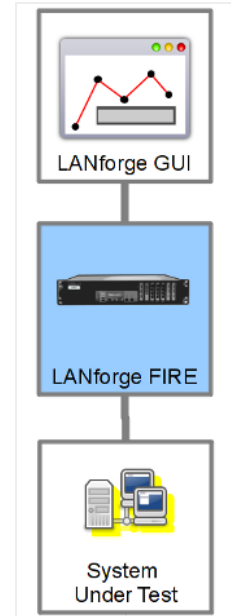
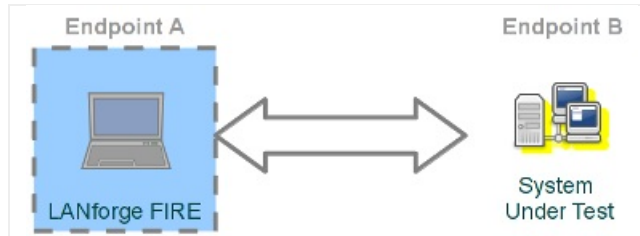
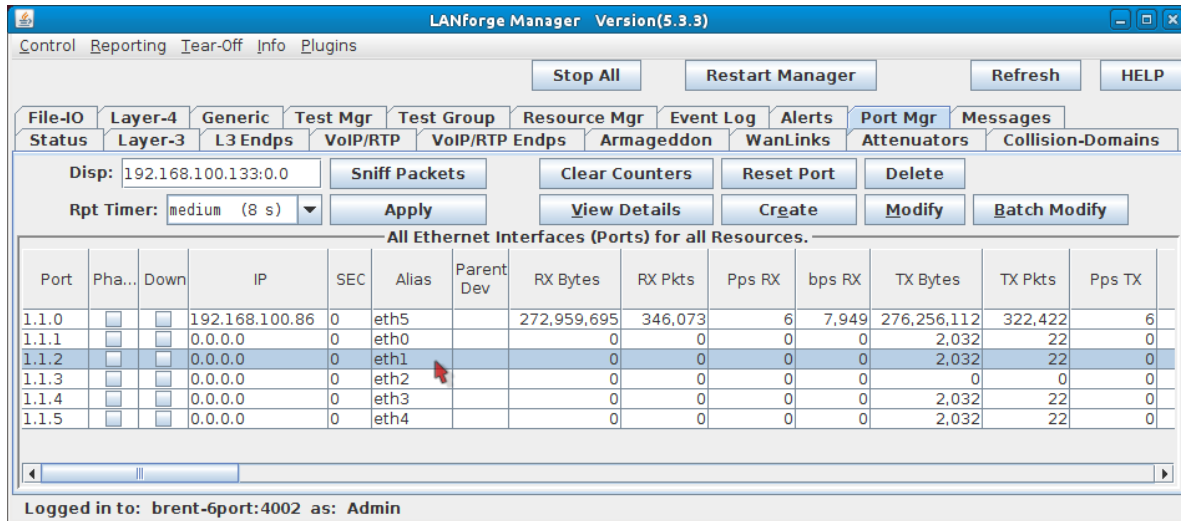


Layer-3 UDP Traffic Generator

Goal: Generate one-sided traffic to a network device with a fixed destination IP address. This scenario is useful for testing switches, firewalls and data loggers that have to handle highly varied or very fast UDP packet streams with a fixed destination. A one-sided traffic stream is used to send packets to a network device under test when round-trip reporting is not required.



1. Configure an ethernet port.
 - A. On the **Port Mgr** tab, select a port within the table and click the **Modify** button.



LANforge Manager Version(5.3.3)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

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 Collision-Domains

Disp: 192.168.100.133:0.0 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	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.0	<input type="checkbox"/>	<input type="checkbox"/>	192.168.100.86	0	eth5		272,959,695	346,073	6	7,949	276,256,112	322,422	6
1.1.1	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth0		0	0	0	0	2,032	22	0
1.1.2	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth1		0	0	0	0	2,032	22	0
1.1.3	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth2		0	0	0	0	0	0	0
1.1.4	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth3		0	0	0	0	2,032	22	0
1.1.5	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth4		0	0	0	0	2,032	22	0

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

- A. This example will use port `eth1`.

