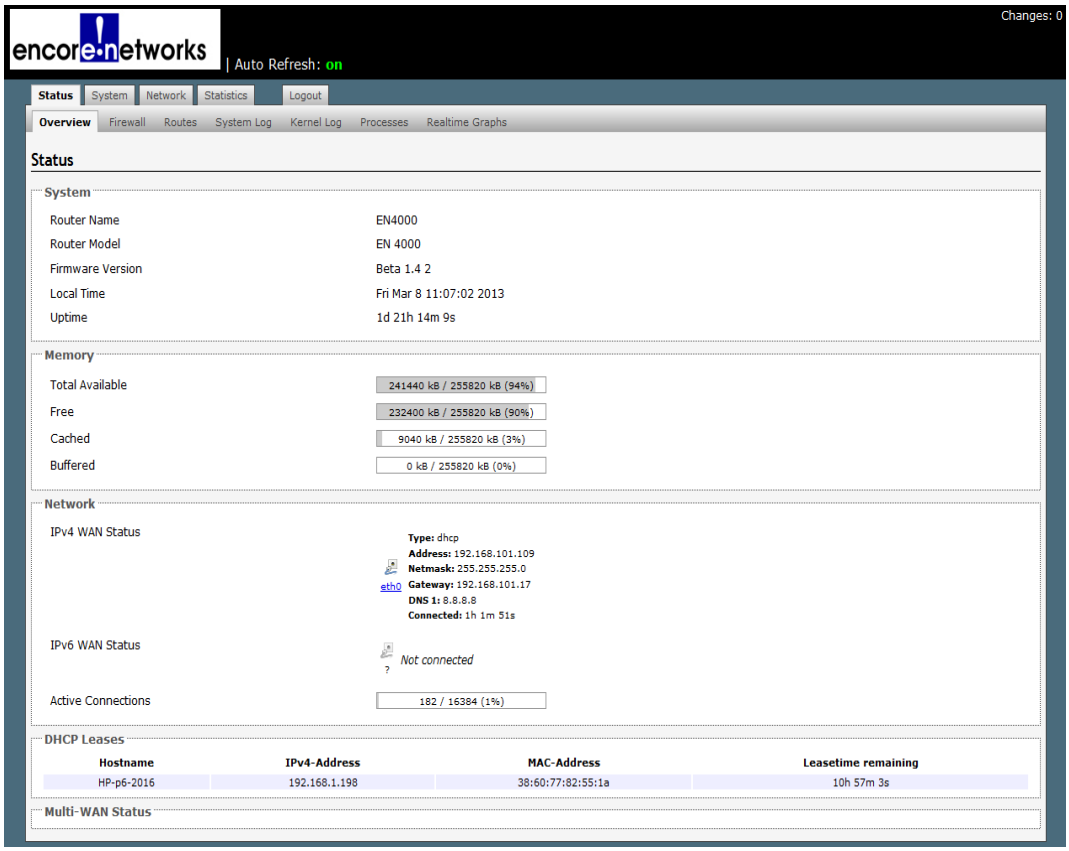
Monitoring the EN-4000

The EN-4000 is the newest member of Encore Networks' family of routers. It provides wireless and cabled connections to a local area network (LAN) and to local and remote devices.

Make sure you have performed the procedure in *Logging In*. Also review the document *Configuring General Settings for the EN-4000* for information on setting up your EN-4000 for its functions, uses, and purposes in the network.

After you have performed the procedure in *Logging In*, the Status Overview Screen is displayed (Figure 12-1).

Figure 12-1. Status Overview Screen



The Status Overview Screen is the first screen you see after you log into the EN-4000. This screen provides an overview of the EN-4000's operation and its WAN port identification.

12.1 Monitoring

On screens for the EN-4000 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. (The EN-4000 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-4000.

1 To monitor the EN-4000, 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.

Note: You can also monitor information by viewing configuration screens. On those screens, you can make changes in the configuration if they are needed. See the document *Configuring General Settings for the EN-4000*.

! **Caution:** Always consult your network administrator before changing information.

Screens for monitoring the EN-4000 follow.

12.1.1 Collection of Statistics

Confer with your network administrator to determine settings for collection of statistics. Enter those values into the statistics collection screens.

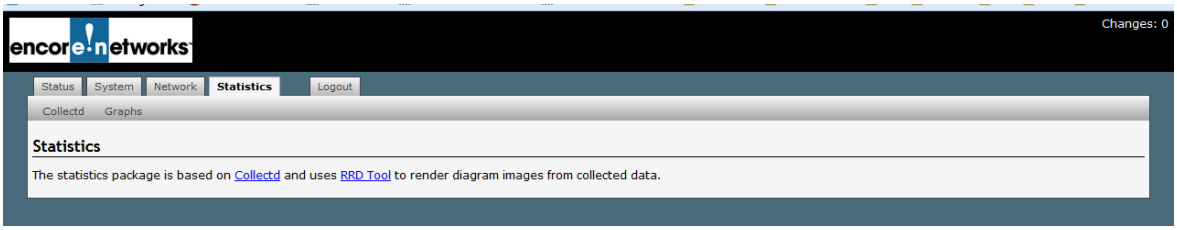
Note: To view displays of the statistics collected here, see *Graphs*.

1 To collect EN-4000 statistics, do the following on the EN-4000 management screens.

a Select the **Statistics** management area.

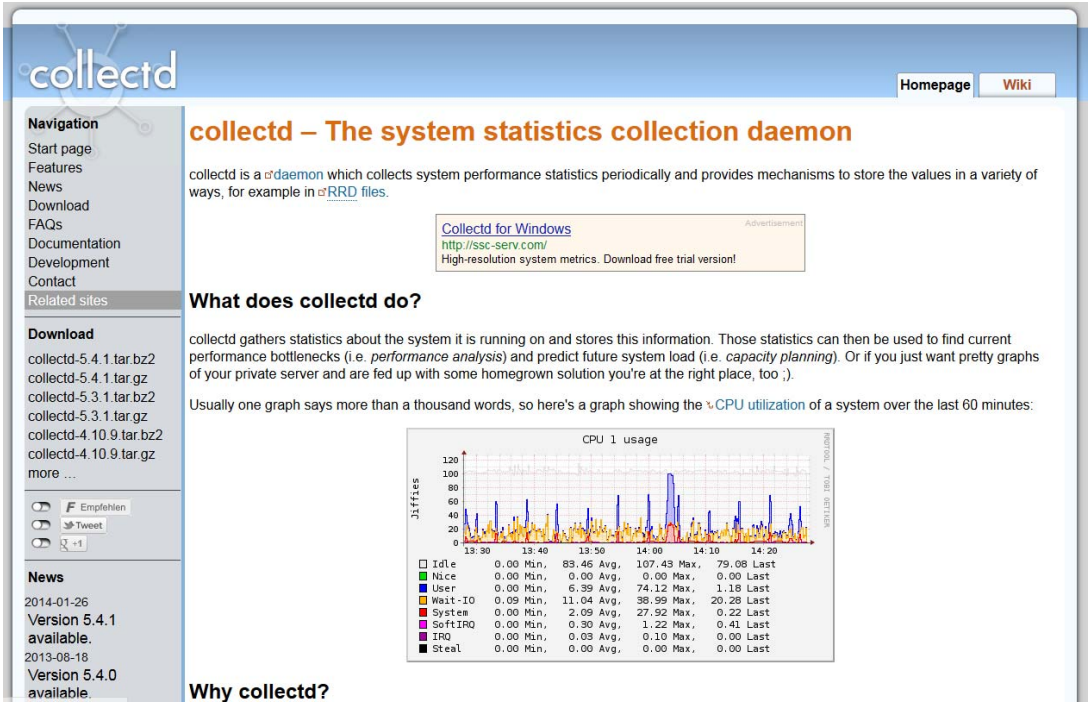
❖ The Initial Statistics Screen is displayed (Figure 12-9).

Figure 12-2. Initial Statistics Screen



Note: If you click on the Collectd link, you will see a website describing the Collectd Method of Statistics Collection is displayed (Figure 12-3).

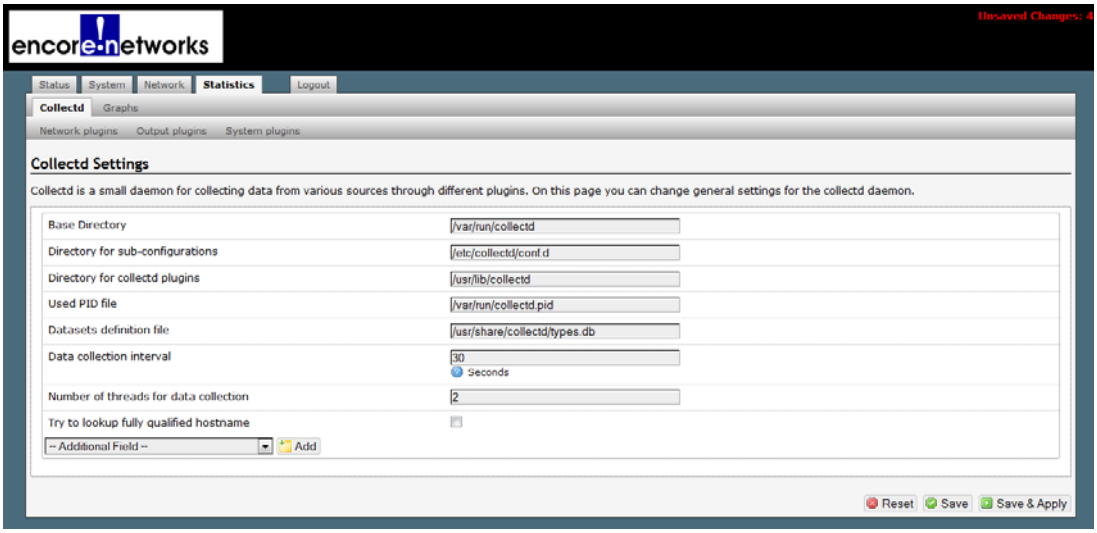
Figure 12-3. Collectd Method of Statistics Collection
(Partial Display)



b Select the **Collectd** configuration area tab.

❖ The Statistics Collectd Settings Screen is displayed (Figure 12-4).

