

Pantheon Report

Generated at 2018-04-18 17:45:06 (UTC).

Data path: GCE London Ethernet (*remote*) → GCE Iowa Ethernet (*local*).

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.

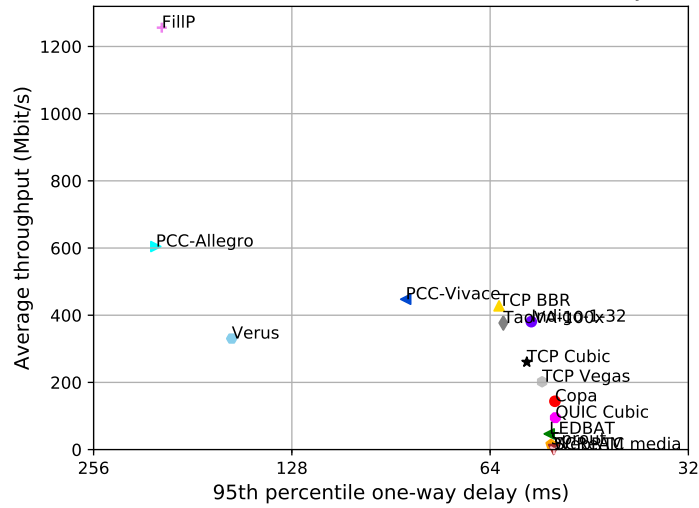
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

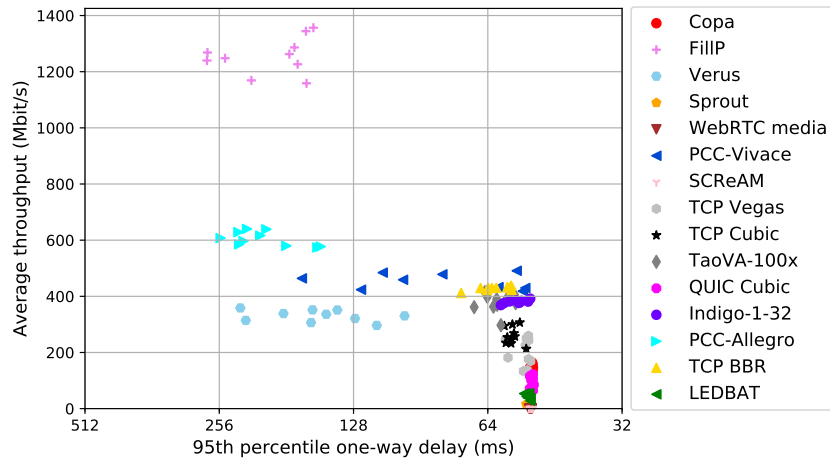
Git summary:

```
branch: master @ b3d6e7098641364fd3a292656a51aa81e316d0b4
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 @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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
```

test from GCE London Ethernet to GCE Iowa Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE London Ethernet to GCE Iowa Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows



[illegible]

Run 1: Statistics of TCP BBR

Start at: 2018-04-18 10:18:35

End at: 2018-04-18 10:19:05

Below is generated by plot.py at 2018-04-18 15:49:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 430.24 Mbit/s

95th percentile per-packet one-way delay: 57.200 ms

Loss rate: 0.59%

-- Flow 1:

Average throughput: 219.61 Mbit/s

95th percentile per-packet one-way delay: 56.182 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 217.03 Mbit/s

95th percentile per-packet one-way delay: 57.189 ms

Loss rate: 0.57%

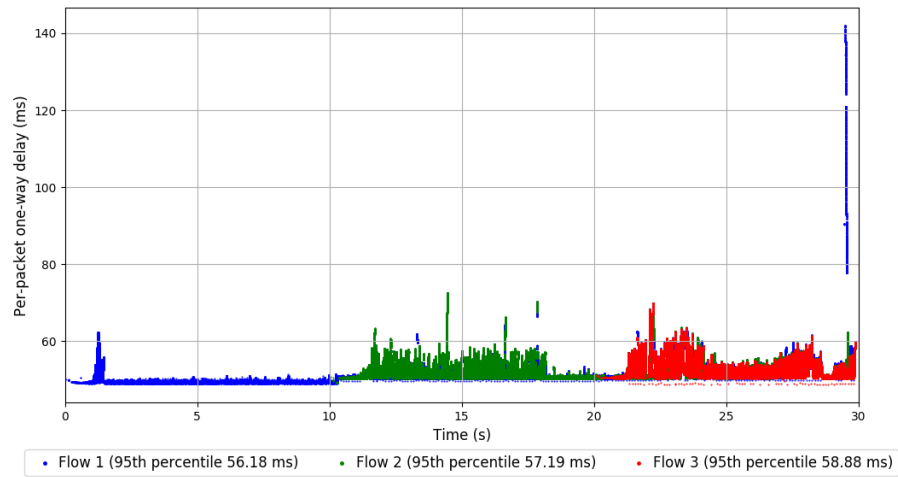
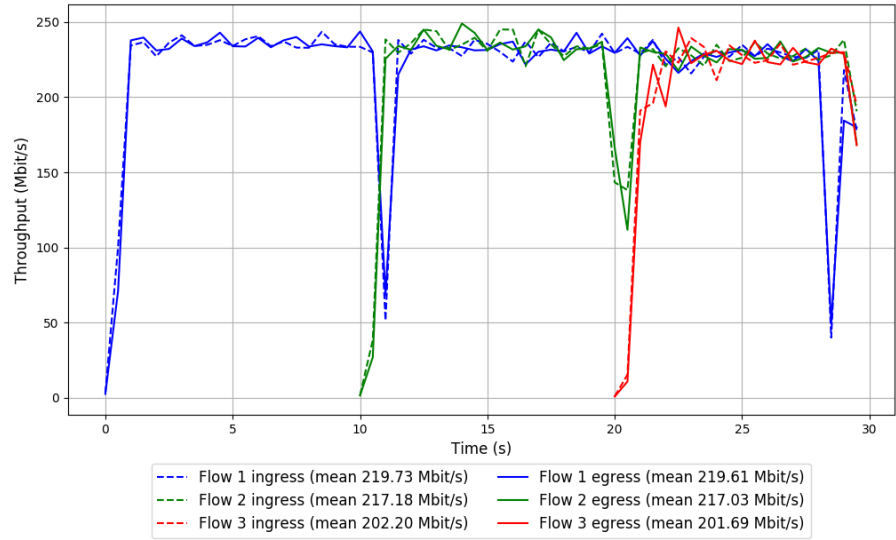
-- Flow 3:

Average throughput: 201.69 Mbit/s

95th percentile per-packet one-way delay: 58.879 ms

Loss rate: 1.27%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-04-18 10:34:25

End at: 2018-04-18 10:34:55

Below is generated by plot.py at 2018-04-18 15:49:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 430.86 Mbit/s

95th percentile per-packet one-way delay: 63.895 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 220.76 Mbit/s

95th percentile per-packet one-way delay: 62.815 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 213.99 Mbit/s

95th percentile per-packet one-way delay: 64.213 ms

Loss rate: 0.50%

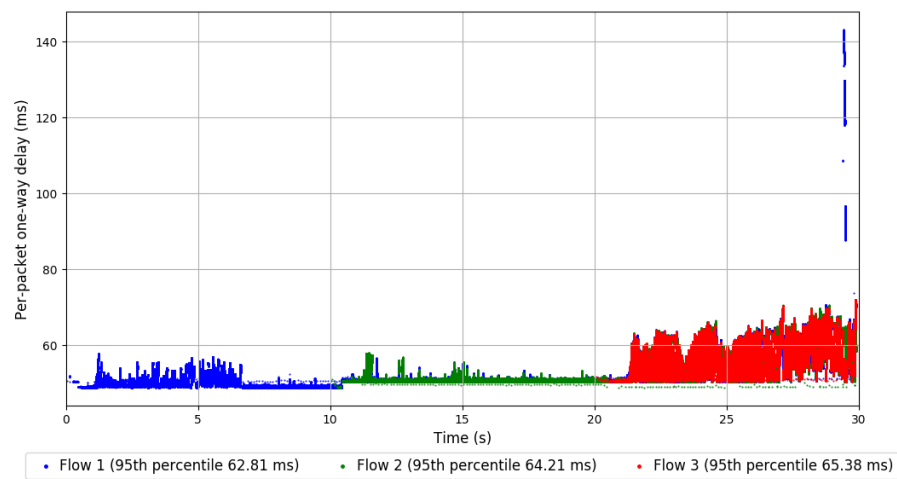
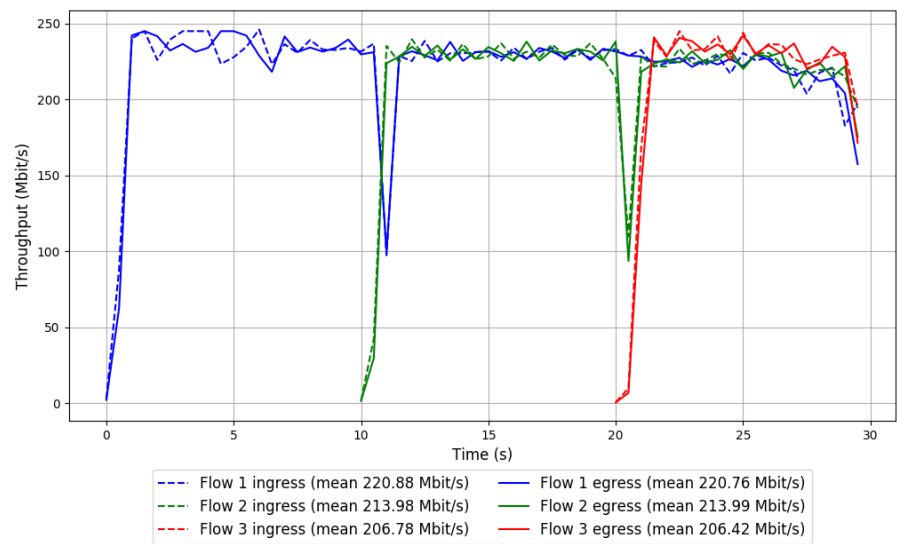
-- Flow 3:

Average throughput: 206.42 Mbit/s

95th percentile per-packet one-way delay: 65.383 ms

Loss rate: 1.16%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-04-18 10:50:10

End at: 2018-04-18 10:50:40

Below is generated by plot.py at 2018-04-18 15:49:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 422.70 Mbit/s

95th percentile per-packet one-way delay: 56.611 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 214.40 Mbit/s

95th percentile per-packet one-way delay: 57.763 ms

Loss rate: 0.65%

-- Flow 2:

Average throughput: 215.25 Mbit/s

95th percentile per-packet one-way delay: 56.305 ms

Loss rate: 0.55%

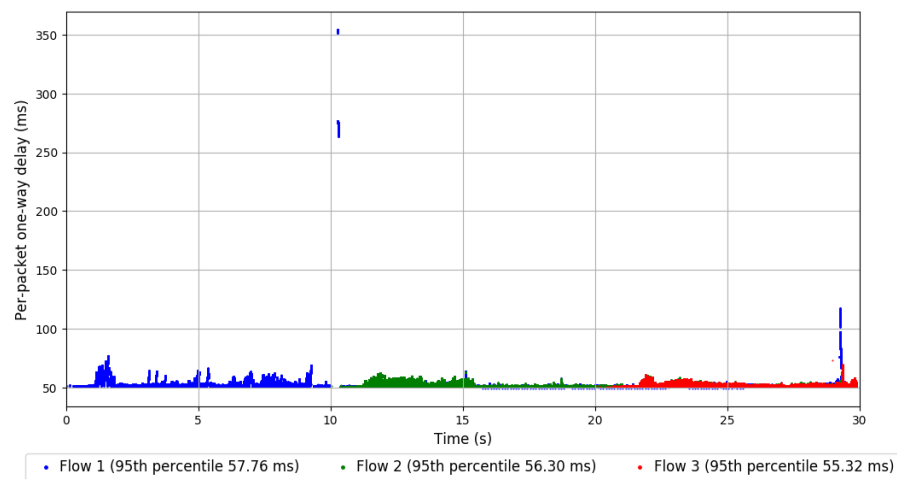
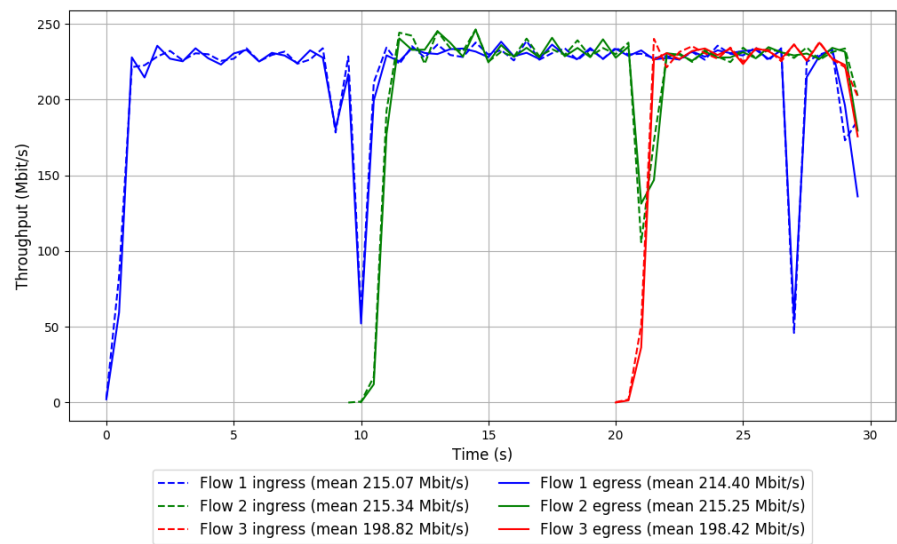
-- Flow 3:

Average throughput: 198.42 Mbit/s

95th percentile per-packet one-way delay: 55.324 ms

Loss rate: 1.23%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-04-18 11:06:11

End at: 2018-04-18 11:06:41

Below is generated by plot.py at 2018-04-18 15:49:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 430.48 Mbit/s

95th percentile per-packet one-way delay: 61.249 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 220.91 Mbit/s

95th percentile per-packet one-way delay: 60.124 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 214.26 Mbit/s

95th percentile per-packet one-way delay: 61.705 ms

Loss rate: 0.53%

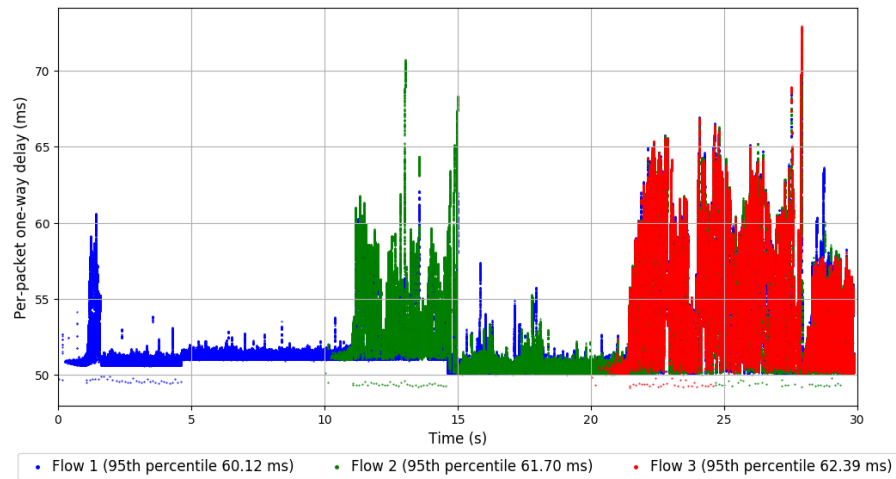
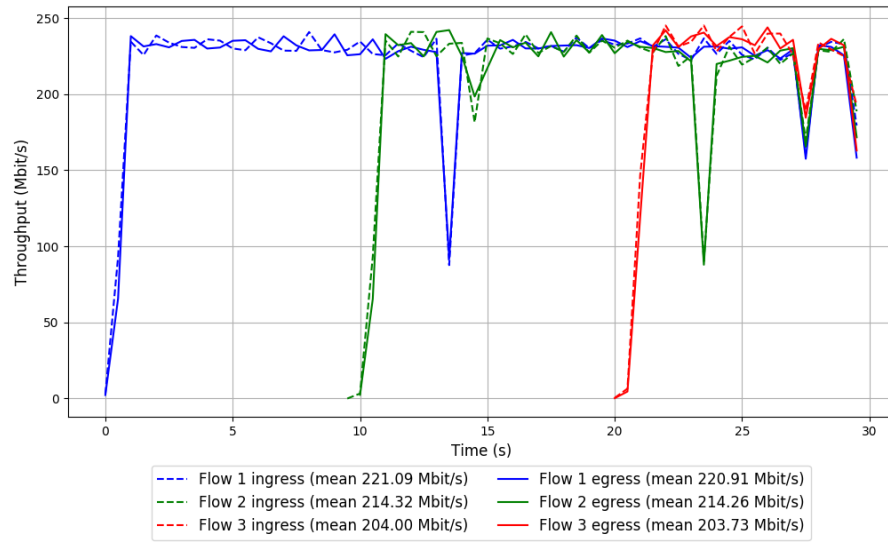
-- Flow 3:

Average throughput: 203.73 Mbit/s

95th percentile per-packet one-way delay: 62.392 ms

Loss rate: 1.22%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-04-18 11:22:05

End at: 2018-04-18 11:22:35

Below is generated by plot.py at 2018-04-18 15:49:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 429.61 Mbit/s

95th percentile per-packet one-way delay: 66.452 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 218.86 Mbit/s

95th percentile per-packet one-way delay: 61.813 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 215.46 Mbit/s

95th percentile per-packet one-way delay: 66.234 ms

Loss rate: 0.54%

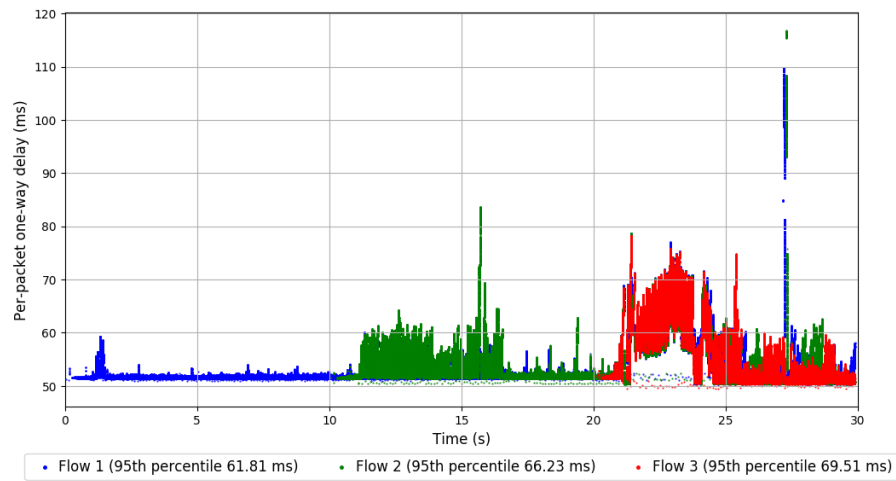
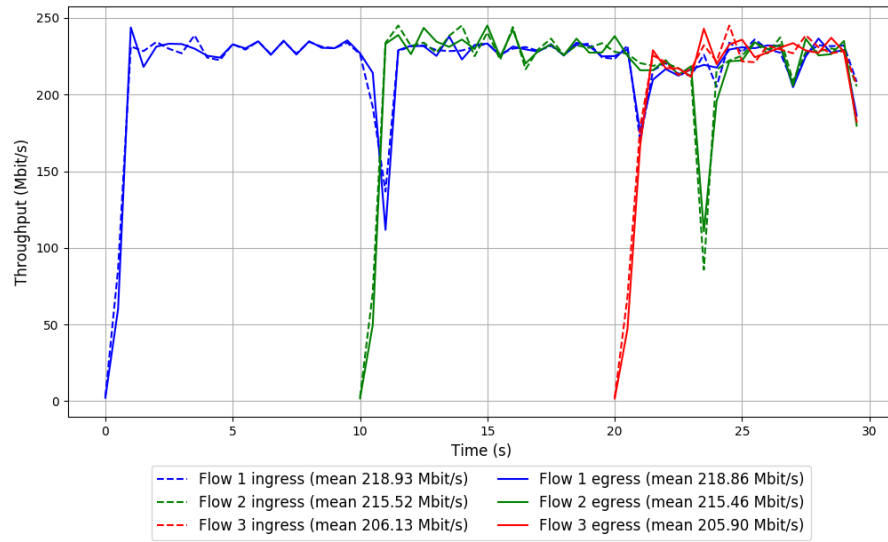
-- Flow 3:

Average throughput: 205.90 Mbit/s

95th percentile per-packet one-way delay: 69.511 ms

Loss rate: 1.13%

Run 5: Report of TCP BBR — Data Link



Run 6: Statistics of TCP BBR

Start at: 2018-04-18 11:37:50

End at: 2018-04-18 11:38:20

Below is generated by plot.py at 2018-04-18 15:49:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 437.80 Mbit/s

95th percentile per-packet one-way delay: 56.712 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 222.99 Mbit/s

95th percentile per-packet one-way delay: 56.042 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 221.74 Mbit/s

95th percentile per-packet one-way delay: 57.247 ms

Loss rate: 0.53%

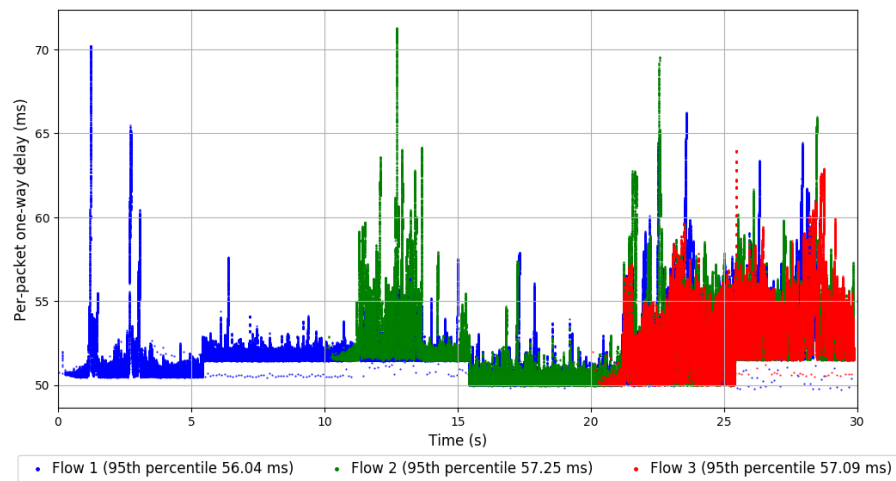
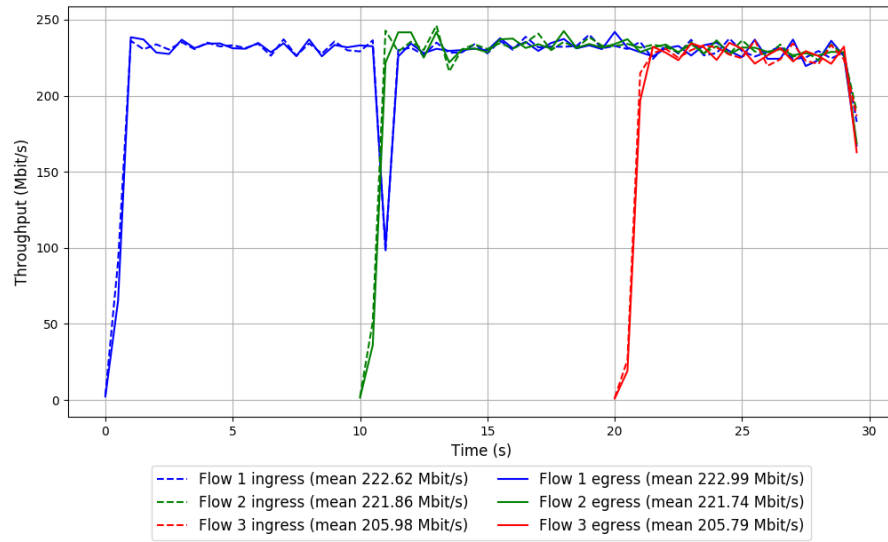
-- Flow 3:

Average throughput: 205.79 Mbit/s

95th percentile per-packet one-way delay: 57.090 ms

Loss rate: 1.12%

Run 6: Report of TCP BBR — Data Link



Run 7: Statistics of TCP BBR

Start at: 2018-04-18 11:53:39

End at: 2018-04-18 11:54:09

Below is generated by plot.py at 2018-04-18 15:49:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 422.44 Mbit/s

95th percentile per-packet one-way delay: 64.286 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 216.77 Mbit/s

95th percentile per-packet one-way delay: 61.611 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 211.76 Mbit/s

95th percentile per-packet one-way delay: 64.311 ms

Loss rate: 0.57%

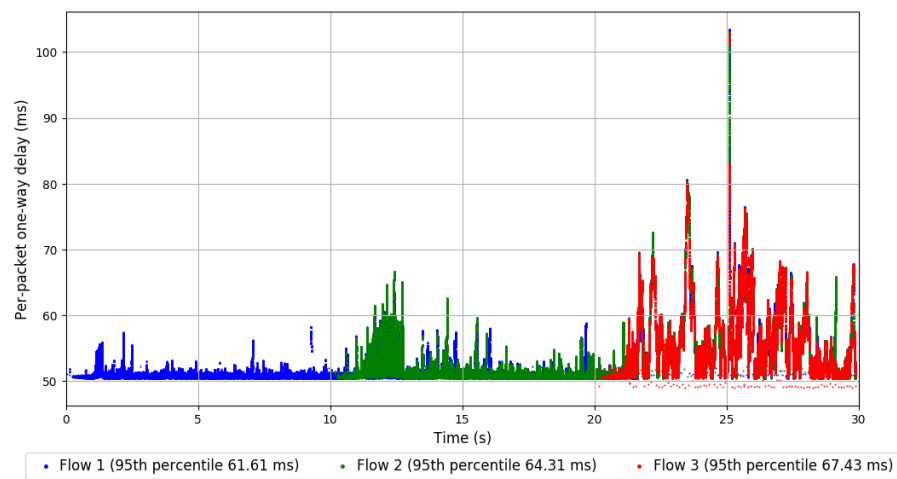
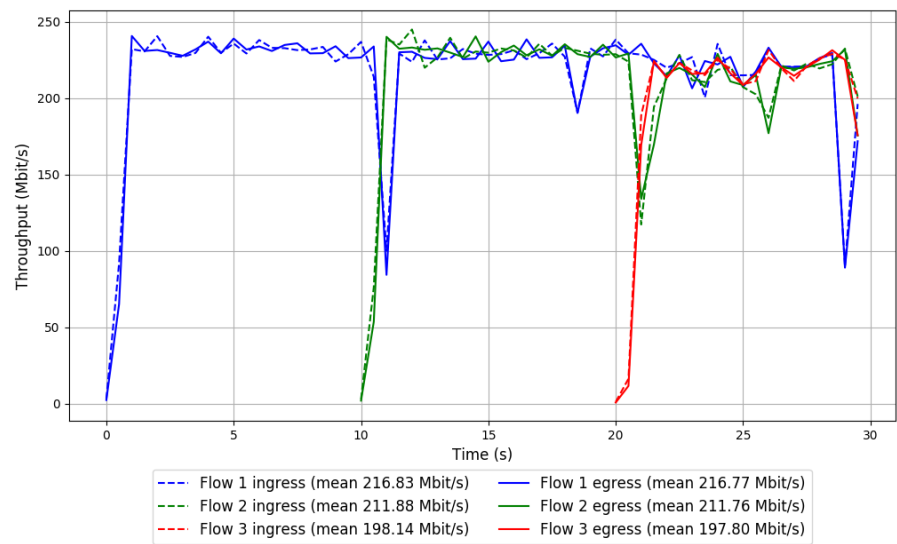
-- Flow 3:

Average throughput: 197.80 Mbit/s

95th percentile per-packet one-way delay: 67.433 ms

Loss rate: 1.21%

Run 7: Report of TCP BBR — Data Link



Run 8: Statistics of TCP BBR

Start at: 2018-04-18 12:09:23

End at: 2018-04-18 12:09:53

Below is generated by plot.py at 2018-04-18 15:49:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 430.01 Mbit/s

95th percentile per-packet one-way delay: 62.654 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 221.26 Mbit/s

95th percentile per-packet one-way delay: 61.574 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 212.99 Mbit/s

95th percentile per-packet one-way delay: 62.317 ms

Loss rate: 0.57%

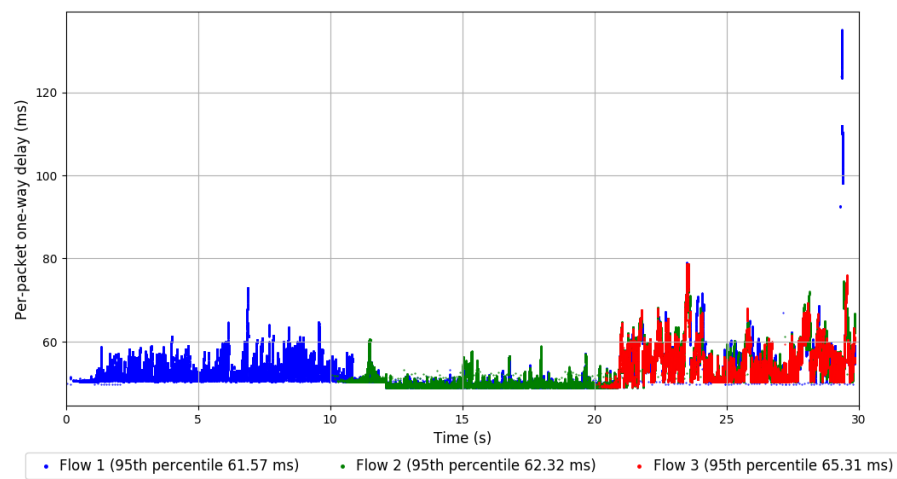
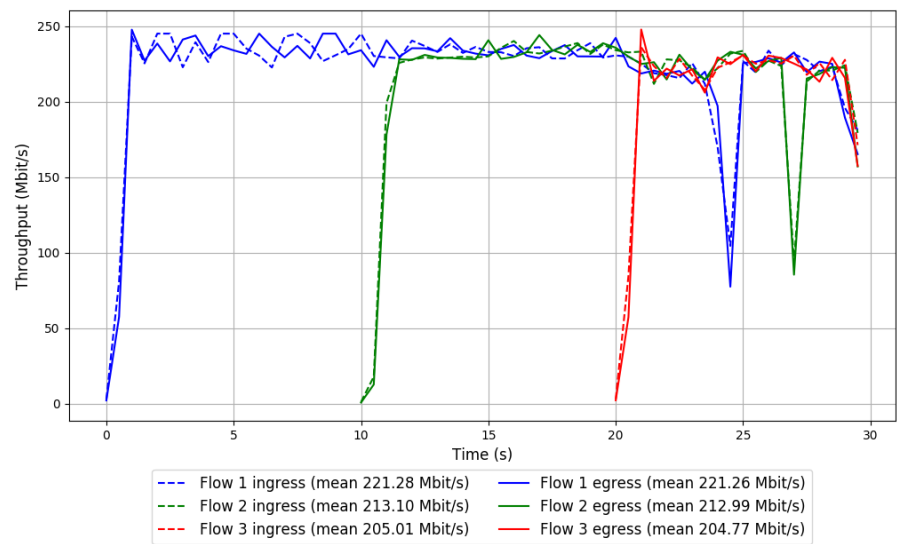
-- Flow 3:

Average throughput: 204.77 Mbit/s

95th percentile per-packet one-way delay: 65.309 ms

Loss rate: 1.13%

Run 8: Report of TCP BBR — Data Link



Run 9: Statistics of TCP BBR

Start at: 2018-04-18 12:25:17

End at: 2018-04-18 12:25:47

Below is generated by plot.py at 2018-04-18 15:57:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 411.76 Mbit/s

95th percentile per-packet one-way delay: 73.428 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 212.68 Mbit/s

95th percentile per-packet one-way delay: 71.321 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 207.24 Mbit/s

95th percentile per-packet one-way delay: 73.175 ms

Loss rate: 0.59%

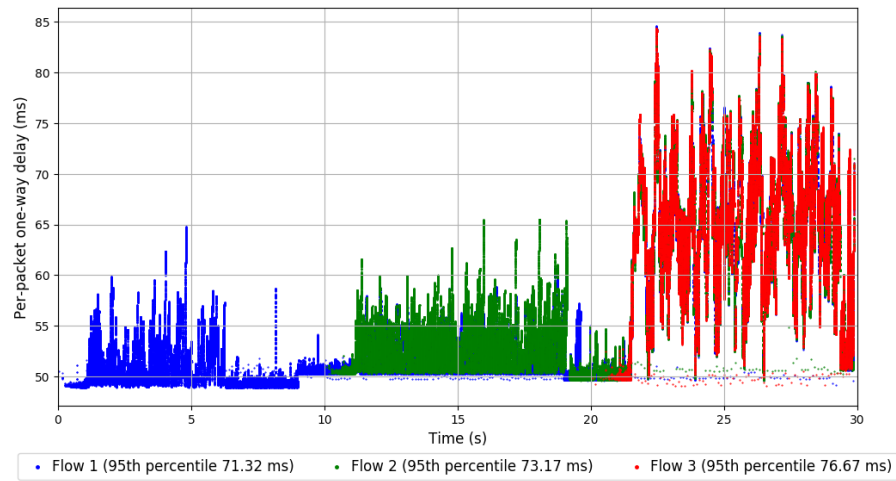
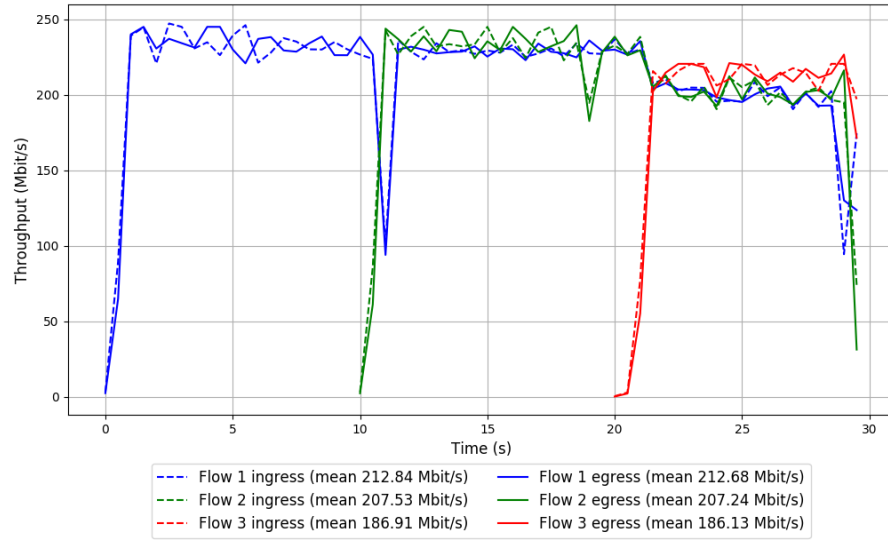
-- Flow 3:

Average throughput: 186.13 Mbit/s

95th percentile per-packet one-way delay: 76.675 ms

Loss rate: 1.36%

Run 9: Report of TCP BBR — Data Link



Run 10: Statistics of TCP BBR

Start at: 2018-04-18 12:41:05

End at: 2018-04-18 12:41:35

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 433.10 Mbit/s

95th percentile per-packet one-way delay: 57.850 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 222.23 Mbit/s

95th percentile per-packet one-way delay: 57.213 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 216.00 Mbit/s

95th percentile per-packet one-way delay: 58.873 ms

Loss rate: 0.56%

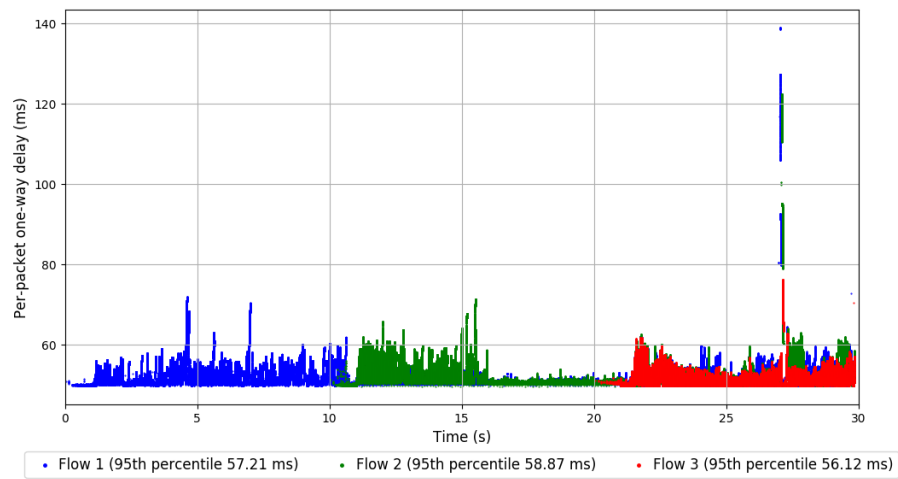
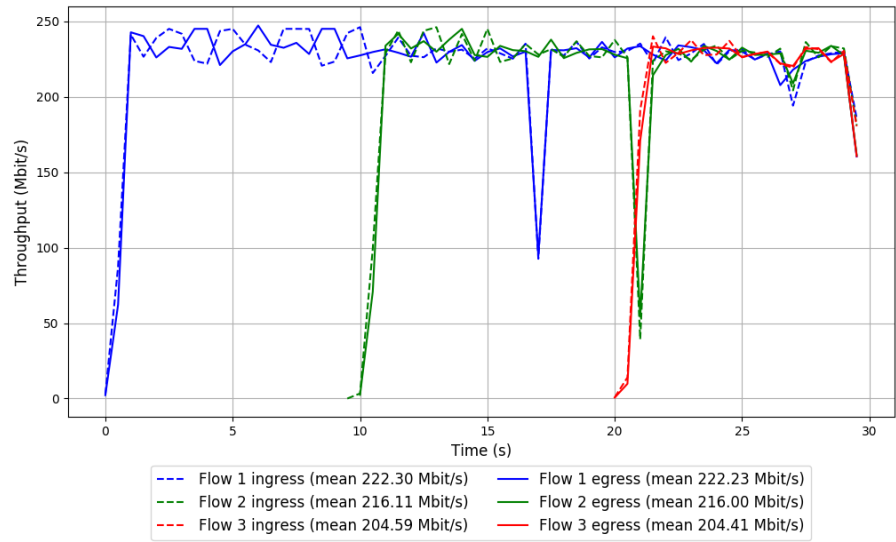
-- Flow 3:

Average throughput: 204.41 Mbit/s

95th percentile per-packet one-way delay: 56.118 ms

Loss rate: 1.11%

Run 10: Report of TCP BBR — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-04-18 10:19:36

End at: 2018-04-18 10:20:06

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 232.66 Mbit/s

95th percentile per-packet one-way delay: 56.746 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 107.40 Mbit/s

95th percentile per-packet one-way delay: 53.717 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 186.35 Mbit/s

95th percentile per-packet one-way delay: 57.713 ms

Loss rate: 0.42%

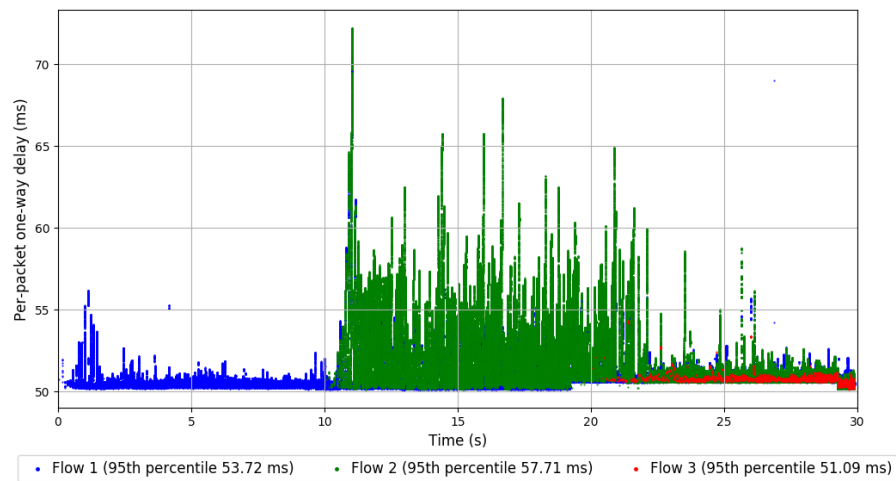
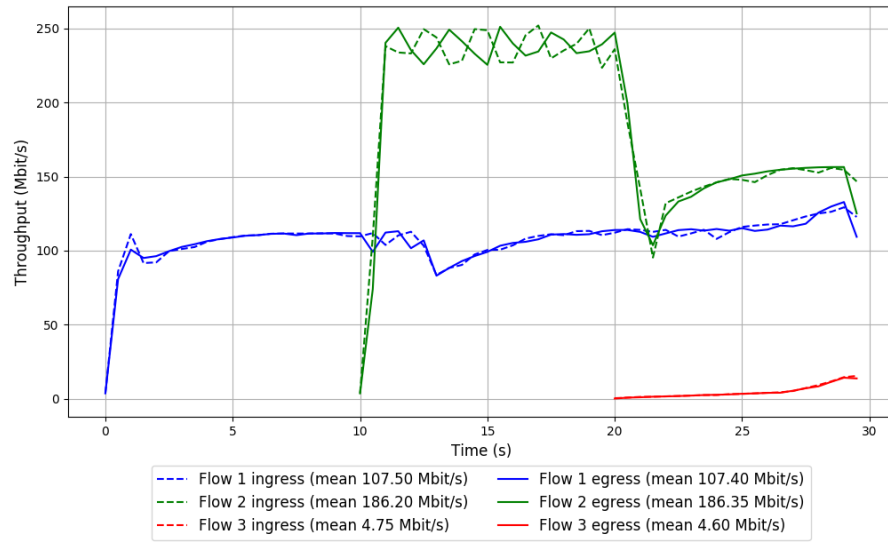
-- Flow 3:

Average throughput: 4.60 Mbit/s

95th percentile per-packet one-way delay: 51.092 ms

Loss rate: 4.22%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-04-18 10:35:26

End at: 2018-04-18 10:35:56

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 294.55 Mbit/s

95th percentile per-packet one-way delay: 58.747 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 155.99 Mbit/s

95th percentile per-packet one-way delay: 58.385 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 131.38 Mbit/s

95th percentile per-packet one-way delay: 57.158 ms

Loss rate: 0.70%

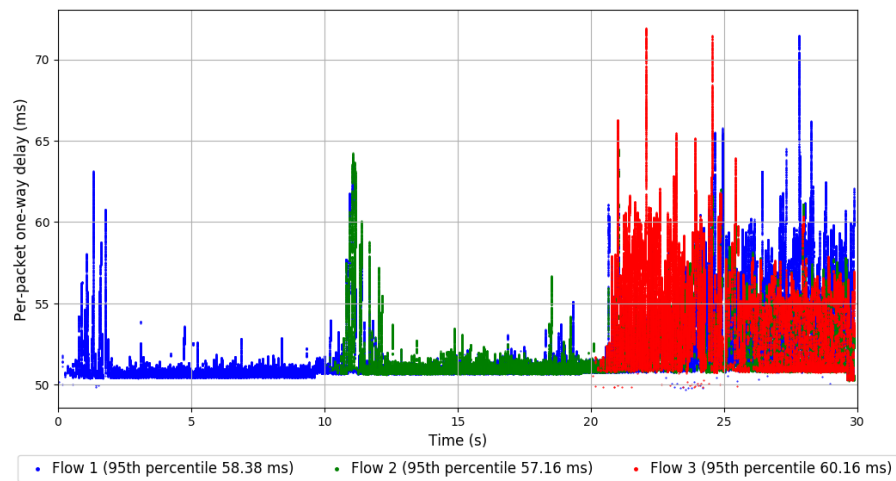
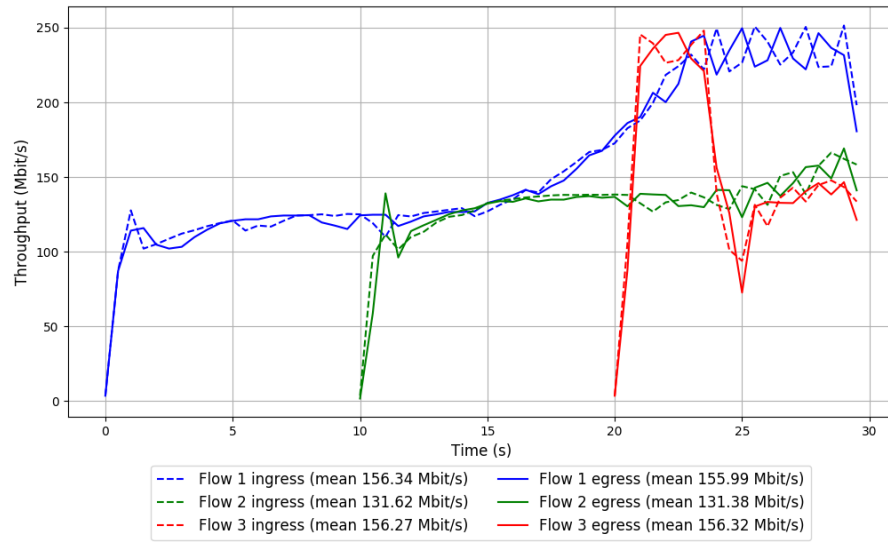
-- Flow 3:

Average throughput: 156.32 Mbit/s

95th percentile per-packet one-way delay: 60.159 ms

Loss rate: 0.99%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-04-18 10:51:24

End at: 2018-04-18 10:51:54

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 234.39 Mbit/s

95th percentile per-packet one-way delay: 58.278 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 160.10 Mbit/s

95th percentile per-packet one-way delay: 59.051 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 52.59 Mbit/s

95th percentile per-packet one-way delay: 54.311 ms

Loss rate: 2.18%

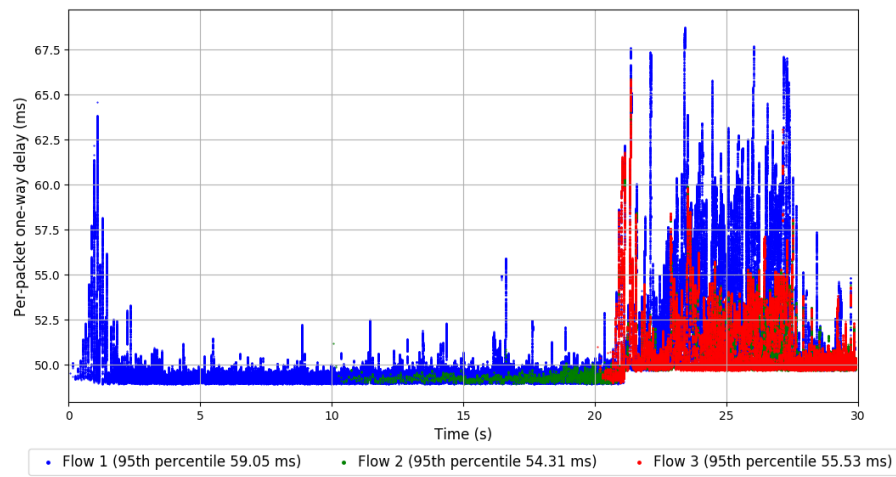
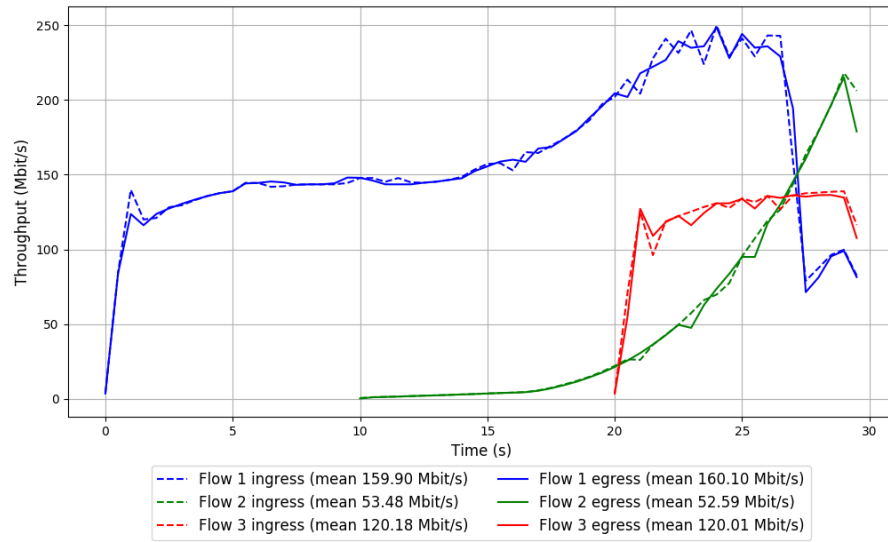
-- Flow 3:

Average throughput: 120.01 Mbit/s

95th percentile per-packet one-way delay: 55.533 ms

Loss rate: 1.16%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-04-18 11:07:12

End at: 2018-04-18 11:07:42

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 268.07 Mbit/s

95th percentile per-packet one-way delay: 55.917 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 156.35 Mbit/s

95th percentile per-packet one-way delay: 55.271 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 165.79 Mbit/s

