

FREQUENTLY ASKED QUESTION

Configuring the snom100 for Mass Deployment

As stated in the FAQ „How can I update a snom100?“, it is possible to configure your snom100 phone with config files, which consist of the following settings.

Phone settings

Settings are non volatile name/value pairs that are stored in the flash of the phone. They include registration information, dialed numbers, network settings and other information that should be available after rebooting. Settings can be made read only on a per setting basis. This is useful in environments where an operator sets up the phones and wants to avoid that users change settings that affect the stability of the phone. This way, expensive trouble ticket searching can be reduced and the total cost of ownership of the phone be minimized.

Setting files

Setting files are ASCII based files containing lines (terminated with newline or carriage return/newline pairs). Comments start with a # or a < character. The < and > characters easily allow integration of html tags. Names may consist of the characters a-z, A-Z, 0-9 and _.

Appending a name with an ! character means that this setting becomes writable by the user. Appending the name with an & states that the setting is read only (this is the default). If a setting is marked writable, the value in the settings file is only written to the phone if that setting has not been set up so far at the phone.

A sample file looks like this:

```
<html>
<pre>
#This is the default settings file
#
phone_name: testphone
#user may select H323/SIP on his own,
snom100-SIP is default:
phone_type!: snom100-SIP
</pre>
<html>
```

Downloading procedure

Settings are downloaded from web servers or from tftp servers. http is a very powerful way to get configuration information from anywhere in the world, tftp is available to allow backward compatibility to some older devices from other vendors. The location of a file is described in a URL fashion, http files begin with http://, tftp files with tftp:// . If no prefix is given, it is assumed that it is a tftp file (this is to allow backward compatibility).

This is how the Settings are set up:

1. The settings that were stored in the flash memory are read.
2. DNS is set up. This allows the phone to get settings from internet URLs.
3. The phone reads its generic settings. Thereafter, it checks the setting setting_server and loads the settings stored in the provided URL. If this setting has not been set up, the phone checks at http://www.snomag.de/snom100/snom100.htm. For a description of the file format, see below.
4. The phone repeats step 3 with a different filename that contains its MAC address.

The MAC address is a unique identification ID of Ethernet devices, snom devices have the form 000413xxxxxx , where xxxxxx is a hexadecimal number identifying the snom device. The MAC address is prepended with a - and applied before the last dot in the URL. An example would be http://www.snom.de/snom100/snom100-0004130214EF.htm .

5. The de facto settings are added. These settings may differ from what has been setup e.g. because DHCP has changed them. These settings include:

- a. the IP address of the device,
- b. the net mask,
- c. the IP gateway,
- d. the hostname,
- e. the DNS domain, first and second DNS server,
- f. the UTC offset in seconds,
- g. the time server,
- h. DHCP on or off

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Each setting is described by its ,Name: ` which you should add to the config file followed by a colon and its specific value. Name is followed by ,Valid values:` where the valid values are described. Each possible value is bracketed in <>.The braces can be left out if you are using the values stored in a config file. ,Default:` shows the value which is set by default after you have removed all of the setting with a manual update or a reset values!

Redirection

redirect_event

Valid values: <all>, <busy>, <none>, <time>

Default: none

Description: Event that causes redirection. <all> redirects always, <none> never, <busy> when the phone is in use and <time> after a timeout.

redirect_time

Valid values: e.g. <15>

Default: blank

Description: Number of seconds after the phone is redirecting the incoming call.

redirect_number

Valid values: e.g. <tb,sf> or <sip:tb@snom.de;q=0.8,sf@snom.de;q=0.9>.

Default: blank

Description: The redirection target. If the proxy executes the redirection, this may be a comma separated list of alternate destinations (including probabilities).

