Dataplane Test

Sun Jun 13 23:19:35 PDT 2021

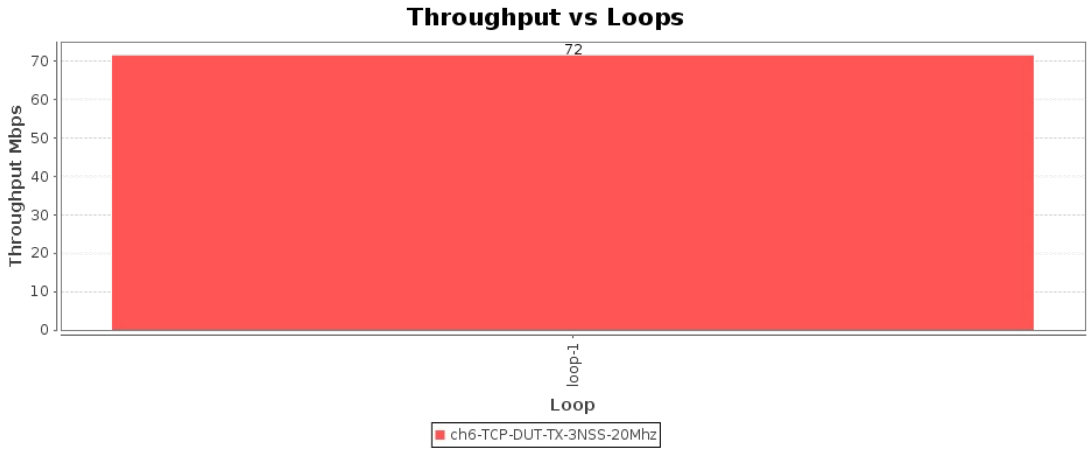
Test Setup Information				
Device Under Test	Name	basic-ext-03-03		
	Software Version	ecw5410-1.1.0.tar.gz	Hardware Version	ecw5410
	Model Number	ecw5410	Serial Number	903cb3944857
	SSIDs	ssid_wpa2_2g		
	Passwords	something		
	BSSIDs	90:3c:b3:94:48:58		
	Notes	[BLANK]		

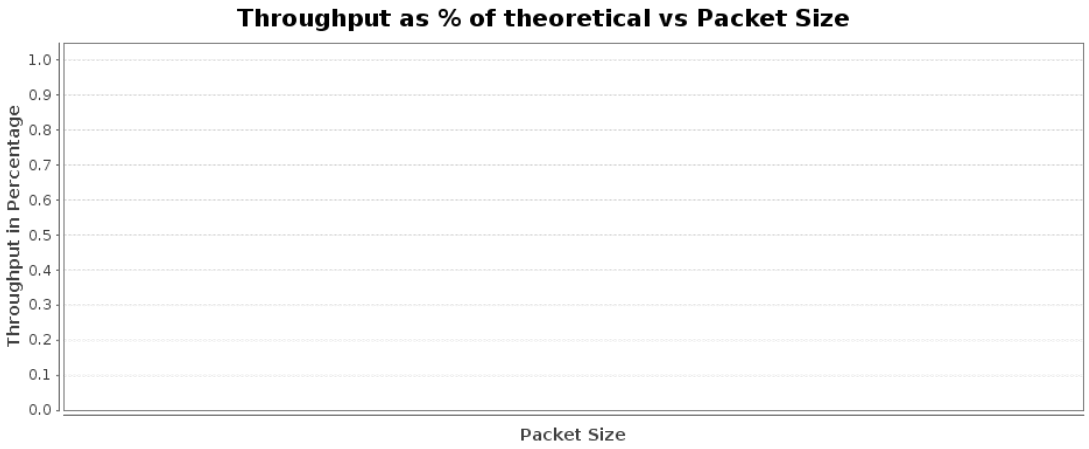
Objective

The Candela WiFi data plane test is designed to conduct an automatic testing of all combinations of station types, MIMO types, Channel Bandwidths, Traffic types, Traffic direction, Frame sizes etc… It will run a quick throughput test at every combination of these test variables and plot all the results in a set of charts to compare performance. The user is allowed to define an intended load as a percentage of the max theoretical PHY rate for every test combination. The expected behavior is that for every test combination the achieved throughput should be at least 70% of the theoretical max PHY rate under ideal test conditions. This test provides a way to go through hundreds of combinations in a fully automated fashion and very easily find patterns and problem areas which can be further debugged using more specific testing.

Throughput for each different traffic type. Datasets with names ending in '-LL' will include the IP, TCP, UDP and Ethernet header bytes in their calculation. For Armageddon traffic only, low-level throughput includes the Ethernet FCS and preamble. Other datasets report 'goodput' for the protocol.

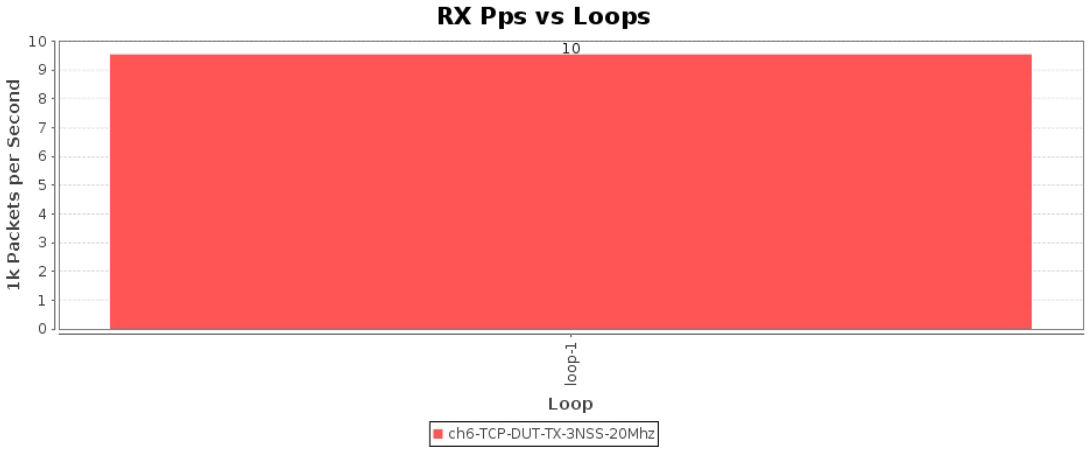
CSV Data for Throughput vs Loops





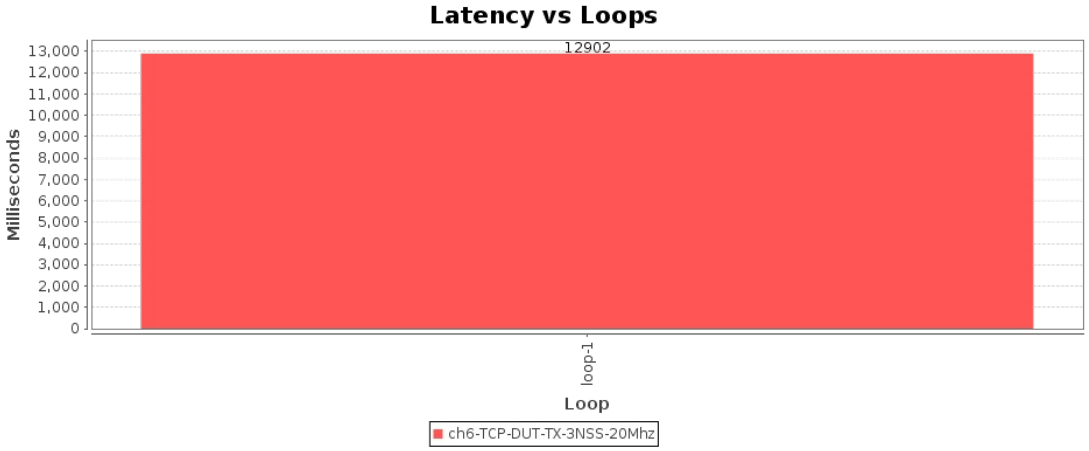
Pps throughput for each different traffic type. The values are estimated packets-per-second over the DUT, but some protocols such as TCP make this difficult to know for certain, so the value is extrapolated.

