

EN-2000™ Reference Manual Document 14

Monitoring the EN-2000

This document provides information for monitoring the EN-2000 router's configuration and performance. Screens specifically for monitoring the EN-2000 are discussed in this document.

Note: You can also monitor information and performance by viewing configuration screens. On those screens, you can make changes in the configuration if they are needed. See *Configuring the EN-2000 for its Network Functions*.

 Caution: Always consult your network administrator before changing settings in the EN-2000. If you have any problems when monitoring the EN-2000, contact the vendor or distributor.

After log-in, the Status Overview Screen displays information on the EN-2000's connections (Figure 14-1). (For log-in details, see *Logging In*, on page 2 of *Using the EN-2000's Management System*.)

encorenetworks	0 LTE Router Phone/MTN#: Mode: Cell Failover gnal: -125dBm tion Status: Online using WA	V LAuto Refresh: on	Changes:
Status System Network Logout	Quickstart me Graphs		
Status			Uptime: 3h 11m 5s
System Device Name Device Model Firmware Version Local Time	EN2000 EN 2000 17229 0: Mon Sen	10	
Cellular Information Cell Signal IMEI SIM ID	-125 dBn 3596920	1 1010428	
Network			
Network CELL @	Status Uptime MAC-Ad Protocc RX: 9.53 TX: 1.50	: 0h 0m 0s dfress: 94:09:04:09:02:4A dr. dhop r:6 (164 Pits.) MB (3819 Pits.)	
LAN A erh0	Uptime MAC-Ac Protocc RX: 5.56 TX: 34.3 IPv4: 1	:3h 10m 43s dress: 04:F0:21:11:86:44 d static MB (24617 Pkts.) 0 MB (37421 Pkts.) 22:160.10.1/24	
WAN E etht	Uptime MAC-Ad Protocc RX: 35: TX: 5:7 IPv4: 1	:3h 8m 23s dress: 04:f0:21:11:86:45 H: AhGp 4 MB (49551 Picts.) MB (34362 Picts.) 2.168.1.151/24	
DHCP Leases	IPv4-Address	MAC-Address	Leasetime remaining
HP-p6-2016	192.168.10.198	38:60:77:82:55:1a	11h 28m 6s

Figure 14-1. Status Overview Screen

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On screens for the EN-2000 management system, the top row of tabs indicates the management area, and the second row indicates configuration areas—items to configure or monitor within the selected management area.

Note: The EN-2000 senses its hardware configuration and displays tabs to represent that configuration.

In each management area, you can select items you wish to manage on the EN-2000.

- **1** To monitor the EN-2000, do the following:
 - a Select a management area tab.
- **b** Then select a configuration area tab.
- **c** Occasionally there will be a third row of tabs, for details. If so, select a detail tab.
 - The selected screen is displayed.

14.1 Graphs

The EN-2000 management system includes graphs that provide visual depictions of trends. The EN-2000 displays graphs that start at the current time (that is, at the time display of the graph is selected).

To view graphs of EN-2000 traffic statistics beginning at the current second and updating through three-second intervals (in real time), do the following on the EN-2000 management screens.

- 1 Select the **Status** management area.
- 2 Select the **Realtime Graphs** configuration area.
- 3 If necessary, select the Load detail tab.
 - ♦ The Realtime Load Performance Graph is displayed (Figure 14-2).

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Figure 14-2. Realtime Load Performance Graph

This screen depicts all traffic through the EN-2000 in real time (that is, as that traffic occurs). Below the graph, labels (underscored with colors corresponding to areas in the graph) provide quick information for the current **Load**, the mean **Average**, and the **Peak** traffic for:

- The past **one minute** (sometimes displayed as pink; sometimes displayed as dark orange)
- The past five minutes (usually displayed as medium orange)
- The past fifteen minutes (usually displayed as light orange, almost yellow)
- 4 Select the Traffic detail tab.
 - The Realtime Performance Graph of All EN-2000 Traffic is displayed (Figure 14-3).



Figure 14-3. Realtime Performance Graph of All EN-2000 Traffic

- a On this same screen, select the LAN detail area.
 - The Realtime Performance Graph of the EN-2000's LAN Port Traffic is displayed (Figure 14-4).

