Verifying Android QoS

**Goal:** Set up Video and Best Effort QoS connections and verify results.

In this example, LANforge-FIRE is used to set up two connections, one running video QoS traffic, the other with Best Effort QoS traffic. The latency and drops will be compared and wireshark will be used to verify QoS information.

1. Connect the Android device to a LANforge system. You can use the cookbook here for tips: [Running UDP Traffic with Android](#)

2. Create two connections between the Android device and a LANforge port. One for **Best Effort** QoS traffic, one for **Video** QoS traffic.
A. Creating a Best Effort UDP connection.

A. Set a name for the connection (android-udp-ul-be-100k) in this case.
B. Select your ports. In this case the connection is between the Android (wlan0) and a bridge (br0).
C. Set Min Tx Rate on Endpoint A to DOCSIS 1 (30 Mbps).
D. Set Min Tx Rate on Endpoint B to New Modem (56 Kbps).
E. Make sure IP TOS on both endpoints is set to Best Effort.
F. Set Pkts to Send to 100000 on Endpoint A. Note: Because Android is being managed in-band, this limit should prevent losing management frames that could contain reporting data.
G. Set Min IP Port to 7777 on Endpoint A. A custom port is used to help identify the connection type in wireshark.
H. Set Multi-Conn to 1 for both endpoints. This is so each endpoint is running on its own process.

B. Creating a UDP connection with video QoS traffic.

A. Set a name for the connection (android-udp-ul-vi-100k) in this case.
B. Select your ports. In this case the connection is between the Android (wlan0) and a bridge (br0).
C. Set Min Tx Rate on Endpoint A to DOCSIS 1 (30 Mbps).
D. Set Min Tx Rate on Endpoint B to New Modem (56 Kbps).
E. Set IP TOS on Endpoint A to VI (WiFi).
F. Set Pkts to Send to 100000 on Endpoint A. Note: Because Android is being managed in-band, this limit should prevent losing management frames that could contain reporting data.
G. Set Min IP Port to 7778 on Endpoint A. A custom port is used to help identify the connection type in wireshark.
H. Set Multi-Conn to 1 for both endpoints. This is so each endpoint is running on its own process.

3. Compare latency and drops.
A. The latency can be found under the Delay column.

B. The drops can be found under Dropped column.

C. If QoS is working properly, you should see less delay (latency) and less drops for connections using VI (WiFi) IP ToS. The delay can be more easily compared if you add endpoint A and B of each connection. As should be expected, the results above show that the particular device is dropping significantly less packets for the connection with video QoS traffic. Because there is a small amount of latency, a major difference isn’t shown here.

4. Verify QoS type with wireshark. This is where our custom port setting is helpful.

A. The packets on port 7777 should show Best Effort. 
B. The packets on port 7778 should show Video.