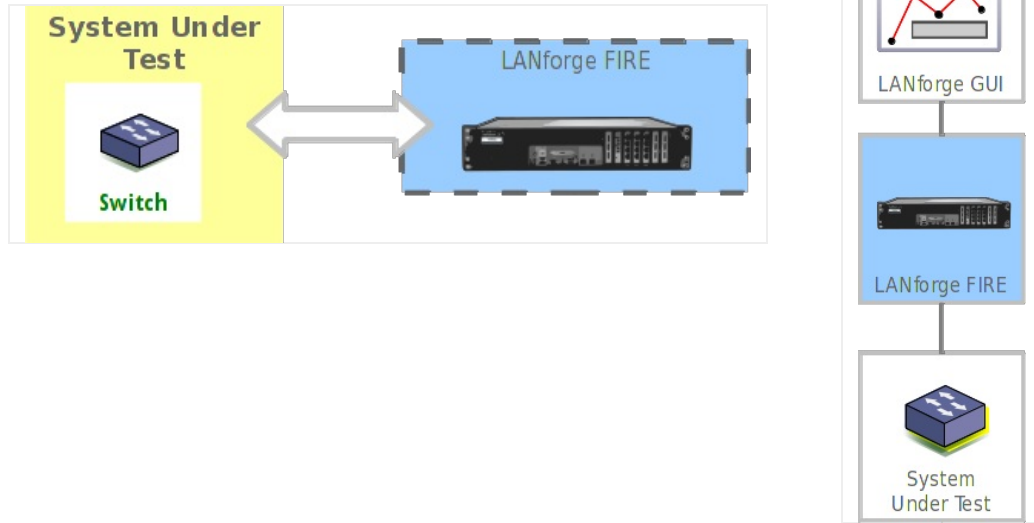


Generating Traffic to a Switched Network

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

In this test scenario, LANforge-FIRE is used to generate traffic between two ports on the same subnet (switch) in order to test throughput.



1. Connect two available data generating ports of your LANforge server to the DUT. In this example, the DUT is a switch.
2. Set up the LANforge ports so that they have valid IP addresses. This example uses static IP addresses, but you can also use DHCP if your network supports that.
 - A. Go to the Port Manager

The screenshot shows the LANforge Manager GUI, Version 5.3.6, with the Port Manager tab selected. The interface displays various management buttons and a table of Ethernet interfaces 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"/>	192.168.100.103	0	eth0		49,388	412	4	4,192	184,397	233	2
1.1.1	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth1		0	0	0	0	0	0	0
1.1.2	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth2		0	0	0	0	70	1	0
1.1.3	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth3		70	1	0	5	0	0	0
1.1.4	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth4		70	1	0	5	0	0	0
1.1.5	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	0	eth5		0	0	0	0	70	1	0

Logged in to: 192.168.100.103:4002 as: Admin

B. Modify port for Endpoint A (eth2)

eth2 (jw2) Configure Settings

Port Status Information
Current: LINK-UP 1000bt-FD AUTO-NEGOTIATE TSO GSO GRO
Driver Info: Port Type: Ethernet Driver: igb(5.4.0-k) Bus: 0000:0a:00.0 Cur: 2.5GT/s x1 Max: 2.5GT/s x1

Port Configurables

General Interface Settings

Down Aux-Mgt

DHCP-IPv6 DHCP Release DHCP Vendor ID:

DHCP-IPv4 DHCP Client ID:

DNS Servers: Peer IP:

IP Address: Global IPv6:

IP Mask: Link IPv6:

Gateway IP: IPv6 GW:

Alias: MTU:

MAC Addr: TX Q Len:

Br Cost: Priority:

Rpt Timer: Watchdog:

CPU Mask: WiFi Bridge:

