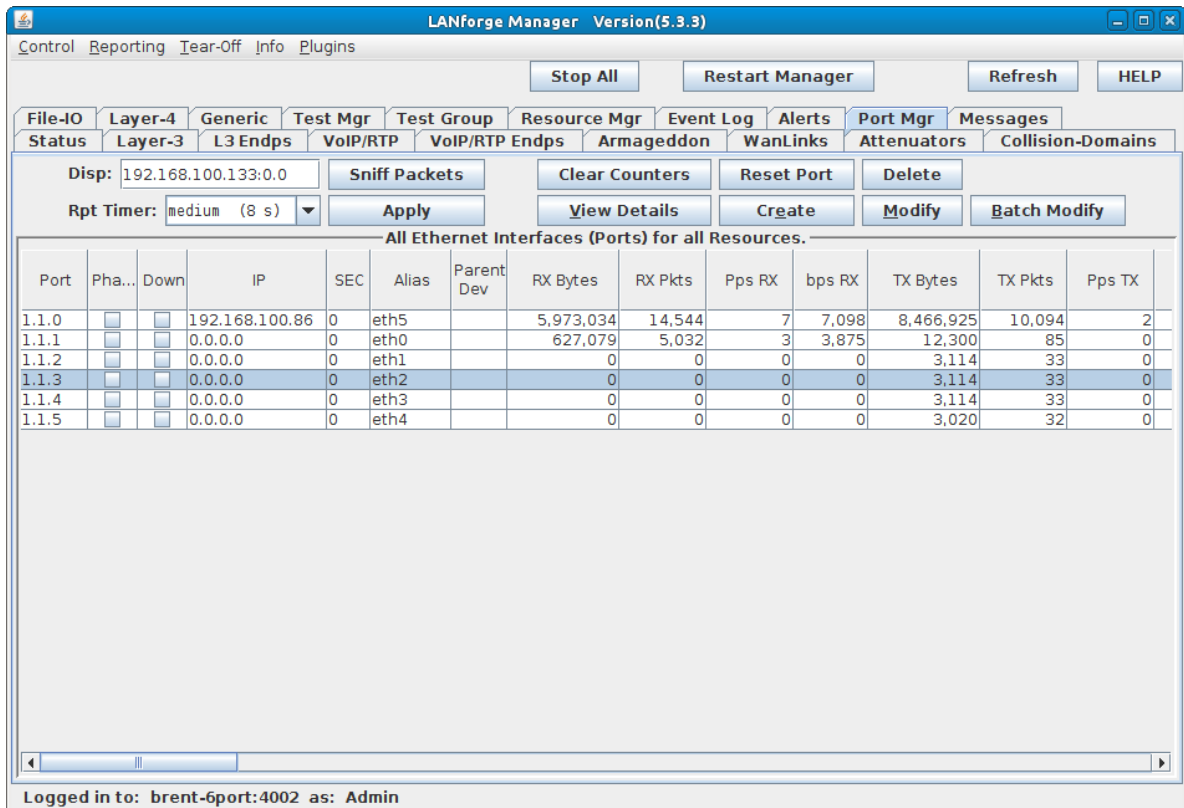


Generating Traffic for DSLAM Testing

Goal: Set up and run traffic to a DSLAM system as shown in the [CT570 product description](#).

Please refer to the diagram in the CT570 link above. In this test scenario, the LANforge-FIRE Core is one interface on a LANforge system. The LANforge-FIRE Edge is another interface on the same LANforge system. The LF Core interface is connected to the upstream DSLAM interface either directly or through a switch. The CPEs are connected to a multi-port VLAN switch which has a VLAN trunk that is connected to the LF Edge. Traffic is sent between the LF Core and the LF Edge to achieve end-to-end network traffic testing of the DSLAM system.