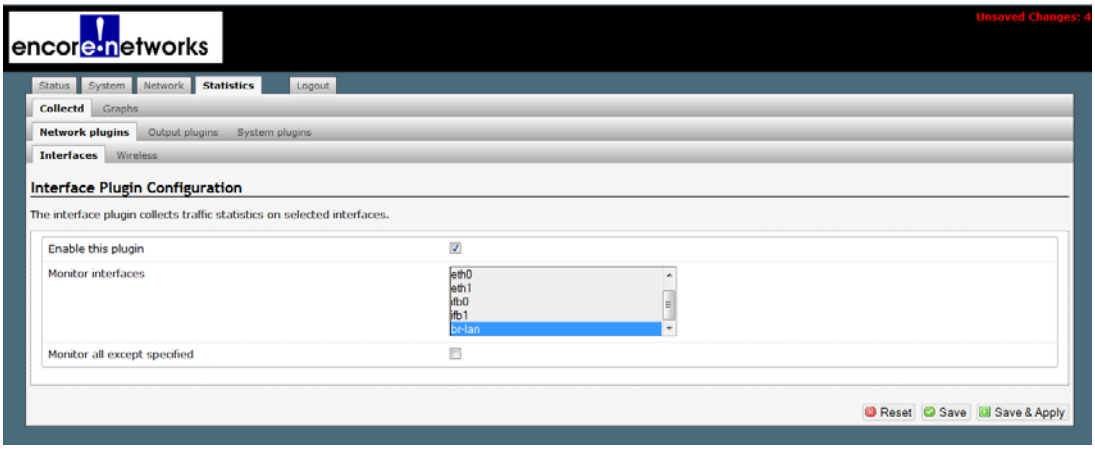
Figure 12-4. Statistics Collectd Settings Screen



1 On the Statistics Collectd Settings Screen (Figure 12-4), select **Network Plugins**; then select **Interfaces**.

❖ The Statistics Interface Plug-In Configuration Screen (Figure 12-5) is displayed.

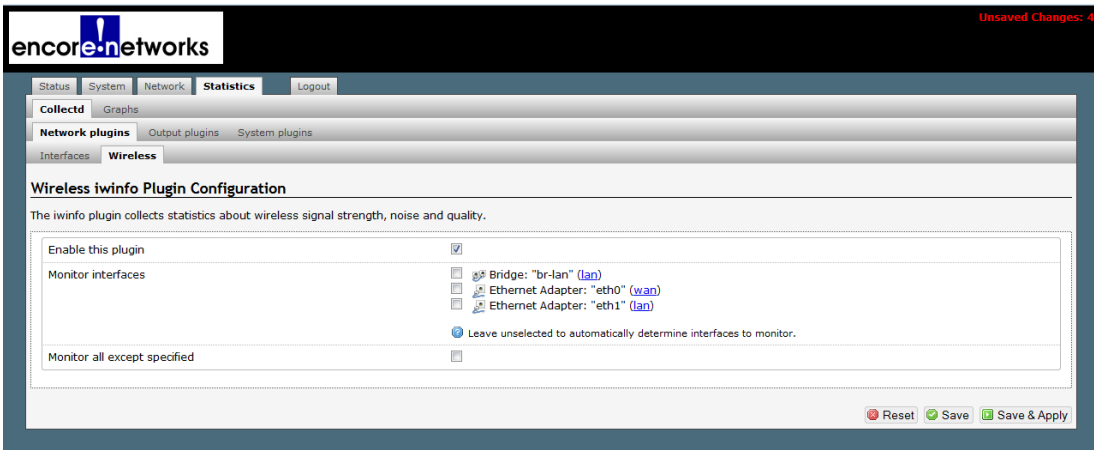
Figure 12-5. Statistics Interface Plug-In Configuration Screen



2 On the Statistics Collectd Settings Screen (Figure 12-4), select **Network Plugins**; then select **Wireless**.

❖ The Statistics Wireless Interface Plug-In Configuration Screen (Figure 12-6) is displayed.

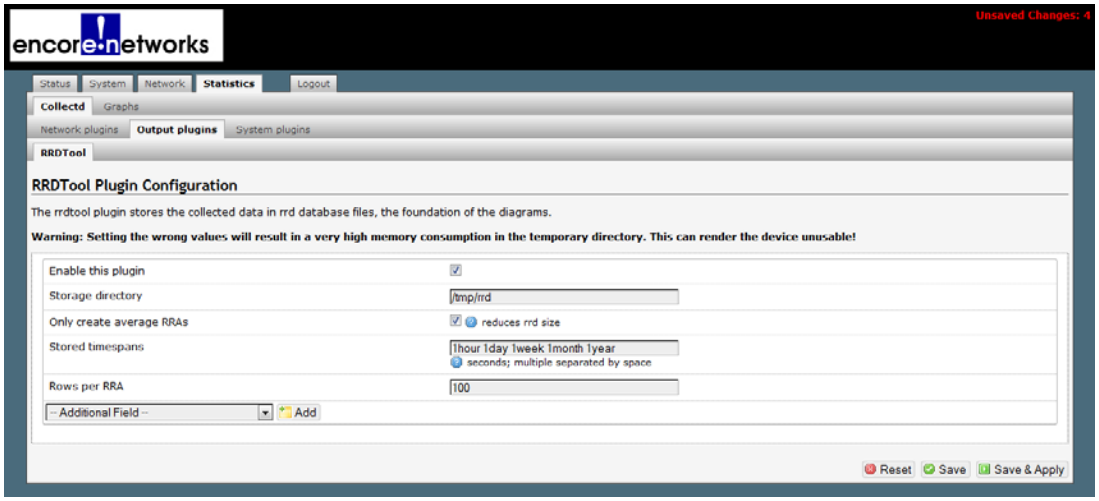
Figure 12-6. Statistics Wireless Interface Plug-In Configuration Screen



3 On the Statistics Collectd Settings Screen (Figure 12-4), select **Output Plugins**; then, if necessary, select **RRDTool**.

❖ The Statistics Collectd Output Plug-In RRDTool Screen (Figure 12-7) is displayed.

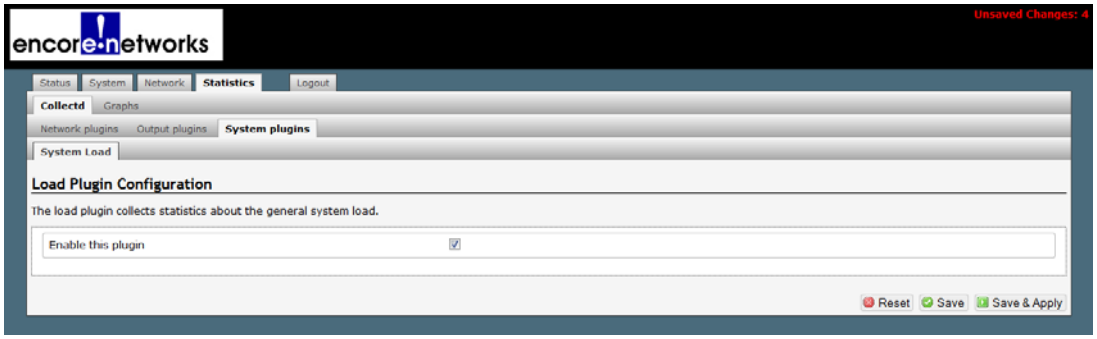
Figure 12-7. Statistics Collectd Output Plug-In RRDTool Screen



4 On the Statistics Collectd Settings Screen (Figure 12-4), select **System Plugins**; then, if necessary, select **System Load**.

❖ The Statistics Collectd System Load Plug-In Screen (Figure 12-8) is displayed.

Figure 12-8. Statistics Collectd System Load Plug-In Screen



12.1.2 Graphs

The EN-4000 management system includes graphs that provide visual depictions of trends. Use the following procedures to see graphs.

- *Displaying Graphs Ending at the Current Time*
- *Displaying Graphs Beginning at the Current Time*

Note: You can configure collection of these statistics for these graphs in *Collection of Statistics*.

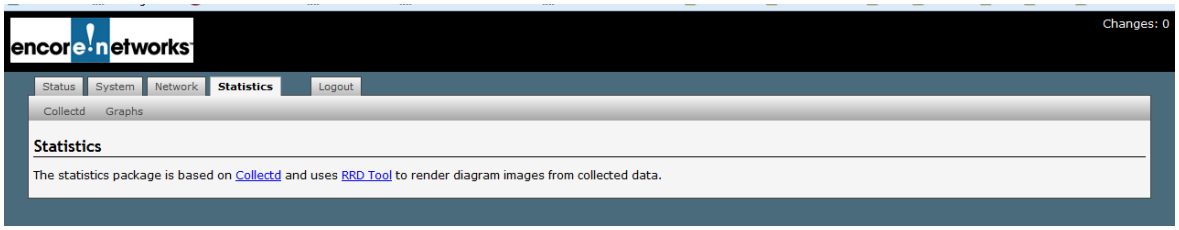
12.1.2.1 Displaying Graphs Ending at the Current Time

1 To view graphs of EN-4000 traffic statistics up to the current second, do the following on the EN-4000 management screens.

a Select the **Statistics** management area.

❖ The Initial Statistics Screen is displayed (Figure 12-9).

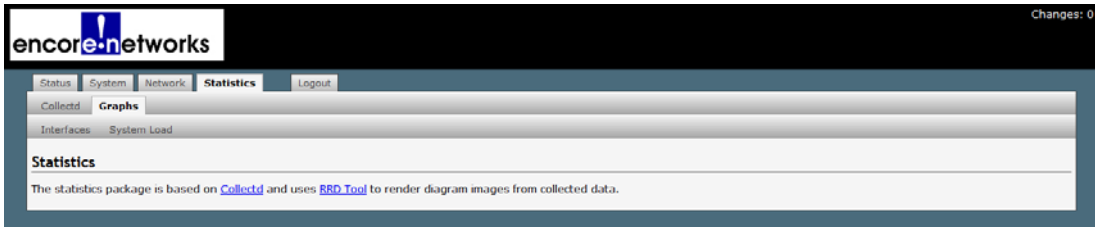
Figure 12-9. Initial Statistics Screen



b Select the **Graphs** configuration area.

❖ The Initial Screen for Graphs of EN-4000 Statistics is displayed (Figure 12-10).

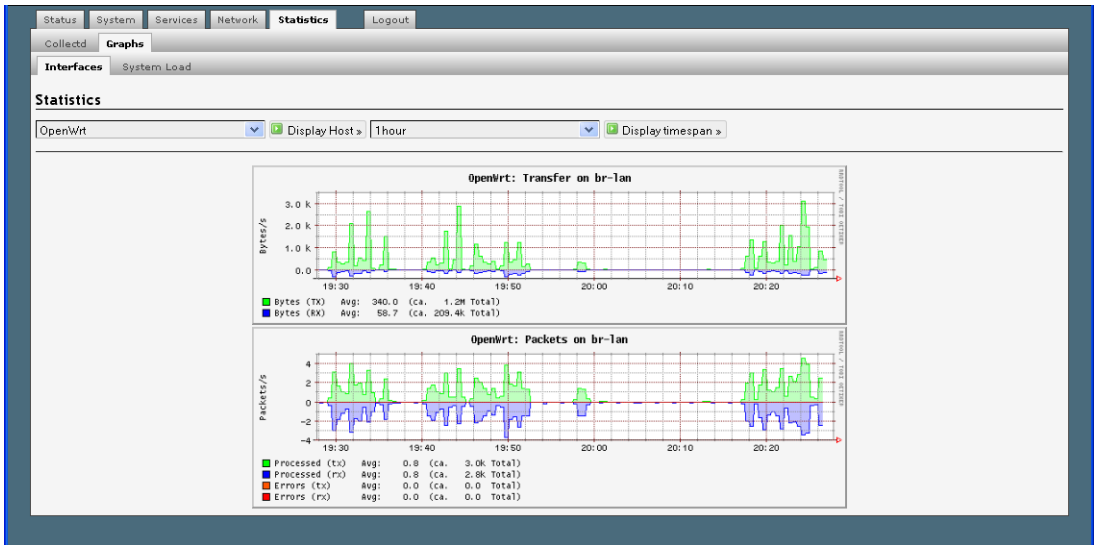
Figure 12-10. Initial Screen for Graphs of EN-4000 Statistics



2 To see statistics for the LAN ports on the rear of the EN-4000, select the **Interfaces** detail tab.

❖ The Graph for EN-4000 LAN Interface Statistics is displayed (Figure 12-11).