95th percentile per-packet one-way delay: 56.446 ms

Loss rate: 0.48%

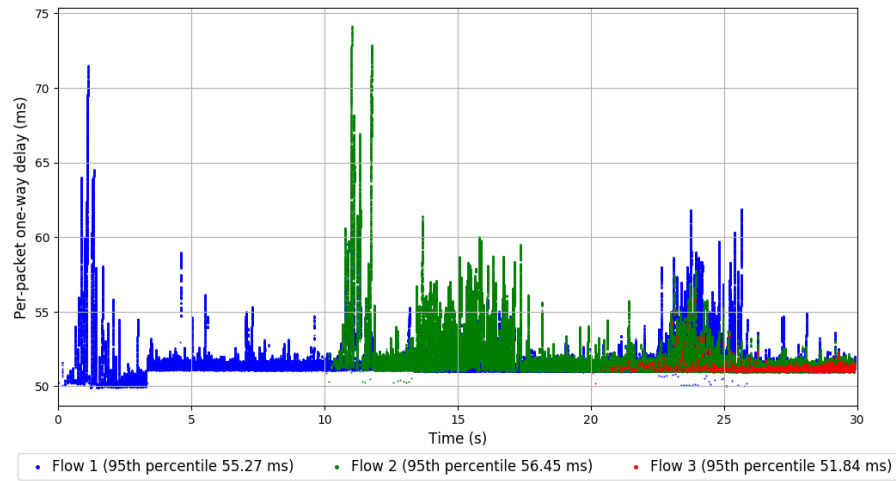
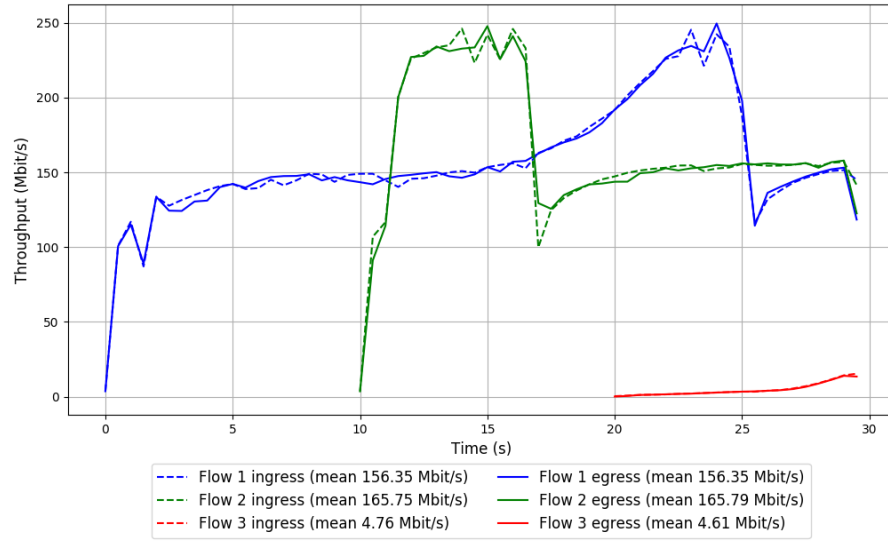
-- Flow 3:

Average throughput: 4.61 Mbit/s

95th percentile per-packet one-way delay: 51.845 ms

Loss rate: 4.20%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-04-18 11:23:06

End at: 2018-04-18 11:23:36

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 244.92 Mbit/s

95th percentile per-packet one-way delay: 56.672 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 149.20 Mbit/s

95th percentile per-packet one-way delay: 57.674 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 141.86 Mbit/s

95th percentile per-packet one-way delay: 54.411 ms

Loss rate: 0.68%

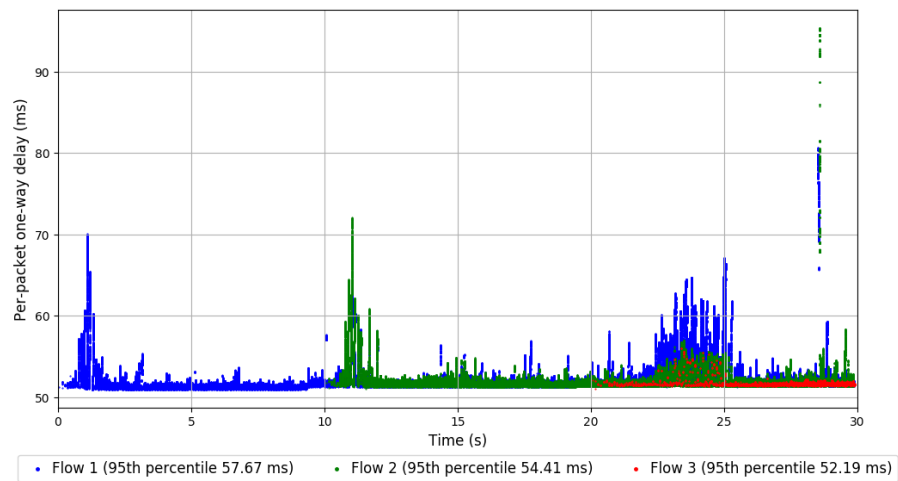
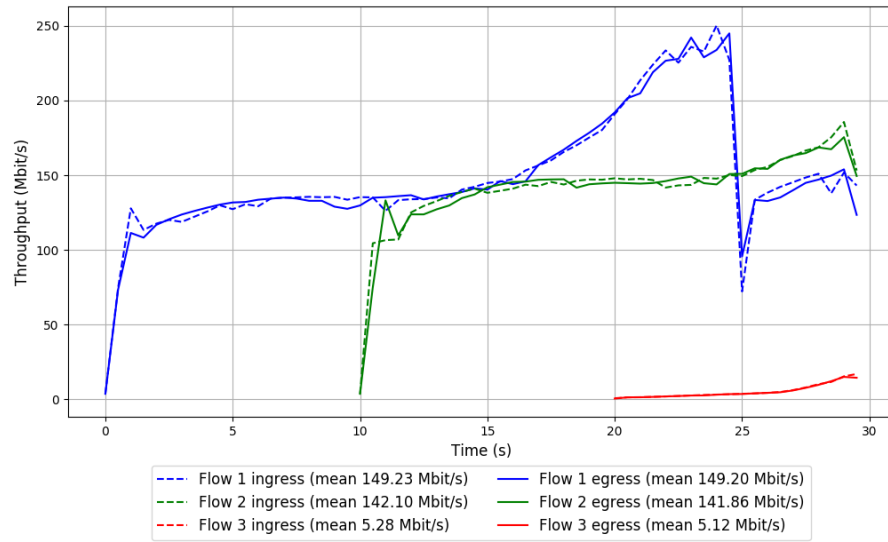
-- Flow 3:

Average throughput: 5.12 Mbit/s

95th percentile per-packet one-way delay: 52.187 ms

Loss rate: 4.01%

Run 5: Report of TCP Cubic — Data Link



Run 6: Statistics of TCP Cubic

Start at: 2018-04-18 11:38:52

End at: 2018-04-18 11:39:22

Below is generated by plot.py at 2018-04-18 15:57:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 254.13 Mbit/s

95th percentile per-packet one-way delay: 57.866 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 137.12 Mbit/s

95th percentile per-packet one-way delay: 55.325 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 122.80 Mbit/s

95th percentile per-packet one-way delay: 61.252 ms

Loss rate: 0.53%

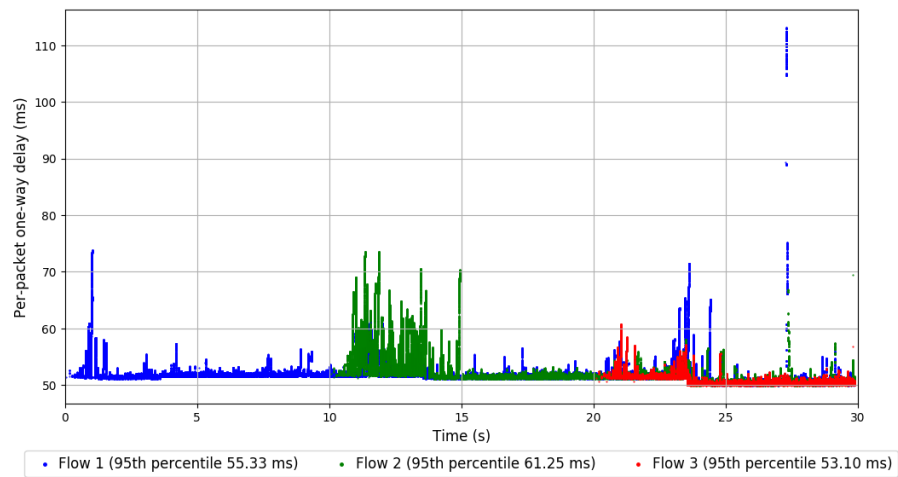
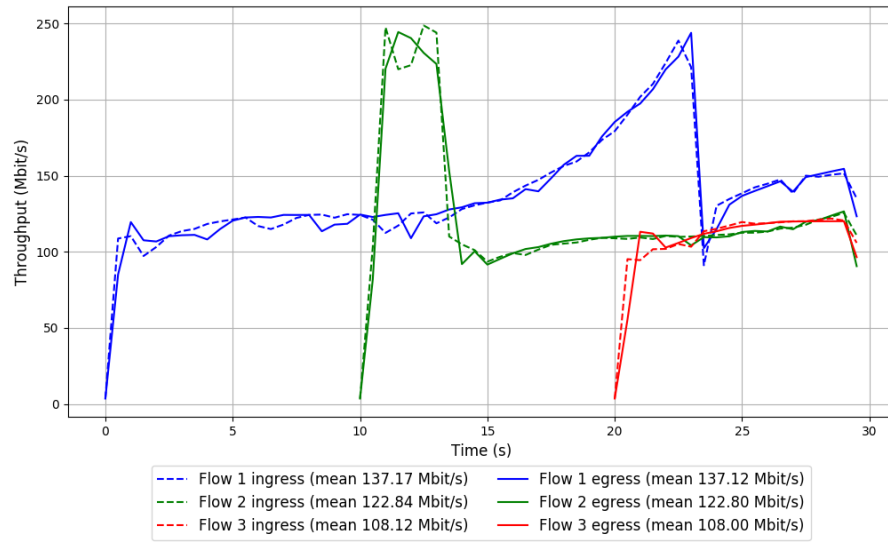
-- Flow 3:

Average throughput: 108.00 Mbit/s

95th percentile per-packet one-way delay: 53.098 ms

Loss rate: 1.13%

Run 6: Report of TCP Cubic — Data Link



Run 7: Statistics of TCP Cubic

Start at: 2018-04-18 11:54:41

End at: 2018-04-18 11:55:11

Below is generated by plot.py at 2018-04-18 15:59:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 306.76 Mbit/s

95th percentile per-packet one-way delay: 54.255 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 181.94 Mbit/s

95th percentile per-packet one-way delay: 54.740 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 134.04 Mbit/s

95th percentile per-packet one-way delay: 54.006 ms

Loss rate: 0.69%

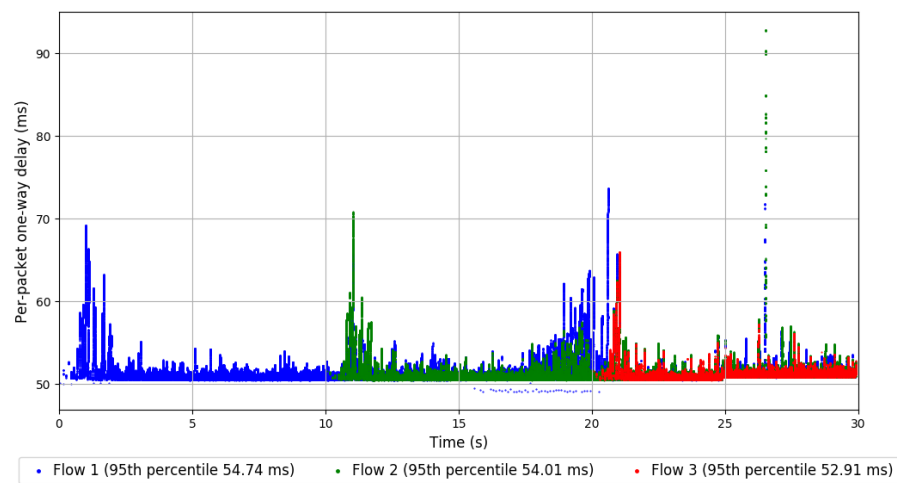
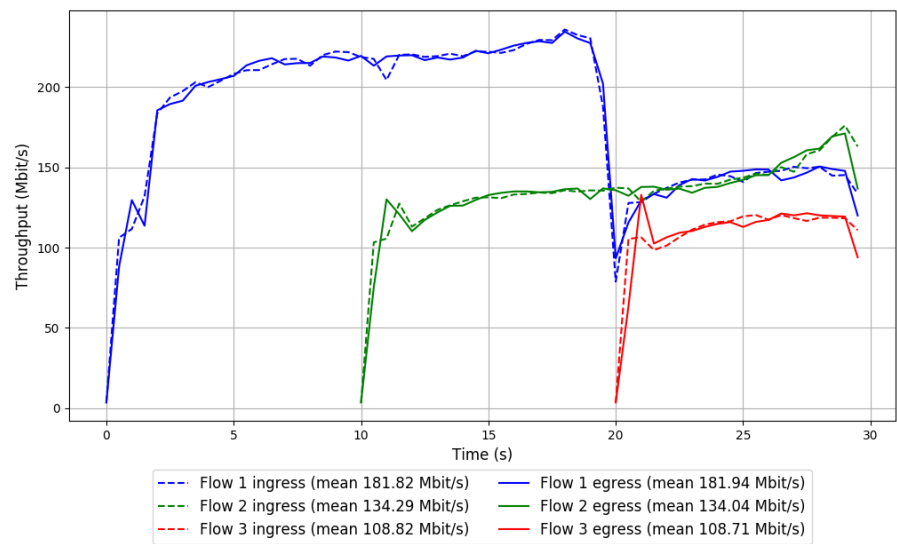
-- Flow 3:

Average throughput: 108.71 Mbit/s

95th percentile per-packet one-way delay: 52.914 ms

Loss rate: 1.12%

Run 7: Report of TCP Cubic — Data Link



Run 8: Statistics of TCP Cubic

Start at: 2018-04-18 12:10:25

End at: 2018-04-18 12:10:55

Below is generated by plot.py at 2018-04-18 15:59:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 212.72 Mbit/s

95th percentile per-packet one-way delay: 52.471 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 174.99 Mbit/s

95th percentile per-packet one-way delay: 52.451 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 54.19 Mbit/s

95th percentile per-packet one-way delay: 52.638 ms

Loss rate: 2.19%

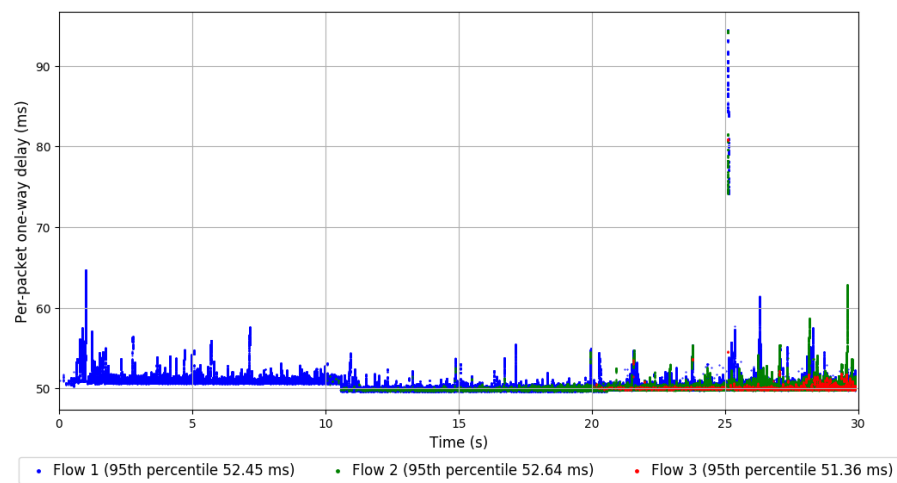
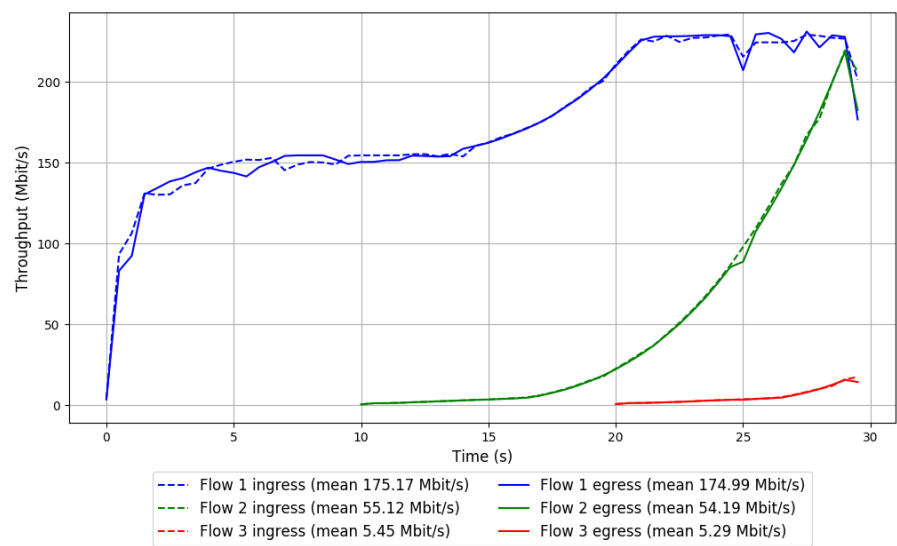
-- Flow 3:

Average throughput: 5.29 Mbit/s

95th percentile per-packet one-way delay: 51.359 ms

Loss rate: 3.93%

Run 8: Report of TCP Cubic — Data Link



Run 9: Statistics of TCP Cubic

Start at: 2018-04-18 12:26:18

End at: 2018-04-18 12:26:48

Below is generated by plot.py at 2018-04-18 15:59:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 257.01 Mbit/s

95th percentile per-packet one-way delay: 55.654 ms

Loss rate: 0.60%

-- Flow 1:

Average throughput: 143.29 Mbit/s

95th percentile per-packet one-way delay: 56.055 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 113.95 Mbit/s

95th percentile per-packet one-way delay: 54.483 ms

Loss rate: 0.76%

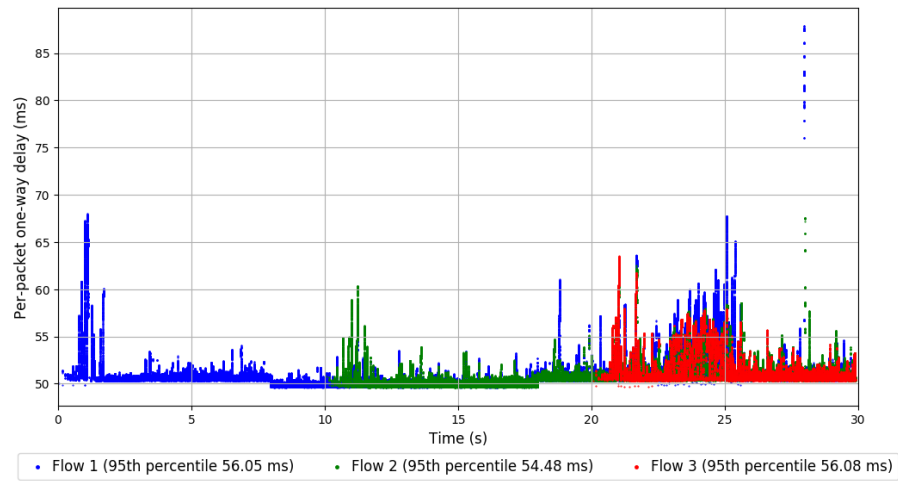
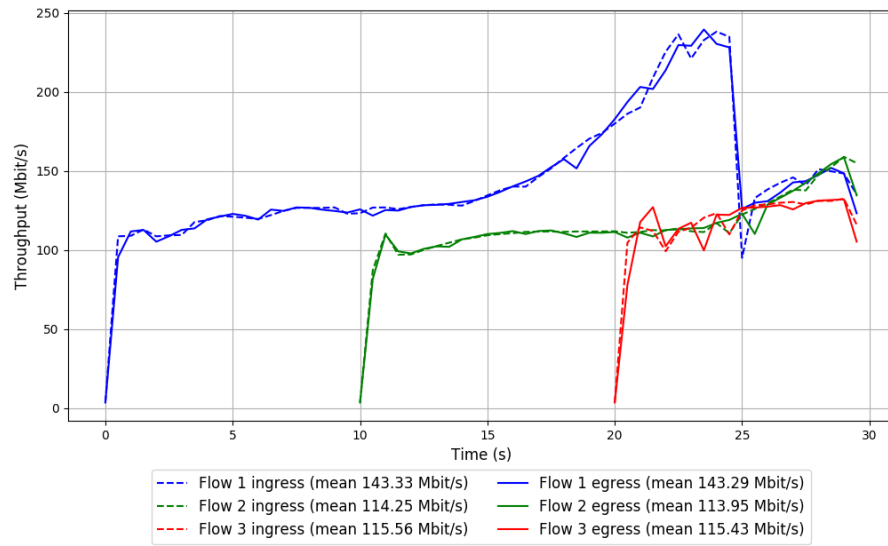
-- Flow 3:

Average throughput: 115.43 Mbit/s

95th percentile per-packet one-way delay: 56.081 ms

Loss rate: 1.16%

Run 9: Report of TCP Cubic — Data Link



Run 10: Statistics of TCP Cubic

Start at: 2018-04-18 12:42:06

End at: 2018-04-18 12:42:36

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 300.00 Mbit/s

95th percentile per-packet one-way delay: 56.363 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 146.76 Mbit/s

95th percentile per-packet one-way delay: 58.283 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 161.07 Mbit/s

95th percentile per-packet one-way delay: 55.056 ms

Loss rate: 0.67%

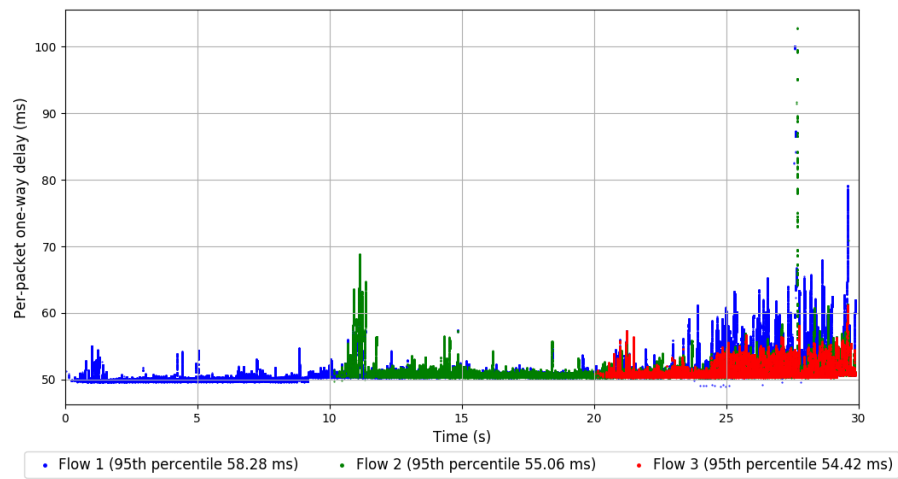
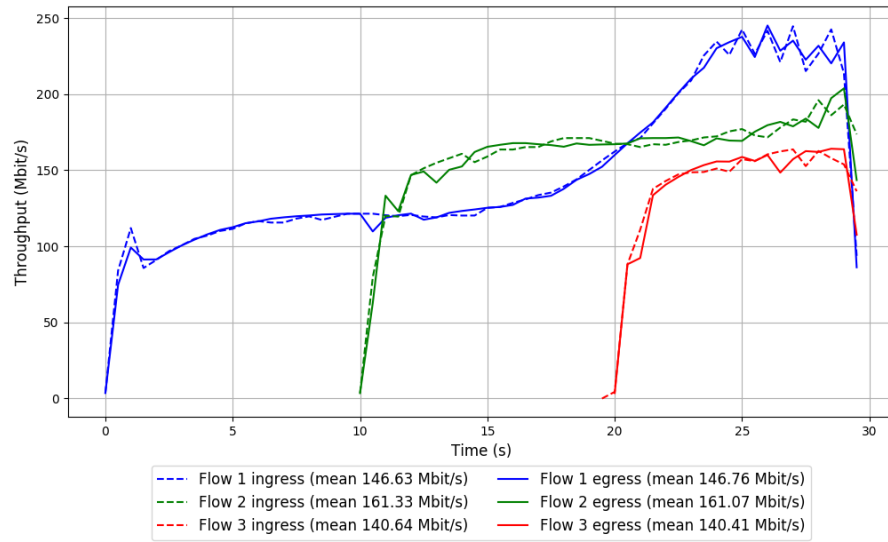
-- Flow 3:

Average throughput: 140.41 Mbit/s

95th percentile per-packet one-way delay: 54.417 ms

Loss rate: 1.17%

Run 10: Report of TCP Cubic — Data Link

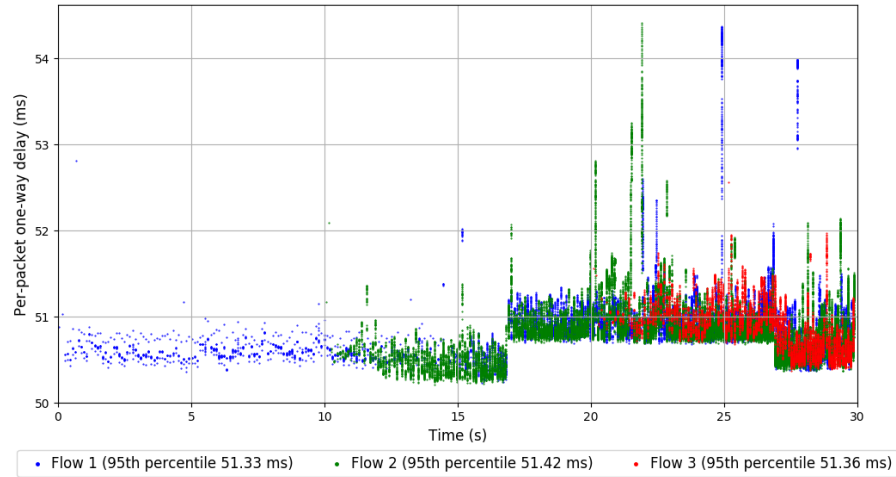
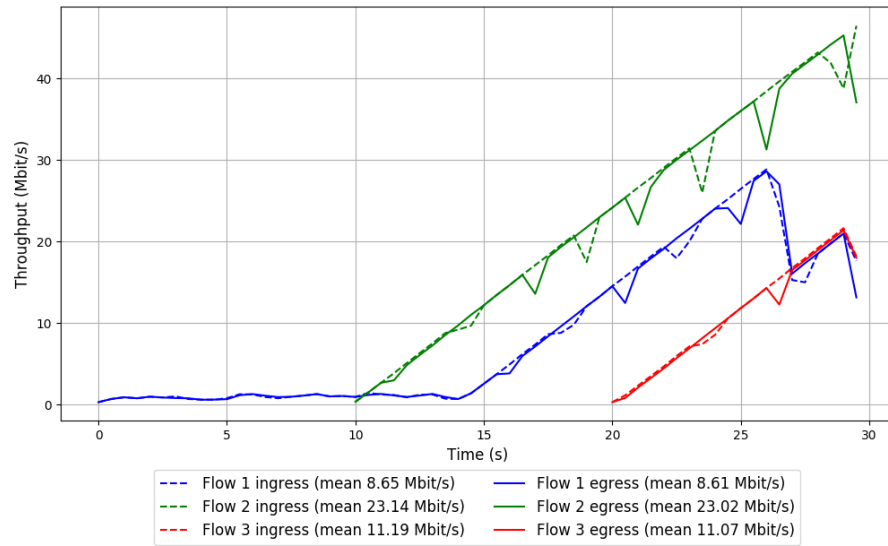


```
Run 1: Statistics of LEDBAT

Start at: 2018-04-18 10:29:59
End at: 2018-04-18 10:30:29

# Below is generated by plot.py at 2018-04-18 16:00:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.50 Mbit/s
95th percentile per-packet one-way delay: 51.391 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 51.325 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 23.02 Mbit/s
95th percentile per-packet one-way delay: 51.417 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 11.07 Mbit/s
95th percentile per-packet one-way delay: 51.361 ms
Loss rate: 2.09%
```


Run 1: Report of LEDBAT — Data Link

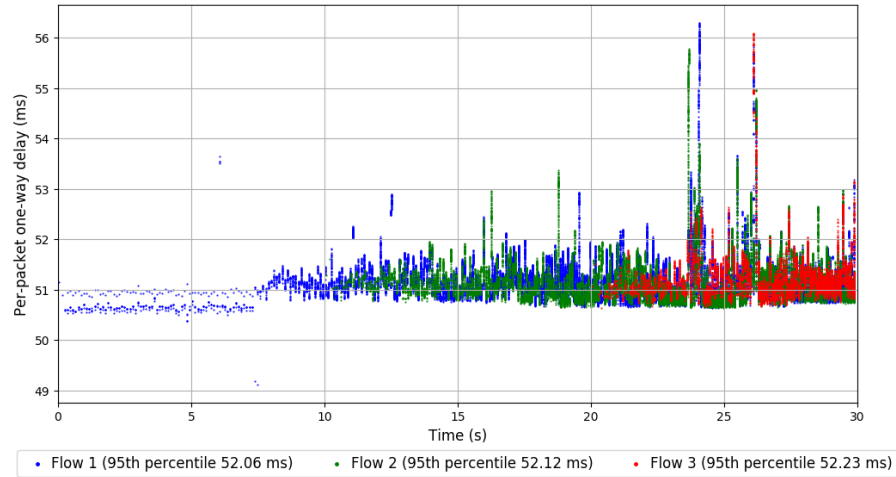
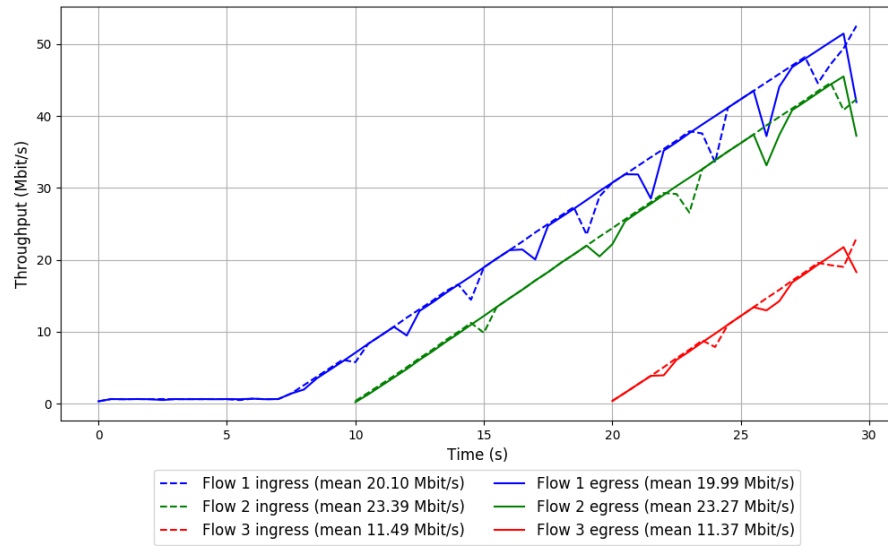


```
Run 2: Statistics of LEDBAT

Start at: 2018-04-18 10:45:48
End at: 2018-04-18 10:46:18

# Below is generated by plot.py at 2018-04-18 16:00:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.16 Mbit/s
95th percentile per-packet one-way delay: 52.093 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 19.99 Mbit/s
95th percentile per-packet one-way delay: 52.065 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 52.124 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 11.37 Mbit/s
95th percentile per-packet one-way delay: 52.228 ms
Loss rate: 2.06%
```

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-04-18 11:01:44

End at: 2018-04-18 11:02:14

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 51.18 Mbit/s

95th percentile per-packet one-way delay: 52.237 ms

Loss rate: 0.89%

-- Flow 1:

Average throughput: 31.75 Mbit/s

95th percentile per-packet one-way delay: 52.022 ms

Loss rate: 0.69%

-- Flow 2:

Average throughput: 23.67 Mbit/s

95th percentile per-packet one-way delay: 52.757 ms

Loss rate: 1.00%

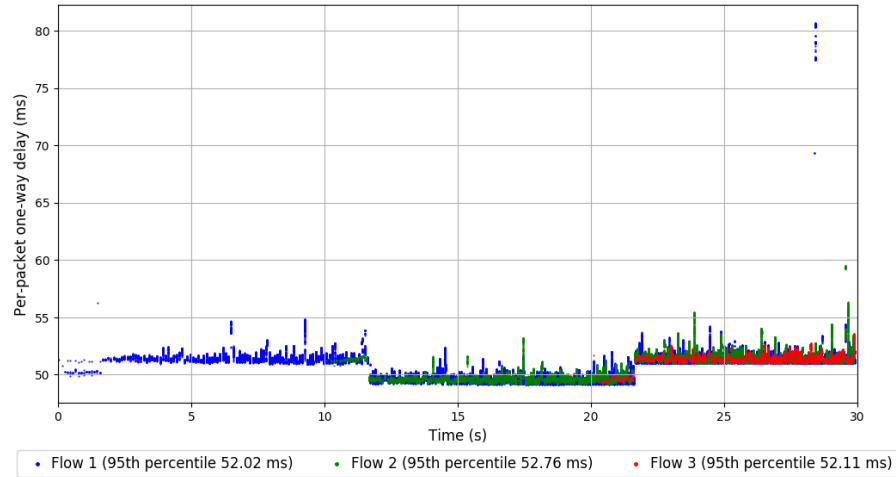
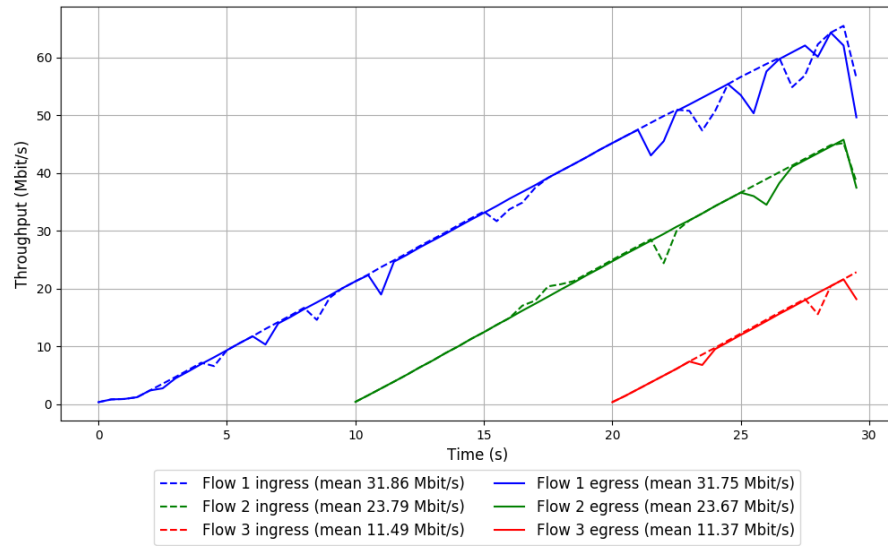
-- Flow 3:

Average throughput: 11.37 Mbit/s

95th percentile per-packet one-way delay: 52.106 ms

Loss rate: 2.05%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-04-18 11:17:36

End at: 2018-04-18 11:18:06

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.90 Mbit/s

95th percentile per-packet one-way delay: 52.697 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 34.82 Mbit/s

95th percentile per-packet one-way delay: 52.813 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 23.03 Mbit/s

95th percentile per-packet one-way delay: 52.439 ms

Loss rate: 1.02%

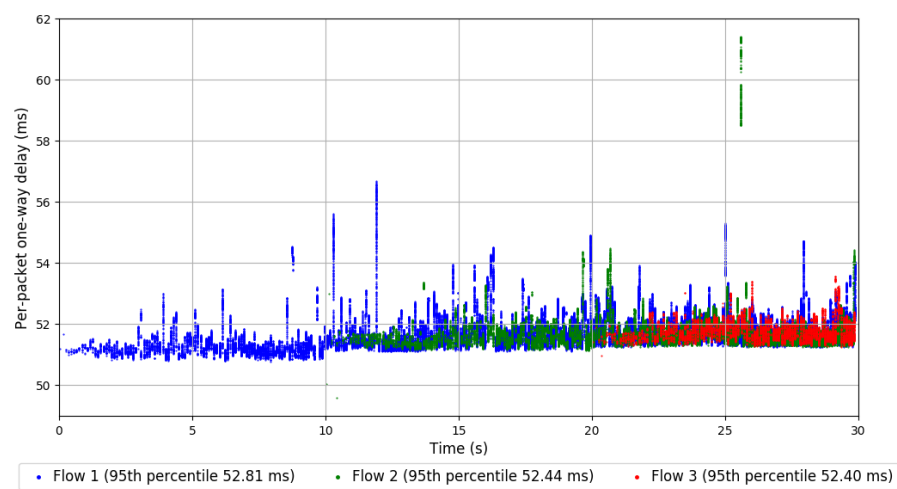
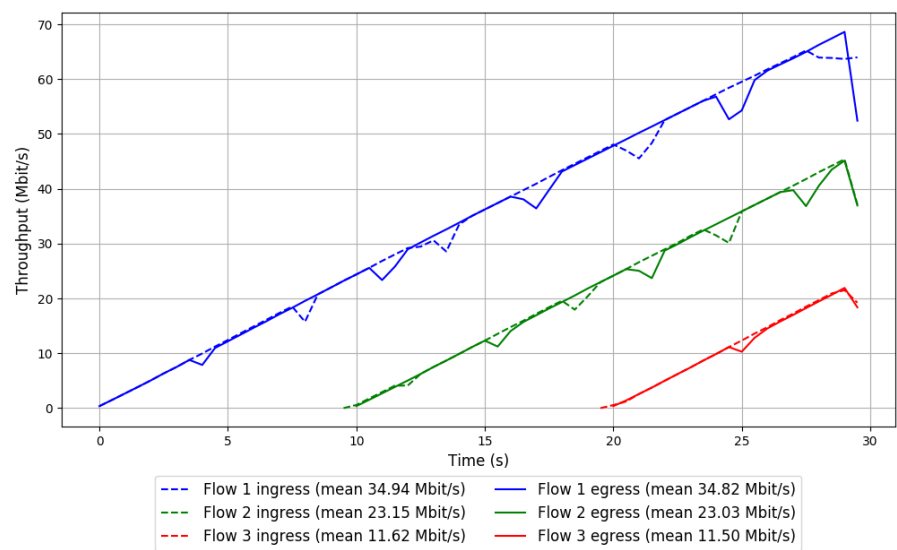
-- Flow 3:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 52.397 ms

Loss rate: 2.05%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-04-18 11:33:24

End at: 2018-04-18 11:33:54

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.67 Mbit/s

95th percentile per-packet one-way delay: 53.068 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 34.86 Mbit/s

95th percentile per-packet one-way delay: 53.277 ms

Loss rate: 0.67%

-- Flow 2:

Average throughput: 23.43 Mbit/s

95th percentile per-packet one-way delay: 52.799 ms

Loss rate: 1.01%

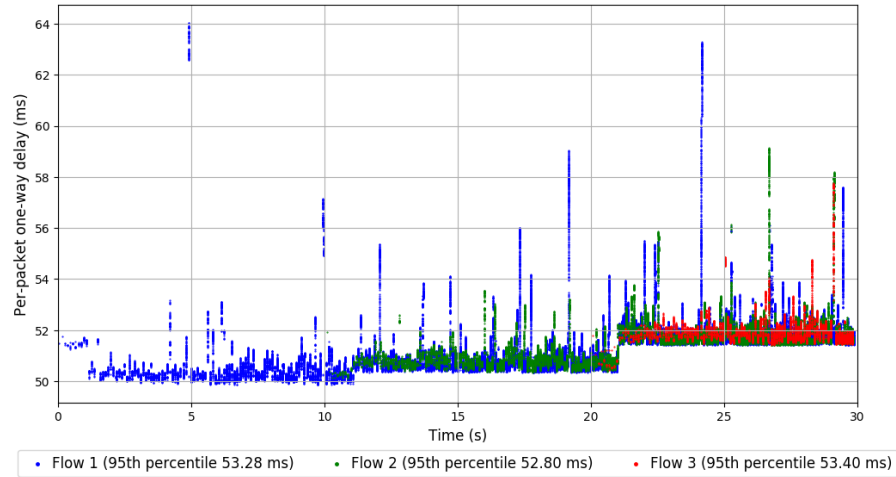
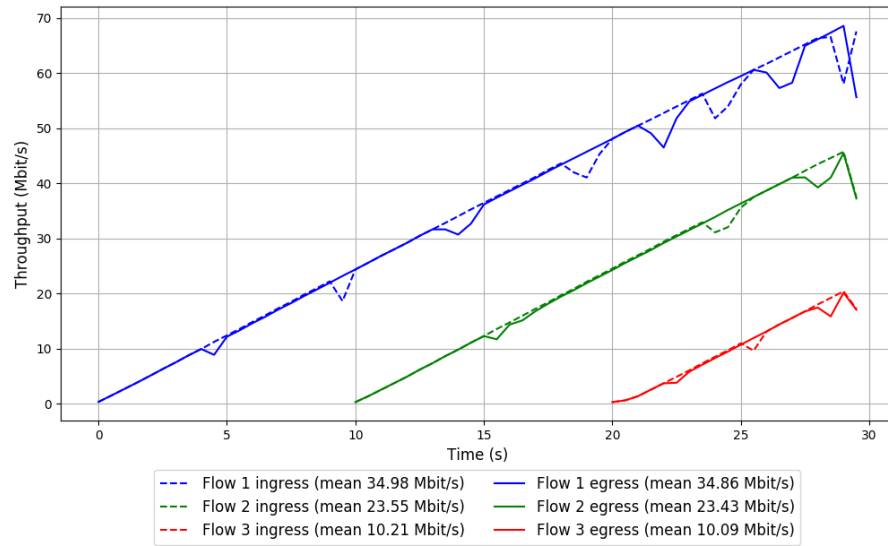
-- Flow 3:

Average throughput: 10.09 Mbit/s

95th percentile per-packet one-way delay: 53.402 ms

Loss rate: 2.18%

Run 5: Report of LEDBAT — Data Link

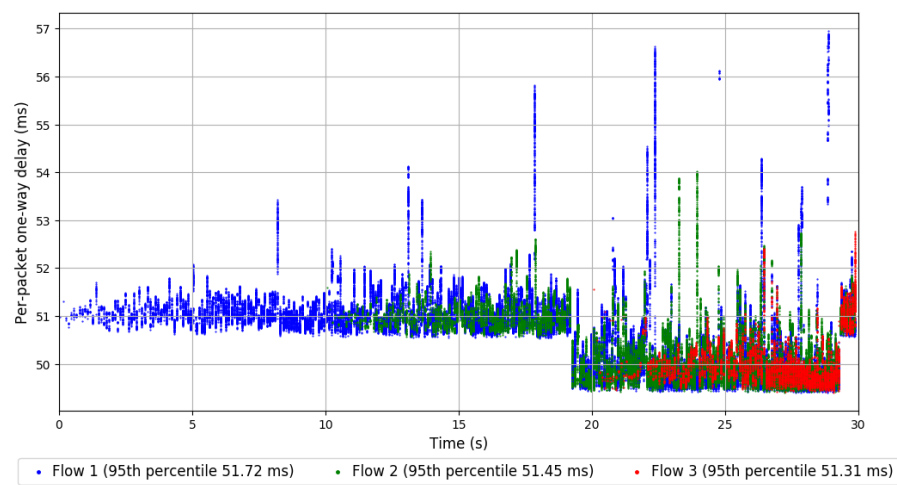
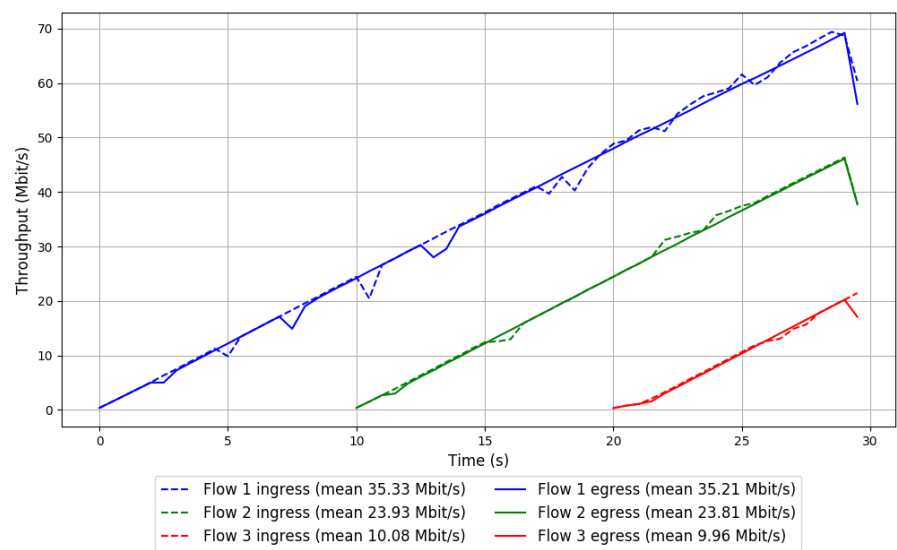


```
Run 6: Statistics of LEDBAT

Start at: 2018-04-18 11:49:16
End at: 2018-04-18 11:49:46

# Below is generated by plot.py at 2018-04-18 16:00:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.26 Mbit/s
95th percentile per-packet one-way delay: 51.629 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 35.21 Mbit/s
95th percentile per-packet one-way delay: 51.721 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 51.452 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 51.306 ms
Loss rate: 2.20%
```

Run 6: Report of LEDBAT — Data Link



Run 7: Statistics of LEDBAT

Start at: 2018-04-18 12:04:58

End at: 2018-04-18 12:05:28

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 43.78 Mbit/s

95th percentile per-packet one-way delay: 52.417 ms

Loss rate: 0.95%

-- Flow 1:

Average throughput: 25.57 Mbit/s

95th percentile per-packet one-way delay: 52.615 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 23.06 Mbit/s

95th percentile per-packet one-way delay: 52.319 ms

Loss rate: 1.02%

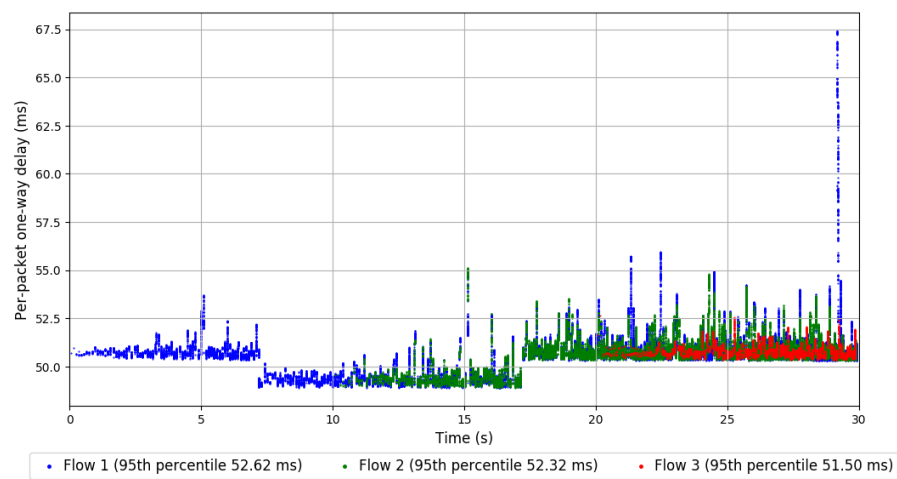
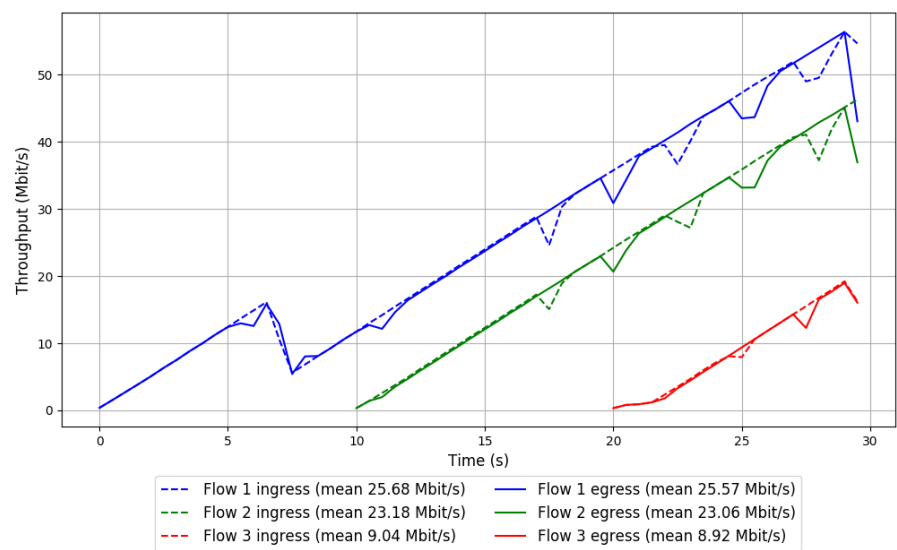
-- Flow 3:

Average throughput: 8.92 Mbit/s

95th percentile per-packet one-way delay: 51.502 ms

Loss rate: 2.31%

Run 7: Report of LEDBAT — Data Link



Run 8: Statistics of LEDBAT

Start at: 2018-04-18 12:20:50

End at: 2018-04-18 12:21:20

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.58 Mbit/s

95th percentile per-packet one-way delay: 51.865 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 34.55 Mbit/s

95th percentile per-packet one-way delay: 51.699 ms

Loss rate: 0.68%

-- Flow 2:

Average throughput: 23.30 Mbit/s

95th percentile per-packet one-way delay: 51.968 ms

Loss rate: 0.98%

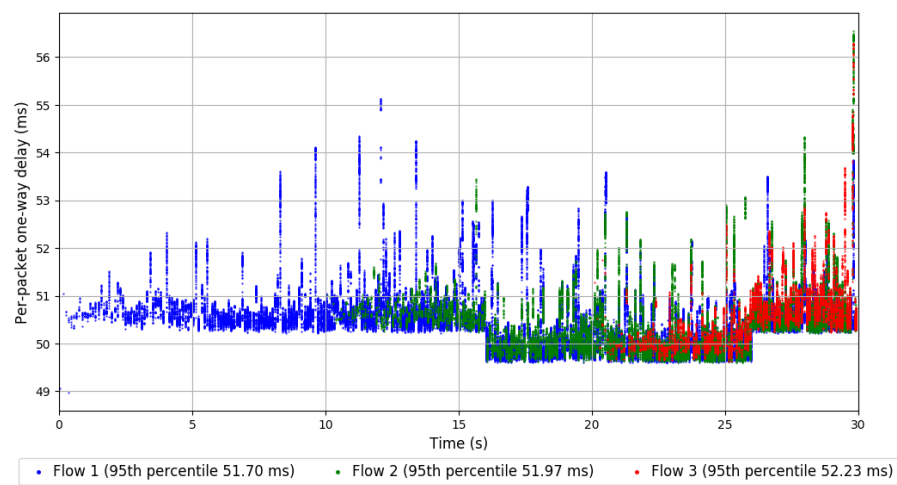
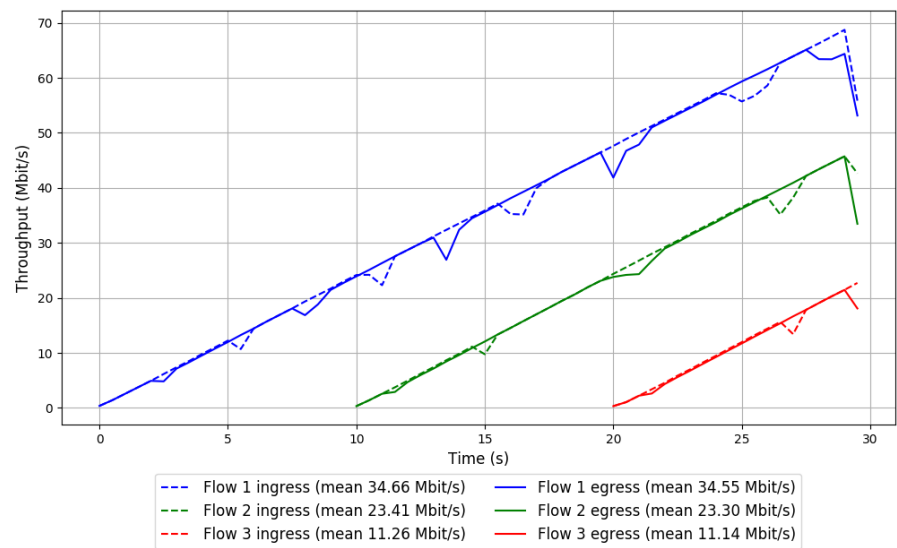
-- Flow 3:

