



VWRT510



Auto-Provisioning Manual

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Auto-Provisioning of VWR510

Introduction

This document is targeted to developers and system integrators who intend to include support for the VWR510 in their VoIP provisioning systems. It provides details for auto-provisioning ReadyNet's VWR510, a Wi-Fi router with one ATA port and five Ethernet ports. Auto-provisioning is supported via TFTP and HTTP as well as DHCP Option 66, allowing for true zero-touch remote provisioning.

Configure Provisioning Parameters

This section first describes how to enable provisioning via the web interface and then describes the various parameters that can be set to control provisioning.

Enable Provisioning

To enable provisioning, log into the VWR510 [user=admin, password=pz938q510] and navigate to Administration > Provision. The image below shows the default values.

Section	Parameter	Default Value
Configuration Profile	Provision Enable	Enable
	Resync On Reset	Enable
	Resync Random Delay(sec)	40
	Resync Periodic(sec)	3600
	Resync Error Retry Delay(sec)	3600
	Forced Resync Delay(sec)	14400
	Resync After Upgrade	Enable
	Option 66	Enable
	Config File Name	VWR510.cfg
	Profile Rule	
Firmware Upgrade	Upgrade Enable	Enable
	Upgrade Error Retry Delay(sec)	3600
	Upgrade Rule	

In the default settings, provisioning is enabled but the parameter 'Profile Rule', which is the provisioning URL, is blank. Similarly, firmware upgrade is enabled but 'Upgrade Rule' has no value. The table below describes the various provisioning parameters and provides their default values.

Parameter Name	Description	Default Value
Provision Enable	Enable or disable the Provision functions.	Yes
Resync on Reset	Triggers a resync after every reboot except for reboot caused by parameter updates and firmware upgrades.	Yes
Resync Random Delay	The maximum value for a random time interval that the device waits before making its initial contact with the provisioning server. This delay is effective only on the initial configuration attempt following device power-on or reset. The delay is a pseudo-random number between zero and this value. This parameter is in units of 1 second; the default value of 40 represents 40 seconds. This feature is disabled when this parameter is set to zero. It can be used to prevent an overload of the provisioning server when a large number of devices power on simultaneously.	40 seconds
Resync Periodic	The number of seconds between periodic resyncs with the provisioning server. Set this parameter to zero to disable periodic resyncing.	3600 seconds
Resync Error Retry Delay	If the last resync failed, the device will retry resync after the "Resync Error Retry Delay" seconds.	3600 seconds
Forced Resync Delay	Maximum delay in seconds the device waits before performing a resync. The device will not resync while any of its phone lines are active. Because a resync can take several seconds, wait until the device has been idle for an extended period before resyncing. 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.	14400 seconds
Resync After Upgrade	Triggers a resync after every firmware upgrade attempt.	Yes
Option 66	If enabled, the device will also request DHCP Option 66 with its DHCP request. When enabled, the parameter 'Profile Rule' is ignored.	Yes
Config File Name	This parameter is appended to the DHCP Option 66 value returned by the DHCP server to create the TFTP provisioning URL. e.g. if the DHCP Option 66 return value is 123.45.67.89 and the 'Config File Name' parameter is a.conf, then the device will request a provisioning file from the TFTP server located at 123.45.67.89 for a file named, a.conf. This parameter is ignored when the parameter 'Option 66' is set to 'No'.	Changes for different models. For the VWR510, it will be VWR510.conf. For engineering samples, .cnf
Profile Rule	This parameter is a URL that evaluates to the provisioning resync command. The protocol can be TFTP and HTTP. The file name component of this parameter can make use of macros allowing the device to make requests for unique provisioning files. This parameter is ignored if the parameter 'Option 66' is enabled.	Empty

The table below describes the various firmware upgrade parameters and provides their default values.

Parameter	Description	Default Value
Enable Upgrading	Enables firmware upgrade operations independently of resync actions	Enable
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.	3600 seconds
Upgrade Rule	This parameters sets the URL for the new firmware file. It follows the same syntax as the 'Profile Rule' parameter. e.g. http://192.168.100.1/VWRT510_v3.1.bin	Empty

Syntax of Profile Rule and Upgrade Rule

The two parameters 'Profile Rule' and 'Upgrade Rule' must follow the following syntax.

