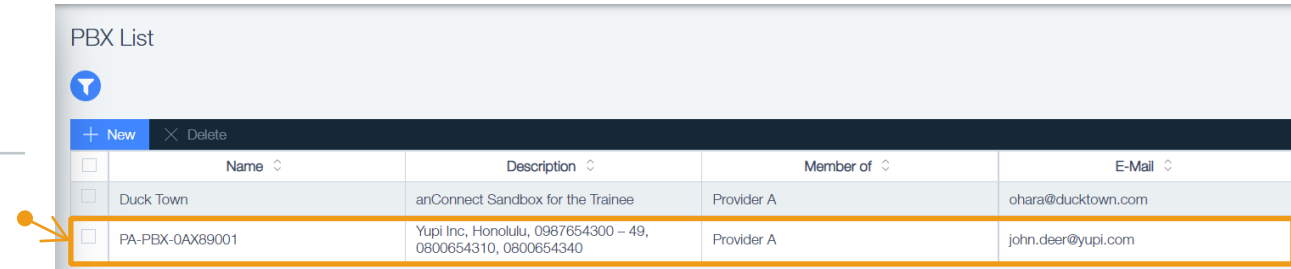
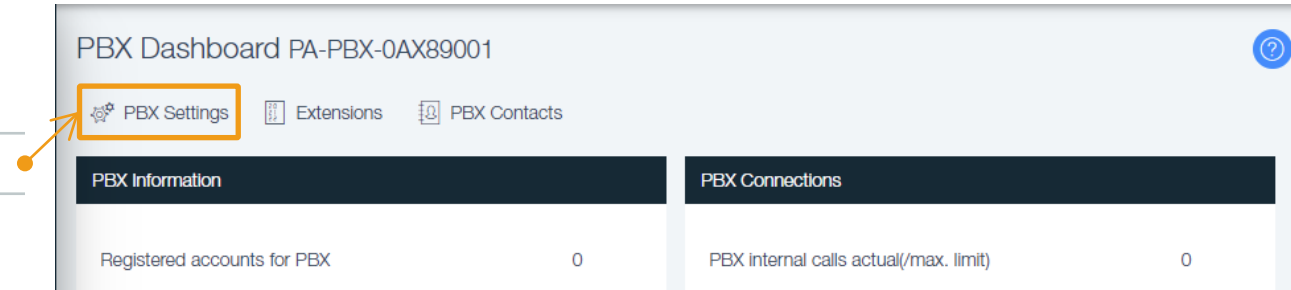


Table with 5 columns: Name, Description, Member of, E-Mail. The row for PA-PBX-0AX89001 is highlighted with an orange border and an arrow points to its checkbox.

	Name	Description	Member of	E-Mail
<input type="checkbox"/>	Duck Town	anConnect Sandbox for the Trainee	Provider A	ohara@ducktown.com
<input type="checkbox"/>	PA-PBX-0AX89001	Yupi Inc, Honolulu, 0987654300 -- 49, 0800654310, 0800654340	Provider A	john.deer@yupi.com

2. The page of the PBX Dashboard is displayed:

- > Click the link: PBX Settings



Dashboard for PA-PBX-0AX89001. The PBX Settings link is highlighted with an orange box and an arrow points to it.

PBX Information		PBX Connections	
Registered accounts for PBX	0	PBX internal calls actual/(max. limit)	0

# MANAGE/CHECK THE PBX BASIC CONFIGURATION

3. Check the PBX initial basic configuration and make corrections if needed.

Settings: PA-PBX-0AX89001

[Dashboard](#) [PBX List](#)

[Save](#)

PBX	Public numbers	Properties
<b>Name</b> PA-PBX-0AX89001	<b>Number range</b> 0449980105,0550-9,0650-9,0800654310,0800654340,098765	<b>Extensions</b> 20
<b>Description</b> Yup! Inc., Honolulu, 0987654300 - 49, 0800654310 0800654340	<b>Valid from</b> 20.04.2021 06:00	<b>Service Extensions</b> 20
<b>Member of</b> Provider A	<b>Valid until</b> 	<b>External channels</b> 20
<b>Teams Domain</b> c1.tms-provider.com:5070		<b>Public Prefix</b> 
<b>CTI Device ID:</b> ou.26		<b>Time Zone</b> Europe/Zurich
		<b>Date Format</b> dd.MM.yyyy
		<b>Time Format</b> 24 Hours
		<b>Time mode</b> Timetable

On Hold Music	anCall	Public Call Permission
<a href="#">Upload</a>	<b>Application ID</b> 	<b>National calls</b> ALLOW
		<b>Service calls</b> PIN
		<b>International calls</b> ALLOW

# MANAGE/CHECK THE INITIAL PBX ADMINISTRATOR CREATION

## 5. Check the PBX Administrator initial configuration and make corrections if needed.

- > Menu: Operator
- > Sub-Menu: Users
- > Click the row of the newly created PBX Administrator

User

Users

Save

**Base Settings**

E-Mail  
john.deer@yupl.com

First Name  
John

Last Name  
Deere

Language  
English

**Settings**

Owner  
PA-PBX-0AX89001

Password  
.....

