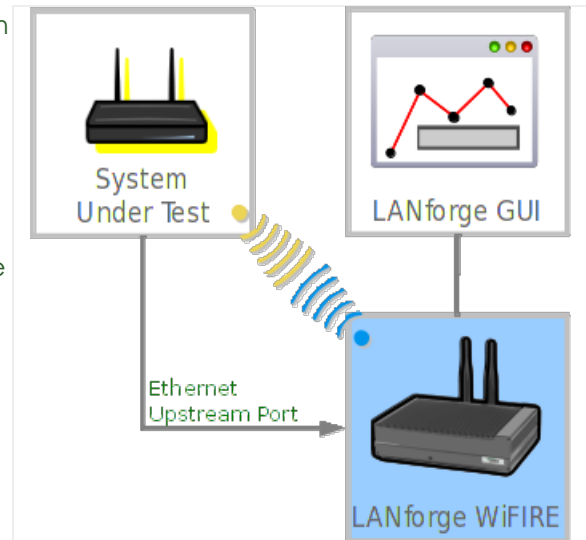


## Using iperf3 to Generate Traffic

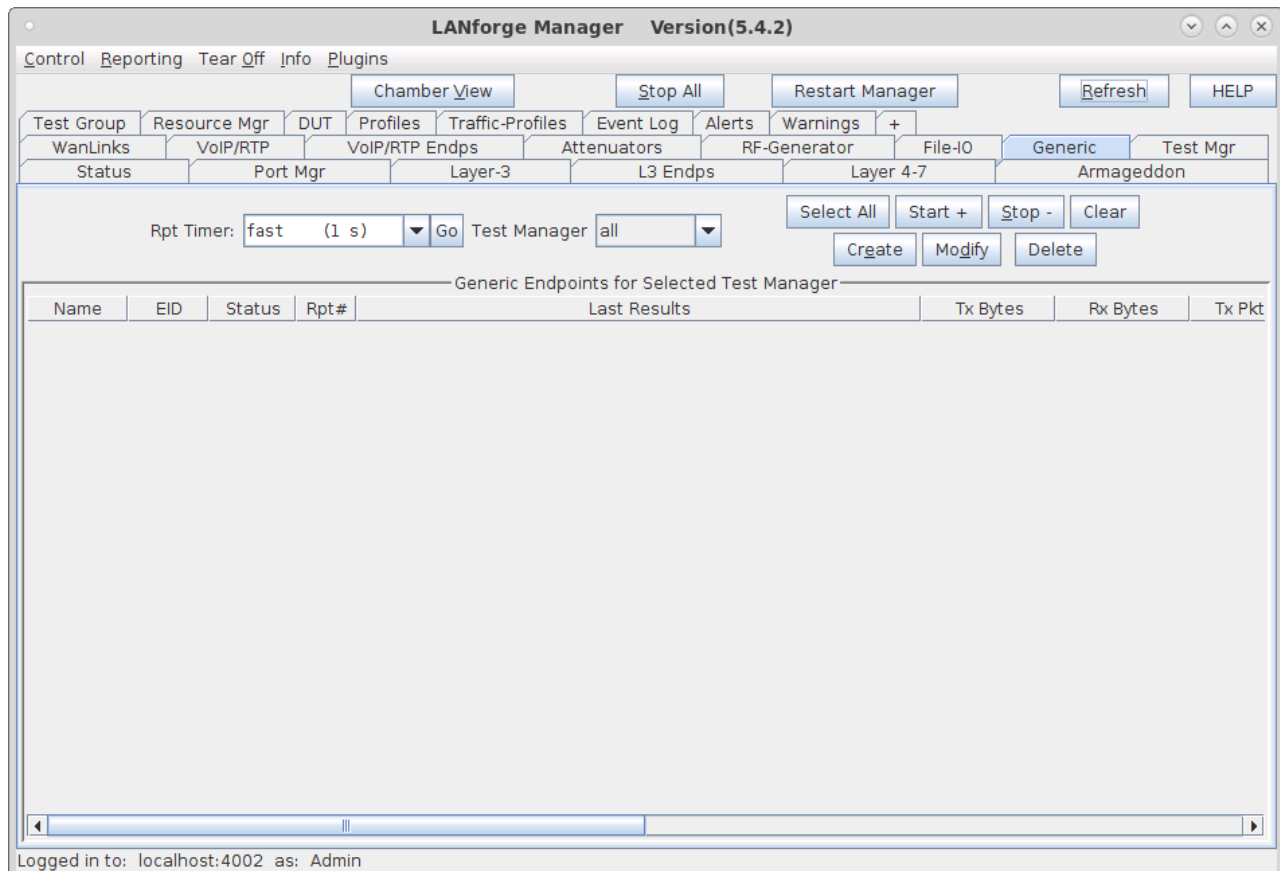
**Goal:** Set up virtual stations using a LANforge system, connect them to an AP under test, set up iperf3, and run tests.

