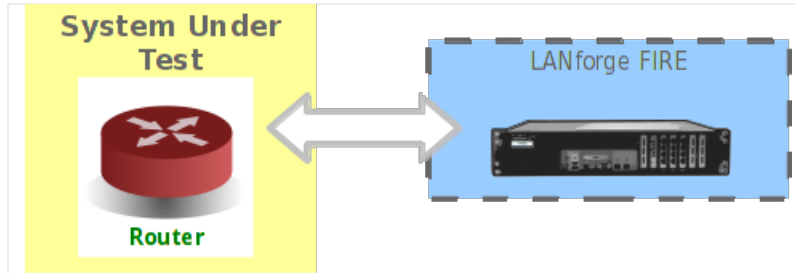


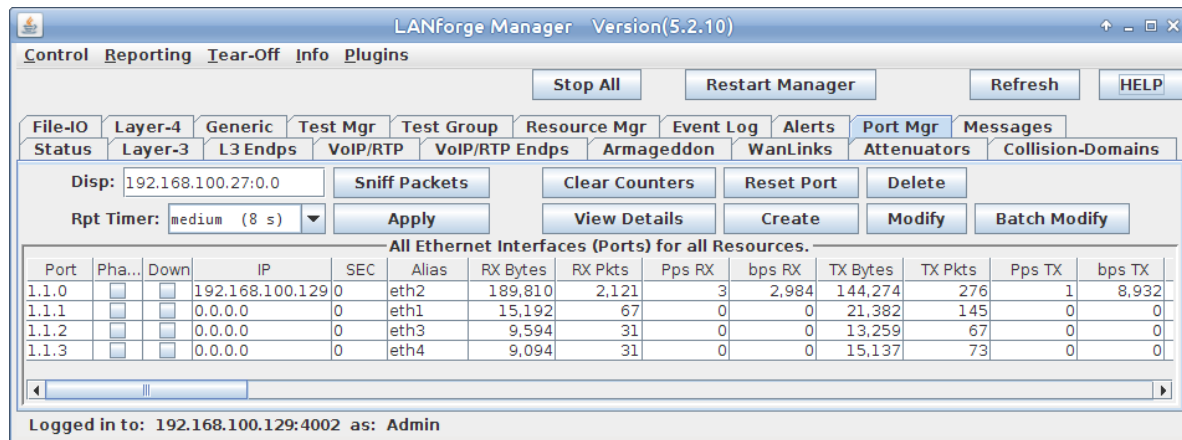
Generating Traffic to a Routed Network

Goal: Set up and run traffic on a routed network.

In this test scenario, LANforge-FIRE is used to generate traffic to a basic router in order to test throughput.



1. Connect one LANforge-FIRE port to the router's LAN port.
2. Connect another LANforge-FIRE port to the router's WAN port.
3. Set up the LANforge ports so that they have valid IP addresses. You can also use DHCP if the DUT supports it.
 - A. Go to the Port Manager



LANforge Manager Version(5.2.10)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

File-IO Layer-4 Generic Test Mgr Test Group Resource Mgr Event Log Alerts Port Mgr Messages

Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Attenuators Collision-Domains

Disp: 192.168.100.27:0.0 Sniff Packets Clear Counters Reset Port Delete

Rpt Timer: medium (8 s) Apply View Details Create Modify Batch Modify

All Ethernet Interfaces (Ports) for all Resources.

Port	Pha...	Down	IP	SEC	Alias	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	bps TX
1.1.0	<input type="checkbox"/>	<input type="checkbox"/>	192.168.100.129	0	eth2	189,810	2,121	3	2,984	144,274	276	1	8,932
1.1.1	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth1	15,192	67	0	0	21,382	145	0	0
1.1.2	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth3	9,594	31	0	0	13,259	67	0	0
1.1.3	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth4	9,094	31	0	0	15,137	73	0	0

Logged in to: 192.168.100.129:4002 as: Admin

- B. Modify port for Endpoint A (eth3). Set a valid network IP Address and Gateway IP.

eth3 (ubuntu) Configure Settings

Port Status Information

Current: LINK-UP 1000bt-FD AUTO-NEGOTIATE Flow-Control TSO GSO GRO
 Driver Info: Port Type: Ethernet Driver: e1000(7.3.21-k8-NAPI) Bus: 0000:00:0a.0