[scheme://][server IP or domain[:port]]/file_path

The scheme can be one of the following;

http
https
tftp

The 'file_path' component follows macro expansion rules as described in the section 'Macro Expansion' below.

Examples:

tftp://prov.mydomain.com/cpe/\$MAU.conf
http://dev.easyvoip.com:8080/prov/\$PN/\$MA.conf

Note: If you use https as the scheme, refer to the document "HTTPS Provisioning" on how to obtain a provisioning server certificate from ReadyNet.

Macro Expansion

Macro expansion can be used with the parameters 'Profile Rule' and 'Upgrade Rule'. The table below lists the macros variables and to what they expand.

Macro Name	Expansion
\$	The form \$\$ expands to a single \$ character. The form \$\$MAU expands to \$00019F13B1B2. The form \$MAU expands to 00019F13B1B2.
MA	MAC address with lower case hex digits, e.g. 00019f13b1b2.
MAU	MAC address with upper case hex digits, e.g. 00019F13B1B2.
MAC	MAC address with lower case hex digits, and colons to separate hex digit pairs, e.g. 00:01:9F:13:B1:B2.
PN	Product Name, e.g. VWRT510 or VRT210
SN	Serial Number, e.g. RNVWRT510123456
IP	WAN IP address , e.g. 123.45.67.89
SWVER	Software version, e.g. v3.0.1
HWVER	Hardware version, e.g. v1.0.1

Macro variables are invoked by prefixing the macro name with the '\$' character (e.g. \$MAC). Macro substitution works even within a quoted string, without requiring additional escapes. If the macro is immediately followed by an alphanumeric character, enclose the variable name in parentheses (e.g. '\$(MAC)config.conf').

Please note the following additional points with regards to macro expansion;

- 1) During macro expansion, expressions of the form \$NAME and \$(NAME) are replaced by the contents of the named variables. For example, a VWRT510 with a MAC address of 00:01:9F:13:B1:B2, the macro \$(MAU)config.cfg expands to 00019F13B1B2config.cfg.
- 2) If the macro name is not recognized, it will remain unexpanded. For example, if you try to use STRANGE as a macro name it will remain unexpanded. Thus the expression \$STRANGE\$MAC.cfg expands to \$STRANGE00:01:9F:13:B1:B2.cfg.
- 3) Macro expansion is not applied recursively. This means that the macro expression \$\$MAU expands to \$MAU and not 00019F13B1B2.
- 4) Macro expressions can have optional qualifiers that allow you to specify a substring of the macro variable. The syntax for macro substring expansion is \$(NAME:p) and \$(NAME:p:q) where p and q are non-negative integers. The resulting expansion results in the macro variable substring starting at the character offset p, and of length q (or till end-of-string if q is not specified). For our example device with a MAC address of 00019F13B1B2, the expression \$(MAU:4) expands to the string 9F13B1B2, and the expression \$(MAU:8:2) expands to the string B1.

Provisioning

Provision with HTTP

Begin by resetting a VWR510 to factory defaults.

- 1) Install an HTTP server on the WAN side of the VWR510.
- 2) In the DocumentRoot of the HTTP server, create a directory named 'prov' for provisioning files. So if the path to the DocumentRoot is /var/www/html, the path to the directory for the provisioning files will be /var/www/html/prov .
- 3) In the prov directory, create a file named a.cfg with the following contents and save it.
DBID_SUPER_WEB_PASSWORD=newpass1
- 4) From a PC connected to a LAN port of the device, you should be able to view the file contents of a.cfg by browsing to; http://HTTP_SERVER/prov/a.cfg.
- 5) Log into the VWR510 [user=admin, password=pz938q510], navigate to Administration -> Provision and set the 'Option 66' field to Disable and in the Profile Rule field enter: http://HTTP_SERVER/prov/a.cfg .