Figure 14-4. Realtime Performance Graph of the EN-2000's LAN Port Traffic



- **b** On this same screen, select the **WAN** detail area.
 - The Realtime Performance Graph of the EN-2000's WAN Port Traffic is displayed (Figure 14-5).

Figure 14-5. Realtime Performance Graph of the EN-2000's WAN Port Traffic

	EN2000 LTE Router Phone/MTN#: Device Mode: Cell Failover			Changes: 0
encor <mark>e-n</mark> etworks	Cell Signal: -125dBm Operation Status: Online using WAN	Auto Refresh: on		
Status System Network	Logout Quickstart			
Overview Routes System Log	Realtime Graphs			
Load Traffic Connections				
Realtime Traffic				
LAN WAN CELL				
4m	3m	2m	Im	
29.17 kbil/s (3.00 kB/s)				
19.41 kbit/s (2.43 kB/s)				
9 72 Ebit/s (1.22 kB/s)				
	A A A A A A A A A A A A A A A A A A A	marker	and a second and all and	
(4 minute window, 3 second interval)				
Inbound: 0.39 (0.0	9 kbit/s)5 kB/s)	Average: 0.87 kbit/s (0.11 kB/s)	Peak: 35.36 kbit/s (4.42 kB/s)	
Outbound: 1.1 (0.1	7 kbit/s 15 kB/s)	Average: 1.08 kbit/s (0.13 kB/s)	Peak: 6.6 kbit/s (0.83 kB/s)	
				atta faita fa

- c On this same screen, select the CELL detail area.
 - The Realtime Performance Graph of the EN-2000's Cellular Wireless Traffic is displayed (Figure 14-6).

Figure 14-6. Realtime Performance Graph of the EN-2000's Cellular Wireless Traffic



d On this same screen, select the detail area for **eth0.3316** [the 5 GHz 802.11 wireless module].

Note: A tab for **eth0.3316** is displayed only if the EN-2000 holds an 802.11 wireless module.

The Realtime Performance Graph of the EN-2000's 802.11 Wireless Traffic is displayed (Figure 14-7).

Note: Figure 14-7 shows that no traffic is crossing the 802.11 wireless connection at the moment.



Figure 14-7. Realtime Performance Graph of the EN-2000's 802.11 Wireless Traffic

- **5** Select the **Connections** detail tab.
 - The Realtime Performance Graph of Network Connections is displayed (Figure 14-8).

Figure 14-8. Realtime Performance Graph of Network Connections (Partial Display of Screen)

cor <mark>e n</mark> et	works Cell Si Opera	IO LTE Router Phone/MTN#: 1 Mode: Cell Failover Ignal: -125d8m Ition Status: Online using WAN Auto R	efresh: on	Ch
tatus System				
	System Log Realti	me Graphs		
oad Traffic Co	nnections			
altime Conner	stions			
attime connec	ctions			
s page gives an ov	verview over currently	active network connections.		
Active Connection	ons			
		3m	2m	1m
V~ V V				
				~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		·····	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
				(3 minute window, 3 second interv
	UDP: 73		Average: 73	Peak: 93
	TCP: 10		Average: 10	Peak: 12
	Other: 7		Average: 6	Реак: /
Network	Protocol	Source	Destination	Transfer
IPV4	UDP	HP-p6-2016.lan:63882	192.168.101.29:161	100.82 KB (974 Pkts.)
IPV4	TCP	HP-p6-2016.lan:49567	outlook.apptixemail.net:443	72.56 KB (440 Pkts.)
		the second reason		
IPV4	UDP	HP-p6-2016.lan:17500	255.255.255.255:17500	44.41 KB (318 Pkts.)

## 14.2 Routing Information

Figure 14-9 (Status, Routes) displays the Address Resolution Protocol (ARP) Table and the IP routes for ports on the EN-2000.

Figure 14-9. S	Status Ro	utes Screen
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System Network Logout Quickstant Routes System Log Realtime Graphs		
Routes System Log Realtime Graphs		
g rules are currently active on this system.		
IPv4-Address	MAC-Address	Interface
192.168.10.198	38:60:77:82:55:1a 00:a0:eb:03:59:16	
192.168.1.1		
Pv4-Routes		
Network Target	IPv4-Gateway	Metric
wan 0.0.0/0	192.168.1.1	10
wan 192.168.1.0/24	0.0.0.0	10

## 14.3 Pings and Other Network Diagnostics

The EN-2000 can use a ping, route tracing, or nslookup to test or resolve connections. Do the following to test a connection:

- 1 On the EN-2000 management system, select the **Network** tab.
- 2 Under Networks, select the Diagnostics tab.
  - The Diagnostics Screen is displayed (Figure 14-10).

