

Generating Traffic Using Armageddon

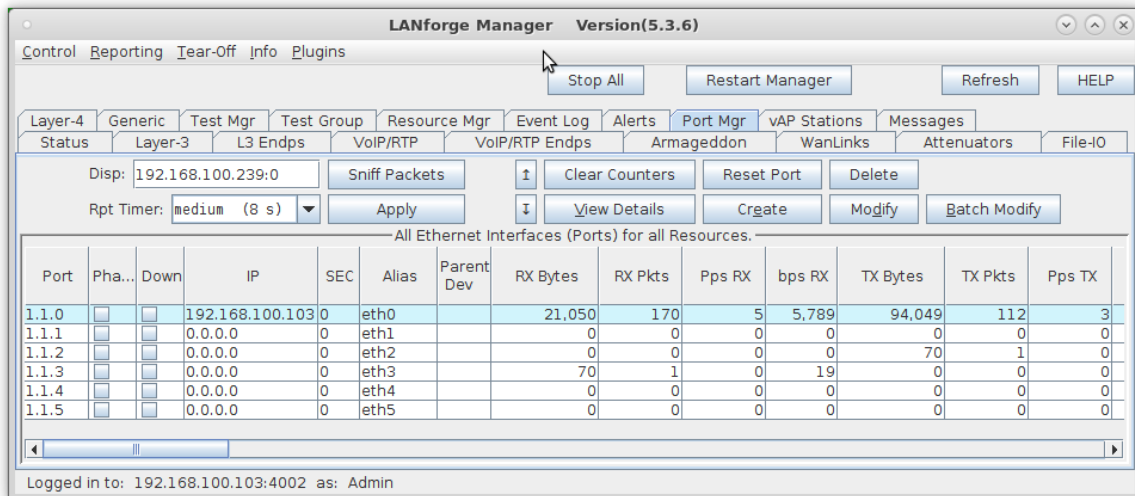
Goal: Set up and run near line-speed 1Gbps traffic using the LANforge Armageddon feature.

- For more information, see the [LANforge User's Guide: Armageddon \(Accelerated UDP\)](#)

In this test scenario, LANforge Armageddon is set up to run at about 80,000 packets/second full-duplex to achieve near line-speed 1Gbps traffic generation.

Note: In order to use the LANforge Armageddon feature, your system must have the LANforge kernel patch applied and your system must be properly licensed. Please feel free to contact us at support@candelatech.com if you would like to obtain a demo license for the Armageddon feature.

1. Configure the physical interfaces.
 - A. Go to the Port Manager and select ports eth2 and eth3

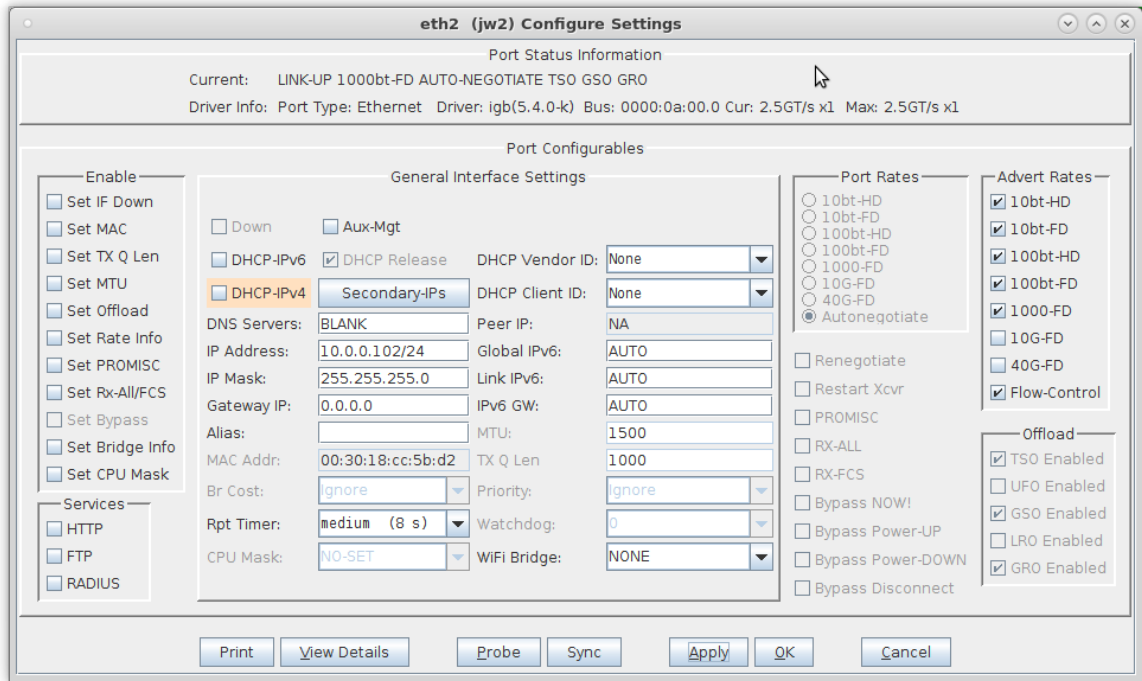


The screenshot shows the LANforge Manager Port Manager interface. The window title is "LANforge Manager Version(5.3.6)". The interface includes a menu bar (Control, Reporting, Tear-Off, Info, Plugins) and a toolbar with buttons for Stop All, Restart Manager, Refresh, and HELP. Below the menu bar are tabs for Layer-4, Generic, Test Mgr, Test Group, Resource Mgr, Event Log, Alerts, Port Mgr (selected), vAP Stations, and Messages. Under the Port Mgr tab, there are sub-tabs for Status, Layer-3, L3 Endps, VoIP/RTP, VoIP/RTP Endps, Armageddon, WanLinks, Attenuators, and File-IO. The main area contains a form with "Disp: 192.168.100.239:0" and "Rpt Timer: medium (8 s)". There are buttons for Sniff Packets, Clear Counters, Reset Port, Delete, Apply, View Details, Create, Modify, and Batch Modify. Below the form is a table titled "All Ethernet Interfaces (Ports) for all Resources." with the following data:

| 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 | | | 192.168.100.103 | 0 | eth0 | | 21,050 | 170 | 5 | 5,789 | 94,049 | 112 | 3 |
| 1.1.1 | | | 0.0.0.0 | 0 | eth1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.1.2 | | | 0.0.0.0 | 0 | eth2 | | 0 | 0 | 0 | 0 | 70 | 1 | 0 |
| 1.1.3 | | | 0.0.0.0 | 0 | eth3 | | 70 | 1 | 0 | 19 | 0 | 0 | 0 |
| 1.1.4 | | | 0.0.0.0 | 0 | eth4 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.1.5 | | | 0.0.0.0 | 0 | eth5 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

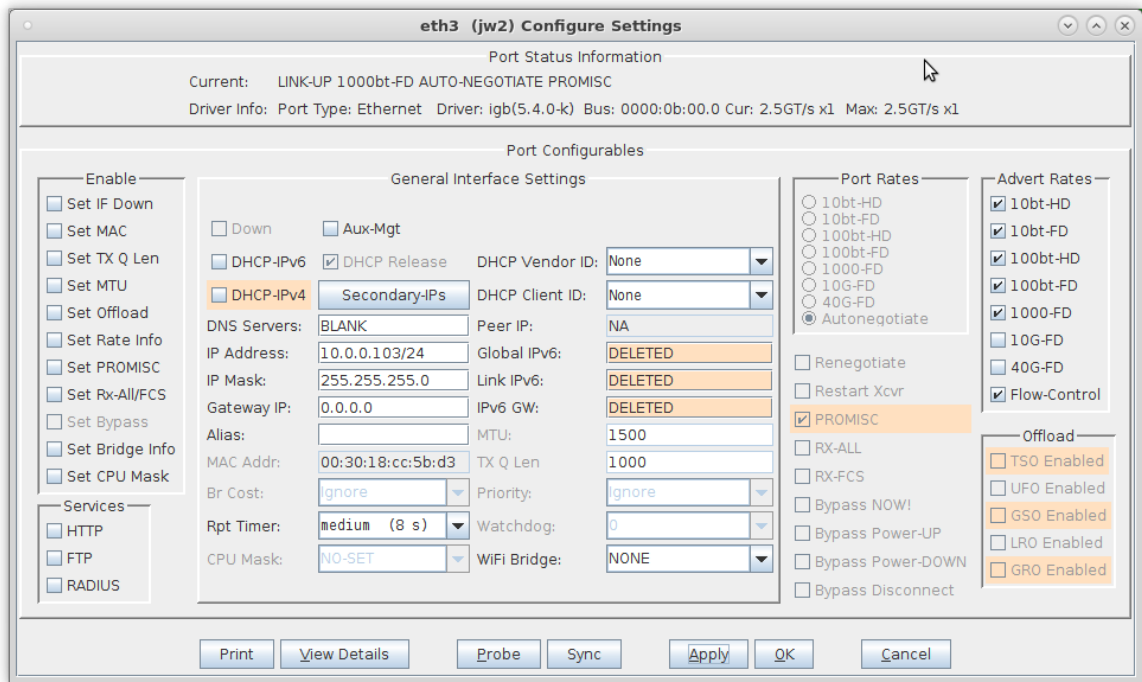
Logged in to: 192.168.100.103:4002 as: Admin

B. Modify ports eth2 and eth3:



A. In this example, eth2 and eth3 are physically connected with a patch cable

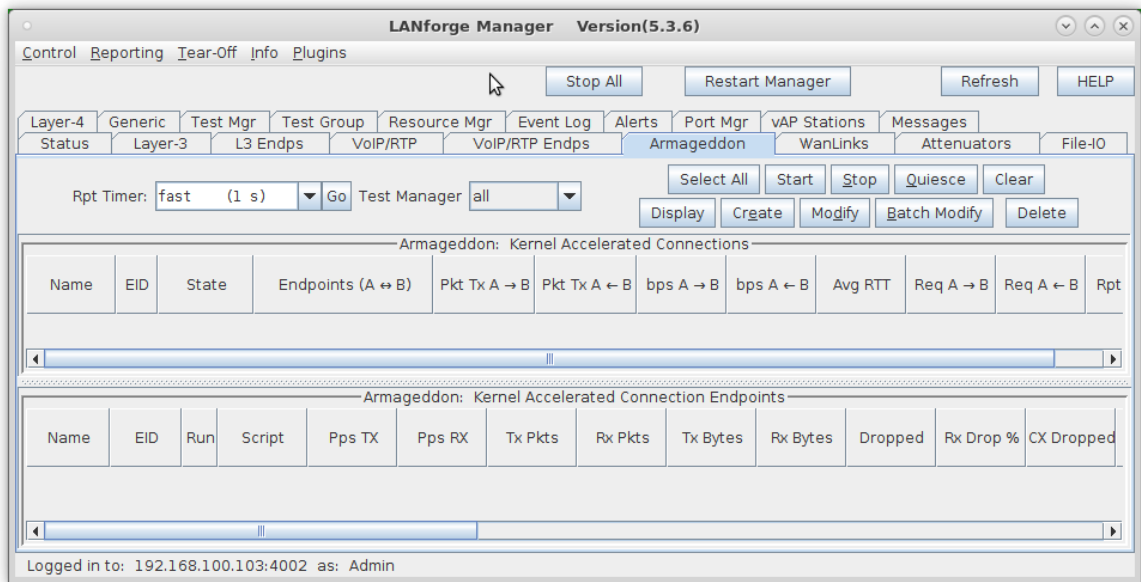
C. Configure each port with a valid IP address, then click OK



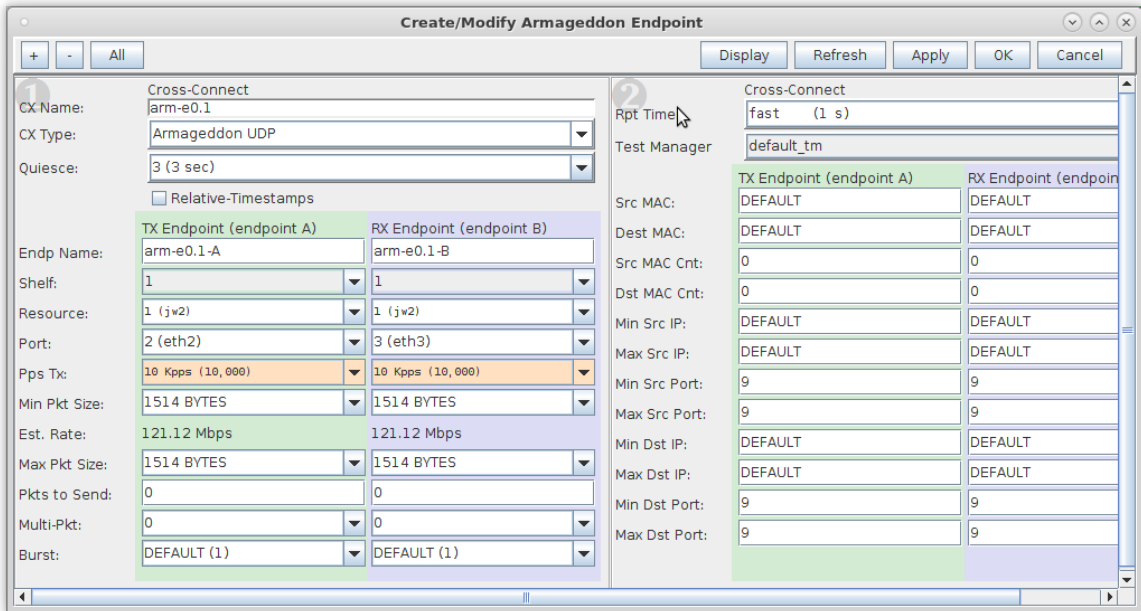
For more information see [LANforge User's Guide: Ports \(Interfaces\)](#)

2. Create the Armageddon cross-connect.

- A. On the **Armageddon** tab, click the **Create** button

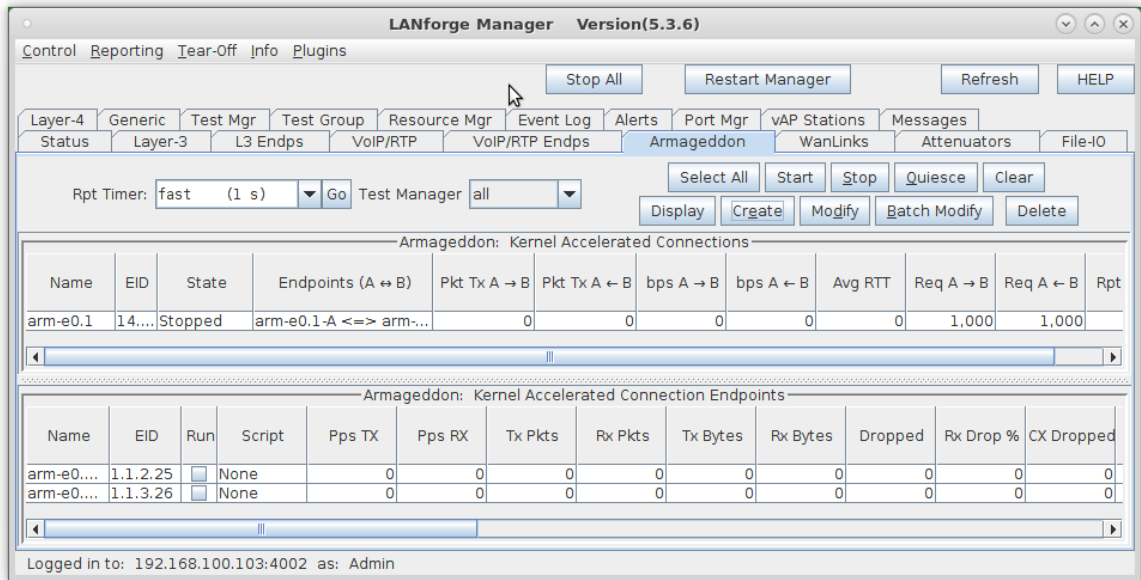


- B. Enter a CX Name, select ports eth2 and eth3, then enter the speed and packet size for both endpoints



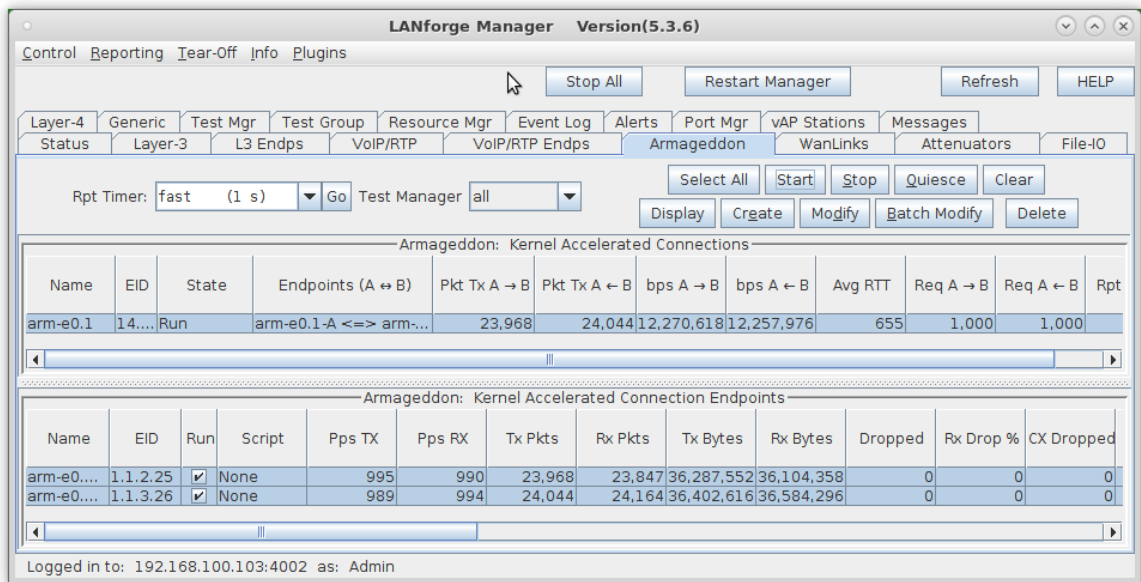
- A. For this example, 10000pps at 1514byte packet size should generate about 121Mbps
- B. Click **OK** when finished

C. Verify that the Armageddon connection is created



For more information see [LANforge User's Guide: Armageddon \(Accelerated UDP\)](#)

3. Run the Armageddon cross-connect and view results.
 - A. Select the Armageddon connection then click Start



- B. It will take a moment for the Armageddon traffic to stabilize. Depending on the hardware, LANforge will settle on an actual rate which may differ from the requested rate.

The screenshot shows the LANforge Manager interface with the 'Armageddon' tab selected. The 'Kernel Accelerated Connections' table shows a single connection 'arm-e0.1' in a 'Run' state. The 'Kernel Accelerated Connection Endpoints' table shows two endpoints, both with 'Run' status and 'None' script.

| Armageddon: Kernel Accelerated Connections | | | | | | | | | | | | |
|--|-------|-------|----------------------|--------------|--------------|-------------|-------------|---------|-----------|-----------|-----|--|
| Name | EID | State | Endpoints (A ↔ B) | Pkt Tx A → B | Pkt Tx A ← B | bps A → B | bps A ← B | Avg RTT | Req A → B | Req A ← B | Rpt | |
| arm-e0.1 | 14... | Run | arm-e0.1-A ↔ arm-... | 1,295,467 | 1,299,520 | 120,378.... | 119,168.... | 219 | 10,000 | 10,000 | | |

| Armageddon: Kernel Accelerated Connection Endpoints | | | | | | | | | | | | |
|---|----------|-------------------------------------|--------|--------|--------|-----------|-----------|-------------|-------------|---------|-----------|------------|
| Name | EID | Run | Script | Pps TX | Pps RX | Tx Pkts | Rx Pkts | Tx Bytes | Rx Bytes | Dropped | Rx Drop % | CX Dropped |
| arm-e0.... | 1.1.2.25 | <input checked="" type="checkbox"/> | None | 9,954 | 9,954 | 1,295,467 | 1,295,963 | 1,961,33... | 1,962,08... | 0 | 0 | 0 |
| arm-e0.... | 1.1.3.26 | <input checked="" type="checkbox"/> | None | 9,987 | 9,986 | 1,299,520 | 1,299,013 | 1,967,47... | 1,966,70... | 0 | 0 | 0 |

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- C. In this example, this system (1.8GHz Intel Atom D525, 6 onboard 10/100/1000 ports) is capable of reaching 81,000pps with 1514byte packets or, an equivalent speed of about 990-1005Mbps bi-directional.

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| Armageddon: Kernel Accelerated Connections | | | | | | | | | | | | |
|--|-------|-------|----------------------|--------------|--------------|-------------|-------------|---------|-----------|-----------|-----|--|
| Name | EID | State | Endpoints (A ↔ B) | Pkt Tx A → B | Pkt Tx A ← B | bps A → B | bps A ← B | Avg RTT | Req A → B | Req A ← B | Rpt | |
| arm-e0.1 | 14... | Run | arm-e0.1-A ↔ arm-... | 2,205,245 | 2,204,473 | 122,355.... | 122,769.... | 230 | 10,000 | 10,000 | | |

| Armageddon: Kernel Accelerated Connection Endpoints | | | | | | | | | | | | |
|---|----------|-------------------------------------|--------|--------|--------|-----------|-----------|-------------|-------------|---------|-----------|------------|
| Name | EID | Run | Script | Pps TX | Pps RX | Tx Pkts | Rx Pkts | Tx Bytes | Rx Bytes | Dropped | Rx Drop % | CX Dropped |
| arm-e0.... | 1.1.2.25 | <input checked="" type="checkbox"/> | None | 9,934 | 9,929 | 2,205,245 | 2,205,482 | 3,338,74... | 3,339,09... | 0 | 0 | 0 |
| arm-e0.... | 1.1.3.26 | <input checked="" type="checkbox"/> | None | 9,935 | 9,942 | 2,204,473 | 2,204,231 | 3,337,57... | 3,337,20... | 0 | 0 | 0 |

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- A. **NOTE:** Delay for Armageddon connections is measured in microseconds (us) and in this example, the system experiences about 39us of delay when sending to itself.

For more information see [LANforge User's Guide: Armageddon \(Accelerated UDP\)](#)

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