

Pantheon Report

Generated at 2018-04-24 17:36:07 (UTC).

Tested in mahimahi: mm-delay 30 mm-link 12mbps.trace 12mbps.trace
--uplink-queue=droptail --uplink-queue-args=bytes=90000

Repeated the test of 16 congestion control schemes 10 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

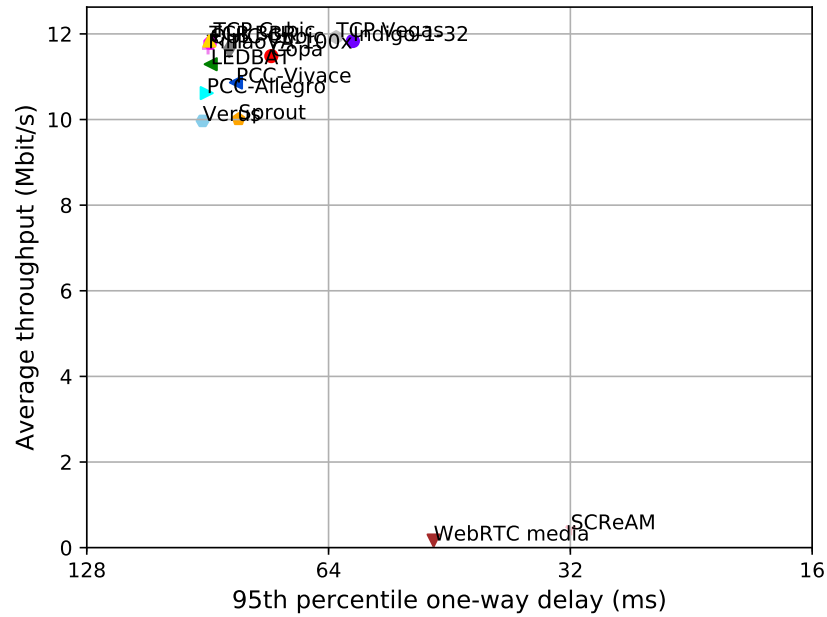
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

Tested BBR with qdisc of Fair Queuing (fq), and other schemes with the default Linux qdisc (pfifo_fast).

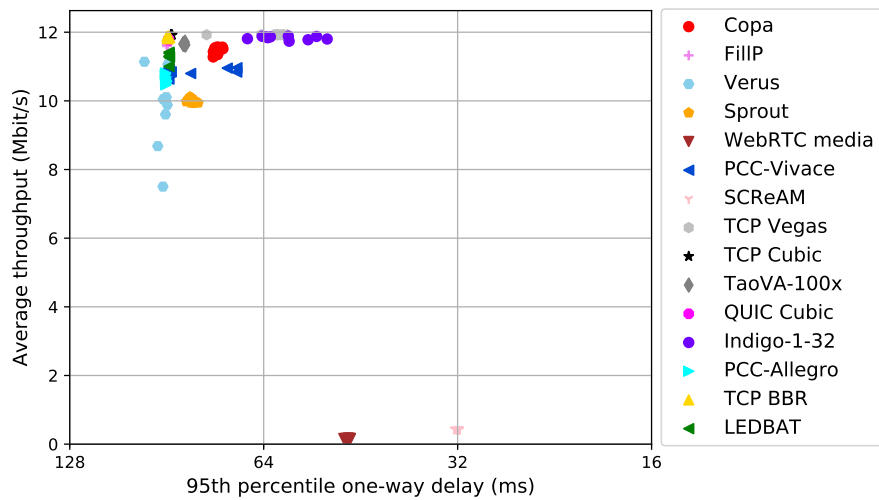
Git summary:

```
branch: master @ 114e807ac1bad7b85168ceb1f8a969063ee6c12c
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 11f8c46a2bf1dc797253db7e8ca04076272b2a44
third_party/genericCC @ d223989828276fa83a807da6e0341dc0c7b89aec
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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 @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eae30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  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 @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ f271183af822eee5d0031620f4bebf38aedc5581
```

local test in mahimahi, 10 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



local test in mahimahi, 10 runs of 30s each per scheme
 3 flows with 10s interval between flows



Run 1: Statistics of TCP BBR

Start at: 2018-04-24 15:58:30

End at: 2018-04-24 15:59:00

Below is generated by plot.py at 2018-04-24 17:29:12

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.83 Mbit/s (98.6% utilization)

95th percentile per-packet one-way delay: 90.237 ms

Loss rate: 10.70%

-- Flow 1:

Average throughput: 7.40 Mbit/s

95th percentile per-packet one-way delay: 90.145 ms

Loss rate: 7.48%

-- Flow 2:

Average throughput: 4.50 Mbit/s

95th percentile per-packet one-way delay: 90.398 ms

Loss rate: 14.72%

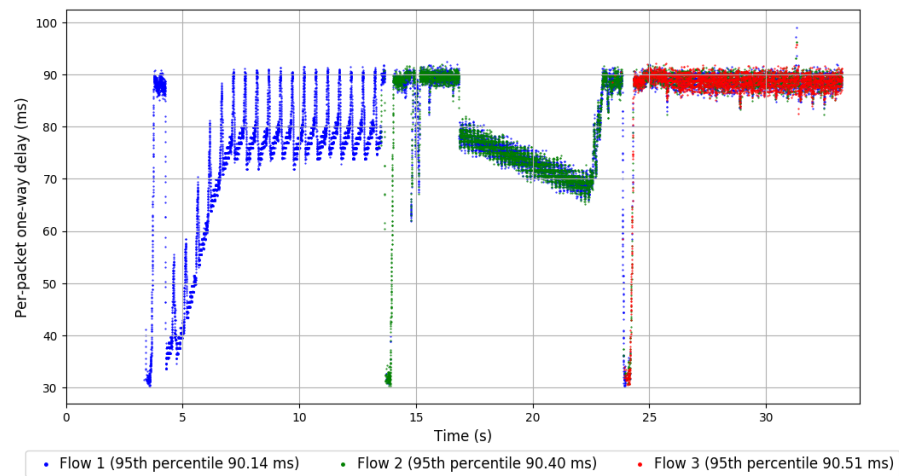
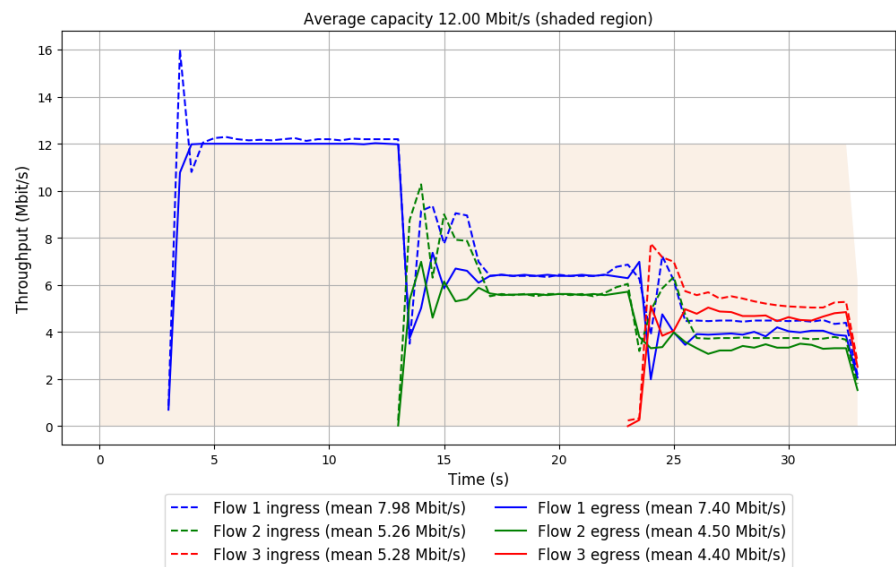
-- Flow 3:

Average throughput: 4.40 Mbit/s

95th percentile per-packet one-way delay: 90.513 ms

Loss rate: 17.37%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-04-24 16:08:16

End at: 2018-04-24 16:08:46

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.83 Mbit/s (98.6% utilization)

95th percentile per-packet one-way delay: 90.149 ms

Loss rate: 11.73%

-- Flow 1:

Average throughput: 7.32 Mbit/s

95th percentile per-packet one-way delay: 89.928 ms

Loss rate: 9.12%

-- Flow 2:

Average throughput: 4.86 Mbit/s

95th percentile per-packet one-way delay: 90.163 ms

Loss rate: 14.71%

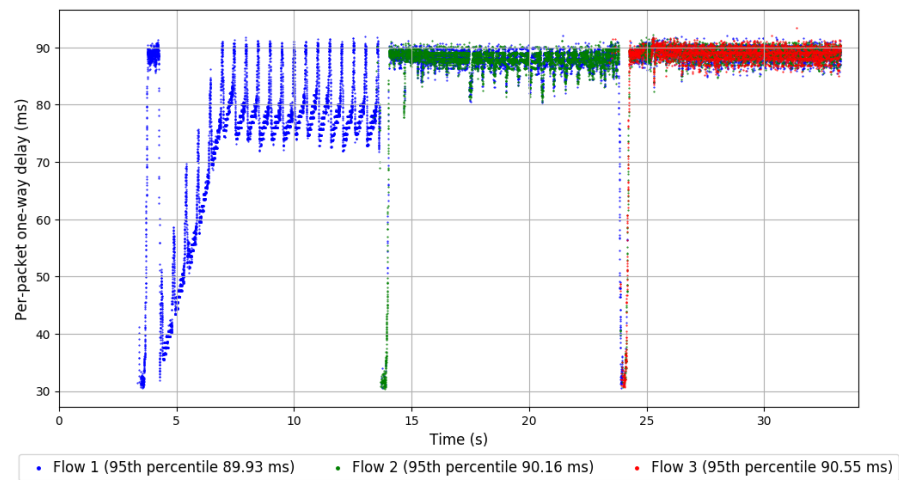
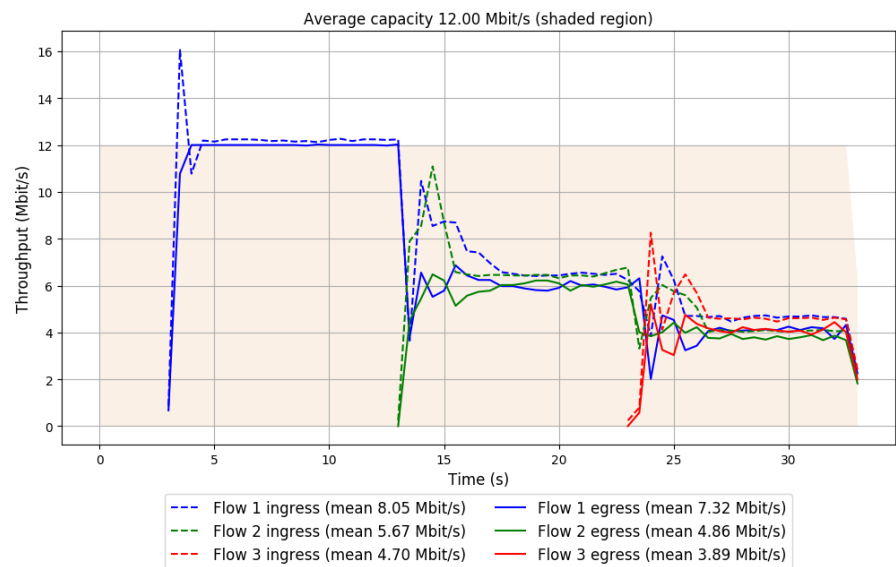
-- Flow 3:

Average throughput: 3.89 Mbit/s

95th percentile per-packet one-way delay: 90.548 ms

Loss rate: 17.93%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-04-24 16:18:05

End at: 2018-04-24 16:18:35

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.88 Mbit/s (99.0% utilization)

95th percentile per-packet one-way delay: 90.421 ms

Loss rate: 12.07%

-- Flow 1:

Average throughput: 7.32 Mbit/s

95th percentile per-packet one-way delay: 90.339 ms

Loss rate: 8.90%

-- Flow 2:

Average throughput: 3.87 Mbit/s

95th percentile per-packet one-way delay: 90.463 ms

Loss rate: 16.55%

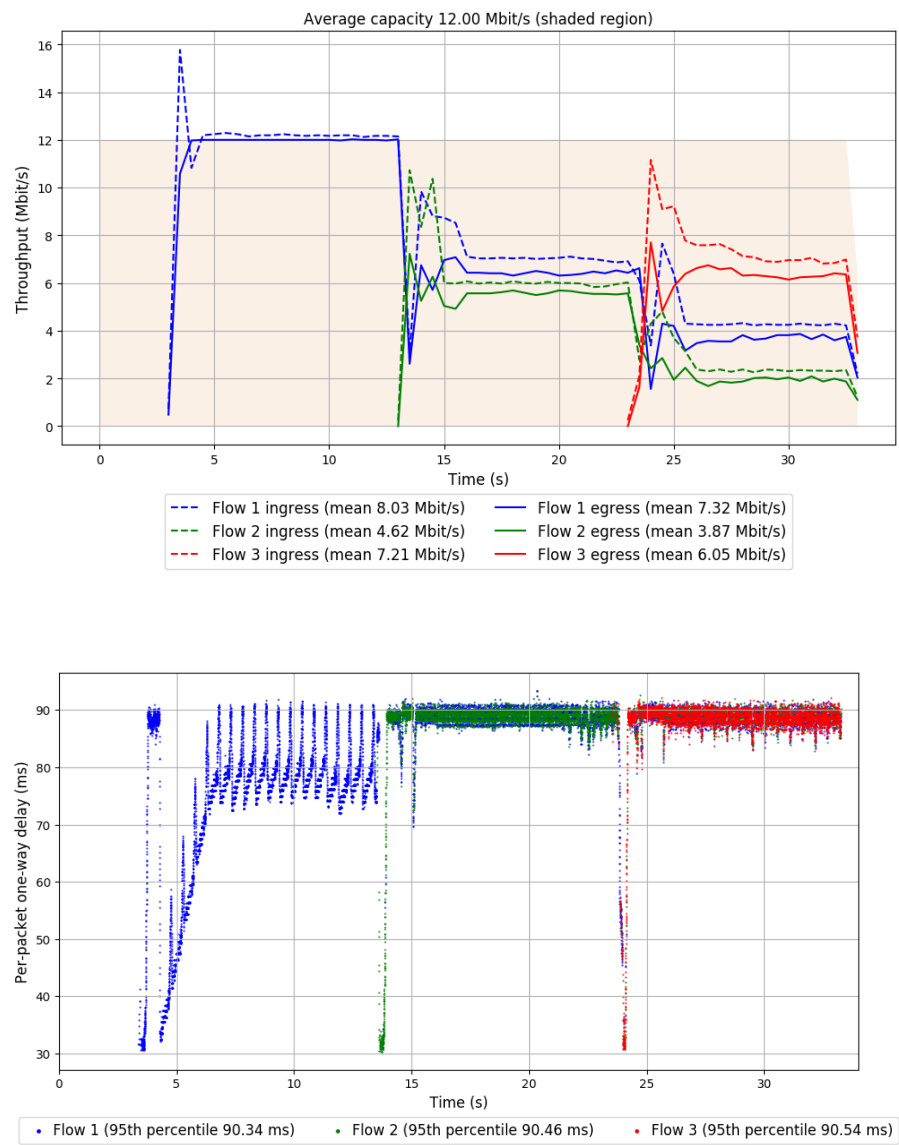
-- Flow 3:

Average throughput: 6.05 Mbit/s

95th percentile per-packet one-way delay: 90.540 ms

Loss rate: 16.93%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-04-24 16:27:52

End at: 2018-04-24 16:28:22

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.84 Mbit/s (98.7% utilization)

95th percentile per-packet one-way delay: 89.857 ms

Loss rate: 8.96%

-- Flow 1:

Average throughput: 7.47 Mbit/s

95th percentile per-packet one-way delay: 89.576 ms

Loss rate: 6.58%

-- Flow 2:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 89.930 ms

Loss rate: 11.54%

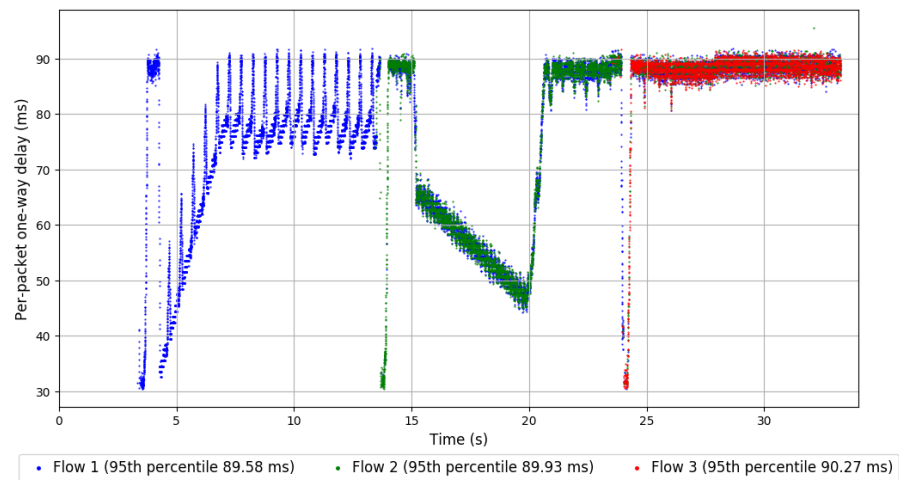
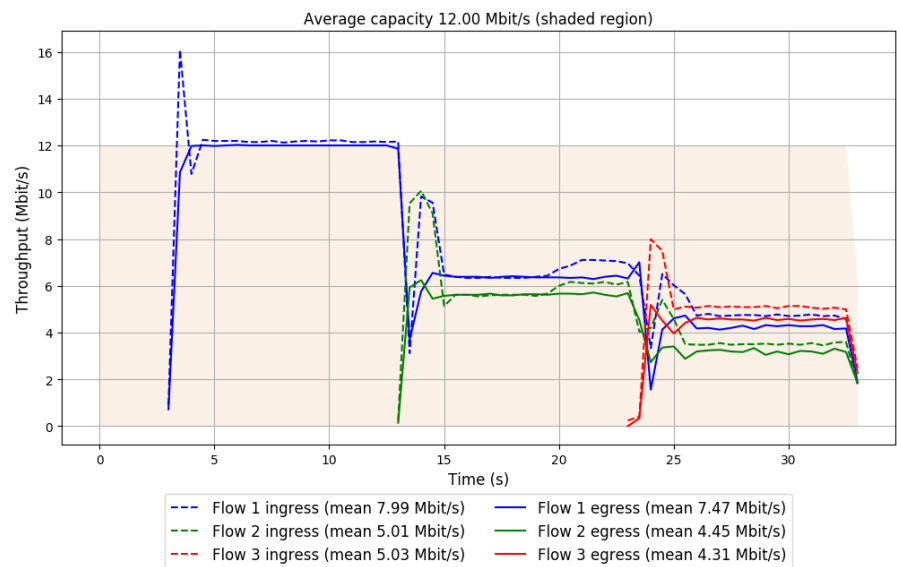
-- Flow 3:

Average throughput: 4.31 Mbit/s

95th percentile per-packet one-way delay: 90.265 ms

Loss rate: 15.21%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-04-24 16:37:43

End at: 2018-04-24 16:38:13

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.84 Mbit/s (98.7% utilization)

95th percentile per-packet one-way delay: 90.219 ms

Loss rate: 10.99%

-- Flow 1:

Average throughput: 6.75 Mbit/s

95th percentile per-packet one-way delay: 90.132 ms

Loss rate: 8.06%

-- Flow 2:

Average throughput: 4.72 Mbit/s

95th percentile per-packet one-way delay: 90.422 ms

Loss rate: 14.92%

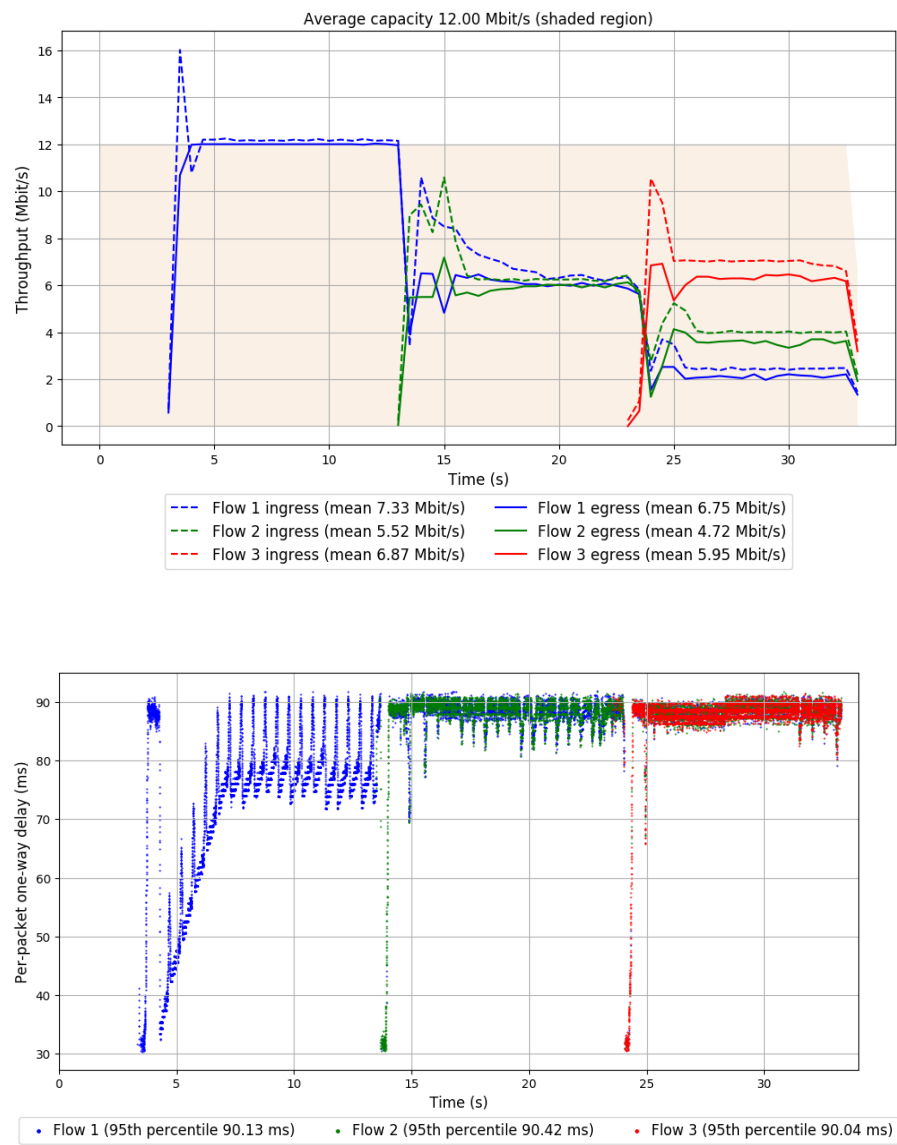
-- Flow 3:

Average throughput: 5.95 Mbit/s

95th percentile per-packet one-way delay: 90.043 ms

Loss rate: 14.08%

Run 5: Report of TCP BBR — Data Link



Run 6: Statistics of TCP BBR

Start at: 2018-04-24 16:47:30

End at: 2018-04-24 16:48:00

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.85 Mbit/s (98.8% utilization)

95th percentile per-packet one-way delay: 90.175 ms

Loss rate: 9.35%

-- Flow 1:

Average throughput: 7.32 Mbit/s

95th percentile per-packet one-way delay: 89.995 ms

Loss rate: 6.51%

-- Flow 2:

Average throughput: 4.97 Mbit/s

95th percentile per-packet one-way delay: 90.298 ms

Loss rate: 12.71%

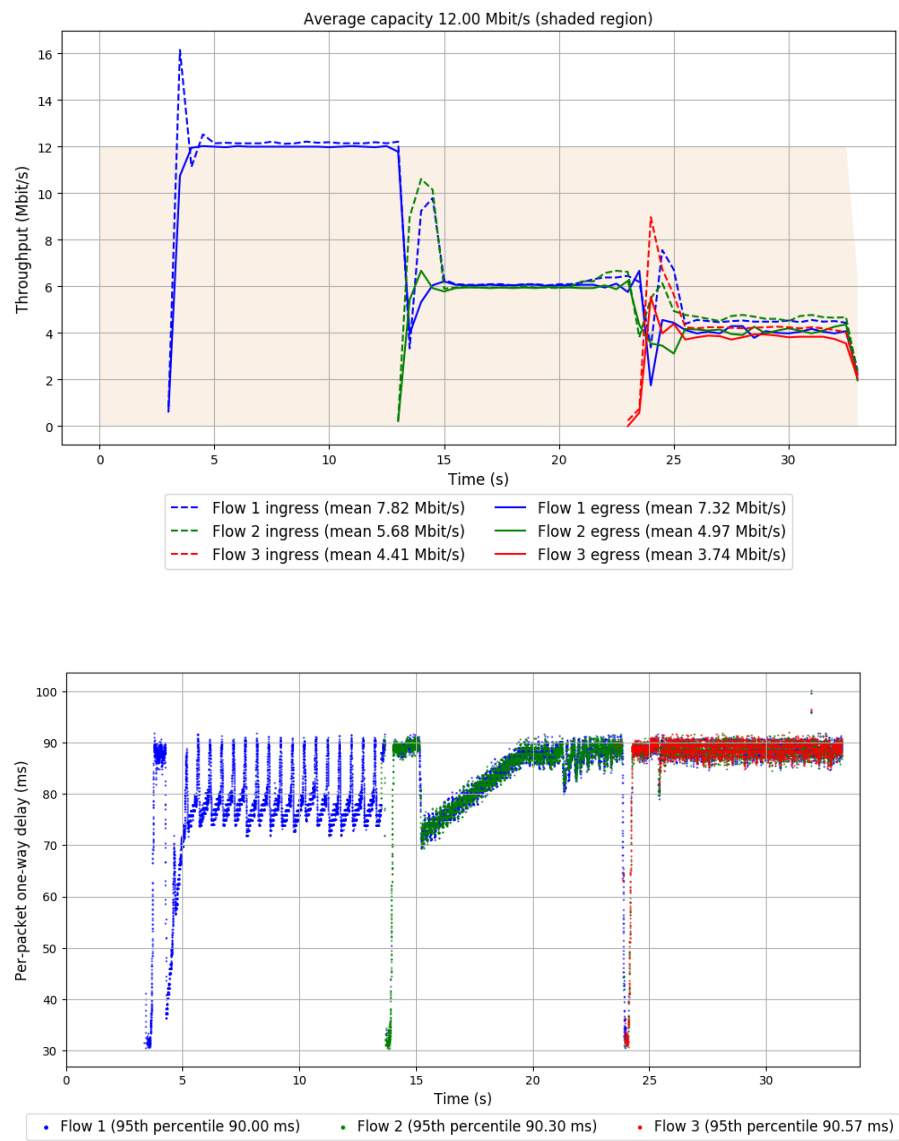
-- Flow 3:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 90.574 ms

Loss rate: 15.85%

Run 6: Report of TCP BBR — Data Link



Run 7: Statistics of TCP BBR

Start at: 2018-04-24 16:57:17

End at: 2018-04-24 16:57:47

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.85 Mbit/s (98.7% utilization)

95th percentile per-packet one-way delay: 90.111 ms

Loss rate: 10.36%

-- Flow 1:

Average throughput: 7.35 Mbit/s

95th percentile per-packet one-way delay: 89.904 ms

Loss rate: 7.56%

-- Flow 2:

Average throughput: 4.42 Mbit/s

95th percentile per-packet one-way delay: 90.199 ms

Loss rate: 13.57%

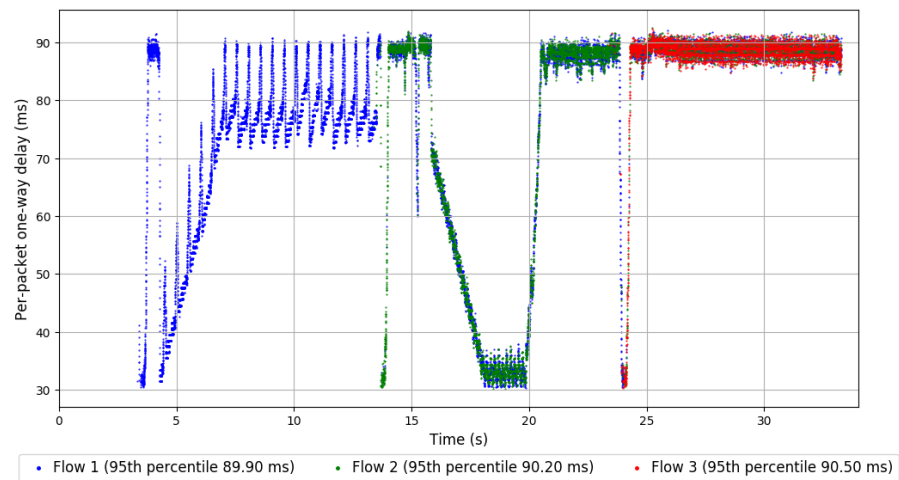
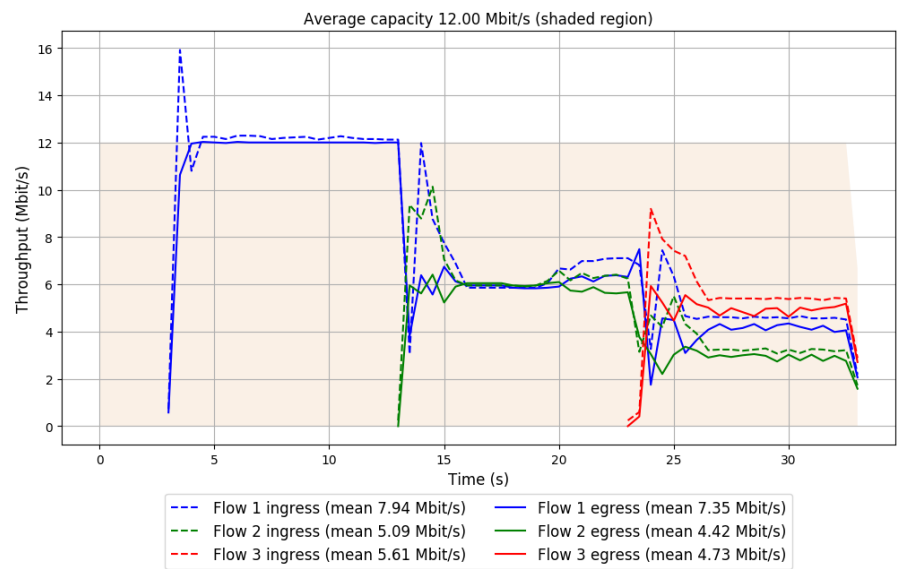
-- Flow 3:

Average throughput: 4.73 Mbit/s

95th percentile per-packet one-way delay: 90.504 ms

Loss rate: 16.42%

Run 7: Report of TCP BBR — Data Link



Run 8: Statistics of TCP BBR

Start at: 2018-04-24 17:07:05

End at: 2018-04-24 17:07:35

Below is generated by plot.py at 2018-04-24 17:29:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.88 Mbit/s (99.0% utilization)

95th percentile per-packet one-way delay: 89.960 ms

Loss rate: 10.89%

-- Flow 1:

Average throughput: 7.48 Mbit/s

95th percentile per-packet one-way delay: 89.843 ms

Loss rate: 7.60%

-- Flow 2:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 90.121 ms

Loss rate: 16.02%

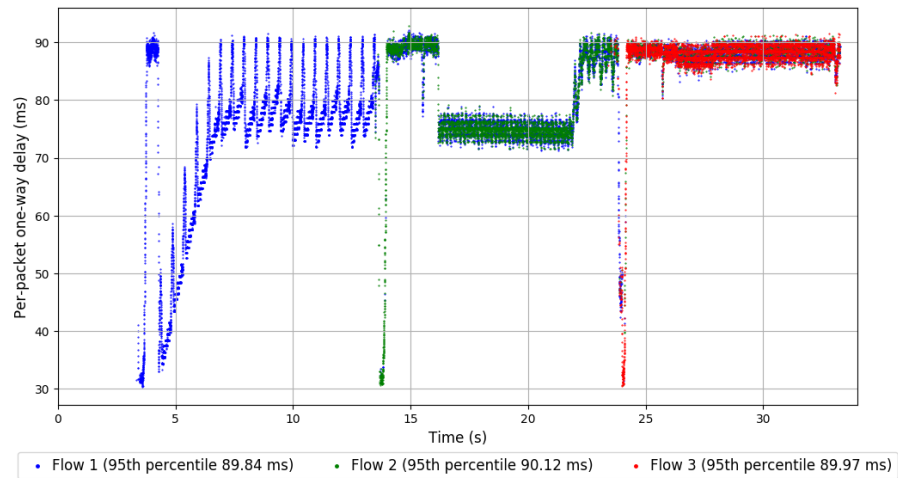
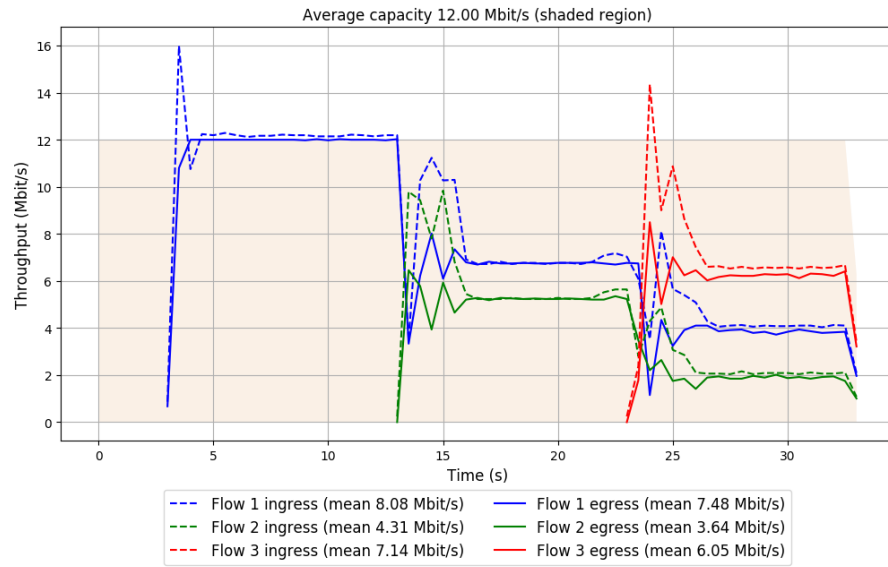
-- Flow 3:

Average throughput: 6.05 Mbit/s

95th percentile per-packet one-way delay: 89.969 ms

Loss rate: 15.92%

Run 8: Report of TCP BBR — Data Link



Run 9: Statistics of TCP BBR

Start at: 2018-04-24 17:16:51

End at: 2018-04-24 17:17:21

Below is generated by plot.py at 2018-04-24 17:29:32

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

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

95th percentile per-packet one-way delay: 89.557 ms

Loss rate: 8.87%

-- Flow 1:

Average throughput: 7.33 Mbit/s

95th percentile per-packet one-way delay: 89.494 ms

Loss rate: 6.29%

-- Flow 2:

Average throughput: 4.62 Mbit/s

95th percentile per-packet one-way delay: 89.507 ms

Loss rate: 10.91%

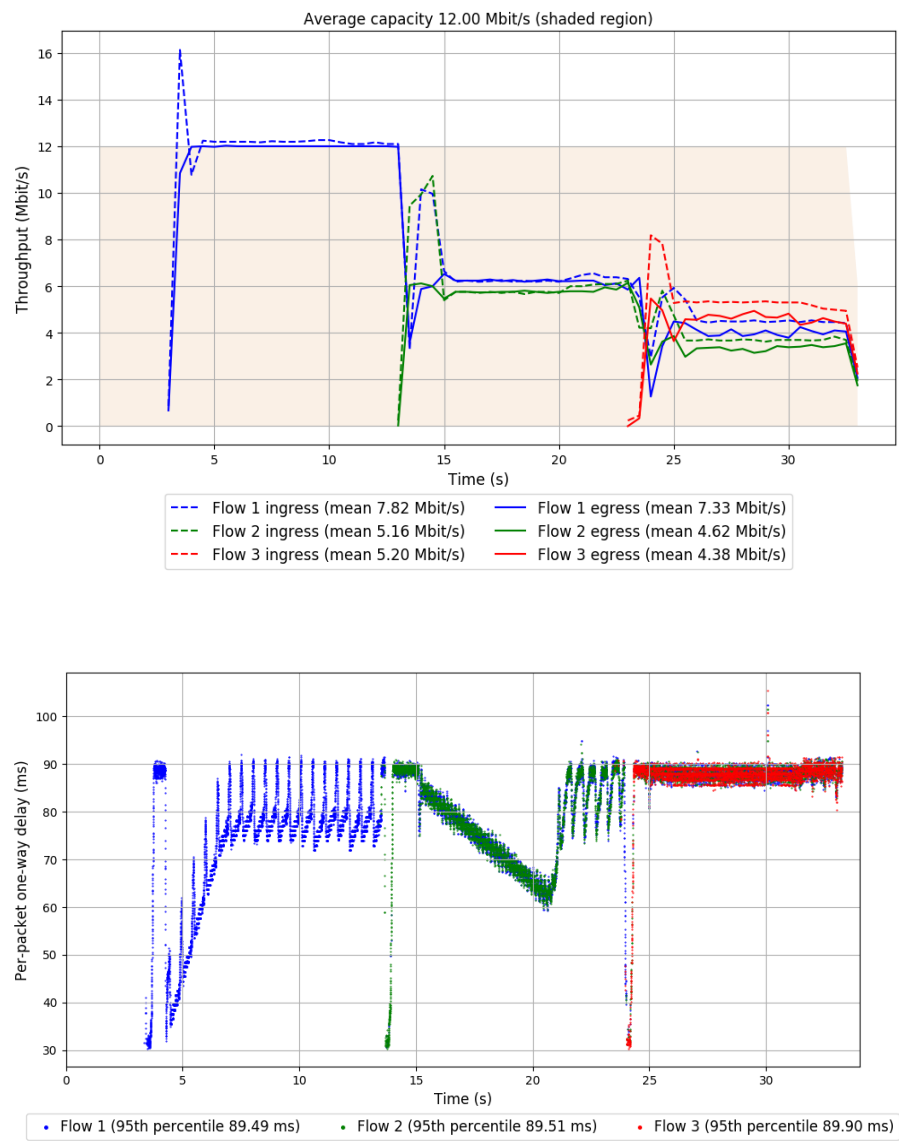
-- Flow 3:

Average throughput: 4.38 Mbit/s

95th percentile per-packet one-way delay: 89.901 ms

Loss rate: 16.53%

Run 9: Report of TCP BBR — Data Link



Run 10: Statistics of TCP BBR

Start at: 2018-04-24 17:26:37

End at: 2018-04-24 17:27:07

Below is generated by plot.py at 2018-04-24 17:29:33

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.81 Mbit/s (98.4% utilization)

95th percentile per-packet one-way delay: 90.066 ms

Loss rate: 9.90%

-- Flow 1:

Average throughput: 7.69 Mbit/s

95th percentile per-packet one-way delay: 89.914 ms

Loss rate: 7.36%

-- Flow 2:

Average throughput: 3.67 Mbit/s

95th percentile per-packet one-way delay: 90.028 ms

Loss rate: 13.90%

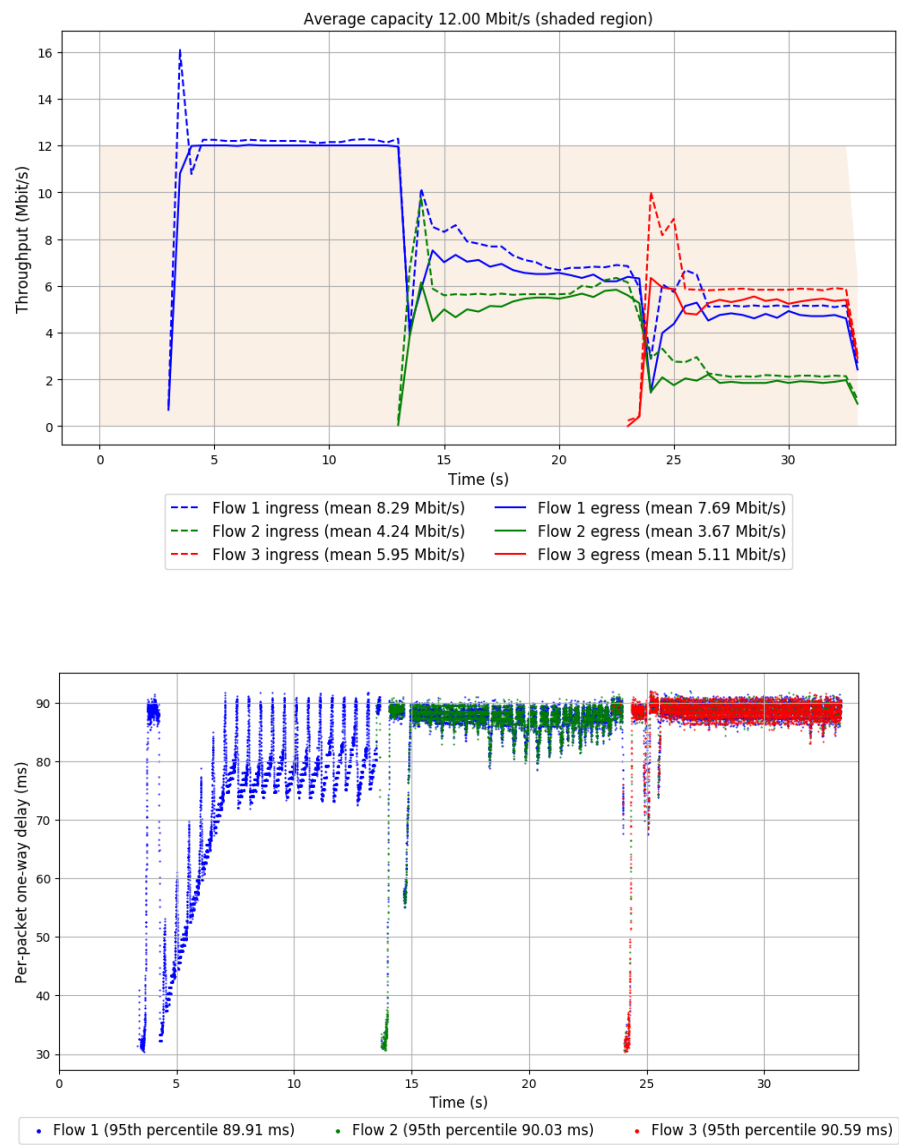
-- Flow 3:

Average throughput: 5.11 Mbit/s

95th percentile per-packet one-way delay: 90.594 ms

Loss rate: 14.83%

Run 10: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-04-24 15:56:46

End at: 2018-04-24 15:57:16

Below is generated by plot.py at 2018-04-24 17:29:34

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.038 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 9.01 Mbit/s

95th percentile per-packet one-way delay: 88.961 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 89.439 ms

Loss rate: 0.81%

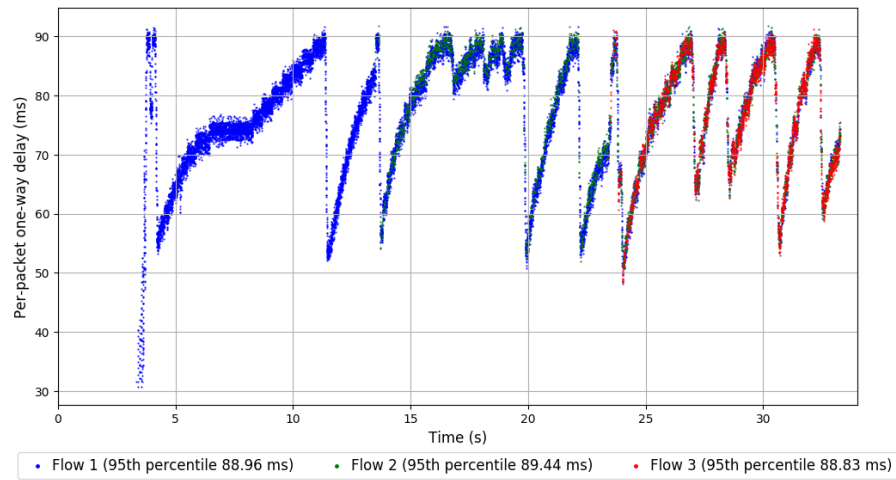
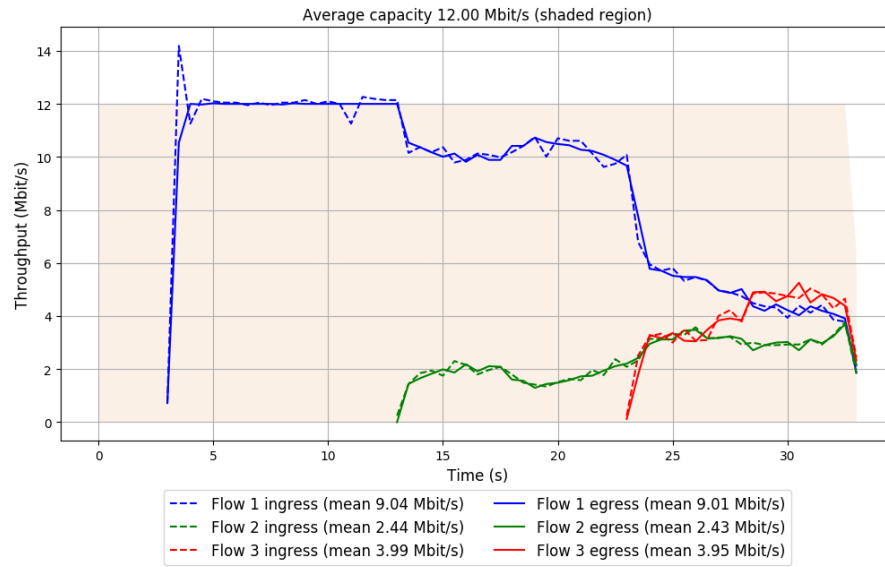
-- Flow 3:

Average throughput: 3.95 Mbit/s

95th percentile per-packet one-way delay: 88.832 ms

Loss rate: 1.60%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-04-24 16:06:33

End at: 2018-04-24 16:07:03

Below is generated by plot.py at 2018-04-24 17:29:34

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.054 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 9.26 Mbit/s

95th percentile per-packet one-way delay: 88.908 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 3.01 Mbit/s

95th percentile per-packet one-way delay: 89.399 ms

Loss rate: 0.76%

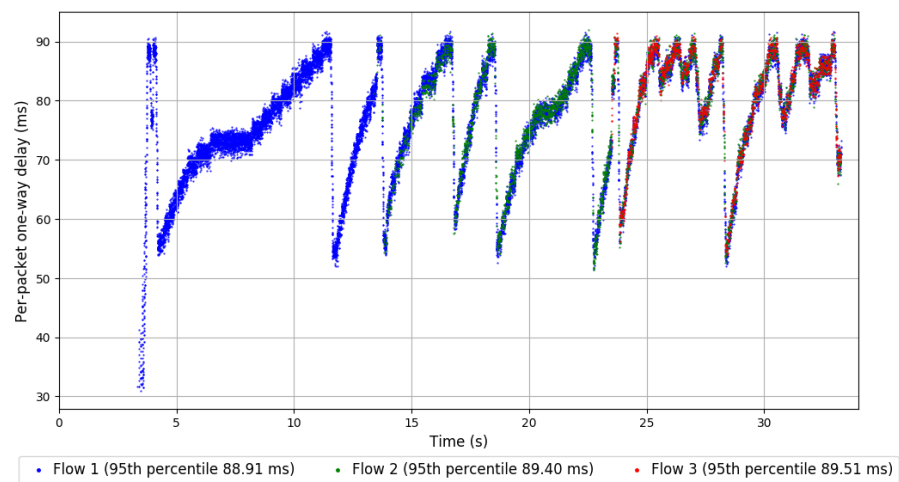
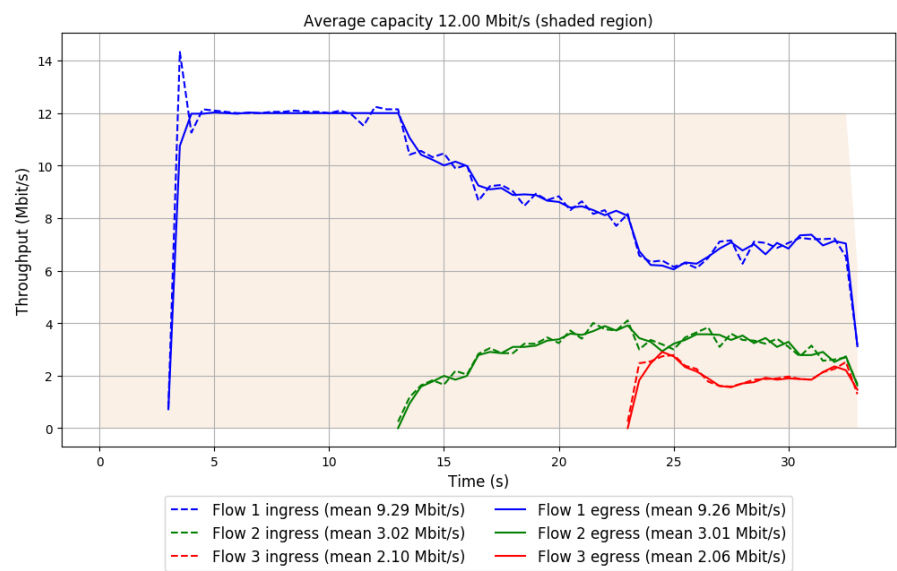
-- Flow 3:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 89.510 ms

Loss rate: 2.65%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-04-24 16:16:20

End at: 2018-04-24 16:16:50

Below is generated by plot.py at 2018-04-24 17:29:36

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.3% utilization)

95th percentile per-packet one-way delay: 88.760 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 8.90 Mbit/s

95th percentile per-packet one-way delay: 88.635 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 2.85 Mbit/s

95th percentile per-packet one-way delay: 89.132 ms

Loss rate: 1.05%

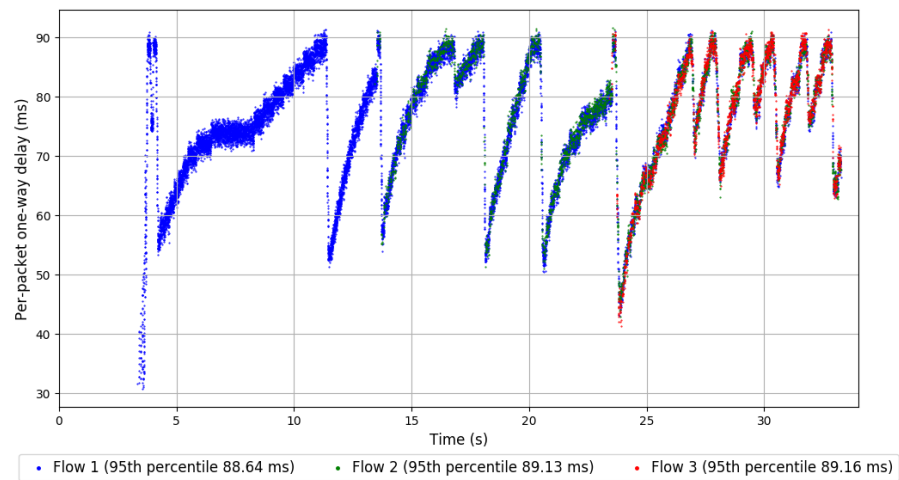
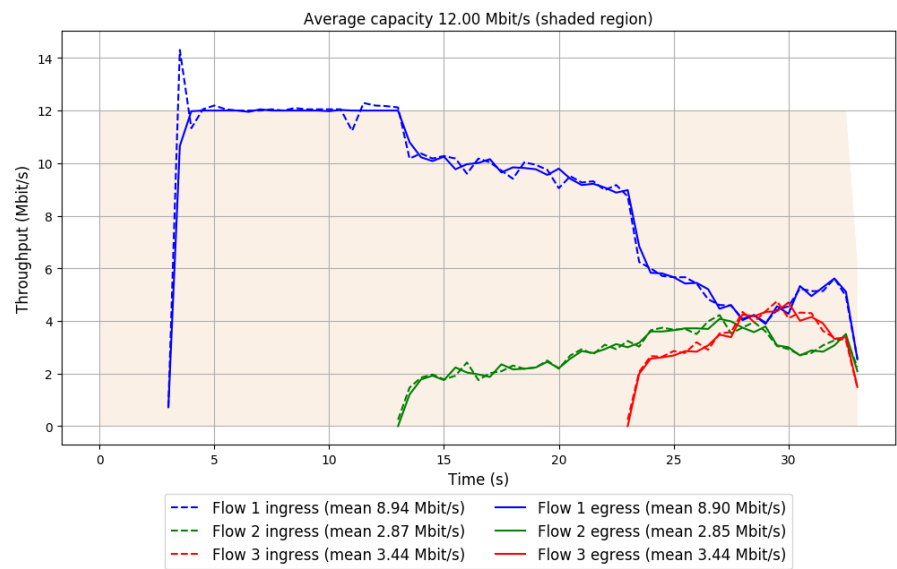
-- Flow 3:

Average throughput: 3.44 Mbit/s

95th percentile per-packet one-way delay: 89.161 ms

Loss rate: 1.05%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-04-24 16:26:08

End at: 2018-04-24 16:26:38

Below is generated by plot.py at 2018-04-24 17:29:36

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 88.975 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 8.47 Mbit/s

95th percentile per-packet one-way delay: 88.919 ms

Loss rate: 0.49%

-- Flow 2:

Average throughput: 3.84 Mbit/s

95th percentile per-packet one-way delay: 89.066 ms

Loss rate: 0.64%

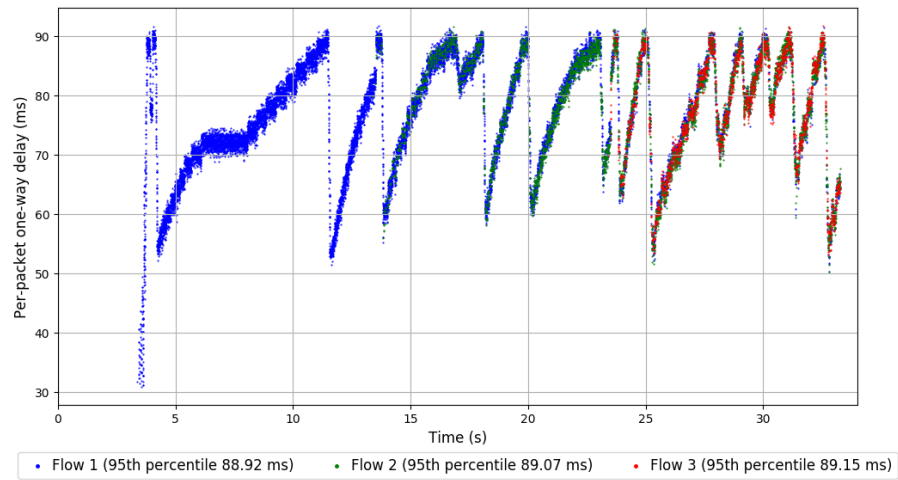
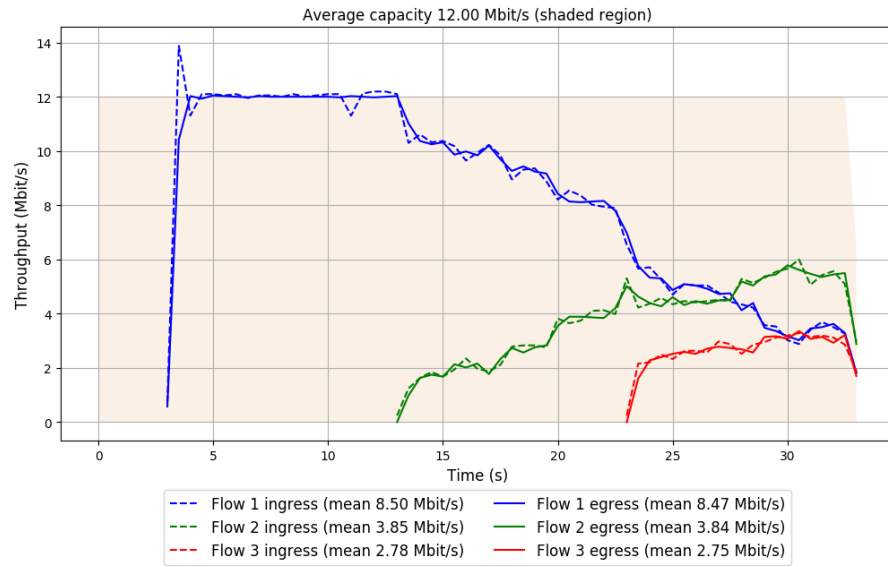
-- Flow 3:

Average throughput: 2.75 Mbit/s

95th percentile per-packet one-way delay: 89.148 ms

Loss rate: 1.83%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-04-24 16:35:55

End at: 2018-04-24 16:36:25

Below is generated by plot.py at 2018-04-24 17:29:36

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.156 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 9.38 Mbit/s

95th percentile per-packet one-way delay: 89.046 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 89.596 ms

Loss rate: 1.32%

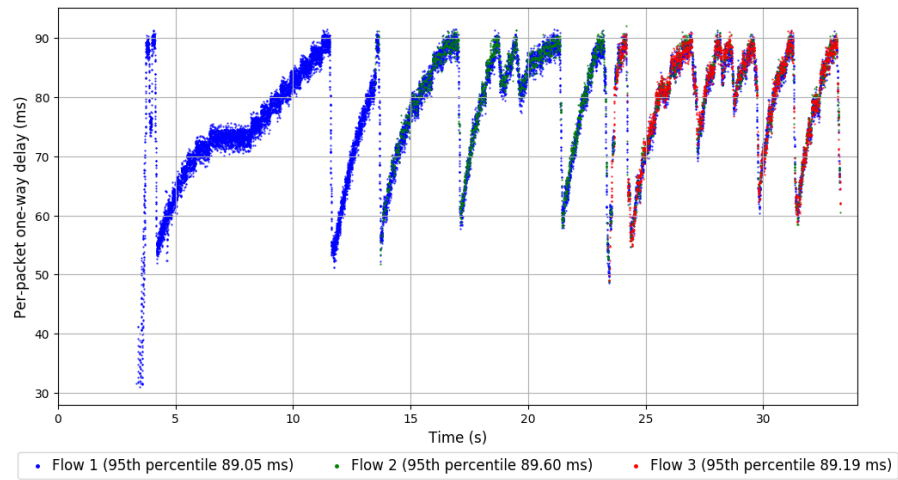
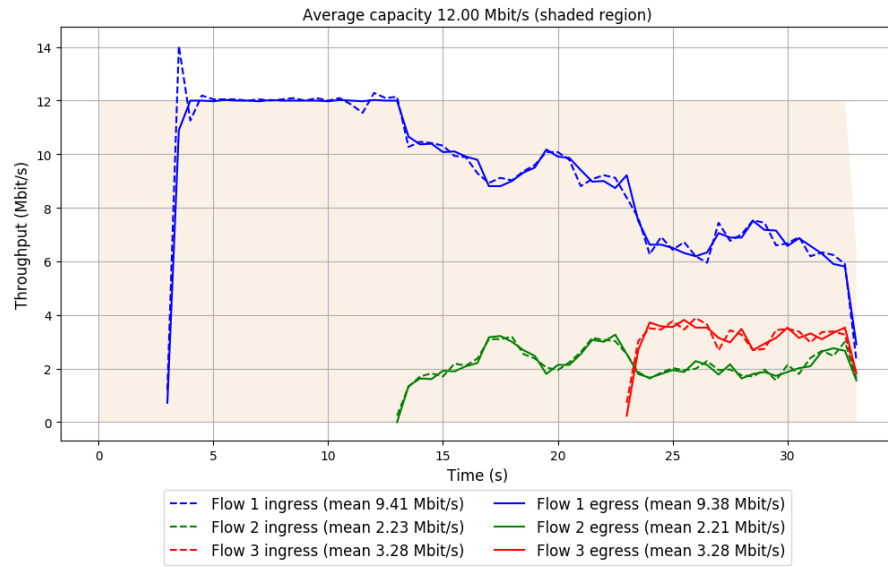
-- Flow 3:

Average throughput: 3.28 Mbit/s

95th percentile per-packet one-way delay: 89.194 ms

Loss rate: 0.77%

Run 5: Report of TCP Cubic — Data Link



Run 6: Statistics of TCP Cubic

Start at: 2018-04-24 16:45:45

End at: 2018-04-24 16:46:15

Below is generated by plot.py at 2018-04-24 17:29:36

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.114 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 9.40 Mbit/s

95th percentile per-packet one-way delay: 89.023 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 2.58 Mbit/s

95th percentile per-packet one-way delay: 89.414 ms

Loss rate: 0.84%

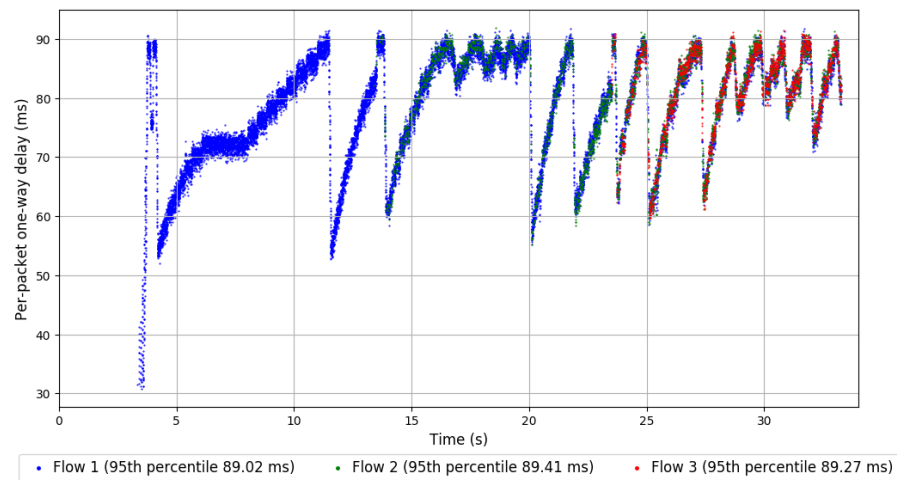
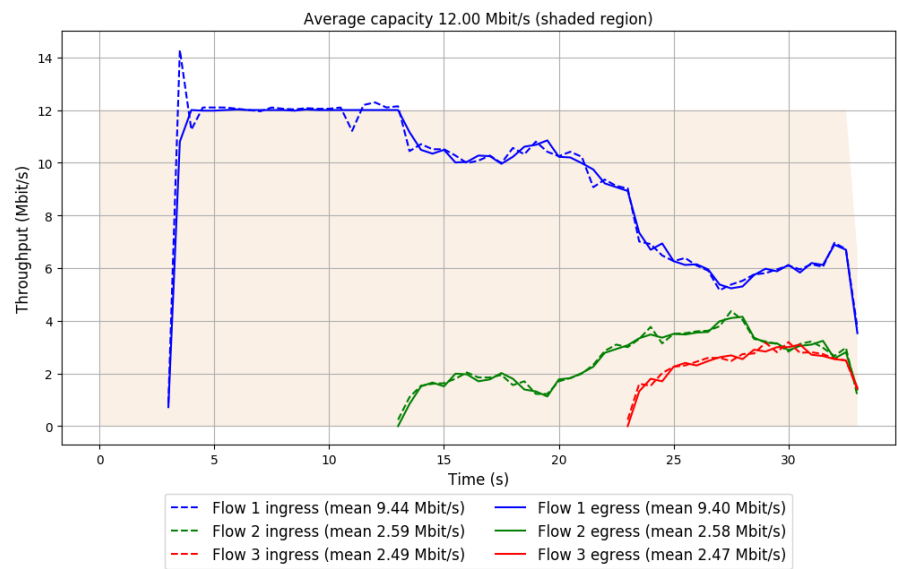
-- Flow 3:

Average throughput: 2.47 Mbit/s

95th percentile per-packet one-way delay: 89.265 ms

Loss rate: 1.41%

Run 6: Report of TCP Cubic — Data Link



Run 7: Statistics of TCP Cubic

Start at: 2018-04-24 16:55:33

End at: 2018-04-24 16:56:03

Below is generated by plot.py at 2018-04-24 17:29:54

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.084 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 8.96 Mbit/s

95th percentile per-packet one-way delay: 88.990 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 3.68 Mbit/s

95th percentile per-packet one-way delay: 89.196 ms

Loss rate: 0.73%

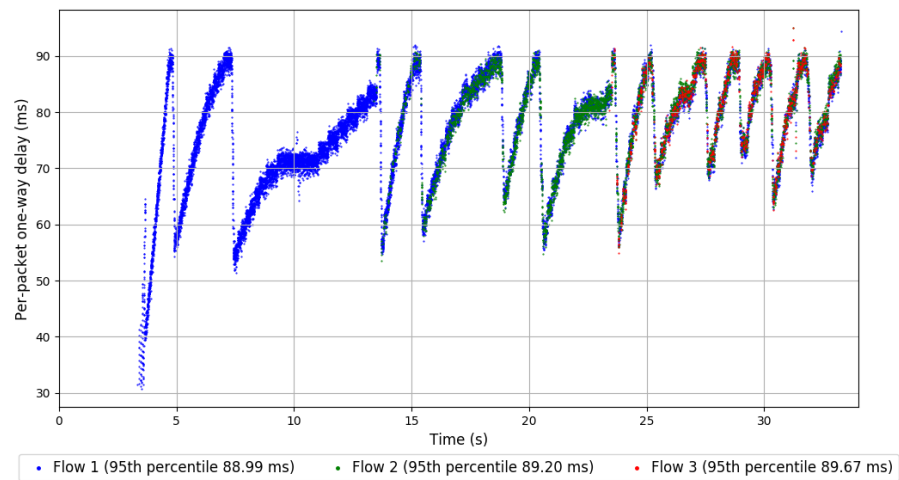
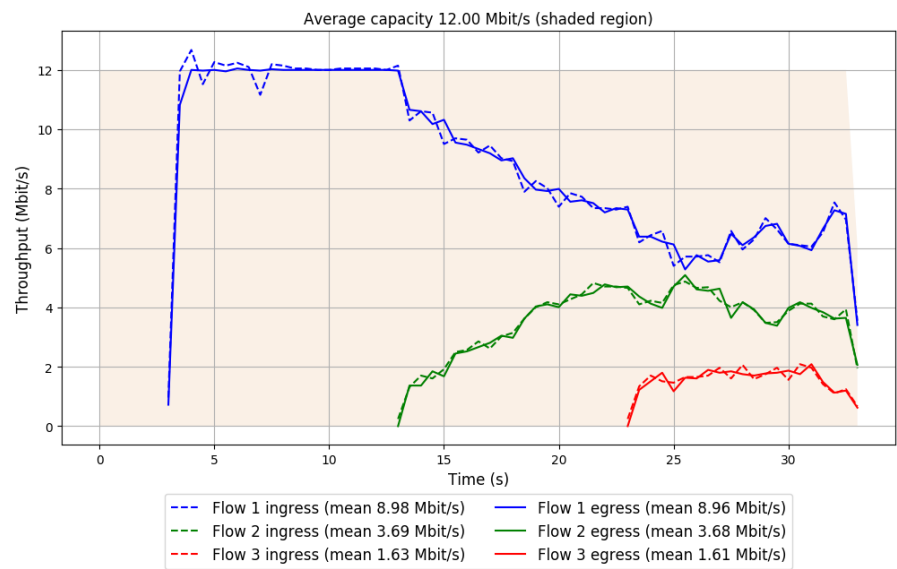
-- Flow 3:

Average throughput: 1.61 Mbit/s

95th percentile per-packet one-way delay: 89.669 ms

Loss rate: 1.86%

Run 7: Report of TCP Cubic — Data Link



Run 8: Statistics of TCP Cubic

Start at: 2018-04-24 17:05:19

End at: 2018-04-24 17:05:49

Below is generated by plot.py at 2018-04-24 17:29:55

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.040 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 9.25 Mbit/s

95th percentile per-packet one-way delay: 88.867 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 3.13 Mbit/s

95th percentile per-packet one-way delay: 89.428 ms

Loss rate: 0.77%

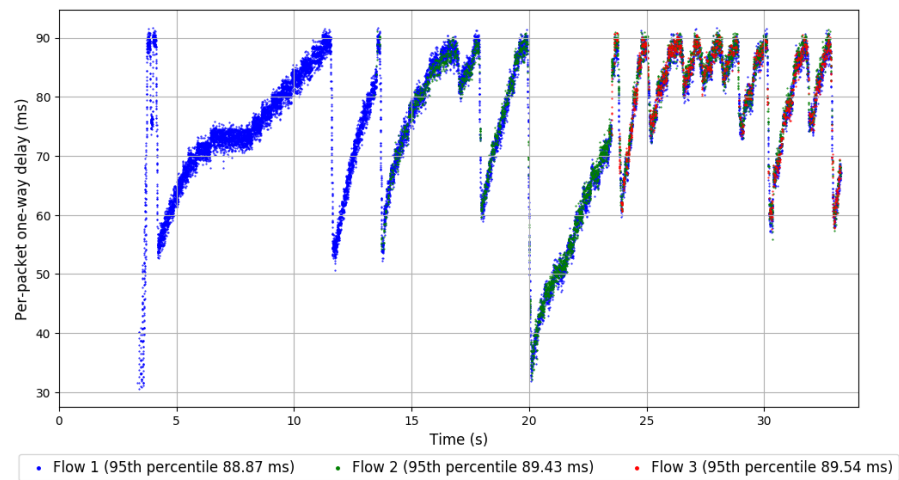
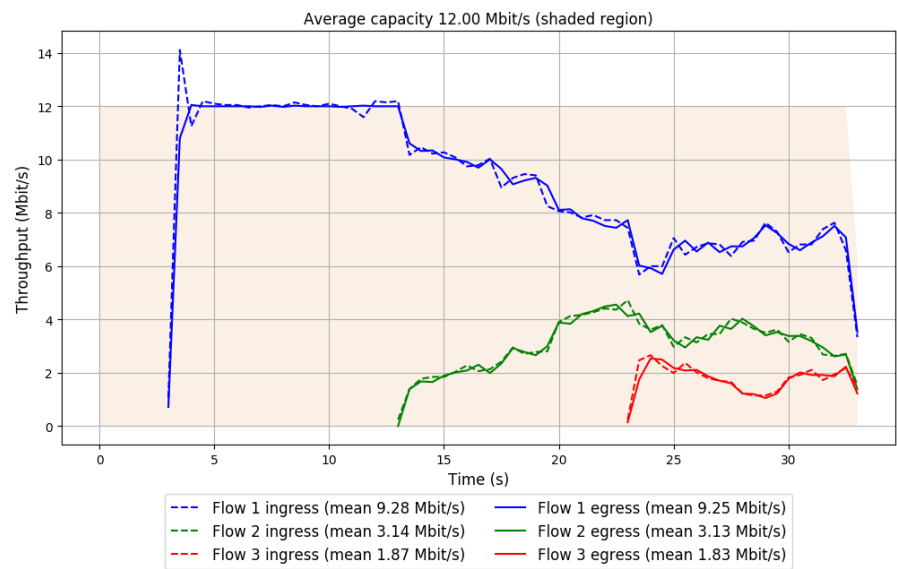
-- Flow 3:

