



## Provisioning Parameters

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## Configuration 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	<p>Prevents an overload of the provisioning server when a large number of devices power-on simultaneously and attempt initial configuration. This delay is effective only on the initial configuration attempt, following a device power-on or reset.</p> <p>The parameter is the maximum time interval that the device waits before making contact with the provisioning server. The actual delay is a pseudo-random number between zero and this value.</p> <p>This parameter is in units of 20 seconds; the default value of 3 represents 60 seconds. This feature is disabled when this parameter is set to zero.</p> <p>The default value is 2 (40 seconds).</p>
Resync At	<p>The hour and minutes (HHmm) that the device resyncs with the provisioning server.</p> <p>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.</p>
Resync_At_Random_Delay	<p>Prevents an overload of the provisioning server when a large number of devices power-on simultaneously.</p> <p>To avoid flooding resync requests to the server from multiple phones, the phone resyncs 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.</p> <p>The input value in seconds is converted to minutes, rounding up to the next minute to calculate the final random_delay interval.</p> <p>This feature is disabled when this parameter is set to zero. The default value is 600 seconds (10 minutes). If the parameter value is set to less than 600, the default value is used.</p>
Resync_Periodic	<p>The time interval between periodic resyncs with the provisioning server. The associated resync timer is active only after the first successful sync with the server.</p> <p>Set this parameter to zero to disable periodic resyncing.</p> <p>The default value is 3600 seconds.</p>
Resync_Error_Retry_Delay	<p>Resync retry interval (in seconds) applied in case of resync failure.</p> <p>The device has an error retry timer that activates if the previous attempt to sync with the provisioning server fails. The device waits to contact the server again until the timer counts down to zero.</p> <p>This parameter is the value that is initially loaded into the error retry timer. If this parameter is set to zero, the device does not try to resync with the provisioning server following a failed attempt.</p> <p>The default value is 3600 seconds.</p>

Parameter Name	Description and Default Value
Forced_Resync_Delay	<p>Maximum delay (in seconds) the ATA waits before performing a resync. 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 resyncing. This allows a user to make calls in succession without interruption.</p> <p>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.</p> <p>The default value is 14,400 seconds.</p>
Resync_From_SIP	<p>Enables a resync to be triggered via a SIP NOTIFY message.</p> <p>The default value is Yes.</p>
Resync_After_Upgrade_Attempt	<p>Triggers a resync after every firmware upgrade attempt.</p> <p>The default value is Yes.</p>
Resync_Trigger_1, Resync_Trigger_2	<p>Configurable resync trigger conditions. A resync is triggered when the logic equation in these parameters evaluates to TRUE.</p> <p>The default value is (empty).</p>
Resync_Fails_On_FNF	<p>Determines whether a file-not-found response from the provisioning server constitutes a successful or a failed resync.</p> <p>A failed resync activates the error resync timer.</p> <p>The default value is Yes.</p>
HTTPS_Name_Validate	<p>Determines whether to check the Subject Alternative Name (SAN) for the HTTPS provisioning. Set to yes to enable the SAN check.</p> <p>The default value is Yes.</p>
Profile_Rule	<p>This parameter is a profile script that evaluates to the provisioning resync command. The command specifies the protocol (TFTP, HTTP, or HTTPS) and an associated URL.</p> <p>If the command is not specified, TFTP is assumed, and the address of the TFTP server is obtained through DHCP option 66.</p> <p>In the URL, either the IP address or the FQDN of the server can be specified. The file name can have macros, such as \$MA, which expands to the device MAC address.</p> <p>The default value is /ata\$PSN.cfg.</p>