Figure 12-11. Graph for EN-4000 LAN Interface Statistics



This screen shows the number of bytes and the number of packets that have passed through the LAN bridge.

Below the graph, labels (with colors corresponding to areas in the graph) provide a key for information.

a To see information for the past hour, day, week, month, and year for another EN-4000 in the network, do the following:

i In the device name field (under the page heading **Statistics** in Figure 12-11), use the pulldown menu to select the router whose statistics you wish to review.

ii Then select **Display Host**.

iii Use the time period's pulldown menu to select **1hour**, **1day**, **1week**, **1month**, or **1year**.

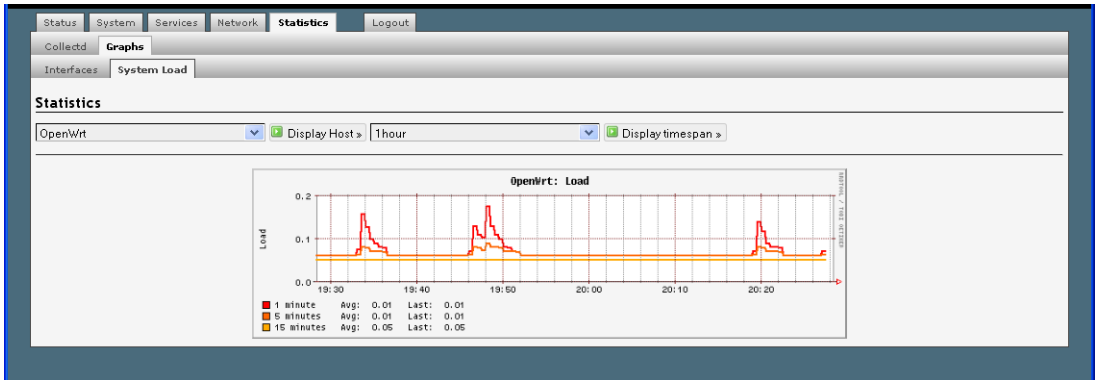
iv Then click on the button to **Display Timespan**.

❖ Statistics are displayed for the selected timespan.

3 To see traffic statistics for all ports on the EN-4000 router, select the **System Load** detail tab.

❖ The Graph for EN-4000 System Load Statistics is displayed (Figure 12-12).

Figure 12-12. Graph for EN-4000 System Load Statistics



This screen shows the traffic load through all the ports of the EN-4000.

Below the graph, labels (with colors corresponding to areas in the graph) provide a key for information.

a To see information for the past hour, day, week, month, and year for another EN-4000 in the network, do the following:

i In the device name field (under the page heading **Statistics**), use the pulldown menu to select the router whose statistics you wish to review.

ii Then select **Display Host**.

iii Use the time period's pulldown menu to select **1hour**, **1day**, **1week**, **1month**, or **1year**.

iv Then click on the button to **Display Timespan**.

❖ Statistics are displayed for the selected timespan.

12.1.2.2 Displaying Graphs Beginning at the Current Time

To view graphs of EN-4000 traffic statistics beginning at the current second and updating through three-second intervals (in real time), do the following on the EN-4000 management screens.

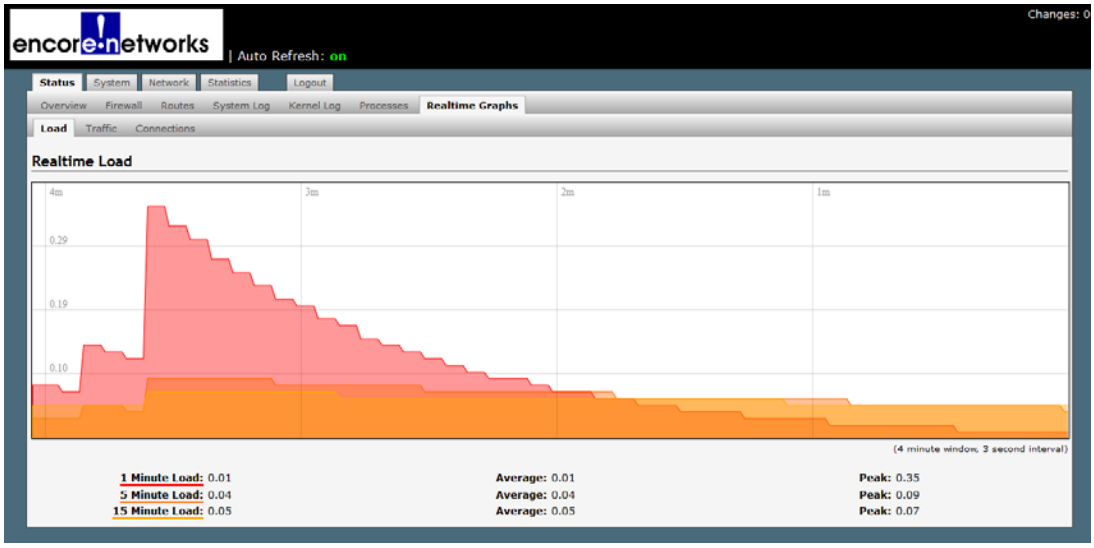
1 Select the **Status** management area.

2 Select the **Realtime Graphs** configuration area.

3 If necessary, select the **Load** detail tab.

❖ The Realtime Load Performance Graph is displayed (Figure 12-13).

Figure 12-13. Realtime Load Performance Graph

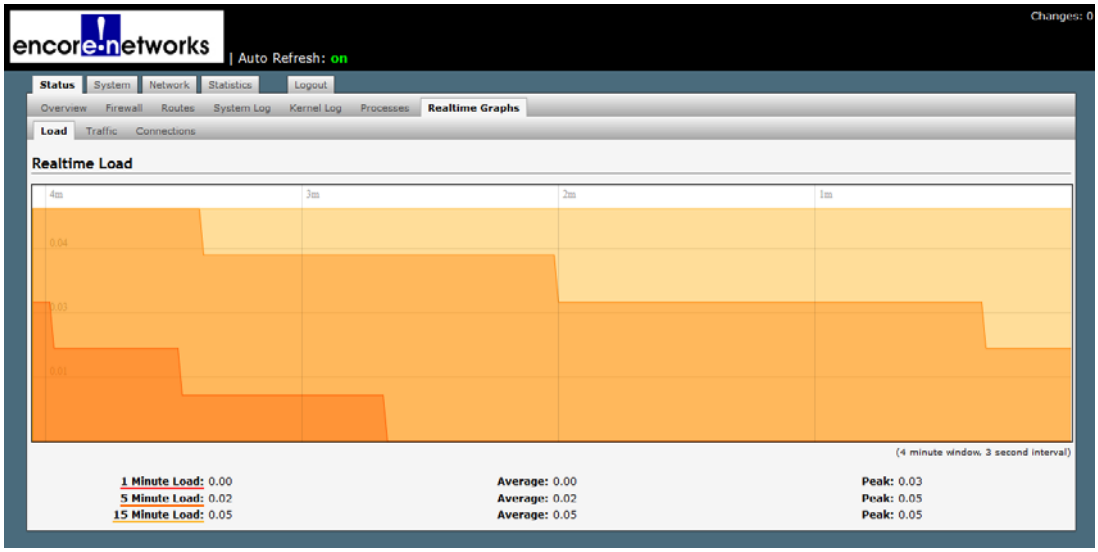


This screen depicts all traffic through the EN-4000 in real time (that is, as that traffic occurs). Below the graph, labels (underscored with colors corresponding to areas in the graph) provide quick information for the current **Load**, the mean **Average**, and the **Peak** traffic for:

- 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)

Compare the activity in Figure 12-13 and in Figure 12-14. (The two figures present the same information at different points in time. The information in Figure 12-14 starts about 5 seconds after the information in Figure 12-13 ends.)

Figure 12-14. Realtime Load Performance Graph at a Later Time

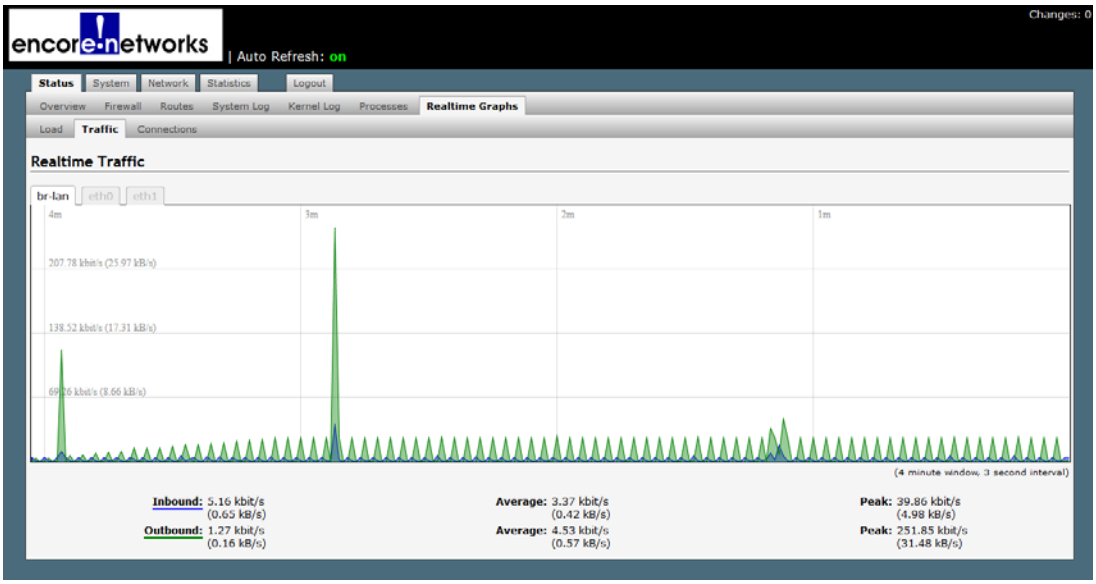


4 Select the **Traffic** detail tab.

a If necessary, select the **br lan** detail area.

❖ The Realtime Performance Graph of LAN Bridge Traffic is displayed (Figure 12-15).