Average throughput: 1.83 Mbit/s

95th percentile per-packet one-way delay: 89.539 ms

Loss rate: 2.71%

Run 8: Report of TCP Cubic — Data Link



Run 9: Statistics of TCP Cubic

Start at: 2018-04-24 17:15:08

End at: 2018-04-24 17:15:38

Below is generated by plot.py at 2018-04-24 17:29:55

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 88.993 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 8.80 Mbit/s

95th percentile per-packet one-way delay: 88.947 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 3.53 Mbit/s

95th percentile per-packet one-way delay: 89.055 ms

Loss rate: 0.75%

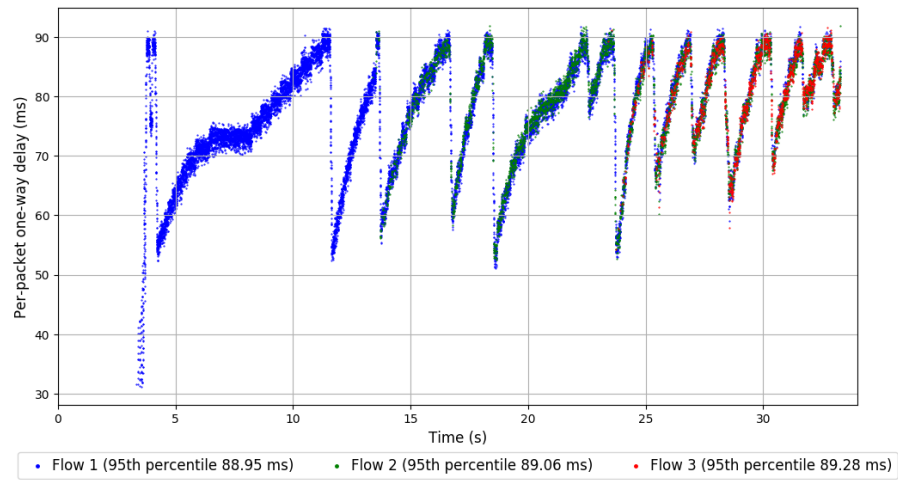
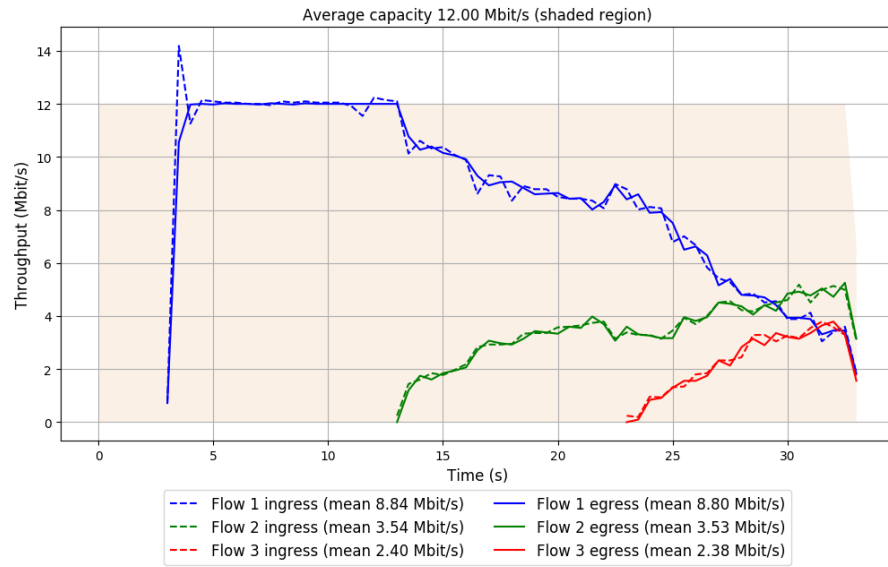
-- Flow 3:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 89.275 ms

Loss rate: 1.96%

Run 9: Report of TCP Cubic — Data Link



Run 10: Statistics of TCP Cubic

Start at: 2018-04-24 17:24:54

End at: 2018-04-24 17:25:24

Below is generated by plot.py at 2018-04-24 17:29:56

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 89.036 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 8.26 Mbit/s

95th percentile per-packet one-way delay: 88.930 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 3.55 Mbit/s

95th percentile per-packet one-way delay: 89.139 ms

Loss rate: 0.79%

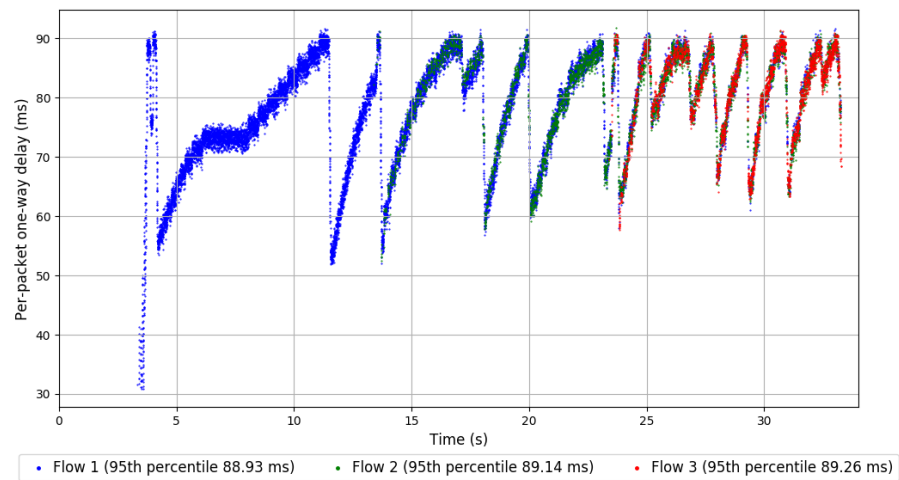
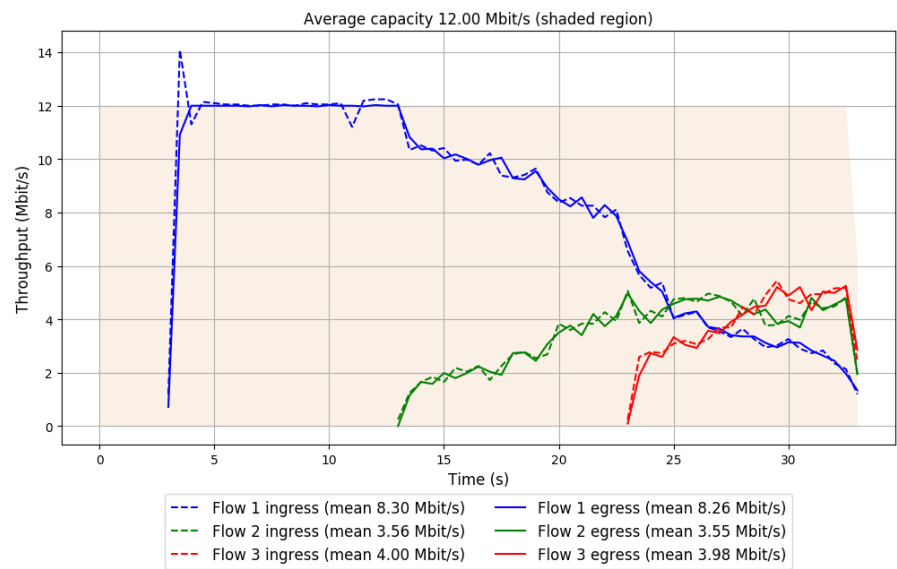
-- Flow 3:

Average throughput: 3.98 Mbit/s

95th percentile per-packet one-way delay: 89.258 ms

Loss rate: 1.06%

Run 10: Report of TCP Cubic — Data Link

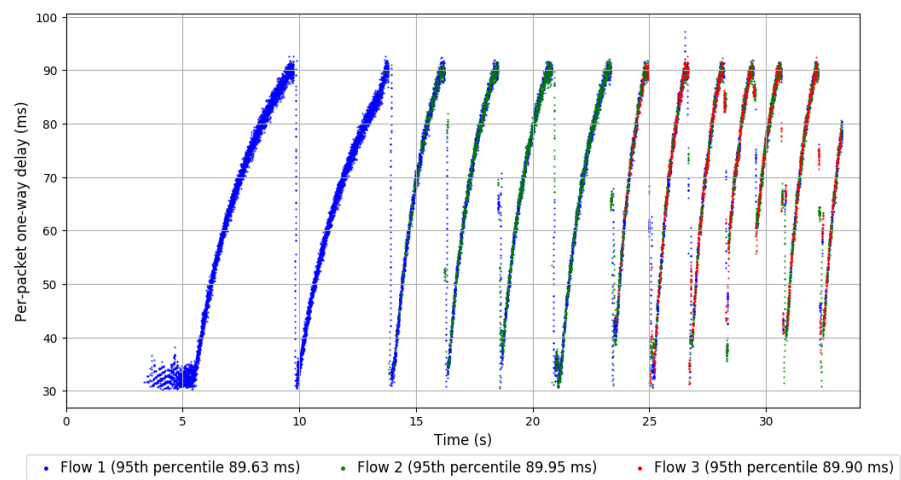
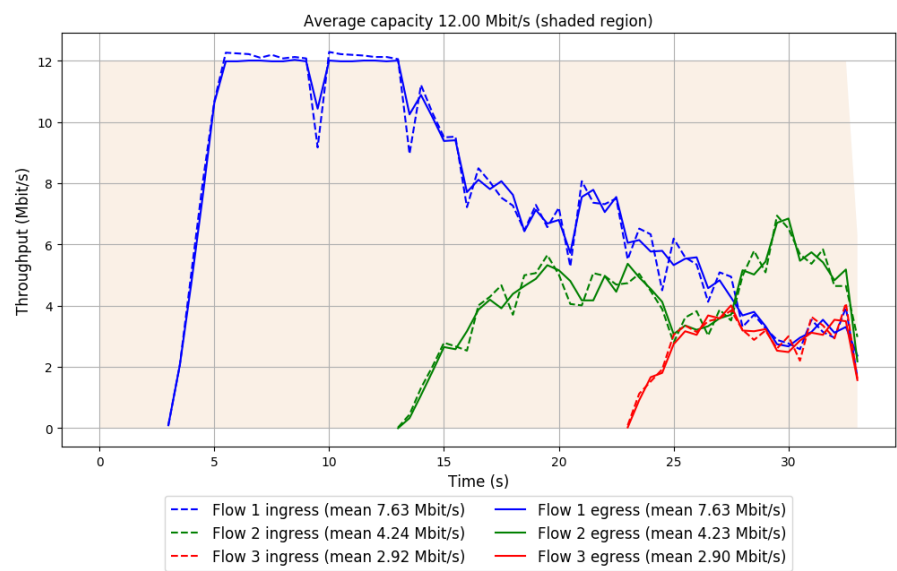


```
Run 1: Statistics of LEDBAT

Start at: 2018-04-24 15:55:37
End at: 2018-04-24 15:56:07

# Below is generated by plot.py at 2018-04-24 17:29:56
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.38 Mbit/s (94.9% utilization)
95th percentile per-packet one-way delay: 89.730 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 89.626 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 89.950 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 89.899 ms
Loss rate: 1.66%
```


Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-04-24 16:05:23

End at: 2018-04-24 16:05:53

Below is generated by plot.py at 2018-04-24 17:29:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.42 Mbit/s (95.1% utilization)

95th percentile per-packet one-way delay: 89.776 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 7.60 Mbit/s

95th percentile per-packet one-way delay: 89.508 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 90.055 ms

Loss rate: 0.65%

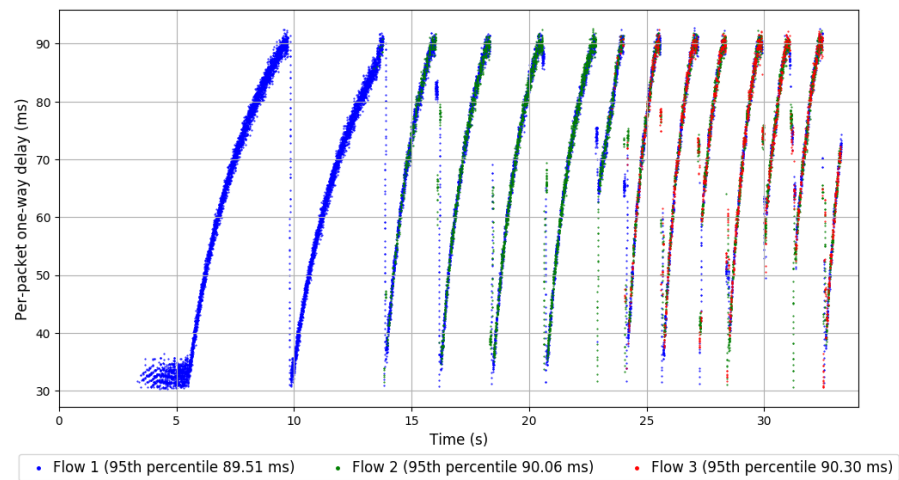
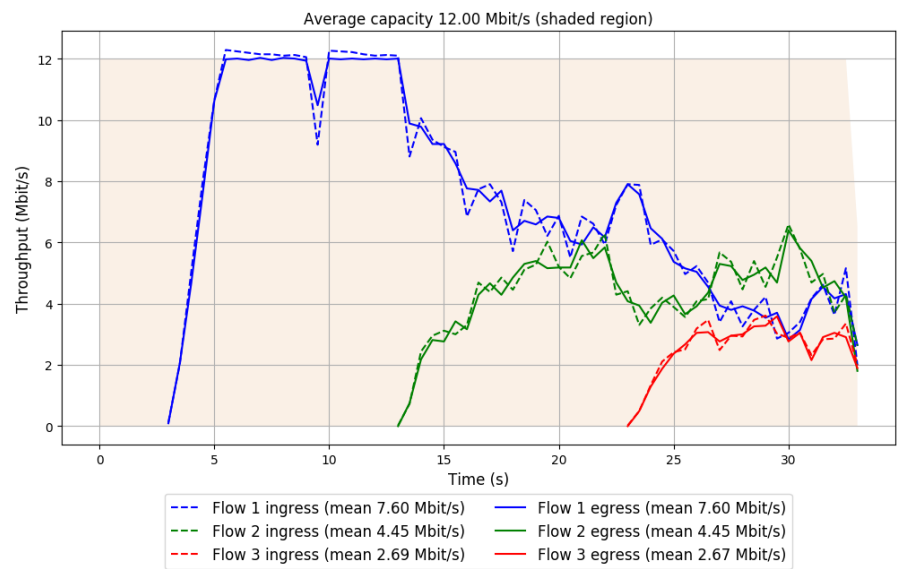
-- Flow 3:

Average throughput: 2.67 Mbit/s

95th percentile per-packet one-way delay: 90.296 ms

Loss rate: 1.71%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-04-24 16:15:10

End at: 2018-04-24 16:15:40

Below is generated by plot.py at 2018-04-24 17:29:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.00 Mbit/s (91.7% utilization)

95th percentile per-packet one-way delay: 89.776 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 6.53 Mbit/s

95th percentile per-packet one-way delay: 89.611 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 5.33 Mbit/s

95th percentile per-packet one-way delay: 89.951 ms

Loss rate: 0.28%

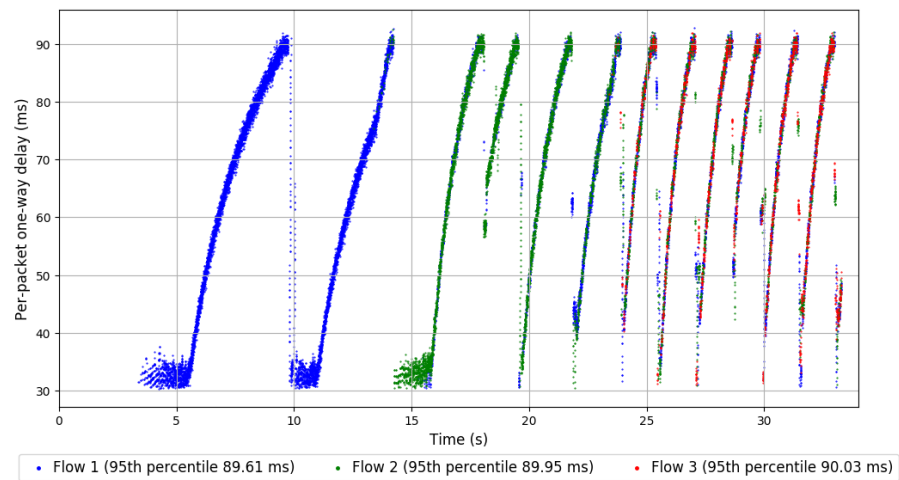
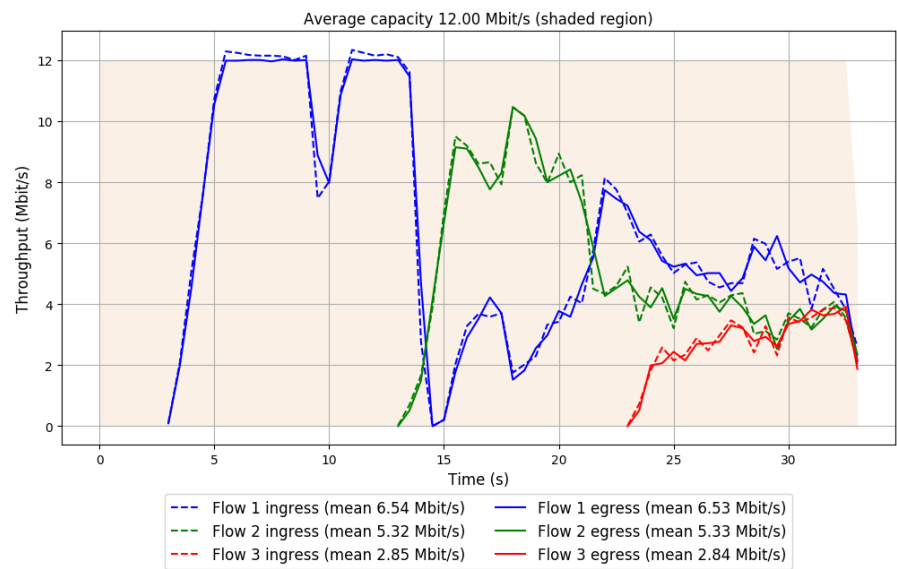
-- Flow 3:

Average throughput: 2.84 Mbit/s

95th percentile per-packet one-way delay: 90.025 ms

Loss rate: 1.12%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-04-24 16:24:58

End at: 2018-04-24 16:25:28

Below is generated by plot.py at 2018-04-24 17:29:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.39 Mbit/s (94.9% utilization)

95th percentile per-packet one-way delay: 89.744 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 7.22 Mbit/s

95th percentile per-packet one-way delay: 89.571 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 5.01 Mbit/s

95th percentile per-packet one-way delay: 89.915 ms

Loss rate: 0.39%

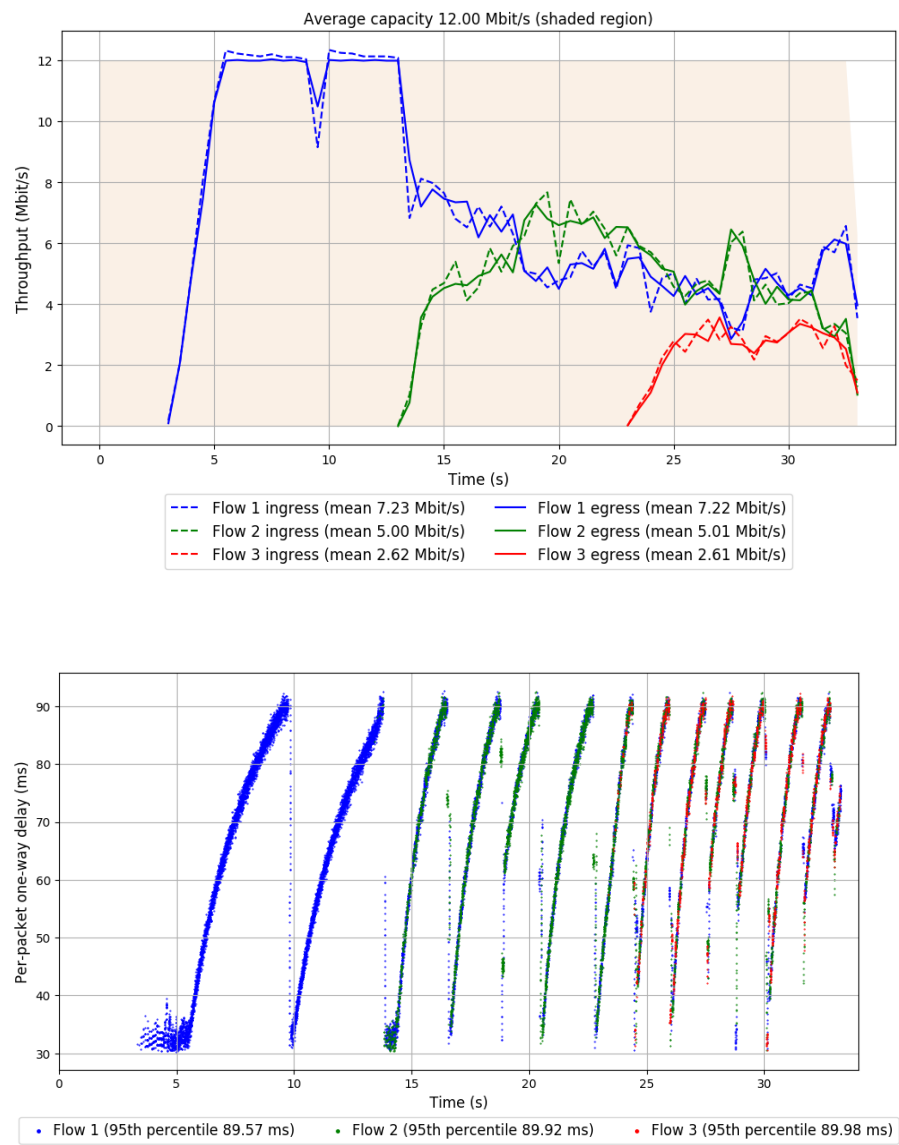
-- Flow 3:

Average throughput: 2.61 Mbit/s

95th percentile per-packet one-way delay: 89.980 ms

Loss rate: 1.40%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-04-24 16:34:46

End at: 2018-04-24 16:35:16

Below is generated by plot.py at 2018-04-24 17:30:16

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.30 Mbit/s (94.2% utilization)

95th percentile per-packet one-way delay: 89.778 ms

Loss rate: 0.33%

-- Flow 1:

Average throughput: 7.57 Mbit/s

95th percentile per-packet one-way delay: 89.582 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 4.13 Mbit/s

95th percentile per-packet one-way delay: 89.978 ms

Loss rate: 0.63%

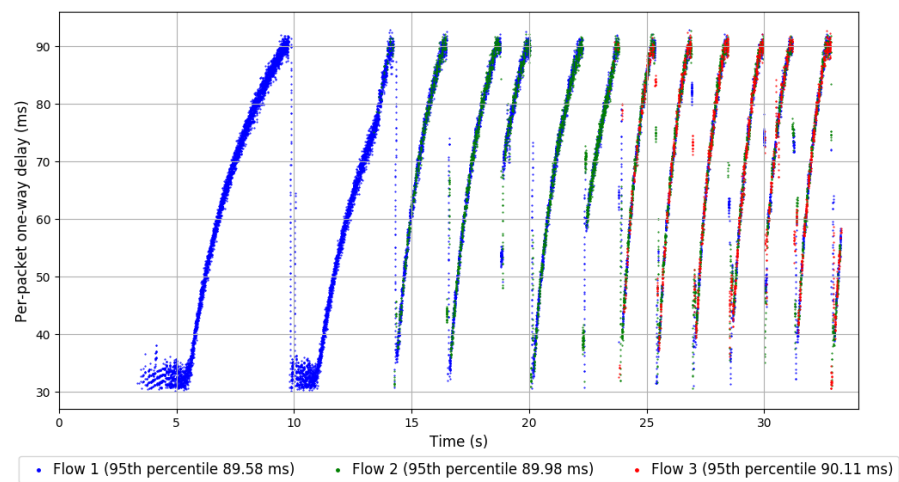
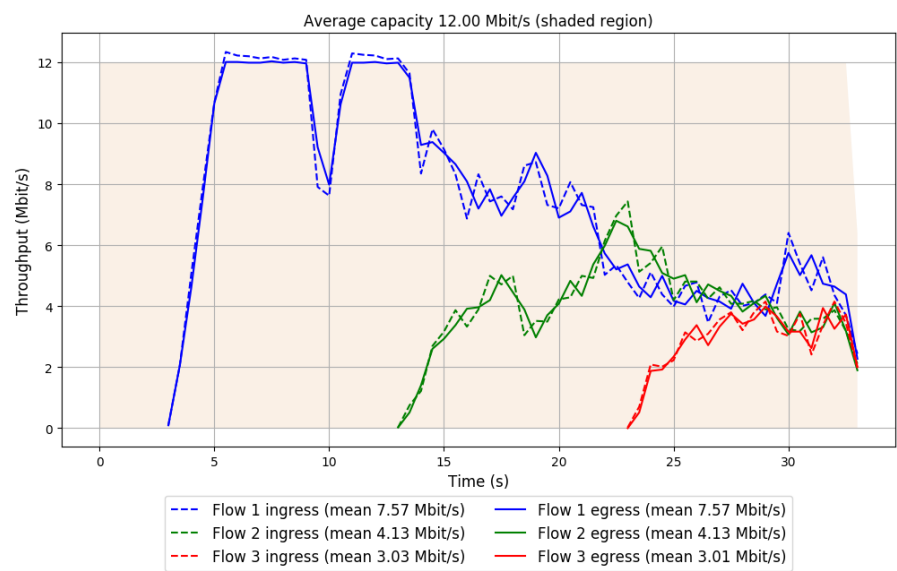
-- Flow 3:

Average throughput: 3.01 Mbit/s

95th percentile per-packet one-way delay: 90.112 ms

Loss rate: 1.17%

Run 5: Report of LEDBAT — Data Link



Run 6: Statistics of LEDBAT

Start at: 2018-04-24 16:44:36

End at: 2018-04-24 16:45:06

Below is generated by plot.py at 2018-04-24 17:30:16

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.29 Mbit/s (94.1% utilization)

95th percentile per-packet one-way delay: 89.745 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 7.33 Mbit/s

95th percentile per-packet one-way delay: 89.638 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 4.52 Mbit/s

95th percentile per-packet one-way delay: 89.785 ms

Loss rate: 0.14%

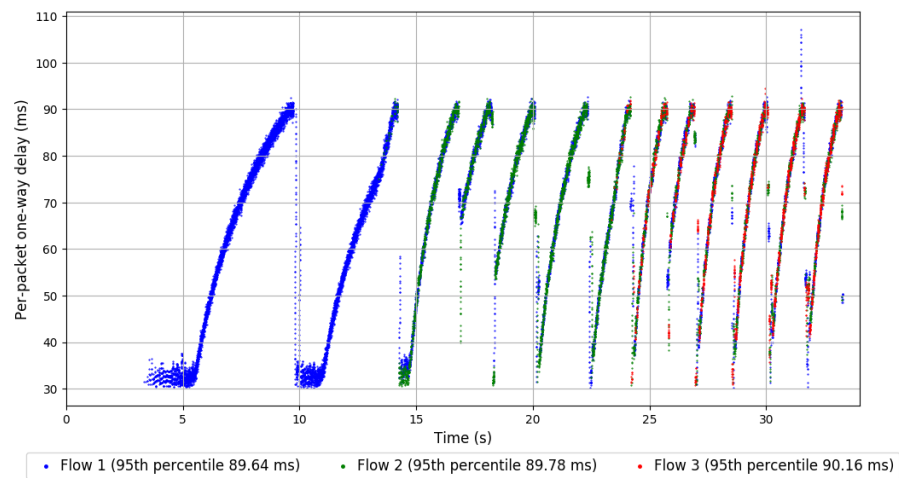
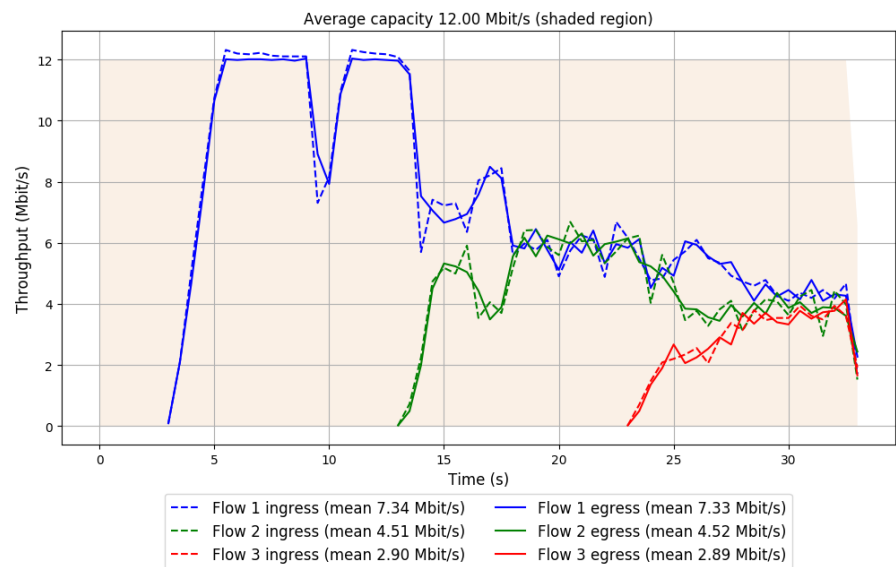
-- Flow 3:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 90.163 ms

Loss rate: 1.26%

Run 6: Report of LEDBAT — Data Link



Run 7: Statistics of LEDBAT

Start at: 2018-04-24 16:54:23

End at: 2018-04-24 16:54:53

Below is generated by plot.py at 2018-04-24 17:30:17

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.29 Mbit/s (94.1% utilization)

95th percentile per-packet one-way delay: 89.644 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 7.26 Mbit/s

95th percentile per-packet one-way delay: 89.587 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 4.63 Mbit/s

95th percentile per-packet one-way delay: 89.725 ms

Loss rate: 0.43%

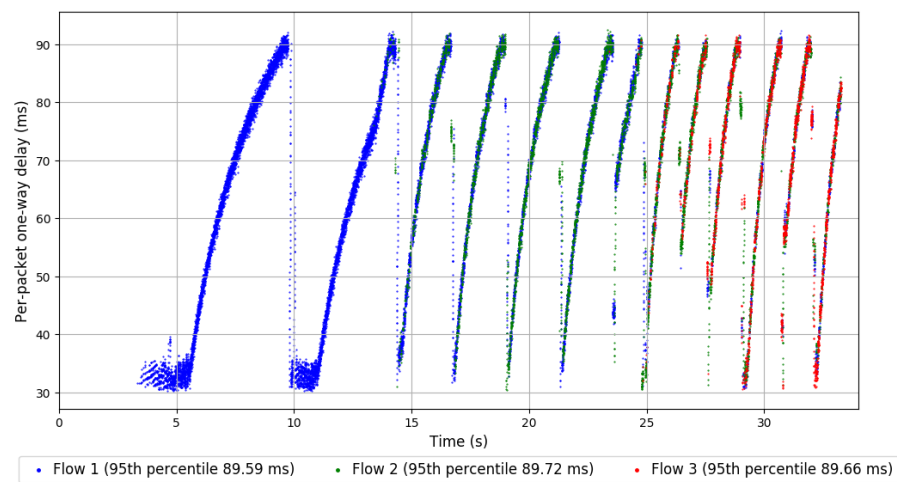
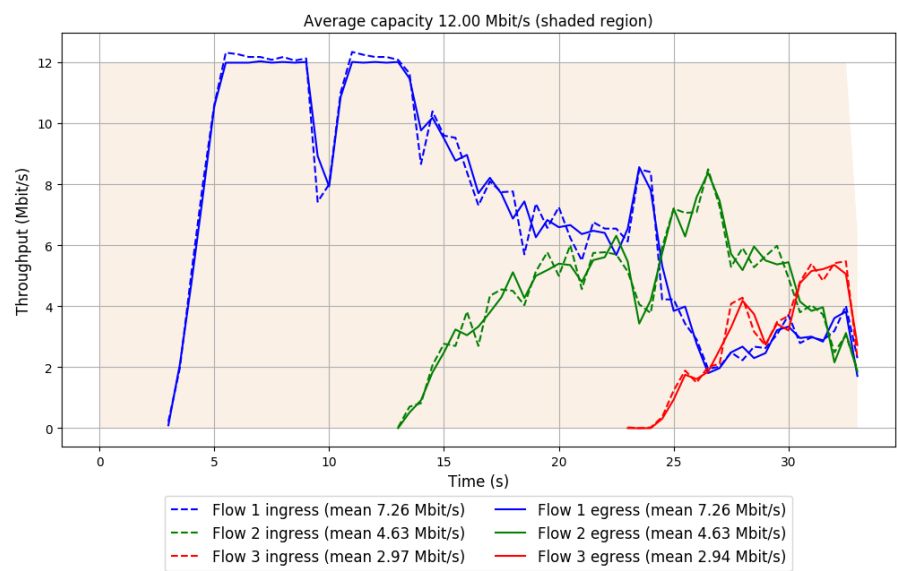
-- Flow 3:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 89.659 ms

Loss rate: 1.46%

Run 7: Report of LEDBAT — Data Link



Run 8: Statistics of LEDBAT

Start at: 2018-04-24 17:04:10

End at: 2018-04-24 17:04:40

Below is generated by plot.py at 2018-04-24 17:30:18

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.30 Mbit/s (94.2% utilization)

95th percentile per-packet one-way delay: 89.699 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 7.13 Mbit/s

95th percentile per-packet one-way delay: 89.526 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 4.54 Mbit/s

95th percentile per-packet one-way delay: 89.879 ms

Loss rate: 0.31%

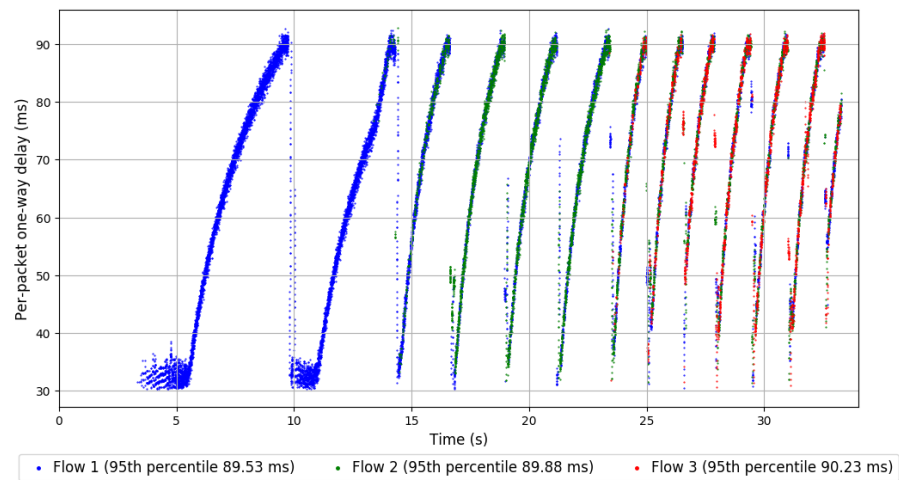
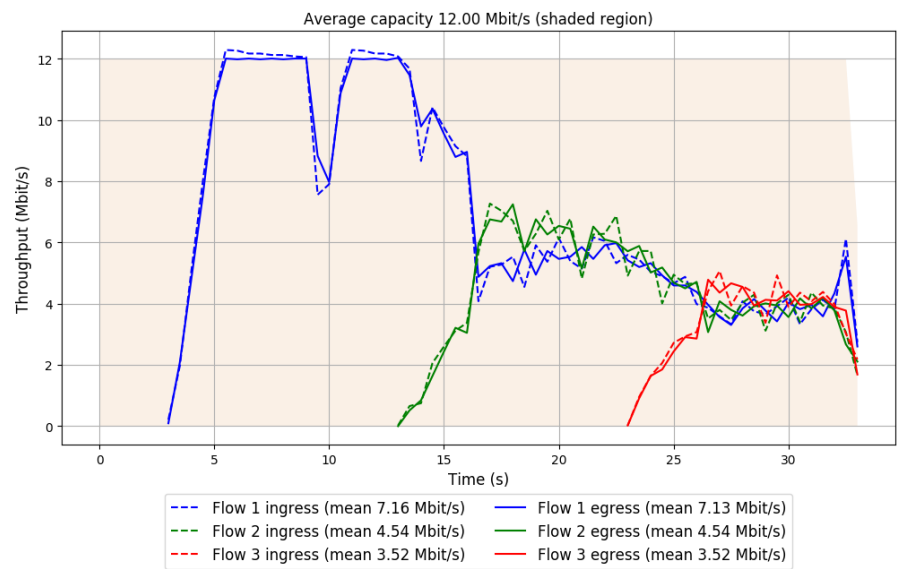
-- Flow 3:

Average throughput: 3.52 Mbit/s

95th percentile per-packet one-way delay: 90.235 ms

Loss rate: 1.24%

Run 8: Report of LEDBAT — Data Link



Run 9: Statistics of LEDBAT

Start at: 2018-04-24 17:13:58

End at: 2018-04-24 17:14:28

Below is generated by plot.py at 2018-04-24 17:30:18

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.28 Mbit/s (94.0% utilization)

95th percentile per-packet one-way delay: 89.625 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 7.67 Mbit/s

95th percentile per-packet one-way delay: 89.491 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 3.90 Mbit/s

95th percentile per-packet one-way delay: 89.863 ms

Loss rate: 0.41%

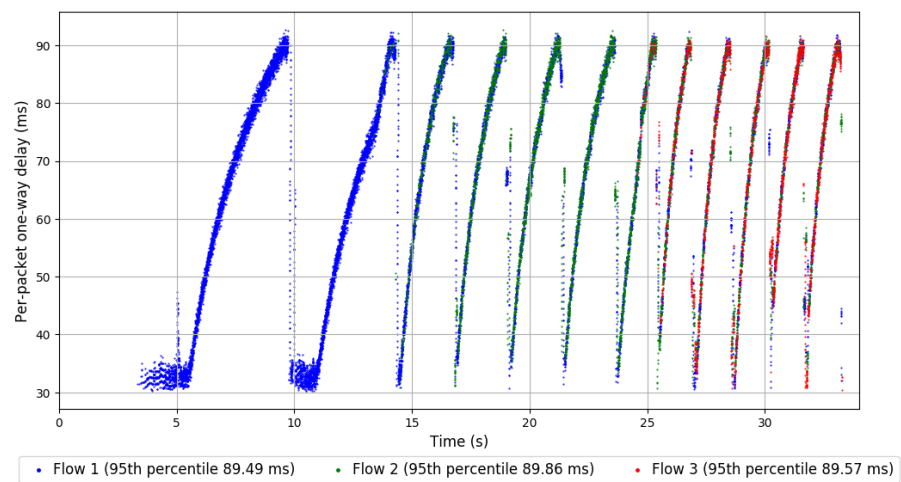
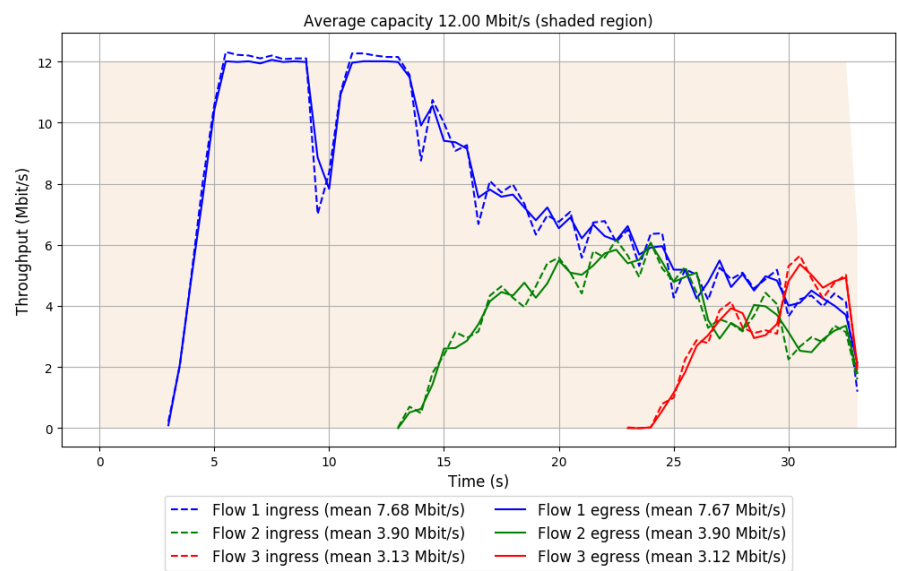
-- Flow 3:

Average throughput: 3.12 Mbit/s

95th percentile per-packet one-way delay: 89.569 ms

Loss rate: 1.12%

Run 9: Report of LEDBAT — Data Link



Run 10: Statistics of LEDBAT

Start at: 2018-04-24 17:23:44

End at: 2018-04-24 17:24:14

Below is generated by plot.py at 2018-04-24 17:30:19

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.26 Mbit/s (93.9% utilization)

95th percentile per-packet one-way delay: 89.696 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 6.90 Mbit/s

95th percentile per-packet one-way delay: 89.537 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 4.68 Mbit/s

95th percentile per-packet one-way delay: 89.791 ms

Loss rate: 0.24%

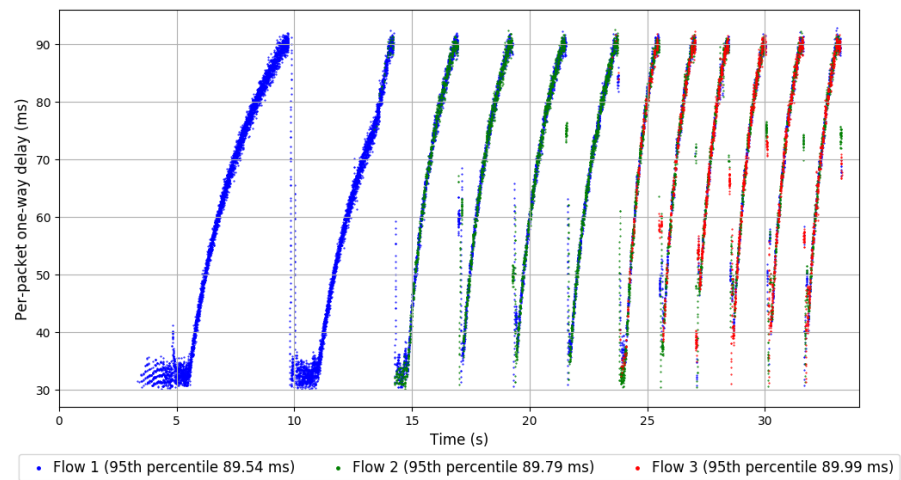
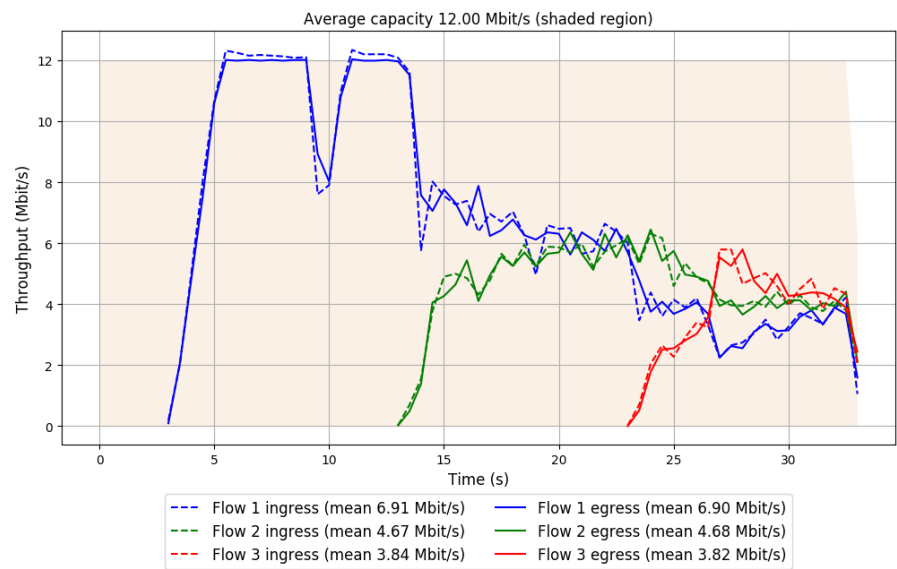
-- Flow 3:

Average throughput: 3.82 Mbit/s

95th percentile per-packet one-way delay: 89.992 ms

Loss rate: 1.02%

Run 10: Report of LEDBAT — Data Link

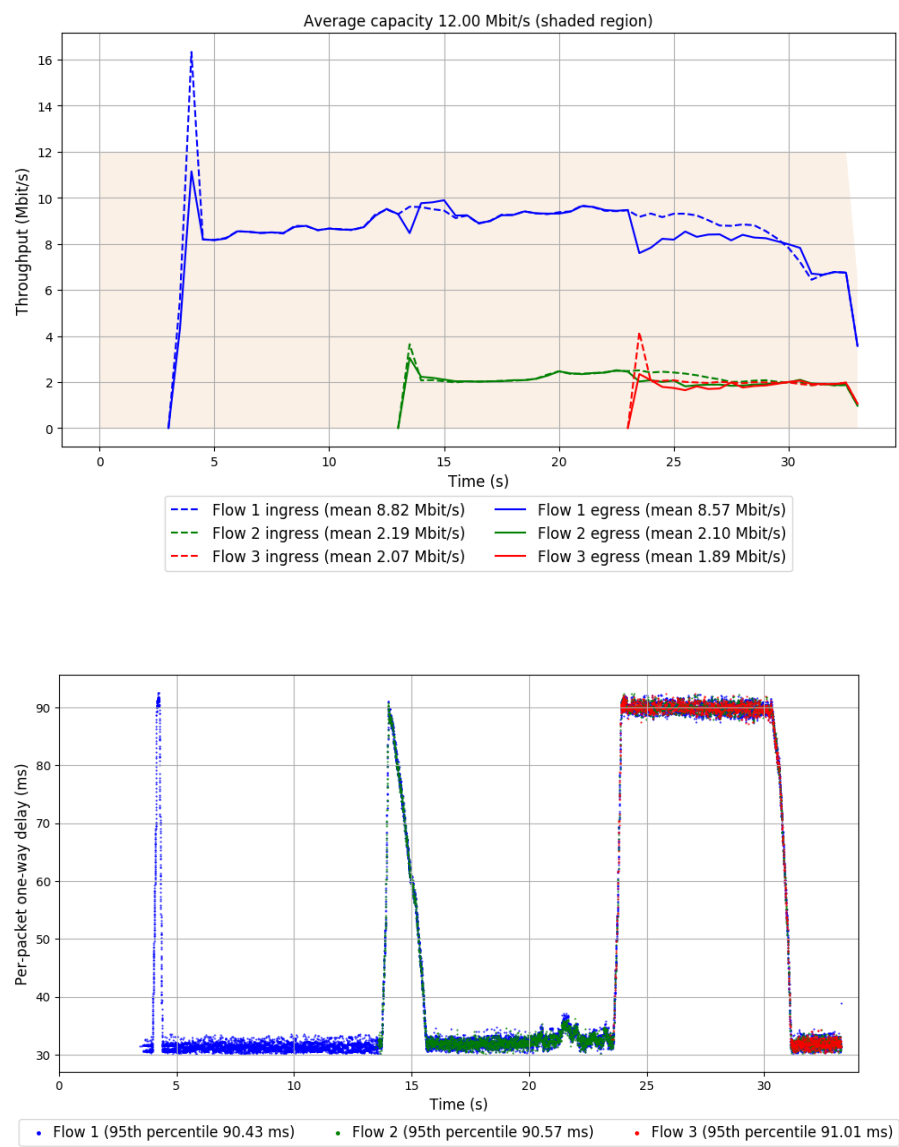


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-04-24 15:51:36
End at: 2018-04-24 15:52:06

# Below is generated by plot.py at 2018-04-24 17:30:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 10.58 Mbit/s (88.2% utilization)
95th percentile per-packet one-way delay: 90.537 ms
Loss rate: 3.54%
-- Flow 1:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 90.428 ms
Loss rate: 2.94%
-- Flow 2:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 90.566 ms
Loss rate: 4.52%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 91.011 ms
Loss rate: 9.21%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-04-24 16:01:22

End at: 2018-04-24 16:01:52

Below is generated by plot.py at 2018-04-24 17:30:20

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.70 Mbit/s (89.1% utilization)

95th percentile per-packet one-way delay: 90.728 ms

Loss rate: 3.74%

-- Flow 1:

Average throughput: 8.66 Mbit/s

95th percentile per-packet one-way delay: 90.619 ms

Loss rate: 3.04%

-- Flow 2:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 90.790 ms

Loss rate: 4.75%

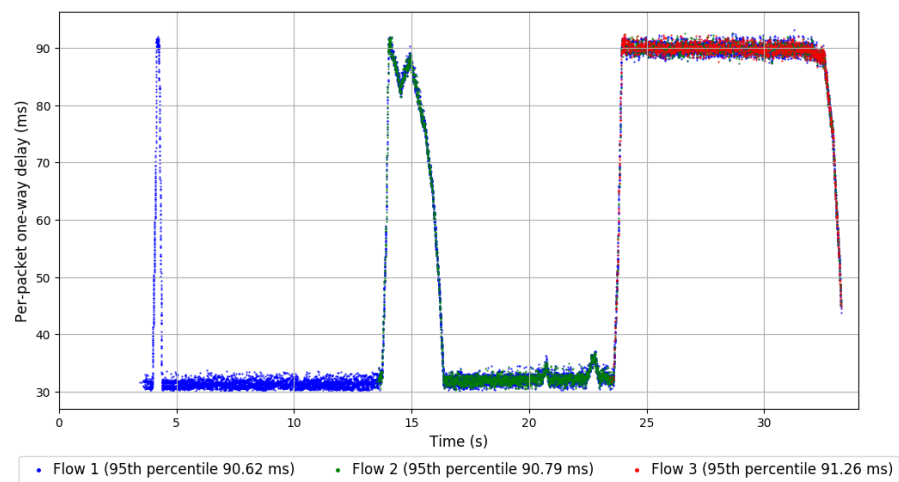
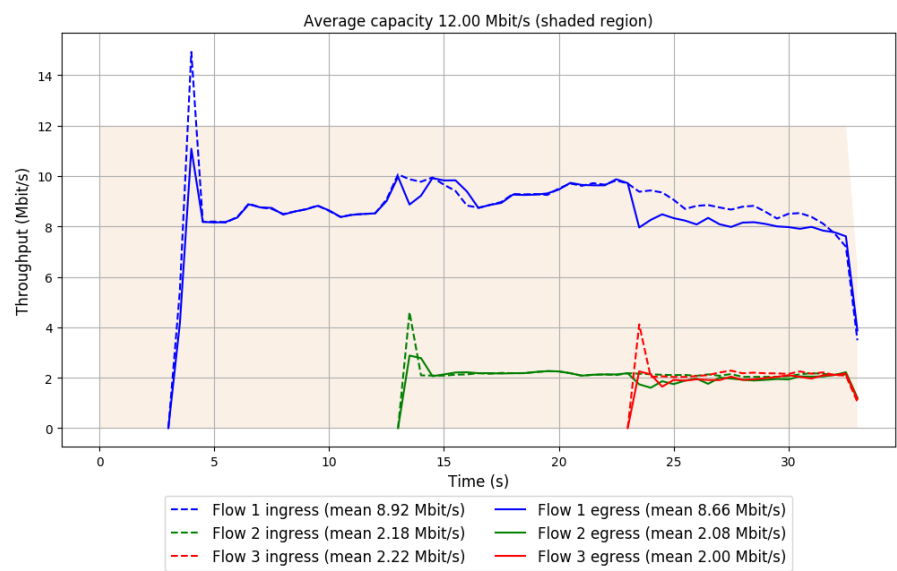
-- Flow 3:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 91.260 ms

Loss rate: 10.37%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-04-24 16:11:09

End at: 2018-04-24 16:11:39

Below is generated by plot.py at 2018-04-24 17:30:38

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.64 Mbit/s (88.6% utilization)

95th percentile per-packet one-way delay: 90.799 ms

Loss rate: 4.25%

-- Flow 1:

Average throughput: 7.65 Mbit/s

95th percentile per-packet one-way delay: 90.652 ms

Loss rate: 3.35%

-- Flow 2:

Average throughput: 3.56 Mbit/s

95th percentile per-packet one-way delay: 90.911 ms

Loss rate: 5.32%

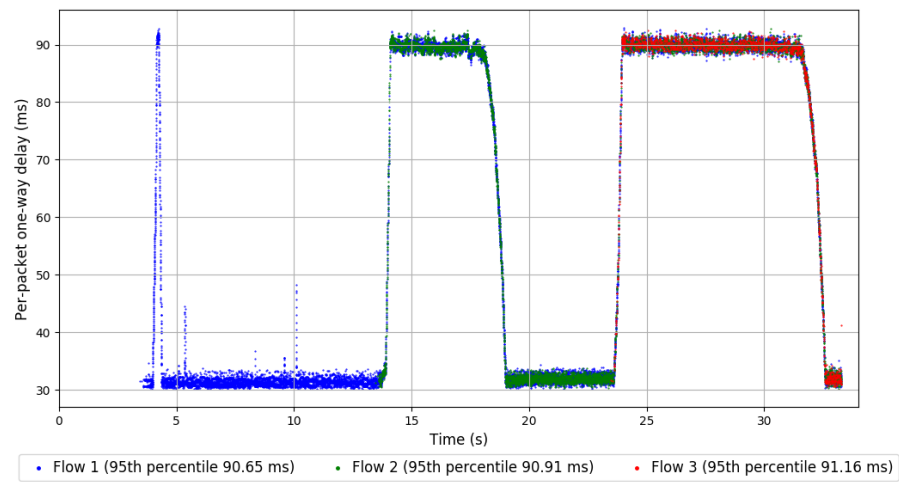
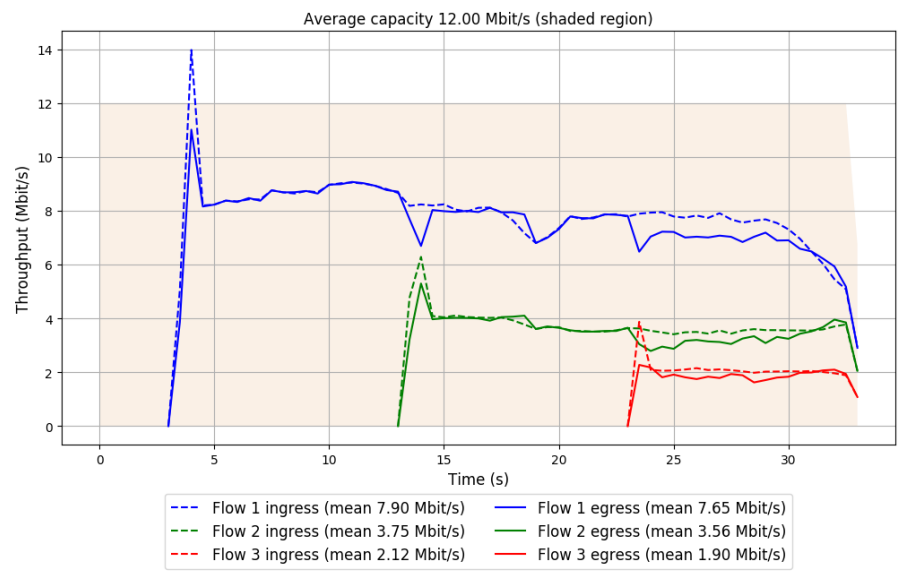
-- Flow 3:

Average throughput: 1.90 Mbit/s

95th percentile per-packet one-way delay: 91.162 ms

Loss rate: 10.58%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-04-24 16:20:57

End at: 2018-04-24 16:21:27

Below is generated by plot.py at 2018-04-24 17:30:38

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.57 Mbit/s (88.1% utilization)

95th percentile per-packet one-way delay: 90.889 ms

Loss rate: 5.27%

-- Flow 1:

Average throughput: 7.48 Mbit/s

95th percentile per-packet one-way delay: 90.754 ms

Loss rate: 4.31%

-- Flow 2:

Average throughput: 3.70 Mbit/s

95th percentile per-packet one-way delay: 91.014 ms

Loss rate: 6.62%

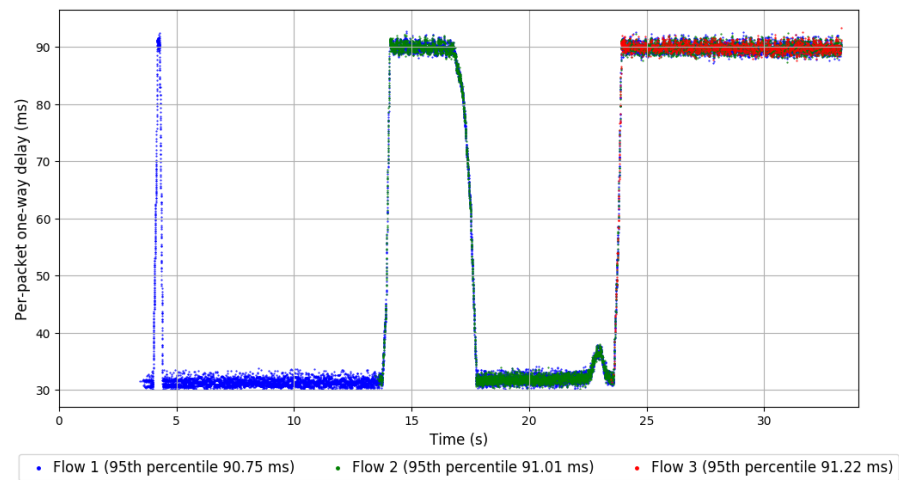
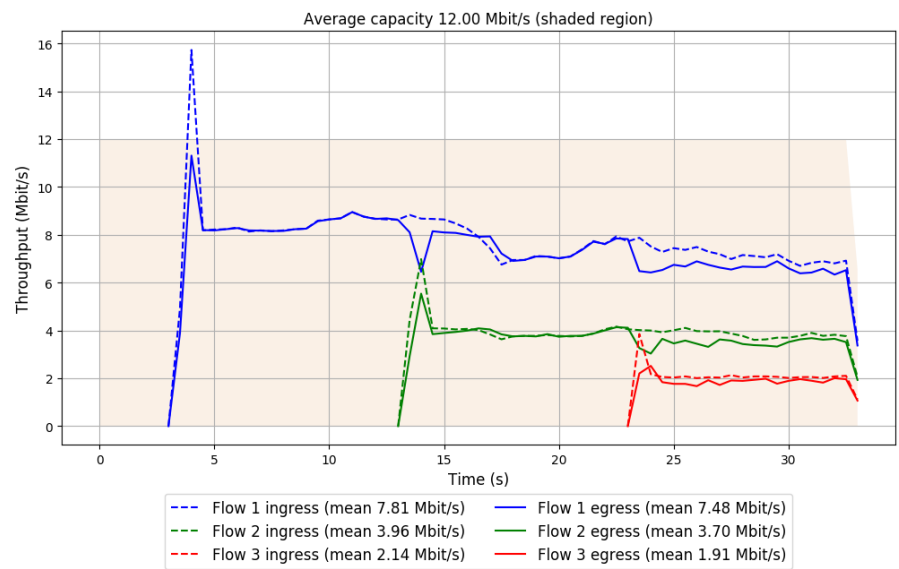
-- Flow 3:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 91.225 ms

Loss rate: 10.86%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-04-24 16:30:45

End at: 2018-04-24 16:31:15

Below is generated by plot.py at 2018-04-24 17:30:41

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.56 Mbit/s (88.0% utilization)

95th percentile per-packet one-way delay: 90.509 ms

Loss rate: 2.99%

-- Flow 1:

Average throughput: 8.48 Mbit/s

95th percentile per-packet one-way delay: 90.355 ms

Loss rate: 2.40%

-- Flow 2:

Average throughput: 2.13 Mbit/s

95th percentile per-packet one-way delay: 90.618 ms

Loss rate: 4.14%

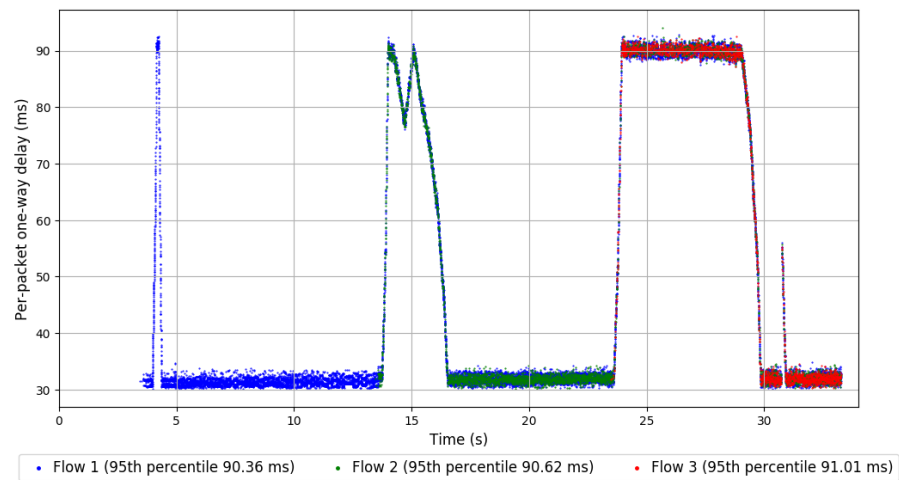
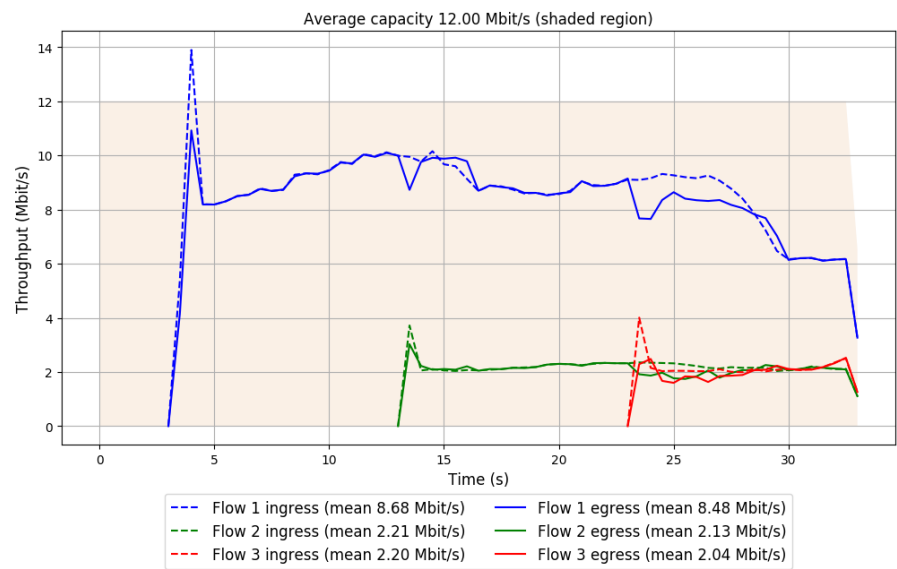
-- Flow 3:

Average throughput: 2.04 Mbit/s

95th percentile per-packet one-way delay: 91.012 ms

Loss rate: 7.75%

Run 5: Report of PCC-Allegro — Data Link



Run 6: Statistics of PCC-Allegro

Start at: 2018-04-24 16:40:35

End at: 2018-04-24 16:41:05

Below is generated by plot.py at 2018-04-24 17:30:41

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.47 Mbit/s (87.2% utilization)

95th percentile per-packet one-way delay: 90.777 ms

Loss rate: 5.09%

-- Flow 1:

Average throughput: 7.11 Mbit/s

95th percentile per-packet one-way delay: 90.590 ms

Loss rate: 4.16%

-- Flow 2:

Average throughput: 4.15 Mbit/s

95th percentile per-packet one-way delay: 90.941 ms

Loss rate: 5.79%

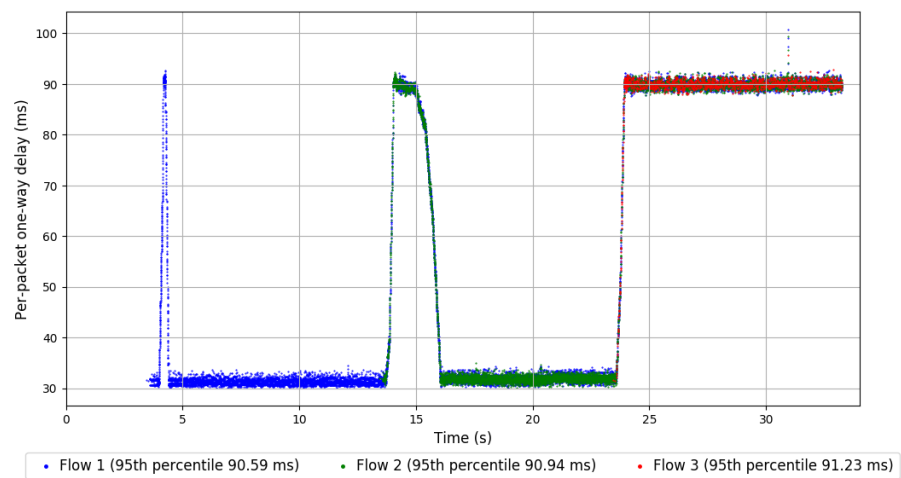
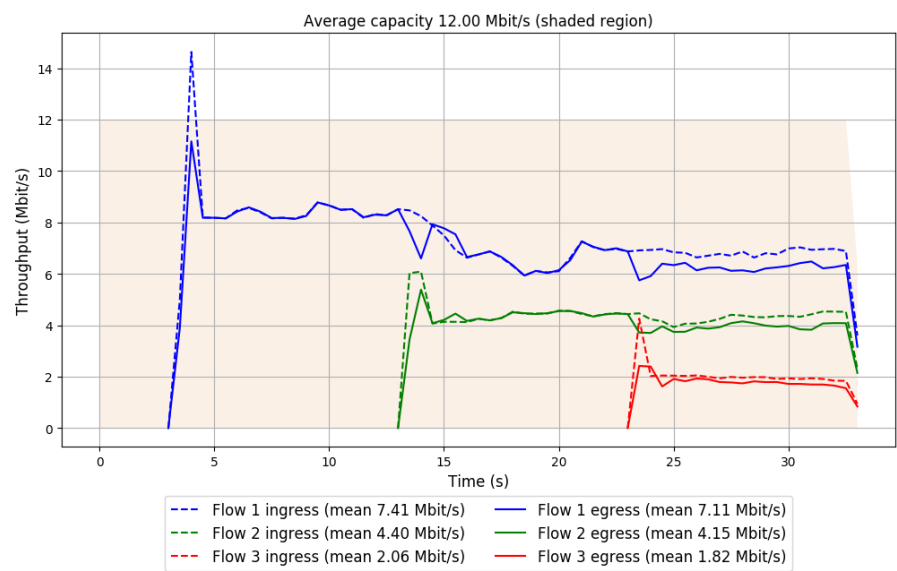
-- Flow 3:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 91.234 ms

Loss rate: 12.22%

Run 6: Report of PCC-Allegro — Data Link



Run 7: Statistics of PCC-Allegro

Start at: 2018-04-24 16:50:23

End at: 2018-04-24 16:50:53

Below is generated by plot.py at 2018-04-24 17:30:41

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.59 Mbit/s (88.2% utilization)

95th percentile per-packet one-way delay: 90.620 ms

Loss rate: 3.62%

-- Flow 1:

Average throughput: 7.27 Mbit/s

95th percentile per-packet one-way delay: 90.498 ms

Loss rate: 3.32%

-- Flow 2:

Average throughput: 3.95 Mbit/s

95th percentile per-packet one-way delay: 90.825 ms

Loss rate: 4.23%

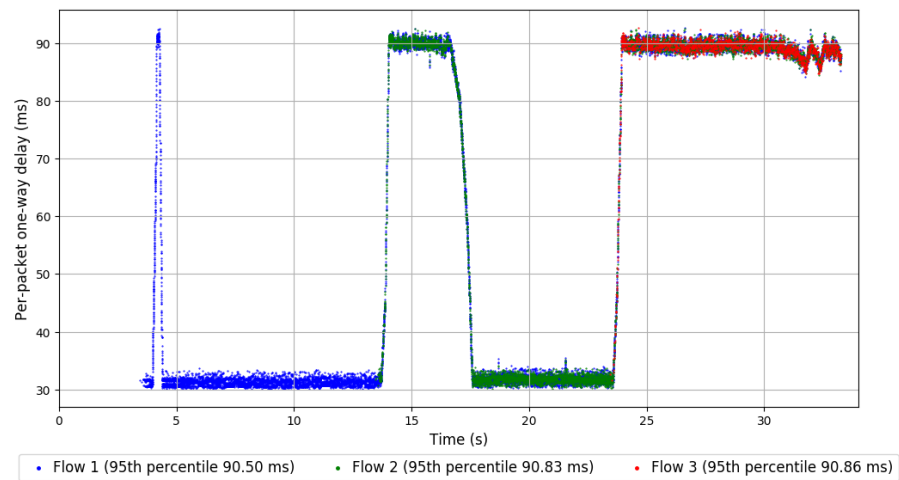
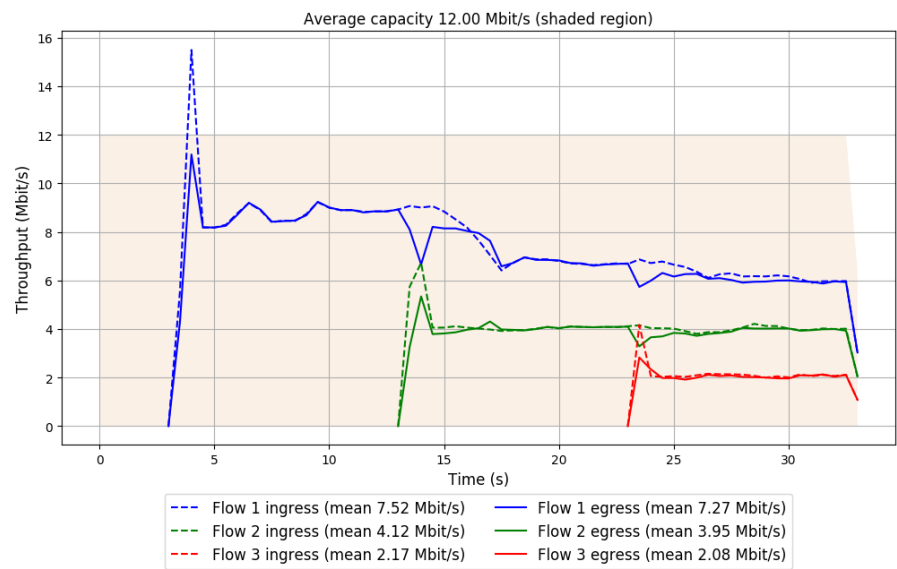
-- Flow 3:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 90.860 ms