LDAP User Name

User blocked

**Roles**

+ New X Delete

	Role	Access to OrgUnit	Parent OrgUnit
<input type="checkbox"/>	PBX Administrator	PA-PBX-0AX89001	Provider A

# CONFIGURE THE PBX TOPSTOP LIMITS

## 4. Configure the PBX TopStop limits:

- > Click the button: + New
- > Configure all needed limits

The screenshot displays the PBX configuration interface for Topstop limits. The main section shows the 'Topstop' configuration with a 'Current value' of 412.01 and a 'Reset Period' of monthly. Below this is a 'Limits' table with columns for Type, Threshold, Currency, and Active. The table lists three limits: Notification (400.00), Block (500.00), and Block (500.00). A '+ New' button is highlighted in the table. To the right is a 'Client Trunk' section with a 'SIP Client Trunk' toggle. Below the main interface, three detailed views of the Topstop configuration are shown, each with a 'Save' button and fields for Active, Threshold, Type, and E-Mail.

Type	Threshold	Currency	Active
Notification	400.00	UNIT	<input checked="" type="checkbox"/>
Block	500.00	UNIT	<input checked="" type="checkbox"/>
Block	500.00	UNIT	<input checked="" type="checkbox"/>

Below the main interface, three detailed views of the Topstop configuration are shown, each with a 'Save' button and fields for Active, Threshold, Type, and E-Mail.

Active	Threshold	Type	E-Mail
<input checked="" type="checkbox"/>	400.00 UNIT	Notification	pijohn.deer@yupi.com

Active	Threshold	Type	E-Mail
<input checked="" type="checkbox"/>	500.00 UNIT	Block	john.deer@yupi.com

Active	Threshold	Type	E-Mail
<input checked="" type="checkbox"/>	500.00 UNIT	Block	noc@provider-a.com



# CONFIGURE THE HIDDEN PBX TOPSTOP LIMITS

## 5. Check and manage the hidden PBX TopStop limits:

- Change to the OrgUnit view of the PBX

> Menu: Operator

> Sub-Menu: Organization Units

> Check and manage the hidden TopStop in file: Price Lists

OrgUnit PA-PBX-0AX89001

Tenant

Save

Settings

Name

PA-PBX-0AX89001

Description

Yupi Inc, Honolulu, 0987654300 – 49, 0800654311

Type

PBX

Parent OrgUnit

Provider A

Price Lists

Tenant Price List

Pricelist Tenant: User Default - UNIT - Version: 1.0

Customer Price List

Pricelist PBX: User - UNIT - Version: 2.0

Hidden Topstop

Pricelist Type

Customer Price List

Current value

0.00

UNIT

Reset

Reset Period

manually

Limits

+ New

× Delete

Type	Threshold	Currency	Active
Block	900.00	UNIT	Active

Public Call Permission

National calls

ALLOW

Service calls

ALLOW

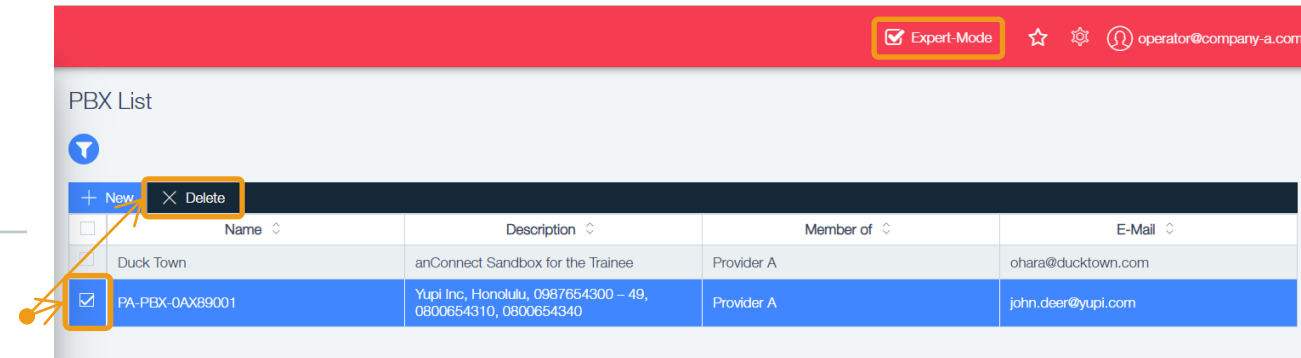
International calls

BLOCK

# DELETE A PBX

- ▶ Delete a PBX:  
Access the Portal with sufficient rights,  
usually: Operator

- > Menu: Operator
  - > Sub-Menu: PBX List
    - > Select the PBX which shall be deleted
    - > Click the button: X Delete



## Warning

### The deleting of a PBX is final!

- ➔ ALL data and configurations of the PBX, its extensions, phones, VoiceMail Boxes and messages are deleted.
- ➔ Not deleted are the Call Detail Records CDR.