In this test scenario a LANforge system is used to create both the wireless stations and iperf3 server. The test is then configured to use iperf3 to generate traffic in both the download and upload directions.

Although LANforge Generic endpoints prompt the use of iperf3, iperf2 could be used instead with a manual configuration. This example however, focuses on how to use iperf3.



1. Select the Generic tab from the main GUI window.



2. Select the Create button to create the iperf3 server.

- A. Use the top section to name the connection and choose the port/interface, then use the Command Builder for iperf3 to choose the Server option. The command line will be filled in when the Apply button is selected.

**Create/Modify Generic Endpoint**

Name:  Rpt Timer:  Test Manager:

Shelf:  Resource:  Port:  Endp ID: 71

Command Builders:

☒ Server ☐ Client ☐ UDP ☒ TCP

☒ Transmit ☐ Receive

Run Time:  Target:

Pkts To Send:  Write-Size:

Tx Rate:  IP ToS:

Additional options:

Command:

Command Output

- B. For a single iperf3 test at a time setup one server.

**Create/Modify Generic Endpoint**

Name:  Rpt Timer:  Test Manager:

Shelf:  Resource:  Port:  Endp ID: 71

Command Builders:

☒ Server ☐ Client ☐ UDP ☒ TCP

☒ Transmit ☐ Receive

Run Time:  Target:

Pkts To Send:  Write-Size:

Tx Rate:  IP ToS:

Additional options:

Command:

Command Output

- C. For multiple iperf3 tests at a time, setup multiple servers, each with a unique IP port number by using the -p option.

The image shows two side-by-side screenshots of the 'Create/Modify Generic Endpoint' dialog box. Both are configured for 'iperf3' as the Command Builder.

- Left Window (iperf3-server1):**
  - Name: iperf3-server1
  - Rpt Timer: fast (1 s)
  - Test Manager: default\_tm
  - Shelf: 1
  - Resource: 1 (ct523c-0b29)
  - Port: 2 (eth2)
  - Endp ID: 77
  - Command Builders: iperf3
  - Mode: ☒ Server, ☐ Client, ☐ UDP, ☒ TCP
  - Transmit: ☒ Transmit, ☐ Receive
  - Run Time: 60
  - Pkts To Send: Infinite
  - Tx Rate: 1G (1 Gbps)
  - IP ToS: Best Effort (0)
  - Additional options: -p 5201
  - Command: iperf3 -forceflush -format k -precision 4 -s -bind\_dev eth2 -i 1 -pidfile /tmp/lf\_helper\_iperf3\_iperf3-server1.pid -p 5201
- Right Window (iperf3-server2):**
  - Name: iperf3-server2
  - Rpt Timer: fast (1 s)
  - Test Manager: default\_tm
  - Shelf: 1
  - Resource: 1 (ct523c-0b29)
  - Port: 2 (eth2)
  - Endp ID: 79
  - Command Builders: iperf3
  - Mode: ☒ Server, ☐ Client, ☐ UDP, ☒ TCP
  - Transmit: ☒ Transmit, ☐ Receive
  - Run Time: 60
  - Pkts To Send: Infinite
  - Tx Rate: 1G (1 Gbps)
  - IP ToS: Best Effort (0)
  - Additional options: -p 5202
  - Command: iperf3 -forceflush -format k -precision 4 -s -bind\_dev eth2 -i 1 -pidfile /tmp/lf\_helper\_iperf3\_iperf3-server2.pid -p 5202

### 3. Create the iperf3 client.

- A. For a single iperf3 test at a time setup one client.

The image shows a single screenshot of the 'Create/Modify Generic Endpoint' dialog box configured for 'iperf3' as the Command Builder.

- Name: iperf3-test
- Rpt Timer: fast (1 s)
- Test Manager: default\_tm
- Shelf: 1
- Resource: 1 (ct523c-0b29)
- Port: 16 (sta00000)
- Endp ID: 81
- Command Builders: iperf3
- Mode: ☐ Server, ☒ Client, ☐ UDP, ☒ TCP
- Transmit: ☐ Transmit, ☒ Receive
- Run Time: 60
- Target: 192.168.50.37
- Pkts To Send: Infinite
- Tx Rate: 1G (1 Gbps)
- IP ToS: Best Effort (0)
- Additional options:
- Command: iperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R -tos 0 -b 1000000K -bind\_dev sta00000 -i 1 -pidfile /tmp/lf\_helper\_iperf3\_iperf3-test.pid

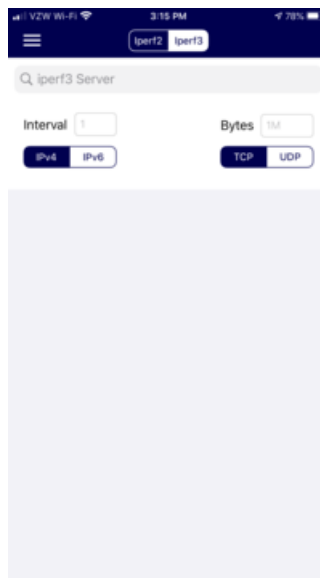
- B. For multiple iperf3 tests at a time, setup multiple clients using the corresponding IP ports as the servers.

The image shows two side-by-side screenshots of the 'Create/Modify Generic Endpoint' dialog box, both configured for 'iperf3' as the Command Builder.

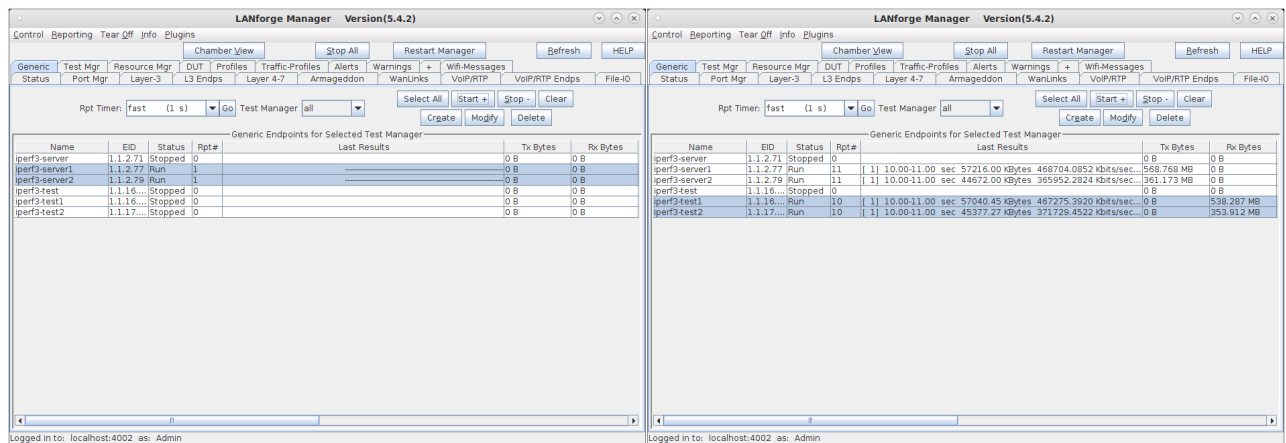
- Left Window (iperf3-test1):**
  - Name: iperf3-test1
  - Rpt Timer: fast (1 s)
  - Test Manager: default\_tm
  - Shelf: 1
  - Resource: 1 (ct523c-0b29)
  - Port: 16 (sta00000)
  - Endp ID: 73
  - Command Builders: iperf3
  - Mode: ☐ Server, ☒ Client, ☐ UDP, ☒ TCP
  - Transmit: ☐ Transmit, ☒ Receive
  - Run Time: 60
  - Target: 192.168.50.37
  - Pkts To Send: Infinite
  - Tx Rate: 1G (1 Gbps)
  - IP ToS: Best Effort (0)
  - Additional options: -p 5201
  - Command: iperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R -tos 0 -b 1000000K -bind\_dev sta00000 -i 1 -pidfile /tmp/lf\_helper\_iperf3\_iperf3-test1.pid
- Right Window (iperf3-test2):**
  - Name: iperf3-test2
  - Rpt Timer: fast (1 s)
  - Test Manager: default\_tm
  - Shelf: 1
  - Resource: 1 (ct523c-0b29)
  - Port: 17 (sta00500)
  - Endp ID: 75
  - Command Builders: iperf3
  - Mode: ☐ Server, ☒ Client, ☐ UDP, ☒ TCP
  - Transmit: ☐ Transmit, ☒ Receive
  - Run Time: 60
  - Target: 192.168.50.37
  - Pkts To Send: Infinite
  - Tx Rate: 1G (1 Gbps)
  - IP ToS: Best Effort (0)
  - Additional options: -p 5202
  - Command: iperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R -tos 0 -b 1000000K -bind\_dev sta00500 -i 1 -pidfile /tmp/lf\_helper\_iperf3\_iperf3-test2.pid

### 4. If you want to run iperf3 on a mobile device, run it in server mode.

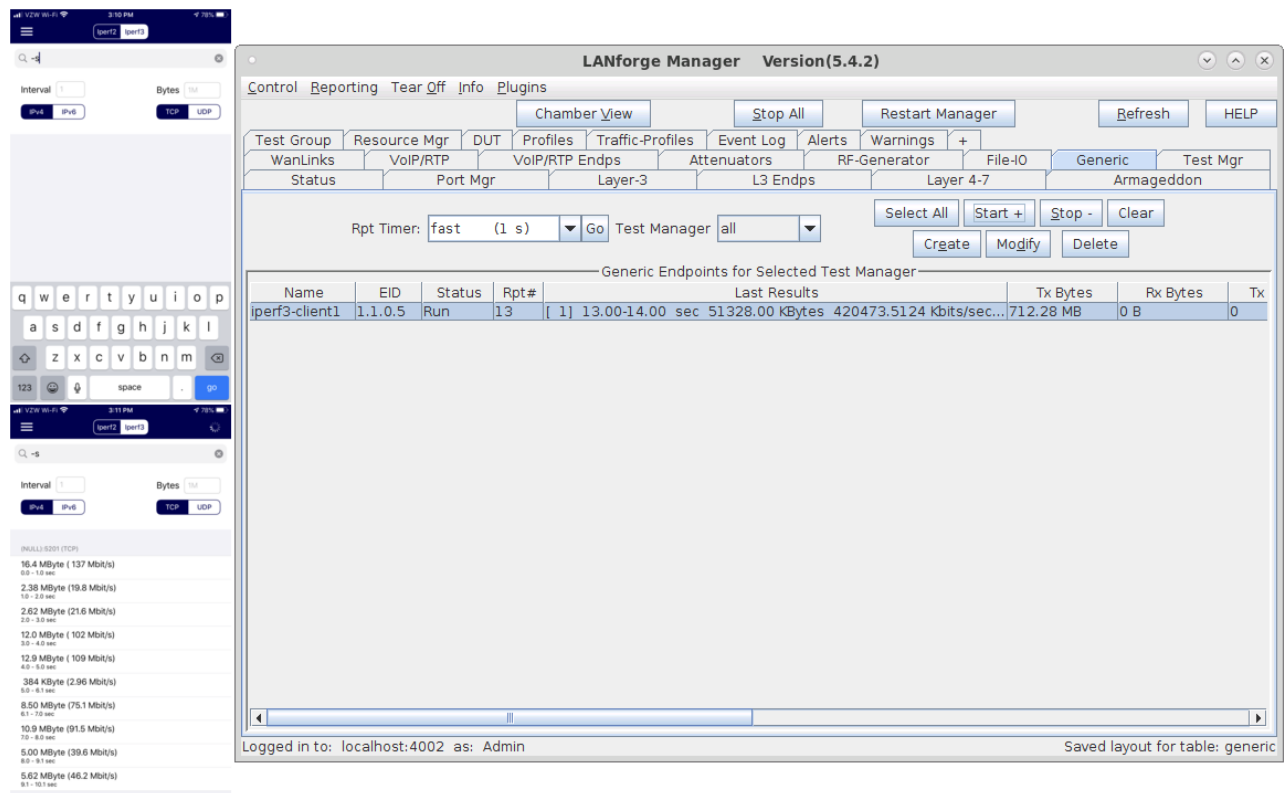
One free and simple mobile application for iperf3 is provided by [he.net](#)



- To start any iperf3 test, start the server or servers first, then start the clients.



