

Training anSwitch V7

PHONE/ADD-ON TYPE TOOLKIT

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INTRODUCTION & MOTIVATION

This training covers the topics:

- ▶ The buildup of a Phone/Add-On Template
- ▶ How to create a new Phone/Add-On Template

After this training, the trainee is enabled:

- ▶ Derive a new Phone/Add-On Template from an existing one
- ▶ Creating new Phone/Add-On Templates



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

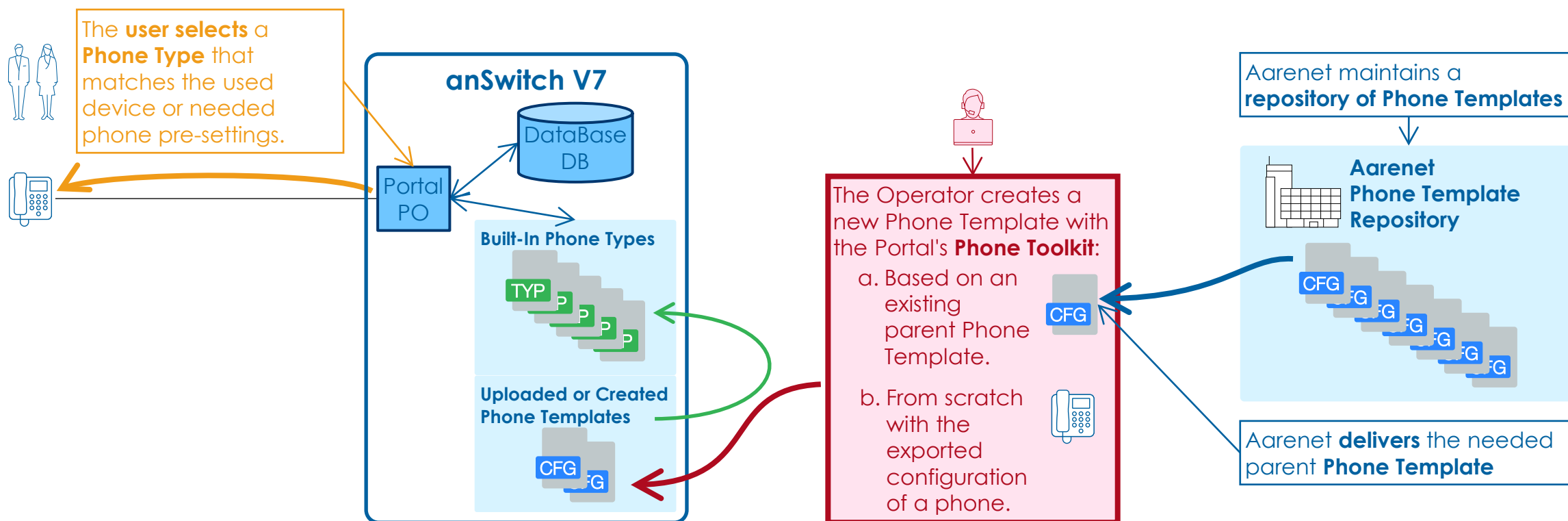
TABLE OF CONTENTS

- 1 OVERVIEW PHONE/ADD-ON TOOLKIT
- 2 BASIC CONCEPT OF A PHONE/ADD-ON TEMPLATE
- 3 CONFIGURE THE TEMPLATE BASIC & PORTAL UI SETTINGS
- 4 CONFIGURE THE TEMPLATE DEVICE CONFIGURATION
- 5 LIST OF CONFIGURATION TEMPLATE PLACEHOLDERS
- 6 HOW TO CHECK A GENERATED CONFIGURATION FILE
- 7 BEST PRACTICE FOR CREATING A TEMPLATE
 - 7.1 BEST PRACTICE WHEN STARTING WITH A PHONE TEMPLATE
 - 7.2 BEST PRACTICE WHEN STARTING FROM SCRATCH
- 8 EXAMPLE SNIPPETS OF PHONE TEMPLATES
- 9 LOCALE ANSWITCH V7 SYSTEM CONFIGURATION

1 OVERVIEW PHONE/ADD-ON TOOLKIT

OVERVIEW PHONE/ADD-ON TOOLKIT

- ▶ The "Phone/Add-On Toolkit" enables a customer to add new Phone/Add-On Types (without having the Aarenet R&D to write SW code)
 - ▶ For SIP-devices that are not contained in the default list.
 - ▶ With defined pre-settings, e.g. for phone-keys, for specific user profiles



OVERVIEW PHONE/ADD-ON TOOLKIT

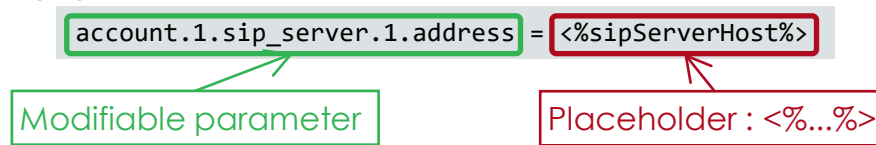
Note

This document describes the creation of new Phone Types and Phone Templates in detail. For new Add-On Types and Add-On Templates only possible differences to the phone ones are described.

2 BASIC CONCEPT OF A PHONE/ADD-ON TEMPLATE

BASIC IDEA OF THE PHONE TEMPLATE

- ▶ The basic idea of a Phone Template
 - ▶ It contains a raw device configuration 'file' in the manufacturer's original notation.
 - ▶ In the raw configuration file, the values of certain parameters are replaced by placeholders.



- ▶ During the configuration file creation, the placeholders are replaced by individual values. The values are evaluated according
 1. Default values from the anSwitch V7 internal Terminal Profiles on system level.
 2. Values from the parent Phone Template it extends.
 3. Values from OrgUnit attributes using the OrgUnit inheritance concept.
 4. Values set by the user in the Portal UI phone setting configurations.

Examples:



BASIC CONCEPT OF A PHONE/ADD-ON TEMPLATE

- ▶ A Phone Template consists of 4 parts
 - a. Its name and owner OrgUnit of the phone template
 - b. Inherit the basic working behaviour according to the anSwitch terminal profiles.
 - ▶ Differencing SIP-phones from other types of SIP-devices
 - ▶ Support of the redirection service of the device manufacturer
 - c. Configurations from the Portal UI phone setup pages
 - ▶ Selectable phone key functions, e.g.: speed dial, team key
 - ▶ Number of selectable entities, e.g.: 4 phone keys, 10 ring tones
 - d. The raw device configuration file
 - ▶ Notation in the manufacturer style
 - ▶ Contains placeholders, e.g. <%password%>

BASIC CONCEPT OF A PHONE/ADD-ON TEMPLATE

► Phone Template Feature ► Phone Template Config ► Impact Phone Configuration

a. The name and owner OrgUnit of the phone template



Name
Phone Template Test

OrgUnit
Sales Department



► Portal UI: Phone Settings

Telephone Type *
Phone Template Test Custom

b. Inherit the basic working behaviour according to a parent Phone Template or an anSwitch V7 Terminal Profile



Extends Phone Type
yealink



Provisioning Option *
Auto-Provisioning

Telephone Type *
Phone Template Test Custom

c. Configurations from the Portal UI phone setup pages



Number of Identities
2

Number of Phone Keys
2

Number of Ringtones
2

Supports Line Keys ☒

Supports Team Keys ☒

Supports Speed Dial Keys ☒

Supports Park Keys ☐



Phone Keys				
	Type	Value	Label	Identity
1	Speed Dial	0123456789	Home Office	Current
2	Team Key	311	Front Desk	315 Sales 1

Phone Notification	
Type	Ringtone
Internal Call	Ringtone 1
External Call	Ringtone 2

d. The device configuration template



```
Configuration Template
#!version:1.0.0.1
### This file is the exported MAC-all.cfg.
account.1.enable = <%identityNumber1:*=1,=0%>
account.1.auth_name = <%identityNumber1:*=<%authName%>,=%>
account.1.password = <%identityNumber1:*=<%password%>,=%>
account.1.display_name = <%identityName1%>
account.1.dnd.feature_key_sync.enable = 1
```



► Created phone config file



FORMAT AND BUILD OF A PHONE TEMPLATE

- ▶ The Phone Template is an ASCII formatted text file:
 - ▶ Unix LF line endings
 - ▶ Encoding: UTF-8
- ▶ The Phone Template has two sections
 1. An XML formatted phone template preamble with the phone type attribute settings:
 - ▶ Name
 - ▶ Parent phone template it extends
 - ▶ Available phone key functions
 - ▶ Numbers of identities, phone keys, ring tones
 2. The device configuration template in the manufacturer original style and its placeholders `<%...%>`.

```

1 <phoneTypeAttributes>
2   <name>Phone Template Test</name>
3   <extends>yealink</extends>
4   <phoneKeyFunctions>line,team,speed,orbit</phoneKeyFunctions>
5   <numberOfIdentities>2</numberOfIdentities>
6   <numberOfPhoneKeys>2</numberOfPhoneKeys>
7   <numberOfRingtones>2</numberOfRingtones>
8 </phoneTypeAttributes>
9
10 #!version:1.0.0.1
11
12 ### This file is the exported MAC-all.cfg.
13
14 account.1.enable = <%identityNumber1:*=1,=0%>
15 account.1.auth_name = <%identityNumber1:*=<authName%>,=%>
16 account.1.password = <%identityNumber1:*=<password%>,=%>
17 account.1.display_name = <%identityName1%>
18 account.1.dnd.feature_key_sync.enable = 1
19 account.1.feature_key_sync.enable = 1
20 account.1.forward.feature_key_sync.enable = 1
21 account.1.label = <%identityName1%>
22 account.1.sip_server.1.address = <%identityNumber1:*=<sipServerHost%>,=%>
23 account.1.sip_server.1.expires = 600
24 account.1.sip_server.1.port = <%sipServerPort%>
25 account.1.sip_server.1.transport_type = <%sipServerTransport:*=0,udp=0,tcp=1,tls=2%>
26 account.1.srtp_encryption = <%security:*=0,srtp=2%>
27 account.1.subscribe_mwi = 1
28 account.1.unregister_on_reboot = 1
29 account.1.user_name = <%identityNumber1%>
30
31 account.2.enable = <%identityNumber2:*=1,=0%>
32 account.2.auth_name = <%identityNumber2:*=<authName%>,=%>
33 account.2.password = <%identityNumber2:*=<password%>,=%>
34 account.2.display_name = <%identityName2%>
35 account.2.dnd.feature_key_sync.enable = 1
36 account.2.feature_key_sync.enable = 1
  
```

Norm length : 8'621 lines : 199 Ln : 9 Col : 1 Pos : 304 Unix (LF) UTF-8 IN

WHAT ARE TERMINAL PROFILES?

- ▶ At the root of the anSwitch V7 device handling are so called Terminal Profiles. Terminal Profiles define stuff like:
 - ▶ Using SIP-header, e.g. P-Asserted
 - ▶ Used standard codecs
 - ▶ Manufacturer specific managing of SIP-devices, e.g. specific SIP-headers
 - ▶ etc.
- ▶ Phone Template reference to Terminal Profiles and inherits their handling.
- ▶ Using the Terminal Profile or Phone Template of a certain manufacturer:
 - ▶ Solves interoperability problems between the anSwitch V7 and the SIP-devices
 - ▶ Adds specific manufacturer services, e.g. re-direction service for auto-provisioning

Note

The results of the interoperation tests between the anSwitch V7 and a new SIP-device can be incorporated into the terminal profile of this new SIP-device.

IMPORT & EXPORT PHONE TEMPLATE

- ▶ When exporting a Phone Template, the phone template preamble is added automatically to the exported file.

Note

The owner OrgUnit is not exported as parameter.

- ▶ The import of a Phone Template is only possible when the phone template preamble is present.
 - ▶ The owner OrgUnit will be assigned during the import process. It can be changed later any time.

Note

A Phone Template cannot be used directly as a configuration file for a device.

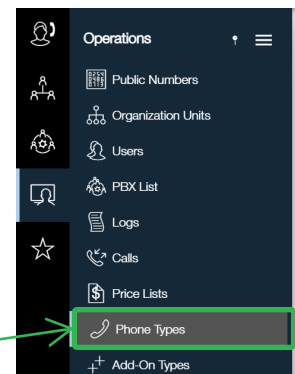
- ▶ The phone Configuration Template part and its placeholders are not modified, neither during import nor export.

3 CONFIGURE THE TEMPLATE BASIC & PORTAL UI SETTINGS

CREATING AND MANAGING TEMPLATES

- ▶ Users with role Administrator or Operator can create, configure and manage templates.
 - ▶ "Phone Templates" and "Phone + Key Module Templates" are managed in menu "Phone Types".
 - ▶ "DECT System Templates" and "ATA Templates" are managed in menu "Add-On Types".

> Menu: Operator
> Sub-Menu:
 "Phone Types"
 or
 "Add-On Types"

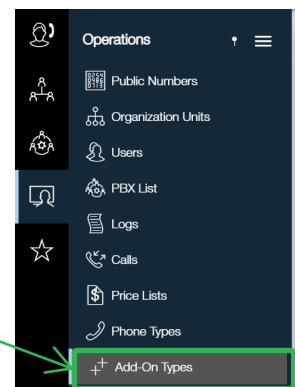


Operations

- Public Numbers
- Organization Units
- Users
- PBX List
- Logs
- Calls
- Price Lists
- Phone Types**
- + Add-On Types

Phone Types

	Name	Member of	Number of Identities	Number of Phone Keys	Number of Key Modules
<input type="checkbox"/>	SNOM D7 + 2x Keypad D717 - Front Desk	PA-PBX-0AX89001	12	3	2
<input type="checkbox"/>	Yealink T48U - Sales Phones	Sales Department	2	2	1



Operations

- Public Numbers
- Organization Units
- Users
- PBX List
- Logs
- Calls
- Price Lists
- Phone Types
- + Add-On Types**

Add On Types

	Name	Member of	Number of Childs
<input type="checkbox"/>	Gigaset DECT N610 - Warehouse	PA-PBX-0AX89001	8

OVERVIEW PHONE TEMPLATE BASIC & PORTAL UI SETTINGS

- ▶ The Phone Template basic settings define
 - ▶ The name of the Phone Template
 - ➔ This is also the phone type name in the phone settings of the Portal UI.
 - ▶ The basic handling of the device by the anSwitch V7.
This is defined either by:
 - ▶ A basic Terminal Profile
 - ▶ The parent Phone Template (also with a Terminal Profile in its back)
- ▶ The Phone Portal UI Settings define
 - ▶ How many configurable phone key must be presented in the Portal UI for this phone type.
 - ▶ Which phone features can be configured to the phone keys.
 - ▶ etc.

CONFIGURE THE TEMPLATE BASIC & PORTAL UI SETTINGS

► Configure the Template Basic & Portal UI Settings:

- > Menu: Operator
 - > Sub-Menu: "Phone Types" or "Add-On Types"
 - > Modify an existing: Select the desired Phone Template or
 - > Start a new one from scratch, click button: + New or
 - > Start a new one from imported, click button: Import
 - > Configure the parameters
 - ➔ See next pages

The offered Portal UI configurations differs for the different template type:

- Phone
- Phone + Key Module
- Add-on device

Settings

Name
Sales Phone

OrgUnit
Sales Department

Extends Phone Type
phone

HTTP Content Type
Plain Text

Number of Identities
2

Number of Phone Keys
2

Number of Ringtones
2

MAC always needed

Supports Line Keys

Supports Team Keys

Supports Speed Dial Keys

Supports Park Keys

Phone Template
basic settings

Define the Terminal
Profile either:

- Directly
- Inherited by a
parent Phone
Template

CONFIGURE BASIC SETTINGS THE PHONE/KEY MODULE/ADD-ON TEMPLATE

► The Phone/Key Module/Add-On Template basic parameters:

Parameter	Example	Value	Description
Name	Sales Phone	String	Name of the Phone Template and phone type a user can select in the Portal UI's phone settings. Note: Choose a good name for uniquely identifying the Phone Template.
OrgUnit	Sales Department	List of selectable OrgUnits	Defines the owner OrgUnit this Phone Template belongs to. Note: The Phone Template is selectable also in the child OrgUnits.
Extend Phone Type	➔ For detailed description see next page		
HTTP Content Type	Plain Text	[Default Plain Text XML] Default: Default	There is SIP device firmware that accepts configuration data received via HTTP only if the content type is correct. ► Default: HTML formatted content ► Plain Text: Plain ASCII formatted content ► XML: XML formatted content

Settings

Name

Sales Phone

OrgUnit

Sales Department

Extends Phone Type


phone

HTTP Content Type

Plain Text

CONFIGURE THE EXTENDS PHONE TYPE PARAMETER

► The Extends Phone Type Parameter:

Parameter	Example	Value	Description
Extends Phone Type	phone	List of selectable phones : <ul style="list-style-type: none"> ► Terminal Profiles ► Phone Templates 	<p>When starting a new Phone Template from a parent Phone Template select the phone type that matches your needs best.</p> <p>These phone types support the "Auto-Provisioning" in the Portal UI's phone settings.</p> <ul style="list-style-type: none"> ► Snom ► Yealink ► Grandstream ► Polycom  <p>When starting a new Phone Template from scratch (no parent Phone Template is used or available) then select one of these two Terminal Profiles:</p> <ul style="list-style-type: none"> ► phone → for a new SIP-phone ► cpe → for any new SIP-device, e.g. ATA <div> <div>Note</div> <div>Do not use other Terminal Profile names. If you have the impression that a certain Terminal Profile may be a better match, contact the Aarenet support first.</div> </div>
	grandstreamGBX20	List of selectable key modules : <ul style="list-style-type: none"> ► Phone Templates 	When starting a new Key Module Template for a certain phone type select the key module type that matches your needs best.
	gigasetBasestation	List of selectable Add-on devices : <ul style="list-style-type: none"> ► Add-On Templates 	When starting a new Add-on Template, e.g. DECT system, for a certain device type select the device type that matches your needs best.

