5000 concurrent TCP streams and IP addresses

**Goal:** Quickly set up 5000 TCP connections from 5000 different IP addresses.

Requires LANforge 5.2.10 or later. Use the new feature in 5.2.10 that lets 'mul-
conn' Layer-3 TCP connections use a range of secondary IPs to quickly
create 5000 stateful TCP/IP connections on different IP addresses. This
example uses two 10G ports on a system similar to the LANforge CT503-MIX
systems but the procedure should work on all properly licensed higher-end
systems. A standard LANforge license only supports 1000 concurrent
connections, contact your sales representative for additional licenses. This
cookbook assumes basic familiarity with LANforge.

1. Create 5000 secondary IP addresses on an ethernet port. The IP address range should be on the same subnet as the
primary IP address on this interface.
A. Go to the Port Manager tab, select the client-side ethernet port and click Modify. Ensure subnet mask is 255.255.0.0 or similar so we have plenty of room to add the 5000 secondary IPs on the subnet. Apply if changes were made.

B. Click the Secondary-IPs button to bring up the Secondary IP address management window. Enter the IP address range similar to the image below and click Apply:
C. Click ‘Sync’ after a few minutes to make sure all of the new IP addresses were properly created.

D. Make sure a second ethernet port on the LANforge is properly configured for the server-side of the network. In this case, we are using a network-emulator in bridge mode as device-under-test, so all IP addresses are on the same subnet.

For more information see LANforge User’s Guide: Ports (Interfaces)

2. Create a Layer-3 TCP connection to utilize these 5000 secondary IPs and start the traffic.
A. Go to the Layer-3 tab and click Create. Configure the CX Name, CX Type, Ports, and PDU Size in section 1. The port in the green section should be the one with the secondary IP Addresses. In section 2, configure Min IP Port in the green section, and Multi-Conn in both. In section 3, select ‘Linear’ for the IP Addr selection box in the green section. In section 4, select the Concurrent IP Addr checkbox in the green section.
B. Start the connection, and then go to the Port Mgr tab, select one of the ethernet ports, and sniff the traffic (or use third-party tools) to verify the IP address range as expected: