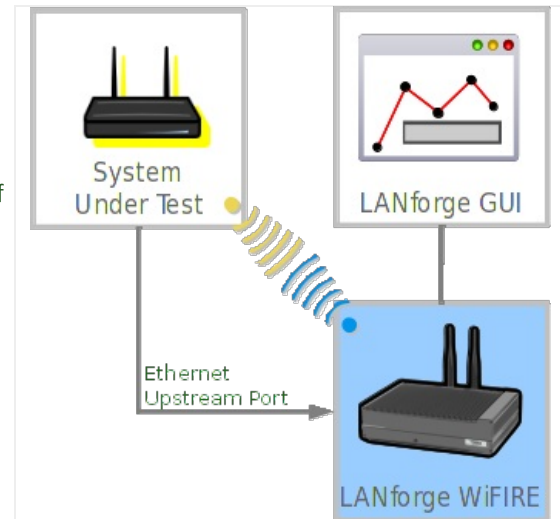


Using iperf3 to Generate Traffic

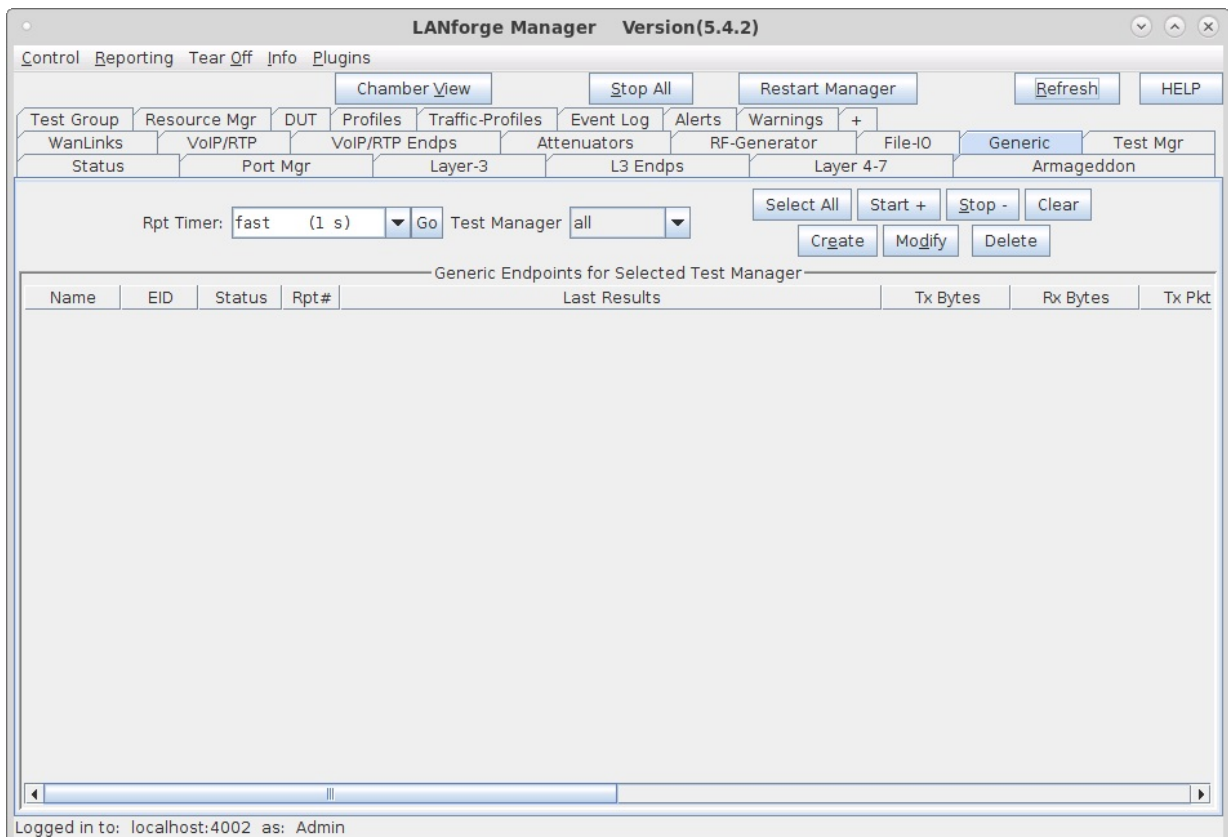
Goal: Set up virtual stations using a LANforge system, connect them to an AP under test, set up iperf3, and run tests.