CSV Data for RX Pps vs Loops



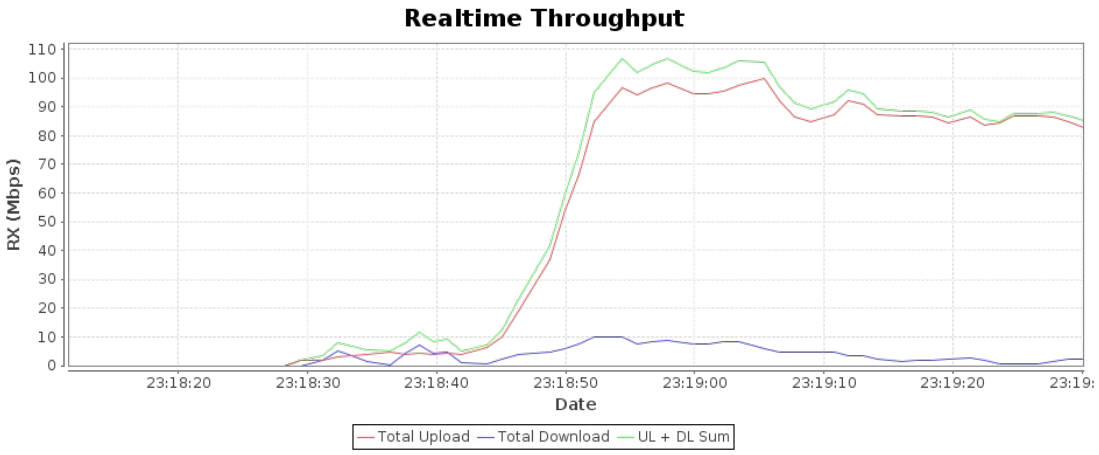
Latency for each different traffic type. If opposite-direction traffic is non-zero, then round-trip time will be reported. Otherwise, one-way latency will be reported.

CSV Data for Latency vs Loops



Realtime Graph shows summary download and upload RX Goodput rate of connections created by this test. Goodput does not include Ethernet, IP, UDP/TCP header overhead.

CSV Data for Realtime Throughput



Test Information

Message
Starting dataplane test with: 1 iterations.

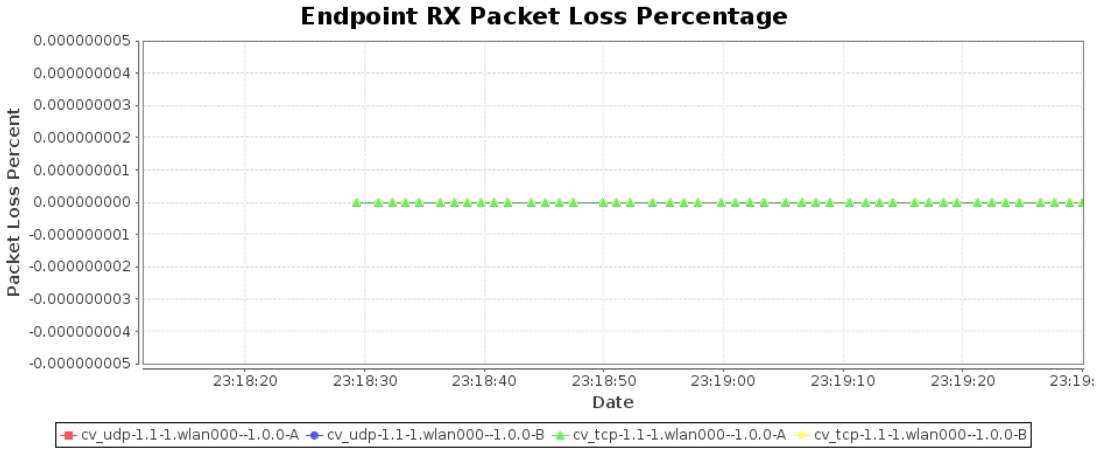
Channel	Frequency	Security	NSS	Cfg-Mode	Bandwidth	Pkt	Traffic-Type	Direction	Atten	Rotation	Duration	Offered-1m	Rx-Bps	Rx-Bps-1m	Rx-Bps-LL	Rx-Bps-3s	Phy-Rate	Theoretical	Throughput%	RSSI	Tx-Failed	Tx-Failed%	Tx-Rate	Rx-Rate	Rpt-Mode	Rpt-Mode-Brief
6	2437	WPA2	3	AUTO	20	1024	TCP	DUT-TX	NA	NA	60	75.853 Mbps	69.903 Mbps	71.561 Mbps	75.684 Mbps	83.13 Mbps	1.3 Gbps	NA	NA	-5	0 / 119365	0	156 Mbps	19.5 Mbps	802.11bgn	802.11n

Brief csv report, may be imported into third-party tools.

Step Index	Position [Deg]	Attenuation [dB]	Throughput [Mbps]	Beacon RSSI [dBm]	Data RSSI [dBm]
0	NA	0	69.90	0	-5

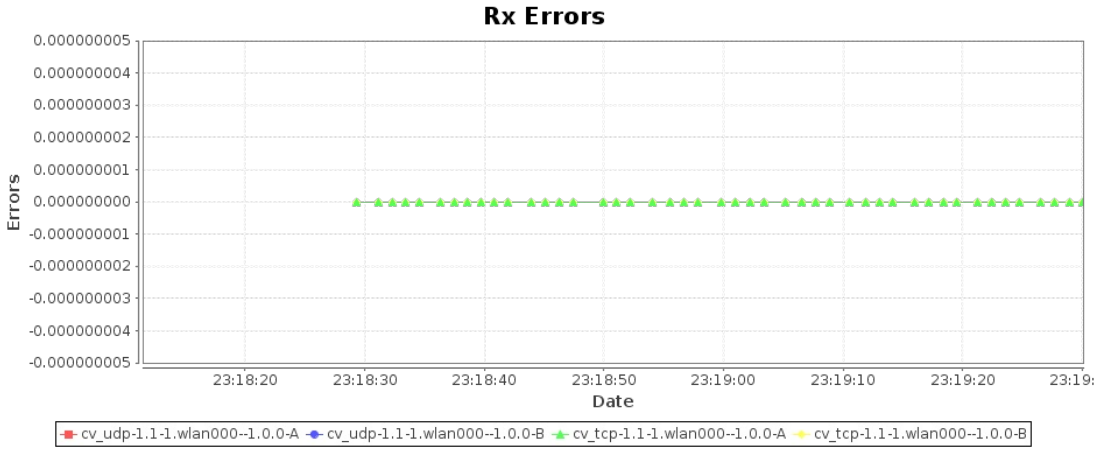
Packet Loss Percentage graph shows the percentage of lost packets as detected by the receiving endpoint due to packet gaps. If there is full packet loss, then this will not report any loss since there will be no gap to detect.

CSV Data for Endpoint RX Packet Loss Percentage



Error Graph shows occurances of packet errors.

CSV Data for Rx Errors



Test configuration and LANforge software version	
Path Loss	10
Requested Speed	85%
Requested Opposite Speed	85%
Multi-Conn	1
Armageddon Multi-Pkt	1000
ToS	0
Duration:	1 min (1 m)
Settle Time:	1 sec (1 s)
Send Buffer Size:	OS Default
Receive Buffer Size:	OS Default
Channels	AUTO
Spatial Streams	AUTO
Bandwidth	AUTO
Attenuator-1	0
Attenuation-1	0..+50..950
Attenuator-2	0
Attenuation-2	0..+50..950
Turntable Chamber	0
Turntable Angles	0..+45..359
Modes	Auto
Packet Size	1024
Security	AUTO
Traffic Type	TCP
Direction	DUT Transmit
Upstream Port	1.1.eth1 Firmware: 0. 6-5 Resource: lf0350-9540
WiFi Port	1.1.wlan000 Firmware: 10.1-ct-8x-__xtH-022-bcdb24ff Resource: lf0350-9540
Outer Loop is Attenuation	false
Show Events	true
Auto Save Report	true
Build Date	Wed 26 May 2021 11:06:38 AM PDT
Build Version	5.4.3
Git Version	899b50be0d42cdc86f0a6ae44d9bd6aaab43fe0b

Key Performance Indicators CSV