Loss rate: 4.39%

Run 7: Report of PCC-Allegro — Data Link



Run 8: Statistics of PCC-Allegro

Start at: 2018-04-24 17:00:09

End at: 2018-04-24 17:00:39

Below is generated by plot.py at 2018-04-24 17:30:41

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.81 Mbit/s (90.1% utilization)

95th percentile per-packet one-way delay: 90.878 ms

Loss rate: 4.67%

-- Flow 1:

Average throughput: 8.84 Mbit/s

95th percentile per-packet one-way delay: 90.793 ms

Loss rate: 3.73%

-- Flow 2:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 90.996 ms

Loss rate: 6.72%

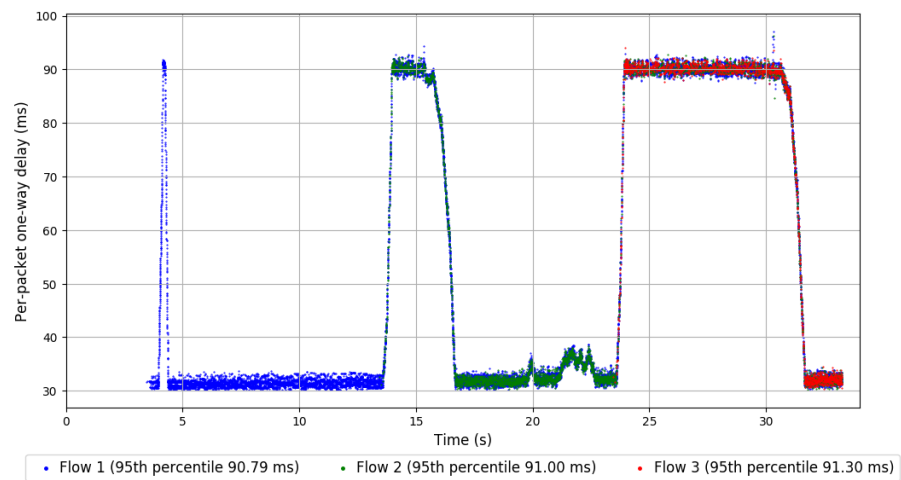
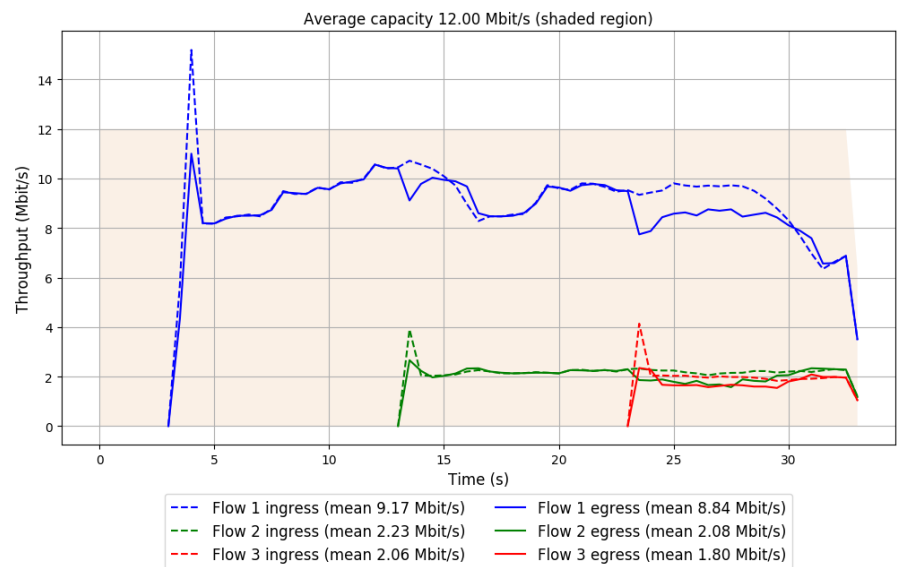
-- Flow 3:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 91.303 ms

Loss rate: 12.94%

Run 8: Report of PCC-Allegro — Data Link



Run 9: Statistics of PCC-Allegro

Start at: 2018-04-24 17:09:58

End at: 2018-04-24 17:10:28

Below is generated by plot.py at 2018-04-24 17:30:42

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.78 Mbit/s (89.8% utilization)

95th percentile per-packet one-way delay: 90.981 ms

Loss rate: 5.84%

-- Flow 1:

Average throughput: 8.91 Mbit/s

95th percentile per-packet one-way delay: 90.876 ms

Loss rate: 4.30%

-- Flow 2:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 91.094 ms

Loss rate: 9.33%

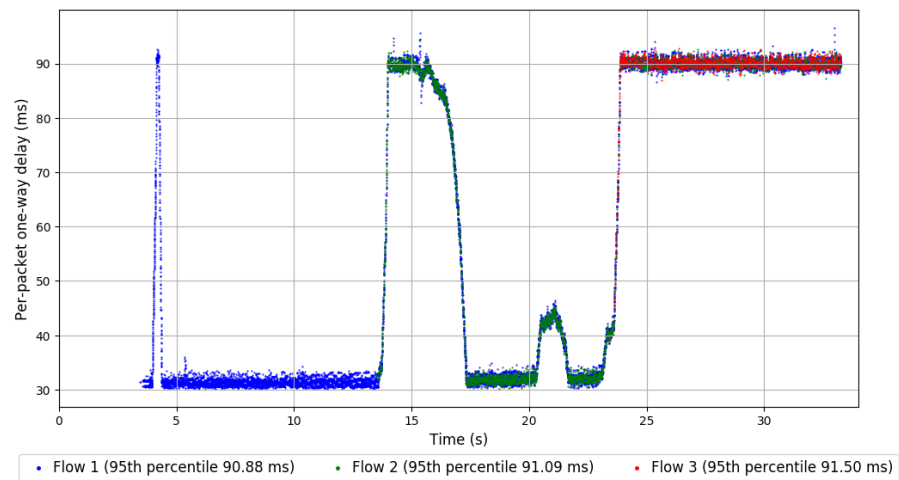
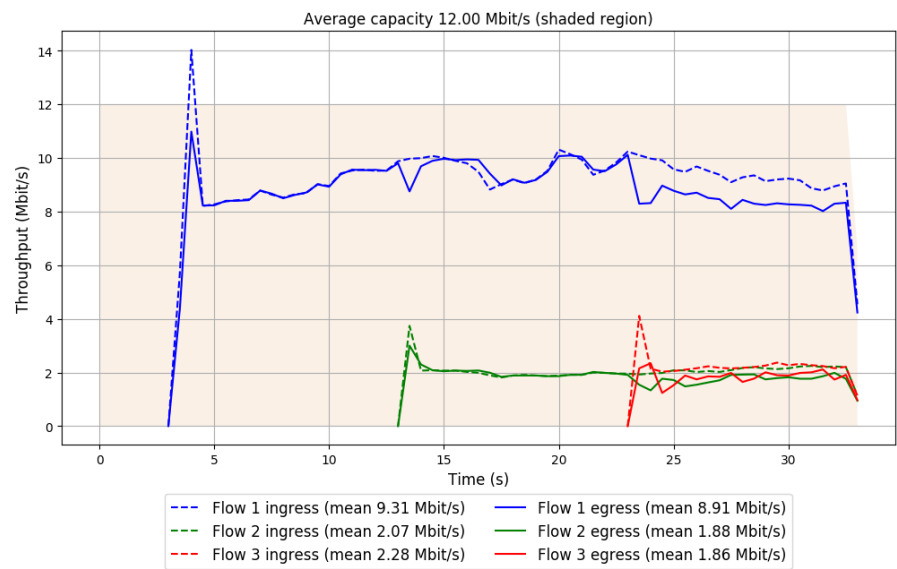
-- Flow 3:

Average throughput: 1.86 Mbit/s

95th percentile per-packet one-way delay: 91.502 ms

Loss rate: 18.43%

Run 9: Report of PCC-Allegro — Data Link



Run 10: Statistics of PCC-Allegro

Start at: 2018-04-24 17:19:44

End at: 2018-04-24 17:20:14

Below is generated by plot.py at 2018-04-24 17:30:42

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.49 Mbit/s (87.4% utilization)

95th percentile per-packet one-way delay: 90.794 ms

Loss rate: 4.98%

-- Flow 1:

Average throughput: 7.53 Mbit/s

95th percentile per-packet one-way delay: 90.658 ms

Loss rate: 3.93%

-- Flow 2:

Average throughput: 3.52 Mbit/s

95th percentile per-packet one-way delay: 90.955 ms

Loss rate: 6.34%

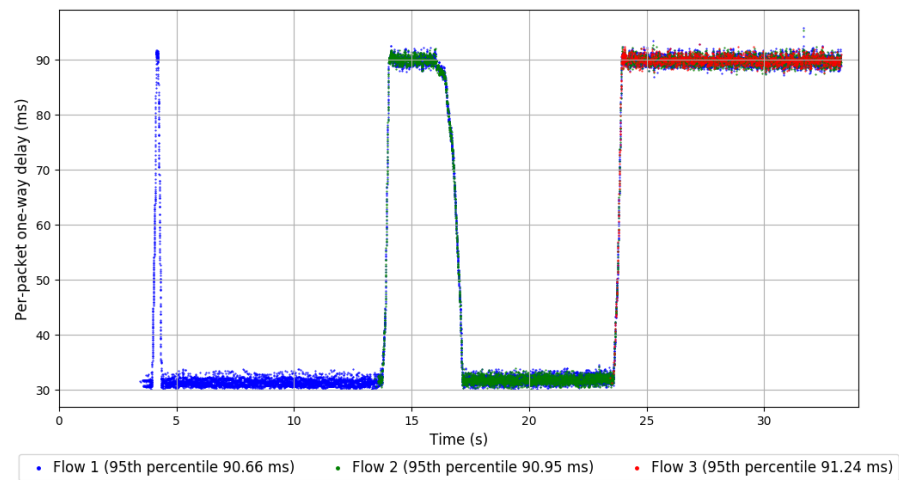
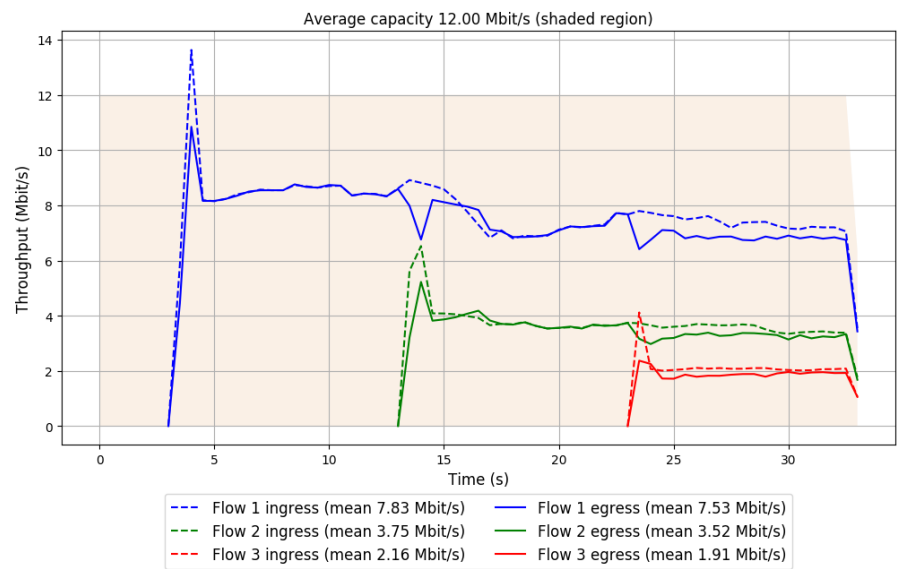
-- Flow 3:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 91.239 ms

Loss rate: 11.77%

Run 10: Report of PCC-Allegro — Data Link

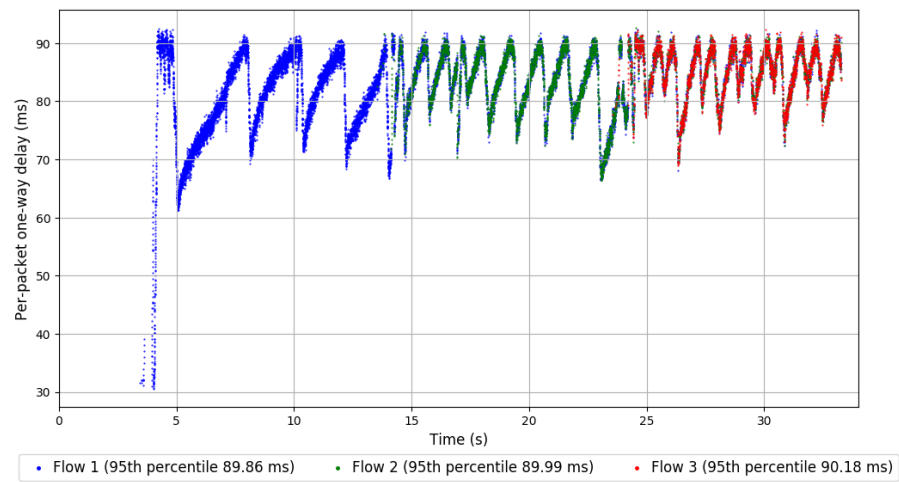
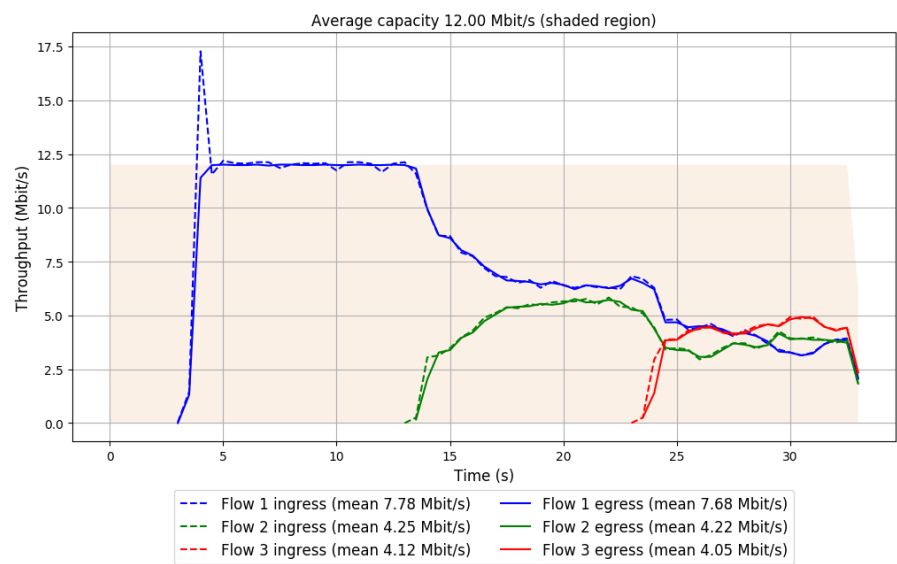


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-04-24 15:51:02
End at: 2018-04-24 15:51:32

# Below is generated by plot.py at 2018-04-24 17:31:01
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.79 Mbit/s (98.2% utilization)
95th percentile per-packet one-way delay: 89.950 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 7.68 Mbit/s
95th percentile per-packet one-way delay: 89.857 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 89.992 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 90.184 ms
Loss rate: 2.33%
```


Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-04-24 16:00:48

End at: 2018-04-24 16:01:18

Below is generated by plot.py at 2018-04-24 17:31:01

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.78 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.814 ms

Loss rate: 1.41%

-- Flow 1:

Average throughput: 7.60 Mbit/s

95th percentile per-packet one-way delay: 89.760 ms

Loss rate: 1.41%

-- Flow 2:

Average throughput: 4.46 Mbit/s

95th percentile per-packet one-way delay: 89.889 ms

Loss rate: 1.21%

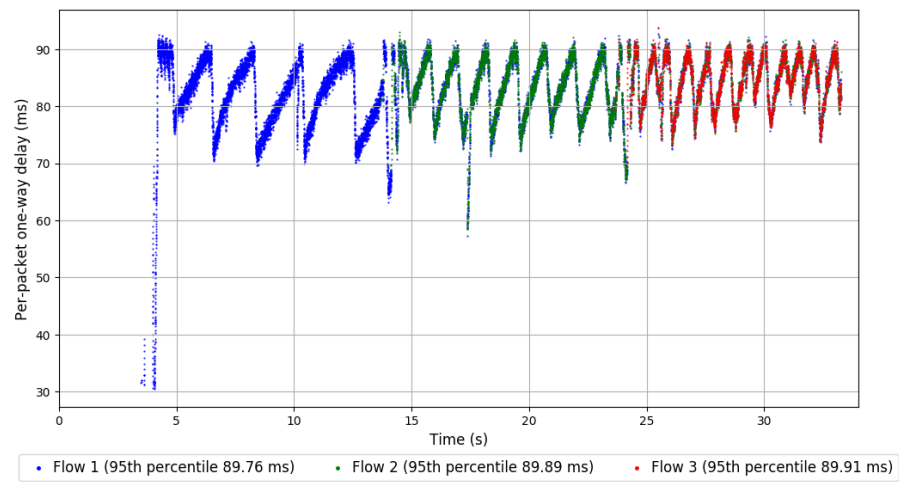
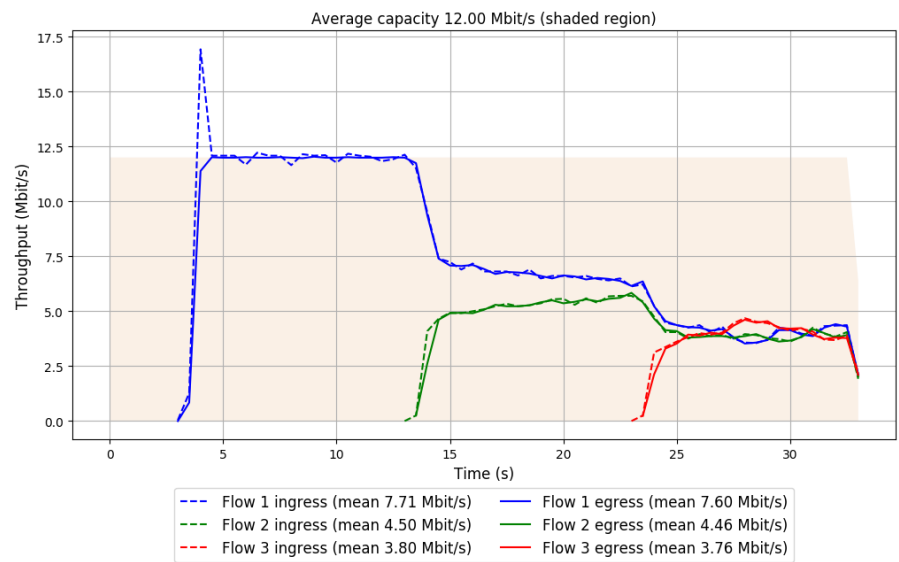
-- Flow 3:

Average throughput: 3.76 Mbit/s

95th percentile per-packet one-way delay: 89.913 ms

Loss rate: 1.91%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-04-24 16:10:35

End at: 2018-04-24 16:11:05

Below is generated by plot.py at 2018-04-24 17:31:02

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.78 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.927 ms

Loss rate: 1.39%

-- Flow 1:

Average throughput: 7.82 Mbit/s

95th percentile per-packet one-way delay: 89.870 ms

Loss rate: 1.28%

-- Flow 2:

Average throughput: 4.23 Mbit/s

95th percentile per-packet one-way delay: 89.965 ms

Loss rate: 1.22%

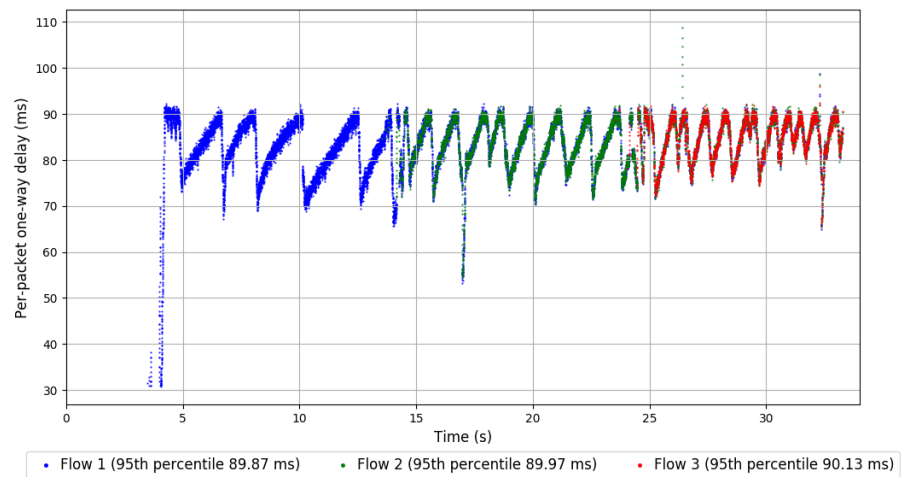
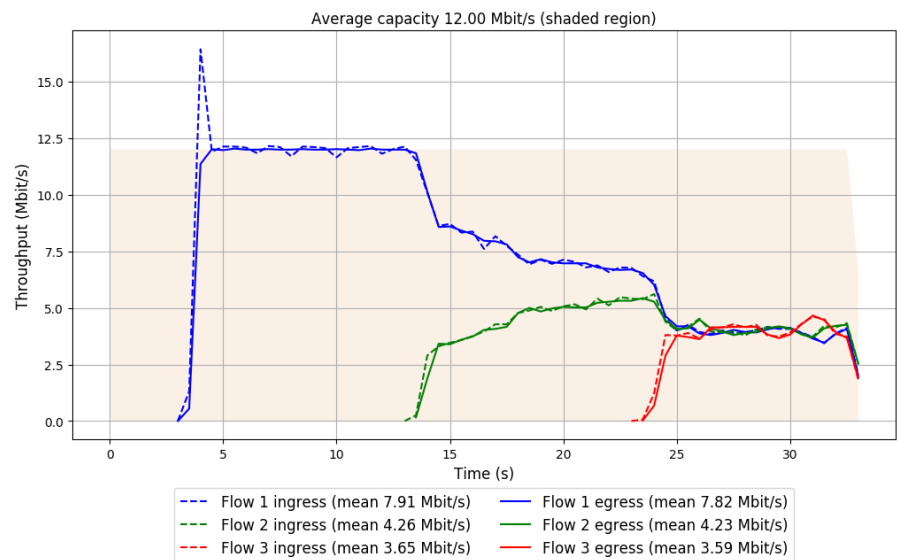
-- Flow 3:

Average throughput: 3.59 Mbit/s

95th percentile per-packet one-way delay: 90.128 ms

Loss rate: 2.56%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-04-24 16:20:23

End at: 2018-04-24 16:20:53

Below is generated by plot.py at 2018-04-24 17:31:02

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.77 Mbit/s (98.1% utilization)

95th percentile per-packet one-way delay: 89.901 ms

Loss rate: 1.32%

-- Flow 1:

Average throughput: 7.70 Mbit/s

95th percentile per-packet one-way delay: 89.816 ms

Loss rate: 1.22%

-- Flow 2:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 89.990 ms

Loss rate: 1.29%

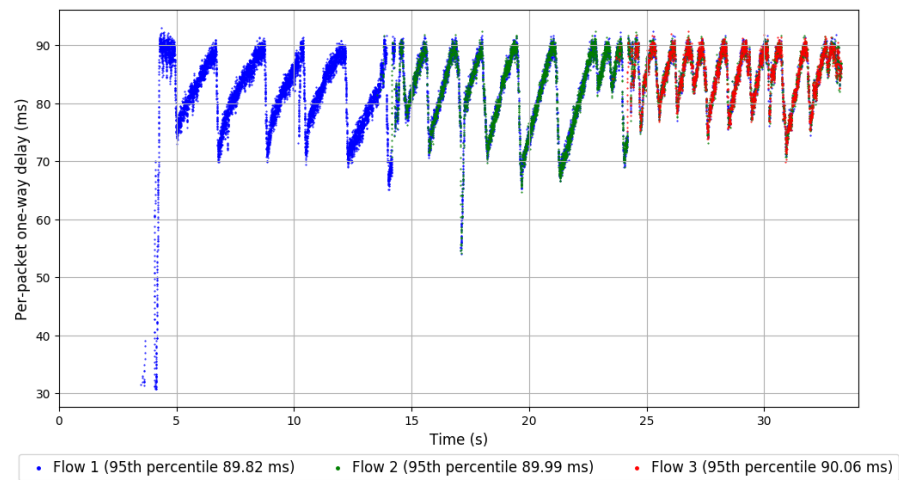
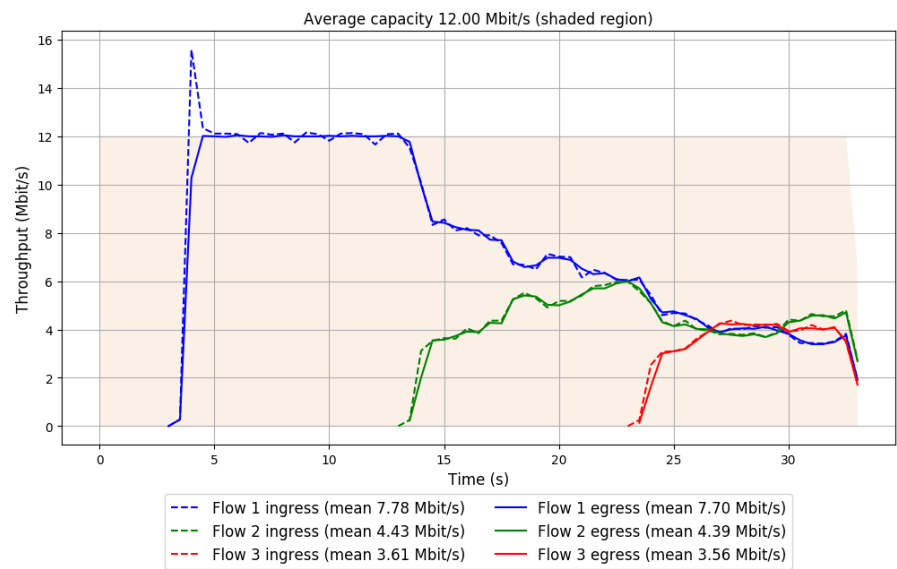
-- Flow 3:

Average throughput: 3.56 Mbit/s

95th percentile per-packet one-way delay: 90.057 ms

Loss rate: 2.05%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-04-24 16:30:10

End at: 2018-04-24 16:30:40

Below is generated by plot.py at 2018-04-24 17:31:03

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.933 ms

Loss rate: 1.42%

-- Flow 1:

Average throughput: 8.08 Mbit/s

95th percentile per-packet one-way delay: 89.858 ms

Loss rate: 1.29%

-- Flow 2:

Average throughput: 4.23 Mbit/s

95th percentile per-packet one-way delay: 89.984 ms

Loss rate: 1.33%

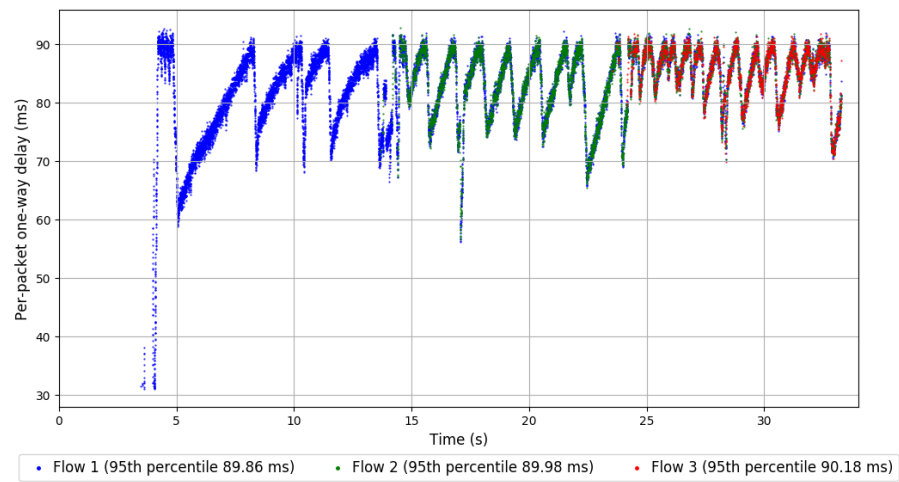
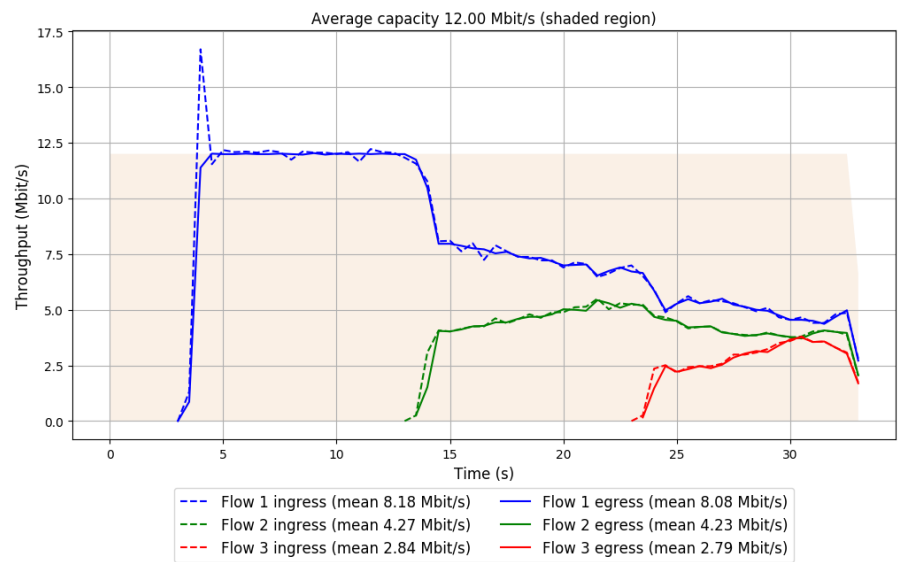
-- Flow 3:

Average throughput: 2.79 Mbit/s

95th percentile per-packet one-way delay: 90.184 ms

Loss rate: 2.76%

Run 5: Report of QUIC Cubic — Data Link



Run 6: Statistics of QUIC Cubic

Start at: 2018-04-24 16:40:01

End at: 2018-04-24 16:40:31

Below is generated by plot.py at 2018-04-24 17:31:04

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.889 ms

Loss rate: 1.43%

-- Flow 1:

Average throughput: 7.82 Mbit/s

95th percentile per-packet one-way delay: 89.764 ms

Loss rate: 1.32%

-- Flow 2:

Average throughput: 4.22 Mbit/s

95th percentile per-packet one-way delay: 90.019 ms

Loss rate: 1.19%

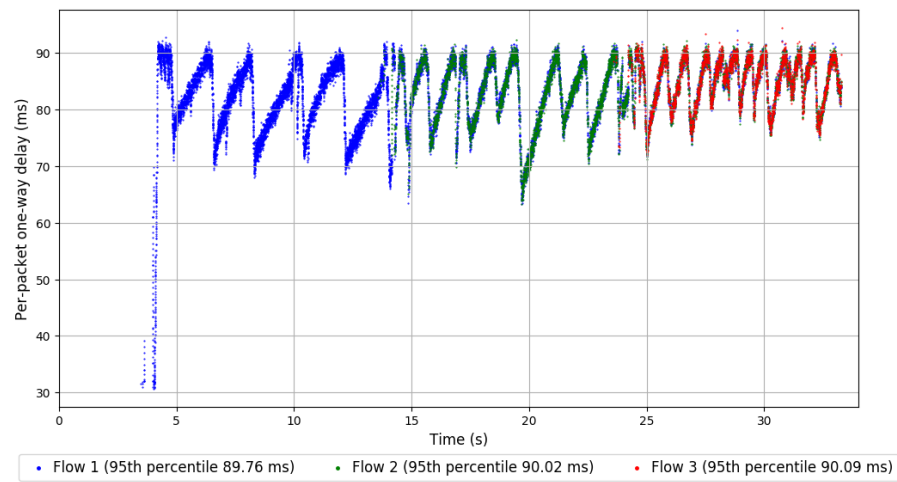
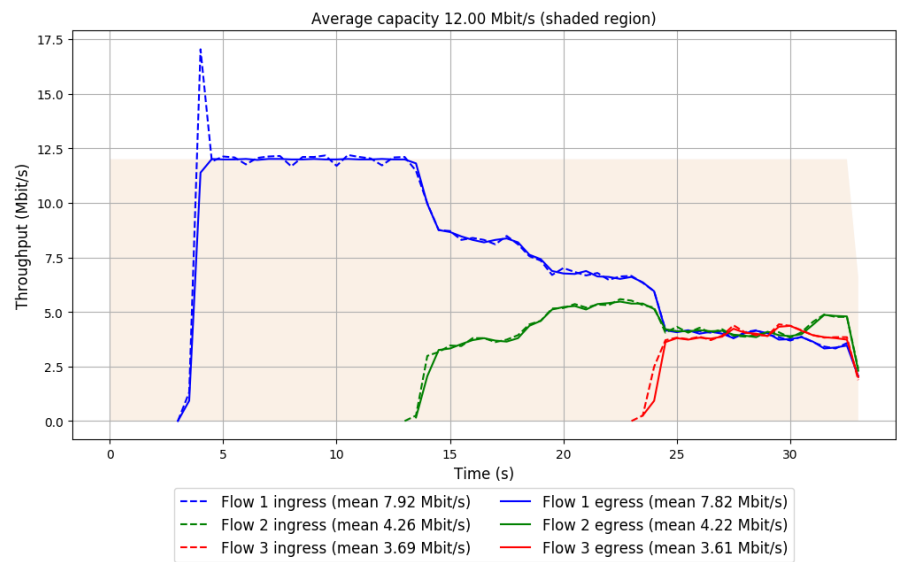
-- Flow 3:

Average throughput: 3.61 Mbit/s

95th percentile per-packet one-way delay: 90.090 ms

Loss rate: 2.76%

Run 6: Report of QUIC Cubic — Data Link



Run 7: Statistics of QUIC Cubic

Start at: 2018-04-24 16:49:48

End at: 2018-04-24 16:50:18

Below is generated by plot.py at 2018-04-24 17:31:04

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.935 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 7.69 Mbit/s

95th percentile per-packet one-way delay: 89.812 ms

Loss rate: 1.44%

-- Flow 2:

Average throughput: 4.41 Mbit/s

95th percentile per-packet one-way delay: 90.054 ms

Loss rate: 1.03%

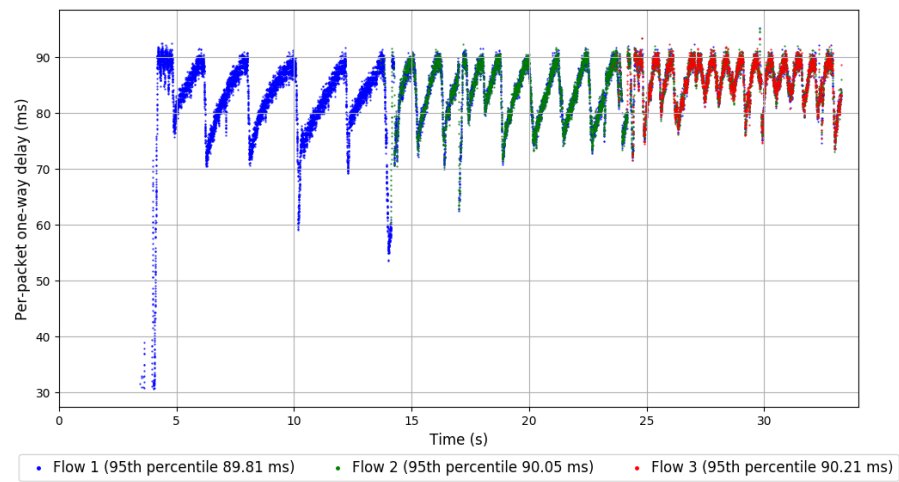
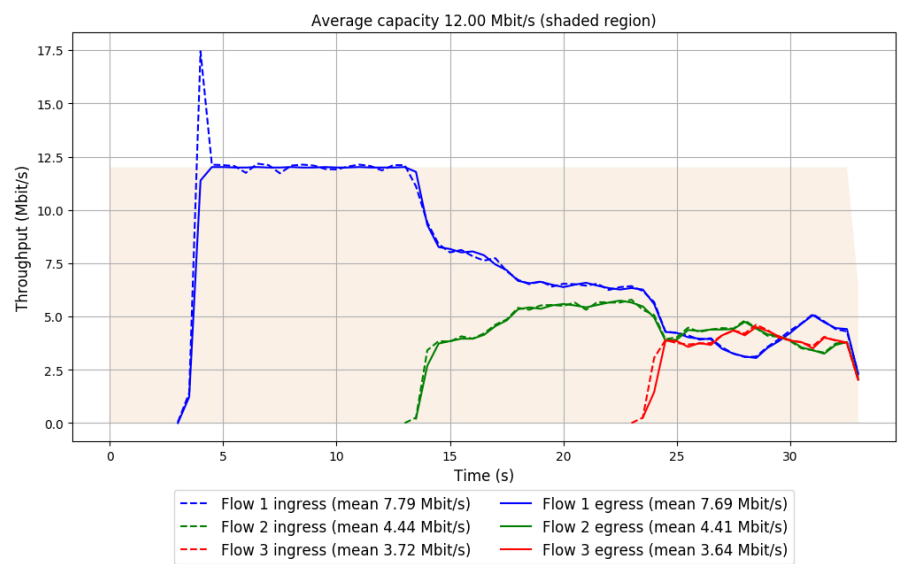
-- Flow 3:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 90.207 ms

Loss rate: 2.71%

Run 7: Report of QUIC Cubic — Data Link



Run 8: Statistics of QUIC Cubic

Start at: 2018-04-24 16:59:35

End at: 2018-04-24 17:00:05

Below is generated by plot.py at 2018-04-24 17:31:05

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.3% utilization)

95th percentile per-packet one-way delay: 89.901 ms

Loss rate: 1.29%

-- Flow 1:

Average throughput: 7.70 Mbit/s

95th percentile per-packet one-way delay: 89.848 ms

Loss rate: 1.27%

-- Flow 2:

Average throughput: 4.55 Mbit/s

95th percentile per-packet one-way delay: 89.943 ms

Loss rate: 0.99%

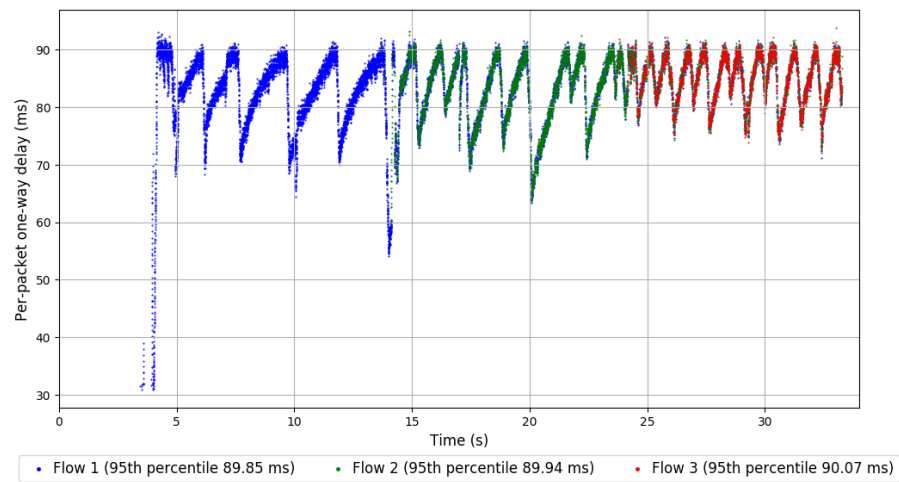
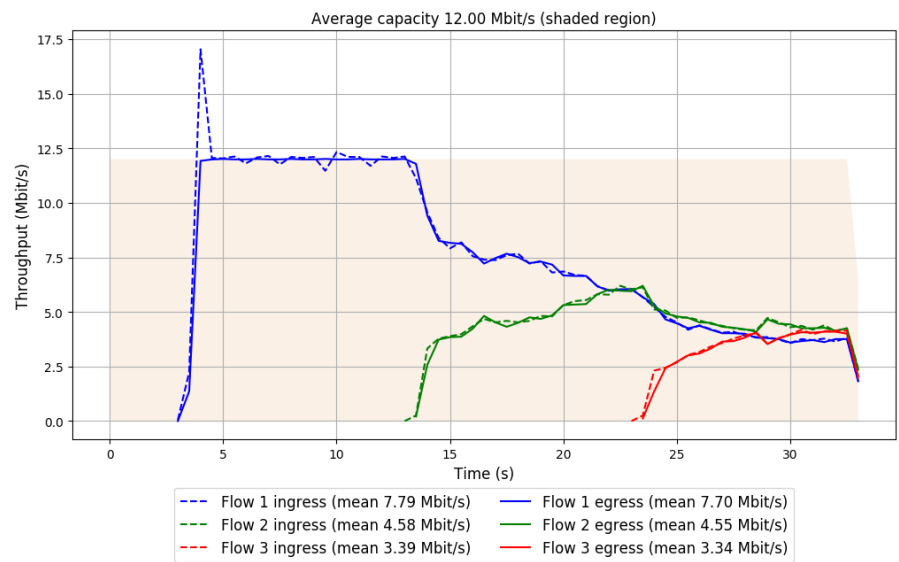
-- Flow 3:

Average throughput: 3.34 Mbit/s

95th percentile per-packet one-way delay: 90.067 ms

Loss rate: 2.28%

Run 8: Report of QUIC Cubic — Data Link



Run 9: Statistics of QUIC Cubic

Start at: 2018-04-24 17:09:24

End at: 2018-04-24 17:09:54

Below is generated by plot.py at 2018-04-24 17:31:28

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.78 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.869 ms

Loss rate: 1.42%

-- Flow 1:

Average throughput: 8.00 Mbit/s

95th percentile per-packet one-way delay: 89.774 ms

Loss rate: 1.30%

-- Flow 2:

Average throughput: 4.03 Mbit/s

95th percentile per-packet one-way delay: 89.935 ms

Loss rate: 1.41%

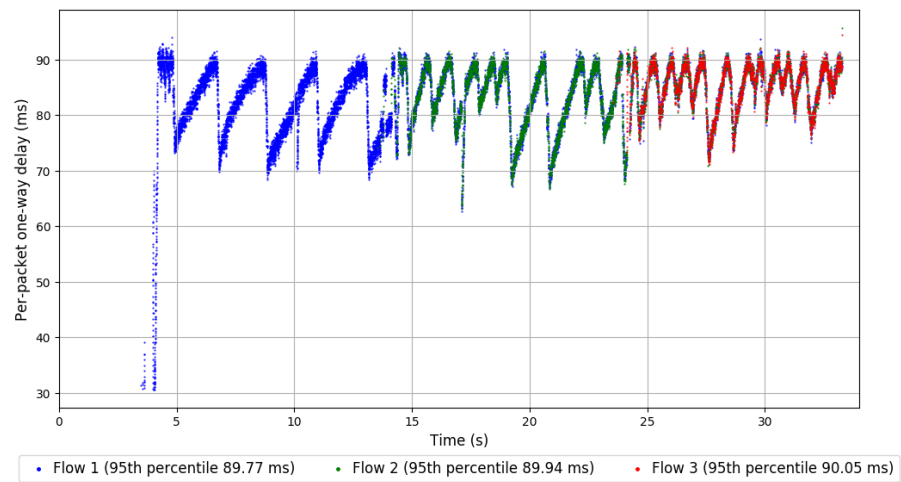
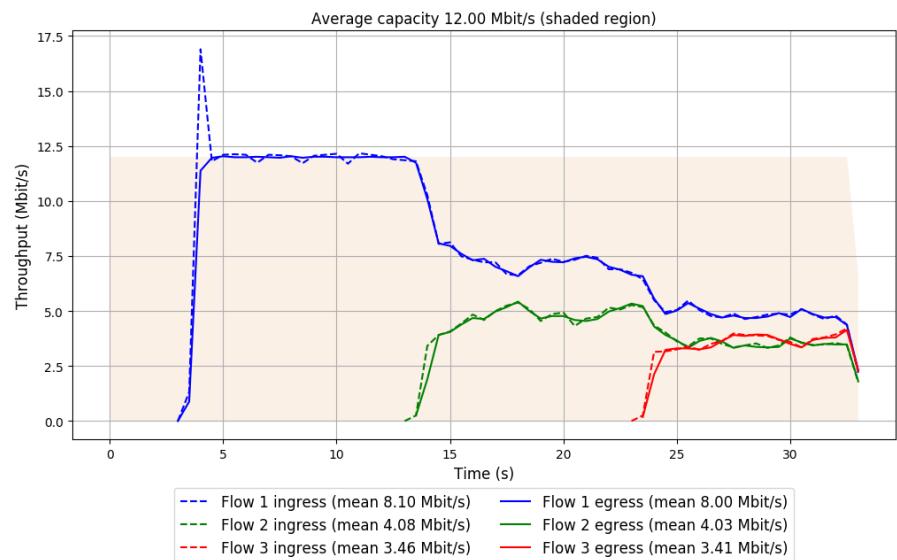
-- Flow 3:

Average throughput: 3.41 Mbit/s

95th percentile per-packet one-way delay: 90.054 ms

Loss rate: 2.30%

Run 9: Report of QUIC Cubic — Data Link



Run 10: Statistics of QUIC Cubic

Start at: 2018-04-24 17:19:09

End at: 2018-04-24 17:19:39

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.79 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 89.857 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 7.27 Mbit/s

95th percentile per-packet one-way delay: 89.752 ms

Loss rate: 1.42%

-- Flow 2:

Average throughput: 5.01 Mbit/s

95th percentile per-packet one-way delay: 89.934 ms

Loss rate: 1.28%

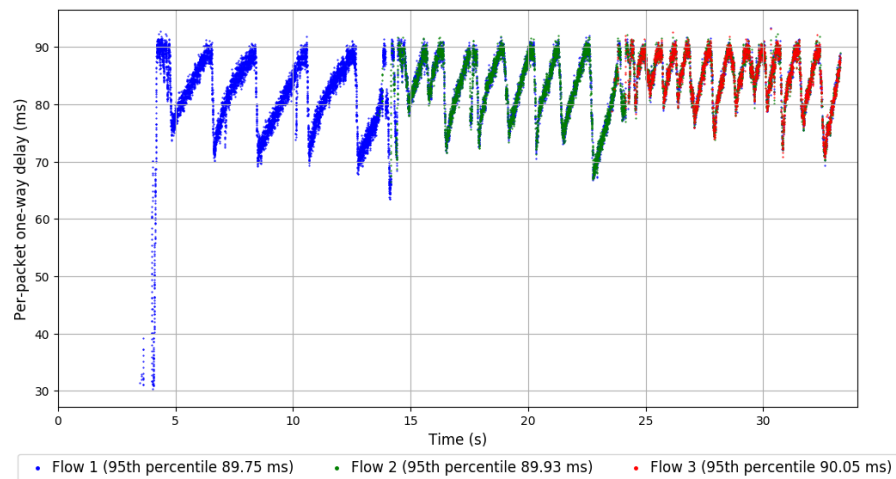
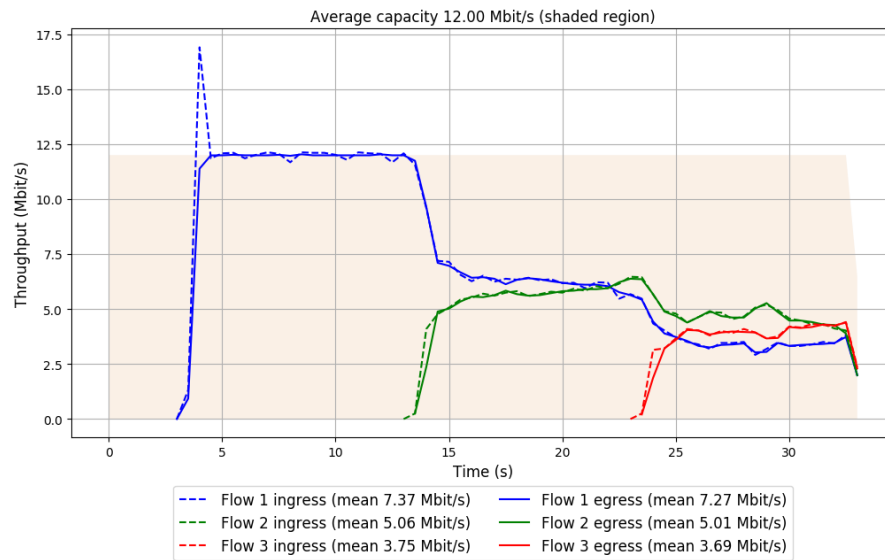
-- Flow 3:

Average throughput: 3.69 Mbit/s

95th percentile per-packet one-way delay: 90.054 ms

Loss rate: 2.46%

Run 10: Report of QUIC Cubic — Data Link

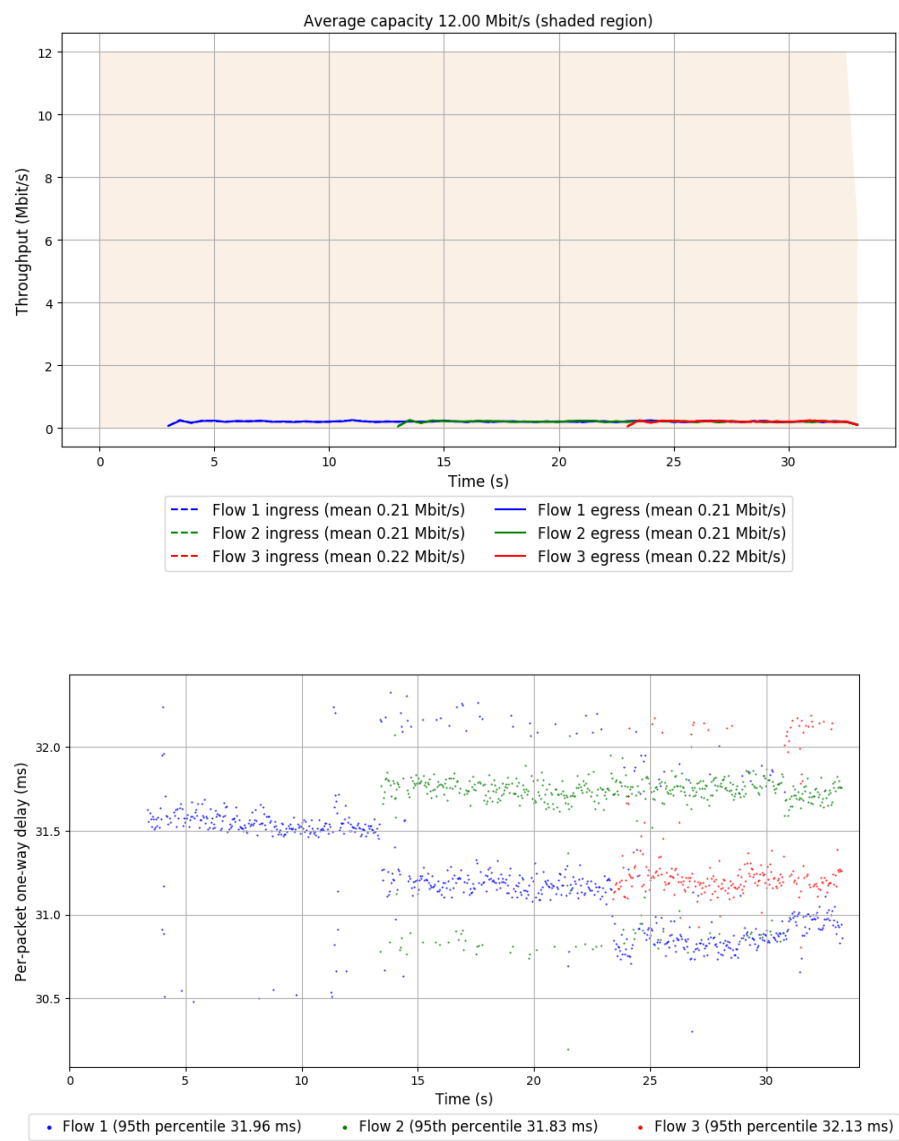


```
Run 1: Statistics of SReAM

Start at: 2018-04-24 15:53:19
End at: 2018-04-24 15:53:49

# Below is generated by plot.py at 2018-04-24 17:31:29
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 31.950 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.961 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.830 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.128 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link

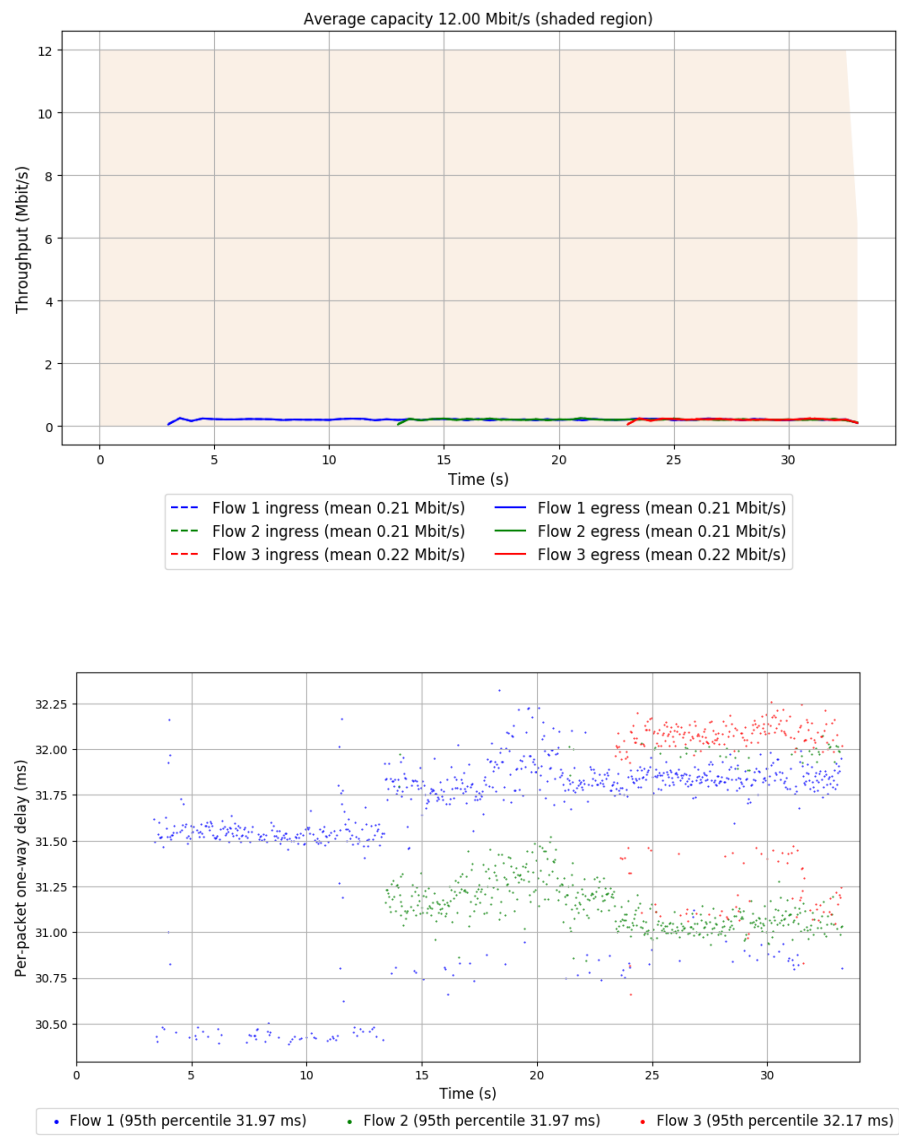


```
Run 2: Statistics of SReAM

Start at: 2018-04-24 16:03:06
End at: 2018-04-24 16:03:36

# Below is generated by plot.py at 2018-04-24 17:31:29
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 32.103 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.971 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.973 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.171 ms
Loss rate: 0.36%
```

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SReAM

Start at: 2018-04-24 16:12:53

End at: 2018-04-24 16:13:23

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 31.772 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.638 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.818 ms

Loss rate: 0.21%

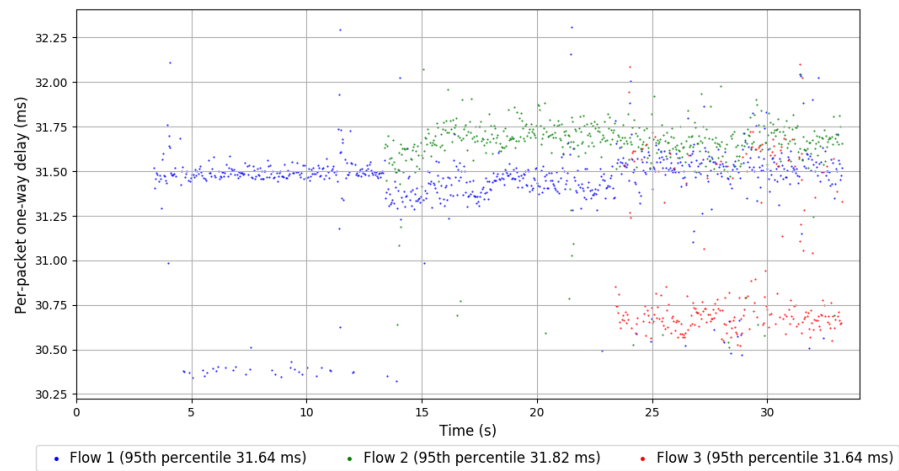
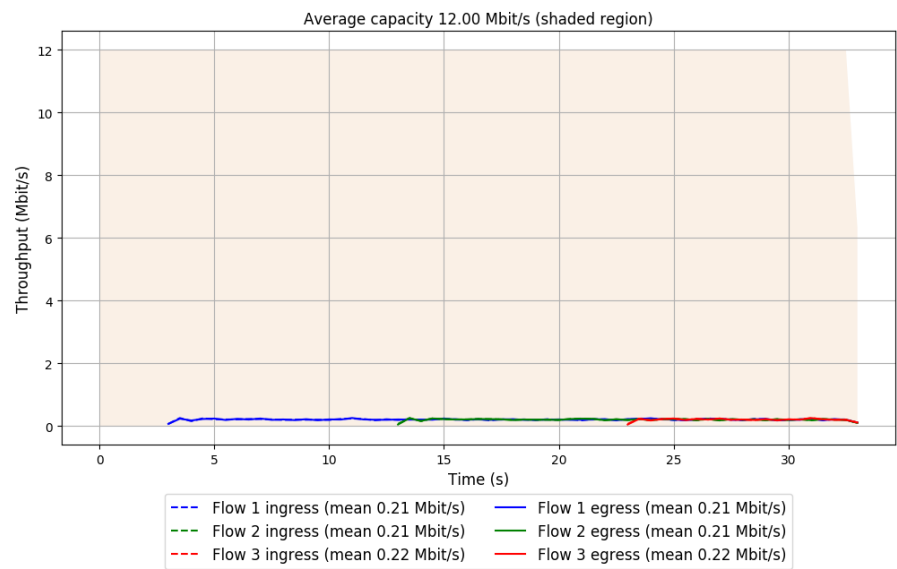
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.640 ms

Loss rate: 0.36%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2018-04-24 16:22:41

End at: 2018-04-24 16:23:11

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 32.396 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.687 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 32.446 ms

Loss rate: 0.00%

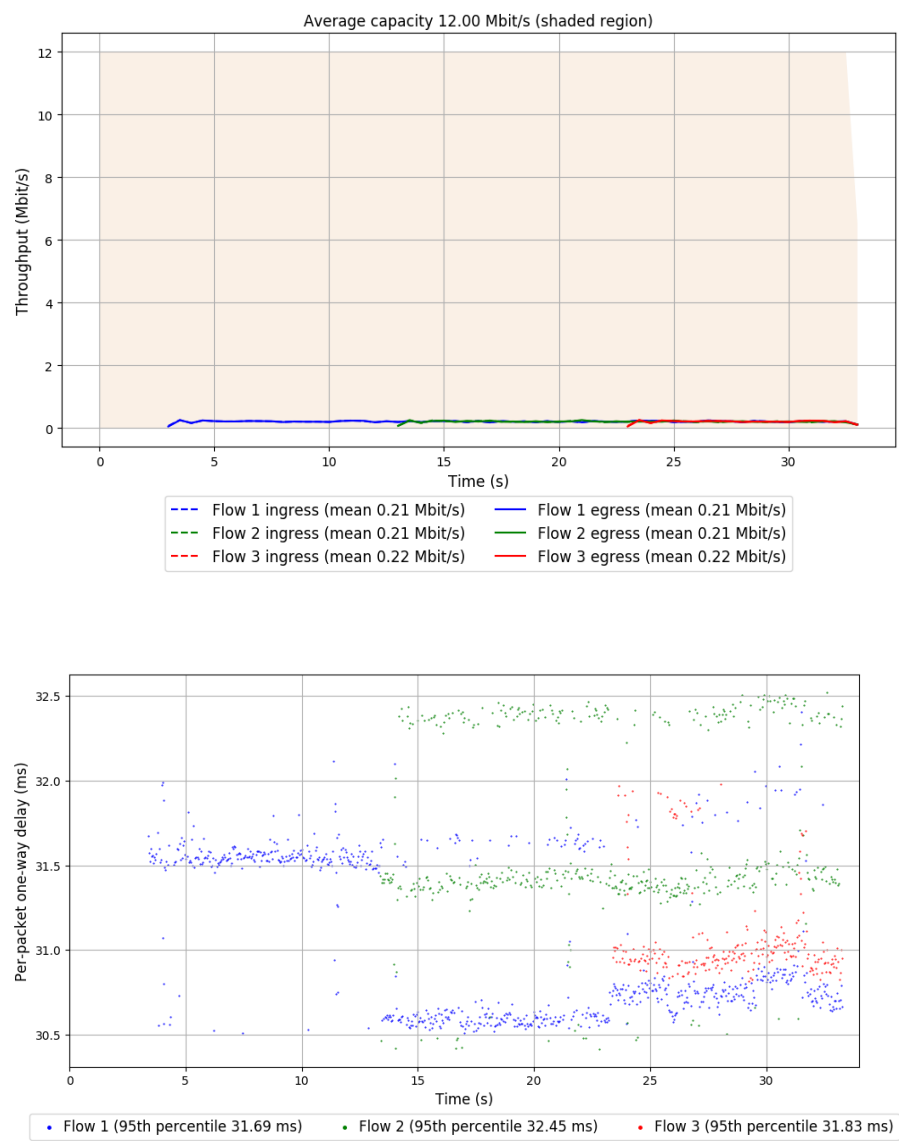
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.831 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2018-04-24 16:32:29

End at: 2018-04-24 16:32:59

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 32.143 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.685 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.649 ms

Loss rate: 0.21%

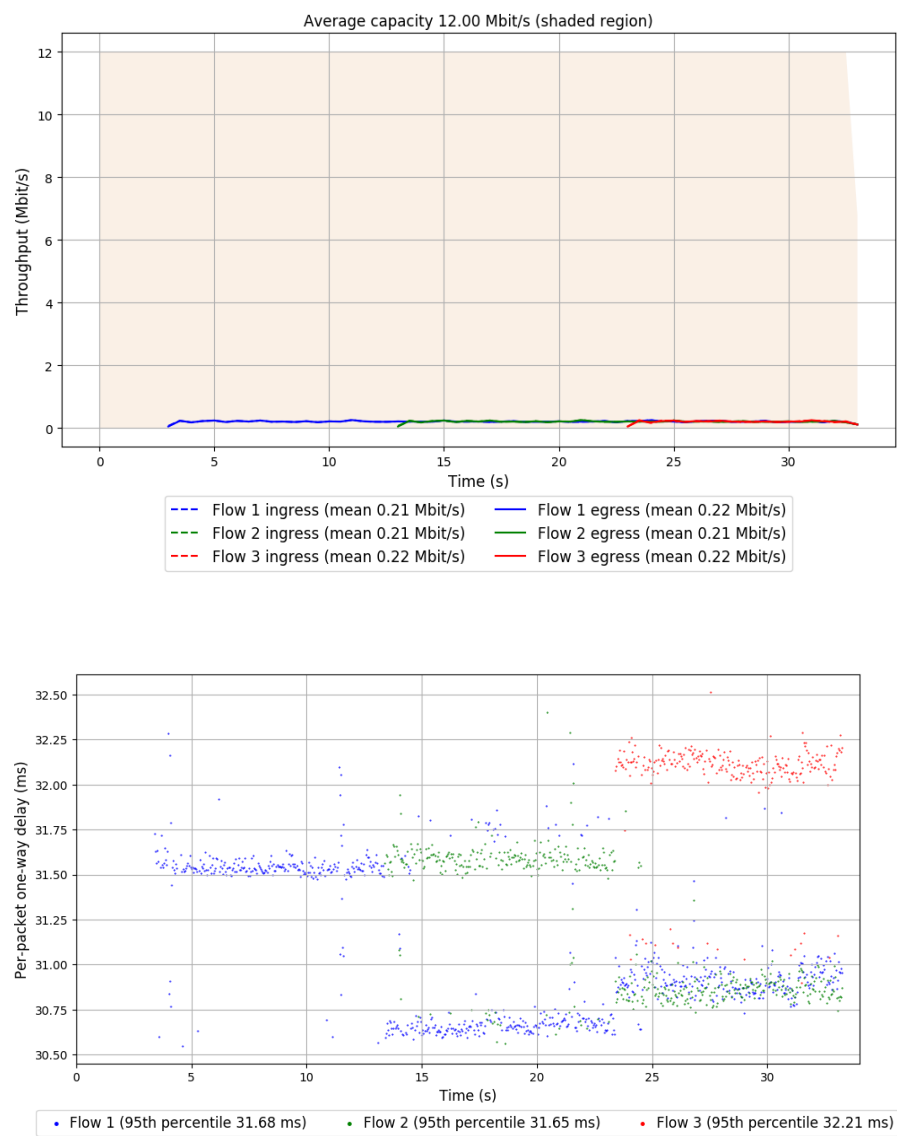
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 32.214 ms

Loss rate: 0.35%

Run 5: Report of SReAM — Data Link



Run 6: Statistics of SCReAM

Start at: 2018-04-24 16:42:19

End at: 2018-04-24 16:42:49

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 31.786 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.681 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.795 ms

Loss rate: 0.21%

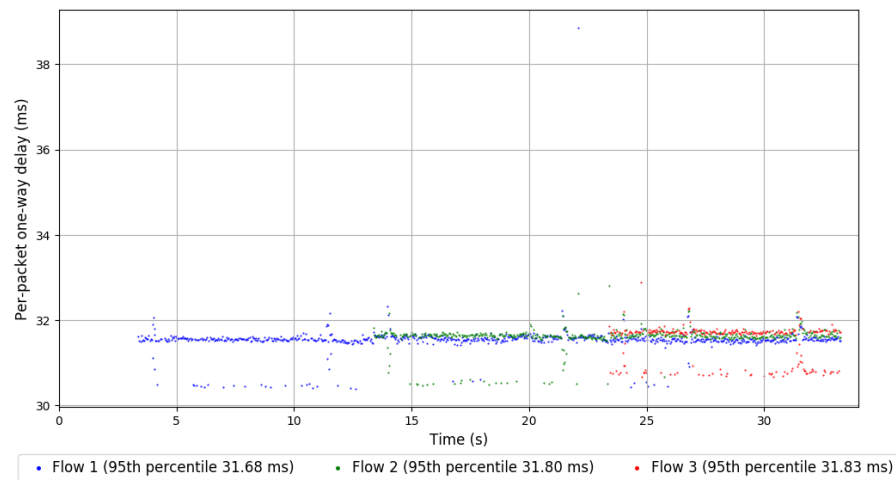
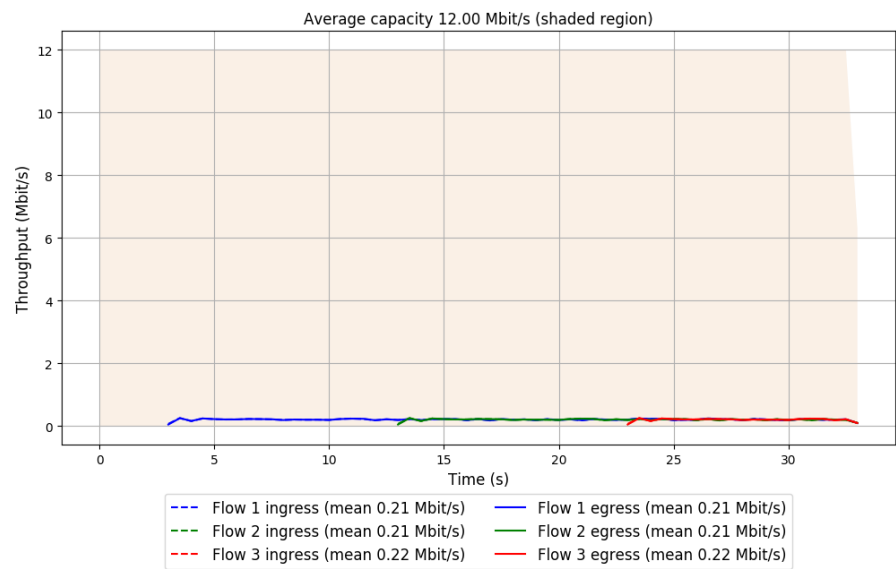
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.831 ms