Basic

language

Valid values: <english>, <spanish>, <german>, <french>, <polish>, <turkish>, <serbian>, <croatian>

Default: english

Description: Selects the language.

contrast

Valid values: between <0> and <15>

Default: 5

Description: Display contrast, not available for snom100A phones.

phone_type

Valid values: <snom100-SIP>, <snom100-H323>

Default: snom100-SIP

Description: Identifies the phone as an H323 or SIP device. <snom100-SIP> makes it a SIP device, and <snom100-H323> an H323 device.

desktop

Valid values: <reg>, <stat>

Default: reg

Description: Different desktop styles. Currently supported styles are <reg> for showing SIP registrations and <stat> for showing call statistics.

image_src

Valid values: <true>, <false>

Default: false

Description: The pictures for the internal webinterface are taken from the phone (<false>) or loaded via internet (<true>).

So if you have a slow connection to the remote phone, <true> will significantly speed up the displaying of the phone's webpages.

guess_number

Valid values: <true>, <false>

Default: true

Description: Number guessing or auto completion while typing in numbers to dial.

block_edit

Valid values: <true>, <false>

Default: true

Description: After you have typed in the complete number to dial, you have to press the enter key or hook off the phone (<true>). Setting the value to <false> has the effect that the phone dials each digit right after you have typed it in.

admin_mode

Valid values: <true>, <false>

Default: true

Description: Administrator mode (all settings are accessible) or user mode (only few basic settings are accessible).

admin_mode_password

Valid values: only numbers, e.g. <1234567>, <0815>

Default: 0000

Description: The password for entering the Administrator mode on the snom phone.

SIP Line Settings

The SIP stack supports seven lines. They are identified with the numbers 1 through 7. Line specific settings are appended with the line number.

user_realname[1-7]

Valid values: e.g. <Jim Testa>

Default: blank

Description: This is the real name of the user that is displayed for line x.

user_name[1-7]

Valid values: e.g. for <sip: abc@company.de> the user_name[1-7] would be abc.

Default: blank

Description: The account name for line x. This is a mandatory setting to setup a SIP line!

user_host[1-7]

Valid values: e.g. for <sip: abc@company.de> the user_host would be <company.de>.

Default: blank

Description: The registrar for line x. This is also a mandatory setting to setup a SIP line!

user_q[1-7]

Valid values: values between <0.0> and <1.0>

Default: 1.0

Description: The probability of the registration for line x. This probability is used by some proxies to call the registered phones one by one (sequential and parallel forking proxy).

user_action[1-7]

Valid values: <none>, <proxy>, <redirect>

Default: none

Description: The action that should be performed by the registrar for line x.

user_expiry[1-7]

Valid values: <60>, <600>, <3600>, <7200>, <28800>, <86400>

Default: 86400 (one day)

Description: The proposed expiry time of the registration in seconds for line x.

user_mailbox[1-7]

Valid values: e.g. <abc> or <sip: abc@mailbox.bla.com>.

Default: blank

Description: The SIP url of the mailbox associated with line x.

active_line

Valid values: [1-7]

Default: 1

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Description: Number of the active SIP line. Its the line which is used as originator of an outgoing call.

SIP authentication

[auth_realm\[1-9\]](#), [auth_user\[1-9\]](#), [auth_pass5\[1-9\]](#)

Valid values: e.g. <company, 456876, answerIs42>

Default: blank

Description: A tuple for proxy and registrar authentication. The realm depends on the used product, the user name and the password can usually be set up on the proxy and registrar.

[auth_valid\[1-9\]](#)

Valid values: <all>, <1>, <2>, <3>, <4>, <5>, <6>, <7>

Default: all

Description: Defines to which sip line the current authentication line is assigned to.

SIP stack settings

Name: sip_postfix

Valid values: e.g. <proxy.company.de>

Description: Register postfix, which is automatically chosen as registrar in case the logon wizard is used to logon a SIP user and the registrar has not been set up through the logon wizard.

[sip_proxy](#)

Valid values: e.g. <proxy.company.de>, <192.168.0.24>

Default: blank

Description: Address or path of the outbound proxy that is used for calling.

[route_proxy](#)

Valid values: <true>, <false>

Default: false

Description: Treat as initial route (<true>), <false> for address only

[nat_detection](#)

Valid values: stun, static, off

Default: stun

Description: NAT detection

[stun_server](#)

Valid values: e.g. <217.115.141.99:5062>

Default: blank

Description: IP address of a STUN server (hostname:port)

[stun_binding_interval](#)

Valid values:

Default: blank

Description: STUN binding interval in seconds.