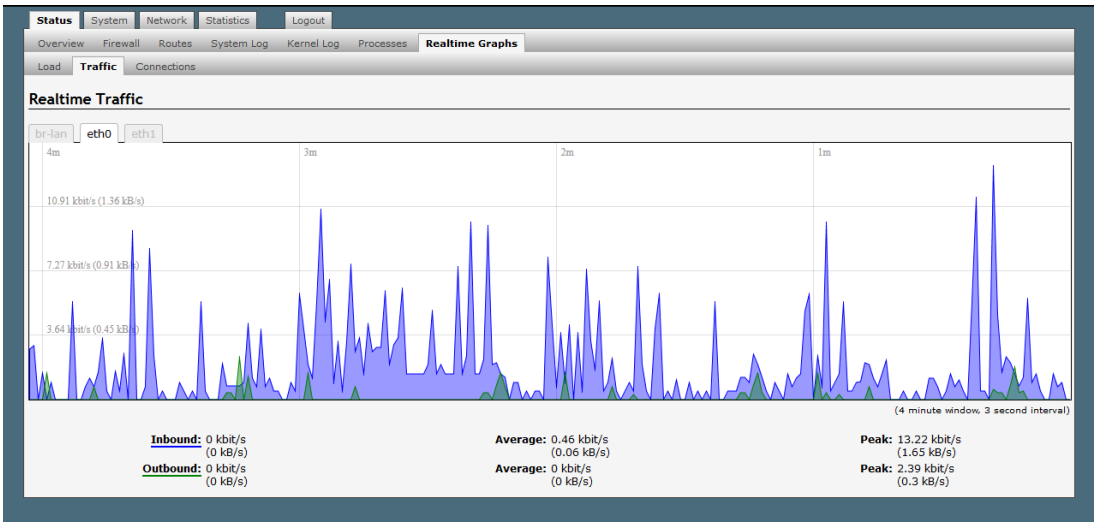
Figure 12-15. Realtime Performance Graph of LAN Bridge Traffic



b On this same screen, select the **eth0** detail area.

❖ The Realtime Performance Graph of WAN Port Traffic is displayed (Figure 12-16).

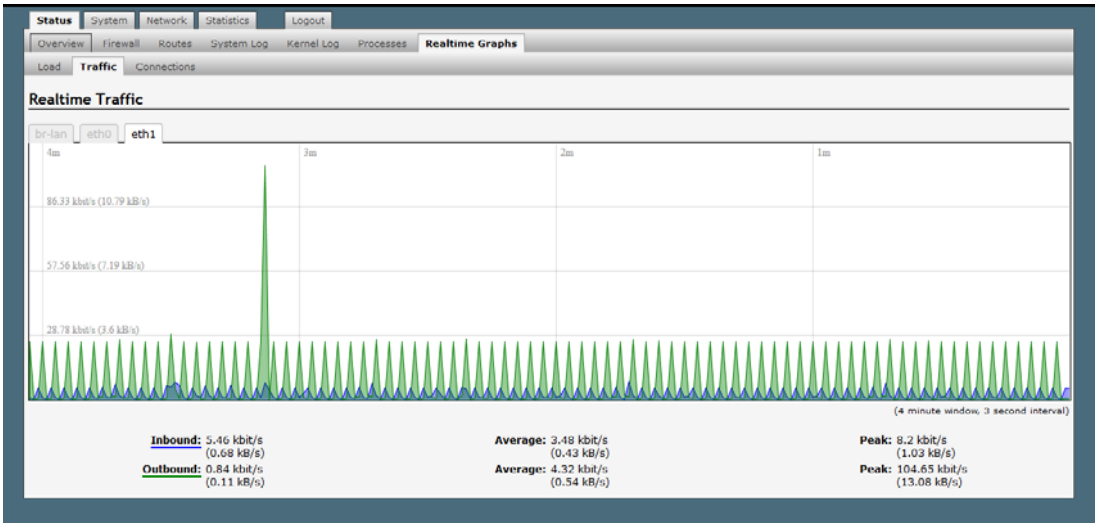
Figure 12-16. Realtime Performance Graph of WAN Port Traffic



c On this same screen, select the **eth1** detail area.

❖ The Realtime Performance Graph of LAN Port Traffic is displayed (Figure 12-17).

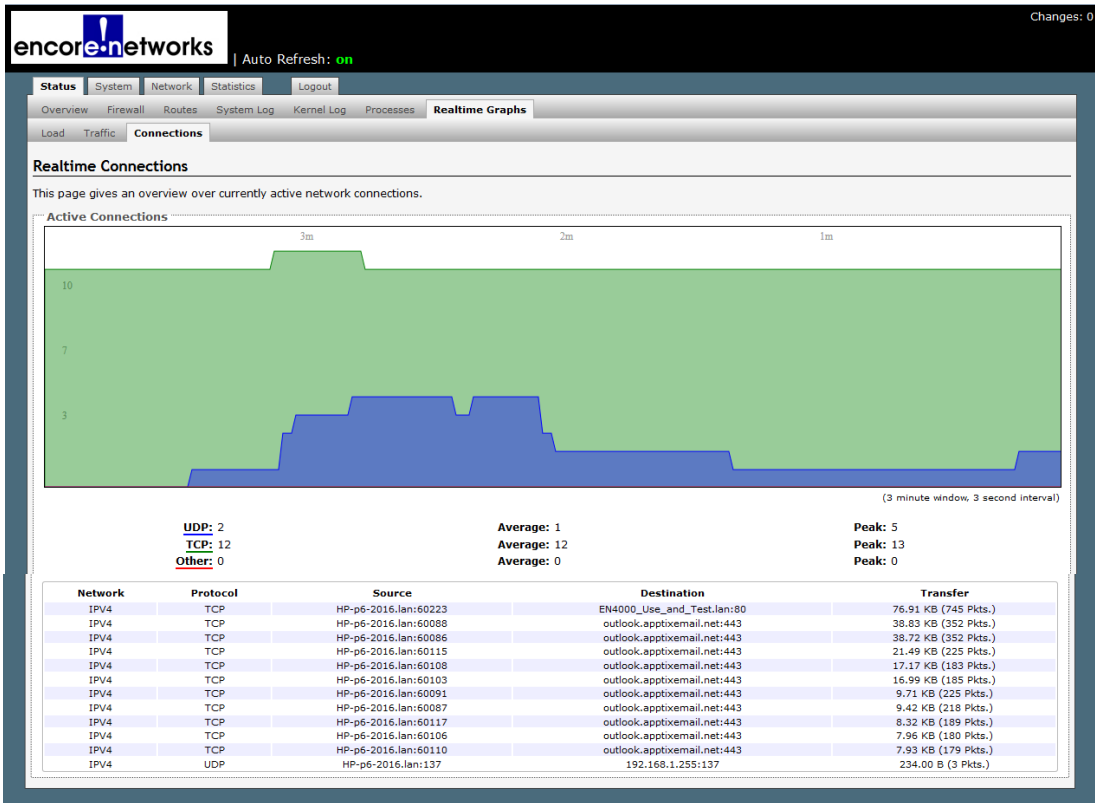
Figure 12-17. Realtime Performance Graph of LAN Port Traffic



5 Select the **Connections** detail tab.

❖ The Realtime Performance Graph of Network Connections is displayed (Figure 12-18).

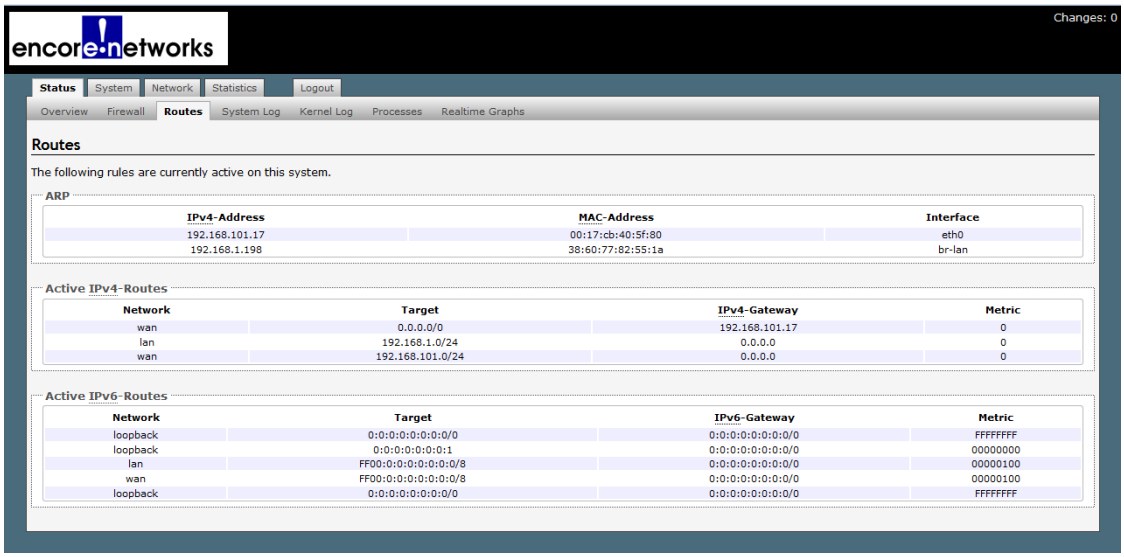
Figure 12-18. Realtime Performance Graph of Network Connections



12.1.3 Routing Information

Figure 12-19 (**Status**, **Routes**) displays the Address Resolution Protocol (ARP) Table and the IP routes for ports on the EN-4000.

Figure 12-19. Status Routes Screen



12.1.4 Pings and Other Network Diagnostics

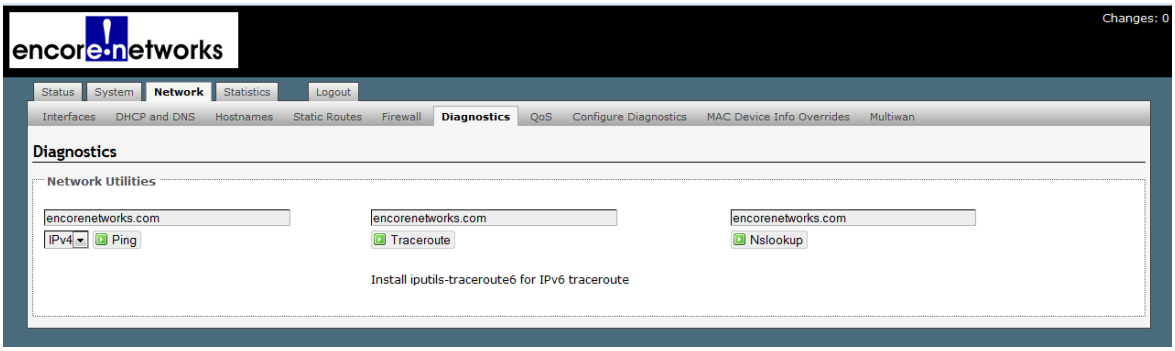
The EN-4000 can use a ping, route tracing, or nslookup to test or resolve connections. Do the following to test a connection:

1 On the EN-4000 management system, select the **Network** tab.

2 Under **Networks**, select the **Diagnostics** tab.

❖ The Diagnostics Screen is displayed (Figure 12-20).

