snom

Provisioning Guide

v1.07

M700 and M300

Base Stations

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Change Log

Release	Date	Description
v1.01	December 10, 2014	Initial Release
v1.02	February 23, 2015	Added valid values for subscr_sip_ua_subscribed_hs (applicable to M300 only), page 19 & 21; section "File settings" moved to p. 27; minor format changes pp. 11 - 27
v1.03	April 7, 2015	Added setting ldap_virtuel_lists [sic], page 13
v1.04	Jun 30, 2015	Corrected values for extension setting, subscr_sip_ua_use_base, page 19; added example for multicell provisioning, page 35
v1.05	Nov 3, 2015	Clarified various settings on page 15, 18-21; correction on pg. 33 (removed <*setting*> from firmware.xml)
v1.06	Nov 13, 2015	Added explanation for NAT adaptation, page 17
v1.07	Oct 14, 2016	Added info for repeater use on page 19 and 22 (access code (AC) for handset registration must be set to default 0000); added M300 info on page 21 (registering multiple handsets for one extension).

Introduction

This configuration manual covers the initial setup of M300 and M700 bases for administrators who want to remotely configure and deploy the snom DECT solution. This guide applies to firmware 3.23 and higher.

The M300 and M700 DECT base stations share most of their settings and provisioning capabilities with snom desktop phones. However, due to the different nature of the M-series products, there are certain settings that either do not exist or are configured differently on snom desktop phones.

Note: The M300 base station is sold as part of the M325 Bundle.

Supported Provisioning Methods

- DHCP (Option 43, 66, 67, 120)
- Manual Setting of Setting Server
- PnP
- snom Redirection Service

DHCP

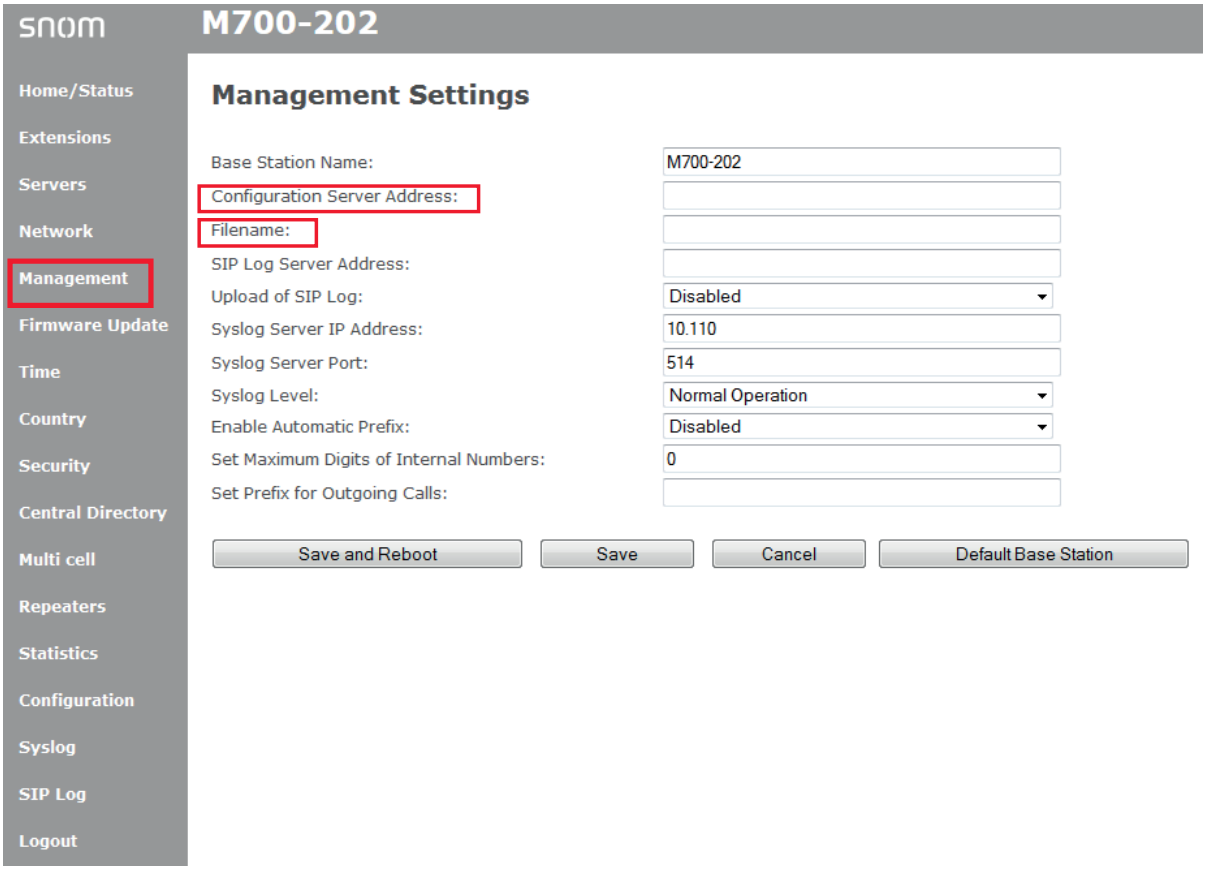
The DHCP server must be configured with additional DHCP options containing the URL of the provisioning server that are provided to M300 and M700 DECT base stations when they are booting. The base stations will then request their configuration parameters from the provisioning server which will result in a "ready-to-use" phone setup without manual configuration.

Currently the M300 and M700 base stations support the following DHCP options:

Option	Description	Example for Valid Values	Comments
43	Vendor-specific information	For examples and a detailed explanation, see: http://wiki.snom.com/Features/Auto_Provisioning/DHCP/Options	This option is used by clients and servers to exchange vendor-specific information.
66	TFTP server name	http://provisioning.snom.com	This option is used to identify a TFTP server. The supported protocols are http, https and tftp.
67	Bootfile name	directory/snomsettings.xml	This option is used to identify a bootfile.
120	SIP server	00:04:63:73:31:35:04:73:6e:6f:6d:03:63:6f:6d:00 (cs15.snom.com)	This option is used to define a SIP server. Do not use this option when you are already configuring your sip server in the config file. This will lead to conflicts in the settings.

Manually Setting the Setting Server

A very basic way of configuring the Provisioning Server for M300 and M700 DECT base stations is by entering the configuration server address and the name of the file in the management settings of the base's web interface. Every time the base station boots, it will request its configuration parameters from the provisioning server, resulting in a "ready-to-use" phone setup without having to configure it manually.



PNP

Plug & Play (PnP) provides a proprietary method to enable provisioning on M300 and M700 DECT base stations. By default the base stations send SIP SUBSCRIBES messages to a multicast address. Any SIP server that understands the message may reply with a SIP NOTIFY message containing the URL of the provisioning server from where the phones can request their configuration. An example SIP SUBSCRIBE message from the base station would look like this:

```
SUBSCRIBE sip:MAC%3a0004136*****@224.0.1.75 SIP/2.0
Via: SIP/2.0/UDP 10.0.0.90:5060;branch=z9hG4bKl1d23iyadenuaa1jr4vm
Max-Forwards: 70
From: <sip:512@10.0.0.90>;tag=dmrud.mzfyg66
To: <sip:MAC%3a0004136*****@224.0.1.75>
Call-ID: 6cm70qdo.o.8i@10.0.0.90
CSeq: 20264 SUBSCRIBE
Contact: <sip:512@10.0.0.90>
Accept: application/url
Allow: INVITE, CANCEL, BYE, ACK, REGISTER, OPTIONS, REFER, SUBSCRIBE, NOTIFY, MESSAGE, INFO, PRACK,
UPDATE
Allow-Events: dialog,message-summary
Event: ua-profile;profile-type="device";vendor="snom";model="snomM700";version="03.23.0005"
Expires: 0
Supported: replaces,100rel
User-Agent: snomM700/03.23.0005 (MAC=0004136*****; SER= 00000; HW=255)
Content-Length: 0
```

If any SIP application within one-hop range understands this message, a SIP 200 OK confirmation is sent, followed by a SIP NOTIFY message containing the provisioning URL. The base station accepts this message and confirms it with a SIP 200 OK.

snom Redirection Service

The snom redirection service allows customers to register/list/unregister the MAC addresses of their M300 and M700 DECT base stations on snom's provisioning server and assign a redirection URL pointing to their own provisioning server. The service is designed to implement an easy-to-use interface (XMLRPC) for interaction with remote client applications. The communication between server and remote client application is secure. A detailed explanation can be found here: http://wiki.snom.com/Features/Auto_Provisioning/Redirection.