1. Connect one LANforge-FIRE interface to the DSLAM upstream internet connection. This is the LF Core part of the diagram mentioned above.
2. Set up the LANforge port so that it has a valid IP address and IP mask.
 - A. Go to the Port Manager

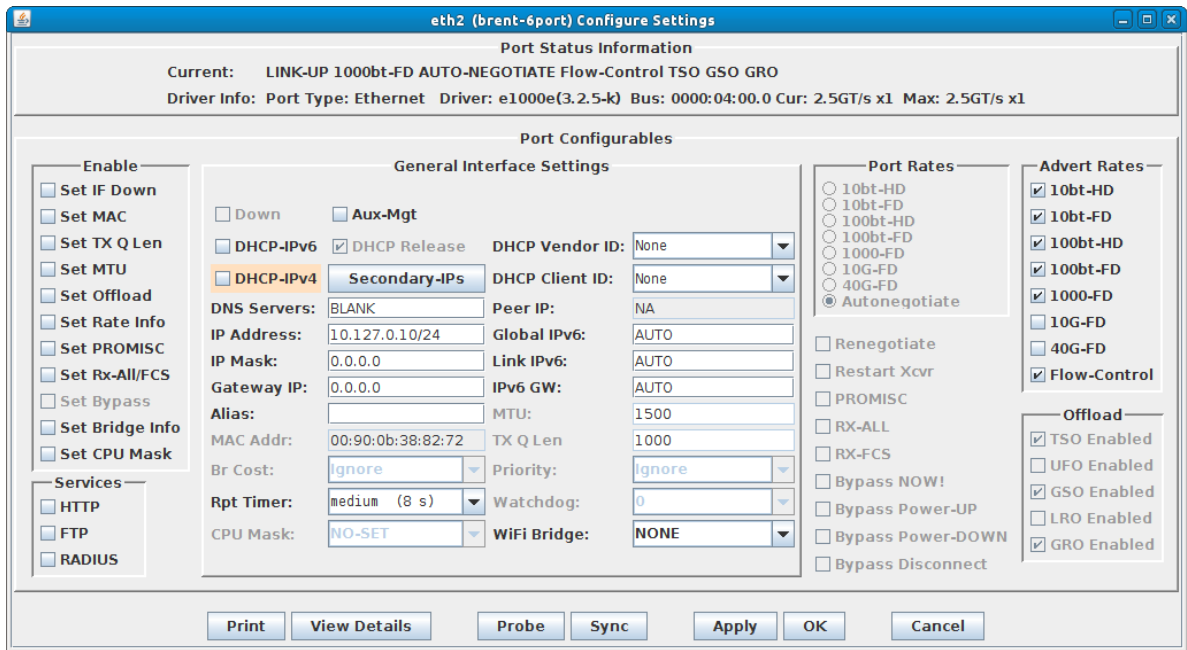


The screenshot shows the LANforge Manager Version(5.3.3) interface. The 'Port Mgr' tab is selected, displaying a table of Ethernet interfaces for all resources. The table includes columns for Port, Phase, Down status, IP, SEC, Alias, Parent Dev, RX Bytes, RX Pkts, Pps RX, bps RX, TX Bytes, TX Pkts, and Pps TX. The interface 1.1.3 is highlighted.

Port	Pha...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.0			192.168.100.86	0	eth5		5,973,034	14,544	7	7,098	8,466,925	10,094	2
1.1.1			0.0.0.0	0	eth0		627,079	5,032	3	3,875	12,300	85	0
1.1.2			0.0.0.0	0	eth1		0	0	0	0	3,114	33	0
1.1.3			0.0.0.0	0	eth2		0	0	0	0	3,114	33	0
1.1.4			0.0.0.0	0	eth3		0	0	0	0	3,114	33	0
1.1.5			0.0.0.0	0	eth4		0	0	0	0	3,020	32	0