CONFIGURE THE PHONE/KEY MODULE TEMPLATE PORTAL UI SETTINGS

- ▶ The Phone/Key Module Template Portal UI parameters
 - ▶ These parameters influence the display of required configurations and limits on the pages "Phone Setup" and "Phone Auxiliary Keyboards".

Parameter	Example	Value	Description
MAC always needed		Slider On/Off	If set the MAC address must be configured
Number of Identities	5	[0 – n]	Defines how many additional identities can be added for the line key feature
Number of Phone Keys	4	[0 – n]	Defines the number of configurable phone keys
Number of Ringtones	2	[0 – n]	Defines the number of configurable ringing tones for incoming calls from PBX internal or PSTN callers.
Support Line Keys		Slider On/Off	Defines if in the Portal UI's phone key setting the features that are offered.
Support Team Keys		Slider On/Off	
Support Speed Dial Keys		Slider On/Off	
Support Park Keys		Slider On/Off	
Number of Key Modules	2	[0 – n]	For Key Module Template only: Define the number of attached key modules to the phone.

Number of Identities: 2

Number of Phone Keys: 2

Number of Ringtones: 2

Type	Value	Label	Identity
Speed Dial	0123456789	Home Office	Current
Team Key	311	Front Desk	315 Sales 1

Type	Ringtone
Internal Call	Ringtone 1
External Call	Ringtone 2

Supports Line Keys: ☒

Supports Team Keys: ☒

Supports Speed Dial Keys: ☒

Supports Park Keys: ☐

Phone Key 1

Save

Type: Speed Dial

None

Line

Speed Dial

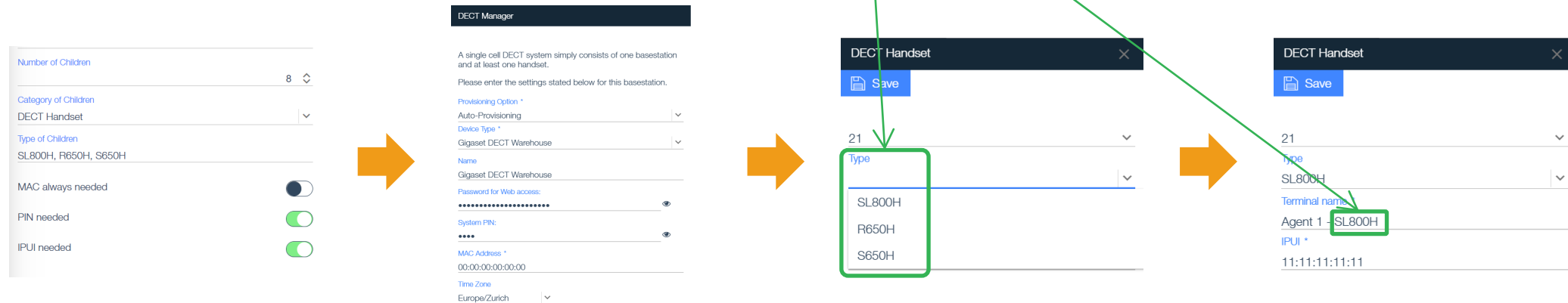
Team Key

CONFIGURE THE ADD-ON TEMPLATE PORTAL UI SETTINGS

► The Add-On Template Portal UI parameters

► These parameters influence the display of required configurations and limits on the page "DECT System Setup".

Parameter	Example	Value	Description
Number of Ringtones	2	[0 – n]	Defines the number of configurable ringing tones for incoming calls from PBX internal or PSTN callers.
Number of Children	5	[0 – n]	Defines how many object (children) the device is manages.
Category of Children	DECT Handset	[DECT Handset Extension-Port]	Defines the type of object (children) the device is managing: ► DECT Handset: DECT base station manages its handset ► Extension-Port: ATA manages its FXS ports
Type of Children	SL800H, R650H, S650H	Comma separated string	List of device names the user can select. They just build a part of the automatically generated terminal name.
MAC always needed		Slider On/Off	If set the parameter is displayed and must be configured.
PIN needed		Slider On/Off	
IPIU needed		Slider On/Off	



PHONE TYPE BASIC & PORTAL UI PARAMETERS IN THE PREAMBLE

- ▶ The Phone Template preamble contains the phone type basic & Portal UI parameters in an XML formatted form:

- ▶ **<name>** : Name
- ▶ **<extends>** : Name of the parent Phone Template or system Terminal Profile it extends
- ▶ **<phoneKeyFunctions>** : Coma separated list of supported phone features
 - ▶ line : Line feature
 - ▶ team : Team key feature
 - ▶ speed : Speed dial feature
 - ▶ orbit : Park call feature
- ▶ **<numberOf*>** : Numbers of allowed
 - ▶ Identities : Number of lines
 - ▶ Phone key : Number of configurable phone keys
 - ▶ Ring tones : Number of selectable ring tones

- ▶ The Phone Template preamble is the first part of an exported Phone Template file

```
1 <phoneTypeAttributes>
2   <name>Sales Phone</name>
3   <extends>genericPhone</extends>
4   <phoneKeyFunctions>line,team,speed,orbit</phoneKeyFunctions>
5   <numberOfIdentities>2</numberOfIdentities>
6   <numberOfPhoneKeys>2</numberOfPhoneKeys>
7   <numberOfRingtones>2</numberOfRingtones>
8 </phoneTypeAttributes>
```

Note

It is not recommended to configure the Phone Template preamble directly.
An exception may be the name for preventing duplicated names when starting a new Phone Template.

4 CONFIGURE THE TEMPLATE DEVICE CONFIGURATION

CONFIGURE THE TEMPLATE DEVICE CONFIGURATION

► Configure the device Configuration Template part:

- > Menu: Operator
 - > Sub-Menu: "Phone Types" or "Add-On Types"
 - > Modify an existing: Select the desired Phone Template or
 - > Start a new one from scratch, click button: + New or
 - > Start a new one from an imported parent Phone Template, click button: Import
- > Configure the configuration template
 - ➔ See next pages

Configuration Template

```
#!/version:1.0.0.1

### This file is the exported MAC-all.cfg.

account.1.enable = <%identityNumber1:*=1,=0%>
account.1.auth_name = <%identityNumber1:*=<%authName%>,=%>
account.1.password = <%identityNumber1:*=<%password%>,=%>
account.1.display_name = <%identityName1%>
account.1.dnd.feature_key_sync.enable = 1
account.1.feature_key_sync.enable = 1
account.1.forward.feature_key_sync.enable = 1
account.1.label = <%identityName1%>
account.1.sip_server.1.address = <%identityNumber1:*=<%sipSer
account.1.sip_server.1.expires = 600
account.1.sip_server.1.port = <%sipServerPort%>
account.1.sip_server.1.transport_type = <%sipServerTransport:
account.1.srtp_encryption = <%security:*=0,srtp=2%>
account.1.subscribe_mwi = 1
account.1.unregister_on_reboot = 1
account.1.user_name = <%identityNumber1%>

account.2.enable = <%identityNumber2:*=1,=0%>
account.2.auth_name = <%identityNumber2:*=<%authName%>,=%>
account.2.password = <%identityNumber2:*=<%password%>,=%>
account.2.display_name = <%identityName2%>
account.2.dnd.feature_key_sync.enable = 1
account.2.feature_key_sync.enable = 1
account.2.forward.feature_key_sync.enable = 1
account.2.label = <%identityName2%>
```


BASIC RULES FOR THE CONFIGURATION TEMPLATE

- ▶ It must contain the complete configuration for the device.
 - ▶ Not just the delta of a parent Phone Template
- ▶ The configuration must follow the manufacturers format and contain all necessary parts.
 - ▶ If you start from scratch, then make a first native configuration of the device with its own UI. Then export this native configuration (editable ASCII format) and use it as basis of the configuration template

CONTENTS OF THE CONFIGURATION TEMPLATE

- ▶ The configuration template contains mandatory and optional configuration instructions in the manufacturer defined notation and format:

- ▶ Configurations with fix values

- ▶ Example: `sip.notify_reboot_enable = 0`

- ▶ Configurations with placeholders

The **placeholder** will be replaced with value of its OrgUnit attribute.

- ▶ Example: `<P23017><%fkeyLabel14%></P23017>`

Note

Any OrgUnit attribute can be used for assigning its value to a placeholder. Referencing an OrgUnit attribute follows the OrgUnit inheritance concept.

- ▶ Comments in the manufacturer defined notation and blank lines

- ▶ Example: `# Ringing tones definition`

(empty line)

STANDARD PLACEHOLDER REPLACEMENT

- ▶ The placeholder's replacing value is the value of the assigned OrgUnit attribute.

- ▶ Example:

`account.1.sip_server.1.address = <%sipServerHost%>` → `account.1.sip_server.1.address = 222.221.211.111`

- ▶ Concatenate a placeholder with a string or other placeholder

- ▶ Examples:

`<alert_internal_ring_sound perm="RW">Ringer<%alertInternal%></alert_internal_ring_sound>`

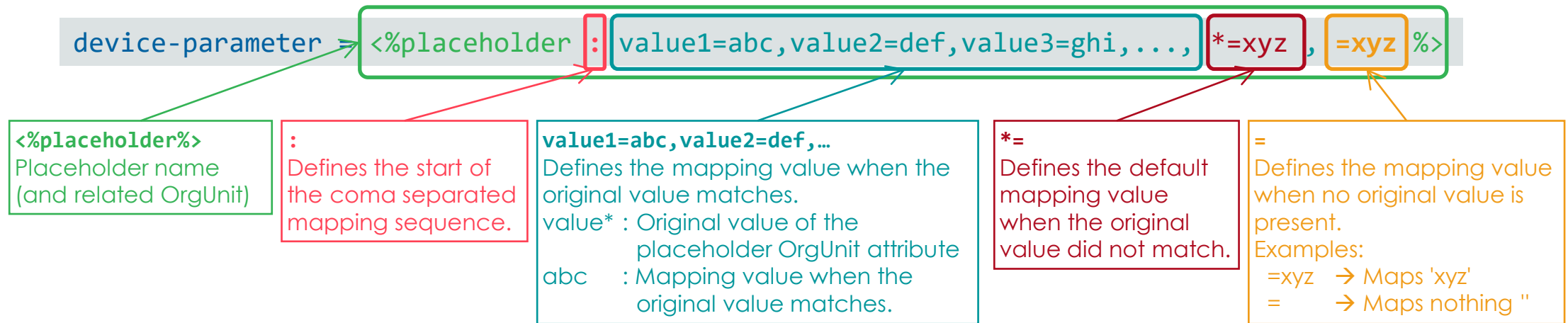
→ `<alert_internal_ring_sound perm="RW">Ringer2</alert_internal_ring_sound>`

`<firmware perm="RW"><%firmwarePath%><%firmware%></firmware>`

→ `<firmware perm="RW">https://manufacturer.com/phone_v1.2.3.4.conf</firmware>`

PLACEHOLDER VALUE MAPPING

- The placeholder value can be mapped to a different value. The mapped value is configured to the device parameter.



Examples:

Original value of OrgUnit:

language : fr

language : en

language : vi

language : (empty)

Configuration Template Contents & Matching Condition:

webLanguage = `<%language:fr=french,it=italian,*=english,=german %>`

webLanguage = `<%language:fr=french,it=italian,*=english,=german %>`

webLanguage = `<%language:fr=french,it=italian,*=english,=german %>`

webLanguage = `<%language:fr=french,it=italian,*=english,=german %>`

Generated Config File:

webLanguage = french

webLanguage = english

webLanguage = english

webLanguage = german

- Note: If no matching value is found then the placeholder is dropped

language : vi

language : vi

webLanguage = `<%language:fr=french,it=italian%>`

`<web_language><%language:fr=french,it=italian%><\web_language>`

webLanguage =

`<web_language><\web_language>`

PLACEHOLDER VALUE MAPPING

- ▶ Value mapping is handy when
 - ▶ the configuration value is different than the OrgUnit's original value
 - ▶ different phones needs different configuration values

▶ Examples

- ▶ Different replacement due to a placeholder value

Value of the referenced OrgUnit: `webGuiLanguage: fr`

▶ Phone Template A

Configuration Template Contents & Matching Condition:

`<web_language><%webGuiLanguage:fr=green, it=italian, *=english%><\web_language>`

Generated Config File value:

`<web_language>green<\web_language>`

▶ Phone Template X

`usr.lang="<%webGuiLanguage:fr=2, it=3, *=1%>"`

`usr.lang="2"`

- ▶ Value mapping of default values and other special cases

▶ Examples

Value of the referenced OrgUnit: `password: wertHhjoer749`

`identityNumber1: 0123456789`

`account.1.enable = <%identityNumber1:*=1, =0%>`

`account.1.enable = 1`

`reg.1.auth.password="<%identityNumber1:*=<password%>, =%>"`

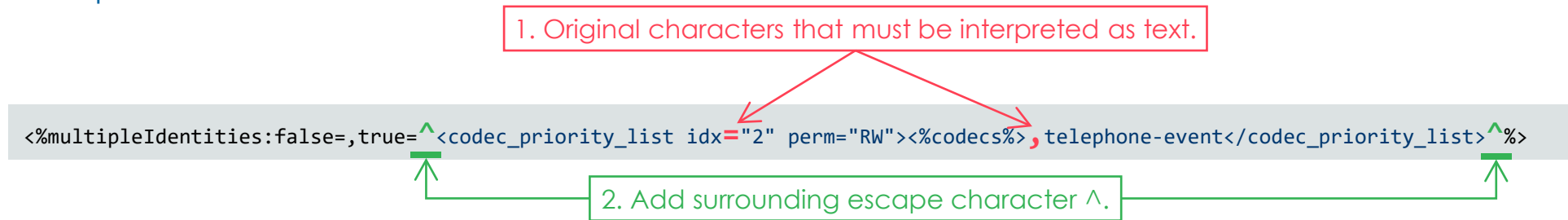
`reg.1.auth.password="wertHhjoer749"`

When "identityNumber1" contains a value write **1** else write **0**.

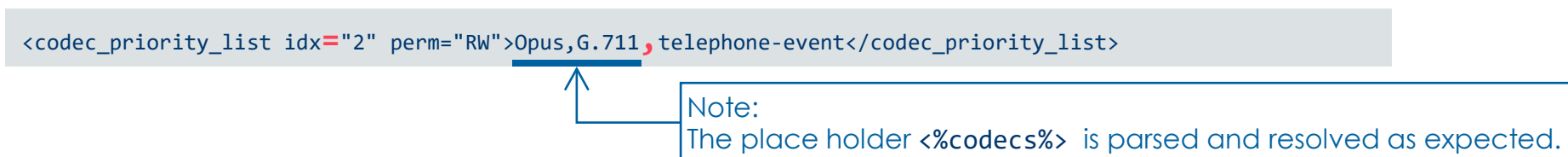
When "identityNumber1" contains a value then write the **value** of <%password%> else write **nothing** (leave empty).

CHARACTER ESCAPING IN PLACEHOLDER MAPPING

- ▶ Character escaping may be needed if the placeholder value or the substitution value contains "," or "=" characters that must be interpreted as text and copied as such into the generated device configuration file.
- ▶ The surrounding escape character '^' ensures that the characters "," and "=" are interpreted as text within the ^...^ limits.
 - ▶ Example:



- ▶ Generated output, when `multipleIdentities` equals `true`:

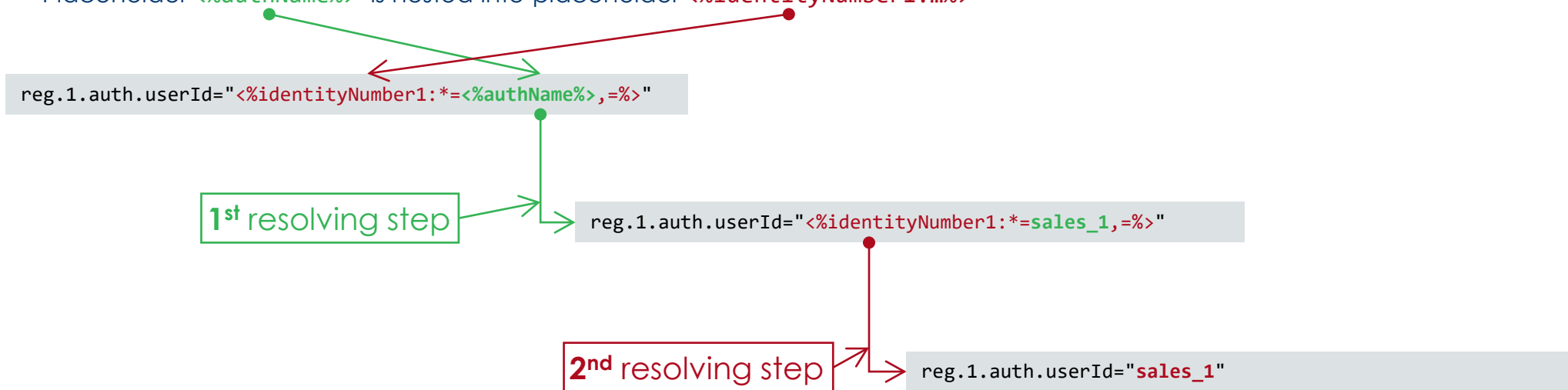


RESOLVING ORDER OF NESTED PLACEHOLDERS

- ▶ The resolving order of nested placeholders is from inside - out

- ▶ Example:

Placeholder `<%authName%>` is nested into placeholder `<%identityNumber1:...%>`



PHONE NUMBER IDENTITY PLACEHOLDER

- ▶ A SIP-device requires at least one phone number that must be registered with a PBX Extension.
 - ▶ SIP-Phones offers often additional phone numbers that are used for the realization of the line feature.
- ▶ Each phone number has its context ID: **[1..N]**
 - ▶ **Context ID 1** is usually used for the SIP registration & authentication of the **user's main phone number**
 - ▶ The context ID is also used in the configuration of the line feature of phone keys. It identifies the associated phone number to the line key.
- ▶ The placeholder **<%identityNumber[1..N]%>** contains as value the phone number that shall be registered.
 - ▶ Add as many phone numbers with their context ID as the phone offers or you need in your Phone Template.