User Agent

The devices follow snom's user agent scheme for HTTP and SIP communication. Two examples for GETs:

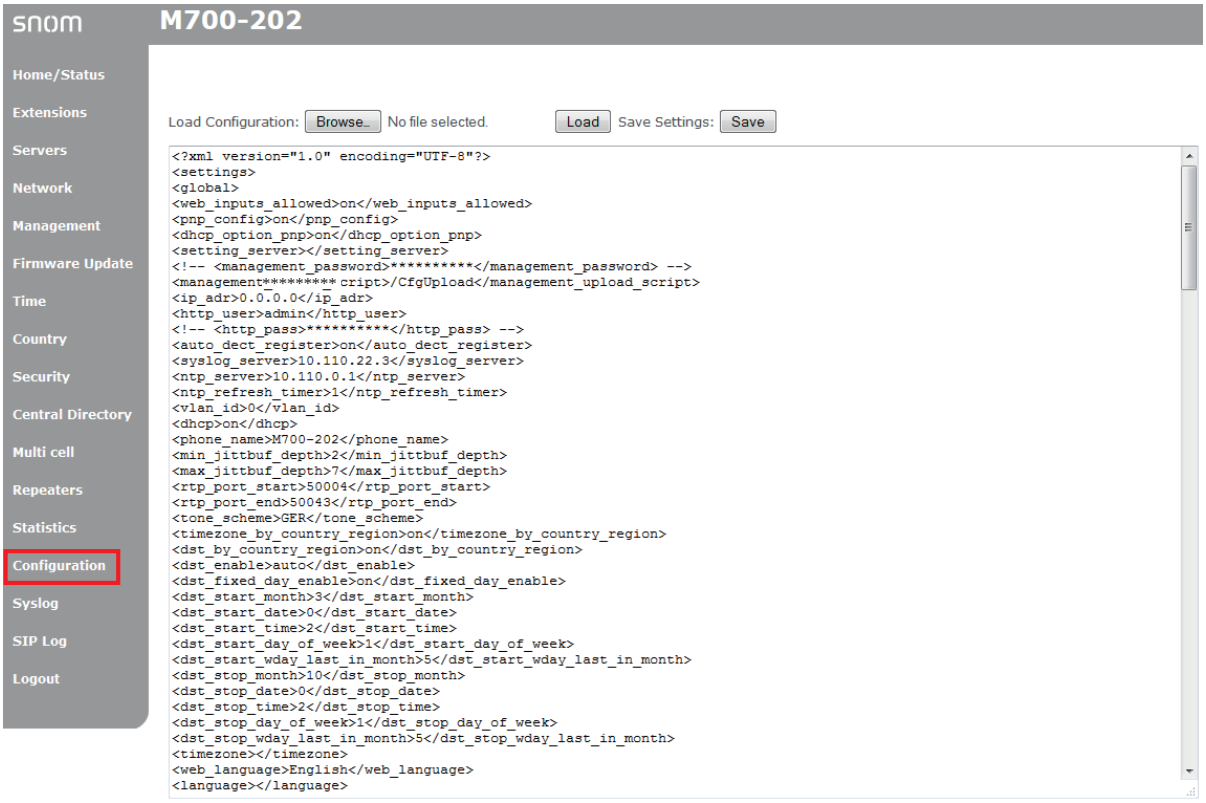
Mozilla/4.0 (compatible; snomM700 3.18.0008 0004136*****)
Mozilla/4.0 (compatible; snomM300 3.18.0008 0004136*****)

- "snomM700" and "snomM300" identify the type of device.
- "3.18.0008" defines the software version. The first part ("3") describes the major release), the second part ("18") the version, and the last part ("0008") the specific build number.
- Following the software version is the MAC address of the base station, in this case "0004136*****".

Settings and Configuration

Viewing, Saving, and Loading Settings

You can view and save your current settings and load a settings file on the Configuration page of the base station's web interface.



The comprehensive list of settings available for M series base stations is provided on the following pages:

Global Settings ..... page 9
Server Settings ..... page 17
Extension Settings ..... page 19
Repeater Settings ..... page 22
Multicell Settings ..... page 24
Firmware Settings ..... page 26
Phonebook Settings ..... page 27
File Settings ..... page 27

Comprehensive List of Settings

Global Settings

Global Settings		
Setting	**Value(s)**	**Description**
tone_scheme	GER, FRA, ITA, NLD,SWE, ESP, DNK, SWI, AUT, GBR, NOR, USAAUS, CHN, IND, JPNMEX, NZL	This setting is used to generate special tones in the handset, e.g., the country-specific ringtone and busy tones. **Default Value: USA** **Important:** This setting is related to the timezone and country_region_id and has to be set accordingly for them to work correctly.
timezone	USA-10, USA-9, CAN-8 MEX-8, USA-8, CAN-7 MEX-7, USA2-7, USA-7 CAN-6, CHL-6, MEX-6 USA-6, BHS-5, CAN-5 CUB-5, USA-5, VEN-4.5 CAN-4, CHL-4, PRY-4 BMU-4, FLK-4, TTB-4 CAN-3.5, GRL-3, ARG-3 BRA2-3,BRA1-3,BRA-2 PRT-1, FRO-0, IRL-0 PRT-0, ESP-0, GBR-0 ALB+1, AUT+1, BEL+1 CAI+1, CHA+1, HRV+1 CZE+1, DNK+1, FRA+1 GER+1, HUN+1, ITA+1 LUX+1, MAK+1, NLD+1 NAM+1, NOR+1, POL+1 SVK+1, ESP+1, SWE+1 CHE+1, GIB+1, YUG+1 WAT+1, BLR+2, BGR+2 CYP+2, CAT+2, EGY+2 EST+2, FIN+2, GAZ+2 GRC+2, ISR+2, JOR+2 LVA+2, LBN+2, MDA+2 RUS+2, ROU+2, SYR+2 TUR+2, UKR+2, EAT+3 IRQ+3, RUS+3, IRN+3.5 ARM+4, AZE+4, GEO+4 KAZ+4, RUS+4, KAZ+5 KGZ+5, PAK+5, RUS+5 IND+5.5, KAZ+6,RUS+6 RUS+7, THA+7, CHN+7 SGP+8, KOR+8, AUS+8 JPN+9, AUS+9.5 AUS2+9.5, AUS+10 AUS2+10, AUS3+10 RUS+10, AUS+10.5 NCL+11, NZL+12 RUS+12, NZL+12.75 TON+13	This setting is used to specify the time zone. **Default Value: USA-6**

Global Settings		
Setting	**Value(s)**	**Description**
country_region_id	tone_scheme = US 0 = Alabama 1 = Alaska 2 = Arizona 3 = Arkansas 4 = California 5 = Colorado 6 = Connecticut 7 = Delaware 8 = Florida 9 = Georgia 10 = Hawai 11 = Idaho PST 12 = Idaho MST 13 = Illinois 14 = Indiana 15 = Iowa 16 = Kansas 17 = Kentucky EST 18 = Kentucky CST 19 = Louisiana 20 = Maine 21 = Maryland 22 = Massachusetts 23 = Michigan 24 = Minnesota 25 = Mississippi 26 = Missouri 27 = Montana 28 = Nebraska 29 = Nevada 30 = New Hampshire 31 = New Jersey 32 = New Mexico 33 = New York 34 = North Carolina 35 = North Dakota 36 = Ohio 37 = Oklahoma 38 = Oregon 39 = Pennsylvania 40 = Rhode Island 41 = South Carolina 42 = South Dakota CST 43 = South DakotaMST 44 = Tennessee 45 = Texas 46 = Utah 47 = Vermont 48 = Virginia 49 = Washington 50 = West Virginia 51 = Wisconsin 52 = Wyoming	If a country has regions/states (e.g. the US or Australia), this setting allows their configuration. If not, the setting will not be used. **Default Value: <empty>** **Important**: This setting is related to the timezone and tone_scheme settings and has to be set accordingly for them to work correctly.

Global Settings		
Setting	**Value(s)**	**Description**
	tone_scheme = AUS 1 = New South Wales 2 = Victoria 3 = Tasmania 4 = Australian Capital Territory 5 = South Australia 6 = Northern Territory 7 = Queensland 8 = Western Australia	
web_language	English, Dansk, Italiano, Türkce, Deutsch, Português, Slovenian, Dutch, Francais, Español, Russian	This setting defines the language used in the web interface of the base station. **Default Value: English**
language	English, Español, Deutsch, Francais, Italiano, Dutch, Português, Dansk, Svenska, Turkce, Polski, Russian, Norsk, Slovenian, Čeština, Suomi, blank (controlled by handset)	This setting defines the language usedon the handset. **Default Value: English**
min_jittbuf_depth	0-255	Controls the minimum jitter buffer depth. **Default Value: 2**
max_jittbuf_depth	0-255	Controls the maximum jitter buffer depth. **Default Value: 7**
ac_code	e.g. 1234	Defines the 4-digit code for a handset to connect to and register with the selected base station. Changing the code for a handset that is already registered will have no effect. **Default Value: 0000** **Note**: In addition to the AC, the handset has a PIN for deregistering it from the base, performing factory resets, etc. The default value of the PIN is also 0000; it can only be changed on the handset itself. The PIN cannot be set or altered from the base station, whether by provisioning or via the web user interface.
network_sip_log_server	e.g. 192.168.1.2	Specifies a server to send logged SIP messages to. **Default Value: <empty>**
phonebook_reload_time	e.g. 10	Phonebook reload time in (s) if phonebook_server_location = 0. **Default Value: <empty>**
phonebook_server_location	0 = Local 1 = LDAP 2 = XML	Defines what type of phonebook is used. **Default Value: 0**
phonebook_location	http://192.168.1.2/directory/	Specifies the location of the phonebook if phonebook_server_location = 0. Setting has to be used in conjunction with phonebook_filename. **Default Value: <empty>**
phonebook_filename	e.g. phonebook.xml	Filename of the phonebook if phonebook_server_location and phonebook_location have been set. **Default Value: <empty>**

Global Settings		
Setting	**Value(s)**	**Description**
setting_server	e.g. http://www.company.com/settings/snom_m700.xml	An URL specifying the location from where to load the settings file. If the tag is read and if it is different from what's already stored, the provisioning logic will restart, using the new value as base. The {mac} macro is supported in the URL. **Default Value: <empty>**
pnp_config	off / on	Enable/disable PNP provisioning. **Default Value: on**
dhcp_option_pnp	off / on	Enable/disable DHCP provisioning. **Default Value: on**
sip_conf_key_dtmf_string		This string specifies the DTMF that is sent via SIP when the conf key is pressed. Not applicable to all configurations. **Default Value: <empty>**
sip_r_key_dtmf_string		This string specifies the DTMF that is sent via SIP when the R key is pressed. Not applicable to all configurations. **Default Value: <empty>**
dialplan_enabled	off / on	Specifies whether the configured dial plan is enabled or not. **Default Value: off**
dialplan_maxlength	e.g. 6	Specifies the maximum length of a number up to which no dialplan_prefix will be added. **Default Value: <empty>**
dialplan_prefix	e.g. 030	Specifies the prefix that is added when the dialed number is longer than dialplan_maxlength. **Default Value: <empty>**
sip_stun_bindtime_determine	off / on	If STUN is enabled and sip_stun_bindtime_guard is defined, setting this to 1 forces the base to automatically determine the duration of NAT bindings in the system. In this case, sip_stun_bindtime_guard defines the initial test duration. **Default Value: on**
sip_use_different_ports	off / on	If this is enabled, network_id_port specifies the source SIP port used for the first instance, and all following will use succeeding ports. If disabled, the same port will be used for all accounts. **Default Value: off**
timezone_by_country_region	off / on	Sets the time zone by country/region. **Default Value: on**
dst_by_country_region	off / on	Sets the DST by country/region. **Default Value: on**
voip_sip_auto_upload	off / on	Enables / disables the automatic upload of SIP log files. **Default Value: off**
web_inputs_allowed	off / on	If the base is configured via configuration files, this setting can be used to allow/disallow the possibility to edit the configuration directly on the web server. **Default Value: on**

Global Settings		
Setting	**Value(s)**	**Description**
auto_dect_register	off / on	Enable/disable the automatic DECT registration of handsets. **Default Value: on**
sip_stun_bindtime_ guard	e.g. 80	If STUN is enabled, this value specifies in seconds how often the system will guard the NAT bindings. **Default Value: 80**
network_sntp_ broadcast_enable	off / on	Enables reception of SNTP broadcasts from an SNTP server and thereby syncing with the received server time. **Default Value: on**
ldap_name_attributes	e.g. cn	This setting can be used to specify the “name” attributes of each record which are to be returned in the LDAP search results. **Default Value: <empty>**
ldap_search_filter		LDAP name filter is the search criteria for name look ups. The format of the search filter is compliant to the standard string representations of LDAP search filters (RFC 2254). **Default Value: <empty>**
ldap_server	e.g. 192.168.10.1	This setting refers to the DNS name or IP address of the LDAP server. **Default Value: <empty>**
ldap_port	e.g. 389	This setting specifies the port of the LDAP server. **Default Value: <empty>**
ldap_base	e.g. ou=snom.com - users,dc=snom,dc=com	This setting specifies the LDAP search base (the distinguished name of the search base object) which corresponds to the location in the directory from which the LDAP search is requested to begin. **Default Value: <empty>**
ldap_username		This setting specifies the bind “Username” for LDAP servers. Most LDAP servers allow anonymous binds, in which case the setting can be left blank. **Default Value: <empty>**
ldap_password		This setting specifies the bind “Password” for LDAP servers. This setting can be left blank in case the server allows anonymous binds. **Default Value: <empty>**
ldap_virtuel_lists	1 - on 0 - off	This setting enables the use of virtual lists. If set to 1, virtual lists are used. If set to 0, the use of virtual lists is disabled, and the bvase will request a maximum of 50 hits. (Note: "virtuel" is misspelt in the name of the setting. Please use as is until further notice. **Default Value: 1**
ldap_work_number	e.g. telephoneNumber	**Default Value: telephoneNumber**
ldap_mobile_number	e.g. mobile	**Default Value: mobile**
ldap_home_number	e.g. homePhone	**Default Value: homePhone**
http_user	e.g. admin	Defines the HTTP username for your base station. Together with http_pass it will protect your web interface. **Default Value: admin**

Global Settings		
Setting	**Value(s)**	**Description**
http_pass	e.g. admin	Defines the HTTP password for your base station. Together with http_user it will protect your web interface. **Default Value: admin**
phone_name	e.g. snom M700	Defines the name of the base station. **Default Value: snom M700**
ntp_server	e.g. 10.110.21.254	Specifies the domain name or the IP address of the NTP server. **Default Value: <empty>**
ntp_refresh_timer	e.g. 3600	Specify the time in seconds after which the phone contacts the NTP server again to refresh the time. **Default Value: 3600**
vlan_id	e.g. 101	This setting sets the VLAN id of the base in order to connect to anything residing in a specific VLAN. **Default Value: <empty>**
vlan_qos	e.g. 7	This setting sets the VLAN priority of the base in order to connect to anything residing in a specific VLAN. **Default Value: <empty>**
dns_server1	e.g. 8.8.8.8	This setting stores the address of the primary DNS server. If DHCP is disabled, the address of the primary DNS server has to be entered here. **Default Value: <empty>**
dns_server2	e.g. 8.8.4.4	This setting stores the address of the secondary DNS server. If DHCP is disabled, the address of the secondary DNS server has to be entered here. **Default Value: <empty>**
ip_adr	e.g. 192.168.1.2	This setting changes the IP address of the device. If DHCP is disabled, the IP address must be entered here. **Default Value: <empty>**
netmask	e.g. 255.255.255.0	This setting changes the netmask of the device. If DHCP is disabled, the subnet mask must be entered here.Default Value: <empty>
gateway	e.g. 10.0.0.1	This setting changes the gateway of the device. If DHCP is disabled, the gateway must be entered here. **Default Value: <empty>**
rtp_port_start	e.g. 50004	This setting specifies the RTP start port which is used for RTP traffic. **Default Value: 50004**
rtp_port_end	e.g. 50044	This setting specifies the RTP end port which is used for RTP traffic. **Default Value: 50044**
network_id_port	e.g. 5060	This setting specifies the SIP port which is used for SIP traffic. **Default Value: 5060**
dhcp	off / on	This setting specifies whether DHCP is enabled or not. If it is disabled, the base will use the configured static IP address. **Default Value: on**

Global Settings		
Setting	**Value(s)**	**Description**
stun_binding_interval	e.g. 90	If STUN is enabled, stun_binding_interval defines how often (in seconds) keepalive are sent in order to keep NAT bindings. If sip_stun_bindtime_determine is set, stun_binding_interval will be overruled and keep-alives will be sent with a frequency of half the determined bindtime. **Default Value: 90**
enable_rport_rfc3581	off / on	Enables or disables rport parameter for the Via header field. The default setting allows a client to request that the server send the response back to the source IP address and port from which the request originated. **Default Value: on**
syslog_server	e.g. 10.0.0.1	IP address of the syslog server. **Default Value: <empty>**
syslog_server_port	e.g. 514	Port of the syslog server. **Default Value: 514**
tls_server_ authentication	off / on	Enable / disable TLS server authentication. **Default Value: off**
stun_server	e.g. stun.snom.com	This setting refers to the DNS name or IP address of the STUN server. **Default Value: empty**
codec_tos	0-255	This option enables the phone to support quality of service (QOS) for RTP traffic in a network. **Default Value: 160**
signaling_tos	0-255	This option enables the phone to support quality of service (QOS) for SIP traffic in a network. **Default Value: 160**
log_level	-1 = off 6 = normal 8 = system 7 = debug	This setting defines the log level of the syslog messages that are logged. **Default Value: 6**
dst_enable	off / on / auto	Specifies whether or not to apply DST changes to display time. **Default Value: auto**
dst_fixed_day_enable	off = Use month and date on = Use month and day of week	Specifies whether or not to use a fixed day of the week when applying DST changes. **Default Value: off**
dst_start_month	1-12	Specifies the month in which DST begins. **Default Value: 3**
dst_start_date	1-31	Specifies the day of the month on which DST begins. **Default Value: 0**
dst_start_time	0-23	Specifies the time when DST begins. **Default Value: 2**
dst_start_day_of_week	1 = Sunday 2 = Monday; 3 = Tuesday 4 = Wednesday 5 = Thursday; 6 = Friday 7 = Saturday	Specifies the day of the week on which DST begins. **Default Value: 1**