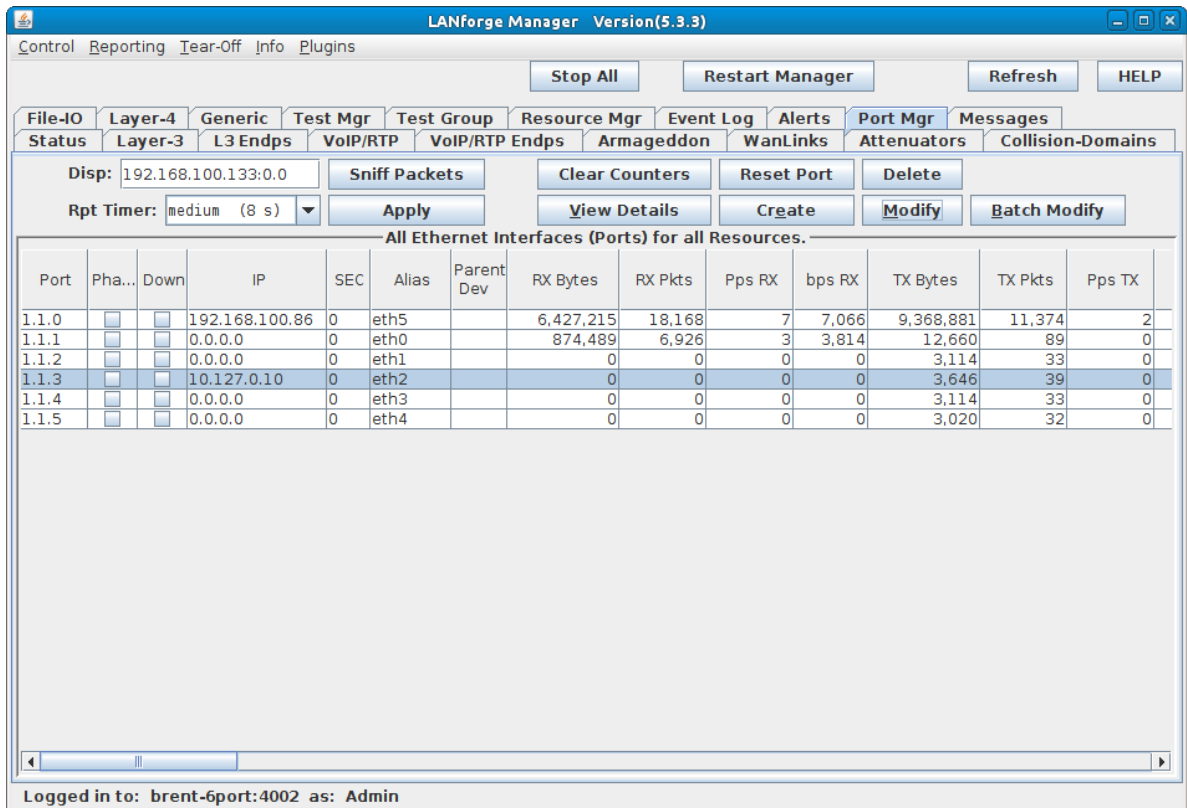
Logged in to: brent-6port:4002 as: Admin

- B. Modify the port connected to the DSLAM. Set a valid network IP address and IP mask.



The image shows the 'eth2 (brent-6port) Configure Settings' window. The 'Port Status Information' section shows 'Current: LINK-UP 1000bt-FD AUTO-NEGOTIATE Flow-Control TSO GSO GRO' and 'Driver Info: Port Type: Ethernet Driver: e1000e(3.2.5-k) Bus: 0000:04:00.0 Cur: 2.5GT/s x1 Max: 2.5GT/s x1'. The 'Port Configurables' section is divided into 'General Interface Settings', 'Port Rates', 'Advert Rates', and 'Offload'. In 'General Interface Settings', 'DHCP-IPv4' is selected under 'Secondary-IPs', and the IP Address is set to '10.127.0.10/24'. In 'Port Rates', 'Autonegotiate' is selected. In 'Advert Rates', '1000-FD' and 'Flow-Control' are checked. In 'Offload', 'TSO Enabled', 'GSO Enabled', and 'GRO Enabled' are checked. The 'Services' section on the left has 'HTTP', 'FTP', and 'RADIUS' checked. At the bottom are buttons for 'Print', 'View Details', 'Probe', 'Sync', 'Apply', 'OK', and 'Cancel'.