[rtp_port_start](#)

Valid values:

Default: blank

Description: First dynamic RTP port

[rtp_port_end](#)

Valid values:

Default: blank

Description: Last dynamic RTP port

[network_id_name](#)

Valid values:

Default: blank

Description: Network identity (hostname)

Name: network_id_port

Valid values:

Default: blank

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Description: Network identity (port)

use_nw_port

Valid values: <true>, <false>

Default: false

Description: Use local SIP port (<false>) or network port (<true>)

sip_retry_t1, sip_retry_t2

Valid values:

Default: 500, 4000

Description: The time for resending SIP messages in ms. Should be set to 500 and 4000 respectively.

session_timer

Valid values:

Default: 3600

Description: Default time for session timer in seconds. 0 disables the session timer, 3600 is a reasonable value.

max_forwards

Valid values:

Default: 70

Description: The maximum number of hops allowed for a SIP request/response.

tcp_threshold

Valid values:

Default: 1300

Description: Set the threshold value for choosing TCP transport layer for SIP messages.

trace

Valid values: <true>, <false>

Default: true

Description: Enable tracing output of the current protocol stack.

logon_wizard

Valid values: <true>, <false>

Default: false

Description: Logon wizard and mobility features available in the snom key menu (for SIP only).

user_phone

Valid values: <true>, <false>

Default: true

Description: Use user=phone in SIP signalling.

refer_policy

Valid values: <auto>, <refer>, <bye>

Default: auto

Description: Choose between REFER and BYE/Also method for initiating a transfer. Auto makes an automatic selection depending on the capabilities indicated by the other party.

sip_moh_server

Valid values: e.g. <sip:mh@snom.de>, <mh>, <192.168.0.40>

Default: blank

Description: SIP Address of a music on hold server. The music is automatically played if the phone is in held state.

Codec and DTMF settings

codec_name

Valid values: <ulaw>, <alaw>, <gsm>, <g729>

Default: ulaw

Description: Name of the preferred codec.

packet_size

Valid values: <80>, <160>, <240>, <320>

Default: 160

Description: Packet size in bytes. Affects only ulaw and alaw codecs (other codecs have fixed packet size). 80 (10 ms), 160 (20 ms), 240 (30 ms) and 320 (40 ms) bytes are available.

dtmf_type_oob

Valid values: <on>, <off>, <negotiate>, <lowrate_on>

Default: lowrate_on

Description: Options for Out of band DTMF. <on> forces the use of Out of band DTMF, <off> turns it off. Using the <negotiate> option enables the phone to use Out of band DTMF if the other party is also supporting it. <lowrate_on> enables the phone to use Out of band DTMF for low rate codecs (G729 and GSM).

dtmf_type_ib

Valid values: <on>, <off>, <negotiate>, <lowrate_off>

Default: on

Description: Options for In band DTMF. <on> forces the use of In band DTMF, <off> turns it off. Using the <negotiate> option enables the phone to use In band DTMF if the other party is also supporting it. <lowrate_off> enables the phone to turn off In band DTMF for low rate codecs (G729 and GSM).

dtmf_payload_type

Valid values:

Default: 101

Description: Payload type for Out of band DTMF.

codec_negotiation

Valid values: <single>, <full>, <interoperable>

Default: interoperable

Description: <single> option offers only the preferred codec. <full> offers all codecs and answers with all codecs too. <interoperable> option offers all codecs but answers with the preferred one.