- For mobile devices, start the iperf3 server on the mobile devices first, then start the clients.



- Modify the endpoint to view the per iteration text results.

Create/Modify Generic Endpoint

Name: iperf3-test1

Rpt Timer: Fast (1 s)

Test Manager: default\_tm

Shell: 1

Resource: 1 (sta00000)

Port: 16 (sta00000)

Endp ID: 73

Command Builders

iperf3

☐ Server

☒ Client

☐ UDP

☒ TCP

☐ Transmit

☒ Receive

Run Time: 60

Target: 192.168.50.37

Pkts To Send: Infinite

Write-Size: AUTO

Tx Rate: 36 (3 Best)

IP ToS: Best Effort (0)

Additional options: p 5201

Command: iperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R -tos 0 -b 1000000K -bind\_dev sta00000 -i 1 -pidfile /tmp/iperf3-iperf3-test1.pid -p 5201

Command Output

```
1 11 45.00-45.00 sec 45452.21 Mbytes 372345.9996 Mbits/sec
1 11 45.00-45.00 sec 35532.32 Mbytes 451871.8339 Mbits/sec
1 11 47.00-47.00 sec 58629.05 Mbytes 434795.5359 Mbits/sec
1 11 48.00-48.00 sec 52653.35 Mbytes 475771.7568 Mbits/sec
1 11 49.00-49.00 sec 59588.06 Mbytes 450886.8432 Mbits/sec
1 11 50.00-50.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 50.00-51.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 51.00-51.00 sec 53847.34 Mbytes 434562.1789 Mbits/sec
1 11 52.00-52.00 sec 47388.34 Mbytes 392341.8889 Mbits/sec
1 11 54.00-54.00 sec 59588.06 Mbytes 450886.8432 Mbits/sec
1 11 55.00-55.00 sec 59588.06 Mbytes 450886.8432 Mbits/sec
1 11 56.00-56.00 sec 47388.34 Mbytes 392341.8889 Mbits/sec
1 11 57.00-57.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 58.00-58.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 59.00-59.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 59.00-59.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
```

Sync

Apply

OK

Cancel

Create/Modify Generic Endpoint

Name: iperf3-test2

Rpt Timer: Fast (1 s)

Test Manager: default\_tm

Shell: 1

Resource: 1 (sta00000)

Port: 17 (sta00000)

Endp ID: 75

Command Builders

iperf3

☐ Server

☒ Client

☐ UDP

☒ TCP

☐ Transmit

☒ Receive

Run Time: 60

Target: 192.168.50.37

Pkts To Send: Infinite

Write-Size: AUTO

Tx Rate: 36 (3 Best)

IP ToS: Best Effort (0)

Additional options: p 5202

Command: iperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R -tos 0 -b 1000000K -bind\_dev sta00000 -i 1 -pidfile /tmp/iperf3-iperf3-test2.pid -p 5202

Command Output

```
1 11 45.00-45.00 sec 33789.23 Mbytes 276545.5545 Mbits/sec
1 11 46.00-46.00 sec 27543.35 Mbytes 395362.5629 Mbits/sec
1 11 47.00-47.00 sec 39981.30 Mbytes 327515.5125 Mbits/sec
1 11 48.00-48.00 sec 22337.30 Mbytes 185396.1339 Mbits/sec
1 11 49.00-49.00 sec 35532.32 Mbytes 451871.8339 Mbits/sec
1 11 50.00-50.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 50.00-51.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 51.00-51.00 sec 47388.34 Mbytes 392341.8889 Mbits/sec
1 11 52.00-52.00 sec 47388.34 Mbytes 392341.8889 Mbits/sec
1 11 54.00-54.00 sec 39981.30 Mbytes 327515.5125 Mbits/sec
1 11 55.00-55.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 56.00-56.00 sec 43789.00 Mbytes 362448.1645 Mbits/sec
1 11 57.00-57.00 sec 34889.45 Mbytes 288712.4396 Mbits/sec
1 11 58.00-58.00 sec 34889.45 Mbytes 288712.4396 Mbits/sec
1 11 59.00-59.00 sec 37882.75 Mbytes 309551.9902 Mbits/sec
```

Sync

Apply

OK

Cancel

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