Figure 12-20. Diagnostics Screen



3 Look at the ping set-up area on the left of the screen (Figure 12-21), under the heading **Network Utilities**.

Figure 12-21. Ping Set-Up Area (Detail of Diagnostics Screen)

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).

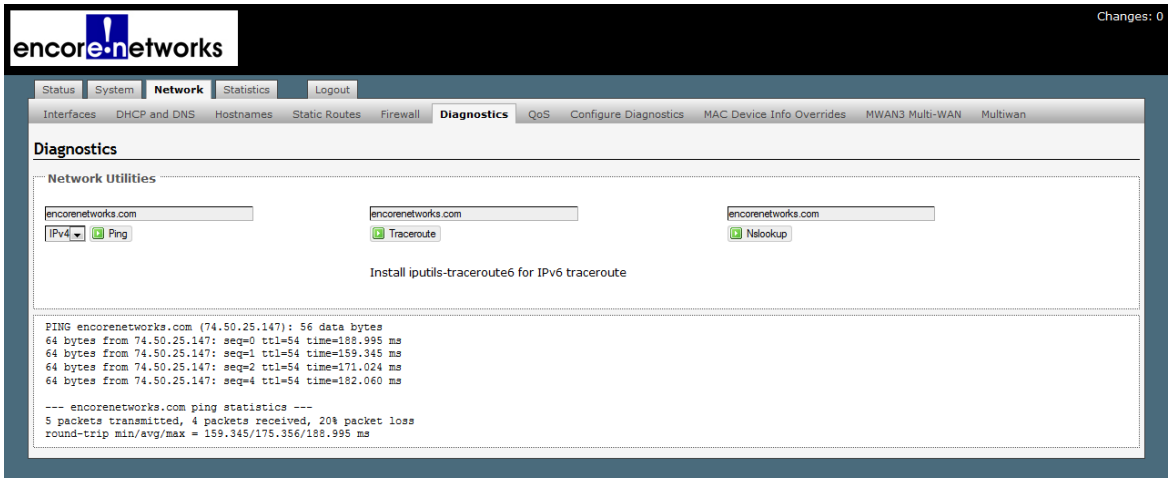
5 In the IP selection box below the field, pull down a menu to select **IPv4** or **IPv6**.

Note: If you typed an IP address in Step 4, the IP version you select here must match that IP address's format.

6 In the action box below the field, select the **Ping** button.

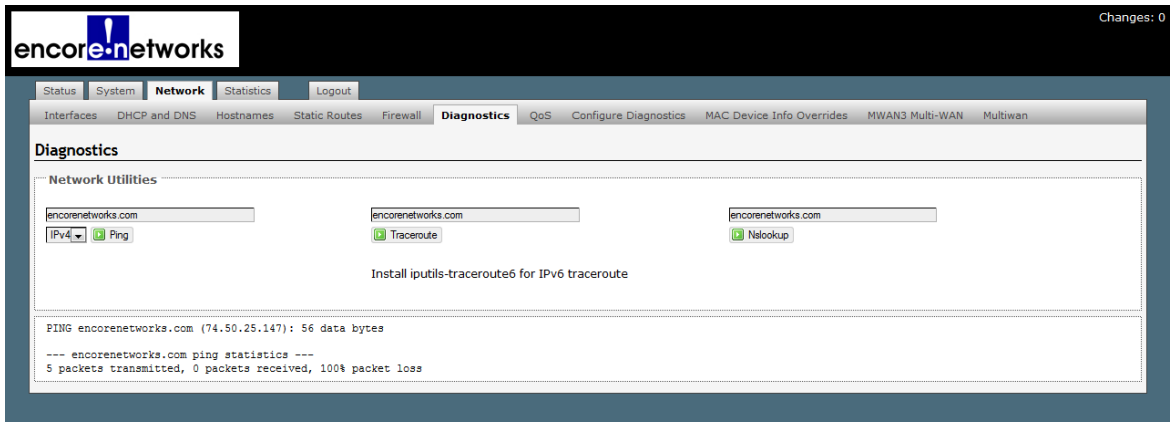
❖ If the ping is successful, the screen displays ping statistics, indicating that the VPN tunnel is active (Figure 12-22).

Figure 12-22. 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 12-23).

Figure 12-23. Message Showing Unsuccessful Ping



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

12.1.5 Firewall Statistics

Select **Status**, **Firewall** to see the EN-4000's firewall configuration.

Note: The EN-4000 Firewall Status Screen (Figure 12-24 through Figure 12-25) is a single screen that you can scroll through; it is shown here in segments across the printed page.

Figure 12-24. Firewall Status Screen
(Part 1 of 2)

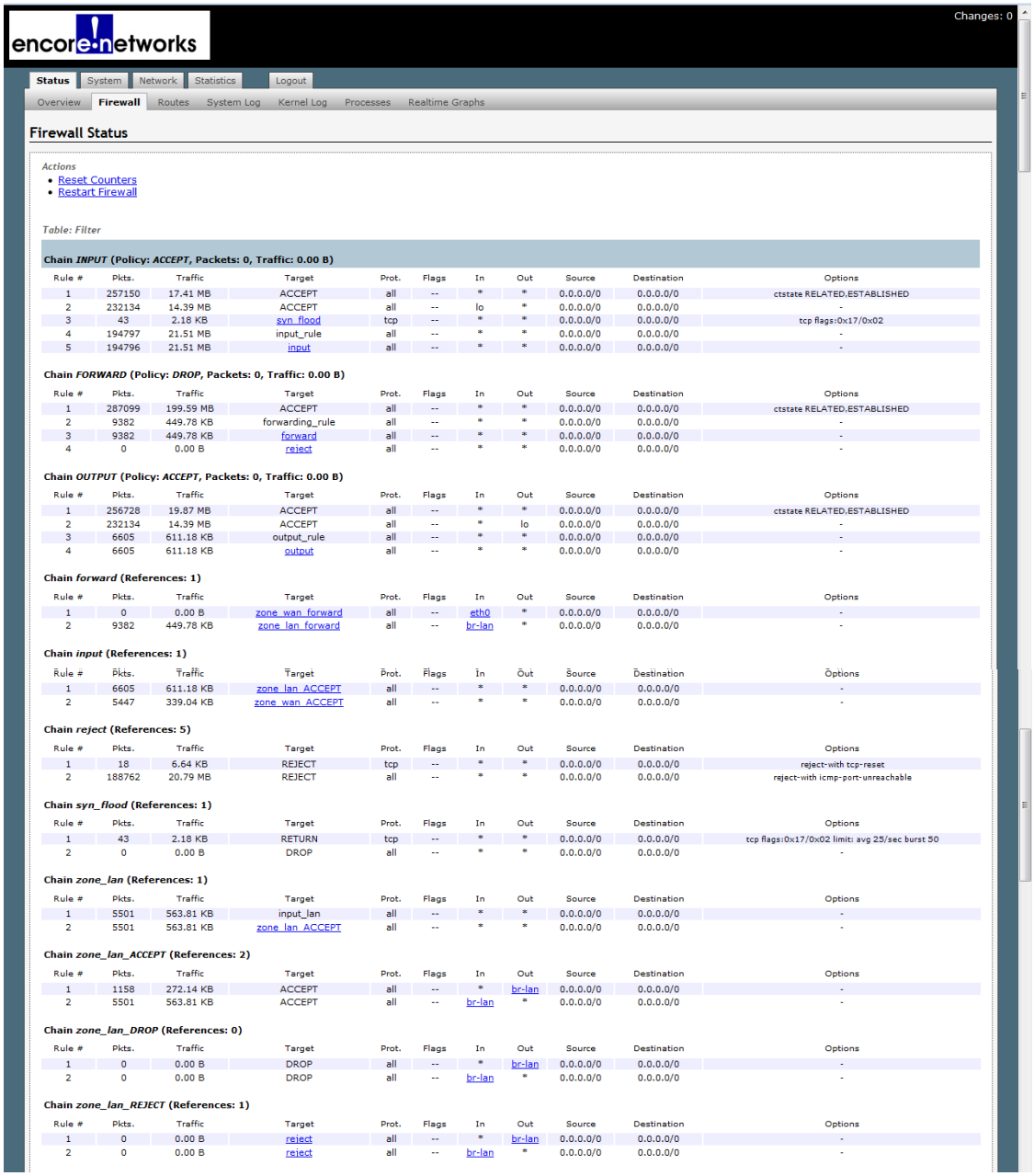
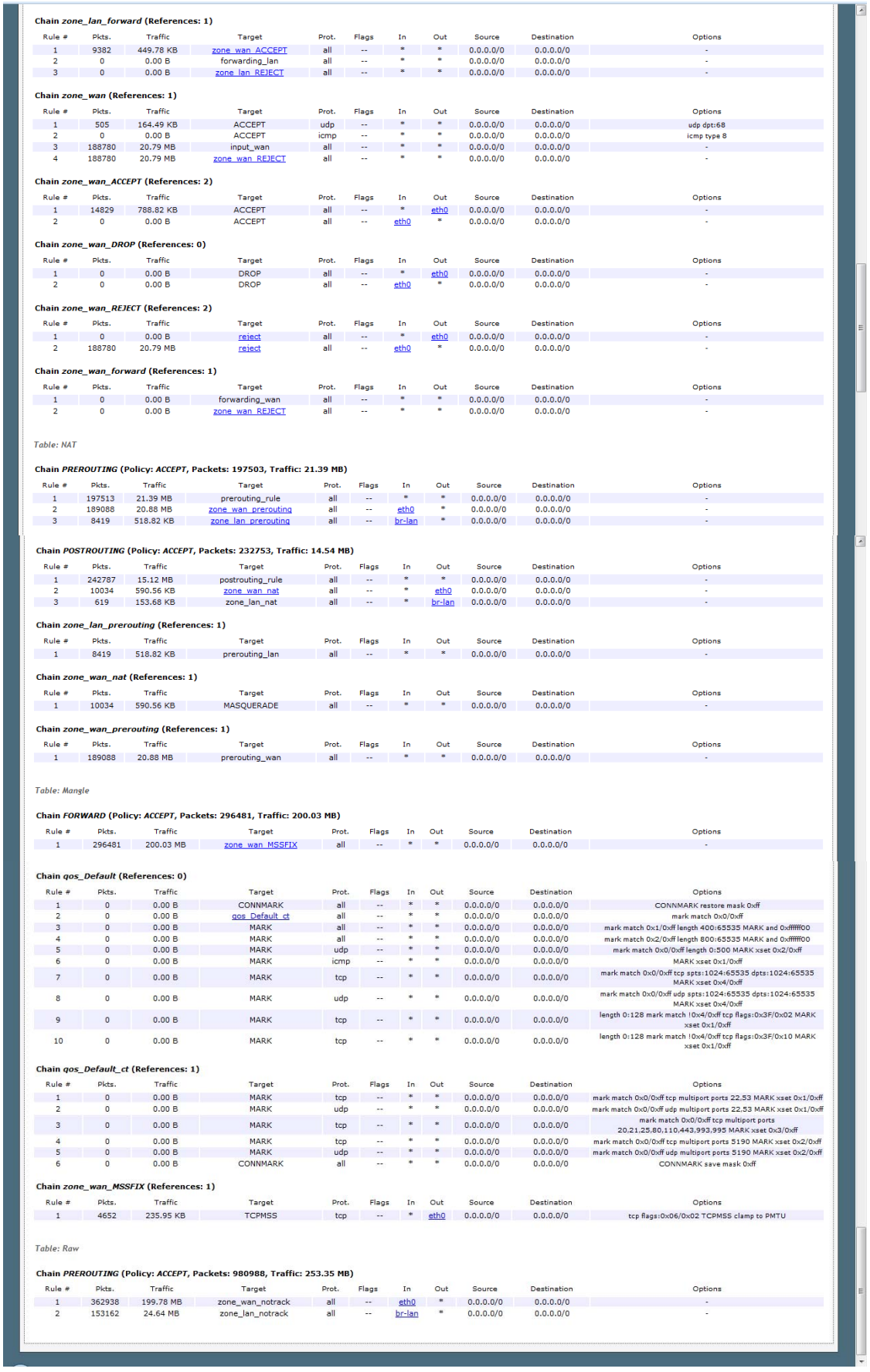