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

Enable

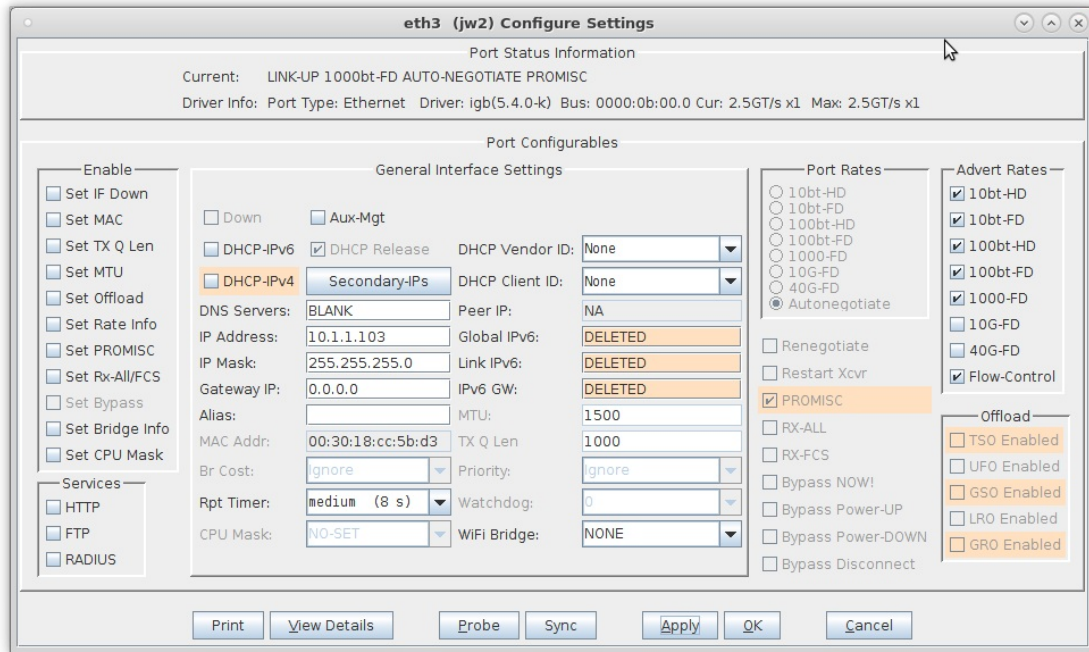
Set IF Down
 Set MAC
 Set TX Q Len
 Set MTU
 Set Offload
 Set Rate Info
 Set PROMISC
 Set Rx-All/FCS
 Set Bypass
 Set Bridge Info
 Set CPU Mask

Services

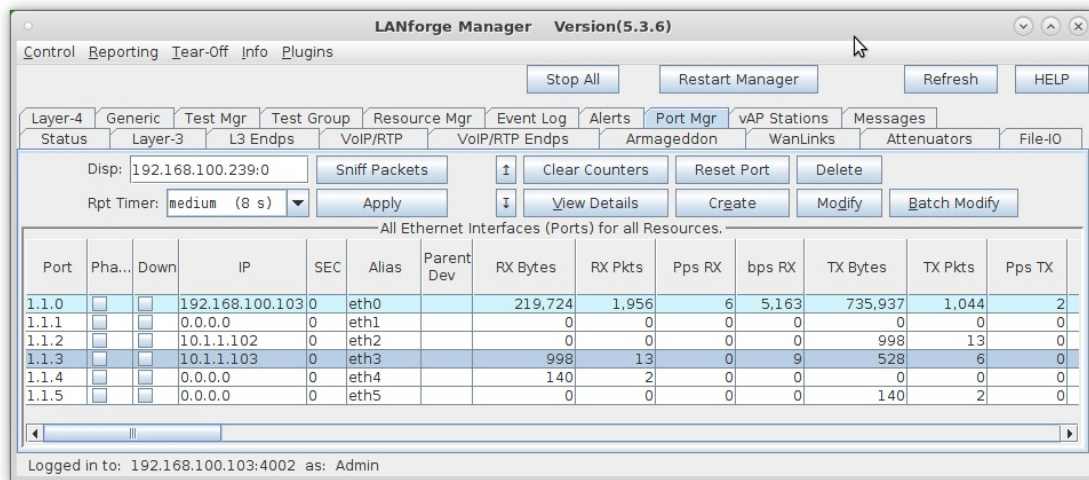
HTTP
 FTP
 RADIUS

Print View Details Probe Sync Apply OK Cancel

C. Modify port for Endpoint B (eth3)



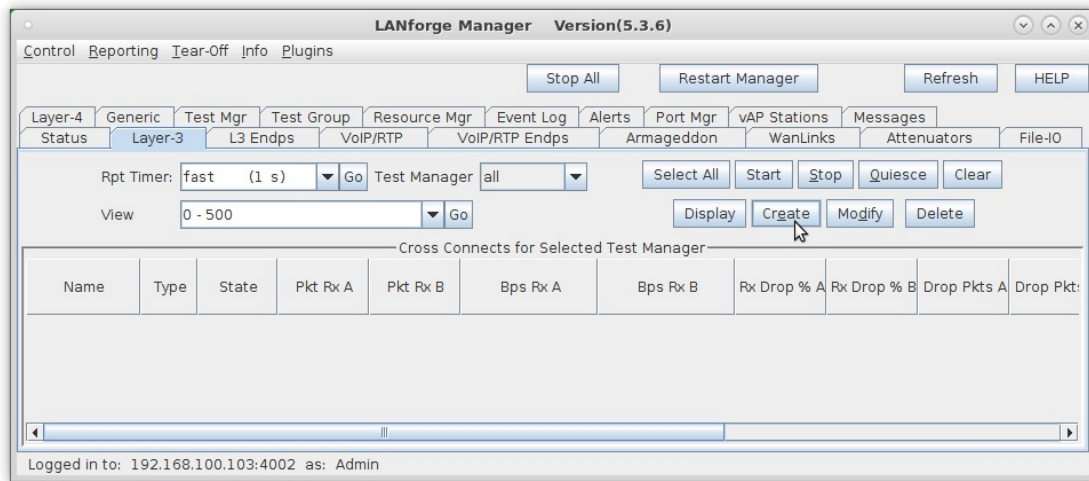
D. Verify the port configuration



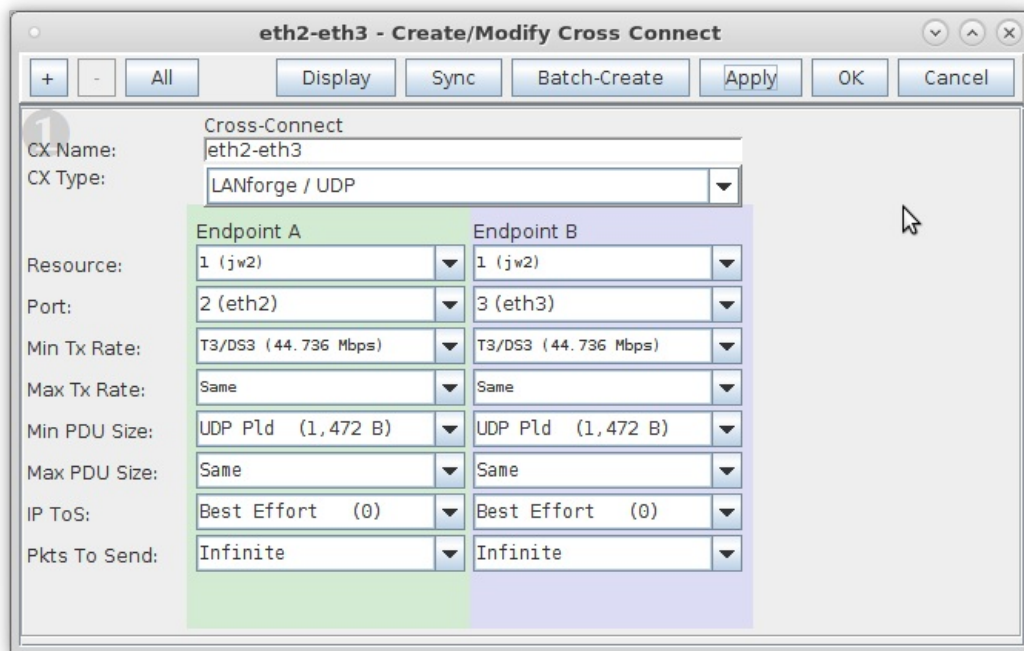
For more information see [LANforge User's Guide: Ports \(Interfaces\)](#)

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

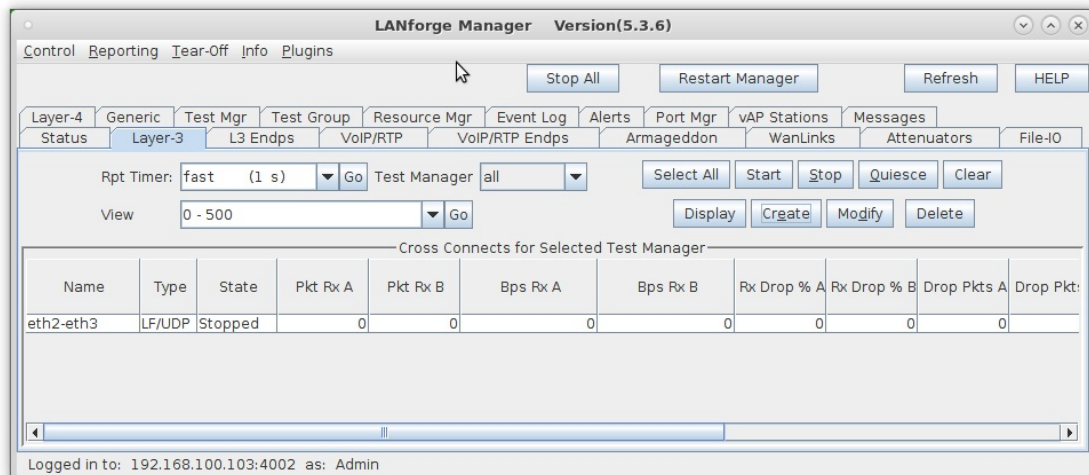
A. Go to the **Layer-3** tab



B. Create a new Cross-Connect

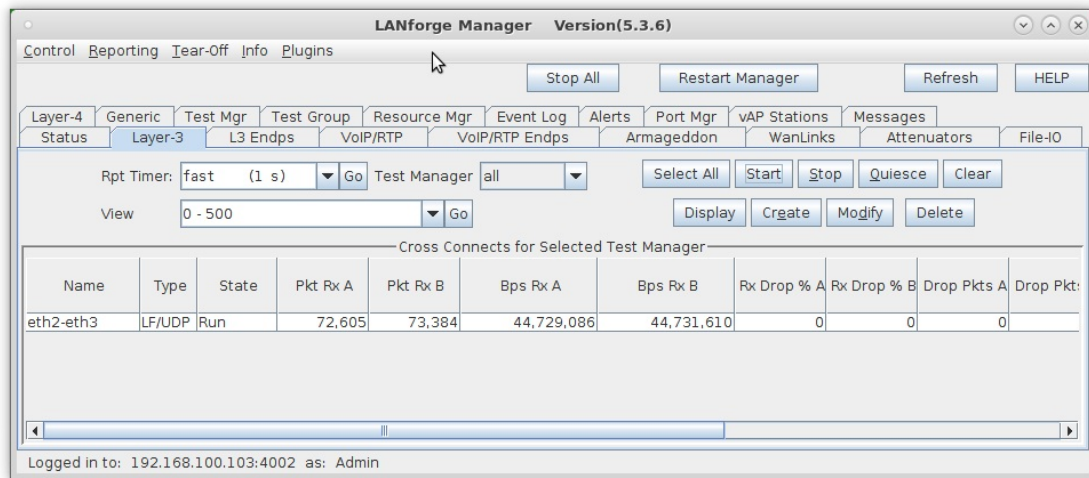


C. Verify the new Cross-Connect

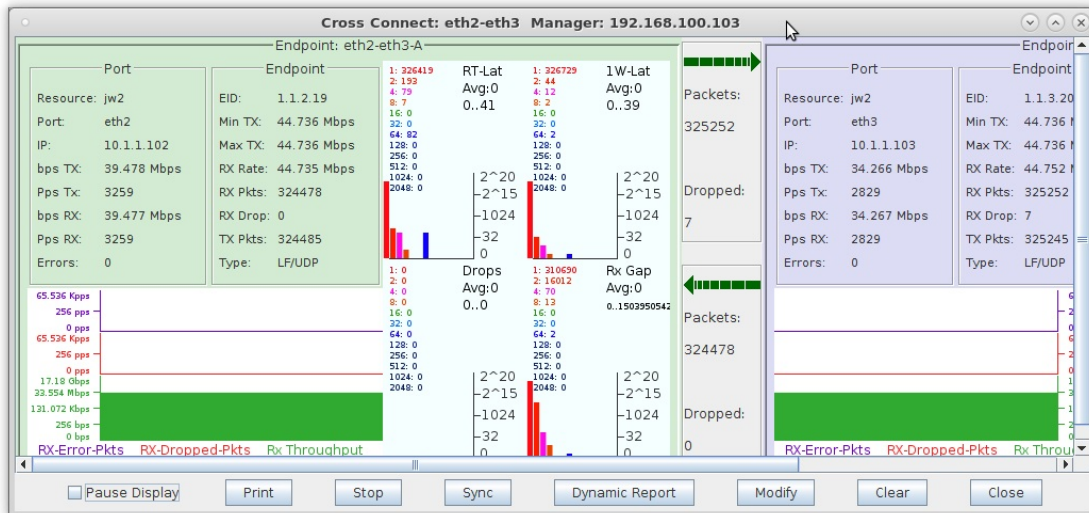


4. Run traffic and observe results.

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 Guide: Layer-3 Cross-Connect Display](#)

5. In this case, the overall throughput of the DUT is approximately 76Mbps. The Report Manager can also be used to record the throughput over time.