Average throughput: 11.14 Mbit/s

95th percentile per-packet one-way delay: 52.230 ms

Loss rate: 2.08%

Run 8: Report of LEDBAT — Data Link



Run 9: Statistics of LEDBAT

Start at: 2018-04-18 12:36:37

End at: 2018-04-18 12:37:07

Below is generated by plot.py at 2018-04-18 16:00:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 53.08 Mbit/s

95th percentile per-packet one-way delay: 51.867 ms

Loss rate: 0.87%

-- Flow 1:

Average throughput: 34.17 Mbit/s

95th percentile per-packet one-way delay: 51.926 ms

Loss rate: 0.68%

-- Flow 2:

Average throughput: 22.96 Mbit/s

95th percentile per-packet one-way delay: 51.787 ms

Loss rate: 1.02%

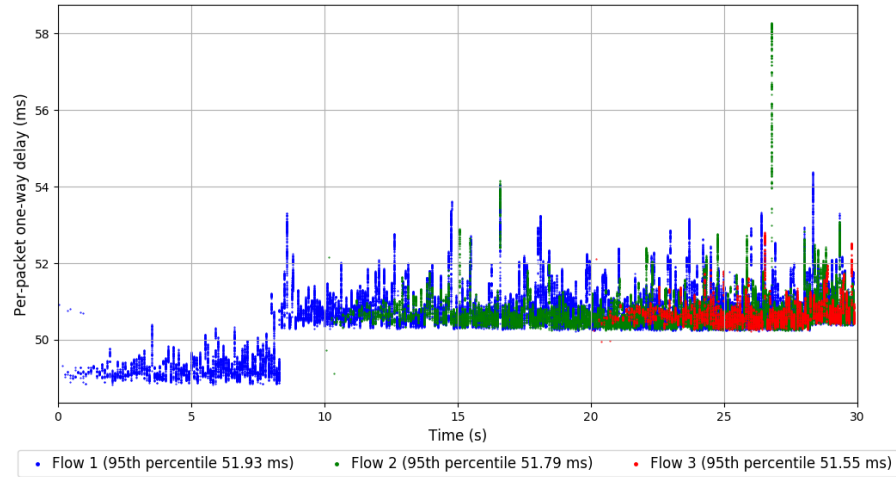
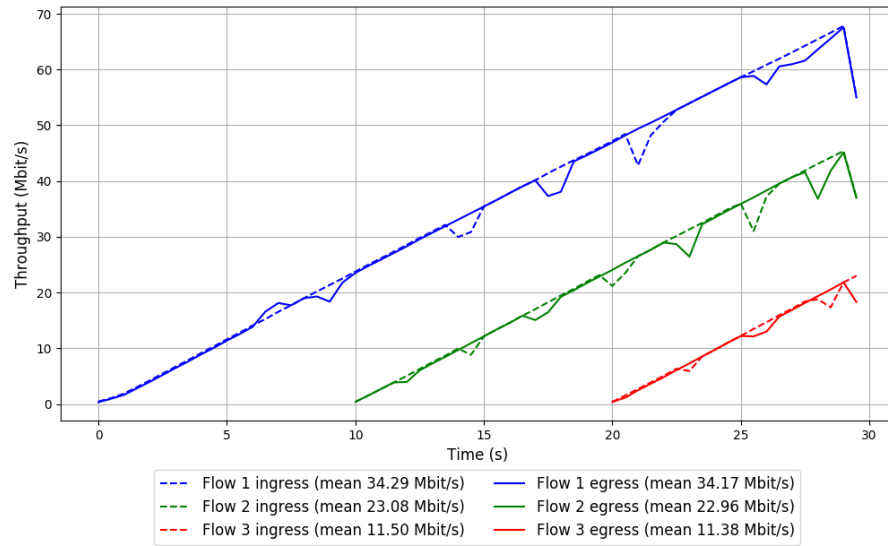
-- Flow 3:

Average throughput: 11.38 Mbit/s

95th percentile per-packet one-way delay: 51.549 ms

Loss rate: 2.06%

Run 9: Report of LEDBAT — Data Link

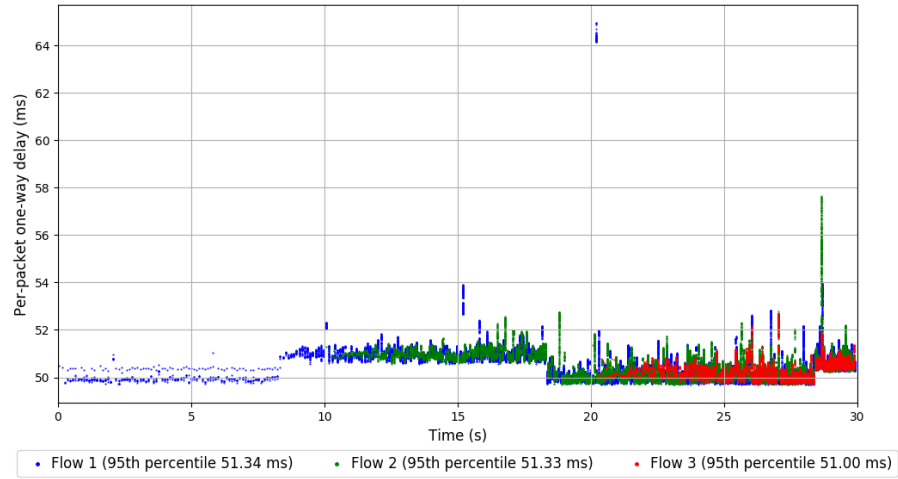
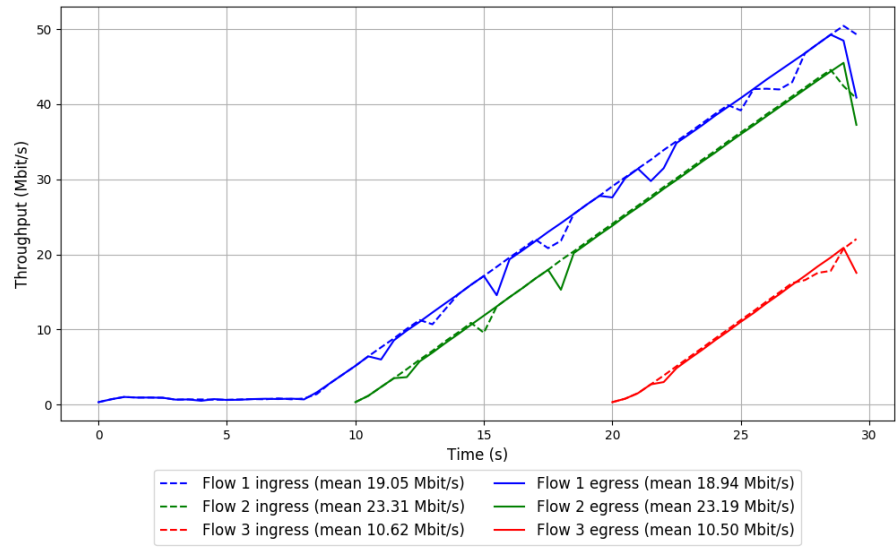


```
Run 10: Statistics of LEDBAT

Start at: 2018-04-18 12:52:27
End at: 2018-04-18 12:52:57

# Below is generated by plot.py at 2018-04-18 16:00:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.78 Mbit/s
95th percentile per-packet one-way delay: 51.314 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 18.94 Mbit/s
95th percentile per-packet one-way delay: 51.344 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 23.19 Mbit/s
95th percentile per-packet one-way delay: 51.325 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 10.50 Mbit/s
95th percentile per-packet one-way delay: 51.000 ms
Loss rate: 2.14%
```

Run 10: Report of LEDBAT — Data Link

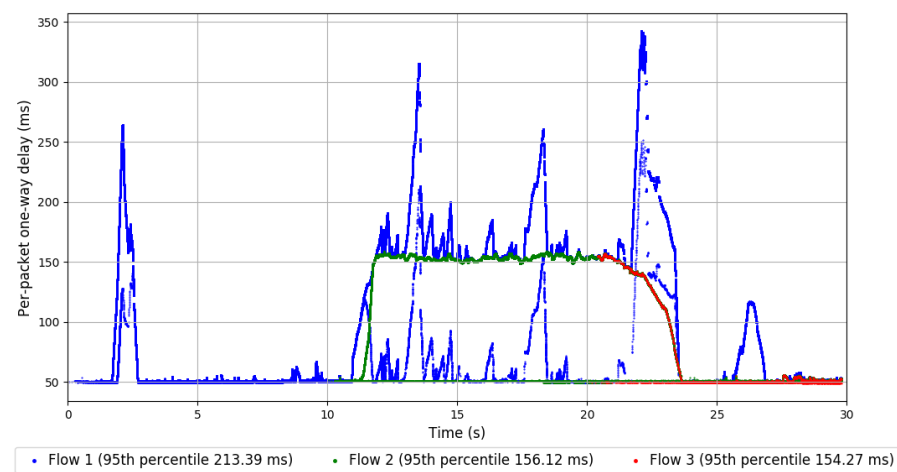
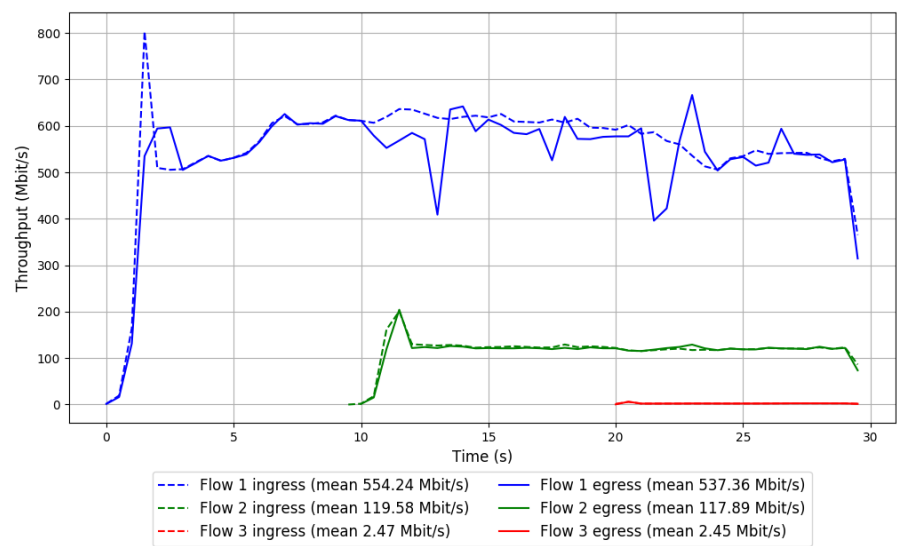


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-04-18 10:25:27
End at: 2018-04-18 10:25:57

# Below is generated by plot.py at 2018-04-18 16:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 616.42 Mbit/s
95th percentile per-packet one-way delay: 207.153 ms
Loss rate: 3.19%
-- Flow 1:
Average throughput: 537.36 Mbit/s
95th percentile per-packet one-way delay: 213.387 ms
Loss rate: 3.37%
-- Flow 2:
Average throughput: 117.89 Mbit/s
95th percentile per-packet one-way delay: 156.124 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 154.274 ms
Loss rate: 1.46%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-04-18 10:41:14

End at: 2018-04-18 10:41:44

Below is generated by plot.py at 2018-04-18 16:10:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 640.13 Mbit/s

95th percentile per-packet one-way delay: 221.755 ms

Loss rate: 3.18%

-- Flow 1:

Average throughput: 526.81 Mbit/s

95th percentile per-packet one-way delay: 223.019 ms

Loss rate: 3.38%

-- Flow 2:

Average throughput: 140.19 Mbit/s

95th percentile per-packet one-way delay: 152.793 ms

Loss rate: 2.25%

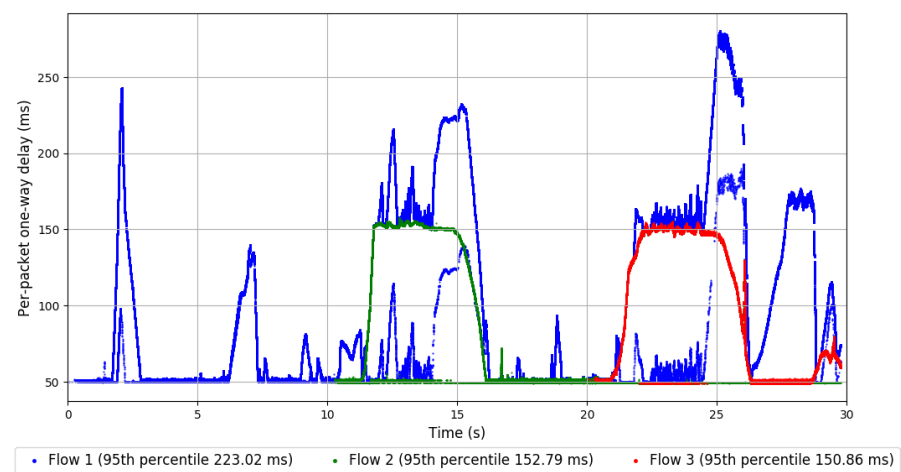
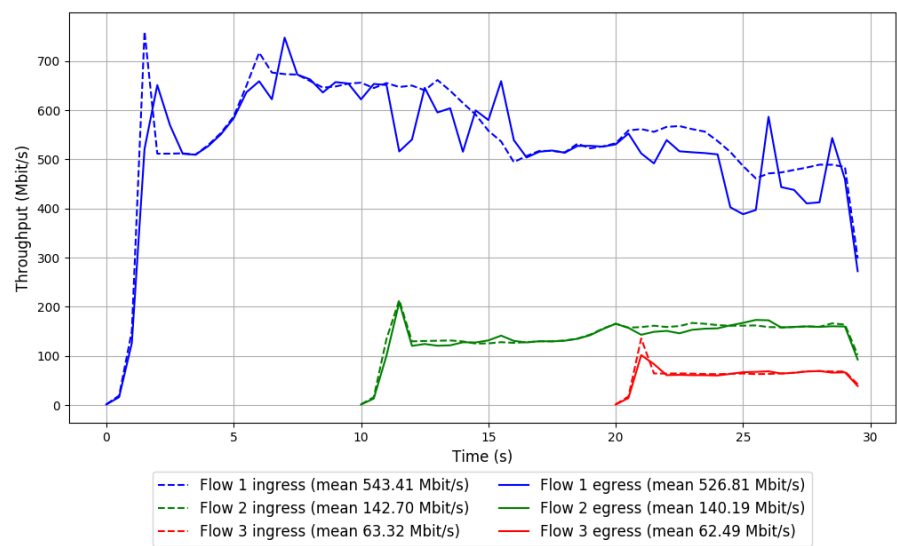
-- Flow 3:

Average throughput: 62.49 Mbit/s

95th percentile per-packet one-way delay: 150.856 ms

Loss rate: 2.32%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-04-18 10:57:10

End at: 2018-04-18 10:57:40

Below is generated by plot.py at 2018-04-18 16:10:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 628.41 Mbit/s

95th percentile per-packet one-way delay: 231.835 ms

Loss rate: 3.50%

-- Flow 1:

Average throughput: 542.31 Mbit/s

95th percentile per-packet one-way delay: 233.155 ms

Loss rate: 3.87%

-- Flow 2:

Average throughput: 127.35 Mbit/s

95th percentile per-packet one-way delay: 148.399 ms

Loss rate: 1.08%

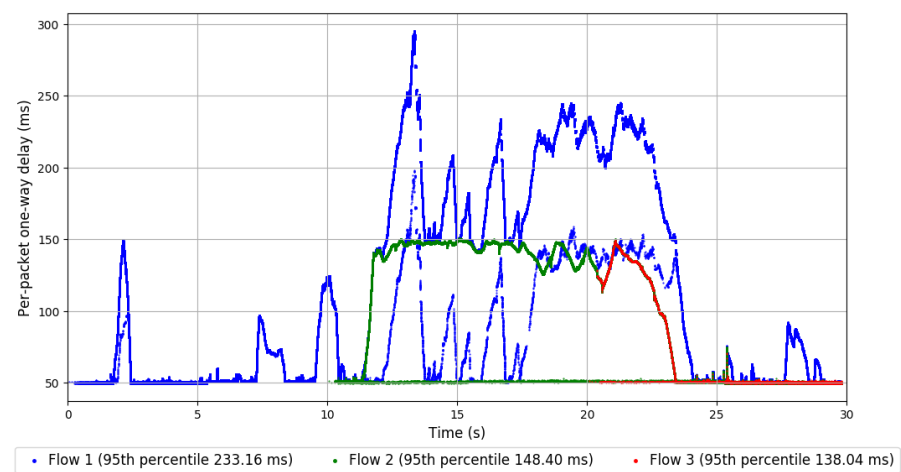
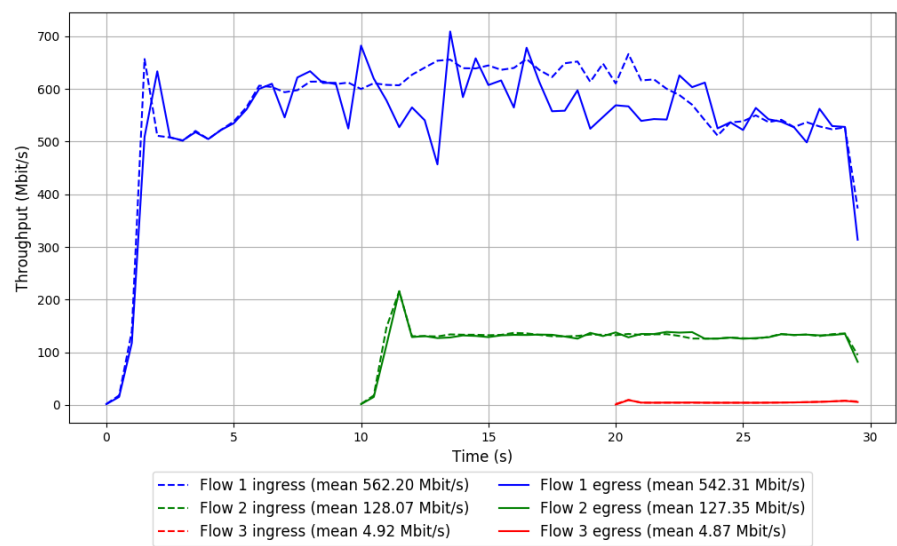
-- Flow 3:

Average throughput: 4.87 Mbit/s

95th percentile per-packet one-way delay: 138.036 ms

Loss rate: 2.02%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-04-18 11:13:02

End at: 2018-04-18 11:13:32

Below is generated by plot.py at 2018-04-18 16:10:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 577.36 Mbit/s

95th percentile per-packet one-way delay: 151.602 ms

Loss rate: 1.35%

-- Flow 1:

Average throughput: 508.95 Mbit/s

95th percentile per-packet one-way delay: 156.487 ms

Loss rate: 1.42%

-- Flow 2:

Average throughput: 71.32 Mbit/s

95th percentile per-packet one-way delay: 124.637 ms

Loss rate: 0.67%

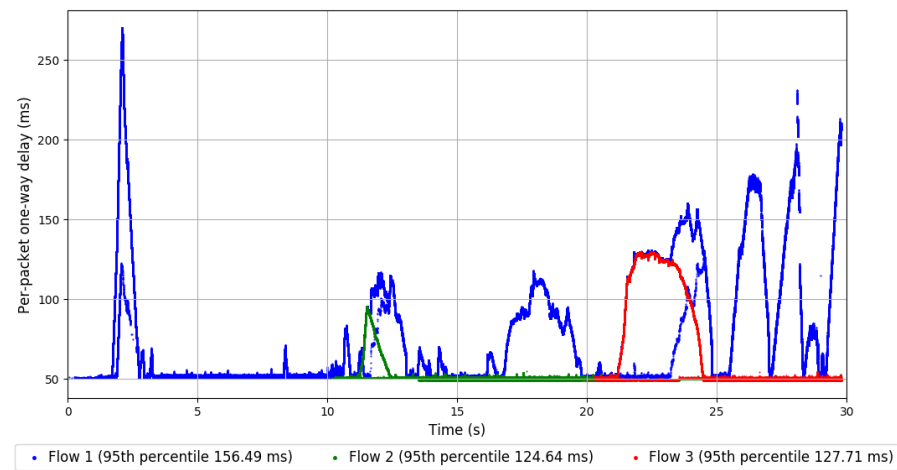
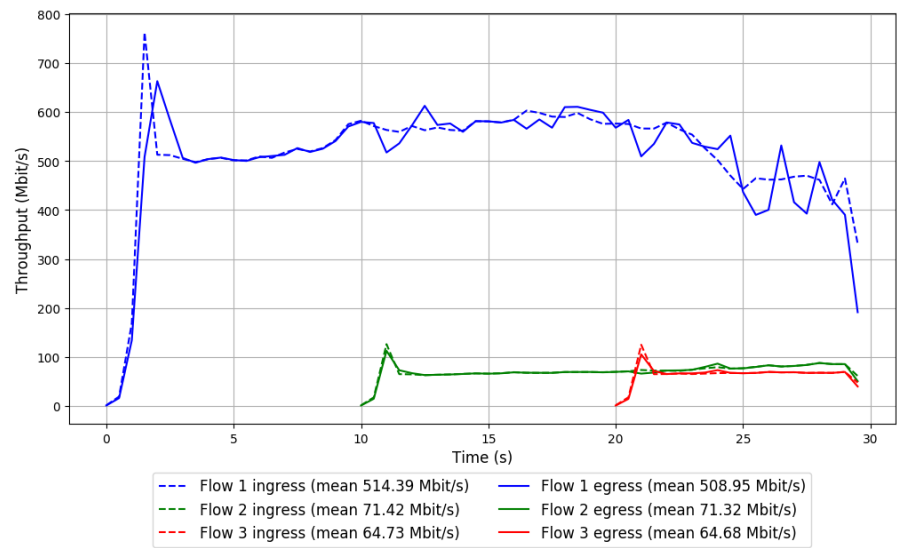
-- Flow 3:

Average throughput: 64.68 Mbit/s

95th percentile per-packet one-way delay: 127.706 ms

Loss rate: 1.17%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-04-18 11:28:53

End at: 2018-04-18 11:29:23

Below is generated by plot.py at 2018-04-18 16:10:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 607.37 Mbit/s

95th percentile per-packet one-way delay: 254.157 ms

Loss rate: 4.44%

-- Flow 1:

Average throughput: 493.74 Mbit/s

95th percentile per-packet one-way delay: 258.867 ms

Loss rate: 5.12%

-- Flow 2:

Average throughput: 110.68 Mbit/s

95th percentile per-packet one-way delay: 155.710 ms

Loss rate: 1.24%

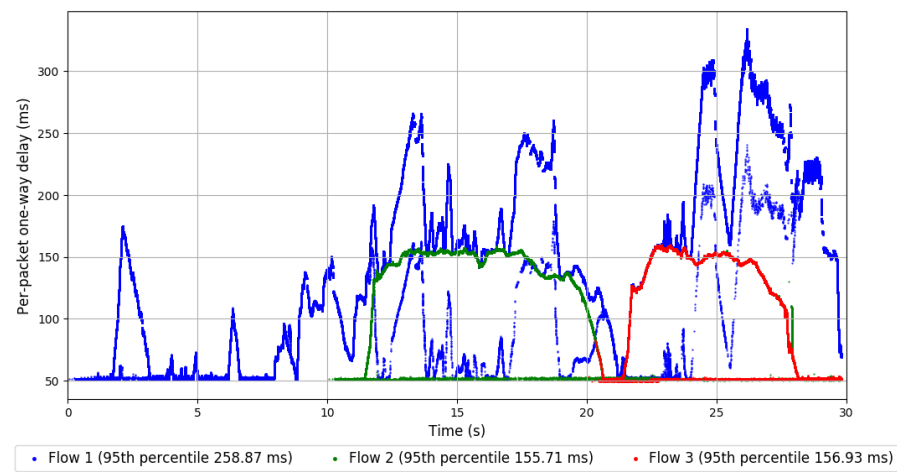
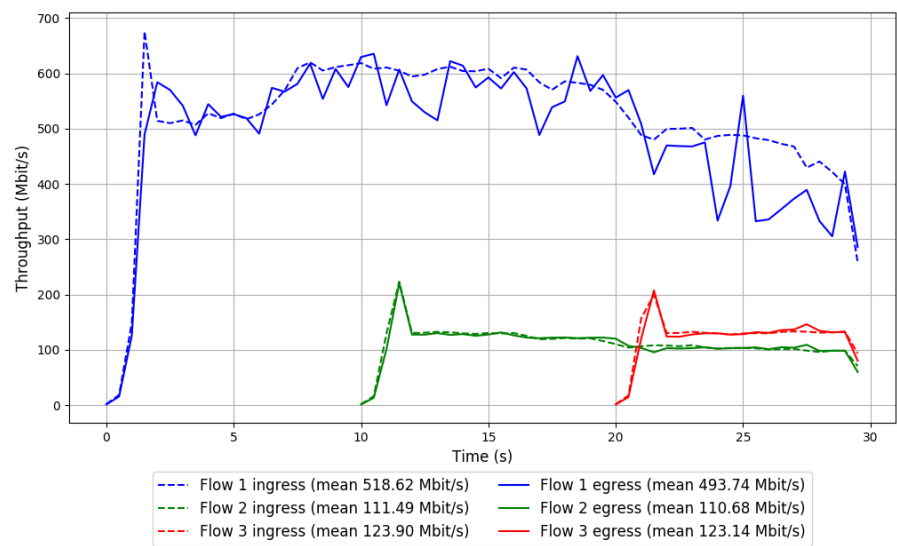
-- Flow 3:

Average throughput: 123.14 Mbit/s

95th percentile per-packet one-way delay: 156.928 ms

Loss rate: 1.66%

Run 5: Report of PCC-Allegro — Data Link



Run 6: Statistics of PCC-Allegro

Start at: 2018-04-18 11:44:43

End at: 2018-04-18 11:45:13

Below is generated by plot.py at 2018-04-18 16:10:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 584.97 Mbit/s

95th percentile per-packet one-way delay: 230.952 ms

Loss rate: 4.55%

-- Flow 1:

Average throughput: 469.26 Mbit/s

95th percentile per-packet one-way delay: 240.327 ms

Loss rate: 5.45%

-- Flow 2:

Average throughput: 157.71 Mbit/s

95th percentile per-packet one-way delay: 144.725 ms

Loss rate: 0.67%

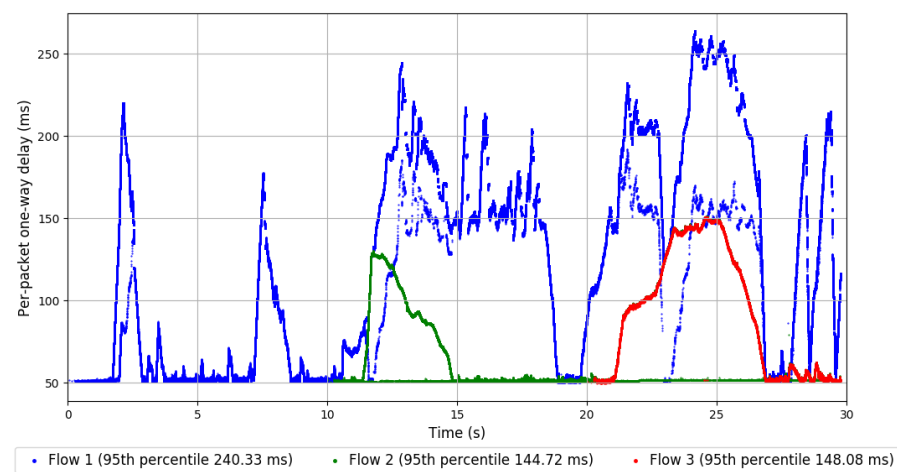
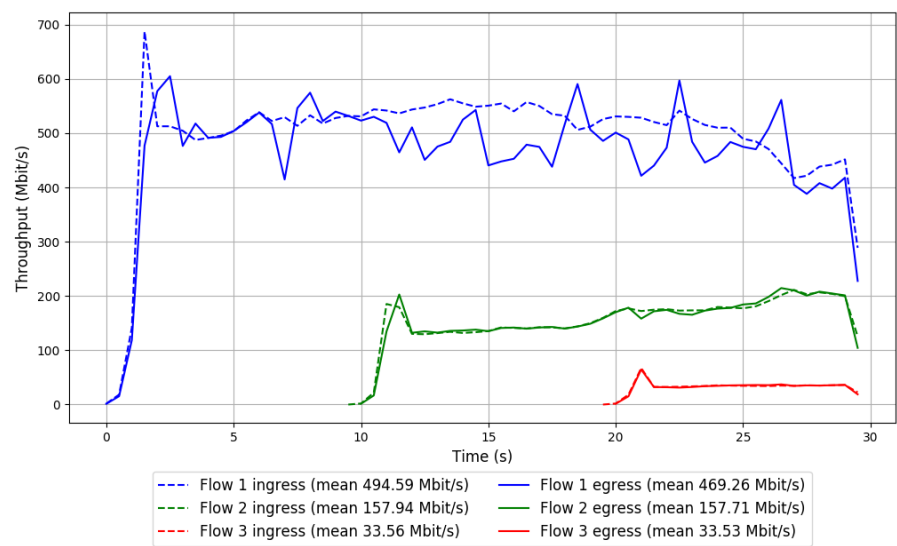
-- Flow 3:

Average throughput: 33.53 Mbit/s

95th percentile per-packet one-way delay: 148.079 ms

Loss rate: 1.14%

Run 6: Report of PCC-Allegro — Data Link



Run 7: Statistics of PCC-Allegro

Start at: 2018-04-18 12:00:22

End at: 2018-04-18 12:00:52

Below is generated by plot.py at 2018-04-18 16:10:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 596.76 Mbit/s

95th percentile per-packet one-way delay: 225.774 ms

Loss rate: 2.07%

-- Flow 1:

Average throughput: 477.93 Mbit/s

95th percentile per-packet one-way delay: 231.305 ms

Loss rate: 2.14%

-- Flow 2:

Average throughput: 122.19 Mbit/s

95th percentile per-packet one-way delay: 151.075 ms

Loss rate: 1.29%

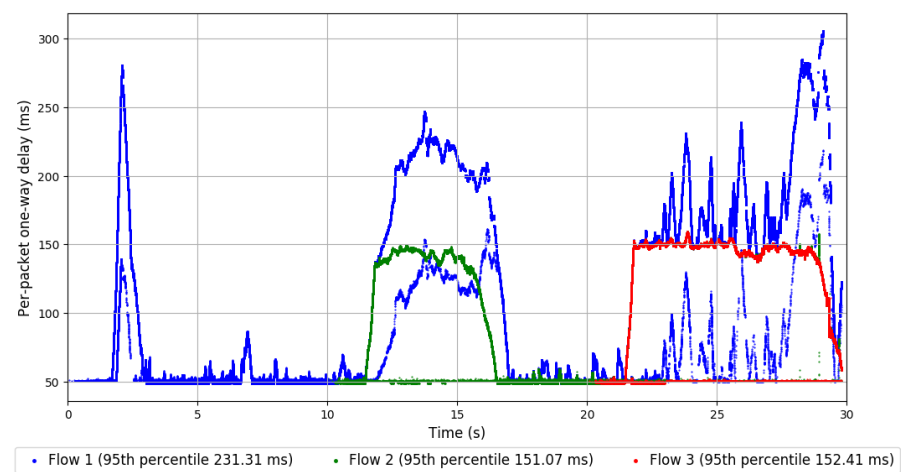
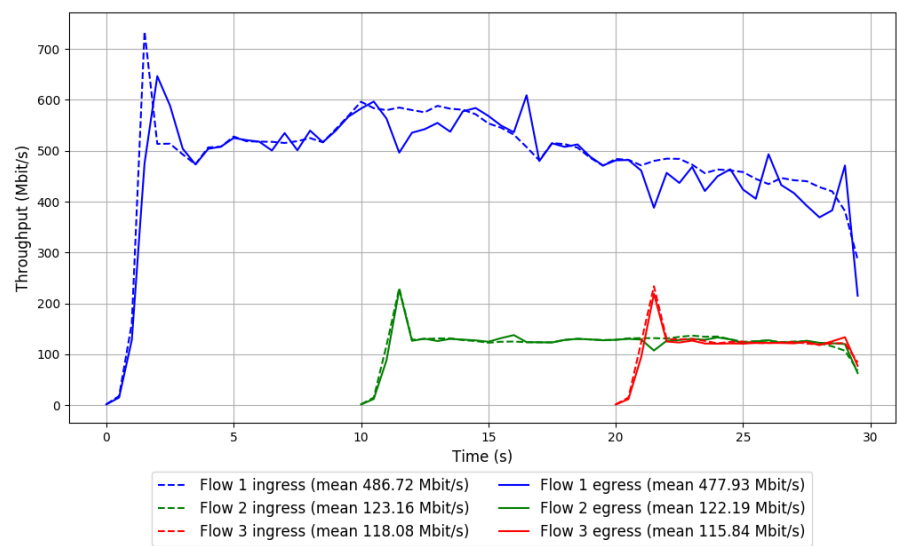
-- Flow 3:

Average throughput: 115.84 Mbit/s

95th percentile per-packet one-way delay: 152.415 ms

Loss rate: 2.90%

Run 7: Report of PCC-Allegro — Data Link



Run 8: Statistics of PCC-Allegro

Start at: 2018-04-18 12:16:15

End at: 2018-04-18 12:16:45

Below is generated by plot.py at 2018-04-18 16:12:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 638.83 Mbit/s

95th percentile per-packet one-way delay: 200.676 ms

Loss rate: 6.40%

-- Flow 1:

Average throughput: 488.22 Mbit/s

95th percentile per-packet one-way delay: 218.321 ms

Loss rate: 7.15%

-- Flow 2:

Average throughput: 224.94 Mbit/s

95th percentile per-packet one-way delay: 149.677 ms

Loss rate: 3.92%

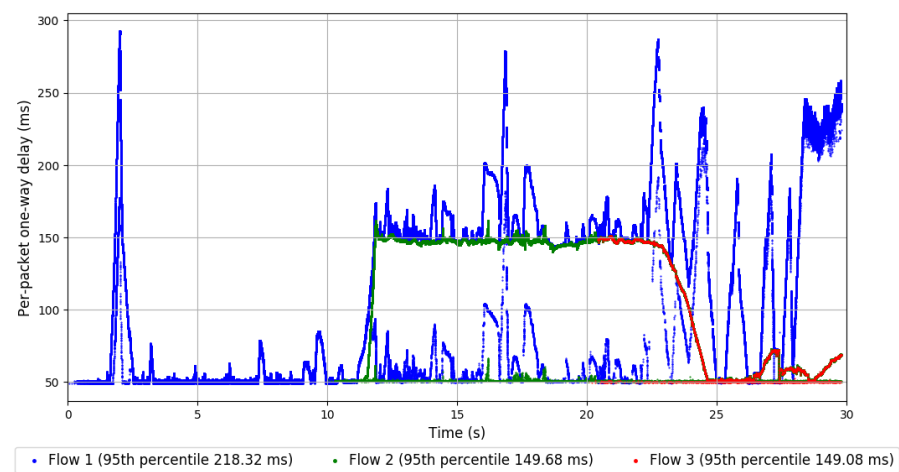
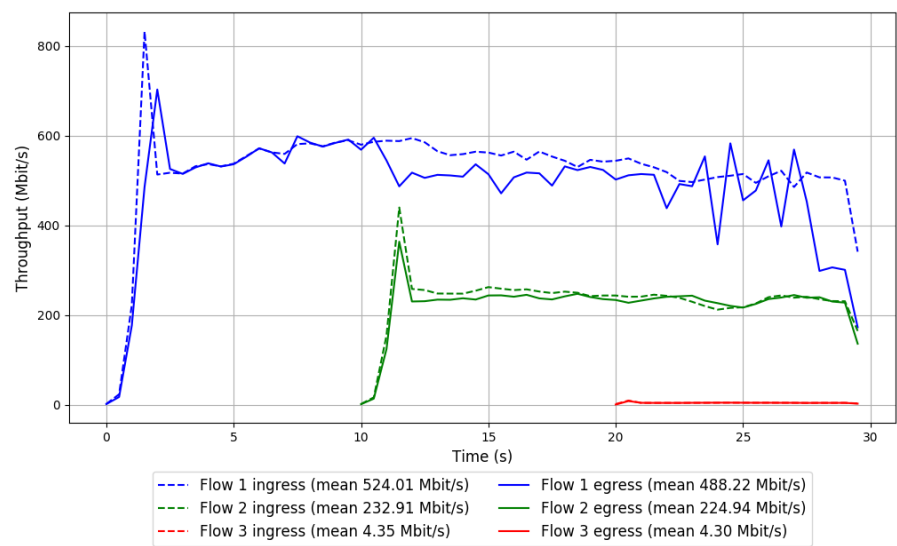
-- Flow 3:

Average throughput: 4.30 Mbit/s

95th percentile per-packet one-way delay: 149.083 ms

Loss rate: 2.27%

Run 8: Report of PCC-Allegro — Data Link



Run 9: Statistics of PCC-Allegro

Start at: 2018-04-18 12:32:05

End at: 2018-04-18 12:32:35

Below is generated by plot.py at 2018-04-18 16:20:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 574.07 Mbit/s

95th percentile per-packet one-way delay: 154.231 ms

Loss rate: 1.06%

-- Flow 1:

Average throughput: 560.38 Mbit/s

95th percentile per-packet one-way delay: 155.525 ms

Loss rate: 1.05%

-- Flow 2:

Average throughput: 4.63 Mbit/s

95th percentile per-packet one-way delay: 89.634 ms

Loss rate: 0.90%

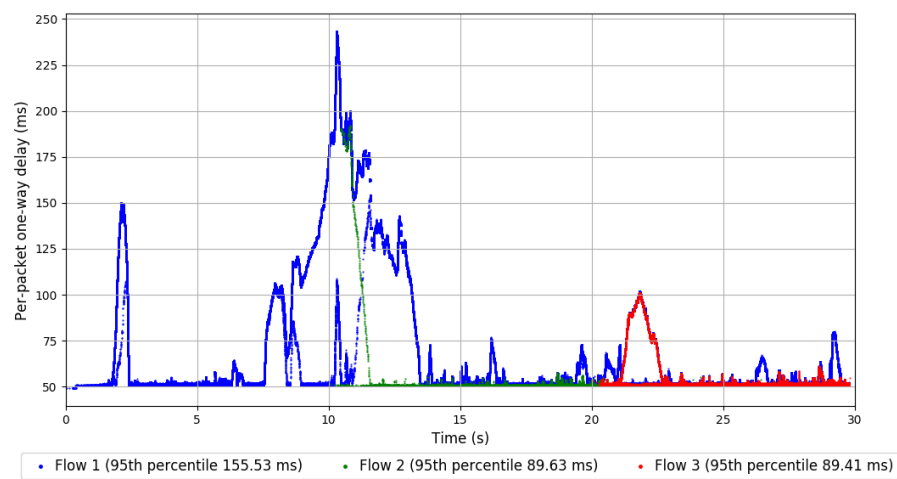
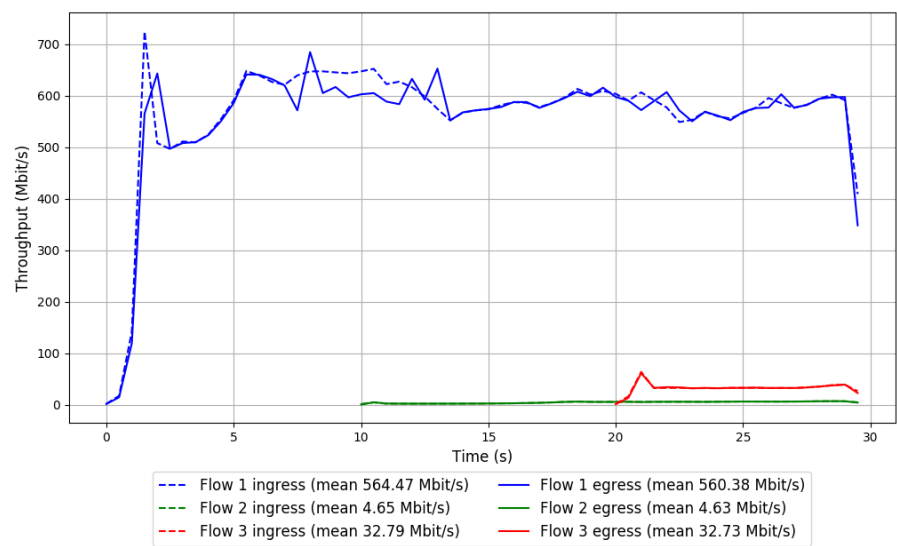
-- Flow 3:

Average throughput: 32.73 Mbit/s

95th percentile per-packet one-way delay: 89.408 ms

Loss rate: 1.20%

Run 9: Report of PCC-Allegro — Data Link



Run 10: Statistics of PCC-Allegro

Start at: 2018-04-18 12:47:53

End at: 2018-04-18 12:48:23

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 579.91 Mbit/s

95th percentile per-packet one-way delay: 181.023 ms

Loss rate: 3.21%

-- Flow 1:

Average throughput: 464.74 Mbit/s

95th percentile per-packet one-way delay: 211.950 ms

Loss rate: 3.82%

-- Flow 2:

Average throughput: 142.65 Mbit/s

95th percentile per-packet one-way delay: 118.899 ms

Loss rate: 0.55%

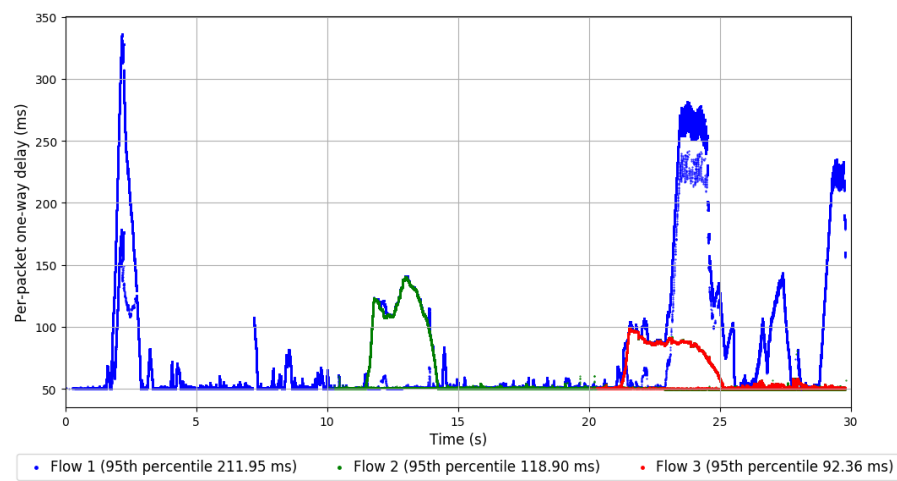
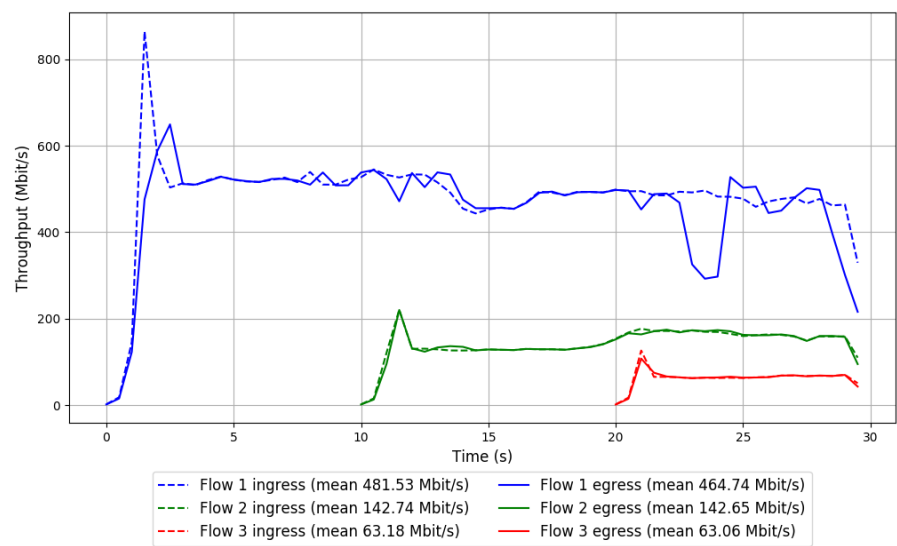
-- Flow 3:

Average throughput: 63.06 Mbit/s

95th percentile per-packet one-way delay: 92.355 ms

Loss rate: 1.22%

Run 10: Report of PCC-Allegro — Data Link

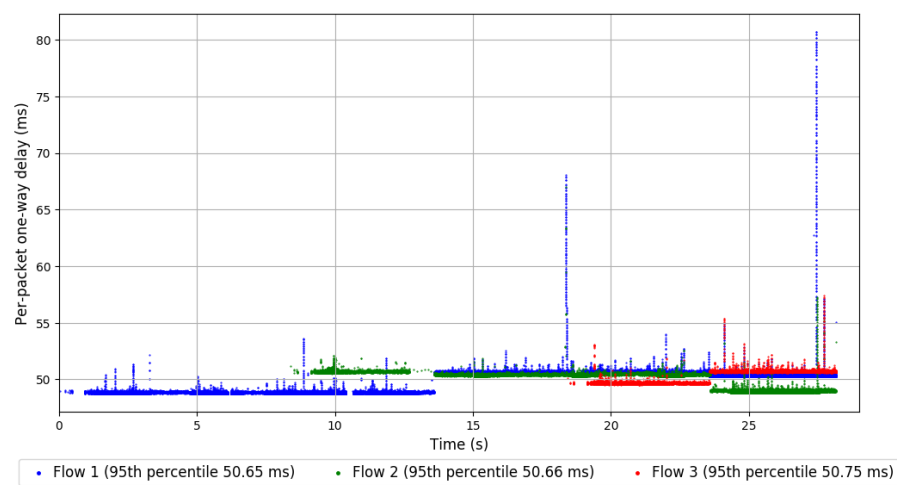
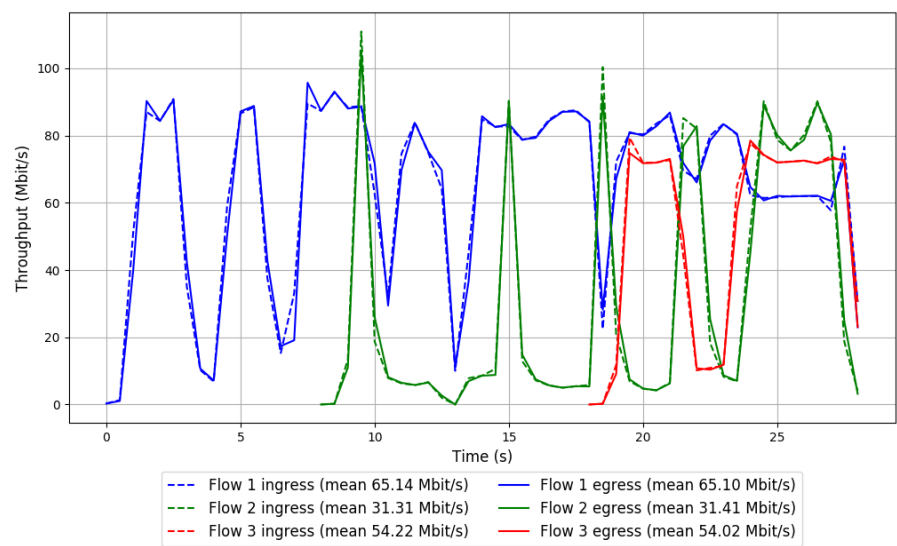


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-04-18 10:28:10
End at: 2018-04-18 10:28:40