Figure 12-25. Firewall Status Screen
(Part 2 of 2)



Chain *zone_lan_forward* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	9382	449.78 KB	zone_wan_ACCEPT	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-
2	0	0.00 B	forwarding_lan	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-
3	0	0.00 B	zone_lan_REJECT	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	505	164.49 KB	ACCEPT	udp	--	*	*	0.0.0.0/0	0.0.0.0/0	udp dpt:68
2	0	0.00 B	ACCEPT	icmp	--	*	*	0.0.0.0/0	0.0.0.0/0	icmp type 8
3	188780	20.79 MB	input_wan	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-
4	188780	20.79 MB	zone_wan_REJECT	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan_ACCEPT* (References: 2)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	14829	788.82 KB	ACCEPT	all	--	*	eth0	0.0.0.0/0	0.0.0.0/0	-
2	0	0.00 B	ACCEPT	all	--	eth0	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan_DROP* (References: 0)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	0	0.00 B	DROP	all	--	*	eth0	0.0.0.0/0	0.0.0.0/0	-
2	0	0.00 B	DROP	all	--	eth0	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan_REJECT* (References: 2)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	0	0.00 B	reject	all	--	*	eth0	0.0.0.0/0	0.0.0.0/0	-
2	188780	20.79 MB	reject	all	--	eth0	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan_forward* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	0	0.00 B	forwarding_wan	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-
2	0	0.00 B	zone_wan_REJECT	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Table: NAT

Chain *PREROUTING* (Policy: *ACCEPT*, Packets: 197503, Traffic: 21.39 MB)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	197513	21.39 MB	prerouting_rule	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-
2	189088	20.88 MB	zone_wan_prerouting	all	--	eth0	*	0.0.0.0/0	0.0.0.0/0	-
3	8419	518.82 KB	zone_lan_prerouting	all	--	br-lan	*	0.0.0.0/0	0.0.0.0/0	-

Chain *POSTROUTING* (Policy: *ACCEPT*, Packets: 232753, Traffic: 14.54 MB)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	242787	15.12 MB	postrouting_rule	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-
2	10034	590.56 KB	zone_wan_nat	all	--	*	eth0	0.0.0.0/0	0.0.0.0/0	-
3	619	153.68 KB	zone_lan_nat	all	--	*	br-lan	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_lan_prerouting* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	8419	518.82 KB	prerouting_lan	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan_nat* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	10034	590.56 KB	MASQUERADE	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Chain *zone_wan_prerouting* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	189088	20.88 MB	prerouting_wan	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Table: Mangle

Chain *FORWARD* (Policy: *ACCEPT*, Packets: 296481, Traffic: 200.03 MB)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	296481	200.03 MB	zone_wan_MSSFIX	all	--	*	*	0.0.0.0/0	0.0.0.0/0	-

Chain *qos_Default* (References: 0)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	0	0.00 B	CONNMARK	all	--	*	*	0.0.0.0/0	0.0.0.0/0	CONNMARK restore mask 0xff
2	0	0.00 B	qos_Default_ct	all	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff
3	0	0.00 B	MARK	all	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x1/0xff length 400:65535 MARK and 0xffffff00
4	0	0.00 B	MARK	all	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x2/0xff length 800:65535 MARK and 0xffffff00
5	0	0.00 B	MARK	udp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff length 0:500 MARK xset 0x2/0xff
6	0	0.00 B	MARK	icmp	--	*	*	0.0.0.0/0	0.0.0.0/0	MARK xset 0x1/0xff
7	0	0.00 B	MARK	tcp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff tcp spts:1024:65535 dpts:1024:65535 MARK xset 0x4/0xff
8	0	0.00 B	MARK	udp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff udp spts:1024:65535 dpts:1024:65535 MARK xset 0x4/0xff
9	0	0.00 B	MARK	tcp	--	*	*	0.0.0.0/0	0.0.0.0/0	length 0:128 mark match !0x4/0xff tcp flags:0x3F/0x02 MARK xset 0x1/0xff
10	0	0.00 B	MARK	tcp	--	*	*	0.0.0.0/0	0.0.0.0/0	length 0:128 mark match !0x4/0xff tcp flags:0x3F/0x10 MARK xset 0x1/0xff

Chain *qos_Default_ct* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	0	0.00 B	MARK	tcp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff tcp multiport ports 22,53 MARK xset 0x1/0xff
2	0	0.00 B	MARK	udp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff udp multiport ports 22,53 MARK xset 0x1/0xff
3	0	0.00 B	MARK	tcp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff tcp multiport ports 20,21,25,80,110,443,993,995 MARK xset 0x3/0xff
4	0	0.00 B	MARK	tcp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff tcp multiport ports 5190 MARK xset 0x2/0xff
5	0	0.00 B	MARK	udp	--	*	*	0.0.0.0/0	0.0.0.0/0	mark match 0x0/0xff udp multiport ports 5190 MARK xset 0x2/0xff
6	0	0.00 B	CONNMARK	all	--	*	*	0.0.0.0/0	0.0.0.0/0	CONNMARK save mask 0xff

Chain *zone_wan_MSSFIX* (References: 1)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	4652	235.95 KB	TCPMSS	tcp	--	*	eth0	0.0.0.0/0	0.0.0.0/0	tcp flags:0x06/0x02 TCPMSS clamp to PMTU

Table: Raw

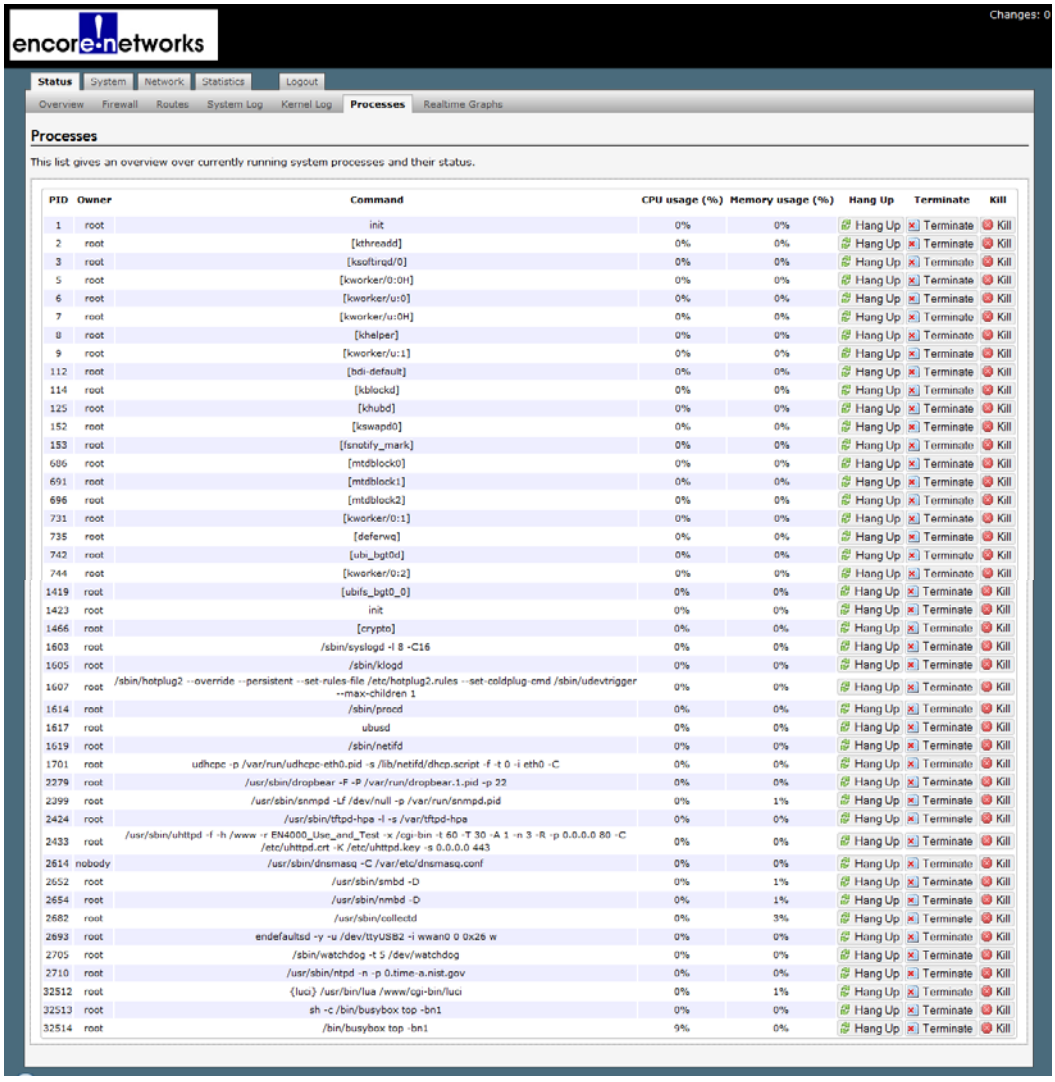
Chain *PREROUTING* (Policy: *ACCEPT*, Packets: 980988, Traffic: 253.35 MB)

Rule #	Pkts.	Traffic	Target	Prot.	Flags	In	Out	Source	Destination	Options
1	362938	199.78 MB	zone_wan_notrack	all	--	eth0	*	0.0.0.0/0	0.0.0.0/0	-
2	153162	24.64 MB	zone_lan_notrack	all	--	br-lan	*	0.0.0.0/0	0.0.0.0/0	-

12.1.6 System Processes

Select **Status**, **Processes** to see the management system processes that are running (Figure 12-26).

Figure 12-26. System Processes



12.1.7 Logs

You can review information logged by the system. See Figure 12-27, Kernel Log (Part 1 of 3), through Figure 12-29, Kernel Log (Part 3 of 3).