Base Network Settings

ip_adr

Valid values: e.g. <192.168.0.50>

Description: The IP address of the device. Changing this parameter requires a reboot. This parameter is mandatory in order to enable the ethernet connection.

netmask

Valid values: e.g. <255.255.255.0>

Default: blank

Description: The netmask for the device. Changing this parameter requires a reboot.

phone_name

Valid values: e.g. <phone1>

Default: blank

Description: Hostname of the phone. If this parameter is available, it is used for identifying the device in SIP signaling.

gateway

Valid values: e.g. <192.168.0.1>, <10.0.0.1>

Default: blank

Description: The IP address of default IP gateway (not the VoIP gateway!!!). Its the address to which the packets get routed, if the wanted packet address is not in the current subnet. Setting up this parameter is mandatory in order to reach an external network.

dhcp

Valid values: <dhcp>, <off>

Default: dhcp

Description: Use DHCP (<dhcp>) or do not use DHCP (<off>).

time_server

Valid values: e.g. <192.53.103.103>

Default: SIP: blank, H323: 192.53.103.103

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Description: Address of the time server. If the SIP proxy is offering the time during a registration, the time will be set to this value. In that case a time server is not needed.

utc_offset

Valid values: e.g. in germany it is <+3600>.

Default: blank

Description: signed UTC offset in seconds.

dst

Format: offset mm.ww.dd hh:mm:ss
mm.ww.dd hh:mm:ss

Valid values: e.g. for Germany <3600
03.05.07 02:00:00 10.05.07 03:00:00>

Default: blank

Description: Daylight saving time that observes yearly change and leapyears.

Advanced network settings

dns_domain

Valid values: e.g. <company.de>

Default:

Description: The DNS domain. Changing this parameter requires a reboot. This parameter is mandatory in order to enable DNS searching.

dns_server1, dns_server2

Valid values: e.g. <194.25.2.129>

Default:

Description: Server that may be used for DNS searches. Changing this parameter requires a reboot. Setting up one of these parameters is mandatory in order to enable DNS searching.

http_user, http_pass

Valid values:

Default: blank

Description: Username and password for accessing the embedded web server on the phone.

http_proxy

Valid values:

Default: blank

Description: Sets the http proxy for outgoing http requests.

http_port

Valid values: e.g. <80>, <8080>

Default: 80

Description: Sets the port for http requests.

Update

setting_server

Valid values: e.g. <tftp://192.168.0.9/snom100.cnf>, <http://www.mycompany.com/phone_settings/snom100.htm>, <130.149.12.54> defaults to <tftp://130.149.12.54/snom100.cnf>

Default: http://www.snomag.de/snom100/snom100.htm

Description: URL of the settings file. Can be http or tftp (default). See the FAQ „How can I update a snom100?“ for more information about that topic.

firmware_status

Valid values: e.g. <tftp://192.168.0.9/snom100-firmware.cnf>, <http://www.company.de/phone_settings/snom100-firmware.htm>

Default: <http://www.snom.de/download/snom100-firmware.htm>

Description: URL of the config file which consists of the bootloader and firmware setting, see below. Can be http or tftp (default). See the FAQ „How can I update a snom100?“ for more information about that topic.

bootloader, firmware

Valid values: e.g. <tftp://192.168.0.9/snom100-123.bin>, <http://www.mycompany.com/files/snom100ABC.bin>, <130.149.12.54> defaults to <tftp://130.149.12.54/snom100.bin>

Default: <http://www.snomag.de/snom100/snom100.htm>

Description: URL of the image file for bootloader or firmware respectively. Can be http or tftp (default). See the FAQ „How can I update a snom100?“ for more information about that topic.

LDAP

ldap_server

Valid values: e.g. <192.168.0.9>

Default: blank

Description: IP address of the LDAP server.

ldap_base

Valid values: e.g. <o=ewu,st=wa,c=us>

Default: blank

Description: Defines the root node of the current LDAP tree.

ldap_bind_dn

Valid values:

Default: blank

Description: Further option to connect to some LDAP servers.

ldap_max_hits

Valid values: between <1> and <100>

Default: 100

Description: Maximum number of hits which will be shown on a per request basis.

ldap_search_kind

Valid values: <ldap_search_cn>, <ldap_search_fn>, <ldap_search_sn>

Default: blank

Description: Defines the search criteria for an LDAP query and how the names returned by the LDAP server will be sorted by the phone. <ldap_search_cn> sends a „common name request“ and gets back a list of matching names beginning with lastname followed by firstname, <ldap_search_fn> sends a „firstname request“ and gets back a list of matching firstnames and <ldap_search_sn> sends a „surname request“ and gets back a list of matching lastnames.

lcserver1, lcserver2

Valid values: e.g. <192.168.0.26>

Default: blank (to use local LCServer on device)

Description: IP addresses of an alternative remote LCServer. Usually you will not need to change this setting.