Loss rate: 0.36%

Run 6: Report of SReAM — Data Link



Run 7: Statistics of SReAM

Start at: 2018-04-24 16:52:06

End at: 2018-04-24 16:52:36

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 31.775 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.706 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.758 ms

Loss rate: 0.21%

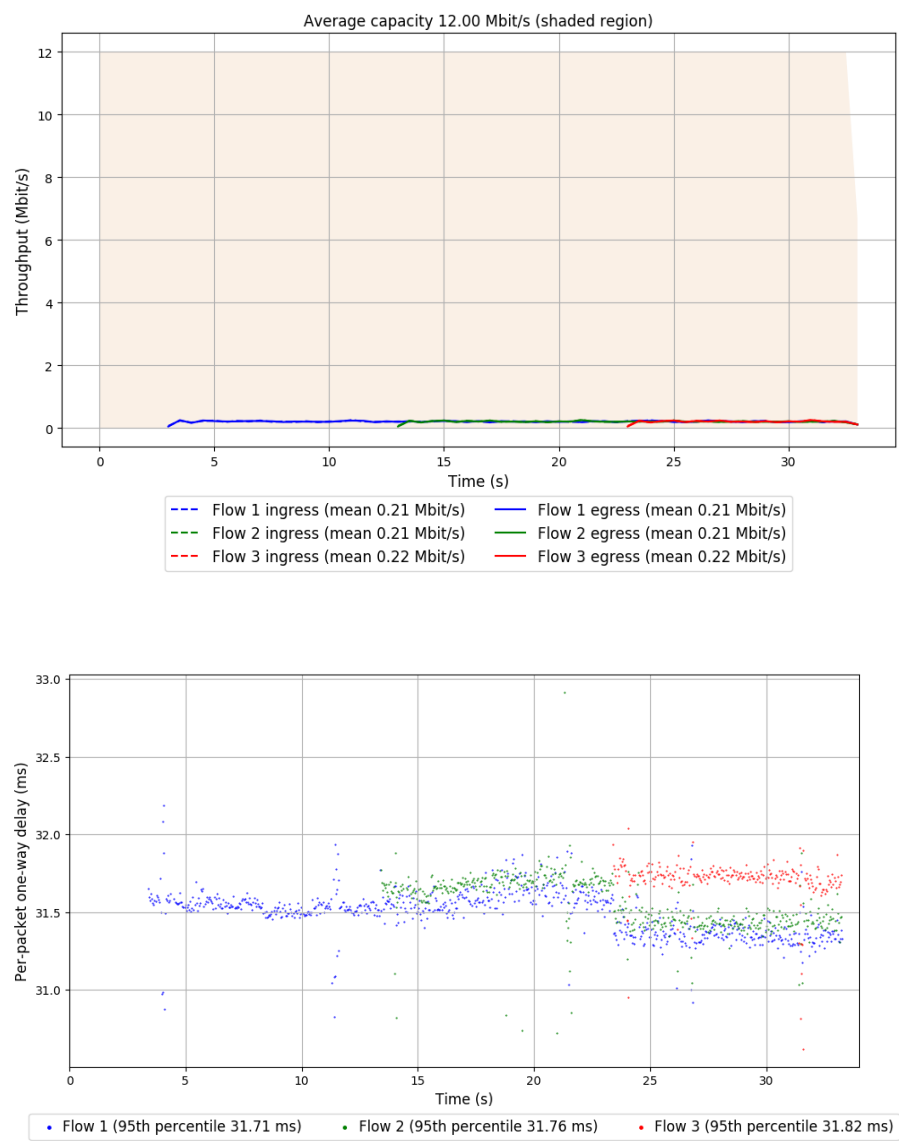
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.816 ms

Loss rate: 0.36%

Run 7: Report of SReAM — Data Link



Run 8: Statistics of SReAM

Start at: 2018-04-24 17:01:53

End at: 2018-04-24 17:02:23

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 31.861 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.616 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 32.744 ms

Loss rate: 0.00%

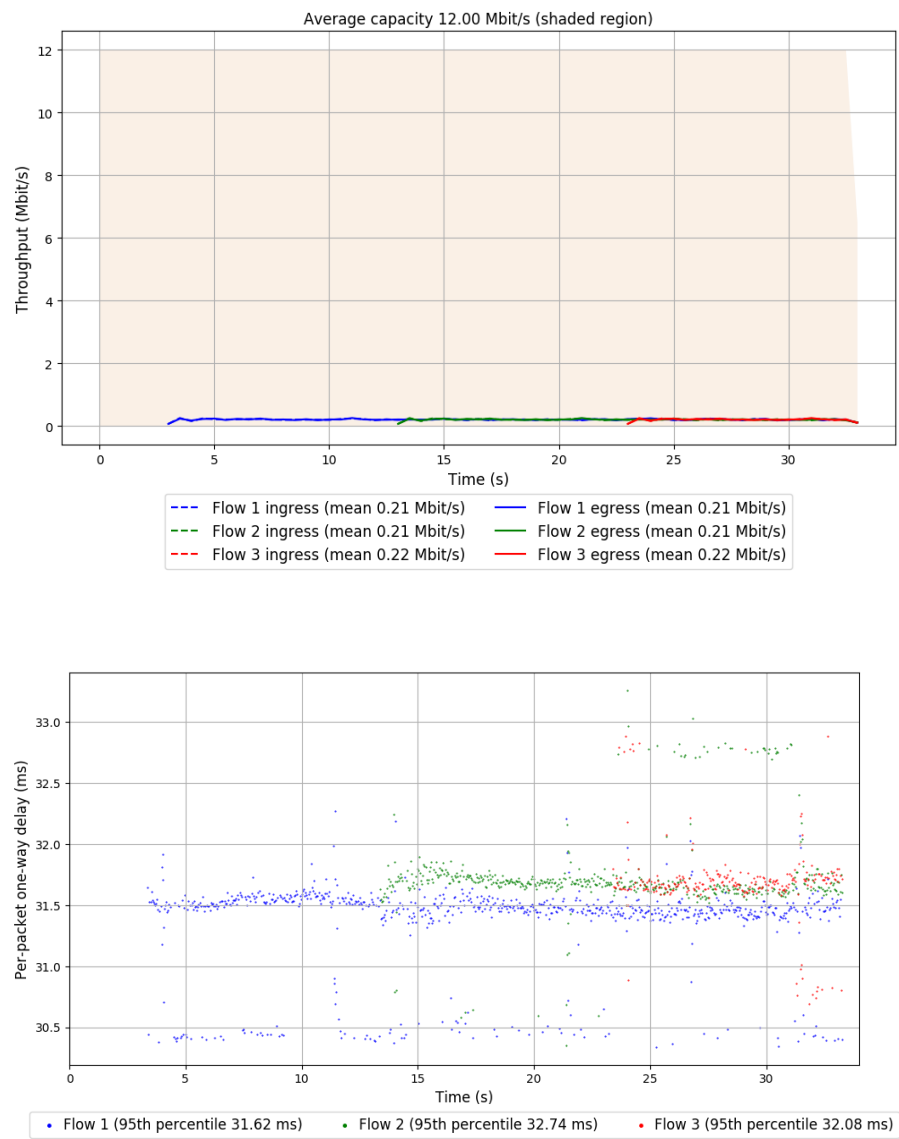
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 32.079 ms

Loss rate: 0.00%

Run 8: Report of SReAM — Data Link



Run 9: Statistics of SReAM

Start at: 2018-04-24 17:11:41

End at: 2018-04-24 17:12:11

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.43 Mbit/s (3.6% utilization)

95th percentile per-packet one-way delay: 31.860 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.887 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.698 ms

Loss rate: 0.00%

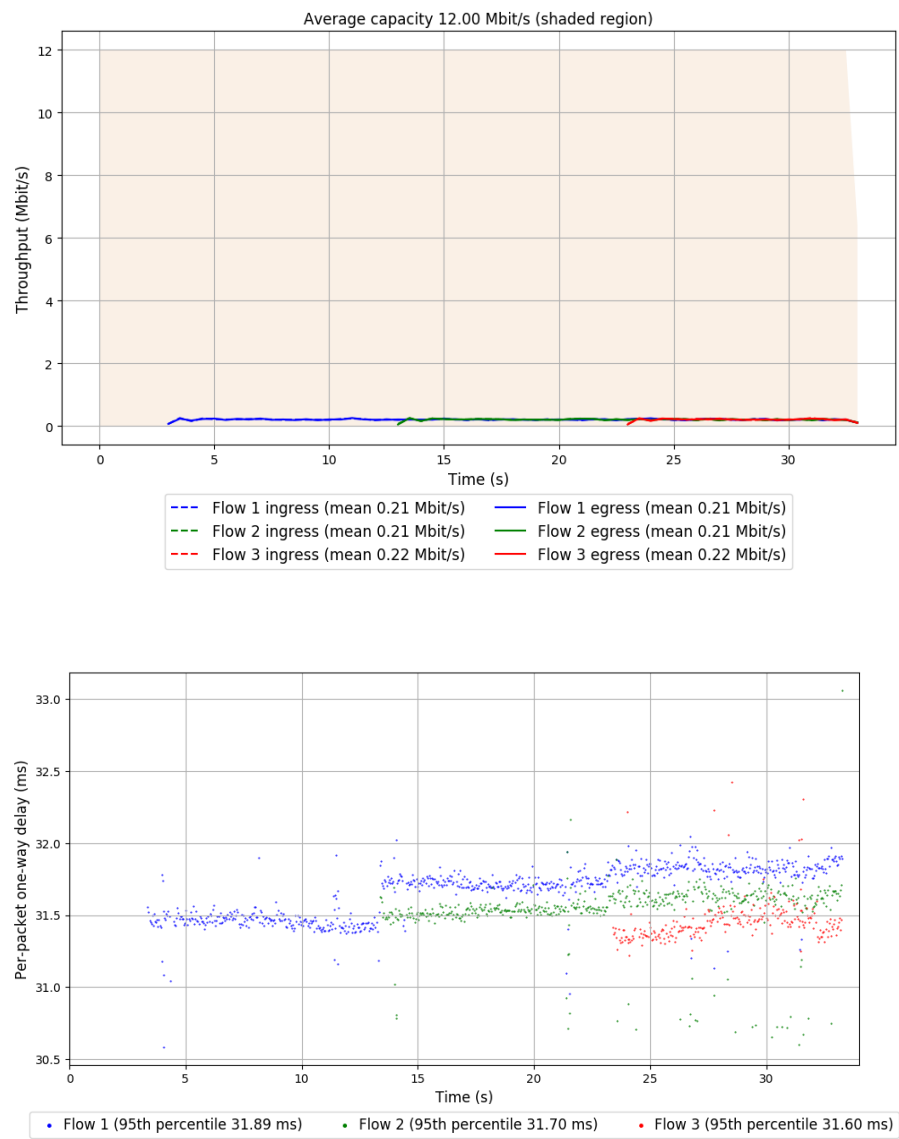
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.603 ms

Loss rate: 0.36%

Run 9: Report of SReAM — Data Link

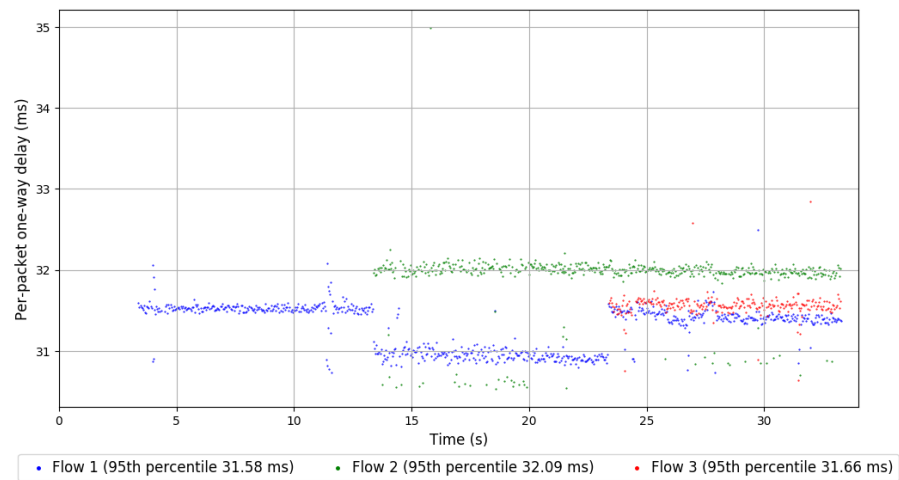
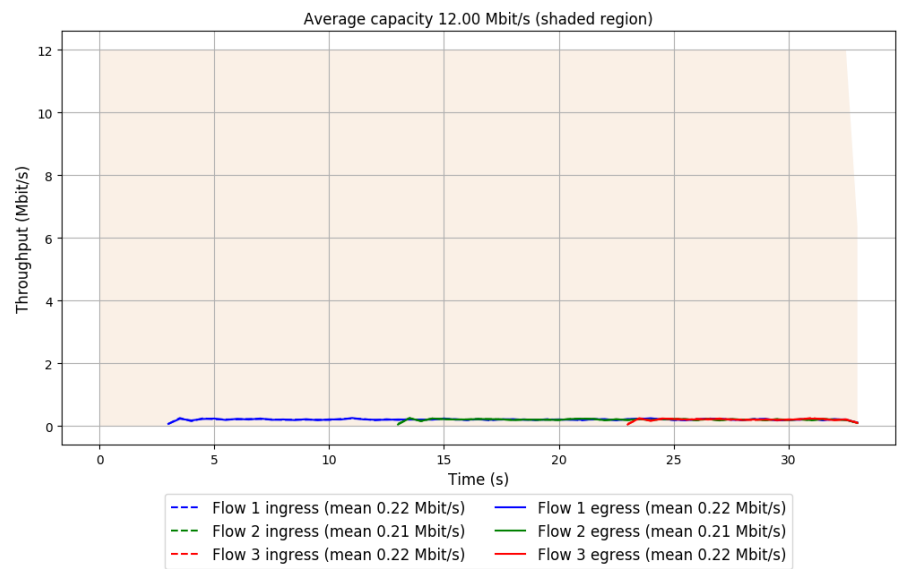


```
Run 10: Statistics of SReAM

Start at: 2018-04-24 17:21:27
End at: 2018-04-24 17:21:57

# Below is generated by plot.py at 2018-04-24 17:31:29
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 32.058 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 31.579 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 32.093 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 31.658 ms
Loss rate: 0.36%
```

Run 10: Report of SReAM — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-04-24 15:59:04

End at: 2018-04-24 15:59:34

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.696 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 47.682 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.254 ms

Loss rate: 0.00%

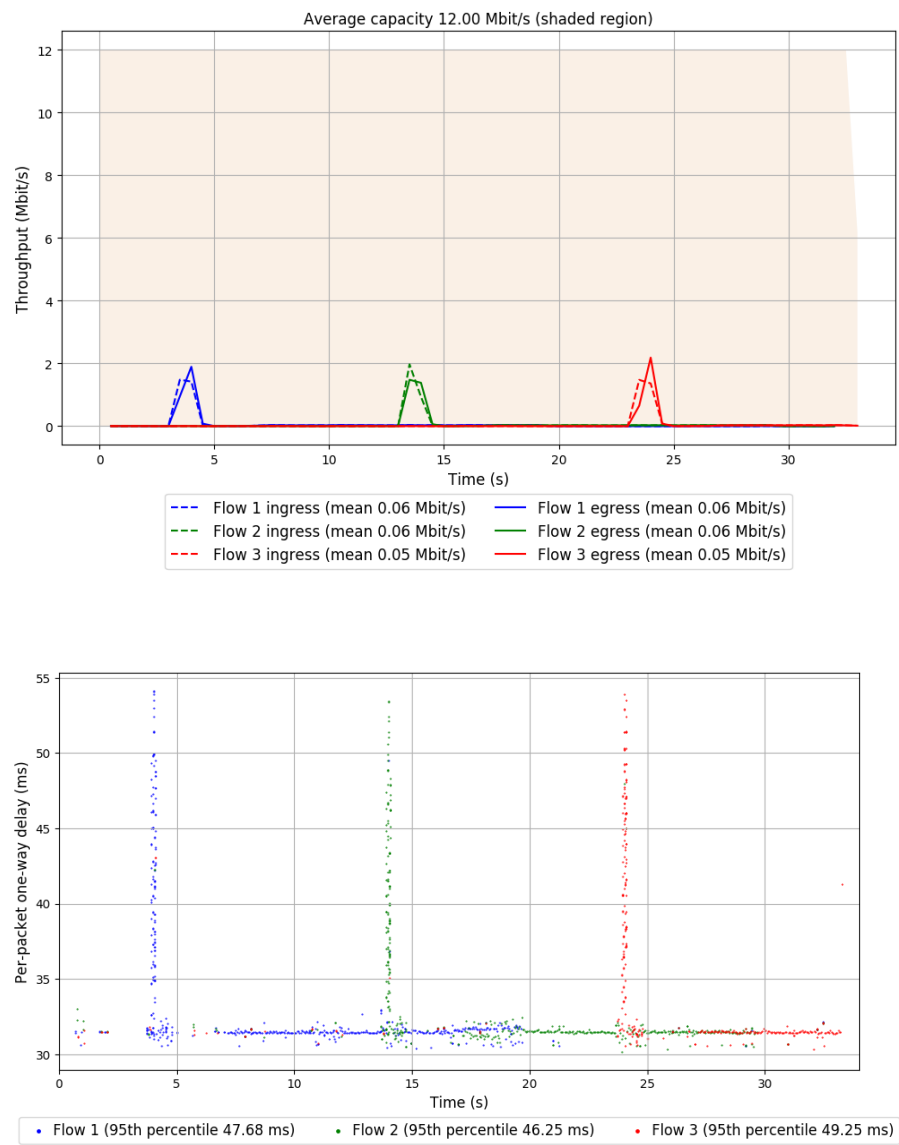
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 49.251 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-04-24 16:08:51

End at: 2018-04-24 16:09:21

Below is generated by plot.py at 2018-04-24 17:31:29

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.600 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.809 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.582 ms

Loss rate: 0.00%

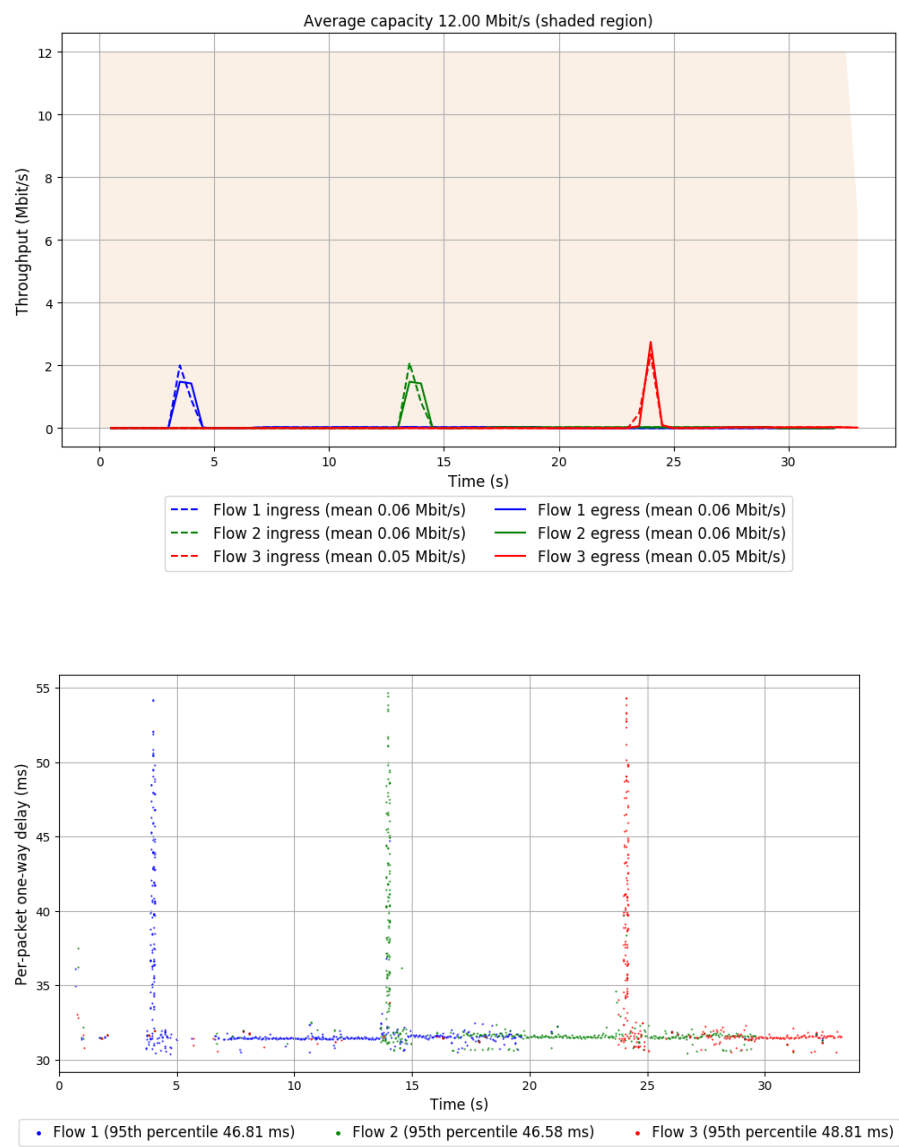
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 48.809 ms

Loss rate: 0.08%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-04-24 16:18:39

End at: 2018-04-24 16:19:09

Below is generated by plot.py at 2018-04-24 17:31:30

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.243 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.655 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 47.481 ms

Loss rate: 0.04%

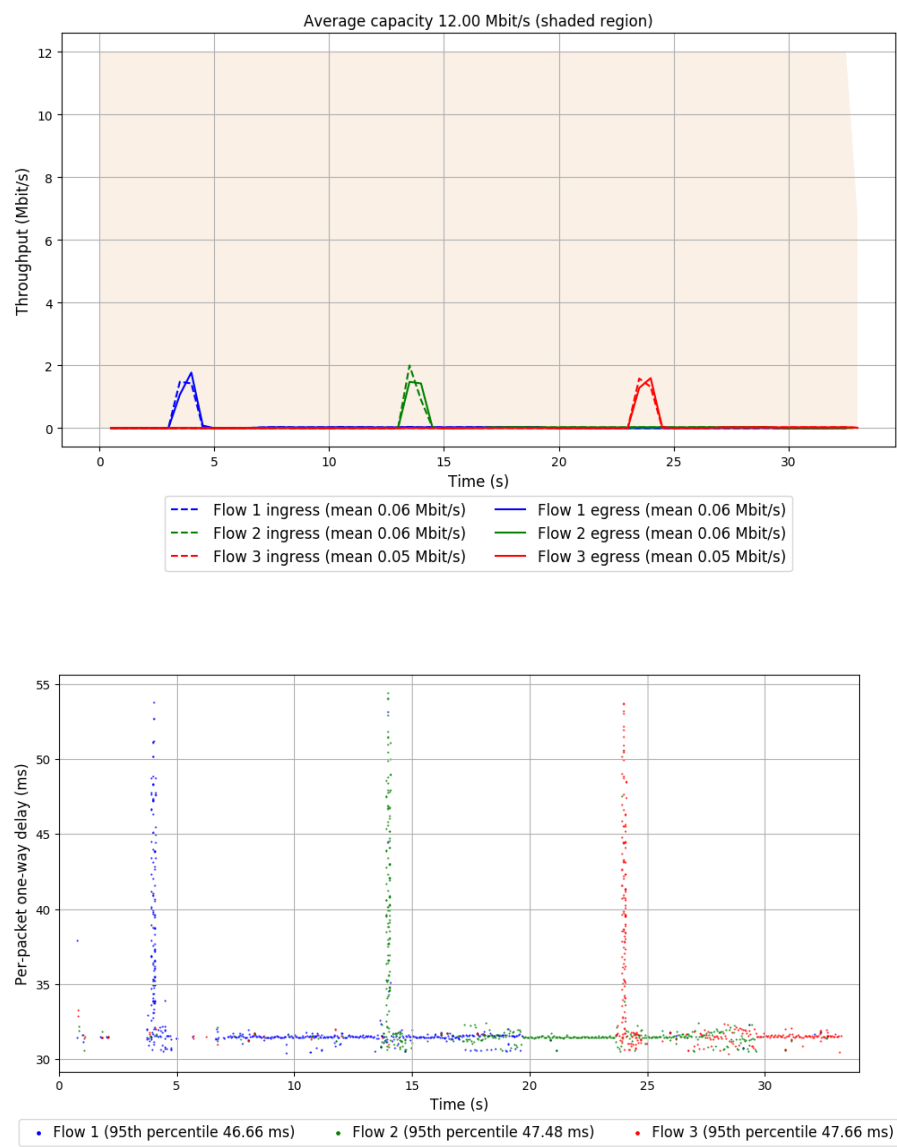
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 47.660 ms

Loss rate: 0.12%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-04-24 16:28:27

End at: 2018-04-24 16:28:57

Below is generated by plot.py at 2018-04-24 17:31:30

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 46.955 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.366 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.953 ms

Loss rate: 0.00%

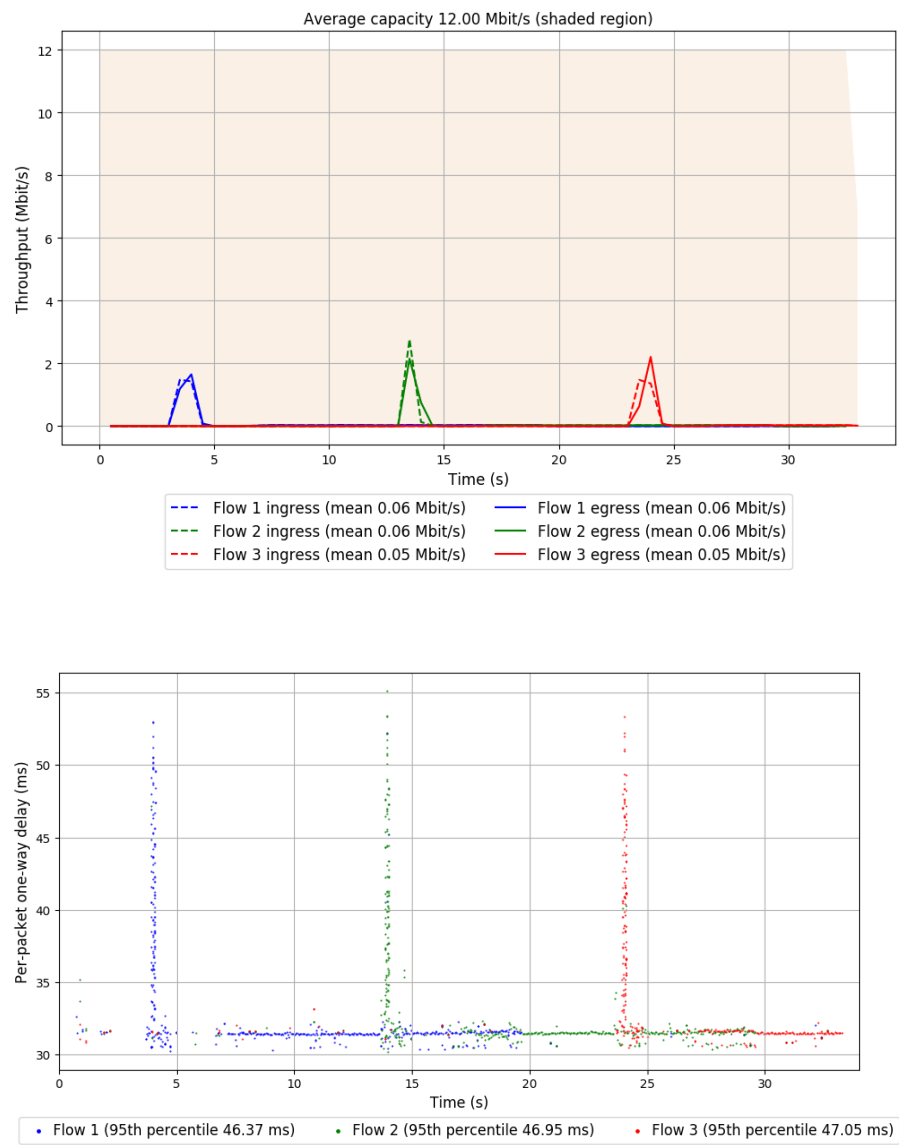
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 47.049 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-04-24 16:38:17

End at: 2018-04-24 16:38:47

Below is generated by plot.py at 2018-04-24 17:31:32

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.345 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 47.360 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.268 ms

Loss rate: 0.00%

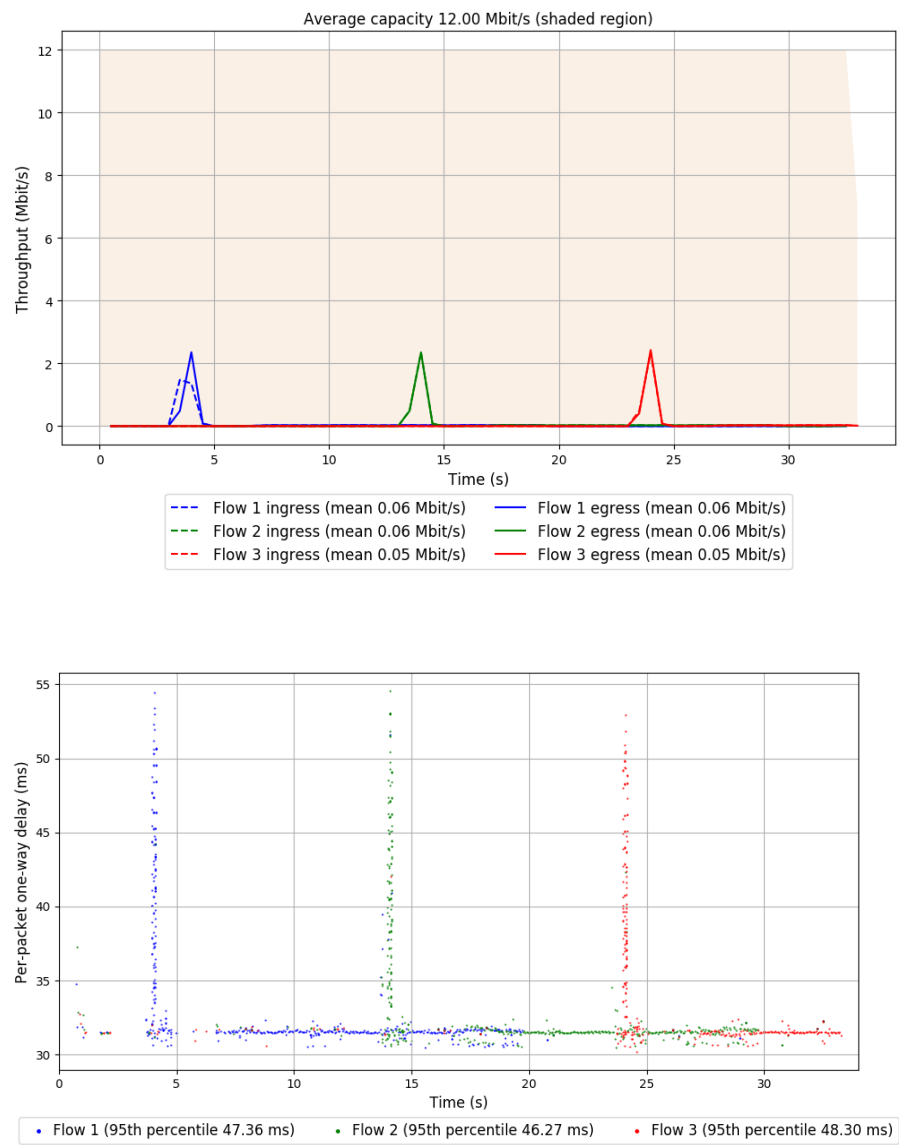
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 48.295 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link



Run 6: Statistics of WebRTC media

Start at: 2018-04-24 16:48:05

End at: 2018-04-24 16:48:35

Below is generated by plot.py at 2018-04-24 17:31:33

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.157 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.061 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.970 ms

Loss rate: 0.00%

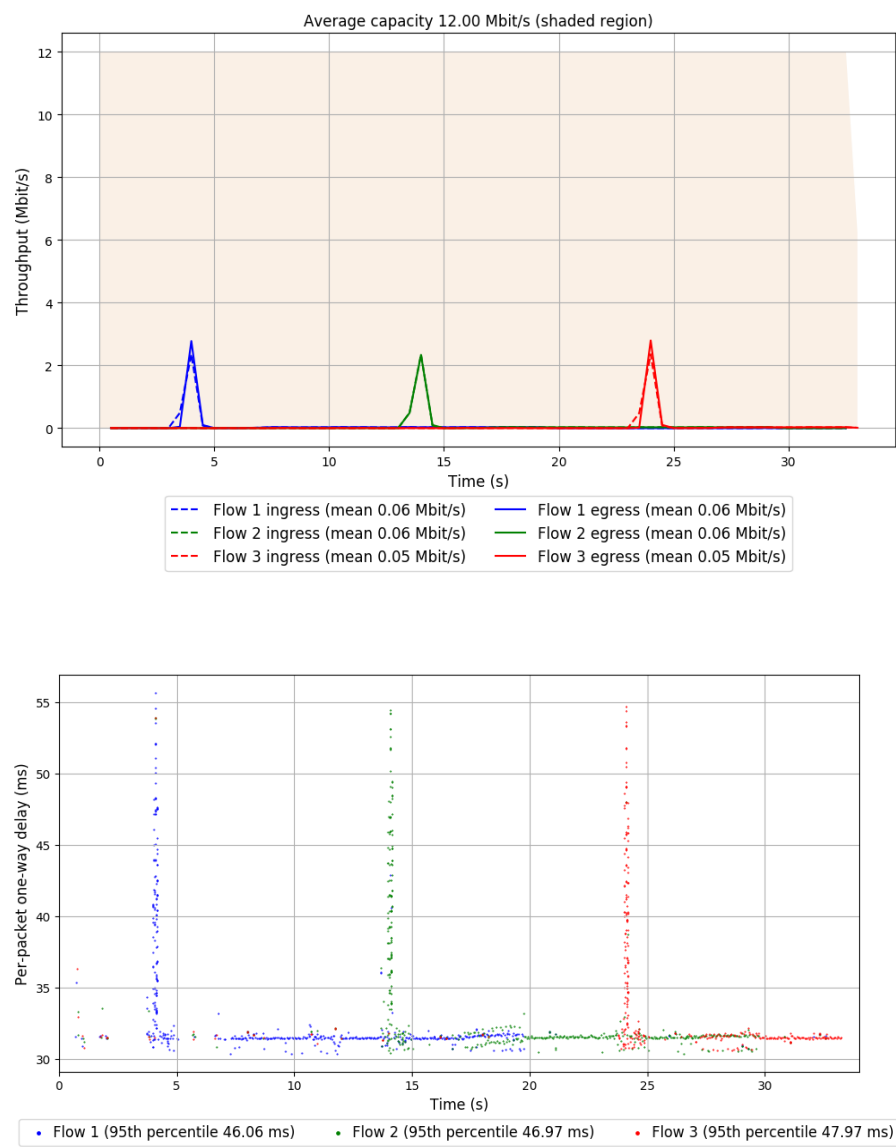
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 47.968 ms

Loss rate: 0.00%

Run 6: Report of WebRTC media — Data Link



Run 7: Statistics of WebRTC media

Start at: 2018-04-24 16:57:51

End at: 2018-04-24 16:58:21

Below is generated by plot.py at 2018-04-24 17:31:34

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 48.066 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 48.172 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.785 ms

Loss rate: 0.00%

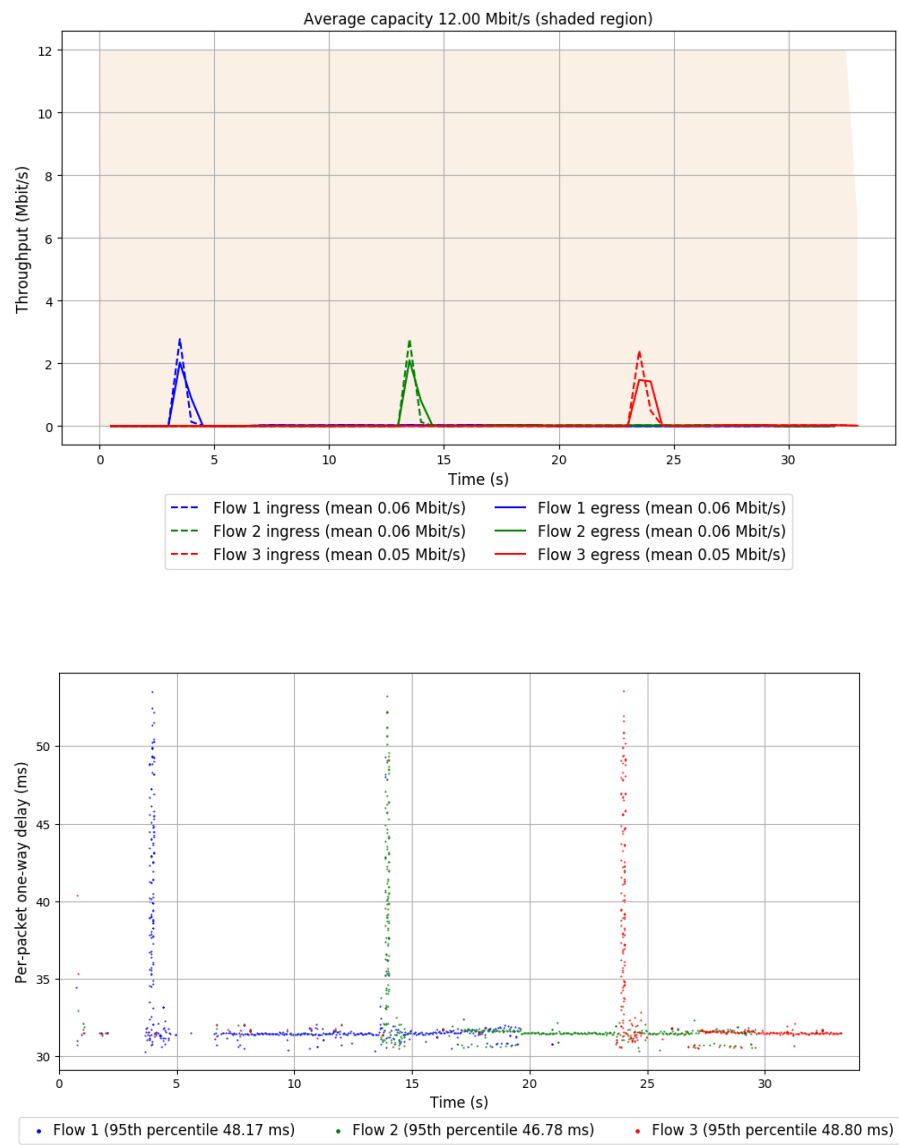
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 48.796 ms

Loss rate: 0.00%

Run 7: Report of WebRTC media — Data Link



Run 8: Statistics of WebRTC media

Start at: 2018-04-24 17:07:40

End at: 2018-04-24 17:08:10

Below is generated by plot.py at 2018-04-24 17:31:34

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.292 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.333 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 47.073 ms

Loss rate: 0.00%

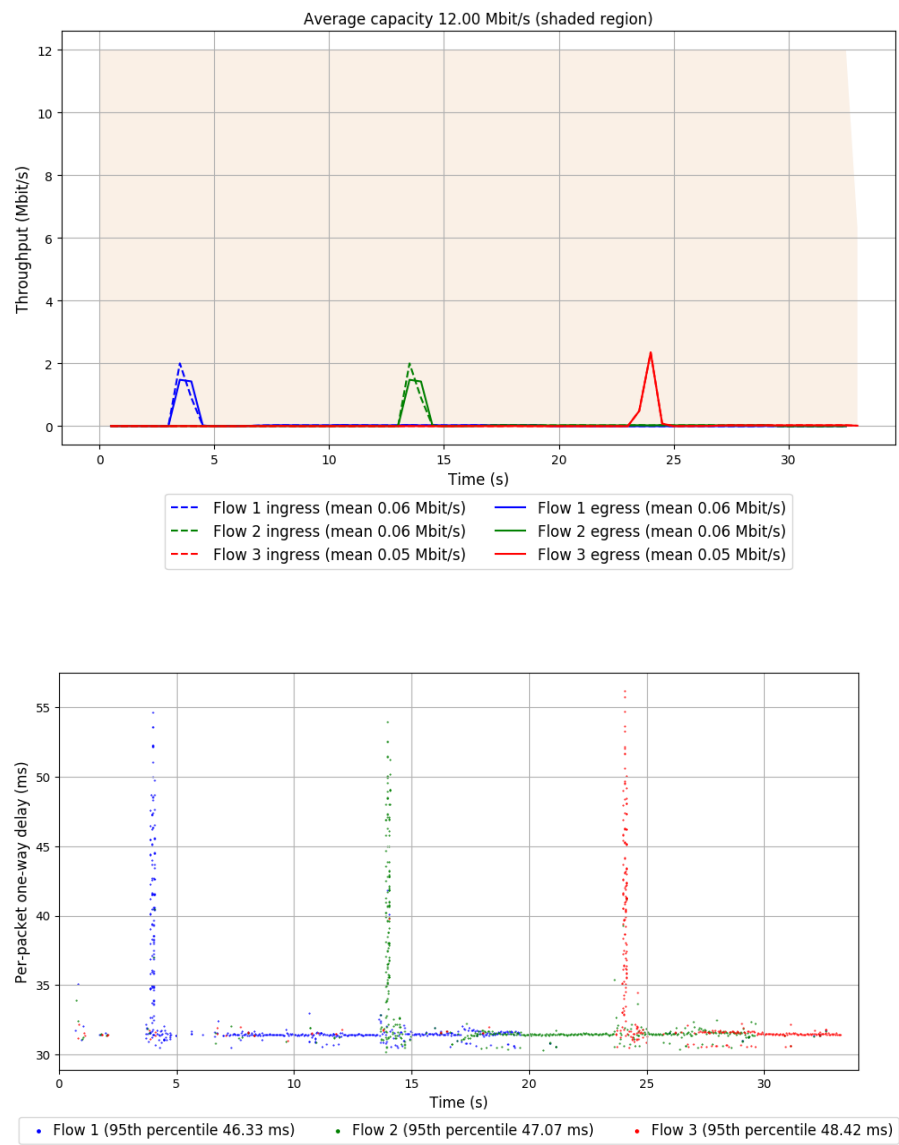
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 48.418 ms

Loss rate: 0.00%

Run 8: Report of WebRTC media — Data Link



Run 9: Statistics of WebRTC media

Start at: 2018-04-24 17:17:26

End at: 2018-04-24 17:17:56

Below is generated by plot.py at 2018-04-24 17:31:38

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 47.280 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 47.164 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.731 ms

Loss rate: 0.00%

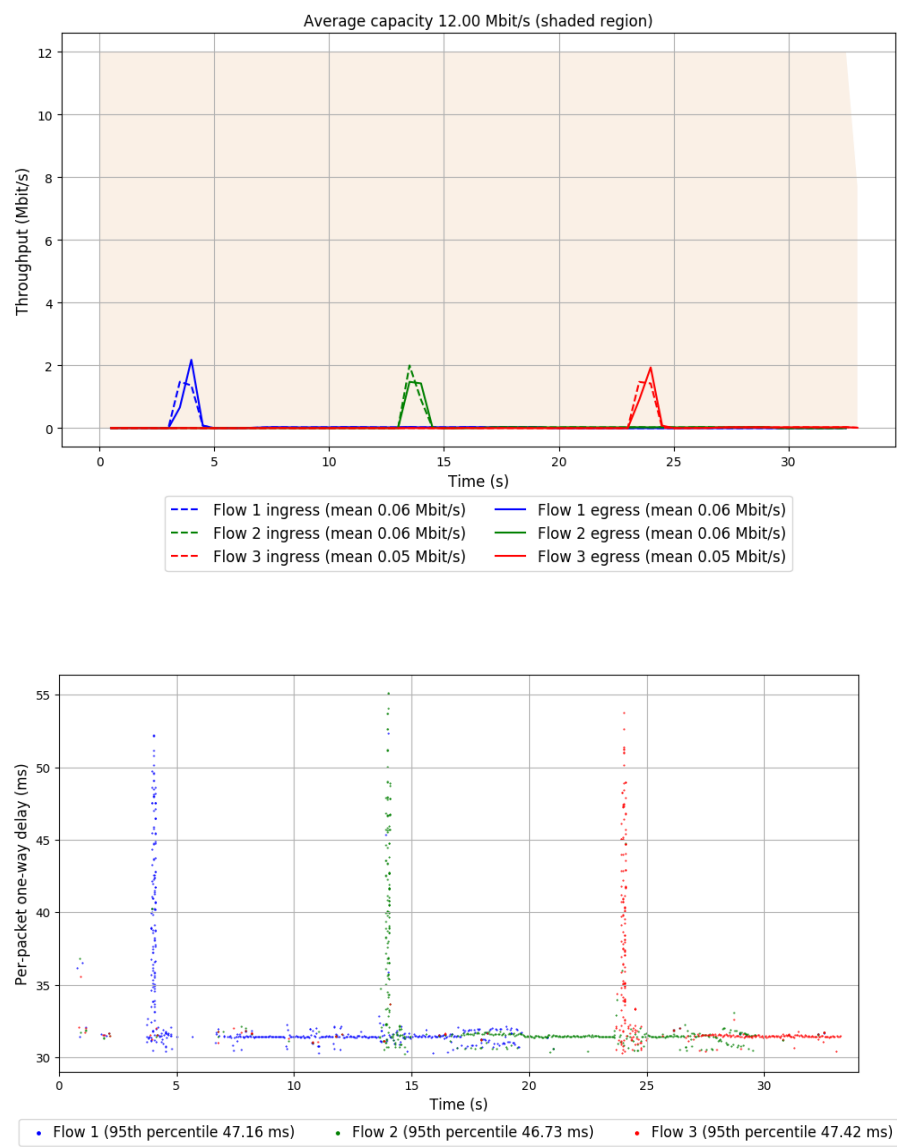
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 47.423 ms

Loss rate: 0.12%

Run 9: Report of WebRTC media — Data Link



Run 10: Statistics of WebRTC media

Start at: 2018-04-24 17:27:12

End at: 2018-04-24 17:27:42

Below is generated by plot.py at 2018-04-24 17:31:38

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 0.17 Mbit/s (1.4% utilization)

95th percentile per-packet one-way delay: 46.964 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.706 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 46.905 ms

Loss rate: 0.00%

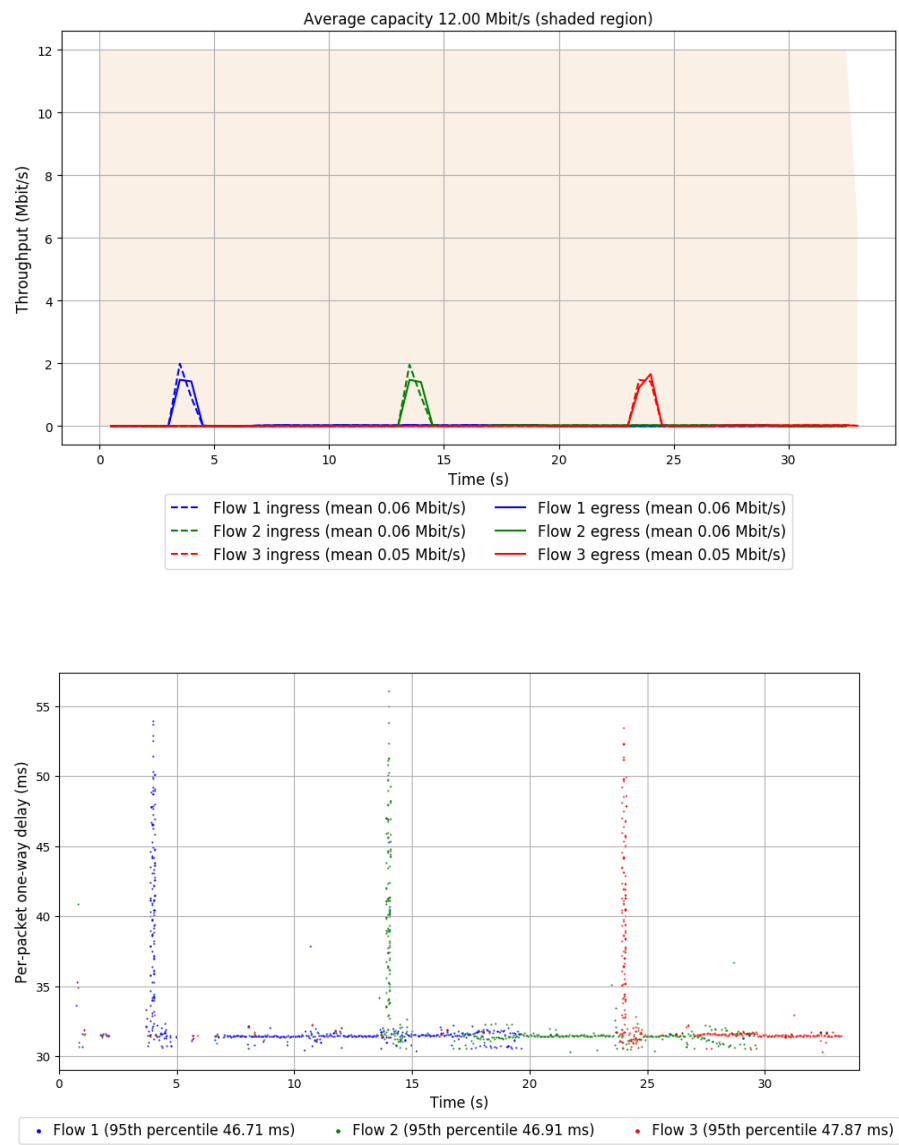
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 47.870 ms

Loss rate: 0.08%

Run 10: Report of WebRTC media — Data Link



Run 1: Statistics of Sprout

Start at: 2018-04-24 15:57:21

End at: 2018-04-24 15:57:51

Below is generated by plot.py at 2018-04-24 17:31:51

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.94 Mbit/s (82.9% utilization)

95th percentile per-packet one-way delay: 80.852 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 5.55 Mbit/s

95th percentile per-packet one-way delay: 79.071 ms

Loss rate: 0.69%

-- Flow 2:

Average throughput: 4.81 Mbit/s

95th percentile per-packet one-way delay: 81.176 ms

Loss rate: 0.97%

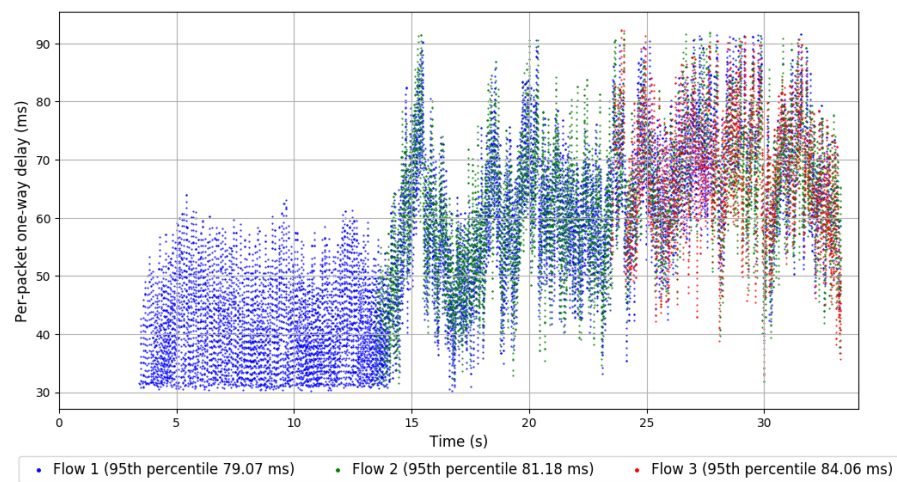
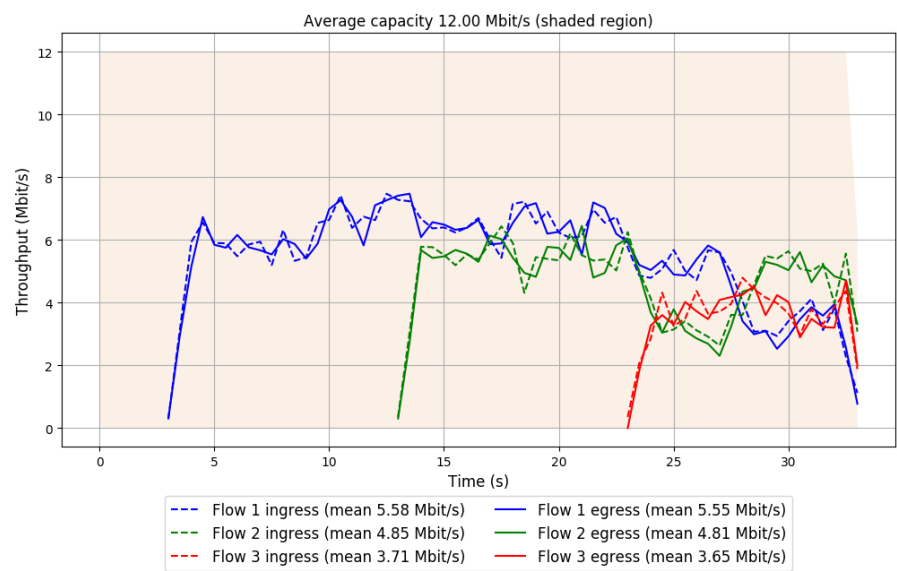
-- Flow 3:

Average throughput: 3.65 Mbit/s

95th percentile per-packet one-way delay: 84.057 ms

Loss rate: 2.21%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-04-24 16:07:07

End at: 2018-04-24 16:07:37

Below is generated by plot.py at 2018-04-24 17:31:51

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.03 Mbit/s (83.6% utilization)

95th percentile per-packet one-way delay: 82.177 ms

Loss rate: 1.38%

-- Flow 1:

Average throughput: 5.75 Mbit/s

95th percentile per-packet one-way delay: 78.925 ms

Loss rate: 0.80%

-- Flow 2:

Average throughput: 4.65 Mbit/s

95th percentile per-packet one-way delay: 83.310 ms

Loss rate: 1.63%

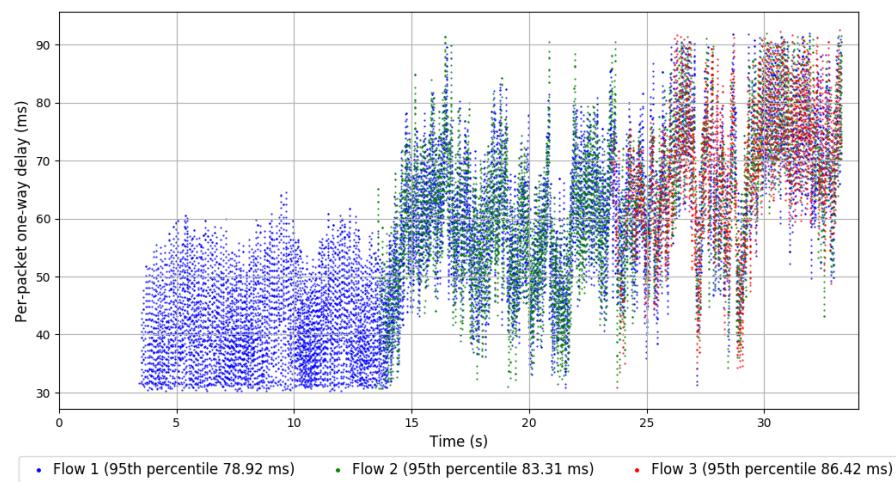
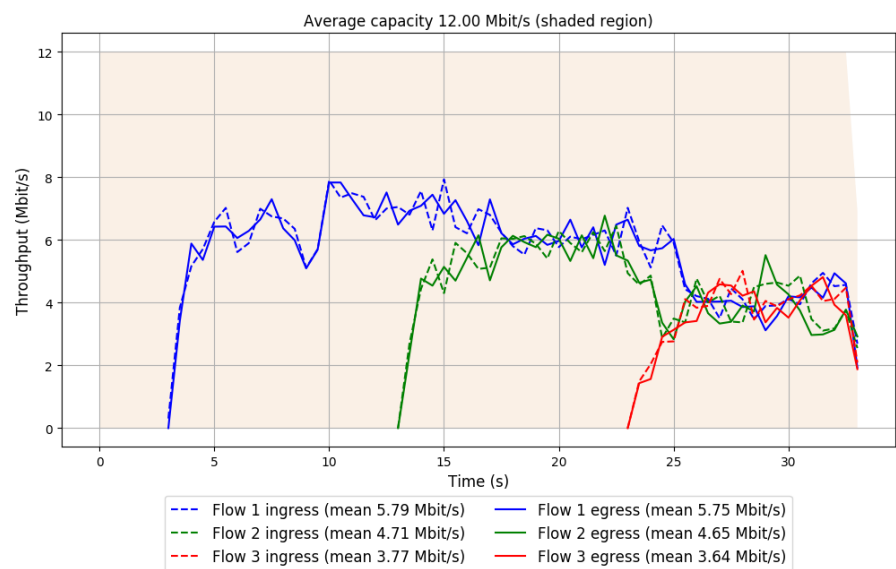
-- Flow 3:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 86.415 ms

Loss rate: 3.40%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-04-24 16:16:54

End at: 2018-04-24 16:17:24

Below is generated by plot.py at 2018-04-24 17:31:52

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.93 Mbit/s (82.7% utilization)

95th percentile per-packet one-way delay: 82.227 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 5.60 Mbit/s

95th percentile per-packet one-way delay: 79.699 ms

Loss rate: 0.67%

-- Flow 2:

Average throughput: 4.63 Mbit/s

95th percentile per-packet one-way delay: 82.648 ms

Loss rate: 0.81%

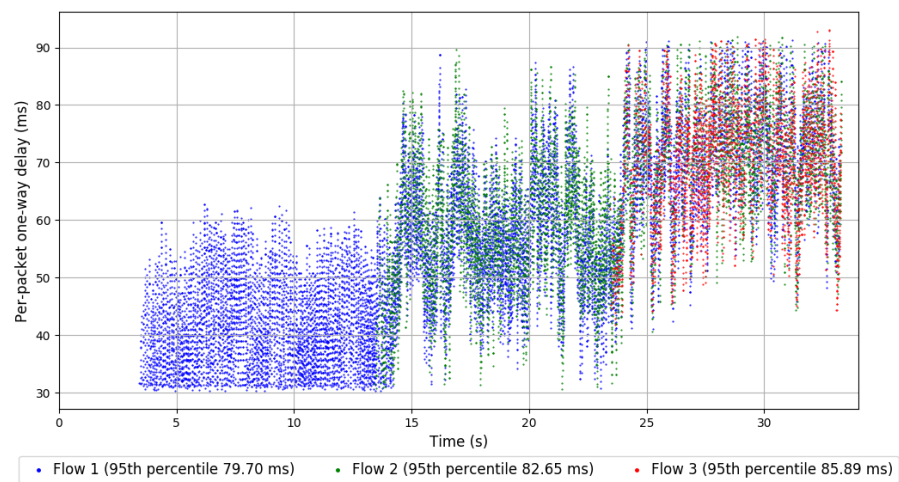
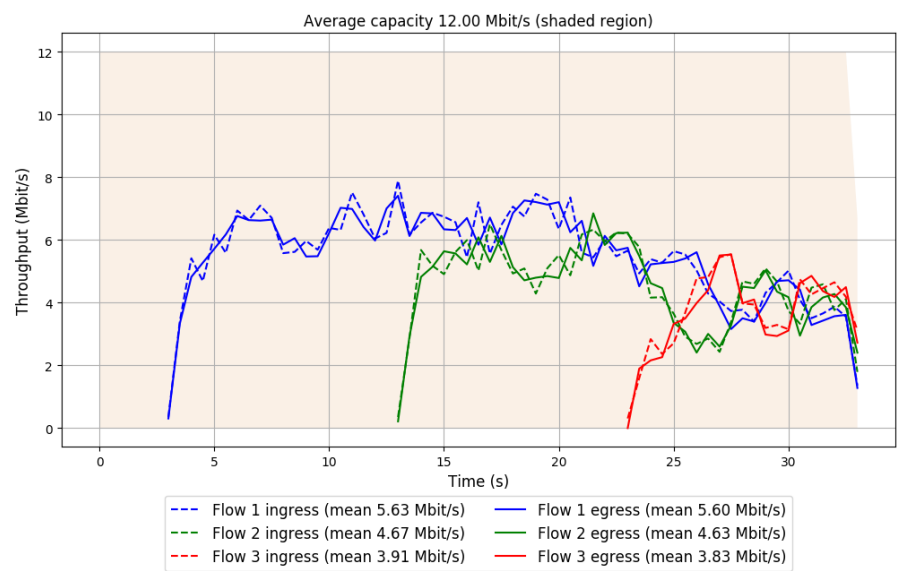
-- Flow 3:

Average throughput: 3.83 Mbit/s

95th percentile per-packet one-way delay: 85.888 ms

Loss rate: 2.74%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-04-24 16:26:42

End at: 2018-04-24 16:27:12

Below is generated by plot.py at 2018-04-24 17:31:52

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.04 Mbit/s (83.7% utilization)

95th percentile per-packet one-way delay: 83.848 ms

Loss rate: 1.30%

-- Flow 1:

Average throughput: 5.46 Mbit/s

95th percentile per-packet one-way delay: 82.086 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 5.03 Mbit/s

95th percentile per-packet one-way delay: 83.865 ms

Loss rate: 1.16%

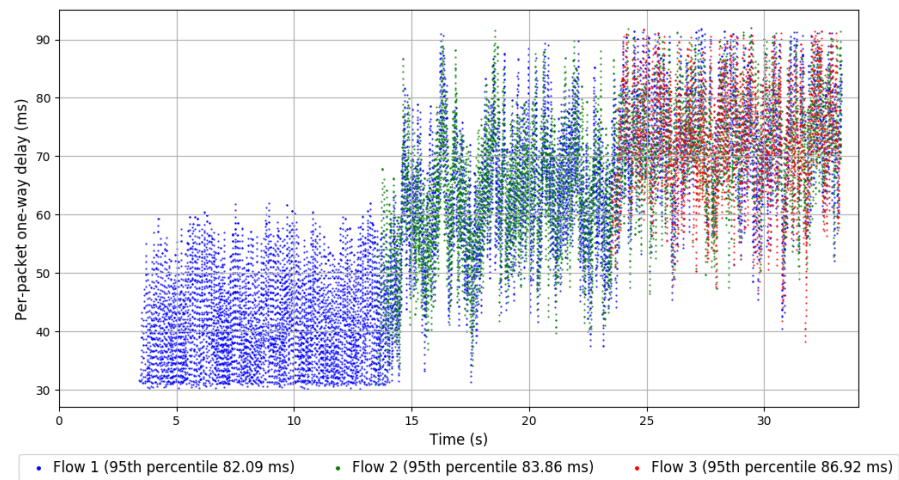
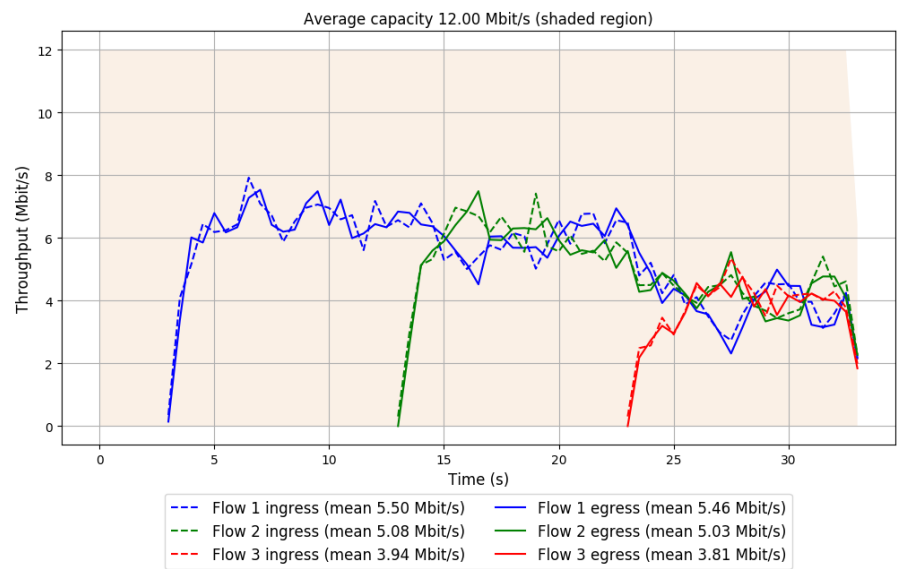
-- Flow 3:

Average throughput: 3.81 Mbit/s

95th percentile per-packet one-way delay: 86.924 ms

Loss rate: 3.91%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-04-24 16:36:30

End at: 2018-04-24 16:37:00

Below is generated by plot.py at 2018-04-24 17:31:53

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.98 Mbit/s (83.1% utilization)

95th percentile per-packet one-way delay: 84.389 ms

Loss rate: 1.87%

-- Flow 1:

Average throughput: 5.48 Mbit/s

95th percentile per-packet one-way delay: 81.681 ms

Loss rate: 0.98%

-- Flow 2:

Average throughput: 5.22 Mbit/s

95th percentile per-packet one-way delay: 84.558 ms

Loss rate: 1.66%

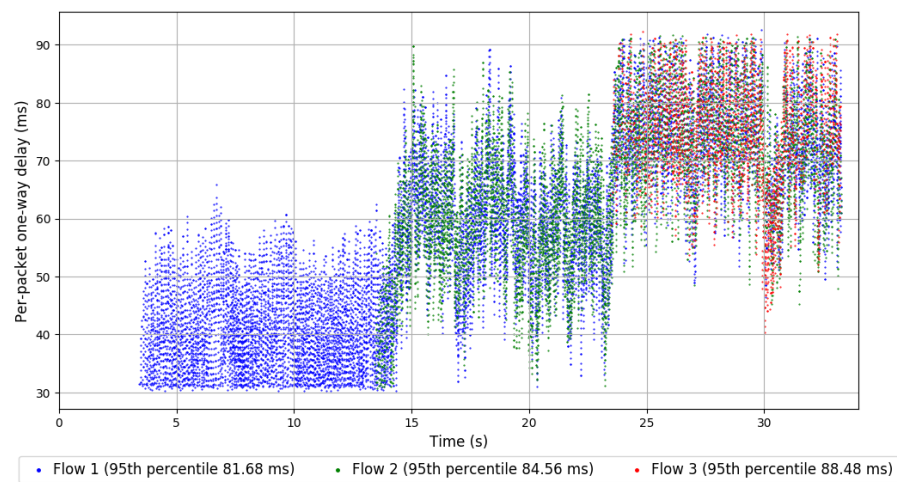
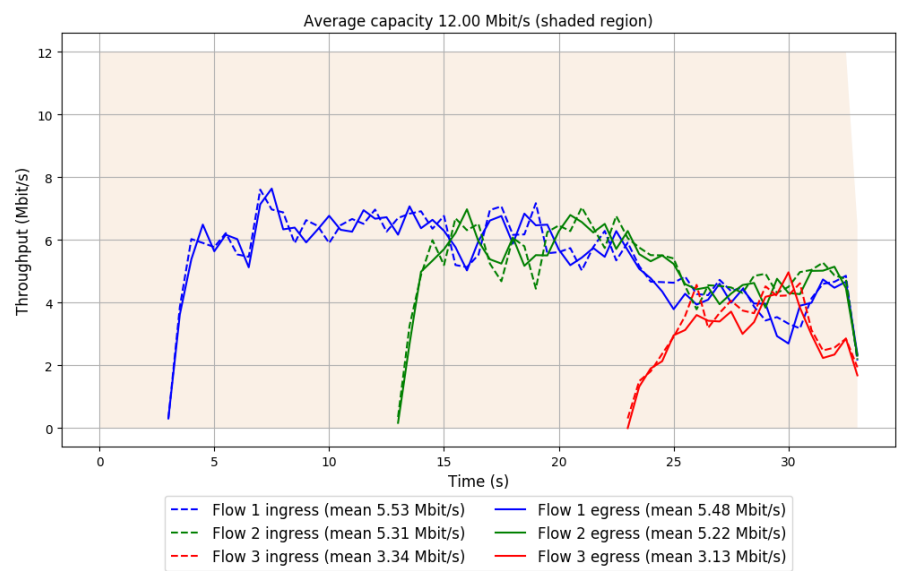
-- Flow 3:

Average throughput: 3.13 Mbit/s

95th percentile per-packet one-way delay: 88.481 ms

Loss rate: 6.94%

Run 5: Report of Sprout — Data Link



Run 6: Statistics of Sprout

Start at: 2018-04-24 16:46:20

End at: 2018-04-24 16:46:50

Below is generated by plot.py at 2018-04-24 17:31:53

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.94 Mbit/s (82.8% utilization)

95th percentile per-packet one-way delay: 83.035 ms

Loss rate: 1.44%

-- Flow 1:

Average throughput: 5.32 Mbit/s

95th percentile per-packet one-way delay: 79.636 ms

Loss rate: 0.77%

-- Flow 2:

Average throughput: 5.16 Mbit/s

95th percentile per-packet one-way delay: 83.038 ms

Loss rate: 1.62%

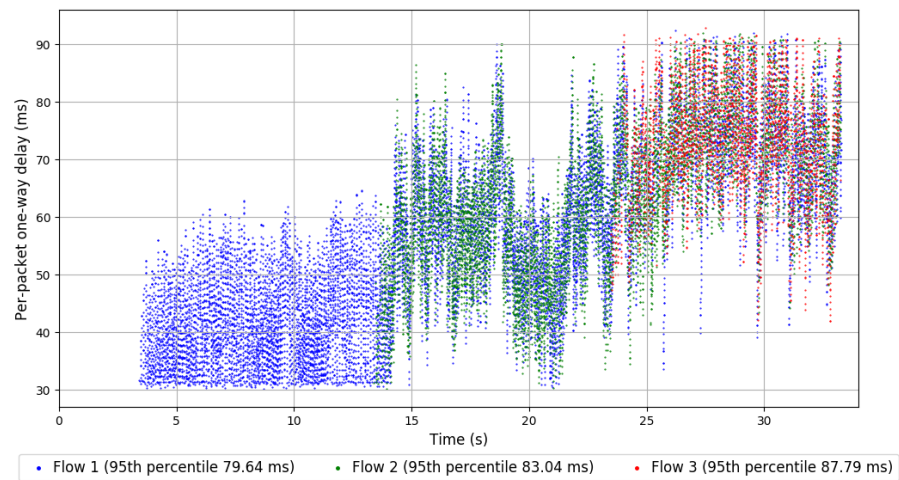
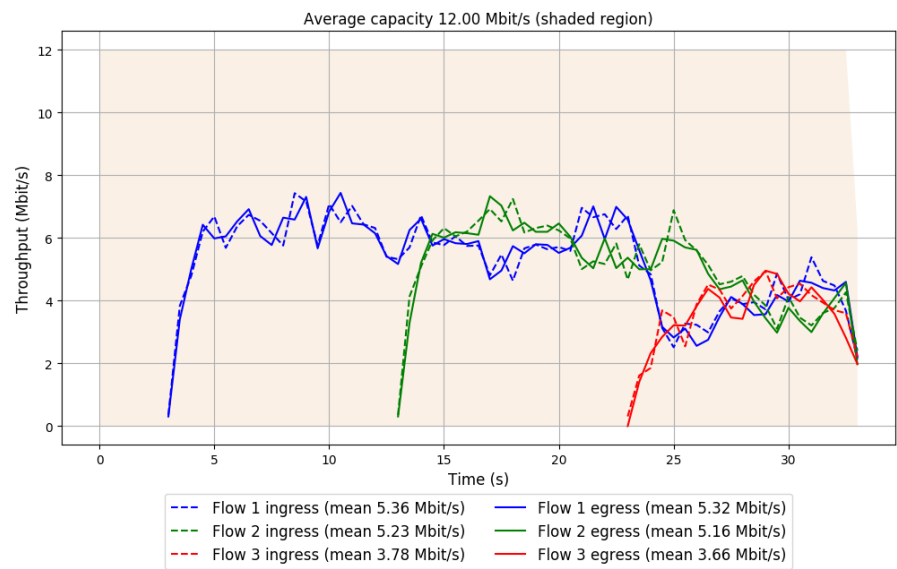
-- Flow 3:

Average throughput: 3.66 Mbit/s

95th percentile per-packet one-way delay: 87.792 ms

Loss rate: 3.80%

Run 6: Report of Sprout — Data Link



Run 7: Statistics of Sprout

Start at: 2018-04-24 16:56:07

End at: 2018-04-24 16:56:37

Below is generated by plot.py at 2018-04-24 17:31:59

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.09 Mbit/s (84.1% utilization)

95th percentile per-packet one-way delay: 82.825 ms

Loss rate: 1.30%

-- Flow 1:

Average throughput: 5.51 Mbit/s

95th percentile per-packet one-way delay: 80.429 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 5.14 Mbit/s

95th percentile per-packet one-way delay: 82.737 ms

Loss rate: 1.34%

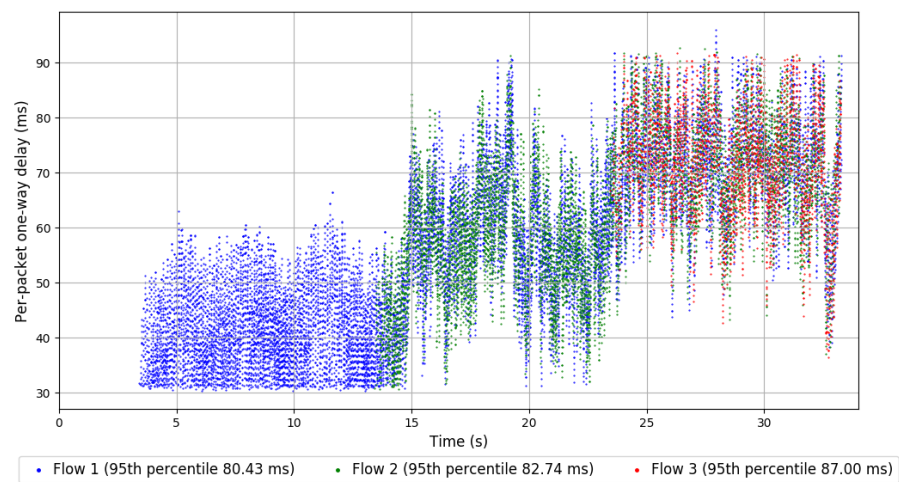
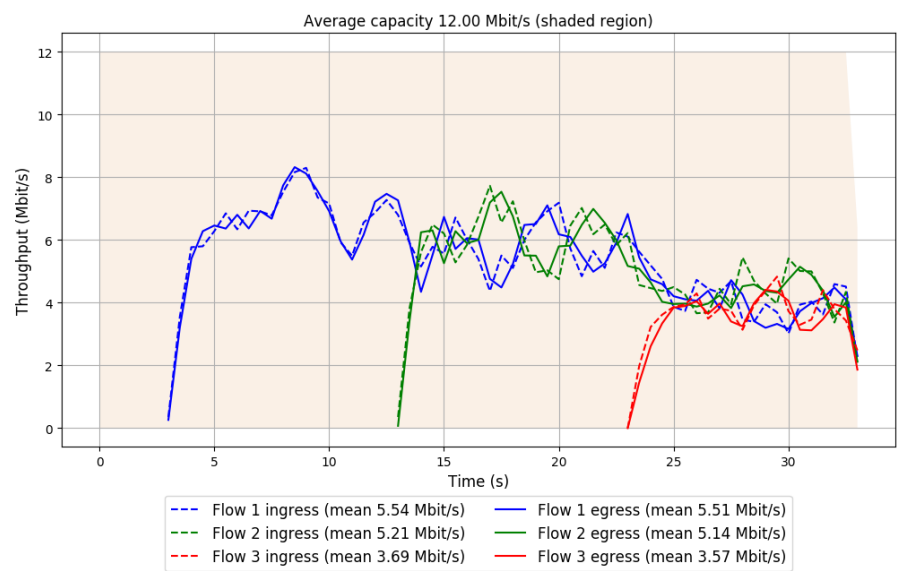
-- Flow 3:

Average throughput: 3.57 Mbit/s

95th percentile per-packet one-way delay: 87.003 ms

Loss rate: 4.36%

Run 7: Report of Sprout — Data Link



Run 8: Statistics of Sprout

Start at: 2018-04-24 17:05:54

End at: 2018-04-24 17:06:24

Below is generated by plot.py at 2018-04-24 17:31:59

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.98 Mbit/s (83.2% utilization)

95th percentile per-packet one-way delay: 82.831 ms

Loss rate: 1.37%

-- Flow 1:

Average throughput: 5.46 Mbit/s

95th percentile per-packet one-way delay: 81.027 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 4.90 Mbit/s

95th percentile per-packet one-way delay: 83.415 ms

Loss rate: 1.57%

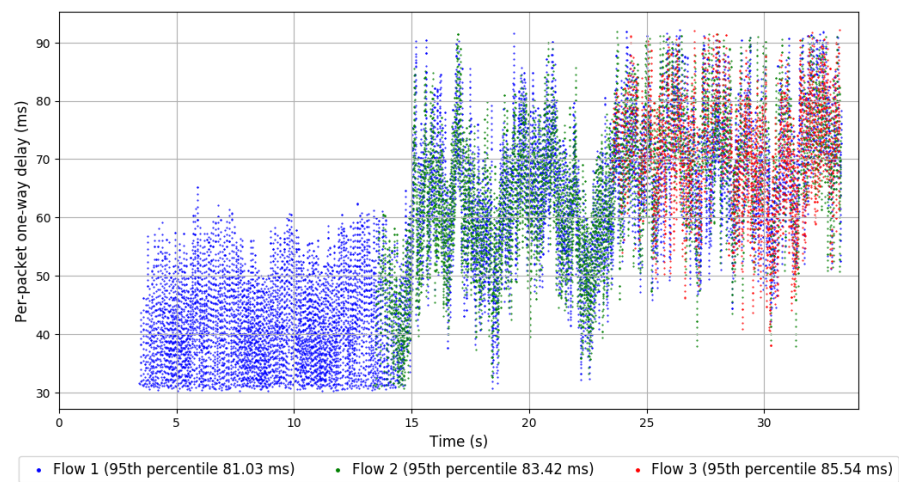
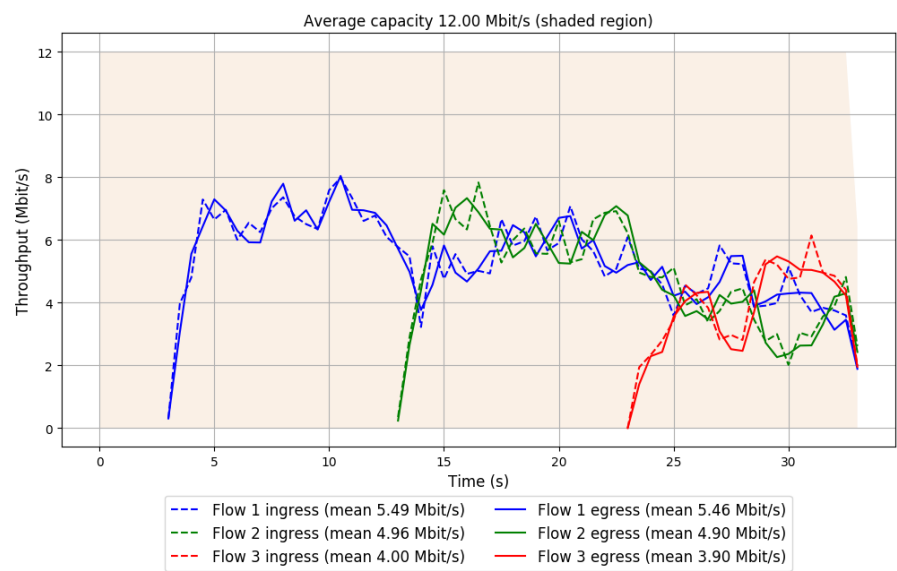
-- Flow 3:

Average throughput: 3.90 Mbit/s

95th percentile per-packet one-way delay: 85.543 ms

Loss rate: 3.63%

Run 8: Report of Sprout — Data Link



Run 9: Statistics of Sprout

Start at: 2018-04-24 17:15:42

End at: 2018-04-24 17:16:12

Below is generated by plot.py at 2018-04-24 17:32:08

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.02 Mbit/s (83.5% utilization)

95th percentile per-packet one-way delay: 82.937 ms

Loss rate: 1.30%

-- Flow 1:

Average throughput: 5.40 Mbit/s

95th percentile per-packet one-way delay: 80.056 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 4.94 Mbit/s

95th percentile per-packet one-way delay: 82.998 ms

Loss rate: 1.40%

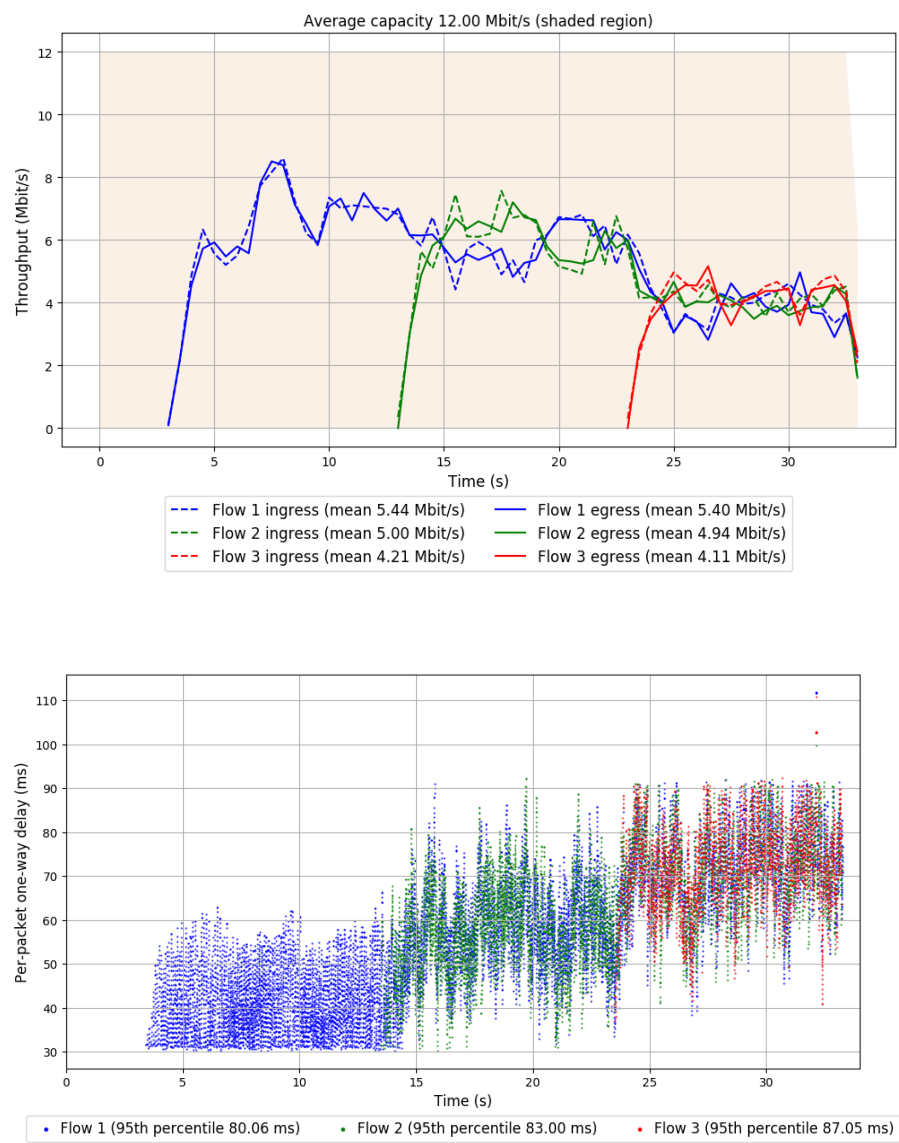
-- Flow 3:

Average throughput: 4.11 Mbit/s

95th percentile per-packet one-way delay: 87.048 ms

Loss rate: 3.10%

Run 9: Report of Sprout — Data Link



Run 10: Statistics of Sprout

Start at: 2018-04-24 17:25:28

End at: 2018-04-24 17:25:58

Below is generated by plot.py at 2018-04-24 17:32:09

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.12 Mbit/s (84.3% utilization)

95th percentile per-packet one-way delay: 83.265 ms

Loss rate: 1.65%

-- Flow 1:

Average throughput: 5.75 Mbit/s

95th percentile per-packet one-way delay: 80.950 ms

Loss rate: 0.95%

-- Flow 2:

Average throughput: 4.72 Mbit/s

95th percentile per-packet one-way delay: 83.675 ms

Loss rate: 1.93%

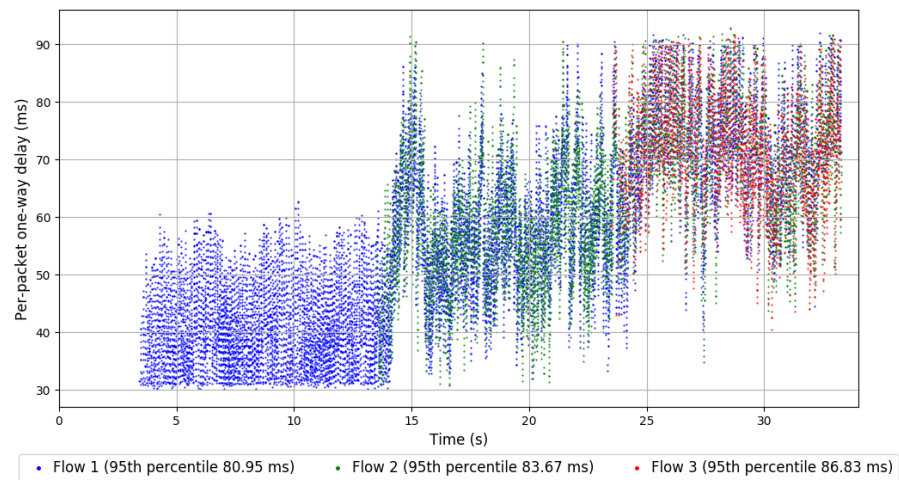
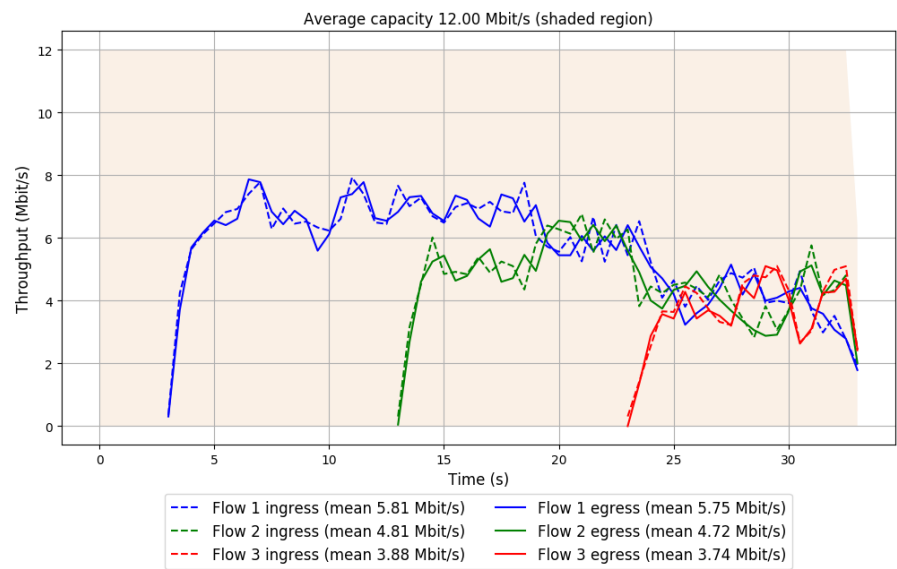
-- Flow 3:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 86.829 ms

Loss rate: 4.11%

Run 10: Report of Sprout — Data Link

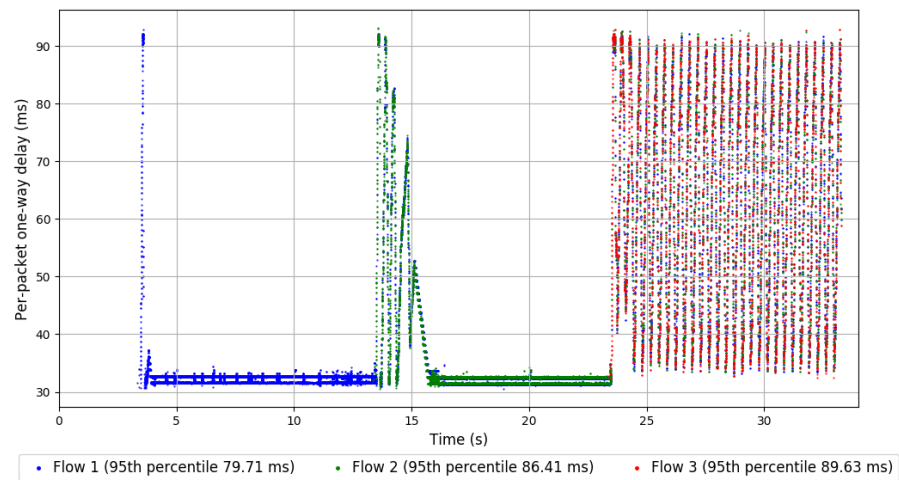
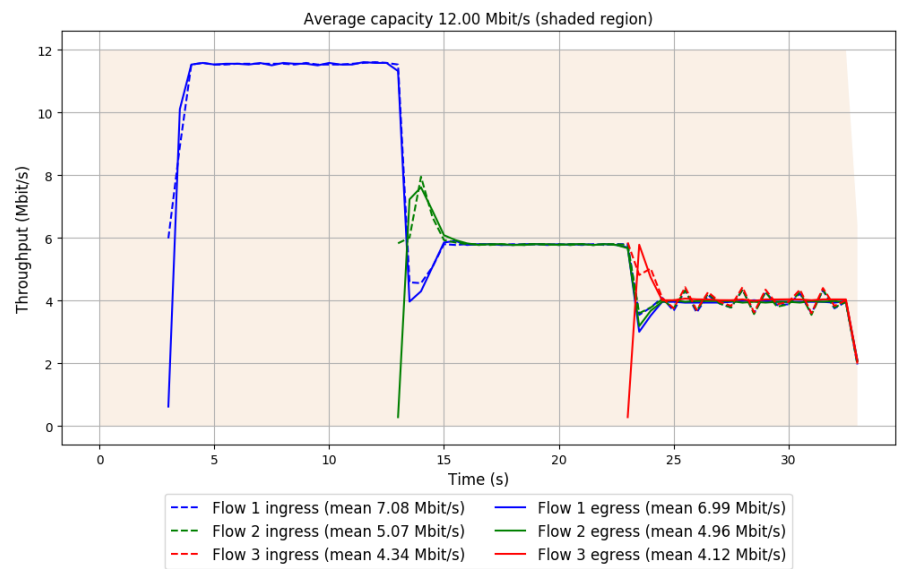


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-04-24 15:56:11
End at: 2018-04-24 15:56:41

# Below is generated by plot.py at 2018-04-24 17:32:25
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.65 Mbit/s (97.1% utilization)
95th percentile per-packet one-way delay: 85.270 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 79.710 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 86.409 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 4.12 Mbit/s
95th percentile per-packet one-way delay: 89.633 ms
Loss rate: 5.54%
```


Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-04-24 16:05:58

End at: 2018-04-24 16:06:28

Below is generated by plot.py at 2018-04-24 17:32:25

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.71 Mbit/s (97.6% utilization)

95th percentile per-packet one-way delay: 84.792 ms

Loss rate: 2.13%

-- Flow 1:

Average throughput: 6.86 Mbit/s

95th percentile per-packet one-way delay: 80.046 ms

Loss rate: 1.35%

-- Flow 2:

Average throughput: 5.27 Mbit/s

95th percentile per-packet one-way delay: 85.852 ms

Loss rate: 2.09%

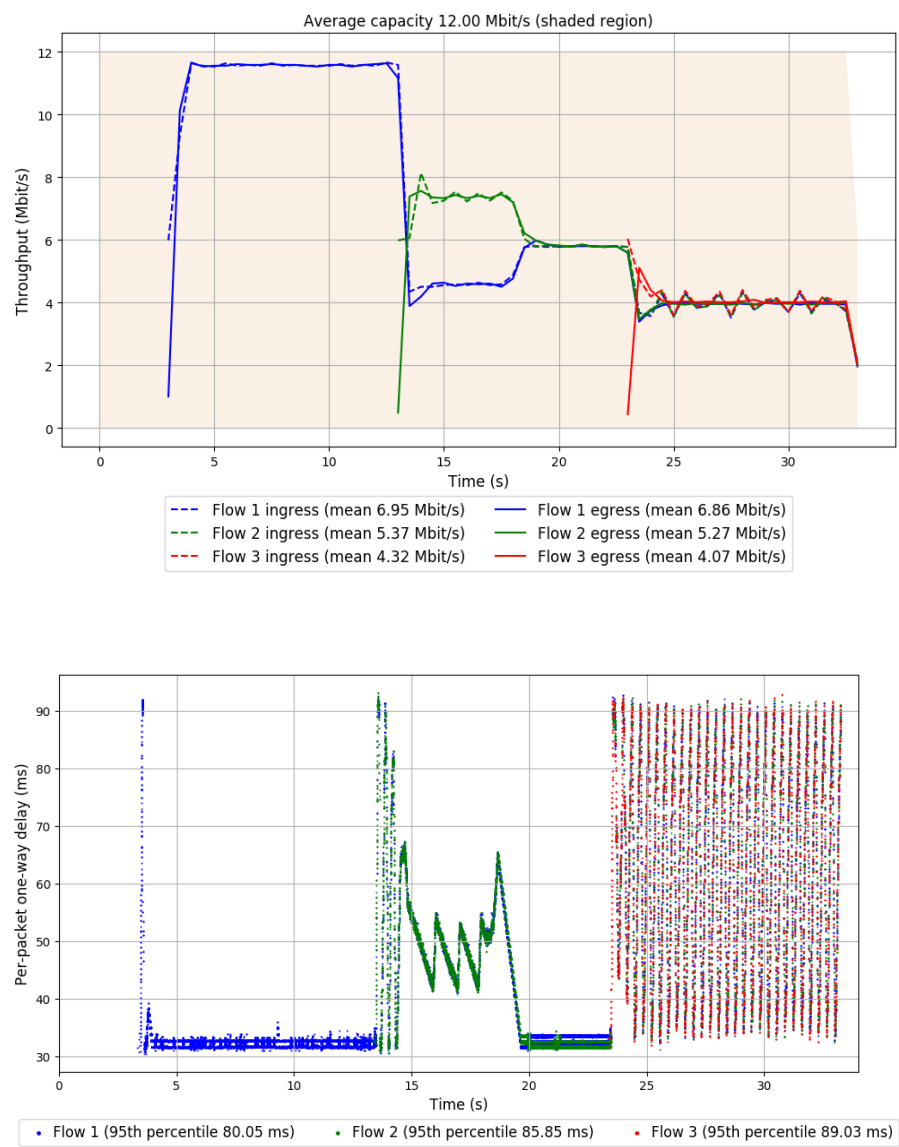
-- Flow 3:

Average throughput: 4.07 Mbit/s

95th percentile per-packet one-way delay: 89.027 ms

Loss rate: 6.00%

Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2018-04-24 16:15:45

End at: 2018-04-24 16:16:15

Below is generated by plot.py at 2018-04-24 17:32:26

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.65 Mbit/s (97.1% utilization)

95th percentile per-packet one-way delay: 85.254 ms

Loss rate: 2.35%

-- Flow 1:

Average throughput: 6.99 Mbit/s

95th percentile per-packet one-way delay: 79.537 ms

Loss rate: 1.58%

-- Flow 2:

Average throughput: 4.94 Mbit/s

95th percentile per-packet one-way delay: 86.074 ms

Loss rate: 2.55%

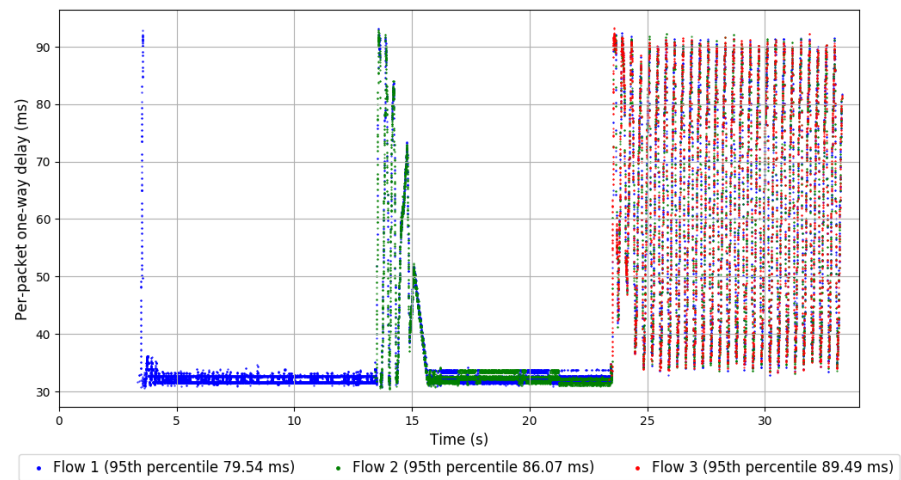
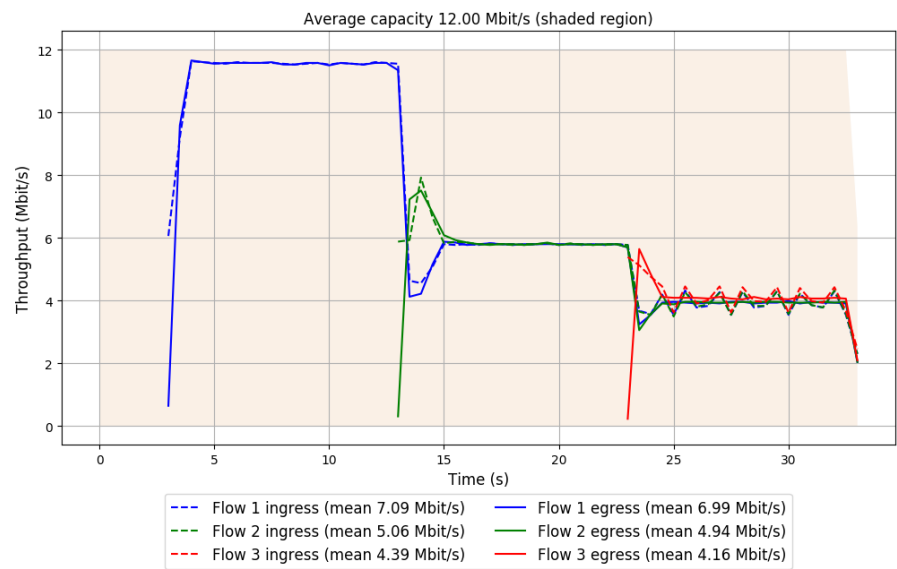
-- Flow 3:

Average throughput: 4.16 Mbit/s

95th percentile per-packet one-way delay: 89.493 ms

Loss rate: 5.69%

Run 3: Report of TaoVA-100x — Data Link



Run 4: Statistics of TaoVA-100x

Start at: 2018-04-24 16:25:33

End at: 2018-04-24 16:26:03

Below is generated by plot.py at 2018-04-24 17:32:26

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.67 Mbit/s (97.2% utilization)

95th percentile per-packet one-way delay: 85.275 ms

Loss rate: 1.73%

-- Flow 1:

Average throughput: 7.00 Mbit/s

95th percentile per-packet one-way delay: 79.388 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 4.96 Mbit/s

95th percentile per-packet one-way delay: 86.321 ms

Loss rate: 2.68%

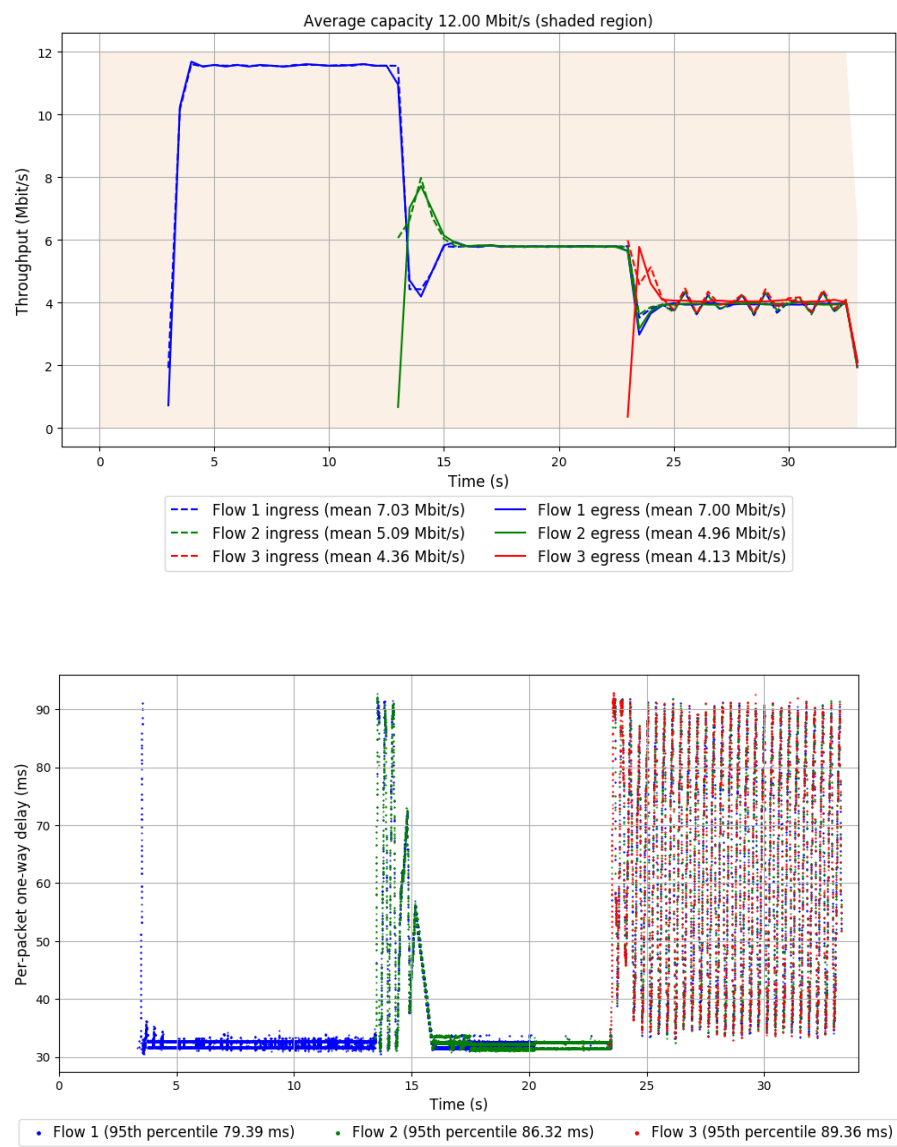
-- Flow 3:

Average throughput: 4.13 Mbit/s

95th percentile per-packet one-way delay: 89.361 ms

Loss rate: 5.44%

Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2018-04-24 16:35:21

End at: 2018-04-24 16:35:51

Below is generated by plot.py at 2018-04-24 17:32:30

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.65 Mbit/s (97.1% utilization)

95th percentile per-packet one-way delay: 85.178 ms

Loss rate: 2.31%

-- Flow 1:

Average throughput: 6.98 Mbit/s

95th percentile per-packet one-way delay: 79.428 ms

Loss rate: 1.59%

-- Flow 2:

Average throughput: 4.96 Mbit/s

95th percentile per-packet one-way delay: 86.196 ms

Loss rate: 2.53%

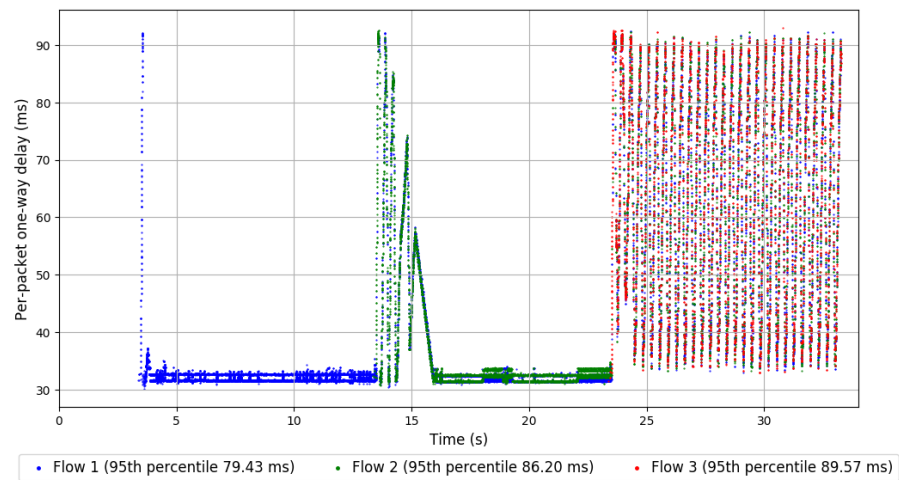
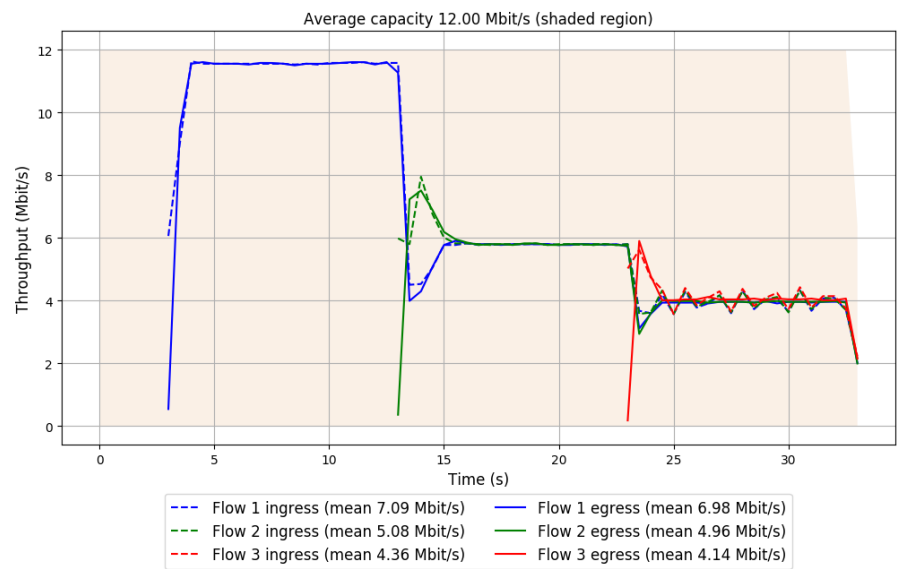
-- Flow 3:

Average throughput: 4.14 Mbit/s

95th percentile per-packet one-way delay: 89.566 ms

Loss rate: 5.33%

Run 5: Report of TaoVA-100x — Data Link



Run 6: Statistics of TaoVA-100x

Start at: 2018-04-24 16:45:10

End at: 2018-04-24 16:45:40

Below is generated by plot.py at 2018-04-24 17:32:31

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.67 Mbit/s (97.2% utilization)

95th percentile per-packet one-way delay: 85.056 ms

Loss rate: 1.61%

-- Flow 1:

Average throughput: 6.97 Mbit/s

95th percentile per-packet one-way delay: 79.720 ms

Loss rate: 1.35%

-- Flow 2:

Average throughput: 5.01 Mbit/s

95th percentile per-packet one-way delay: 85.741 ms

Loss rate: 0.68%

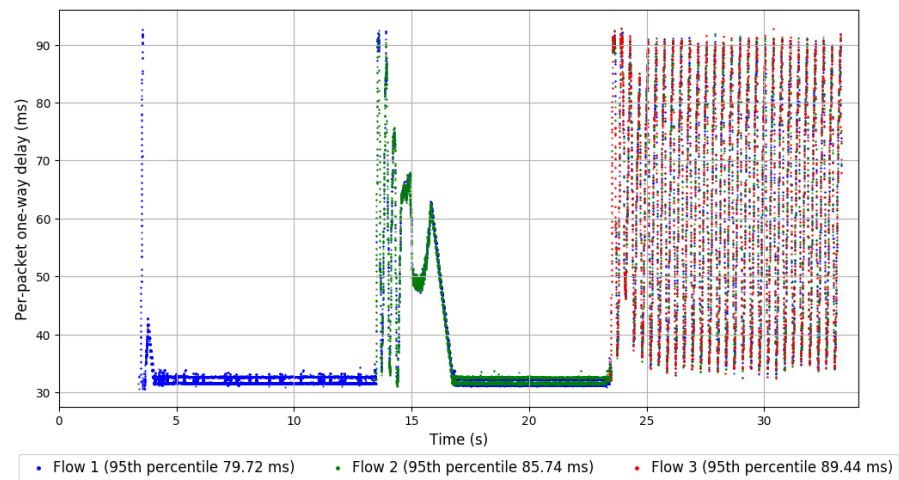
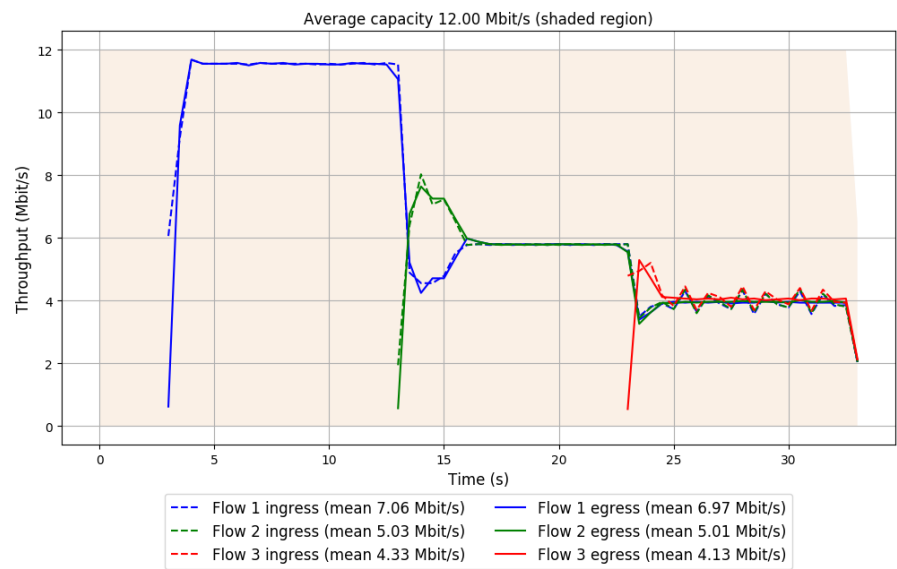
-- Flow 3:

Average throughput: 4.13 Mbit/s

95th percentile per-packet one-way delay: 89.443 ms

Loss rate: 5.08%

Run 6: Report of TaoVA-100x — Data Link



Run 7: Statistics of TaoVA-100x

Start at: 2018-04-24 16:54:58

End at: 2018-04-24 16:55:28

Below is generated by plot.py at 2018-04-24 17:32:42

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.66 Mbit/s (97.1% utilization)

95th percentile per-packet one-way delay: 85.228 ms

Loss rate: 2.18%

-- Flow 1:

Average throughput: 6.99 Mbit/s

95th percentile per-packet one-way delay: 79.998 ms

Loss rate: 1.36%

-- Flow 2:

Average throughput: 4.96 Mbit/s

95th percentile per-packet one-way delay: 85.996 ms

Loss rate: 2.40%

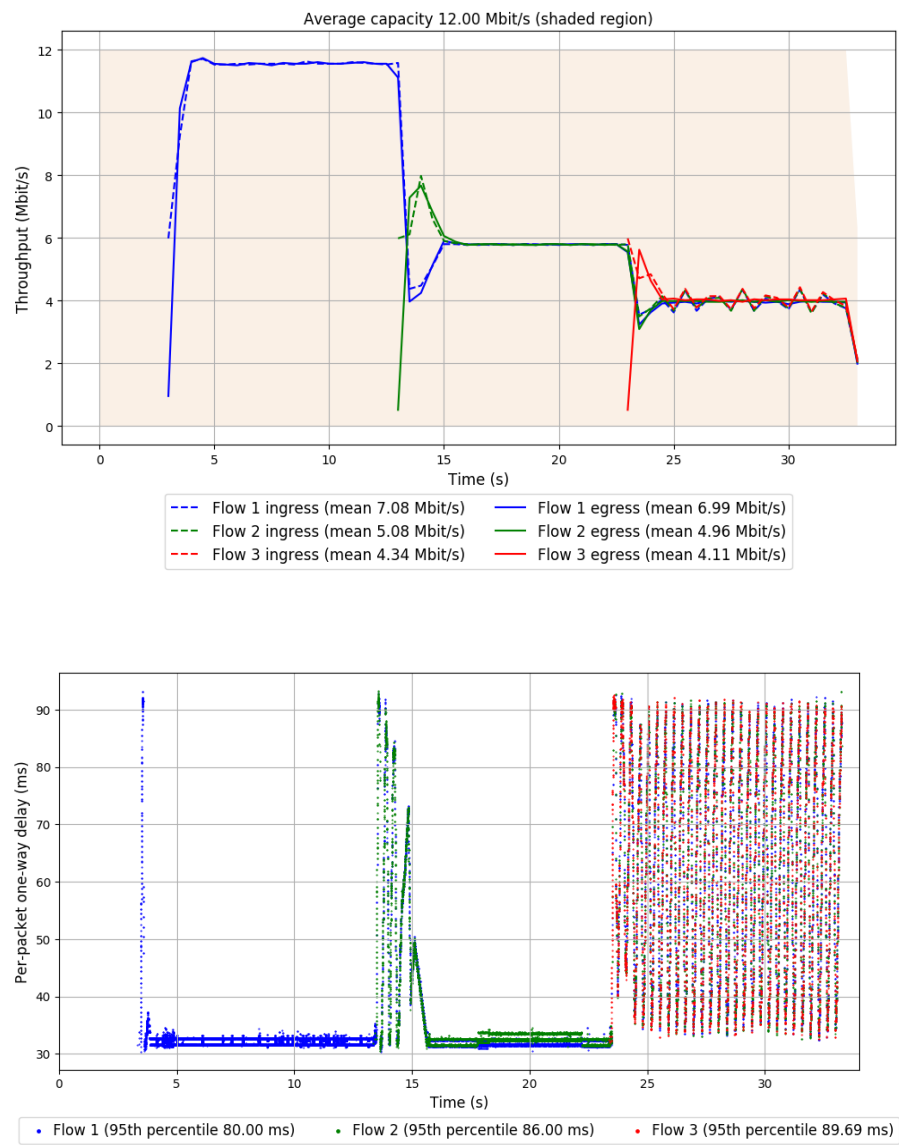
-- Flow 3:

Average throughput: 4.11 Mbit/s

95th percentile per-packet one-way delay: 89.694 ms

Loss rate: 5.65%

Run 7: Report of TaoVA-100x — Data Link



Run 8: Statistics of TaoVA-100x

Start at: 2018-04-24 17:04:45

End at: 2018-04-24 17:05:15

Below is generated by plot.py at 2018-04-24 17:32:43

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.63 Mbit/s (96.9% utilization)

95th percentile per-packet one-way delay: 84.869 ms

Loss rate: 2.24%

-- Flow 1:

Average throughput: 7.01 Mbit/s

95th percentile per-packet one-way delay: 79.073 ms

Loss rate: 1.34%

-- Flow 2:

Average throughput: 4.91 Mbit/s

95th percentile per-packet one-way delay: 86.318 ms

Loss rate: 2.31%

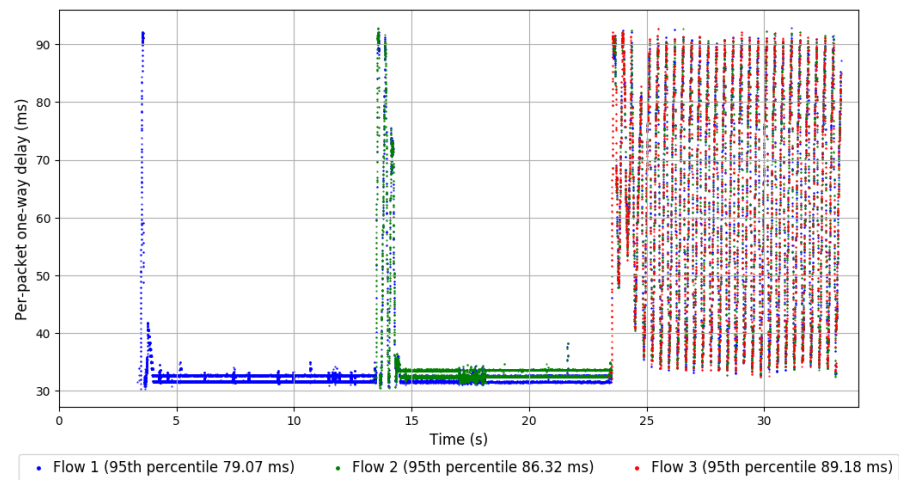
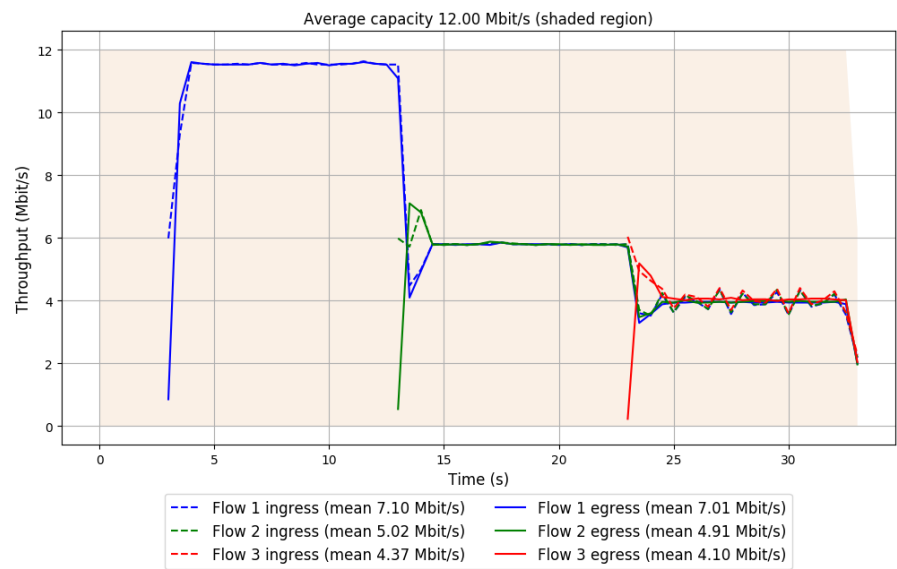
-- Flow 3:

Average throughput: 4.10 Mbit/s

95th percentile per-packet one-way delay: 89.181 ms

Loss rate: 6.49%

Run 8: Report of TaoVA-100x — Data Link



Run 9: Statistics of TaoVA-100x

Start at: 2018-04-24 17:14:33

End at: 2018-04-24 17:15:03

Below is generated by plot.py at 2018-04-24 17:32:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.63 Mbit/s (96.9% utilization)

95th percentile per-packet one-way delay: 84.617 ms

Loss rate: 1.77%

-- Flow 1:

Average throughput: 6.99 Mbit/s

95th percentile per-packet one-way delay: 78.906 ms

Loss rate: 1.51%

-- Flow 2:

Average throughput: 4.95 Mbit/s

95th percentile per-packet one-way delay: 85.844 ms

Loss rate: 2.20%

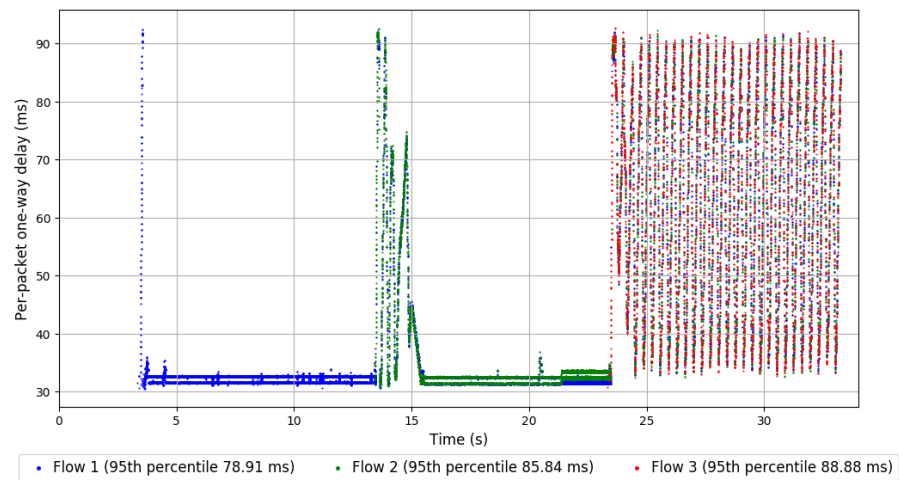
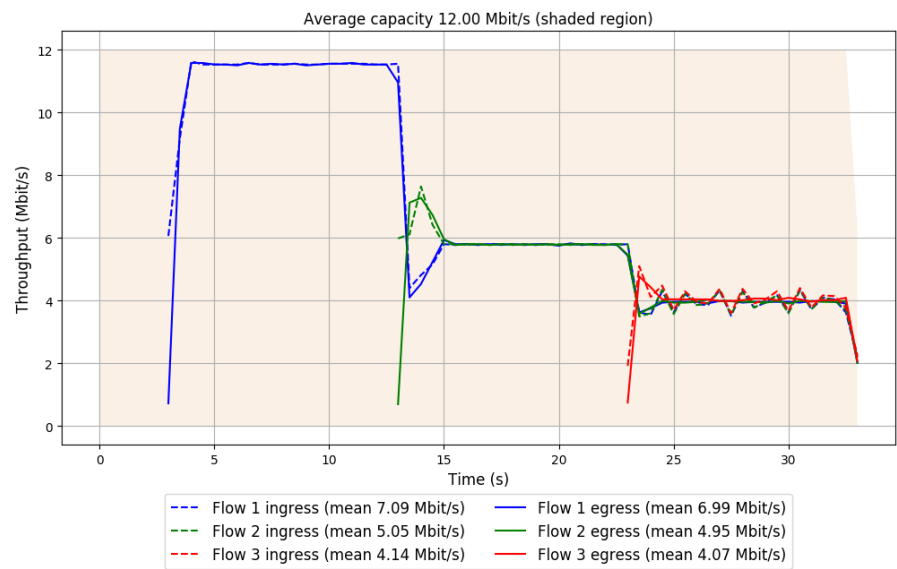
-- Flow 3:

Average throughput: 4.07 Mbit/s

95th percentile per-packet one-way delay: 88.878 ms

Loss rate: 2.07%

Run 9: Report of TaoVA-100x — Data Link

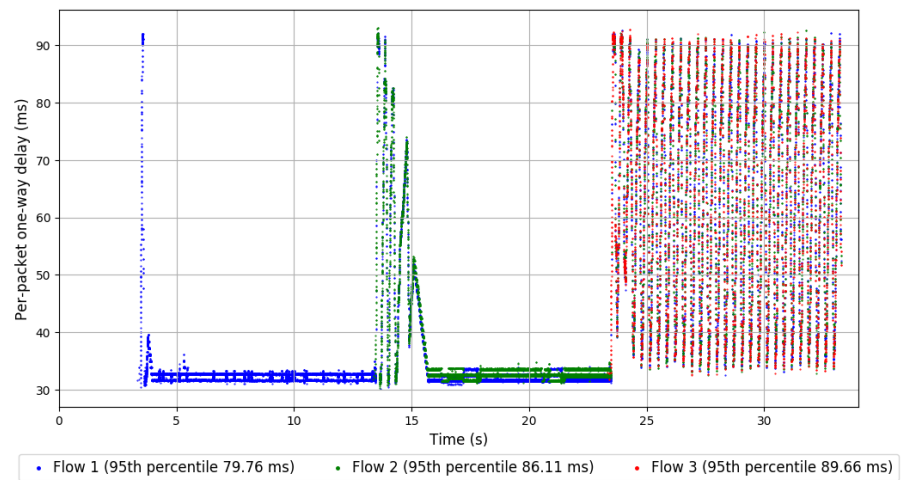
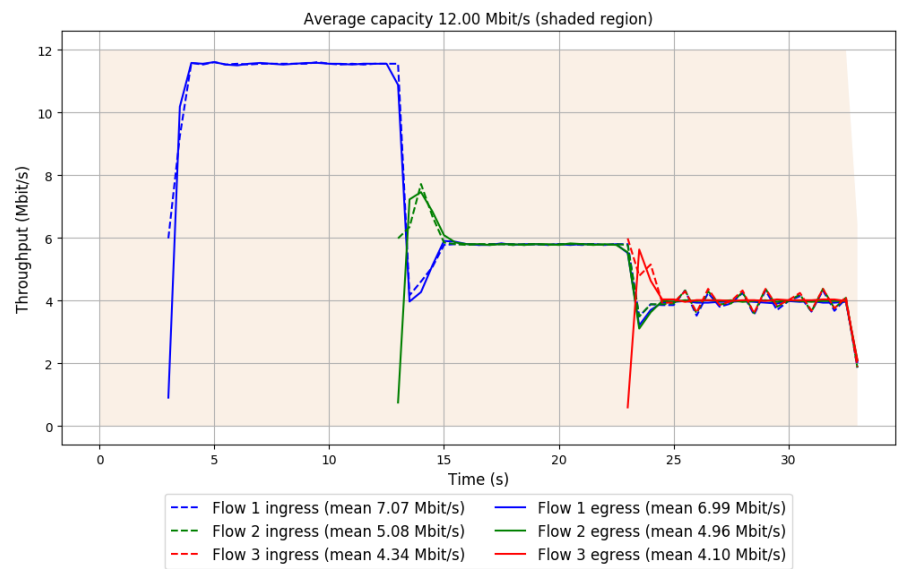