Figure 12-27. Kernel Log
(Part 1 of 3)
(Sample; Partial Listing)

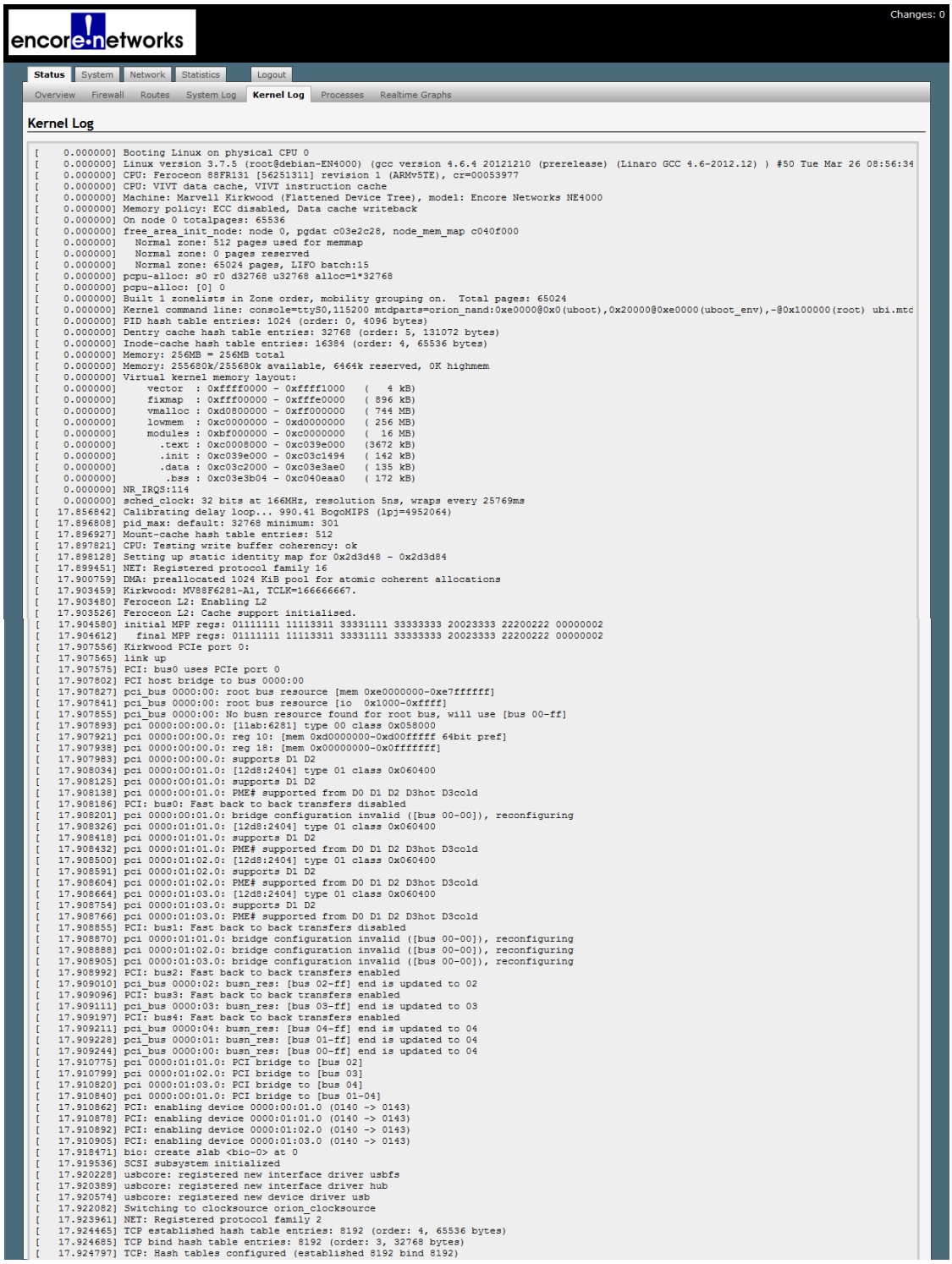


Figure 12-28. Kernel Log
(Part 2 of 3)
Sample; Partial Listing)

```
[   17.924685] TCP bind hash table entries: 8192 (order: 3, 32768 bytes)
[   17.924797] TCP: Hash tables configured (established 8192 bind 8192)
[   17.924862] TCP: reno registered
[   17.924876] UDP hash table entries: 256 (order: 0, 4096 bytes)
[   17.924901] UDP-Lite hash table entries: 256 (order: 0, 4096 bytes)
[   17.925072] NET: Registered protocol family 1
[   17.925136] PCI: CLS 32 bytes, default 32
[   17.926601] squashfs: version 4.0 (2009/01/31) Phillip Lougher
[   17.926618] jffs2: version 2.2 (NAND) (SUMMARY) (LZMA) (RTIME) (CMODE_PRIORITY) (c) 2001-2006 Red Hat, Inc.
[   17.926900] msgmni has been set to 499
[   17.927288] io scheduler noop registered
[   17.927300] io scheduler deadline registered (default)
[   18.004868] Serial: 8250/16550 driver, 2 ports, IRQ sharing disabled
[   18.006115] f1012000.serial: ttyS0 at MMIO 0xf1012000 (irq = 33) is a 16550A
[   18.470494] console [ttyS0] enabled
[   18.475732] ONFI param page 0 valid
[   18.479208] ONFI flash detected
[   18.482363] NAND device: Manufacturer ID: 0x2c, Chip ID: 0xda (Micron MT29F2G08ABAEAWP), page size: 2048, OOB size: 64
[   18.493027] Scanning device for bad blocks
[   18.659220] 3 cmdlinepart partitions found on MTD device orion_nand
[   18.665470] Creating 3 MTD partitions on "orion_nand":
[   18.670588] 0x000000000000-0x0000000e0000 : "uboot"
[   18.676579] 0x0000000e0000-0x000000100000 : "uboot_env"
[   18.682809] 0x000000100000-0x000010000000 : "root"
[   18.688954] mv643xx_eth: MV-643xx 10/100/1000 ethernet driver version 1.4
[   18.695913] libphy: mv643xx_eth mii: probed
[   18.702133] mv643xx_eth_port mv643xx_eth_port.0 eth0: port 0 with MAC address 00:a0:eb:01:f1:2e
[   18.711699] mv643xx_eth_port mv643xx_eth_port.1 eth1: port 0 with MAC address 00:a0:eb:01:f1:30
[   18.720683] usbcore: registered new interface driver cdc_ether
[   18.726653] usbcore: registered new interface driver cdc_eem
[   18.732447] usbcore: registered new interface driver cdc_subset
[   18.738518] usbcore: registered new interface driver kalmia
[   18.744251] usbcore: registered new interface driver sierra_net
[   18.750299] usbcore: registered new interface driver cdc_ncm
[   18.756088] usbcore: registered new interface driver qmi_wwan
[   18.761812] ehci_hcd: USB 2.0 'Enhanced' Host Controller (EHCI) Driver
[   18.768375] orion-ehci orion-ehci.0: Marvell Orion EHCI
[   18.773619] orion-ehci orion-ehci.0: new USB bus registered, assigned bus number 1
[   18.802129] orion-ehci orion-ehci.0: irq 19, io mem 0xf1050000
[   18.822120] orion-ehci orion-ehci.0: USB 2.0 started, EHCI 1.00
[   18.828657] hub 1-0:1.0: USB hub found
[   18.832428] hub 1-0:1.0: 1 port detected
[   18.836999] usbcore: registered new interface driver cdc_acm
[   18.842647] cdc_acm: USB Abstract Control Model driver for USB modems and ISDN adapters
[   18.850788] usbcore: registered new interface driver cdc_wdm
[   18.856434] Initializing USB Mass Storage driver...
[   18.861522] usbcore: registered new interface driver usb-storage
[   18.867523] USB Mass Storage support registered.
[   18.872487] cpuidle: using governor ladder
[   18.877433] TCP: cubic registered
[   18.880771] NET: Registered protocol family 10
[   18.886052] NET: Registered protocol family 17
[   18.890569] Distributed Switch Architecture driver version 0.1
[   18.896616] eth0[0]: could not detect attached switch
[   18.901642] eth0[0]: couldn't create dsa switch instance (error -22)
[   18.908216] 8021q: 802.1Q VLAN Support v1.8
[   18.914239] UBI: attaching mtd2 to ubi0
[   18.914239] UBI: attaching mtd2 to ubi0
[   19.152288] usb 1-1: new high-speed USB device number 2 using orion-ehci
[   19.342383] hub 1-1:1.0: USB hub found
[   19.346417] hub 1-1:1.0: 7 ports detected
[   19.384623] UBI: scanning is finished
[   19.402063] UBI warning: print_rsvd_warning: cannot reserve enough PEBs for bad PEB handling, reserved 20, need 40
[   19.413555] UBI: attached mtd2 (name "root", size 255 MiB) to ubi0
[   19.419706] UBI: PEB size: 131072 bytes (128 KiB), LEB size: 129024 bytes
[   19.426488] UBI: min./max. I/O unit sizes: 2048/2048, sub-page size 512
[   19.433082] UBI: VID header offset: 512 (aligned 512), data offset: 2048
[   19.439750] UBI: good PEBs: 2040, bad PEBs: 0, corrupted PEBs: 0
[   19.445739] UBI: user volume: 1, internal volumes: 1, max. volumes count: 128
[   19.452850] UBI: max/mean erase counter: 4/1, WL threshold: 4096, image sequence number: 0
[   19.461074] UBI: available PEBs: 0, total reserved PEBs: 2040, PEBs reserved for bad PEB handling: 20
[   19.470276] drivers/rtc/hctosys.c: unable to open rtc device (rtc0)
[   19.476534] ### of_selftest(): No testcase data in device tree; not running tests
[   19.484718] UBI: background thread "ubi_bgt0d" started, PID 742
[   19.552797] UBIFS: recovery needed
[   19.614812] UBIFS: recovery deferred
[   19.618467] UBIFS: mounted UBI device 0, volume 0, name "rootfs", R/O mode
[   19.625333] UBIFS: LEB size: 129024 bytes (126 KiB), min./max. I/O unit sizes: 2048 bytes/2048 bytes
[   19.634436] UBIFS: FS size: 258693120 bytes (246 MiB, 2005 LEBs), journal size 9033728 bytes (8 MiB, 71 LEBs)
[   19.644312] UBIFS: reserved for root: 0 bytes (0 KiB)
[   19.649346] UBIFS: media format: w4/r0 (latest is w4/r0), UUID 50CF00EA-D1F8-4C7D-8F59-64C98D9CE264, small LPT model
[   19.660623] VFS: Mounted root (ubifs filesystem) readonly on device 0:10.
[   19.667911] Freeing init memory: 140K
[   23.920304] UBIFS: completing deferred recovery
[   23.941449] UBIFS: deferred recovery completed
[   23.947128] UBIFS: background thread "ubifs_bgt0_0" started, PID 1419
[   24.442817] NET: Registered protocol family 38
[   24.567688] Initializing XFRM netlink socket
[   24.589832] NET: Registered protocol family 15
[   24.621429] PPP generic driver version 2.4.2
[   24.652307] tun: Universal TUN/TAP device driver, 1.6
[   24.657342] tun: (C) 1999-2004 Max Krasnyansky <maxk@qualcomm.com>
[   24.878622] e1000: Intel(R) PRO/1000 Network Driver - version 7.3.21-k8-NAPI
[   24.885682] e1000: Copyright (c) 1999-2006 Intel Corporation.
[   24.928699] ip_tables: (C) 2000-2006 Netfilter Core Team
[   25.037616] NET: Registered protocol family 24
[   25.067145] nf_conntrack version 0.5.0 (3997 buckets, 15988 max)
[   25.383574] xt_time: kernel timezone is -0000
[   25.533318] Netfilter messages via NETLINK v0.30.
[   25.551328] arp_tables: (C) 2002 David S. Miller
[   25.591589] ctnetlink v0.93: registering with nfnetlink.
[   25.654441] ohci_hcd: USB 1.1 'Open' Host Controller (OHCI) Driver
[   25.672456] orion_wdt: Initial timeout 25 sec
[   25.689559] i2c /dev entries driver
[   25.757769] usbcore: registered new interface driver usbserial
[   25.763678] usbcore: registered new interface driver usbserial_generic
[   25.770229] usbserial: USB Serial support registered for generic
[   25.806874] usbcore: registered new interface driver option
[   25.812529] usbserial: USB Serial support registered for GSM modem (1-port)
[   25.831653] usbcore: registered new interface driver qcserial
[   25.837488] usbserial: USB Serial support registered for Qualcomm USB modem
[   25.857286] usbcore: registered new interface driver sierra
[   25.862950] usbserial: USB Serial support registered for Sierra USB modem
```