Port Configurables

Enable

- Set IP Info
- Set IP6 Info
- Set IF Down
- Set MAC
- Set TX Q Len
- Set MTU
- Set Offload
- Set Rate Info
- Set PROMISC
- Set Rx-All/FCS
- Set Bypass
- Set Bridge Info
- Set CPU Mask

Services

- HTTP
- FTP

General Interface Settings

DHCP-IPv6 DHCP Release Down

DHCP-IPv4 Secondary-IPs

DNS Servers: BLANK

IP Address: 192.168.2.102

IP Mask: 255.255.255.0

Gateway IP: 192.168.2.1

Alias:

MAC Addr: 08:00:27:25:65:63

Br Cost: ignore

Rpt Timer: medium (8 s)

CPU Mask: NO-SET

Aux-Mgt

DHCP Client ID: None

Peer IP: NA

Global IPv6: AUTO

Link IPv6: AUTO

IPv6 GW: AUTO

MTU: 1500

TX Q Len: 1000

Priority: ignore

Watchdog: 0

WiFi Bridge: NONE

Port Rates

- 10bt-HD
- 10bt-FD
- 100bt-HD
- 100bt-FD
- 1000-FD
- 10G-FD
- Autonegotiate

Renegotiate

Restart Xcvr

PROMISC

RX-ALL

RX-FCS

Bypass NOW!

Bypass Power-UP

Bypass Power-DOWN

Bypass Disconnect

Advertise Ra...

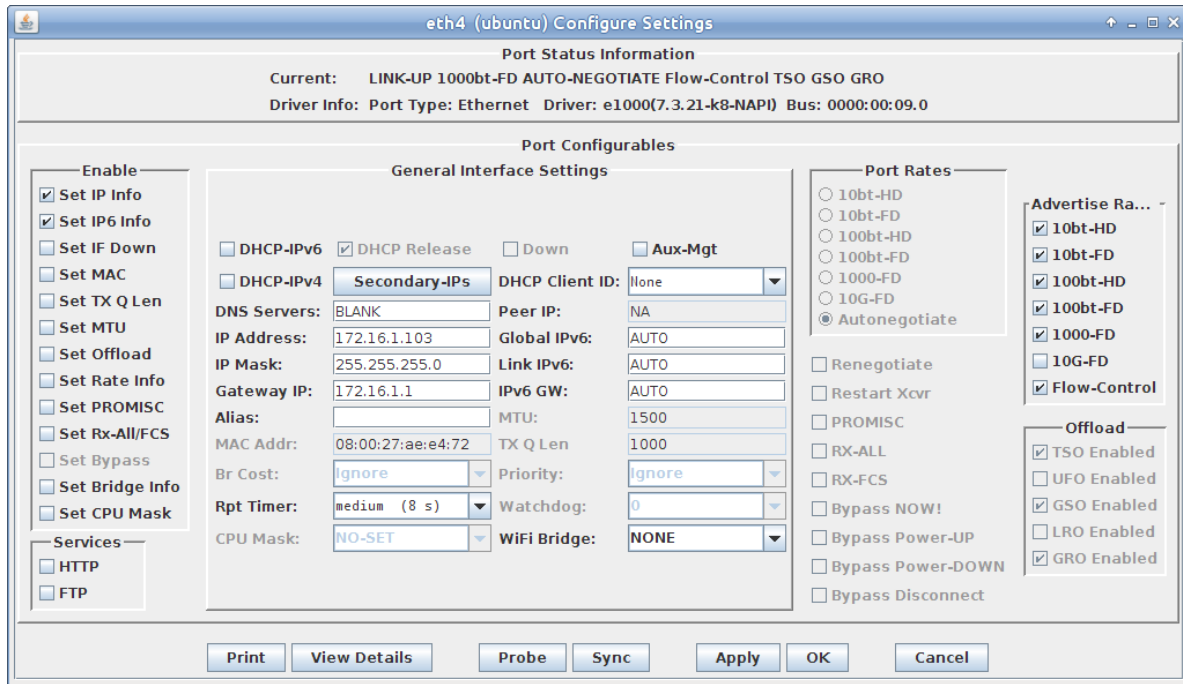
- 10bt-HD
- 10bt-FD
- 100bt-HD
- 100bt-FD
- 1000-FD
- 10G-FD
- Flow-Control

