

# Dataplane Test



Wed Mar 18 13:23:28 PDT 2020

## Test Setup Information

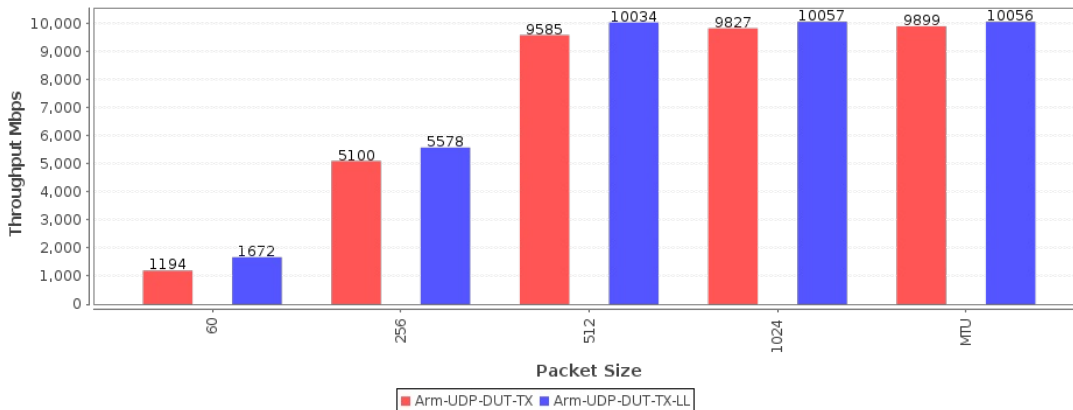
Device Under Test

## Objective

The Candela data plane test is designed to conduct an automatic testing of all combinations of Traffic types, Traffic direction and Frame sizes. 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 network rate for every test combination. This test provides a way to go through many combinations in a fully automated fashion and find patterns and problem areas which can be further debugged using more specific testing.

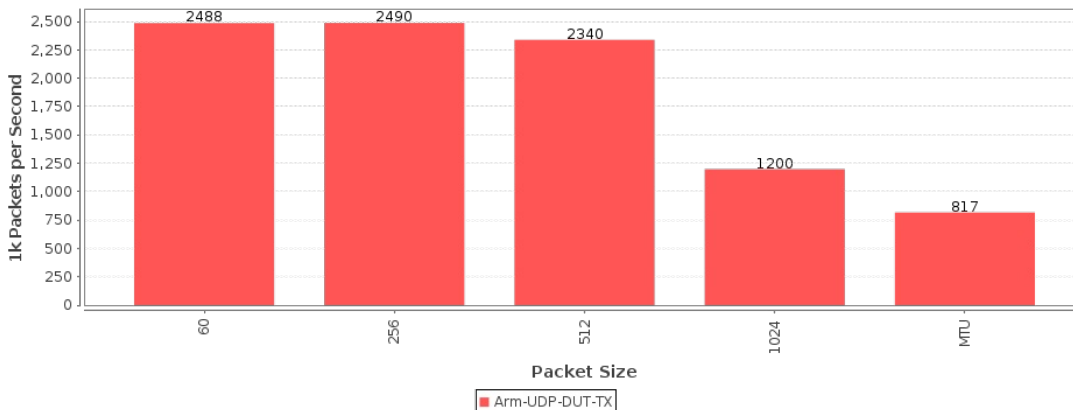
Throughput for each different traffic type. Datasets with names ending in '-LL' will include the IP, TCP, UDP and Ethernet header bytes in their calculation. For Armageddon traffic only, low-level throughput includes the Ethernet FCS and preamble. Other datasets report 'goodput' for the protocol.

### Throughput vs Packet Size



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.