The screenshot shows the web interface of a VWR510 device. The top navigation bar includes tabs for Status, Network, Wireless, SIP Account, Phone, and Administration. Under Administration, there are sub-tabs for Management, Firmware Upgrade, Provision, SNMP, and TR069. The 'Provision' sub-tab is selected, and the 'Configuration Profile' section is visible. The configuration includes several settings:

Setting	Value
Provision Enable	Enable
Resync On Reset	Enable
Resync Random Delay(sec)	40
Resync Periodic(sec)	3600
Resync Error Retry Delay(sec)	3600
Forced Resync Delay(sec)	14400
Resync After Upgrade	Enable
Option 66	Disable
Config File Name	VWR510.cfg
Profile Rule	http://172.16.8.25/prov/a.cfg

- 6) Click save and then do a reboot.
- 7) When the device boots and its WAN interface is up, it will retrieve the file located at Profile Rule and compare the checksum of the file to the checksum of the previously retrieved file. For a default device, the checksum is calculated from the default configuration file. As the new provisioning file and subsequently new checksum are different, the device will reboot to apply the new configuration.
- 8) When you now log in to the web interface with the user 'admin', you will need to enter the password 'newpass1'.

Provision with DHCP and TFTP

In the example above, we had to manually configure the Profile Rule of the VWR510 by logging into the web interface of the device as the admin user and entering a valid location for the provisioning URL. Using DHCP Option 66 together with a TFTP server, the Profile Rule parameter can be automatically set. The VWR510 with its default, out-of-the-box configuration is set for 1) DHCP on the WAN interface and 2) Option 66 enabled. A correctly configured DHCP server will provide the IP address of a TFTP server when the VWR510 includes a request for Option 66 together with its DHCP request. e.g. if the DHCP server sends back '172.16.8.25' as the Option 66 response and **DBID_PRV_CONFIGFILE** is '.cfg', the device will make a TFTP request to the server at IP address 172.16.8.25, for a file named '.cfg'.

- 1) Configure DHCP server to include Option 66 response.
- 2) Configure TFTP server. Create the initial provisioning file named '.cfg' with the following contents.

```
DBID_RESYNC_PERIODIC=60
DBID_PRV_OPTION66_ENABLED=0
DBID_PROFILE_RULE=http://172.16.8.25/prov/\$MAU.conf
```

Note: We change DBID_RESYNC_PERIODIC to 60 seconds only during testing and development.

- 3) In the prov directory of the HTTP server create a file named 00019F13XXXX.conf, replacing XX:XX in the file name to match the WAN MAC address of the VWR510.

```
DBID_SUPER_WEB_PASSWORD=newpass2
```

So if the WAN MAC address is 00:01:9F:13:00:01, the file would be named, '00019F130001.conf'.

- 4) Reset a VWR510 device to factory defaults. On bootup, we should expect the following events to occur;
 - a. VWR510 includes Option 66 in its DHCP request on the WAN port.
 - b. The DHCP server includes the Option 66 response with the other DHCP parameters.
 - c. The VWR510 makes a TFTP connection to the IP address that it received as the Option 66 value and requests a file named .cfg.
 - d. On receiving the file named '.cfg', the device will set the Option 66 parameter to 'Disable' and set the Profile Rule to '[http://172.16.8.25/prov/\\$MAU.conf](http://172.16.8.25/prov/$MAU.conf)' and do a reboot.
 - e. This time when the devices boots up, it will not include Option 66 with its DHCP request. Once the WAN interface is up, the VWR510 will expand the macro \$MAU to its WAN MAC address in uppercase. So if the WAN MAC address of the VWR510 is 00:01:9F:13:00:01, then the device will request a provisioning file from the URL; <http://172.16.8.25/prov/00019F130001.conf>.
 - f. The request URL uniquely identifies the device allowing the provisioning server to customize the provisioning file returned. In this example we set the password for the user admin to 'newpass2'.
 - g. The device will reboot again.
- 5) When you now log in to the web interface with the user 'admin', you will need to enter the password 'newpass2'.

Provisioning Examples

This section provides example provisioning files for the VWR510. Refer to the Appendix for a listing of the provisioning parameters and their descriptions.

Note 1: The provisioning file only contains the parameters that need changing.

Note 2: The device generates a checksum of the provisioning file it receives from the provisioning server and compares it to the checksum from the previous retrieval. If the checksums of the two files are different, the device will reboot to apply the latest configuration.

Note 3: On successful application of a provisioning file, the device will save the checksum of the file to compare against newer configuration files.