Offload

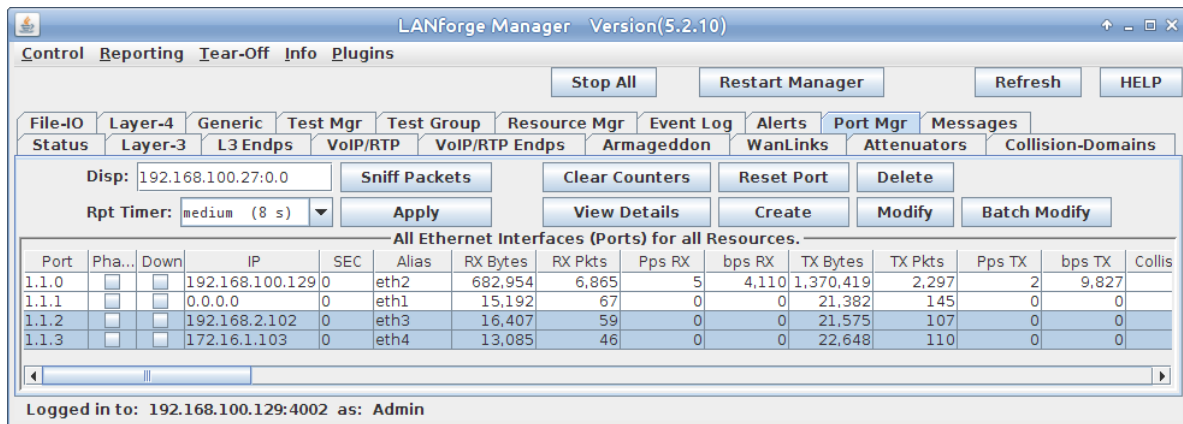
- TSO Enabled
- UFO Enabled
- GSO Enabled
- LRO Enabled
- GRO Enabled