# Below is generated by plot.py at 2018-04-18 16:20:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.88 Mbit/s
95th percentile per-packet one-way delay: 50.700 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 50.652 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 31.41 Mbit/s
95th percentile per-packet one-way delay: 50.665 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 54.02 Mbit/s
95th percentile per-packet one-way delay: 50.754 ms
Loss rate: 1.39%
```


Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-04-18 10:43:59

End at: 2018-04-18 10:44:29

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.57 Mbit/s

95th percentile per-packet one-way delay: 50.812 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 66.42 Mbit/s

95th percentile per-packet one-way delay: 50.705 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 32.38 Mbit/s

95th percentile per-packet one-way delay: 50.597 ms

Loss rate: 0.99%

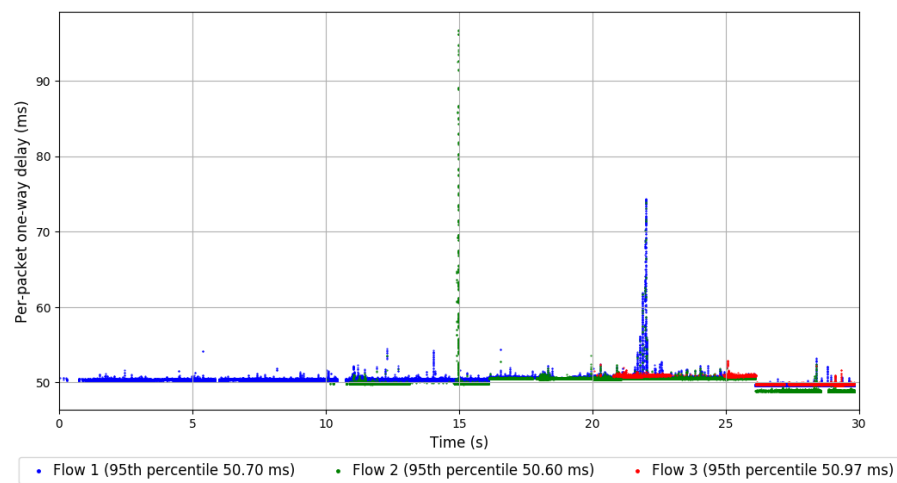
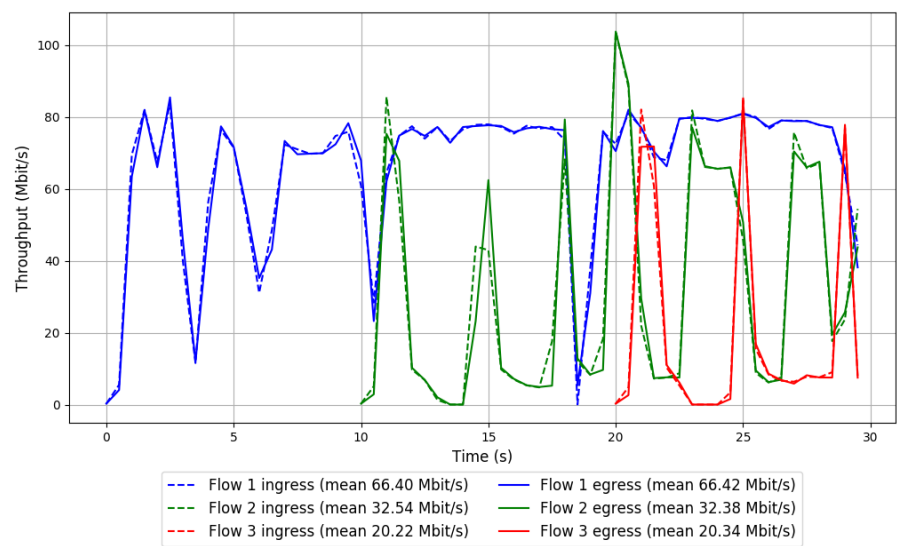
-- Flow 3:

Average throughput: 20.34 Mbit/s

95th percentile per-packet one-way delay: 50.969 ms

Loss rate: 0.45%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-04-18 10:59:54

End at: 2018-04-18 11:00:24

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 101.80 Mbit/s

95th percentile per-packet one-way delay: 51.169 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 55.57 Mbit/s

95th percentile per-packet one-way delay: 50.764 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 61.63 Mbit/s

95th percentile per-packet one-way delay: 51.255 ms

Loss rate: 0.64%

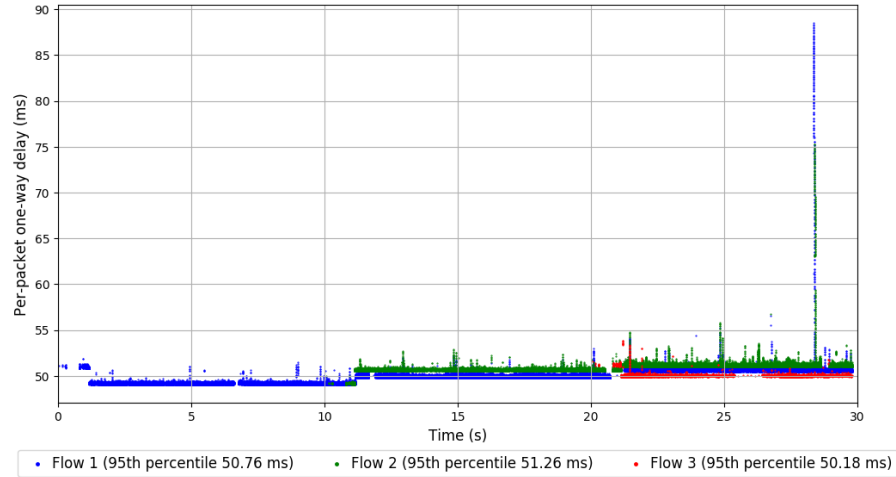
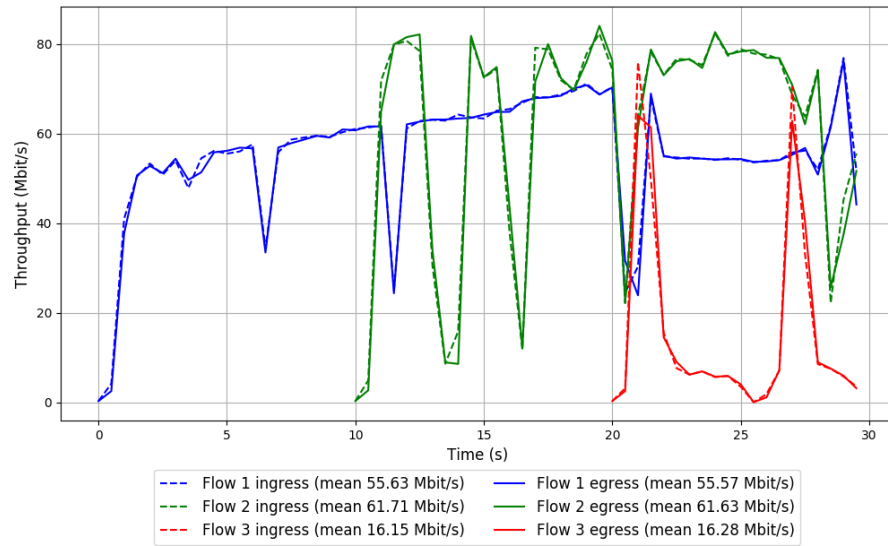
-- Flow 3:

Average throughput: 16.28 Mbit/s

95th percentile per-packet one-way delay: 50.176 ms

Loss rate: 0.27%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-04-18 11:15:45

End at: 2018-04-18 11:16:15

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 115.80 Mbit/s

95th percentile per-packet one-way delay: 51.494 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 58.98 Mbit/s

95th percentile per-packet one-way delay: 51.572 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 59.60 Mbit/s

95th percentile per-packet one-way delay: 50.952 ms

Loss rate: 0.00%

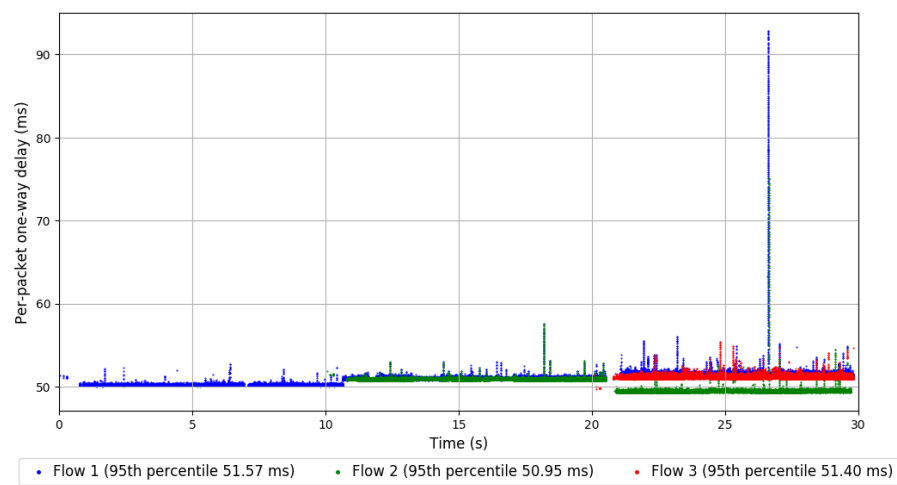
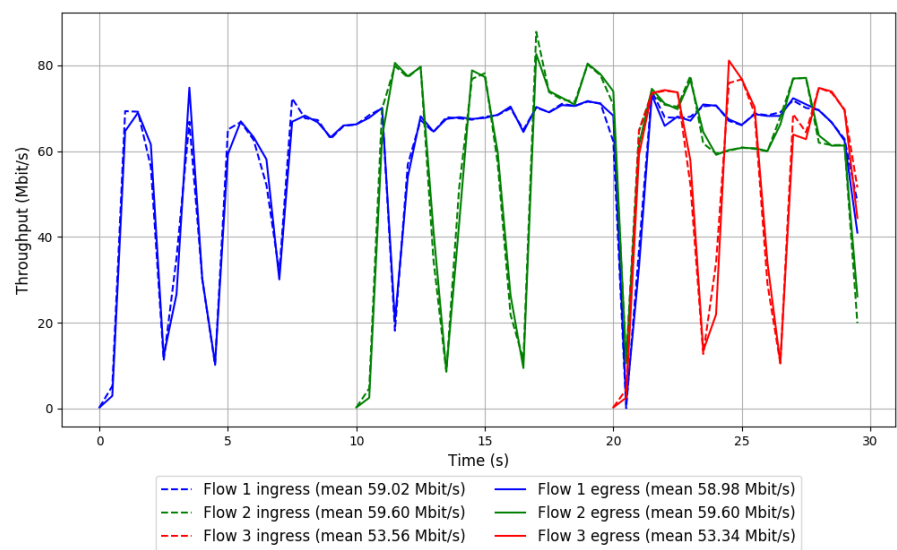
-- Flow 3:

Average throughput: 53.34 Mbit/s

95th percentile per-packet one-way delay: 51.402 ms

Loss rate: 1.40%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-04-18 11:31:37

End at: 2018-04-18 11:32:07

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.10 Mbit/s

95th percentile per-packet one-way delay: 51.250 ms

Loss rate: 0.70%

-- Flow 1:

Average throughput: 38.25 Mbit/s

95th percentile per-packet one-way delay: 51.290 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 29.00 Mbit/s

95th percentile per-packet one-way delay: 50.751 ms

Loss rate: 1.42%

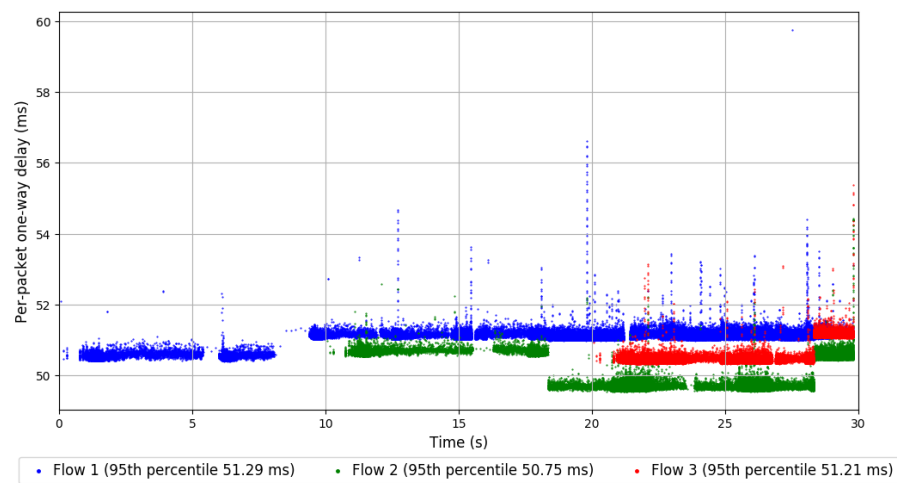
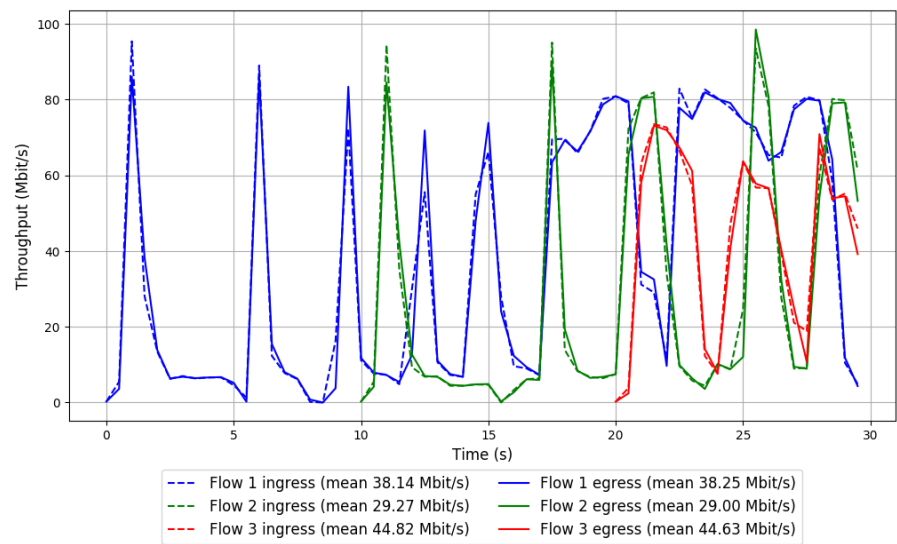
-- Flow 3:

Average throughput: 44.63 Mbit/s

95th percentile per-packet one-way delay: 51.207 ms

Loss rate: 1.43%

Run 5: Report of QUIC Cubic — Data Link



Run 6: Statistics of QUIC Cubic

Start at: 2018-04-18 11:47:28

End at: 2018-04-18 11:47:58

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 71.65 Mbit/s

95th percentile per-packet one-way delay: 51.543 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 49.01 Mbit/s

95th percentile per-packet one-way delay: 51.589 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 26.06 Mbit/s

95th percentile per-packet one-way delay: 50.844 ms

Loss rate: 1.17%

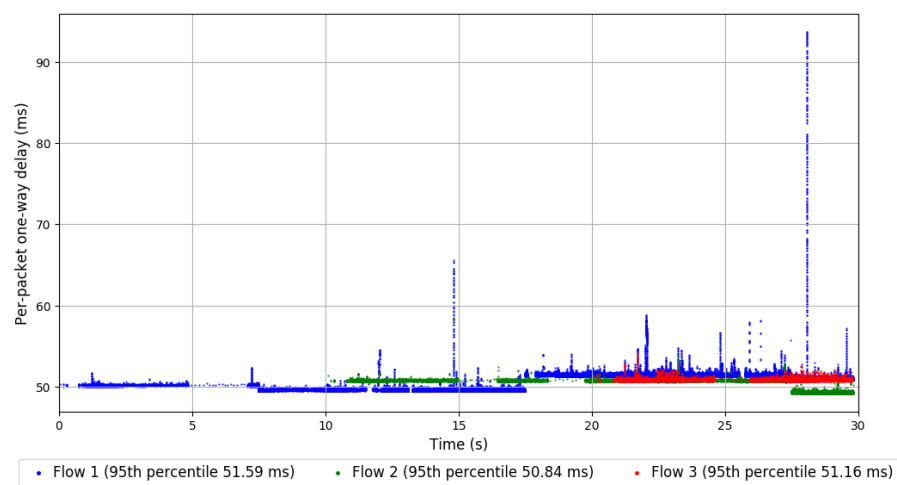
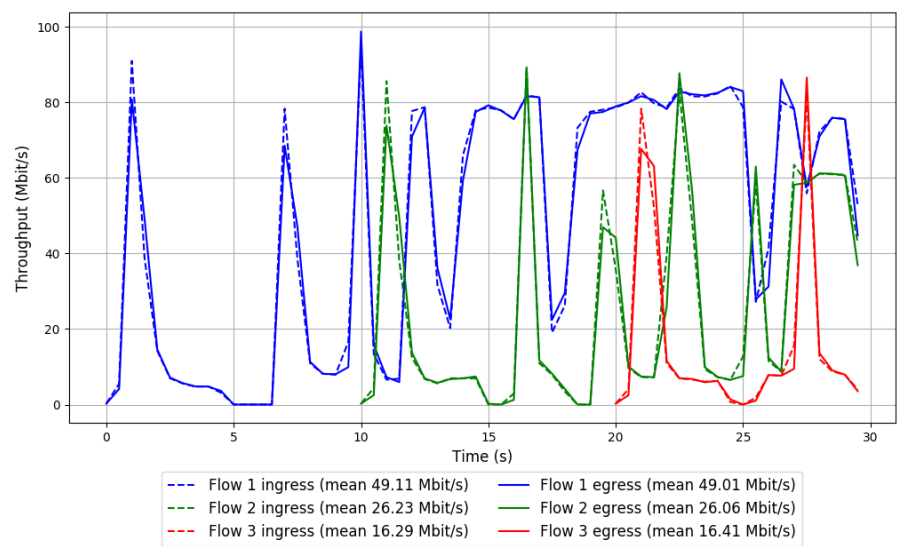
-- Flow 3:

Average throughput: 16.41 Mbit/s

95th percentile per-packet one-way delay: 51.161 ms

Loss rate: 0.34%

Run 6: Report of QUIC Cubic — Data Link



Run 7: Statistics of QUIC Cubic

Start at: 2018-04-18 12:03:07

End at: 2018-04-18 12:03:37

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 115.02 Mbit/s

95th percentile per-packet one-way delay: 50.746 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 59.93 Mbit/s

95th percentile per-packet one-way delay: 50.779 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 61.53 Mbit/s

95th percentile per-packet one-way delay: 50.661 ms

Loss rate: 0.63%

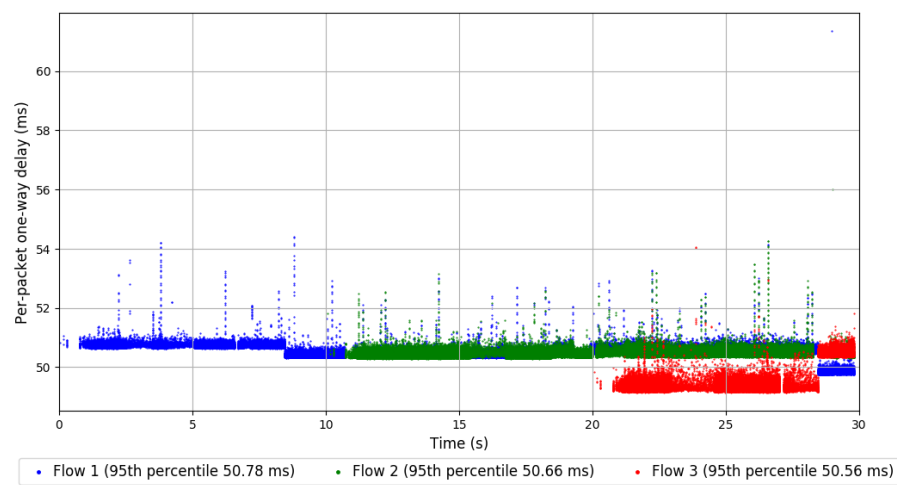
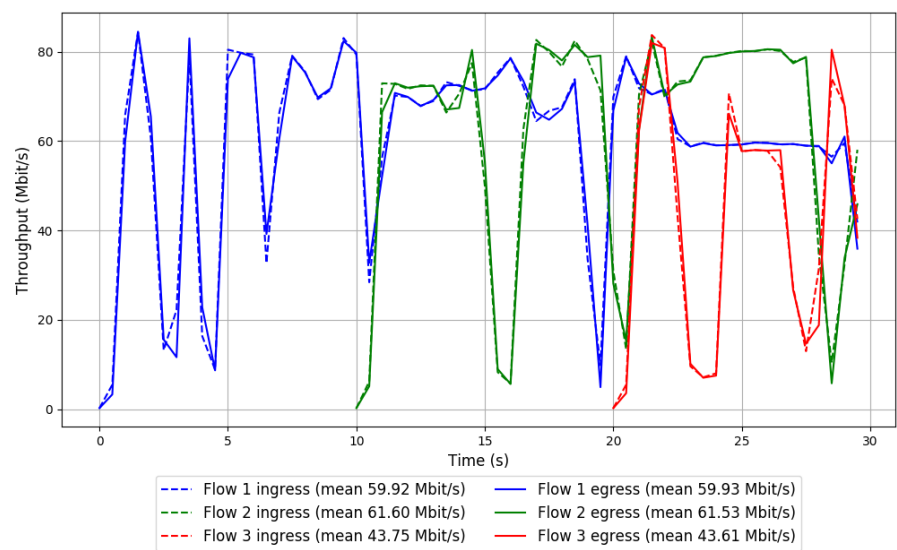
-- Flow 3:

Average throughput: 43.61 Mbit/s

95th percentile per-packet one-way delay: 50.559 ms

Loss rate: 1.32%

Run 7: Report of QUIC Cubic — Data Link



Run 8: Statistics of QUIC Cubic

Start at: 2018-04-18 12:19:01

End at: 2018-04-18 12:19:31

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.77 Mbit/s

95th percentile per-packet one-way delay: 50.659 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 36.80 Mbit/s

95th percentile per-packet one-way delay: 50.721 ms

Loss rate: 0.63%

-- Flow 2:

Average throughput: 33.57 Mbit/s

95th percentile per-packet one-way delay: 50.463 ms

Loss rate: 0.92%

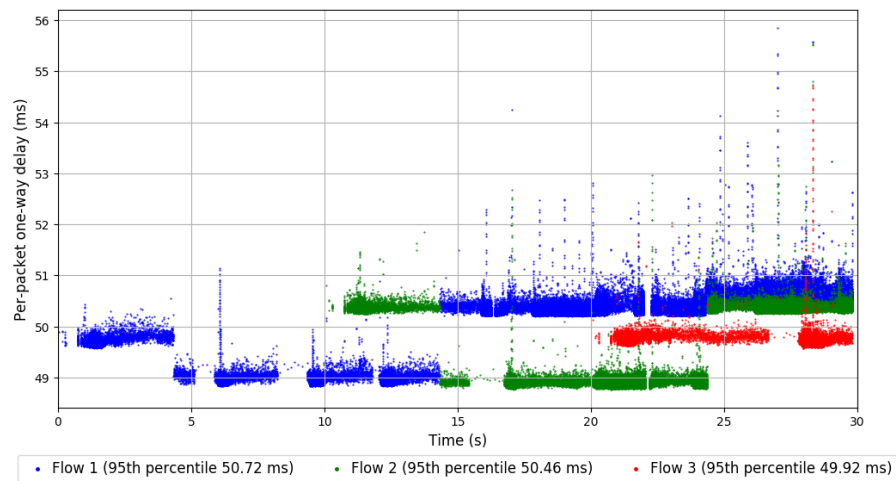
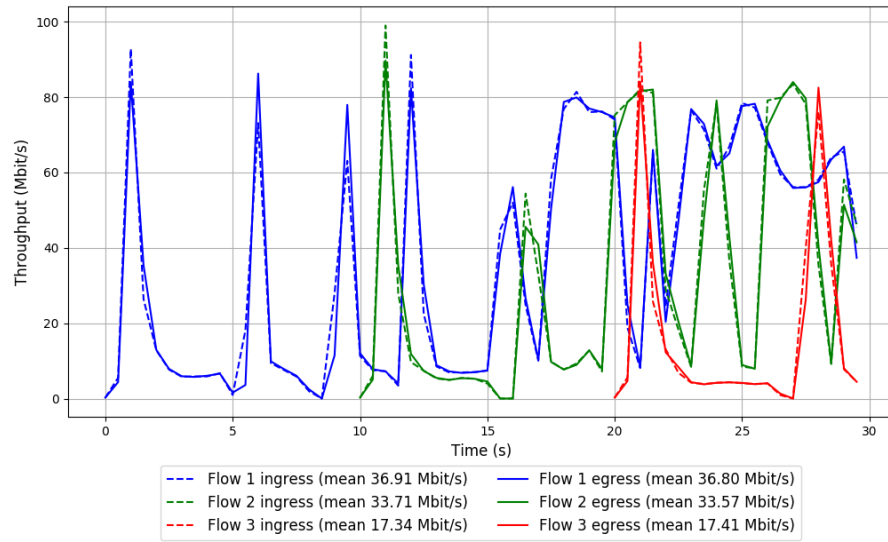
-- Flow 3:

Average throughput: 17.41 Mbit/s

95th percentile per-packet one-way delay: 49.916 ms

Loss rate: 0.21%

Run 8: Report of QUIC Cubic — Data Link



Run 9: Statistics of QUIC Cubic

Start at: 2018-04-18 12:34:48

End at: 2018-04-18 12:35:18

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.18 Mbit/s

95th percentile per-packet one-way delay: 50.451 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 32.87 Mbit/s

95th percentile per-packet one-way delay: 50.345 ms

Loss rate: 0.62%

-- Flow 2:

Average throughput: 59.11 Mbit/s

95th percentile per-packet one-way delay: 50.525 ms

Loss rate: 0.26%

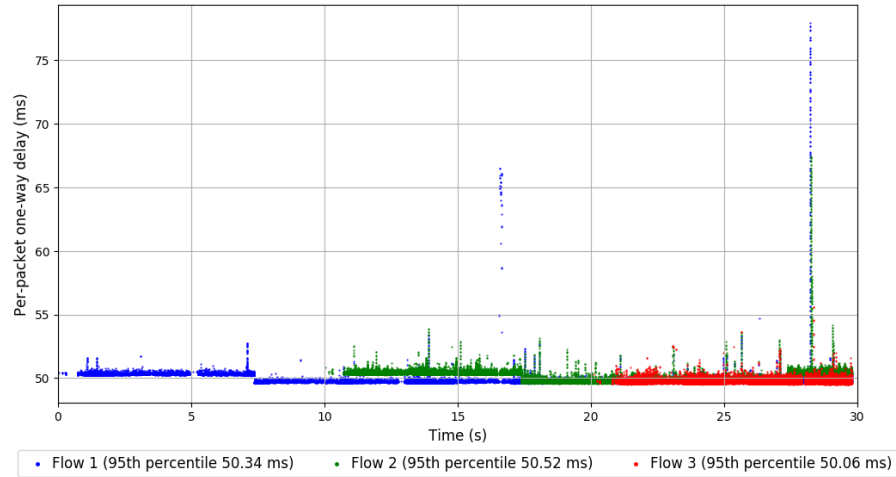
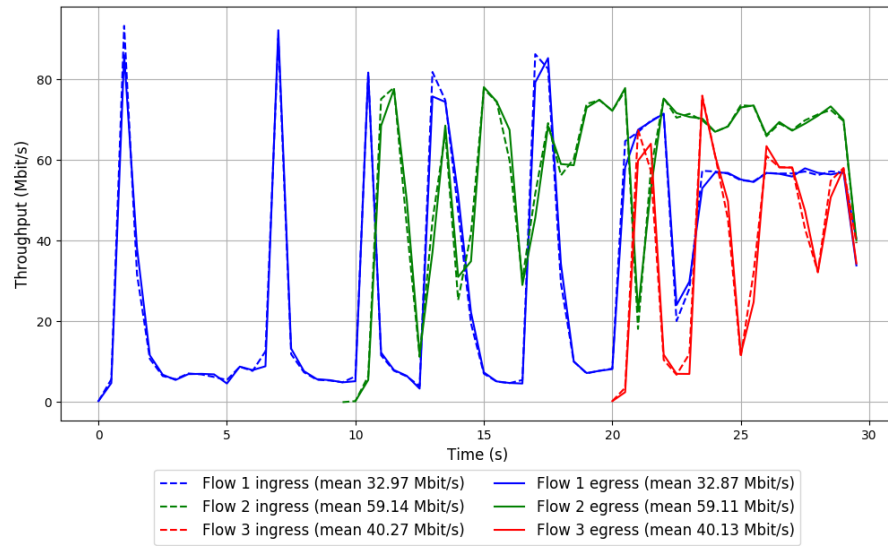
-- Flow 3:

Average throughput: 40.13 Mbit/s

95th percentile per-packet one-way delay: 50.057 ms

Loss rate: 1.39%

Run 9: Report of QUIC Cubic — Data Link



Run 10: Statistics of QUIC Cubic

Start at: 2018-04-18 12:50:36

End at: 2018-04-18 12:51:06

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 122.98 Mbit/s

95th percentile per-packet one-way delay: 50.689 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 66.68 Mbit/s

95th percentile per-packet one-way delay: 50.723 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 62.26 Mbit/s

95th percentile per-packet one-way delay: 50.568 ms

Loss rate: 0.62%

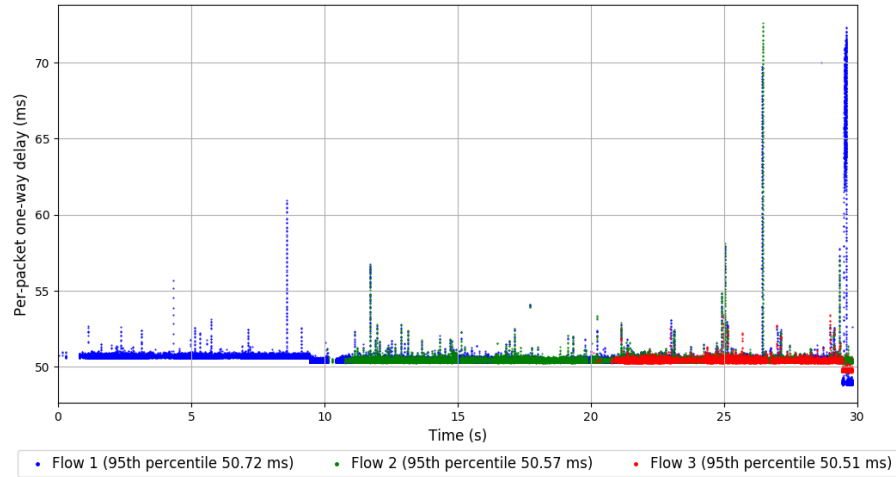
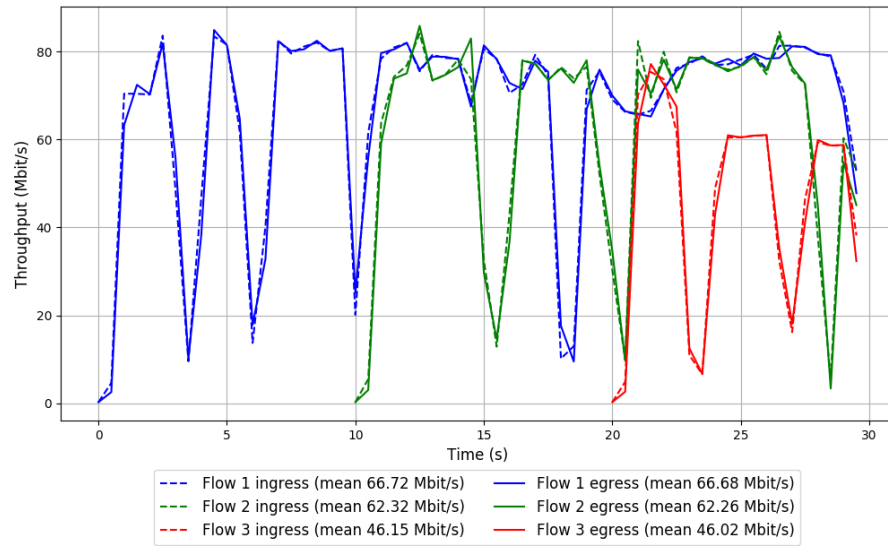
-- Flow 3:

Average throughput: 46.02 Mbit/s

95th percentile per-packet one-way delay: 50.508 ms

Loss rate: 1.29%

Run 10: Report of QUIC Cubic — Data Link

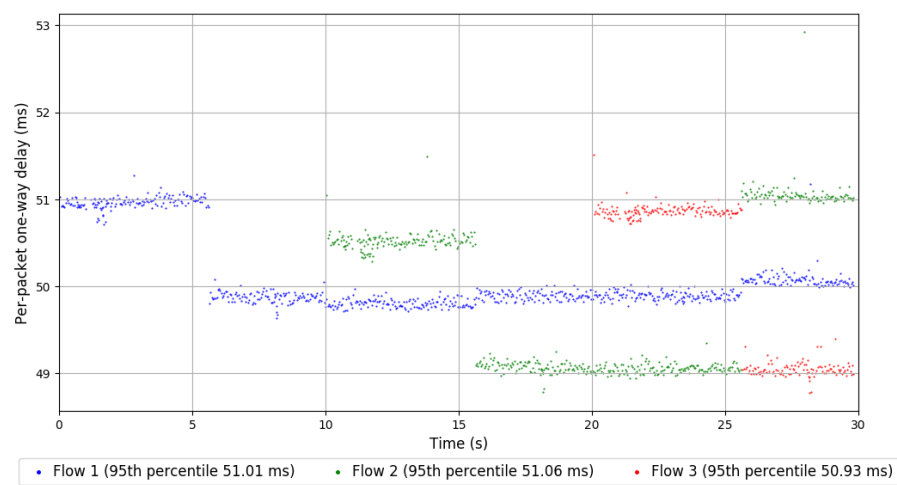
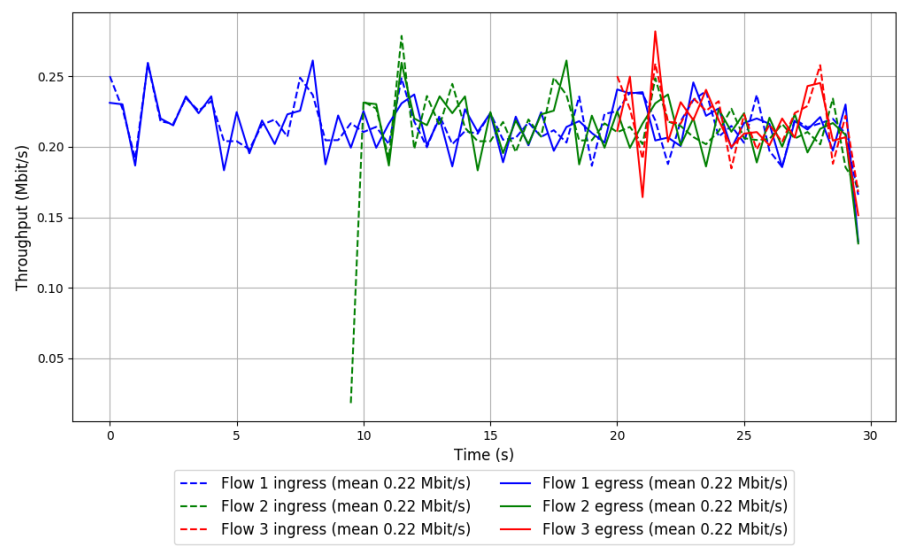


```
Run 1: Statistics of SCReAM

Start at: 2018-04-18 10:30:40
End at: 2018-04-18 10:31:10

# Below is generated by plot.py at 2018-04-18 16:20:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.030 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.007 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.061 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.930 ms
Loss rate: 1.11%
```

Run 1: Report of SCReAM — Data Link

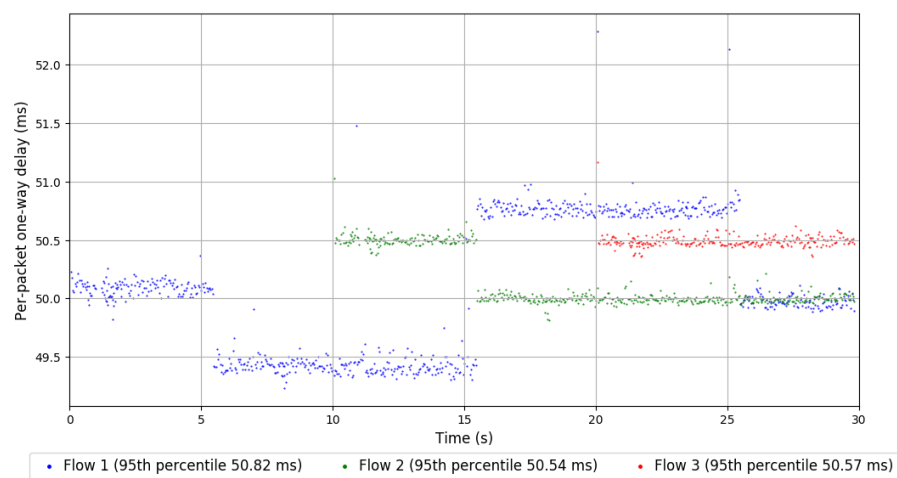
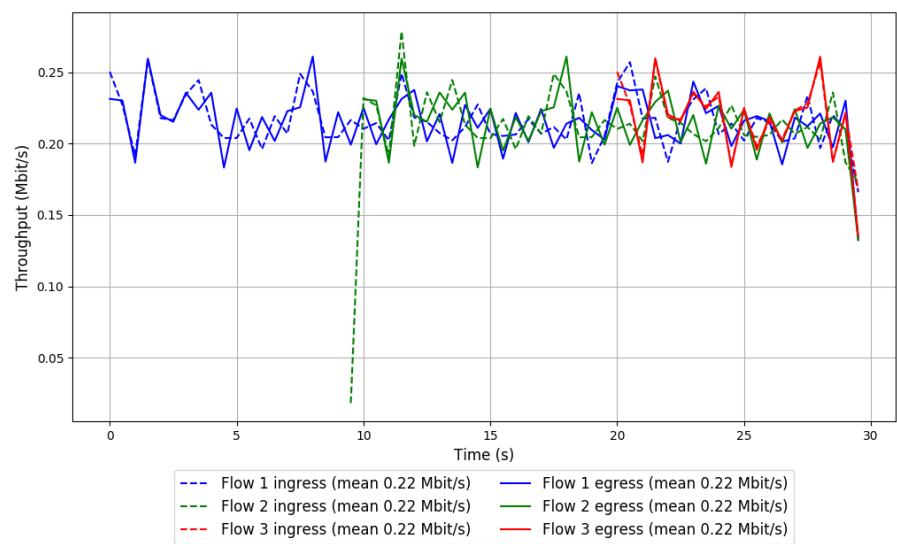


```
Run 2: Statistics of SCReAM

Start at: 2018-04-18 10:46:30
End at: 2018-04-18 10:47:00

# Below is generated by plot.py at 2018-04-18 16:20:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.787 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.819 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.536 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.574 ms
Loss rate: 1.11%
```

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-04-18 11:02:27

End at: 2018-04-18 11:02:57

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.316 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.274 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.346 ms

Loss rate: 0.63%

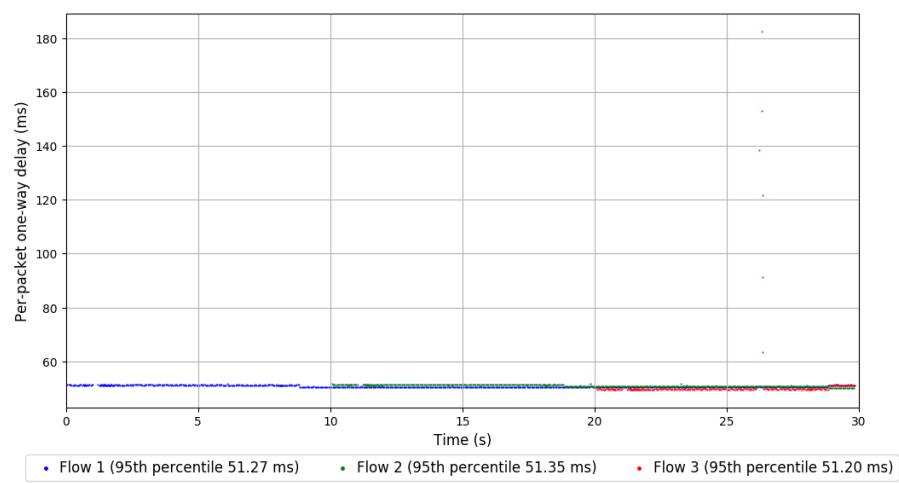
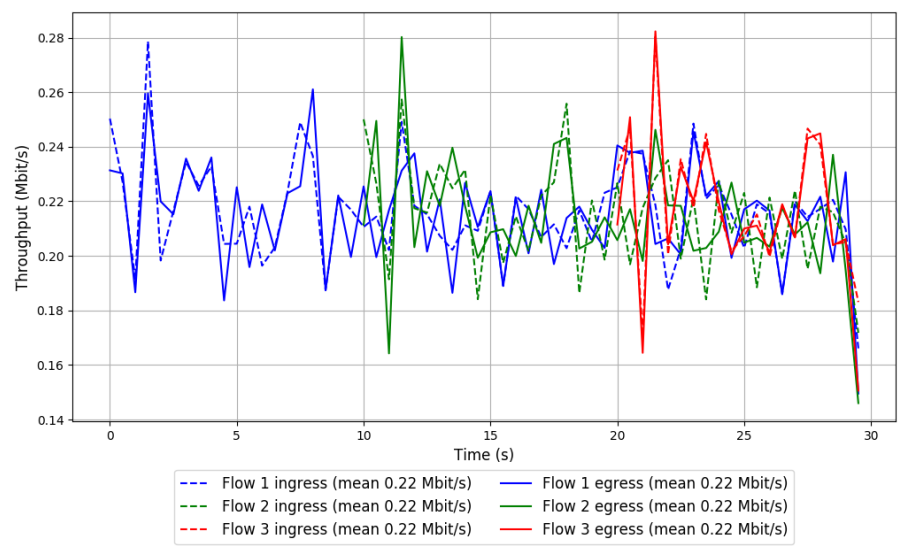
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.202 ms

Loss rate: 1.10%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2018-04-18 11:18:18

End at: 2018-04-18 11:18:48

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.610 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.392 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.645 ms

Loss rate: 0.63%

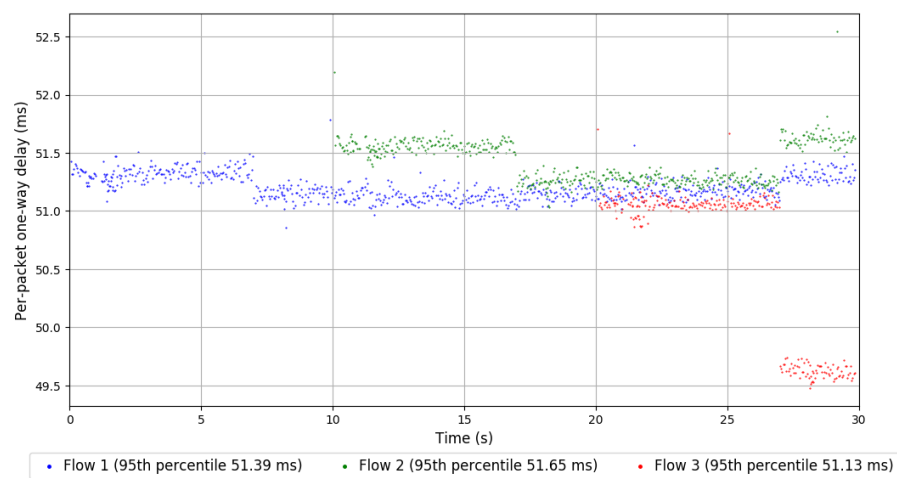
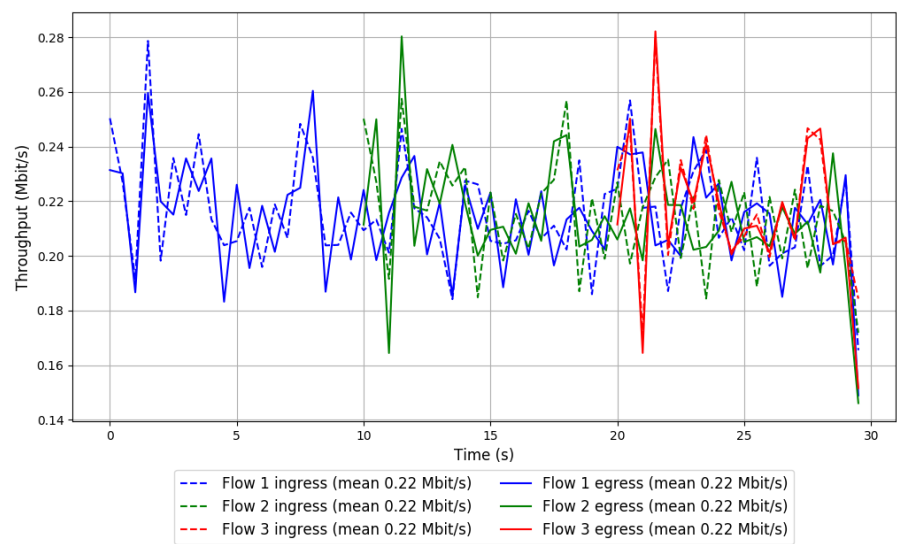
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.135 ms

Loss rate: 1.11%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2018-04-18 11:34:08

End at: 2018-04-18 11:34:38

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.719 ms

Loss rate: 0.46%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.487 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.760 ms

Loss rate: 0.43%

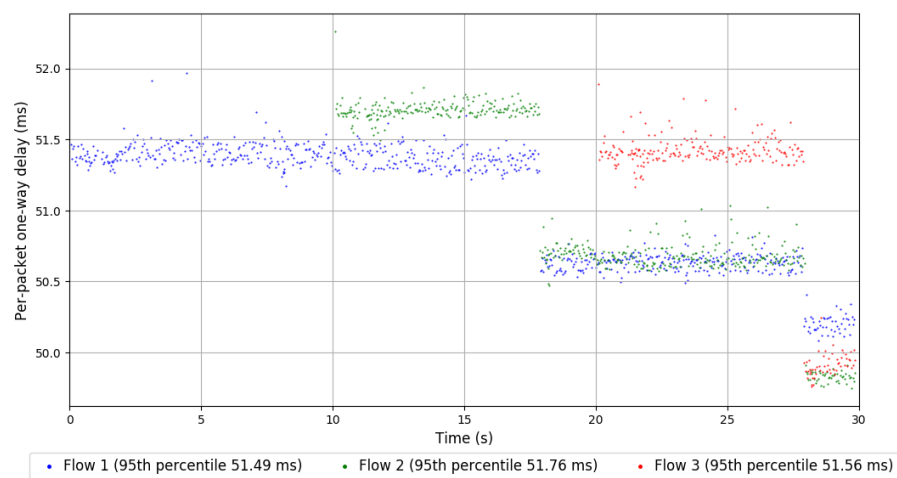
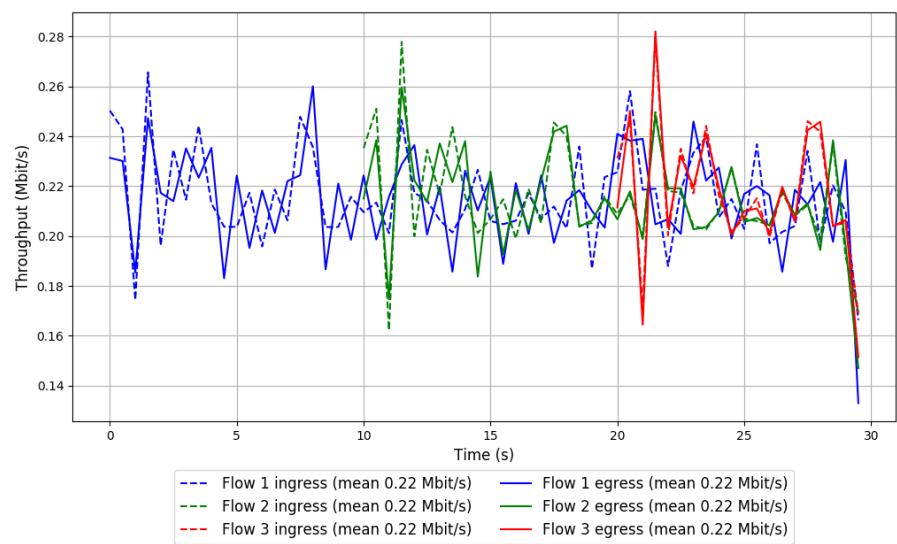
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.559 ms

Loss rate: 0.76%

Run 5: Report of SReAM — Data Link



Run 6: Statistics of SReAM

Start at: 2018-04-18 11:49:59

End at: 2018-04-18 11:50:29

Below is generated by plot.py at 2018-04-18 16:20:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.314 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.279 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.350 ms

Loss rate: 0.63%

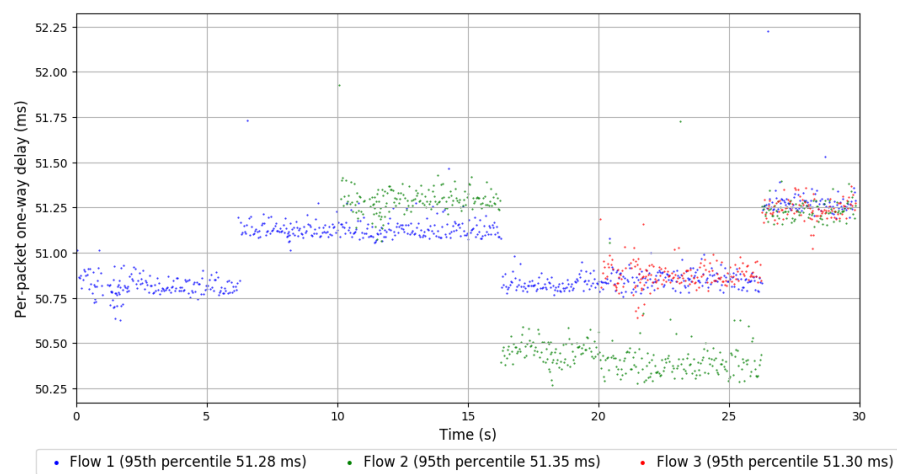
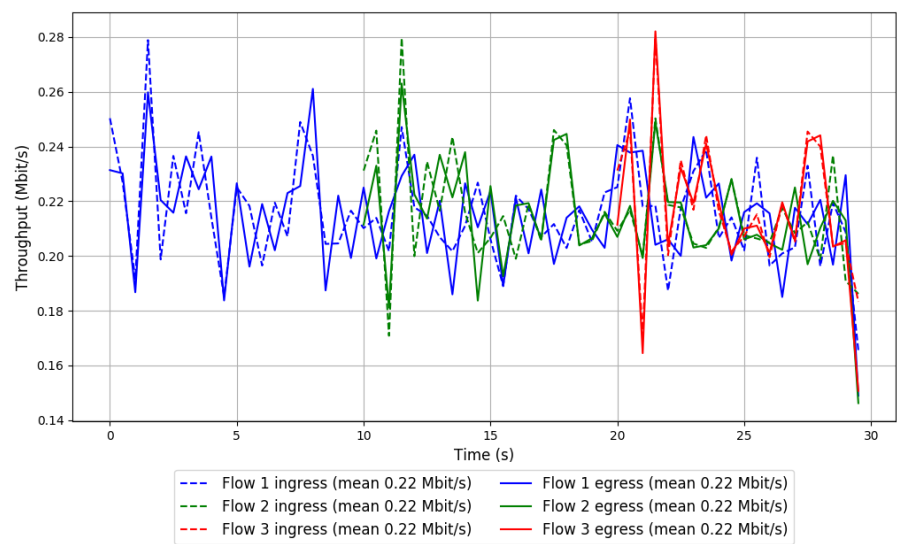
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.295 ms

Loss rate: 1.11%

Run 6: Report of SReAM — Data Link

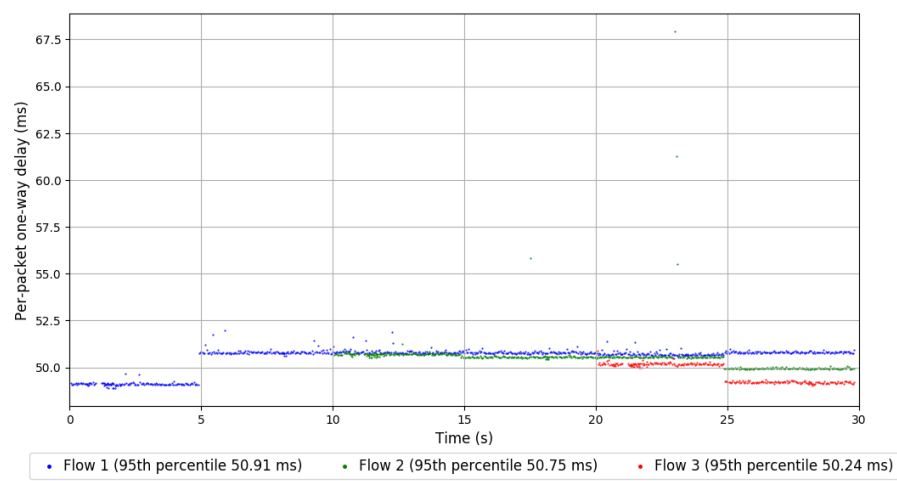
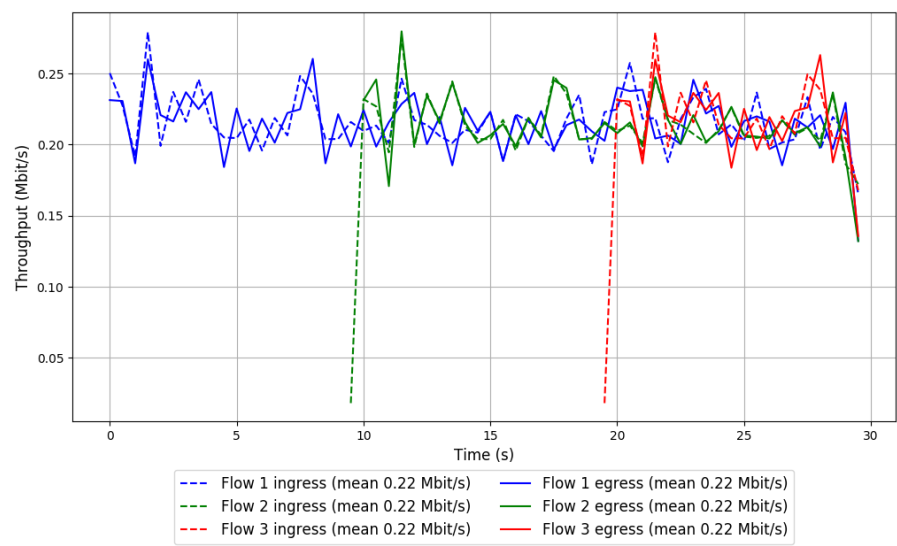