Figure 14-10. Diagnostics Screen

encor <mark>e n</mark> etworks	EN2000 LTE Router Phone/MTNer Device Mode: Cell Fallower Cell Signal - 12558m Operation Status: Online using WAN		Changes
Status System Network	Logout Quickatan		
Interfaces Heatnames Stat	ic Routes Failover Firewall Diagnostics QuS VPN VRRP		
Diagnostics			
Network Utilities			
encorenetworks.com	encorenetworks.com	encorenetworks.com	
🔯 Ping	ITraceroute	Nelookup	

**3** Look at the ping set-up area on the left of the screen, under the heading **Network Utilities** (Figure 14-11).

Figure 14-11. Ping Set-Up Area (Detail of Diagnostics Screen)

···· Network Utilit	ies
encorenetworks	.com
🔟 Ping	

**4** In the top field, enter the ping destination.

**Note:** The destination can be entered as an IP address or as a URL (a website path and name). If you type an IP address, use IP version 4 (IPv4). In Figure 14-11, the destination is **google.com**.

- 5 In the action box below the field, select the **Ping** button.
  - If the ping is successful, the screen displays ping statistics, indicating that the VPN tunnel is active (Figure 14-12).

	0 LTE Router Phone/MTN#= Mode: Cell Failover gnal: -123dBm Ion Status: Online ution WAN		Changes:
Status System Network	nut Ouickstart		
Interfaces Hostnames Static Route	s Failover Firewall Diagnostics OeS VPN VRRP		
Diagnostics			
- Network Utilities			,
Processing for	An	Proceeding of	
Frid- Wrig	diametri 🛄	A Receiup	1
	Install public treaspoute's for	"Puó tracarcuta	
P150 processors of the Q4.5 61 bytes from 71.50.20.147; a	0.25.141): 20 data celon es 3 col 24 cime 155.000 ce		
61 byres from 74.51.25.147: A 64 bytes from 74.55.25.147: p	eg 1 sn1 24 sime 159.315 ne eg=2 LL1=54 lins=171.024 mm		
At outer them 25.50.25.740; a	eg 4 bb: 24 came 102.040 me		:
<ul> <li> encournerworks.com ping s b service Longer Lies, 4 per- round trip sim/u-q/mm = 150.</li> </ul>	tatistics nut mine sen, 200 minute L mete 845/175.556/188.995 au		

Figure 14-12. Messages Showing Successful Ping

 If the ping is unsuccessful, the screen indicates that no acknowledgments were returned. That means that there is no communication (Figure 14-13).



encor <mark>e n</mark> etworks	EN2D00 LTE Router Phone/NTN#) Device Mode: Cell Fallover Cell Signal: 12548m Operation Status: Online using WAN		Changes: 0
Status System Network	Lignet Quickstart		
Diagnostics	Sic Routes: Failover Firewall Diagnostics QuS VPN VRRP		
Network Utilities	an summit of a sum		
Ping Ping	encorenetworks.com	Nelookup	
FING geogle.com (74.125.220.18); geogle.com ping statistics - 5 packets transmitted, 0 packets	56 data byten 		

6 If the ping is unsuccessful, check the connections and IP address, and repeat Step 4 through Step 5.

## 14.4 Logs

You can review information logged by the system. See Figure 14-14, System Log.