Global Settings		
Setting	**Value(s)**	**Description**
dst_start_wday_last_in_month	1 = First in month 2 = Second in month 3 = Third in month 4 = Second to last in month 5 = Last in month	Specifies on which **dst_start_day_of_week** in the month DST begins. * **Default Value: 2**
**** For example, if DST begins at 2 a.m. on the last Sunday in March, the settings are:***		***dst_start_month: 3*** ***dst_start_time: 2*** ***dst_start_day_of_week: 1*** ***dst_start_wday_last_in_month: 5***
dst_stop_month	1-12	Specifies the month in which DST ends. **Default Value: 11**
dst_stop_date	1-31	Specifies the day of the month on which DST ends. **Default Value: 0**
dst_stop_time	0-23	Specifies the time when DST ends. **Default Value: 2**
dst_stop_day_of_week	1 = Sunday 2 = Monday 3 = Tuesday 4 = Wednesday 5 = Thursday 6 = Friday 7 = Saturday	Specifies the day of the week on which DST ends. **Default Value: 1**
dst_stop_wday_last_in_month	1 = First in month 2 = Second in month 3 = Third in month 4 = Second to last in month 5 = Last in month	Specifies on which **dst_stop_day_of_week** in the month DST ends. **Default Value: <empty>**
**** For example, if DST ends at 2 a.m. on the last Sunday in October, the settings are:***		***dst_stop_month: 10*** ***dst_stop_time: 2*** ***dst_stop_day_of_week: 1*** ***dst_stop_wday_last_in_month: 5***

Server Settings

Server Settings		
Setting	**Value(s)**	**Description**
NOTE: Up to 10 servers with idx 1 to 10. Example: user_host idx="1"		
srv_sip_use_one_tcp_conn_per_ext idx=1-10	off / on	Specifies whether to use one TCP connection per SIP extension or not. **Default Value: off**
srv_sip_signal_tcp_port idx=1-10	off / on	Specifies whether to signal TCP source port or not. **Default Value: on**
srv_sip_server_alias idx=1-10	e.g. snom sip server	Specifies the name of the sip server. **Default Value: <empty>**
srv_sip_show_ext_name_in_hs idx=1-10	off / on	Specifies whether the extension is shown on the handset idle screen or not. **Default Value: on**
srv_sip_enable_blind_transfer idx=1-10	off / on	Specifies whether blind transfer is enabled or not **Default Value: on**
network_vlan_synchronization	off / on	When the VLAN ID in a multicell system changes, this setting determines whether the new VLAN ID is sync'd to the other bases or not. **Default Value: on**
srv_srtp_auth idx=1-10	off / on	Determines whether SRTP Authentication is used or not. This setting has to be enabled when user_srtp is set to on. Likewise this has to be turned off when user_srtp is off. **Default Value: off**
srv_sip_rtp_base_equal idx=1-10	disabled / enabled	Enables/disables RTP from own base station. **Default Value: disabled**
srv_sip_ua_data_server_nat_adaption idx=1-10	disabled / enabled	Enables/disables NAT adaption. **Default Value: enabled.** **NOTE:** **Enabled:** When the base station receives a SIP response to a REGISTER request with a "Via" header that includes the "received" parameter (e.g.: *Via: SIP/2.0/UDP 10.1.1.1:4540;received=68.44.20.1*), it will adapt its contact information to the IP address from the "received" parameter. The base station will then send another REGISTER request with the updated contact information. **Disabled:** The base station will ignore the "received" parameter.
user_dtmf_info idx=1-10	**sip_info_only** = SIP info **off** = RTP Events (RFC2833) **on** = SIP info and RTP Events (RFC2833)	This setting changes depending on whether DTMF events are signaled via SIP INFO messages or via RTP events or both. **Default Value: off**
srv_dtmf_payload_type idx=1-10	0-127	Set up the payload type for out-of-band DTMF here. **Default Value: 101**
srv_sip_transport idx=1-10	udp / tcp / tls	Specifies the transport protocol used for SIP messages. **Default Value: udp**
timer_support idx=1-10	off / on	Define whether sip-stack should support the use of timers. Includes adding headers "Session-Expires" and "Min-SE". **Default Value: on**

Server Settings		
Setting	**Value(s)**	**Description**
session_timer idx=1-10	e.g. 3600	If timer_support is enabled, this option specifies the SIP session timer in seconds. **Default Value: 3600**
user_expiry idx=1-10	e.g. 3600	Specifies the maximum time between SIP re-registrations in seconds. **Default Value: 3600**
keepalive_interval idx=1-10	off / on	Specifies whether keepalive message will be sent out to the registrar/proxy port in order to have the port stay open and the phone remain reachable. **Default Value: on**
user_hold_inactive idx=1-10	off / on	Specify if you want to indicate a hold request with sdp parameter send-only or inactive. Some pbx's need the inactive setting for proper music-on-hold operation. **Default Value: off**
user_host idx=1-10	e.g. server.snom.com	Specifies the IP or DNS address of the registrar/ proxy where you want to register this account. **Default Value: <empty>**
user_outbound idx=1-10	e.g. 10.110.24.111:5060	Specify the outbound proxy in this field (format: addr:port) to ensure all SIP packets are sent via the specified communication point. **Default Value: <empty>**
user_srtp idx=1-10	off / on	Enables/disables encryption of outgoing audio RTP streams. This setting has to be enabled if srv_srtp_auth is set to on. Likewise this has to be turned off when srv_srtp_auth is off. **Default Value: off**
user_full_sdp_answer idx=1-10	off / on	When the setting is turned off, the base returns a list of all available codecs in the SDP in response to INVITE requests. **Default Value: off**
codec_priority_list idx=1-10	pcmu, pcma, g729, g722, g726	Prioritize which codecs the base should use. Prioritized comma-separated list with max. of 5 entries, most desired codec up front. **Default Value: pcmu, pcma, g726**
codec_size idx=1-10	20, 30, 40, 60	Specifies the packet size in ms for the respective codec. **Default Value: 20**
conferencing idx=1-10	e.g. conferencing.snom.com	This setting specifies the address or FQDN of a conference server. **Default Value: <empty>**
user_auth_tag idx=1-10	on = AES-32 off = AES-80	When the setting is set to on, the base offers an AES-32 auth-tag for SRTP. If turned off, AES-80 is used. **Default Value: on**
srv_att_transfer_2nd_ call_on_hold idx=1-10	off / on	Specifies the attended transfer behaviour of the base. If turned on, the second call will be put on hold. If turned off, the second call is not put on hold. **Default Value: on**

Extension Settings

Extension Settings		
Setting	**Value(s)**	**Description**
subscr_sip_ua_use_base idx=1-200	Integers (255, 0, 1, 2 ...)	Specifies whether the handset is locked to use a specific base station or not. When locked to a base station, the handset will not be able to make/receive calls outside the range of this base station. Valid values: 255: Not locked to a specific base station 0: Locked to primary base station 1, 2, 3 etc.: Locked to one of the secondary base stations **Default Value: 255**
subscr_dect_ac_code idx=1-200	e.g. 1234	subscr_dect_ac_code is a handset-specific setting. If you specify the explicit IPEI for a handset in the config, you can enter a specific access code for that handset. If nothing is used, the default value of ac_code is used when registering handsets. **Default Value: <empty>**
subscr_dect_ipui idx=1-200	e.g. 018870DF25	Specifies the IPEI number of the handset. **Default Value: FFFFFFFFFF**
subscr_sip_hs_idx idx=1-200	1, 2, 3, 4, etc.	Specifies which handset id is associated to which extension/account, e.g., if set, <subscr_sip_hs_idx idx=1>1</subscr_sip_hs_idx> will use the first configured handset with the first configured account, etc. **Default Value: <empty>**
subscr_sip_ua_subscribed_hs idx=1-20	Values in decimals counted from 1: 1, 2, 4, 8, 16, etc. For your convenience, the complete list of values is provided here.	This setting only applies to the M300. The value represents a handset ID for each SIP extension/account. If set, the corresponding handset subscribes to the given SIP extension/account. **Default Value: <empty>**
subscr_sip_pincode_dialout idx=1-200	0-9, *, #	Specifies a PIN to be used for outgoing calls. The PIN can be up to 8 digits long **Default Value: <empty>**
subscr_sip_ua_data_server_id idx=1-200	e.g <subscr_sip_ua_data_server_id idx=1>2</subscr_sip_ua_data_server_id> will use the first configured handset with the second configured server	Specifies which configured server is used for that specific handset/a ccount. **Default Value: <empty>**
subscr_sip_ua_pref_outg_sip_id idx=1-200	e.g. 1	Specifies which identity is preferred when outgoing calls are made. **Default Value: <empty>**
subscr_ua_data_emergency_line idx=1-200	e.g. 1	Specifies which extension is used to perform an emergency call. **Default Value: <empty>**
keyboard_lock_emergency idx=1-200		umbers that can be locked. Separate the bers by one space. **Default Value: <empty>**

You must keep the default <empty> if you want to use a repeater.