```
Run 7: Statistics of SCReAM

Start at: 2018-04-18 12:05:41
End at: 2018-04-18 12:06:11

# Below is generated by plot.py at 2018-04-18 16:20:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.871 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.906 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.751 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.244 ms
Loss rate: 1.11%
```


Run 7: Report of SReAM — Data Link



Run 8: Statistics of SCReAM

Start at: 2018-04-18 12:21:32

End at: 2018-04-18 12:22:02

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 51.084 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.558 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 50.655 ms

Loss rate: 0.63%

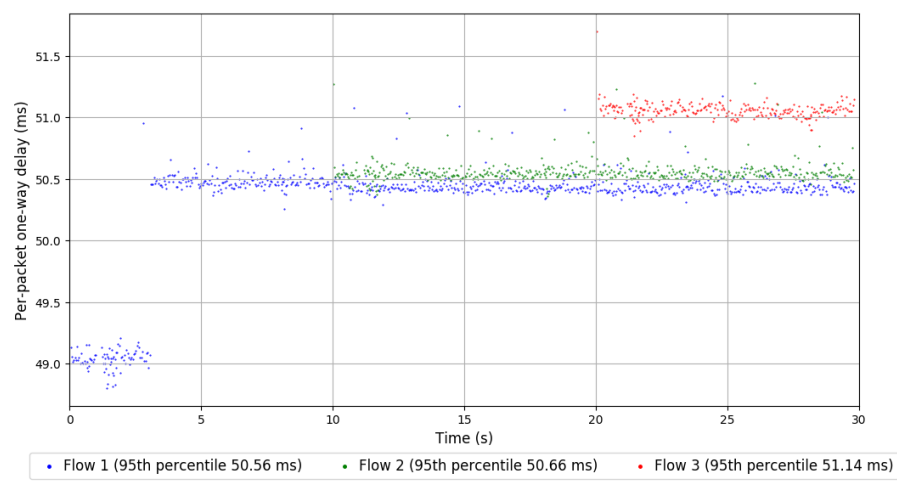
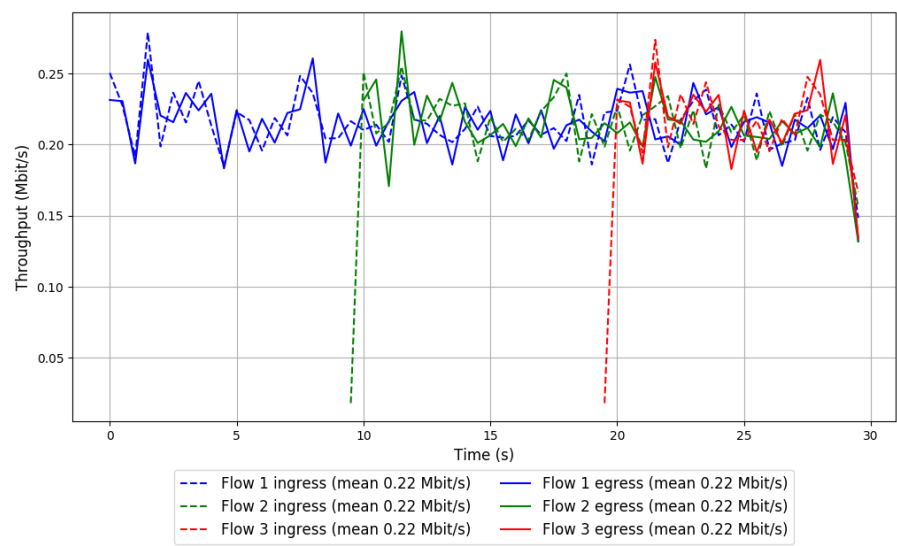
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 51.143 ms

Loss rate: 1.11%

Run 8: Report of SReAM — Data Link

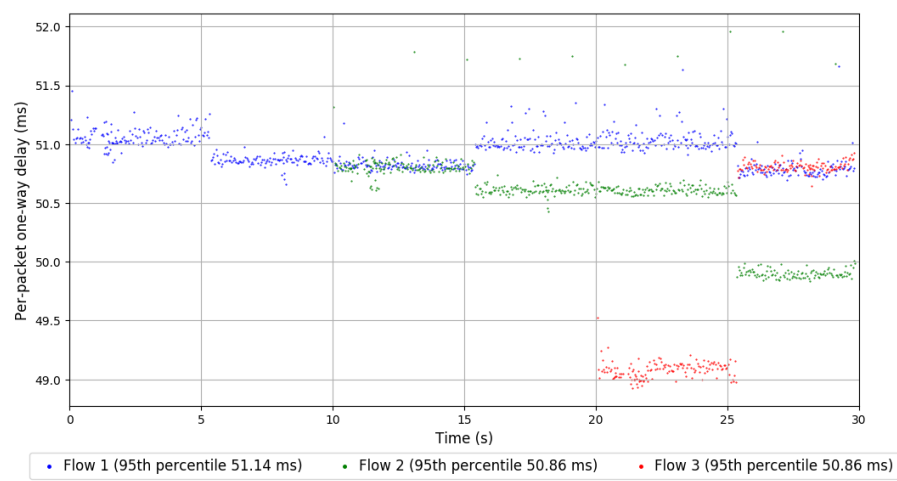
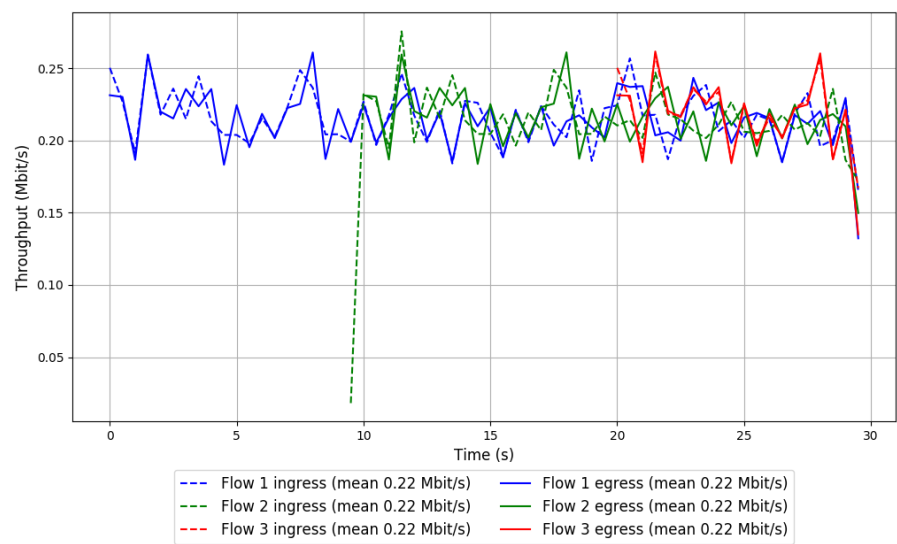


```
Run 9: Statistics of SReAM

Start at: 2018-04-18 12:37:20
End at: 2018-04-18 12:37:50

# Below is generated by plot.py at 2018-04-18 16:20:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.104 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.141 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.858 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.864 ms
Loss rate: 1.10%
```

Run 9: Report of SReAM — Data Link

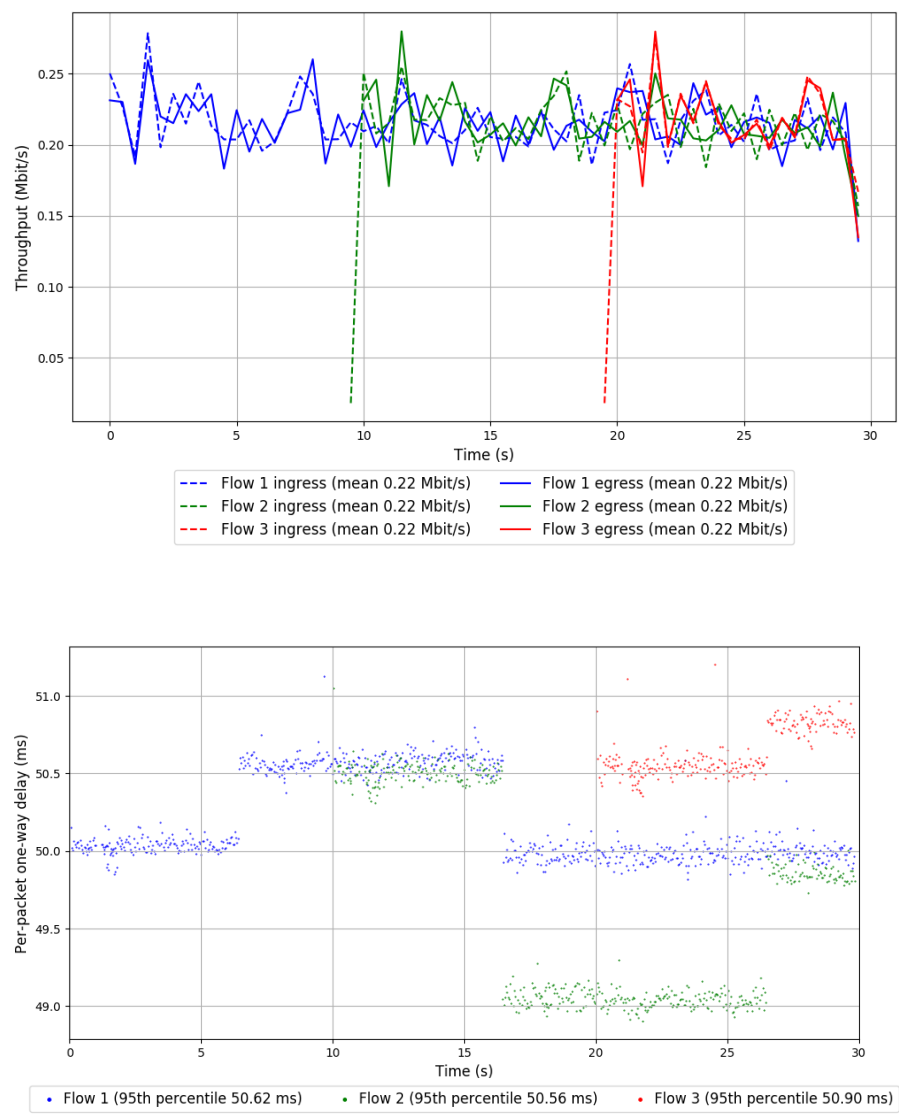


```
Run 10: Statistics of SReAM

Start at: 2018-04-18 12:53:09
End at: 2018-04-18 12:53:39

# Below is generated by plot.py at 2018-04-18 16:20:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.778 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.623 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.559 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.897 ms
Loss rate: 1.11%
```

Run 10: Report of SCReAM — Data Link

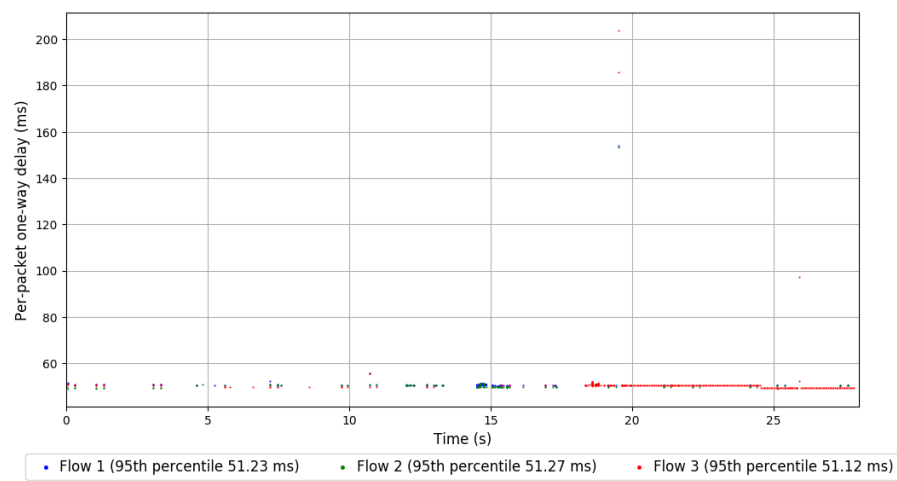
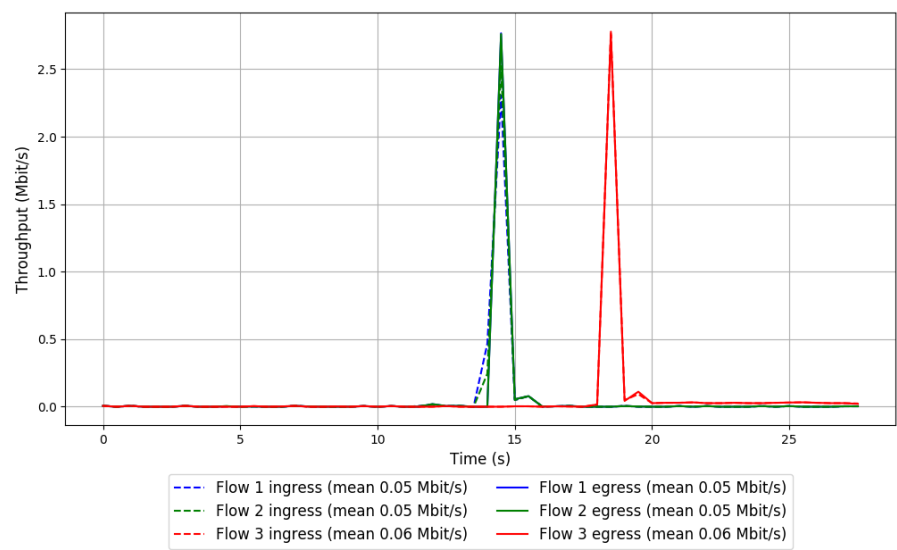


```
Run 1: Statistics of WebRTC media

Start at: 2018-04-18 10:26:29
End at: 2018-04-18 10:26:59

# Below is generated by plot.py at 2018-04-18 16:20:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 51.219 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 51.227 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 51.275 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 51.123 ms
Loss rate: 0.15%
```


Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-04-18 10:42:18

End at: 2018-04-18 10:42:48

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.024 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.254 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 50.936 ms

Loss rate: 0.00%

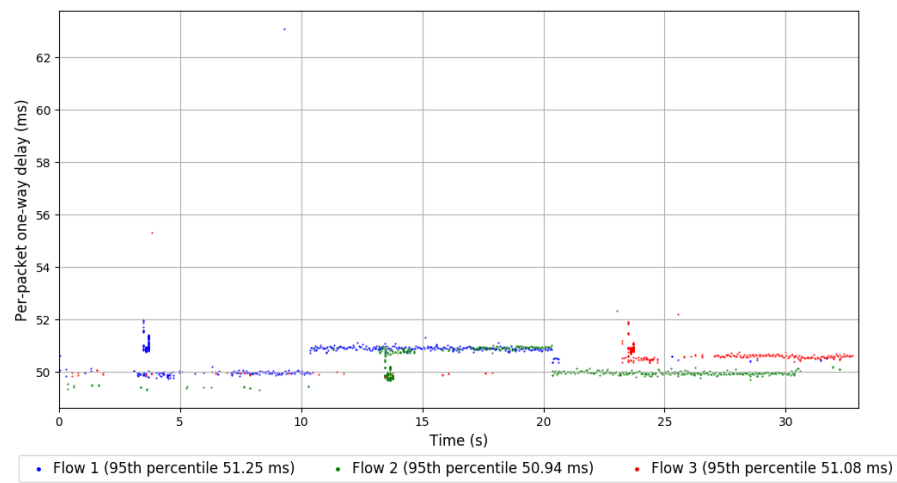
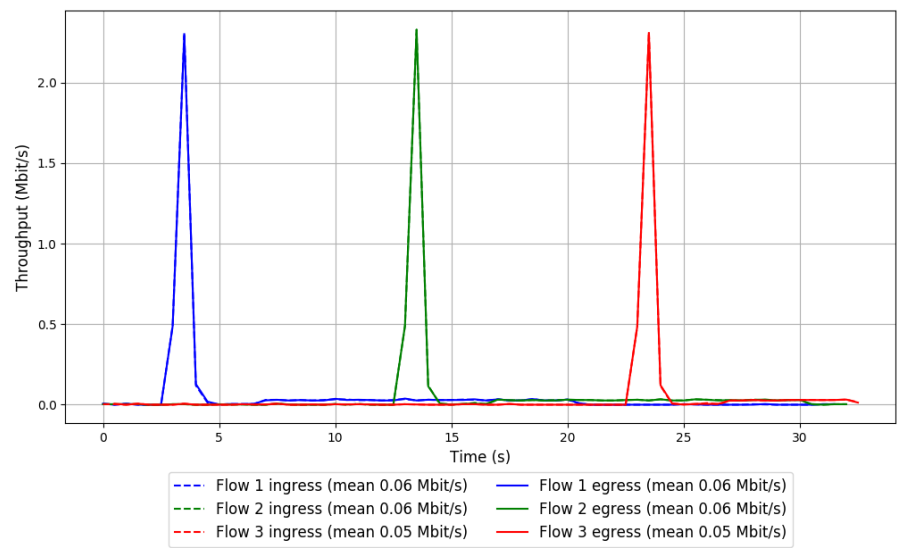
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 51.081 ms

Loss rate: 0.16%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-04-18 10:58:13

End at: 2018-04-18 10:58:43

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.193 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.056 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.235 ms

Loss rate: 0.00%

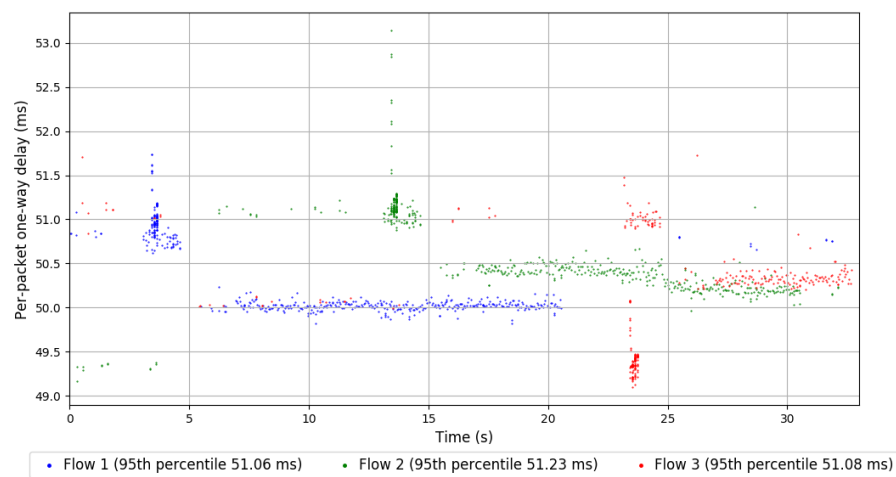
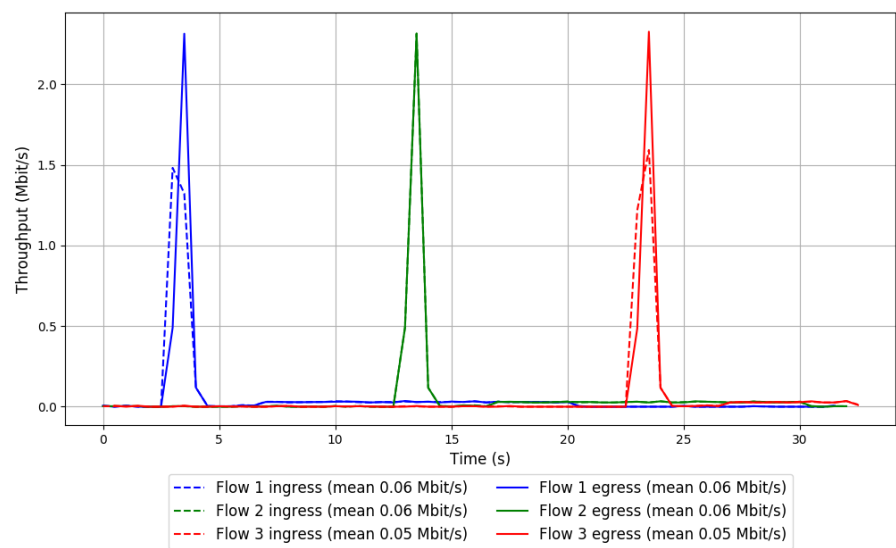
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 51.079 ms

Loss rate: 0.16%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-04-18 11:14:03

End at: 2018-04-18 11:14:33

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.599 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.182 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.554 ms

Loss rate: 0.00%

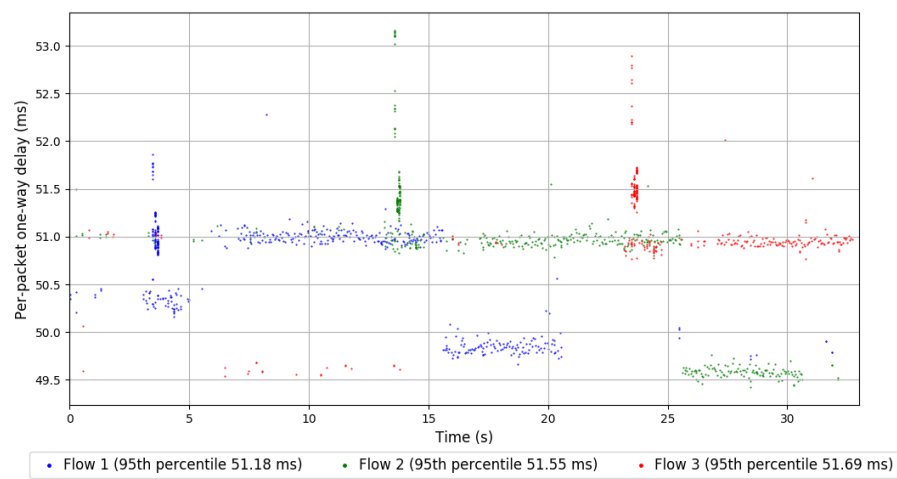
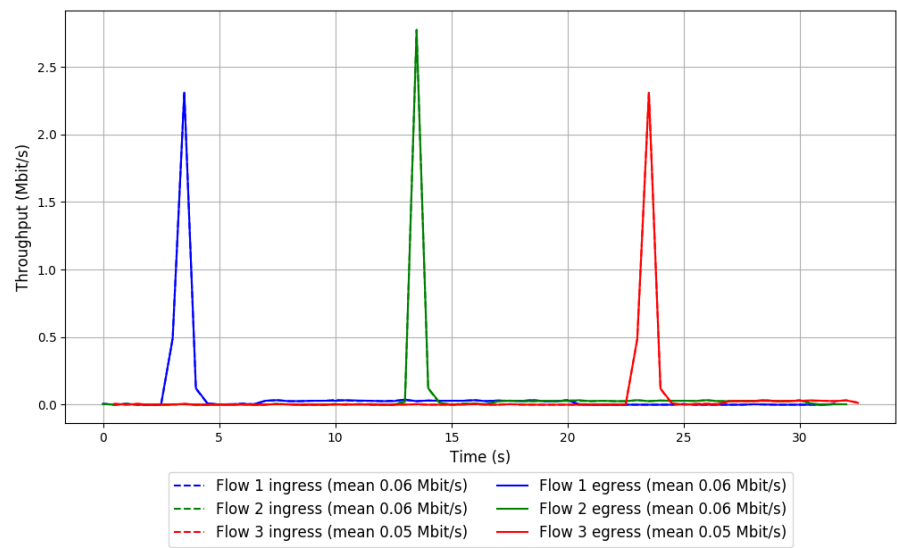
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 51.694 ms

Loss rate: 0.16%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-04-18 11:29:56

End at: 2018-04-18 11:30:26

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.757 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.652 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.739 ms

Loss rate: 0.00%

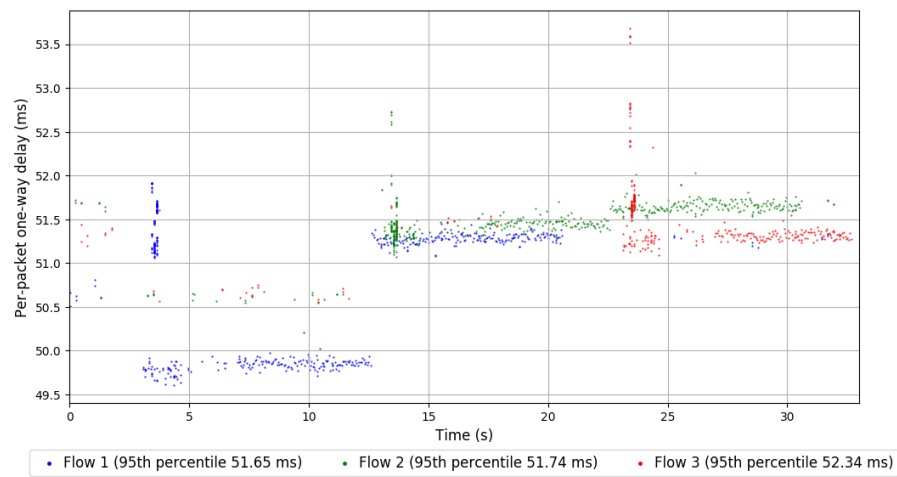
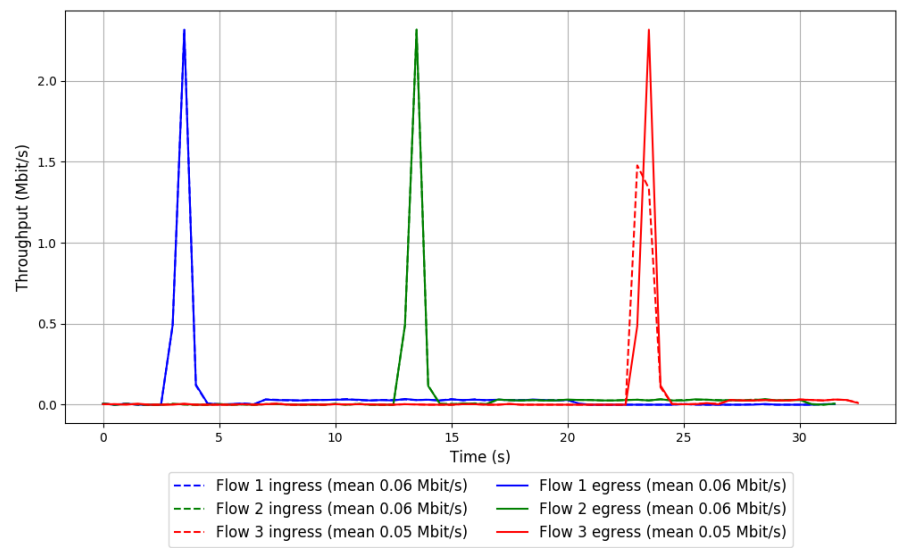
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 52.340 ms

Loss rate: 0.16%

Run 5: Report of WebRTC media — Data Link



Run 6: Statistics of WebRTC media

Start at: 2018-04-18 11:45:45

End at: 2018-04-18 11:46:15

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.487 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.484 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.370 ms

Loss rate: 0.00%

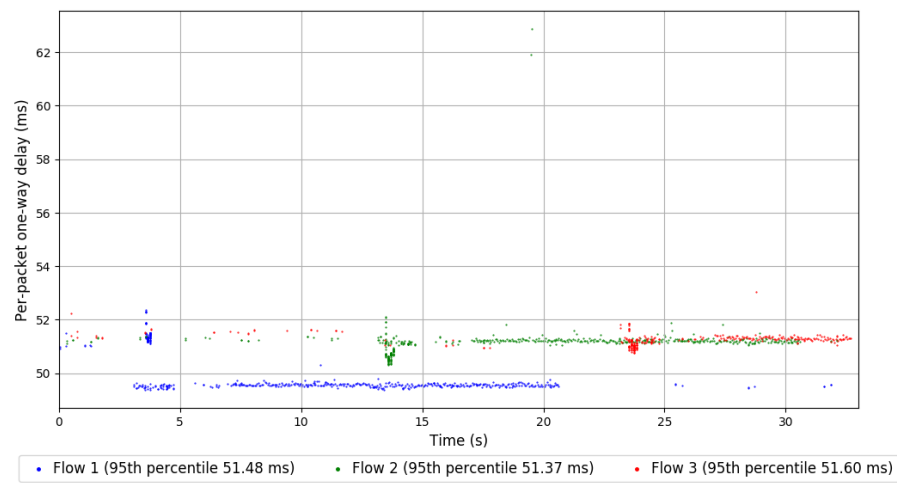
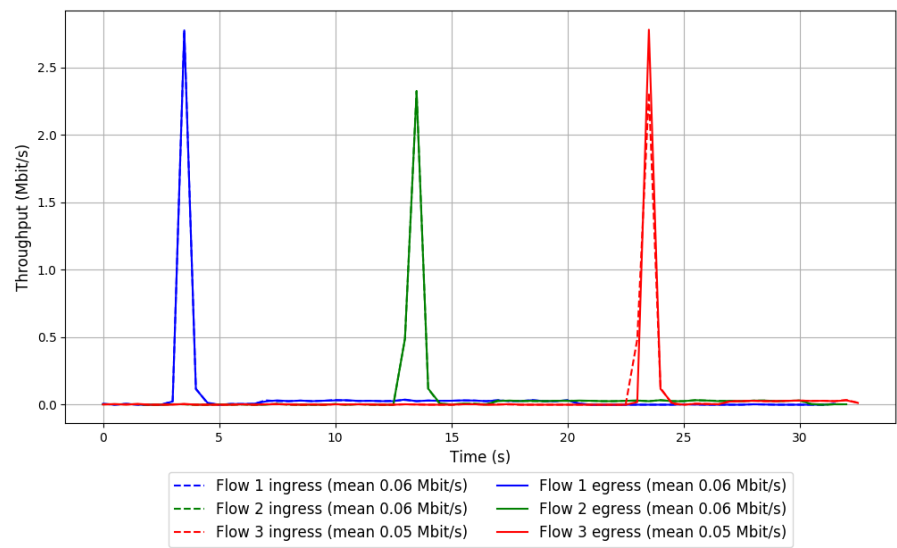
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 51.604 ms

Loss rate: 0.20%

Run 6: Report of WebRTC media — Data Link



Run 7: Statistics of WebRTC media

Start at: 2018-04-18 12:01:24

End at: 2018-04-18 12:01:54

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.141 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 52.655 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.110 ms

Loss rate: 0.00%

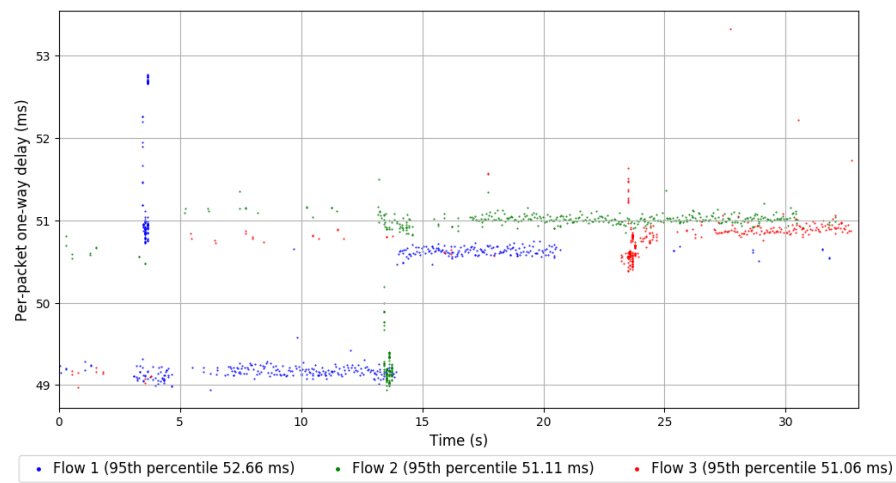
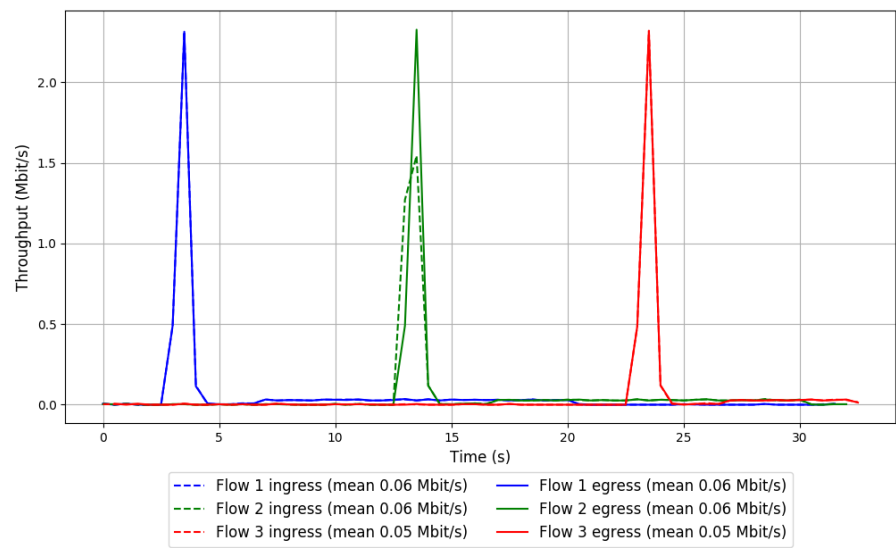
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 51.058 ms

Loss rate: 0.16%

Run 7: Report of WebRTC media — Data Link



Run 8: Statistics of WebRTC media

Start at: 2018-04-18 12:17:19

End at: 2018-04-18 12:17:49

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.093 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 50.504 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.125 ms

Loss rate: 0.00%

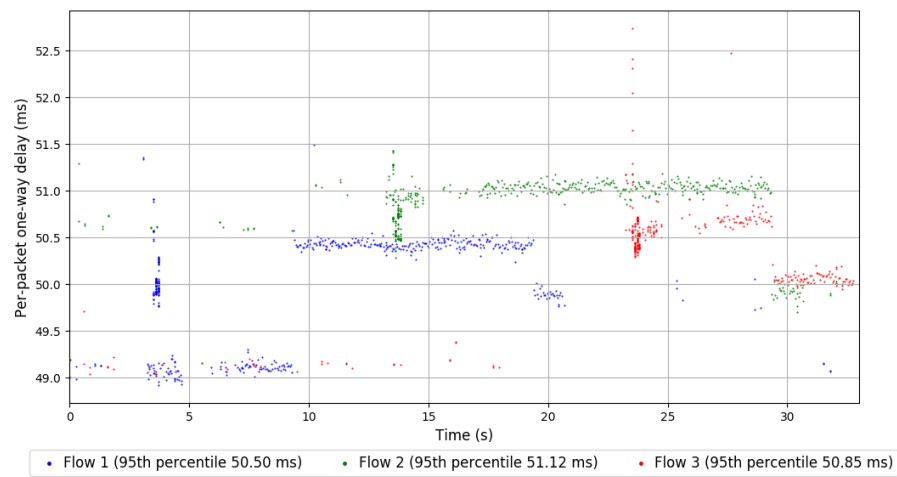
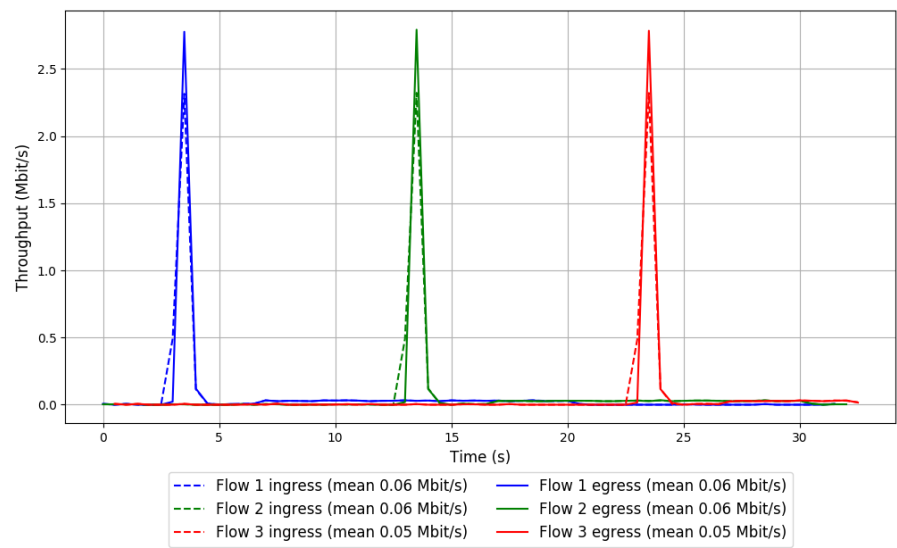
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 50.848 ms

Loss rate: 0.16%

Run 8: Report of WebRTC media — Data Link



Run 9: Statistics of WebRTC media

Start at: 2018-04-18 12:33:06

End at: 2018-04-18 12:33:36

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.029 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 50.989 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.078 ms

Loss rate: 0.00%

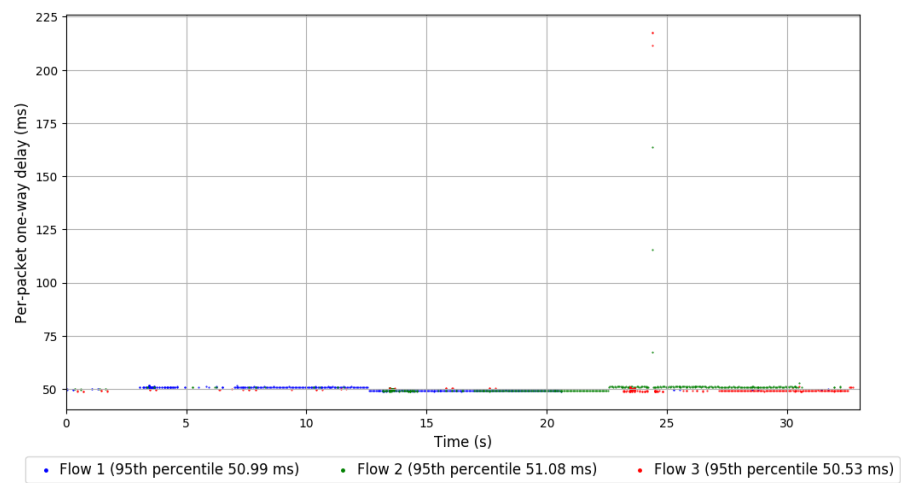
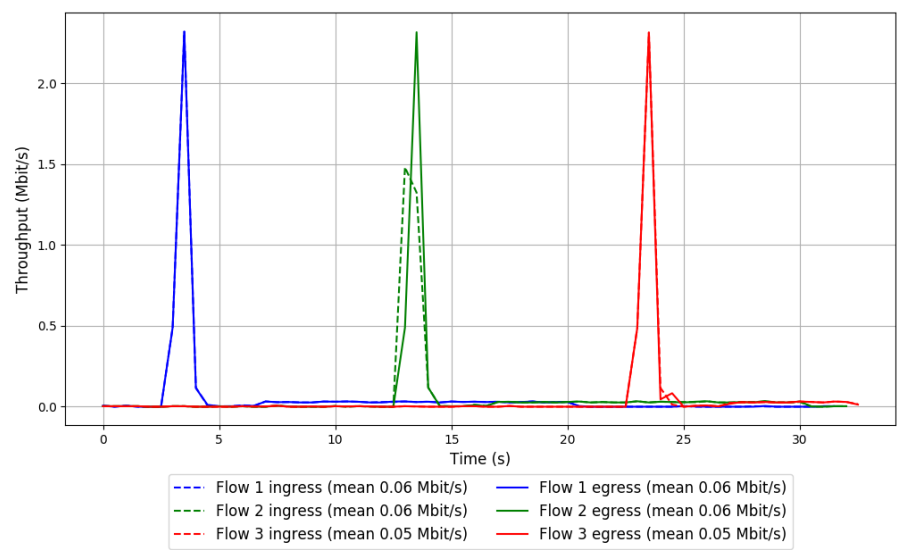
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 50.534 ms

Loss rate: 0.16%

Run 9: Report of WebRTC media — Data Link



Run 10: Statistics of WebRTC media

Start at: 2018-04-18 12:48:54

End at: 2018-04-18 12:49:24

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 51.008 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 50.759 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 51.122 ms

Loss rate: 0.00%

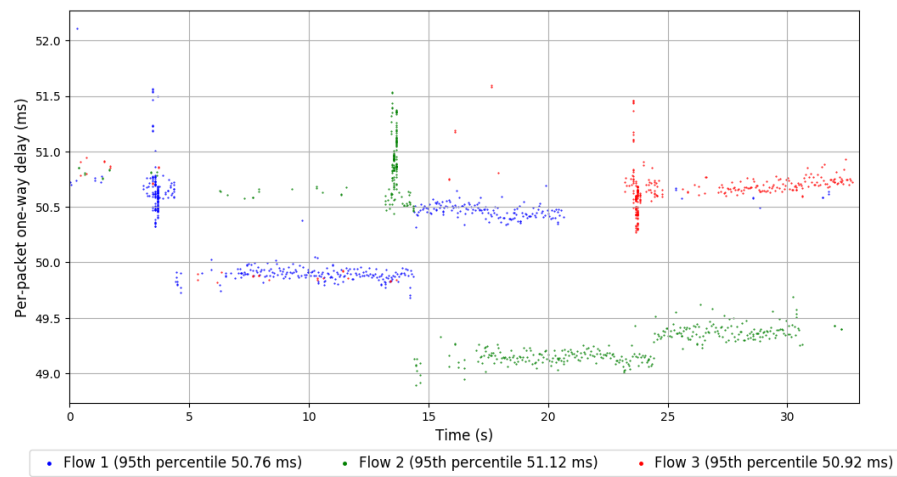
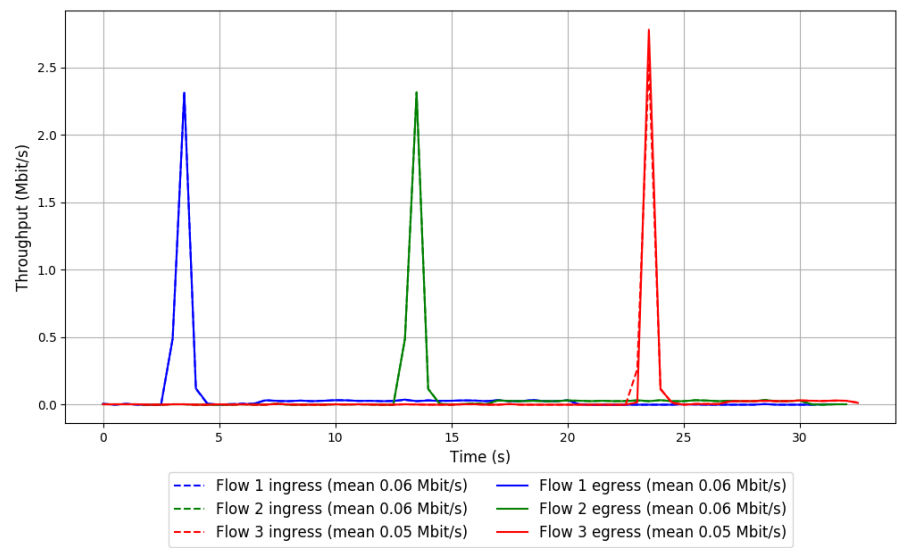
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 50.918 ms

Loss rate: 0.16%

Run 10: Report of WebRTC media — Data Link

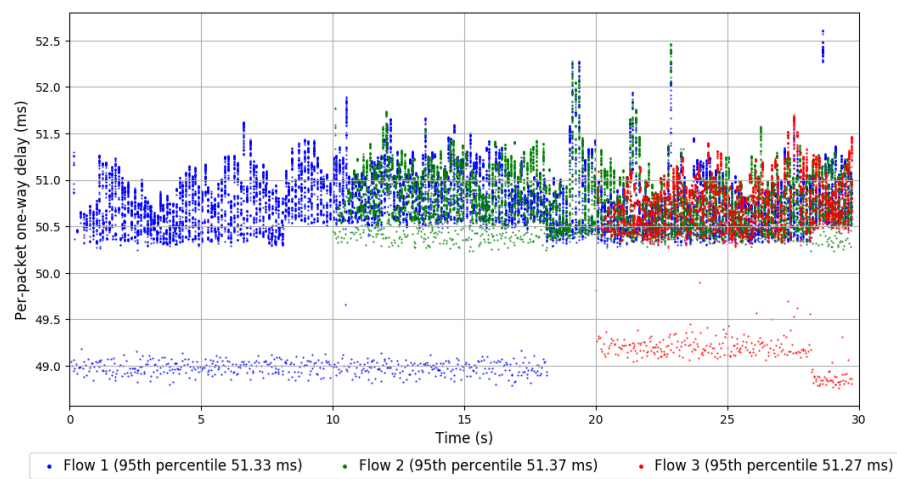
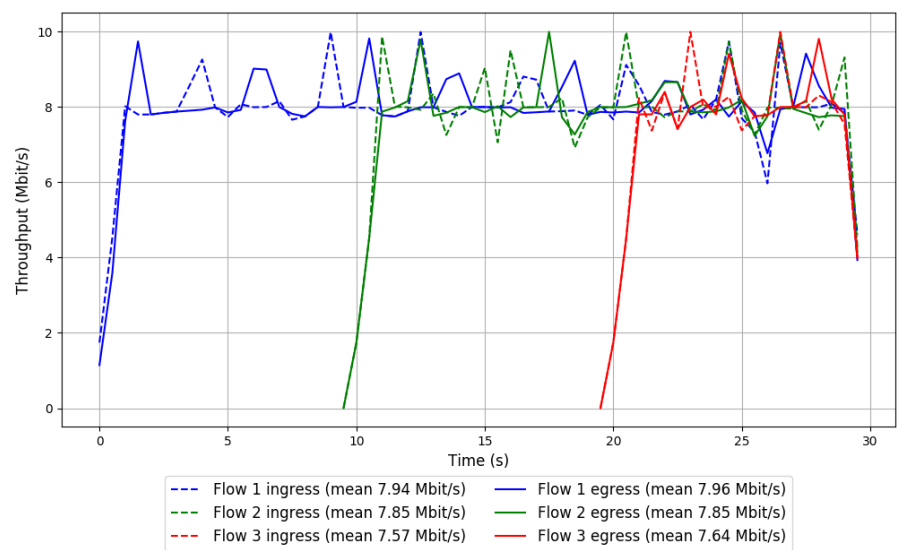


```
Run 1: Statistics of Sprout

Start at: 2018-04-18 10:24:47
End at: 2018-04-18 10:25:17

# Below is generated by plot.py at 2018-04-18 16:20:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.68 Mbit/s
95th percentile per-packet one-way delay: 51.334 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 51.333 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 51.365 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 51.274 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-04-18 10:40:34

End at: 2018-04-18 10:41:04

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.79 Mbit/s

95th percentile per-packet one-way delay: 51.502 ms

Loss rate: 0.26%

-- Flow 1:

Average throughput: 8.03 Mbit/s

95th percentile per-packet one-way delay: 51.511 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.93 Mbit/s