Provisioning WAN Parameters

In this example provisioning file, the WAN connection mode is changed from DHCP to STATIC. Further we change, wan_DnsMode from Auto to 'Manual' and define a primary and secondary DNS server that the VWR510 itself will use. In addition, this provisioning file changes the wireless SSID to 'MySSID', sets the wifi authentication mode to WPA/WPA2 with a pre-shared key, sets the encryption algorithm to TKIP/AES and the pre-shared key to 'abc123xyz'.

```
wanConnectionMode=STATIC
wan_ipaddr=172.16.8.60
wan_netmask=255.255.255.0
wan_gateway=172.16.8.1
wan_DnsMode=Manual
wan_primary_dns=8.8.8.8
SSID1=MySSID
AuthMode=WPAPSKWPA2PSK
EncryptType=TKIPAES
WPAPSK1=abc123xyz
```

Provisioning LAN Parameters

This remote provisioning example file changes the network parameters on the LAN side of the VWR510. In addition, this file changes the username and passwords of the two administrative access levels of the web interface of the VWR510.

```
lan_ipaddr=192.168.88.1
lan_netmask=255.255.255.0
dhcpGateway=192.168.88.1
dhcpStart=192.168.88.200
dhcpEnd=192.168.88.220
dhcpLease=3600
NormalUser=Alice
DBID_NORMAL_WEB_PASSWORD=Alice123Pass
AdminUser=Jack
DBID_SUPER_WEB_PASSWORD=Jack123pass
```

Provisioning SIP Parameters

This example provisioning file configures the SIP port of the VWR510. You will need to change the actual parameters in the file to match your SIP server.

```
DBID_DNSSRV_DOMAIN=12.34.56.78
DBID_SIP_SERVER_HOST_NAME=12.34.56.79
DBID_SIP_DIS_NAME=Customer Name
DBID_SIP_PHONE_NUM=1234
DBID_SIP_ACCOUNT=1234
DBID_SIP_PASSWORD=SIPpass
```

Appendix

WAN Network Parameters

Parameter	Valid Values	Description
wanConnectionMode	DHCP STATIC PPPoE	This parameter defines the WAN connection method. It can be one of the following; Static, DHCP or PPPoE.
mdns	1 0	When set to 1 (Auto), the WAN interface of the router will use the DNS servers that it got from the upstream DHCP server. Setting this parameter to 0 (Manual) allows you to define custom DNS servers on the WAN side by setting the parameters, mwan_primary_dns and mwan_secondary_dns.
wan_primary_dns	<i>IP Address</i>	When dhcpDnsMode is set to Manual or wanConnectionMode is set to Static, this parameter can be defined to set the primary DNS server used by the VWR510.
wan_secondary_dns	<i>IP Address</i>	When dhcpDnsMode is set to Manual or wanConnectionMode is set to Static, this parameter can be defined to set the secondary DNS server used by the VWR510.
wan_ipaddr	<i>IP Address</i>	This parameter sets the WAN IP address and must be set when wanConnectionMode is set to Static.
wan_netmask	<i>Netmask</i>	This parameter sets the WAN Netmask and must be set when wanConnectionMode is set to Static.
wan_gateway	<i>IP Address</i>	This parameter sets the WAN Netmask and must be set when wanConnectionMode is set to Static.
wan_pppoe_user	Empty	This parameter is the PPPoE username and must be defined when wanConnectionMode is set to PPPoE.
wan_pppoe_pass	Empty	This parameter is the PPPoE password and must be defined when wanConnectionMode is set to PPPoE.
wan_pppoe_opmode	KeepAlive On Demand Manual	This parameter is the PPPoE Operation mode and defaults to KeepAlive.
wan_pppoeoptime	60	This parameter defines the PPPoE Keep Alive Redial period in seconds when PPPoE is the wanConnectionMode . Range is between 0 - 3600.
wan_vid	2	This parameter defines the VLAN ID of the WAN port. VLAN IDs are defined under Network -> VLAN in the web interface.

