Provisioning Parameters

Provisioning Parameters Overview

This chapter describes the provisioning parameters that can be used in configuration profile scripts

Configuration Profile Parameters

The following table defines the function and usage of each parameter in the **Configuration Profile Parameters** section under the **Provisioning** tab.

Parameter Name	Description and Default Value
Provision Enable	Controls all resync actions independently of firmware upgrade actions. Set to **Yes** to enable remote provisioning. The default value is Yes.
Resync On Reset	Triggers a resync after every reboot except for reboots caused by parameter updates and firmware upgrades. The default value is Yes.

Parameter Name	Description and Default Value
Resync Random Delay	A random delay following the boot-up sequence before performing the reset, specified in seconds. In a pool of IP Telephony devices that are scheduled to simultaneously power up, this introduces a spread in the times at which each unit sends a resync request to the provisioning server. This feature can be useful in a large residential deployment, in the case of a regional power failure.
	The value for this field must be an integer ranging between 0 and 65535.
	The default value is 2.
Resync At (HHmm)	The time (HHmm) that the device resynchronizes with the provisioning server.
	The value for this field must be a four-digit number ranging from 0000 to 2400 to indicate the time in HHmm format. For example, 0959 indicates 09:59.
	The default value is empty. If the value is invalid, the parameter is ignored. If this parameter is set with a valid value, the Resync Periodic parameter is ignored.
Resync At Random Delay	Prevents an overload of the provisioning server when a large number of devices power-on simultaneously.
	To avoid flooding resync requests to the server from multiple phones, the phone resynchronizes in the range between the hours and minutes, and the hours and minutes plus the random delay (hhmm, hhmm+random_delay). For example, if the random delay = (Resync At Random Delay + 30)/60 minutes, the input value in seconds is converted to minutes, rounding up to the next minute to calculate the final random_delay interval.
	The valid value ranges between 600 and 65535.
	If the value is less than 600, the random delay internal is between 0 and 600.
	The default value is 600 seconds (10 minutes).

Parameter Name	Description and Default Value
Resync Periodic	The time interval between periodic resynchronizes with the provisioning server. The associated resync timer is active only after the first successful sync with the server.
	The valid formats are as follows:
	• An integer
	Example: An input of **3000** indicates that the next resync occurs in 3000 seconds.
	• Multiple integers
	Example: An input of **600,1200,300** indicates that the first resync occurs in 600 seconds, the second resync occurs in 1200 seconds after the first one, and the third resync occurs in 300 seconds after the second one.
	• A time range
	Example, an input of **2400+30** indicates that the next resync occurs in between 2400 and 2430 seconds after a successful resync.
	Set this parameter to zero to disable periodic resynchronization.
	The default value is 3600 seconds.

Parameter Name	Description and Default Value
Resync Error Retry Delay	If a resync operation fails because the IP Telephony device was unable to retrieve a profile from the server, or the downloaded file is corrupt, or an internal error occurs, the device tries to resync again after a time specified in seconds.
	The valid formats are as follows:
	• An integer
	Example: An input of **300** indicates that the next retry for resync occurs in 300 seconds.
	• Multiple integers
	Example: An input of **600,1200,300** indicates that the first retry occurs in 600 seconds after the failure, the second retry occurs in 1200 seconds after the failure of the first retry, and the third retry occurs in 300 seconds after the failure of the second retry.
	• A time range
	Example, an input of **2400+30** indicates that the next retry occurs in between 2400 and 2430 seconds after a resync failure.
	If the delay is set to 0, the device does not try to resync again following a failed resync attempt.
Forced Resync Delay	Maximum delay (in seconds) the phone waits before performing a resynchronization.
	The device does not resync while one of its phone lines is active. Because a resync can take several seconds, it is desirable to wait until the device has been idle for an extended period before resynchronizing. This allows a user to make calls in succession without interruption.
	The device has a timer that begins counting down when all of its lines become idle. This parameter is the initial value of the counter. Resync events are delayed until this counter decrements to zero.
	The valid value ranges between 0 and 65535.
	The default value is 14,400 seconds.
Resync From SIP	Enables a resync to be triggered via a SIP NOTIFY message.
	The default value is Yes.

Parameter Name	Description and Default Value
Resync After Upgrade Attempt	Enables or disables the resync operation after any upgrade occurs. If Yes is selected, sync is triggered. The default value is Yes.
Resync Trigger 1, Resync Trigger 2	Configurable resync trigger conditions. A resync is triggered when the logic equation in these parameters evaluates to TRUE. The default value is (empty).
Resync Fails On FNF	A resync is considered unsuccessful if a requested profile is not received from the server. This can be overridden by this parameter. When it is set to **no**, the device accepts a `file-not-found` response from the server as a successful resync. The default value is Yes.
Profile Rule Profile Rule B Profile Rule C Profile Rule D	Each profile rule informs the phone of a source from which to obtain a profile (configuration file). During every resync operation, the phone applies all the profiles in sequence. Default: **`/$PSN.xml`** If you are applying AES-256-CBC encryption to the configuration files, specify the encryption key with the **`--key`** keyword as follows: **`[--key <encryption key>]`** You can enclose the encryption key in double-quotes (") optionally.
DHCP Option To Use	DHCP options, delimited by commas, used to retrieve firmware and profiles. The default value is 66,160,159,150,60,43,125.
Log Request Msg	This parameter contains the message that is sent to the syslog server at the start of a resync attempt. The default value is `$PN $MAC -Requesting % $SCHEME://$SERVIP:$PORT$PATH`.
Log Success Msg	The syslog message that is issued upon successful completion of a resync attempt. The default value is `$PN $MAC -Successful Resync % $SCHEME://$SERVIP:$PORT$PATH -- $ERR`.

Parameter Name	Description and Default Value
Log Failure Msg	The syslog message that is issued after a failed resync attempt.
	The default value is `$PN $MAC -- Resync failed: $ERR`.
User Configurable Resync	Allows a user to resync the phone from the IP phone screen.
	The default value is Yes.

Firmware Upgrade Parameters

The following table defines the function and usage of each parameter in the **Firmware Upgrade** section of the **Provisioning** tab.

Parameter Name	Description and Default Value
Upgrade Enable	Enables firmware upgrade operations independently of resync actions.
	The default value is Yes.
Upgrade Error Retry Delay	The upgrade retry interval (in seconds) applied in case of upgrade failure. The device has a firmware upgrade error timer that activates after a failed firmware upgrade attempt. The timer is initialized with the value in this parameter. The next firmware upgrade attempt occurs when this timer counts down to zero.
	The default value is 3600 seconds.
Upgrade Rule	A firmware upgrade script that defines upgrade conditions and associated firmware URLs. It uses the same syntax as Profile Rule.
	Use the following format to enter the upgrade rule:
	`<tftp|http|https>://<ip address><:port>/<path>/<load name>`
	For example:
	`tftp://192.168.1.5/firmware/sip7832.11-0-1MPP-321.loads`
	If no protocol is specified, TFTP is assumed. If no server-name is specified, the host that requests the URL is used as the server name. If no port is specified, the default port is used (69 for TFTP, 80 for HTTP, or 443 for HTTPS).
	The default value is blank.
Log Upgrade Request Msg	Syslog message issued at the start of a firmware upgrade attempt.
	Default: `$PN $MAC -- Requesting upgrade $SCHEME://$SERVIP:$PORT$PATH`

Parameter Name	Description and Default Value
Log Upgrade Success Msg	Syslog message issued after a firmware upgrade attempt completes successfully.
	The default value is `$PN $MAC -- Successful upgrade $SCHEME://$SERVIP:$PORT$PATH -- $ERR`
Log Upgrade Failure Msg	Syslog message issued after a failed firmware upgrade attempt.
	The default value is `$PN $MAC -- Upgrade failed: $ERR`
Peer Firmware Sharing	Enables or disables the Peer Firmware Sharing feature. Select **Yes** or **No** to enable or to disable the feature.
	Default: Yes
Peer Firmware Sharing Log Server	Indicates the IP address and the port to which the UDP message is sent.
	For example: 10.98.76.123:514 where, 10.98.76.123 is the IP address and 514 is the port number.

General Purpose Parameters

The following table defines the function and usage of each parameter in the **General Purpose Parameters** section of the **Provisioning** tab.

