

Pantheon Report

Generated at 2025-04-17 00:28:14 (UTC).

Tested in mahimahi: mm-delay 5 mm-link 12mbps.trace 12mbps.trace
--uplink-queue=droptail --uplink-queue-args=bytes=6250000

Repeated the test of 3 congestion control schemes once.

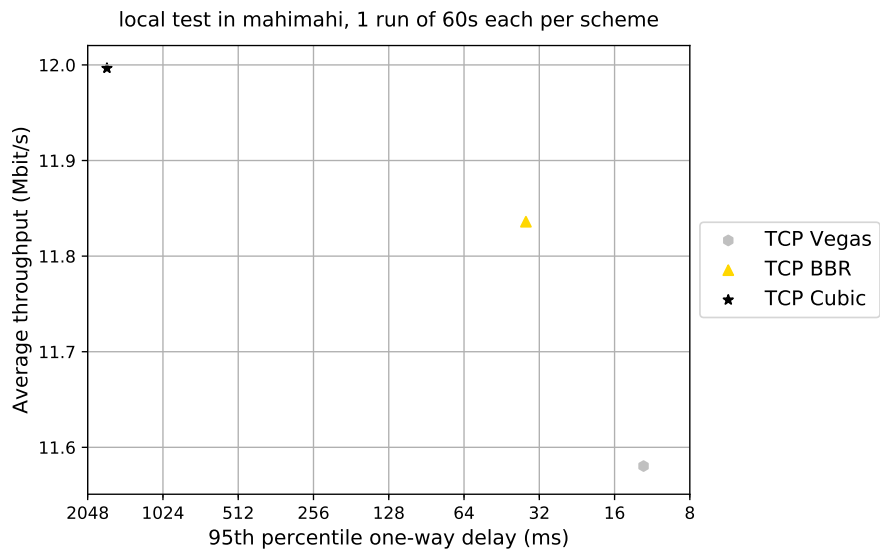
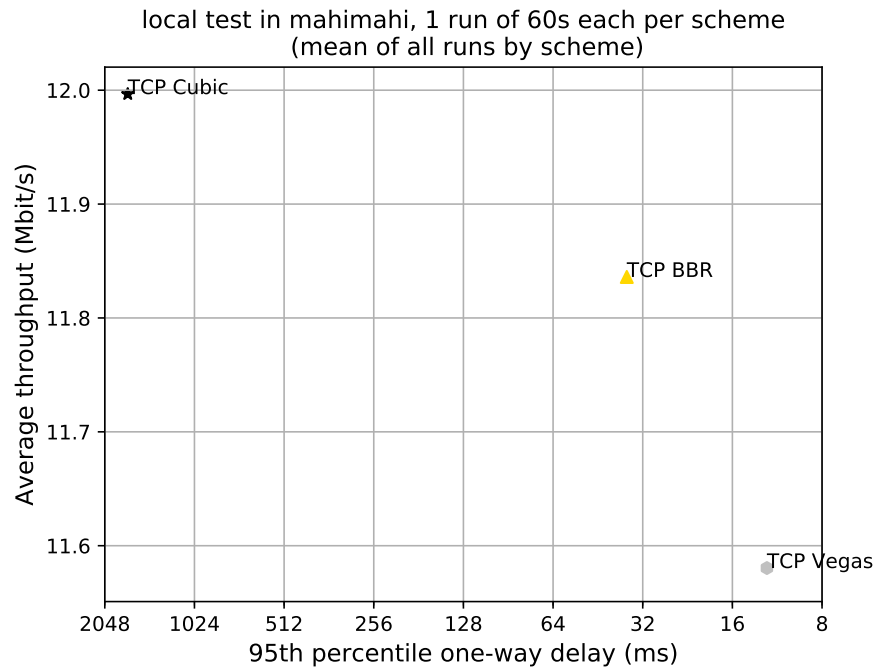
Each test lasted for 60 seconds running 1 flow.

System info:

Linux 5.4.0-84-generic
net.core.default_qdisc = fq_codel
net.core.rmem_default = 212992
net.core.rmem_max = 212992
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 131072 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304

Git summary:

branch: master @ 23e738ce5acae1d36e321886cd613b0b9401ac11
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 463d89b09699a57bfdfbae351646df6a60040b90
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	1	11.84	36.19	0.06
TCP Cubic	1	12.00	1715.10	2.23
TCP Vegas	1	11.58	12.25	0.01

Run 1: Statistics of TCP BBR

Start at: 2025-04-17 00:25:29

End at: 2025-04-17 00:26:29

Below is generated by plot.py at 2025-04-17 00:28:09

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.84 Mbit/s (98.6% utilization)

95th percentile per-packet one-way delay: 36.194 ms

Loss rate: 0.06%

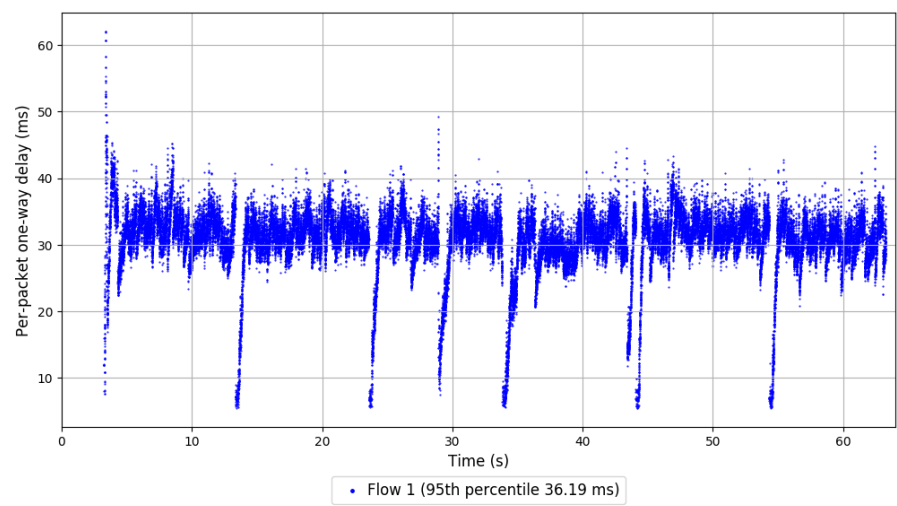
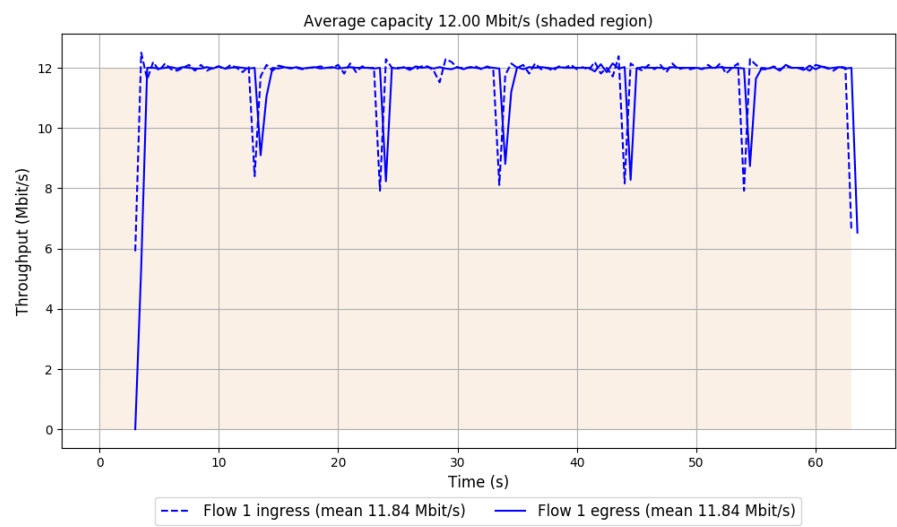
-- Flow 1:

Average throughput: 11.84 Mbit/s

95th percentile per-packet one-way delay: 36.194 ms

Loss rate: 0.06%

Run 1: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2025-04-17 00:24:24

End at: 2025-04-17 00:25:24

Below is generated by plot.py at 2025-04-17 00:28:11

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 12.00 Mbit/s (100.0% utilization)