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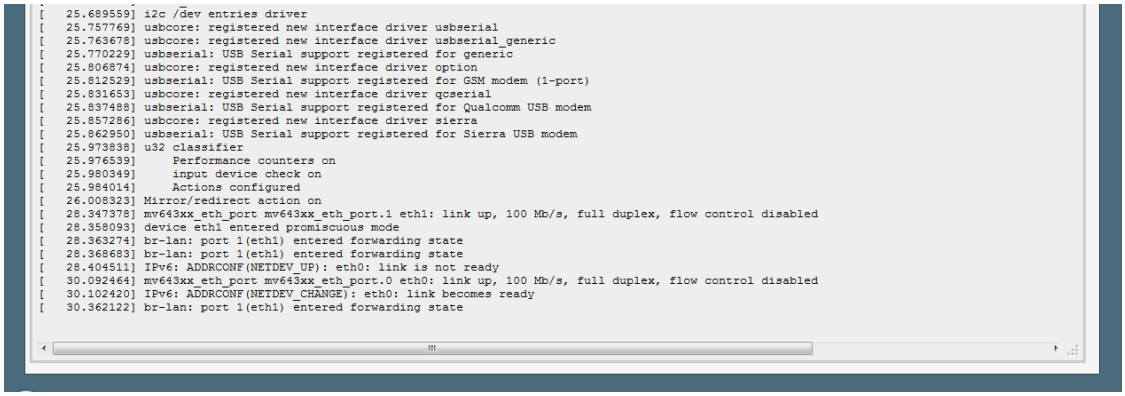
Figure 12-29. Kernel Log
(Part 3 of 3)
Sample; Partial Listing)



See Figure 12-30, System Log (Part 1 of 2), through Figure 12-31, System Log (Part 2 of 2).

Figure 12-30. System Log
(Part 1 of 2)
Sample; Partial Listing)

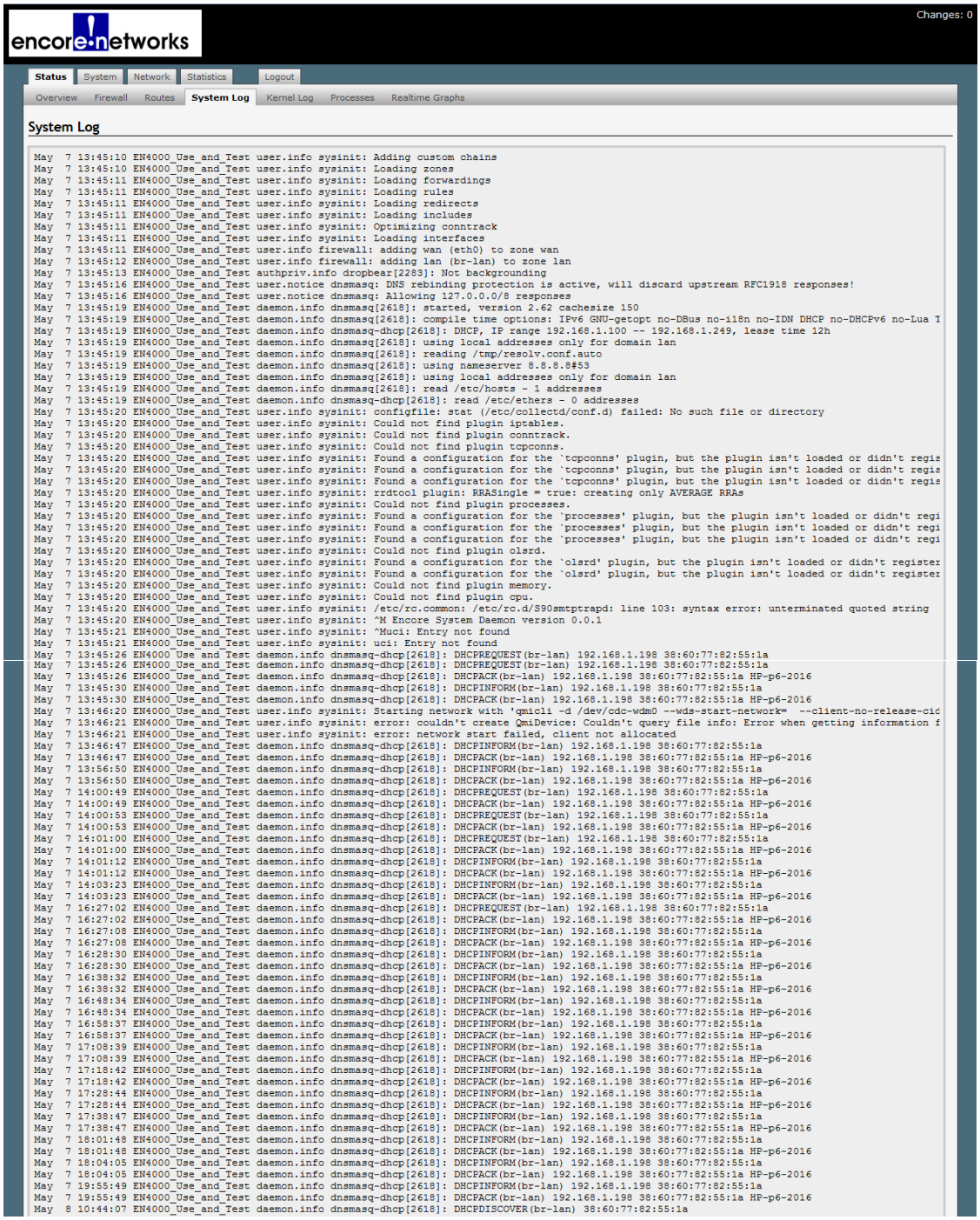


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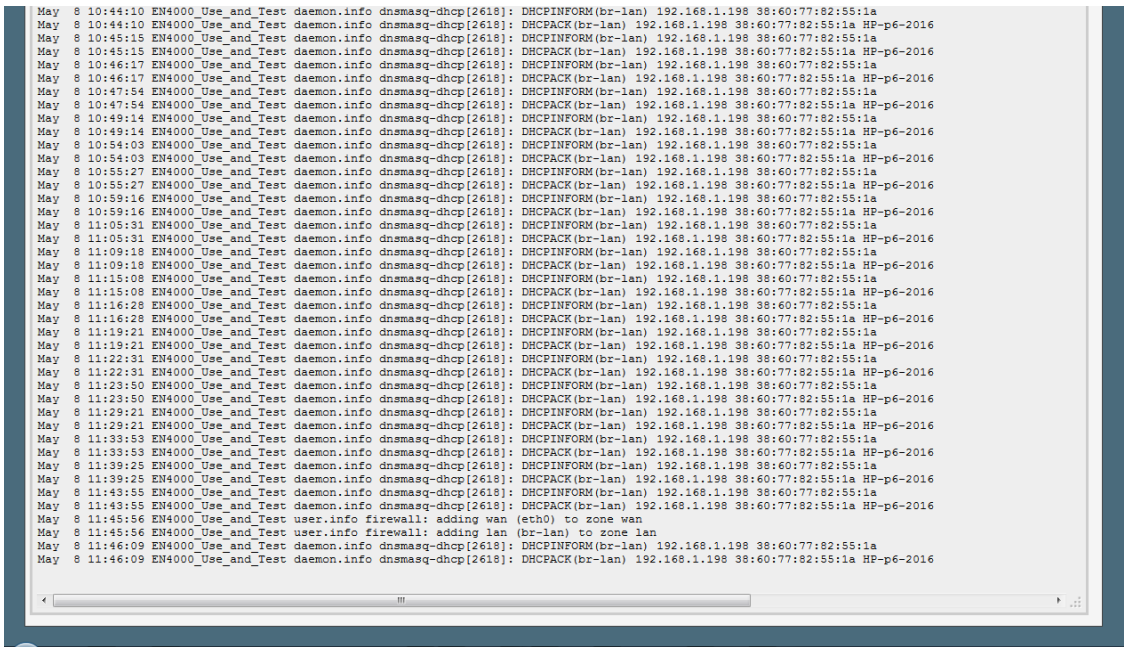
Figure 12-31. System Log
(Part 2 of 2)
Sample; Partial Listing)



```
May  8 10:44:10 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:44:10 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:45:15 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:45:15 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:46:17 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:46:17 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:47:54 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:47:54 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:49:14 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:49:14 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:54:03 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:54:03 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:55:27 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:55:27 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 10:59:16 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 10:59:16 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:05:31 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:05:31 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:09:18 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:09:18 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:15:08 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:15:08 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:16:28 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:16:28 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:19:21 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:19:21 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:22:31 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:22:31 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:23:50 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:23:50 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:29:21 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:29:21 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:33:53 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:33:53 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:39:25 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:39:25 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:43:55 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:43:55 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
May  8 11:45:56 EN4000_Use_and_Test user.info firewall: adding wan (eth0) to zone wan
May  8 11:45:56 EN4000_Use_and_Test user.info firewall: adding lan (br-lan) to zone lan
May  8 11:46:09 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPINFORM(br-lan) 192.168.1.198 38:60:77:82:55:1a
May  8 11:46:09 EN4000_Use_and_Test daemon.info dnsmasq-dhcp[2618]: DHCPACK(br-lan) 192.168.1.198 38:60:77:82:55:1a HP-p6-2016
```