Print View Details Probe Sync Apply OK Cancel

C. Modify port for Endpoint B (eth4). Set a valid network IP Address and Gateway IP.



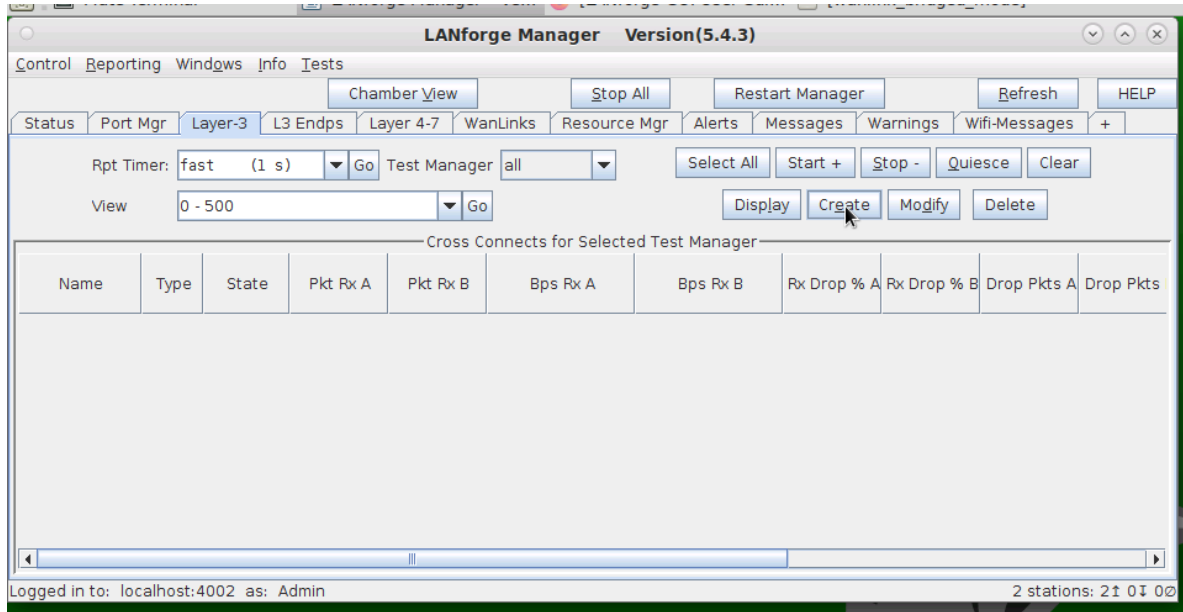
D. Verify the port configuration



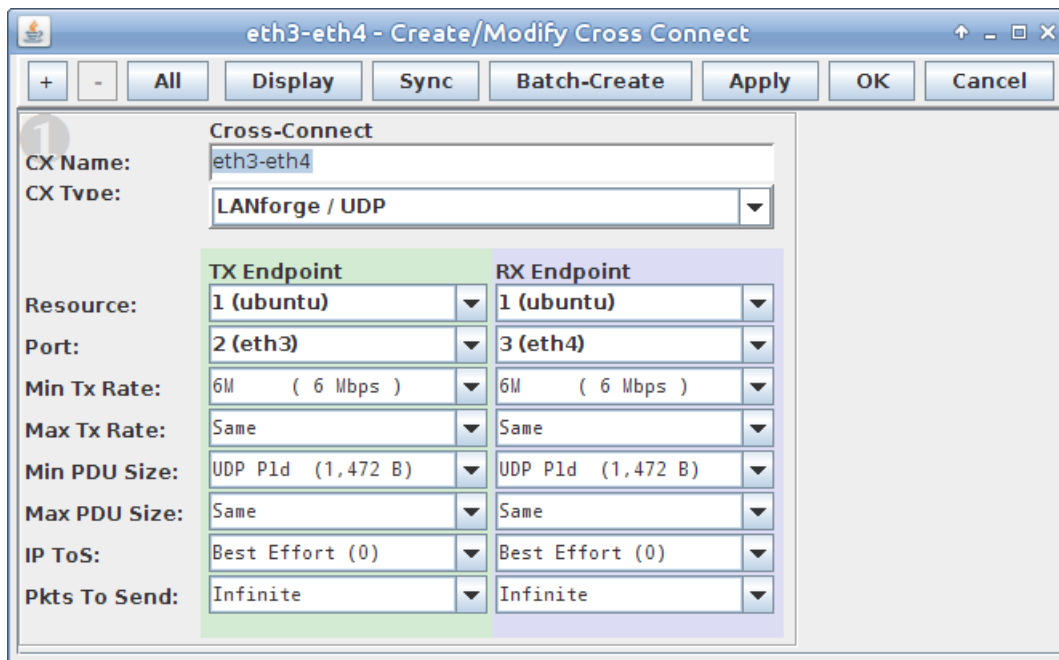
For more information see [LANforge User's Guide: Ports\(Interfaces\)](#)