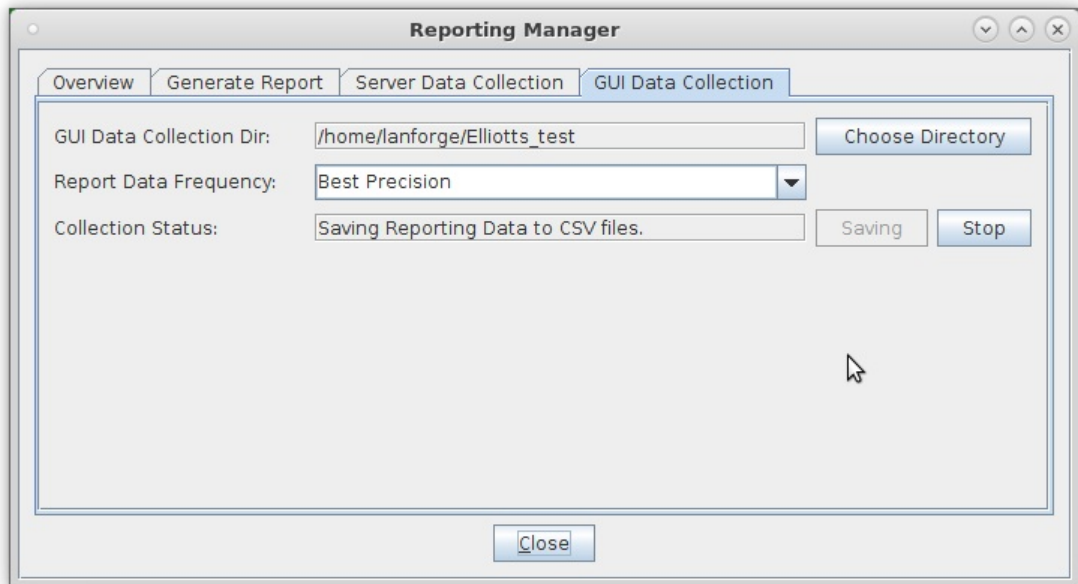
A. Select **Reporting Manager** from the **Reporting** pull-down menu

The screenshot shows the LANforge Manager Version 5.3.6 interface. The 'Reporting' menu is open, and 'Reporting Manager' is highlighted. The interface includes various tabs like 'Control', 'Reporting', 'Tear-Off', 'Info', and 'Plugins'. Below the menu, there are buttons for 'Stop All', 'Restart Manager', 'Refresh', and 'HELP'. A table titled 'Cross Connects for Selected Test Manager' is visible, showing data for a test manager named 'eth2-eth3'.

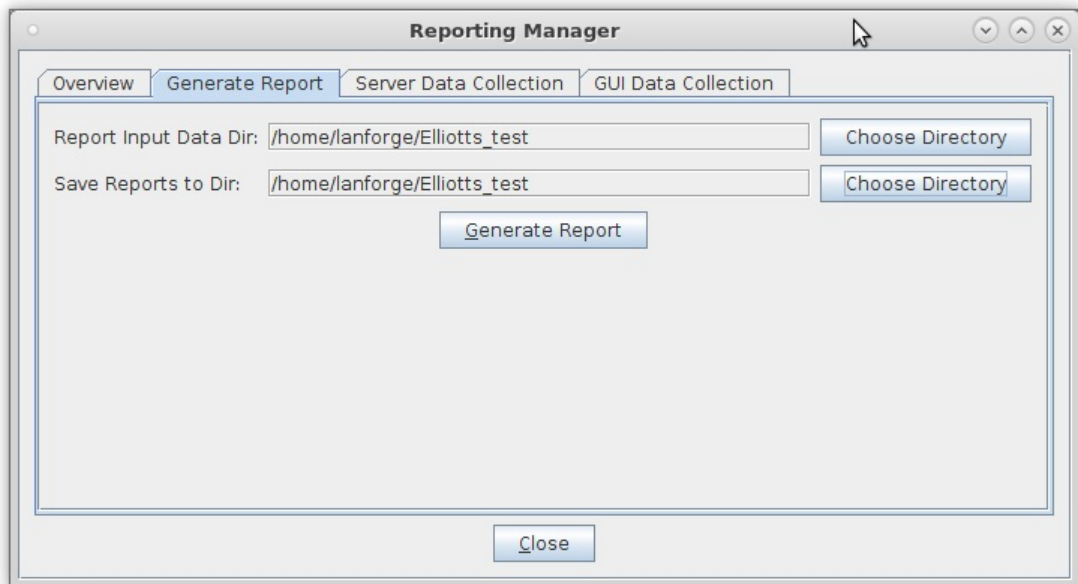
Name	Type	State	Pkt Rx A	Pkt Rx B	Bps Rx A	Bps Rx B	Rx Drop % A	Rx Drop % B	Drop Pkts A	Drop Pkts B
eth2-eth3	LF/UDP	Run	1,125,730	1,126,994	44,700,324	44,701,076	0	0	0	0

Logged in to: 192.168.100.103:4002 as: Admin

B. Record test data by following these steps:



- A. Select the **GUI Data Collection** tab.
 - B. Choose a directory to save raw (.csv) data.
 - C. Click **Save** to start the data collection.
 - D. After desired test duration, click **Stop**.
 - E. **NOTE:** Your report will look cleaner if you stop traffic about 2 minutes before you stop saving data.
- C. In the Generate Report tab, choose a directory to save the HTML report. **NOTE:** Make sure your directory name does not include any special characters such as apostrophes.



- A. Click **Generate Report**.

D. Select the entities to be included

Report Generator

Choose Directory Report Raw Data Dir: /home/jreynolds/Documents/lf-data

Choose Directory Save Reports to Dir: /home/jreynolds/Documents/lf-reports

Report Name: report-1381182882449 Sample Interval: 0

Width: 640 Height: 480 Start Time Offset: All (0 sec) Duration: All (0 sec)

Available Data Files

Owner	Entity	Report Start Time	Report Durati...	Entity ID	Report File Name
Global-Stats	GLOBAL	2013-10-07 14:53:57	0:0:35		GLOBAL_1381182839.csv
	lanforge-VirtualBox	2013-10-07 14:54:00	0:0:28	1.0	resource_lanforge-VirtualBox_1.0
eth2-eth3	eth2-eth3-A	2013-10-07 14:54:01	0:0:33	1.1.2.1.1	eth2-eth3-A_1381182839.csv
eth2-eth3	eth2-eth3-B	2013-10-07 14:54:02	0:0:33	1.1.3.2.1	eth2-eth3-B_1381182839.csv
lanforge-VirtualBox	eth0	2013-10-07 14:54:03	0:0:21	1.1.1	eth0_1.1.1_1381182839.csv
lanforge-VirtualBox	eth1	2013-10-07 14:54:03	0:0:21	1.1.0	eth1_1.1.0_1381182839.csv
lanforge-VirtualBox	eth2	2013-10-07 14:54:03	0:0:21	1.1.2	eth2_1.1.2_1381182839.csv
lanforge-VirtualBox	eth3	2013-10-07 14:54:03	0:0:21	1.1.3	eth3_1.1.3_1381182839.csv
	lanforge-VirtualBox	2013-10-07 14:54:04	0:0:21	1.1	resource_lanforge-VirtualBox_1.1

Delete Refresh Flush SS Generate Report Cancel Report Close

E. Click **Generate Report** to start the report generation

Report Generator

Choose Directory Report Raw Data Dir: /home/jreynolds/Documents/lf-data

Choose Directory Save Reports to Dir: /home/jreynolds/Documents/lf-reports

Report Name: report-1381182882449 Sample Interval: 0

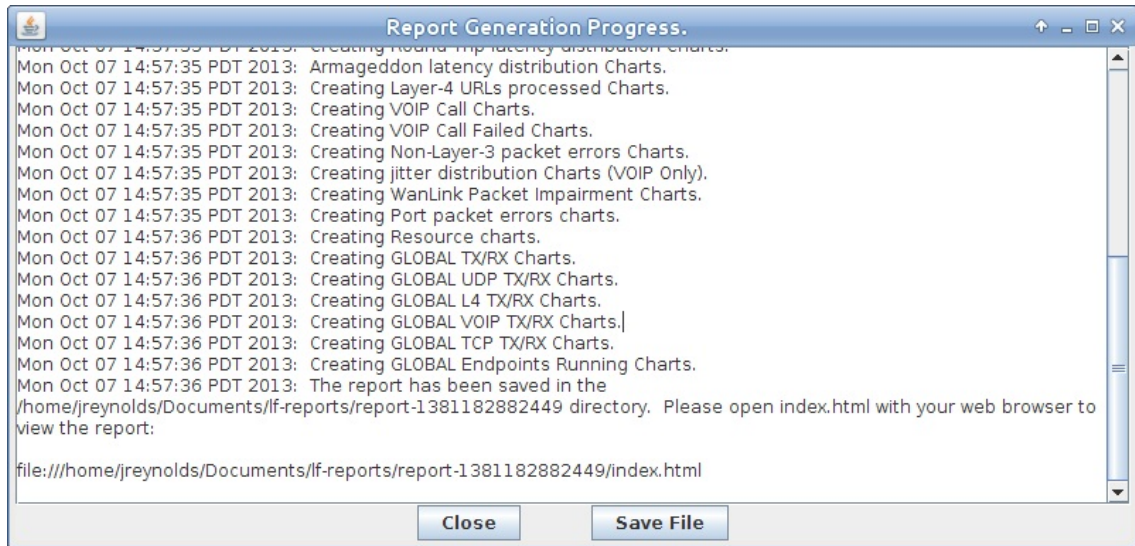
Width: 640 Height: 480 Start Time Offset: All (0 sec) Duration: All (0 sec)

Available Data Files

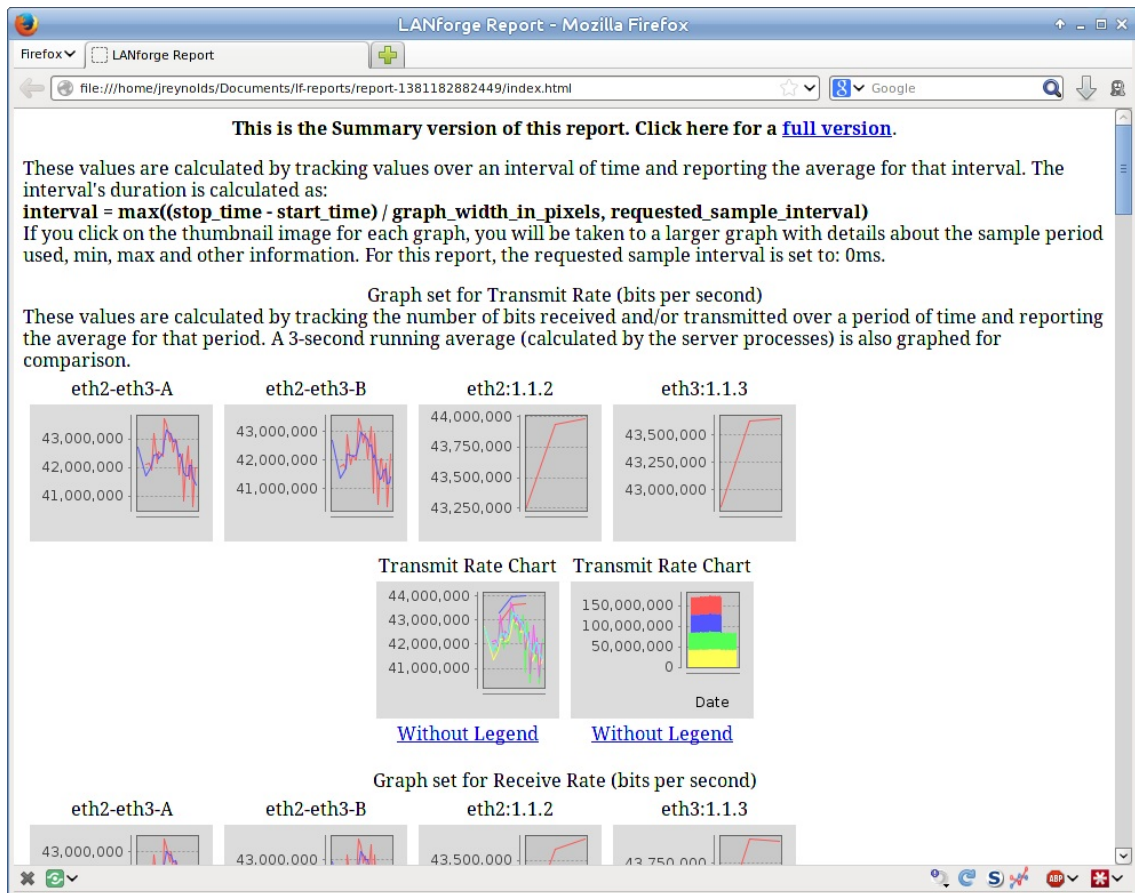
Owner	Entity	Report Start Time	Report Durati...	Entity ID	Report File Name
Global-Stats	GLOBAL	2013-10-07 14:53:57	0:0:35		GLOBAL_1381182839.csv
	lanforge-VirtualBox	2013-10-07 14:54:00	0:0:28	1.0	resource_lanforge-VirtualBox_1.0
eth2-eth3	eth2-eth3-A	2013-10-07 14:54:01	0:0:33	1.1.2.1.1	eth2-eth3-A_1381182839.csv
eth2-eth3	eth2-eth3-B	2013-10-07 14:54:02	0:0:33	1.1.3.2.1	eth2-eth3-B_1381182839.csv
lanforge-VirtualBox	eth0	2013-10-07 14:54:03	0:0:21	1.1.1	eth0_1.1.1_1381182839.csv
lanforge-VirtualBox	eth1	2013-10-07 14:54:03	0:0:21	1.1.0	eth1_1.1.0_1381182839.csv
lanforge-VirtualBox	eth2	2013-10-07 14:54:03	0:0:21	1.1.2	eth2_1.1.2_1381182839.csv
lanforge-VirtualBox	eth3	2013-10-07 14:54:03	0:0:21	1.1.3	eth3_1.1.3_1381182839.csv
	lanforge-VirtualBox	2013-10-07 14:54:04	0:0:21	1.1	resource_lanforge-VirtualBox_1.1

Delete Refresh Flush SS Generate Report Cancel Report Close

F. This window lists all the reports being generated. The last line indicates the location of the HTML report.



G. View the HTML report



For more information see [LANforge User's Guide: Reporting](#)

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