LAN Network Parameters

Parameter	Valid Values	Description
natEnabled	NAT Bridge	When natEnabled is set to NAT, the VWR510 operates as a router and when set to Bridge, all network interfaces are bridged.
lan_ipaddr	IP Address	This parameter sets the IP address of the LAN interface when natEnabled is set to NAT. This IP address is also the gateway address for the devices connected to the LAN side of the VWR510.
lan_netmask	<i>Subnet Mask</i>	This parameter sets the subnet mask of the LAN subnet when natEnabled is set to NAT.
dhcpEnabled	Enable Disable	Use this parameter to enable or disable running a DHCP server on the VWR510.
dhcpStart	<i>IP Address</i>	If dhcpEnabled is set to Enable, this parameter sets the starting IP address of the DHCP pool.
dhcpGateway	<i>IP Address</i>	dhcpGateway defines the gateway address for DHCP requests from the LAN network.
dhcpEnd	<i>IP Address</i>	If dhcpEnabled is set to Enable, this parameter sets the ending IP address of the DHCP pool.
dhcpDnsMode	Auto Manual	When set to Auto, DHCP clients on the LAN side are given default LAN DNS servers. Setting this parameter to Manual allows you to set custom DNS servers for LAN clients by setting the parameters, dhcpPriDns and dhcpSecDns.
dhcpPriDns		When dhcpDnsMode is set to Manual, this parameter defines the IP address of DNS server that will be provided as the primary DNS server with DHCP requests.
dhcpSecDns		When dhcpDnsMode is set to Manual, this parameter defines the IP address of DNS server that will be provided as the secondary DNS server with DHCP requests.
dhcpLease	86400	This parameter defines the DHCP lease time.
lan_vid	1	This parameter defines the VLAN ID of the LAN port. VLAN IDs are defined under Network -> VLAN in the web interface.

Wireless Parameters

Parameter	Valid Values	Description
RadioOff	0 1	The default value for this parameter is 0, which sets the radio to 'On'. To turn the radio off, set this value to '1'.
SSID1	<i>AlphaNumeric string</i>	This parameter sets the Service Set Identifier for the access point. For the VWR510, the default SSID is the string 'Wireless_AP-' appended with 4 random characters.
Channel	0 1 2 3 4 5 6 7 8 9 10 11	This parameter sets the Wi-Fi channel for the radio as per the mapping below. 0 --> Auto Select 1 --> 2412MHz (Channel 1) 2 --> 2417MHz (Channel 2) 3 --> 2422MHz (Channel 3) 4 --> 2427MHz (Channel 4) 5 --> 2432MHz (Channel 5) 6 --> 2437MHz (Channel 6) 7 --> 2442MHz (Channel 7) 8 --> 2447MHz (Channel 8) 9 --> 2452MHz (Channel 9) 10 --> 2457MHz (Channel 10) 11 --> 2462MHz (Channel 11)
AuthMode	Disable OPENWEP WPA-PSK WPA2-PSK WPAPSKWPA2PSK	This parameter defines the authentication mechanism for the access point. The default value is WPA-PSK.
EncrypType	TKIP AES TKIPAES	When the parameter 'AuthMode' is set to WPA-PSK, WPA2-PSK, or WPAPSKWPA2PSK, this parameter defines the type of encryption to be used. The default is AES.
WPAPSK1	<i>AlphaNumeric string</i>	When the parameter 'AuthMode' is set to WPA-PSK, WPA2-PSK, or WPAPSKWPA2PSK, this parameter defines the Pre-Shared Key. This parameter is also referred to as the 'Pass Phrase'. For the VWR510, the default Shared Key is 8 random characters.
RekeyInterval	3600	This parameter sets the Key Renewal Interval for WPA and WPA2 wireless encryption.

SIP Parameters

These parameters configure the SIP settings and correspond to the settings seen on the 'SIP Account' menu of the web interface.

Parameter	Description
DBID_DNSSRV_DOMAIN	This parameter defines the 'Proxy Server' for the SIP account.
DBID_SIP_OUTBOUND_PORT	This parameter defines the 'Proxy Port'. The default port is 5060.
DBID_SIP_SERVER_HOST_NAME	This parameter defines the 'Outbound Server' for the SIP account.
DBID_SIP_SERVER_PORT	This parameter defines the 'Outbound Port'. Default value is 5060.
DBID_ALTER_SIP_SERVER_HOSTNAME	This parameter defines the 'Backup Outbound Server' for the SIP account.
DBID_ALTER_SIP_SERVER_PORT	This parameter defines the 'Backup Outbound Port'. The default port is 5060.
DBID_SIP_DIS_NAME	This parameter defines the 'Display name' for the SIP account.
DBID_SIP_PHONE_NUM	This parameter defines the 'Phone Number' for the SIP account.
DBID_SIP_ACCOUNT	This parameter defines the 'Account' attribute associated with the SIP account.
DBID_SIP_PASSWORD	This parameter defines the 'Password' assigned to the particular SIP account.
DBID_SIP_TOS	This parameter sets the DHCP mark for Layer 3 QoS for SIP packets. Range is 0 through 63.
DBID_RTP_TOS	This parameter sets the DHCP mark for Layer 3 QoS for RTP packets. Range is 0 through 63.
DBID_DATA_TOS	This parameter sets the DHCP mark for Layer 3 QoS for Data packets. Range is 0 through 63.
sip_vid	This parameter defines the VLAN ID over which SIP packets will be sent. VLAN IDs are defined under Network -> VLAN in the web interface. The default is 2.
rtp_vid	This parameter defines the VLAN ID over which RTP packets will be sent. VLAN IDs are defined under Network -> VLAN in the web interface. The default is 2.