PHONE NUMBER IDENTITY PLACEHOLDER REPLACEMENT

- Use the phone number identity as follows for the SIP authentication:

Device Parameter	Identity Related Placeholder	Value	Remark
Phone number	<%identityNumber[1..N]%>	Phone Number	
SIP registration username	<%identityNumber[1..N]:*=<%authName%>,=%>	String	Insert a username only if there is phone number. If there is no phone number or username, make sure that the parameter is empty (the ',' part takes care of this).
SIP registration password	<%identityNumber[1..N]:*=<%password%>,=%>	String	Insert a password only if there is phone number. If there is no phone number or password, make sure that the parameter is empty (the ',' part takes care of this).
Displayed caller name	<%identityName[1..N]%>	String	

- Examples how to use the <%identityNumber...%> for the SIP authentication of different device brands

```
reg.1.address="<%identityNumber1%>"
reg.1.auth.userId="<%identityNumber1:*=<%authName%>,=%>"
reg.1.auth.password="<%identityNumber1:*=<%password%>,=%>"
reg.1.displayName="<%identityName1%>"
```

```
<user_pname idx="1" perm="RW"><%authName%></user_pname>
<user_pass idx="1" perm="RW"><%password%></user_pass>
<user_name idx="1" perm="RW"><%identityNumber1%></user_name>
<user_realname idx="1" perm="RW"><%identityName1%></user_realname>
```

- Example how to use the <%identityNumber...%> for enabling an account:

```
account.1.enable = <%identityNumber1:*=1,=0%>
```

PHONE KEY/MODULE KEY PLACEHOLDER

- ▶ Most SIP-phones and all Key Modules offer configurable keys. They are referenced as follows:
 - ▶ Each configurable key has its ID number: `[1..N]`
 - ▶ The placeholder `<%fkey*[1..N]%>` identifies the configurable keys on a certain phone type.
 - ▶ Add as many phone keys with their ID as the phone offers or you need in your Phone Template.
 - ▶ The placeholder `<%mkey*[1..N]%>` identifies the configurable keys on a certain key module type.
- ▶ For the feature "Line" the phone key configuration needs to know to which phone number identity it references, e.g.
 - ▶ Phone key number 5 must reference to the phone number identity 2.
 - ▶ The placeholders `<%fkeyContext[1..N]%>` and `<%mkeyContext[1..N]%>` takes care of this association, e.g.:


```
linekey.5.line = <%fkeyType5:none=,line=<%fkeyContext2%>,*=1%>
```

PHONE KEY PLACEHOLDER

► Available phone key placeholders

Device Parameter	Identity Related Placeholder	Value	Remark
Type of phone key	<%fkeyType[1..N]%>	[none line speed team orbit]	Phone key feature: ▶ none → no feature configured to the phone key ▶ line → Line feature ▶ speed → Speed dial feature ▶ team → Team key feature ▶ orbit → Park feature
Value	<%fkeyValue[1..N]%>	String	The configured value mostly for the speed dial, team key and park features.
Label on the phone display	<%fkeyLabel[1..N]%>	String	Label showed on the phone display
	<%fkeyContext[1..N]%>	String	Reference to the phone number identity and its values Note: This is usually used for obtaining the phone number and SIP credentials of a <u>phone number identity</u> for the line feature.

► Examples of phone key configurations of different manufacturers:

```
linekey.1.type = <%fkeyType1:line=15,speed=13,team=16,orbit=10,*=15%>
linekey.1.line = <%fkeyType1:none=,line=<%fkeyContext1%>,*=1%>
linekey.1.value = <%fkeyType1:none=,line=,speed=<%fkeyValue1%>,team=<%fkeyValue1%>,orbit=*77<%fkeyValue1%>%>
linekey.1.label = <%fkeyLabel1%>
```

```
<P23015><%fkeyType4:none=,line=,speed=0,team=1,orbit=9%></P23015>
<P23016><%fkeyType4:none=,line=<%fkeyContext4%>-1,*=0%></P23016>
<P23018><%fkeyType4:none=,line=,speed=<%fkeyValue4%>,team=*76<%fkeyValue4%>,orbit=*77<%fkeyValue4%>
<P23017><%fkeyLabel4%></P23017>
```

KEY MODULE KEY PLACEHOLDER

► Available key module key placeholders

Device Parameter	Identity Related Placeholder	Value	Remark
Type of phone key	<%mkeyType[1..N]%>	[none line speed team orbit]	Phone key feature: ▶ none → no feature configured to the phone key ▶ line → Line feature ▶ speed → Speed dial feature ▶ team → Team key feature ▶ orbit → Park feature
Value	<%mkeyValue[1..N]%>	String	The configured value mostly for the speed dial, team key and park features.
Label on the phone display	<%mkeyLabel[1..N]%>	String	Label showed on the phone display
	<%mkeyContext[1..N]%>	String	Reference to the phone number identity and its values Note: This is usually used for obtaining the phone number and SIP credentials of a <u>phone number identity</u> for the line feature.

► Example of key module key configurations:

```
<fkey idx="3"
  context="<%mkeyContext1:=active%"
  label="<%mkeyLabel1%" perm="RW">
  <%mkeyType1:=none,
    line=line,
    speed=speed <%mkeyValue1%,
    team=dest &lt;sip:<%mkeyValue1%>@<%sipServerAddress%>&gt;;,
    orbit=orbit &lt;sip:*77<%mkeyValue1%>@<%sipServerAddress%>&gt; %>
</fkey>
```


PROPRIETARY PLACEHOLDER

- ▶ A developer can create own proprietary placeholders if needed and configure its value.
 - ▶ A proprietary placeholder is created as OrgUnit attribute.
 - ▶ The OrgUnit where the proprietary placeholder is defined must be higher or at the same level as the OrgUnit where it is referenced.

OrgUnit PBX-Comp-A

Tenant

Save

Settings

Name

PBX-Comp-A

Description

PBX of Company A

Type

PBX

Parent OrgUnit

Provider A

Limits

Max. external channels

Price Lists

Tenant Price List

Customer Price List

Public Call Permission

National calls

Service calls

International calls

Tags

Tags defined in parent OrgUnits

Attribute

Save

Name

terminal.PBX-Company-A-Supporter_T21.coffeeAlarm

Value

60

Cloud ID

- ▶ The OrgUnit attribute name must follow this definition:

`terminal.<PhoneTypeName>.<PlaceholderName>`

- ▶ Example:

`terminal.PBX-Company-A-Supporter-T21.coffeeAlarm`

- ▶ The reference in the Phone Type template is like the standard:

`<%PlaceholderName%>`

- ▶ Example:

`local_time.coffeeAlarm = <%coffeeAlarm%>`

Phone Type

Phone Types

Save

Settings

Name

PBX-Company-A-Supporter-T21

OrgUnit

PBX-Comp-A

Extends Phone Type

yealinkT21PE2

Number of Identities

2

Number of Phone Keys

5

Number of Ringtunes

2

Supports Line Keys

Supports Team Keys

Supports Speed Dial Keys

Supports Park Keys

Configuration Template

```
#!version:1.0.0.1
## The file header "#!version:1.0.0.1" is not a comment and must be placed in the
## It cannot be edited or deleted.

# yealinkT21PE2
auto_provision.server.url = http://192.168.1.118/cfg/config.xml
auto_provision.server.username = 342e5b409931a6c
auto_provision.server.password = eb8d52d4817a6b15
sip.notify_reboot_enable=0
security.trust_certificates = 0

local_time.time_zone = +1
local_time.time_zone_name = Belgium(Brussels)
local_time.ntp_server1 = 0.centos.pool.ntp.org
local_time.ntp_server2 = ntp.metas.ch

# dst-mode 2=automatic(default)
local_time.summer_time = 2
local_time.time_format = 1
local_time.date_format = 6

local_time.coffee_alarm = <%coffeeAlarm%>

voice.tone.country = Switzerland
lang.gui = English
lang.wui = English
features.config_dsskey_length = 1
features.blif_and_callpark_idle_led_enable = 0
```

LIMITS OF THE CONFIGURATION TEMPLATE CREATION

- ▶ In the current version of Phone Type Toolkit, we do not have "programming commands" available in the configuration template part.
 - ▶ Conditions
 - ▶ If ... then ... else
 - ▶ Loop
 - ▶ Goto
 - ▶ Case
 - ▶ etc.
 - ▶ Variables to store values permanently or temporarily
 - ▶ etc

5 LIST OF CONFIGURATION TEMPLATE PLACEHOLDERS

OVERVIEW OF THE UPCOMING PLACEHOLDER LIST

- ▶ The following list of the placeholders covers the most used phone configuration parameters.
 - ▶ If specific placeholders are needed, then check with the Aarenet support if an appropriate standard placeholder exists.
- ▶ Explanation of the upcoming placeholder lists

Placeholder	OrgUnit Attribute	Value	Description
<%ntpServer%>	ntpServer	Domain Name Default: ch.pool.ntp.org	NTP server domain name or IP address

The placeholder references the value of its OrgUnit.

The format of a OrgUnit attribute's value is a string of max. 128 chars, UTF-8.
Common types :

- ▶ String : A string with characters, digits, special & white chars, etc.
- ▶ Number : Signed integer number, e.g.: 0, 1, 43546 , -5677
- ▶ Float : Signed floating point number, e.g.: 34.6789, -1.25
- ▶ [0 .. N] : Number range starting, e.g.: Starting at 0 ending at N
- ▶ Phone Number : Regular national, international or PBX internal phone number
- ▶ [a | b | ...] : List of possible values
- ▶ Domain Name : Domain name formatted string
- ▶ URL : URL with optional: path and parameter part
protocol://ip_address_host:ip_port/path?parameter
- ▶ Email : Email formatted string

OVERVIEW OF THE UPCOMING PLACEHOLDER LIST

- ▶ Examples for the placeholder usage in a configuration template you find in the sections:
 - ▶ [Best Practice When Starting from Scratch](#)
 - ▶ [Example Snippets of Phone Templates](#)

PLACEHOLDER: SIP SERVER & PROXY

Placeholder	OrgUnit Attribute	Value	Description
SIP Server Related			
<%sipServerUrl%>	sipServerUrl	SIP URL Default: sip:1.1.1.1:5060	SIP URL of the SIP server for SIP registration and message signaling Format: sip:ip_address_host:ip_port?parameters
<%sipServerAddress%>		String	IP address/host and IP port part of sipServerUrl → "ip_address_host:ip_port"
<%sipServerHost%>		String	IP-address/host part of sipServerUrl → "ip_address_host"
<%sipServerPort%>		Number Default [udp tcp] : 5060 Default [tls] : 5061	IP port part of sipServerUrl → "ip_port"
<%sipServerProtocol%>		String	Protocol part of sipServerUrl → "sip"
<%sipServerParams%>		String	Parameter part of sipServerUrl → "parameters"
<%sipServerTransport%>	sipServerTransport	[udp tcp tls] Default: udp	Transport protocol of SIP Server.
SIP Proxy Related			
<%sipProxyUrl%>	sipProxyUrl	URL	SIP URL of a SIP proxy Format: sip:ip_address_host:ip_port?parameters Note: If not set, then the value of <%sipServerUrl%> is used
<%sipProxyAddress%>		String	IP address/host and IP port part of sipProxyUrl → "ip_address_host:ip_port"
<%sipProxyHost%>		String	IP-address/host part of sipProxyUrl → "ip_address_host"
<%sipProxyPort%>		Number Default [udp tcp] : 5060 Default [tls] : 5061	IP port part of sipProxyUrl → "ip_port"
<%sipProxyProtocol%>		String	Protocol part of sipProxyUrl → "sip"
<%sipProxyParams%>		String	Parameter part of sipProxyUrl → "parameters"
<%sipProxyTransport%>	sipProxyTransport	[udp tcp tls] Default: udp	Transport protocol of SIP proxy server

PLACEHOLDER: PHONE NUMBER, SIP AUTHENTICATION, ADD-ON

Placeholder	OrgUnit Attribute	Value	Description
Identity: Device Phone Number & Name			
<%identityNumber[1 .. N]%>	identityNumber	Phone number	Phone number, either the phone's main number or a line's number
<%identityName[1 .. N]%>	identityName	String	Displayed caller name
Phone SIP Authentication			
<%authName%>	-	String	SIP username
<%password%>	-	String	SIP password
Add-On SIP Authentication			
<%childAuthName[1 .. N]%>	-	String	SIP username
<%childPassword[1 .. N]%>	-	String	SIP password
Add-On DECT System			
<%childIpui[1 .. N]%>	-	String	Unique DECT Handset identification number IPUI (IPEI). Check the packing or handset for this number.
<%basePin%>	-	String	DECT system PIN Use chars and digits according the device manual.

- For details concerning SIP authentication and line see section [Phone Number Identity Placeholder](#)

PLACEHOLDER: SECURITY FOR SIP MESSAGE & MEDIA STREAM

Placeholder	OrgUnit Attribute	Value	Description	Placeholder
Security for SIP Message Transfer				
<%sipServerTransport%>	sipServerTransport	tls	Transport protocol of SIP Server. Use "TLS" for secure SIP message exchange.	See detailed definitions at Placeholder: SIP Server & Proxy
<%sipProxyTransport%>	sipProxyTransport	tls	Transport protocol of SIP proxy server Use "TLS" for secure SIP message exchange.	
Security for RTP Streams				
<%security%>	security	[none srtp srtpoat dtls] Default: none	Security settings for RTP streams	

Note

Consider the installation of needed certificates on the anSwitch V7 server/host and device side when using the security features on IP transportation level.
See document: "VoIP Zones" (Doc-ID: training_as7_601_voip_zones)

PLACEHOLDER: IT NETWORK

Placeholder	OrgUnit Attribute	Value	Description
IT Network Related			
none			

Note

Make sure that the SIP-device can obtain the following configuration via the IT network's DHCP service:

- ▶ IP address
- ▶ Default IP route
- ▶ DNS server IP address

PLACEHOLDER: NTP SERVER

Placeholder	OrgUnit Attribute	Value	Description
Network Time Server			
<%ntpServer%>	ntpServer	Domain Name Default: ch.pool.ntp.org	NTP server domain name or IP address
<%ntpServer2%>	ntpServer2	Domain Name Default: ntp.metas.ch	Second NTP server domain name or IP address

PLACEHOLDER: PBX DATE/TIME FORMAT

Placeholder	OrgUnit Attribute	Value	Description
Date/Time Format			
<%dateformat%>	dateformat	[dd.MM.yyyy yyyy.MM.dd MM/dd/yyyy] Default: dd.MM.yyyy	Date format of the PBX settings. The date format value corresponds to the parameter "Date Format" in the Portal UI PBX setting page.
<%timeformat%>	timeformat	[HH.mm hh:mm a] Default: HH.mm	Time format of the PBX settings. The time format value corresponds to the parameter "Time Format" in the Portal UI PBX setting page. <ul style="list-style-type: none"> ▶ HH.mm → 24 hours ▶ hh:mm a → 12 hours

Best Practice

For date/time format settings use the proper value of the device configuration.
Use the placeholder mapping mechanism for generating the needed config value for different Phone Templates.

PLACEHOLDER: PHONE TIME ZONE & DAY SAVINGS TIME

Placeholder	Terminal Attribute	Value	Description
Time Zone			
<%timezone%>	timezone	timezone[0 .. 23] Default: timezone1	Time zone of the phone settings. The time zone value corresponds to the parameter "Time Zone" in the Portal UI phone setting page. → Time zone mappings see next page
<%gmtOffsetHours%>		[-10 .. 0 .. +13]	GMT time zone offset in hors, minutes and seconds The returned value corresponds to the to the %timezone%
<%gmtOffsetMinutes%>		[-600 .. 0 .. +780]	
<%gmtOffsetSeconds%>		[-36000 .. 0 .. +46800]	→ GMT offset mappings see next page
Day Savings Time			
<%dstMode%>	terminal.common.dstMode	[0 1] Default: 1	Default day saving time defined on terminal profile level for this anSwitch V7. ▶ 0 → Disabled ▶ 1 → Enable/Automatic

Best Practice

For the day saving time settings use the proper value of the device configuration.
Use the placeholder mapping mechanism for generating the needed config value for different Phone Templates.

If you need more flexibility define a proprietary OrgUnit attribute with your value definitions. Reference the proprietary OU attribute with its automatically generated placeholder as described on page [Proprietary Placeholder](#).