PPPoE

ppp_user, ppp_pass

Valid values: Internet access information, which you get from your ITSP.

Default: blank

Description: PPPoE user name and password. You need a special software version to make use of these.

ppp_acname, ppp_servicename, ppp_pppoe_extra, ppp_pppd_extra

Valid values: may be blank

Default: blank

Description: Additional PPPoE settings. You need a special software version to make use of these.

H.323 Settings

Name: h323_e164_number

Valid values: e.g. <3884576>

Default: blank

Description: E164 number assigned to the phone.

h323_ID

Valid values: e.g. <kitchen>

Default: blank

Description: H323 id assigned to the phone.

h323_URL_ID

Valid values: e.g. <tx@company.de>

Default: blank

Description: H323 URL id assigned to the phone.

gkgw_mode

Valid values: <auto>, <gatekeeper>, <gateway>, <none>

Default: auto

Description: Gatekeeper or gateway mode. Can be <auto> (automatic discovery of Gatekeeper) or <gatekeeper> for explicitly using the gatekeeper mode, <gateway> for gateway mode and <none> for autonomous operation.

h323_gateway

Valid values: e.g. <192.168.0.9>, only IP, please no FQHN like <gtk.company.de>

Default: blank

Description: IP address of the gatekeeper or the gateway, depending on gkgw_mode (see above). This field will be automatically set to the discovered gatekeeper's IP Address, if <auto> mode is selected.

h323_ttl

Valid values: e.g. <600>

Default: 600

Description: Time-to-live for Gatekeeper registration. Very low values result in more frequent refreshes of registration but also cause additional network traffic.

Very high values result in large intervals of disconnection from the Gatekeeper before getting back online, if the gatekeeper reboots without sending any un-registration request to the phone.

early_start

Valid values: <true>, <false>

Default: true

Description: The early start option allows the H245 channel to be setup earlier, and hence speeds up the call setup. When early start is turned on, the H245 channel address is also supplied in the Setup message. This speeds up the call because the H245 channel negotiations can proceed in parallel to H225.

fast_start

Valid values: <true>, <false>

Default: false

Description: Fast start sends encoded OpenLogicalChannel messages within the Setup messages and hence eliminates the need for a separate H245 channel for Codec capability negotiation. This will only work if the other party is also supporting fast start. This feature in H323 is optional so it can be ignored by an endpoint not supporting this feature, hence making the snom phone revert to the normal H245 signalling on a separate channel. Note that if Fast Start is being used, Out of band DTMF might not work because the DTMF info is relayed on the H245 channel.

h323_h245_tunneling

Valid values: <true>, <false>

Default: false

Description: H245 Tunneling option sends tunneled H245 messages within an H225 pdu. This also accelerates connection setup if both parties are supporting this feature.

trace

Valid values: <true>, <false>

Default: true

Description: Enable tracing output of the current protocol stack.

h323_h450

Valid values: <true>, <false>

Default: false

Description: Flag if set to <true>, H450 supplementary services are used, otherwise (<false>) its facility based.

Miscellaneous

preselection_nr

Default: blank

Description: If a number is entered in this option, the phone dials this preselected number automatically everytime the phone gets off-hook. This is particularly useful for using calling/prepaid cards etc.

Gateway prefixes (H323 only)

external_line_prefix

Valid values: e.g. <0>, <111>

Default: blank

Description: Prefix used for reaching outside numbers via an H323 gateway. This prefix will be replaced by the gateway_prefix in a dialed number for calling outside numbers (see gateway_prefix).

gateway_prefix

Valid values: e.g. <*5>

Default: blank

Description: Prefix with which an ISDN gateway is registered at the gatekeeper. The phone will replace this prefix with the external_line_prefix in a dialed number, if it is starting with the external_line_prefix (see external_line_prefix).

Hence the user doesnt have to dial numbers like 5*1234567 but can instead dial 01234567 for the same effect.

PBX key codes (H323 only)

key_seq_hold_on

Valid values: e.g. <*1>

Default: blank

Description: Key code which is sent by the phone to the PBX, if its set and the ,hold on` key is pressed on the phone.

key_seq_hold_off

Valid values: e.g. <*2>

Default: blank

Description: Key code which is sent by the phone to the PBX, if its set and the ,hold off` key is pressed on the phone.

key_seq_transfer_blind

Valid values: e.g. <*60#>

Default: blank

Description: Key code which is sent by the phone to the PBX, if its set and the ,transfer` key is pressed on the phone for a blind transfer.

key_seq_transfer_consultation

Valid values: e.g. <*6>

Default: blank

Description: Key code which is sent by the phone to the PBX, if its set and the ,transfer` key is pressed on the phone for a consultation transfer. The phone needs to have 2 active calls in order to use this feature.

key_seq_divert

Valid values: e.g. <*3>

Default: blank

Description: Key code which is sent by the phone to the PBX, if its set and ,redirection` is active with a redirection number.

key_seq_conf_on

Valid values: e.g. <*3>

Default: blank

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Description: Key code which is sent by the phone to the PBX, if its set and the ,conference on` key is pressed on the phone.

key_seq_conf_off

Valid values: e.g. <*30>

Default: blank

Description: Key code which is sent by the phone to the PBX, if its set and the ,conference off` key is pressed on the phone.

key_seq_pickup

Valid values: e.g. <#11>

Default: blank

Description: Key code which is sent by the phone to the PBX to pickup an alerting call. This is activated by pressing the ,pickup` key when the key_seq_pickup is set.

key_seq_end

Valid values: e.g. <#>

Default: blank

Description: The end symbol which is automatically appended to the above keycodes before they are sent to the PBX.

The end symbol marks the end of a key code sequence.

Others

DND_mode

Valid values: <true>, <false>

Default: false

Description: Mode in which the phone initially should start up. <true> means phone is in „do not disturb“ (DND) mode, <false> is normal behaviour. Usually its been changed by the user.

preferred_edit_mode

Valid values: <E164>, <H323orSIP>, <IPv4-Address>

Default: E164

Description: Preferred or default editing mode for typing in phone numbers/addresses unless the user changes it by dialing a different type of phone number.

skRingCallTone

Valid values: between <0> and <25>

Default: 0

Description: Selection of the ring tone style which is signalling incoming calls.

skSpeakerVolume[1-3]

Valid values: between <0> and <15>

Default: 8

Description: Selection of the speaker volume. 1 is casing speaker, 2 is handset speaker and 3 is both speakers together.

auto_connect

Valid values: <true>, <false>

Default: false

Description: If its <true>, the phone will automatically answer incoming calls.

auto_connect_type

Valid values: <auto_connect_type_handfree>, <auto_connect_type_handset>

Default: auto_connect_type_handfree

Description: If the above setting auto_connect is <true>, auto_connect_type determines if the auto answered incoming call switches the phone to hands free mode or normal handset mode.

no_menu

Valid values: <true>, <false>

Default: false

Description: When set to <true> the phone's menu key is not reacting anymore.

no_fkeys

Valid values: <true>, <false>

Default: false

Description: When set to <true> the phone's function keys are not reacting anymore.

no_help

Valid values: <true>, <false>

Default: false

Description: When set to <true> the phone's help key is not reacting anymore.

no_cancel

Valid values: <true>, <false>

Default: false

Description: When set to <true> the phone's cancel key is not reacting anymore.

no_enter

Valid values: <true>, <false>

Default: false

Description: When set to <true> the phone's enter key is not reacting anymore.

no_ipadr_dial

Valid values: <true>, <false>

Default: false

Description: When set to <true> you can't switch to IP address dial mode anymore.

no_siph323adr_dial

Valid values: <true>, <false>

Default: false

Description: When set to <true> you can't switch to H323/SIP URL dial mode anymore.

Name: log_level

Valid values: between <0> and <9>

Default: 5

Description: Log level of the maintenance webpage, 9 is the most verbose mode.

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