## Note

A PBX Administrator or PBX Member cannot delete its own PBX.

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# 4 TASK 3: MAKE SURE THE CALL ROUTING TO AND FROM THE PSTN NETWORK

## OVERVIEW OF THE PBX PSTN CALL ROUTING

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- ▶ **Task 3: Make sure the call routing to and from the PSTN telephone network**
  - ▶ Define the needed PSTN interconnection:
    - Variant 1: Routing to the PSTN carrier via the anSwitch V7 system configuration.
    - Variant 2: Register the PBX directly with one or more PSTN carriers and route directly to the registered peering points.
  - ▶ Check incoming and outgoing calls to the PSTN.
  - ▶ Check if incoming calls of ported numbers of the customer are routed via the PSTN carrier.

## BACKGROUND INFORMATION PSTN INTERCONNECTION

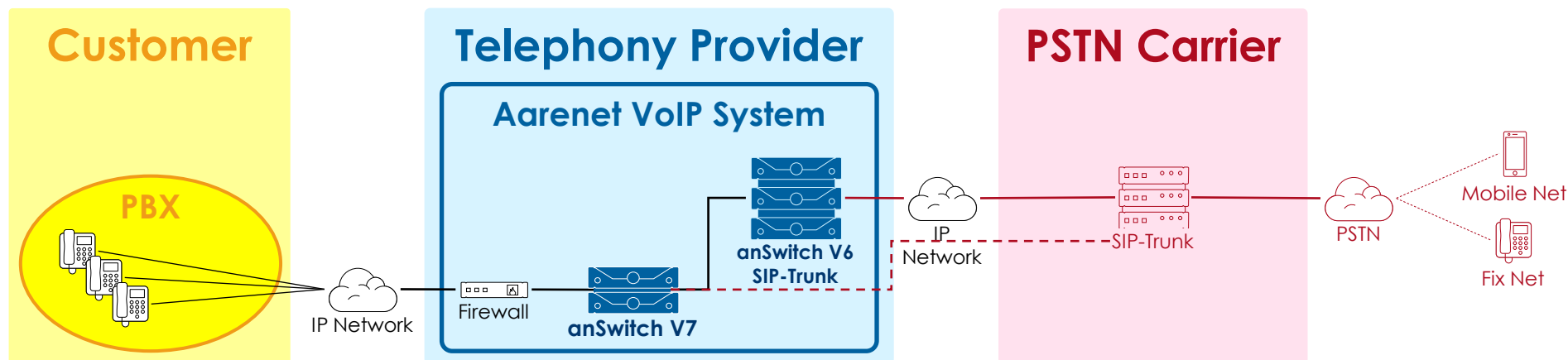
---

- ▶ An anSwitch V7 PBX needs an upstream VoIP peer that provides Class 5 telephony switch functionalities as:
  - ▶ Approving the correct Caller ID for calls toward public telephone numbers (PSTN and OnNet).
  - ▶ Providing the prioritized emergency call routing
  - ▶ Providing Legal Interception LI
  - ▶ Customer security features, for example:
    - ▶ Cost limitation on level provider (fraud damage limitation)
    - ▶ Fraud warning
  - ▶ Allowing telephony provider specific CDR generation and billing
  - ▶ etc.
- ▶ The PSTN interconnection variants 1 & 2 can run concurrently on the same anSwitch V7!
  - ▶ For each PBX it must be decided whether it will be connected to the PSTN according to variant 1 or variant 2.



## VARIANT 1: DEFAULT PSTN INTERCONNECTION

- ▶ By default, the PSTN interconnection is provided on anSwitch V7 system level.
  - ▶ With this variant the Operator or PBX Administrator have **no** additional configuration effort in the PBX.



