



Provisioning of SME VoIP System

1 Document Info

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Scope

History

Revision	Author	Issue Date	Comments
0.1	HAN	01-03-2012	Initial Revision
0.2	RSJ	29-04-2013	Added LDAP

References

- [1]
- [2]

Terms & Abbreviations

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2 Introduction

The purpose of this document is to give an introduction to the provisioning of the SME VoIP system.

2.1 Provisioning Approaches

There are three ways of configuring the system.

1. Manual configuration by use of the Web server in the base station(s)
2. By use of configuration files that are uploaded from a disk via the “Configuration” page on the Web server.
3. By use of configuration files which the base station(s) download(s) from a configuration server.

The list of parameters that can be configured is listed in Appendix 0. Please note that some parameters may not be valid in all variants of the product. If configuration by use of the Web server is used, the parameters shown on the web pages are the ones that can be used.

3 Manual Configuration by use of Web Server

To access the Web server, the IP address of the given base station is needed.

3.1 Find IP Address of Base Station(s)

One way to find the IP address is to use the “Find IP” feature of the handsets. This is enabled by pressing the “menu” button on handset followed by ‘*’ ‘4’ ‘7’ ‘*’. (*IP*). The handset will now start to search for base stations, and for each one found, the MAC and IP address will be shown.

Once, the IP address is known the address shall be entered in an internet browser. The default username is “*admin*” and the default password is “*admin*”.

After a successful login, the “Home” screen will be shown, see Figure 1, and it is now possible to start the configuration of the system by entering the desired values for the different parameters respectively.

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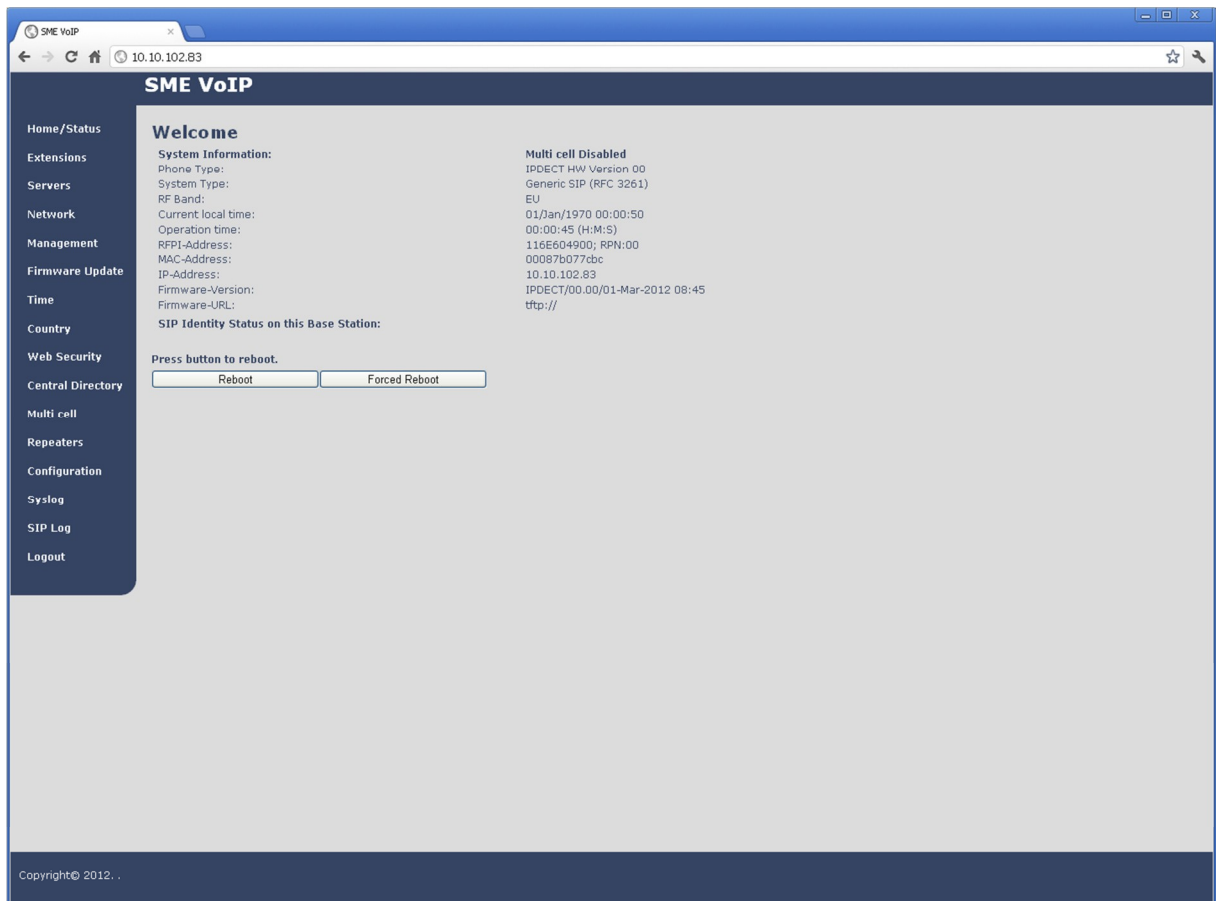


Figure 1. "Home" on the Web server

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6 Configuration by use of Downloaded Configuration Files

It is also possible to use configuration files that are downloaded from a configuration server. To be able to use configuration files instead of manual configuration, the base stations must be set up to use configuration files. This can be done by use of DHCP option 66, or it can be configured via the Web server.