95th percentile per-packet one-way delay: 51.539 ms

Loss rate: 0.07%

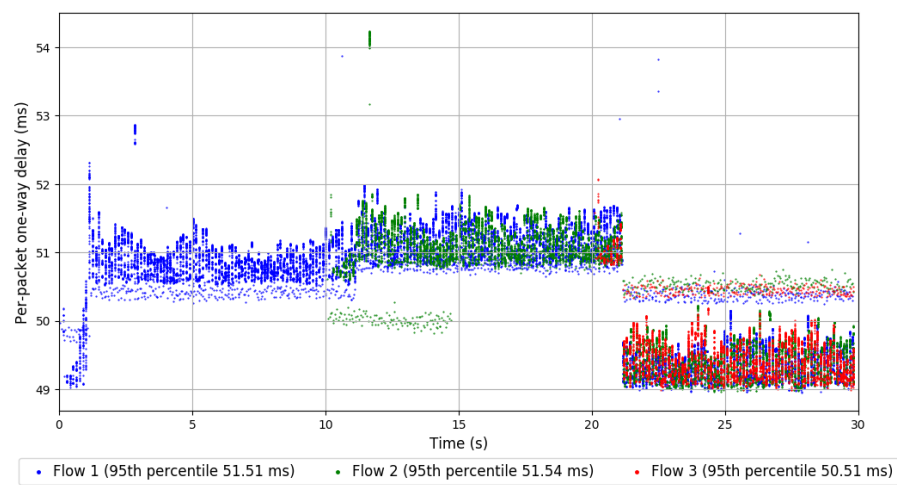
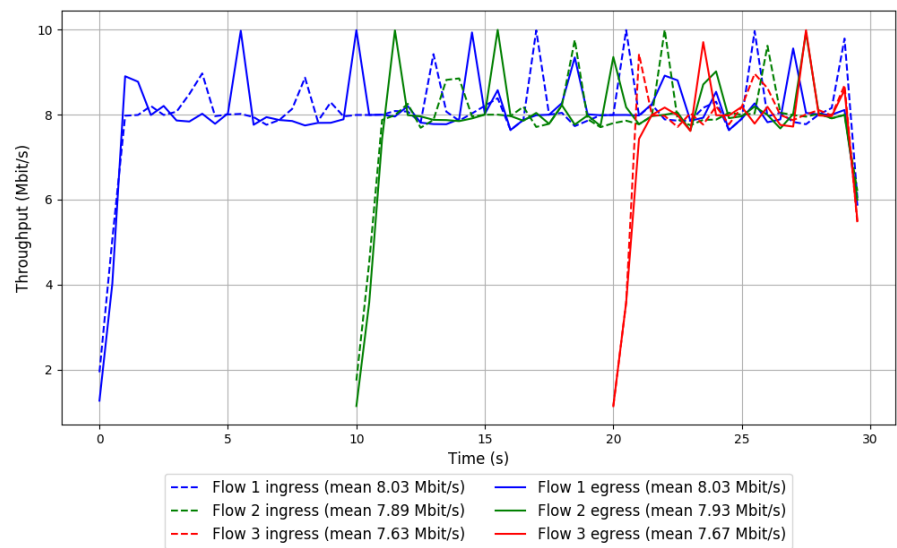
-- Flow 3:

Average throughput: 7.67 Mbit/s

95th percentile per-packet one-way delay: 50.513 ms

Loss rate: 0.14%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-04-18 10:56:30

End at: 2018-04-18 10:57:00

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.73 Mbit/s

95th percentile per-packet one-way delay: 51.626 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 8.00 Mbit/s

95th percentile per-packet one-way delay: 51.707 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 7.86 Mbit/s

95th percentile per-packet one-way delay: 51.569 ms

Loss rate: 0.61%

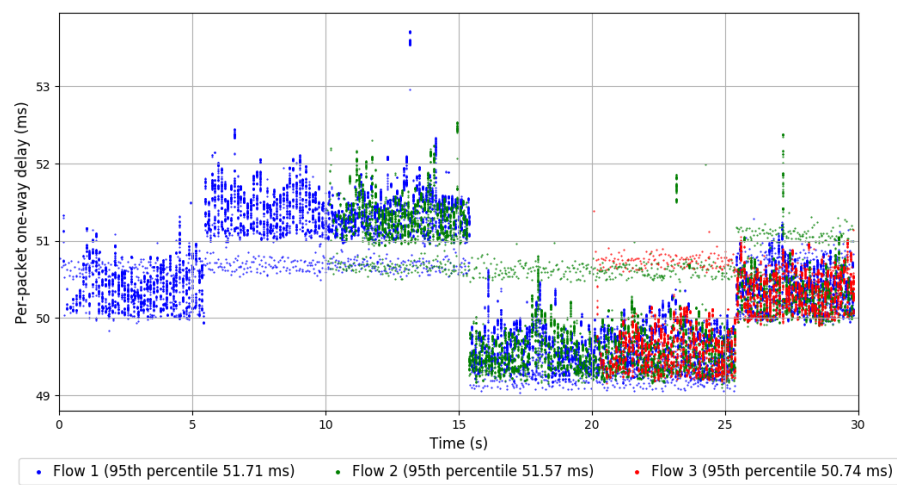
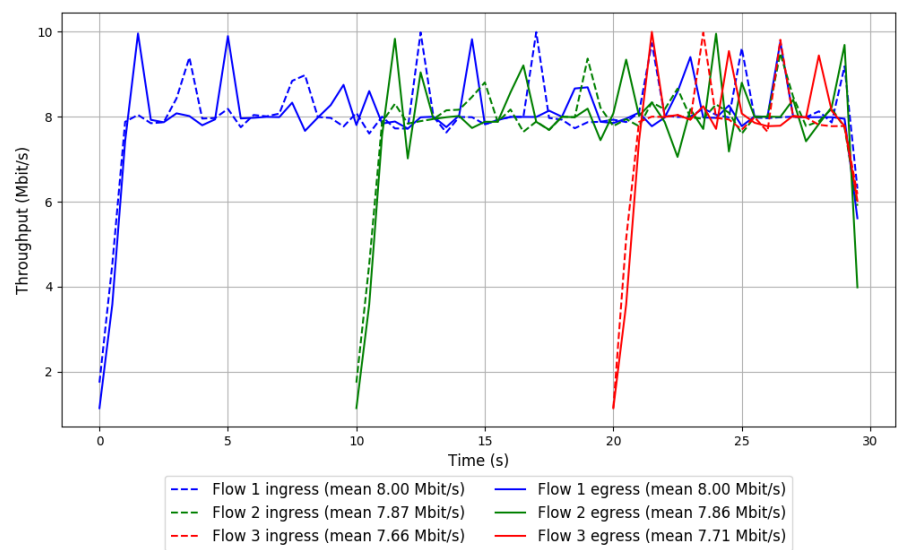
-- Flow 3:

Average throughput: 7.71 Mbit/s

95th percentile per-packet one-way delay: 50.739 ms

Loss rate: 0.11%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-04-18 11:12:22

End at: 2018-04-18 11:12:52

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.64 Mbit/s

95th percentile per-packet one-way delay: 52.498 ms

Loss rate: 0.60%

-- Flow 1:

Average throughput: 7.93 Mbit/s

95th percentile per-packet one-way delay: 52.361 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 52.706 ms

Loss rate: 0.64%

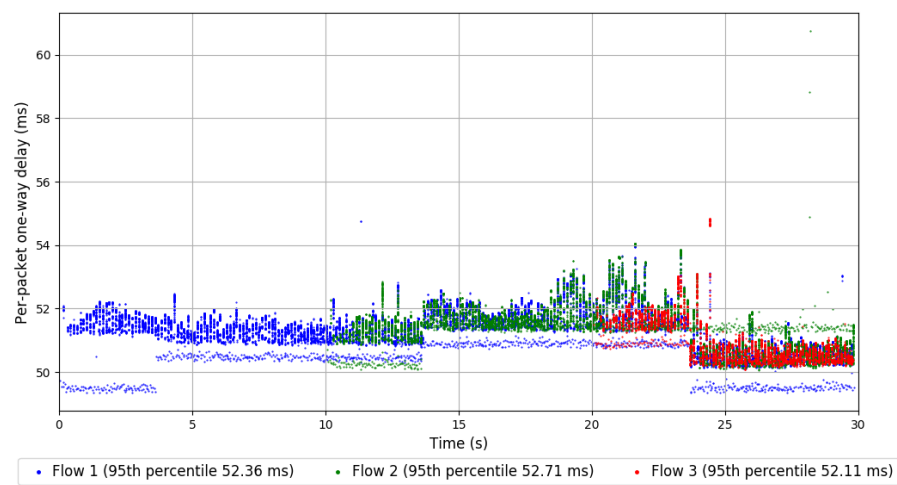
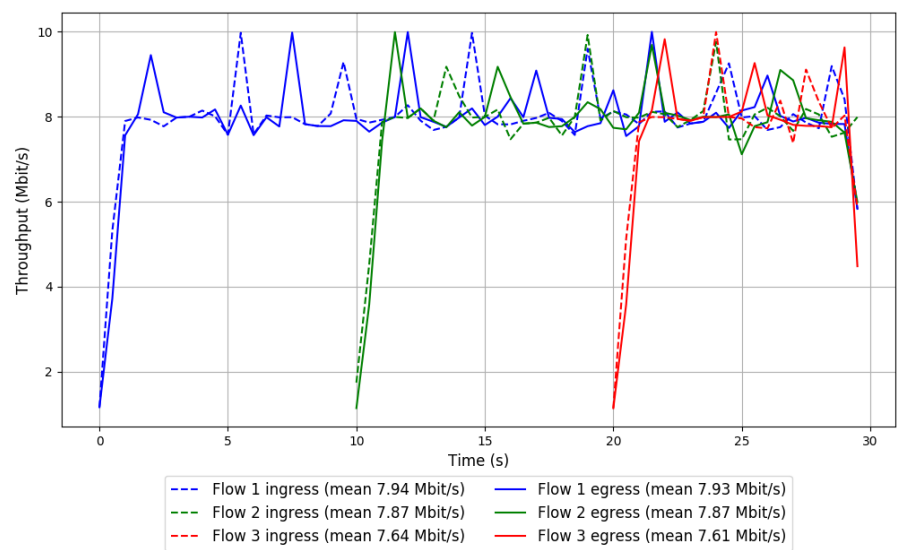
-- Flow 3:

Average throughput: 7.61 Mbit/s

95th percentile per-packet one-way delay: 52.113 ms

Loss rate: 1.12%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-04-18 11:28:13

End at: 2018-04-18 11:28:43

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.67 Mbit/s

95th percentile per-packet one-way delay: 52.271 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 7.95 Mbit/s

95th percentile per-packet one-way delay: 52.314 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 52.179 ms

Loss rate: 0.18%

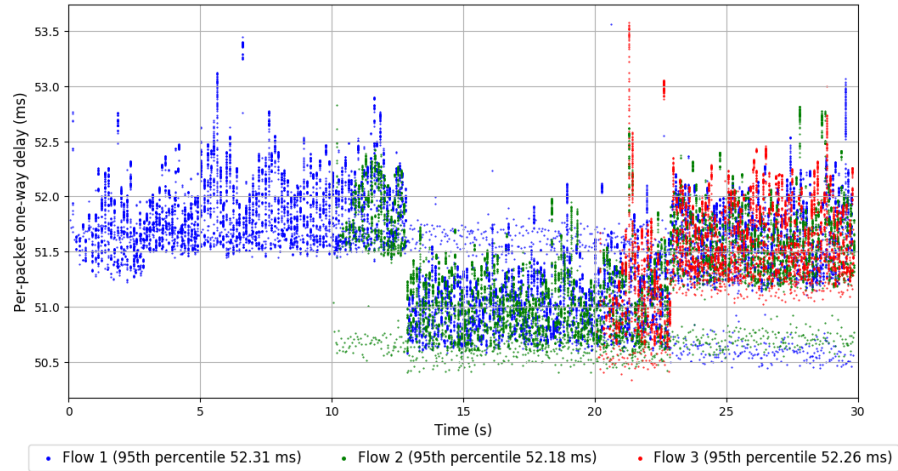
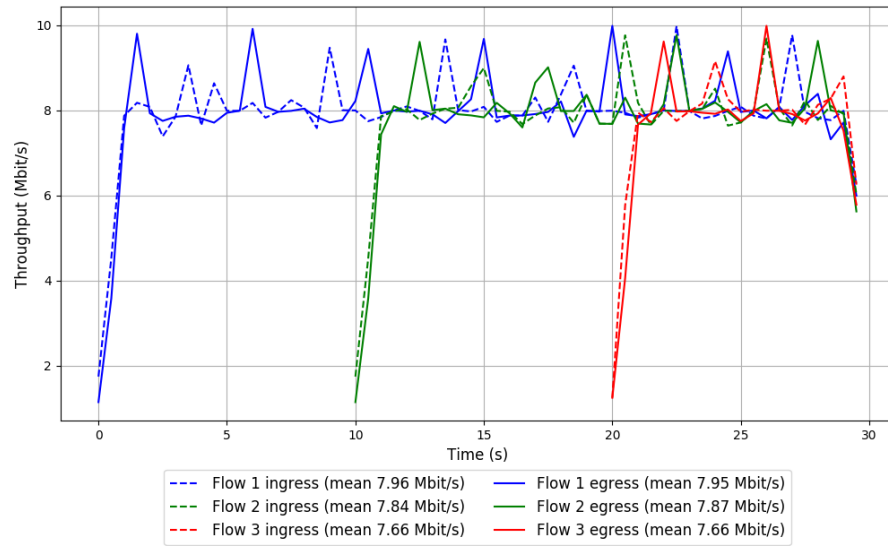
-- Flow 3:

Average throughput: 7.66 Mbit/s

95th percentile per-packet one-way delay: 52.255 ms

Loss rate: 1.29%

Run 5: Report of Sprout — Data Link



Run 6: Statistics of Sprout

Start at: 2018-04-18 11:44:03

End at: 2018-04-18 11:44:33

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.60 Mbit/s

95th percentile per-packet one-way delay: 52.025 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 7.94 Mbit/s

95th percentile per-packet one-way delay: 51.961 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.80 Mbit/s

95th percentile per-packet one-way delay: 52.032 ms

Loss rate: 0.59%

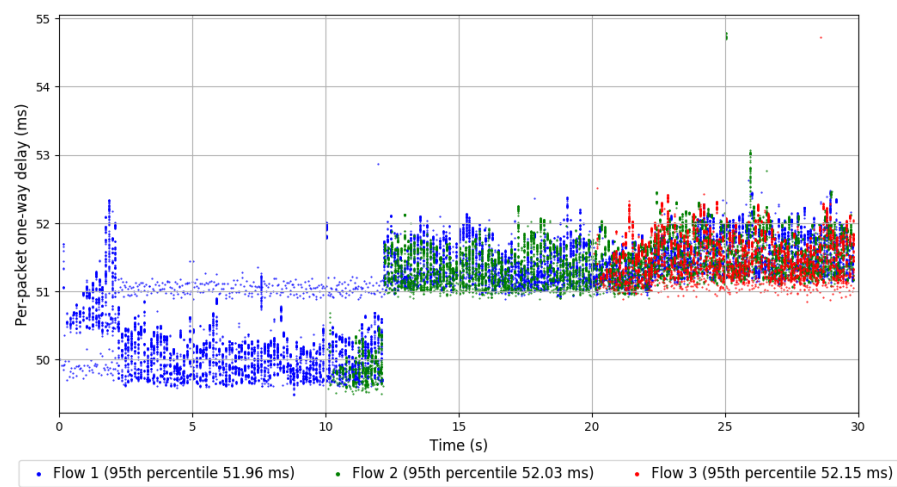
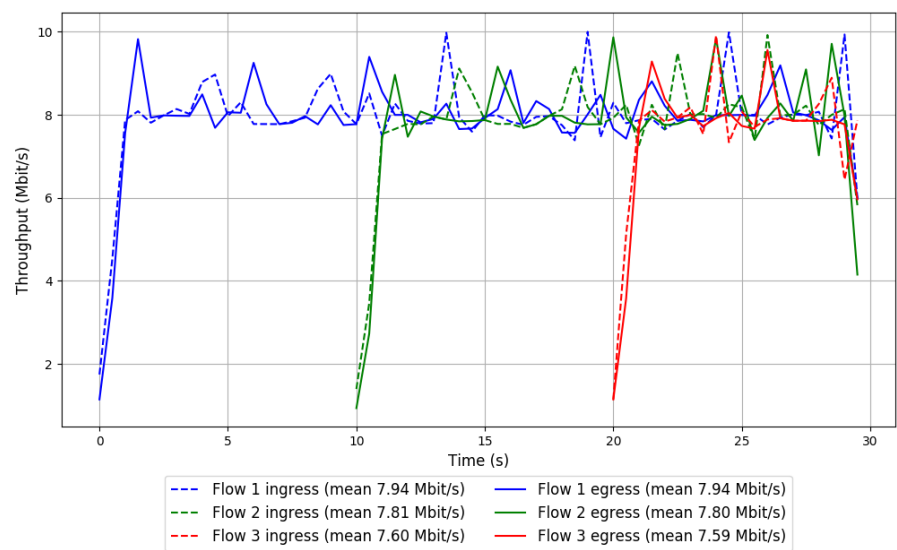
-- Flow 3:

Average throughput: 7.59 Mbit/s

95th percentile per-packet one-way delay: 52.153 ms

Loss rate: 1.34%

Run 6: Report of Sprout — Data Link



Run 7: Statistics of Sprout

Start at: 2018-04-18 11:59:42

End at: 2018-04-18 12:00:12

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.41 Mbit/s

95th percentile per-packet one-way delay: 51.715 ms

Loss rate: 0.39%

-- Flow 1:

Average throughput: 7.81 Mbit/s

95th percentile per-packet one-way delay: 51.603 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 7.89 Mbit/s

95th percentile per-packet one-way delay: 51.742 ms

Loss rate: 0.61%

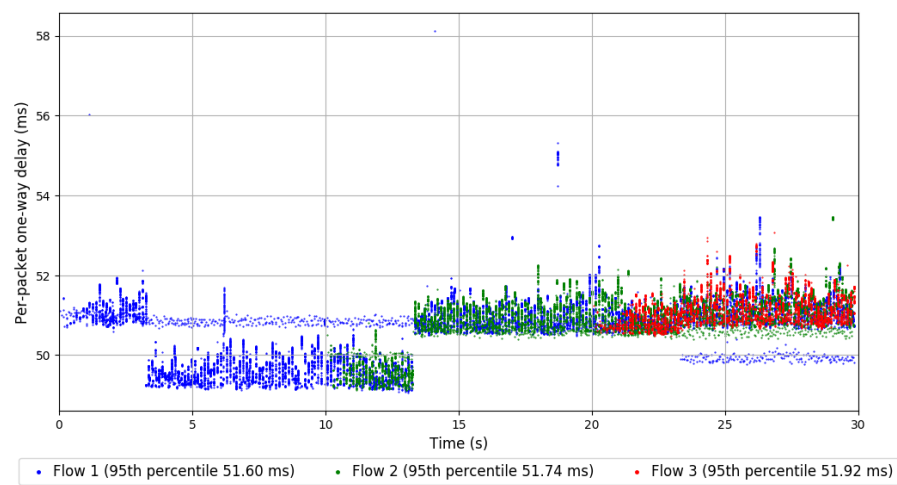
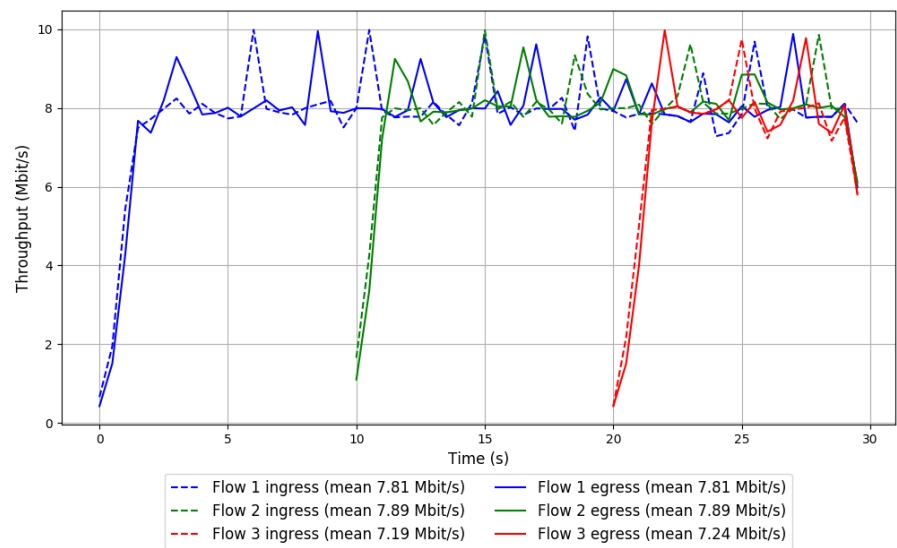
-- Flow 3:

Average throughput: 7.24 Mbit/s

95th percentile per-packet one-way delay: 51.916 ms

Loss rate: 0.02%

Run 7: Report of Sprout — Data Link



Run 8: Statistics of Sprout

Start at: 2018-04-18 12:15:35

End at: 2018-04-18 12:16:05

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.66 Mbit/s

95th percentile per-packet one-way delay: 51.565 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 7.98 Mbit/s

95th percentile per-packet one-way delay: 51.611 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.91 Mbit/s

95th percentile per-packet one-way delay: 51.475 ms

Loss rate: 0.60%

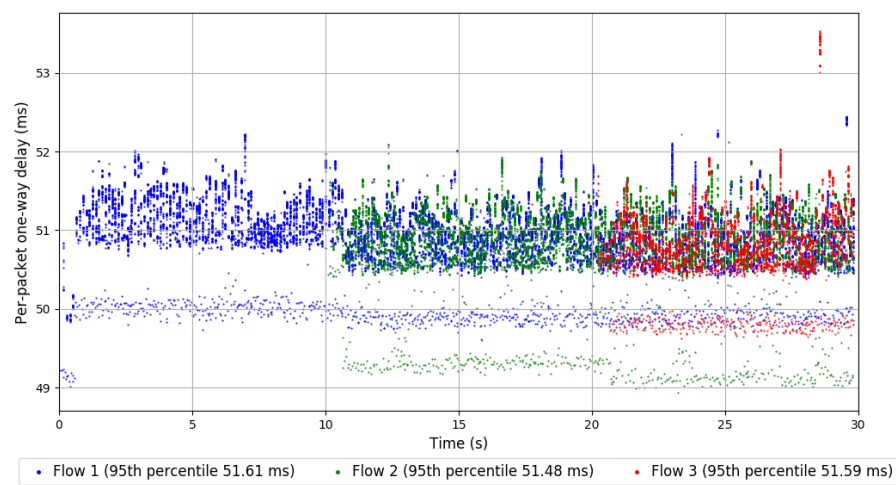
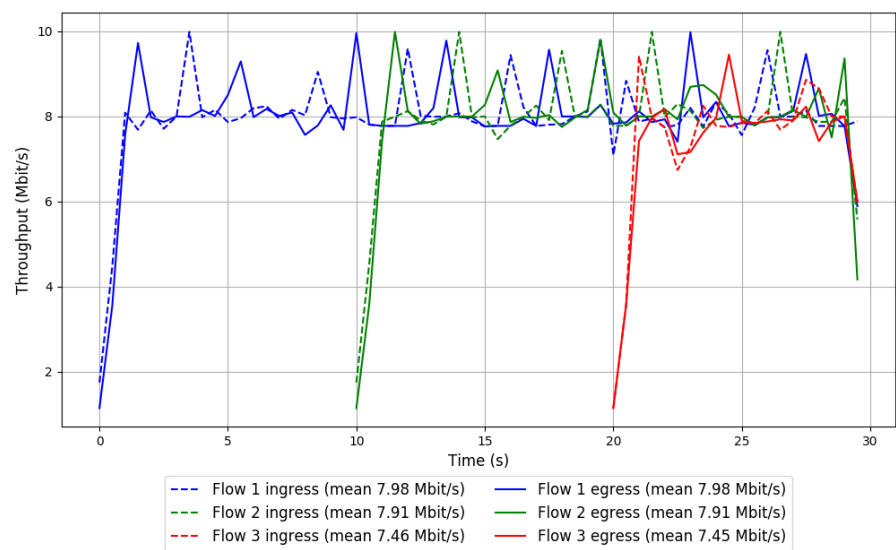
-- Flow 3:

Average throughput: 7.45 Mbit/s

95th percentile per-packet one-way delay: 51.591 ms

Loss rate: 1.36%

Run 8: Report of Sprout — Data Link



Run 9: Statistics of Sprout

Start at: 2018-04-18 12:31:25

End at: 2018-04-18 12:31:55

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.60 Mbit/s

95th percentile per-packet one-way delay: 51.519 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 7.94 Mbit/s

95th percentile per-packet one-way delay: 51.514 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.83 Mbit/s

95th percentile per-packet one-way delay: 51.479 ms

Loss rate: 0.61%

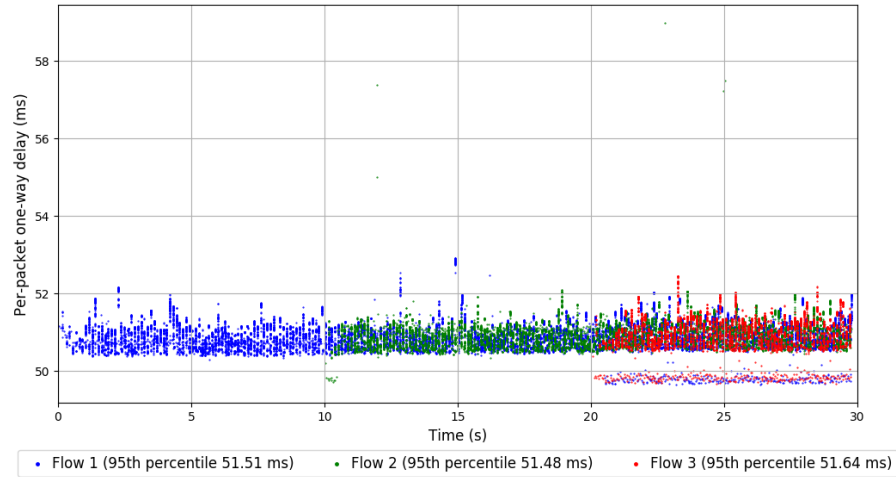
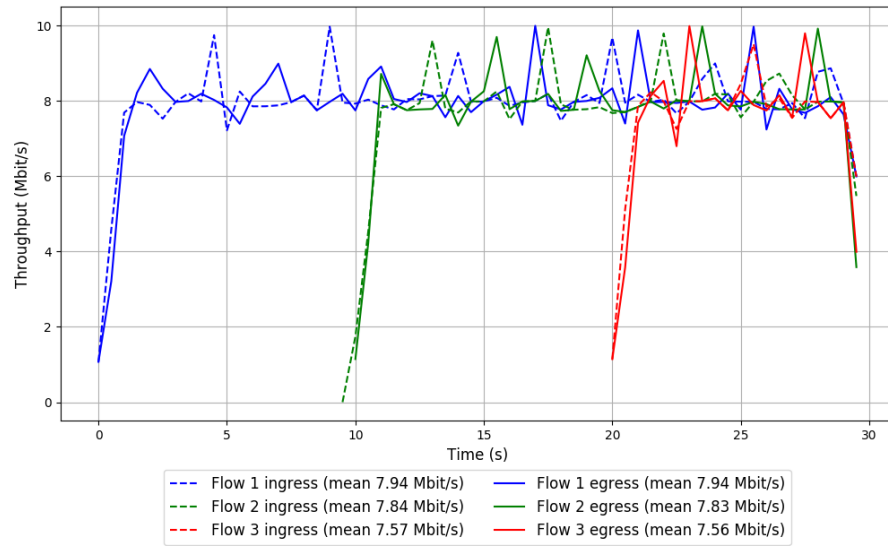
-- Flow 3:

Average throughput: 7.56 Mbit/s

95th percentile per-packet one-way delay: 51.641 ms

Loss rate: 1.34%

Run 9: Report of Sprout — Data Link



Run 10: Statistics of Sprout

Start at: 2018-04-18 12:47:13

End at: 2018-04-18 12:47:43

Below is generated by plot.py at 2018-04-18 16:20:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 15.66 Mbit/s

95th percentile per-packet one-way delay: 51.396 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 7.96 Mbit/s

95th percentile per-packet one-way delay: 51.420 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 7.89 Mbit/s

95th percentile per-packet one-way delay: 51.399 ms

Loss rate: 0.16%

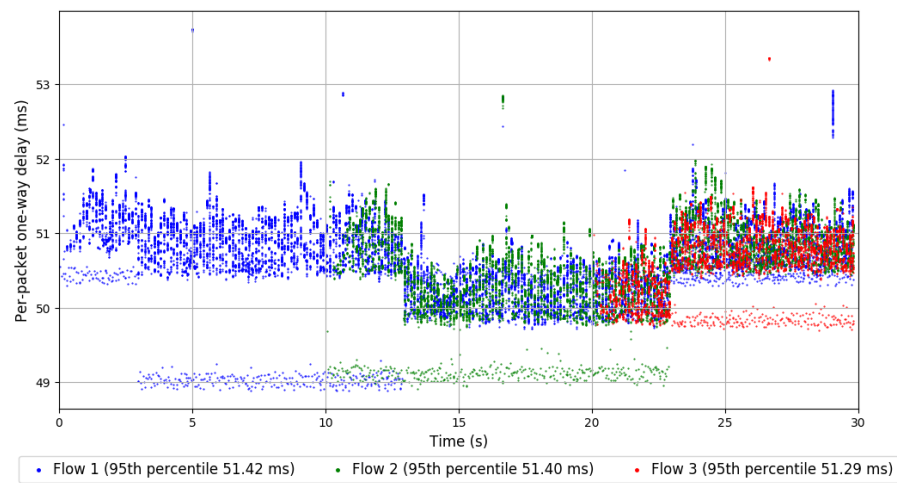
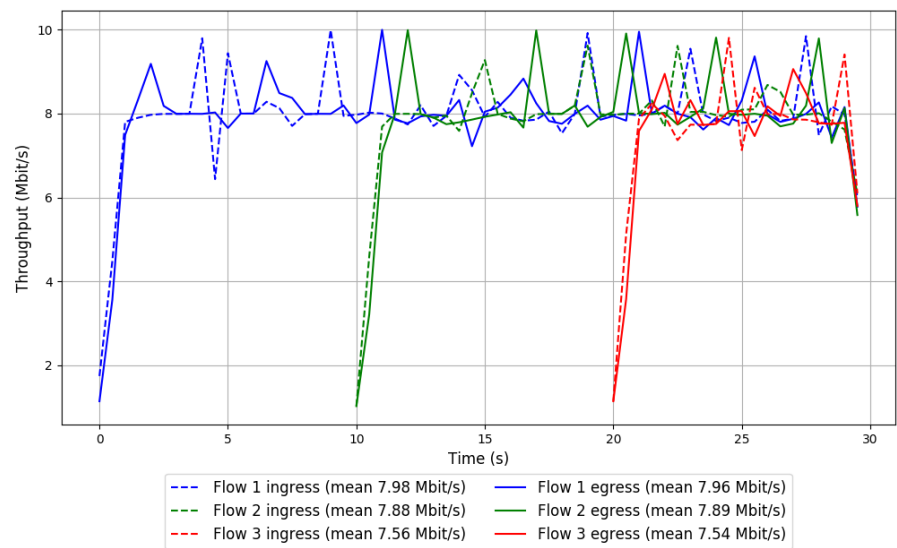
-- Flow 3:

Average throughput: 7.54 Mbit/s

95th percentile per-packet one-way delay: 51.289 ms

Loss rate: 1.29%

Run 10: Report of Sprout — Data Link

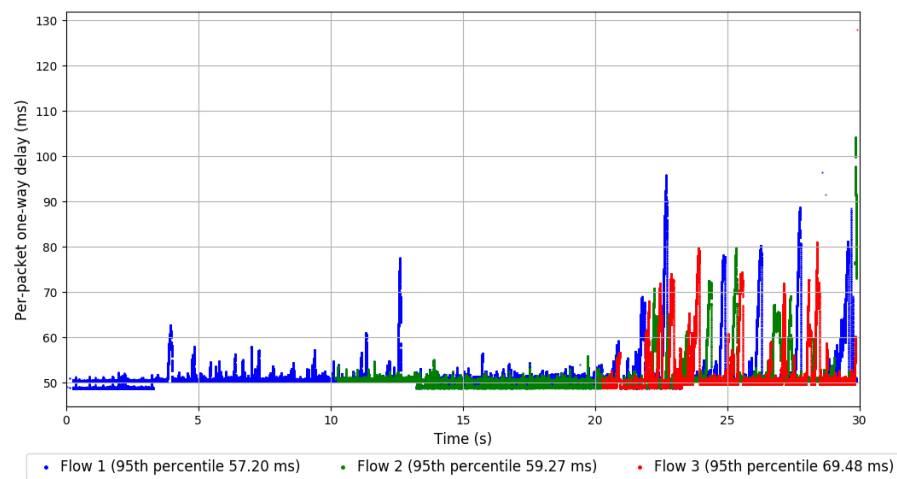
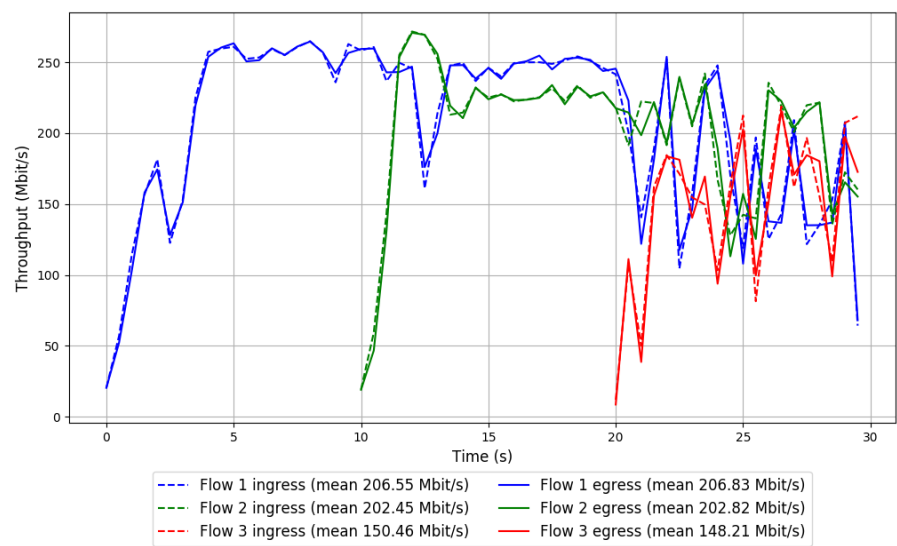


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-04-18 10:21:22
End at: 2018-04-18 10:21:52

# Below is generated by plot.py at 2018-04-18 16:28:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.97 Mbit/s
95th percentile per-packet one-way delay: 61.133 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 206.83 Mbit/s
95th percentile per-packet one-way delay: 57.197 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 202.82 Mbit/s
95th percentile per-packet one-way delay: 59.274 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 148.21 Mbit/s
95th percentile per-packet one-way delay: 69.483 ms
Loss rate: 2.16%
```


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

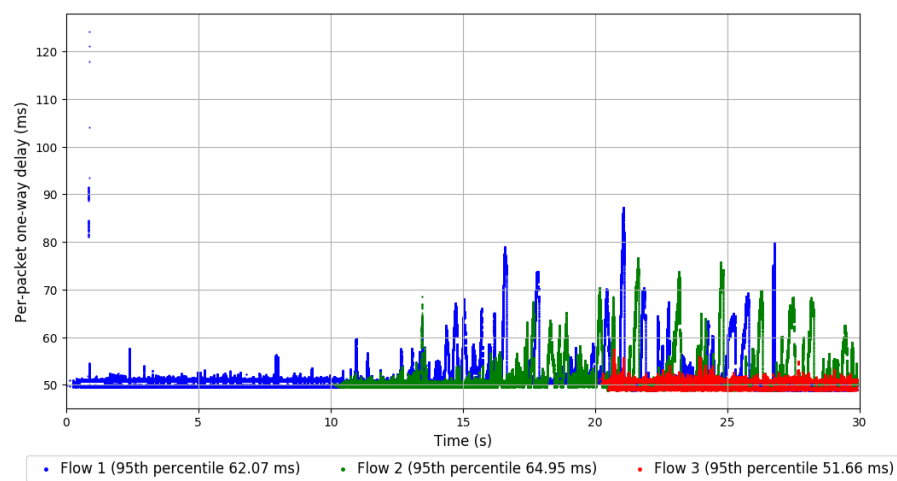
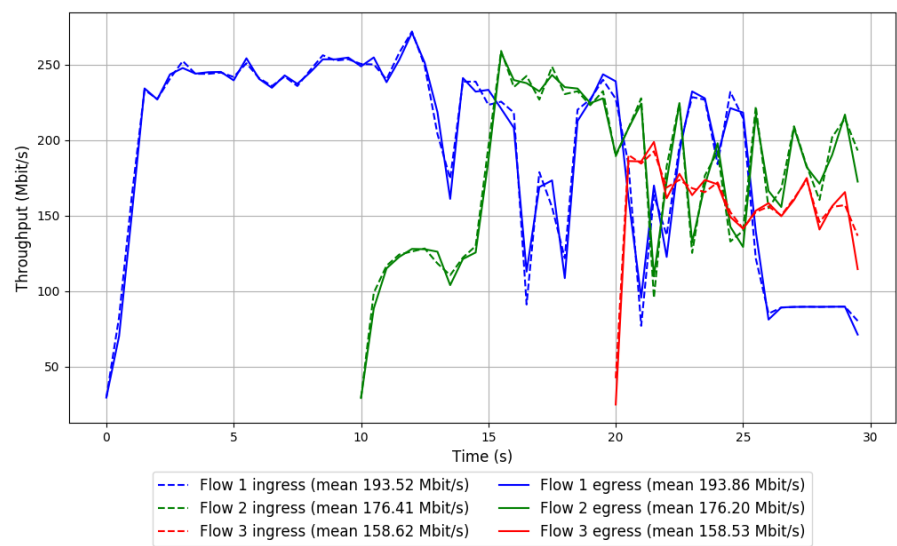


```
Run 2: Statistics of TaoVA-100x

Start at: 2018-04-18 10:37:15
End at: 2018-04-18 10:37:45

# Below is generated by plot.py at 2018-04-18 16:28:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.00 Mbit/s
95th percentile per-packet one-way delay: 62.155 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 193.86 Mbit/s
95th percentile per-packet one-way delay: 62.067 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 176.20 Mbit/s
95th percentile per-packet one-way delay: 64.952 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 158.53 Mbit/s
95th percentile per-packet one-way delay: 51.664 ms
Loss rate: 1.04%
```

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

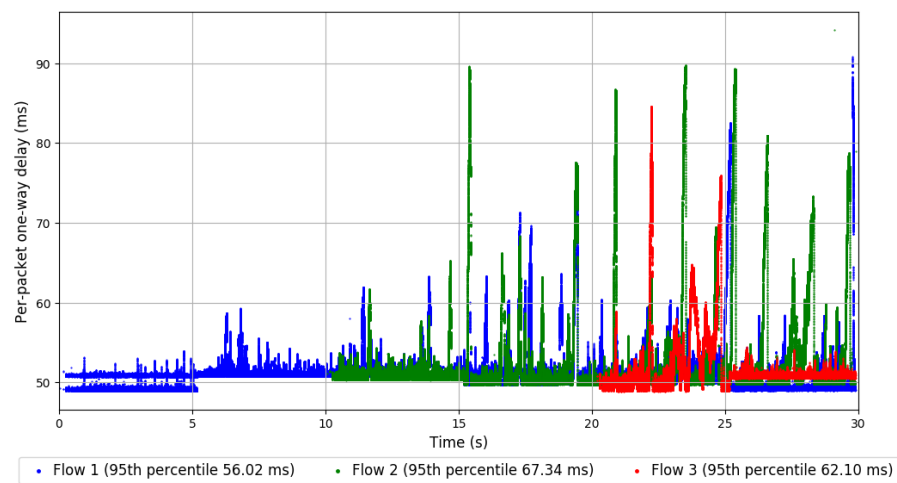
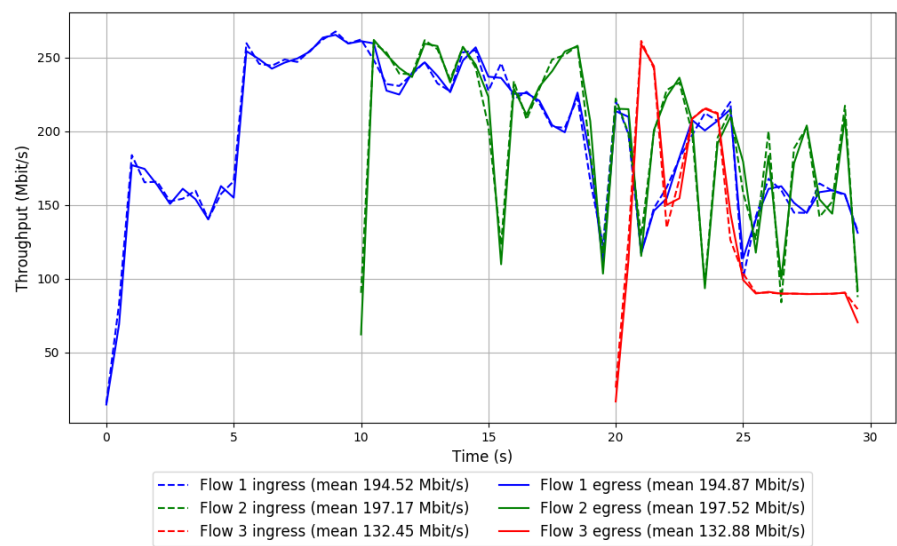


```
Run 3: Statistics of TaoVA-100x

Start at: 2018-04-18 10:53:10
End at: 2018-04-18 10:53:40

# Below is generated by plot.py at 2018-04-18 16:28:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 369.76 Mbit/s
95th percentile per-packet one-way delay: 60.989 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 194.87 Mbit/s
95th percentile per-packet one-way delay: 56.016 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 197.52 Mbit/s
95th percentile per-packet one-way delay: 67.340 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 132.88 Mbit/s
95th percentile per-packet one-way delay: 62.100 ms
Loss rate: 0.69%
```

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-04-18 11:09:00

End at: 2018-04-18 11:09:30

Below is generated by plot.py at 2018-04-18 16:28:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 375.57 Mbit/s

95th percentile per-packet one-way delay: 55.434 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 206.49 Mbit/s

95th percentile per-packet one-way delay: 54.629 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 147.82 Mbit/s

95th percentile per-packet one-way delay: 55.134 ms

Loss rate: 0.81%

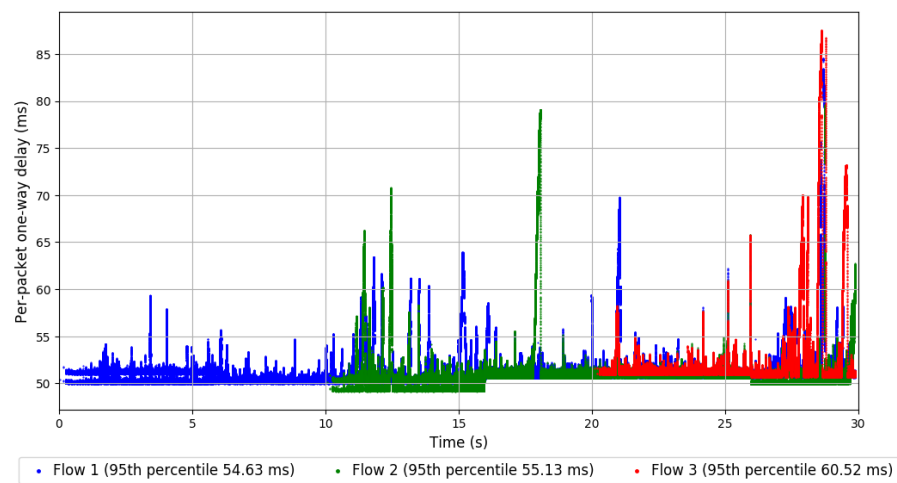
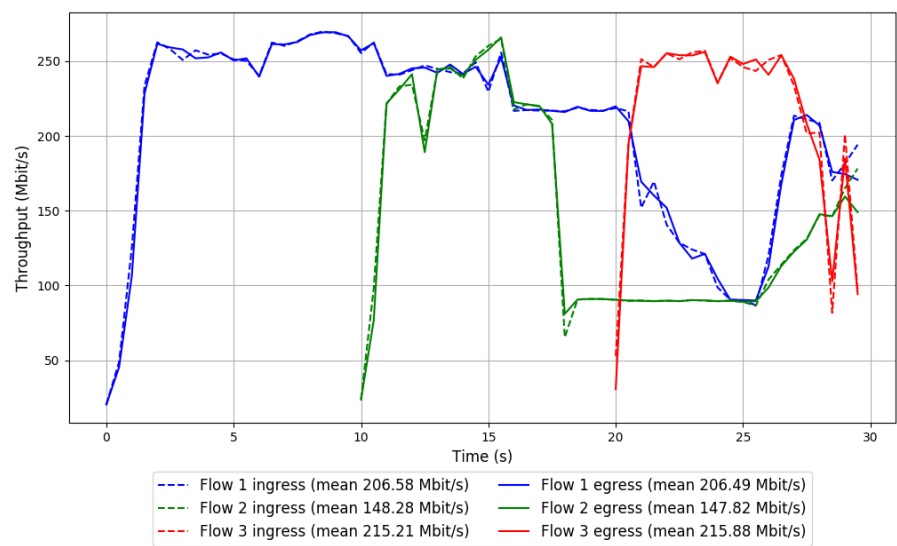
-- Flow 3:

Average throughput: 215.88 Mbit/s

95th percentile per-packet one-way delay: 60.523 ms

Loss rate: 0.72%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-04-18 11:24:52

End at: 2018-04-18 11:25:22

Below is generated by plot.py at 2018-04-18 16:28:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 398.24 Mbit/s

95th percentile per-packet one-way delay: 64.177 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 211.42 Mbit/s

95th percentile per-packet one-way delay: 60.784 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 190.81 Mbit/s

95th percentile per-packet one-way delay: 65.926 ms

Loss rate: 0.62%

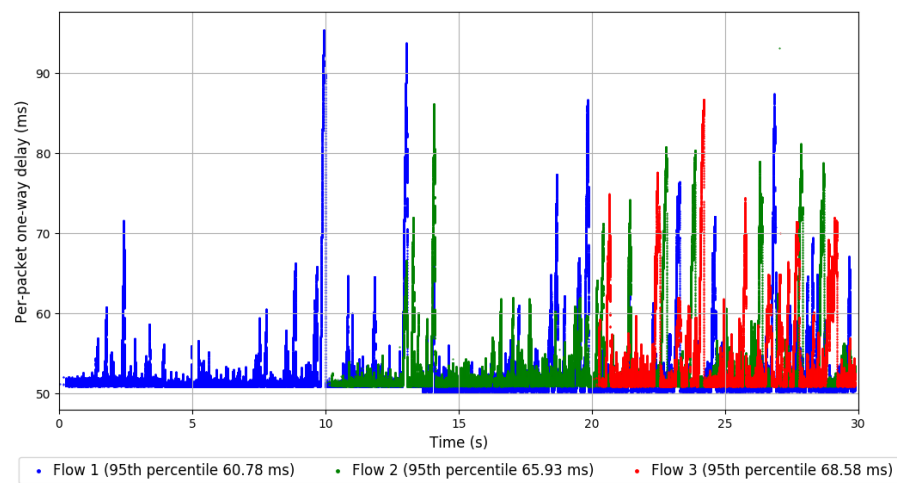
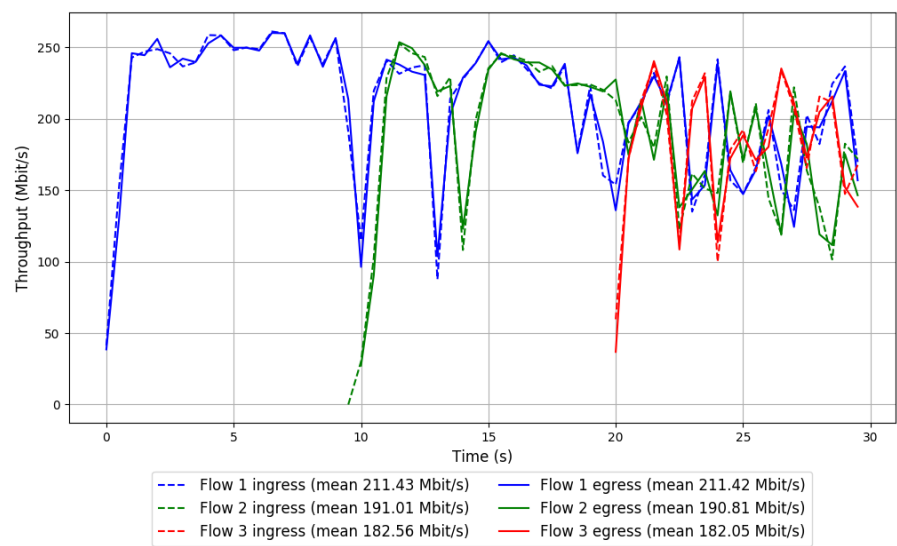
-- Flow 3:

Average throughput: 182.05 Mbit/s

95th percentile per-packet one-way delay: 68.579 ms

Loss rate: 1.31%

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



Run 6: Statistics of TaoVA-100x

Start at: 2018-04-18 11:40:39

End at: 2018-04-18 11:41:09

Below is generated by plot.py at 2018-04-18 16:29:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 415.17 Mbit/s

95th percentile per-packet one-way delay: 64.951 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 213.03 Mbit/s

95th percentile per-packet one-way delay: 65.515 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 215.22 Mbit/s

95th percentile per-packet one-way delay: 60.288 ms

Loss rate: 0.57%

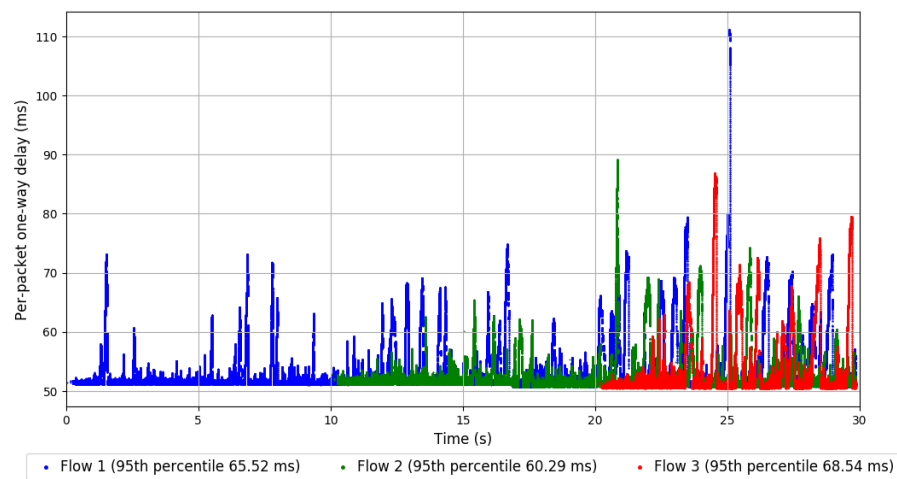
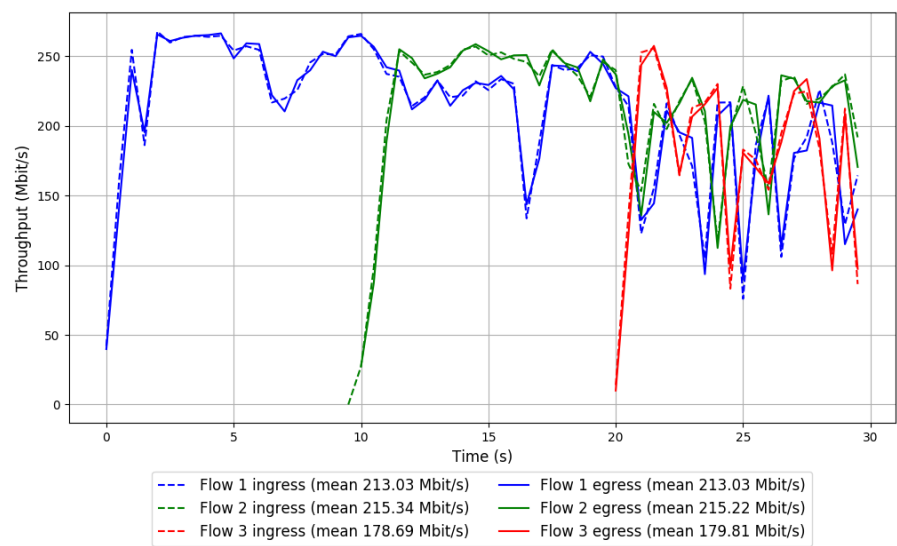
-- Flow 3:

Average throughput: 179.81 Mbit/s

95th percentile per-packet one-way delay: 68.538 ms

Loss rate: 0.38%

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

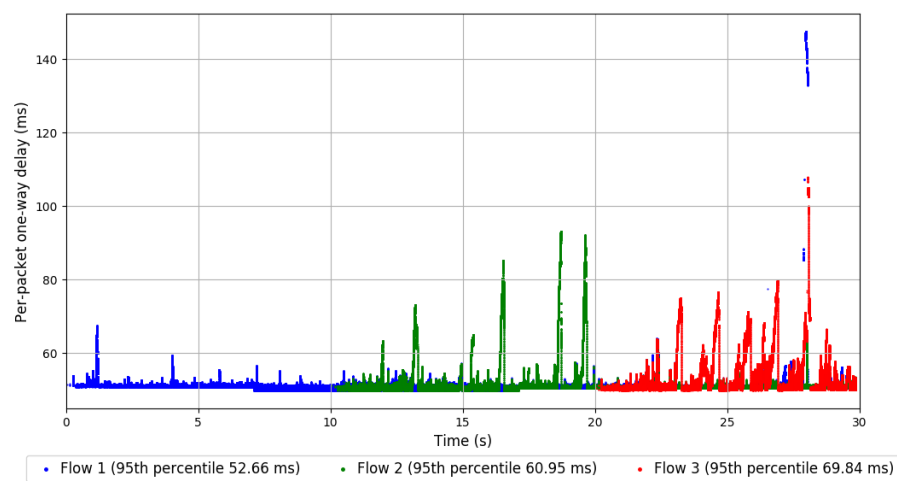
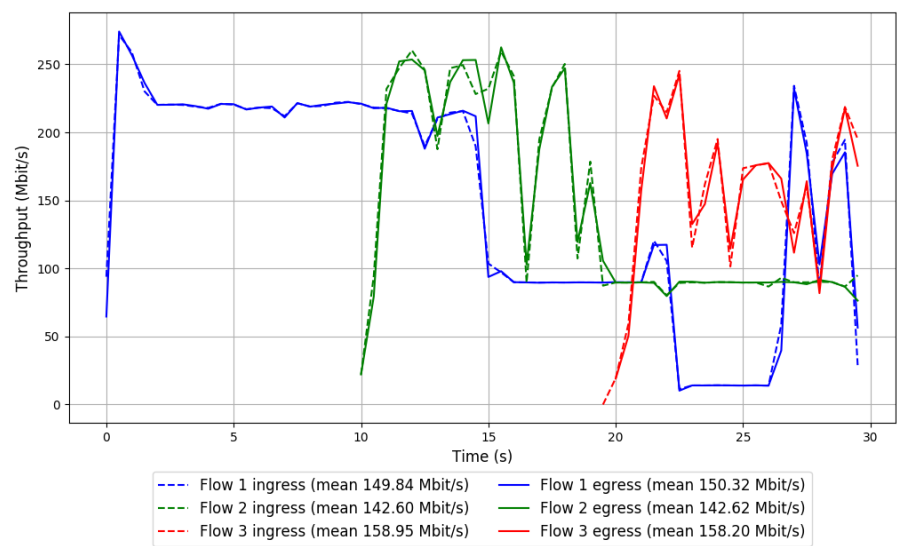