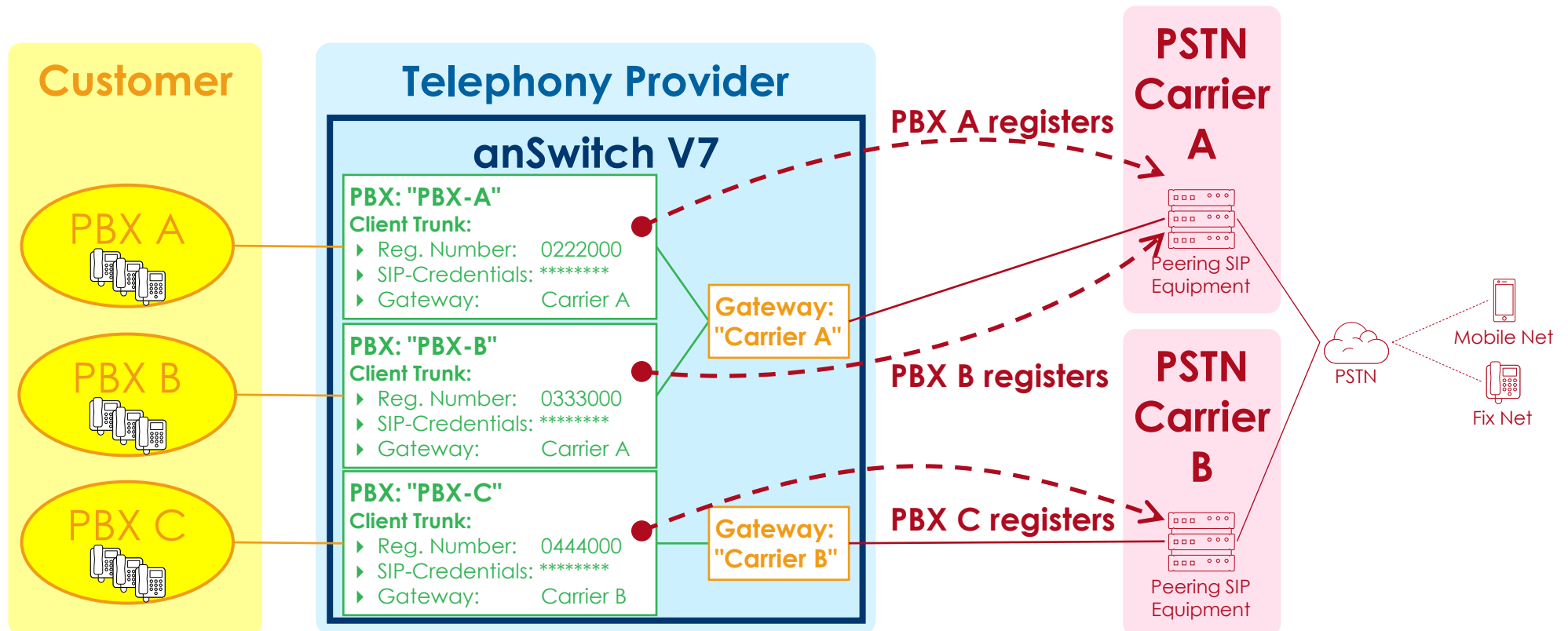
### Note

If the upstream VoIP peer is an anSwitch V6, then check for configuration details the training presentation:

`training_as7_602_pstn_via_answitch_v6`

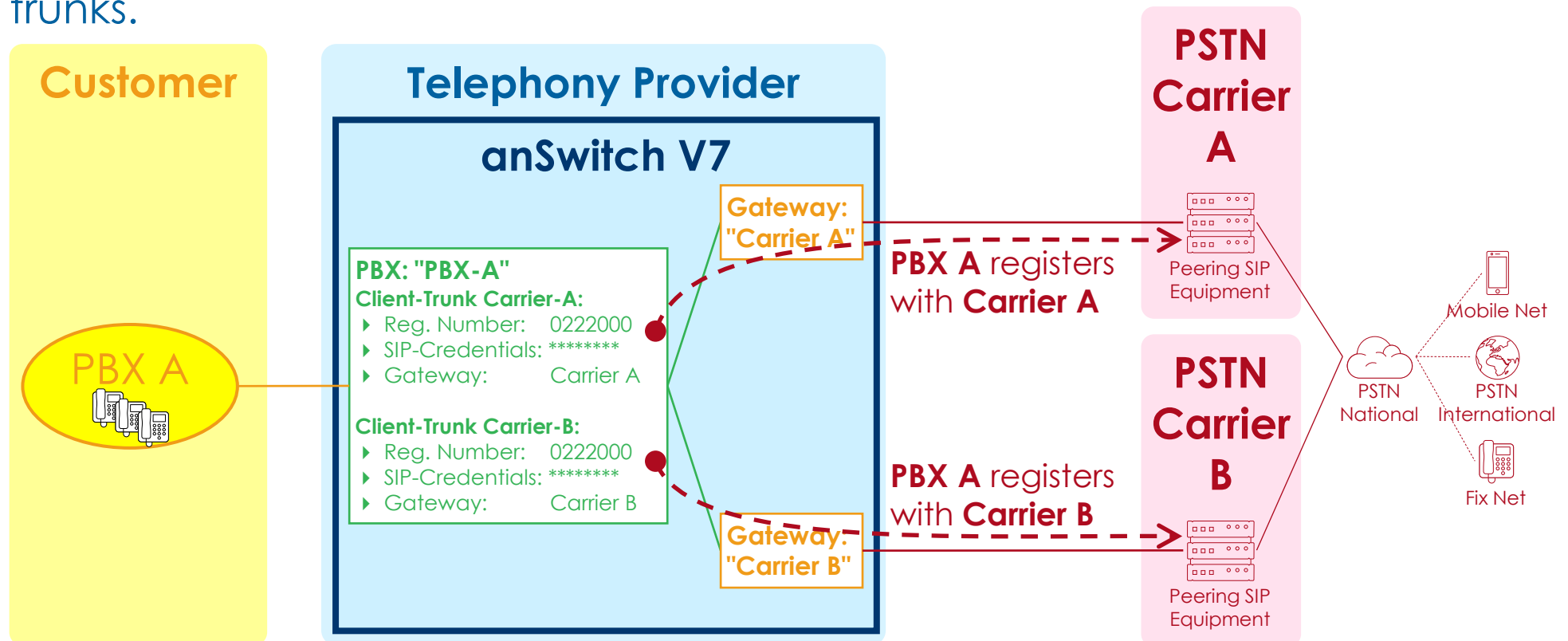
## VARIANT 2: REGISTERED PSTN INTERCONNECTION