- C. Verify the port configuration



The image shows the 'LANforge Manager Version(5.3.3)' interface. The 'Port Mgr' tab is selected, showing a table of 'All Ethernet Interfaces (Ports) for all Resources.' The table has columns for Port, Ph..., Down, IP, SEC, Alias, Parent Dev, RX Bytes, RX Pkts, Pps RX, bps RX, TX Bytes, TX Pkts, and Pps TX. The data is as follows:

Port	Ph...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.0			192.168.100.86	0	eth5		6,427,215	18,168	7	7,066	9,368,881	11,374	2
1.1.1			0.0.0.0	0	eth0		874,489	6,926	3	3,814	12,660	89	0
1.1.2			0.0.0.0	0	eth1		0	0	0	0	3,114	33	0
1.1.3			10.127.0.10	0	eth2		0	0	0	0	3,646	39	0
1.1.4			0.0.0.0	0	eth3		0	0	0	0	3,114	33	0
1.1.5			0.0.0.0	0	eth4		0	0	0	0	3,020	32	0

At the bottom, it says 'Logged in to: brent-6port:4002 as: Admin'.

For more information see [LANforge User's Guide: Ports \(Interfaces\)](#)

3. Set up virtual interfaces.

- A. On the **Port Mgr** tab, select the port that will connect to the multi-port switch and will also be your VLAN trunk. This is the LF Edge part of the diagram.
- B. Click the **Create** button:

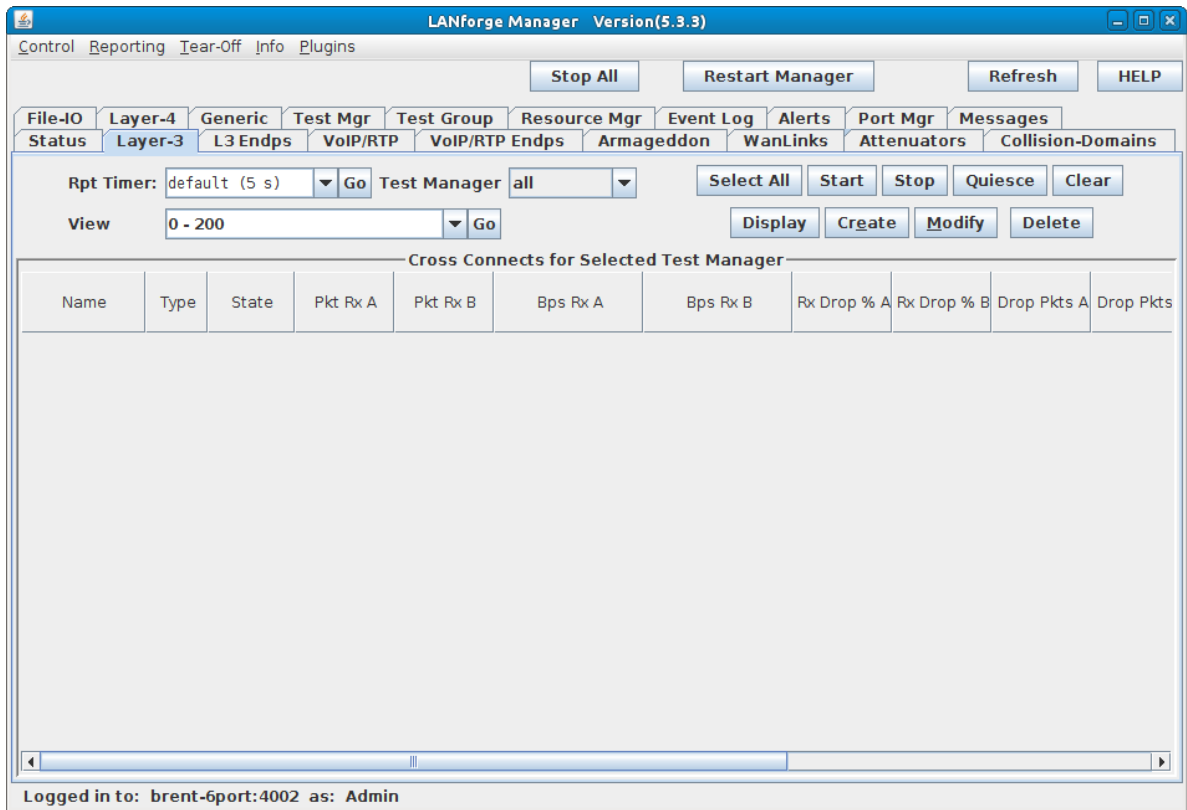
- A. Select the **802.1Q-VLAN** virtual interface type
 - B. The **VLAN ID** should correspond to your multi-port switch VLAN configuration
 - C. Enter **Quantity** (number of virtual interfaces to be created)
 - D. Enter the appropriate IP address and IP mask
 - E. Click **Apply** to create the virtual interfaces
- C. Verify that the virtual interfaces are created and have the correct IP assignments