95th percentile per-packet one-way delay: 1715.100 ms

Loss rate: 2.23%

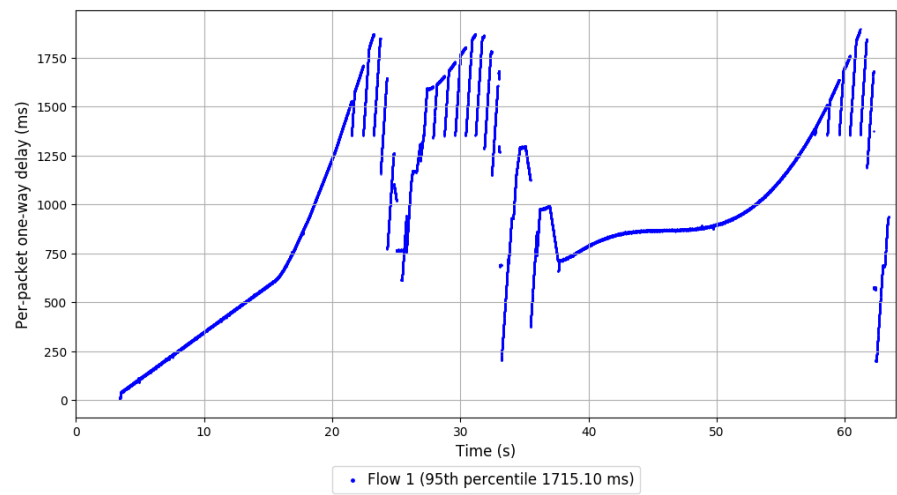
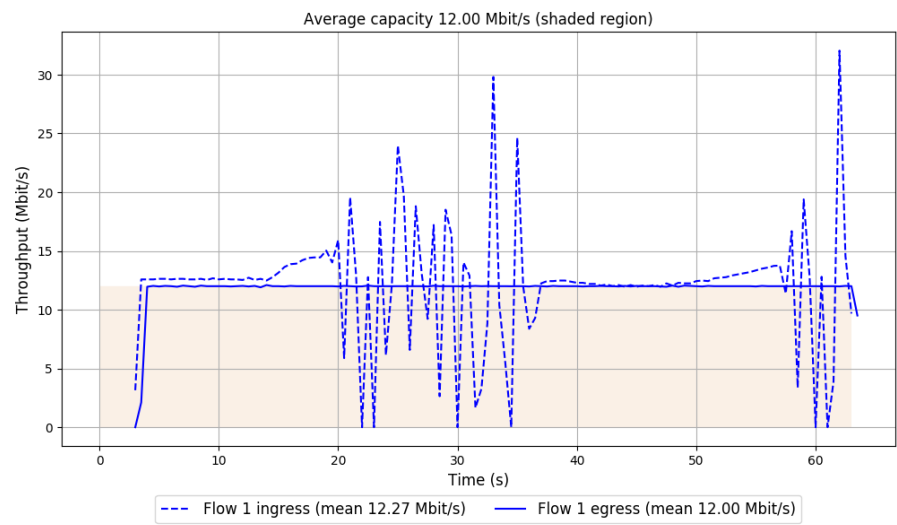
-- Flow 1:

Average throughput: 12.00 Mbit/s

95th percentile per-packet one-way delay: 1715.100 ms

Loss rate: 2.23%

Run 1: Report of TCP Cubic — Data Link



Run 1: Statistics of TCP Vegas

Start at: 2025-04-17 00:26:34

End at: 2025-04-17 00:27:34

Below is generated by plot.py at 2025-04-17 00:28:12

Datalink statistics

-- Total of 1 flow:

Average capacity: 12.00 Mbit/s

Average throughput: 11.58 Mbit/s (96.5% utilization)

95th percentile per-packet one-way delay: 12.252 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 11.58 Mbit/s

95th percentile per-packet one-way delay: 12.252 ms

Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link