encore details and the second	changes:
Status System Network Lopout Quickstart	
Overview Routes SystemLog Realtime Graphs	
System Log	
Oct 27 15:01:34 EX2000 user.info sysinit: "M Oct 27 15:01:34 EX2000 user.info sysinit: 35962051010438"M	
Oct 27 18:01:34 EN2000 user.info sysinit: "M	
Oct 27 18:01:34 EN2000 user.info sysinit: OK'M	
Oct 27 18:01:36 EN2000 user.info sysinit: uci: Entry not found	
Oct 2/ 15:01:36 EARDOO daemon.hrfo sysieg: 10[IKE] fetränsmit 1 of request wird message 10 0 Oct 27 15:01:66 PR2000 daemon info sysieg: 10NFT1 sendice result: from 102 166 1 151(5001 to 1 1 1 25001 (972 butse)	
One 2/ 18:01:36 EARDON GARMONTING System, Senang packet. From 192:100:11:01(00) 50 1:11:12(00) (5/2 Bytes)	
Oct 27 18:01:36 EN2000 user.info sysinit: "M	
Oct 27 18:01:36 EN2000 user.info sysinit: +CSQ: 99,99°M	
Oct 27 18:01:36 EM2000 user.info sysinit: "M	
Oct 27 15:01:36 EM2000 user.into sysinit: 0K"M	
Oct 2/ 18:01:30 EARDON UNEF.INF System: un: Entry not round	
Oct 27 18:01:39 EN2000 user.info sysinit: "M	
Oct 27 18:01:39 EM2000 user.info sysinit: +CSQ: 99,99°M	
Oct 27 18:01:39 EN2000 user.info sysinit: "M	
Oct 27 18:01:39 EM2000 user.info sysinit: 0K'M	
Oct 27 18:01:00 EN2000 user into symmit us: Entry not found Oct 27 18:01:00 EN2000 user into symmits (asis here and article in all on the sector (station excitate (station of a similar the sector))	1.8
Oct 7 13:01:0 EN2000 Heating Sylmic, /etc/en_stript/apet_later in the trick of the trick /etc/en_stript/apet_later.og. model the directory	
Oct 27 18:01:40 EN2000 user.info sysinit: /etc/em scripts/ipsec auto restart: line 41: can't create /etc/em scripts/output/ipsec restart last.log: nonexistent directory	1.8
Oct 27 18:01:40 EN2000 user.info sysinit: /etc/em_scripts/ipsec_auto_restart: line 41: can't create /etc/em_scripts/output/syslog: nonexistent directory	
Oct 27 18:01:40 EN2000 daemon.info syslog: 00[DMN] signal of type SIGINT received. Shutting down	
Oct 27 18:01:40 EM2000 daemon.info syslog: 00[IKE] destroying IKE_3A in state CONNECTING without notification	
Oct 27 15:00:41 EN2000 user.into sysinit: ATCSQTM	
Oct 2/ 10:01:41 EARDOU USER INFO System: W	
Oct 27 18:01:41 ENZODU user info symint: "M	
Oct 27 18:01:41 EN2000 user.info sysinit: OK'M	
Oct 27 18:01:42 EN2000 user.info sysinit: uci: Entry not found	
Oct 27 18:01:43 EM2000 user.info sysinit: AT+CSQ?M	
Oct 27 18:01:43 EX2000 user.info sysinit: 'M	
Oct 2/ 10:01:92 ENGONQ user.into Sysinic: "Cag: Sy 59 H	
Oct 27 18:01:49 ENZODU user info systemic OK'M	
Oct 27 18:01:43 EN2000 user.info sysinit: AT+C30°M	
Oct 27 18:01:43 EN2000 user.info sysinit: "M	1.8
Oct 27 18:01:43 EN2000 user.info sysinit: *CSQ: 99,99°M	
Oct 27 18:01:43 EN2000 user.info sysinit: 'M	
Oct 2/ 10:01:40 EARDON UNDERINFO SWEETEN ON W	
Oct 27 18:01:46 EN2000 user info syminit: ATCOMFM	
Oct 27 18:01:46 EN2000 user.info sysinit: "M	
Oct 27 18:01:46 EN2000 user.info sysinit: ALT2100_04_05_06_00_59_TF^M	
Oct 27 18:01:46 EN2000 user.info sysinit: "M	
Oct 27 13:01:46 ENZODO user.info systant: OK'M	
Oct 2/ ASTRITE LARGUN UMERIAND SYMPATIC UCL: ENErgy ROE FOUND	
Oct 27 13:01:45 EN2000 authrin', info issed starter[255]; starter stop charon(): charon does not respond, sending KILL	
Oct 27 18:01:48 EN2000 authpriv.info ipsec_starter[12815]: charon stopped after 8200 ms	
Oct 27 18:01:48 EN2000 authpriv.info ipsec_starter[12515]: ipsec_starter stopped	

Figure 14-14. System Log (Sample; Partial Listing)