Port	Pha...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.00			192.168.100.86	0	eth5		7,001,107	22,847	9	8,787	10,648,118	13,177	3
1.1.01			0.0.0.0	0	eth0		0	0	0	0	0	0	0
1.1.02			0.0.0.0	0	eth1		0	0	0	0	3,114	33	0
1.1.03			10.127.0.10	0	eth2		0	0	0	0	3,794	41	0
1.1.04			0.0.0.0	0	eth3		0	0	0	0	8,536	92	0
1.1.05			0.0.0.0	0	eth4		0	0	0	0	3,020	32	0
1.1.06			10.127.0.101	0	eth3.1001	eth3	0	0	0	0	1,008	12	0
1.1.07			10.127.0.102	0	eth3.1002	eth3	0	0	0	0	1,008	12	0
1.1.08			10.127.0.103	0	eth3.1003	eth3	0	0	0	0	918	11	0
1.1.09			10.127.0.104	0	eth3.1004	eth3	0	0	0	0	918	11	0
1.1.10			10.127.0.105	0	eth3.1005	eth3	0	0	0	0	1,098	13	0

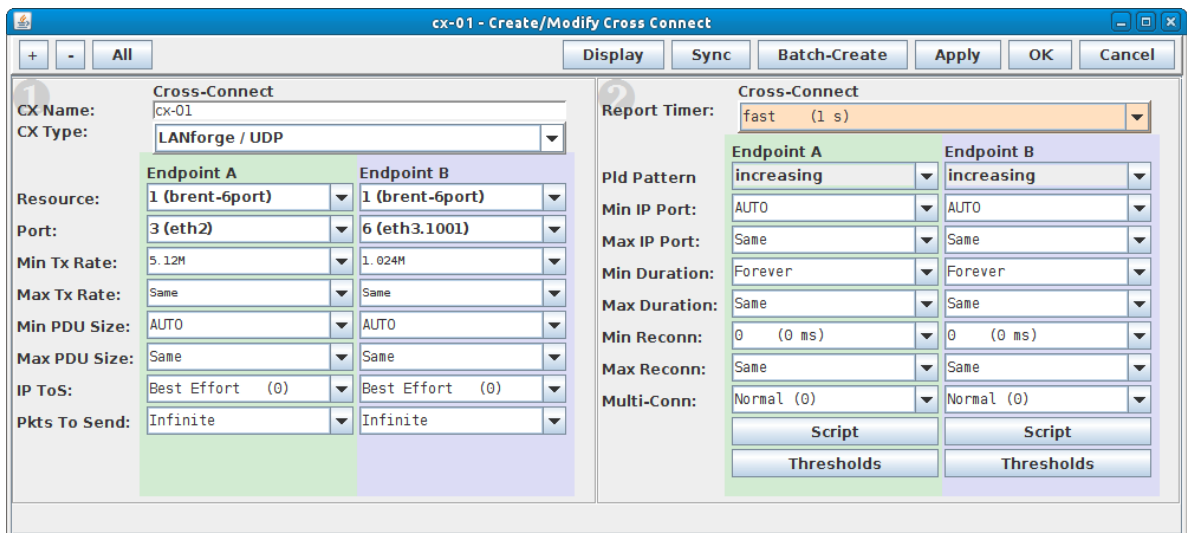
For more information see [LANforge User's Guide: Creating & Deleting Virtual Interfaces](#)