```
Run 7: Statistics of TaoVA-100x

Start at: 2018-04-18 11:56:28
End at: 2018-04-18 11:56:58

# Below is generated by plot.py at 2018-04-18 16:32:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 297.20 Mbit/s
95th percentile per-packet one-way delay: 59.813 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 150.32 Mbit/s
95th percentile per-packet one-way delay: 52.655 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 142.62 Mbit/s
95th percentile per-packet one-way delay: 60.949 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 158.20 Mbit/s
95th percentile per-packet one-way delay: 69.840 ms
Loss rate: 1.50%
```

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



Run 8: Statistics of TaoVA-100x

Start at: 2018-04-18 12:12:09

End at: 2018-04-18 12:12:39

Below is generated by plot.py at 2018-04-18 16:36:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 406.18 Mbit/s

95th percentile per-packet one-way delay: 55.817 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 207.49 Mbit/s

95th percentile per-packet one-way delay: 53.980 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 201.96 Mbit/s

95th percentile per-packet one-way delay: 57.555 ms

Loss rate: 0.59%

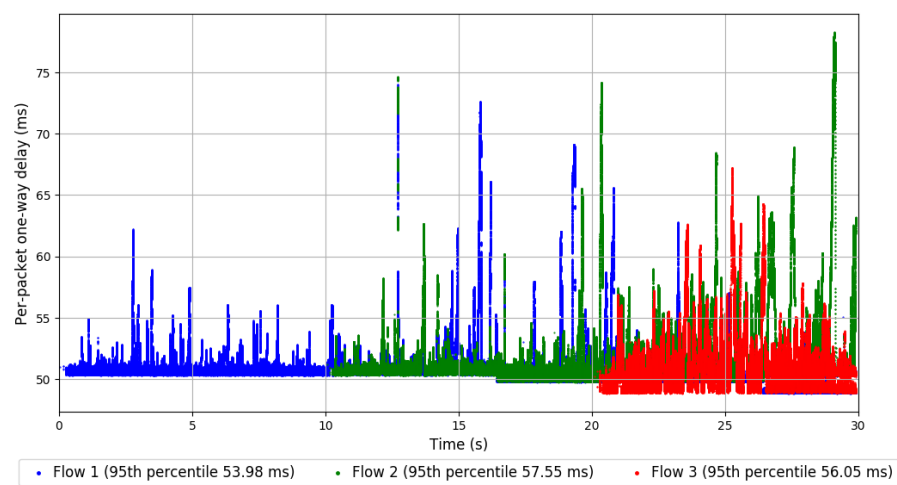
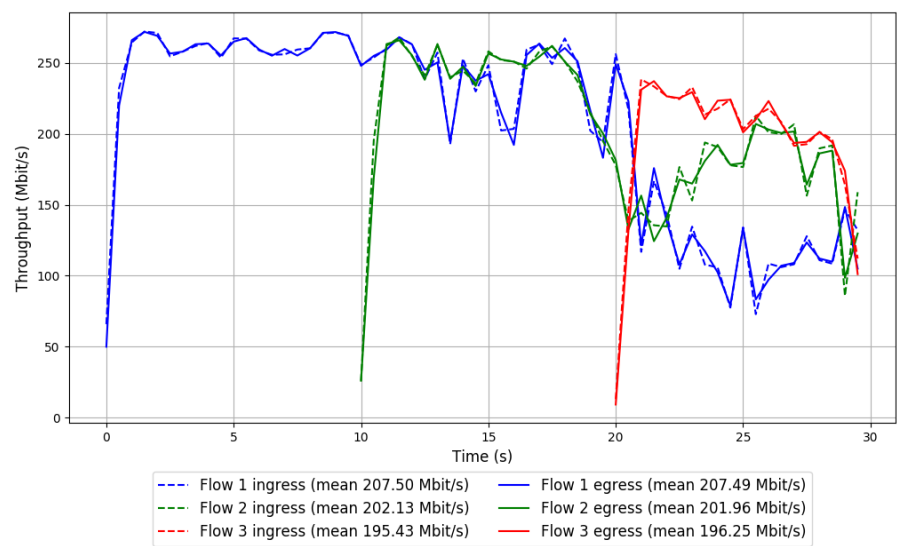
-- Flow 3:

Average throughput: 196.25 Mbit/s

95th percentile per-packet one-way delay: 56.050 ms

Loss rate: 0.59%

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



Run 9: Statistics of TaoVA-100x

Start at: 2018-04-18 12:28:04

End at: 2018-04-18 12:28:34

Below is generated by plot.py at 2018-04-18 16:39:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 361.48 Mbit/s

95th percentile per-packet one-way delay: 68.663 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 196.95 Mbit/s

95th percentile per-packet one-way delay: 63.176 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 178.03 Mbit/s

95th percentile per-packet one-way delay: 70.147 ms

Loss rate: 0.31%

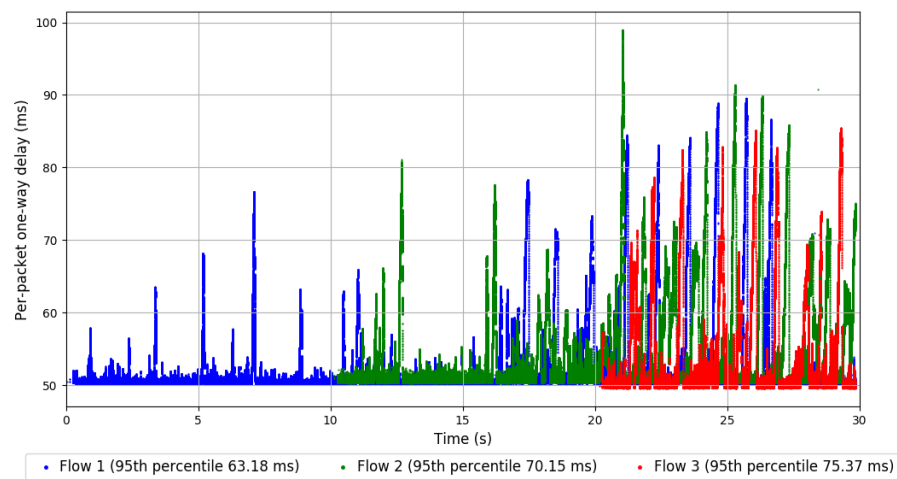
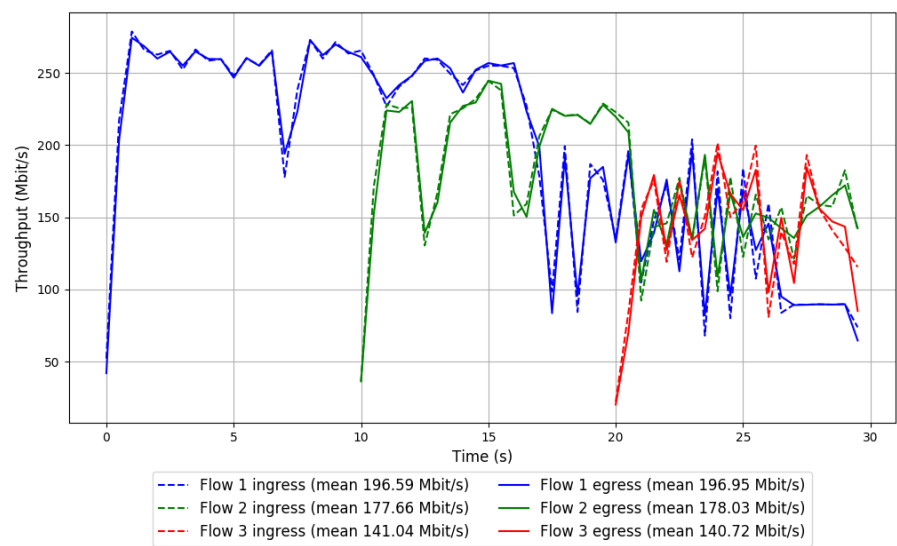
-- Flow 3:

Average throughput: 140.72 Mbit/s

95th percentile per-packet one-way delay: 75.371 ms

Loss rate: 1.26%

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

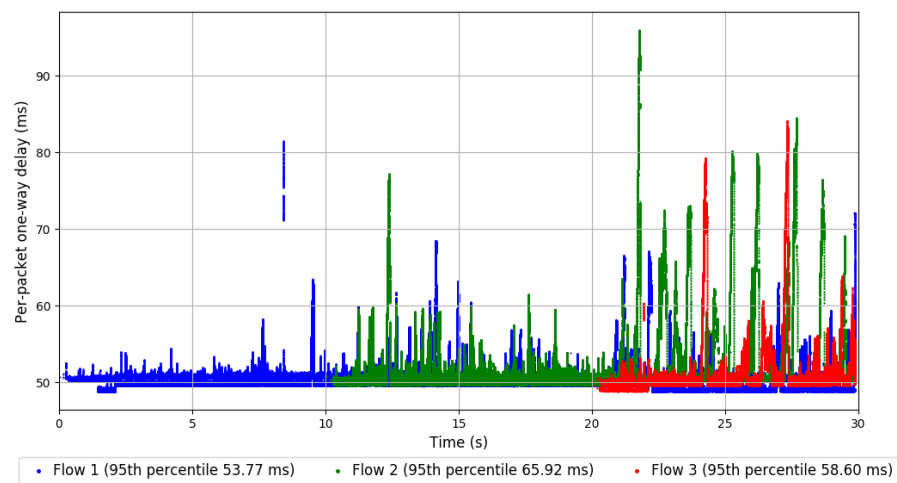
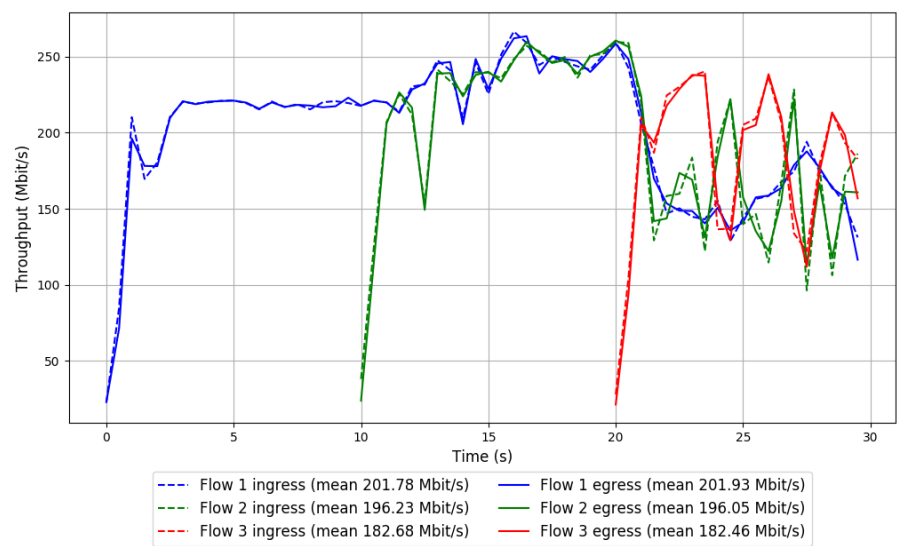


```
Run 10: Statistics of TaoVA-100x

Start at: 2018-04-18 12:43:53
End at: 2018-04-18 12:44:23

# Below is generated by plot.py at 2018-04-18 16:41:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.01 Mbit/s
95th percentile per-packet one-way delay: 57.958 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 201.93 Mbit/s
95th percentile per-packet one-way delay: 53.771 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 196.05 Mbit/s
95th percentile per-packet one-way delay: 65.922 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 182.46 Mbit/s
95th percentile per-packet one-way delay: 58.600 ms
Loss rate: 1.14%
```

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



Run 1: Statistics of TCP Vegas

Start at: 2018-04-18 10:16:45

End at: 2018-04-18 10:17:15

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 169.10 Mbit/s

95th percentile per-packet one-way delay: 51.313 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 73.90 Mbit/s

95th percentile per-packet one-way delay: 51.128 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 109.13 Mbit/s

95th percentile per-packet one-way delay: 51.530 ms

Loss rate: 0.56%

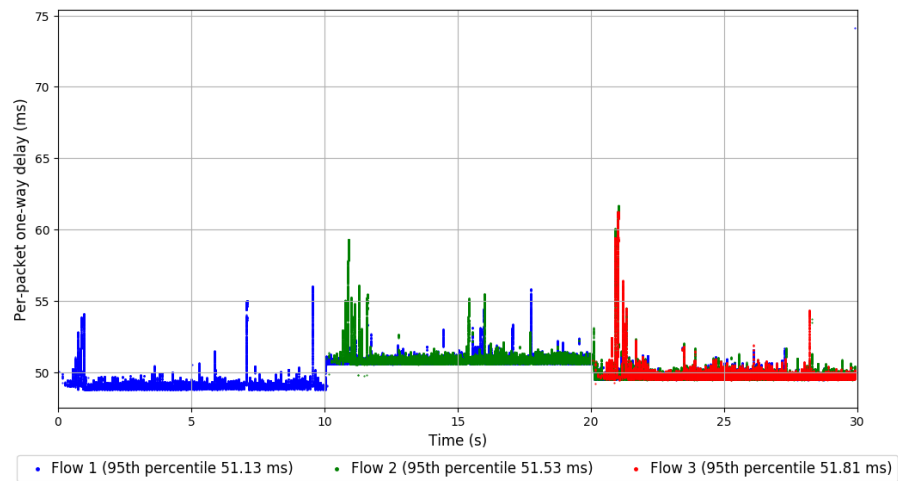
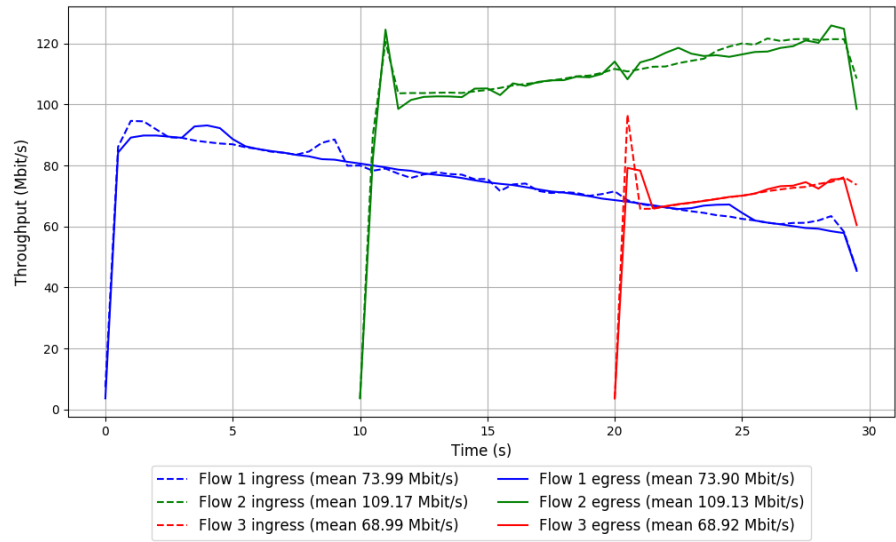
-- Flow 3:

Average throughput: 68.92 Mbit/s

95th percentile per-packet one-way delay: 51.806 ms

Loss rate: 1.10%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-04-18 10:32:33

End at: 2018-04-18 10:33:03

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 176.43 Mbit/s

95th percentile per-packet one-way delay: 51.904 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 108.95 Mbit/s

95th percentile per-packet one-way delay: 51.818 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 78.84 Mbit/s

95th percentile per-packet one-way delay: 52.066 ms

Loss rate: 0.52%

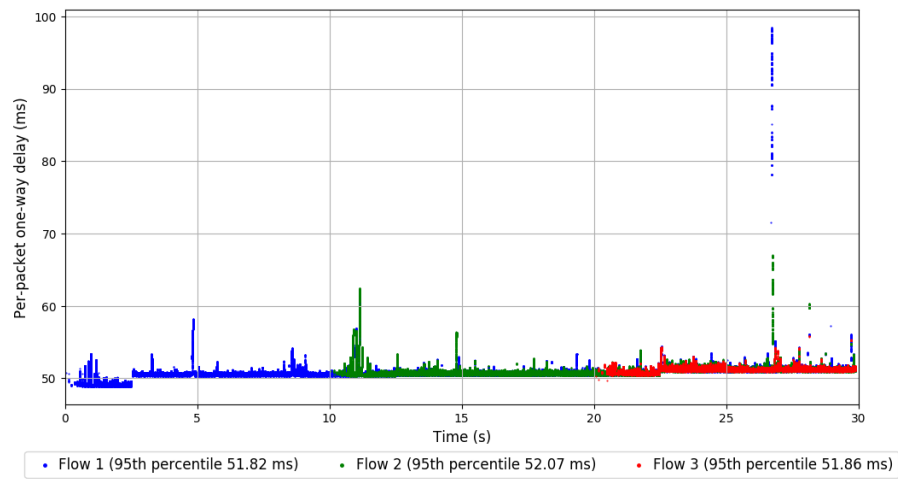
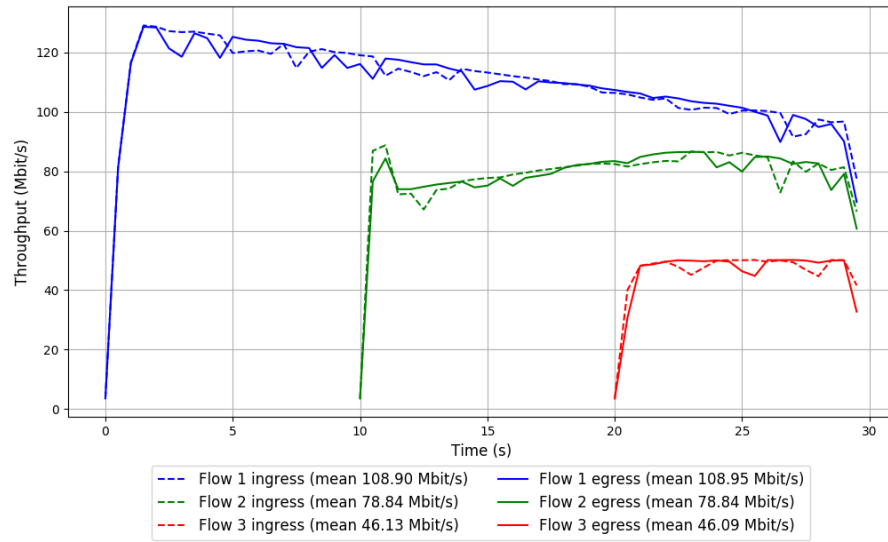
-- Flow 3:

Average throughput: 46.09 Mbit/s

95th percentile per-packet one-way delay: 51.861 ms

Loss rate: 1.09%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-04-18 10:48:23

End at: 2018-04-18 10:48:53

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 133.70 Mbit/s

95th percentile per-packet one-way delay: 53.227 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 78.22 Mbit/s

95th percentile per-packet one-way delay: 52.833 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 80.43 Mbit/s

95th percentile per-packet one-way delay: 53.999 ms

Loss rate: 0.58%

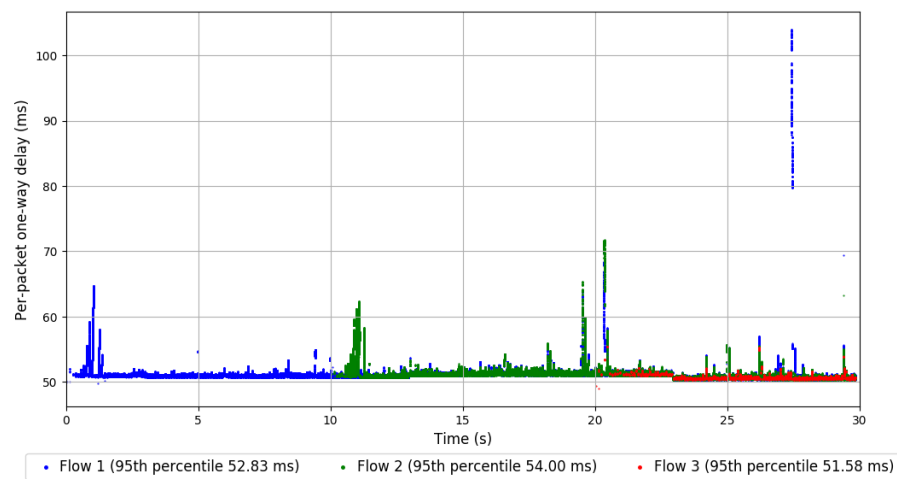
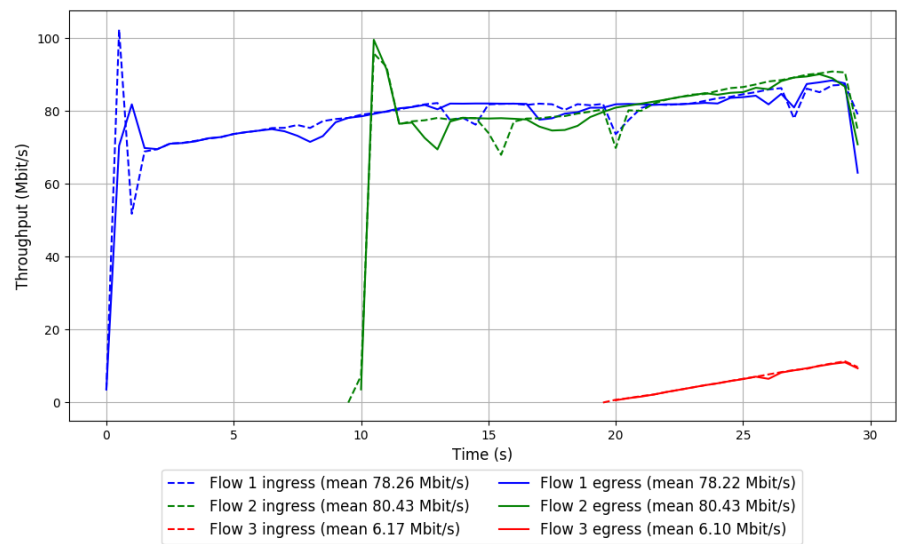
-- Flow 3:

Average throughput: 6.10 Mbit/s

95th percentile per-packet one-way delay: 51.576 ms

Loss rate: 2.08%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-04-18 11:04:20

End at: 2018-04-18 11:04:50

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 136.88 Mbit/s

95th percentile per-packet one-way delay: 52.221 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 76.43 Mbit/s

95th percentile per-packet one-way delay: 52.138 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 55.86 Mbit/s

95th percentile per-packet one-way delay: 52.056 ms

Loss rate: 0.41%

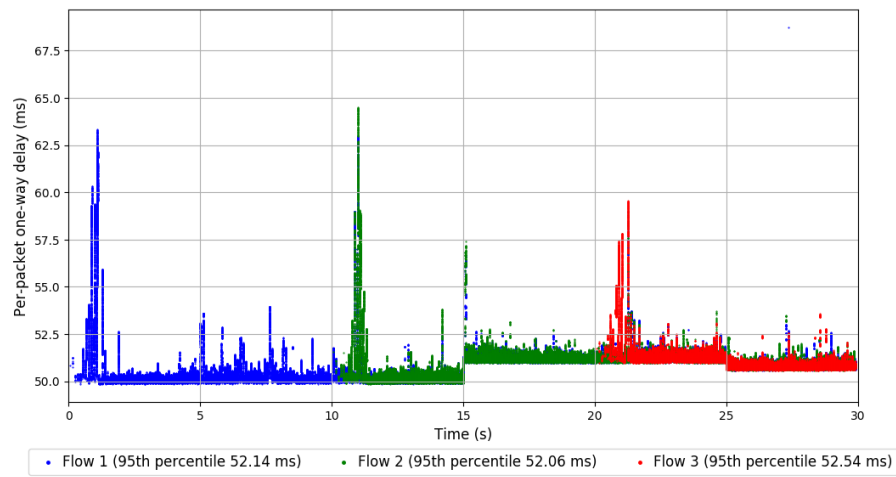
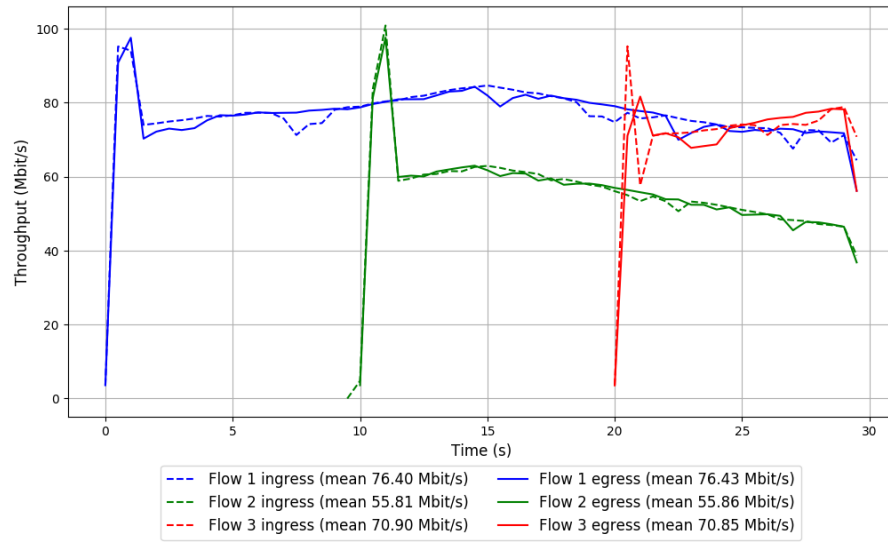
-- Flow 3:

Average throughput: 70.85 Mbit/s

95th percentile per-packet one-way delay: 52.541 ms

Loss rate: 1.10%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-04-18 11:20:07

End at: 2018-04-18 11:20:37

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 259.51 Mbit/s

95th percentile per-packet one-way delay: 51.901 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 156.68 Mbit/s

95th percentile per-packet one-way delay: 51.827 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 83.12 Mbit/s

95th percentile per-packet one-way delay: 52.456 ms

Loss rate: 0.45%

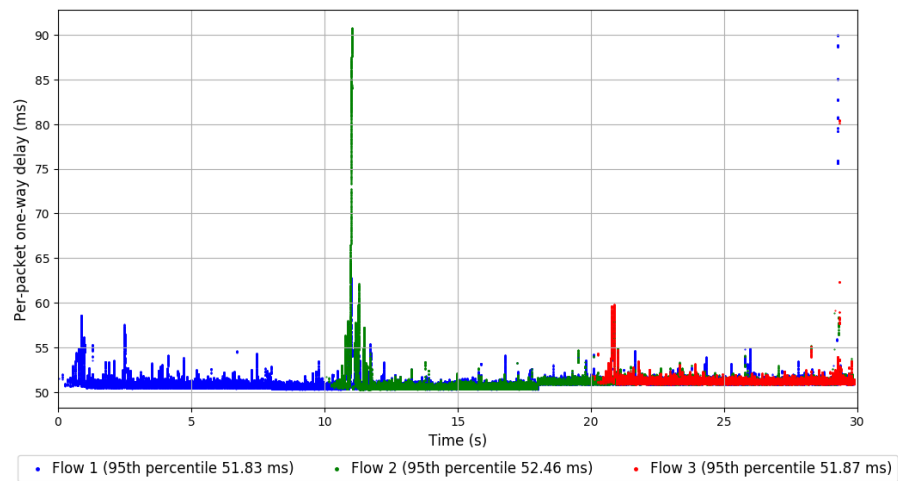
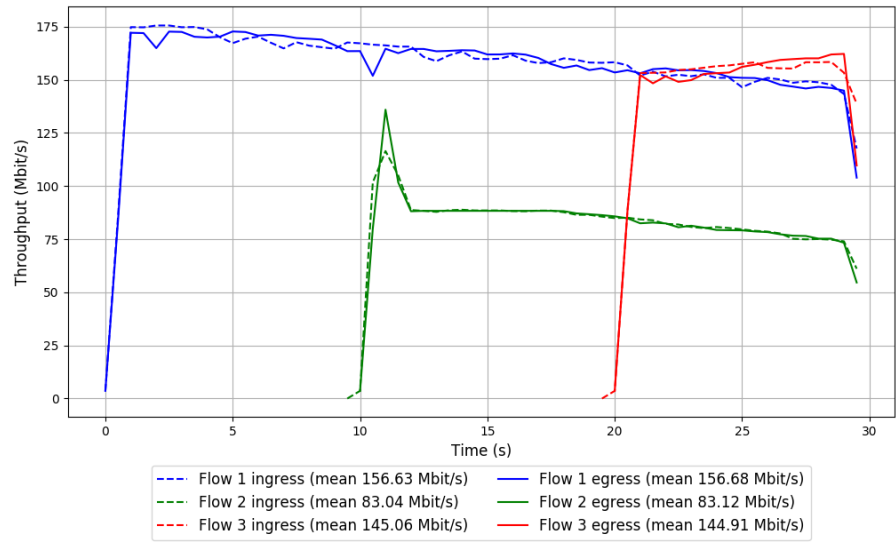
-- Flow 3:

Average throughput: 144.91 Mbit/s

95th percentile per-packet one-way delay: 51.869 ms

Loss rate: 1.13%

Run 5: Report of TCP Vegas — Data Link



Run 6: Statistics of TCP Vegas

Start at: 2018-04-18 11:35:58

End at: 2018-04-18 11:36:28

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 223.55 Mbit/s

95th percentile per-packet one-way delay: 52.740 ms

Loss rate: 0.36%

-- Flow 1:

Average throughput: 184.40 Mbit/s

95th percentile per-packet one-way delay: 52.557 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 56.09 Mbit/s

95th percentile per-packet one-way delay: 54.612 ms

Loss rate: 0.39%

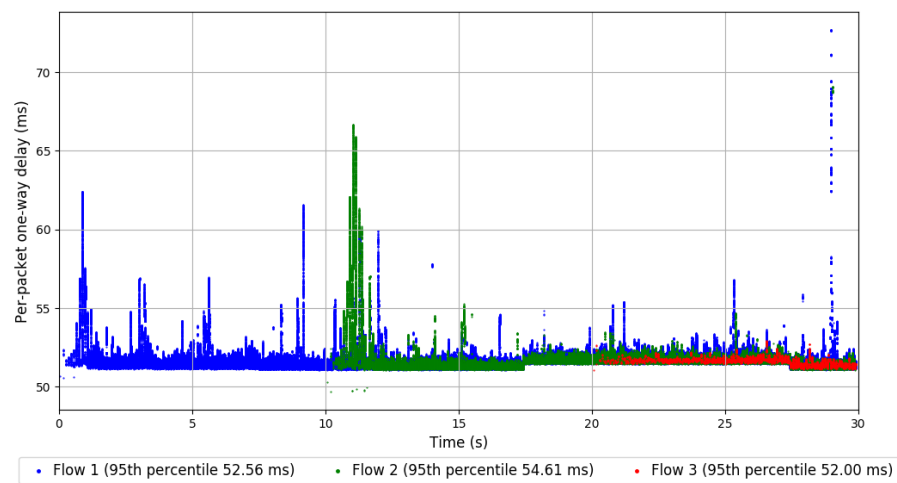
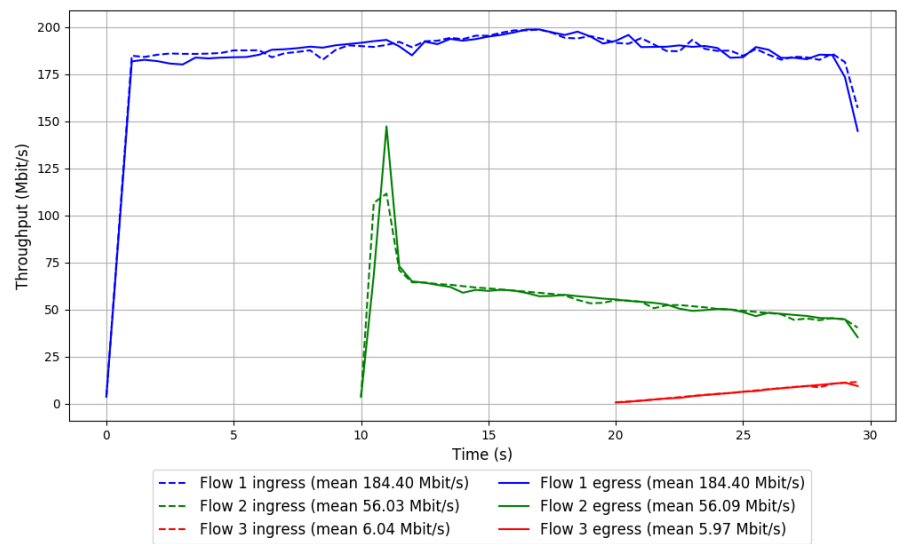
-- Flow 3:

Average throughput: 5.97 Mbit/s

95th percentile per-packet one-way delay: 52.002 ms

Loss rate: 2.12%

Run 6: Report of TCP Vegas — Data Link



Run 7: Statistics of TCP Vegas

Start at: 2018-04-18 11:51:47

End at: 2018-04-18 11:52:17

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 245.13 Mbit/s

95th percentile per-packet one-way delay: 58.442 ms

Loss rate: 0.37%

-- Flow 1:

Average throughput: 130.77 Mbit/s

95th percentile per-packet one-way delay: 59.659 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 169.24 Mbit/s

95th percentile per-packet one-way delay: 52.017 ms

Loss rate: 0.50%

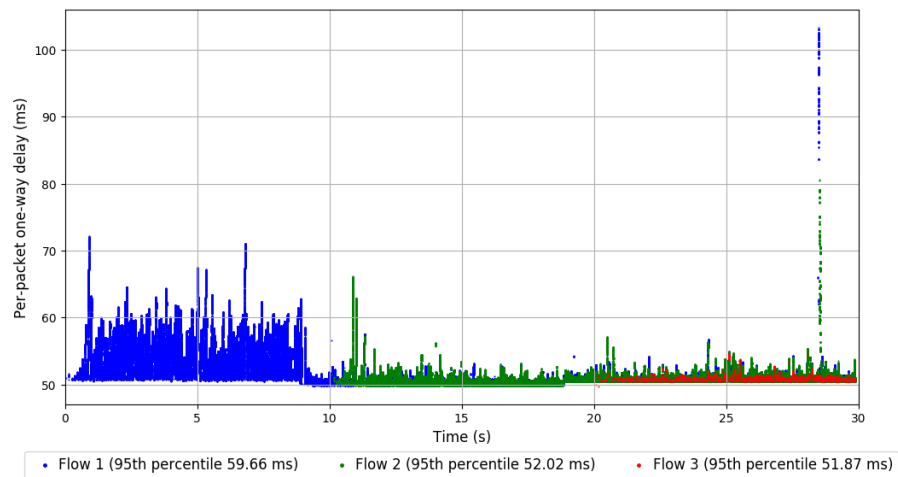
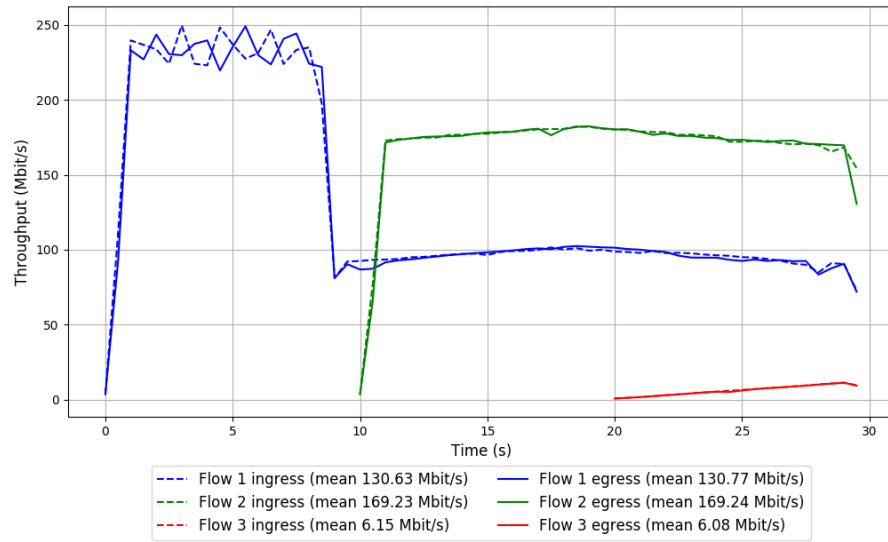
-- Flow 3:

Average throughput: 6.08 Mbit/s

95th percentile per-packet one-way delay: 51.869 ms

Loss rate: 2.07%

Run 7: Report of TCP Vegas — Data Link



Run 8: Statistics of TCP Vegas

Start at: 2018-04-18 12:07:30

End at: 2018-04-18 12:08:00

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 249.92 Mbit/s

95th percentile per-packet one-way delay: 52.450 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 183.29 Mbit/s

95th percentile per-packet one-way delay: 52.608 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 62.92 Mbit/s

95th percentile per-packet one-way delay: 52.170 ms

Loss rate: 0.55%

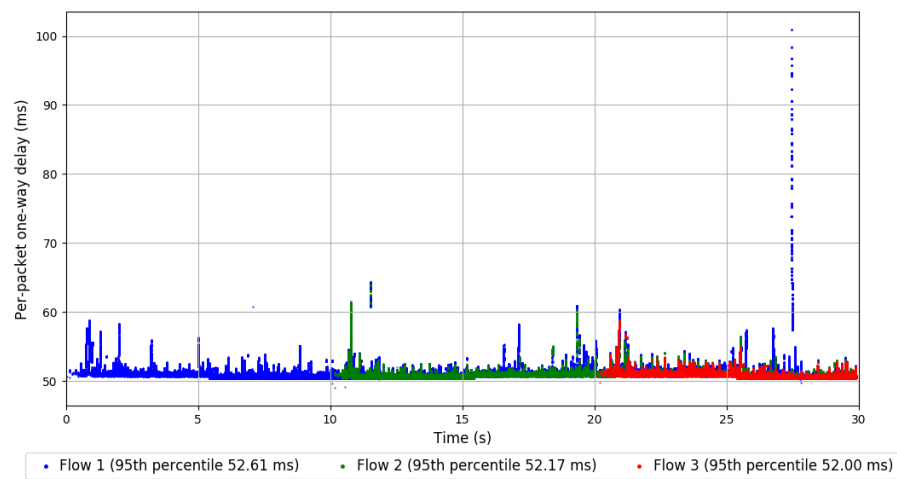
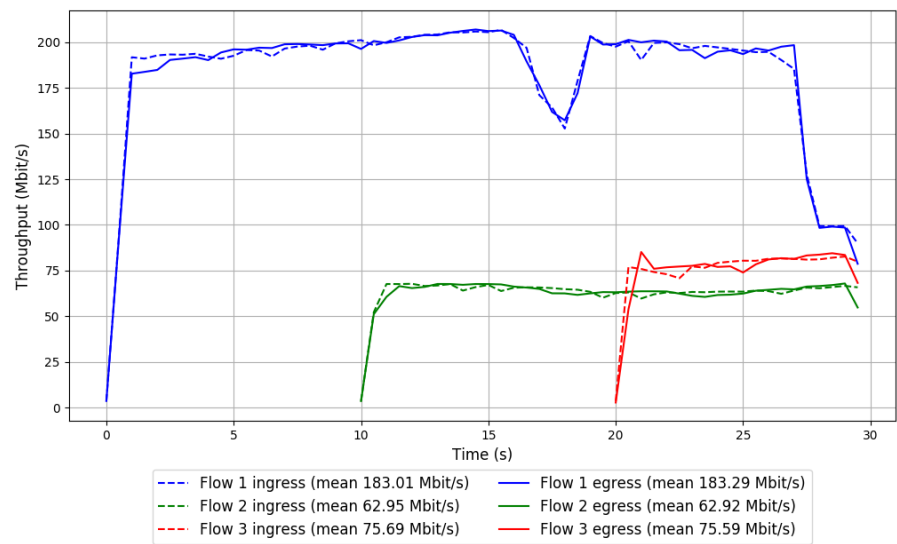
-- Flow 3:

Average throughput: 75.59 Mbit/s

95th percentile per-packet one-way delay: 52.003 ms

Loss rate: 1.14%

Run 8: Report of TCP Vegas — Data Link



Run 9: Statistics of TCP Vegas

Start at: 2018-04-18 12:23:24

End at: 2018-04-18 12:23:54

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 181.64 Mbit/s

95th percentile per-packet one-way delay: 57.658 ms

Loss rate: 0.33%

-- Flow 1:

Average throughput: 120.23 Mbit/s

95th percentile per-packet one-way delay: 58.100 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 59.25 Mbit/s

95th percentile per-packet one-way delay: 55.131 ms

Loss rate: 0.41%

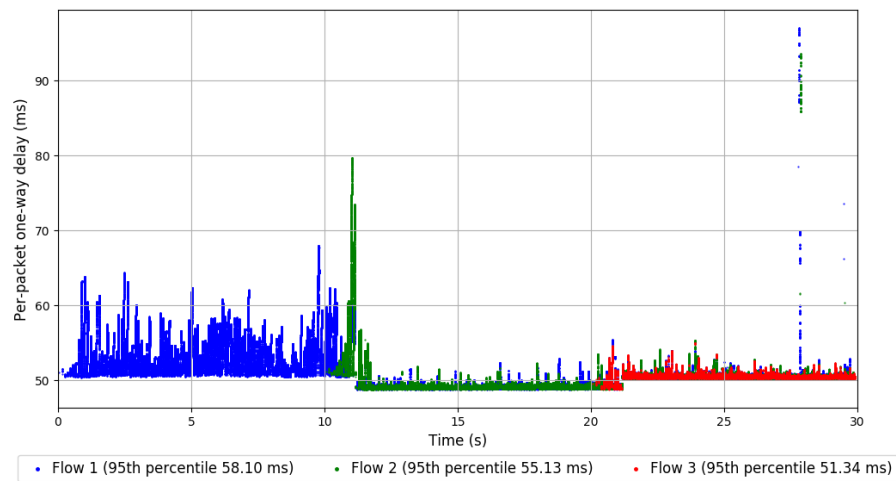
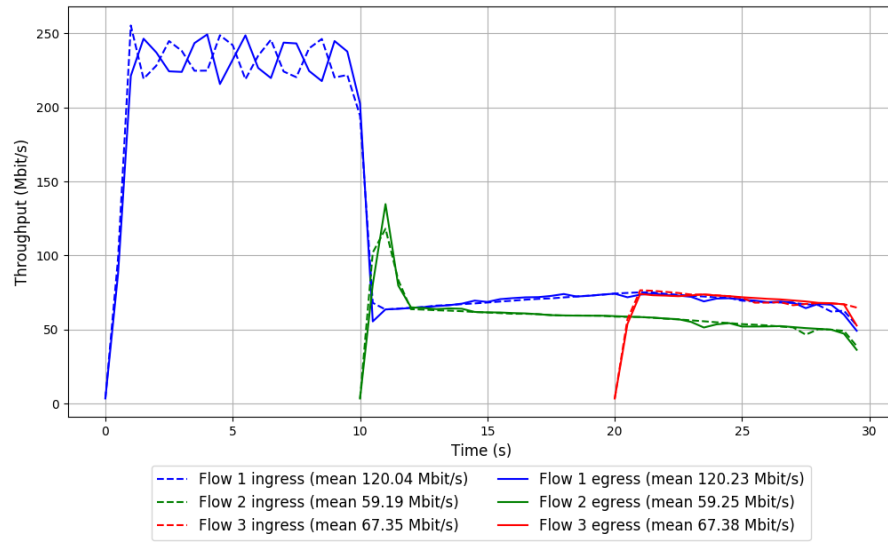
-- Flow 3:

Average throughput: 67.38 Mbit/s

95th percentile per-packet one-way delay: 51.337 ms

Loss rate: 0.96%

Run 9: Report of TCP Vegas — Data Link



Run 10: Statistics of TCP Vegas

Start at: 2018-04-18 12:39:09

End at: 2018-04-18 12:39:39

Below is generated by plot.py at 2018-04-18 16:41:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 243.13 Mbit/s

95th percentile per-packet one-way delay: 51.826 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 167.49 Mbit/s

95th percentile per-packet one-way delay: 51.926 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 110.87 Mbit/s

95th percentile per-packet one-way delay: 51.626 ms

Loss rate: 0.56%

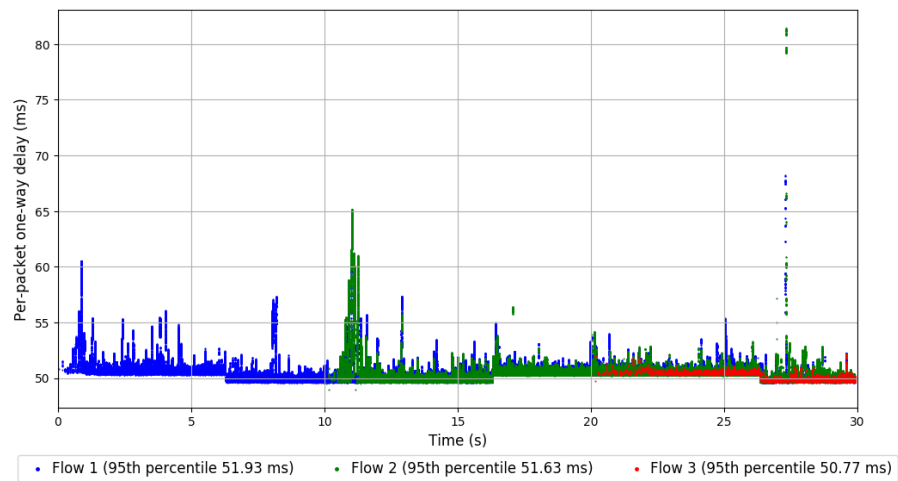
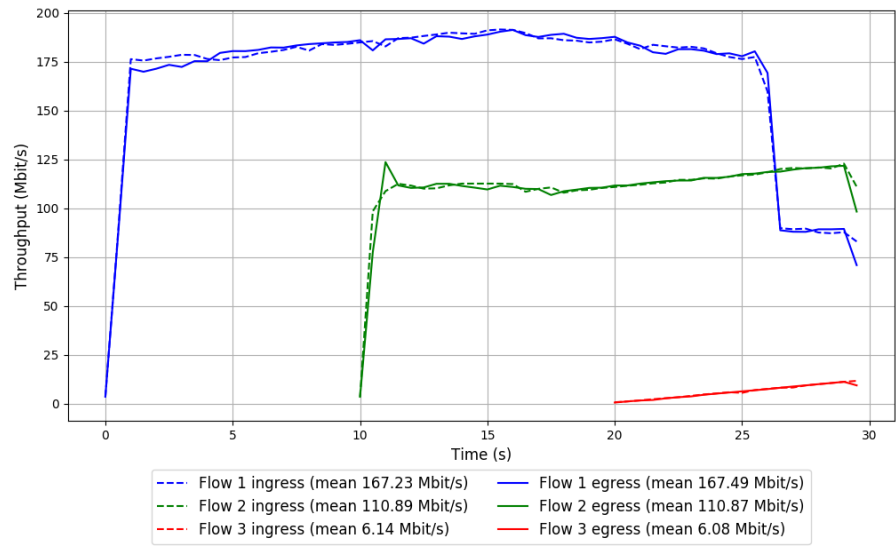
-- Flow 3:

Average throughput: 6.08 Mbit/s

95th percentile per-packet one-way delay: 50.766 ms

Loss rate: 2.09%

Run 10: Report of TCP Vegas — Data Link

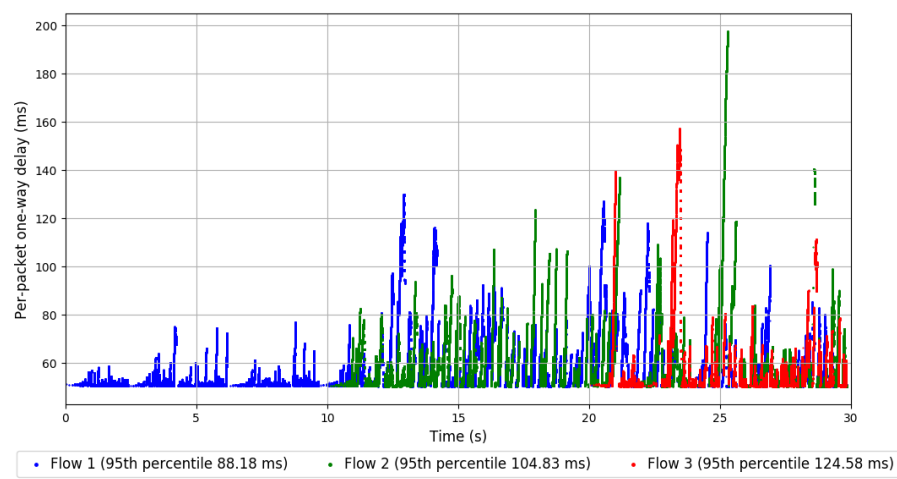
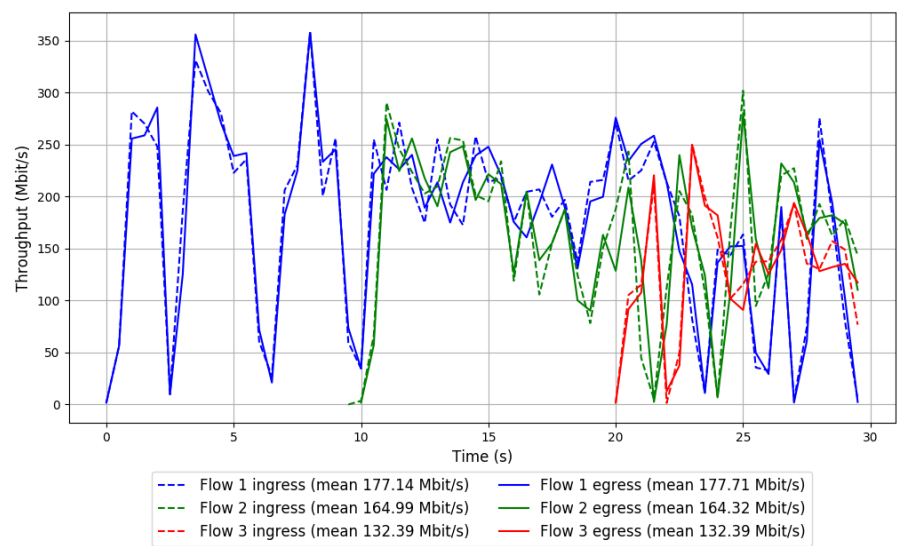