TIME ZONE MAPPING & GMT OFFEST

anSwitch V7 Portal UI	Placeholders			
Phone Setting: Time Zone	<%timezone%>	<%gmtOffsetHours%>	<%gmtOffsetMinutes%>	<%gmtOffsetSeconds%>
Europe/London	timezone0	0	0	0
Europe/Zurich	timezone1	+1	+60	+3600
Europe/Sofia	timezone2	+2	+120	+7200
Europe/Moscow	timezone3	+3	+180	+10800
Asia/Dubai	timezone4	+4	+240	+14400
Asia/Karachi	timezone5	+5	+300	+18000
Asia/Omsk	timezone6	+6	+360	+21600
Asia/Bangkok	timezone7	+7	+420	+25200
Asia/Hong_Kong	timezone8	+8	+480	+28800
Asia/Tokyo	timezone9	+9	+540	+32400
Australia/Canberra	timezone10	+10	+600	+36000
Pacific/Norfolk	timezone11	+11	+660	+39600
Pacific/Auckland	timezone12	+12	+720	+43200
Pacific/Apia	timezone13	+13	+780	+46800
Pacific/Tahiti	timezone14	-10	-600	-36000
America/Anchorage	timezone15	-9	-540	-32400
America/Los_Angeles	timezone16	-8	-480	-28800
America/Denver	timezone17	-7	-420	-25200
America/Mexico_City	timezone18	-6	-360	-21600
America/Montreal	timezone19	-5	-300	-18000
America/Halifax	timezone20	-4	-240	-14400
America/Buenos_Aires	timezone21	-3	-180	-10800
America/Noronha	timezone22	-2	-120	-7200
Atlantic/Azores	timezone23	-1	-60	-3600

PLACEHOLDER: DOWNLOAD CONFIGURATION FILE

Placeholder	OrgUnit Attribute	Value	Description
Provisioning Related			
<%provisioningBaseUrl%>	provisioningBaseUrl	URL Default: https://1.1.1.1	URL for the device configuration file download. Format: https://ip_address_host:ip_port/path?parameters
<%provisioningBaseNoProtUrl%>		String	IP address/host, IP port, path and parameters part of provisioningBaseUrl → "ip_address_host:ip_port/path?parameters"
<%provisioningAddress%>		String	IP address/host and IP port part of provisioningBaseUrl → "ip_address_host:ip_port"
<%provisioningHost%>		String	IP-address/host part of provisioningBaseUrl → "ip_address_host"
<%provisioningPort%>		Number	IP port part of provisioningBaseUrl → "ip_port"
<%provisioningProtocol%>		String	Protocol part of provisioningBaseUrl → "https"
<%provisioningProtocolUpperCase%>		String	Protocol part of provisioningBaseUrl upper case → "HTTPS"
<%provisioningUrl%>		String	Configuration file download URL. Note: A manufacturer specific download URL may be returned for Phone Templates based on the manufacturer's Terminal Profiles.
		Default: "%provisioningBaseUrl%/cfg/config.xml"	
<%authProvisioningUrl%>		String	Configuration file download URL with authentication parameters Note: A manufacturer specific download URL may be returned for Phone Templates based on the manufacturer's Terminal Profiles.
		Default: "%provisioningProtocol%:/%username%:%password%@%provisioningBaseNoProtUrl%/cfg/config.xml"	

PLACEHOLDER: DEVICE UI ACCESS & LANGUAGE

Placeholder	OrgUnit Attribute	Value	Description
Device UI Access Related			
<%webAdminname%>	webAdminname	String	Device UI administrator username
<%webAdminPassword%>	webAdminPassword	String	Device UI administrator password
<%webUsername%>	webUsername	String	Device UI user username
<%webUserPassword%>	webUserPassword	String	Device UI user password
<%basePin%>	basePin	[0000 ... 9999] Number, 4 digits	PIN for authentication at a DECT-base station
<%language%>	language	[en de fr it] Default: en	anSwitch V7 system language defines the default language of the Portal UI and default in band messages of the VoiceMail Box, Do Not Disturb, etc. <ul style="list-style-type: none"> ▶ en : English ▶ de : German ▶ fr : French ▶ it : Italian

PLACEHOLDER: AUDIO CODEC

Placeholder	OrgUnit Attribute	Value	Description
Audio Codec Related			
<%codecs%>	codecs	String with coma separated codec list Default: opus,g722,pcma,pcmu,g729	Available codecs with default names: ▶ pcmu, pcma, g722, gsm, g723, g729,opus Available codecs with special naming: ▶ g726x16, g726x24, g726x32, g726x40 ▶ aal2xg726x16, aal2xg726x24, aal2xg726x32, aal2xg726x40 ▶ g723x53, g723x63 ▶ ilbc20, ilbc30
<%audioCodecClass%>	audioCodecClass	[nb wb fb] Default: wb	Opus codec mode: ▶ nb, wb, fb

PLACEHOLDER: CONFIGURABLE PHONE/KEY MODULE FUNCTION KEY

Placeholder	OrgUnit Attribute	Value	Description
Phone Function Keys Related			
<%fkeyType[1 .. N]%>	fkeyType	[none line speed team orbit]	Phone key feature: <ul style="list-style-type: none"> ▶ none → no feature configured to the phone key ▶ line → Line feature ▶ speed → Speed dial feature ▶ team → Team key feature ▶ orbit → Park feature
<%fkeyLabel[1 .. N]%>	fkeyLabel	String	Display for the key
<%fkeyValue[1 .. N]%>	fkeyValue	String	Contains the configuration value for the
<%fkeyContext[1 .. N]%>	fkeyContext		Dependent on the configured key functionality, this is: <ul style="list-style-type: none"> ▶ "active" ▶ the number of the associated identity to that key.
Key Module Function Keys Related			
<%mkeyType[1 .. N]%>	mkeyType	[none line speed team orbit]	See fkey placeholders above.
<%mkeyLabel[1 .. N]%>	mkeyLabel	String	
<%mkeyValue[1 .. N]%>	mkeyValue	String	
<%mkeyContext[1 .. N]%>	mkeyContext		

- ▶ Details see section [Phone Key/Module Key Placeholder](#)

PLACEHOLDER: PHONEBOOK

Placeholder	OrgUnit Attribute	Portal UI Parameter	Description
Phone Features Related			
<%phonebookUrl%>	phonebookUrl	String	Phonebook file download URL. Note: A brand specific download URL may be returned for Phone Templates based on the brand Terminal Profiles.
		Default: http://%provisioningBaseUrl%/cfg/phonebook.xml	

PLACEHOLDER: COUNTRY TONE SCHEME & RINGING TONES

Placeholder	OrgUnit Attribute	Value	Description
Ringing Tone Related			
<%toneScheme%>	terminal.common.toneScheme	[SWI GER ITA] Default: SWI	Default tone scheme defined on terminal profile level for this anSwitch V7. <ul style="list-style-type: none"> ▶ CHE → Switzerland ▶ GER → Germany ▶ ITA → Italy
<%toneCountry%>	terminal.common.toneCountry	[Switzerland Germany Italy] Default: Switzerland	Default country tone scheme defined on terminal profile level for this anSwitch V7.
<%alertExternal%>	alertExternal	[1..N] or empty	Defines the ringing tone number for incoming calls from external numbers (PSTN, public OnNet)
<%alertInternal%>	alertInternal	[1..N] or empty	Defines the ringing tone number for incoming calls from internal PBX numbers

PLACEHOLDER: FIRMWARE UPDATE

Placeholder	OrgUnit Attribute	Value	Description
Firmware Update Related			
<%firmwarePath%>	firmwarePath	URL	URL of the download source of the firmware, e.g.: http://downloads.manufacturer.com/fw/
<%firmware%>	firmware	String	Firmware version, e.g.: 1.2.3
<%firmwareVersionPath%>	firmwareVersionPath	String	Path to the firmware version file, e.g.: fw123
<%firmwareVersionPostf%>	firmwareVersionPostf	String	Firmware file part, e.g.: -SIP-r.bin
<%updatePolicy%>	updatePolicy	[settings_only auto_update ask_for_update never_update] Default: settings_only	Defines the firmware update policy (derived from Snom) <ul style="list-style-type: none"> ▶ auto_update → Load settings from settings server, but the user is not prompted to acknowledge the update, means full automatic provisioning ▶ ask_for_update → Load settings from settings server and the user is prompted to acknowledge the update ▶ settings_only → Load settings from settings server only, no update is initiated, means update disabled ▶ never_update → Do not load any settings or updates from settings server at all, means provisioning disabled

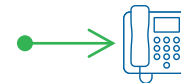
Note

Aarenet doesn't recommend to update firmware automatically. This could cause problems between the currently generated configuration and the new firmware.

6 HOW TO CHECK A GENERATED CONFIGURATION FILE

OVERVIEW OF CHECKING A GENERATED CONFIGURATION FILE

- ▶ It is the ultimate proof when a configuration file is downloaded to the device and after that the device in operation meets the set requirements.
 - ▶ To simplify the whole development process, it would be useful if the generated configuration file can be compared with the original configuration file.
 - ▶ Downloading a config to the device and then checking if the replacements were done correctly may be time consuming.
 - ▶ Short test turnaround times would be preferred
 - ▶ It may be impractical to check with every development step if a new placeholder is working on the device as expected.
- ➔ Good news: This is possible!



ASSIGN THE CONFIGURATION FILE TO THE TEST PBX EXTENSION

2. Assign to the test PBX extension a new phone of the to develop Phone Template type

- > Menu: PBX
 - > Sub-Menu: Extensions
 - > Select: The test PBX extension
 - > Assign a new phone, click button: + New Phone
 - > Configure in the dialog: Phone Setup
 - ▶ Provisioning Option: Select Configuration of the provisioning file URL
 - ▶ Telephone Type, e.g.: Phone T1 Custom
 - > Click button: Save
 - > Click button: Next

Phone Setup - Test PBX Extension-Phone T1 Test 2

Extension Related Features Phone Related Features

Save Synchronize

Phone

Provisioning Option *

Configuration of the provisioning file URL

Telephone Type *

Phone T1 Test 2 Custom

Name

Test PBX Extension-Phone T1 Test 2

Password for Web access:

Time Zone

Europe/Zurich

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 device and navigate to the tab or section **Provisioning** or **Auto Provisioning**
3. Insert the link in the field **Server URL** or **Provisioning URL** or **Profile Rule**
4. Alternatively insert the following informations in the corresponding fields
 - Server Address: `ch-anx-training.aarenet.com`
 - File Name: `/cfg/405fe4dbd2487d1f442fe27695b95079b42425ca20bd54d4.xml`
5. Save the new configuration
6. Reboot the phone, if it is not automatically performed.

Note

After the first "Save" the configuration file is ready for download.

Note

The configuration file name is a salted onetime key. For security reasons it can be downloaded only one time.
A re-provisioning is needed for further downloads, see step 5.

GENERATE & DISPLAY THE CONFIGURATION FILE CONTENTS

3. Generate & display the generated configuration file contents in a Web browser tab

In file "Provisioning Instructions:

> Right click the link: config.xml

> In the Web browser dialog click: Open link in new tab
Note:

This Web browser menu may differ between the different browser types.

- ▶ Alternatively, you may compose the download link with these information and use it in the Web browser.
- ▶ After downloading the configuration file, the "Provisioning State is displayed.

Phone Setup - Test PBX Extension-Phone T1 Test 2

Extension Related Features Phone Related Features

Save Synchronize

Phone

Provisioning Option *

Configuration of the provisioning file URL

Telephone Type *

Phone T1 Test 2 Custom

Name

Test PBX Extension-Phone T1 Test 2

Password for Web access:

Time Zone

Europe/Zurich

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 device and navigate to the tab or section Provisioning or Auto Provisioning
3. Insert the link in the field Server URL or Provisioning URL or Profile Rule
4. Alternatively insert the following informations in the corresponding fields
 - Server Address: ch-anx-training.aarenet.com
 - File Name: /cfg/405fe4dbd2487d1f442fe27695b95079b42425ca20bd54d4.xml
5. Save the new configuration
6. Reboot the phone, if it is not automatically performed.

Open link in new tab

Open link in new window

Open link in incognito window

Save link as...

Copy link address

Phone Setup - Test PBX Extension-Phone T1 Test 2

Extension Related Features Phone Related Features

Save Synchronize

Phone

Provisioning Option *

Configuration of the provisioning file URL

Telephone Type *

Phone T1 Test 2 Custom

Name

Test PBX Extension-Phone T1 Test 2

Password for Web access:

Time Zone

Europe/Zurich

Provisioning State

Configuration downloaded: 30.08.2022 10:04

SIP registration valid until: (never)

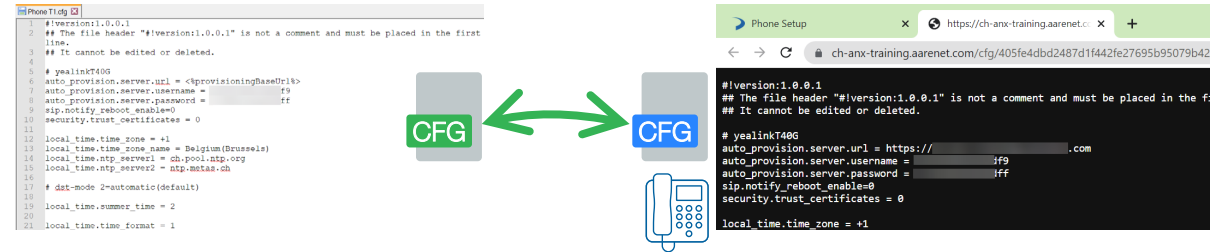
Configuration access from: 185.150.4.146

Registration Status: Not registered

CHECK THE CONFIGURATION FILE CONTENTS

4. Check the contents of the displayed configurations

- ▶ Compare with the original configuration
- ▶ Make changes in the configuration template.



5. For further testing you must re-provisioning the configuration file.

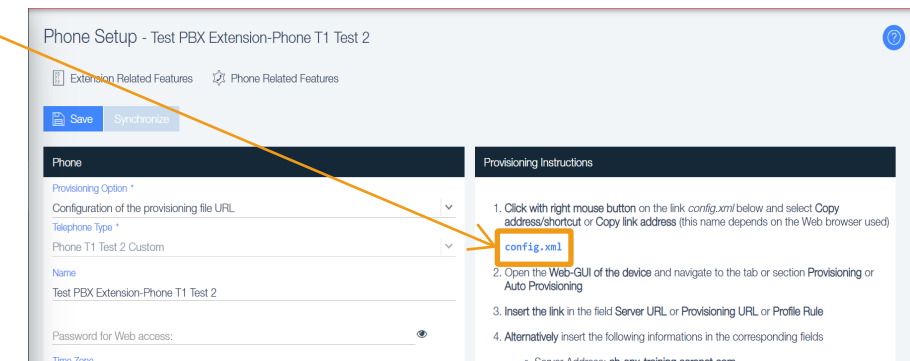
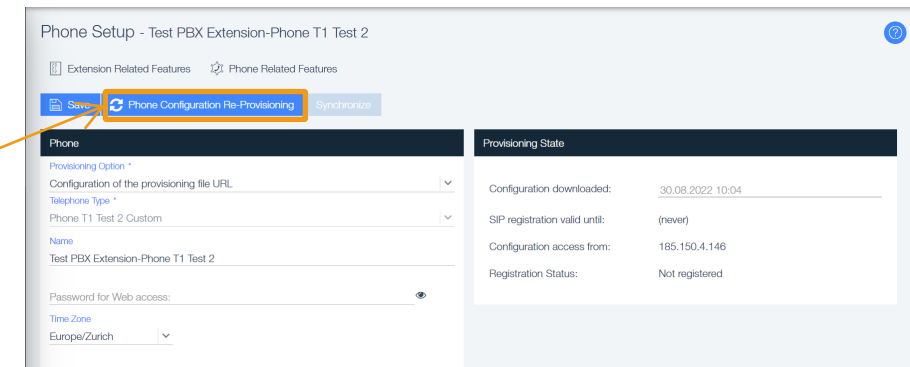
> Click button: Phone Configuration Re-Provisioning

➔ Wait a few seconds until the page refreshes!

- ▶ Continue as described in step 3.

Note

By the re-provisioning, the onetime key and SIP credentials are replaced!



FINAL TEST OF THE CONFIGURATION FILE CONTENTS

6. When the configuration template is developed to the point where the configuration can be verified on the device, load the configuration onto the device and verify that the requirements are met.

- Execute step 5. and
 - > Follow the instructions in the tile: Provisioning Instructions

Phone Setup - Test PBX Extension-Phone T1 Test 2

Extension Related Features Phone Related Features

Save Synchronize

Phone

Provisioning Option *

Configuration of the provisioning file URL

Telephone Type *

Phone T1 Test 2 Custom

Name

Test PBX Extension-Phone T1 Test 2

Password for Web access:

Time Zone

Europe/Zurich

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 device and navigate to the tab or section Provisioning or Auto Provisioning
3. Insert the link in the field Server URL or Provisioning URL or Profile Rule
4. Alternatively insert the following informations in the corresponding fields
 - Server Address: `ch-anx-training.aarenet.com`
 - File Name: `/cfg/405fe4dbd2487d1f442fe27695b95079b42425ca20bd54d4.xml`
5. Save the new configuration
6. Reboot the phone, if it is not automatically performed.



Note

To prevent unwanted side effects of previous device configurations, it is recommended to reboot the device with factory settings before testing.

7 BEST PRACTICE FOR CREATING A TEMPLATE

INITIAL CONSIDERATIONS WHEN CREATING A NEW TEMPLATE

- ▶ If we want to develop a new template, we can start from two different scenarios:
 - a. A known device is closely "related" to the new device.
 - then we start with a parent Phone Template
 - ▶ In this case, we are often only dealing with adjustments in the area of the number of configurable buttons, phone features and localization (time zone, language, etc).
 - b. The device is completely new
 - then we start from scratch
 - ▶ In this case, the development of the Phone Template requires an elaborate and step-by-step procedure.

INITIAL CONSIDERATIONS WHEN CREATING A NEW TEMPLATE

- ▶ Make sure to know the combinations:
 - ▶ Combination "Phone & Key Module":
 - ▶ When combining a phone with a key module make sure the combination is possible.
→ Eventually check in the Portal UI which combinations are possible.
 - ▶ In a template of a combined phone type - key module both devices are configured in the same "Configuration Template".
 - ▶ Combination "DECT Base & Handset"
 - ▶ Check that the chosen DECT base station can be combined with the planned handsets.
→ Eventually check in the Portal UI which combinations are possible.