4. Create Layer-3 connections.

A. Go to the **Layer-3** tab



B. Click the **Create** button



- Fill in a connection name, select a connection type and set the report timer
- Make endpoint A the DSLAM upstream port or LF Core
- Make endpoint B the CPE downstream port or LF Edge
- You can make the TX/RX rates asymmetric for the connection to simulate how the connection would be used in a real-world scenario. Here we have about 5Mbps downstream (DSLAM to CPE) and 1Mbps upstream (CPE to DSLAM).
- Click **Apply** to create the connection

C. Create multiple connections

Layer-3 Batch Creator: cx-01

cx-02, cx-03 ... cx-05

Endp-A Resources: 1, 1 ... 1

Endp-B Resources: 1, 1 ... 1

Endp-A Ports: eth2, eth2 ... eth2

Endp-B Ports: eth3.1002, eth3.1003 ... eth3.1005

Endp-A IPs: AUTO, AUTO ... AUTO

Endp-B IPs: AUTO, AUTO ... AUTO

Quantity: 4 Number of Digits: 2 ☒ Zero Pad

Starting Name Suffix: 01 Name Increment: 1

Resource Increment A: 0 Resource Increment B: 0

Port Increment A: 0 Port Increment B: 1

IP Addr Increment A: 0 IP Addr Increment B: 0

IP-Port Increment A: 1 IP-Port Increment B: 1

Apply Close

- Click **Batch-Create** (located in the Layer-3 connection's Create/Modify window) to create four additional connections.
- Set **Quantity** to 4, **Port Increment A** to 0.
- Click **Apply**.

For more information see [LANforge User's Guide: Layer-3 Endpoints \(FIRE\)](#)

5. Run traffic.

A. Select the connections you want to start

The screenshot shows the LANforge Manager Version 5.3.3 interface. The 'Test Manager' tab is active, displaying a table of connections. The 'State' column for all connections (cx-01 to cx-05) is 'Stopped'. The 'Rpt Timer' is set to 'default (5 s)' and 'Test Manager' is set to 'all'. The 'View' is set to '0 - 200'. The 'Cross Connects for Selected Test Manager' table is shown below the controls.

Name	Type	State	Pkt Rx A	Pkt Rx B	Bps Rx A	Bps Rx B	Rx Drop % A	Rx Drop % B	Drop Pkts A	Drop Pkts
cx-01	LF/UDP	Stopped	0	0	0	0	0	0	0	0
cx-02	LF/UDP	Stopped	0	0	0	0	0	0	0	0
cx-03	LF/UDP	Stopped	0	0	0	0	0	0	0	0
cx-04	LF/UDP	Stopped	0	0	0	0	0	0	0	0
cx-05	LF/UDP	Stopped	0	0	0	0	0	0	0	0

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B. Click the **Start** button

The screenshot shows the LANforge Manager Version 5.3.3 interface after clicking the 'Start' button. The 'Test Manager' tab is active, and the 'State' column for all connections (cx-01 to cx-05) is now 'Run'. The 'Rpt Timer' is set to 'default (5 s)' and 'Test Manager' is set to 'all'. The 'View' is set to '0 - 200'. The 'Cross Connects for Selected Test Manager' table is shown below the controls.

Name	Type	State	Pkt Rx A	Pkt Rx B	Bps Rx A	Bps Rx B	Rx Drop % A	Rx Drop % B	Drop Pkts A	Drop Pkts
cx-01	LF/UDP	Run	5,132	25,783	1,023,479	5,115,936	0	0	0	0
cx-02	LF/UDP	Run	5,080	25,434	1,023,561	5,115,907	0	0	0	0
cx-03	LF/UDP	Run	5,097	25,521	1,023,467	5,115,842	0	0	0	0
cx-04	LF/UDP	Run	5,115	25,695	1,023,608	5,115,888	0	0	0	0
cx-05	LF/UDP	Run	5,150	25,520	1,023,637	5,115,729	0	0	0	0

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For more information see [LANforge User's Guide: Layer-3 Endpoints \(FIRE\)](#)

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