

Training anSwitch V7

PAGING – INTERCOM

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INTRODUCTION & MOTIVATION

This training covers the topics:

- ▶ Introduction of the Paging and Intercom feature
- ▶ How it can be used for single destinations and groups
- ▶ Configuring a Paging-Intercom group or single destination
- ▶ Overview how to manage SIP-phones/terminals

After this training, the trainee is enabled:

- ▶ To configure the Paging and Intercom feature on the anSwitch V7
- ▶ To advise users and customers how to prepare/configure the SIP-phones/terminals for the paging and/or intercom service



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

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1 OVERVIEW OF PAGING - INTERCOM

OVERVIEW OF PAGING - INTERCOM

- ▶ The feature Paging – Intercom enables the anSwitch V7 to signal the SIP phones/terminals to answer incoming calls automatically.
- ▶ There are 2 modes available:
 - ▶ **Paging** → Audio in one-direction only
The phone is expected to automatically accept the incoming call, activate its speaker and transmit the incoming audio stream.
 - ▶ **Intercom** → Audio bi-directional possible
The phone is expected to automatically accept the incoming call, activate its speaker and transmit the incoming audio stream. The users of the signalled phones can pick up and are immediately switched together into a joint audio conference.
- ▶ Paging – Intercom signalling can be applied to
 - ▶ Individual PBX extensions
 - ▶ Groups with multiple PBX extensions.

OVERVIEW OF PAGING – INTERCOM

► Overview of Paging – Intercom

Customer Yupi Inc.

Door Intercom



Warehouses

Loudspeaker Warehouse 1



Loudspeaker Warehouse 2



Firefighters

Firefighter 1



Office



an IP-Phone

Firefighter 2



Office



an IP-Phone

Telephony Provider A

Customer Yupi PBX

PBX Extension: 1001, Door Intercom
OrgUnit: **Door Intercom**; Add Tag: **AutoAnswer**

Department Store Announcements

Service Extension: 2000, Store Announcement
Distribution Mode: Paging Group
► Paging group type: **Paging**
► Answering: **automatic**
► Members: **2001, 2002**

PBX Extension: 2001, Loudspeaker 1

PBX Extension: 2002, Loudspeaker 2

Firefighter Alarming

Service Extension: 3000, Fire Alarm Intercom
Distribution Mode: Paging Group
► Paging group type: **Intercom**
► Answering: **manual**
► Members: **3001, 3002**

PBX Extension: 3001, Firefighter 1

PBX Extension: 3002, Firefighter 2

1. Tag a PBX extension to signal the terminal that all calls must be answered automatically.

2. Paging group for group announcements.

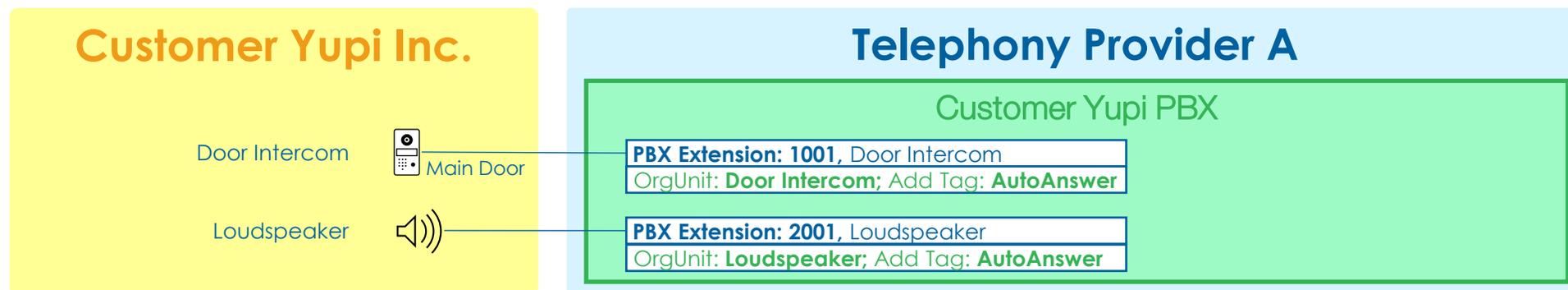
3. Intercom group where all signaled group members can join in an audio conference.

Note

In Paging - Intercom groups it can be defined whether the incoming call is connected automatically or whether the user must manually pick up the handset to be connected.

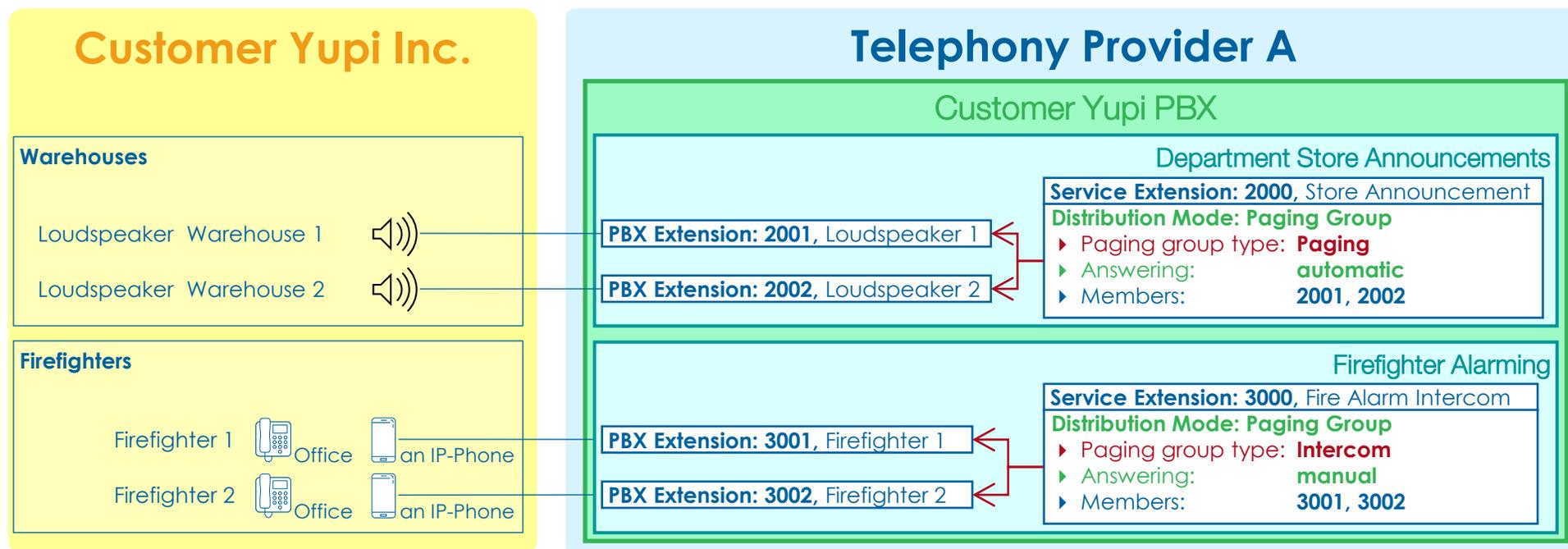
USE CASE – INTERCOM SIGNALING FOR A PBX EXTENSION

- ▶ A PBX Extension can be tagged so that all incoming calls are signaled as auto-answering toward the SIP-terminal e.g.
 - ▶ Loudspeaker in a warehouse
 - ▶ Door intercom



USE CASE – INTERCOM FOR GROUPS

- ▶ Paging – Intercom groups offer use cases like:
 - ▶ Announcements via a group of loudspeaker
 - ▶ Emergency groups, whose members are called as in the case of a normal call. When members accept the connection, they are immediately switched to an audio conference, where, for example, they receive further instructions from the operations centre.



OVERVIEW OF PAGING – INTERCOM REQUIREMENTS FOR SIP-PHONES/TERMINALS

- ▶ The Paging – Intercom feature depends on the auto-answer capability of the SIP-phone/terminal.
- ▶ There are SIP-phone/terminals that
 - ▶ Support the auto-answer capability by default
 - ▶ Support the auto-answer capability after manual configuration on the device
 - ▶ Doesn't support auto-answering
(These devices behave like a normal device and will just ring upon an incoming call.)
- ▶ The Paging – Intercom feature of the anSwitch V7 is checked for interoperability with selected SIP phones types of different manufacturers.
For details see section ["Handling SIP-Phone/Terminals for Auto-Answering"](#)

2 CONFIGURE PAGING – INTERCOM FOR SINGLE DESTINATIONS

CONFIGURE A PBX EXTENSION FOR FIX PAGING – INTERCOM SIGNALING

- ▶ A PBX Extension can be tagged so that all incoming calls are signaled as auto-answering toward the attached SIP-terminals.
- ▶ The needed configuration must be done by an Operator in the OrgUnit of the PBX Extension.

- > Menu: Operator
 - > Sub-Menu: Organization Units
 - > Select the desired PBX Extension OrgUnit, e.g: "Door Intercom"
- > Tile: Tags
 - ▶ At "Additional tags passed to sub-OrgUnits" add the system tag: "AutoAnswer"
- As best practice:
 - Block all public call permissions for this PBX Extension
 - > Tile: Settings
 - ▶ Block all public call permissions
 - > Click button:  Save

OrgUnit Door Intercom

PBX

Save

Settings	Price Lists	Public Call Permission
Name	Tenant Price List	National calls
Door Intercom	Pricelist Tenant: Tenant Default - UNIT - Version: <input type="checkbox"/>	BLOCK <input checked="" type="checkbox"/>
Description	Customer Price List	Service calls
Door intercom with auto answering	Pricelist PBX: User - UNIT - Version: 2.0 <input checked="" type="checkbox"/>	BLOCK <input checked="" type="checkbox"/>
Type		International calls
PBX Member		BLOCK <input checked="" type="checkbox"/>
Parent OrgUnit		
PA-PBX-0AX89001		

Limits	Miscellaneous	Tags
Max. external channels 20 <input type="checkbox"/>	E-Mail source address <input type="checkbox"/>	Tags defined in parent OrgUnits
Max. internal channels 0 <input type="checkbox"/>	Cloud ID	Additional tags passed to sub-OrgUnits
Max. inbound channels 0 <input type="checkbox"/>	CLID_V7_TRAIN_E* <input checked="" type="checkbox"/>	AutoAnswer <input checked="" type="checkbox"/>
	GUI Profile <input type="checkbox"/>	Masked tags

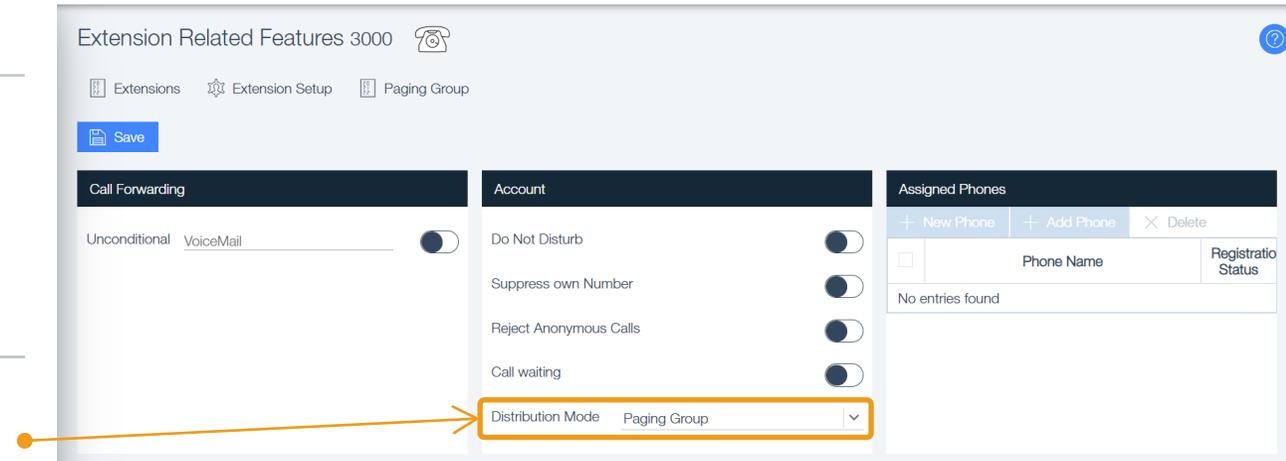
3 CONFIGURE A PAGING - INTERCOM GROUP

CONFIGURE A PAGING – INTERCOM GROUP

- ▶ The needed configuration must be done by the PBX Administrator in the PBX Extension features.

1. Create the Paging – Intercom Group

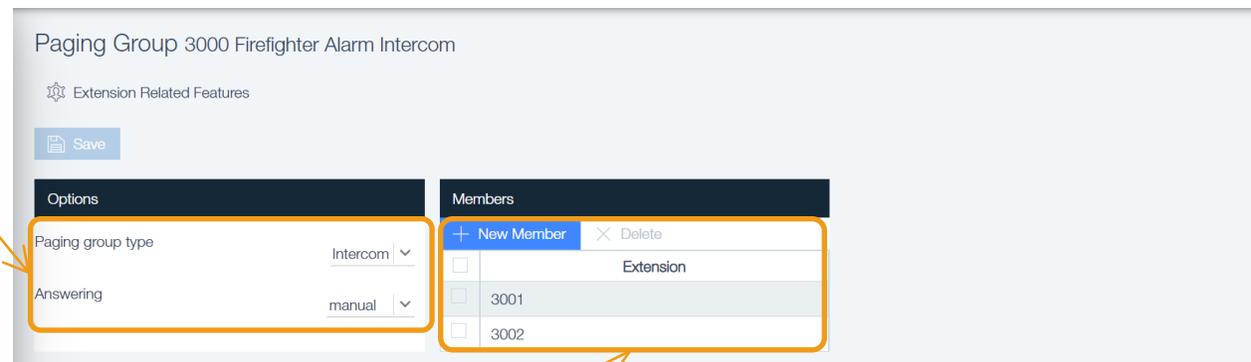
- As best practice:
Create an own PBX Extension for the Paging – Intercom group
 - > Menu: PBX
 - > Sub-Menu: Extension
 - > Click button: + New
 - > Configure the PBX Extension basic settings
 - > On page "Extension Related Feature" in Tile "Account"
 - ▶ Select at "Distribution Mode": Paging Group
- > Click button: Save



CONFIGURE A PAGING – INTERCOM GROUP

2. Configure the Paging – Intercom Group

- > On page "Extension Related Feature"
 - > Click link: Paging Group
- > On page "Paging Group ..."
 - > Configure the parameters
 - > Select at "Paging group type":
 - ▶ Paging:
The audio transmission is only in one-direction toward the group members. The group members shall just listen to the announcement.
 - ▶ Intercom:
The audio transmission is bi-directional. The group members can talk to the caller and other group members.
 - > Select at "Answering":
 - ▶ automatic:
The phones of the group members automatically accept the connection, activate the speaker and transmit the incoming audio stream.
 - ▶ manual:
The users must manually pick up the handset for listening to the paging announcement or joining the intercom audio conference.
 - > Add the PBX Extensions of this group in file "Members"
 - > Click button: + New Member
 - > Select the desired internal number
 - > Click button: Save



4 HANDLING SIP- PHONE/TERMINALS FOR AUTO- ANSWERING

SIP-PHONE ABILITIES CONCERNING AUTO-ANSWERING

- ▶ There are SIP-phone/terminals that
 - ▶ Require specific signalling to respond to an auto-answer request from a VoIP switch
 - ▶ Support the auto-answer capability with their default device configuration
 - ▶ Support the auto-answer capability after manual configuration on the device
 - ▶ Doesn't support auto-answering at all

Note

SIP-Phone types that are not supporting auto-answering or are not correctly configured behave just like a normal phone and will ring upon an incoming auto-answer call.

CHECKED SIP-PHONE INTEROPERABILITY BY AARENET

- ▶ Aarenet has checked the interoperability of the auto-answer feature for the following manufacturers

Manufacturer	Configuration on the Device	Used Phone Type	Remark
Alcatel	No configuration needed	Alcatel M3	
Yealink	No configuration needed	Yealink T21P E2	
SNOM	Configuration needed, see next pages	Snom D717	
Grandstream	Configuration needed, see next pages	Grandstream GXP2130	
Polycom	No configuration needed	Polycom VVX600	The Polycom phone needs a special phone template for its provisioning
Fanvil	No configuration needed	Fanvil X3S	
Panasonic	No configuration needed	Panasonic KX-HDV430	

Note

Aarenet cannot guarantee the interoperability of the auto-answer function for all types/families or firmware of the listed manufacturers.

CONFIGURE SPECIFIC SIP-PHONES FOR AUTO-ANSWER

- ▶ Configure Grandstream SIP-Phones for auto-answer

The screenshot shows the Grandstream GXP2130 web interface. The left sidebar has a menu with 'Accounts' selected, and 'Intercom Settings' is highlighted with a red box and the number '2'. The main content area is titled 'Intercom Settings' and contains several configuration options:

- 'Allow Auto Answer by Call-Info/Alert-Info' is set to 'Yes' (radio button '3').
- 'Allow Barging by Call-Info/Alert-Info' is set to 'No' (radio button).
- 'Mute on answer Intercom call' is set to 'No' (radio button).
- 'Play warning tone for Auto Answer Intercom' is set to 'No' (radio button).
- 'Custom Alert-Info for Auto Answer' is set to 'alert-autoanswer' (text input field '4').

Buttons for 'Save', 'Save and Apply', and 'Reset' are visible at the bottom.

- ▶ Configure SNOM SIP-Phones for auto-answer

Advanced Settings

SNOM

The screenshot shows the SNOM Advanced Settings web interface. The left sidebar has a menu with 'Advanced' selected and highlighted with a red box and the number '1'. The main content area is titled 'Advanced Settings' and has tabs for 'Network', 'Behavior', 'Audio', 'SIP/RTP', 'QoS/Security', and 'Update'. The 'Behavior' tab is active, and the 'Phone Behavior' section contains several configuration options:

- 'Call Completion' is set to 'off' (radio button '2').
- 'Peer to Peer Call Completion' is set to 'on' (radio button).
- 'Always Show Active Call' is set to 'on' (radio button).
- 'IDNA (RFC 3490) Support' is set to 'off' (radio button).
- 'Overlap Dialing' is set to 'off' (radio button).
- 'Block URL Dialing' is set to 'PUI' (dropdown menu).
- 'Challenge Response on Phone' is set to 'on' (radio button).
- 'Type of Intercom Answering' is set to 'Handsfree' (dropdown menu '3').
- 'Intercom Policy' is set to 'always' (dropdown menu).
- 'Call Join on Transfer' is set to 'when only 1 call is held' (dropdown menu).
- 'Default Transfer Target Last Held Call' is set to 'on' (radio button).
- 'Ring Time before Decline (s)' is set to '120' (text input field).
- 'AOC Amount Display' is set to 'Off' (dropdown menu).
- 'AOC Pulse Currency' is set to '\$' (text input field).
- 'AOC Cost/Pulse' is set to '1' (text input field).

MANAGING NOT LISTED SIP-TERMINALS

- ▶ The terminals who are either
 - a. attached to a PBX Extension which is tagged with "AutoAnswer"
 - b. member of a paging – intercom group

will receive in the incoming SIP-message INVITE the SIP-header:

```
Alert-Info: info=alert-autoanswer
```

- ▶ It is expected that the terminals upon receiving this SIP-header automatically accept the connection, activate its speaker and transmit the incoming audio stream.
- ▶ Check the manufacturer's device manual which parameter must be set to achieve the auto-answer functionality.

LAST PAGE

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