- ▶ The PBX registers with one or more SIP peering equipment of PSTN carriers.
  - ➔ With this variant the Operator or PBX Administrator must configure one or more "Client-Trunk" for the PBX!



## VARIANT 2: REGISTERED PSTN INTERCONNECTION

- ▶ A PBX can register with any number of PSTN carriers or peering SIP equipment.
  - ▶ Incoming calls from the PSTN are accepted by all gateways of the client-trunks.
  - ▶ Outgoing calls to the PSTN are sent randomly via the gateways of the client-trunks.



## VARIANT 2: PREPARE THE CLIENT-TRUNK PARAMETERS

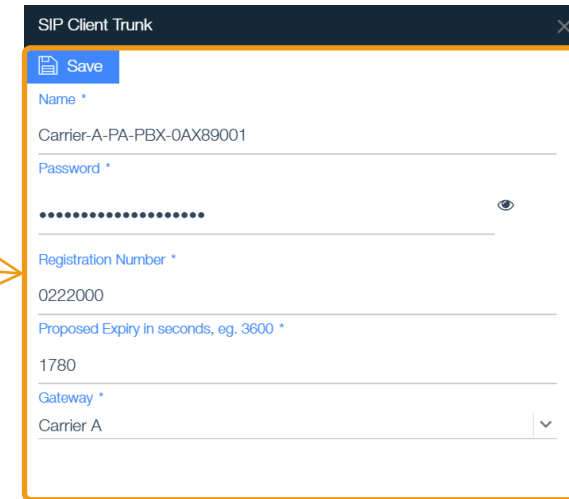
### ► Prepare the PSTN interconnection client-trunk parameters:

Topic	Example	Value	Description
<b>Client Trunk</b>			
Name	Carrier-A-PA-PBX-0AX89001	.....	These are the SIP-credentials delivered by the PSTN carrier.
Password	*****	.....	
Registration Number	0222000	.....	This is the public phone number that must be registered at the PSTN carrier. <div> <b>Note</b>           It is assumed that all other public phone numbers of this PBX are registered automatically too.         </div>
Proposed Expiry	1780	.....	Re-registration timeout in seconds
Gateway	Carrier A	.....	Select the Gateway that points to the SIP trunk of the PSTN carrier.

## VARIANT 2: CONFIGURE AND MANAGE THE CLIENT-TRUNK

- ▶ Configure and activate the client-trunk for the interconnection with the PSTN Carrier.

- > Menu: PBX Administrator
  - > Sub-Menu: PBX Settings
    - > Configure the Client Trunk parameters
    - > Activate the Client Trunk



SIP Client Trunk

Save

Name \*

Carrier-A-PA-PBX-0AX89001

Password \*

.....

Registration Number \*

0222000

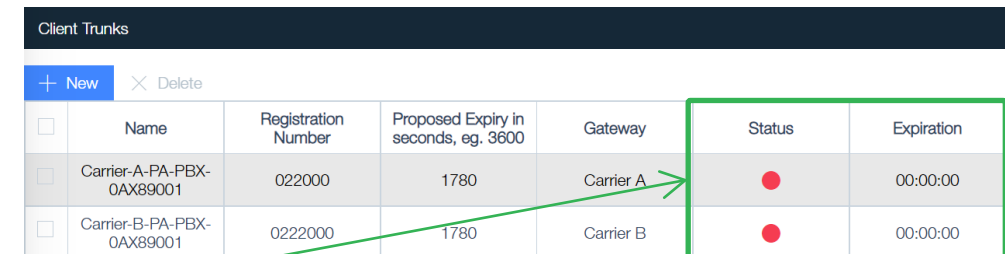
Proposed Expiry in seconds, eg. 3600 \*

1780

Gateway \*

Carrier A

- ▶ All configured client-trunks of the PBX are listed and can be managed individually.



Client Trunks						
+ New		X Delete				
<input type="checkbox"/>	Name	Registration Number	Proposed Expiry in seconds, eg. 3600	Gateway	Status	Expiration
<input type="checkbox"/>	Carrier-A-PA-PBX-0AX89001	022000	1780	Carrier A	●	00:00:00
<input type="checkbox"/>	Carrier-B-PA-PBX-0AX89001	0222000	1780	Carrier B	●	00:00:00

- ▶ The registration status and time out at the peering SIP device, e.g. of the PSTN Carrier, are displayed.

## CHECK WITH THE PSTN CARRIER

---

- ▶ Make sure that the PSTN carrier is ready for incoming and outgoing call routing for **all** public phone numbers of the new PBX.
- ▶ Make sure that number porting is finalized until the activation time of the PBX (latest "Valid from").

## TEST A NEWLY CREATED PBX

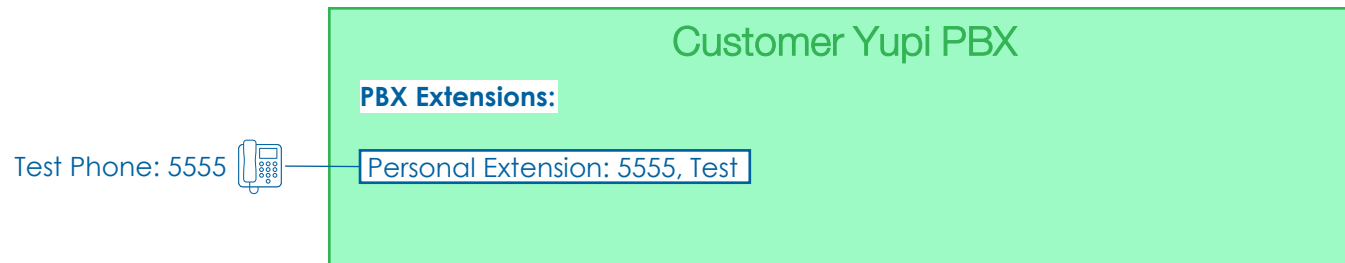
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- ▶ If possible, it may be a good idea by an Operator to test the initial configuration of a PBX.
- ▶ This make sure that the new PBX is interworking correctly with the PSTN.
- ▶ After the testing remove all test PBX extensions and PBX call routing configurations.



## TEST THE PBX CALL ROUTING TO AND FROM THE PSTN

- ▶ It may make sense to test the PSTN call routing when the PBX has new PSTN telephone numbers.
  - ▶ In the case that the public telephone numbers are in use by the customer at another telephony provider then an initial testing may be impossible until the numbers are ported to the new provider.
- ▶ Test preparations:
  - ▶ Create a test PBX Extension e.g.: 5555
  - ▶ Associate a SIP-phone to it



### Note

The configuration of anSwitch V7 PBX extension and attaching a SIP-Phone to it are handled in detail in the training presentations:

training\_as7\_403\_pbx\_department\_extension  
training\_as7\_701\_phone\_configuration

# TEST LIST OF THE PBX CALL ROUTING

## ► Outgoing call test :

### ► **A → B:**

A calls any public number in the PSTN, e.g. B

### ► Expected Result:

- ☐ A: Alerting tone
- ☐ B: Ringing (displaying the A number)
- ☐ B hooks off: A-B are connected and have bidirectional audio
- ☐ B hooks off: A hears disconnect tone

## ► Incoming call test :

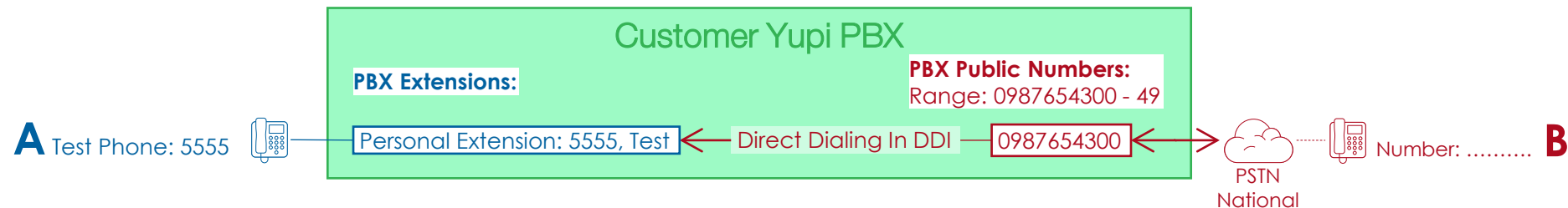
### ► **B → A:**

B calls the public numbers of the PBX:

- From a number range call at least the first and last number
- Test all single numbers (that are not in a range)

### ► Expected Result:

- ☐ B: Alerting tone
- ☐ A: Ringing (displaying the B number)
- ☐ A hooks off: A-B are connected and have bidirectional audio
- ☐ B hooks off: A hears disconnect tone



## ► In case of problems → Check the 'SIP Trace' and/or 'Call Statistics' of the call :

### ► Outgoing call:

- ☐ Check if the call is routed toward the PSTN Carrier  
→ If not: contact the PSTN Provider support
- ☐ In case of audio problems check the calls 'Call Statistics'

### ► Incoming call:

- ☐ Check if the call is received from the PSTN Carrier  
→ If not: contact the PSTN Carrier support
- ☐ Check if the PBX DDI configuration is correct
- ☐ In case of audio problems check the calls 'Call Statistics'

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# 5 TASK 4: INFORM THE PBX OWNER

# OVERVIEW OF THE PBX OWNER INFORMATION

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- ▶ **Task 4: Inform the PBX Owner**
  - ▶ About the finalized setting up of the customer PBX on the anSwitch V7
  - ▶ The activation date/time of the telephony service
  - ▶ The access information for the PBX Administrator for configuring the PBX internals.

# ACCESS INFORMATION FOR THE PBX ADMINISTRATOR

- ▶ The PBX Administrator needs the following access information for starting the detailed PBX configuration:

- ▶ URL of the Portal UI:

`https://IP-ADDRESS/portal/`

`https://DOMAIN-NAME/portal/`

- ▶ Username of the PBX administrator e.g.:

`john.deer@yupi.com`

- ▶ Password:

The PBX administrator must create the password at the first contact with the login dialog.

To do this, he must start the password recovery process.

> Click on link: Password forgotten?

Login

Welcome to the Aarenet anSwitch V7

Username

john.deer@yupi.com

Password

Login

Password forgotten?

---

# 6 MANAGE FURTHER PBX RESOURCES

# MANAGE PUBLIC TELEPHONE NUMBERS: ADD NUMBERS

## ▶ Public numbers are managed by an Operator

- ▶ Add new single numbers or number ranges
- ▶ Multiple entries are comma separated, e.g.
  - ▶ Single number: 0600,0605
  - ▶ Ranges: 0650-3  
This generates 4 numbers → 0650,0651,0652,0653

> Menu: PBX

> Sub-Menu: Public Numbers

> Click button: + New

> In dialog: Public numbers

- ▶ Number range: Comma separated single numbers and/or number ranges

> Click button: Save

Public Numbers: PA-PBX-0AX89001

Dashboard

+ New × Delete

1 2 3 > > 25

	Public Number	Name to Display	Tags	Extension	Public Number to display for
<input type="checkbox"/>	0449980105			311	311, 330, 51

Public numbers ×

Save

Number range

0600,0605,0650-3

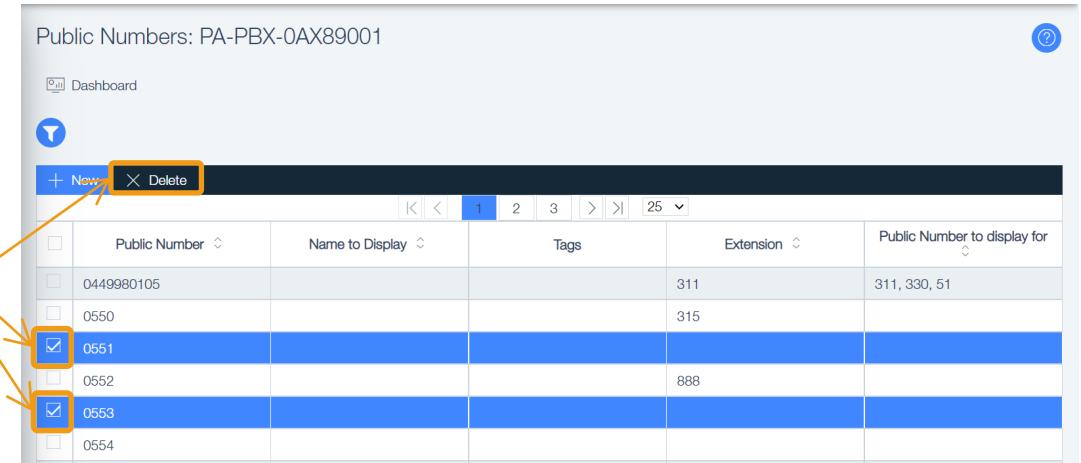


# MANAGE PUBLIC TELEPHONE NUMBERS: DELETE NUMBERS

## ▶ Delete public numbers

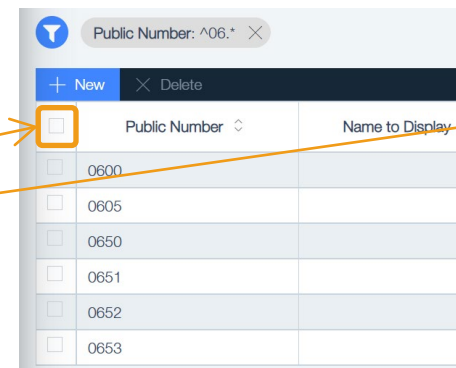
### ▶ Delete single public numbers

- > Menu: PBX
- > Sub-Menu: Public Numbers
- > Select the numbers one by one
- > Click button: × Delete



### ▶ Delete a range of public numbers

- ▶ Prepare a regex for filtering the public numbers, e.g.:  
^06.\* → match all numbers that begin with 06 and any number of following digits
- > Click the filter icon
- > Insert the filter pattern
  - ▶ Public Number: Insert the matching regex
- > Click button: Apply
- > Click the "all" selector
- > Click button: × Delete



# MANAGE PBX SPECIFIC MUSIC ON HOLD

## ► Upload a PBX specific Music on hold audio file.

- > Menu: PBX
  - > Sub-Menu: PBX Settings
    - > In file: On Hold Music
      - > Click button: Upload
- > Start the upload process by clicking button:  
+ Choose new on hold music file
- > Check the uploaded audio file, click: ►

## ► The following audio formats and limits are allowed for audio files:

- WAV (PCM coded)
- MP3
- Max. duration is limited to 5 minutes
- The max. file size is limited to 50MByte

The screenshot displays the 'Settings: PA-PBX-0AX89001' interface. The 'On Hold Music' section is highlighted, showing an 'Upload' button and a play button. An arrow points from the 'Upload' button to a modal window titled 'Upload' which contains a button labeled '+ Choose new on hold music file'. Another arrow points from the play button to the same modal window. The interface also shows other sections like 'Public numbers', 'Properties', 'anCall', and 'Public Call Permission'.

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# 7 THE PBX DASHBOARD

# OVERVIEW OF THE PBX DASHBOARD

- ▶ After the creation of the PBX the PBX Dashboard displays the most important information of the PBX.
  - ▶ Usage of the assigned PBX resources.
  - ▶ Usage of limited resources.
  - ▶ Active internal connections.
  - ▶ TopStop status
  - ▶ PBX Client-trunk supervision
- ▶ After PBX Extensions and phone are added to the PBX their vital information are displayed too:
  - ▶ Active connections with and call forwards of the PBX Extension.
  - ▶ Registration status of the phones.
- ▶ Direct access to configuration and information of a PBX Extension and a phone.

The screenshot shows the aarenet PBX Dashboard interface. It features a sidebar menu on the left with options like Dashboard, Settings, Departments, Public Numbers, Extensions, Users, Add-ons, Phones, Holidays, Timetables, Calls, Live Calls, Call Analytics, Contacts, and Blocked Numbers. The main content area is divided into several sections:

- Information about used resources of the PBX:** This section includes a table with the following data:
 

Resource	Value
Registered accounts for PBX	53
Registered phones actual/max.	107 / 219
VoiceMail filling level (new / old / all)	17 / 18 / 35
TopStop status	●
- Information about the actual PBX connections:** This section includes a table with the following data:
 

Connection Type	Value
Internal calls actual/(max. limit)	4
External calls actual/(max. limit)	0 / 10
Inbound calls actual/(max. limit)	0
Outbound calls actual/(max. limit)	0
- Extensions Overview:** A grid of 44 phone icons, each representing an extension. The icons are color-coded: green for no active connection, red for one or more active connections, and blue for active call forwards. Extension 26 is highlighted with a green box.
- Phone Information:** A table showing details for a specific phone (Internal Number 14). The table has columns for Phone Name, Internal Number, and Registration Status. The phone is listed as 'Webphone' with Internal Number 14 and a red status bullet icon.

Annotations provide further details:

- Click the phone icon or 'Internal Number' name and access directly its "Extension Related Features" page.** (Points to extension 26)
- Click the 'Phone Name' name and access directly its "Phone Related Features" page.** (Points to 'Webphone')
- Click the status bullet icon and access directly its "Phone Related Status" page.** (Points to the red status icon)
- Information about PBX Extension's state:**
  - The extension has no phones assigned.
  - No active connection to a phone of this extension.
  - One or more active connection to this extension.
  - The extension has active call forwards.
- Information about the phone's state:**
  - The phone has not registered yet.
  - The phone is registered.
  - The phone was once registered.

# LAST PAGE

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Date	Doc-ID	Description	Changes
12.9.2023	training_as7_401_pbx_creation_managing_e13	V7.13: New feature hidden TopStop	Pages: 8, 19, 25
26.1.2024	training_as7_401_pbx_creation_managing_e14	V7.14: Dashboard	Chapter: 7