7.1 BEST PRACTICE WHEN STARTING WITH A PHONE TEMPLATE

BEST PRACTICE WHEN STARTING WITH A PHONE TEMPLATE

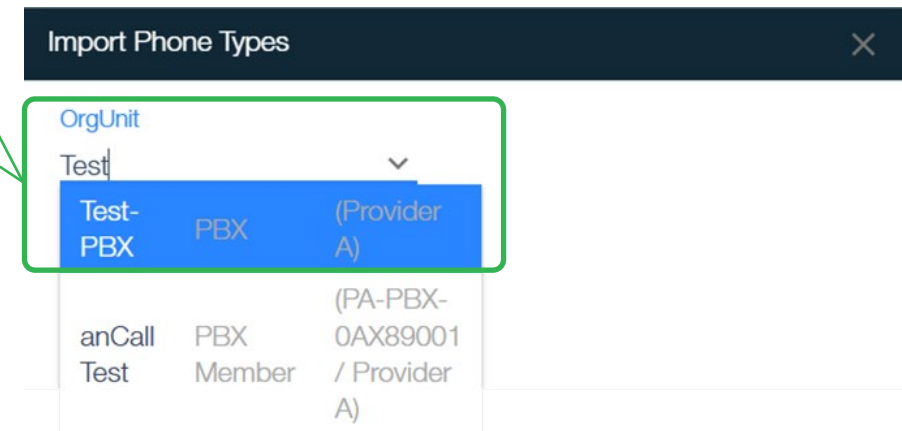
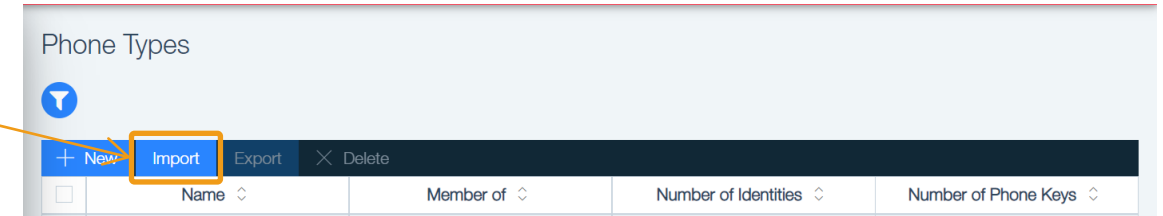
1. Make a copy of the original Phone Template, give it a good name.

2. Import the new Phone Template

► OrgUnit

For the development phase choose a OrgUnit where the users cannot see and select this phone type which is under development.

➔ Later you can adjust it to the correct owning OrgUnit.



BEST PRACTICE WHEN STARTING WITH A PHONE TEMPLATE

3. Configure the basic settings of the new Phone Template

- ▶ Name
 - ▶ Give it a name that a user can exactly identify in its phone settings.
- ▶ OrgUnit
 - ▶ For the development phase choose a OrgUnit where the users cannot see and select this phone type which is under development.
 - ▶ Later you can adjust it to the correct owning OrgUnit.
- ▶ Extends Phone Type
 - ▶ Make sure to insert the name of the parent phone type.

Settings

Name
Yealink T40 - Sales

OrgUnit
Test-PBX

Extends Phone Type
yealinkT40G

Number of Identities
0

Number of Phone Keys
4

Number of Ringtones
2

Supports Line Keys

Supports Team Keys

Supports Speed Dial Keys

Supports Park Keys

4. Change the Portal UI and function parameters according to the requirements for the new phone template.

BEST PRACTICE WHEN STARTING WITH A PHONE TEMPLATE

5. Modify the contents of the Configuration Template according to the requirements for the new phone template.

Note

Make sure that you remove configuration parts that are not needed by your new Phone Template.

- ▶ Example:
The parent template has 4 configurable phone keys and you defined 2 then remove the configuration parts of the 3rd and 4th phone key

Note

Use the devices user manual or the manufacturer support for understanding the needed configurations.

Configuration Template

```
#!/version:1.0.0.1

# Yealink T40 Sales

account.1.enable = <%identityNumber1:*=1,=0%>
account.1.auth_name = <%identityNumber1:*=<%authName%>,=%>
account.1.password = <%identityNumber1:*=<%password%>,=%>
account.1.display_name = <%identityName1%>
account.1.dnd.feature_key_sync.enable = 1
account.1.feature_key_sync.enable = 1
account.1.forward.feature_key_sync.enable = 1
account.1.label = <%identityName1%>
account.1.sip_server.1.address = <%identityNumber1:*=<%sipServer%>,=%>
account.1.sip_server.1.expires = 600
account.1.sip_server.1.port = <%sipServerPort%>
account.1.sip_server.1.transport_type = <%sipServerTransport%>
account.1.srtp_encryption = <%security:*=0,srtp=2%>
account.1.subscribe_mwi = 1
account.1.unregister_on_reboot = 1
account.1.user_name = <%identityNumber1%>

account.2.enable = <%identityNumber2:*=1,=0%>
account.2.auth_name = <%identityNumber2:*=<%authName%>,=%>
account.2.password = <%identityNumber2:*=<%password%>,=%>
account.2.display_name = <%identityName2%>
account.2.dnd.feature_key_sync.enable = 1
account.2.feature_key_sync.enable = 1
account.2.forward.feature_key_sync.enable = 1
account.2.label = <%identityName2%>
```

BEST PRACTICE WHEN STARTING WITH A PHONE TEMPLATE

6. Test the generated configuration

Best Practice

After each major change to the Configuration Template:

- ▶ Check if the configuration file is correctly generated.
- ▶ When the configuration template is developed to the point where the configuration can be verified on the device, load the configuration onto the device and verify that the requirements are met

See section:

[How to Check a Generated Configuration File](#)

7.2 BEST PRACTICE WHEN STARTING FROM SCRATCH

LEARN AND MAKE SURE TO KNOW THE NEW DEVICE

- ▶ Learn how to configure the new device so that it works correctly with the anSwitch V7
- ▶ Does the device support DFKS feature synchronization?
 - ▶ If yes, then the configuration of the call forward CF and do not disturb DND features are automatically synchronized from the anSwitch V7 (no *#-code configurations are needed for these features).
- ▶ Learn the style and format of the configuration file
- ▶ Learn how to download and export a configuration file
- ▶ Learn what happens to a configured device when a configuration file is downloaded
 - ▶ Are only the downloaded parameters overwritten with the new values?
 - ▶ Is the existing configuration completely deleted and overwritten with the new values?
- ▶ Learn to manage the configurable phone keys
 - ▶ Is it possible to realize a scenario like:
 - ▶ The phone key 1 and 2 shall be configurable via the Portal UI
 - ▶ The phone key 3, 4, 5 and 6 are configured fix by the Phone Template
 - ▶ The phone key 7 and 8 shall be free and configurable by the user via the web UI of the phone.

BEST PRACTICE WHEN STARTING FROM SCRATCH

1. Create the new Phone Template
2. Configure the basic settings of the new Phone Template

- ▶ Name
 - ▶ Give it a name that a user can exactly identify.
- ▶ OrgUnit
 - ▶ For the development phase choose a OrgUnit where the users cannot see and select this phone type which is under development.
 - ▶ Later you can adjust it to the correct owning OrgUnit.
- ▶ Extends Phone Type
 - ▶ Make sure to insert the name of the parent phone type.

3. Change the Portal UI and function parameters according to the requirements for the new Phone Template.

The screenshot shows the 'Phone Types' configuration page. The top section has a toolbar with '+ New', 'Import', 'Export', and 'Delete' buttons. Below this is a table with columns: 'Name', 'Member of', 'Number of Identities', and 'Number of Phone Keys'. An orange arrow points to the '+ New' button. Below the table is a 'Settings' section. The 'Name' field is set to 'Phone T1 Test 2' and is highlighted with an orange box. The 'OrgUnit' dropdown is set to 'Test-PBX' and is highlighted with a green box. The 'Extends Phone Type' dropdown is set to 'genericPhone' and is highlighted with a green box. The 'Number of Identities' is set to 2, 'Number of Phone Keys' is set to 4, and 'Number of Ringones' is set to 6. The bottom section contains four toggle switches: 'Supports Line Keys', 'Supports Team Keys', 'Supports Speed Dial Keys', and 'Supports Park Keys', all of which are turned on. Green arrows point to the 'OrgUnit' and 'Extends Phone Type' fields, and a green arrow points to the bottom section of the settings.

Name	Member of	Number of Identities	Number of Phone Keys
Phone T1 Test 2		2	4

Settings

Name: Phone T1 Test 2

OrgUnit: Test-PBX

Extends Phone Type: genericPhone

Number of Identities: 2

Number of Phone Keys: 4

Number of Ringones: 6

Supports Line Keys: ☒

Supports Team Keys: ☒

Supports Speed Dial Keys: ☒

Supports Park Keys: ☒

CREATE THE ORIGINAL CONFIGURATION FILE

4. Create on the device the original configuration that meets fully the operational requirements.
 - a. Configure and test on the original device:
 - ☐ Configure the basic IT network settings (DHCP, NTP Server)
 - ☐ Configure the configuration file download settings
 - ☐ Configure a successful SIP registration of its phone number at the anSwitch V7 extension
 - ☐ Test successful incoming and outgoing calls
 - ☐ Configure the correct localization of date, time, phone language and ringing tone scheme
 - ☐ Configure the desired/required codec list
 - ☐ If needed configure the security for the SIP transport and media stream with TLS/SRTP


CREATE THE ORIGINAL CONFIGURATION FILE

a. (continued)

- ☐ For each feature that must be configurable to a phone key configure a working setting:
 - ☐ Speed Dial, configure *-code: *14 e.g. "Tell my number"
 - ☐ Team Key, configure *-code : *76<Internal_Number> e.g. *76311
 - ☐ Park key, configure *-code : *771
 - ☐ Line , configure a suitable PBX public number
- ☐ Configure the access for different anSwitch V7 user features with *#-codes:
 - ☐ VoiceMail Box, configure *-code : *86
 - ☐ Consider the possible DFK support by the phone
 - ▶ If available enable the phone's synchronization DFK feature
 - ▶ If no DFK is available then configure Do Not Disturb: *26 → on, #26 → off
- For further *#-codes see the application information document: *#-Codes in anSwitch V7
- ☐ Configure the access to or download of the PBX phonebooks
- ☐ Configure the device user interface access

CREATE THE ORIGINAL CONFIGURATION FILE

- b. Export the configuration from the device as ASCII readable file

→  This original configuration file serves as a reference to compare the results of the later automatically generated configuration files!

- c. Load the original configuration file as starter into the file:
Configuration Template


→

Configuration Template

```
#!version:1.0.0.1

### For security, the following parameters with password haven't been display in
###account.1.password =
###static.auto_provision.server.password =
account.1.auth_name = 84920bf0ea30d0cc
account.1.codec.pcmu.priority = 4
account.1.codec.opus.enable = 1
account.1.codec.opus.priority = 1
account.1.codec.g729.priority = 5
account.1.codec.g722.priority = 2
account.1.dialoginfo_callpickup = 1
account.1.display_name = Sales 1
account.1.dnd.feature_key_sync.enable = 1
account.1.enable = 1
account.1.feature_key_sync.enable = 1
account.1.forward.feature_key_sync.enable = 1
account.1.label = Sales 1
account.1.outbound_proxy.1.address = 1.1.1.203
account.1.outbound_proxy.enable = 1
account.1.refresh_remote_id.enable = 0
account.1.sip_server.1.address = 1.1.1.203
account.1.sip_server.1.expires = 600
account.1.subscribe_mwi = 1
account.1.timeout_fwd.timeout = 0
account.1.unregister_on_reboot = 1
account.1.user_name = 315
features.alert_info_tone = 1
features.config_dsskey_length = 1
```

STEP BY STEP INSERTION OF PLACEHOLDERS

5. Now we start with the insertion of placeholders in the Configuration Template.

- ▶ Stick with the order of the following placeholder insertion description.
→ It follows the strategy "low hanging fruits" first.

Best Practice

After each insertion step:

- ▶ Check if the configuration file is correctly generated and matches the requirement of the original configuration file.

See section:

[How to Check a Generated Configuration File](#)

Note:

If needed the values of OrgUnit attributes must be set or adjusted at the correct OrgUnit level.

1. INSERTION: DOWNLOAD CONFIGURATION URL

- ▶ The building of the configuration file download URL is heavily manufacturer dependent. The creation process references to the parental Terminal Profile and uses specific SW code for building this URL.

- ▶ The default anSwitch V7 configuration URL
https://<%provisioningBaseUrl%>/cfg/config.xml

- ▶ Available placeholders

Provisioning Related	
<%provisioningBaseUrl%>	<%provisioningAddress%>
<%provisioningUrl%>	<%provisioningHost%>
<%provisioningBaseNoProtUrl%>	<%provisioningPort%>
	<%provisioningProtocol%>
	<%provisioningProtocolUpperCase%>

- ▶ Description of the placeholder see page:
[Placeholder: Download Configuration File](#)

- ▶ Examples:

```
## Yealink
auto_provision.server.url = <%provisioningUrl%>
auto_provision.server.username = <%authName%>
auto_provision.server.password = <%password%>
```

```
## Snom
device.prov.serverType.set="1"
device.prov.serverType="<%provisioningProtocolUpperCase%>"
device.prov.serverName.set="1"
device.prov.serverName="<%provisioningUrl%>"
device.prov.user.set="1"
device.prov.user="<%authName%>"
device.prov.password.set="1"
device.prov.password="<%password%>"
```

```
## Polycom
CONFIG_FILES="<%authProvisioningUrl%>"
```

```
## Fanvil
<Download_Username><%authName%></Download_Username>
<Download_Password><%password%></Download_Password>
<Config_File_Name>config.xml</Config_File_Name>
<Download_Server_IP><%provisioningBaseUrlGS%>/cfg</Download_Server_IP>
<Download_Protocol>5</Download_Protocol>
<Download_Mode>1</Download_Mode>
```

Note

When this placeholder is working then you can start to develop with short turnaround cycles as described in section "[How to Check a Generated Configuration File](#)".

2. INSERTION: IDENTITY, SIP AUTHENTICATION & SIP SERVER

- ▶ In most cases SIP phones offer several identities. Identities are numbered and contain at least the settings for
 - ▶ Phone number to register
 - ▶ SIP server settings
 - ▶ SIP authentication
 - ▶ IP transport protocol
 - ▶ ... and other device dependent settings

Note:

- ▶ The distinction between SIP Registrar (registration of the phone) and SIP Proxy (SIP connection signalling), as often found in device configurations, is not necessary with the anSwitch V7. On the anSwitch V7 both entities are identical and can usually be referenced with `<%sipServerUrl%>`.
- ▶ Usually the registration of the "main" phone number is bound to the 1st identity.
- ▶ Often the 1st identity is associated with the 1st configurable phone key with the feature "Line".

- ▶ Available placeholders

SIP Server Related	Identity, SIP Authentication & Phone Number Related	SIP Proxy Related
<code><%sipServerUrl%></code>	<code><%identityNumber[1 .. N]%></code>	<code><%sipProxyUrl%></code>
<code><%sipServerAddress%></code>	<code><%identityName[1 .. N]%></code>	<code><%sipProxyAddress%></code>
<code><%sipServerHost%></code>		<code><%sipProxyHost%></code>
<code><%sipServerPort%></code>	<code><%authName%></code>	<code><%sipProxyPort%></code>
<code><%sipServerProtocol%></code>	<code><%password%></code>	<code><%sipProxyProtocol%></code>
<code><%sipServerParams%></code>		<code><%sipProxyParams%></code>
<code><%sipServerTransport%></code>		<code><%sipProxyTransport%></code>

- ▶ Description of the placeholder see page :
[Placeholder: SIP Server & Proxy](#)

[Placeholder: Identity, SIP Authentication & Phone Number](#)
[Phone Number Identity Placeholder Replacement](#)

Note

When these placeholder are working then you can do phone calls

2. INSERTION: IDENTITY, SIP AUTHENTICATION & SERVER

► Examples

```
## Snom
<user_active idx="1" perm="">on</user_active>
<user_pname idx="1" perm="RW"><%authName%></user_pname>
<user_pass idx="1" perm="RW"><%password%></user_pass>
<user_name idx="1" perm="RW"><%identityNumber1%></user_name>
<user_realname idx="1" perm="RW"><%identityName1%></user_realname>
<user_host idx="1" perm="RW"><%sipServerHost%><%sipServerPort%></user_host>
<user_outbound idx="1" perm="RW">
    <%sipServerHost%><%sipServerPort%><%sipProxyParams%>
</user_outbound>
...
<fkey idx="0" context="<%fkeyContext1:=active%>" label="<%fkeyLabel1%>" perm="RW">
    <%fkeyType1:=none,line=line,
        speed=speed <%fkeyValue1%>,
        team=dest &lt;sip:<%fkeyValue1%>@<%sipServerAddress%>&gt;;
        orbit=orbit &lt;sip:*77<%fkeyValue1%>@<%sipServerAddress%>&gt;;%>
</fkey>
```

```
## Fanvil
<ID>SIP1</ID>
<Phone_Number><%identityNumber1%></Phone_Number>
<Display_Name><%identityName1%></Display_Name>
<Sip_Name><%identityNumber1%></Sip_Name>
<Register_Addr><%identityNumber1:=<%sipServerHost%>,=%></Register_Addr>
<Register_Port><%identityNumber1:=<%sipServerPort%>,=%></Register_Port>
<Register_User><%identityNumber1:=<%authName%>,=%></Register_User>
<Register_Pswd><%identityNumber1:=<%password%>,=%></Register_Pswd>
<Enable_Reg><%identityNumber1:=1,=0%></Enable_Reg>
<Proxy_Addr><%identityNumber1:=<%sipServerHost%>,=%></Proxy_Addr>
<Proxy_Port><%identityNumber1:=<%sipServerPort%>,=%></Proxy_Port>
<Proxy_User><%identityNumber1:=<%authName%>,=%></Proxy_User>
<Proxy_Pswd><%identityNumber1:=<%password%>,=%></Proxy_Pswd>
<Transport><%sipServerTransport:=0,udp=0,tcp=1,tls=3%></Transport>
...
<ID>Fkey1</ID>
<Type><%fkeyType1:=line=2,speed=1,team=1,orbit=1,none=0%></Type>
<Value><%fkeyType1:=none,line=<%fkeyContext1:=SIP1,2=SIP2%>,
    speed=<%fkeyValue1%>@1/f,
    team=<%fkeyValue1%>@1/bc*76<%fkeyValue1%>,
    orbit=*77<%fkeyValue1%>@1/c%></Value>
<Title><%fkeyLabel1%></Title>
```