Emergency numbers are hardcoded in accordance with the country code and cannot be changed.

Extension Settings		
Setting	**Value(s)**	**Description**
subscr_ua_data_ emergency_number idx=1-200	e.g. 112	Specifies the emergency number for this handset. Only one number is allowed! **Default Value: <empty>**
rtp_collision_control	off / on	This setting controls whether the base checks for RTP collision. RTP collision means that the device is receiving RTP packages from more than one source address with same SSRC. **Default Value: off**
subscr_sip_line_name idx=1-200	e.g. Line1	Specifies the line name for the respective extension on this handset. **Default Value: <empty>**
call_waiting idx=1-200	on / visual / ringer / off	Enables/disables call waiting indication on the handset. **Default Value: on**
user_name idx=1-200		Specifies the account with which you register to a SIP registrar/proxy. **Default Value: <empty>**
user_active idx=1-200	off / on	The specific account can be disabled by disabling this option. This means that the identity is no longer registered. **Default Value: off**
user_pname idx=1-200		Specifies the user name that is used for authentication. **Default Value: <empty>**
user_pass idx=1-200		Specifies the password to be used for challenge responses. **Default Value: <empty>**
user_mailbox idx=1-200	e.g. snom mailbox	Specifies the name for the mailbox that is associated with the particular SIP identity. **Default Value: <empty>**
user_mailnumber dx=1-200	e.g. voicemail@snom.com	Specifies the number for the mailbox that is associated with the particular SIP identity. **Default Value: <empty>**
user_realname idx=1-200	e.g Max Mustermann	Set the name that is associated with each line. This information is also sent out to any party you are calling. **Default Value: <empty>**
fwd_all_enabled idx=1-200	off / on	If turned on, all calls to the associated identity are diverted to the number specified. **Default Value: off**
fwd_all_target idx=1-200	e.g. 123456	Specifies the redirection target when redirection is always active. **Default Value: <empty>**
fwd_time_enabled idx=1-200	off / on	If turned on, any incoming call will be diverted to the specified number after the specified time has elapsed. **Default Value: off**
fwd_time_target idx=1-200	e.g. 123456	Specifies the redirection target when redirection after time is active. **Default Value: <empty>**

Extension Settings		
Setting	**Value(s)**	**Description**
fwd_time_secs idx=1-200	e.g. 10	Specifies the time in seconds after which the redirection target is redirected when redirection after time is active. **Default Value: <empty>**
fwd_busy_enabled idx=1-200	off / on	If turned on and a call is in progress while a second call is incoming, the second caller is diverted to the number specified. **Default Value: off**
fwd_busy_target idx=1-200	e.g. 123456	Specifies the number to which calls will be diverted when the user is busy. **Default Value: <empty>**
Dfks idx=1-200	off / on	Enables/disables device feature key synchronization (DND, FWD, etc.) on the specific identity. **Default Value: off**

List of values for setting subscr_sip_ua_subscribed_hs (M300 only)

subscr_sip_hs_idx	subscr_sip_ua_subscribed_hs	subscr_sip_hs_idx	subscr_sip_ua_subscribed_hs
idx	idx	idx	idx
1	1	11	1024
2	2	12	2048
3	4	13	4096
4	8	14	8192
5	16	15	16348
6	32	16	32768
7	64	17	65536
8	128	18	131072
9	256	19	262144
10	512	20	524288

If you want several handsets to be able to receive calls for the same extension, you have to add up the values of "subscr_sip_ua_subscribed_hs idx" of all handsets. Example: Your primary extension is 100, and, in addition to the handset with "subscr_sip_hs_idx" idx 1, you also want the handsets with "subscr_sip_hs_idx" idx 2, 3, 4, and 5 to be able to receive calls for this extension. You therefore add up the "subscr_sip_ua_subscribed_hs idx" values of "subscr_sip_hs_idx" idx 1, 2, 3, 4, and 5 and enter the total value of 31 for the subscr_sip_ua_ subscribed_hs idx setting of extension 100.

*<user_name idx="1">**100**</user_name>*
.....
*<subscr_sip_hs_idx idx="1">**1**</subscr_sip_hs_idx>*
*<subscr_sip_ua_subscribed_hs idx="1">**31**</subscr_sip_ua_subscribed_hs>*

Back

Repeater Settings

Repeater Settings		
Setting	**Value(s)**	**Description**
repeater_rpn idx=1-100	1, 2, 3	The setting is used when repeater_auto_config_ mode is set to manual. Together with the setting repeater_sync_src_rpn, this allows to specify a unique RPN value per repeater. **Default Value: 0**
repeater_sync_src_rpn idx=1-100	0, 1, 2, 3, 4, 5, etc.	The setting is used when repeater_auto_config_ mode is set to manual. Together with the setting repeater_rpn it is possible to specify a unique RPN value for every repeater. The maximum chain length is three repeaters in a chain after the base station. All repeaters using manual mode must be configured to use a unique RPN. By default, this setting uses the base station at index 0 in network_sync _mac_chain as the DECT synchronization source. Value 1 uses the repeater with RPN 1 which is connected to the base station in network_sync_mac_ chain index 0 as the DECT sync source. Value 2 uses the repeater with RPN 2 which is connected to the base station in network_sync_mac_ chain index 0 as the DECT sync source. Value 3 uses the repeater with RPN 3 which is connected to the Base station in network_sync_mac_ chain index 0 as DECT sync source. Value 4 uses the base station at index 1 in network_ sync_mac_chain as the DECT sync source. Value 5 uses the Repeater with RPN 1 which is connected to the base station in network_sync_mac_ chain index 1 as the DECT sync source. **Default Value: 0**
repeater_name idx=1-100		Specifies the name of the Repeater. **Default Value: <empty>**

Note: You cannot add a repeater/repeaters if you have specified a specific access code (AC) in the extension settings (subscr_dect_ac_code). All handsets must have the default value <empty>.

Repeater Settings		
Setting	**Value(s)**	**Description**
repeater_auto_config_ mode idx=1-100	0 = Manual 1 = Local Automatical 2 = Chaining	If set to 0 (= manual), specify repeater_rpn and repeater_sync_src_rpn. If set to 1 (= local), the repeater will automatically search for available base stations and locate the base with the best signal. If that base station is turned off, the repeater will move to the next best base station. If set to 2 (= chaining), all base stations and all repeaters will send RSSI reports to the primary base station. These reports are used by the primary base station to create a DECT synchronization tree with all base stations and all repeaters that have this setting configured. **Default Value: 0**
repeater_legacy_ support	off / on	This setting controls whether legacy repeaters are supported or not. **Default Value: off**
repeater_data_ configured idx=1-100	off / on	When this setting is set to on, the specific repeater is actively configured; when set to off, this account is disabled. **Default Value: 0**
repeater_dect_ipui idx=1-100		Repeater International Portable User Identity. This is normally not configured via provisioning. **Default Value: <empty>**