B. Assign an IP and Mask as necessary.

eth1 (brent-6port) Configure Settings

Port Status Information

Current: LINK-UP 1000bt-FD AUTO-NEGOTIATE Flow-Control TSO GSO GRO

Driver Info: Port Type: Ethernet Driver: e1000e(2.3.2-k) Bus: 0000:03:00.0 Cur: 2.5GT/s x1 Max: 2.5GT/s x1

Port Configurables

General Interface Settings

Enable

- 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
- RADIUS

Down Aux-Mgt

DHCP-IPv6 DHCP Release DHCP Vendor ID: None

DHCP-IPv4 Secondary-IPs DHCP Client ID: None

DNS Servers: BLANK Peer IP: NA

IP Address: 10.26.2.1 Global IPv6: AUTO

IP Mask: 255.255.255.0 Link IPv6: AUTO

Gateway IP: 0.0.0.0 IPv6 GW: AUTO

Alias: MTU: 1500

MAC Addr: 00:90:0b:38:82:71 TX Q Len: 1000

Br Cost: ignore Priority: ignore

Rpt Timer: medium (8 s) Watchdog: 0

CPU Mask: NO-SET WiFi Bridge: NONE

Port Rates

- 10bt-HD
- 10bt-FD
- 100bt-HD
- 100bt-FD
- 1000-FD
- 10G-FD
- 40G-FD
- Autonegotiate

Renegotiate

Restart Xcvr

PROMISC

RX-ALL

RX-FCS

Bypass NOW!

Bypass Power-UP

Bypass Power-DOWN

Bypass Disconnect

Advert Rates

- 10bt-HD
- 10bt-FD
- 100bt-HD
- 100bt-FD
- 1000-FD
- 10G-FD
- 40G-FD
- Flow-Control

Offload

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

Print View Details Probe Sync Apply OK Cancel

C. Click **OK**.

2. Configure the Layer-3 connection.

A. On the **Layer-3** tab, click **Create**.

LANforge Manager Version(5.3.3)

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

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Rpt Timer: default (5 s) Go Test Manager all Select All Start Stop Quiesce Clear

View 0 - 200 Go Display Create Modify Delete

Cross Connects for Selected Test Manager

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

B. Assign port `eth1` to **Endpoint-A**.

1

Cross-Connect

CX Name:

CX Type:

	Endpoint A	Endpoint B
Resource:	<input type="text" value="1 (brent-6port)"/>	<input type="text" value="1 (brent-6port)"/>
Port:	<input type="text" value="2 (eth1)"/>	<input type="text" value="5 (eth4)"/>
Min Tx Rate:	<input type="text" value="New Modem (56 Kbps)"/>	<input type="text" value="New Modem (56 Kbps)"/>
Max Tx Rate:	<input type="text" value="Same"/>	<input type="text" value="Same"/>
Min PDU Size:	<input type="text" value="AUTO"/>	<input type="text" value="AUTO"/>
Max PDU Size:	<input type="text" value="Same"/>	<input type="text" value="Same"/>
IP ToS:	<input type="text" value="Best Effort (0)"/>	<input type="text" value="Best Effort (0)"/>
Pkts To Send:	<input type="text" value="Infinite"/>	<input type="text" value="Infinite"/>

A. You will not need to assign **Endpoint-B** because that will become unmanaged.

C. Configure the attributes in section 1:

1

Cross-Connect

CX Name:

CX Type:

	Endpoint A	Endpoint B
Resource:	<input type="text" value="1 (brent-6port)"/>	<input type="text" value="1 (brent-6port)"/>
Port:	<input type="text" value="2 (eth1)"/>	<input type="text" value="5 (eth4)"/>
Min Tx Rate:	<input type="text" value="1G (1 Gbps)"/>	<input type="text" value="Zero (0 bps)"/>
Max Tx Rate:	<input type="text" value="Same"/>	<input type="text" value="Same"/>
Min PDU Size:	<input type="text" value="UDP P1d (1,472 B)"/>	<input type="text" value="AUTO"/>
Max PDU Size:	<input type="text" value="Same"/>	<input type="text" value="Same"/>
IP ToS:	<input type="text" value="Best Effort (0)"/>	<input type="text" value="Best Effort (0)"/>
Pkts To Send:	<input type="text" value="Infinite"/>	<input type="text" value="Infinite"/>

A. Endpoint-A Min Tx Rate: `1Gbps`

B. Endpoint-B Min Tx Rate: `Zero (0 bps)`

C. Endpoint-A Min PDU Size: `UDP P1d (1,472 B)`

D. Use the **All** button at the top to expand to the last detail level.

The screenshot shows the 'udpgen - Create/Modify Cross Connect' dialog box. At the top, there are buttons for '+', '-', and 'All' (highlighted with a red arrow), followed by 'Display', 'Sync', 'Batch-Create', 'Apply', 'OK', and 'Cancel'. The dialog is organized into four numbered sections:

- Section 1:** Cross-Connect details. CX Name: 'udpaen', CX Type: 'LANforge / UDP'. It has two columns for Endpoint A and Endpoint B. Endpoint A: Resource '1 (brent-6port)', Port '2 (eth1)', Min Tx Rate '1G (1 Gbps)', Max Tx Rate 'Same', Min PDU Size 'UDP Pld (1,472 B)', Max PDU Size 'Same', IP ToS 'Best Effort (0)', Pkts To Send 'Infinite'. Endpoint B: Resource '1 (brent-6port)', Port '5 (eth4)', Min Tx Rate 'Zero (0 bps)', Max Tx Rate 'Same', Min PDU Size 'AUTO', Max PDU Size 'Same', IP ToS 'Best Effort (0)', Pkts To Send 'Infinite'.
- Section 2:** Report Timer: 'default (5 s)'. It also has two columns for Endpoint A and Endpoint B. Endpoint A: Pld Pattern 'increasing', Min IP Port 'AUTO', Max IP Port 'Same', Min Duration 'Forever', Max Duration 'Same', Min Reconn '0 (0 ms)', Max Reconn 'Same', Multi-Conn 'Normal (0)'. Endpoint B: Pld Pattern 'increasing', Min IP Port 'AUTO', Max IP Port 'Same', Min Duration 'Forever', Max Duration 'Same', Min Reconn '0 (0 ms)', Max Reconn 'Same', Multi-Conn 'Normal (0)'. Below these are 'Script' and 'Thresholds' buttons for each endpoint.
- Section 3:** Test Manager: 'default_tm', Quiesce: '3 (3 sec)'. It has two columns for Endpoint A and Endpoint B. IP Addr: 'AUTO'. Options: 'Replay File', 'Loop', 'Dest Mac'. Fields: 'Filename', 'Dest MAC'.
- Section 4:** Buffer and Proxy settings. Snd Buff Size: 'OS Default', Rcv Buff Size: 'OS Default', Send Bad FCS: 'zero (0%)', Src MAC: '00:00:00:00:00:00'. Proxy settings: 'Use-Proxy' (unchecked), Proxy Addr: '0.0.0.0', Proxy Port: '0', Socket Priority: '0'. Payload buttons for each endpoint.

E. Configure the Layer-3 connection to the *system under test* (Endpoint-B) by following these steps:

udpgen - Create/Modify Cross Connect

Display Sync Batch-Create Apply OK Cancel

1 Cross-Connect
 CX Name: udpaen
 CX Type: LANforge / UDP

Endpoint A Endpoint B
 Resource: 1 (brent-6port) 0
 Port: 2 (eth1) 0
 Min Tx Rate: 1G (1 Gbps) Zero (0 bps)
 Max Tx Rate: Same Same
 Min PDU Size: UDP Pld (1,472 B) AUTO
 Max PDU Size: Same Same
 IP ToS: Best Effort (0) Best Effort (0)
 Pkts To Send: Infinite Infinite

2 Report Timer: slow (10 s)
 Pld Pattern: increasing increasing
 Min IP Port: AUTO 9999
 Max IP Port: Same Same
 Min Duration: Forever Forever
 Max Duration: Same Same
 Min Reconn: 0 (0 ms) 0 (0 ms)
 Max Reconn: Same Same
 Multi-Conn: Normal (0) Normal (0)
 Script Threshholds Script Threshholds

3 Test Manager: default_tm
 Quiesce: 3 (3 sec)

Endpoint A Endpoint B
 IP Addr: AUTO 198.105.254.11
 Replay File Loop Dest Mac
 Filename: Dest MAC:

4 Snd Buff Size: 1MB (1 MB) OS Default
 Rcv Buff Size: OS Default OS Default
 Send Bad FCS: zero (0%) zero (0%)
 Src MAC: 00:00:00:00:00:00 00:00:00:00:00:00
 Use-Proxy Proxy Addr: 0.0.0.0 0.0.0.0
 Proxy Port: 0 0
 Socket Priority: 0 0
 Payload Payload

5 Conn Timeout: 10s (10 s) 10s (10 s)
 TCP MSS: OS Default OS Default

Endpoint A Endpoint B
 Do Checksum UnManaged
 Duration Quiesce Quiesce-After-Range
 Quiesce-After-Range Quiesce-After-Range
 TCP_NODELAY TCP_NODELAY
 Concurrent IP Addr Concurrent IP Addr
 Clear-Port-On-Start Clear-Port-On-Start
 Linear-IP-Ports Linear-IP-Ports
 Endp Name: udpgen-A udpgen-B

- In section 5, on the right side, Endpoint-B (blue), select **UnManaged**. This will gray-out most of the Endpoint-B options.
- In section 2, set the Report Timer to **slow (10 s)**. Also, set the Endpoint-B Min IP port: **9999**. If you have a *service under test* this port should match, if not, this setting still needs to be present to generate valid traffic.
- In section 3, set the Endpoint-B IP to the *system under test* IP address. Our example shows **198.105.254.11**.
- In section 4, set the send buffer size (Snd Buff Size) to **1MB**.
- Click **OK** at the top to commit the changes.

3. Start generating traffic.

LANforge Manager Version(5.3.3)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

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 Collision-Domains

Rpt Timer: default (5 s) Go Test Manager all Select All Start Stop Quiesce Clear
 View 0 - 200 Display Create Modify Delete

Cross Connects for Selected Test Manager

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
udpgen	LF/UDP	Stopped	0	0	0	0	0	0	0	0

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

- In the **Layer-3** tab, select the connection **udpgen**.
- Click **Start**.