```
Run 10: Statistics of TaoVA-100x

Start at: 2018-04-24 17:24:19
End at: 2018-04-24 17:24:49

# Below is generated by plot.py at 2018-04-24 17:32:57
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.65 Mbit/s (97.1% utilization)
95th percentile per-packet one-way delay: 85.100 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 79.763 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 86.112 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 89.655 ms
Loss rate: 5.74%
```

Run 10: Report of TaoVA-100x — Data Link



Run 1: Statistics of TCP Vegas

Start at: 2018-04-24 15:52:11

End at: 2018-04-24 15:52:41

Below is generated by plot.py at 2018-04-24 17:32:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 59.749 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 6.48 Mbit/s

95th percentile per-packet one-way delay: 58.543 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 5.26 Mbit/s

95th percentile per-packet one-way delay: 61.976 ms

Loss rate: 0.17%

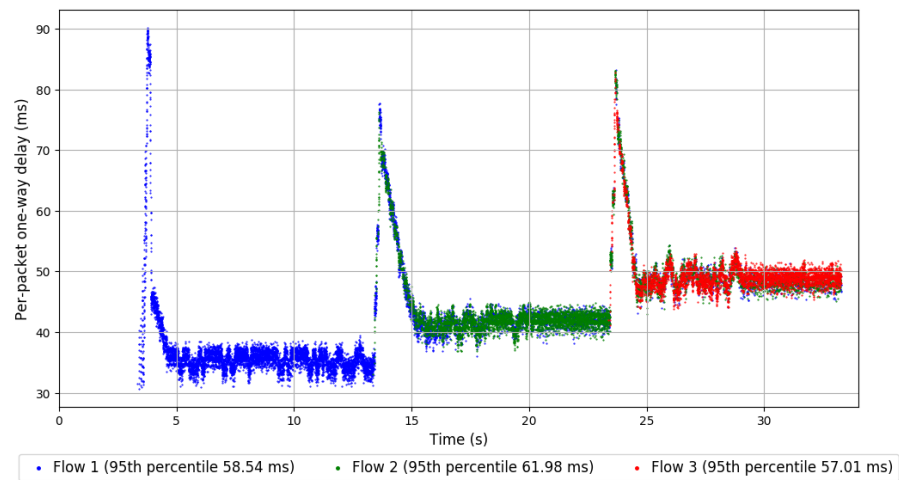
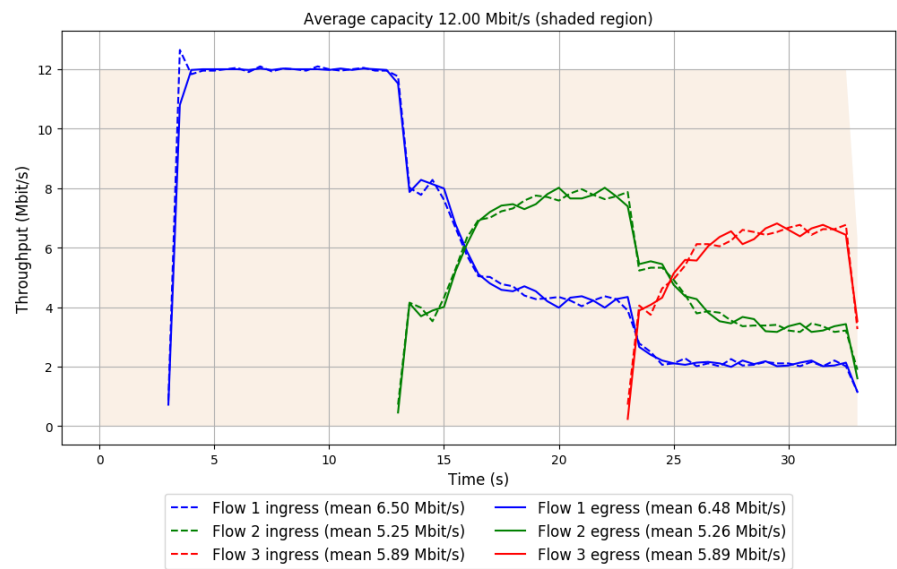
-- Flow 3:

Average throughput: 5.89 Mbit/s

95th percentile per-packet one-way delay: 57.012 ms

Loss rate: 0.55%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-04-24 16:01:57

End at: 2018-04-24 16:02:27

Below is generated by plot.py at 2018-04-24 17:32:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 64.591 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 6.00 Mbit/s

95th percentile per-packet one-way delay: 63.528 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 5.79 Mbit/s

95th percentile per-packet one-way delay: 66.173 ms

Loss rate: 0.12%

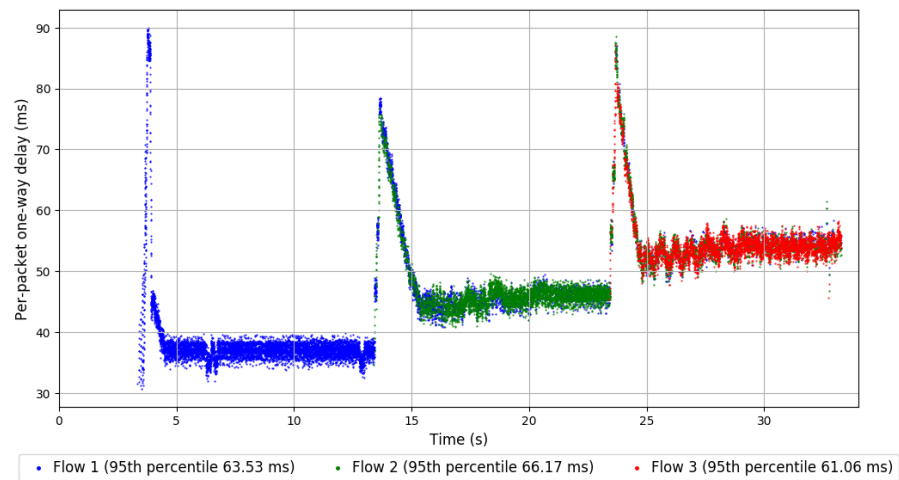
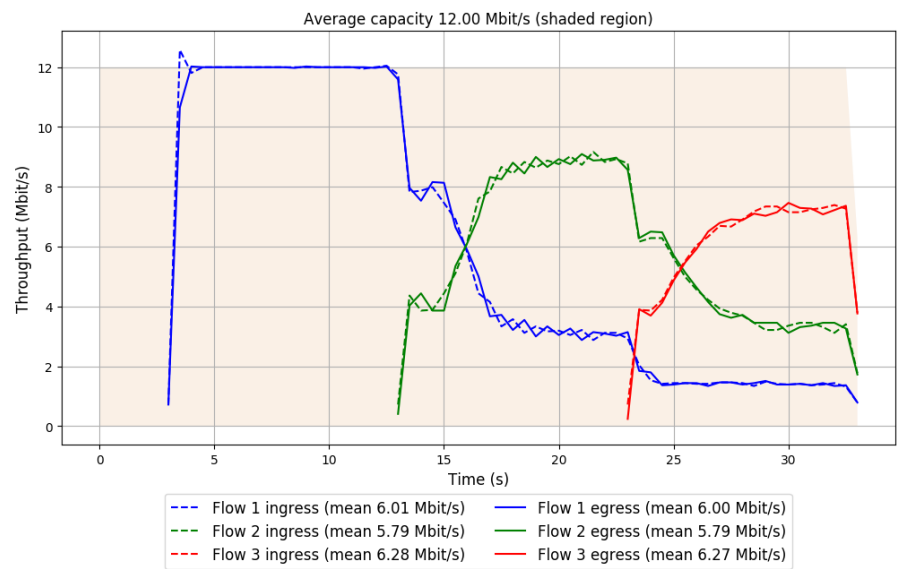
-- Flow 3:

Average throughput: 6.27 Mbit/s

95th percentile per-packet one-way delay: 61.059 ms

Loss rate: 0.73%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-04-24 16:11:44

End at: 2018-04-24 16:12:14

Below is generated by plot.py at 2018-04-24 17:32:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 60.960 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 6.21 Mbit/s

95th percentile per-packet one-way delay: 59.534 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 5.75 Mbit/s

95th percentile per-packet one-way delay: 62.922 ms

Loss rate: 0.25%

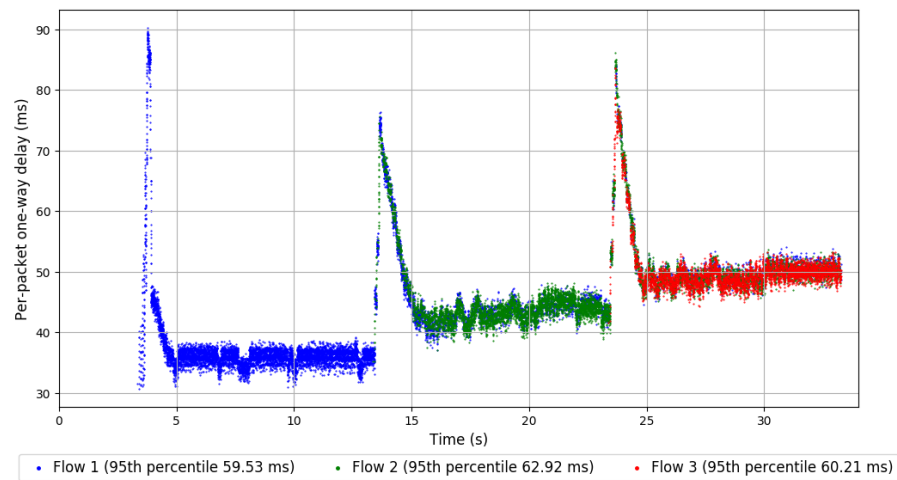
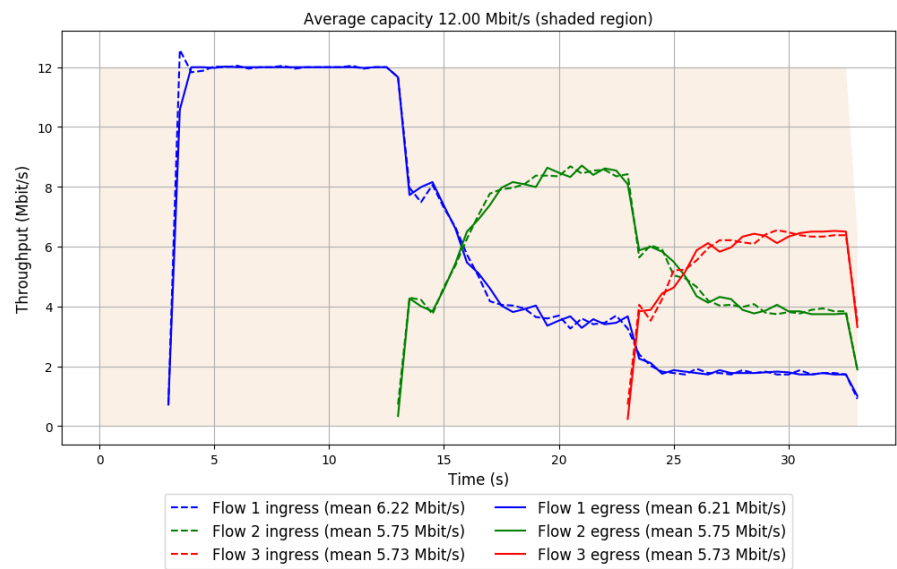
-- Flow 3:

Average throughput: 5.73 Mbit/s

95th percentile per-packet one-way delay: 60.208 ms

Loss rate: 0.46%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-04-24 16:21:32

End at: 2018-04-24 16:22:02

Below is generated by plot.py at 2018-04-24 17:32:57

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 61.623 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 6.21 Mbit/s

95th percentile per-packet one-way delay: 59.457 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 5.40 Mbit/s

95th percentile per-packet one-way delay: 63.831 ms

Loss rate: 0.17%

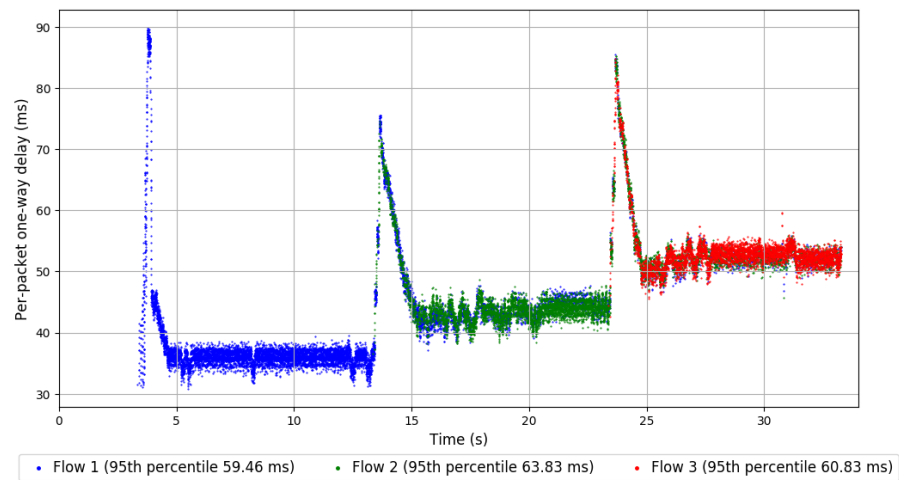
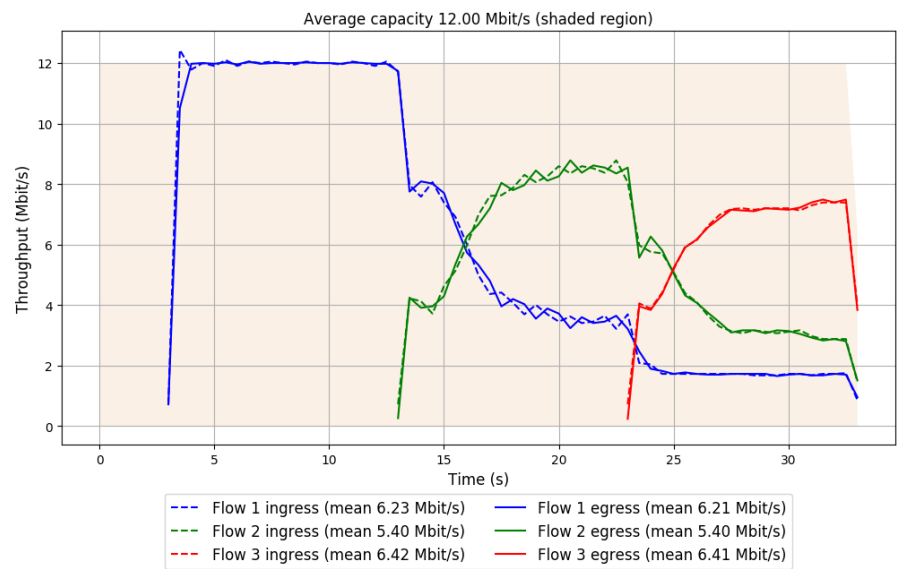
-- Flow 3:

Average throughput: 6.41 Mbit/s

95th percentile per-packet one-way delay: 60.828 ms

Loss rate: 0.60%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-04-24 16:31:19

End at: 2018-04-24 16:31:49

Below is generated by plot.py at 2018-04-24 17:33:05

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 58.820 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 6.75 Mbit/s

95th percentile per-packet one-way delay: 57.359 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 4.91 Mbit/s

95th percentile per-packet one-way delay: 60.953 ms

Loss rate: 0.25%

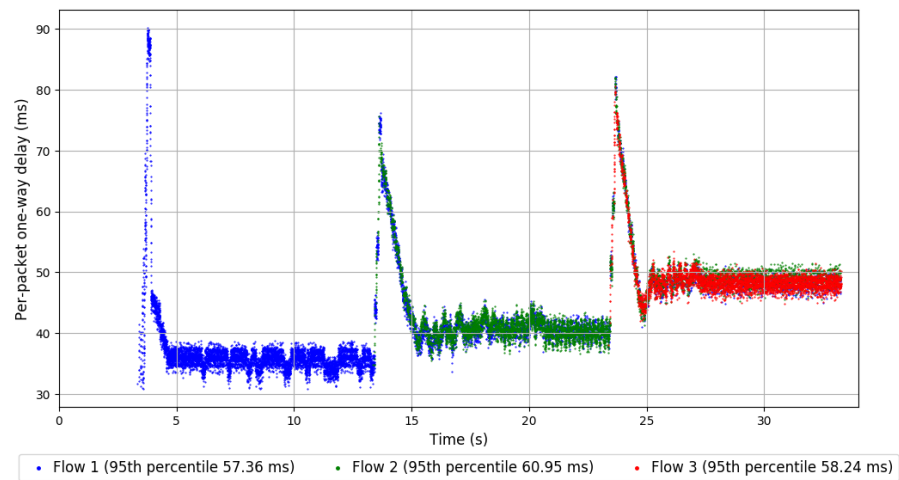
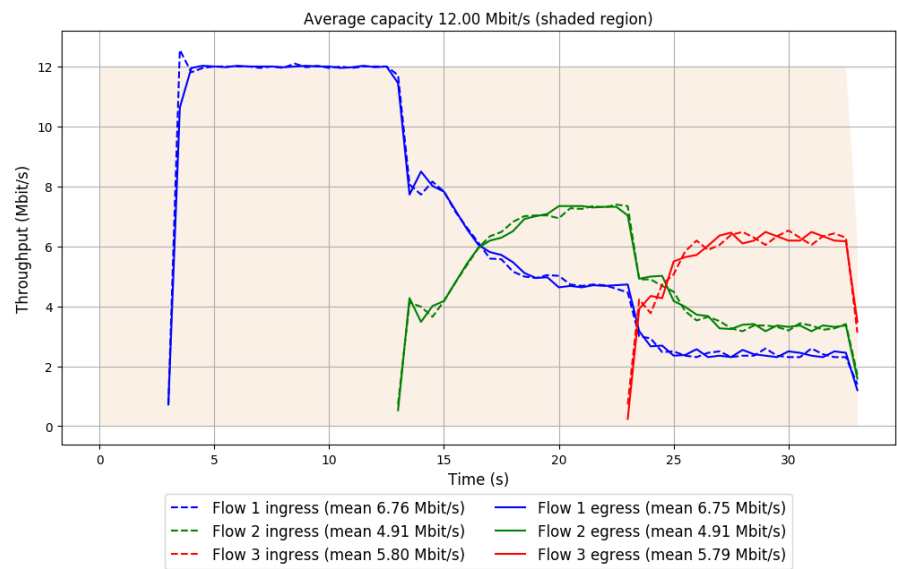
-- Flow 3:

Average throughput: 5.79 Mbit/s

95th percentile per-packet one-way delay: 58.236 ms

Loss rate: 0.38%

Run 5: Report of TCP Vegas — Data Link



Run 6: Statistics of TCP Vegas

Start at: 2018-04-24 16:41:10

End at: 2018-04-24 16:41:40

Below is generated by plot.py at 2018-04-24 17:33:06

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.93 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 61.123 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 6.45 Mbit/s

95th percentile per-packet one-way delay: 59.681 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 5.36 Mbit/s

95th percentile per-packet one-way delay: 62.863 ms

Loss rate: 0.16%

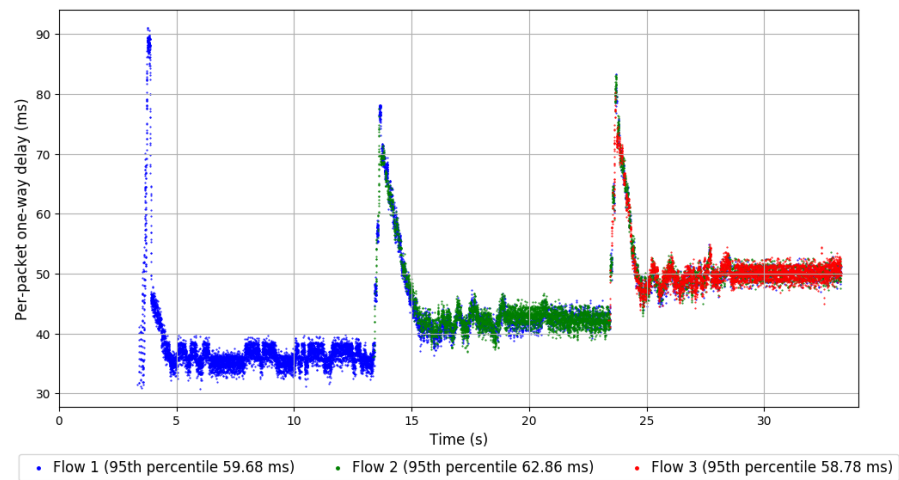
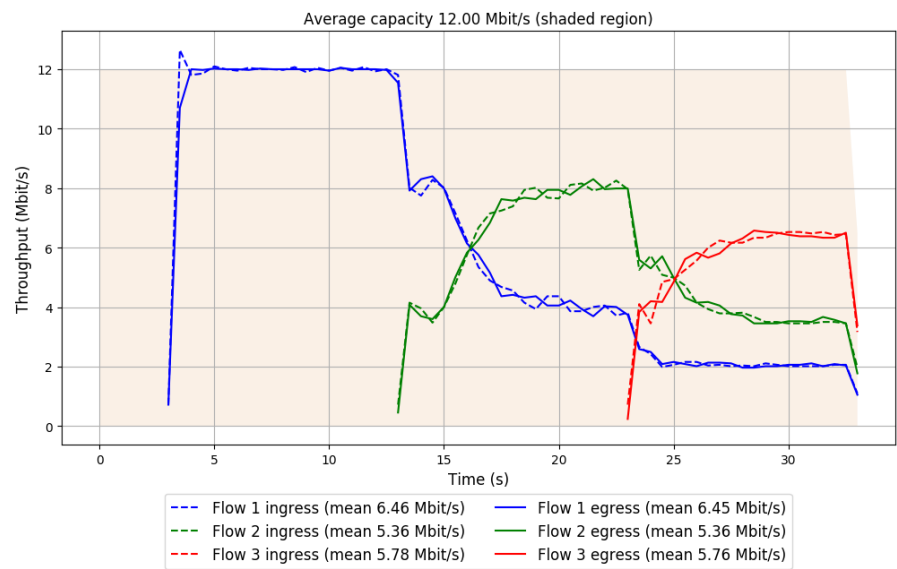
-- Flow 3:

Average throughput: 5.76 Mbit/s

95th percentile per-packet one-way delay: 58.783 ms

Loss rate: 0.61%

Run 6: Report of TCP Vegas — Data Link



Run 7: Statistics of TCP Vegas

Start at: 2018-04-24 16:50:57

End at: 2018-04-24 16:51:27

Below is generated by plot.py at 2018-04-24 17:33:07

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 59.590 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 6.47 Mbit/s

95th percentile per-packet one-way delay: 58.264 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 5.07 Mbit/s

95th percentile per-packet one-way delay: 61.321 ms

Loss rate: 0.19%

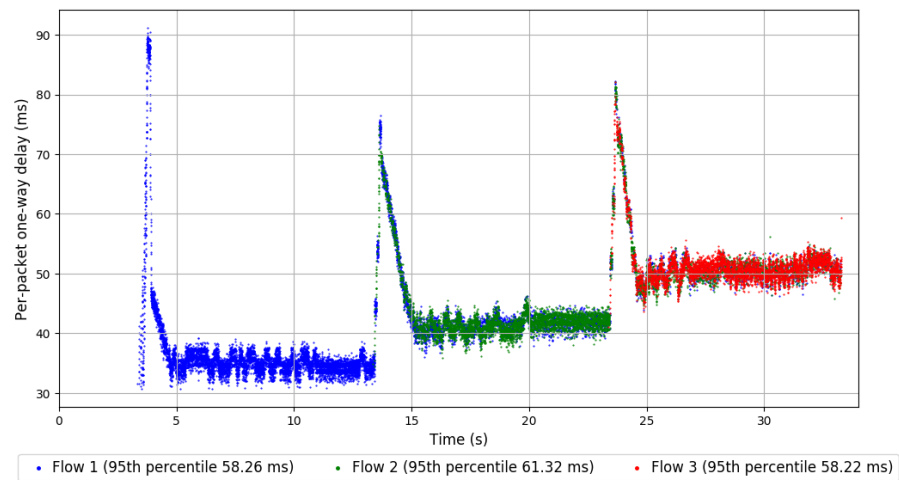
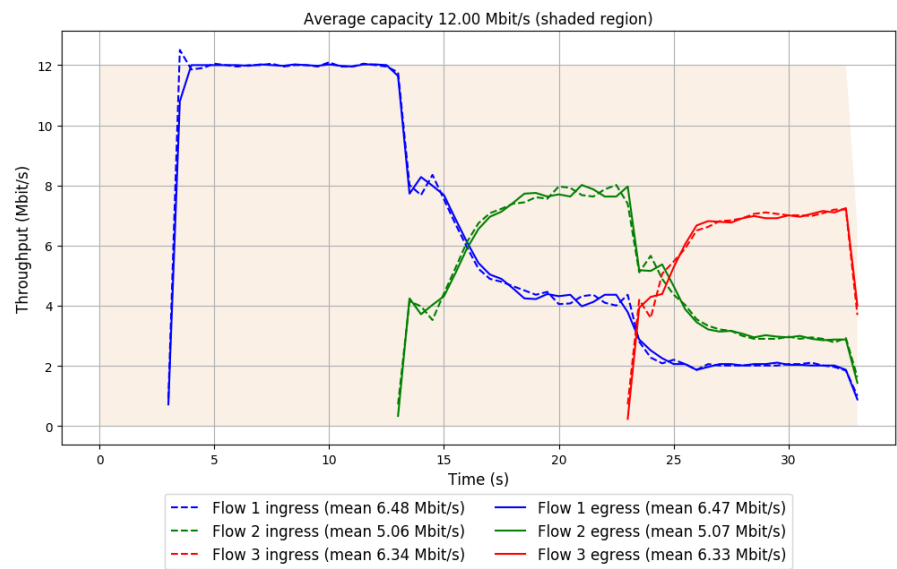
-- Flow 3:

Average throughput: 6.33 Mbit/s

95th percentile per-packet one-way delay: 58.217 ms

Loss rate: 0.44%

Run 7: Report of TCP Vegas — Data Link



Run 8: Statistics of TCP Vegas

Start at: 2018-04-24 17:00:44

End at: 2018-04-24 17:01:14

Below is generated by plot.py at 2018-04-24 17:33:07

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 60.871 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 6.29 Mbit/s

95th percentile per-packet one-way delay: 59.197 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 5.23 Mbit/s

95th percentile per-packet one-way delay: 63.439 ms

Loss rate: 0.16%

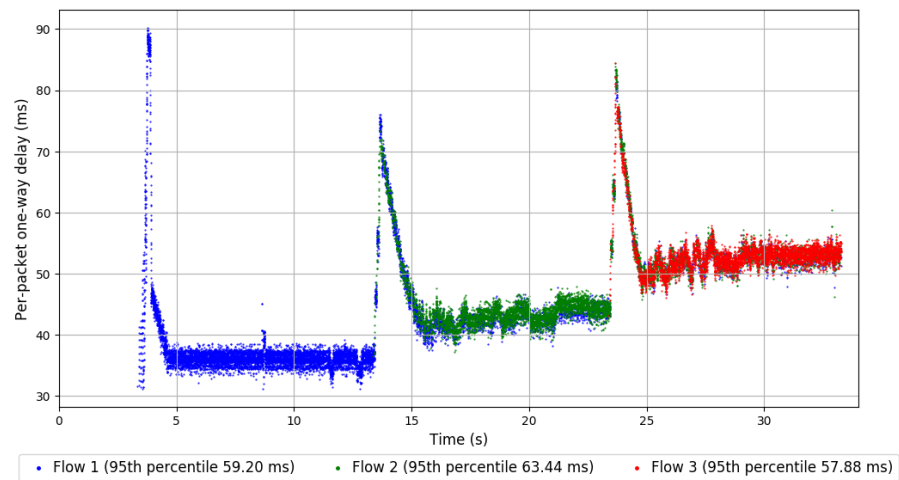
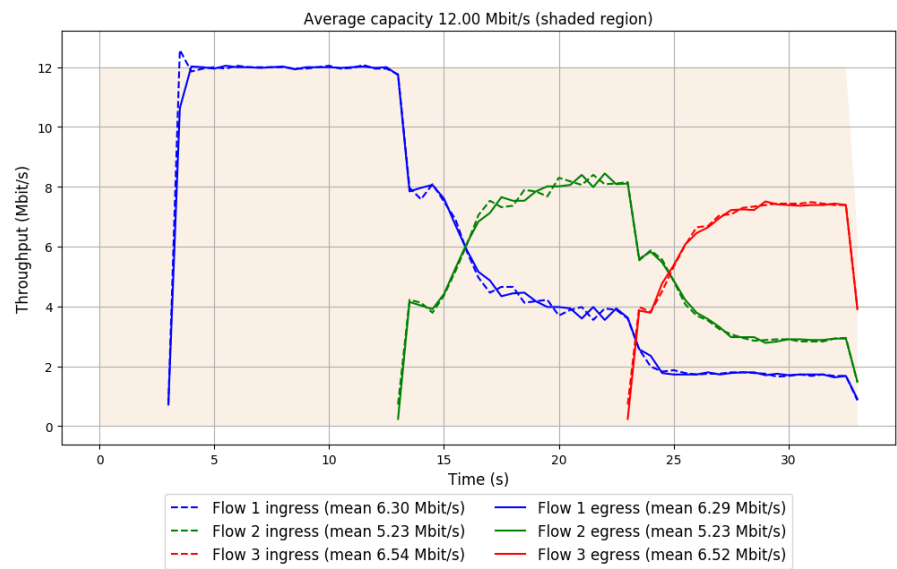
-- Flow 3:

Average throughput: 6.52 Mbit/s

95th percentile per-packet one-way delay: 57.882 ms

Loss rate: 0.61%

Run 8: Report of TCP Vegas — Data Link



Run 9: Statistics of TCP Vegas

Start at: 2018-04-24 17:10:32

End at: 2018-04-24 17:11:02

Below is generated by plot.py at 2018-04-24 17:33:13

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 78.483 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 6.18 Mbit/s

95th percentile per-packet one-way delay: 83.893 ms

Loss rate: 0.81%

-- Flow 2:

Average throughput: 5.58 Mbit/s

95th percentile per-packet one-way delay: 64.713 ms

Loss rate: 0.04%

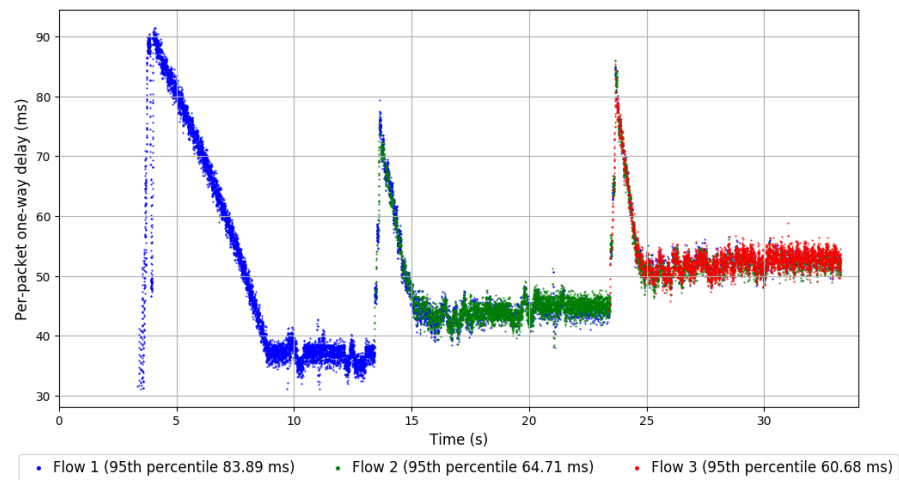
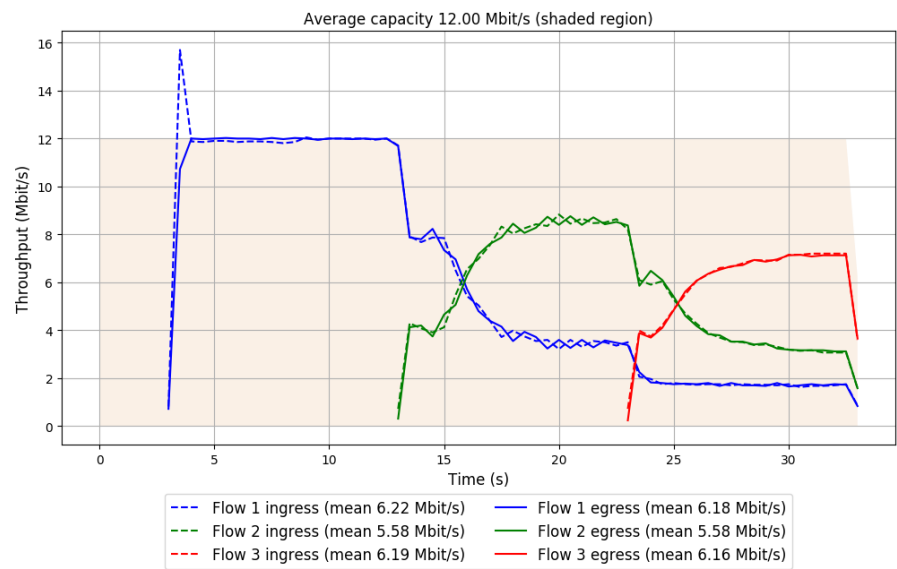
-- Flow 3:

Average throughput: 6.16 Mbit/s

95th percentile per-packet one-way delay: 60.683 ms

Loss rate: 0.82%

Run 9: Report of TCP Vegas — Data Link



Run 10: Statistics of TCP Vegas

Start at: 2018-04-24 17:20:18

End at: 2018-04-24 17:20:48

Below is generated by plot.py at 2018-04-24 17:33:14

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.92 Mbit/s (99.4% utilization)

95th percentile per-packet one-way delay: 60.309 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 58.653 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 5.16 Mbit/s

95th percentile per-packet one-way delay: 63.389 ms

Loss rate: 0.19%

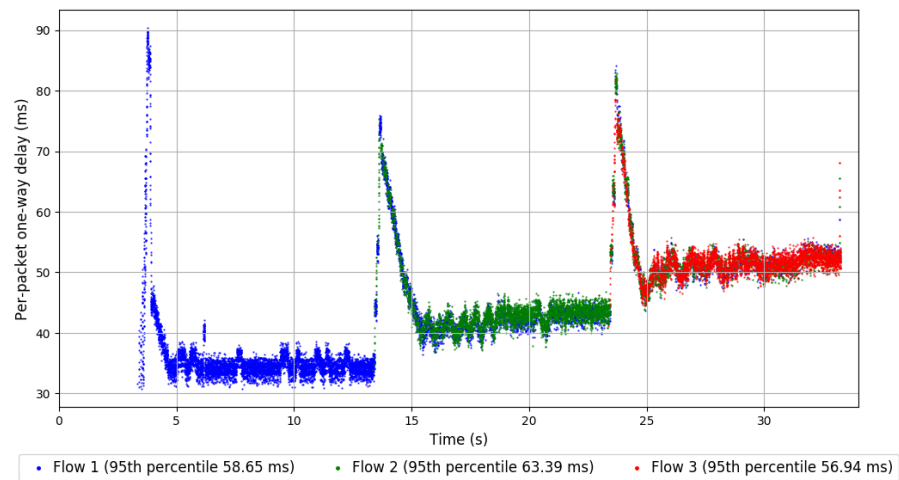
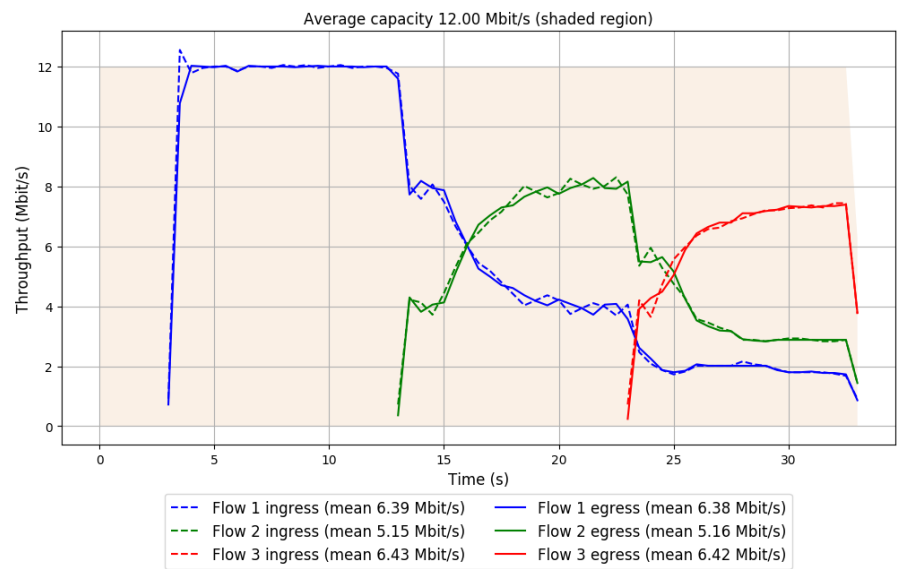
-- Flow 3:

Average throughput: 6.42 Mbit/s

95th percentile per-packet one-way delay: 56.942 ms

Loss rate: 0.45%

Run 10: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-04-24 15:57:55

End at: 2018-04-24 15:58:25

Below is generated by plot.py at 2018-04-24 17:33:27

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.11 Mbit/s (84.2% utilization)

95th percentile per-packet one-way delay: 90.664 ms

Loss rate: 78.46%

-- Flow 1:

Average throughput: 6.81 Mbit/s

95th percentile per-packet one-way delay: 90.661 ms

Loss rate: 80.01%

-- Flow 2:

Average throughput: 3.43 Mbit/s

95th percentile per-packet one-way delay: 90.762 ms

Loss rate: 79.76%

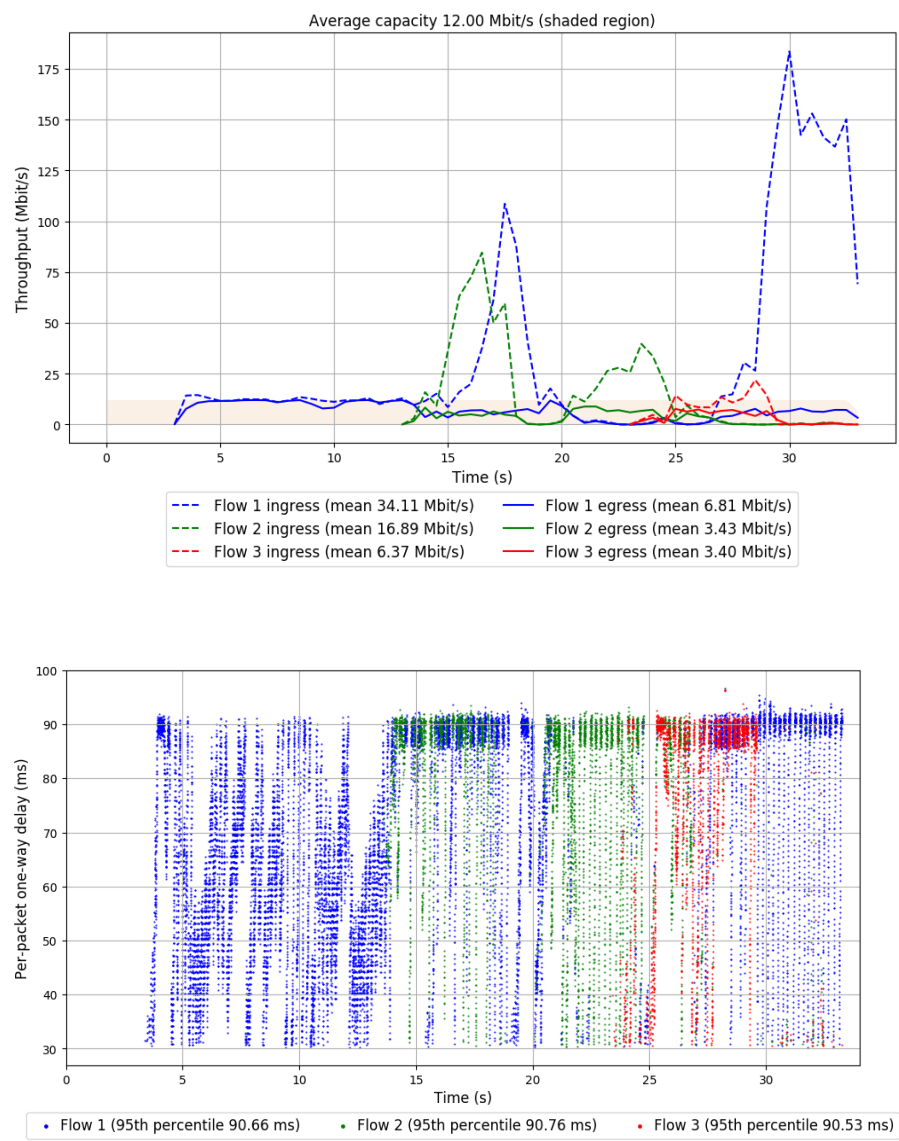
-- Flow 3:

Average throughput: 3.40 Mbit/s

95th percentile per-packet one-way delay: 90.535 ms

Loss rate: 46.66%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-04-24 16:07:42

End at: 2018-04-24 16:08:12

Below is generated by plot.py at 2018-04-24 17:33:27

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.89 Mbit/s (90.7% utilization)

95th percentile per-packet one-way delay: 90.507 ms

Loss rate: 57.72%

-- Flow 1:

Average throughput: 6.56 Mbit/s

95th percentile per-packet one-way delay: 90.157 ms

Loss rate: 44.45%

-- Flow 2:

Average throughput: 4.93 Mbit/s

95th percentile per-packet one-way delay: 90.668 ms

Loss rate: 57.10%

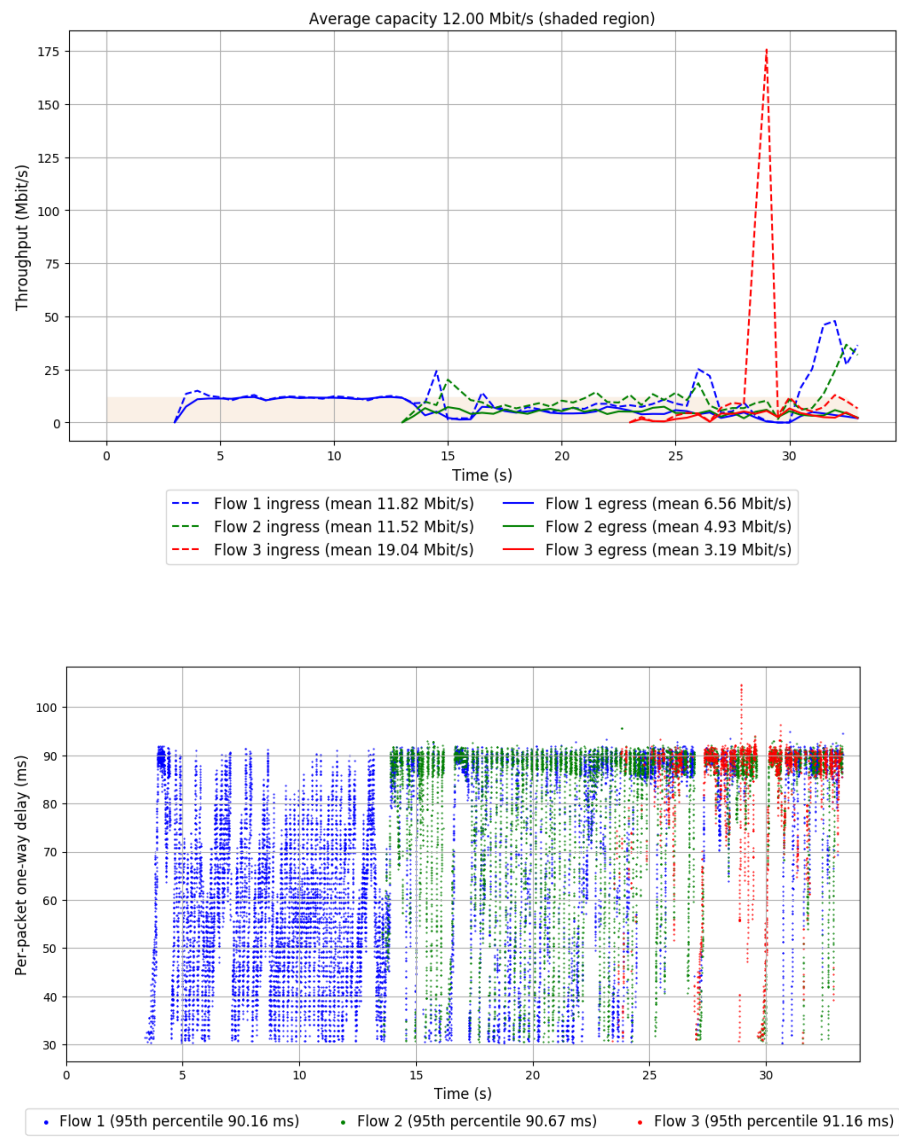
-- Flow 3:

Average throughput: 3.19 Mbit/s

95th percentile per-packet one-way delay: 91.164 ms

Loss rate: 83.32%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-04-24 16:17:29

End at: 2018-04-24 16:17:59

Below is generated by plot.py at 2018-04-24 17:33:50

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.05 Mbit/s (83.7% utilization)

95th percentile per-packet one-way delay: 91.640 ms

Loss rate: 90.52%

-- Flow 1:

Average throughput: 7.69 Mbit/s

95th percentile per-packet one-way delay: 92.220 ms

Loss rate: 91.44%

-- Flow 2:

Average throughput: 3.22 Mbit/s

95th percentile per-packet one-way delay: 90.897 ms

Loss rate: 86.19%

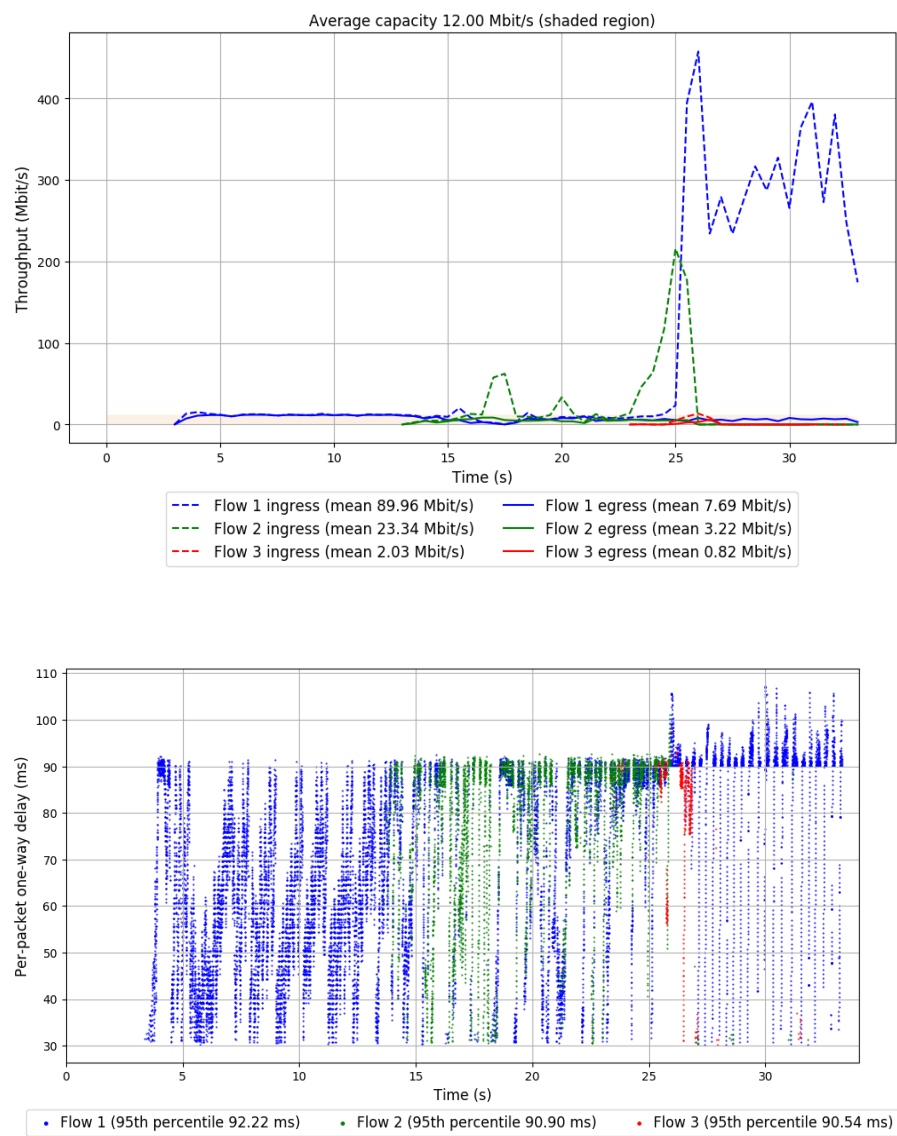
-- Flow 3:

Average throughput: 0.82 Mbit/s

95th percentile per-packet one-way delay: 90.536 ms

Loss rate: 65.91%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-04-24 16:27:17

End at: 2018-04-24 16:27:47

Below is generated by plot.py at 2018-04-24 17:33:50

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.76 Mbit/s (89.7% utilization)

95th percentile per-packet one-way delay: 90.737 ms

Loss rate: 83.70%

-- Flow 1:

Average throughput: 6.51 Mbit/s

95th percentile per-packet one-way delay: 90.614 ms

Loss rate: 82.98%

-- Flow 2:

Average throughput: 4.06 Mbit/s

95th percentile per-packet one-way delay: 90.866 ms

Loss rate: 86.48%

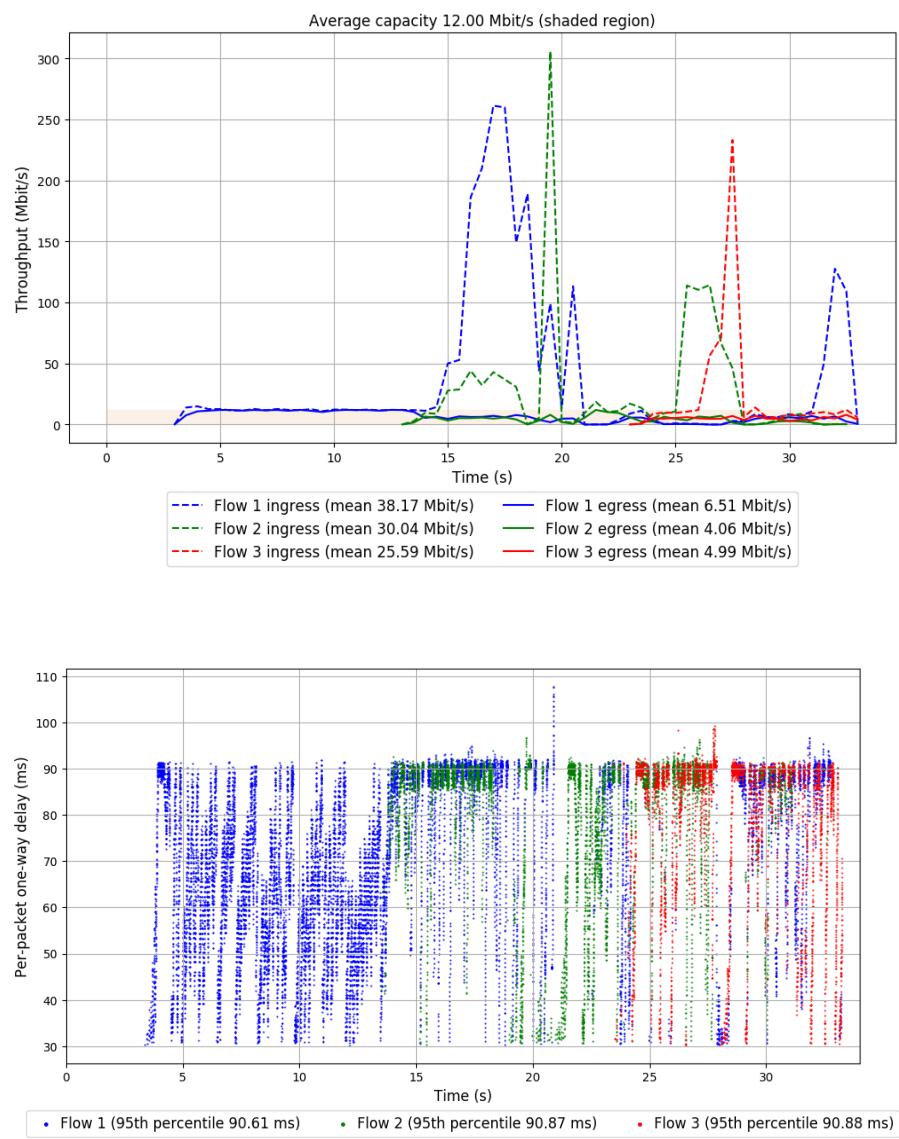
-- Flow 3:

Average throughput: 4.99 Mbit/s

95th percentile per-packet one-way delay: 90.878 ms

Loss rate: 80.62%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-04-24 16:37:04

End at: 2018-04-24 16:37:34

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.14 Mbit/s (92.8% utilization)

95th percentile per-packet one-way delay: 98.026 ms

Loss rate: 95.56%

-- Flow 1:

Average throughput: 7.39 Mbit/s

95th percentile per-packet one-way delay: 95.519 ms

Loss rate: 93.35%

-- Flow 2:

Average throughput: 5.63 Mbit/s

95th percentile per-packet one-way delay: 100.994 ms

Loss rate: 97.31%

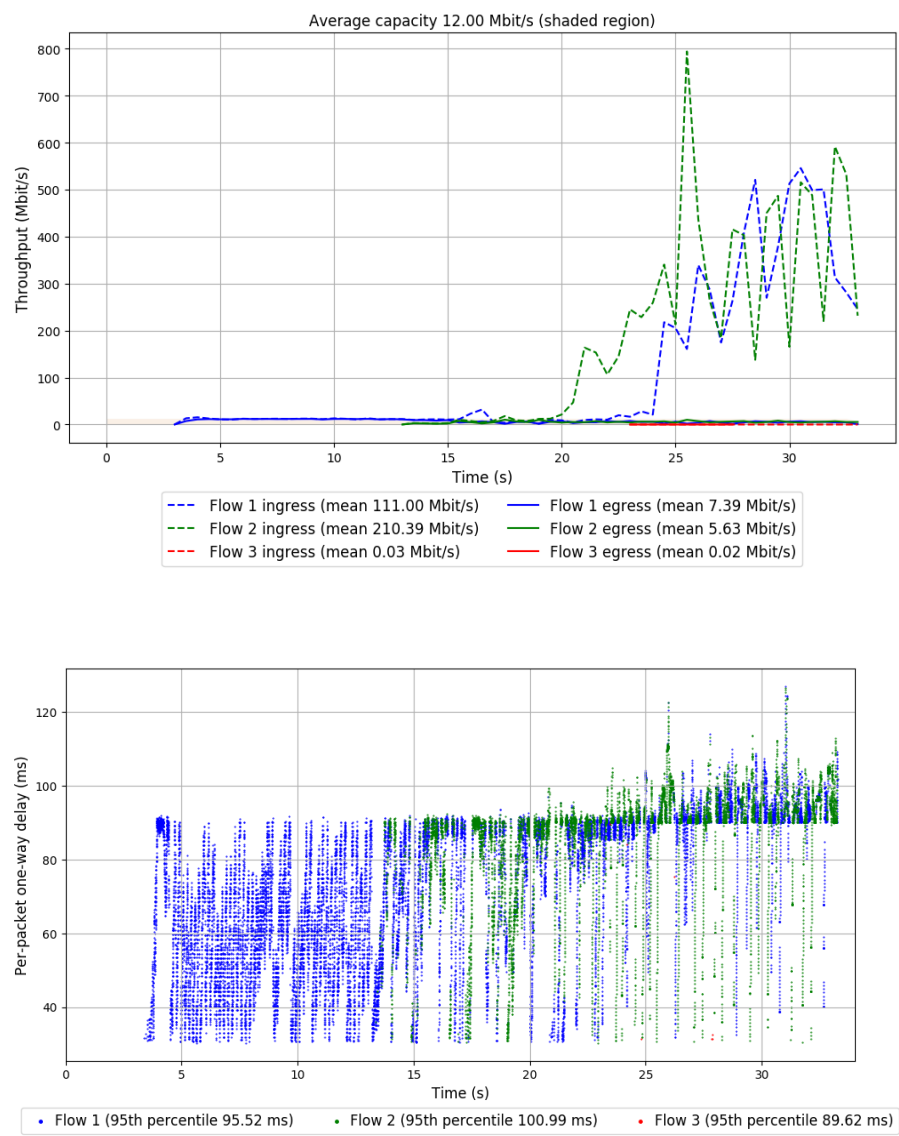
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 89.616 ms

Loss rate: 74.07%

Run 5: Report of Verus — Data Link



Run 6: Statistics of Verus

Start at: 2018-04-24 16:46:54

End at: 2018-04-24 16:47:24

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 7.50 Mbit/s (62.5% utilization)

95th percentile per-packet one-way delay: 91.735 ms

Loss rate: 92.38%

-- Flow 1:

Average throughput: 4.08 Mbit/s

95th percentile per-packet one-way delay: 90.392 ms

Loss rate: 46.98%

-- Flow 2:

Average throughput: 5.06 Mbit/s

95th percentile per-packet one-way delay: 93.308 ms

Loss rate: 96.29%

-- Flow 3:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 90.467 ms

Loss rate: 37.78%

Run 6: Report of Verus — Data Link



Run 7: Statistics of Verus

Start at: 2018-04-24 16:56:41

End at: 2018-04-24 16:57:11

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.60 Mbit/s (80.0% utilization)

95th percentile per-packet one-way delay: 90.902 ms

Loss rate: 85.97%

-- Flow 1:

Average throughput: 5.60 Mbit/s

95th percentile per-packet one-way delay: 90.560 ms

Loss rate: 65.63%

-- Flow 2:

Average throughput: 4.42 Mbit/s

95th percentile per-packet one-way delay: 91.306 ms

Loss rate: 93.91%

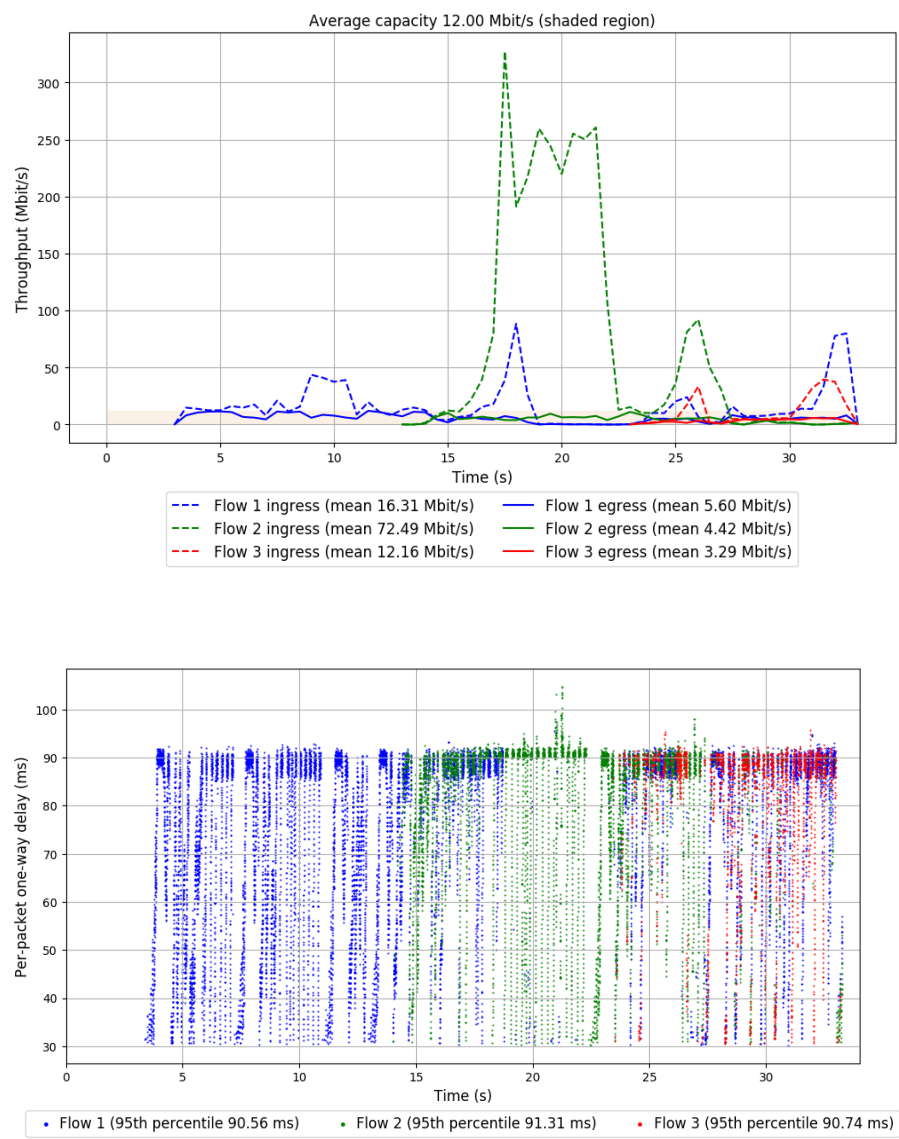
-- Flow 3:

Average throughput: 3.29 Mbit/s

95th percentile per-packet one-way delay: 90.739 ms

Loss rate: 73.28%

Run 7: Report of Verus — Data Link



Run 8: Statistics of Verus

Start at: 2018-04-24 17:06:28

End at: 2018-04-24 17:06:58

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 8.68 Mbit/s (72.3% utilization)

95th percentile per-packet one-way delay: 93.456 ms

Loss rate: 95.20%

-- Flow 1:

Average throughput: 4.70 Mbit/s

95th percentile per-packet one-way delay: 88.861 ms

Loss rate: 12.24%

-- Flow 2:

Average throughput: 6.34 Mbit/s

95th percentile per-packet one-way delay: 96.818 ms

Loss rate: 97.60%

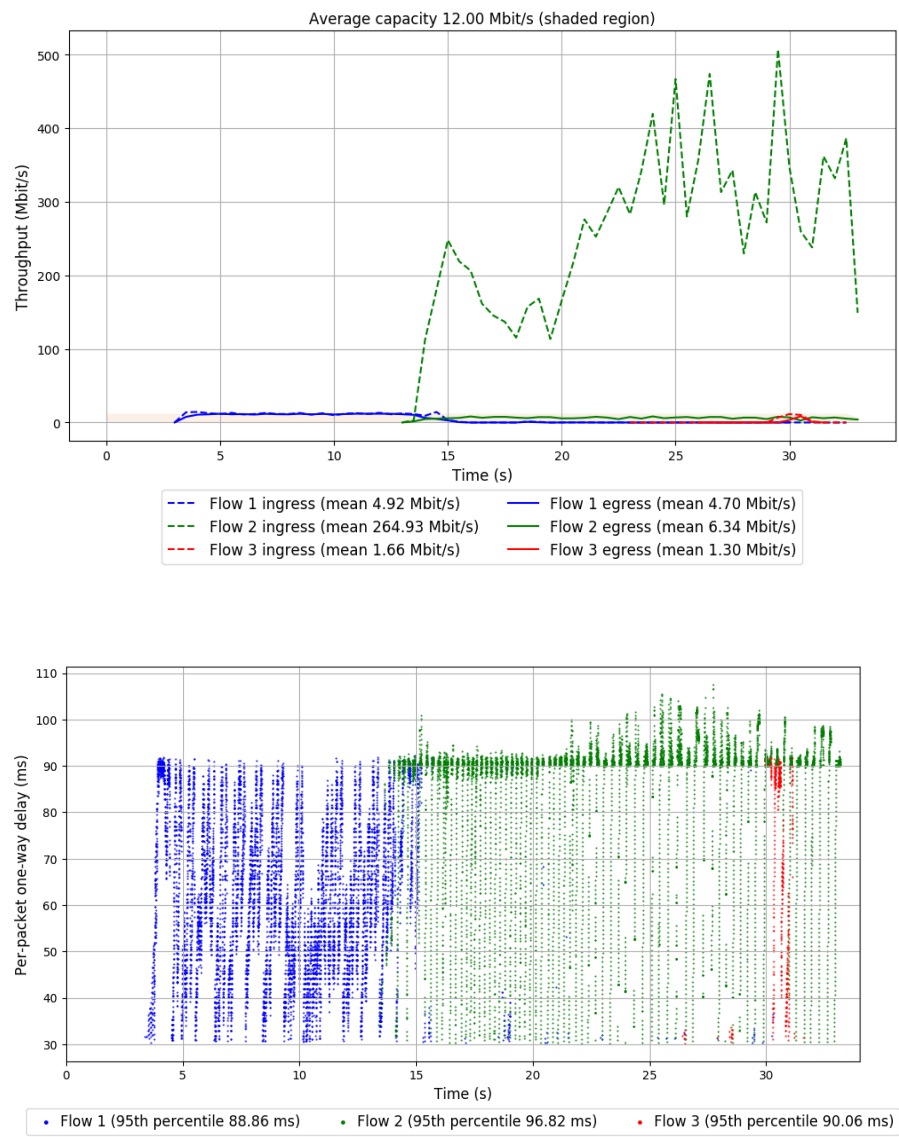
-- Flow 3:

Average throughput: 1.30 Mbit/s

95th percentile per-packet one-way delay: 90.060 ms

Loss rate: 57.55%

Run 8: Report of Verus — Data Link



Run 9: Statistics of Verus

Start at: 2018-04-24 17:16:17

End at: 2018-04-24 17:16:47

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.07 Mbit/s (92.2% utilization)

95th percentile per-packet one-way delay: 90.149 ms

Loss rate: 36.37%

-- Flow 1:

Average throughput: 7.15 Mbit/s

95th percentile per-packet one-way delay: 89.942 ms

Loss rate: 33.97%

-- Flow 2:

Average throughput: 5.31 Mbit/s

95th percentile per-packet one-way delay: 90.328 ms

Loss rate: 36.09%

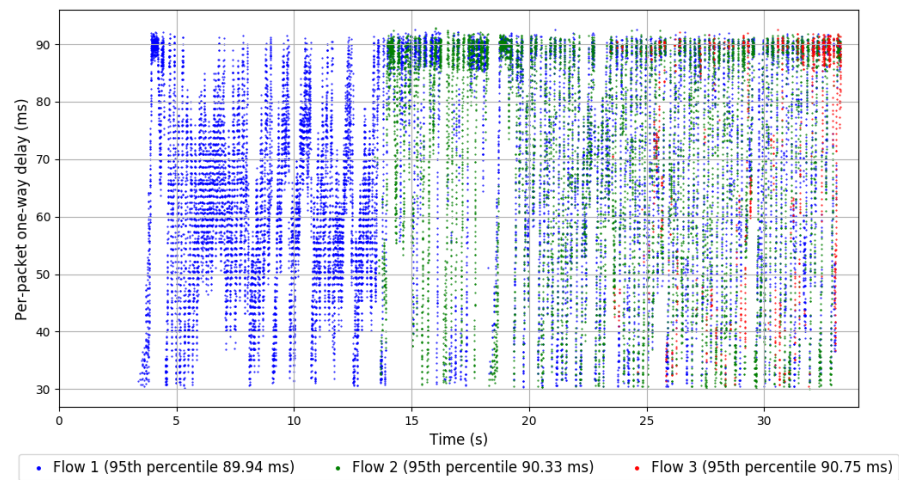
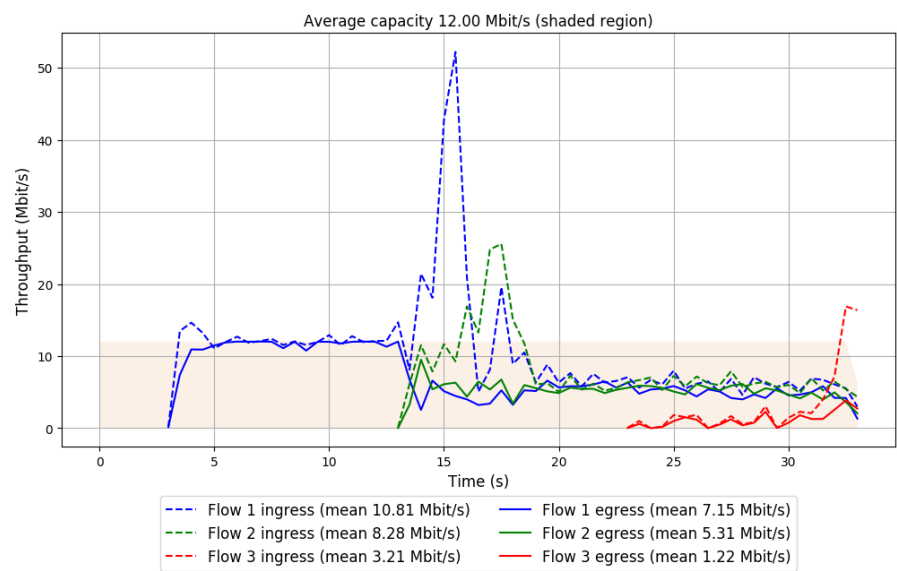
-- Flow 3:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 90.749 ms

Loss rate: 62.34%

Run 9: Report of Verus — Data Link



Run 10: Statistics of Verus

Start at: 2018-04-24 17:26:03

End at: 2018-04-24 17:26:33

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 9.88 Mbit/s (82.4% utilization)

95th percentile per-packet one-way delay: 90.320 ms

Loss rate: 46.94%

-- Flow 1:

Average throughput: 8.27 Mbit/s

95th percentile per-packet one-way delay: 90.133 ms

Loss rate: 37.90%

-- Flow 2:

Average throughput: 1.60 Mbit/s

95th percentile per-packet one-way delay: 90.625 ms

Loss rate: 33.12%

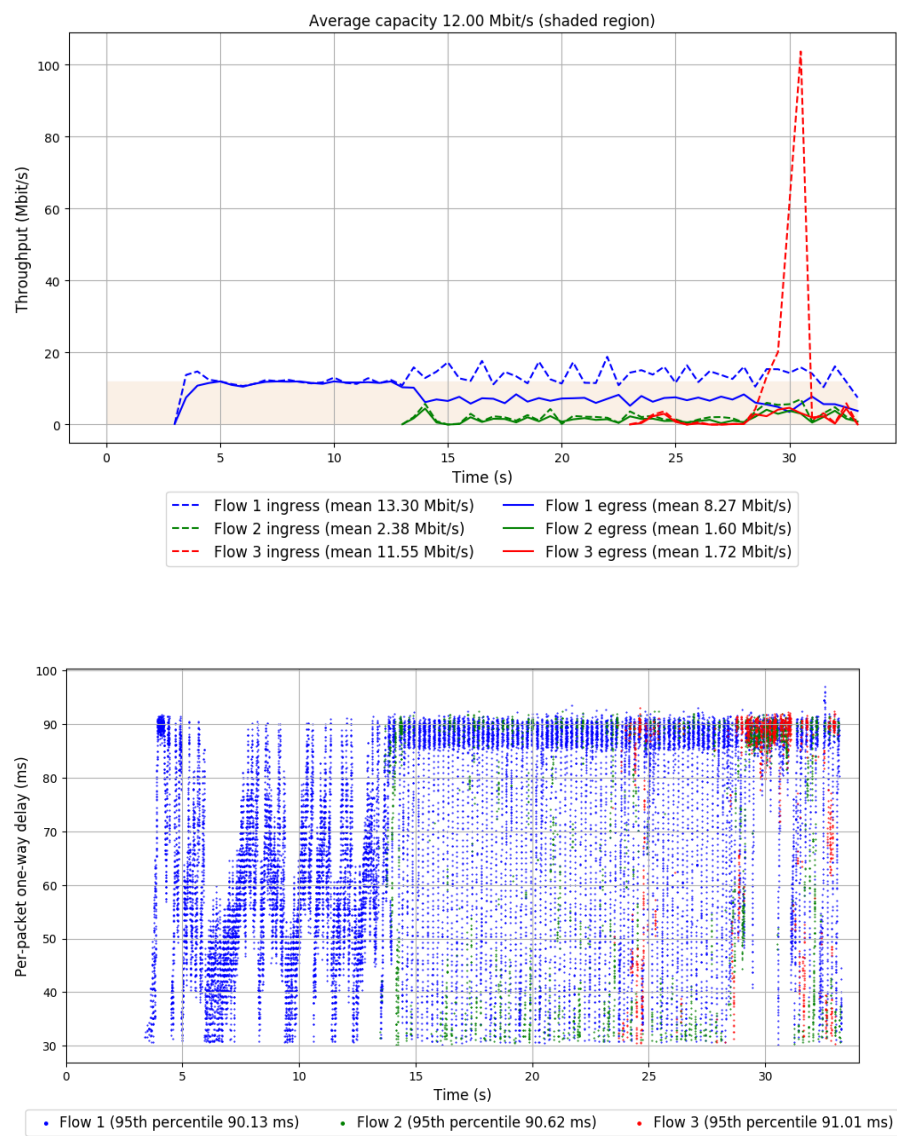
-- Flow 3:

Average throughput: 1.72 Mbit/s

95th percentile per-packet one-way delay: 91.014 ms

Loss rate: 85.12%

Run 10: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-04-24 15:50:27

End at: 2018-04-24 15:50:57

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.35 Mbit/s (94.6% utilization)

95th percentile per-packet one-way delay: 75.447 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 6.94 Mbit/s

95th percentile per-packet one-way delay: 71.429 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 4.78 Mbit/s

95th percentile per-packet one-way delay: 76.446 ms

Loss rate: 0.15%

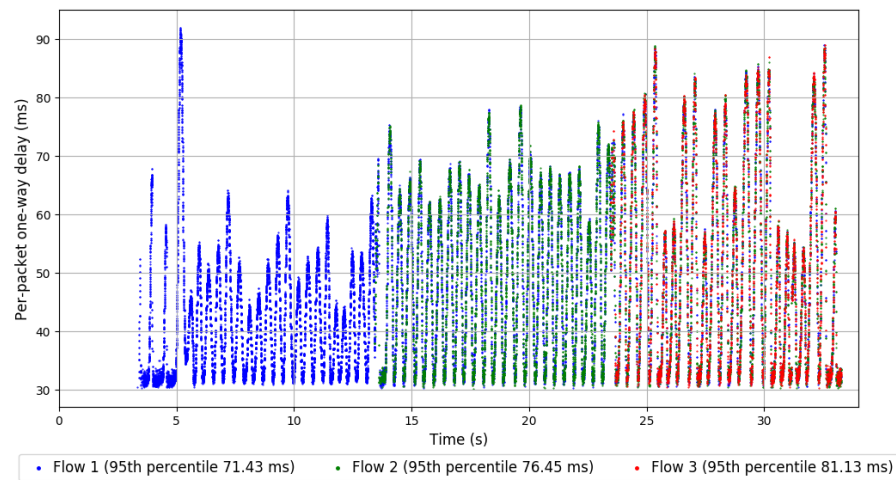
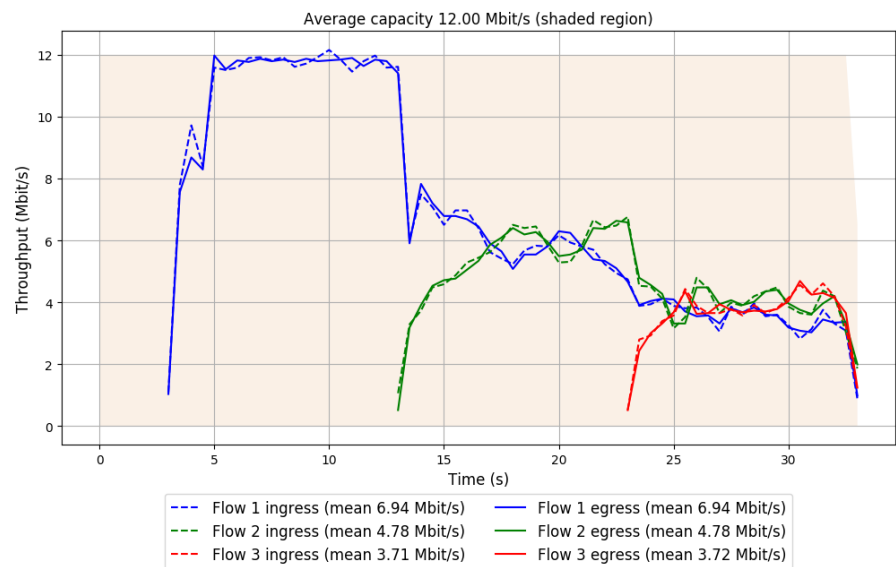
-- Flow 3:

Average throughput: 3.72 Mbit/s

95th percentile per-packet one-way delay: 81.129 ms

Loss rate: 0.28%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-04-24 16:00:13

End at: 2018-04-24 16:00:43

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.43 Mbit/s (95.3% utilization)

95th percentile per-packet one-way delay: 76.620 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 7.25 Mbit/s

95th percentile per-packet one-way delay: 71.954 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 4.44 Mbit/s

95th percentile per-packet one-way delay: 78.418 ms

Loss rate: 0.36%

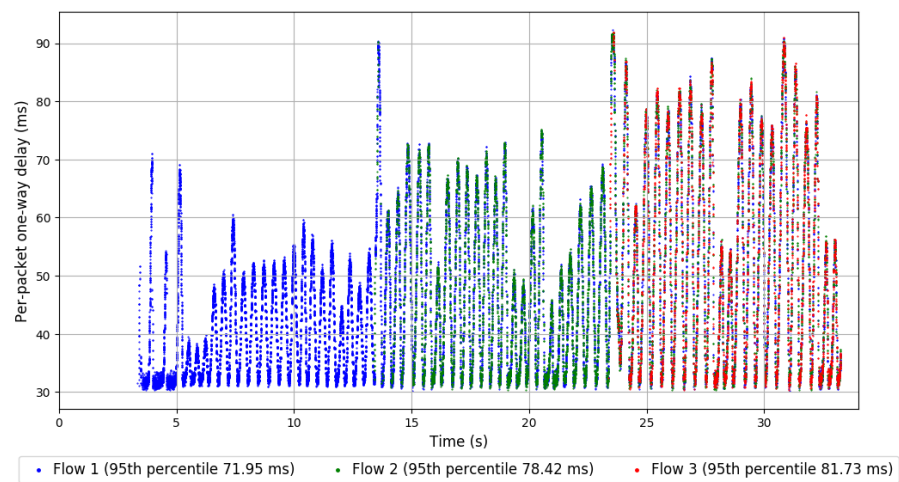
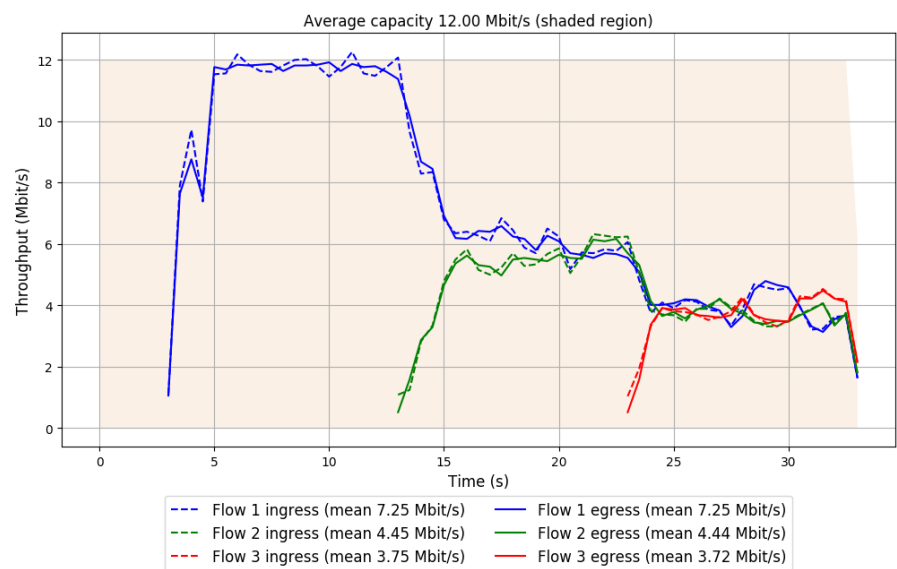
-- Flow 3:

Average throughput: 3.72 Mbit/s

95th percentile per-packet one-way delay: 81.733 ms

Loss rate: 1.00%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-04-24 16:10:00

End at: 2018-04-24 16:10:30

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.55 Mbit/s (96.3% utilization)

95th percentile per-packet one-way delay: 75.987 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 7.45 Mbit/s

95th percentile per-packet one-way delay: 71.149 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 4.40 Mbit/s

95th percentile per-packet one-way delay: 78.099 ms

Loss rate: 0.35%

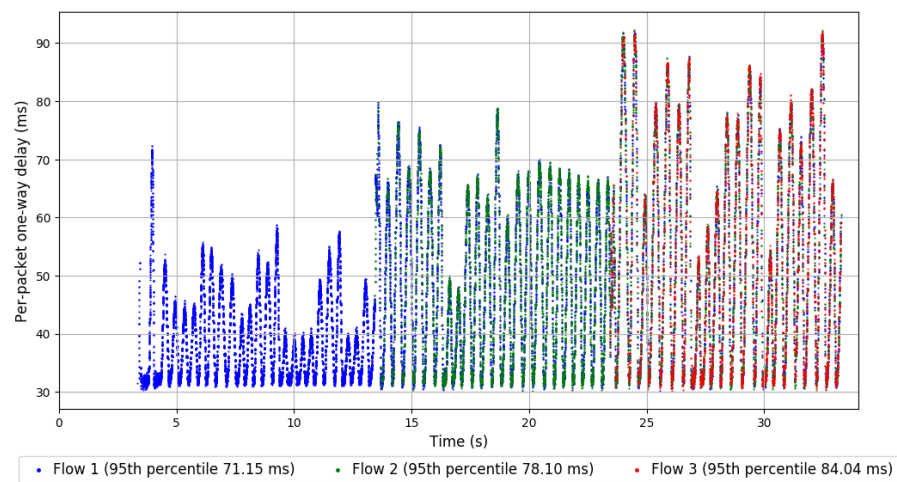
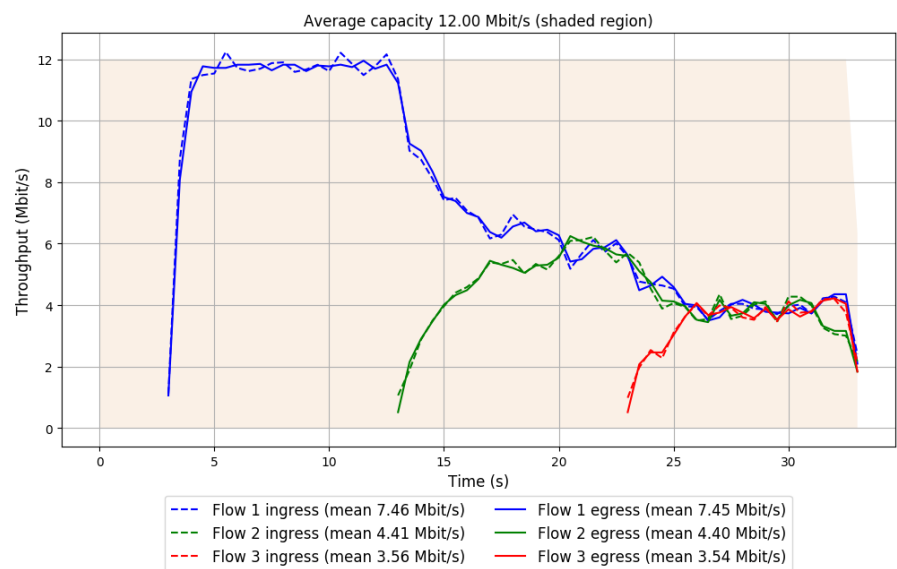
-- Flow 3:

Average throughput: 3.54 Mbit/s

95th percentile per-packet one-way delay: 84.042 ms

Loss rate: 0.99%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-04-24 16:19:48

End at: 2018-04-24 16:20:18

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.52 Mbit/s (96.0% utilization)

95th percentile per-packet one-way delay: 74.039 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 7.20 Mbit/s

95th percentile per-packet one-way delay: 71.053 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 4.69 Mbit/s

95th percentile per-packet one-way delay: 74.673 ms

Loss rate: 0.08%

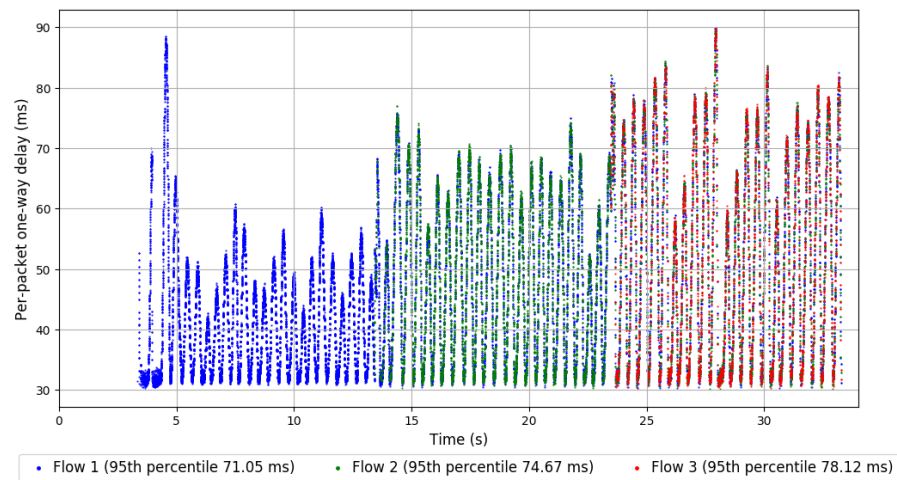
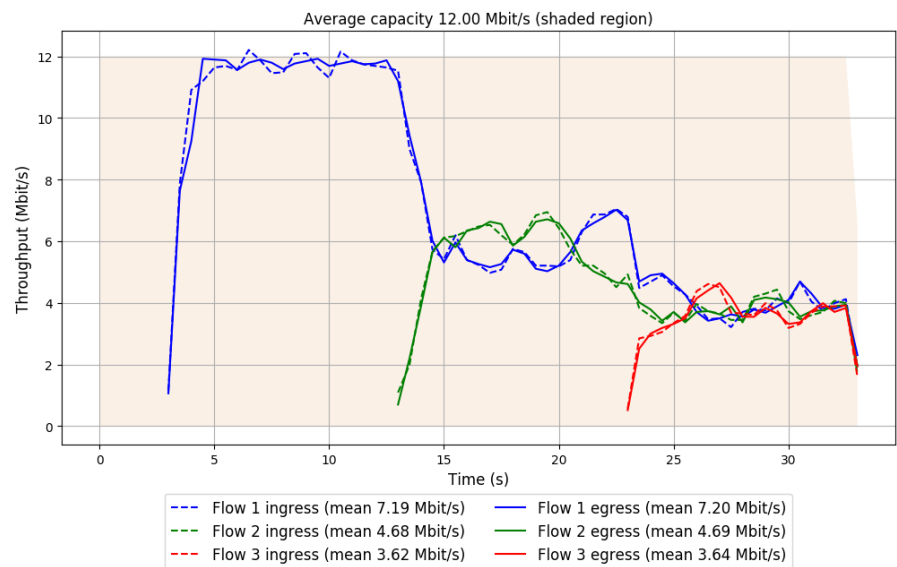
-- Flow 3:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 78.120 ms

Loss rate: 0.14%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-04-24 16:29:35

End at: 2018-04-24 16:30:05

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.56 Mbit/s (96.4% utilization)

95th percentile per-packet one-way delay: 74.191 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 7.33 Mbit/s

95th percentile per-packet one-way delay: 69.443 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 4.46 Mbit/s

95th percentile per-packet one-way delay: 75.754 ms

Loss rate: 0.16%

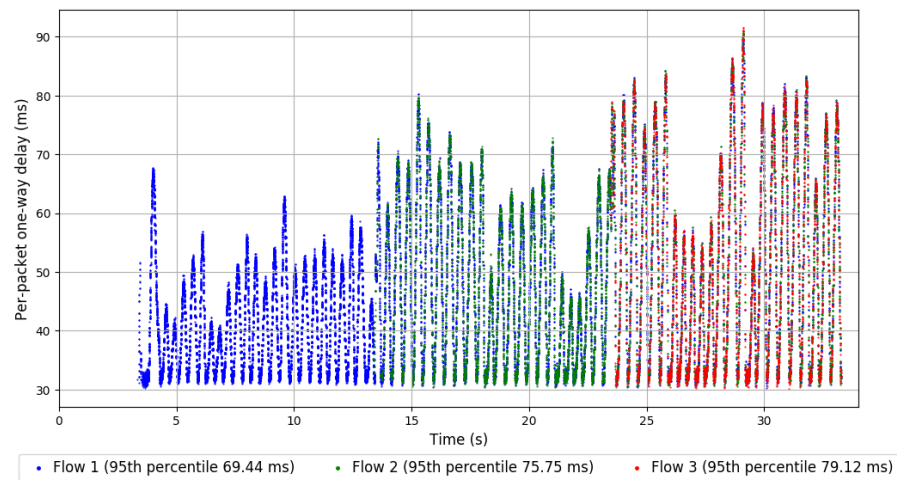
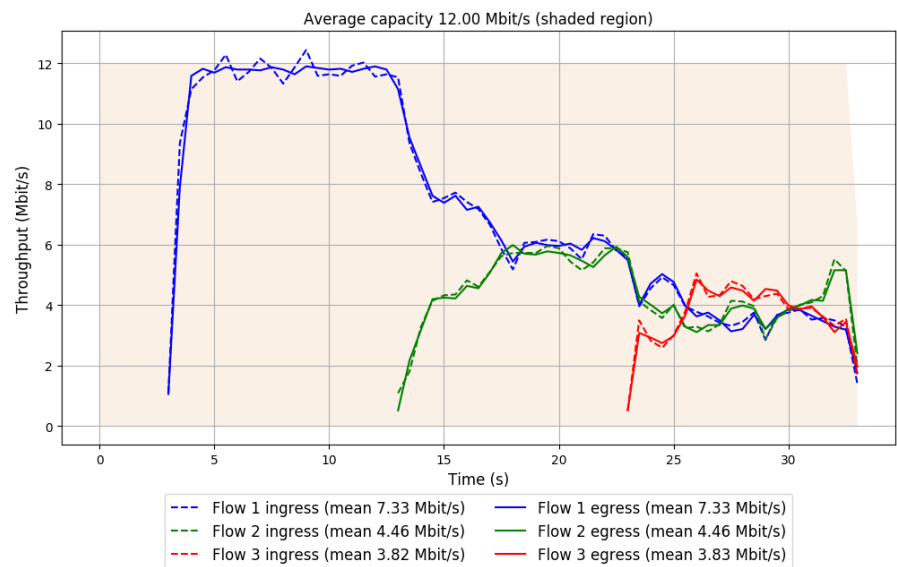
-- Flow 3:

Average throughput: 3.83 Mbit/s

95th percentile per-packet one-way delay: 79.121 ms

Loss rate: 0.34%

Run 5: Report of Copa — Data Link



Run 6: Statistics of Copa

Start at: 2018-04-24 16:39:26

End at: 2018-04-24 16:39:56

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.48 Mbit/s (95.7% utilization)

95th percentile per-packet one-way delay: 74.841 ms

Loss rate: 0.21%

-- Flow 1:

Average throughput: 7.08 Mbit/s

95th percentile per-packet one-way delay: 69.879 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 4.74 Mbit/s

95th percentile per-packet one-way delay: 76.074 ms

Loss rate: 0.27%

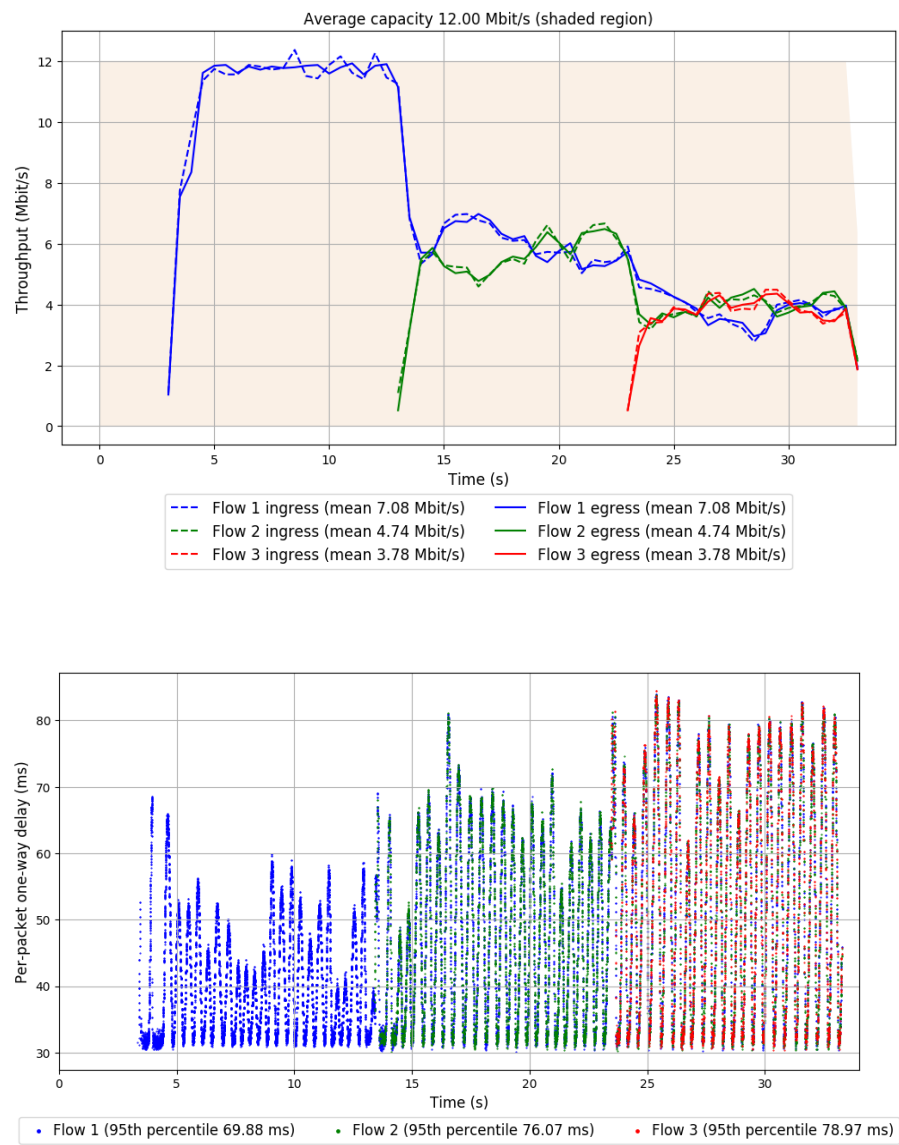
-- Flow 3:

Average throughput: 3.78 Mbit/s

95th percentile per-packet one-way delay: 78.970 ms

Loss rate: 0.59%

Run 6: Report of Copa — Data Link



Run 7: Statistics of Copa

Start at: 2018-04-24 16:49:13

End at: 2018-04-24 16:49:43

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.57 Mbit/s (96.4% utilization)

95th percentile per-packet one-way delay: 75.439 ms

Loss rate: 0.26%

-- Flow 1:

Average throughput: 7.14 Mbit/s

95th percentile per-packet one-way delay: 71.193 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 4.76 Mbit/s

95th percentile per-packet one-way delay: 76.059 ms

Loss rate: 0.31%

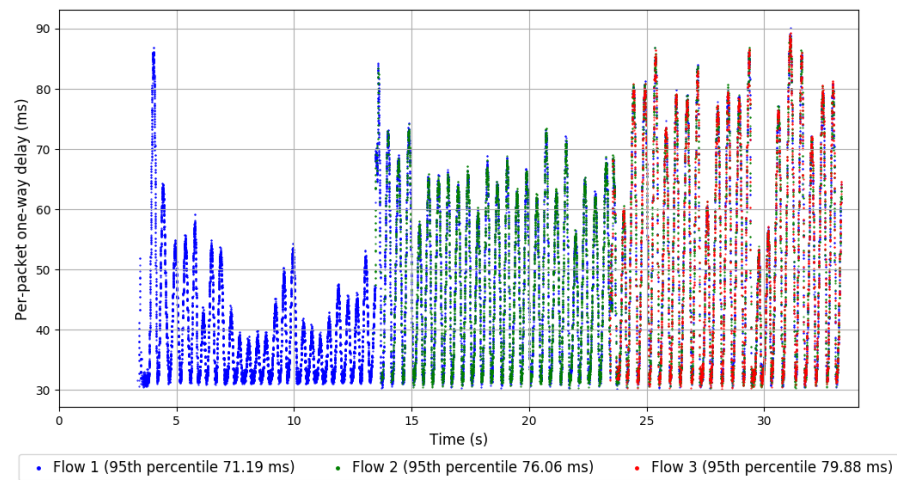
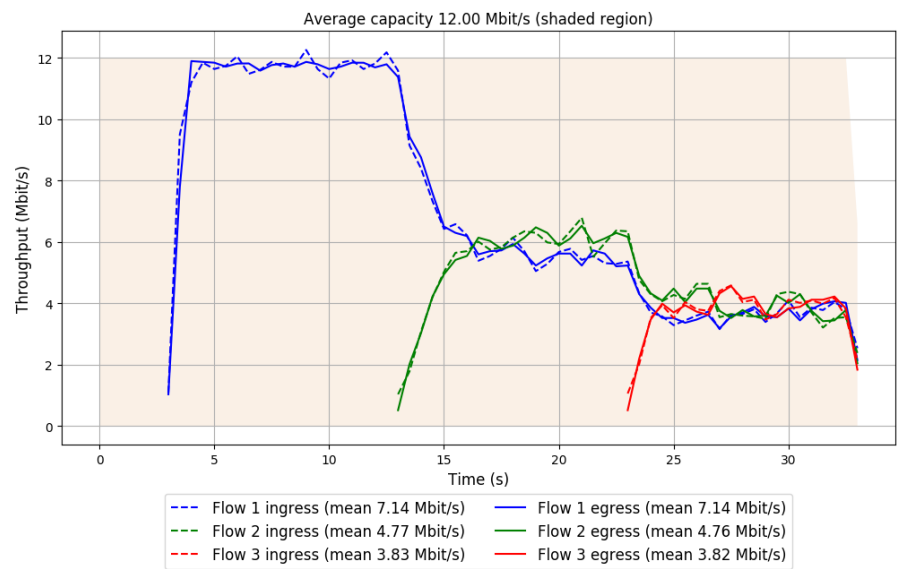
-- Flow 3:

Average throughput: 3.82 Mbit/s

95th percentile per-packet one-way delay: 79.877 ms

Loss rate: 0.72%

Run 7: Report of Copa — Data Link



Run 8: Statistics of Copa

Start at: 2018-04-24 16:59:00

End at: 2018-04-24 16:59:30

Below is generated by plot.py at 2018-04-24 17:34:45

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.54 Mbit/s (96.1% utilization)

95th percentile per-packet one-way delay: 74.682 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 7.13 Mbit/s

95th percentile per-packet one-way delay: 69.868 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 4.85 Mbit/s

95th percentile per-packet one-way delay: 75.989 ms

Loss rate: 0.13%

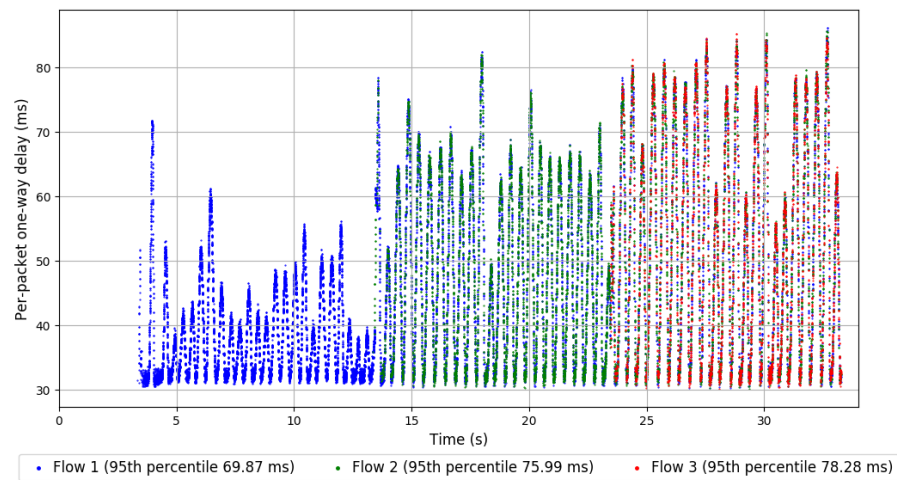
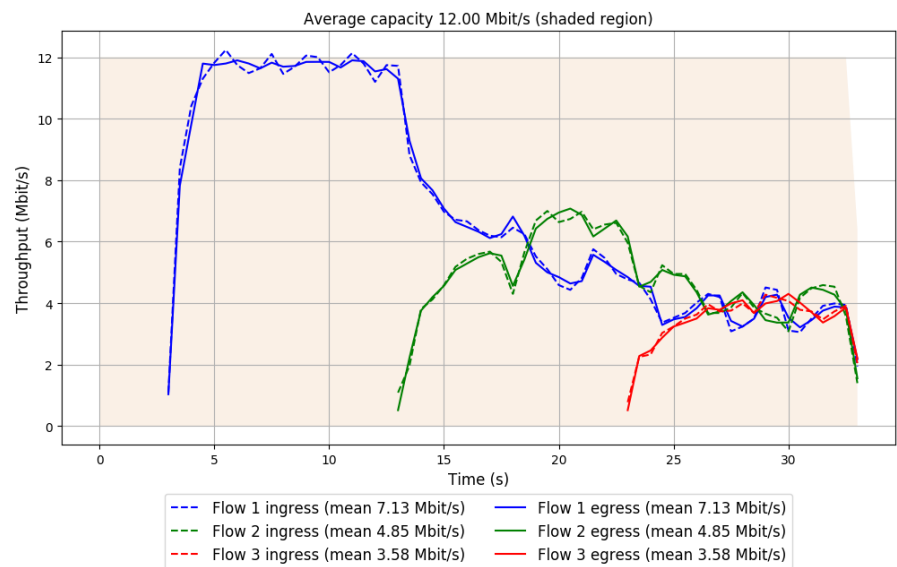
-- Flow 3:

Average throughput: 3.58 Mbit/s

95th percentile per-packet one-way delay: 78.282 ms

Loss rate: 0.51%

Run 8: Report of Copa — Data Link



Run 9: Statistics of Copa

Start at: 2018-04-24 17:08:49

End at: 2018-04-24 17:09:19

Below is generated by plot.py at 2018-04-24 17:34:46

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.53 Mbit/s (96.1% utilization)

95th percentile per-packet one-way delay: 76.260 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 7.47 Mbit/s

95th percentile per-packet one-way delay: 70.862 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 4.22 Mbit/s

95th percentile per-packet one-way delay: 77.710 ms

Loss rate: 0.28%

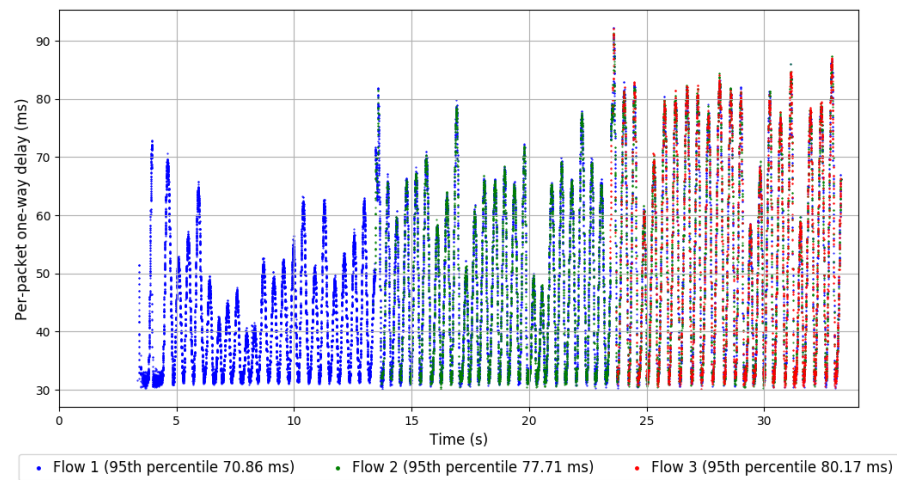
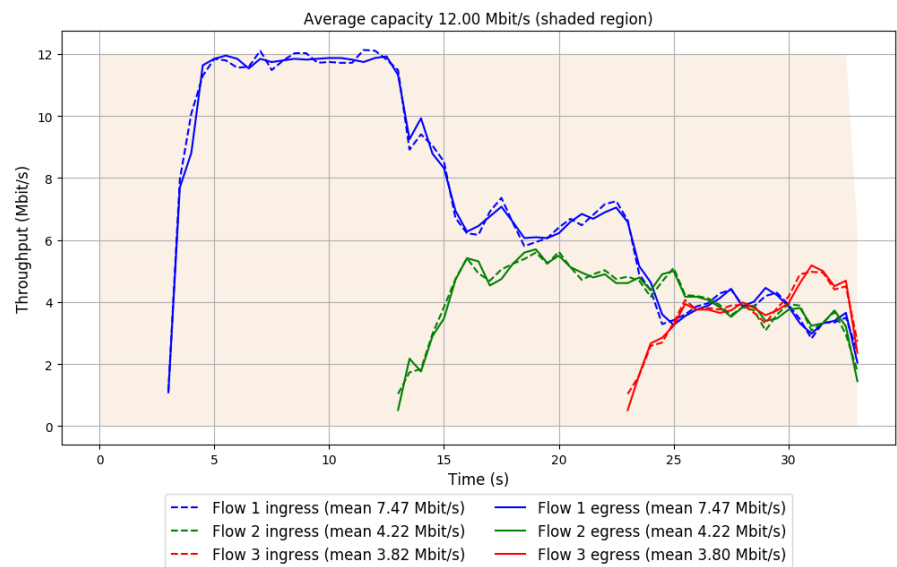
-- Flow 3:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 80.167 ms

Loss rate: 0.92%

Run 9: Report of Copa — Data Link



Run 10: Statistics of Copa

Start at: 2018-04-24 17:18:35

End at: 2018-04-24 17:19:05

Below is generated by plot.py at 2018-04-24 17:34:47

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.28 Mbit/s (94.0% utilization)

95th percentile per-packet one-way delay: 76.655 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 7.36 Mbit/s

95th percentile per-packet one-way delay: 74.003 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 4.07 Mbit/s

95th percentile per-packet one-way delay: 77.286 ms

Loss rate: 0.14%

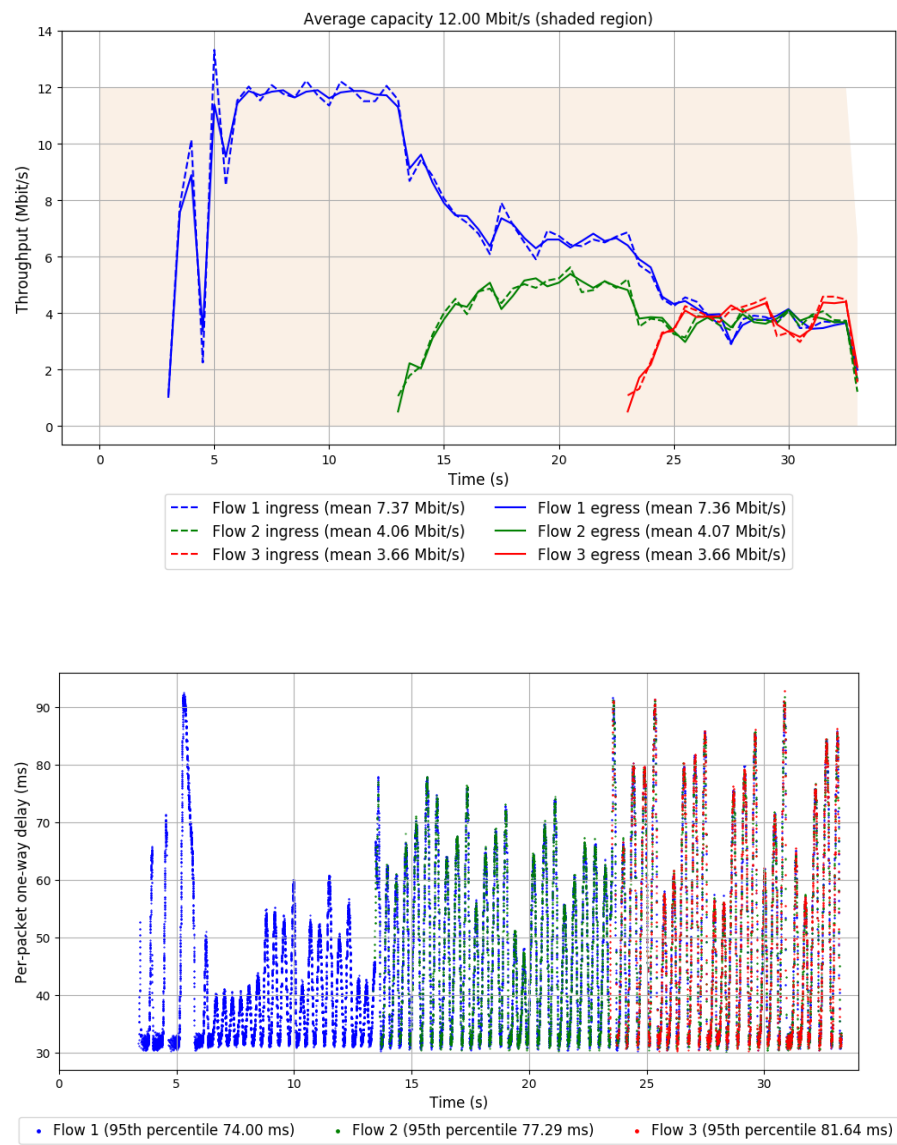
-- Flow 3:

Average throughput: 3.66 Mbit/s

95th percentile per-packet one-way delay: 81.644 ms

Loss rate: 0.39%

Run 10: Report of Copa — Data Link

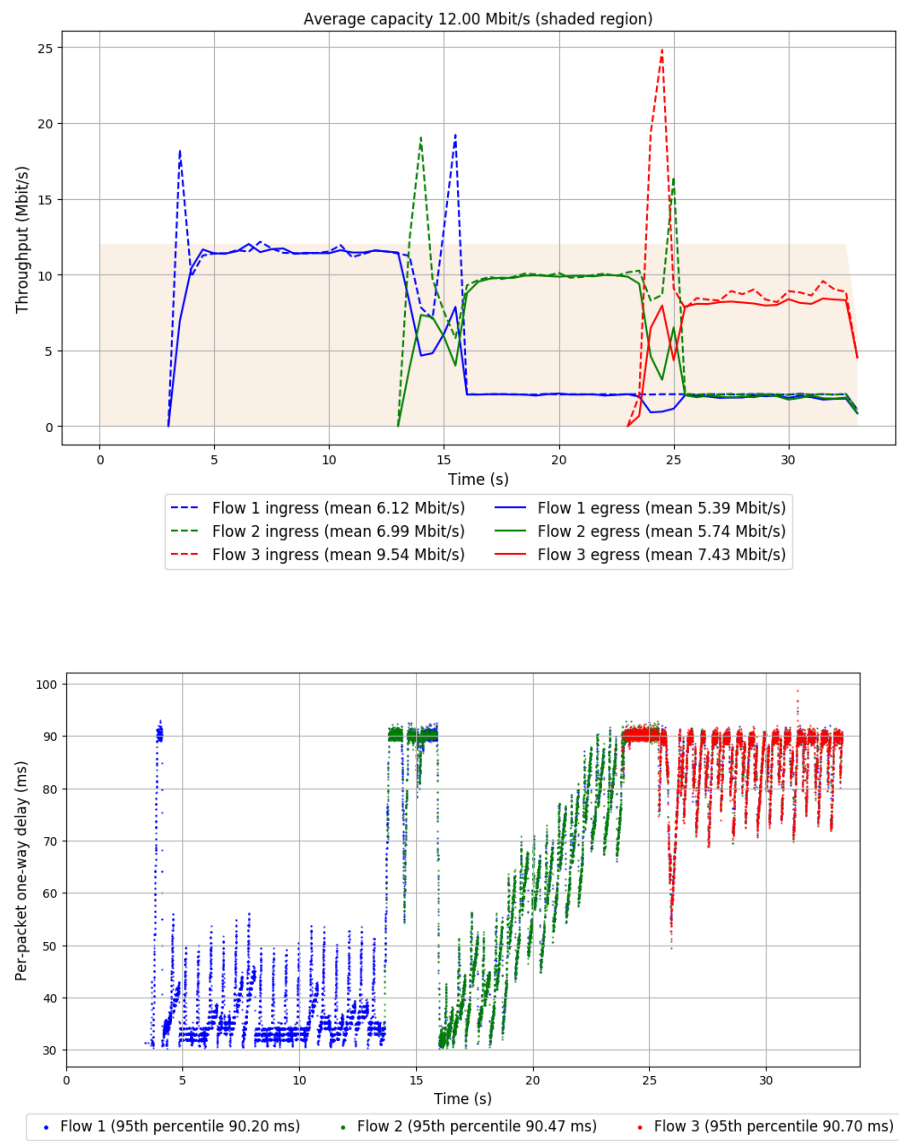