Multicell Settings

Multicell Settings		
Setting	**Value(s)**	**Description**
network_dect_sync_tree idx=1-50		Specifies the DECT sync ID tree that the base stations are using as their DECT sync source. It will be overruled by the setting network_dect_auto_sync_ tree_config, if that setting is enabled. If a base's ID for its own index is equal to its own ID, then this base is the primary DECT sync source. A secondary base which cannot find its sync source or has been turned off will get a value of 240 which will start it looking for any base station and sync source. This will then enable the system to reconfigure itself. **Default Value:0**
network_sync_chain_id		Specifies the identity of a given multicell chain. This is used to identify different chains in the same location. **Default Value: 512**
network_sync_primary_ static_ip		Specifies a static IP to be used as primary data sync address when communicating via peer-to-peer. **Default Value: 0.0.0.0**
network_sync_static_ip_ chain idx=1-50		**Do not use this setting in provisioning.** It is a list that is only used when multicell and peer-to-peer synchronization are enabled, and it is automatically updated by the primary base station when a secondary base station boots. The list contains the static IP addresses of all base stations in a peer-to-peer multicell system and is used to communicate with the other base stations.
network_sync_mac_ chain idx=1-50		**This setting is not supposed to be used in provisioning** since it can be critical if the order of the base stations is changed. The list contains the chain of Ethernet MAC addresses that are connected in the specified network. The chain will be created automatically by the multicell system, but can also be created by provisioning.
network_sync_max_sip_ reg_per_base	Valid: 8, 9 ... 30	This setting specifies the maximum number of SIP registrations per base station. When a base station in a multicell system has registered its maximum, it will attempt to distribute any additional SIP registration to other base stations in the chain that are detectable by the handset with the SIP registration. If this is not possible, the base station will reject registrations exceeding its maximum. **Default Value: 8**

Multicell Settings		
Setting	**Value(s)**	**Description**
network_sync_time	e.g. 60	This is the time in seconds for keep-alive packets to be sent between members of the chain. If no keepalive packets are received within double the value of the time, the base will be treated as unreachable in the multicell setup. Minimum recommended value is 30. **Default Value: 60**
network_auto_multi_primary	off [1] / on [2]	This setting specifies whether auto configuration is enabled/disabled for multiple primaries in a chain.[1,2] **Default Value: off**
network_allow_multi_primary	off / on	This setting specifies whether the configuration of multiple primaries in a network is allowed or not. **Default Value: off**
network_dect_auto_sync_tree_config	off / on	Specifies whether the DECT sync tree is automatically configured or not. **Default Value: on**
network_sync_debug_enable	off / on	Specifies whether the network sync debug is enabled or not. **Default Value: off**
network_roaming_deregister	off / on	This setting specifies how SIP registrations are handled when a handset roams from one base station to another. Roaming is defined as the procedure when the handset moves its SIP and DECT registration from one base station to another. Some PBXs are capable of handling multiple SIP bindings per SIP user and, consequently, when a new SIP registration is made from a different base, the old SIP registration will still be valid. As a consequence, this registration has to be deactivated. Other PBXs always use the latest SIP registration and therefore no deregister is needed. "Off" means that no sip deregister takes place when a handset roams from one base to another, while "on" means that the old SIP registration is deleted when a handset roams from one base to another. **Default Value: off**
network_sync_enable	off / on	Specifies whether multicell mode is enabled or not. **Default Value: off**
network_sync_data_transport	multicast / peer-to-peer	Specifies the data transport method for multicell setups. **Default Value: <empty>**

[1] When set to off, one primary base station and one or more secondary base stations are allowed per multicell system on a network (LAN). When the primary base station is down or removed from the system, the system will define a backup primary base station. Any of the secondaries can be used.

[2] When set to on, there are two options. Please see M700 Multicell Deployment Guide for more information.

- A multicell system with 2 or more separate cell systems with the same system chain ID in one network (LAN), each cell system with its own primary base station.
- A multicell system with one primary base station and 2 separate cell systems with the same system chain ID in one network (LAN), The primary is located between the two cell systems, its DECT range overlapping with each of them.

Firmware Settings

Firmware Settings		
Setting	**Value(s)**	**Description**
firmware-settings		Container for all firmware-related tags which must be the root node in the settings file. All firmware-related settings must be inside this tag, i.e., <firmware-settings> <firmware></firmware> </firmware-settings>
firmware-status	e.g. http://www.company.com/settings/snomXXX-firmware.htm	Defines the URL of the firmware configuration file where all firmware related settings are stored. **Default Value: <empty>**
firmware	e.g. http://server/directory/	This setting defines a specific path where the firmware can be found. Only the first part of the URL can be defined, i.e. http://server/directory/. The base will then always try to automatically find the respective sub-directory for the model that is used, e.g. /directory/M700 or /directory/M65. **Default Value: <empty>**
fp_fwu_sw_version	e.g. 323	Defines the base station firmware version. **Default Value: <empty>**
pp_fwu_sw_version type=M65 pp_fwu_sw_version type=M25 pp_fwu_sw_version type=M5	e.g. 323	Defines the firmware version for the attached devices (handsets and repeaters). The "type" parameter defines which type of device is used, i.e., M65, M25, M5, etc. **Default Value: 0**

Phonebook Settings

Phonebook Settings		
Setting	**Value(s)**	**Description**
phone-book (or tbook)		snom phonebook tag. See http://wiki.snom.com/Features/Mass_Deployment/Setting_Files/XML/Directory for a detailed explanation. This has to be the root node if used within the main configuration file.
item		The item tag defines one directory contact entry. For an entry to become valid, at least one name and one number must exist.
first_name (or name)	e.g. Thomas	Defines a contact's first name. **Default Value: <empty>**
last_name	e.g. Miller	Defines a contact's last name. **Default Value: <empty>**
number idx=1-3	e.g. 1234567	Defines a contact's number. A phonebook item can have from 1 to 3 numbers attached. If idx is not provided, it defaults to 1. **Default Value: 1**
number_type idx=1-3	home, mobile, work, other	Defines the type of telephone number. The number_type for a given idx defines the icon to display next to the number having the same idx. If idx is not provided, it defaults to 1. **Default Value: 1**

File Settings

File Settings		
Setting	**Value(s)**	**Description**
file	e.g. <file url="http://10.110.22.8/snomM700-00041361000A.xml" />	Command tag causing the specified URL to be loaded and handled as any other setting file. Format: <file url="full url" /> The file being pointed to has to be a fully qualified xml file. The following macros are supported in the url: {prov_host} {phone_ip}

Examples for Configuration Files

The following six examples of configuration files show how setting files are configured. Please remember that these setting files are only meant to be guidelines; every value within each tag has to be changed, if needed. All configuration files must be saved in ANSI format to avoid any problems with the encoding of certain characters.

Basic Configuration 1: 1 handset, 1 base station

Basic Configuration 2: 3 handsets, 1 base station, SRTP & TLS on, German language used on all devices

Basic Configuration 3: 1 handset, 1 base station, two different lines and a different access code

Basic Configuration 4: 1 handset, 1 base station, phonebook included in settings file

Basic Configuration 5: Allows the inclusion of both firmware and phonebook-related settings in the provisioning process. Each file contains specific settings and is loaded separately, avoiding any root tag conflicts. The file will automatically check for and fetch the latest build of any given firmware release whenever the base is provisioned.

Multicell Configuration (M700 only): Example for multicell provisioning, two (2) base stations

Basic Configuration 1

1 handset, 1 base station: This configuration creates a setup where the specified handset under subscr_dect_ipui has exactly one line and a mailbox number configured.

```
<?xml version="1.0" encoding="utf-8"?>
<settings>
<phone-settings e="2">

<!--Global settings-->
<ntp_server>10.110.21.254</ntp_server>

<!-- Server related settings-->
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>

<!-- Handset related settings. subscr_dect_ipui has to be specified otherwise the base will reset the
connection to the handset every provisioning process-->
<subscr_dect_ipui idx="1">FFFFFFFFFF</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>

<!-- Extension/account related settings-->
<user_active idx="1">on</user_active>
<user_name idx="1">502123</user_name>
<user_realname idx="1">Max 123</user_realname>
<user_mailbox idx="1">snom voicemail</user_mailbox>
<user_mailnumber idx="1">*97</user_mailnumber>
<keyboard_lock_emergency idx="1">911 112 110 999 19222</keyboard_lock_emergency>

</phone-settings>
</settings>
```

Basic Configuration 2

3 handsets, 1 base station, SRTP & TLS on, German language used on all devices:

```
<?xml version="1.0" encoding="utf-8"?>
<settings>
<phone-settings e="2">

<!--Global settings-->
<tone_scheme>GER</tone_scheme>
<timezone>GER+1</timezone>
<web_language>Deutsch</web_language>
<language>Deutsch</language>
<ntp_server>10.110.21.254</ntp_server>

<!-- Server related settings-->
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">on</user_srtp>
<srv_srtp_auth idx="1">on</srv_srtp_auth>
<srv_sip_transport idx=”1”>tls</srv_sip_transport>

<!-- Handset related settings. subscr_dect_ipui has to be specified otherwise the base will reset the connection to the handset every provisioning process-->
<!-- Handset 1-->
<subscr_dect_ipui idx="1">FFFFFFFFFF</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>
<!-- Handset 2 -->
<subscr_dect_ipui idx="2">FFFFFFFFFF</subscr_dect_ipui>
<subscr_sip_hs_idx idx="2">2</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="2">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="2">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="2">Line1</subscr_sip_line_name>
<!-- Handset 3 -->
<subscr_dect_ipui idx="3">FFFFFFFFFF</subscr_dect_ipui>
<subscr_sip_hs_idx idx="3">3</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="3">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="3">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="3">Line1</subscr_sip_line_name>

<!-- Extension/account related settings-->
<!-- Account 1-->
<user_active idx="1">on</user_active>
<user_name idx="1">502111</user_name>
<user_realname idx="1">Max 111</user_realname>
<!-- Account 2-->
<user_active idx="2">on</user_active>
<user_name idx="2">502222</user_name>
<user_realname idx="2">Max 222</user_realname>
<!-- Account 3-->
<user_active idx="3">on</user_active>
<user_name idx="3">502333</user_name>
<user_realname idx="3">Max 333</user_realname>
</phone-settings>
</settings>
```

Basic Configuration 3

1 handset, 1 base station, two different lines and a different access code: This configuration creates a setup where a handset has two different lines under which it can be reached.

```
<?xml version="1.0" encoding="utf-8"?>
<settings>
<phone-settings e="2">

<!--Global settings-->
<ntp_server>10.110.21.254</ntp_server>
<subscr_dect_ac_code idx="1">1111</subscr_dect_ac_code>

<!-- Server-related settings-->
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>

<srv_sip_server_alias idx="2">Server 456</srv_sip_server_alias>
<user_host idx="2">10.110.22.223</user_host>
<user_srtp idx="2">off</user_srtp>
<srv_srtp_auth idx="2">off</srv_srtp_auth>

<!-- Handset-related settings. subscr_dect_ipui has to be specified.  If it is not, the base will reset the connection to the handset at every provisioning process. -->
<subscr_dect_ipui idx="1">FFFFFFFFFF</subscr_dect_ipui>
<!-- Line1-->
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>
<!-- Line2-->
<subscr_sip_hs_idx idx="2">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="2">2</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="2">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="2">Line2</subscr_sip_line_name>

<!-- Extension/account related settings -->
<!-- Account 1 -->
<user_active idx="1">on</user_active>
<user_name idx="1">502111</user_name>
<user_realname idx="1">Max 111</user_realname>
<!-- Account 2 -->
<user_active idx="2">on</user_active>
<user_name idx="2">5007</user_name>
<user_realname idx="2">Max 222</user_realname>
</phone-settings>
</settings>
```

Basic Configuration 4

1 handset, 1 base station, phonebook included in settings file: This configuration includes a phonebook that is loaded and updated each time the base is provisioned.

```
<?xml version="1.0" encoding="utf-8"?>
<settings>
<tbook>
<item>
<first_name>Max</first_name>
<last_name>Mustermann</last_name>
<number idx=”1”>9000</number>
<number_type idx=”1”>work</number_type>
<number idx="2">1122334455</number>
<number_type idx="2">mobile</number_type>
<number idx="3">6789546</number>
<number_type idx="3">home</number_type>
</item>
<item>
<name>Peter</name>
<last_name>Jansen</last_name>
<number>9001</number>
<number_type>mobile</number_type>
</item>
</tbook>
<phone-settings e="2">

<!--Global settings-->
<ntp_server>10.110.21.254</ntp_server>

<!-- Server related settings-->
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>

<!-- Handset related settings. subscr_dect_ipui has to be specified otherwise the base will reset the
connection to the handset every provisioning process-->
<subscr_dect_ipui idx="1">FFFFFFFFFF</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>

<!-- Extension/account related settings-->
<user_active idx="1">on</user_active>
<user_name idx="1">502123</user_name>
<user_realname idx="1">Max 123</user_realname>
<user_mailbox idx="1">snom voicemail</user_mailbox>
<user_mailnumber idx="1">*97</user_mailnumber>
<keyboard_lock_emergency idx="1">911 112 110 999 19222</keyboard_lock_emergency>

</phone-settings>
</settings>
```

Basic Configuration 5

This method allows the inclusion of both firmware and phonebook-related settings in the provisioning process. Each file contains specific settings and is loaded separately, avoiding any root tag conflicts. The file will automatically check for and fetch the latest build of any given firmware release whenever the base is provisioned.

Main Provisioning Configuration file

```
<?xml version="1.0" encoding="utf-8" ?>
<setting-files>
  <file url="http://10.110.22.8/snom/M700/firmware.xml" />
  <file url="http://10.110.22.8/snom/M700/snom_phonebook.xml" />
  <file url="http://10.110.22.8/snom/M700/snom_settings.xml" />
</setting-files>
```

firmware.xml

```
<?xml version="1.0" encoding="utf-8"?>
<firmware-settings>
<firmware perm="">http://10.110.22.8/firmware/snom</firmware>
<fp_fwu_sw_version>323</fp_fwu_sw_version>
<pp_fwu_sw_version type="M65">323</pp_fwu_sw_version>
</firmware-settings>
```

snom_phonebook.xml

```
<?xml version="1.0" encoding="utf-8"?>
<settings>
<tbook>
<item>
<first_name>Max</first_name>
<last_name>Mustermann</last_name>
<number idx=”1”>9000</number>
<number_type idx=”1”>work</number_type>
<number idx="2">1122334455</number>
<number_type idx="2">mobile</number_type>
<number idx="3">6789546</number>
<number_type idx="3">home</number_type>
</item>
<item>
<name>Peter</name>
<last_name>Jansen</last_name>
<number>9001</number>
<number_type>mobile</number_type>
</item>
</tbook>
</settings>
```

snom_settings.xml

```
<?xml version="1.0" encoding="utf-8"?>
<settings>
<phone-settings e="2">

<!--Global settings-->
<ntp_server>10.110.21.254</ntp_server>

<!-- Server related settings-->
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>

<!-- Handset related settings. subscr_dect_ipui has to be specified, otherwise the base will reset the
connection to the handset every provisioning process-->
<subscr_dect_ipui idx="1">FFFFFFFFFF</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>

<!-- Extension/account related settings-->
<user_active idx="1">on</user_active>
<user_name idx="1">502123</user_name>
<user_realname idx="1">Max 123</user_realname>
<user_mailbox idx="1">snom voicemail</user_mailbox>
<user_mailnumber idx="1">*97</user_mailnumber>
<keyboard_lock_emergency idx="1">911 112 110 999 19222</keyboard_lock_emergency>

</phone-settings>
</settings>
```

Basic Configuration 6 - Multicell

Two config files are necessary to set up a multicell installation: Multicell settings and primary base station settings. The multicell settings must be downloaded to all base stations in the multicell installation; the primary base station settings are downloaded to the primary base station only.

Make sure that you replace the sample values like IP and MAC addresses, rtp ports, etc., with your actual values. See the settings tables for valid and default values and explanations.

Multicell Settings for Primary Base Station and Secondary Base Stations

Replace sample values with your system settings.

```
<?xml version="1.0" encoding="UTF-8"?>
<settings>
<multicell>
<network_auto_multi_primary>off</network_auto_multi_primary>
<network_allow_multi_primary>off</network_allow_multi_primary>
<network_sync_chain_id>1</network_sync_chain_id>
<network_sync_enable>on</network_sync_enable>
<network_roaming_deregister>on</network_roaming_deregister>
<network_sync_data_transport>peer-to-peer</network_sync_data_transport>
<network_dect_auto_sync_tree_config>off</network_dect_auto_sync_tree_config>
<network_sync_time>60</network_sync_time>
<network_sync_max_sip_reg_per_base>8</network_sync_max_sip_reg_per_base>
<network_sync_primary_static_ip>192.16</network_sync_primary_static_ip>
<network_sync_debug_enable>off</network_sync_debug_enable>
<network_dect_sync_tree idx="1">1</network_dect_sync_tree>
</multicell>
</settings>
```

Primary Base Station Settings

This is an example with EU daylight saving time, German time zone, German language, etc.
Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

```
<?xml version="1.0" encoding="UTF-8"?>
<settings>
<global>
<web_inputs_allowed>on</web_inputs_allowed>
<pnp_config>on</pnp_config>
<dhcp_option_pnp>on</dhcp_option_pnp>
<auto_dect_register>on</auto_dect_register>
<syslog_server></syslog_server>
<ntp_refresh_timer>0</ntp_refresh_timer>
<phone_name>Master</phone_name>
<min_jittbuf_depth>2</min_jittbuf_depth>
<max_jittbuf_depth>7</max_jittbuf_depth>
<rtp_port_start>50004</rtp_port_start>
<rtp_port_end>50043</rtp_port_end>
<tone_scheme>GER</tone_scheme>
<timezone_by_country_region>on</timezone_by_country_region>
<dst_by_country_region>on</dst_by_country_region>
<dst_enable>auto</dst_enable>
<dst_fixed_day_enable>on</dst_fixed_day_enable>
<dst_start_month>3</dst_start_month>
<dst_start_date>0</dst_start_date>
```

