Pantheon Report

Generated at 2019-07-23 22:58:08 (UTC).
Tested in mahimahi: `mm-delay 40 mm-link 20mbps.trace 20mbps.trace`
Repeated the test of 2 congestion control schemes once.
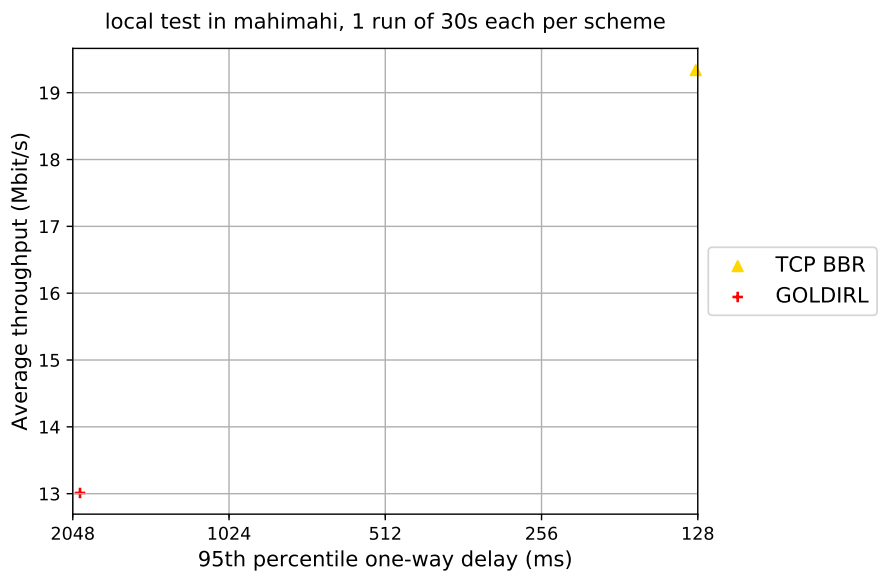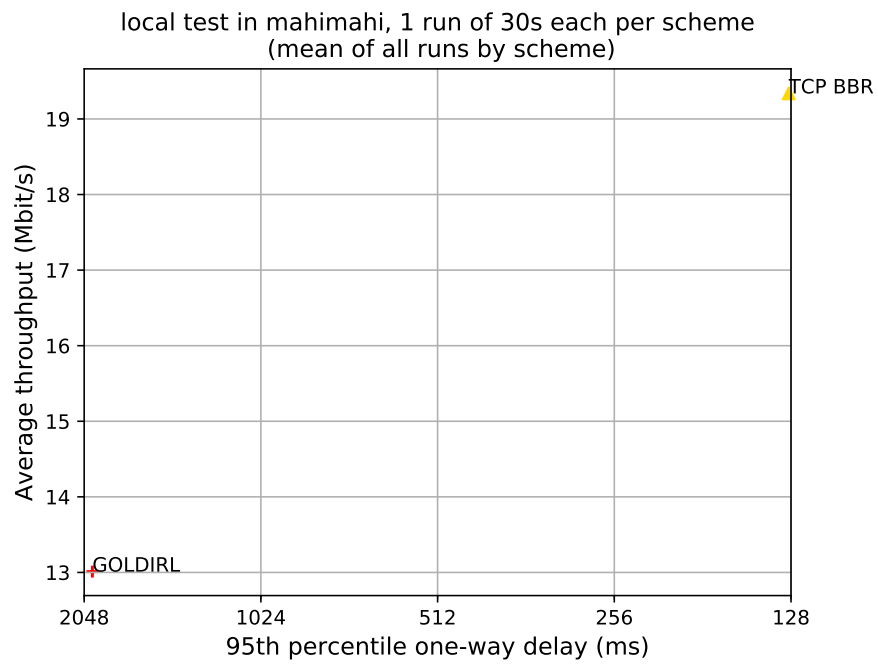Each test lasted for 30 seconds running 1 flow.

```
System info:
Linux 4.15.0-54-generic
net.core.default_qdisc = fq
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 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304

Git summary:
branch: master @ 3f6670e4f535071e43e48aa0294fd2f3417c6838
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/gold @ e47bed6d7495aa223eec8de2c7a43035967074ef
 M environment/__pycache__/datagram_pb2.cpython-36.opt-1.pyc
 M environment/__pycache__/datagram_pb2.cpython-36.pyc
 M environment/__pycache__/environment.cpython-36.opt-1.pyc
 M environment/__pycache__/helpers.cpython-36.opt-1.pyc
 M environment/__pycache__/helpers.cpython-36.pyc
 M environment/__pycache__/mahimahi.cpython-36.opt-1.pyc
 M environment/__pycache__/project_root.cpython-36.opt-1.pyc
 M environment/__pycache__/project_root.cpython-36.pyc
 M environment/__pycache__/receiver.cpython-36.opt-1.pyc
 M environment/__pycache__/receiver.cpython-36.pyc
 M environment/logs.txt
 M model
third_party/goldIRL @ ce4f56f2f4950a9216385bc4630664478e9d2b81
 M sender-receiver/sender-receiver/sender_receiver/envs/model/model.pt
third_party/goldLSTM @ 6b512ee75b163fd680d7bf3cde4cf6d6aa7102c4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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
```

local test in mahimahi, 1 run of 30s each per scheme
(mean of all runs by scheme)

local test in mahimahi, 1 run of 30s each per scheme

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	1	19.34	129.15	0.39
GOLDIRL	1	13.01	1983.31	0.06

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-23 22:54:49
End at: 2019-07-23 22:55:19

# Below is generated by plot.py at 2019-07-23 22:58:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 20.00 Mbit/s
Average throughput: 19.34 Mbit/s (96.7% utilization)
95th percentile per-packet one-way delay: 129.153 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 19.34 Mbit/s
95th percentile per-packet one-way delay: 129.153 ms
Loss rate: 0.39%
```
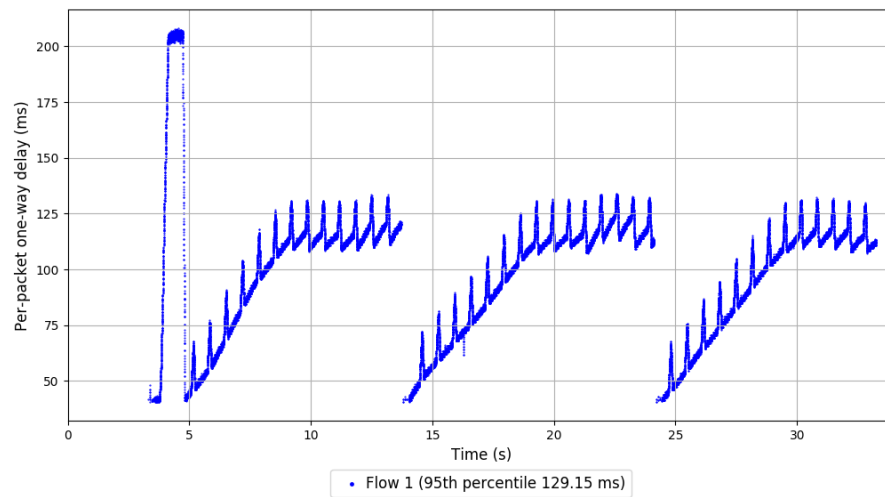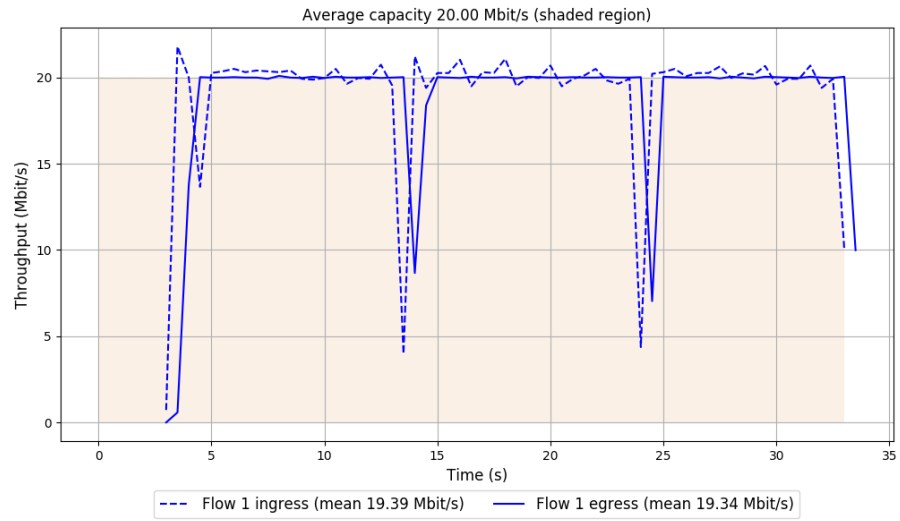
Run 1: Report of TCP BBR — Data Link

Average capacity 20.00 Mbit/s (shaded region)

Flow 1 ingress (mean 19.39 Mbit/s) ----   Flow 1 egress (mean 19.34 Mbit/s) ——

• Flow 1 (95th percentile 129.15 ms)

6

```
Run 1: Statistics of GOLDIRL

Start at: 2019-07-23 22:55:24
End at: 2019-07-23 22:55:54

# Below is generated by plot.py at 2019-07-23 22:58:05
# Datalink statistics
-- Total of 1 flow:
Average capacity: 20.00 Mbit/s
Average throughput: 13.01 Mbit/s (65.1% utilization)
95th percentile per-packet one-way delay: 1983.314 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 13.01 Mbit/s
95th percentile per-packet one-way delay: 1983.314 ms
Loss rate: 0.06%
```

Run 1: Report of GOLDIRL — Data Link

Average capacity 20.00 Mbit/s (shaded region)

Flow 1 ingress (mean 13.00 Mbit/s)　　Flow 1 egress (mean 13.01 Mbit/s)

Flow 1 (95th percentile 1983.31 ms)