```
Run 1: Statistics of FillP

Start at: 2018-04-24 15:52:45
End at: 2018-04-24 15:53:15

# Below is generated by plot.py at 2018-04-24 17:34:47
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.66 Mbit/s (97.1% utilization)
95th percentile per-packet one-way delay: 90.445 ms
Loss rate: 16.47%
-- Flow 1:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 90.196 ms
Loss rate: 11.95%
-- Flow 2:
Average throughput: 5.74 Mbit/s
95th percentile per-packet one-way delay: 90.471 ms
Loss rate: 18.10%
-- Flow 3:
Average throughput: 7.43 Mbit/s
95th percentile per-packet one-way delay: 90.701 ms
Loss rate: 22.81%
```


Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-04-24 16:02:31

End at: 2018-04-24 16:03:01

Below is generated by plot.py at 2018-04-24 17:34:47

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.68 Mbit/s (97.3% utilization)

95th percentile per-packet one-way delay: 90.374 ms

Loss rate: 14.58%

-- Flow 1:

Average throughput: 5.29 Mbit/s

95th percentile per-packet one-way delay: 90.068 ms

Loss rate: 9.67%

-- Flow 2:

Average throughput: 6.09 Mbit/s

95th percentile per-packet one-way delay: 90.486 ms

Loss rate: 19.67%

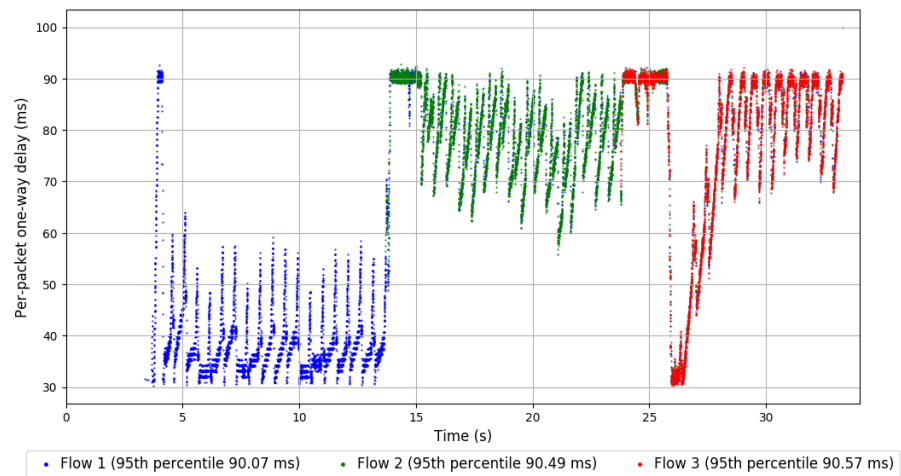
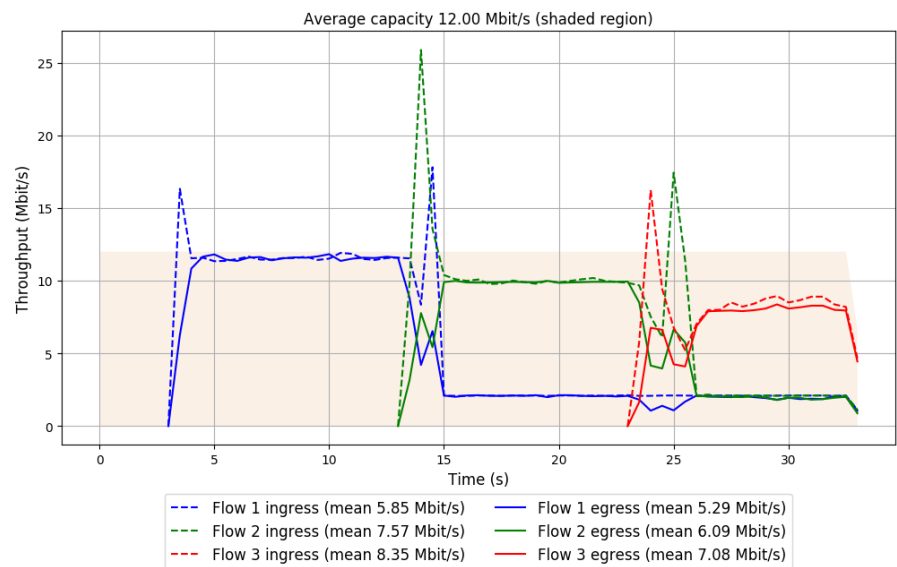
-- Flow 3:

Average throughput: 7.08 Mbit/s

95th percentile per-packet one-way delay: 90.572 ms

Loss rate: 15.67%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-04-24 16:12:18

End at: 2018-04-24 16:12:48

Below is generated by plot.py at 2018-04-24 17:34:47

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.64 Mbit/s (97.0% utilization)

95th percentile per-packet one-way delay: 90.362 ms

Loss rate: 13.78%

-- Flow 1:

Average throughput: 5.43 Mbit/s

95th percentile per-packet one-way delay: 90.182 ms

Loss rate: 13.07%

-- Flow 2:

Average throughput: 5.68 Mbit/s

95th percentile per-packet one-way delay: 90.379 ms

Loss rate: 15.14%

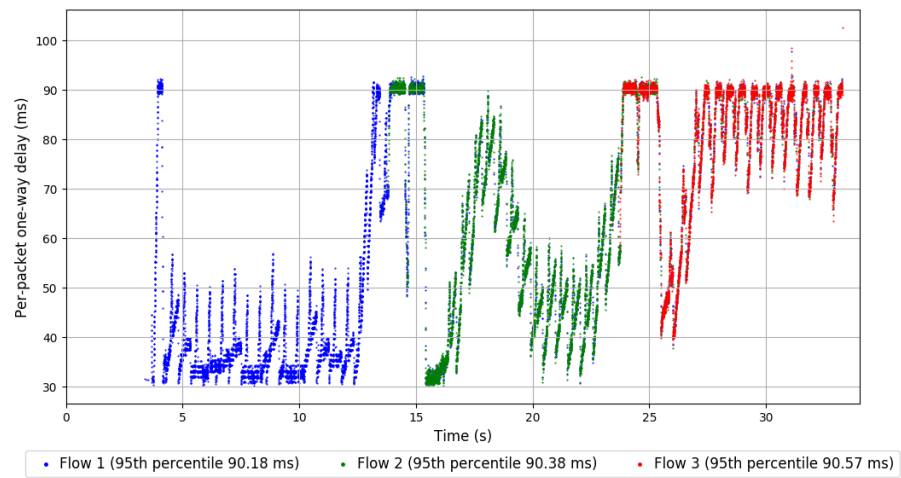
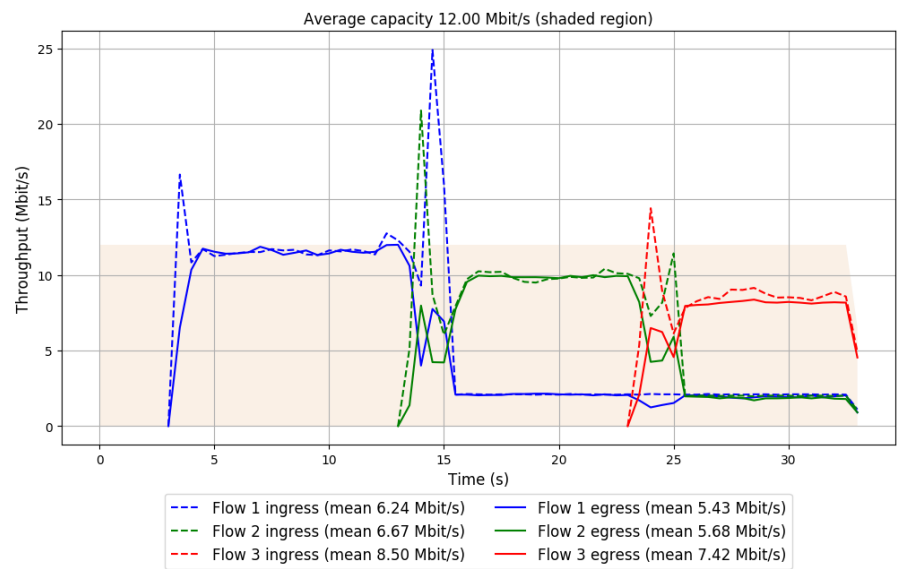
-- Flow 3:

Average throughput: 7.42 Mbit/s

95th percentile per-packet one-way delay: 90.571 ms

Loss rate: 13.22%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-04-24 16:22:06

End at: 2018-04-24 16:22:36

Below is generated by plot.py at 2018-04-24 17:34:59

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.67 Mbit/s (97.2% utilization)

95th percentile per-packet one-way delay: 90.495 ms

Loss rate: 18.97%

-- Flow 1:

Average throughput: 5.41 Mbit/s

95th percentile per-packet one-way delay: 90.271 ms

Loss rate: 16.63%

-- Flow 2:

Average throughput: 6.57 Mbit/s

95th percentile per-packet one-way delay: 90.483 ms

Loss rate: 16.89%

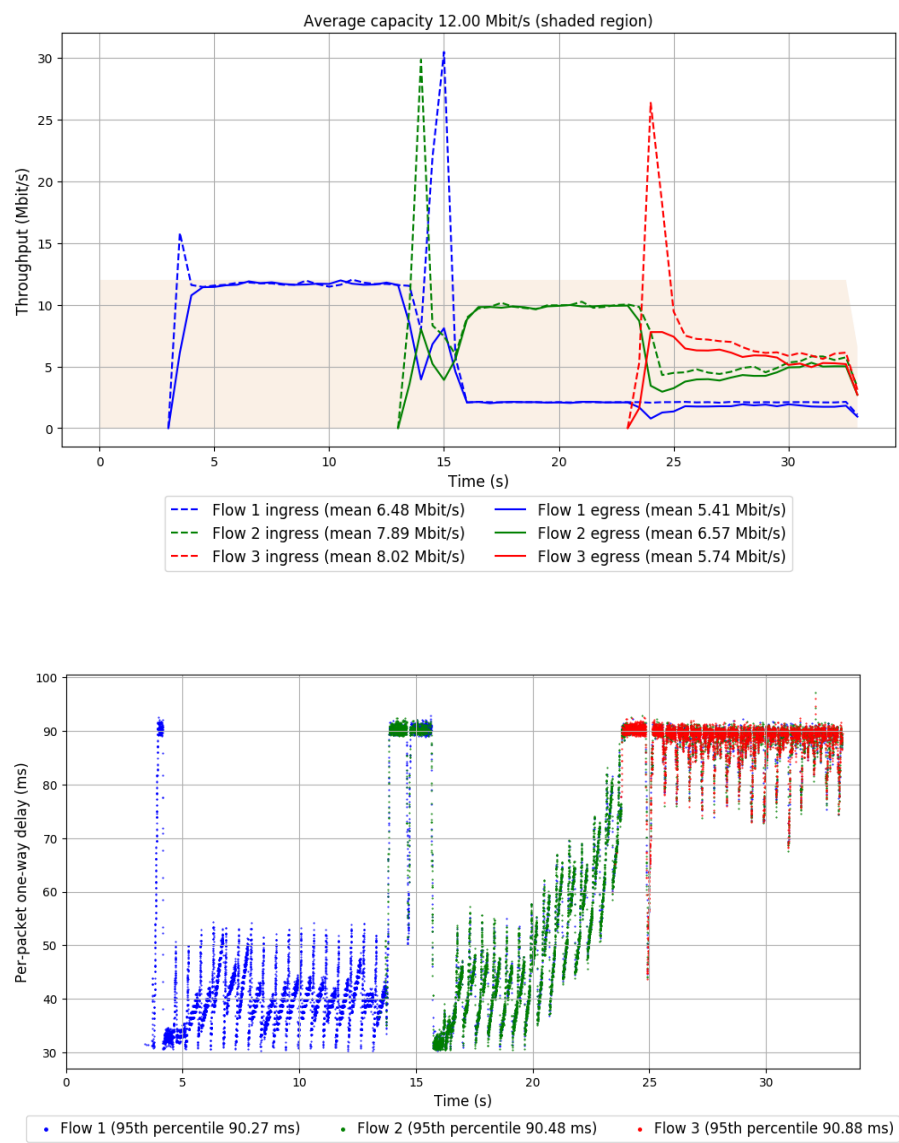
-- Flow 3:

Average throughput: 5.74 Mbit/s

95th percentile per-packet one-way delay: 90.880 ms

Loss rate: 28.82%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-04-24 16:31:54

End at: 2018-04-24 16:32:24

Below is generated by plot.py at 2018-04-24 17:35:05

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.65 Mbit/s (97.1% utilization)

95th percentile per-packet one-way delay: 90.428 ms

Loss rate: 16.33%

-- Flow 1:

Average throughput: 5.44 Mbit/s

95th percentile per-packet one-way delay: 90.172 ms

Loss rate: 10.32%

-- Flow 2:

Average throughput: 5.73 Mbit/s

95th percentile per-packet one-way delay: 90.508 ms

Loss rate: 20.58%

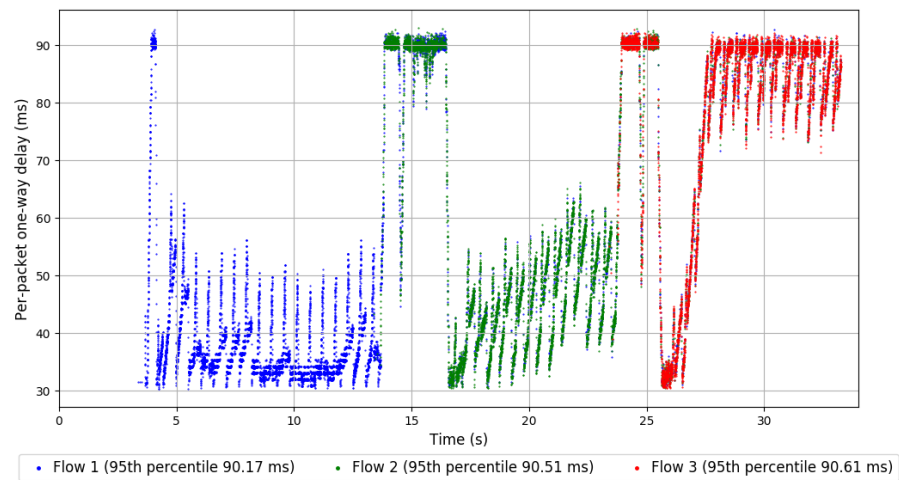
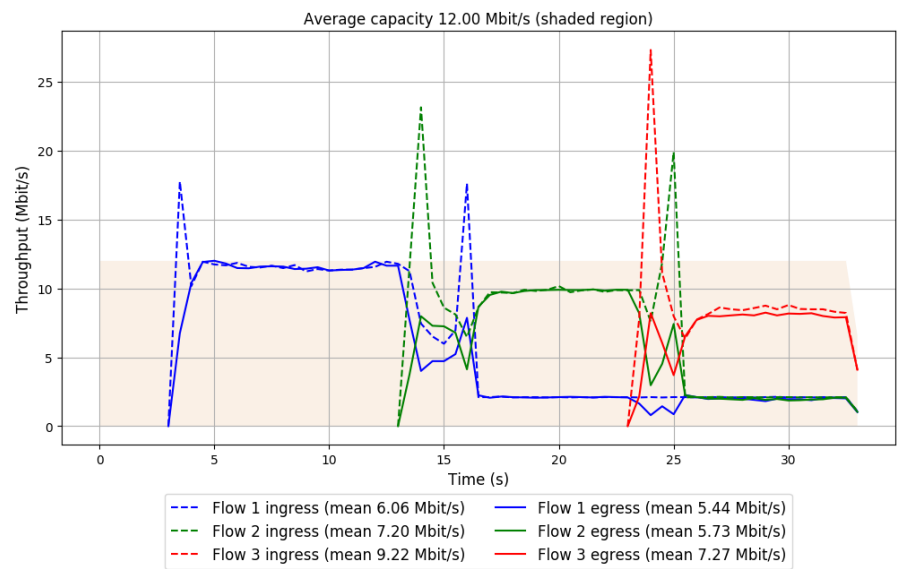
-- Flow 3:

Average throughput: 7.27 Mbit/s

95th percentile per-packet one-way delay: 90.612 ms

Loss rate: 21.58%

Run 5: Report of FillP — Data Link



Run 6: Statistics of FillP

Start at: 2018-04-24 16:41:44

End at: 2018-04-24 16:42:14

Below is generated by plot.py at 2018-04-24 17:35:05

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.65 Mbit/s (97.0% utilization)

95th percentile per-packet one-way delay: 90.374 ms

Loss rate: 12.76%

-- Flow 1:

Average throughput: 5.40 Mbit/s

95th percentile per-packet one-way delay: 90.143 ms

Loss rate: 9.51%

-- Flow 2:

Average throughput: 5.82 Mbit/s

95th percentile per-packet one-way delay: 90.491 ms

Loss rate: 17.11%

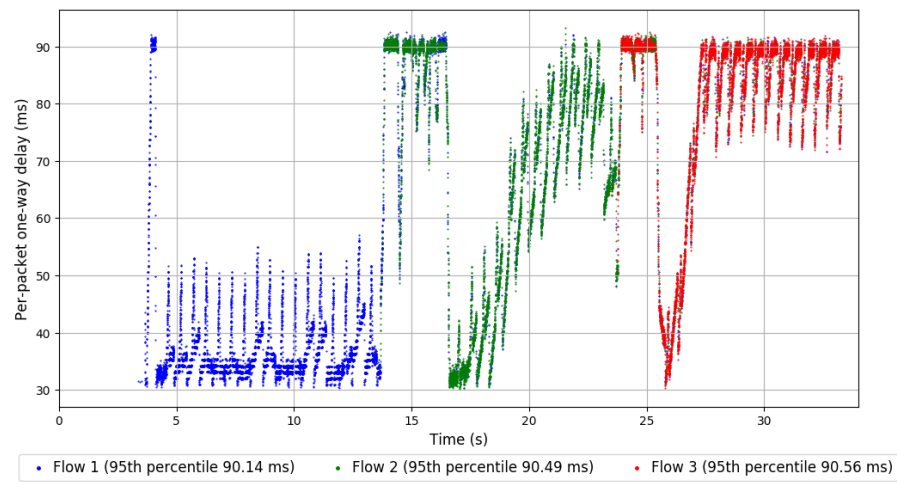
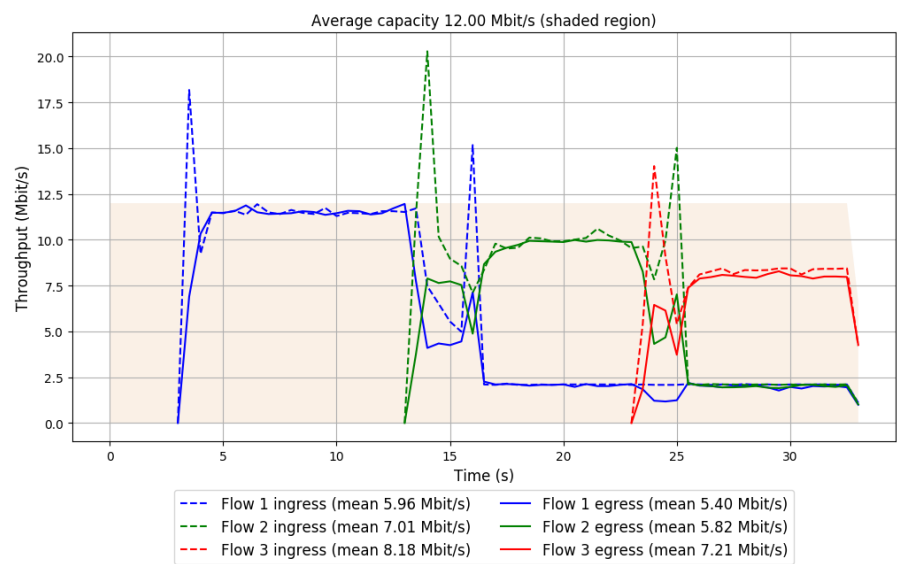
-- Flow 3:

Average throughput: 7.21 Mbit/s

95th percentile per-packet one-way delay: 90.559 ms

Loss rate: 12.38%

Run 6: Report of FillP — Data Link



Run 7: Statistics of FillP

Start at: 2018-04-24 16:51:31

End at: 2018-04-24 16:52:01

Below is generated by plot.py at 2018-04-24 17:35:08

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.71 Mbit/s (97.6% utilization)

95th percentile per-packet one-way delay: 90.407 ms

Loss rate: 15.43%

-- Flow 1:

Average throughput: 5.27 Mbit/s

95th percentile per-packet one-way delay: 90.011 ms

Loss rate: 8.86%

-- Flow 2:

Average throughput: 6.12 Mbit/s

95th percentile per-packet one-way delay: 90.522 ms

Loss rate: 18.17%

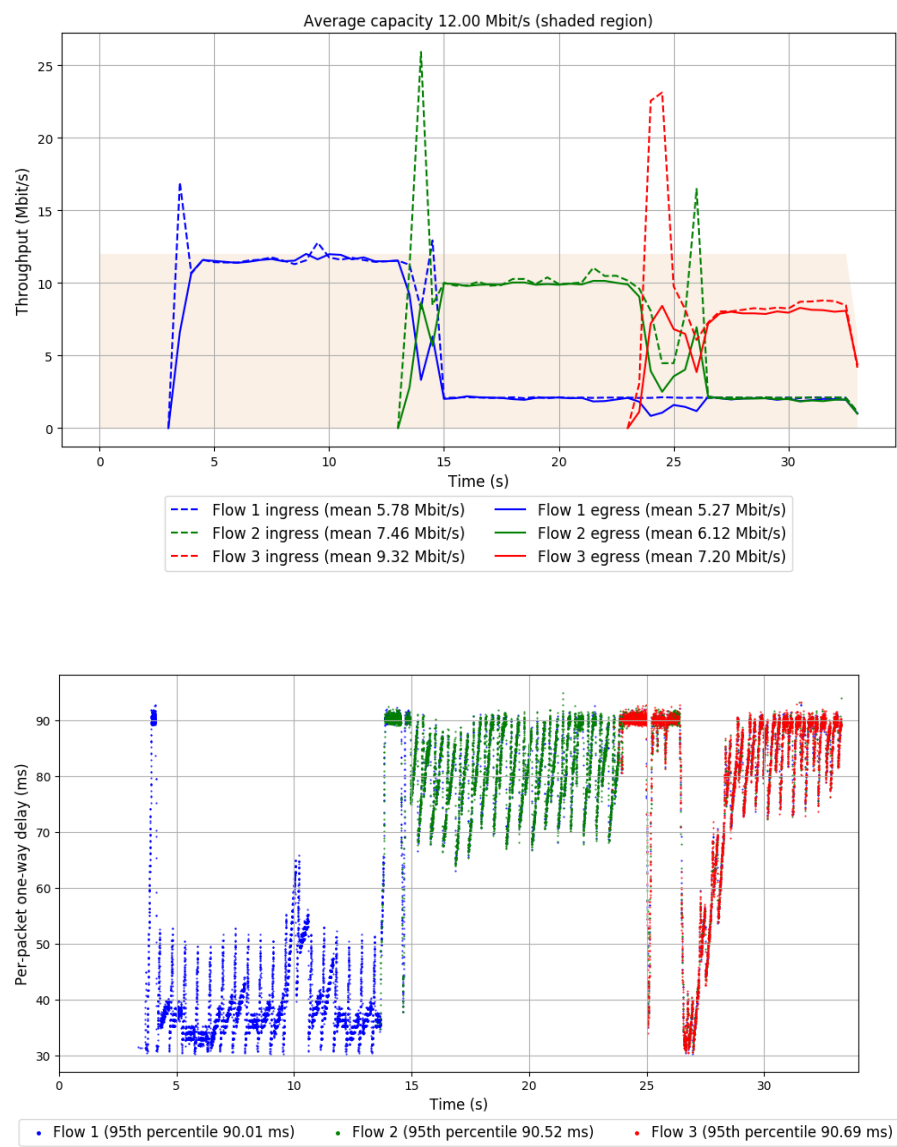
-- Flow 3:

Average throughput: 7.20 Mbit/s

95th percentile per-packet one-way delay: 90.693 ms

Loss rate: 23.32%

Run 7: Report of FillP — Data Link



Run 8: Statistics of FillP

Start at: 2018-04-24 17:01:18

End at: 2018-04-24 17:01:48

Below is generated by plot.py at 2018-04-24 17:35:09

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.72 Mbit/s (97.7% utilization)

95th percentile per-packet one-way delay: 90.436 ms

Loss rate: 14.91%

-- Flow 1:

Average throughput: 5.34 Mbit/s

95th percentile per-packet one-way delay: 90.123 ms

Loss rate: 11.11%

-- Flow 2:

Average throughput: 5.98 Mbit/s

95th percentile per-packet one-way delay: 90.522 ms

Loss rate: 18.76%

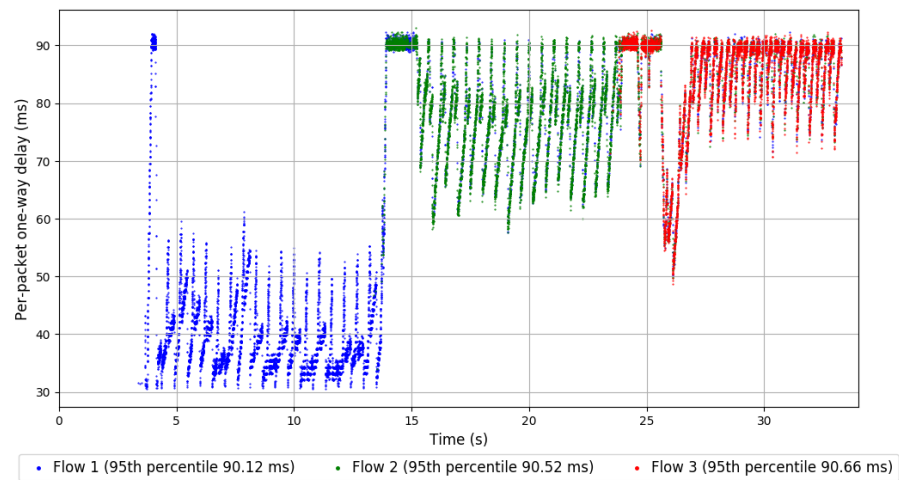
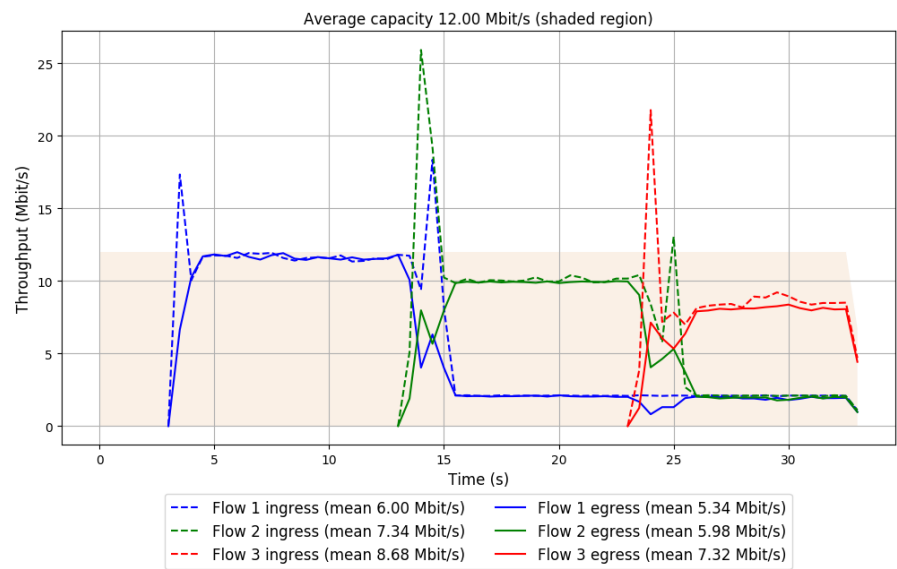
-- Flow 3:

Average throughput: 7.32 Mbit/s

95th percentile per-packet one-way delay: 90.656 ms

Loss rate: 16.33%

Run 8: Report of FillP — Data Link



Run 9: Statistics of FillP

Start at: 2018-04-24 17:11:07

End at: 2018-04-24 17:11:37

Below is generated by plot.py at 2018-04-24 17:35:11

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.60 Mbit/s (96.7% utilization)

95th percentile per-packet one-way delay: 90.412 ms

Loss rate: 17.01%

-- Flow 1:

Average throughput: 5.52 Mbit/s

95th percentile per-packet one-way delay: 90.281 ms

Loss rate: 16.84%

-- Flow 2:

Average throughput: 5.53 Mbit/s

95th percentile per-packet one-way delay: 90.431 ms

Loss rate: 18.81%

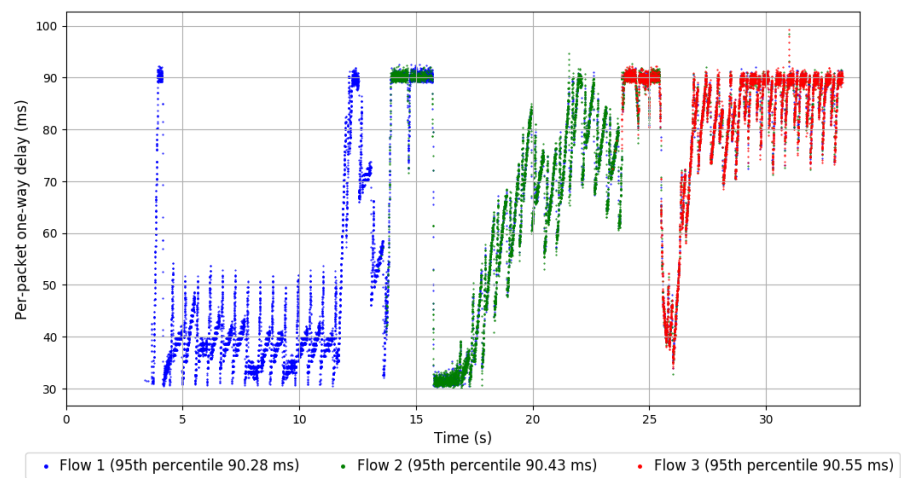
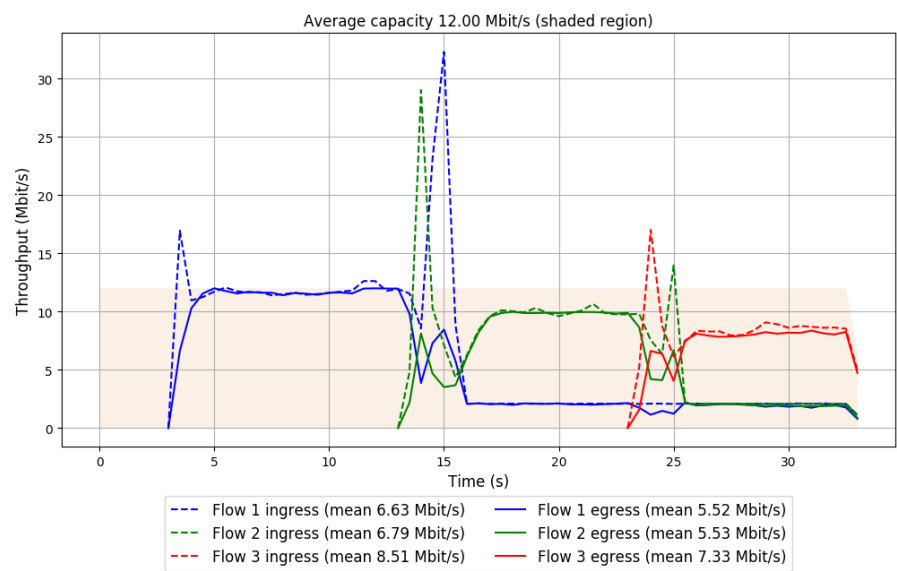
-- Flow 3:

Average throughput: 7.33 Mbit/s

95th percentile per-packet one-way delay: 90.545 ms

Loss rate: 14.54%

Run 9: Report of FillP — Data Link



Run 10: Statistics of FillP

Start at: 2018-04-24 17:20:53

End at: 2018-04-24 17:21:23

Below is generated by plot.py at 2018-04-24 17:35:11

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.65 Mbit/s (97.1% utilization)

95th percentile per-packet one-way delay: 90.325 ms

Loss rate: 11.22%

-- Flow 1:

Average throughput: 5.37 Mbit/s

95th percentile per-packet one-way delay: 90.069 ms

Loss rate: 8.02%

-- Flow 2:

Average throughput: 5.98 Mbit/s

95th percentile per-packet one-way delay: 90.392 ms

Loss rate: 13.87%

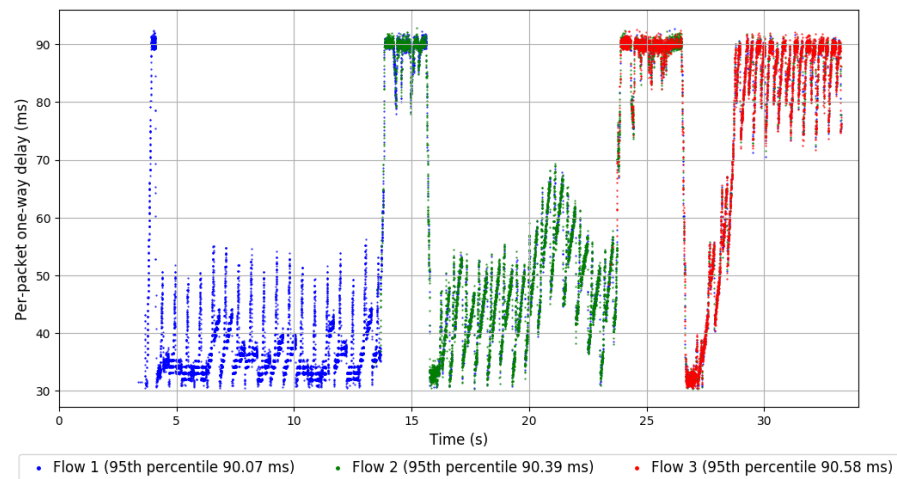
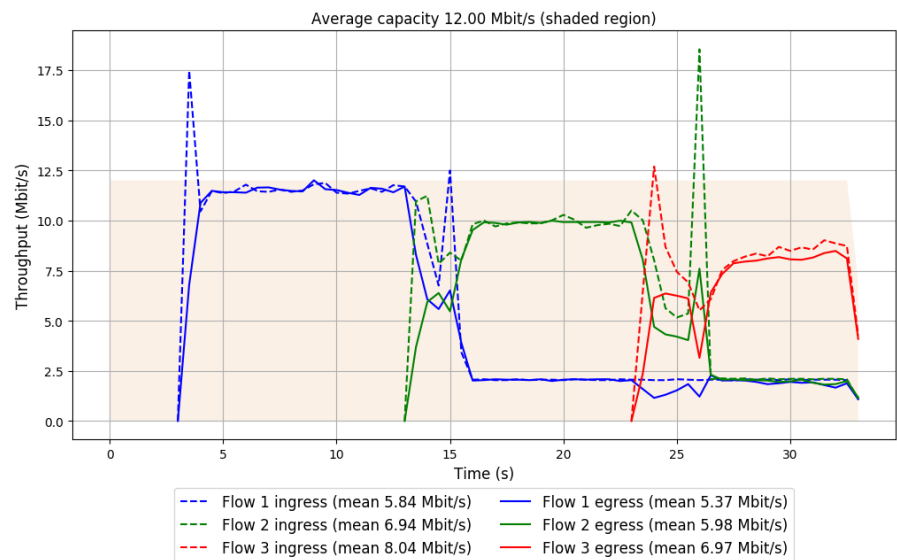
-- Flow 3:

Average throughput: 6.97 Mbit/s

95th percentile per-packet one-way delay: 90.582 ms

Loss rate: 13.66%

Run 10: Report of FillP — Data Link



Run 1: Statistics of Indigo-1-32

Start at: 2018-04-24 15:59:38

End at: 2018-04-24 16:00:08

Below is generated by plot.py at 2018-04-24 17:35:11

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.88 Mbit/s (99.0% utilization)

95th percentile per-packet one-way delay: 64.335 ms

Loss rate: 0.90%

-- Flow 1:

Average throughput: 5.99 Mbit/s

95th percentile per-packet one-way delay: 54.523 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 6.55 Mbit/s

95th percentile per-packet one-way delay: 64.423 ms

Loss rate: 0.80%

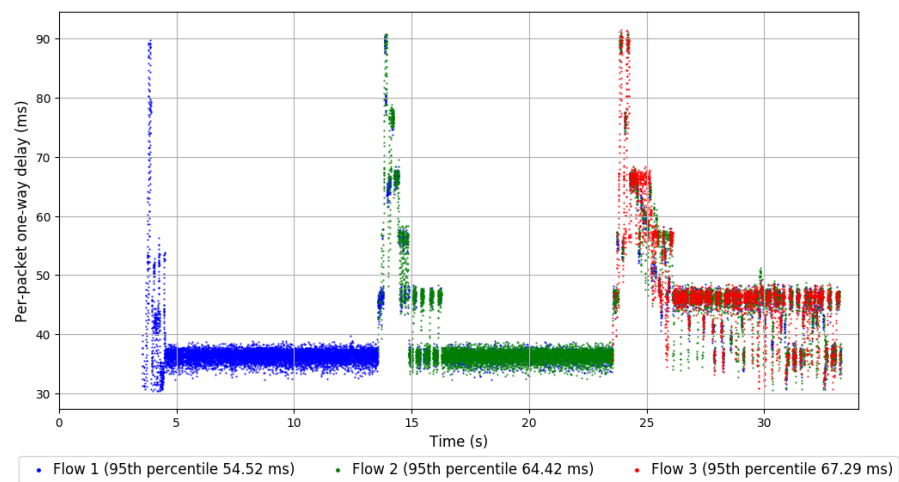
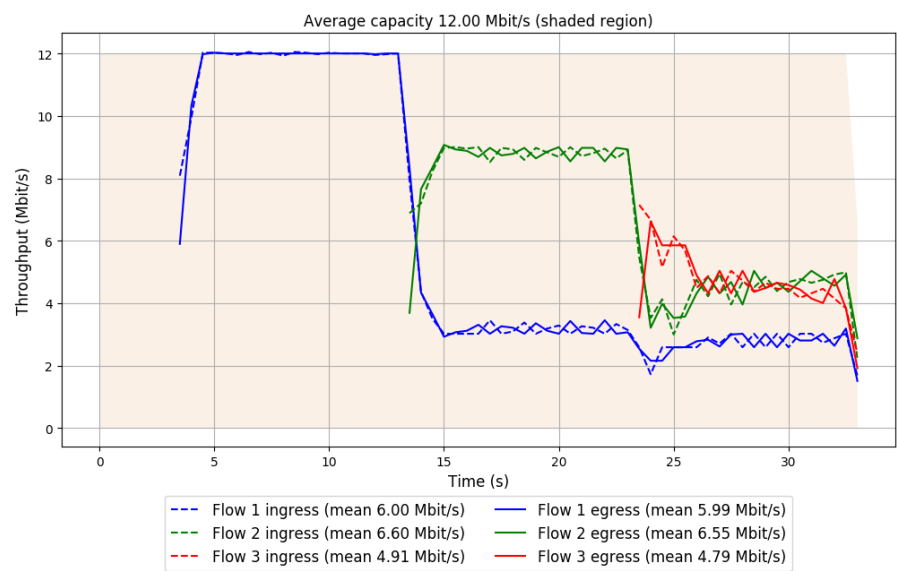
-- Flow 3:

Average throughput: 4.79 Mbit/s

95th percentile per-packet one-way delay: 67.286 ms

Loss rate: 3.11%

Run 1: Report of Indigo-1-32 — Data Link



Run 2: Statistics of Indigo-1-32

Start at: 2018-04-24 16:09:25

End at: 2018-04-24 16:09:55

Below is generated by plot.py at 2018-04-24 17:35:21

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.88 Mbit/s (99.0% utilization)

95th percentile per-packet one-way delay: 52.985 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 6.03 Mbit/s

95th percentile per-packet one-way delay: 46.514 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 6.55 Mbit/s

95th percentile per-packet one-way delay: 54.953 ms

Loss rate: 0.96%

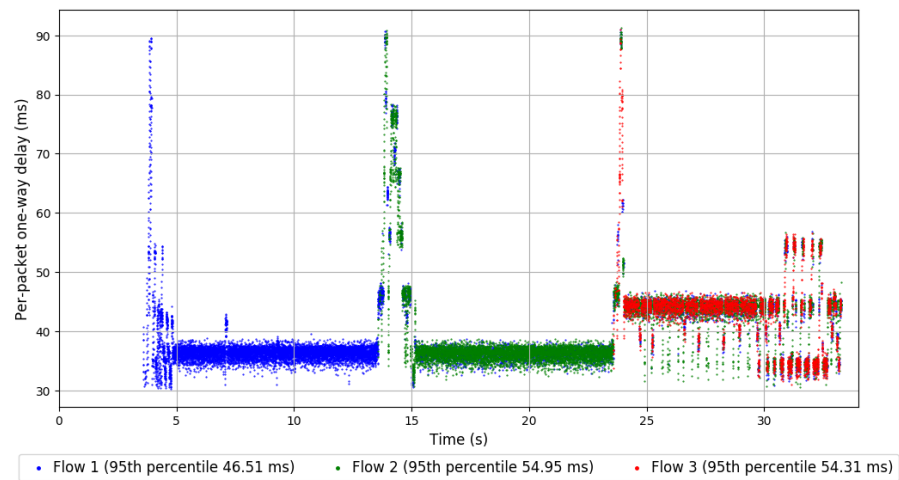
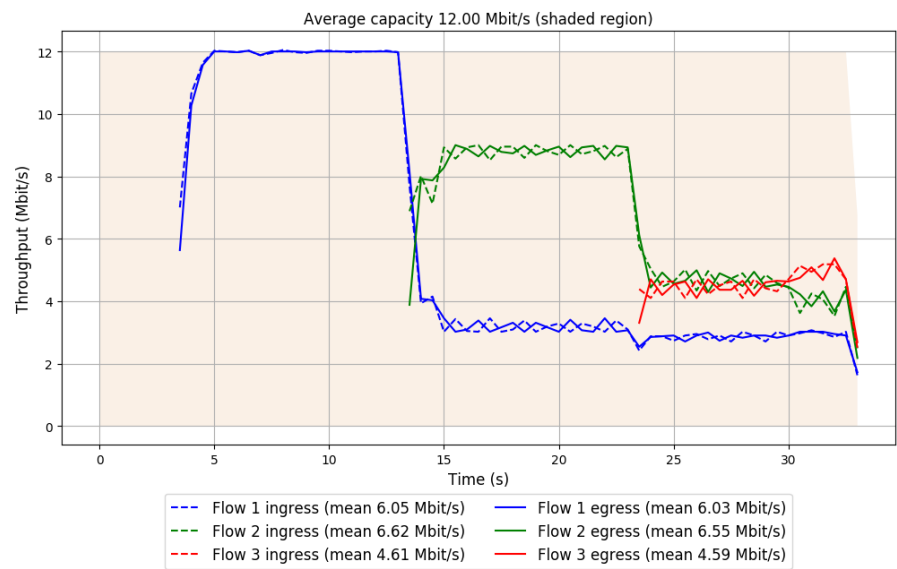
-- Flow 3:

Average throughput: 4.59 Mbit/s

95th percentile per-packet one-way delay: 54.308 ms

Loss rate: 0.99%

Run 2: Report of Indigo-1-32 — Data Link



Run 3: Statistics of Indigo-1-32

Start at: 2018-04-24 16:19:13

End at: 2018-04-24 16:19:43

Below is generated by plot.py at 2018-04-24 17:35:27

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.88 Mbit/s (99.0% utilization)

95th percentile per-packet one-way delay: 58.603 ms

Loss rate: 0.99%

-- Flow 1:

Average throughput: 6.72 Mbit/s

95th percentile per-packet one-way delay: 48.632 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 4.99 Mbit/s

95th percentile per-packet one-way delay: 58.412 ms

Loss rate: 1.08%

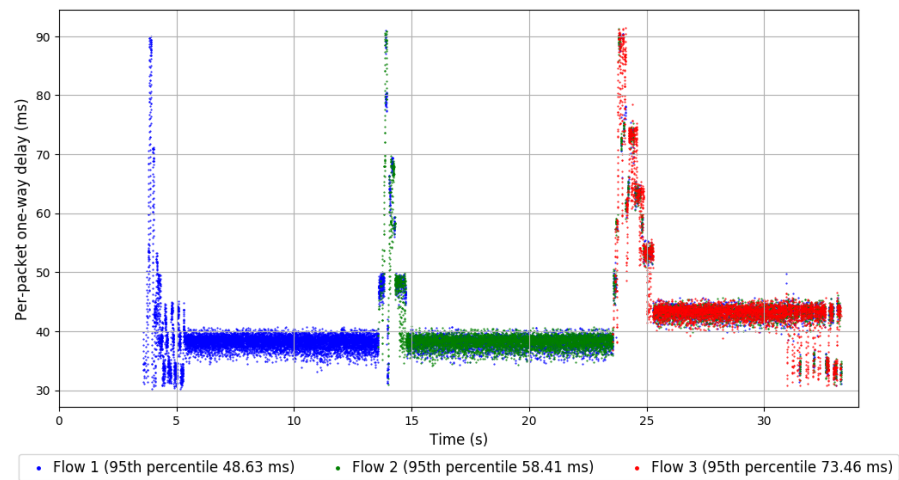
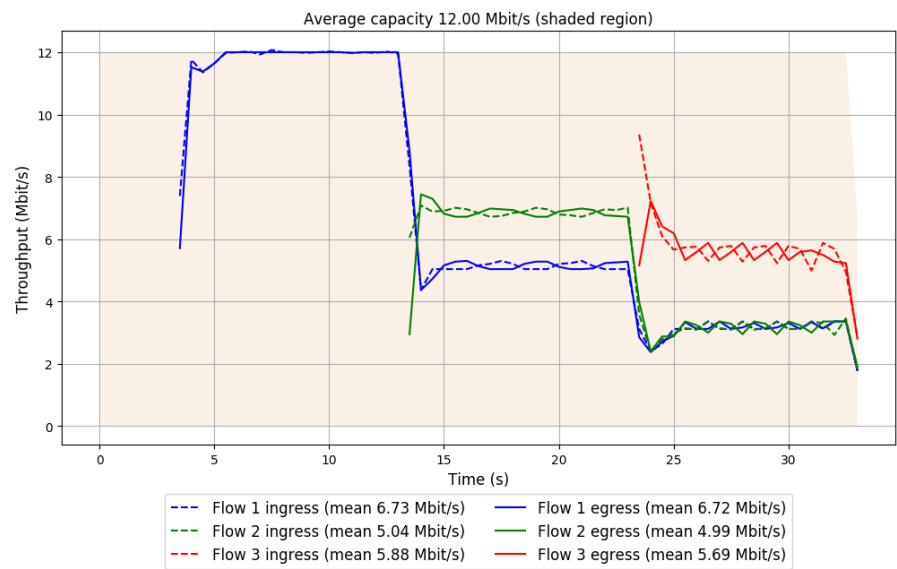
-- Flow 3:

Average throughput: 5.69 Mbit/s

95th percentile per-packet one-way delay: 73.459 ms

Loss rate: 3.27%

Run 3: Report of Indigo-1-32 — Data Link



Run 4: Statistics of Indigo-1-32

Start at: 2018-04-24 16:29:01

End at: 2018-04-24 16:29:31

Below is generated by plot.py at 2018-04-24 17:35:28

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.81 Mbit/s (98.4% utilization)

95th percentile per-packet one-way delay: 67.828 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 7.23 Mbit/s

95th percentile per-packet one-way delay: 56.903 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 4.79 Mbit/s

95th percentile per-packet one-way delay: 68.718 ms

Loss rate: 1.23%

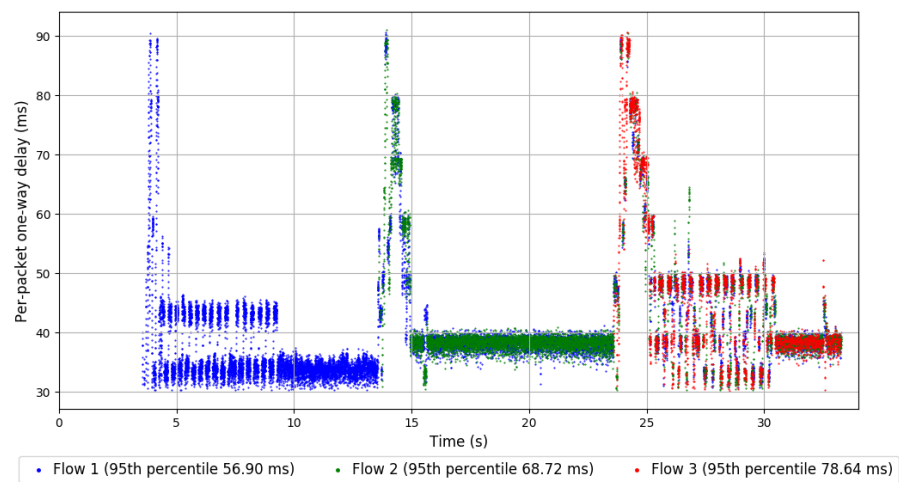
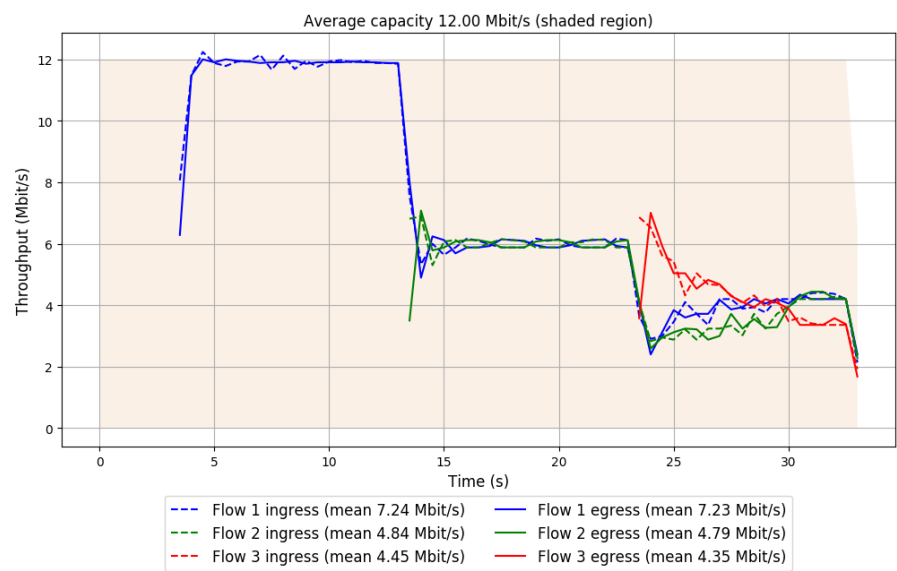
-- Flow 3:

Average throughput: 4.35 Mbit/s

95th percentile per-packet one-way delay: 78.639 ms

Loss rate: 3.05%

Run 4: Report of Indigo-1-32 — Data Link



Run 5: Statistics of Indigo-1-32

Start at: 2018-04-24 16:38:51

End at: 2018-04-24 16:39:21

Below is generated by plot.py at 2018-04-24 17:35:31

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.78 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 54.618 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 7.30 Mbit/s

95th percentile per-packet one-way delay: 47.301 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 4.68 Mbit/s

95th percentile per-packet one-way delay: 55.849 ms

Loss rate: 0.39%

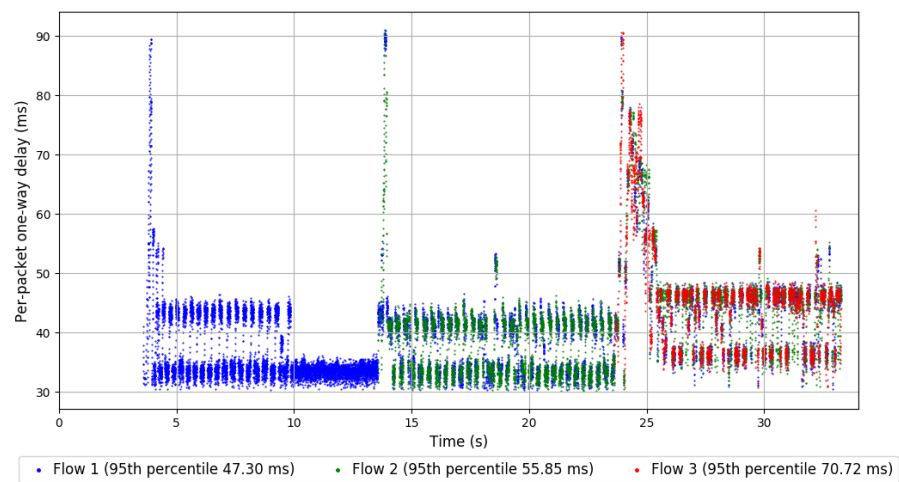
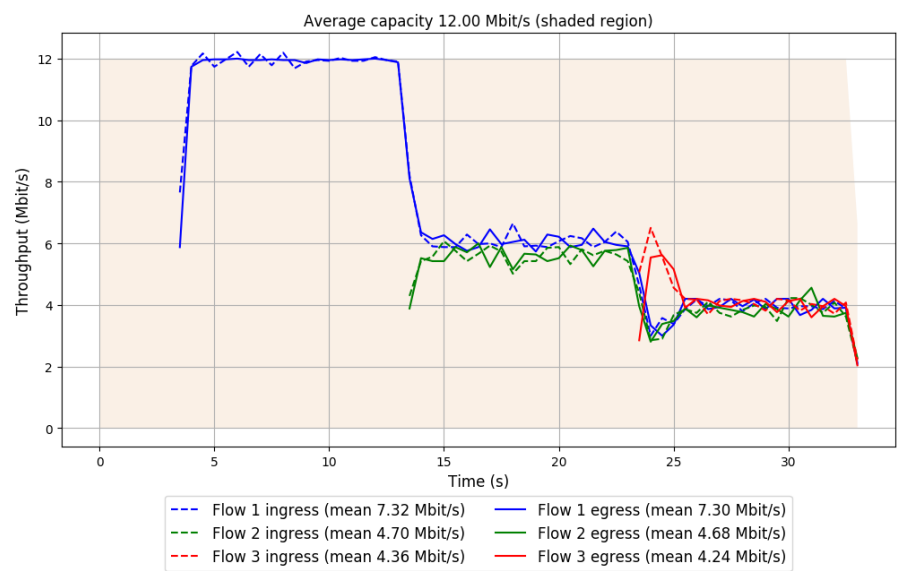
-- Flow 3:

Average throughput: 4.24 Mbit/s

95th percentile per-packet one-way delay: 70.715 ms

Loss rate: 3.10%

Run 5: Report of Indigo-1-32 — Data Link



Run 6: Statistics of Indigo-1-32

Start at: 2018-04-24 16:48:38

End at: 2018-04-24 16:49:08

Below is generated by plot.py at 2018-04-24 17:35:31

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.74 Mbit/s (97.8% utilization)

95th percentile per-packet one-way delay: 58.435 ms

Loss rate: 0.89%

-- Flow 1:

Average throughput: 6.61 Mbit/s

95th percentile per-packet one-way delay: 47.874 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 5.13 Mbit/s

95th percentile per-packet one-way delay: 68.250 ms

Loss rate: 1.28%

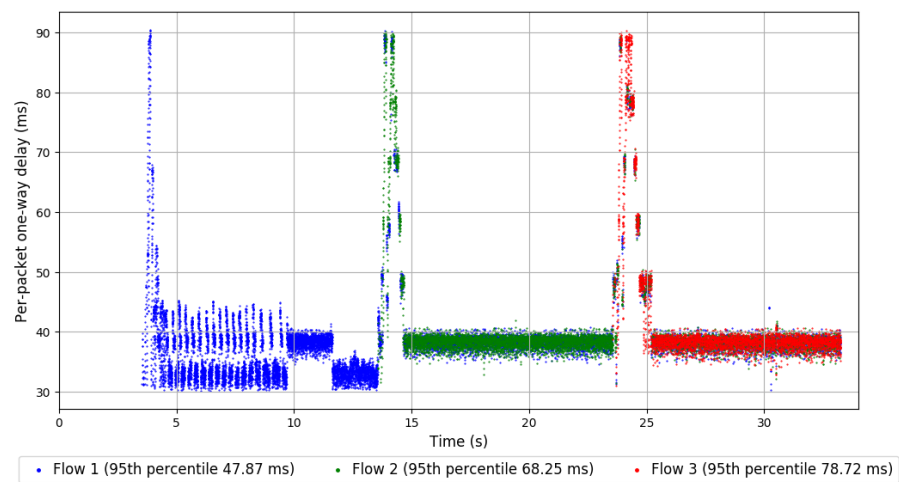
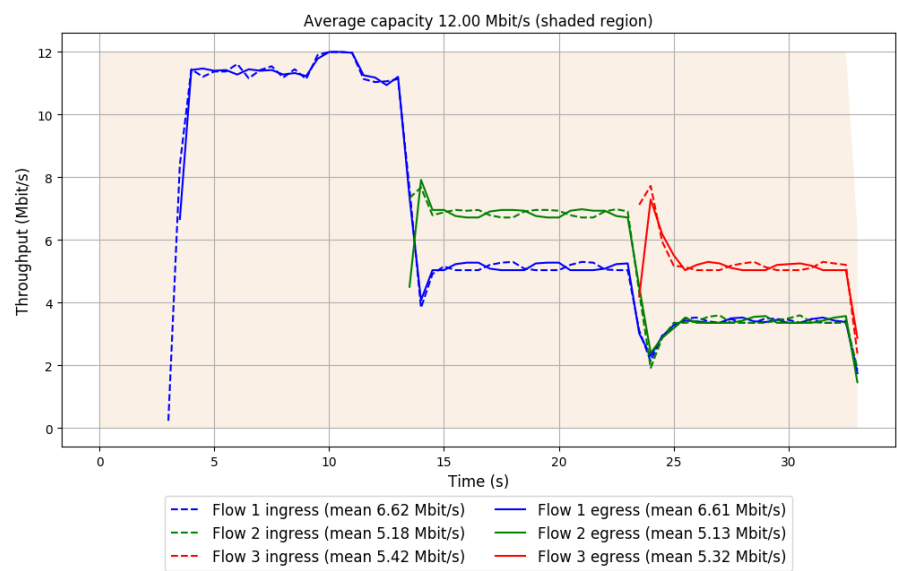
-- Flow 3:

Average throughput: 5.32 Mbit/s

95th percentile per-packet one-way delay: 78.719 ms

Loss rate: 2.25%

Run 6: Report of Indigo-1-32 — Data Link



Run 7: Statistics of Indigo-1-32

Start at: 2018-04-24 16:58:25

End at: 2018-04-24 16:58:55

Below is generated by plot.py at 2018-04-24 17:35:32

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.84 Mbit/s (98.7% utilization)

95th percentile per-packet one-way delay: 63.109 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 7.21 Mbit/s

95th percentile per-packet one-way delay: 51.866 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 4.66 Mbit/s

95th percentile per-packet one-way delay: 65.272 ms

Loss rate: 1.30%

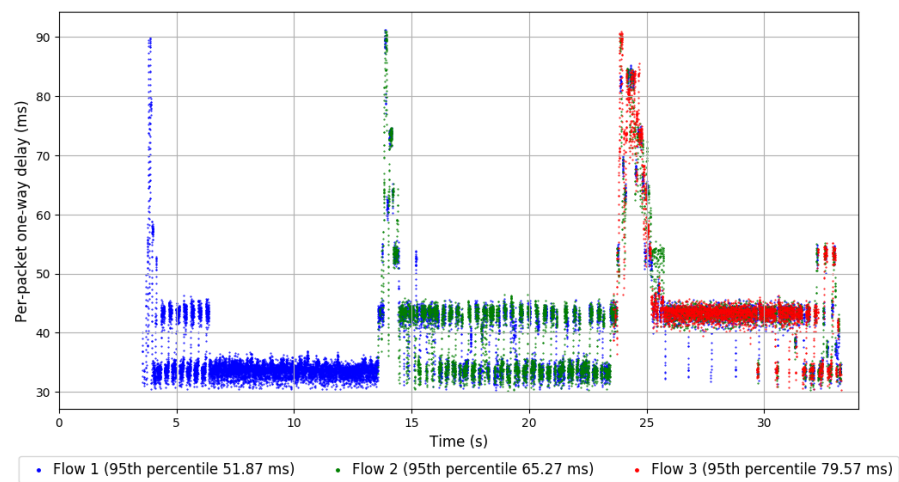
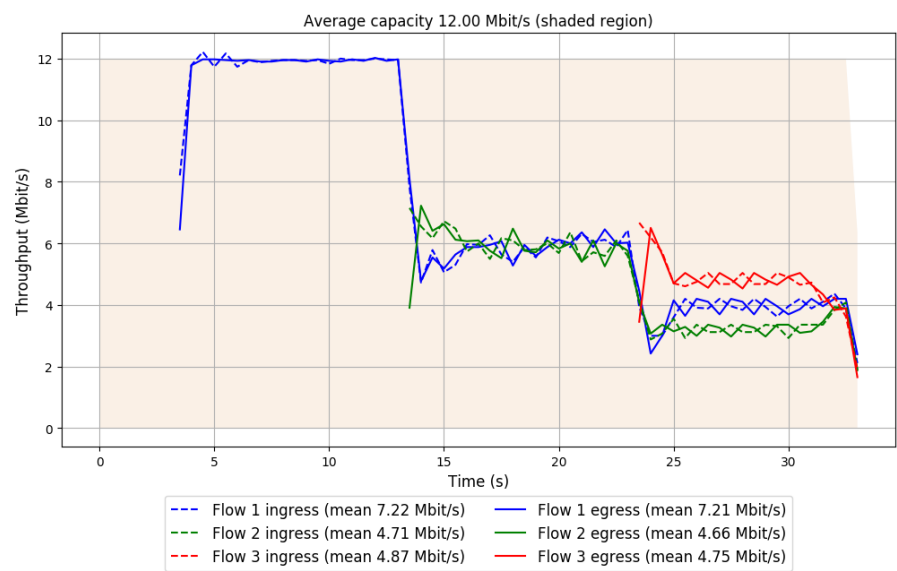
-- Flow 3:

Average throughput: 4.75 Mbit/s

95th percentile per-packet one-way delay: 79.568 ms

Loss rate: 2.82%

Run 7: Report of Indigo-1-32 — Data Link



Run 8: Statistics of Indigo-1-32

Start at: 2018-04-24 17:08:14

End at: 2018-04-24 17:08:44

Below is generated by plot.py at 2018-04-24 17:35:33

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.87 Mbit/s (98.9% utilization)

95th percentile per-packet one-way delay: 63.519 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 7.47 Mbit/s

95th percentile per-packet one-way delay: 61.786 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 4.71 Mbit/s

95th percentile per-packet one-way delay: 64.253 ms

Loss rate: 1.33%

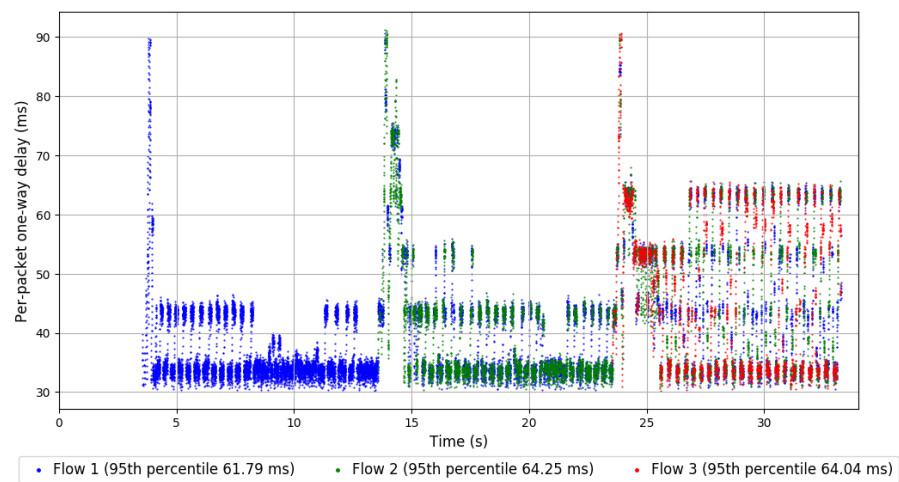
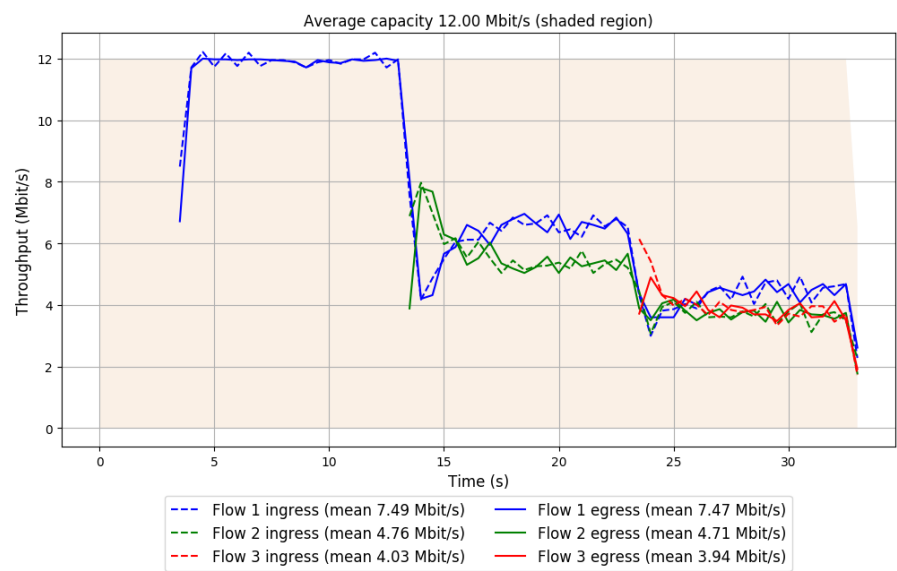
-- Flow 3:

Average throughput: 3.94 Mbit/s

95th percentile per-packet one-way delay: 64.038 ms

Loss rate: 2.90%

Run 8: Report of Indigo-1-32 — Data Link



Run 9: Statistics of Indigo-1-32

Start at: 2018-04-24 17:18:00

End at: 2018-04-24 17:18:30

Below is generated by plot.py at 2018-04-24 17:35:33

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.80 Mbit/s (98.3% utilization)

95th percentile per-packet one-way delay: 51.005 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 7.38 Mbit/s

95th percentile per-packet one-way delay: 44.732 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 51.630 ms

Loss rate: 0.31%

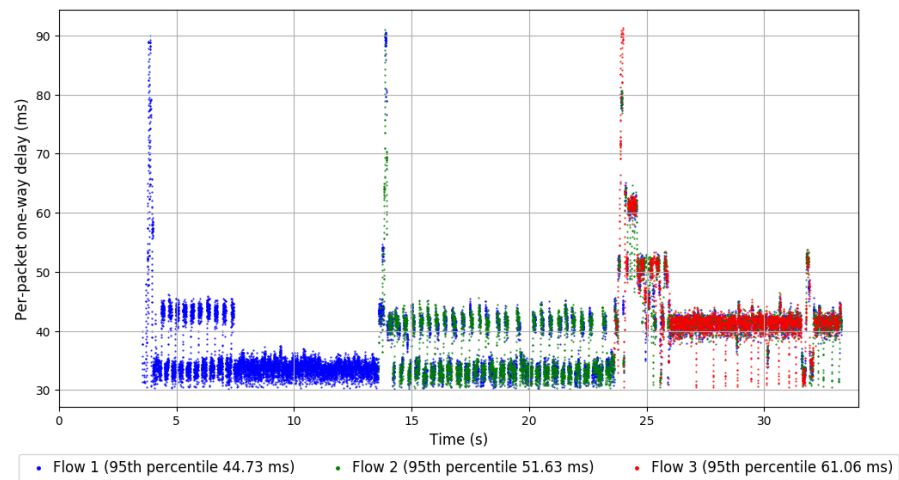
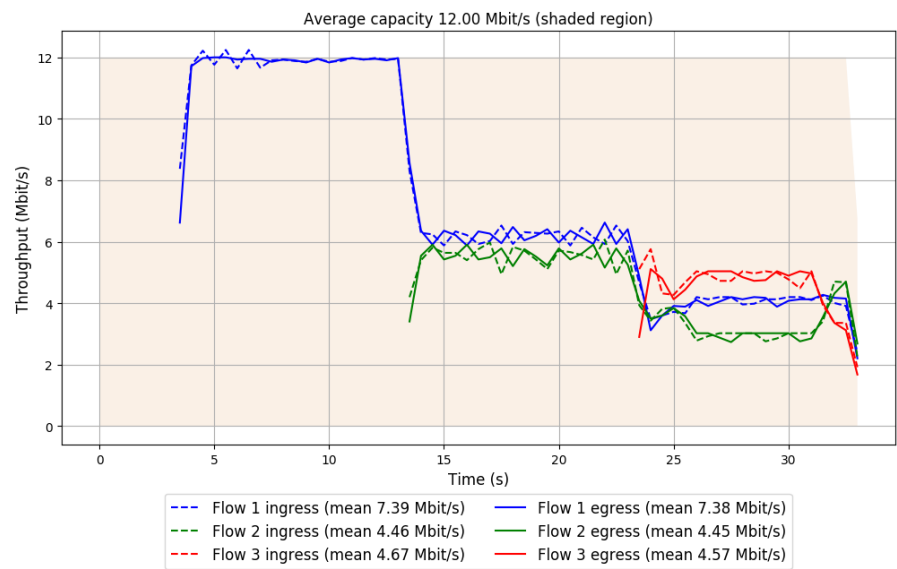
-- Flow 3:

Average throughput: 4.57 Mbit/s

95th percentile per-packet one-way delay: 61.059 ms

Loss rate: 2.97%

Run 9: Report of Indigo-1-32 — Data Link



Run 10: Statistics of Indigo-1-32

Start at: 2018-04-24 17:27:46

End at: 2018-04-24 17:28:16

Below is generated by plot.py at 2018-04-24 17:35:44

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 11.87 Mbit/s (98.9% utilization)

95th percentile per-packet one-way delay: 62.490 ms

Loss rate: 0.84%

-- Flow 1:

Average throughput: 7.52 Mbit/s

95th percentile per-packet one-way delay: 55.038 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 4.78 Mbit/s

95th percentile per-packet one-way delay: 62.851 ms

Loss rate: 1.20%

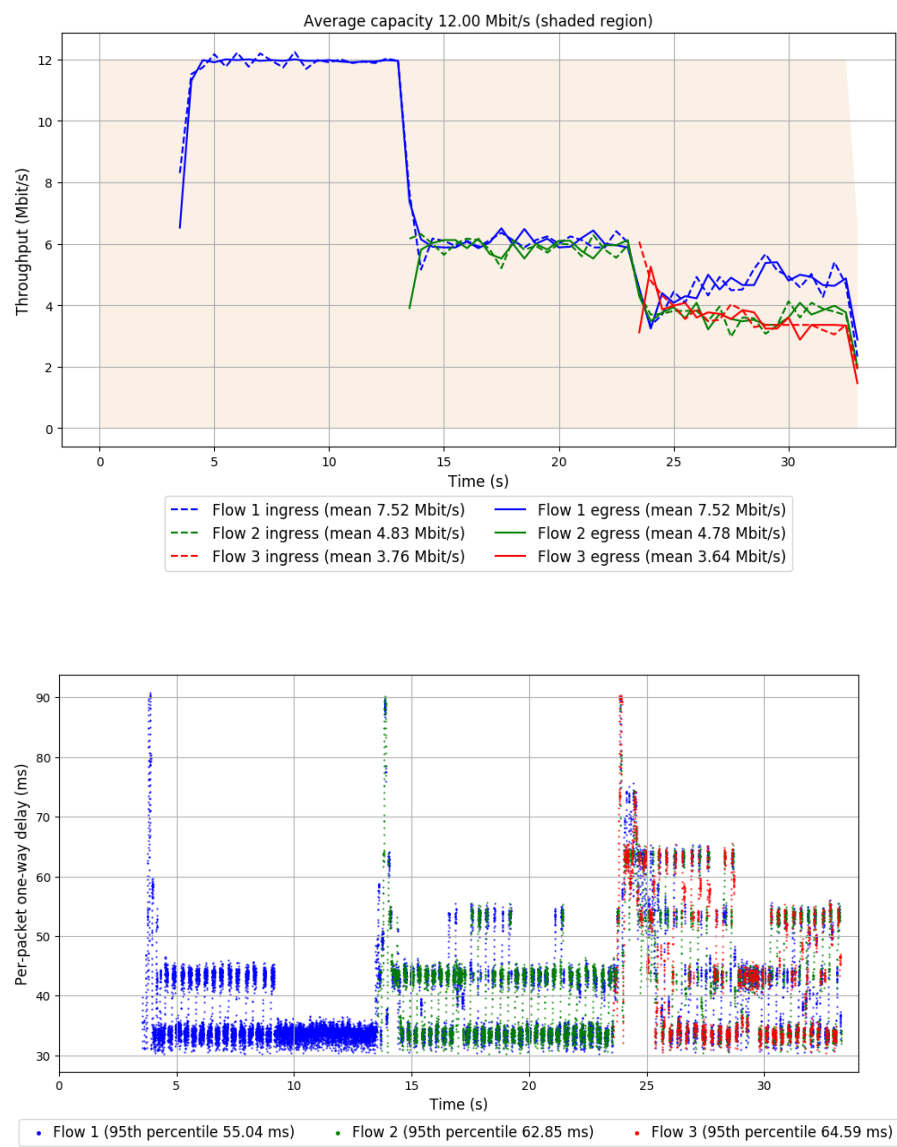
-- Flow 3:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 64.595 ms

Loss rate: 3.71%

Run 10: Report of Indigo-1-32 — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-04-24 15:54:27

End at: 2018-04-24 15:54:57

Below is generated by plot.py at 2018-04-24 17:35:52

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.85 Mbit/s (90.4% utilization)

95th percentile per-packet one-way delay: 89.061 ms

Loss rate: 1.18%

-- Flow 1:

Average throughput: 7.26 Mbit/s

95th percentile per-packet one-way delay: 85.089 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 4.18 Mbit/s

95th percentile per-packet one-way delay: 89.820 ms

Loss rate: 2.08%

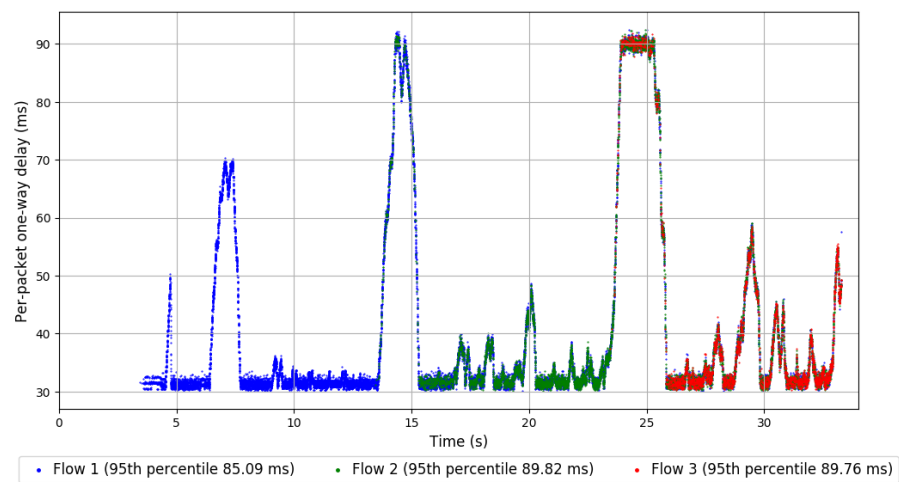
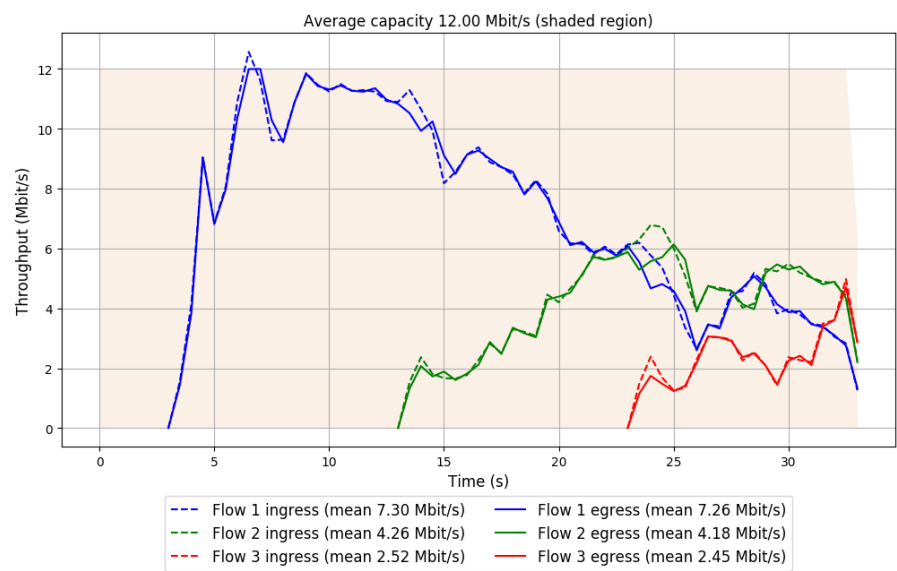
-- Flow 3:

Average throughput: 2.45 Mbit/s

95th percentile per-packet one-way delay: 89.759 ms

Loss rate: 3.25%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-04-24 16:04:14

End at: 2018-04-24 16:04:44

Below is generated by plot.py at 2018-04-24 17:35:52

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.94 Mbit/s (91.2% utilization)

95th percentile per-packet one-way delay: 89.839 ms

Loss rate: 3.47%

-- Flow 1:

Average throughput: 6.14 Mbit/s

95th percentile per-packet one-way delay: 89.504 ms

Loss rate: 2.49%

-- Flow 2:

Average throughput: 4.24 Mbit/s

95th percentile per-packet one-way delay: 90.117 ms

Loss rate: 5.45%

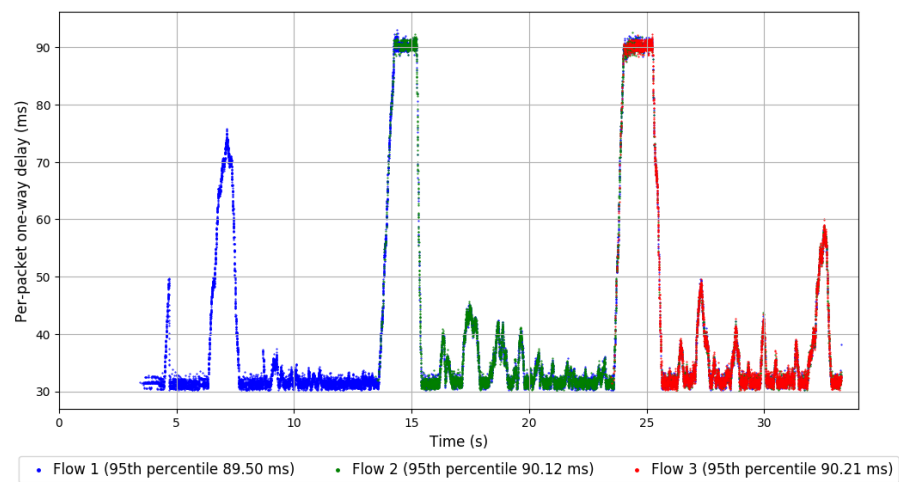
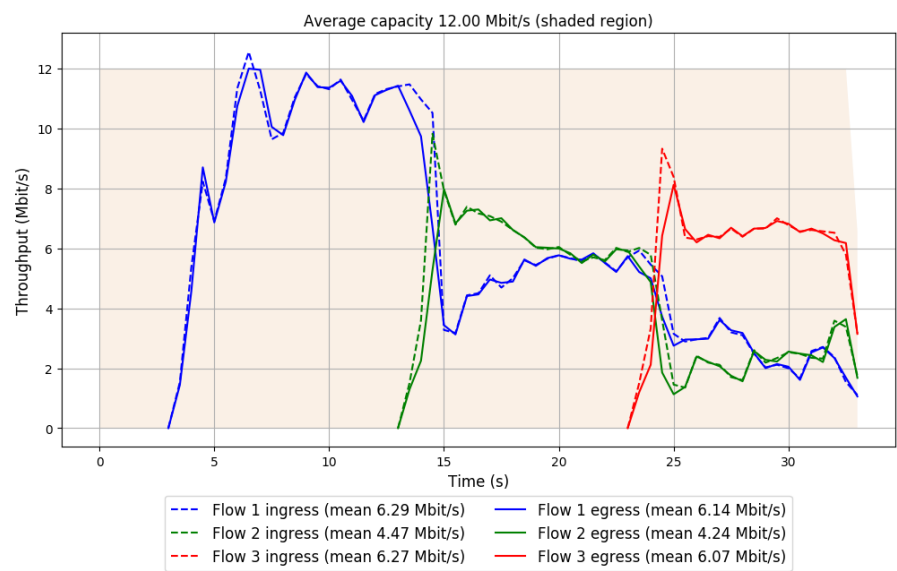
-- Flow 3:

Average throughput: 6.07 Mbit/s

95th percentile per-packet one-way delay: 90.211 ms

Loss rate: 3.57%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-04-24 16:14:01

End at: 2018-04-24 16:14:31

Below is generated by plot.py at 2018-04-24 17:35:54

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.80 Mbit/s (90.0% utilization)

95th percentile per-packet one-way delay: 83.090 ms

Loss rate: 0.36%

-- Flow 1:

Average throughput: 6.63 Mbit/s

95th percentile per-packet one-way delay: 84.608 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 4.93 Mbit/s

95th percentile per-packet one-way delay: 77.830 ms

Loss rate: 0.52%

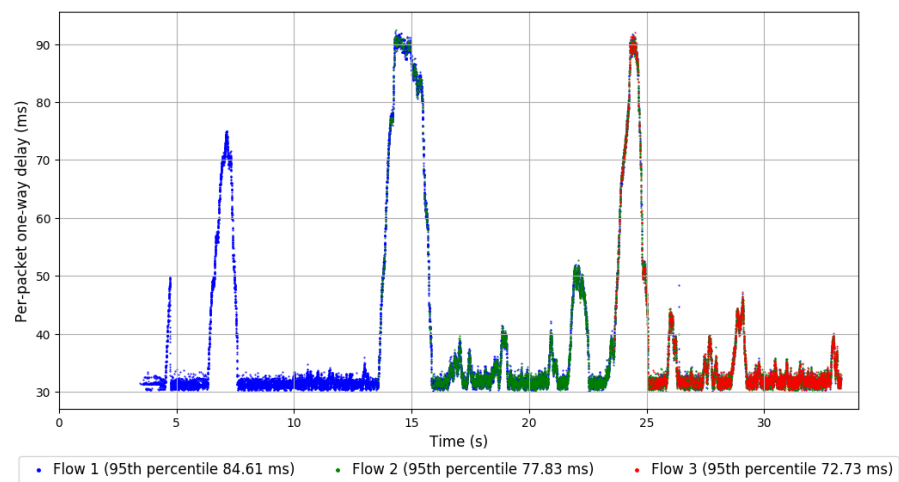
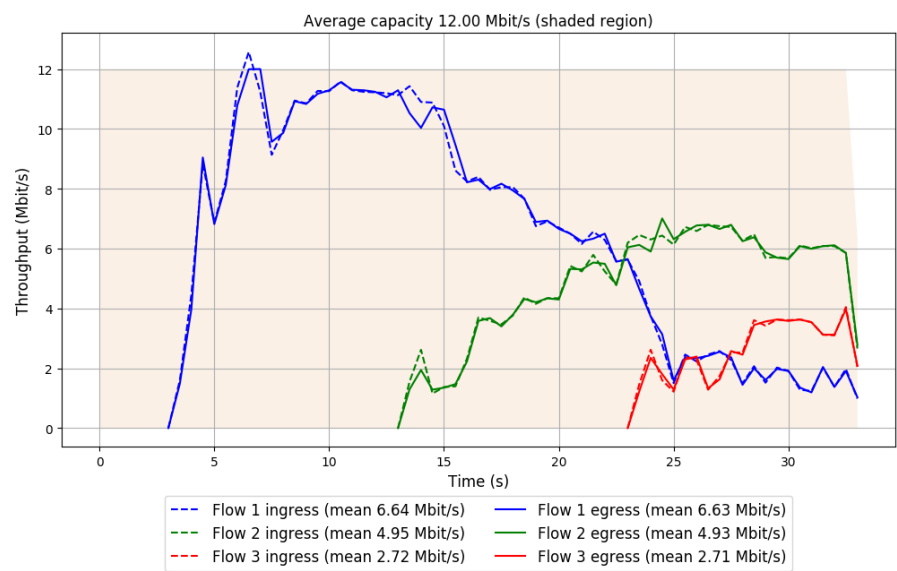
-- Flow 3:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 72.730 ms

Loss rate: 0.65%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-04-24 16:23:49

End at: 2018-04-24 16:24:19

Below is generated by plot.py at 2018-04-24 17:35:56

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.95 Mbit/s (91.3% utilization)

95th percentile per-packet one-way delay: 72.908 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 7.79 Mbit/s

95th percentile per-packet one-way delay: 68.266 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 3.19 Mbit/s

95th percentile per-packet one-way delay: 87.658 ms

Loss rate: 1.14%

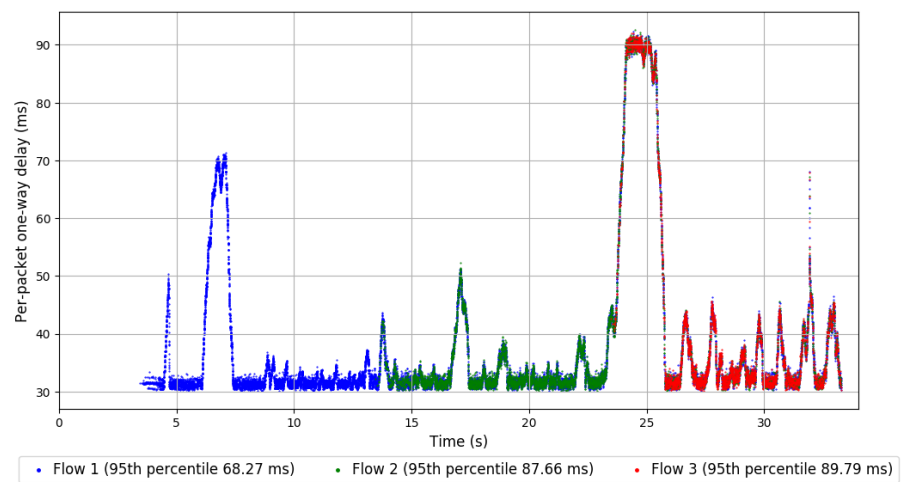
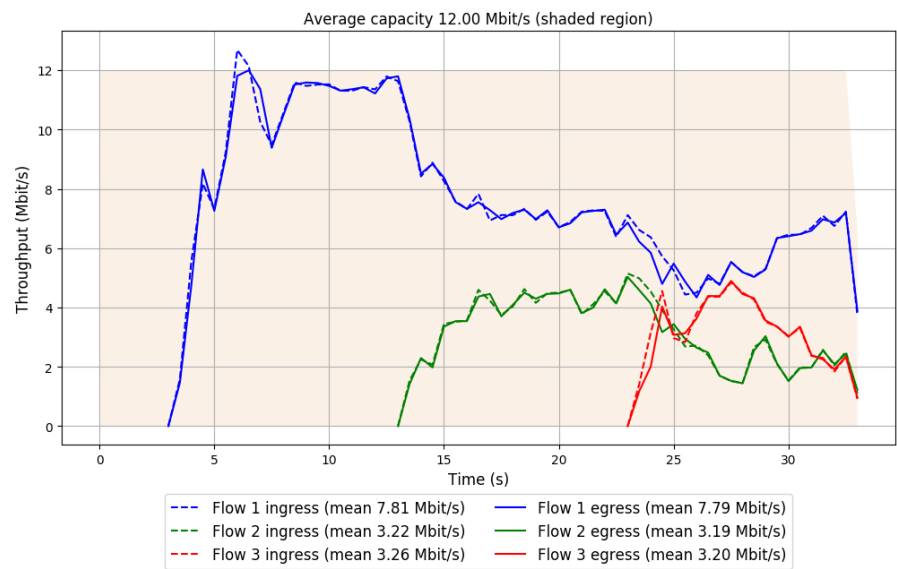
-- Flow 3:

Average throughput: 3.20 Mbit/s

95th percentile per-packet one-way delay: 89.790 ms

Loss rate: 2.22%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-04-24 16:33:36

End at: 2018-04-24 16:34:06

Below is generated by plot.py at 2018-04-24 17:35:58

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.93 Mbit/s (91.1% utilization)

95th percentile per-packet one-way delay: 89.979 ms

Loss rate: 1.97%

-- Flow 1:

Average throughput: 8.38 Mbit/s

95th percentile per-packet one-way delay: 89.920 ms

Loss rate: 1.40%

-- Flow 2:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 90.357 ms

Loss rate: 4.93%

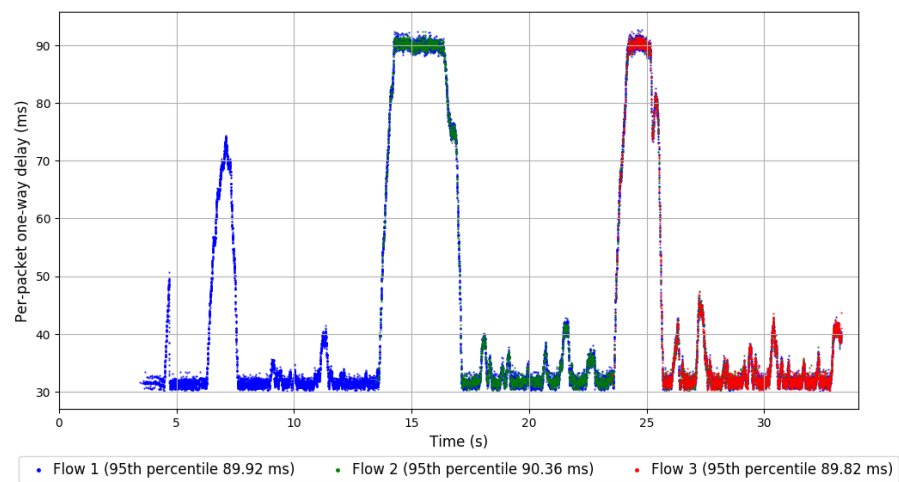
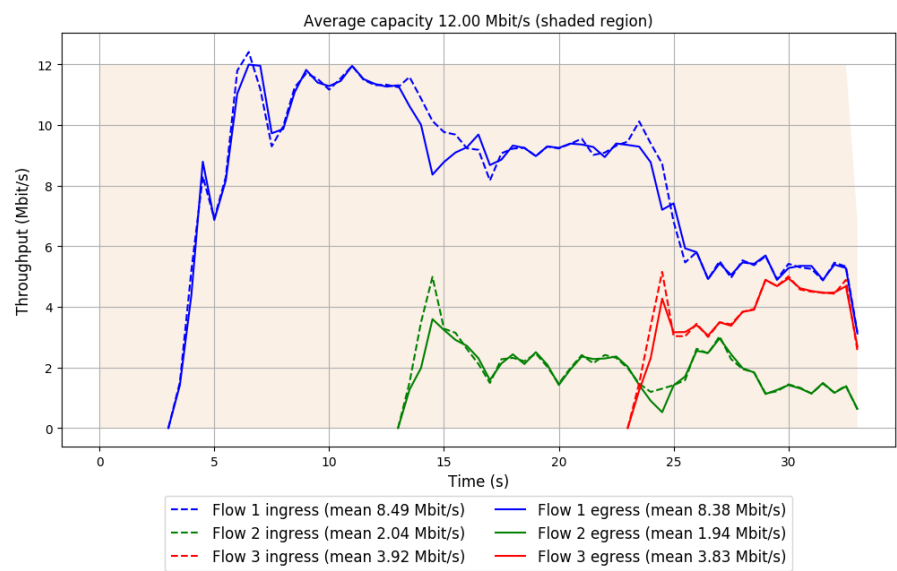
-- Flow 3:

Average throughput: 3.83 Mbit/s

95th percentile per-packet one-way delay: 89.820 ms

Loss rate: 2.62%

Run 5: Report of PCC-Vivace — Data Link



Run 6: Statistics of PCC-Vivace

Start at: 2018-04-24 16:43:26

End at: 2018-04-24 16:43:56

Below is generated by plot.py at 2018-04-24 17:35:59

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.97 Mbit/s (91.4% utilization)

95th percentile per-packet one-way delay: 70.415 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 7.49 Mbit/s

95th percentile per-packet one-way delay: 69.959 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 3.93 Mbit/s

95th percentile per-packet one-way delay: 71.124 ms

Loss rate: 0.40%

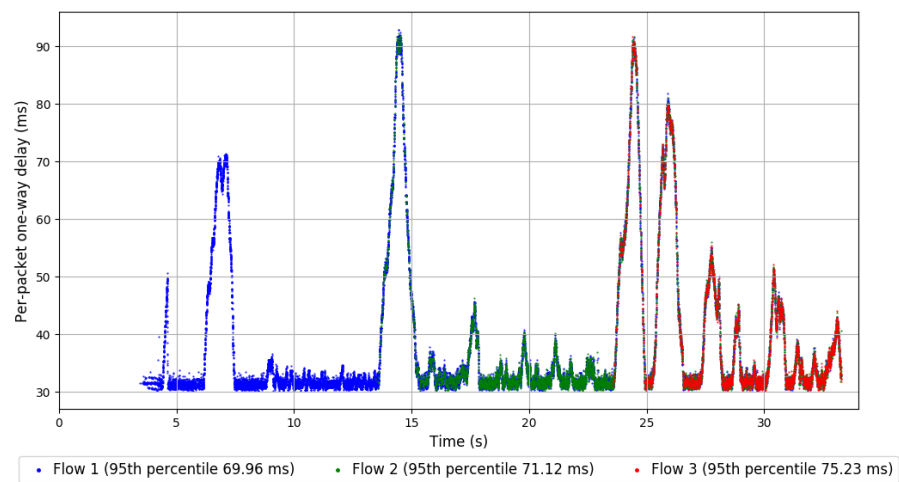
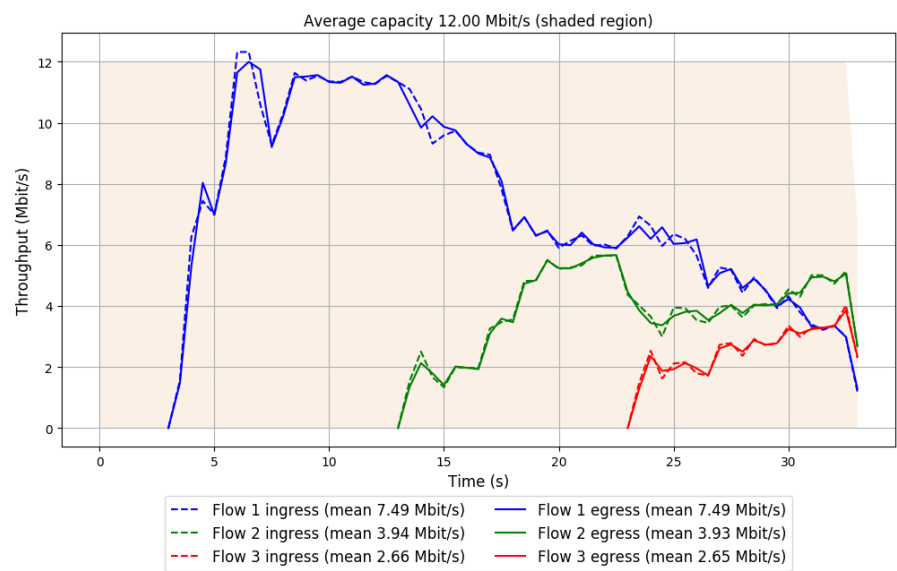
-- Flow 3:

Average throughput: 2.65 Mbit/s

95th percentile per-packet one-way delay: 75.226 ms

Loss rate: 0.62%

Run 6: Report of PCC-Vivace — Data Link



Run 7: Statistics of PCC-Vivace

Start at: 2018-04-24 16:53:14

End at: 2018-04-24 16:53:44

Below is generated by plot.py at 2018-04-24 17:35:59

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.83 Mbit/s (90.3% utilization)

95th percentile per-packet one-way delay: 89.416 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 8.04 Mbit/s

95th percentile per-packet one-way delay: 89.739 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 3.40 Mbit/s

95th percentile per-packet one-way delay: 87.029 ms

Loss rate: 1.70%

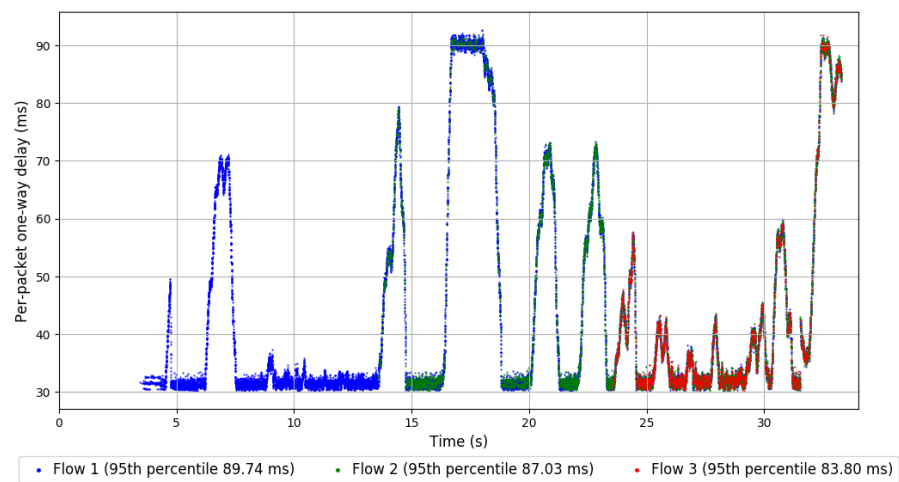
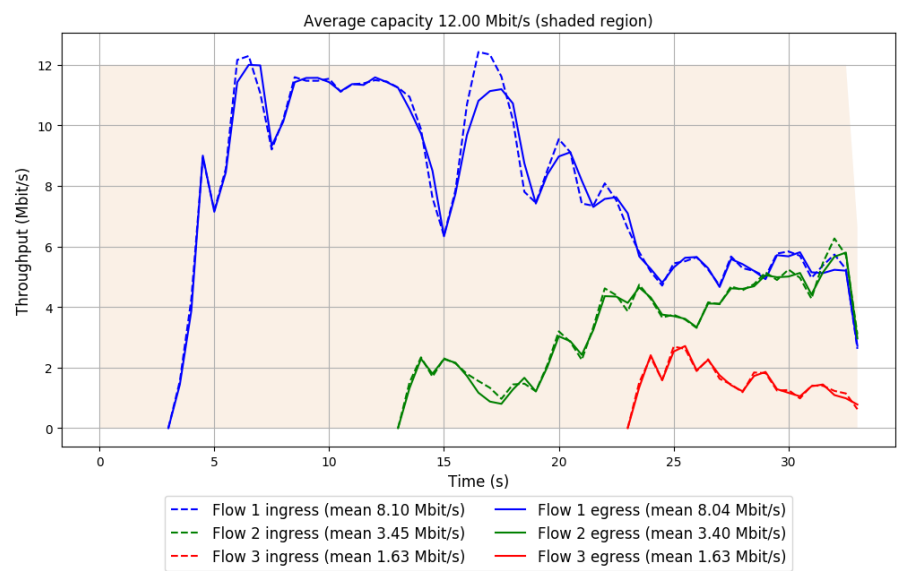
-- Flow 3:

Average throughput: 1.63 Mbit/s

95th percentile per-packet one-way delay: 83.801 ms

Loss rate: 0.68%

Run 7: Report of PCC-Vivace — Data Link



Run 8: Statistics of PCC-Vivace

Start at: 2018-04-24 17:03:01

End at: 2018-04-24 17:03:31

Below is generated by plot.py at 2018-04-24 17:36:03

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.84 Mbit/s (90.3% utilization)

95th percentile per-packet one-way delay: 70.463 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 7.42 Mbit/s

95th percentile per-packet one-way delay: 72.915 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 4.09 Mbit/s

95th percentile per-packet one-way delay: 71.723 ms

Loss rate: 1.36%

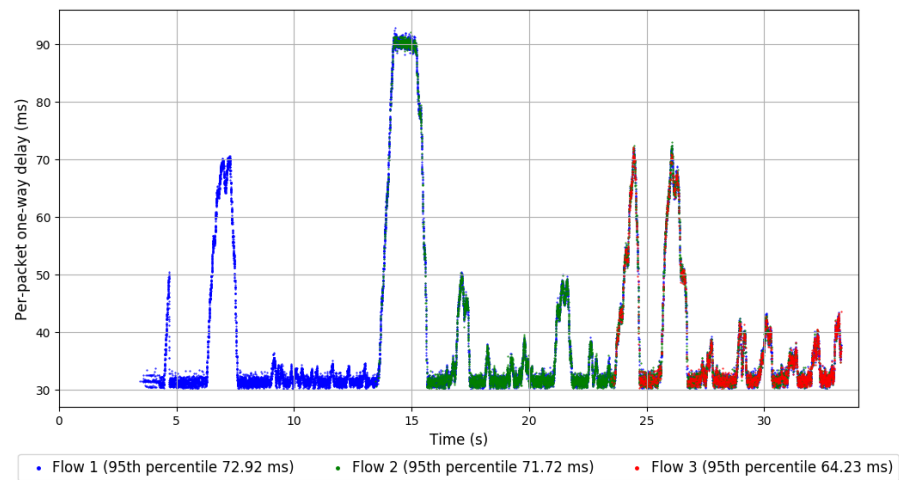
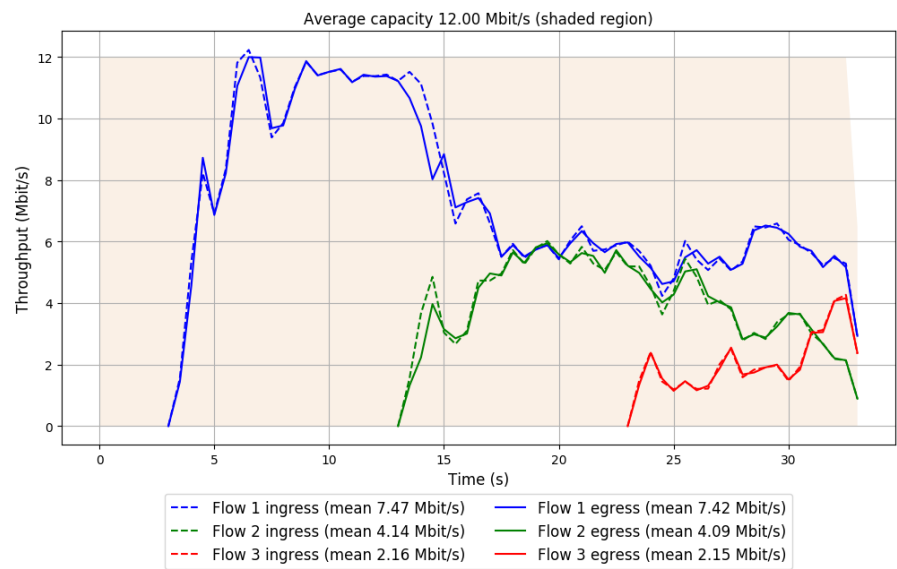
-- Flow 3:

Average throughput: 2.15 Mbit/s

95th percentile per-packet one-way delay: 64.231 ms

Loss rate: 0.82%

Run 8: Report of PCC-Vivace — Data Link



Run 9: Statistics of PCC-Vivace

Start at: 2018-04-24 17:12:49

End at: 2018-04-24 17:13:19

Below is generated by plot.py at 2018-04-24 17:36:04

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.63 Mbit/s (88.6% utilization)

95th percentile per-packet one-way delay: 89.793 ms

Loss rate: 1.34%

-- Flow 1:

Average throughput: 7.35 Mbit/s

95th percentile per-packet one-way delay: 90.067 ms

Loss rate: 1.28%

-- Flow 2:

Average throughput: 3.77 Mbit/s

95th percentile per-packet one-way delay: 83.808 ms

Loss rate: 1.79%

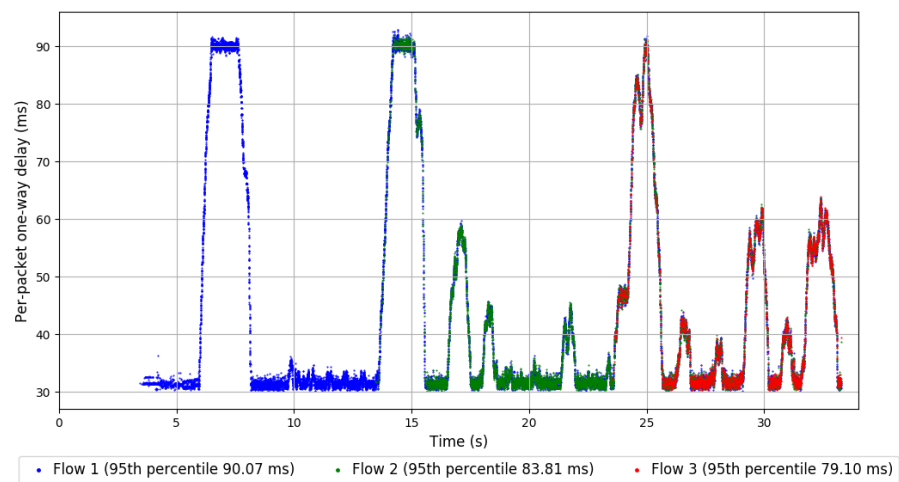
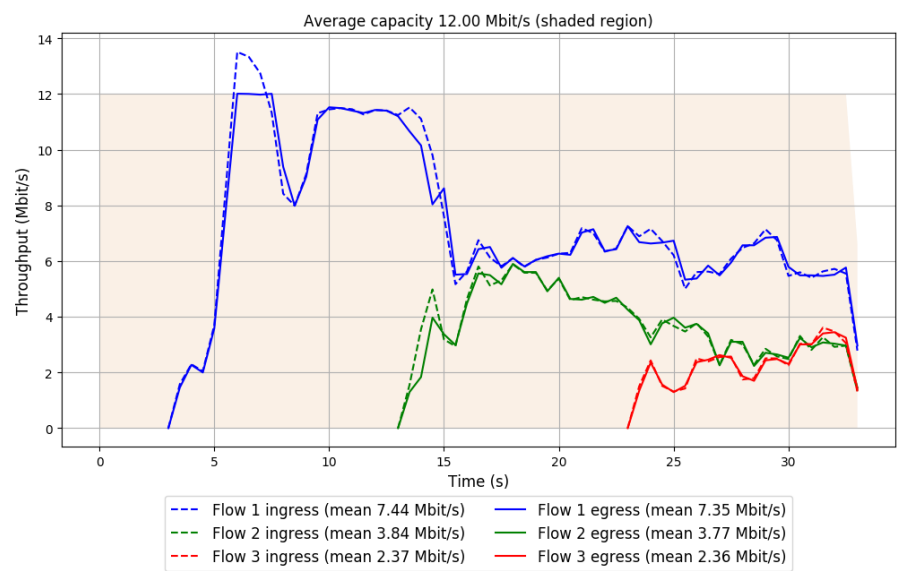
-- Flow 3:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 79.098 ms

Loss rate: 0.35%

Run 9: Report of PCC-Vivace — Data Link



Run 10: Statistics of PCC-Vivace

Start at: 2018-04-24 17:22:35

End at: 2018-04-24 17:23:05

Below is generated by plot.py at 2018-04-24 17:36:04

Datalink statistics

-- Total of 3 flows:

Average capacity: 12.00 Mbit/s

Average throughput: 10.90 Mbit/s (90.9% utilization)

95th percentile per-packet one-way delay: 89.667 ms

Loss rate: 1.71%

-- Flow 1:

Average throughput: 7.84 Mbit/s

95th percentile per-packet one-way delay: 88.778 ms

Loss rate: 1.00%

-- Flow 2:

Average throughput: 3.18 Mbit/s

95th percentile per-packet one-way delay: 89.933 ms

Loss rate: 2.47%

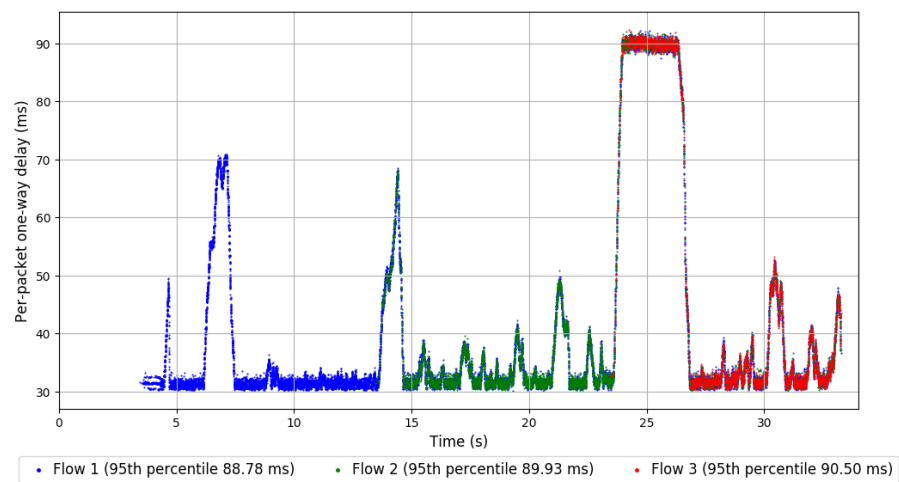
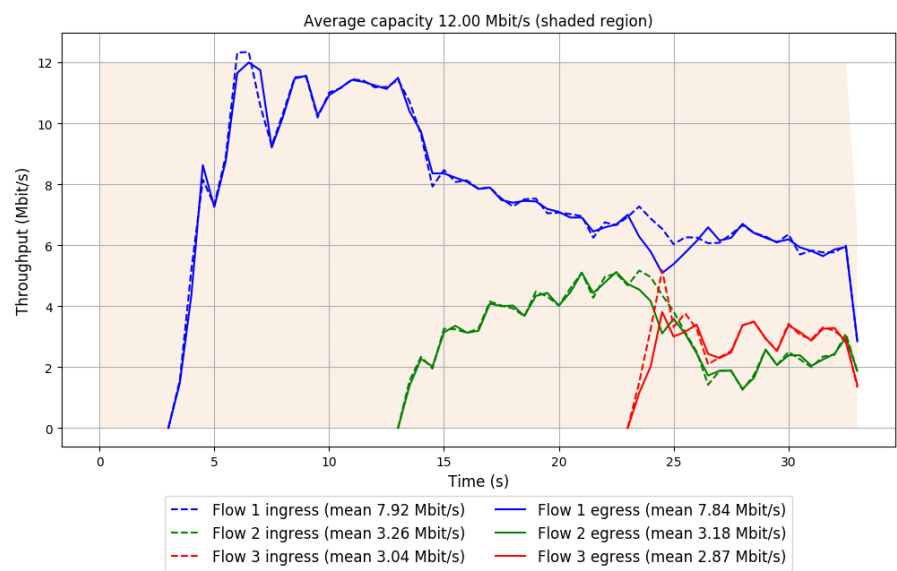
-- Flow 3:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 90.500 ms

Loss rate: 5.76%

Run 10: Report of PCC-Vivace — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-04-24 15:53:53

End at: 2018-04-24 15:54:23

Run 1: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of PCC-Expr

Start at: 2018-04-24 16:03:40

End at: 2018-04-24 16:04:10

Run 2: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of PCC-Expr

Start at: 2018-04-24 16:13:27

End at: 2018-04-24 16:13:57

Run 3: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 4: Statistics of PCC-Expr

Start at: 2018-04-24 16:23:15

End at: 2018-04-24 16:23:45

Run 4: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 5: Statistics of PCC-Expr

Start at: 2018-04-24 16:33:03

End at: 2018-04-24 16:33:33

Run 5: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 6: Statistics of PCC-Expr

Start at: 2018-04-24 16:42:53

End at: 2018-04-24 16:43:23

Run 6: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 7: Statistics of PCC-Expr

Start at: 2018-04-24 16:52:40

End at: 2018-04-24 16:53:10

Run 7: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 8: Statistics of PCC-Expr

Start at: 2018-04-24 17:02:27

End at: 2018-04-24 17:02:57

Run 8: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 9: Statistics of PCC-Expr

Start at: 2018-04-24 17:12:15

End at: 2018-04-24 17:12:45

Run 9: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 10: Statistics of PCC-Expr

Start at: 2018-04-24 17:22:01

End at: 2018-04-24 17:22:31

Run 10: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing