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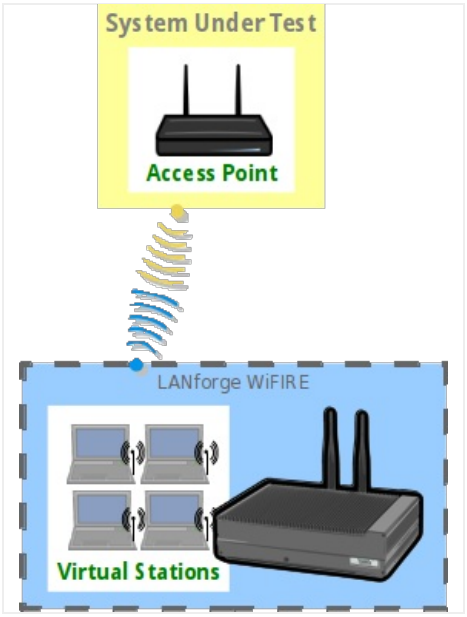
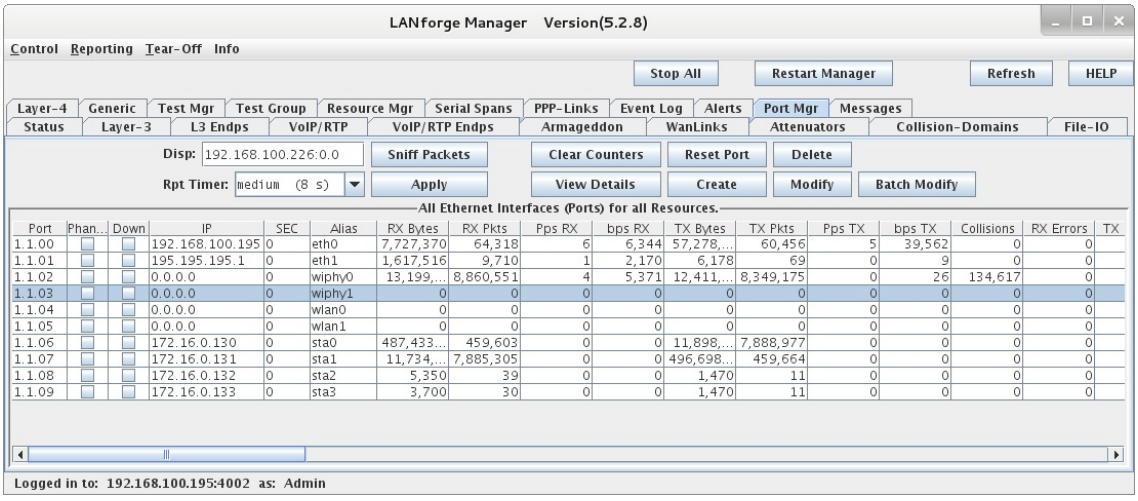
Generating Traffic to saturate a particular WiFi Channel

Goal: Setup and run Wireless LAN traffic using the LANforge CT523 in order to fully saturate a WiFi channel.

In this test scenario, the LANforge CT523 is used to simulate 4 virtual wireless stations on one radio that associate with an access point on the other radio. This allows a single LANforge machine to be a complete WiFi network. Please see the Wifi Testing cookbook example first. These steps assume the configuration from that cookbook is already in place.

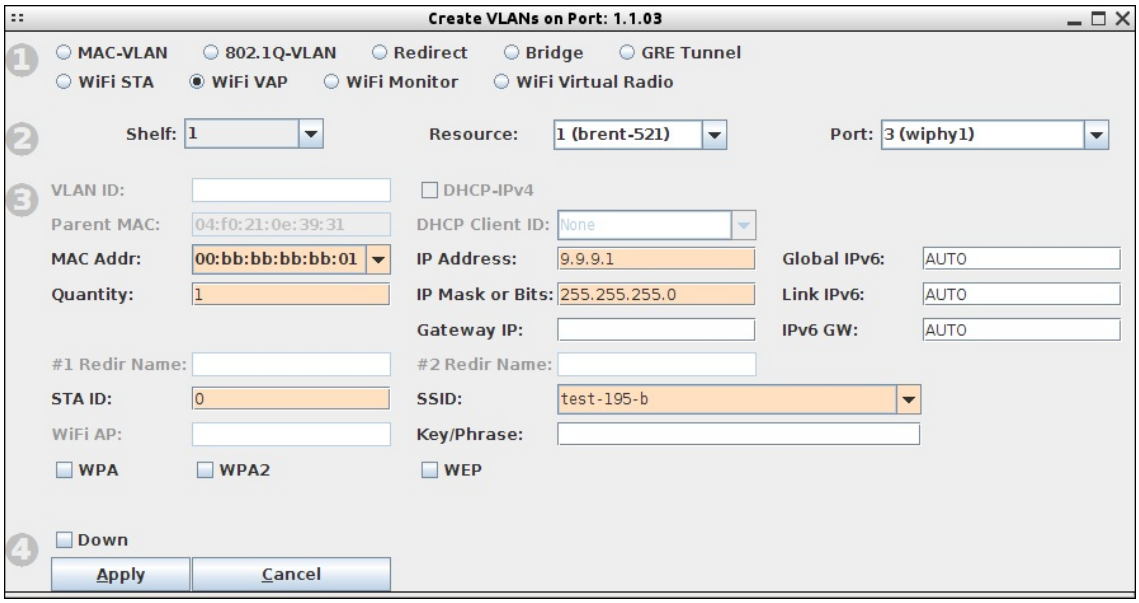


1. Create a virtual AP on wiphy1.
   A. Go to the Port Manager

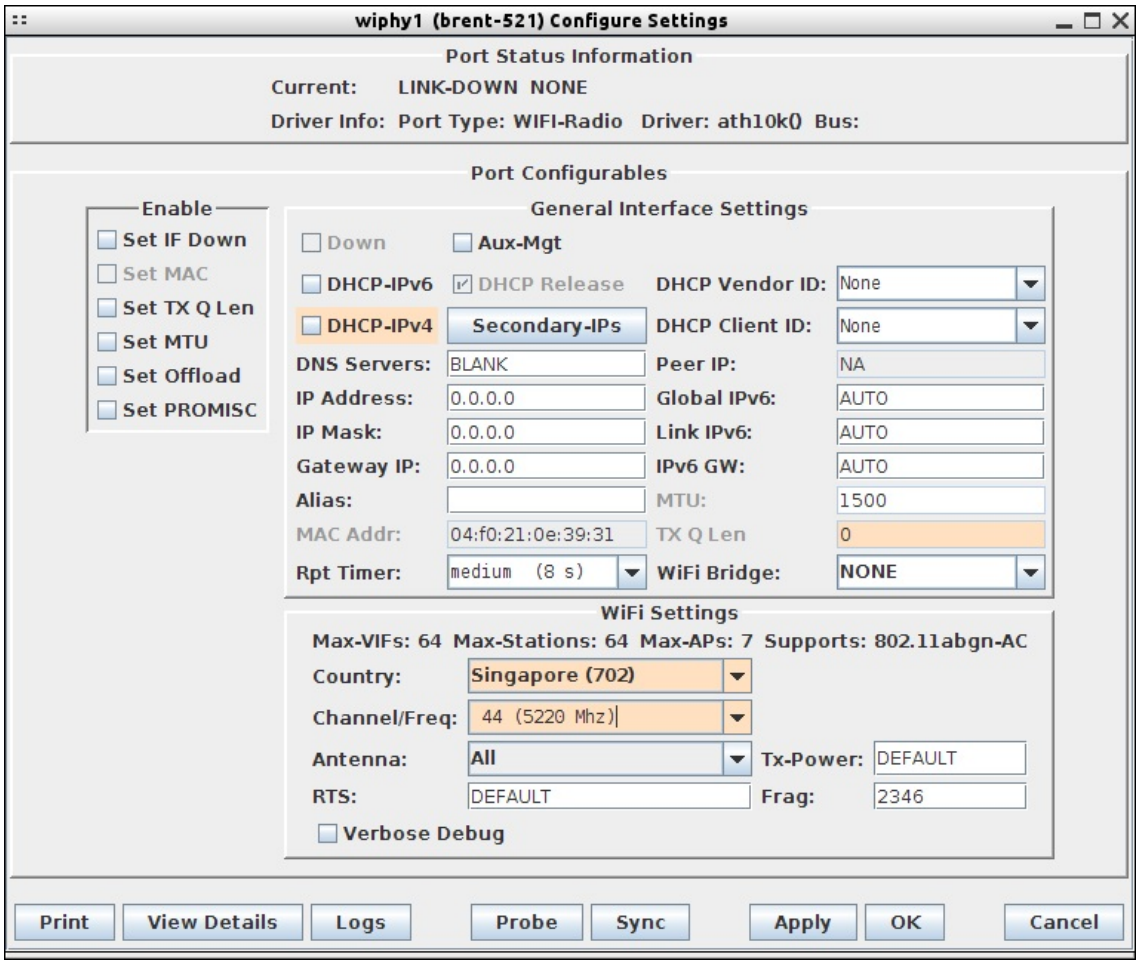


   B. Select port wiphy1 and click Create

C. Select the **Wifi VAP** button, then enter **MAC**, **Quantity**, **STA ID**, and **SSID**. Enter IPv4 address info:



D. Configure the radio's channel (which will apply to the VAP that was just created). Select the wiphy1 interface in the Port-Mgr tab and click **Modify**. Select the channel, and optionally the country-code, and then press **Ok**. If you elect to change the country code, you must do so on all radios in your system in order for proper function.



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

2. Use the Netsmith feature to create a virtual router and configure DHCP for the AP.
   A. Go to the **Status** tab, and click the Netsmith button for Resource 1.
   B. Drag the existing interfaces into a more pleasing layout.

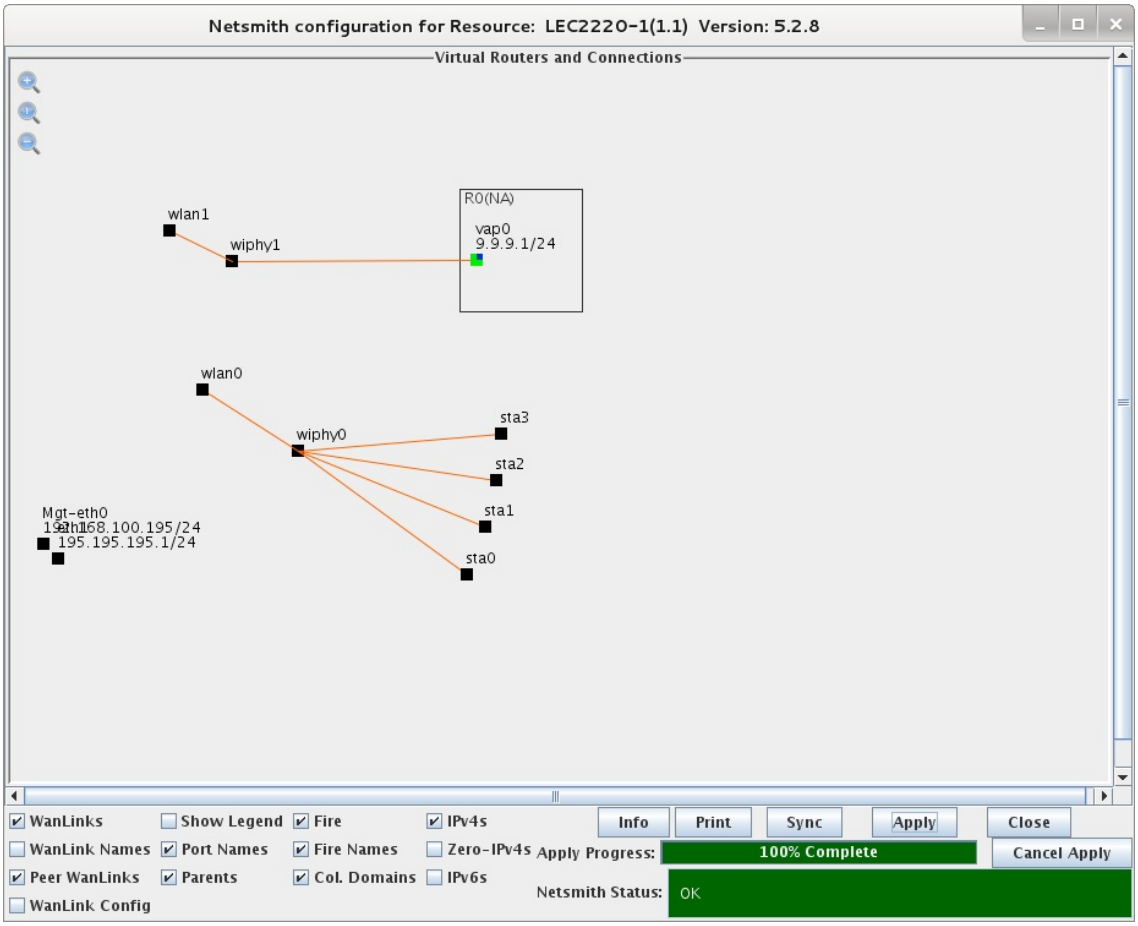
C. Right-Click in empty space and create a new Virtual Router. Just click OK, using the default configuration.

D. Drag the VAP interface into the virtual router and click **Apply** at the bottom-right of the Netsmith window..

E. Double-lick the vap0 icon (which should now be green) to bring up the **Create/Modify Connection** window.

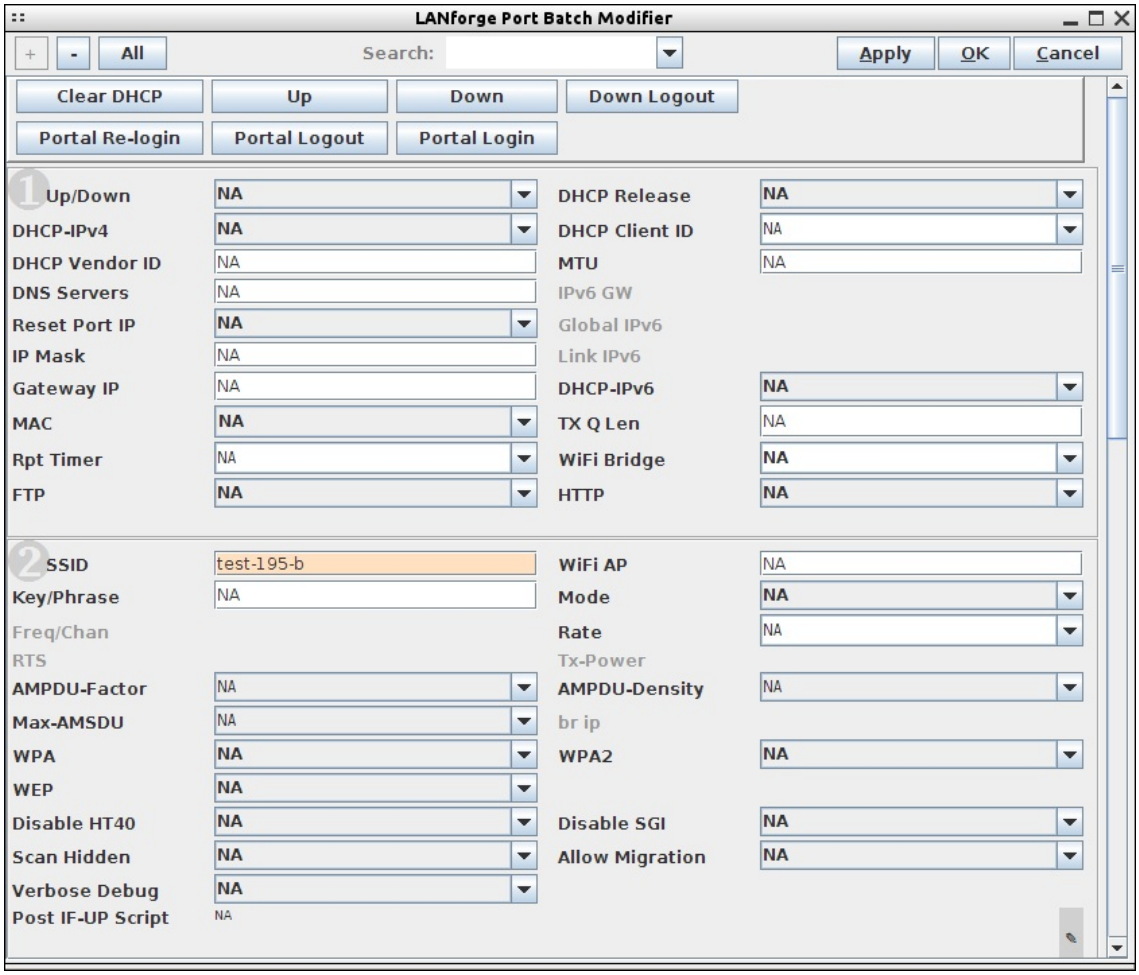
F. Select the DHCP option, and then fill in the **Range Min** and **Range Max** values appropriately.

G. Apply Netsmith again and the configuration should be done.

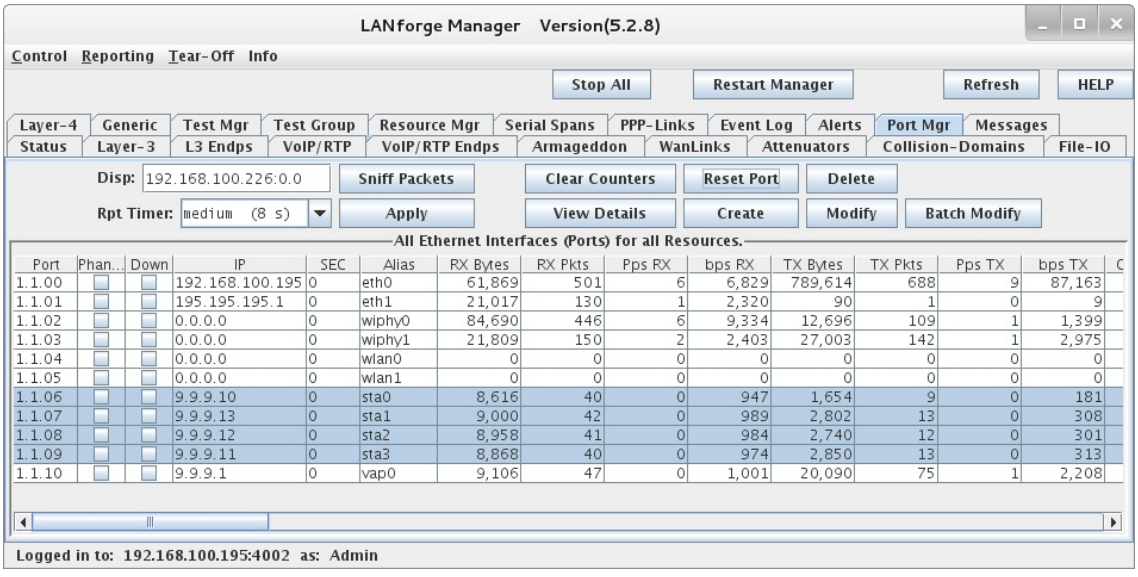


3. Use Batch-Modify to configure all of the existing WiFi stations to talk to the new AP.

A. Go to the **Port-Mgr** tab, select sta0, sta1, sta2, and sta3, and then click the **Batch Modify** button. Configure the SSID to match the AP, and then press OK

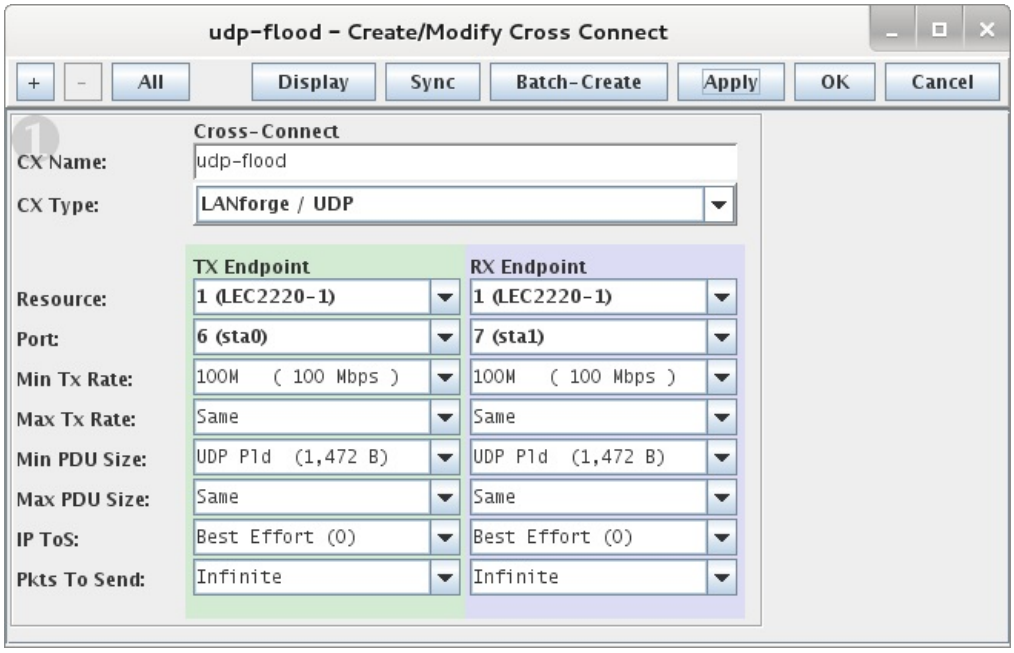


B. The station interfaces should now get DHCP addresses matching the new AP

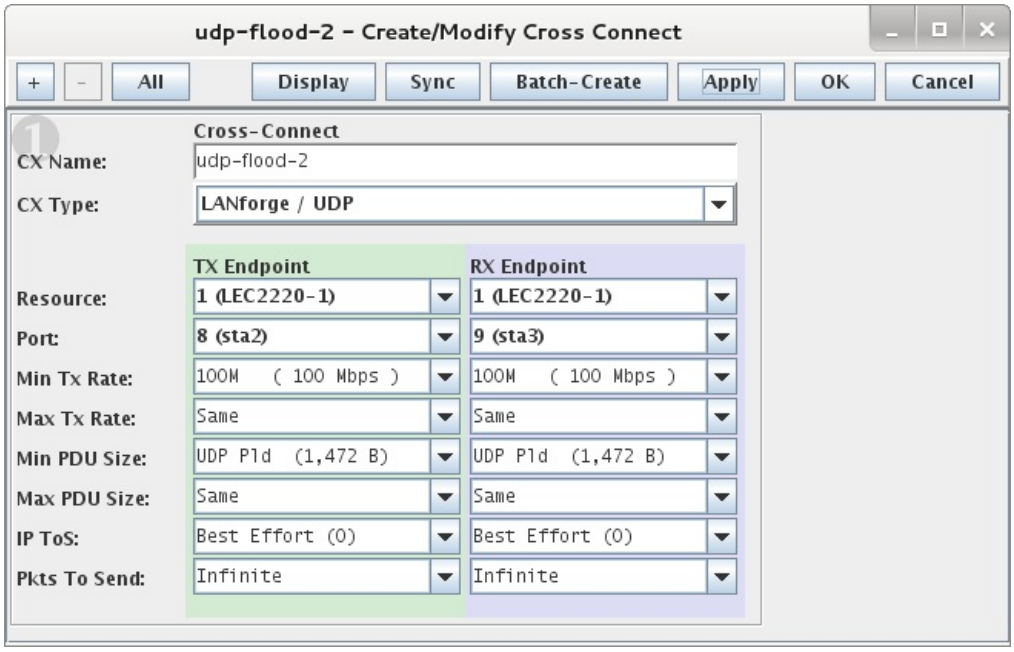


4. Create Layer-3 connections between the station interfaces.

A. Go to the **Layer-3** tab. If there are existing connections, stop and/or delete them, and then click Create. Give the test a name, select sta0 and sta1 for ports, set rate to 100M, and set payload size. When complete, press Apply to create the new CX.



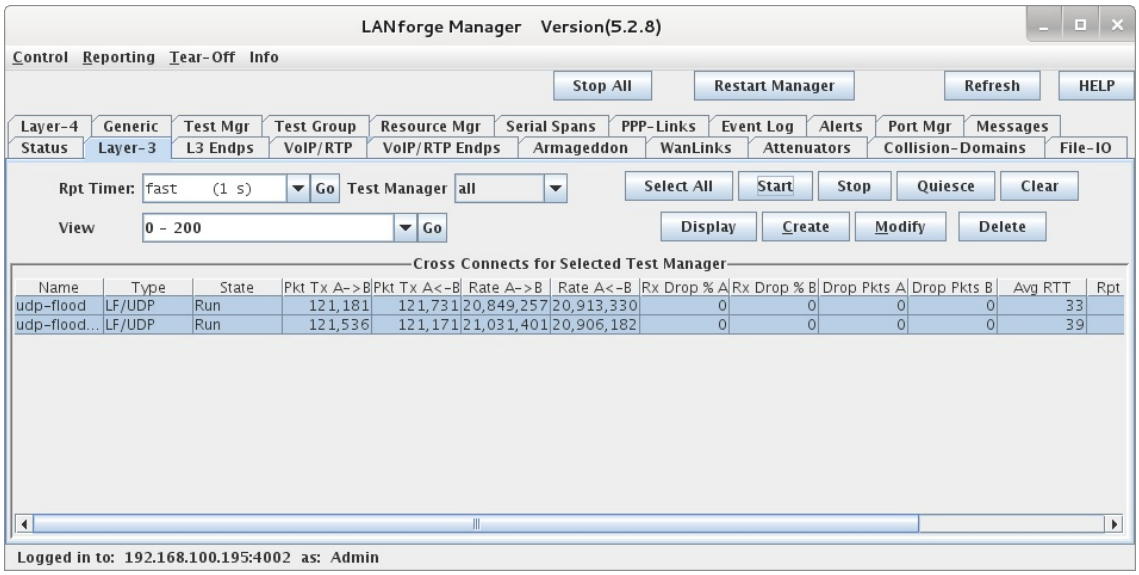
B. Create a second UDP connection on sta2 and sta3 interfaces. Change name, change ports, and press OK.



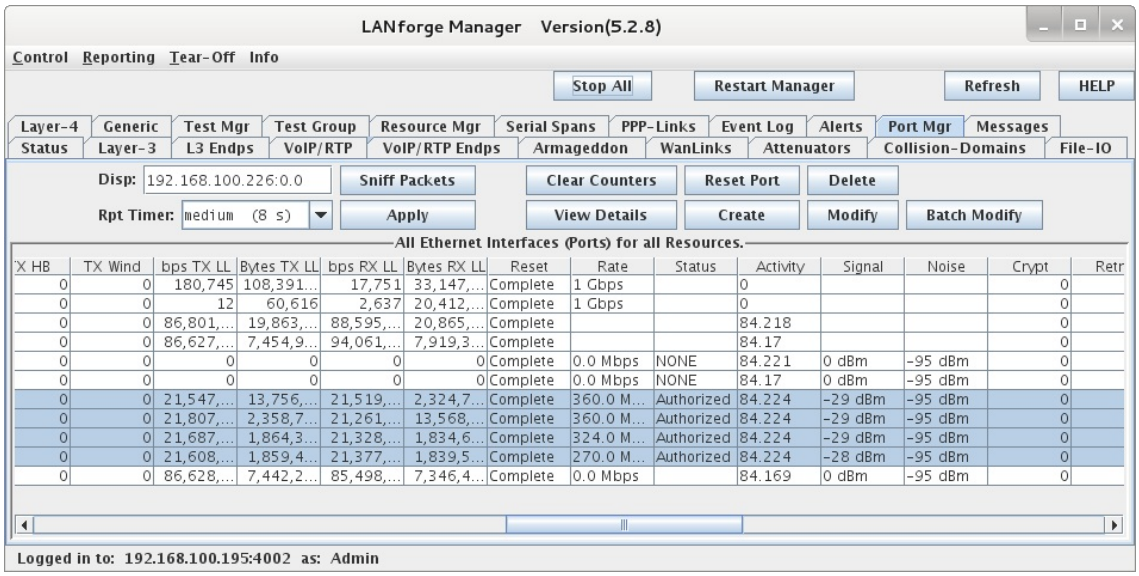
For more information see LANforge User's Guide: Layer-3 Cross-Connects (FIRE)

5. Run traffic tests concurrently, and view results.

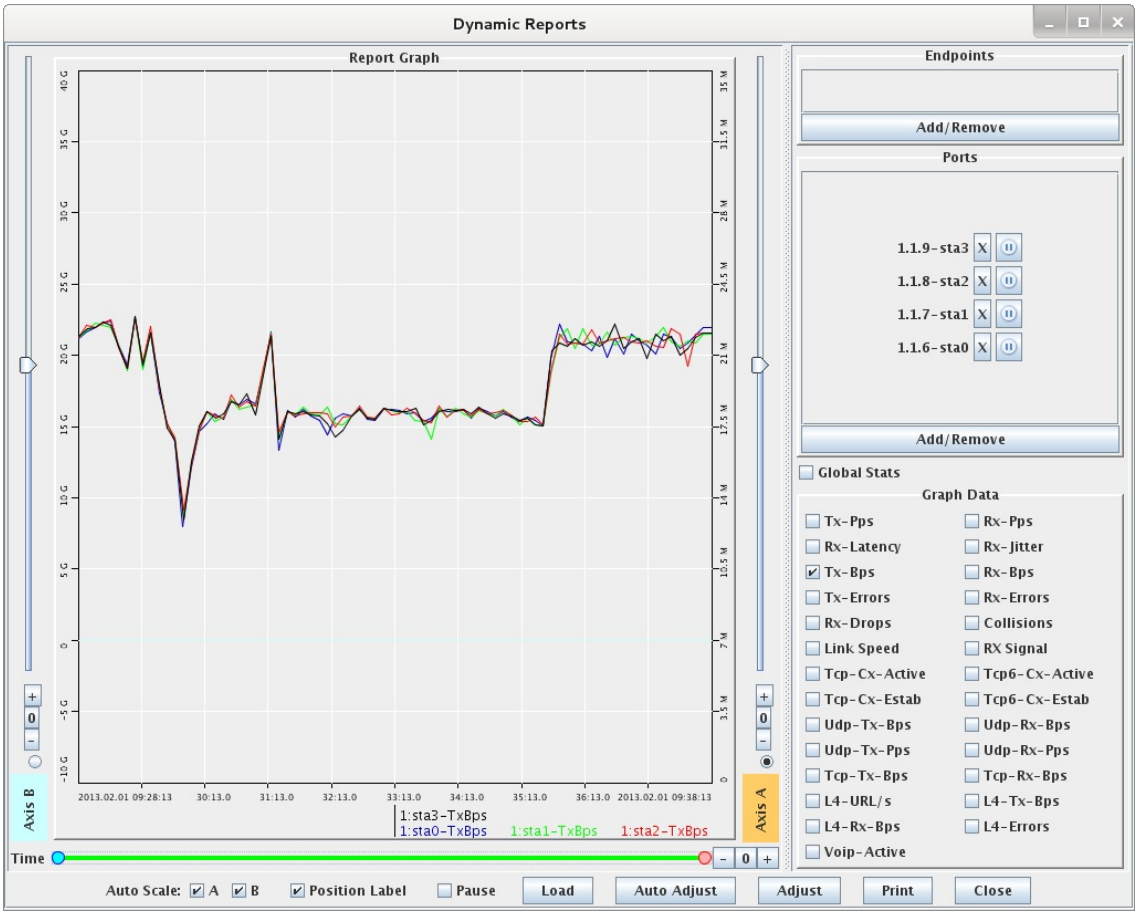
A. Select both CXs in the **Layer-3** tab, and click the **Start** button.



B. Go to the **Port-Mgr** tab, scroll to the right, and confirm that the Activity for this channel reports a fairly high percentage.



C. Select the 4 station ports and Right-Click → Dynamic Report on the **Port-Mgr** table to view a live report of the ports.



For more information see LANforge User's Guide: Reporting