DHCP option 66:

1. Upload of configuration file with setting the below parameter to 0 for option 66

```
uint8 NETWORK_DHCP_CLIENT_BOOT_SERVER[1]
    /* Select scheme for detecting the DHCP server
    0: Option 66
```

Parameter is by default set to 2.

2. Configuration by web interface as described in the below configuration for web server section

Configuration for web server:

A given base station is set up to use configurations files on the “Management Settings” page on the Web server. (See section 3.1 on how to find the IP Address of a base station).

The parameters that are important for enabling use of configuration files are:

- Management Transfer Protocol
- Configuration Server Address
- Configuration File Download

In Figure 3, an example is given, in which a multi-cell system is set up. Configuration files for an example setup with two base stations in a chain can be found in Chapter 8

When creating a configuration file it is important to distinguish between the primary and secondary base at first configuration download.

The selected primary base must receive a base specific file and a multicell specific file.

The secondary bases must only receive a base specific file.

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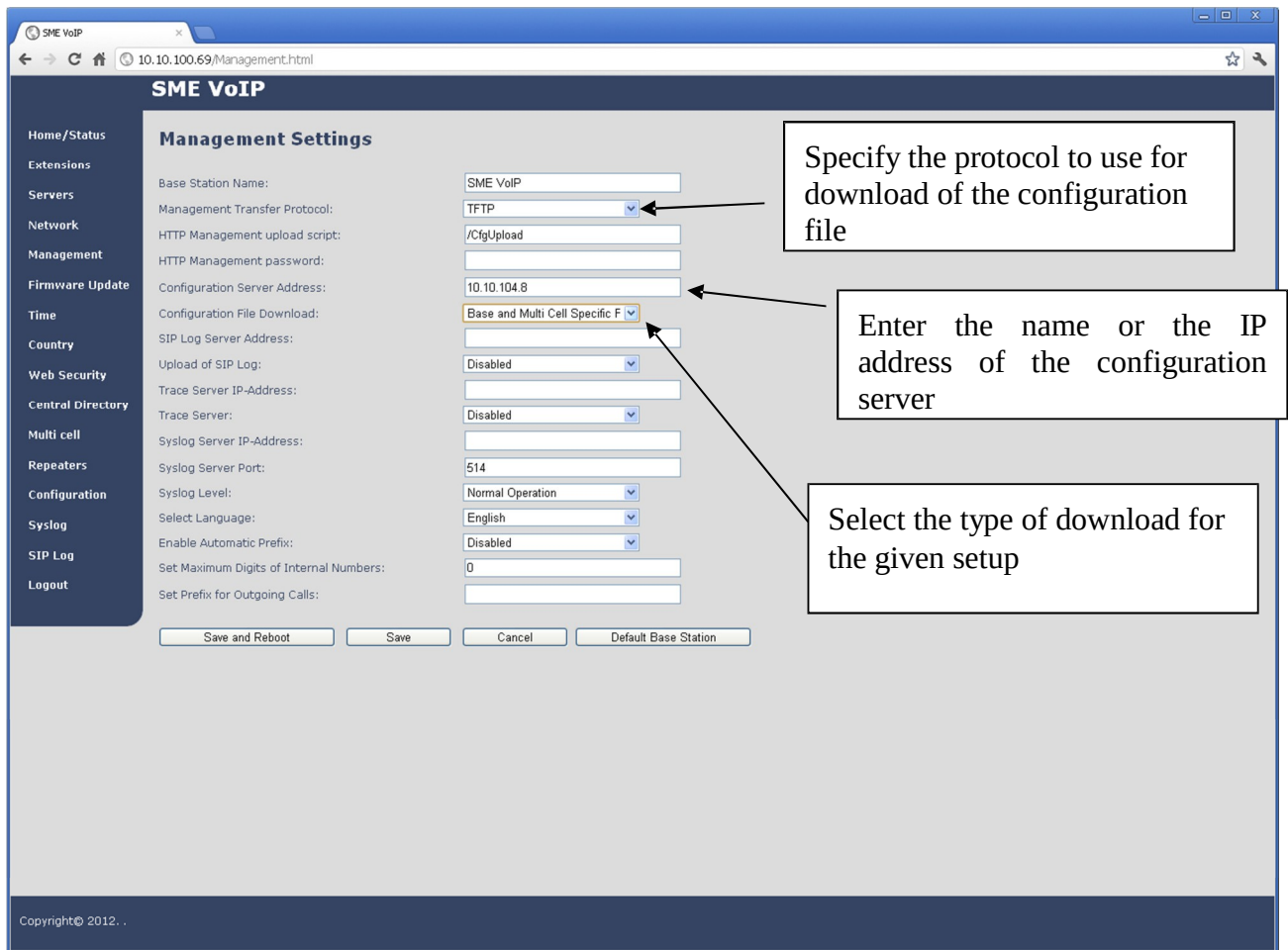


Figure 3. Management Settings page with the parameters necessary to enable use of configuration files for a multi-cell system.

7 List of Configurable Parameters

```
uint8 REPEATER_RPN[100][1]
/* Repeater RPN setting used when REPEATER_AUTO_CONFIG_MODE is set to
   Manual. (See later)
   Together with the REPEATER_SYNC_SRC_RPN, there is possible to specify a
   unique RPN value per Repeater.
   Only the numbers of bits of the RPN's 8 bits which are used by the
   Repeaters are used of this value. The number of bits used for the
   repeater
   RPN is 2. See also description of REPEATER_SYNC_SRC_RPN
   All Repeaters using Manual mode must be configures to use unique RPN.
   Value 0x00 is invalid.
   Valid values are 0x01; 0x02; 0x03. */
Default value defined: 0x00
```

```
uint8 REPEATER_SYNC_SRC_RPN[100][1]
/* Repeater Sync Source RPN setting used when REPEATER_AUTO_CONFIG_MODE is
   set to Manual. (See later)
   Together with the REPEATER_RPN, there is possible to specify a unique
   RPN
   value per Repeater.
   The maximum chain length is three Repeaters in chain after a Base
   Station.
   All Repeaters using Manual mode must be configures to use unique RPN.
   0x00: Uses Base station in NETWORK_SYNC_MAC_CHAIN index 0 as DECT
   Synchronization source.
   0x01: Uses Repeater with RPN 0x01 conected to the Base station in
   NETWORK_SYNC_MAC_CHAIN index 0 as DECT Synchronization source.
   0x02: Uses Repeater with RPN 0x02 conected to the Base station in
   NETWORK_SYNC_MAC_CHAIN index 0 as DECT Synchronization source.
   0x03: Uses Repeater with RPN 0x03 conected to the Base station in
   NETWORK_SYNC_MAC_CHAIN index 0 as DECT Synchronization source.
   0x04: Uses Base station in NETWORK_SYNC_MAC_CHAIN index 1 as DECT
   Synchronization source.
   0x05: Uses Repeater with RPN 0x01 conected to the Base station in
   NETWORK_SYNC_MAC_CHAIN index 1 as DECT Synchronization source.
   0x06: ..
   0x07: .. */
Default value defined: 0x00
```

```
uint8 REPEATER_AUTO_CONFIG_MODE[100][1]
/* Repeater Auto Configure Mode settings
   0: Manual. User need manually to specify REPEATER_RPN and
   REPEATER_SYNC_SRC_RPN.
   1: Local Automatically. Repeater search for avail base stations and will
   automatically locate to the best seen base station. If a base station is
   turned off, the repeater will move to another seen base station.
   REPEATER_RPN and REPEATER_SYNC_SRC_RPN settings are ignored.
   2: Chaining Automatically. All base stations and all repeaters are
   sending
   a RSSI report to the Data Primary Base station. These reports are used
   by
   the Data Primary base station to create a new stronges DECT
   Synchronization
   Tree with all base station and all repeaters selected to use this
   setting. */
```

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Default value defined: 0

uint8 REPEATER_DATA_CONFIGURED[100][1]

/* If 1 this Repeater is actively configured. If 0 this account is not in use. */

Default value defined: 0

uint16 FP_FWU_SW_VERSION[1]

/* This parameter specifies the firmware version the base station shall use. If a different version is already loaded into the base station the firmware update procedure will start to update the base to the specified version. If the version is specified to 0, the version check is disabled. */

Default value defined: 0x0000

uint32 PP_FWU_DEVICE_IDS[10][1]

/* This parameter defines the PP device IDs, which this base should be able to update.

Repeater DECT4024 Value: 228196479

Handset Raffle 8630: Value: 228196461

Handset Razor 8430: 228196493

This parameter defines the PP device IDs, which this base should be able to update.

Handset Raffle 8630 Display V1 0x0D9A006D or decimal 228196461

Handset Raffle 8630 Display V2 0x0D9A0079 or decimal 228196473

Handset Razor 8430 0x0D9A008D or decimal 228196493

Repeater DECT4024 0x0D9A007F or decimal 228196479

*/

Default value defined: 0x00000000

uint16 PP_FWU_SW_VERSIONS[10][1]

/* This parameter defines the PP SW versions, which should be in the PPs. The value order must follow the PP device ID order */

Default value defined: 0x0000

uint8 NETWORK_FWU_SERVER[64]

/* DNS name of the server that contains firmware update files. */

Default value defined: ""

uint8 FWU_TFTP_SERVER_PATH[32]

/* The path on the TFTP server in which to look for firmware update files. The path may contain multiple directories. The path must start with a slash

and must end with a slash. Backslashes are not allowed. */

Default value defined: ""

uint8 SIP_USE_DIFFERENT_PORTS[1]

/* When this is enabled each account will use a different SIP port.

Otherwise the same port will be use for all accounts. This parameter is valid only if the feature is enabled in the product. */

Default value defined: 0

uint8 SIP_PNP_MODE[1]

/* With this setting enabled a possible provider specific PnP registration feature is enabled. */

Default value defined: 1

uint8 DELAYED_MEDIA_BEHAVIOUR[1]

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```

/* This parameter defines how the device generates its offer in a Delayed
Media scenario, i.e. when receiving an INVITE without SDP:
Allowed values are:
0: The phone will respond with an offer SDP indicating its own "local"
state. That is,
If Hold has not been activated from the phone (from the options menu on
the handset), then the phone will always offer "sendrecv" if it receives
an
INVITE without SDP.
If Hold has also been activated from the handset, the phone will offer
"sendonly" and set the IP address to 0.0.0.0
1: The phone will respond with an offer SDP indicating its own "global"
state.
If Hold has not been activated from the phone:
If the phone was initially placed on Hold by an INVITE with "sendonly",
the phone will offer "recvonly" and set the IP address to 0.0.0.0.
If the phone was initially placed on Hold by an INVITE with "inactive",
the phone will offer "inactive" and set the IP address to 0.0.0.0.
If Hold has also been activated from the phone:
The phone will offer "inactive" and set the IP address to 0.0.0.0 in
both
cases. */
Default value defined: 0

uint16 SIP_SIP_PORT[1]
/* Port used for SIP communication when all accounts are configured to use
the same SIP port. */
Default value defined: 5060

uint16 SIP_RTP_PORT[1]
/* First port used for RTP traffic. The RTP ports are assigned circularly
with this port as the initial one. */
Default value defined: 50004

uint8 SIP_RTP_PORT_RANGE[1]
/* Number of RTP ports available */
Default value defined: 40

uint8 SIP_RTP_PRIORITY[1]
/* Priority of RTP traffic based on the IP layer ToS byte. See RFC 1349 for
details.
Notice "cost" bit is not supported
Bit 7..5 defines precedence.
Bit 4..2 defines Type of Service.
Bit 1..0 are ignored.

Setting all three of bit 4..2 will be ignored */
Default value defined: 0xB8

uint8 SIP_SIP_PRIORITY[1]
/* Priority of SIP traffic based on the IP layer ToS byte. See RFC 1349 for
details.
Notice "cost" bit is not supported
Bit 7..5 defines precedence.
Bit 4..2 defines Type of Service.
Bit 1..0 are ignored.

Setting all three of bit 4..2 will be ignored */
Default value defined: 0x68

```

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```

uint8 SRV_SIP_SHOW_EXT_NAME_IN_HS[10][1]
/* This parameter determines if the extension name shall be shown in the
   handset or not.
   0: the extension name area in the handset will be empty.
   1: the extension name will be shown. */
Default value defined: 1

uint8 SRV_SIP_SEND_FLASH_EVENT[10][1]
/* This parameter defines how the FLASH key is sent when SIP INFO is used
   for DTMF signaling. Please note that this feature may not be enabled in
   all configurations
   0: A Flash event if initiated from handset, it is sent as a "event
   flashhook"
   1: A Flash event if initiated from handset, it is sent as a DTMF key 16
   instead of "event flashhook" */
Default value defined: 0

uint8 SRV_SIP_TRANSPORT[10][1]
/* Defines the transport protocol to use for SIP.
   Bit 0: UDP,
   Bit 1: TCP */
Default value defined: 1

uint8 SRV_SIP_UA_DATA_DOMAIN[10][64]
/* This parameter specifies the Domain or SIP registration server. It is
   also sometimes called Registrar. (A Registrar is a server that accepts
   REGISTER messages.)
   If no proxy address is defined, out-of-dialog messages will be sent to
   the
   Registrar. */
Default value defined: ""

uint8 SRV_SIP_UA_DATA_PROXY_ADDR[10][64]
/* A Proxy Server is an intermediary entity that acts as both a server
   (UAS) and a client (UAC) for the purpose of making requests on behalf of
   other clients.
   This parameter specifies the address of the Proxy Server, and when
   defined
   all SIP packets are sent to this address. */
Default value defined: ""

uint8 SRV_SIP_UA_DATA_SERVER_NO_NAT_ADAPTION[10][1]
/* This parameter specifies if the base shall adapt the content of the SIP
   messages to address information on the outside of a NAT.
   0: the SIP messages will adapt to the information received via e.g STUN,
   RPORT etc.
   1: the local IP address of the base station will always be used in the
   SIP
   messages. Thus, any information on a different global IP address of a
   different port than the ones currently being used, that may be
   available,
   is ignored. */
Default value defined: 0

uint16 SRV_SIP_UA_DATA_REREG_TIME[10][1]
/* Specifies the maximum proposed time between SIP re-registrations.in
   seconds.Thus, the spefied value is the value that is used to populate
   the

```

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"expires? parameter in the REGISTER request. */
Default value defined: 600

uint8 SRV_SIP_UA_CODEC_PRIORITY[10][5]
/* Ranking of CodecTypes. Unused entries must be set to 0xFF. Entries referring to unsupported entries are ignored:
0: PCMU
1: PCMA
4: G729 // Will only be used if DSP Module present
5. G722
6: G726. */
Default value defined: 0,1,6,4,0xFF

uint8 SRV_SIP_KEEP_ALIVE[10][1]
/* This parameter defines if "keep-alive" packets shall be sent. The purpose of SIP "keep-alive? packets is to keep the "SIP channel" open, and therefore the "keep-alive? packets are sent in the same way as SIP requests. Thus, if a Proxy server is defined the "keep-alive" packets are sent to the Proxy server address. Otherwise, they are sent to the address of the Registrar. */
Default value defined: 1

uint8 SRV_DTMF_SIGNALLING[10][1]
/* This parameter specifies how to transmit DTMF signalling
0: In-band generation,
1: SIP-Info,
2: RTP Events (RFC2833). */
Default value defined: 2

uint8 SUBSCR_SIP_UA_USE_BASE[200][1]
/* Account is locked to use one base station.
0xFF -> Not locked;
Other values -> Locked to Multi Cell Index. */
Default value defined: 0xFF

uint8 SUBSCR_SIP_UA_DATA_CALL_WAITING[200][1]
/* Enable/disable Call Waiting Indication (CWI). If CWI is enabled, an indication will be given in the handset if a 2ns incoming call arrives while a call already active. If not enabled, the base will respond with a Busy Here.
0: Call Waiting is disabled
1: Call Waiting is enabled. */
Default value defined: 1

uint8 SUBSCR_SIP_UA_DATA_CONFIGURED[200][1]
/* This parameter is used to indicate if an account has been configured, and hence if it will be used.
0: this account is not in use.
1: this account is actively configured. */
Default value defined: 0

uint8 SUBSCR_SIP_UA_DATA_SERVER_ID[200][1]
/* Specifies ID of the server a given account will use.
Allowed values 0-10. */
Default value defined: 0

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```

uint8 SUBSCR_SIP_UA_DATA_SIP_NAME[200][36]
/* The SIP user name or extension. The part before domain name like in
   sip:<sip user name>@domain.com. */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_AUTH_NAME[200][36]
/* The SIP Authentication name */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_AUTH_PASS[200][36]
/* The SIP Authentication password */
Default value defined: ""

uint8 SUBSCR_UA_DATA_DISP_NAME[200][20]
/* The SIP Display name. */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_VOICE_MAILBOX_NAME[200][40]
/* Voice Mailbox username ? see RFC 3842
   This is the username that will be used in the SUBSCRIBE request when
   subscribing to the Voice Mail service.
   If no */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_BW_PACK_ENABLED[200][1]
/* This parameter defines if subscription to the Broadsoft Feature Event
   Package is enabled or not. Please not that this feature may not be
   possible
   in all configurations.
   0: subscription to the Broadsoft Feature Event Package is disabled
   1: Subscription to the Broadsoft Feature Event Package is enabled */
Default value defined: 0

uint8 SUBSCR_SIP_UA_DATA_ENABLE_FWD_UNCOND[200][1]
/* Enables/disables the SIP Forward Unconditionally feature.
   0: SIP Forward Unconditionally disabled
   1: SIP Forward Unconditionally enabled */
Default value defined: 0

uint8 SUBSCR_SIP_UA_DATA_FWD_UNCOND_NUMBER[200][22]
/* Forward Unconditionally Number
   Sip phone number used when Forward Unconditionally is enabled */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_ENABLE_FWD_NO_ANSW[200][1]
/* Enables/disables the SIP Forward No Answer feature.
   0: SIP Forward No Answer disabled
   1: SIP Forward No Answer enabled */
Default value defined: 1

uint8 SUBSCR_SIP_UA_DATA_FWD_NO_ANSW_NUMBER[200][22]
/* SIP Forward No Answer Number
   Sip phone number used when Forward No Answer is enabled */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_ENABLE_FWD_BUSY[200][1]
/* Enables/disables the SIP Busy feature.
   0: SIP Forward Busy disabled

```

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1: SIP Forward Busy enabled */
Default value defined: 1

uint8 SUBSCR_SIP_UA_DATA_FWD_BUSY_NUMBER[200][22]
/* SIP Forward Busy Number
Sip phone number used when Forward Busy is enabled */
Default value defined: ""

uint8 SUBSCR_SIP_UA_DATA_INCOMING_CALL_TIMEOUT[200][1]
/* Specifies the time in seconds that an incoming call will keep on
ringing. At expiration the call will be terminated towards caller as
well
as towards HS. */
Default value defined: 20

uint8 SUBSCR_DECT_IPUI[200][5]
/* International Portable User Identity. Normally this is not used with
provisioning.
If FEATURE_IPEI_CONTROLLED_DECT_REG is enabled for the customer the
following rules apply:
Handset IPEI can be specified as HEX strings containing all 10 HEX values
of the IPEI seen in the handset status menu.
Example 1, specify handset 0..3:0123456789,0123abcdef,0123445566,FFFFFFFF
Example 2, specify handset 2 only:,,0123445566
Note 1: One IPEI/IPUI value MUST only be present once in the configuration
file. Not checks are made regarding this, but the handset present twice
will not work proper.
Note 2: When register a handset to a base, the entry specifying the IPEI
for the handset need to be open for registration.
Note 3: The use of SUBSCR_DECT_AC_CODE is dependent on the value of
SUBSCR_DECT_IPUI. See SUBSCR_DECT_AC_CODE description */
Default value defined: 0xFF

uint8 SUBSCR_DECT_AC_CODE[200][2]
/* User AC value. Normally this is not used with provisioning.
If FEATURE_IPEI_CONTROLLED_DECT_REG is enabled for the customer the
following rules apply:
Handset Register Access Code can be specified as HEX strings containing all
4 HEX values of the desired AC for a subscription.
Example 1, specify AC value handset 0..3:0123,4567,8901,0000
Example 2, specify AC value handset 2 only:,,8901
Note 1: For the AC value to be used, the IPEI/IPUI value MUST be set
different from FFFFFFFF.
Note 2: AC value 0000 is used when IPEI/IPUI is specified to FFFFFFFF. */
Default value defined: 0x00

uint8 NETWORK_AUTO_MULTI_PRIMARY[1]
/* Setting to be used to enable/disable auto configure multiple primary in
a chain
0: auto configure is disabled
1: auto configure is enabled */
Default value defined: 0

uint8 NETWORK_ALLOW_MULTI_PRIMARY[1]
/* Setting to be used to enable/disable allow configure multiple primary in
a chain
0: configuration of multiple primaries in a chain is not allowed
1: configuration of multiple primaries in a chain is allowed */
Default value defined: 0

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```

uint8 NETWORK_SYNC_DATA_TRANSPORT[1]
/* Setting to be used to specify data transport method:
   0: Multicast
   1: Peer-to-Peer */
Default value defined: 0x00

uint32 NETWORK_SYNC_PRIMARY_STATIC_IP[1]
/* Static IP list to be used to communicate PeerToPeer. */
Default value defined: 0x00

uint32 NETWORK_SYNC_STATIC_IP_CHAIN[50][1]
/* Static IP list to be used to communicate PeerToPeer. */
Default value defined: 0x00

uint8 NETWORK_SYNC_MAC_CHAIN[50][6]
/* Chain of Ethernet MAC Addresses which are connected in this network. */
Default value defined: 0xFF

uint8 NETWORK_SYNC_MAX_SIP_REG_PER_BASE[1]
/* Parameter to define when the base station will attempt to distribute SIP
   registrations between the bases in the chain. Thus, if this is set to
   e.g.
   8, the base will attempt to distribute SIP registrations to other bases
   when 8 SIP registration has been completed at the given base station. */
Default value defined: 8

uint8 NETWORK_DECT_SYNC_TREE[50][1]
/* Tree of DECT Sync Id?s, which the bases shall use as DECT Sync source.
   If Id for the own index is equal to Own Id, this base is free running as
   Master */
Default value defined: 0x00

uint8 NETWORK_DECT_AUTO_SYNC_TREE_CONFIG[1]
/* Network Automatically configure DECT SYNC Tree */
Default value defined: 1

uint8 NETWORK_SYNC_DEBUG_ENABLE[1]
/* Network System Sync Debug Enable/Disable
   0: Network System Sync Debug is disabled
   1: Network System Sync Debug is enabled */
Default value defined: 0

uint16 NETWORK_SYNC_TIME[1]
/* This is the time interval (in sec) for keep-alive packets sent between
   chain members. If no keep-alive packets are received within a period of
   2*NETWORK_SYNC_TIME, the base will be indicated as lost in the multi
   cell configuration.
   Minimum recommended value is 30 s. */
Default value defined: 60

uint8 NETWORK_SYNC_ENABLE[1]
/* Network System Sync Enable/Disable. With this parameter multi-cell
   behaviour is enabled/Disabled.
   0: Network System Sync is disabled
   1: Network System Sync is enabled */
Default value defined: 0

uint32 NETWORK_SYNC_CHAIN_ID[1]

```

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```

/* Identity number of this Multi-cell chain. Used to identify different
   chains in same locations. */
Default value defined: 512

uint8 NETWORK_ROAMING_DEREGISTER[1]
/* This parameter is used to determine how SIP registrations shall be
   handled when a handset roams form one base station to another.
   Here, Roaming is defined as the procedure when the handset moves its SIP
   and DECT registration from one base station to another. Roaming can only
   be
   initiated when the handset is in Idle state.
   Some PBXes are capable of handling multiple SIP bindings per SIP user,
   and
   hence when a new SIP registration is made form another base (another IP
   address) due to roaming, the old SIP registration will still be valid.
   Therefore, this registration must be deactivated with a SIP de-
   registration.
   Other PBXes always use the latest SIP registration, and therefore no SIP
   de-registration shall be made.
   0: No SIP de-registration will be made when a handset roams to another
   base station
   1: The old SIP registration will be delete with a SIP deregistration when
   a
   handset roams to another base station */
Default value defined: 0

uint8 PHONEBOOK_LOCATION[128]
/* DNS name, protocol and path of the server that contains phonebook files.
   */
Default value defined: ""

uint8 PHONEBOOK_FILENAME[32]
/* The name of the phonebook. */
Default value defined: ""

uint8 WEB_INPUTS_ALLOWED[1]
/* If the system is configured via configuration files, it may be
   desireable to disallow the possibility to edit the configuration
   directly
   on the web server. This parameter is used to allow or disallow
   possibility
   to input data on the Web server.
   0: Disallow possibility to input data on Web server
   1: Allow possibility to input data on Web server */
Default value defined: 1

uint8 AUTO_DECT_REGISTER[1]
/* Enable/Disable automatic DECT Registration of Handsets
   0: Disabled
   1: Enabled */
Default value defined: 0

uint8 NETWORK_DATA_CONFIG_PRIMARY_MAC[6]
/* This setting specifies the MAC address of the base station which is
   allowed to download and handle Multi Cell configuration file. */
Default value defined: 0xFF

uint8 CONFIGURATION_DOWNLOAD_CTRL[1]
/* This is a flag to control how to download the configuration file

```

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NETWORK_SYNC_ID in the ID area of this filename MultiCell_ID.cfg.
E.g. MultiCell_512.cfg */
Default value defined: ""

uint8 MANAGEMENT_TRANSFER_PROTOCOL[1]
/* Parameter specifying the protocol to be used for transferring config
file, FWU files etc
0: TFTP
1: HTTP */
Default value defined: 1

uint8 MANAGEMENT_PASSWORD[25]
/* Parameter specifying the password to be used for the Management
Transfer protocol specified with MANAGEMENT_TRANSFER_PROTOCOL: */
Default value defined: ""

uint8 MANAGEMENT_UPLOAD_SCRIPT[20]
/* Parameter specifying the script to call when uploading files using HTTP
POST */
Default value defined: "/CfgUpload"

uint8 NETWORK_SIP_LOG_SERVER[64]
/* SIP Log Server name */
Default value defined: ""

uint8 VOIP_SIP_AUTO_UPLOAD[1]
/* Configure automatic upload of SIP log files.
0: No uploading.
1: Upload SIP log to log server */
Default value defined: 0

uint8 NETWORK_SNTP_SERVER[32]
/* Name of SNTP Server */
Default value defined: ""

uint8 NETWORK_SNTP_SERVER_UPDATE_TIME[1]
/* Network time update frequency.
Time in minutes between fetch of network time */
Default value defined: 24

uint8 LOCAL_HTTP_SERVER_TEMPLATE_TITLE_LEN[1]
/* Length of Title on HTML template. */
Default value defined: 0

uint8 LOCAL_HTTP_SERVER_TEMPLATE_TITLE[36]
/* Title on HTML template file. */
Default value defined: "SME VoIP"

uint8 LOCAL_HTTP_SERVER_AUTH_NAME[36]
/* Local HTTP server login authentication name. */
Default value defined: "admin"

uint8 LOCAL_HTTP_SERVER_AUTH_PASS[36]
/* Local HTTP server login authentication password. */
Default value defined: "admin"

uint8 SIP_STUN_ENABLE[1]
/* Defines whether Network Address Translators (NAT) should be detected and
bypassed by means of STUN

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```

    0: STUN is disabled
    1: STUN is enabled */
Default value defined: 0

uint8 SIP_RPORT_ENABLE[1]
/* Defines whether ?rport? should be used in SIP messages
    0: RPORT is disabled
    1: RPORT is enabled */
Default value defined: 0

uint16 SIP_STUN_BINDTIME_GUARD[1]
/* If STUN is enabled this value specifies in seconds how often the system
    will guard the NAT bindings. Guard for NAT bindings helps the system to
    react properly if e.g. the NAT device has been reset.
    If this value is zero, no guarding will be made. Also see
    SIP_STUN_BINDTIME_DETERMINE */
Default value defined: 80

uint8 SIP_STUN_BINDTIME_DETERMINE[1]
/* If STUN is enabled and SIP_STUN_BINDTIME_GUARD is defined setting this
    parameter to 1 forces the system to automatically determining the
    duration
    of NAT bindings in the system. In this case the SIP_STUN_BINDTIME_GUARD
    parameter defines the initial test duration. */
Default value defined: 1

uint16 SIP_STUN_KEEP_ALIVE_TIME[1]
/* If STUN is enabled SIP_STUN_KEEP_ALIVE_TIME defines in seconds how often
    keep-alives are sent in order to keep NAT bindings.
    If SIP_STUN_BINDTIME_DETERMINE is set, SIP_STUN_KEEP_ALIVE_TIME will be
    overruled and keep alives will be sent with a frequency of half of
    determined bindtime */
Default value defined: 90

uint8 NETWORK_STUN_SERVER[32]
/* Name or IP address of STUN Server */
Default value defined: ""

uint16 NETWORK_VLAN_ID[1]
/* VLAN ID */
Default value defined: 0

uint8 NETWORK_VLAN_USER_PRIORITY[1]
/* VLAN user priority */
Default value defined: 0

uint16 NETWORK_DHCP_CLIENT_TIMEOUT[1]
/* Number of seconds the phone waits for secondary DHCP Offer messages
    before selecting an offer. Value must be 1 through 600 */
Default value defined: 3

uint8 NETWORK_DHCP_CLIENT_BOOT_SERVER[1]
/* Select scheme for detecting the DHCP server
    0: Option 66
    1: Custom
    2: Static
    3: Custom + Option.66 */
Default value defined: 2

```

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```

uint8 NETWORK_DHCP_CLIENT_BOOT_SERVER_OPTION[1]
/* When the boot server parameter is set to Custom, this parameter
   specifies the DHCP option number in which the phone will look for its
   boot
   server. */
Default value defined: 160

uint8 NETWORK_DHCP_CLIENT_BOOT_SERVER_OPTION_DATATYPE[1]
/* When the Boot Server parameter is set to Custom, this parameter
   specifies the type of the DHCP option in which the phone will look for
   its
   boot server.
   0: IP Address
   1: String */
Default value defined: 1

uint8 NETWORK_WAN_SETTINGS_DHCP[1]
/* This parameter specifies if DHCP is enabled or ef the base shall use a
   static IP address.
   0: DHCP is disabled. Hence a static IP address is used
   1: DHCP is enabled */
Default value defined: 0x01

uint8 NETWORK_WAN_DHCP_OPTION_PLUG_AND_PLAY[1]
/* Enables DHCP plug and Play
   This enables storing of DHCP option 120 as SIP server */
Default value defined: 0x01

uint32 NETWORK_WAN_SETTINGS_IP[1]
/* This parameter holds the IP Address of the base station. If DHCP is
   disabled, the static IP address must be entered here. */
Default value defined: 0x00000000

uint32 NETWORK_WAN_SETTINGS_SUBNET_MASK[1]
/* This parameter holds the subnet mask of the base station. If DHCP is
   disabled, the subnet mask must be entered here. */
Default value defined: 0xFFFFFFFF00

uint32 NETWORK_WAN_SETTINGS_GATEWAY[1]
/* This parameter holds the IP Address of the gateway. If DHCP is disabled,
   the gateway address must be entered here. */
Default value defined: 0x00000000

uint32 NETWORK_WAN_SETTINGS_DNS1[1]
/* This parameter holds the Address of the primary DNS server. If DHCP is
   disabled, the address of the primary DNS server must be entered here. */
Default value defined: 0x00000000

uint32 NETWORK_WAN_SETTINGS_DNS2[1]
/* This parameter holds the Address of the secondary DNS server. If DHCP is
   disabled, the address of the secondary DNS server must be entered here.
   */
Default value defined: 0x00000000

uint8 LDAP_HANDSET_WORK_NUMBER[32]
/* LDAP handset Home number is the text string that mappes to the
   phonenumber the handset will as work number */
Default value defined: "telephoneNumber"

```

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```

uint8 LDAP_HANDSET_MOBILE_NUMBER[32]
/* LDAP handset Home number is the text string that mappes to the
   phonenumber the handset will as Mobile number */
Default value defined: "mobile"

uint8 LDAP_HANDSET_HOME_NUMBER[32]
/* LDAP handset Home number is the text string that mappes to the
   phonenumber the handset will as home number */
Default value defined: "homePhone"

uint8 LDAP_NAME_ATTRIBUTES[1]
/* LDAP Name Attributes is used to configure if the handset will show CN or
   SN+givenName
   0 is CN
   1 is SN+givenName */
Default value defined: 0x0

uint8 LDAP_FILTER[1][64]
/* LDAP Filter is used to as a search filter, e.g. setting LDAP filter to
   givenName=* the IP-DECT will use this filter when requesting entries
   from the LDAP server. LDAP Filter is used to as a search filter, e.g.
   setting LDAP filter to (|(givenName=%*)(sn=%*)) the IP-DECT will use this
   filter when requesting entries from the LDAP server. % will be replaced
   with the entered prefix e.g searching on J will give the filter
   (|(givenName=J*)(sn=J*)) resulting in a search for given name starting with
   a J or surname starting with J. */
Default value defined: ""

uint8 LDAP_SERVER[1][64]
/* IP address of the LDAP server */
Default value defined: ""

uint8 LDAP_PORT[1][10]
/* The server port that is open for LDAP connections */
Default value defined: ""

uint8 LDAP_SBASE[1][64]
/* LDAP Search Base, the creatly depends on the configuration of the LDAP
   server, and example of the setting is CN=Users,DC=umber,DC=loc */
Default value defined: ""

uint8 LDAP_BIND[1][64]
/* LDAP Bind is the username that will be used when the IP-DECT phone
   connects to the server */
Default value defined: ""

uint8 LDAP_PASSWORD[1][64]
/* LDAP Password is the password for the LDAP Server */
Default value defined: ""

```

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8 Example Configuration Files

8.1 Configuration file for base station with MAC address, 00087B077CD4:

(00087b077cd4.cfg):

```
// File Begin

// Network System Sync Enable/Disable. With this parameter multi-cell
// behaviour is enabled/Disabled.
// 0: Network System Sync is disabled
// 1: Network System Sync is enabled
%NETWORK_SYNC_ENABLE%: 1

// Identity number of this Multi-cell chain. Used to identify different
// chains in same locations.
%NETWORK_SYNC_CHAIN_ID%: 555

// This setting specifies the MAC address of the base station which is
// allowed to download and handle Multi Cell configuration file
%NETWORK_DATA_CONFIG_PRIMARY_MAC%:0x00,0x08,0x7b,0x07,0x7c,0xd4

// This is a flag to control how to download the configuration file
// 0: No Download
// 1: Base Specific File
// 2: MultiCell Specific File
// 3: Both Files
%CONFIGURATION_DOWNLOAD_CTRL%:0x03

// Name or IP address of the configuration server
%NETWORK_CONFIGURATION_SERVER%:"10.10.104.8"

// Name of SNTP Server
%NETWORK_SNTP_SERVER%:"10.10.10.11"

// End of file
```

8.2 Configuration file for base station with MAC address, 00087B077CBC:

(00087b077cbc.cfg):

```
// File Begin

// Network System Sync Enable/Disable. With this parameter multi-cell
// behaviour is enabled/Disabled.
// 0: Network System Sync is disabled
// 1: Network System Sync is enabled
%NETWORK_SYNC_ENABLE%: 1

// Identity number of this Multi-cell chain. Used to identify different
// chains in same locations.
%NETWORK_SYNC_CHAIN_ID%: 555

// This setting specifies the MAC address of the base station which is
// allowed to download and handle Multi Cell configuration file
%NETWORK_DATA_CONFIG_PRIMARY_MAC%:0x00,0x08,0x7b,0x07,0x7c,0xd4
```

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