Cambium Networks



ePMP™ 1000 Hotspot

Getting Started Guide

Version 1.0

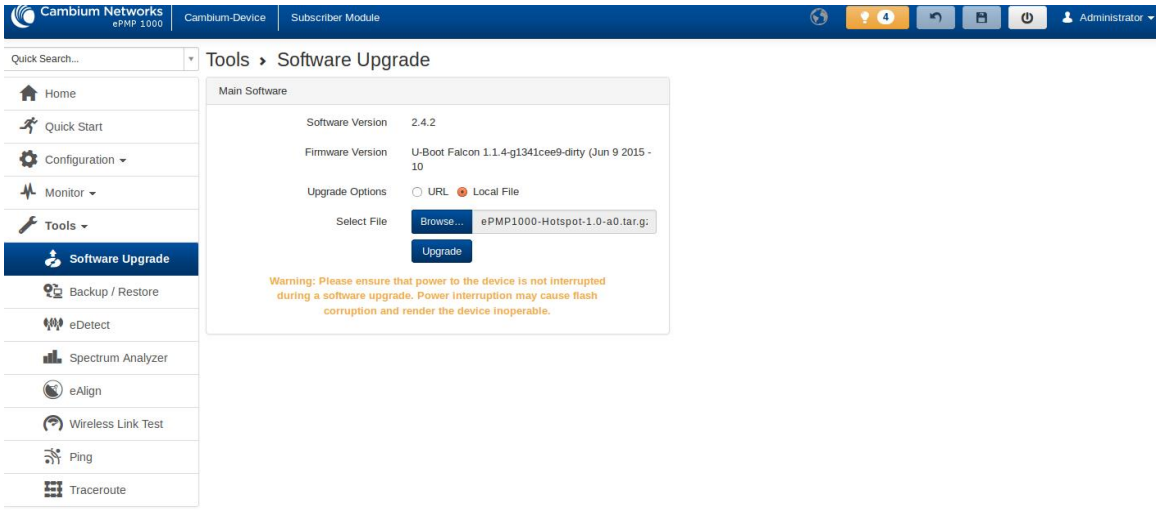
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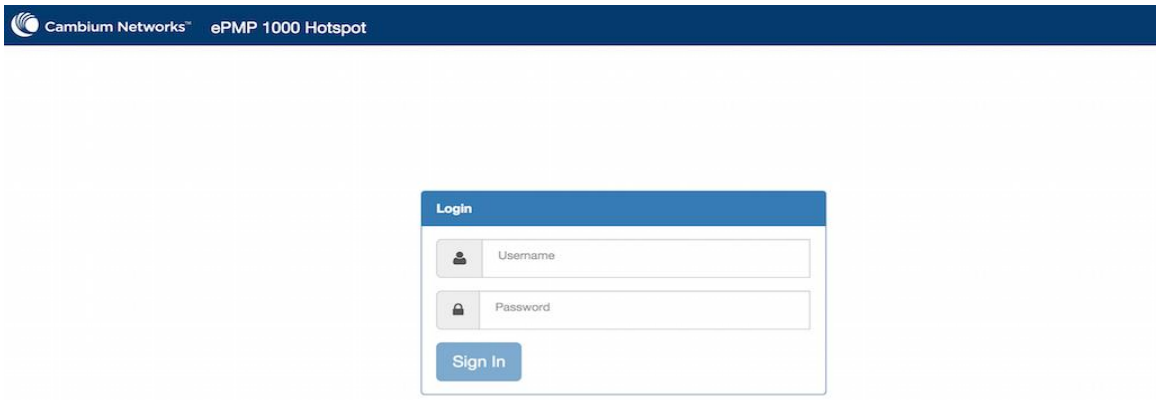
1. Converting ePMP 1000 to ePMP 1000 Hotspot

The usual ePMP 1000 firmware upgrade mechanisms (Eg: pointing to upgrade file from the GUI) can be used to convert it to ePMP 1000 Hotspot. Instead of an ePMP 1000 firmware, just point it to the ePMP1000-Hotspot-1.0.tar.gz firmware file.



Note: upgrade is only supported from ePMP version 2.4 onwards. If your ePMP is running an older version, please upgrade to 2.4 ePMP firmware first, reboot, and from the 2.4 ePMP firmware upgrade to the Hotspot version.

After the firmware upgrade when you reboot the AP it will come up with ePMP Hotspot firmware and the login screen:



2. System Defaults

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The ePMP 1000 hotspot default login is username **admin** and password **admin.** These credentials can be used to login via the GUI, or the CLI of the device.

SSH, HTTP and HTTPS interfaces are enabled by default. The radios are off, the device must be accessed from the wired interface (eth1/eth2 ports).

The default IP address mode of the device is DHCP, however the following static IP addresses will be used if there is no response from a DHCP server:

- 192.168.0.2 SM units, non-GPS Sync.
- 192.168.0.1 GPS Sync

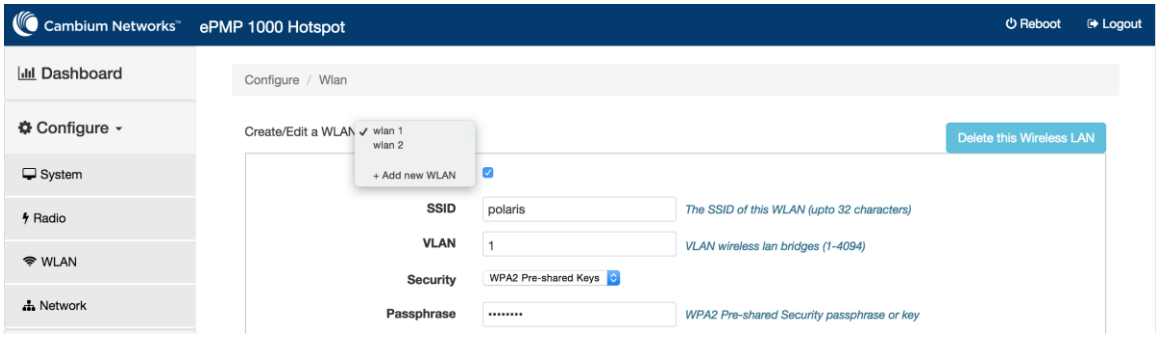
The GUI provides configuration interface to most of the common configuration items. Some features such as NAT and DHCP server are currently only configurable via the CLI.

The CLI provides context sensitive help by typing **?** and auto-completes commands when possible using <TAB>. The system configuration can be viewed using **show config**. To save and apply any changes in the CLI type **save.**

3. Create Wireless LANs

The ePMP 1000 Hotspot supports upto 8 WLANS each with its own ssid, vlan, security etc.

To create a WLAN from the GUI click on **Configure->WLAN** in the menu bar on the left, then use the pulldown to create a new wlan or edit an existing one.



To create a WLAN from the CLI use 'wireless wlan <wlan-number>', then edit further settings such as SSID, security etc.
For example:

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```
ePMP1000-C68C4E(config)# wireless wlan 1
ePMP1000-C68C4E(config-wlan-1)# ssid test
ePMP1000-C68C4E(config-wlan-1)# security wpa2-psk
ePMP1000-C68C4E(config-wlan-1)# vlan 1
ePMP1000-C68C4E(config-wlan-1)# passphrase testing123
ePMP1000-C68C4E(config-wlan-1)# save
[Config Save OK]
ePMP1000-C68C4E(config-wlan-1)#
```

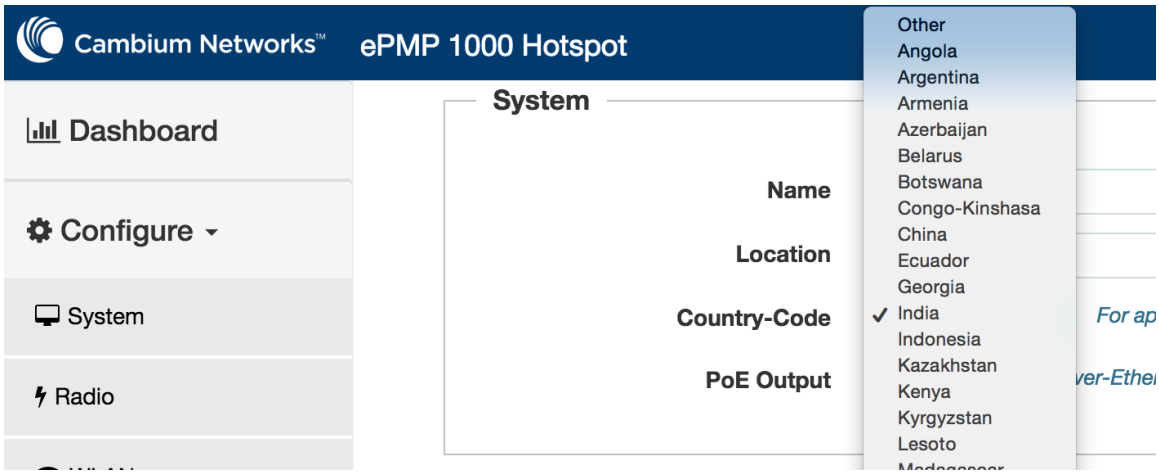
View status of associated clients on the GUI dashboard, or in the CLI using:

```
ePMP1000-C68C4E(config)# show wireless clients
 MAC                VENDOR     IP-ADDRESS    NAME             SSID
 6C-40-08-13-A0-8A  Apple      10.140.134.37 NBA001-32        polaris
 70-3E-AC-21-22-08  Apple      10.140.134.6  A-Bs-iPhone      polaris
 00-24-D7-AB-01-3C  Intel      10.140.134.35 USCA01LAB03      polaris

ePMP1000-C68C4E(config)# show wireless clients statistics
 MAC                SNR  RATE   RX-PKTS   TX-PKTS   RX-BYTES   TX-BYTES
 6C-40-08-13-A0-8A  55   144.44 249555    164661    300332453  72402174
 70-3E-AC-21-22-08  41   72.22 2057614   1112614   2918388171 102451236
 00-24-D7-AB-01-3C  59   144.44 9723      10146     1923350    2151580
```

4. Configure Radio

Radio regulatory parameters are determined based on the country of operation, so begin by specifying the country where the device is installed on the **Configure->System** page of the GUI:



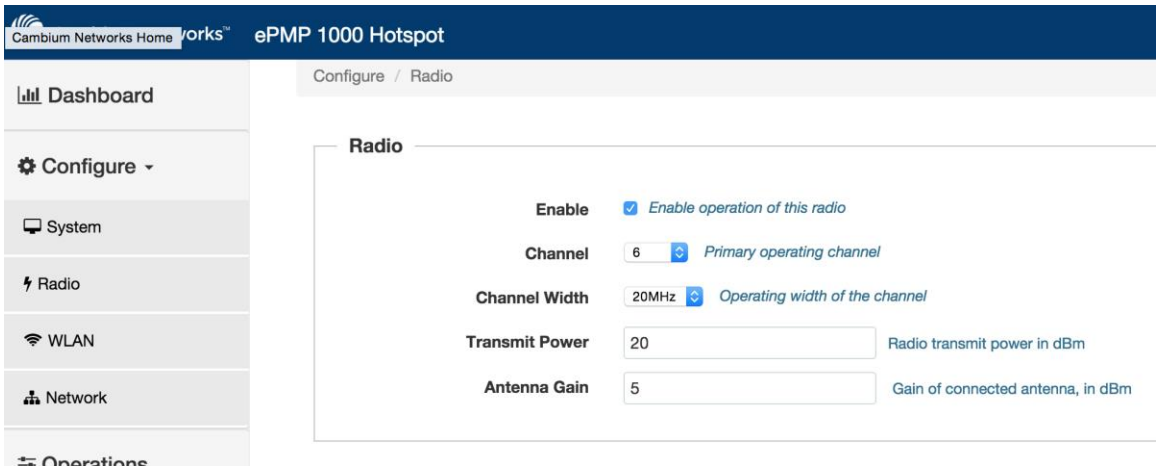
The country-code can also be configured from the CLI, for instance:

```
ePMP1000-C68C4E(config)# country-code us
```

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```
ePMP1000-C68C4E(config)# save
```

Other radio parameters such as the channel of operation as well as transmit power and gain of the antenna can be configured in the GUI under **Configure->Radio**:



And in the CLI under **wireless radio 1**

```
ePMP1000-C68C4E(config)# wireless radio 1
ePMP1000-C68C4E(config)# channel 6
ePMP1000-C68C4E(config)# save
```

Radio status can be seen either in the GUI Dashboard page, or in the CLI using the **show wireless radio** commands:

```
ePMP1000-C68C4E(config)# show wireless radio
 MAC                BAND   CHANNEL   POWER   CLIENTS   WLANS     STATE
 00-04-56-CC-08-49  2.4GHz  6         27      3         2         ON

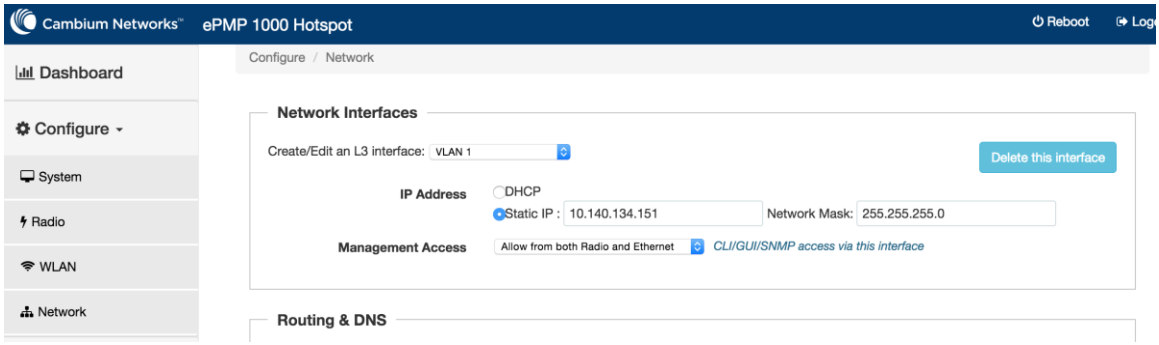
ePMP1000-C68C4E(config)# show wi radios statistics
 MAC                BAND     RX-PTKS    TX-PKTS    RX-BYTES    TX-BYTES
 00-04-56-CC-08-49  2.4GHz   2889728    5456435    3796232   31892319
```

5. Change device IP address

The default IP address mode of the device is DHCP. However if there is no response from a DHCP server it will default to either 192.168.0.2 (non-GPS-Sync) or 192.168.0.1 (GPS sync unit).

The mode can be changed to a static IP address from the GUI or the CLI.
From GUI this is under **Configure->Network.** Please select/edit the L3 interface vlan1. Either a static IP address can be configured (as shown in the example below), along with a gateway and DNS. Or it can be left to DHCP.

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From the CLI the configuration for setting a static IP address is as follows:

```
ePMP1000-C68C4E(config)# interface vlan 1
ePMP1000-C68C4E(config-vlan-1)# ip address 10.1.1.2 255.255.0.0
ePMP1000-C68C4E(config-vlan-1)# ip route 0.0.0.0/0 10.1.1.1
ePMP1000-C68C4E(config-vlan-1)# save
```

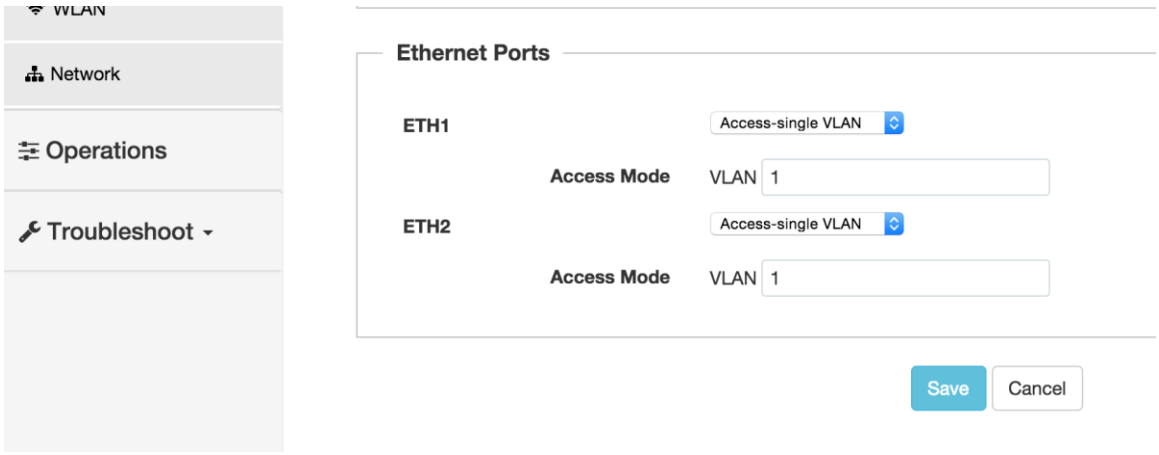
And to set it back to DHCP:

```
ePMP1000-C68C4E(config)# interface vlan 1
ePMP1000-C68C4E(config-vlan-1)# ip address dhcp
ePMP1000-C68C4E(config-vlan-1)# save
```

6. VLAN trunking

The default mode of operation of the Ethernet ports is access (a flat network), but if multiple vlans are to be bridged, the device also supports 802.1q trunk mode of vlans. This can be configured by turning the mode of the Ethernet port to **trunk** and by specifying a list of vlans to be allowed on those ports.

On the GUI this configuration is under **Configure->Network->Ethernet Ports:**



On the CLI this can be configured in the **interface eth 1** context:

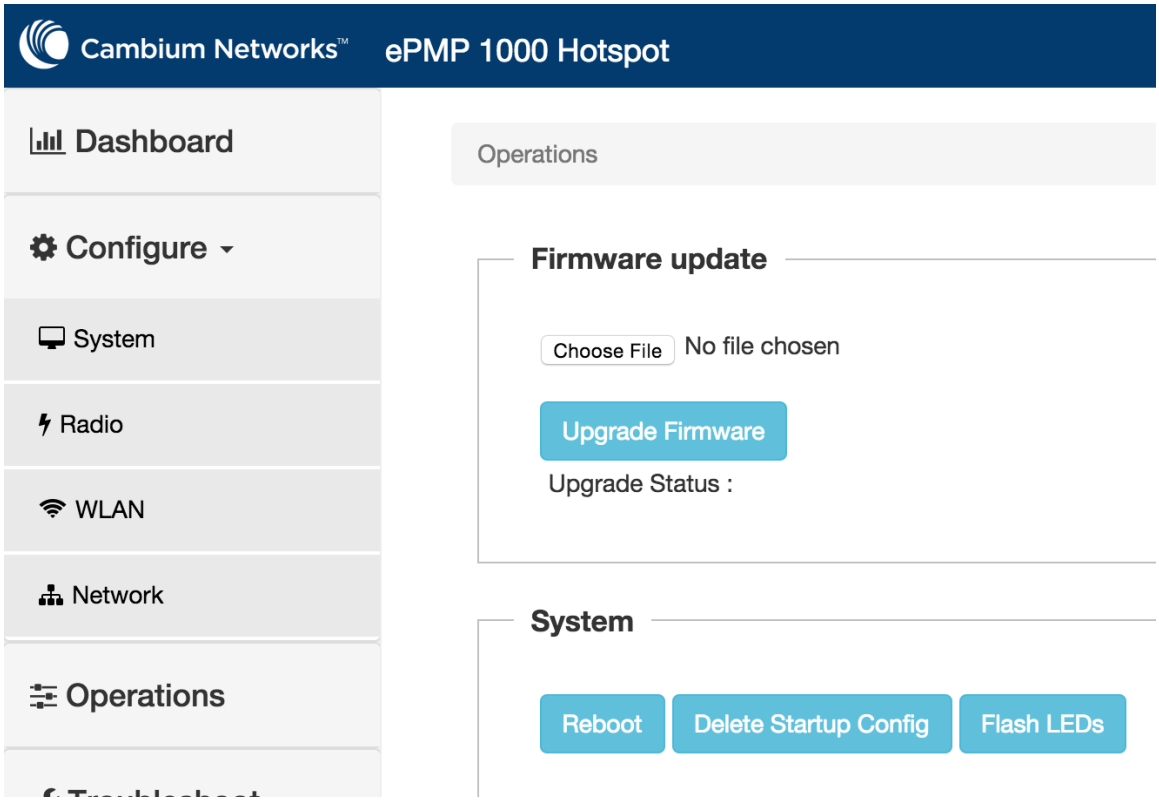
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```
ePMP1000-C68C4E(config)# interface eth 1
ePMP1000-C68C4E(config-eth-1)# switchport mode trunk
ePMP1000-C68C4E(config-eth-1)# switchport trunk allowed vlan 10,20,30
ePMP1000-C68C4E(config-eth-1)# switchport trunk native vlan 10
ePMP1000-C68C4E(config-eth-1)# save
```

7. Firmware Upgrade

You can upgrade from one version of ePMP 1000 Hotspot firmware to another from either the GUI or the CLI.

On the GUI click on **Operations->Firmware Upgrade** to bring up the upgrade page. Click on the **choose file** button and select the new firmware file, then click **Upgrade Firmware** to begin the upgrade.



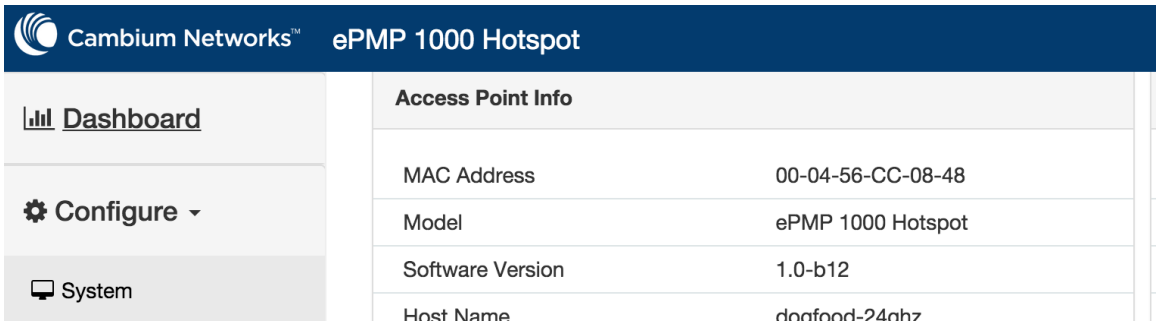
Firmware can also be upgraded from the CLI by pointing the device to a FTP, HTTP or TFTP server. To initiate upgrade, run the **upgrade** command specifying the full URL path of the firmware file. For instance:

```
ePMP1000-C68C4E(config)#upgrade tftp://1.2.3.4/ePMP1000-Hotspot-
1.1.tar.gz
```

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```
ePMP1000-C68C4E(config)#upgrade ftp://user:passwd@1.2.3.4/ePMP1000-
Hotspot-1.1.tar.gz
```

The current firmware version can be seen either from the GUI dashboard:



or using the **show version** command in the CLI.

```
ePMP1000-C68C4E(config)# show version
ePMP1000-C68C4E ePMP1000-Hotspot 5GHz
Software version 1.0-b12
Build date 2015-06-17T03:38:35-0500
Copyright (c) 2014-2015 Cambium Networks, Inc.
System is up 0 days, 01 hours 44 minutes
Device MAC address is 00-04-56-CD-78-C4
```

8. Resetting to Factory Default

The ePMP 1000 Hotspot supports the same two methods of resetting a device to factory default as the regular ePMP firmware.

To reset to factory you can either:

- While the device is powered on, hold the reset button (located near the Ethernet port connectors) for 10 seconds.
- Remove the Ethernet PoE cable for atleast 10 seconds, reconnect it for 3-5 seconds, and repeat these steps 3 times. Now power the device back up again and wait 30 seconds, it will boot up and go back to factory default parameters.

The configuration of the device can also be reset using the **delete config** CLI command or the delete configuration button on the **Operations** page of the GUI.

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