Administration Parameters

Parameter		Description
BasicUser	useradmin	This parameter defines a web login username of type 'Basic'.
BasicPass	admin	This parameter defines the password for BasicUser .
NormalUser	user	This parameter defines a web login username of type 'Normal'.
DBID_NORMAL_WEB_PASSWORD	user	This parameter defines the password for NormalUser.
AdminUser	admin	This parameter defines a web login username of type 'Admin'.
DBID_SUPER_WEB_PASSWORD	admin	This parameter defines the password for AdminUser.
DBID_LAN_LOGIN_ONLY	0	The default for this parameter is 0 which allows access to the web interface of the device from the WAN interface. To only allow access to the web interface set this parameter to 1.
DBID_WEB_PORT	80	This parameter sets the port that web server on the device listens to for requests on both the LAN side and WAN (if DBI_LAN_LOGIN_ONLY =0) side.
DBID_WEB_IDLE_TIMEOUT	5	While logged into the web interface of the device this parameter sets the value in minutes of inactivity before being logged out.
DBID_PROVISION_ENABLED	1 0	The default value for this parameter is 1, which enables provisioning for the device.
DBID_RESYNC_ON_RESET	1 0	The default value for this parameter is 1, which triggers a resync after every reboot except for a reboot caused by parameter update or firmware upgrade.
DBID_RANDOM_DELAY	40	This parameter defines the maximum number of seconds the device waits before making its initial contact with the provisioning server. This delay is effective only on the initial configuration attempt following device power-on or reset. The delay is a pseudo-random number between zero and this value. The default value is 40. Setting this parameter to 0 disables this feature.

Provisioning Parameters

Parameter	Default	Description
DBID_RESYNC_PERIODIC	3600	This parameter is used to define the number of seconds between periodic resyncs with the provisioning server. Set this parameter to zero to disable periodic resyncing.
DBID_RESYNC_RETRY_DELAY	3600	This parameter defines the number of seconds the device will wait to retry a resync after the last attempt to resync failed.
DBID_RESYNC_DELAY	14400	This is the starting value of a counter in seconds that is decremented when all its lines become idle. Resync events are delayed until this counter decrements to zero.
DBID_RESYNC_AFTER_UPGRADE	1 0	When set to 1, the device will trigger a resync after every firmware upgrade attempt. Set this parameter to 0 to disable.
DBID_PRV_OPTION66_ENABLED	1 0	When this parameter is set to 1 (default), the device will include DHCP Option 66 with its DHCP request. When enabled, the parameter DBID_PROFILE_RULE is ignored.
DBID_PRV_CONFIGFILE	.cfg	This is the name of the provisioning file retrieved from the TFTP server when DHCP Option 66 is enabled.
DBID_PROFILE_RULE		This parameter sets the URL from which the device will retrieve its provisioning file. This parameter is ignored when DBID_PRV_OPTION66_ENABLED is set to 0.
DBID_UPGRADE_ENABLED	1 0	The default value for this parameter is 1, which enables firmware upgrades. Set to 0 to disable this function.
DBID_UPGRADE_RETRY_DELAY	3600	On a firmware upgrade failure, this parameter is set to the value defined in seconds and a countdown begins. Once the timer reaches zero, the next attempt at firmware upgrade will occur.
DBID_UPGRADE_RULE		This parameter sets the URL from which the new firmware file is requested.

Default Provisioning Template File

To generate the default provisioning file, first reset the device to factory defaults by navigating to Administration > Management and clicking 'Factory Default'. After the reboot, the default provisioning file can be downloaded from the device by navigating to Administration > Management > Config File Upload & Download, then clicking 'Download'. The file can be opened in a simple text editor and the contents are in this format - `attribute = value`.