4. Create a Layer-3 connection using the two configured ports.

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



B. Create a new Cross-Connect

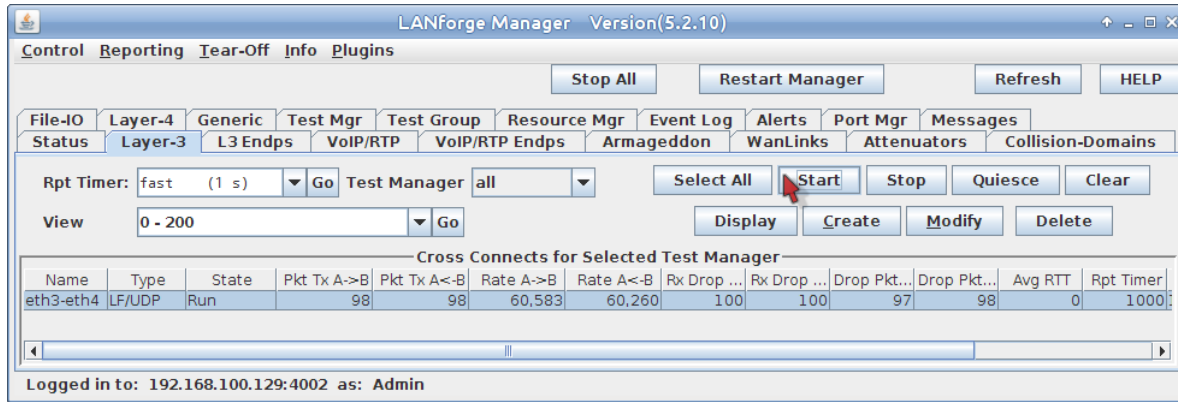


C. Verify the new Cross-Connect

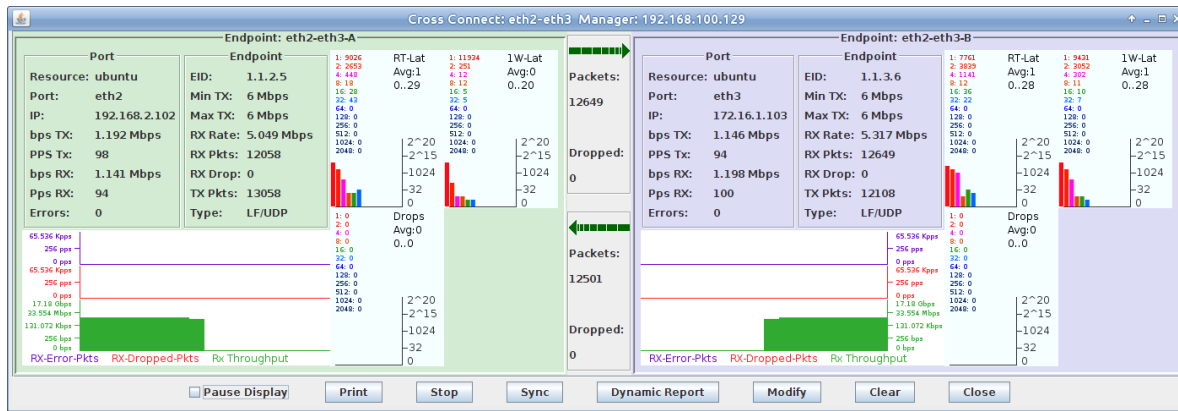
For more information see [LANforge User's Guid: Layer-3 Cross-Connects \(FIRE\)](#)

5. Run traffic and determine router throughput.

A. Select the cross-connect on the **Layer-3** tab, click **Start** and then **Display**



B. View the Layer-3 cross-connect display



For more information see [LANforge User's Guid: Layer-3 Cross-Connect Display](#)

6. For this example, a low performance router was used to illustrate poor throughput, variable latency, and dropped packets.

A. Go to the **L3 Endps** tab

LANForge Manager Version(5.2.10)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

Collision-Domains File-IO Layer-4 Generic Test Mgr Test Group Resource Mgr Event Log Alerts Port Mgr Messages

Status Layer-3 **L3 Endps** VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Attenuators

Min PDU Size 1k (1,024 B) Go Max PDU Size Same Go Start Stop Quiesce Clear

MIN Tx Rate New Modem (56 Kbps) Go MAX Tx Rate Same Go Display Create Modify Batch Modify Delete

View 0 - 400

All Endpoints

Name	EID	Run	Mng	Script	Tx Rate	Tx Rate(1)	Rx Rate	Rx Rate(1)	Rx Drop %	Tx Pkts	Rx Pkts	Delay	Dropped	Jitter	Tx Bytes	Rx Bytes
eth2-eth3-A	1.1.2.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None	5,290,694	0	5,067,477	0	0.01	30,789	29,490	0	0	0	0,45,321,408	43,409,280
eth2-eth3-B	1.1.3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None	5,067,993	0	5,290,006	0	0.013	29,493	30,785	1	0	0	0,43,413,696	45,315,520

Logged in to: 192.168.100.129:4002 as: Admin

B. Scroll to the right to view Latency and Dropped Packets

LANforge Manager Version(5.2.10)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

Collision-Domains File-I/O Layer-4 Generic Test Mgr Test Group Resource Mgr Event Log Alerts Port Mgr Messages

Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Attenuators

Min PDU Size 1k (1,024 B) Go Max PDU Size Same Go

MIN Tx Rate New Modem (56 Kbps) Go MAX Tx Rate Same Go

View 0 - 400 Go

Start Stop Quiesce Clear

Display Create Modify Batch Modify Delete

All Endpoints

Pattern	Min PDU	Max PDU	Min Rate	Max Rate	Send-Buf	Rcv-Buf	CWND	TCP-MSS	Bursty	A/B	Elapsed	Destination Addr	Source Addr
OINCREASING	1,472	1,472	6,000,000	6,000,000	0/64000	0/256000	0	0/0	<input type="checkbox"/>	A	68	172.16.1.103 33008	192.168.2.102 33007
OINCREASING	1,472	1,472	6,000,000	6,000,000	0/64000	0/256000	0	0/0	<input type="checkbox"/>	B	68	192.168.2.102 33007	172.16.1.103 33008

Logged in to: 192.168.100.129:4002 as: Admin

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

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