► Examples:

```
## Yealink
account.1.enable = <%identityNumber1:=1,=0%>
account.1.auth_name = <%identityNumber1:=<%authName%>,=%>
account.1.password = <%identityNumber1:=<%password%>,=%>
account.1.display_name = <%identityName1%>
account.1.label = <%identityName1%>
account.1.sip_server.1.address = <%identityNumber1:=<%sipServerHost%>,=%>
account.1.sip_server.1.expires = 600
account.1.sip_server.1.port = <%sipServerPort%>
account.1.sip_server.1.transport_type = <%sipServerTransport:=0,udp=0,tcp=1,tls=2%>
account.1.srtp_encryption = <%security:=0,srtp=2%>
account.1.user_name = <%identityNumber1%>
...
linekey.1.type = <%fkeyType1:=line=15,speed=13,team=16,orbit=10,*=15%>
linekey.1.line = <%fkeyType1:=none,line=<%fkeyContext1%>,*=1%>
linekey.1.value = <%fkeyType1:=none,
    line=,
    speed=<%fkeyValue1%>,
    team=<%fkeyValue1%>,
    orbit=*77<%fkeyValue1%>%>
linekey.1.extension = <%fkeyType1:=team=*76,*=0%>
linekey.1.label = <%fkeyLabel1%>
```

```
## Polycom
voIpProt.SIP.outboundProxy.address="<%sipProxyHost%>"
voIpProt.SIP.outboundProxy.port="<%sipServerPort%>"
voIpProt.SIP.outboundProxy.transport="<%sipServerTransport%>"
voIpProt.server.1.address="<%sipServerHost%>"
voIpProt.server.1.port="<%sipServerPort%>"
voIpProt.server.1.transport="<%sipServerTransport%>"
...
reg.1.address="<%identityNumber1%>"
reg.1.auth.loginCredentialType="<%identityNumber1:=,*=usernameAndPassword%>"
reg.1.auth.userId="<%identityNumber1:=,*=<%authName%>%>"
reg.1.auth.password="<%identityNumber1:=,*=<%password%>%>"
reg.1.displayName="<%identityNumber1%>"
reg.1.label="<%identityName1%>"
```

3. INSERTION: DEVICE UI ACCESS & LANGUAGE

- ▶ Configure the access to the device configuration interface and the used language.
 - ▶ Deriving the used language from `<%language%>` has the advantage that the language setting of the extension is used.
 - ▶ Use `<%language%>` for the phone display and its configuration interface

- ▶ Available placeholders

Device UI Access Related	Device UI Access Related
<code><%language%></code>	<code><%webAdminname%></code>
	<code><%webAdminPassword%></code>
	<code><%webUsername%></code>
	<code><%webUserPassword%></code>

- ▶ Examples:

```
## Yealink
security.user_name.admin = admin
security.user_password = admin:<%webAdminPassword%>
```

```
## Snom
<web_language perm="RW">
  <%language:de=German,fr=French,it=Italian,*=English%>
</web_language>
<language perm="RW"><%language:de=German,fr=French,it=Italian,*=English%></language>
<http_user perm="">admin</http_user>
<http_pass perm=""><%webAdminPassword%></http_pass>
<admin_mode_password perm=""><%webAdminPassword%></admin_mode_password>
<http_client_user perm=""><%authName%></http_client_user>
<http_client_pass perm=""><%password%></http_client_pass>
```

```
## Polycom
lcl.ml.lang="<%language:de=DTGerman_Germany,*=%>"
device.set="1"
device.auth.localAdminPassword="<%webAdminPassword%>"
device.auth.localAdminPassword.set="1"
device.auth.localUserPassword="<%webAdminPassword%>"
device.auth.localUserPassword.set="1"
```

- ▶ Description of the placeholder see page :
[Placeholder: Device UI Access & Language](#)

4. INSERTION: NTP SERVER & TIME ZONE & DATE/TIME

- ▶ NTP server, time zone and date/time placeholders are straight forward

- ▶ Available placeholders

Network Time Server	Time Zone
<%ntpServer%>	<%timezone%>
<%ntpServer2%>	<%gmtOffsetHours%>
	<%gmtOffsetMinutes%>
	<%gmtOffsetSeconds%>
	Date/Time Related
	<%dstMode%>

- ▶ Description of the placeholder see page: [Placeholder: NTP Server & Time Zone & Date/Time](#)

- ▶ Examples:

```
## Yealink
local_time.ntp_server1 = <%ntpServer%>
local_time.ntp_server2 = <%ntpServer2%>
local_time.time_zone = <%gmtOffsetHours%>
local_time.summer_time = <%dstMode:1=2,*=<%dstMode%>%>
```

```
## Snom
<ntp_server perm="RW"><%ntpServer%> <%ntpServer2%></ntp_server>
<timezone perm="RW"><%typeTimezone%></timezone>
```

```
## Polycom
device.snmp.serverName.set="1"
device.snmp.serverName="<%ntpServer%>"
```

```
## Fanvil
<SNTP_Server><%ntpServer%></SNTP_Server>
<Second_SNTP_Server><%ntpServer2%></Second_SNTP_Server>
```

```
## Panasonic
## NTP Settings
NTP_ADDR="<%ntpServer%>"

## Time Settings
TIME_ZONE="<%timeZoneOffset%>"
```

Note

Not listed are brand specific placeholders of built-in phone types.
Brand specific placeholders return values that match the proper device configuration needs, so no placeholder mapping mechanism must be used.

5. INSERTION: COUNTRY TONE SCHEME & RINGING TONES

- ▶ The country localization and ringing tone are straight forward

- ▶ Important placeholders

Ringtone Related
<%toneScheme%>
<%toneCountry%>
<%alertExternal%>
<%alertInternal%>

- ▶ All available provisioning placeholder see page:
[Placeholder: Country Tone Scheme & Ringing Tones](#)

- ▶ Examples:

```
## Yealink
distinctive_ring_tones.alert_info.1.ringer = <%alertInternal%>
distinctive_ring_tones.alert_info.2.ringer = <%alertExternal%>
```

```
## Snom
<tone_scheme perm="RW"><%toneScheme%></tone_scheme>
<alert_internal_ring_sound
perm="RW">Ringer<%alertInternal%></alert_internal_ring_sound>
```

6. INSERTION: AUDIO CODECS

- ▶ Configure the device codec list according your system or anSwitch V7 definitions.
- ▶ Unfortunately, every manufacturer has its very own codec scheme.

- ▶ The default anSwitch V7 codecs are
opus,g722,pcma,pcmu,g729
Opus class: wb

- ▶ Available placeholders

Audio Codec Related
<%codecs%>
<%audioCodecClass%>

- ▶ Description of the placeholder see page :
[Placeholder: Audio Codec](#)

▶ Examples:

```
## Snom
<codec_priority_list idx="1" perm="RW">pcmu,pcma,g722,opus-wb,gsm,g729,telephone-
event</codec_priority_list>
```

```
## Polycom
voice.codecPref.Opus="1"
voice.codecPref.G711_Mu="2"
voice.codecPref.G711_A="3"
voice.codecPref.G729_AB="4"
voice.codecPref.G7221.32kbps="0"
voice.codecPref.G7221_C.48kbps="0"
voice.codecPref.G722="0"
voice.codecPref.Siren14.48kbps="0"
voice.codecPref.Siren22.64kbps="0"
```

Note

In most cases the placeholder <%codecs%> is not usable because these settings are very brand specific.
Check then manufacturer's manual.

7. INSERTION: SECURITY FOR SIP MESSAGE & MEDIA STREAM

- ▶ If required activate the security features on IP transportation level.
- ▶ Often the security is associated with the different identities.

- ▶ Available placeholders

Security for SIP Message Transfer
<%sipServerTransport%>
<%sipProxyTransport%>
Security for RTP Streams
<%security%>

- ▶ Description of the placeholder see page : [Placeholder: Security for SIP Message & Media Stream](#)

- ▶ Examples:

```
## Yealink
account.1.sip_server.1.transport_type = <%sipServerTransport:*=0,udp=0,tcp=1,tls=2%>
account.1.srtp_encryption = <%security:*=0,srtp=2%>
```

```
## Snom
<user_srtp idx="${identity.index}" perm="RW">
  <%security:srtp=on,srtpopt=on,*=off%>
</user_srtp>
<user_savp idx="${identity.index}" perm="RW">
  <%security:srtp=mandatory,srtpopt=optional,*=off%>
</user_savp>
```

```
## Polycom
sec.srtp.enable = "<%security:*=0,srtp=1%>"
sec.srtp.offer = "<%security:*=0,srtp=1%>"
sec.srtp.require = "<%security:*=0,srtp=1%>"
```

```
## Fanvil
<Media_Crypto><%security:*=0,srtp=2%></Media_Crypto>
<Transport><%sipServerTransport:*=0,udp=0,tcp=1,tls=3%></Transport>
```

8. INSERTION: CONFIGURABLE PHONE FUNCTION KEY

- ▶ In most cases SIP phones offer several configurable phone keys.
- ▶ Phone keys are numbered and contain at least the settings for
 - ▶ Configured feature
 - ▶ A value that meets the feature needs
 - ▶ An optional label name
 - ▶ For the line feature a context that references to the associated identity and is number

- ▶ Available placeholders

Function Keys Related
<%fkeyType[1 .. N]%>
<%fkeyLabel[1 .. N]%>
<%fkeyValue[1 .. N]%>
<%fkeyContext[1 .. N]%>

- ▶ Description of the placeholder see page :
[Placeholder: Configurable Phone Function Key](#)
[Phone Key Placeholder Replacement](#)

- ▶ Examples:

```
## Yealink
linekey.2.type = <%fkeyType2:line=15,speed=13,team=16,orbit=10,*=15%>
linekey.2.line = <%fkeyType2:none=,line=<%fkeyContext1%>,*=1%>
linekey.2.value = <%fkeyType2:none=,
    line=,
    speed=<%fkeyValue2%>,
    team=<%fkeyValue2%>,
    orbit=*77<%fkeyValue2%>%>
linekey.2.extension = <%fkeyType2:team=*76,*= %>
linekey.2.label = <%fkeyLabel2%>
```

```
## Snom
<fkey idx="2" context="<%fkeyContext3:=active%" label="<%fkeyLabel3%" perm="RW">
    <%fkeyType3:=none,
        line=line,
        speed=speed <%fkeyValue3%>,
        team=dest &lt; sip:<%fkeyValue3%>@<%sipServerAddress%>&gt;,
        orbit=orbit &lt; sip:*77<%fkeyValue3%>@<%sipServerAddress%>&gt;%>
</fkey>
```

```
## Polycom
attendant.resourceList.2.label="<%fkeyLabel2%"
attendant.resourceList.2.address="<%fkeyValue2%"
attendant.resourceList.2.type="normal"

lineKey.2.category="<%fkeyType2%"
```

```
## Fanvil
<ID>Fkey2</ID>
<Type><%fkeyType2:line=2,speed=1,team=1,orbit=1,none=0%></Type>
<Value><%fkeyType2:none=,
    line=<%fkeyContext2:1=SIP1,2=SIP2%>,
    speed=<%fkeyValue2%>@1/f,
    team=<%fkeyValue2%>@1/bc*76<%fkeyValue2%>,
    orbit=*77<%fkeyValue2%>@1/c%>
</Value>
<Title><%fkeyLabel2%></Title>
```

9. INSERTION: PHONEBOOK

- ▶ The building of the phonebook download URL is heavily manufacturer dependent. The creation process references to the parental Terminal Profile and uses specific SW code for building this URL.

- ▶ The default anSwitch V7 phonebook URL
`http://%provisioningBaseUrl%/cfg/phonebook.xml`

- ▶ Available placeholders

Phone Features Related
<%phonebookUrl%>

- ▶ Description of the placeholder see page :
[Placeholder: Phone Book & Various Features](#)

▶ Examples:

```
## Yealink
remote_phonebook.data.1.url = <%phonebookUrl%>
remote_phonebook.data.1.name = System phonebook
```

```
## Snom
<dkey_directory perm="RW">url <%phonebookUrl%></dkey_directory>
```

```
## Polycom
CONTACTS_DIRECTORY="<%phonebookUrl%>"
```

```
## Fanvil
<Xml_PhoneBook>
  <Xml_PhoneBook_Entry>
    <ID>XML-PBook1</ID>
    <Name>Global phonebook</Name>
    <Addr><%phonebookUrl%></Addr>
    ...
  </Xml_PhoneBook_Entry>
</Xml_PhoneBook>
```

```
## Panasonic
## XML Settings
XML_PHONEBOOK_URL="<%phonebookUrl%>"
```

10. INSERTION: FIRMWARE UPDATE

- ▶ The handling of firmware update is heavily manufacturer dependent and often not allowed via configuration settings.

- ▶ Available placeholders

Firmware Update Related
<%firmwarePath%>
<%firmware%>
<%firmwareVersionPath%>
<%firmwareVersionPostf%>
<%updatePolicy%>

- ▶ Description of the placeholder see page : [Placeholder: Firmware Update](#)

- ▶ Examples:

```
## Snom
<firmware-settings>
  <firmware perm="RW">
    <%firmwarePath%><%firmware%><%firmwareVersionPath%>/<%firmware%><%firmwareVersionPostf%>
  </firmware>
</firmware-settings>
```

Note

Aarenet doesn't recommend to update firmware automatically. This could cause problems between the currently generated configuration and the new firmware.

11. INSERTION: VOICEMAIL BOX & MESSAGE SUBSCRIPTION

- ▶ Access the VoiceMail Box and subscribe the MWI notification when new messages were recorded.
 - ▶ *-code for accessing the VoiceMail Box: *86
- ▶ Examples:

```
## Yealink
voice_mail.number.1 = *86
account.1.subscribe_mwi = 1
```

```
## Snom
<user_mailbox idx="1" perm="RW">*86</user_mailbox>
```

```
## Polycom
msg.mwi.1.callBack="*86"
msg.mwi.1.callBackMode="contact"
msg.mwi.1.subscribe="<%identityNumber1%>@<%sipServerHost%>"
```

```
## Fanvil
<MWI_Num>*86</MWI_Num>
```

Note

The configuration of the MWI subscription at the anSwitch V7 presence service for the indication of new received messages is very brand specific. Check then manufacturer's manual.

8 EXAMPLE SNIPPETS OF PHONE TEMPLATES

OVERVIEW OF CONFIGURATION TEMPLATE SNIPPETS

- ▶ The following configuration template snippets are:
 - ▶ For displaying the manufactures style
 - ▶ For displaying the usage of placeholders
 - ▶ Incomplete
 - ▶ Are not fully operational

- ▶ How to obtain a Phone Template from the Aarenet repository?
 - a. Post a helpdesk ticket with the requested desired Phone Template
 - b. The Aarenet account manager will eventually place an offer
 - c. The requested Phone Template will be delivered
 - d. Aarenet personnel or an Operator may import or modify the Phone Template

SNOM CONFIGURATION PHONE TEMPLATE SNIPPED

```
<settings>
  <firmware-settings>
    <firmware perm="RW"><%firmwarePath%><%firmware%><%firmwareVersionPath%><%firmware%><%firmwareVersionPostf%>
    </firmware>
  </firmware-settings>

  <phone-settings e="2">
    <update_policy perm="RW">settings_only</update_policy>

    <setting_server perm="RW"><%provisioningUrl%></setting_server>
    <ntp_server perm="RW"><%ntpServer%><%ntpServer2%></ntp_server>

    <timezone perm="RW"><%typeTimezone%></timezone>
    <date_us_format perm="RW">off</date_us_format>
    <time_24_format perm="RW">on</time_24_format>

    <tone_scheme perm="RW"><%toneScheme%></tone_scheme>

    <admin_mode perm="RW">off</admin_mode>
    <use_hidden_tags perm="RW">off</use_hidden_tags>
    <call_join_xfer perm="RW">on</call_join_xfer>
    <transfer_on_hangup perm="RW">off</transfer_on_hangup>
    <call_waiting perm="RW">on</call_waiting>
    <tls_server_authentication perm="RW">off</tls_server_authentication>

    <web_language perm="RW"><%language:de=German,fr=French,it=Italian,*=English%></web_language>
    <language perm="RW"><%language:de=German,fr=French,it=Italian,*=English%></language>
    <http_user perm="">admin</http_user>
    <http_pass perm=""><%webAdminPassword%></http_pass>
    <admin_mode_password perm=""><%webAdminPassword%></admin_mode_password>

    <http_client_user perm=""><%authName%></http_client_user>
    <http_client_pass perm=""><%password%></http_client_pass>

    <redirect_always_on_code perm=""></redirect_always_on_code>
    <redirect_always_off_code perm=""></redirect_always_off_code>
    <redirect_busy_on_code perm=""></redirect_busy_on_code>
    <redirect_busy_off_code perm=""></redirect_busy_off_code>
    <redirect_time_on_code perm=""></redirect_time_on_code>
    <redirect_time_off_code perm=""></redirect_time_off_code>

    <dnd_on_code perm=""></dnd_on_code>
    <dnd_off_code perm=""></dnd_off_code>
```