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 windows are configured for 'iperf3' as the Command Builder. The left window is for 'iperf3-server1' with Port 5201, and the right window is for 'iperf3-server2' with Port 5202. Both are set to 'Server' mode, 'TCP', 'Transmit', with a 'Run Time' of 60, 'Pkts To Send' of 'Infinite', 'Write-Size' of 'AUTO', 'Tx Rate' of '1G (1 Gbps)', and 'IP ToS' of 'Best Effort (0)'. The 'Additional options' field is empty in both. The 'Command' field shows the iperf3 command with the respective port and PID.

3. Create the iperf3 client.

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

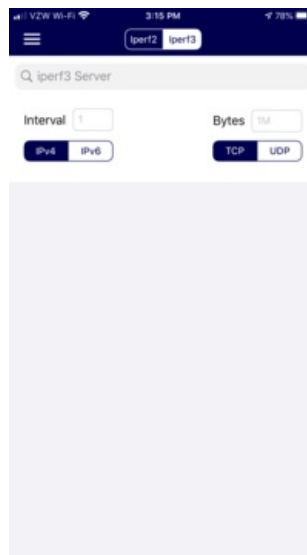
The image shows a single screenshot of the 'Create/Modify Generic Endpoint' dialog box. It is configured for 'iperf3' as the Command Builder. The client is named 'iperf3-test', set to 'Client' mode, 'TCP', 'Receive', with a 'Run Time' of 60, 'Target' of '192.168.50.37', 'Pkts To Send' of 'Infinite', 'Write-Size' of 'AUTO', 'Tx Rate' of '1G (1 Gbps)', and 'IP ToS' of 'Best Effort (0)'. The 'Additional options' field is empty. The 'Command' field shows the iperf3 command with the target IP, port, and PID.

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

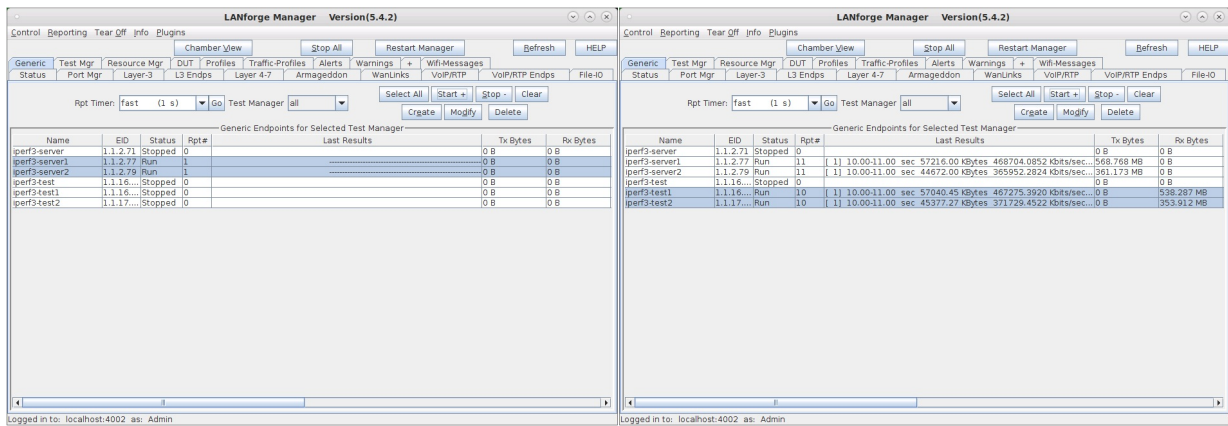
The image shows two side-by-side screenshots of the 'Create/Modify Generic Endpoint' dialog box. Both windows are configured for 'iperf3' as the Command Builder. The left window is for 'iperf3-test1' with Port 5201, and the right window is for 'iperf3-test2' with Port 5202. Both are set to 'Client' mode, 'TCP', 'Receive', with a 'Run Time' of 60, 'Target' of '192.168.50.37', 'Pkts To Send' of 'Infinite', 'Write-Size' of 'AUTO', 'Tx Rate' of '1G (1 Gbps)', and 'IP ToS' of 'Best Effort (0)'. The 'Additional options' field is empty in both. The 'Command' field shows the iperf3 command with the target IP, port, and PID.

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

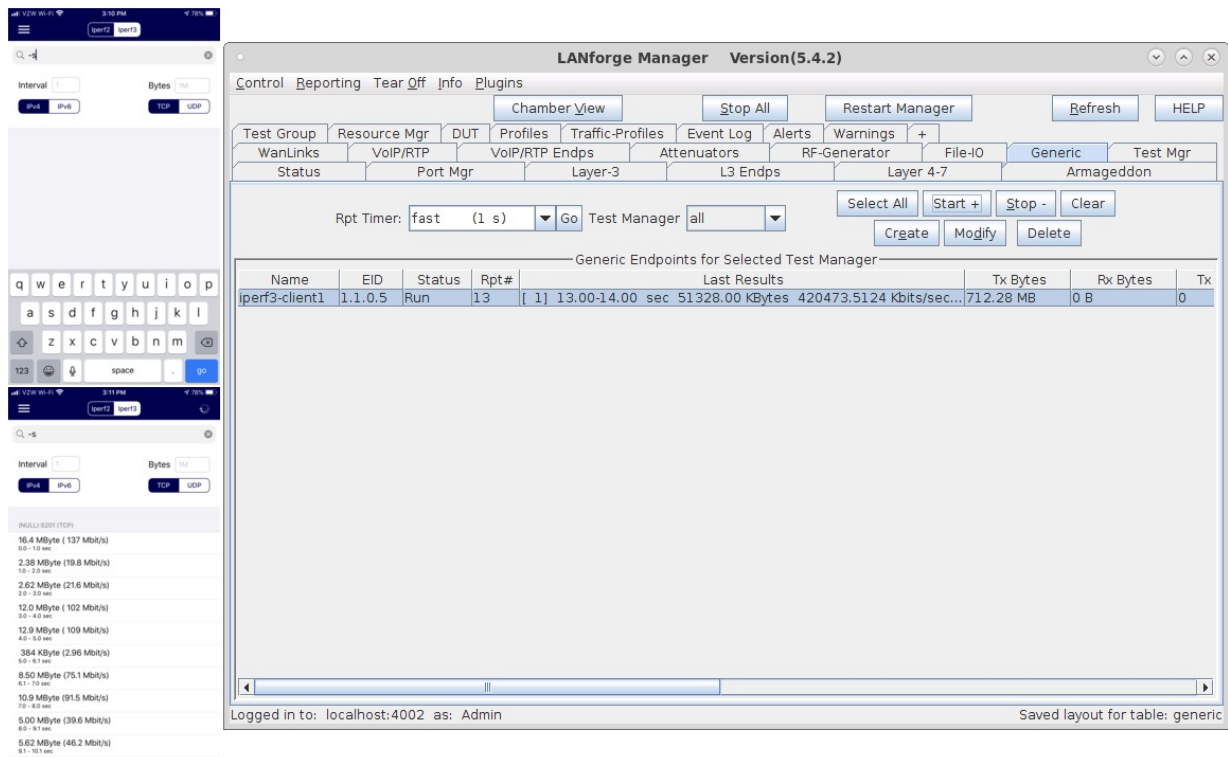
One free and simple mobile application for iperf3 is provided by he.net



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



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



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

Create/Modify Generic Endpoint

Name: gperf3test1

Rpt Timer: Fast (1 s)

Test Manager: default_tm

Shell: 1

Resource: 1 (xrtx3n-4b3n)

Port: 16 (sta00000)

Endp ID: 73

Command Builders

gperf3

☐ Server
☒ Client
☐ UDP
☒ TCP

☐ Transmit
☒ Receive

Run Time: 60

Target: 192.168.50.37

Pkts To Send: Infinite

Write Size: AUTO

Tx Rate: 36 (1.0Mbit)

IP ToS: Best Effort (0)

Additional options: p 5201

Command: gperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R 0 -b 1000000K -bind_dev sta00000 -i 1 -profile /tmp/gperf3_gperf3test1.pid -p 5201

Command Output

```

1 1 45.90-46.90 sec 45622.22 RcvRate 37295.9999 RcvRate
1 1 46.90-47.90 sec 35112.22 RcvRate 45105.1333 RcvRate
1 1 47.90-48.90 sec 35624.44 RcvRate 44795.5556 RcvRate
1 1 48.90-49.90 sec 35855.56 RcvRate 45795.7778 RcvRate
1 1 49.90-50.90 sec 35958.89 RcvRate 45994.4444 RcvRate
1 1 50.90-51.90 sec 47795.56 RcvRate 34344.1667 RcvRate
1 1 51.90-52.90 sec 47795.56 RcvRate 34344.1667 RcvRate
1 1 52.90-53.90 sec 32847.78 RcvRate 46562.1111 RcvRate
1 1 53.90-54.90 sec 37866.67 RcvRate 46115.5556 RcvRate
1 1 54.90-55.90 sec 33022.22 RcvRate 45575.4222 RcvRate
1 1 55.90-56.90 sec 35922.22 RcvRate 45521.5600 RcvRate
1 1 56.90-57.90 sec 40775.56 RcvRate 35844.2792 RcvRate
1 1 57.90-58.90 sec 40522.22 RcvRate 36764.1111 RcvRate
1 1 58.90-59.90 sec 42121.89 RcvRate 34636.7761 RcvRate
1 1 59.90-60.90 sec 42181.89 RcvRate 34634.7761 RcvRate

```

Create/Modify Generic Endpoint

Name: gperf3test2

Rpt Timer: Fast (1 s)

Test Manager: default_tm

Shell: 1

Resource: 1 (xrtx3n-4b3n)

Port: 17 (sta00500)

Endp ID: 75

Command Builders

gperf3

☐ Server
☒ Client
☐ UDP
☒ TCP

☐ Transmit
☒ Receive

Run Time: 60

Target: 192.168.50.37

Pkts To Send: Infinite

Write Size: AUTO

Tx Rate: 36 (1.0Mbit)

IP ToS: Best Effort (0)

Additional options: p 5202

Command: gperf3 -forceflush -format k -precision 4 -c 192.168.50.37 -t 60 -R 0 -b 1000000K -bind_dev sta00500 -i 1 -profile /tmp/gperf3_gperf3test2.pid -p 5202

Command Output

```

1 1 45.90-46.90 sec 32742.22 RcvRate 27645.9167 RcvRate
1 1 46.90-47.90 sec 37345.56 RcvRate 30765.5556 RcvRate
1 1 47.90-48.90 sec 38855.56 RcvRate 37175.5556 RcvRate
1 1 48.90-49.90 sec 23247.78 RcvRate 33259.4444 RcvRate
1 1 49.90-50.90 sec 23247.78 RcvRate 33259.4444 RcvRate
1 1 50.90-51.90 sec 43522.22 RcvRate 34244.4944 RcvRate
1 1 51.90-52.90 sec 43522.22 RcvRate 34244.4944 RcvRate
1 1 52.90-53.90 sec 47345.56 RcvRate 35765.7778 RcvRate
1 1 53.90-54.90 sec 47345.56 RcvRate 35765.7778 RcvRate
1 1 54.90-55.90 sec 36775.56 RcvRate 24544.1111 RcvRate
1 1 55.90-56.90 sec 40522.22 RcvRate 30552.7667 RcvRate
1 1 56.90-57.90 sec 34636.78 RcvRate 30674.4444 RcvRate
1 1 57.90-58.90 sec 37866.67 RcvRate 30651.9000 RcvRate
1 1 58.90-59.90 sec 37866.67 RcvRate 30651.9000 RcvRate

```

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