Parameter Name	Description and Default Value
Profile_Rule_B, Profile_Rule_C, Profile_Rule_D	<p>Defines second, third, and fourth resync commands and associated profile URLs.</p> <p>These profile scripts are executed sequentially after the primary Profile Rule resync operation has completed. If a resync is triggered and Profile Rule is blank, Profile Rule B, C, and D are still evaluated and executed.</p> <p>The default value is (empty).</p>
Log_Resync_Request_Msg	<p>This parameter contains the message that is sent to the syslog server at the start of a resync attempt.</p> <p>The default value is \$PN \$MAC –Requesting resync \$SCHEME://\$SERVIP:\$PORT\$PATH.</p>
Log_Resync_Success_Msg	<p>The syslog message that is issued upon successful completion of a resync attempt.</p> <p>The default value is \$PN \$MAC –Successful resync \$SCHEME://\$SERVIP:\$PORT\$PATH -- \$ERR.</p>
Log_Resync_Failure_Msg	<p>The syslog message that is issued after a failed resync attempt.</p> <p>The default value is \$PN \$MAC – Resyncfailed: \$ERR.</p>
Report_Rule	<p>The target URL to which configuration reports are sent. This parameter has the same syntax as the Profile_Rule parameter, and resolves to a TCP/IP command with an associated URL.</p> <p>A configuration report is generated in response to an authenticated SIP NOTIFY message, with Event: report. The report is an XML file containing the name and value of all the device parameters.</p> <p>This parameter may optionally contain an encryption key.</p> <p>For example: [ --key \$K ] tftp://ps.callhome.net/\$MA/rep.xml.enc</p>

## 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	<p>Enables firmware upgrade operations independently of resync actions.</p> <p>The default value is Yes.</p>

Parameter Name	Description and Default Value
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.
Downgrade_Rev_Limit	Enforces a lower limit on the acceptable version number during a firmware upgrade or downgrade. The device does not complete a firmware upgrade operation unless the firmware version is greater than or equal to this parameter.  The default value is (empty).
Upgrade_Rule	This parameter is a firmware upgrade script with the same syntax as Profile_Rule. Defines upgrade conditions and associated firmware URLs.  The default value is (empty).
Log_Upgrade_Request_Msg	The syslog message that is issued at the start of a firmware upgrade attempt.  The default value is \$PN \$MAC – Requesting upgrade \$SCHEME://\$SERVIP:\$PORT\$PATH.
Log_Upgrade_Success_Msg	The syslog message that is 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	The syslog message that is issued after a failed firmware upgrade attempt.  The default value is \$PN \$MAC – Upgrade failed: \$ERR.

## 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_SA, GPP_SB, GPP_SC, GPP_SD	Special purpose provisioning parameters, designed to hold encryption keys and passwords. To ensure the integrity of the encryption mechanism, these parameters must be kept secret. Therefore these parameters are not displayed on the device configuration web page, and they are not included in the configuration report sent in response to a SIP NOTIFY command.  The default value is (empty).

Parameter Name	Description and Default Value
GPP_A through GPP_P	<p>General purpose provisioning parameters.</p> <p>These parameters can be used as variables in provisioning and upgrade rules. They are referenced by prepending the variable name with a '\$' character, such as \$A for GPP_A.</p> <p>The default value is (empty).</p>

## 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	<p>Replaced by special purpose parameters GPP_SA through GPP_SD. These parameters hold keys or passwords used in provisioning.</p> <p><b>Note</b>      \$SA through \$SD are recognized as arguments to the optional resync URL qualifier, --key.</p>
MA	MAC address using lower case hex digits, for example, 000e08aabbcc.
MAU	MAC address using upper case hex digits, for example 000E08AABBCC.

Parameter Name	Description and Default Value
MAC	MAC address using lower case hex digits, and colons to separate hex digit pairs. For example 00:0e:08:aa:bb:cc.
PN	Product name. For example, ATA191-MPP.
PSN	Product Series Number. For example, 191
SN	Serial Number string. for example 88012BA01234.
CCERT	SSL Client Certificate status: Installed or Not Installed.
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, Software version string. For example, 11-1-0MPP-19
HWVER	Hardware version string. For example, 4
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.

Parameter Name	Description and Default Value
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.
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.
ORIGTYPE AUTHSTATUS	<p>Controls whether the phone needs to request for a license.</p> <p>Values for ORIGTYPE are: orig_ent, orig_mpp, none</p> <p>Values for AUTHSTATUS are: classic, wxc, none</p> <p>Add the variables in:</p> <ul style="list-style-type: none"> <li>• profile rule or upgrade rule macro expansion and conditional expression</li> <li>• transition authorization rule macro expansion</li> </ul>

## Internal Error Codes

The ATA 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.