► (continued)

```
<user_pname idx="1" perm="RW"><%authName%></user_pname>
<user_pass idx="1" perm="RW"><%password%></user_pass>
<user_name idx="1" perm="RW"><%identityNumber1%></user_name>
<user_realname idx="1" perm="RW"><%identityName1%></user_realname>
<user_host idx="1" perm="RW"><%sipServerHost%>:<%sipServerPort%></user_host>
<user_outbound idx="1" perm="RW"><%sipServerHost%>:<%sipServerPort%><%sipProxyParams%></user_outbound>
<user_expiry idx="1" perm="RW">3600</user_expiry>
<user_mailbox idx="1" perm="RW">*86</user_mailbox>
<user_srtp idx="{identity.index}" perm="RW"><%security:srtp=on,srtpopt=on,*=off%></user_srtp>
<user_savp idx="{identity.index}" perm="RW"><%security:srtp=mandatory,srtpopt=optional,*=off%></user_savp>
<user_dp_str idx="1" perm="RW">!([#*0-9][*0-9]+)#!\!d</user_dp_str>
<codec_priority_list idx="1" perm="RW">pcmu,pcma,g722,opus-wb,gsm,g729,telephone-event</codec_priority_list>
<dfks idx="1" perm="">on</dfks>
<user_active idx="1" perm="">on</user_active>

<user_pname idx="2" perm="RW"><%authName%></user_pname>
<user_pass idx="2" perm="RW"><%password%></user_pass>
<user_name idx="2" perm="RW"><%identityNumber2%></user_name>
<user_realname idx="2" perm="RW"><%identityName2%></user_realname>
<user_host idx="2" perm="RW"><%sipServerHost%>:<%sipServerPort%></user_host>
<user_outbound idx="2" perm="RW"><%sipServerHost%>:<%sipServerPort%><%sipProxyParams%></user_outbound>
<user_expiry idx="2" perm="RW">3600</user_expiry>
<user_mailbox idx="2" perm="RW">/>
<user_dp_str idx="2" perm="RW">!([#*0-9][*0-9]+)#!\!d</user_dp_str>
<codec_priority_list idx="2" perm="RW">pcmu,pcma,g722,opus-wb,gsm,g729,telephone-event</codec_priority_list>
<dfks idx="2" perm="">on</dfks>

<user_active idx="2" perm="">on</user_active>
<user_active idx="3" perm="">off</user_active>

<gui_fkey1 perm="">keyevent F_REDIAL</gui_fkey1>
<dkey_directory perm="RW">url <%phonebookUrl%></dkey_directory>

</phone-settings>

...

</settings>
```

```
</phone-settings>

<functionKeys e="2">
  <fkey idx="0" context="<%fkeyContext1:=active%>" label="<%fkeyLabel1%>" perm="RW"><%fkeyType1:=none,line=line,speed=speed <%fkeyValue1%>,team=dest &lt; sip:<%fkeyValue1%>@<%sipServerAddress%>&lt; ;orbit=orbit&lt; sip:*77<%fkeyValue1%>@<%sipServerAddress%>&lt; ;%></fkey>
  <fkey idx="1" context="<%fkeyContext2:=active%>" label="<%fkeyLabel2%>" perm="RW"><%fkeyType2:=none,line=line,speed=speed <%fkeyValue2%>,team=dest &lt; sip:<%fkeyValue2%>@<%sipServerAddress%>&lt; ;orbit=orbit&lt; sip:*77<%fkeyValue2%>@<%sipServerAddress%>&lt; ;%></fkey>
  <fkey idx="2" context="<%fkeyContext3:=active%>" label="<%fkeyLabel3%>" perm="RW"><%fkeyType3:=none,line=line,speed=speed <%fkeyValue3%>,team=dest &lt; sip:<%fkeyValue3%>@<%sipServerAddress%>&lt; ;orbit=orbit&lt; sip:*77<%fkeyValue3%>@<%sipServerAddress%>&lt; ;%></fkey>
</functionKeys>

</settings>
```

YEALINK CONFIGURATION PHONE TEMPLATE SNIPPED

```
#!version:1.0.0.1

### This file is the exported MAC-all.cfg.

account.1.enable = <%identityNumber1:*=1,=0%>
account.1.auth_name = <%identityNumber1:*=<%authName%>,=%>
account.1.password = <%identityNumber1:*=<%password%>,=%>
account.1.display_name = <%identityName1%>
account.1.dnd.feature_key_sync.enable = 1
account.1.feature_key_sync.enable = 1
account.1.forward.feature_key_sync.enable = 1
account.1.label = <%identityName1%>
account.1.sip_server.1.address = <%identityNumber1:*=<%sipServerHost%>,=%>
account.1.sip_server.1.expires = 600
account.1.sip_server.1.port = <%sipServerPort%>
account.1.sip_server.1.transport_type = <%sipServerTransport:*=0,udp=0,tcp=1,tls=2%>
account.1.srtp_encryption = <%security:*=0,srtp=2%>
account.1.subscribe_mwi = 1
account.1.unregister_on_reboot = 1
account.1.user_name = <%identityNumber1%>

account.2.enable = <%identityNumber2:*=1,=0%>
account.2.auth_name = <%identityNumber2:*=<%authName%>,=%>
account.2.password = <%identityNumber2:*=<%password%>,=%>
account.2.display_name = <%identityName2%>
account.2.dnd.feature_key_sync.enable = 1
account.2.feature_key_sync.enable = 1
account.2.forward.feature_key_sync.enable = 1
account.2.label = <%identityName2%>
account.2.sip_server.1.address = <%identityNumber2:*=<%sipServerHost%>,=%>
account.2.sip_server.1.expires = 600
account.2.sip_server.1.port = <%sipServerPort%>
account.2.sip_server.1.transport_type = <%sipServerTransport:*=0,udp=0,tcp=1,tls=2%>
account.2.srtp_encryption = <%security:*=0,srtp=2%>
account.2.subscribe_mwi = 1
account.2.unregister_on_reboot = 1
account.2.user_name = <%identityNumber2%>
features.config_dsskey_length = 1
features.blf_and_callpark_idle_led_enable = 0
features.dnd_mode = 1
features.fwd_mode = 1
transfer.dsskey_deal_type = 1
features.alert_info_tone = 1
features.config_dsskey_length = 1
features.dnd_mode = 1
features.fwd_mode = 1
features.alert_info_tone = 1
```

► (continued)

```
distinctive_ring_tones.alert_info.1.text =
distinctive_ring_tones.alert_info.1.ringer = 1

distinctive_ring_tones.alert_info.2.text =
distinctive_ring_tones.alert_info.2.ringer = 1

local_time.ntp_server1 = <%ntpServer%>
local_time.ntp_server2 = <%ntpServer2%>
local_time.time_zone = <%timeZoneOffset%>

sip.notify_reboot_enable = 0
transfer.dsskey_deal_type = 1

voice_mail.number.1 = *86

remote_phonebook.data.1.url = <%phonebookUrl%>
remote_phonebook.data.1.name = System phonebook
features.remote_phonebook.flash_time = 3600

### Static Configuration ###
auto_provision.server.url = <%provisioningUrl%>
auto_provision.server.username = <%authName%>
auto_provision.server.password = <%password%>
static.security.trust_certificates = 1

linekey.1.type = <%fkeyType1:line=15,speed=13,team=16,orbit=10,*=15%>
linekey.1.line = <%fkeyType1:none=,line=<%fkeyContext1%>,*=1%>
linekey.1.value = <%fkeyType1:none=,line=speed=<%fkeyValue1%>,team=<%fkeyValue1%>,orbit=*77<%fkeyValue1%>%>
linekey.1.extension = <%fkeyType1:team=*76,*= %>
linekey.1.label = <%fkeyLabel1%>

linekey.2.type = <%fkeyType2:line=15,speed=13,team=16,orbit=10,*=15%>
linekey.2.line = <%fkeyType2:none=,line=<%fkeyContext2%>,*=1%>
linekey.2.value = <%fkeyType2:none=,line=speed=<%fkeyValue2%>,team=<%fkeyValue2%>,orbit=*77<%fkeyValue2%>%>
linekey.2.extension = <%fkeyType2:team=*76,*= %>
linekey.2.label = <%fkeyLabel2%>
```

GRANDSTREAM CONFIGURATION PHONE TEMPLATE SNIPPED

```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- ## Grandstream 2130 XML Provisioning Configuration -->
<gs_provision version="1">
  <config version="1">
    <!-- ## Maintenance / Web Access -->
    <!-- # Admin password for web interface -->
    <!-- # String: a-z, A-Z, 0-9 -->
    <P2><%webAdminPassword%></P2>
    <!-- # IP Mode. 0 - Both, prefer IPv4, 1 - Both, prefer IPv6, 2 - IPv4 Only, 3 - IPv6 Only. Default value is 2. -->
    <P1415>0</P1415>
    <!-- # IPv4 Address Type. 0 - DHCP, 1 - Static, 2 - PPPoE. Default value is 0 -->
    <P8>0</P8>

    <!-- ## Settings/Preferences / Date and Time -->
    <!-- # NTP Server -->
    <P30><%ntpServer%></P30>
    <!-- # NTP Update Interval; Number: 5 - 1440 -->
    <P5005>1440</P5005>

    <!-- # Time Zone
    <P64><%timeZoneOffset:+7=Asia/Bangkok%></P64>
    <!-- # Date Display Format. Default value is 1 -->
    <P102>2</P102>
    <!-- # Time Display Format. 0 - 12 Hour, 1 - 24 Hour. Default value is 1 -->
    <P122>1</P122>

    <!-- ## Maintenance / Provisioning Config Update Via. 0 - TFTP, 1 - HTTP, 2 - HTTPS. Default value is 2. -->
    <P212>2</P212>
    <!-- # Config Server Path -->
    <P237><%provisioningBaseUrl%>/cfg/config.xml</P237>
    <!-- # Config HTTP/HTTPS User Name -->
    <P1360><%authName%></P1360>
    <!-- # Config HTTP/HTTPS Password -->
    <P1361><%password%></P1361>
    <!-- # Authenticate Conf File. 0 - No, 1 - Yes. Default value is 0 -->
    <P240>0</P240>
    <!-- ## Phonebook/Phonebook Management. Download Mode. 0 - OFF, 1 - TFTP, 2 - HTTP, 3 - HTTPS. Default is 0 -->
    <P330>3</P330>
    <!-- # Phonebook Download Server. It MUST be in the host/path format -->
    <P331><%provisioningBaseUrl%>/cfg/phonebook.xml?suffix=</P331>
    <!-- # HTTP/HTTPS User Name -->
    <P6713><%authName%></P6713>
    <!-- # HTTP/HTTPS Password -->
    <P6714><%password%></P6714>
    <!-- # Phonebook Download Interval 5-720 minutes. 0 is disabled -->
    <P332>60</P332>
```

▶ (continued)

```
<!-- ## Account Settings -->
<!-- # Account 1 Active -->
<P271><%identityNumber1:=1,=0%></P271>
<!-- # Account Name -->
<P270><%identityName1%></P270>
<!-- # SIP Server -->
<P47><%identityNumber1:=<%sipServerHost%>,=%></P47>
<!-- # SIP User ID -->
<P35><%identityNumber1%></P35>
<!-- # Authenticate ID -->
<P36><%identityNumber1:=<%authName%>,=%></P36>
<!-- # Authenticate Password -->
<P34><%identityNumber1:=<%password%>,=%></P34>
<!-- # Display Name (Display Name, e.g., John Doe) -->
<P3><%identityName1%></P3>
<!-- # Voice Mail Access Number -->
<P33>*86</P33>
<!-- # SIP Registration. 0 - No, 1 - Yes -->
<P31><%identityNumber1:=1,=0%></P31>
<!-- # SIP Transport 0 - UDP, 1 - TCP, 2 - TLS. Default value is 0 -->
<P130><%sipServerTransport:=0,udp=0,tcp=1,tls=2%></P130>
<!-- # SRTP Mode. 0 - Disable, 1 - Enable but not forced, 2 - Enable and forced. Default value is 0 -->
<P183><%security:=0,srtp=2%></P183>
<!-- # Enable Call Features. 0 - No, 1 - Yes. Default value is 0 -->
<P191>0</P191>
<!-- # DND Call Feature On. -->
<P2344>*26</P2344>
<!-- # DND Call Feature Off. -->
<P2345>#26</P2345>
<!-- # Feature Key Synchronization. 0 - Disable, 1 - Broadsoft/Metaswitch. Default value is 0 -->
<P2325>1</P2325>
<!-- # Callpark Feature Code -->
<P2336>*77</P2336>

<!-- ##Applications - Programmable key
<!-- #EXT MPK 1 -->

...
```

```
<!-- ##Applications - Programmable key
<!-- #EXT MPK 1 -->
  <!-- # Key Mode.# 0 - Speed Dial, 1 - BLF, 4 - Speed Dial via active account, 5 - DialDTMF, 8 - Call Transfer, 9 - CallPark, 10 - Call Intercom, 13 - Multicast Paging, 15 - Speed Conference, 16 - Dial prefix -->
  <P23000><%fkeyType1:none=,line=speed=0,team=1,orbit=9%></P23000>
  <!-- # Account. 0 - Account 1, 1 - Account 2, 2 - Account 3, 3 - Account 4, 4 - Account 5, 5 - Account 6 -->
  <P23001><%fkeyType1:none=,line=<%fkeyContext1%>-1,=0%></P23001>
  <!-- # Name -->
  <P23002><%fkeyLabel1%></P23002>
  <!-- # UserID -->
  <P23003><%fkeyType1:none=,line=speed=<%fkeyValue1%>,team=*76<%fkeyValue1%>,orbit=*77<%fkeyValue1%>%></P23003>

...
```

FANVIL CONFIGURATION PHONE TEMPLATE SNIPPED

```
<?xml version="1.0" encoding="UTF-8"?>
<VOIP_CONFIG_FILE>
<version>2.0002</version>

<SIP_CONFIG_MODULE>
<SIP_Line_List>

<SIP_Line_List_Entry>
<ID>SIP1</ID>
<Phone_Number><identityNumber1%></Phone_Number>
<Display_Name><identityName1%></Display_Name>
<Register_Addr><identityNumber1:*=<%sipServerHost%>,=%></Register_Addr>
<Register_Port><identityNumber1:*=<%sipServerPort%>,=%></Register_Port>
<Register_User><identityNumber1:*=<%authName%>,=%></Register_User>
<Register_Pswd><identityNumber1:*=<%password%>,=%></Register_Pswd>
<Register_TTL>3600</Register_TTL>

<Enable_Reg><identityNumber1:*=1,=0%></Enable_Reg>
<Proxy_Addr><identityNumber1:*=<%sipServerHost%>,=%></Proxy_Addr>
<Proxy_Port><identityNumber1:*=<%sipServerPort%>,=%></Proxy_Port>
<Proxy_User><identityNumber1:*=<%authName%>,=%></Proxy_User>
<Proxy_Pswd><identityNumber1:*=<%password%>,=%></Proxy_Pswd>

<Signal_Crypto><%sipServerTransport:*=0,tls=1%></Signal_Crypto>
<Media_Crypto><%security:*=0,srtp=1%></Media_Crypto>

<DTMF_Mode>1</DTMF_Mode>

<Transport><%sipServerTransport:*=1,udp=1,tcp=2,tls=3%></Transport>
<TLS_Version>2</TLS_Version>
<SvcCode_Mode>1</SvcCode_Mode>
<DNDOOn_SvcCode></DNDOOn_SvcCode>
<DNDOOff_SvcCode></DNDOOff_SvcCode>
<CFUOn_SvcCode></CFUOn_SvcCode>
<CFUOff_SvcCode></CFUOff_SvcCode>
<CFBOn_SvcCode></CFBOn_SvcCode>
<CFBOff_SvcCode></CFBOff_SvcCode>
<CFNOn_SvcCode></CFNOn_SvcCode>
<CFNOff_SvcCode></CFNOff_SvcCode>
<ANCOOn_SvcCode></ANCOOn_SvcCode>
<ANCOOff_SvcCode></ANCOOff_SvcCode>
<VoiceCodecMap><identityNumber1:*=<%codecs%>,=%></VoiceCodecMap>
<VideoCodecMap>H.264</VideoCodecMap>
<Feature_Sync>1</Feature_Sync>
</SIP_Line_List_Entry>

</SIP_Line_List>
```

► (continued)

```
</SIP_CONFIG_MODULE>

<Xml_PhoneBook>
<Xml_PhoneBook_Entry>
<ID>XML-PBook1</ID>
<Name>System phone book</Name>
<Addr><%phonebookUrl%></Addr>
<Auth></Auth>
<Policy>0</Policy>
<Sipline>0</Sipline>
</Xml_PhoneBook_Entry>
</Xml_PhoneBook>

<Function_Key>
<Function_Key_Entry>
<ID>Fkey1</ID>
<Type>2</Type>
<Value>SIP1</Value>
<Title></Title>
</Function_Key_Entry>

</Function_Key>
</PHONE_CONFIG_MODULE>

<EUI_CONFIG_MODULE>
<Net_Config>
<Enable_DHCP>1</Enable_DHCP>
<Enable_NTP>1</Enable_NTP>
<NTP_Server><%ntpServer%></NTP_Server>
<Second_SNTP_Server><%ntpServer2%></Second_SNTP_Server>
<SNTP_Timeout>3600</SNTP_Timeout>
<Time_Zone><%timeZoneOffset:+7=Asia/Bangkok%></Time_Zone>
<Time_Format>24</Time_Format>
<Date_Format>0</Date_Format>
</Net_Config>

<Alert_Info_Ring>
<Alert_Info_Ring_Entry>
<ID>Alert1</ID>
<Text></Text>
<Ring_Name></Ring_Name>
</Alert_Info_Ring_Entry>

</EUI_CONFIG_MODULE>
</VOIP_CONFIG_FILE>
```

POLYCOM CONFIGURATION PHONE TEMPLATE SNIPPED

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<!-- polycom_vvx201.jsp -->
<APPLICATION
  OVERRIDES_DIRECTORY=""
  CONFIG_FILES="<%authProvisioningUrl%>"
  MISC_FILES=""
  CONTACTS_DIRECTORY="<%phonebookUrl%>"
</APPLICATION>
<PHONE_CONFIG>
  <PHONE_LOCAL
    httpd.cfg.enabled="1"
    httpd.cfg.secureTunnelRequired="0"
    httpd.enabled="1"
  />
  <DEVICE_SETTINGS
    device.set="1"
    device.auth.localAdminPassword="<%webAdminPassword%>"
    device.auth.localAdminPassword.set="1"
    device.auth.localUserPassword="<%webAdminPassword%>"
    device.auth.localUserPassword.set="1"

    device.pacfile.password.set="0"
    device.net.dot1x.password.set="0"
    device.prov.lyncDeviceUpdatePassword.set="0"
    device.logincred.pin.set="0"
    device.logincred.pin=""
    device.logincred.password.set="0"

    device.snmp.serverName.set="1"
    device.snmp.serverName="<%ntpServer%>"
    device.prov.serverType.set="1"
    device.prov.serverType="<%provisioningProtocolUpperCase%>"
    device.prov.serverName.set="1"
    device.prov.serverName="<%provisioningUrl%>"
    device.prov.user.set="1"
    device.prov.user="<%authName%>"
    device.prov.password.set="1"
    device.prov.password="<%password%>"
    device.prov.redunAttemptLimit.set="1"
    device.prov.redunAttemptLimit="2"
    device.prov.redunInterAttemptDelay.set="1"
    device.prov.redunInterAttemptDelay="3"
    device.prov.ztpEnabled.set="1"
    device.prov.ztpEnabled="0"

    device.baseProfile.set="1"
    device.baseProfile="Generic"
  />
  <WEB
    lcl.datetime.date.format="MM/DD/YYYY"
    lcl.datetime.time.24HourClock="0"
    tcpIpApp.snmp.gmtOffset="<%gmtOffsetSeconds%>"
    tcpIpApp.snmp.gmtOffsetcityID="<%typeTimezone%>"
    tcpIpApp.snmp.gmtOffset.overrideDHC="1"
    lcl.ml.lang=""
  />
```

▶ (continued)

```
<ALL
  httpd.cfg.secureTunnelRequired="0"
  lcl.datetime.date.format="MM/DD/YYYY"

  dir.local.readonly="1"

  lcl.ml.lang=""

  lcl.ml.lang.clock.6.24HourClock="0"
  lcl.ml.lang.clock.6.format="D,dM"
  lcl.ml.lang.clock.9.format="D,dM"
  lcl.ml.lang.clock.9.longFormat="0"

  call.callWaiting.enable="1"
  call.callWaiting.ring="beep"
  call.defaultTransferType="Consultative"
  call.directedCallPickupMethod="legacy"
  call.directedCallPickupString="*76"

  voIpProt.SIP.outboundProxy.address="<%sipProxyHost%>"
  voIpProt.SIP.outboundProxy.port="<%sipServerPort%>"
  voIpProt.SIP.outboundProxy.transport="<%sipServerTransport%>"
  voIpProt.server.1.address="<%sipServerHost%>"
  voIpProt.server.1.port="<%sipServerPort%>"
  voIpProt.server.1.transport="<%sipServerTransport%>"

  sec.srtp.enable = "<%security:*=0,srtp=1%>"
  sec.srtp.offer = "<%security:*=0,srtp=1%>"
  sec.srtp.require = "<%security:*=0,srtp=1%>"
  sec.srtp.offer.HMAC_SHA1_32 = 1
  sec.srtp.offer.HMAC_SHA1_80 = 1

  device.sec.TLS.profile.cipherSuiteDefault1.set="1"
  device.sec.TLS.profile.cipherSuiteDefault1="0"
  voIpProt.SIP.serverFeatureControl.cf="1"
  voIpProt.SIP.serverFeatureControl.localProcessing.cf="0"
  voIpProt.SIP.serverFeatureControl.dnd="1"
  voIpProt.SIP.serverFeatureControl.localProcessing.dnd="0"

  voice.codecPref.Opus="1"
  voice.codecPref.G711_Mu="2"
  voice.codecPref.G711_A="3"
  voice.codecPref.G729_AB="4"
  voice.codecPref.G7221_32kbps="0"
  voice.codecPref.G7221_C_48kbps="0"
  voice.codecPref.G722="0"
  voice.codecPref.Siren14.48kbps="0"
  voice.codecPref.Siren22.64kbps="0"
```

```
reg.1.address="<%identityNumber1%>"
reg.1.auth.loginCredentialType="<%identityNumber1:*,*=usernameAndPassword%>"
reg.1.auth.userId="<%identityNumber1:*,*=<%authName%>%>"
reg.1.auth.password="<%identityNumber1:*,*=<%password%>%>"
reg.1.displayName="<%identityNumber1%>"
reg.1.server.1.expires="<%identityNumber1:*,*=3600%>"
reg.1.label="<%identityName1%>"
msg.mwi.1.callBack="*86"
msg.mwi.1.callBackMode="contact"
msg.mwi.1.subscribe="<%identityNumber1%>@<%sipServerHost%>"

attendant.resourceList.1.label="<%fkeyLabel1%>"
attendant.resourceList.1.address="<%fkeyValue1%>"
attendant.resourceList.1.type="normal"

lineKey.reassignment.enabled="0"
lineKey.1.category="<%fkeyType1%>"
lineKey.2.category="<%fkeyType2%>"

/>
</PHONE_CONFIG>
```

GIGASET CONFIGURATION ADD-ON TEMPLATE SNIPPED

```
<provisioning version="1.1" productID="e2">
  <nvm>
    <param name="Telephony.0.ToneScheme" value="Switzerland"/>
    <param name="Provisioning.global.ProvisioningServer"
value="<%provisioningUrl%"/>
    <param name="Security.global.HTTPAuthUsername" value="<%authName%"/>
    <param name="Security.global.HTTPAuthPassword" value="<%password%"/>

    <param
name="SystemSettings.global.Security_Certificates_AcceptAllCertificates"
value="1"/>

  <!-- Admin-Password -->
  <param name="WebUIAccounts.1.Password" value="<%webAdminPassword%"/>
  <param name="WebUI.1.Language" value="<%language%"/>

  <!-- User-Account -->
  <!-- 0 = deactivated (default) -->
  <!-- 1 = activated   Activate / deactivate Web configurator User login -->
  <param name="WebUIAccounts.2.Active" value="1"/>
  <!-- User-Password -->
  <param name="WebUIAccounts.2.Password" value="<%webAdminPassword%"/>

  <!-- Telephony - Call settings -->
  <param name="Telephony.0.CT_ViaRKey" value="1"/>
  <param name="Telephony.0.CT_ByOnHook" value="1"/>

  <param name="DmGlobal.0.HSIDleDisplay" value="1"/>

  <!-- Date and time -->
  <param name="DmGlobal.0.NtpServer" value="<%ntpServer%>,<%ntpServer2%"/>
  <param name="DmGlobal.0.TimeZone" value="<%timezoneJava%"/>

  <!-- VoIP Provider 1 settings -->
  <param name="SipProvider.0.Name" value="Aareswitch AS7" />
  <param name="SipProvider.0.Domain"
value="<%sipServerHost%>:<%sipServerPort%"/>
  <param name="SipProvider.0.RegServerPort" value="<%sipServerPort%"/>
  <param name="SipProvider.0.RegServerAddress" value="<%sipServerHost%"/>
  <param name="SipProvider.0.RegServerRefreshTimer" value="3600"/>
  <param name="SipProvider.0.ProxyServerAddress" value="<%sipProxyHost%"/>
  <param name="SipProvider.0.ProxyServerPort" value="<%sipServerPort%"/>
  <param name="SipProvider.0.OutboundProxyMode" value="2"/>
  <param name="SipProvider.0.OutboundProxyAddress" value="<%sipServerHost%"/>
/>

  <param name="SipProvider.0.OutboundProxyPort" value="<%sipServerPort%"/>
  <param name="SipProvider.0.TransportProtocol"
value="<%sipServerTransport:tcp=2,tls=3*=1%"/>
  <param name="SipProvider.0.UseSIPS" value="0" />
  <param name="SipProvider.0.SRTP_Enabled" value="0" />
  <param name="SipProvider.0.AcceptNonSRTPCalls" value="1" />

  <!-- Redundancy -->
  <param name="SipProvider.0.DnsQuery" value="0"/>

  . . .
```

► (continued)

```
. . .

<!-- Failover Server -->
<param name="SipProvider.0.FailoverServerEnabled" value="0" />
<param name="SipProvider.0.FailoverServerAddress" value="" />
<param name="SipProvider.0.FailoverServerPort" value="5060" />
<param name="SipProvider.0.MWISubscription" value="0"/>

<!-- Phonebook Settings -->
<param name="XMLDir.0.ProviderName" value="AARENET_VPBX" />
<param name="XMLDir.0.ServerURL" value="<%phonebookUrl%"/>
<param name="XMLDir.0.Username" value="<%authName%"/>
<param name="XMLDir.0.Password" value="<%password%"/>
<param name="XMLDir.0.EntCount" value="0"/>
<param name="Netdir.4.Activated" value="1"/>
<param name="XMLDir.0.WhitePagesDirName" value="Central Phonebook" />
<param name="XMLDir.0.StartWithListWP" value="1"/>

  <oper name="DeleteNotProvisionedHS"/>

  <!-- Handset 1 -->
  <oper value="<%childIpui1%"/> name="add_hs">
    <param name="hs.RegStatus" value="ToReg" />
  </oper>
  <param name="SipAccount.<%childIpui1%>.Active"
value="<%identityNumber1:=0,*=1%"/>
  <param name="SipAccount.<%childIpui1%>.AuthName" value="<%childAuthName1%"/>
/>
  <param name="SipAccount.<%childIpui1%>.AuthPassword"
value="<%childPassword1%"/>
  <param name="SipAccount.<%childIpui1%>.DisplayName"
value="<%identityName1:=<%identityNumber1%>,*=<%identityName1%>%"/>
  <param name="SipAccount.<%childIpui1%>.ProviderId" value="0"/>
  <param name="SipAccount.<%childIpui1%>.UserName" value="<%identityNumber1%"/>
/>
  <param name="SipAccount.<%childIpui1%>.FeatureKeySyncActive" value="1" />
  <param name="SipAccount.<%childIpui1%>.VoiceMailActive" value="1" />
  <param name="SipAccount.<%childIpui1%>.VoiceMailMailbox" value="*86" />
  <param name="hs.<%childIpui1%>.DirectAccessDir" value="3" />
  <param name="hs.<%childIpui1%>.DECT_AC"
value="<%basePin:=0000,*=<%basePin%>%"/>
  <param name="hs.<%childIpui1%>.Language" value="0x3" />
  <param name="hs.<%childIpui1%>.NET_AM_SET_FOR_EG" value="1"/>
  <param name="hs.<%childIpui1%>.NetAmMessageCounter" value="1"/>
  <param name="hs.<%childIpui1%>.ShowMissedNetAM" value="1"/>
  <param name="hs.<%childIpui1%>.IntKeyDir" value="40"/>
  <param name="hs.<%childIpui1%>.AutoLookupDir" value="40"/>

  . . .
```

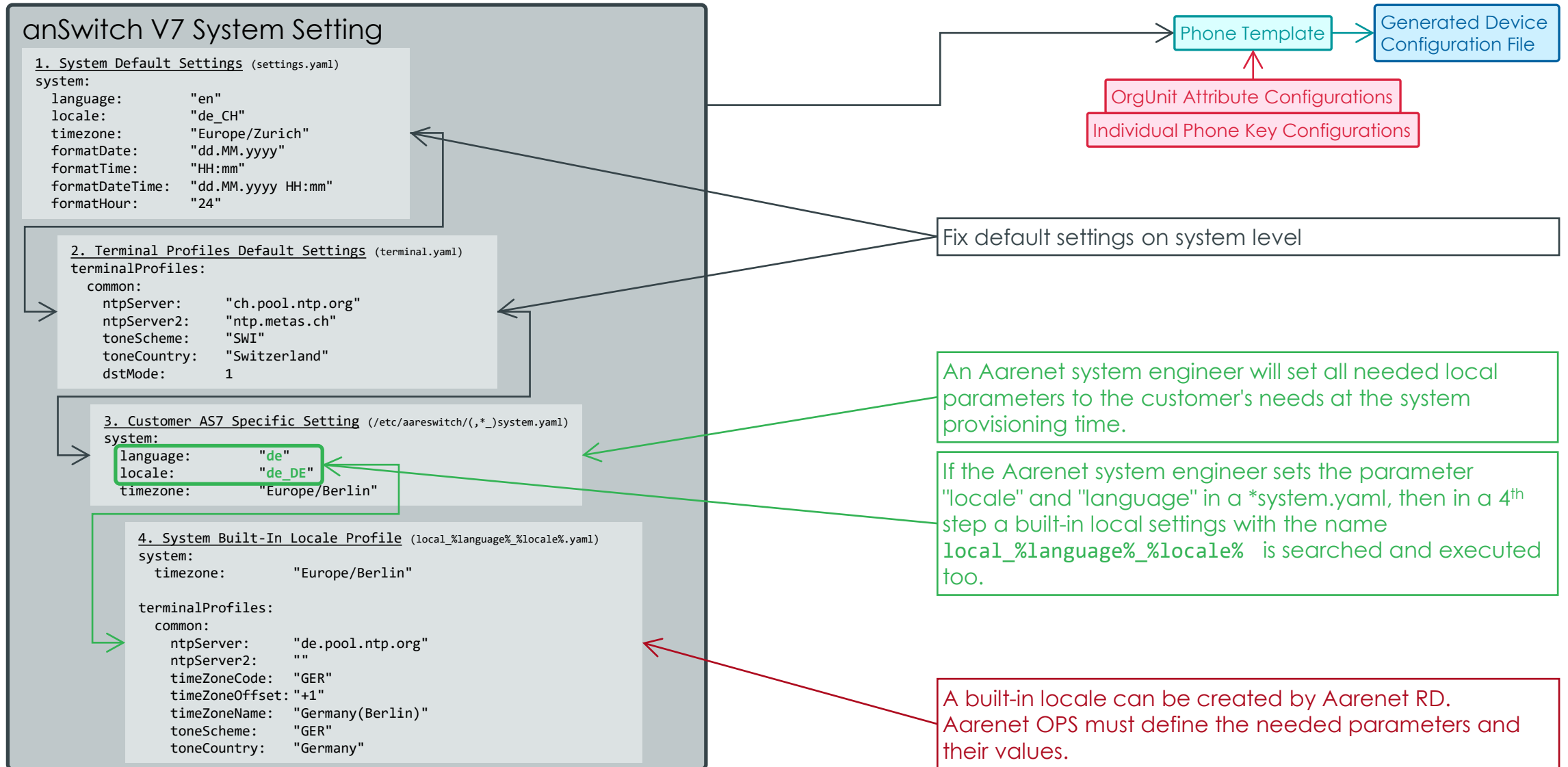
```
. . .

<!-- Handset 8 -->
<oper value="<%childIpui8%"/> name="add_hs">
  <param name="hs.RegStatus" value="ToReg" />
</oper>
<param name="SipAccount.<%childIpui8%>.Active"
value="<%identityNumber8:=0,*=1%"/>
<param name="SipAccount.<%childIpui8%>.AuthName" value="<%childAuthName8%"/>
/>
  <param name="SipAccount.<%childIpui8%>.AuthPassword"
value="<%childPassword8%"/>
  <param name="SipAccount.<%childIpui8%>.DisplayName"
value="<%identityName8:=<%identityNumber8%>,*=<%identityName8%>%"/>
  <param name="SipAccount.<%childIpui8%>.ProviderId" value="0"/>
  <param name="SipAccount.<%childIpui8%>.UserName" value="<%identityNumber8%"/>
/>
  <param name="SipAccount.<%childIpui8%>.FeatureKeySyncActive" value="1" />
  <param name="SipAccount.<%childIpui8%>.VoiceMailActive" value="1" />
  <param name="SipAccount.<%childIpui8%>.VoiceMailMailbox" value="*86" />
  <param name="hs.<%childIpui8%>.DirectAccessDir" value="3" />
  <param name="hs.<%childIpui8%>.DECT_AC"
value="<%basePin:=0000,*=<%basePin%>%"/>
  <param name="hs.<%childIpui8%>.Language" value="0x3" />
  <param name="hs.<%childIpui8%>.NET_AM_SET_FOR_EG" value="1"/>
  <param name="hs.<%childIpui8%>.NetAmMessageCounter" value="1"/>
  <param name="hs.<%childIpui8%>.ShowMissedNetAM" value="1"/>
  <param name="hs.<%childIpui8%>.IntKeyDir" value="40"/>
  <param name="hs.<%childIpui8%>.AutoLookupDir" value="40"/>

  <oper name="update_dm" value="local" >
    <param name="RegStart" value="1" />
    <param name="RegDuration" value="300" />
  </oper>
</nvm>
</provisioning>
```

9 LOCALE ANSWITCH V7 SYSTEM CONFIGURATION

OVERVIEW OF THE LOCALIZATION DEPENDENCIES



LAST PAGE

Date	Doc-ID	Description	Changes
1.12.2022	training_as7_702_part_2_phone_toolkit_e06	New document	
29.6.2023	training_as7_702_part_2_phone_toolkit_e07	V7.12: New feature Key Module/Add-On Type/Templates	
17.10.2023	training_as7_702_part_2_phone_toolkit_e08	Add placeholder for date and time format.	P. 47, 48, 49
25.2.2024	training_as7_702_part_2_phone_toolkit_e09	V7.14: '^' as escape character	P. 32