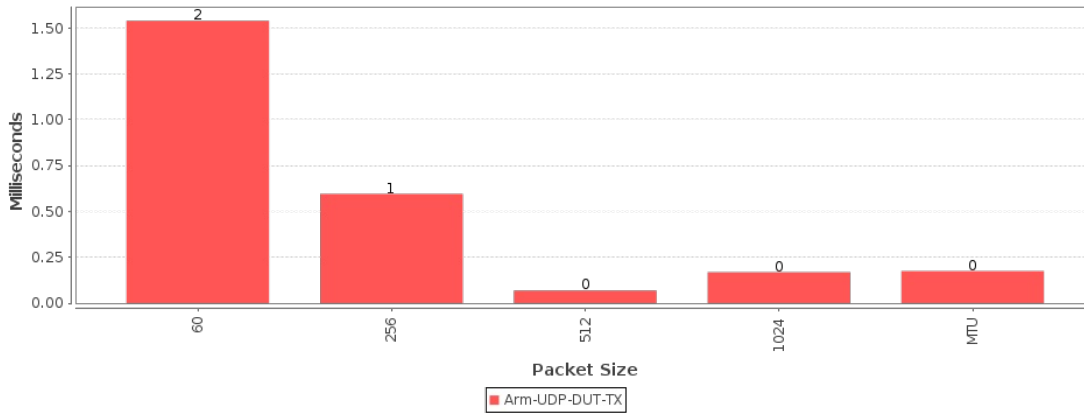
### RX Pps vs Packet Size



Latency in micro-seconds for each different traffic type. If opposite-direction traffic is non-zero, then round-trip time will be reported.

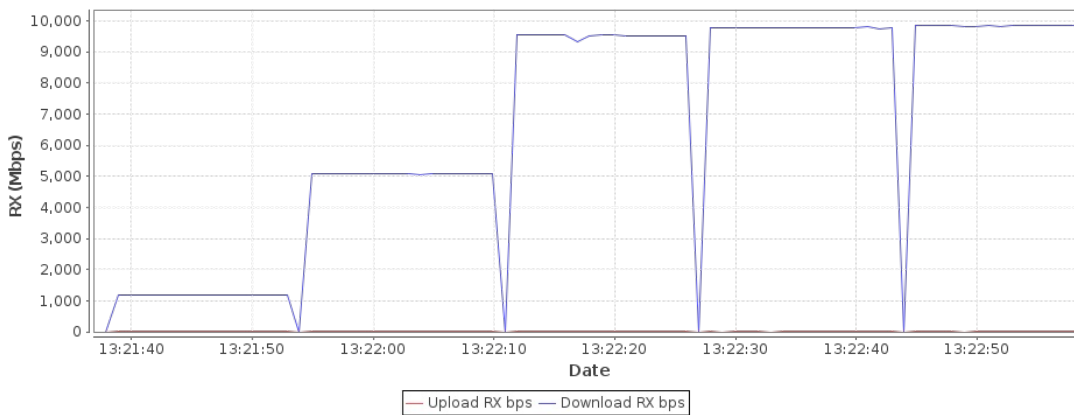
Otherwise, one-way latency will be reported.

### Latency vs Packet Size



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.

### Realtime Throughput



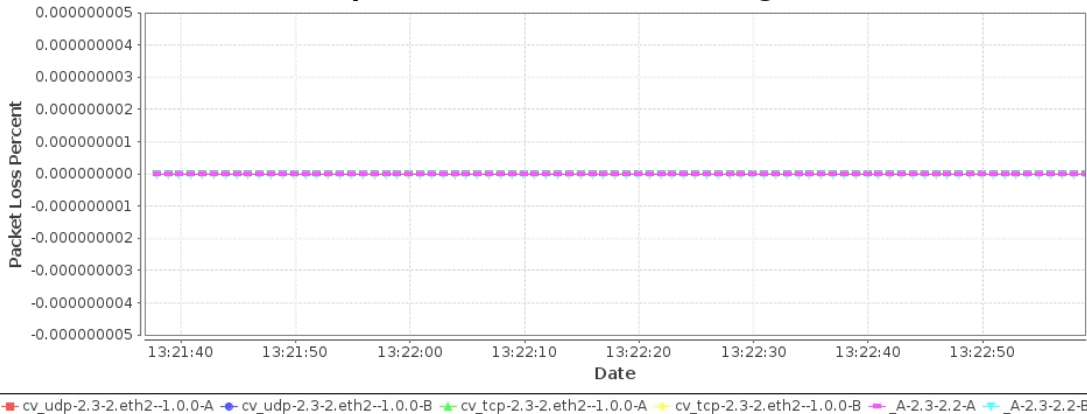
### Test Information

**Message**  
Starting dataplane test with: 5 iterations.

Pkt	Traffic-Type	Direction	Duration	Offered-1m	Rx-Bps	Rx-Bps-1m	Rx-Bps-LL	Rx-Pps-1m	Theoretical	Tx-Failed	Tx-Failed%	Tx/Rx-Rate
60	Arm-UDP	DUT-TX	15	1194385577	1189543232	1194420448	1672188627	2488375	10000000000	0 / 39098360	0	10 Gbps
256	Arm-UDP	DUT-TX	15	5380920531	5077649226	5099748135	5577849523	2490111	10000000000	0 / 36859417	0	10 Gbps
512	Arm-UDP	DUT-TX	15	101115101360	9537364340	9584648607	10033929010	2340001	10000000000	0 / 35969071	0	10 Gbps
1024	Arm-UDP	DUT-TX	15	9826211349	9770714496	9826562124	10056872174	1199531	10000000000	0 / 18023604	0	10 Gbps
MTU	Arm-UDP	DUT-TX	15	9898579332	9844209140	9898817617	10055734145	817273	10000000000	0 / 12665669	0	10 Gbps

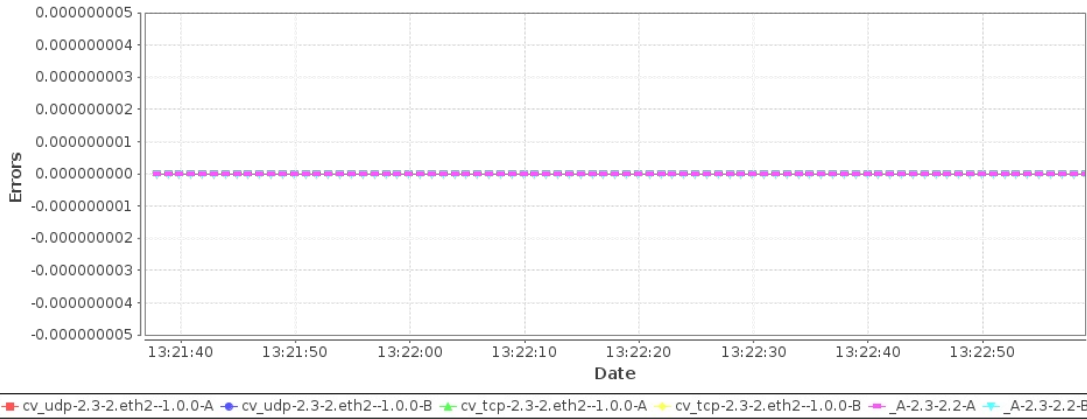
Packet Loss Percentage graph shows the percentage of lost packets as detected by the receiving endpoint due to packet gaps. If there is full packet loss, then this will not report any loss since there will be no gap to detect.

### Endpoint RX Packet Loss Percentage



Error Graph shows occurrences of packet errors.

### Rx Errors



Test configuration and LANforge software version	
Path Loss	10
Requested Speed	10gbps
Requested Opposite Speed	56kbps
Multi-Conn	1
Armageddon Multi-Pkt	1000
ToS	0
Duration:	15 sec (15 s)
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	60, 256, 512, 1024, MTU
Security	AUTO
Traffic Type	Arm-UDP
Direction	DUT Transmit
Upstream Port	1.2.3 eth3 Firmware: 0x00011bab Resource: e5-1630v3-32g-16010004
WiFi Port	1.2.2 eth2 Firmware: 0x00011bab Resource: e5-1630v3-32g-16010004
Show Events	true
Auto Save Report	false
Build Date	Tue Mar 17 14:08:29 PDT 2020
Build Version	5.4.2
Git Version	7f2bd524e71d37b216a842d728cef2cbd6c888cd