Parameter Name	Description and Default Value
GPP A - GPP P	The general purpose parameters GPP_* are used as free string registers when configuring the phones to interact with a particular provisioning server solution. They can be configured to contain diverse values, including the following:
	• Encryption keys.
	• URLs.
	• Multistage provisioning status information.
	• Post request templates.
	• Parameter name alias maps.
	• Partial string values, eventually combined into complete parameter values.
	The default value is blank.

Macro Expansion Variables

Certain macro variables are recognized within the following provisioning parameters:

- Profile_Rule

- Profile_Rule_*

- Resync_Trigger_*

- Upgrade_Rule

- Log_*

- GPP_* (under specific conditions)

Within these parameters, syntax types, such as $NAME or $(NAME), are recognized and expanded.

Macro variable substrings can be specified with the notation $(NAME:p) and $(NAME:p:q), where p and q are non-negative integers (available in revision 2.0.11 and above). The resulting macro expansion is the substring starting at character offset p, with length q (or else till end-of-string if q is not specified). For example, if GPP_A contains ABCDEF, then $(A:2) expands to CDEF, and $(A:2:3) expands to CDE.

An unrecognized name is not translated, and the $NAME or $(NAME) form remains unchanged in the parameter value after expansion.

Parameter Name	Description and Default Value
$	The form $$ expands to a single $ character.
A through P	Replaced by the contents of the general purpose parameters GPP_A through GPP_P.
SA through SD	Replaced by special purpose parameters GPP_SA through GPP_SD. These parameters hold keys or passwords used in provisioning. **Note** $SA through $SD are recognized as arguments to the optional resync URL qualifier, --key.
MA	MAC address using lower case hex digits, for example, 000e08aabbcc.
MAU	MAC address using upper case hex digits, for example 000E08AABBCC.
MAC	MAC address using lower case hex digits, and colons to separate hex digit pairs. For example 00:0e:08:aa:bb:cc.
PN	
PSN	
SN	Serial Number string. for example 88012BA01234.
CCERT	SSL Client Certificate status: Installed or Not Installed.

Parameter Name	Description and Default Value
IP	IP address of the phone within its local subnet. For example 192.168.1.100.
EXTIP	External IP of the phone, as seen on the Internet. For example 66.43.16.52.
SWVER	Software version string. For example, • For Firmware Release 11.3(1)SR1 and previous: sip7832.11-0-1MPP-312 • For Firmware Release 11.3(2) and later: sip7832.11-3-2MPP0001-609
HWVER	
PRVST	Provisioning State (a numeric string): -1 = explicit resync request 0 = power-up resync 1 = periodic resync 2 = resync failed, retry attempt
UPGST	Upgrade State (a numeric string): 1 = first upgrade attempt 2 = upgrade failed, retry attempt
UPGERR	Result message (ERR) of previous upgrade attempt; for example http_get failed.
PRVTMR	Seconds since last resync attempt.
UPGTMR	Seconds since last upgrade attempt.
REGTMR1	Seconds since Line 1 lost registration with SIP server.
REGTMR2	Seconds since Line 2 lost registration with SIP server.
UPGCOND	Legacy macro name.
SCHEME	File access scheme, one of TFTP, HTTP, or HTTPS, as obtained after parsing resync or upgrade URL.
SERV	Request target server host name, as obtained after parsing resync or upgrade URL.
SERVIP	Request target server IP address, as obtained after parsing resync or upgrade URL, possibly following DNS lookup.

Parameter Name	Description and Default Value
PORT	Request target UDP/TCP port, as obtained after parsing resync or upgrade URL.
PATH	Request target file path, as obtained after parsing resync or upgrade URL.
ERR	Result message of resync or upgrade attempt. Only useful in generating result syslog messages. The value is preserved in the UPGERR variable in the case of upgrade attempts.
UIDn	The contents of the Line n UserID configuration parameter.

Internal Error Codes

The phone defines a number of internal error codes (X00–X99) to facilitate configuration in providing finer control over the behavior of the unit under certain error conditions.

Parameter Name	Description and Default Value
X00	Transport layer (or ICMP) error when sending a SIP request.
X20	SIP request times out while waiting for a response.
X40	General SIP protocol error (for example, unacceptable codec in SDP in 200 and ACK messages, or times out while waiting for ACK).
X60	Dialed number invalid according to given dial plan.