

EN-1000™ Quick Configuration Guide

CAT-1 LTE

The EN-1000™ is a high-performance, low-cost VPN router designed for Verizon Wireless LTE public and private networks. This compact IP router provides IP, VPN, firewall, Ethernet and IP interworking with an embedded Verizon LTE cell module. The EN-1000 supports remote monitoring, video/alarm panel surveillance, business continuity, and enterprise support.

The EN-1000 router supports cellular data and traditional broadband networks such as DSL, cable, and Ethernet.

This document provides information to configure the EN-1000 router quickly. Confer with your network administrator for specific values to used in your network.

Note: The [EN-1000™ Quick Installation Guide](#) provides important information for setting up the EN-1000 hardware. For LED patterns, see the [Quick Guide to EN-1000™ LED Codes](#). You may download those documents and other EN-1000 documentation at:

http://www.encorenetworks.com/document_catalog.htm.

Connecting the EN-1000

- 1 Use an Ethernet cable to connect a management PC to the LAN port on the EN-1000.
- 2 Power up the EN-1000.
- 3 On the management PC, open a browser, type the IP address **http://192.168.10.1**, and press the **Enter** key.¹

EN-1000 Log-In Screen

A screenshot of a web browser showing the login page for the EN-1000 router. The browser address bar shows "192.168.10.1/cgi-bin/uci". The page title is "Authorization Required". Below the title, it says "Please enter your username and password." There are two input fields: "Username" and "Password". At the bottom, there are "Login" and "Reset" buttons.

- 4 Log in with the user name (**admin**) and the password (**encore!1**).
 - ❖ The management system's Status Overview screen opens.

1. Instead of using a direct connection to the LAN port, you can connect across a public network. In that case, type **https://** followed by the EN-1000's public IP address.

EN-1000 Status Overview Screen

The screenshot displays the 'Status Overview' page of the EN-1000 LTE Router. The top navigation bar includes 'Status', 'System', 'Network', 'Logout', and 'Quickstart'. The 'Overview' tab is selected, showing sub-tabs for 'Overview', 'Routes', 'System Log', and 'Realtime Graphs'. The 'Status' section is active, showing 'Uptime: 3h 11m 5s'.

System Information:

- Device Name: EN1000
- Device Model: EN1000
- Firmware Version: 1.7229.01.10
- Local Time: Mon Sep 22 23:36:56 2014

Cellular Information:

- Cell Signal: -125 dBm
- IMEI: 359692051010438
- SIM ID: [Redacted]

Network Status:

Network	Status
CELL eth2	Uptime: 0h 0m 0s MAC-Address: 94:B9:B4:09:B2:4A Protocol: dhcp RX: 9.57 KB (184 Pkts.) TX: 1.50 MB (3619 Pkts.)
LAN eth0	Uptime: 3h 10m 43s MAC-Address: 04:F0:21:11:86:44 Protocol: static RX: 5.56 MB (24617 Pkts.) TX: 34.78 MB (37421 Pkts.) IPv4: 192.168.10.1/24
WAN eth1	Uptime: 3h 8m 23s MAC-Address: 04:F0:21:11:86:45 Protocol: dhcp RX: 35.54 MB (49551 Pkts.) TX: 5.72 MB (34362 Pkts.) IPv4: 192.168.1.151/24

DHCP Leases Table:

Hostname	IPv4-Address	MAC-Address	Leasetime remaining
HP-p6-2016	192.168.10.198	38:60:77:82:55:1a	11h 28m 6s

- On the Status Overview screen, select the **Quickstart** tab.
 - The Application Configuration screen opens.

EN-1000 Application Configuration Screen

The screenshot displays the 'Application Configuration' page. The top navigation bar includes 'Status', 'System', 'Network', 'Logout', and 'Quickstart'. The 'Quickstart' tab is selected.

Application Configuration

Select the Device Mode and associated parameters

Parameters

- Device Mode: Cell Failover
- Device Name: NameOfTheDevice
- LAN IP: 192.168.10.1
- LAN Netmask: 255.255.255.0
- LAN DHCP Server: Enabled
- WAN Protocol: Static
- WAN IP: 192.168.1.1
- WAN Netmask: 255.255.255.0
- WAN Gateway: 192.168.1.1
- DNS Server: 8.8.8.8
- Failover Ping IP: 8.8.8.8
- Failover Ping Timeout (seconds): 1
- Failover Ping Retries: 5
- VPN Mode: None
- Enable WiFi Mode: Enabling this activates WiFi

Device Password

Changes the administrator password for accessing the device

Password: [Field]
Confirmation: [Field]

Buttons: Reset, Save, Save & Apply

Note: The lower part of the Application Configuration screen might provide a **Device Password** configuration area. Change the password only if your network administrator provides a new password. If the password is not changed, it remains at its default value (**encore!1**).

Selecting the EN-1000's Device Mode

Make sure you have performed [step 1](#) through [step 5](#) on pages 1 and 2.

- 6 Under the heading **Parameters**, in the upper part of the Application Configuration screen, select the **Device Mode**:

Note: When you select the **Device Mode**, the screen displays the parameters to configure for that mode.

- a Select **Cell Failover** for automatic connection via a cellular wireless connection when the wired connection fails.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 for Cell Failover](#), on page 4.

- b Select **Cell Router** when cellular wireless will be the principal method of connection to a network.

Note: Configuring the EN-1000 as a cell router also configures the WAN port as a second LAN port.

The EN-1000 management system's Status screen may not show IP information for the WAN port the same way as it does for the LAN port.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 as a Cell Router](#) on page 5.

- c Select **IP Passthrough** to send all network IP information from the WAN network or the cellular network directly to the LAN.

Note: A device connected to the EN-1000's LAN port will see the IP address of the cellular port or the WAN port.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 for IP Passthrough](#) on page 6.

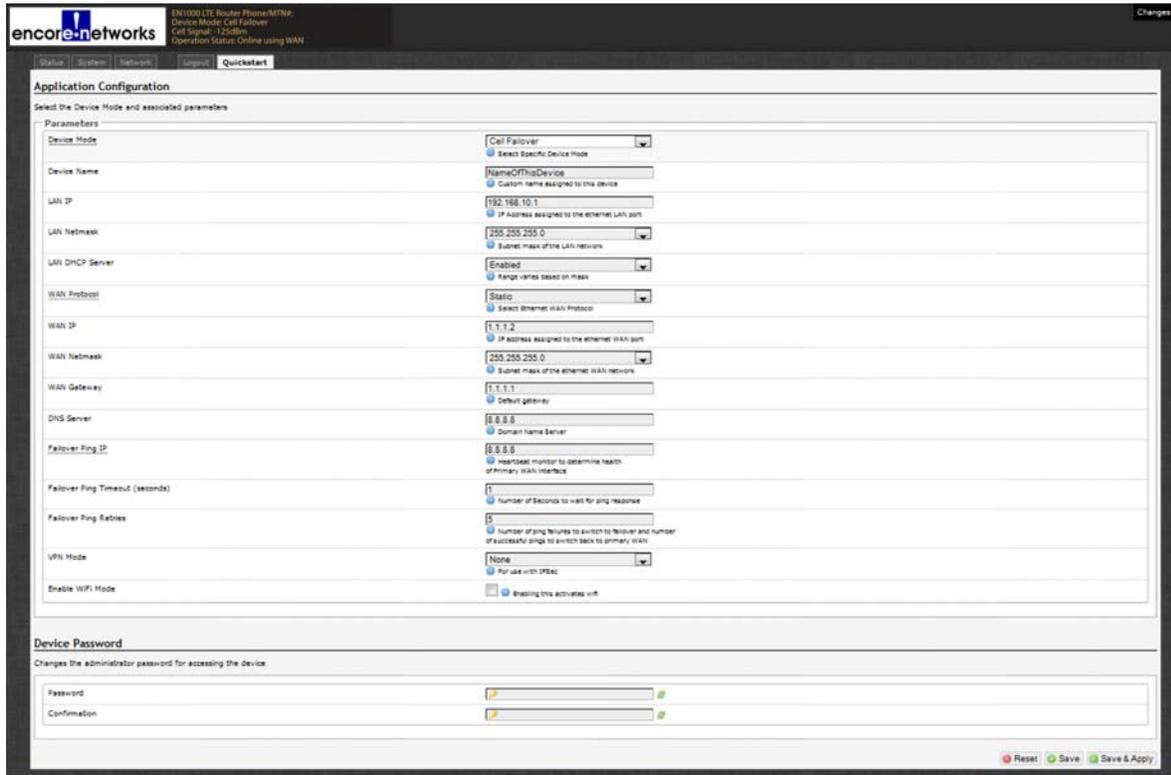
- d Select **VRRP Backup** to use the EN-1000 as a backup router in a VRRP set.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 for VRRP Backup](#) on page 7.

Configuring the EN-1000 for Cell Failover

Make sure you have performed [step 6a](#) on page 3.

Application Configuration Screen to use EN-1000 in Cell Failover Mode (WAN Protocol Displayed as Static)



7 Do the following when the EN-1000 will provide cell failover:

a Modify the following parameters, if required:

- Device Name
- LAN IP
- LAN Netmask
- LAN DHCP Server
- enCloud Enabled (at the bottom of the screen)

b Pull down the menu at the right of the **WAN Protocol** field, and select the EN-1000's WAN protocol (**DHCP Client**, **PPPoE**, or **Static**).

❖ Parameters (listed in the table) are displayed for the selected **WAN Protocol**.

Parameters Displayed	WAN Protocol		
	DHCP Client	PPPoE	Static
PPPoE Username		•	
PPPoE Password		•	
WAN IP			•
WAN Netmask			•
WAN Gateway			•
DNS Server			•
Failover Ping IP	•	•	•
Failover Ping Timeout	•	•	•
Failover Ping Retries	•	•	•
VPN Mode	•	•	•

c Configure the parameters for the WAN protocol you selected.

d Go to [Using the EN-1000's Configuration](#), on page 8.

Configuring the EN-1000 as a Cell Router

[Go to Top Document](#)

Make sure you have performed [step 6b](#) on page 3.

Application Configuration Screen to use EN-1000 in Cell Router Mode

The screenshot shows the 'Application Configuration' screen for the EN-1000 LTE Router. The interface includes a top navigation bar with 'encore-networks' and 'Quickstart' tabs. The main content area is titled 'Application Configuration' and contains a 'Parameters' section with the following fields:

- Device Mode:** Set to 'Cell Router'. A note below reads: 'Two Ethernet Ports(LAN+WAN) as a Switch to Cell Broadband Router'.
- Device Name:** Set to 'NameOfTheDevice'. A note below reads: 'Custom name assigned to this device'.
- LAN IP:** Set to '192.168.10.1'. A note below reads: 'IP Address assigned to the ethernet LAN port'.
- LAN Netmask:** Set to '255.255.255.0'. A note below reads: 'Subnet mask of the LAN network'.
- LAN DHCP Server:** Set to 'Enabled'. A note below reads: 'Range starts based on mask'.
- VPN Mode:** Set to 'None'. A note below reads: 'For use with IPSec'.
- Enable WiFi Mode:** A checkbox labeled 'enabling this activates wifi' is present.

Below the parameters is a 'Device Password' section with 'Password' and 'Confirmation' input fields. At the bottom right, there are buttons for 'Reset', 'Save', and 'Save & Apply'.

8 Do the following when the EN-1000 will perform as a cell router:

a Modify the following parameters, if required:

- Device Name
- LAN IP
- LAN Netmask
- LAN DHCP Server
- VPN Mode
- enCloud enabled

b Go to [Using the EN-1000's Configuration](#), on page 8.

Configuring the EN-1000 for IP Passthrough

Make sure you have performed [step 6c](#) on page 3.

Application Configuration Screen to use EN-1000 in IP Passthrough Mode

The screenshot shows the 'Application Configuration' screen for the EN-1000 device. The top navigation bar includes 'Status', 'System', 'Network', 'Logout', and 'Quickstart'. The main content area is titled 'Application Configuration' and includes a sub-header 'Select the Device Mode and associated parameters'. Below this, there is a 'Parameters' section with the following fields:

Device Mode	IP Pass-through <small>Select Specific Device Mode</small>
Device Name	IP_Bridge_Device <small>Custom name assigned to this device</small>
Passthrough Mode	Dynamic <small>Select Pass-through Mode</small>
Management HTTPS Port	14443 <small>TCP port to access the web interface over the cell</small>
Management IP	192.168.10.1 <small>IP Address used to access the device</small>
EnCloud Enabled	Yes <small>Enables or disables the cloud management system</small>

At the bottom right of the configuration area, there are three buttons: 'Reset', 'Save', and 'Save & Apply'.

- 9 Do the following if the EN-1000 will send all traffic from the cellular network or the WAN network directly to the LAN port:
 - a Modify the following parameters, if required:
 - Device Name
 - Management IP
 - Passthrough Mode
 - enCloud Enabled
 - Management HTTPS Port
 - b When you are satisfied with the parameters, select the **Save & Apply** button (in the lower right corner of the screen).
 - ❖ The configuration is saved and the EN-1000 reboots. After rebooting, the log-in screen is displayed.
 - c Go to [Using the EN-1000's Configuration](#) on page 8.

Configuring the EN-1000 for VRRP Backup

[Go to Top Document](#)

Make sure you have performed [step 6d](#) on page 3.

Application Configuration Screen to use EN-1000 in VRRP Backup Mode

The screenshot shows the 'Application Configuration' screen for an EN-1000 LTE Router. The 'Device Mode' is set to 'VRRP Backup'. The 'Device Name' is 'NameOfTheDevice'. The 'LAN IP' is '192.168.10.1', 'LAN Netmask' is '255.255.255.0', 'VRRP ID' is '1', and 'VRRP IP' is '192.168.10.3'. The 'VPN Mode' is 'None'. The 'Device Password' section has empty fields for 'Password' and 'Confirmation'. The 'enCloud' checkbox is checked.

Parameter	Value
Device Mode	VRRP Backup
Device Name	NameOfTheDevice
LAN IP	192.168.10.1
LAN Netmask	255.255.255.0
VRRP ID	1
VRRP IP	192.168.10.3
VPN Mode	None
Enable WiFi Mode	<input checked="" type="checkbox"/> Enabling this activates WiFi

Device Password

Changes the administrator password for accessing the device.

Password:

Confirmation:

Buttons:

10 Do the following when the EN-1000 will act as a backup router in a VRRP set:

a Modify the following parameters, if required:

- Device Name
- LAN IP
- LAN Netmask
- VRRP ID
- VRRP IP
- VPN Mode
- enCloud enabled

b Go to [Using the EN-1000's Configuration](#) on page 8.

Using the EN-1000's Configuration

Make sure you have selected the **Save & Apply** button (in the lower right corner of the screen). That saves the configuration, reboots the EN-1000, and displays the log-in screen (recall the EN-1000 Log-In Screen shown on page 1).

11 When the log-in screen is displayed, log in again. (If you changed the password, use the new password.)

- ❖ The Status Overview screen is displayed. This screen provides quick information about the connections in the EN-1000.

EN-1000 Status Overview Screen

The screenshot displays the EN-1000 Status Overview screen. At the top, the Encore Networks logo is visible on the left, and system information is shown on the right: EN1000 LTE Router Phone/MTN#, Device Mode: Cell Failover, Cell Signal: -125dBm, and Operation Status: Online using WAN. The main navigation bar includes Status, System, Network, Logout, and Quickstart. The Overview tab is selected, showing a sub-menu with Overview, Routes, System Log, and Realtime Graphs. The Status section is expanded, showing a table of system information, cellular information, network status for CELL, LAN, and WAN interfaces, and a DHCP leases table.

System	
Device Name	EN1000
Device Model	EN1000
Firmware Version	17229 01 10
Local Time	Mon Sep 22 23:36:56 2014

Cellular Information	
Cell Signal	-125 dBm
IMEI	399692051010438
SIM ID	

Network	Status
CELL eth2	Uptime: 0h 0m 0s MAC-Address: 94:B9:B4:09:B2:4A Protocol: dhcp RX: 9.57 KB (184 Pkts.) TX: 1.50 MB (3619 Pkts.)
LAN eth0	Uptime: 3h 10m 43s MAC-Address: 04:F0:21:11:86:44 Protocol: static RX: 5.56 MB (24617 Pkts.) TX: 34.78 MB (37421 Pkts.) IPv4: 192.168.10.1/24
WAN eth1	Uptime: 3h 8m 23s MAC-Address: 04:F0:21:11:86:45 Protocol: dhcp RX: 35.54 MB (49551 Pkts.) TX: 5.72 MB (34362 Pkts.) IPv4: 192.168.1.151/24

DHCP Leases			
Hostname	IPv4-Address	MAC-Address	Leasetime remaining
HP-p6-2016	192.168.10.198	38:60:77:82:55:1a	11h 28m 6s

12 If you need to reconfigure the device mode (for example, to change the DHCP Server setting), select the **Quickstart** tab.

- ❖ The Application Configuration screen is displayed. The screen shows the current configuration parameters.

Note: The EN-1000 reboots only after the initial configuration (when the **Save & Apply** button is selected). Later configurations also use the **Save & Apply** button, but they do not require reboot.

Returning to the Default Configuration

! Caution: If your EN-1000's configuration is not correct, try to reconfigure the EN-1000 before returning to the default configuration. Do not perform the action described here unless there is no other way to resolve problems with the EN-1000 configuration.

- 1 Power up the unit and wait for 2.5 minutes.
- 2 On the front of the chassis, insert the end of a paper clip into the hole marked **Reset**.
Note: The paper clip will stop when it reaches the **Reset** button.
- 3 Press the paper clip in slightly and hold the button in, while watching the **Sys Status** LED (also on the front of the chassis).

Note: As you hold the **Reset** button in, the **Sys Status** LED will flash slowly one time, then again a second time, then (possibly) a third time. Then it will flash fast.

- 4 When the **Sys Status** LED starts to flash fast, release the **Reset** button.
 - ❖ At this point, the **Cell** LED and **Net Status** LED should flash at the same time. This indicates that the unit is resetting back to factory defaults.
- 5 Wait one (1) full minute; then log into the EN™ router's management system (the GUI menu) via a web browser.
- 6 When the Status Overview screen is displayed, select the **Quickstart** tab (returning to [step 5](#) on page 2) and proceed again with the EN-1000's quick configuration.