NOTE: Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

```
<dst_start_time>2</dst_start_time>
<dst_start_day_of_week>1</dst_start_day_of_week>
<dst_start_wday_last_in_month>5</dst_start_wday_last_in_month>
<dst_stop_month>10</dst_stop_month>
<dst_stop_date>0</dst_stop_date>
<dst_stop_time>2</dst_stop_time>
<dst_stop_day_of_week>1</dst_stop_day_of_week>
<dst_stop_wday_last_in_month>5</dst_stop_wday_last_in_month>
<timezone>GER+1</timezone>
<web_language>Deutsch</web_language>
<language>Deutsch</language>
<ldap_name_attributes>cn</ldap_name_attributes>
<ldap_search_filter></ldap_search_filter>
<ldap_server></ldap_server>
<ldap_port></ldap_port>
<ldap_base></ldap_base>
<ldap_username></ldap_username>
<!-- <ldap_password>**********</ldap_password> -->
<ldap_number_attributes>telephoneNumber mobile homePhone</ldap_number_attributes>
<phonebook_filename>phonebook.php</phonebook_filename>
<phonebook_location>http://192.        /ucware/prov/snom-dect/</phonebook_location>
<phonebook_reload_time>3600</phonebook_reload_time>
<phonebook_server_location>0</phonebook_server_location>
<stun_server></stun_server>
<stun_binding_interval>90</stun_binding_interval>
<sip_stun_bindtime_determine>on</sip_stun_bindtime_determine>
<sip_stun_bindtime_guard>80</sip_stun_bindtime_guard>
<sip_use_different_ports>off</sip_use_different_ports>
<voip_sip_auto_upload>off</voip_sip_auto_upload>
<network_sip_log_server></network_sip_log_server>
<sip_conf_key_dtmf_string></sip_conf_key_dtmf_string>
<sip_r_key_dtmf_string></sip_r_key_dtmf_string>
<vlan_qos>0</vlan_qos>
<codec_tos>184</codec_tos>
<signaling_tos>160</signaling_tos>
<network_vlan_synchronization>off</network_vlan_synchronization>
<dialplan_enabled>off</dialplan_enabled>
<dialplan_maxlength>0</dialplan_maxlength>
<dialplan_prefix>"</dialplan_prefix>
<rtp_collision_control>off</rtp_collision_control>
<network_sntp_broadcast_enable>off</network_sntp_broadcast_enable>
<enable_rport_rfc3581>on</enable_rport_rfc3581>
<tls_server_authentication>off</tls_server_authentication>
<log_level>7</log_level>
<!-- <ac_code>**********</ac_code> -->
<country_region_id>0</country_region_id>
</global>
<server>
<user_srtp idx="1">off</user_srtp>
<user_host idx="1">192.        </user_host>
<srv_sip_show_ext_name_in_hs idx="1">on</srv_sip_show_ext_name_in_hs>
<srv_sip_enable_blind_transfer idx="1">on</srv_sip_enable_blind_transfer>
<keepalive_interval idx="1">on</keepalive_interval>
<timer_support idx="1">on</timer_support>
<session_timer idx="1">140</session_timer>
```

NOTE: Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

```
<srv_sip_signal_tcp_port idx="1">on</srv_sip_signal_tcp_port>
<srv_sip_use_one_tcp_conn_per_ext idx="1">off</srv_sip_use_one_tcp_conn_per_ext>
<user_outbound idx="1"></user_outbound>
<conferencing idx="1"></conferencing>
<srv_srtp_auth idx="1">off</srv_srtp_auth>
<user_full_sdp_answer idx="1">off</user_full_sdp_answer>
<srv_sip_rtp_base_equal idx="1">disabled</srv_sip_rtp_base_equal>
<srv_sip_ua_data_server_nat_adaption idx="1">disabled</srv_sip_ua_data_server_nat_adaption>
<srv_dtmf_payload_type idx="1">101</srv_dtmf_payload_type>
<user_hold_inactive idx="1">off</user_hold_inactive>
<srv_sip_transport idx="1">udp</srv_sip_transport>
<user_dtmf_info idx="1">off</user_dtmf_info>
<codec_size idx="1">20</codec_size>
<codec_priority_list idx="1">pcma, g722, pcmu</codec_priority_list>
<user_auth_tag idx="1">on</user_auth_tag>
<user_expiry idx="1">60</user_expiry>
<srv_att_transfer_2nd_call_on_hold idx="1">on</srv_att_transfer_2nd_call_on_hold>
</server>
<extension>
<user_name idx="1">666</user_name>
<user_realname idx="1">Siegfried Atan</user_realname>
<user_pname idx="1">666</user_pname>
<!-- <user_pass idx="1">*********</user_pass> -->
<user_active idx="1">on</user_active>
<fwd_all_enabled idx="1">off</fwd_all_enabled>
<fwd_all_target idx="1"></fwd_all_target>
<fwd_time_enabled idx="1">off</fwd_time_enabled>
<fwd_time_target idx="1"></fwd_time_target>
<fwd_busy_enabled idx="1">off</fwd_busy_enabled>
<fwd_busy_target idx="1"></fwd_busy_target>
<fwd_time_secs idx="1">20</fwd_time_secs>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_line_name idx="1">666</subscr_sip_line_name>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<user_mailbox idx="1">80</user_mailbox>
<subscr_dect_ipui idx="1">02548[redacted]</subscr_dect_ipui>
<subscr_ua_data_emergency_number idx="1">0112</subscr_ua_data_emergency_number>
<subscr_ua_data_emergency_line idx="1">1</subscr_ua_data_emergency_line>
<subscr_sip_ua_use_base idx="1">255</subscr_sip_ua_use_base>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<dfks idx="1">off</dfks>
<call_waiting idx="1">on</call_waiting>
<!-- <subscr_sip_pincode_dialout idx="1">*********</subscr_sip_pincode_dialout> -->
<!-- <subscr_dect_ac_code idx="1">*********</subscr_dect_ac_code> -->
<user_mailnumber idx="1">80</user_mailnumber>
<user_name idx="2">555</user_name>
<user_realname idx="2">Nadja Appel</user_realname>
<user_pname idx="2">555</user_pname>
<!-- <user_pass idx="2">*********</user_pass> -->
<user_active idx="2">on</user_active>
<fwd_all_enabled idx="2">off</fwd_all_enabled>
<fwd_all_target idx="2"></fwd_all_target>
<fwd_time_enabled idx="2">off</fwd_time_enabled>
<fwd_time_target idx="2"></fwd_time_target>
```

NOTE: Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

<fwd_busy_enabled idx="2">off</fwd_busy_enabled>
<fwd_busy_target idx="2"></fwd_busy_target>
<fwd_time_secs idx="2">20</fwd_time_secs>
<subscr_sip_hs_idx idx="2">2</subscr_sip_hs_idx>
<subscr_sip_line_name idx="2">555</subscr_sip_line_name>
<subscr_sip_ua_data_server_id idx="2">1</subscr_sip_ua_data_server_id>
<user_mailbox idx="2">80</user_mailbox>
<subscr_dect_ipui idx="2">02548 </subscr_dect_ipui>
<subscr_ua_data_emergency_number idx="2">0112</subscr_ua_data_emergency_number>
<subscr_ua_data_emergency_line idx="2">2</subscr_ua_data_emergency_line>
<subscr_sip_ua_use_base idx="2">255</subscr_sip_ua_use_base>
<subscr_sip_ua_pref_outg_sip_id idx="2">1</subscr_sip_ua_pref_outg_sip_id>
<dfks idx="2">off</dfks>
<call_waiting idx="2">on</call_waiting>
<!-- <subscr_sip_pincode_dialout idx="2">**********</subscr_sip_pincode_dialout> -->
<!-- <subscr_dect_ac_code idx="2">**********</subscr_dect_ac_code> -->
<user_mailnumber idx="2">80</user_mailnumber>
</extension>
<repeater>
<repeater_rpn idx="1">1</repeater_rpn>
<repeater_sync_src_rpn idx="1">0</repeater_sync_src_rpn>
<repeater_dect_ipui idx="1">016e8 </repeater_dect_ipui>
<repeater_name idx="1">Hallway_01</repeater_name>
<repeater_data_configured idx="1">on</repeater_data_configured>
<repeater_auto_config_mode idx="1">1</repeater_auto_config_mode>
<repeater_legacy_support idx="1">on</repeater_legacy_support>
<repeater_rpn idx="2">2</repeater_rpn>
<repeater_sync_src_rpn idx="2">1</repeater_sync_src_rpn>
<repeater_dect_ipui idx="2">016e8 </repeater_dect_ipui>
<repeater_name idx="2">M5-02</repeater_name>
<repeater_data_configured idx="2">on</repeater_data_configured>
<repeater_auto_config_mode idx="2">0</repeater_auto_config_mode>
<repeater_legacy_support idx="2">!no_value! (2)</repeater_legacy_support>
</repeater>
</settings>