```
Run 1: Statistics of Verus

Start at: 2018-04-18 10:17:34
End at: 2018-04-18 10:18:04

# Below is generated by plot.py at 2018-04-18 16:42:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 330.42 Mbit/s
95th percentile per-packet one-way delay: 98.361 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 177.71 Mbit/s
95th percentile per-packet one-way delay: 88.183 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 164.32 Mbit/s
95th percentile per-packet one-way delay: 104.831 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 132.39 Mbit/s
95th percentile per-packet one-way delay: 124.576 ms
Loss rate: 0.00%
```


Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-04-18 10:33:22

End at: 2018-04-18 10:33:52

Below is generated by plot.py at 2018-04-18 16:43:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 351.26 Mbit/s

95th percentile per-packet one-way delay: 139.163 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 189.65 Mbit/s

95th percentile per-packet one-way delay: 131.205 ms

Loss rate: 0.77%

-- Flow 2:

Average throughput: 211.23 Mbit/s

95th percentile per-packet one-way delay: 151.559 ms

Loss rate: 0.77%

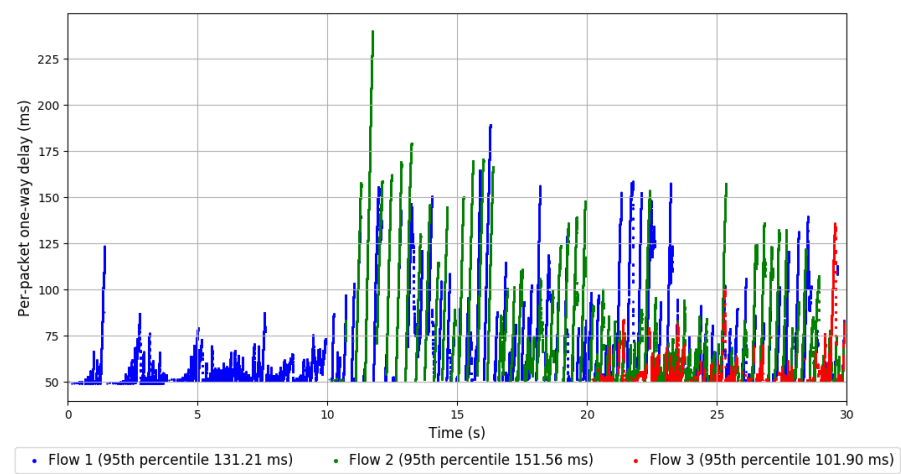
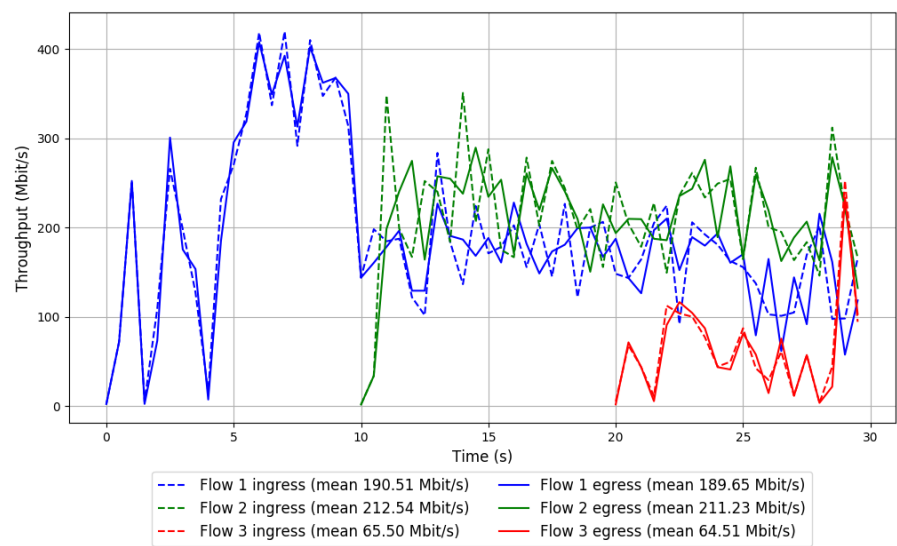
-- Flow 3:

Average throughput: 64.51 Mbit/s

95th percentile per-packet one-way delay: 101.898 ms

Loss rate: 2.54%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-04-18 10:49:09

End at: 2018-04-18 10:49:39

Below is generated by plot.py at 2018-04-18 16:43:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 321.03 Mbit/s

95th percentile per-packet one-way delay: 127.004 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 208.76 Mbit/s

95th percentile per-packet one-way delay: 112.832 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 116.66 Mbit/s

95th percentile per-packet one-way delay: 88.771 ms

Loss rate: 0.00%

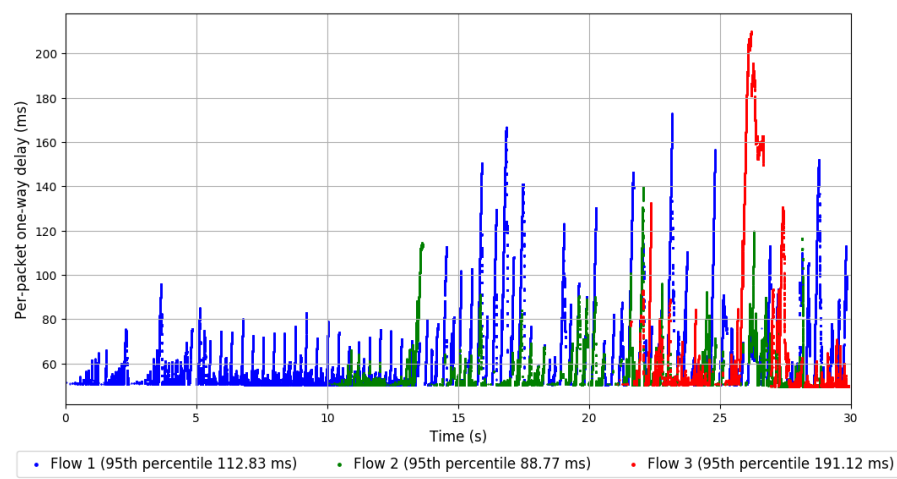
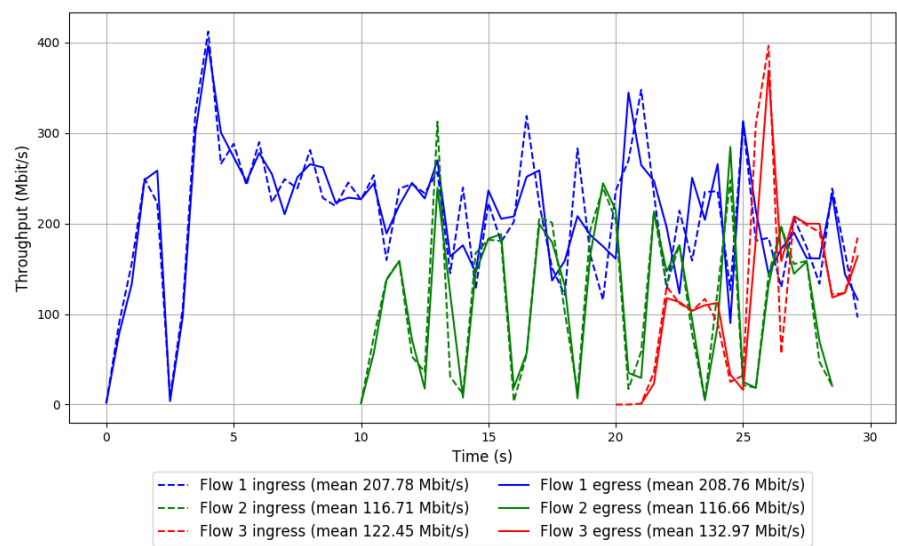
-- Flow 3:

Average throughput: 132.97 Mbit/s

95th percentile per-packet one-way delay: 191.125 ms

Loss rate: 3.44%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-04-18 11:05:07

End at: 2018-04-18 11:05:37

Below is generated by plot.py at 2018-04-18 16:43:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 351.76 Mbit/s

95th percentile per-packet one-way delay: 158.171 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 207.39 Mbit/s

95th percentile per-packet one-way delay: 163.577 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 162.11 Mbit/s

95th percentile per-packet one-way delay: 125.592 ms

Loss rate: 1.37%

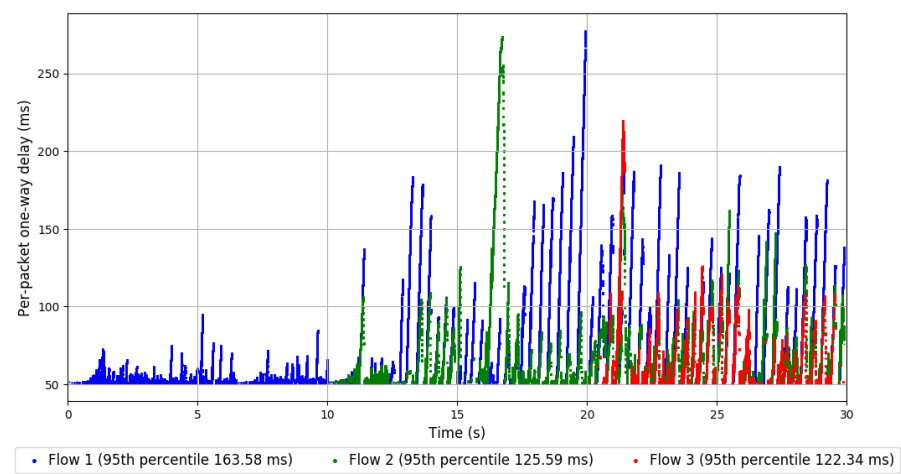
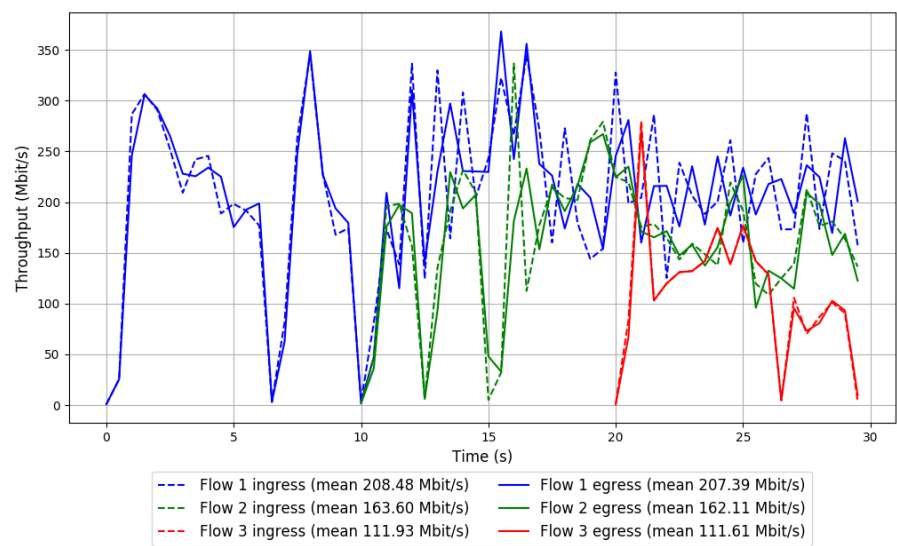
-- Flow 3:

Average throughput: 111.61 Mbit/s

95th percentile per-packet one-way delay: 122.338 ms

Loss rate: 1.32%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-04-18 11:21:01

End at: 2018-04-18 11:21:31

Below is generated by plot.py at 2018-04-18 16:43:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 358.64 Mbit/s

95th percentile per-packet one-way delay: 229.572 ms

Loss rate: 2.94%

-- Flow 1:

Average throughput: 190.48 Mbit/s

95th percentile per-packet one-way delay: 130.773 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 198.77 Mbit/s

95th percentile per-packet one-way delay: 262.999 ms

Loss rate: 7.26%

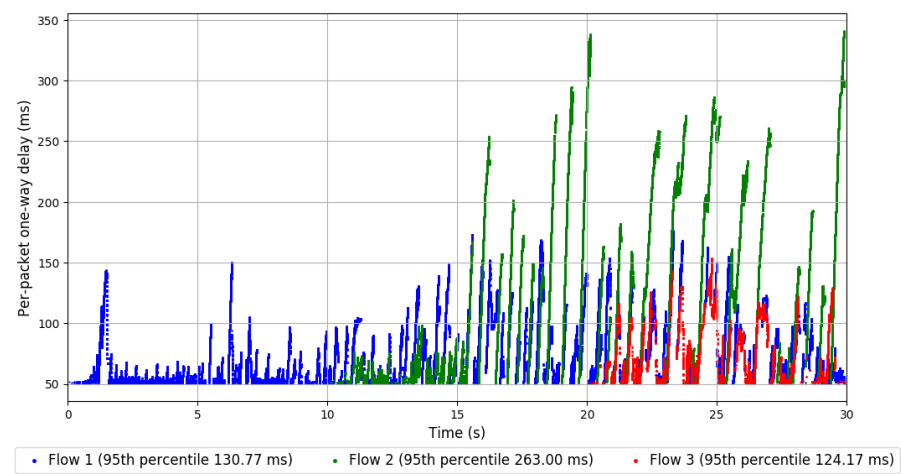
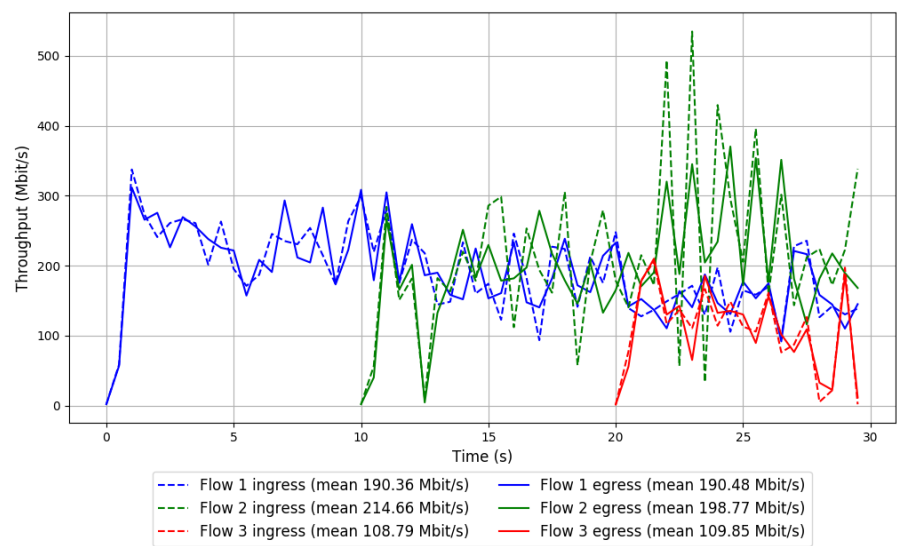
-- Flow 3:

Average throughput: 109.85 Mbit/s

95th percentile per-packet one-way delay: 124.174 ms

Loss rate: 0.05%

Run 5: Report of Verus — Data Link



Run 6: Statistics of Verus

Start at: 2018-04-18 11:36:49

End at: 2018-04-18 11:37:19

Below is generated by plot.py at 2018-04-18 16:46:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 306.47 Mbit/s

95th percentile per-packet one-way delay: 159.370 ms

Loss rate: 2.29%

-- Flow 1:

Average throughput: 162.01 Mbit/s

95th percentile per-packet one-way delay: 134.458 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 152.54 Mbit/s

95th percentile per-packet one-way delay: 232.465 ms

Loss rate: 6.06%

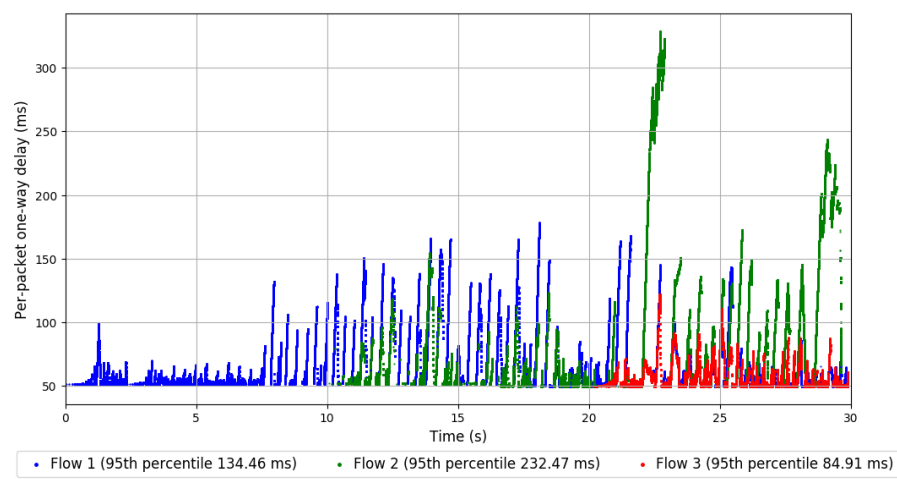
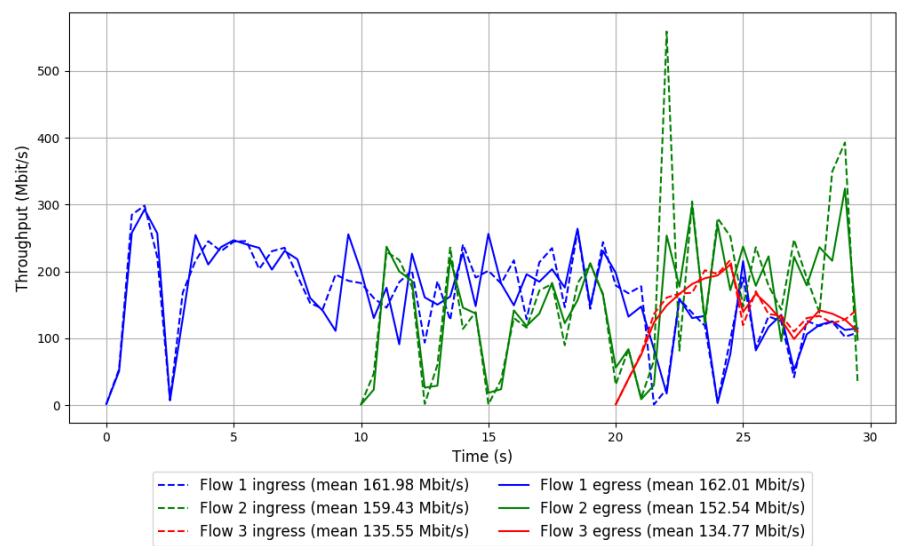
-- Flow 3:

Average throughput: 134.77 Mbit/s

95th percentile per-packet one-way delay: 84.907 ms

Loss rate: 1.57%

Run 6: Report of Verus — Data Link



Run 7: Statistics of Verus

Start at: 2018-04-18 11:52:39

End at: 2018-04-18 11:53:09

Below is generated by plot.py at 2018-04-18 16:46:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 296.36 Mbit/s

95th percentile per-packet one-way delay: 113.514 ms

Loss rate: 1.01%

-- Flow 1:

Average throughput: 184.64 Mbit/s

95th percentile per-packet one-way delay: 102.353 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 106.16 Mbit/s

95th percentile per-packet one-way delay: 161.827 ms

Loss rate: 2.70%

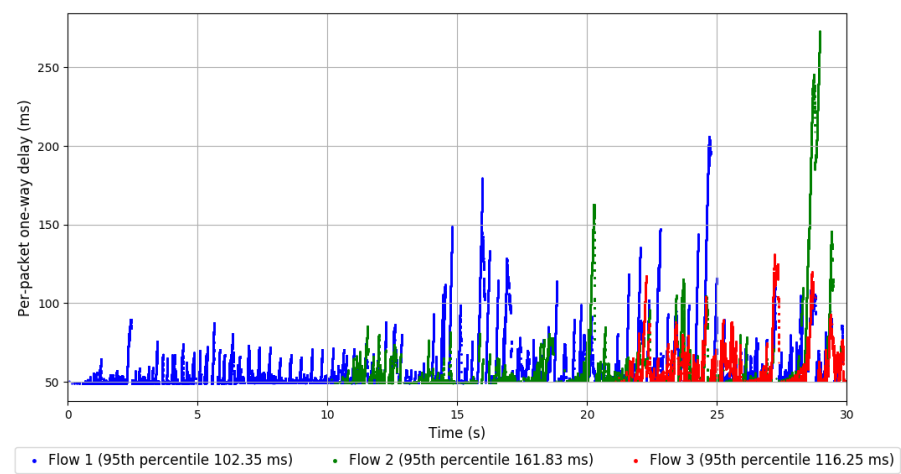
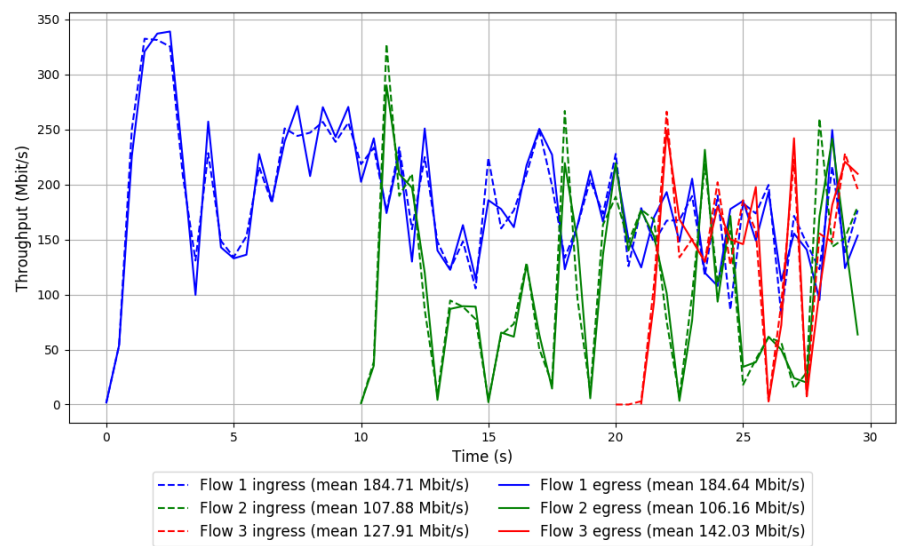
-- Flow 3:

Average throughput: 142.03 Mbit/s

95th percentile per-packet one-way delay: 116.252 ms

Loss rate: 0.48%

Run 7: Report of Verus — Data Link



Run 8: Statistics of Verus

Start at: 2018-04-18 12:08:22

End at: 2018-04-18 12:08:52

Below is generated by plot.py at 2018-04-18 16:47:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 314.28 Mbit/s

95th percentile per-packet one-way delay: 223.233 ms

Loss rate: 3.00%

-- Flow 1:

Average throughput: 159.76 Mbit/s

95th percentile per-packet one-way delay: 257.164 ms

Loss rate: 3.07%

-- Flow 2:

Average throughput: 185.53 Mbit/s

95th percentile per-packet one-way delay: 148.976 ms

Loss rate: 3.36%

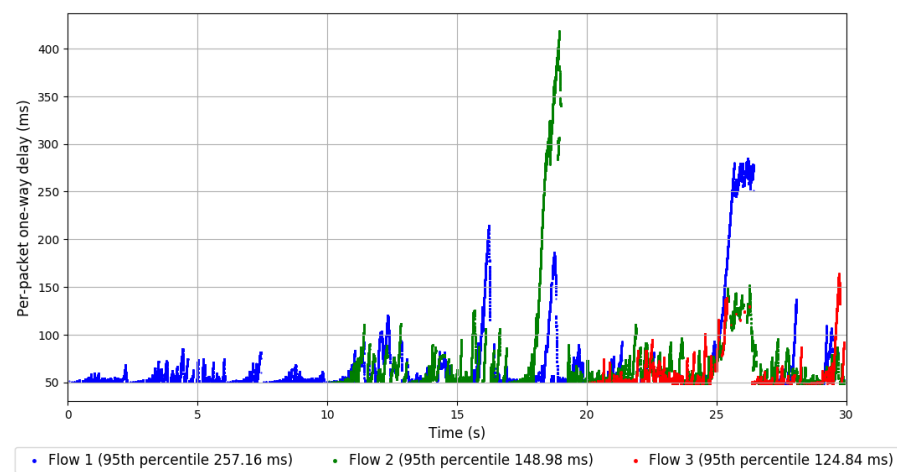
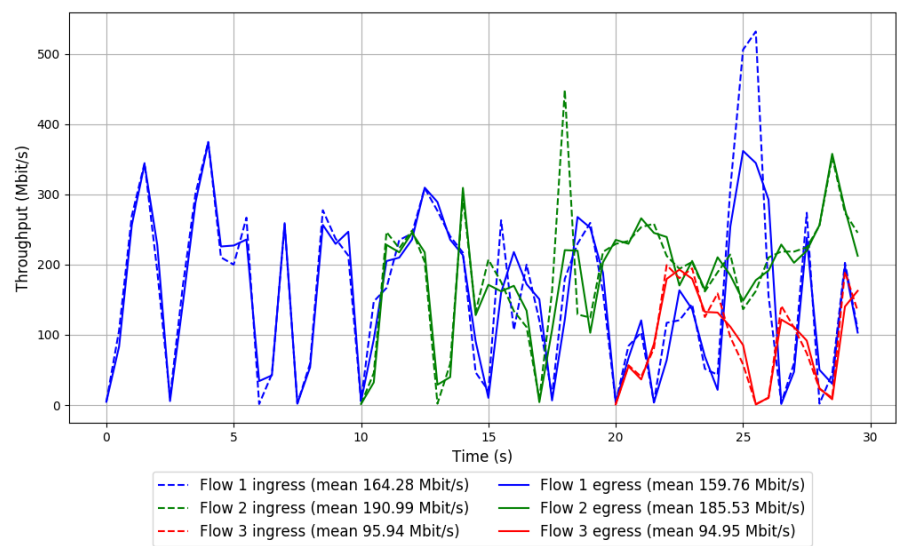
-- Flow 3:

Average throughput: 94.95 Mbit/s

95th percentile per-packet one-way delay: 124.838 ms

Loss rate: 1.22%

Run 8: Report of Verus — Data Link



Run 9: Statistics of Verus

Start at: 2018-04-18 12:24:13

End at: 2018-04-18 12:24:43

Below is generated by plot.py at 2018-04-18 16:49:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 336.22 Mbit/s

95th percentile per-packet one-way delay: 147.389 ms

Loss rate: 1.73%

-- Flow 1:

Average throughput: 197.22 Mbit/s

95th percentile per-packet one-way delay: 102.094 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 167.29 Mbit/s

95th percentile per-packet one-way delay: 162.834 ms

Loss rate: 0.50%

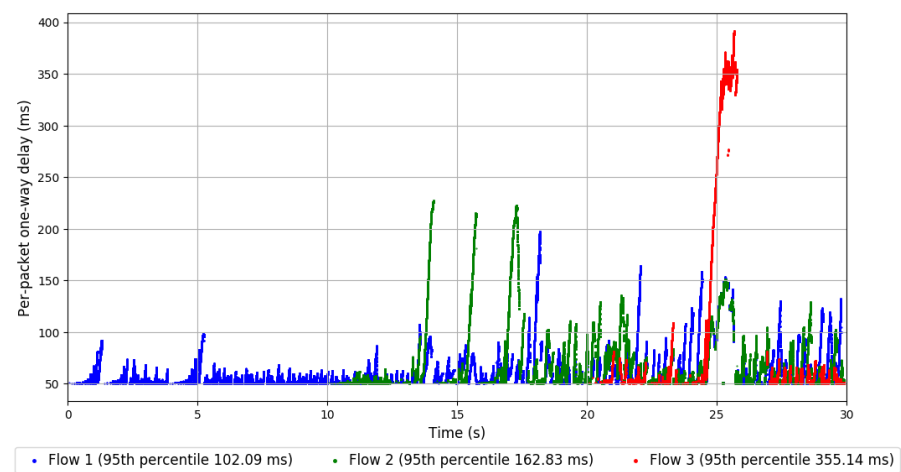
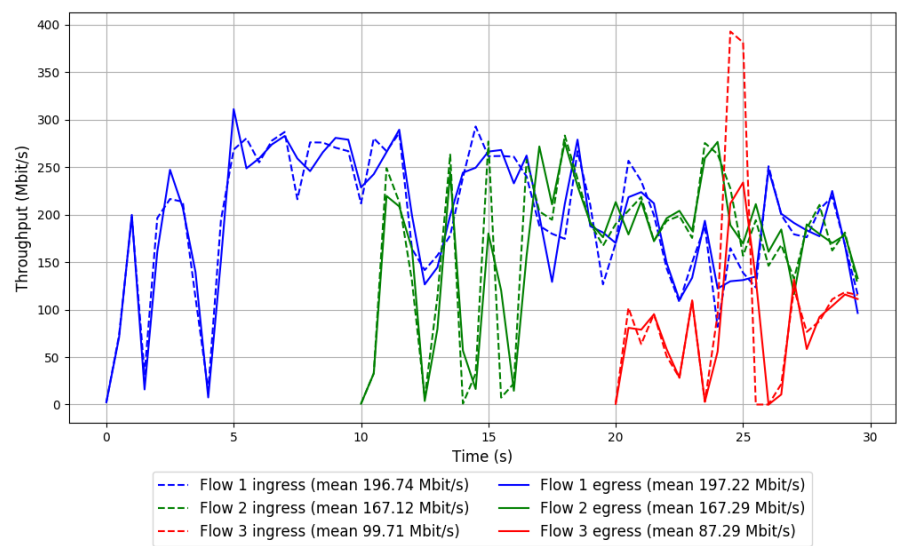
-- Flow 3:

Average throughput: 87.29 Mbit/s

95th percentile per-packet one-way delay: 355.139 ms

Loss rate: 13.38%

Run 9: Report of Verus — Data Link



Run 10: Statistics of Verus

Start at: 2018-04-18 12:40:01

End at: 2018-04-18 12:40:31

Below is generated by plot.py at 2018-04-18 16:49:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 338.63 Mbit/s

95th percentile per-packet one-way delay: 183.774 ms

Loss rate: 1.03%

-- Flow 1:

Average throughput: 214.25 Mbit/s

95th percentile per-packet one-way delay: 203.818 ms

Loss rate: 1.30%

-- Flow 2:

Average throughput: 137.45 Mbit/s

95th percentile per-packet one-way delay: 128.957 ms

Loss rate: 0.39%

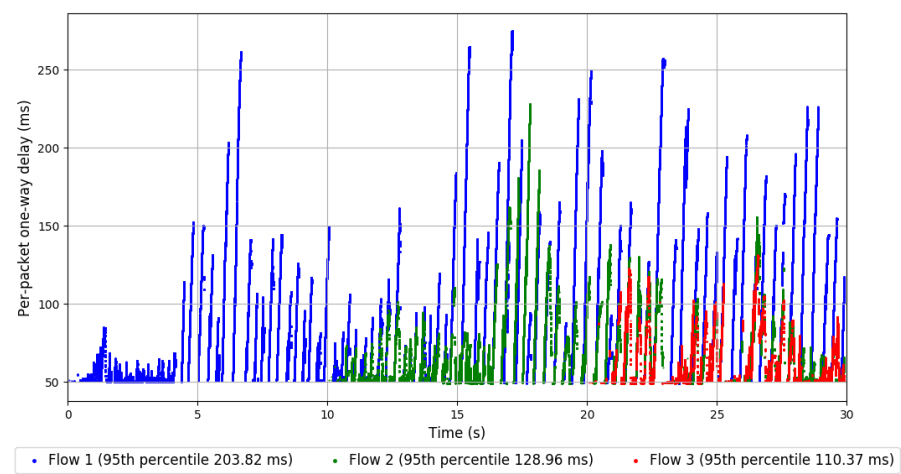
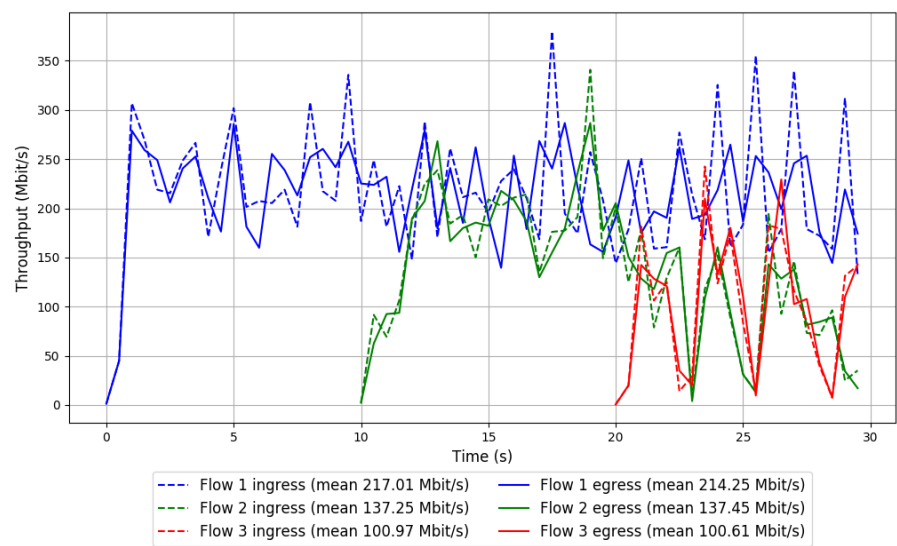
-- Flow 3:

Average throughput: 100.61 Mbit/s

95th percentile per-packet one-way delay: 110.368 ms

Loss rate: 1.02%

Run 10: Report of Verus — Data Link



Run 1: Statistics of Copa

Start at: 2018-04-18 10:20:28

End at: 2018-04-18 10:20:58

Below is generated by plot.py at 2018-04-18 16:49:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 156.98 Mbit/s

95th percentile per-packet one-way delay: 50.784 ms

Loss rate: 0.44%

-- Flow 1:

Average throughput: 68.02 Mbit/s

95th percentile per-packet one-way delay: 50.786 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 85.69 Mbit/s

95th percentile per-packet one-way delay: 50.802 ms

Loss rate: 0.59%

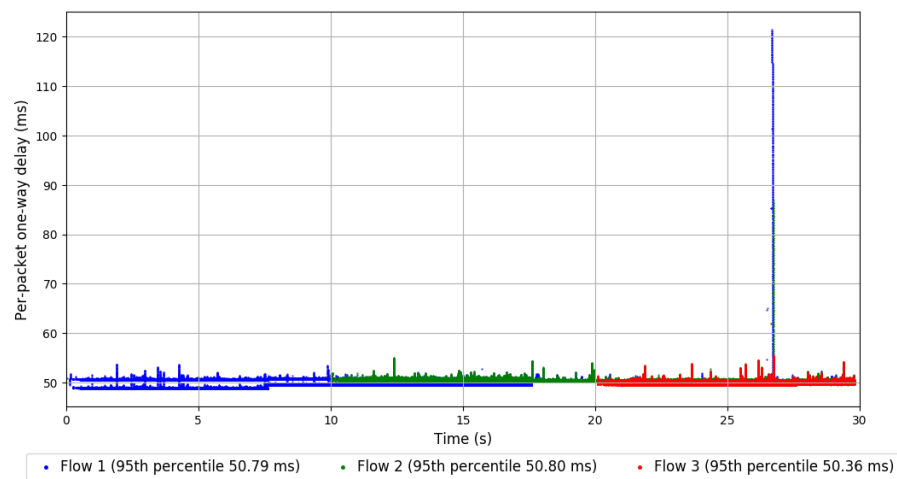
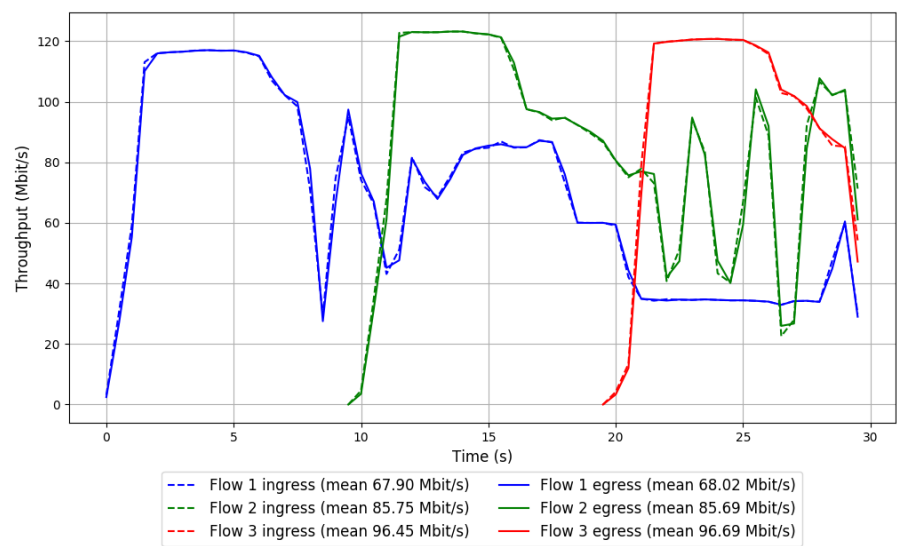
-- Flow 3:

Average throughput: 96.69 Mbit/s

95th percentile per-packet one-way delay: 50.360 ms

Loss rate: 0.78%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-04-18 10:36:20

End at: 2018-04-18 10:36:50

Below is generated by plot.py at 2018-04-18 16:49:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 163.91 Mbit/s

95th percentile per-packet one-way delay: 50.892 ms

Loss rate: 0.39%

-- Flow 1:

Average throughput: 83.81 Mbit/s

95th percentile per-packet one-way delay: 50.875 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 78.72 Mbit/s

95th percentile per-packet one-way delay: 50.921 ms

Loss rate: 0.43%

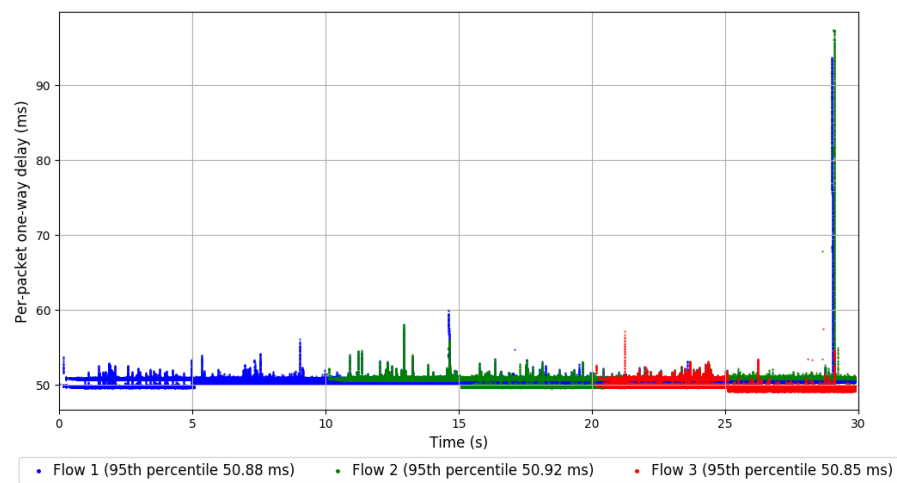
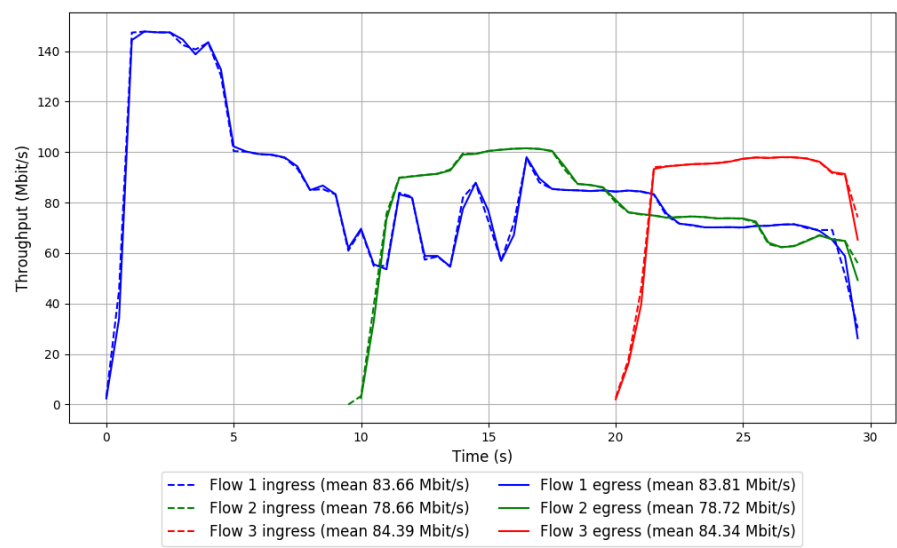
-- Flow 3:

Average throughput: 84.34 Mbit/s

95th percentile per-packet one-way delay: 50.855 ms

Loss rate: 1.06%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-04-18 10:52:16

End at: 2018-04-18 10:52:46

Below is generated by plot.py at 2018-04-18 16:49:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 147.78 Mbit/s

95th percentile per-packet one-way delay: 50.933 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 77.38 Mbit/s

95th percentile per-packet one-way delay: 50.838 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 71.58 Mbit/s

95th percentile per-packet one-way delay: 50.994 ms

Loss rate: 0.61%

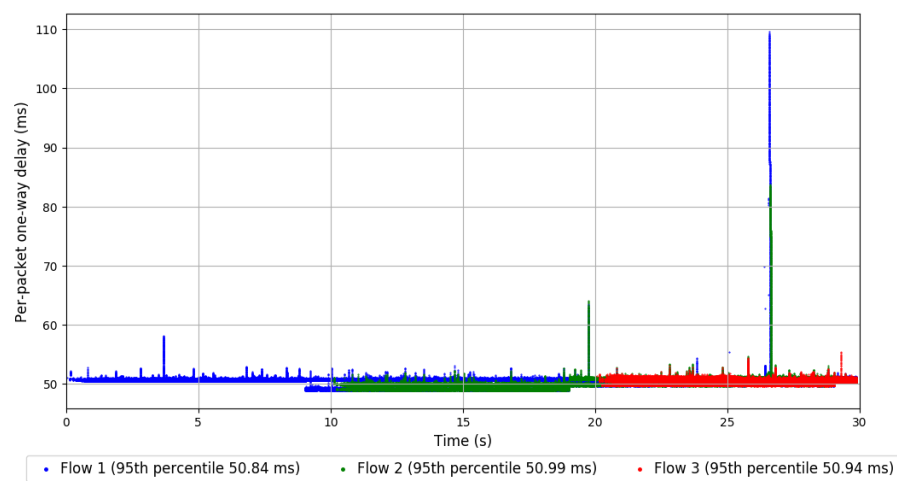
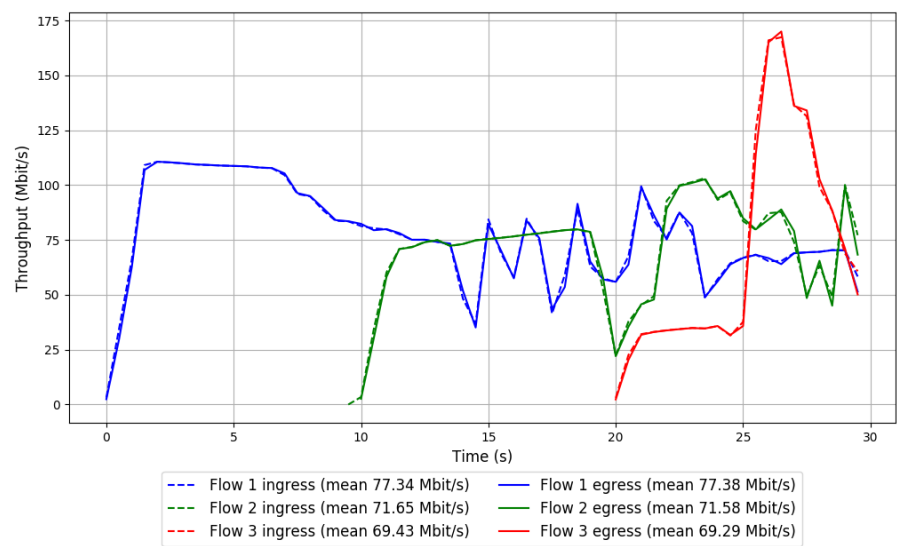
-- Flow 3:

Average throughput: 69.29 Mbit/s

95th percentile per-packet one-way delay: 50.936 ms

Loss rate: 1.23%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-04-18 11:08:05

End at: 2018-04-18 11:08:35

Below is generated by plot.py at 2018-04-18 16:51:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 152.86 Mbit/s

95th percentile per-packet one-way delay: 51.240 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 82.15 Mbit/s

95th percentile per-packet one-way delay: 51.266 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 71.53 Mbit/s

95th percentile per-packet one-way delay: 51.244 ms

Loss rate: 0.42%

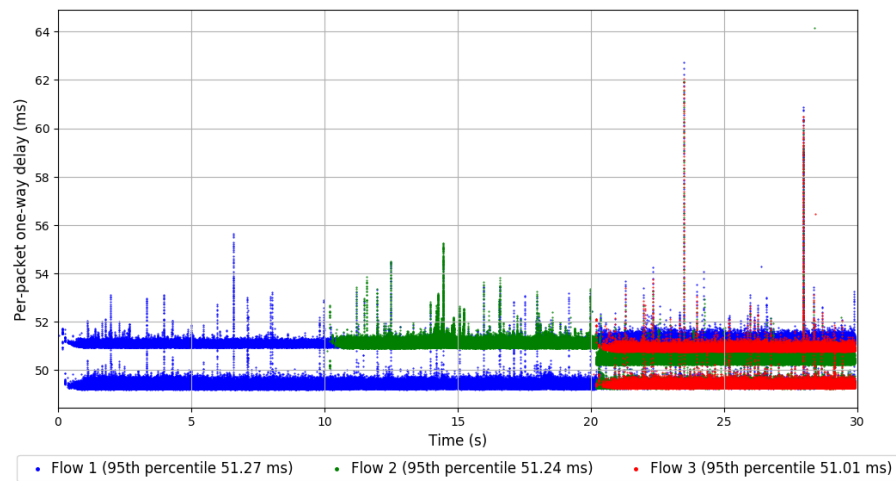
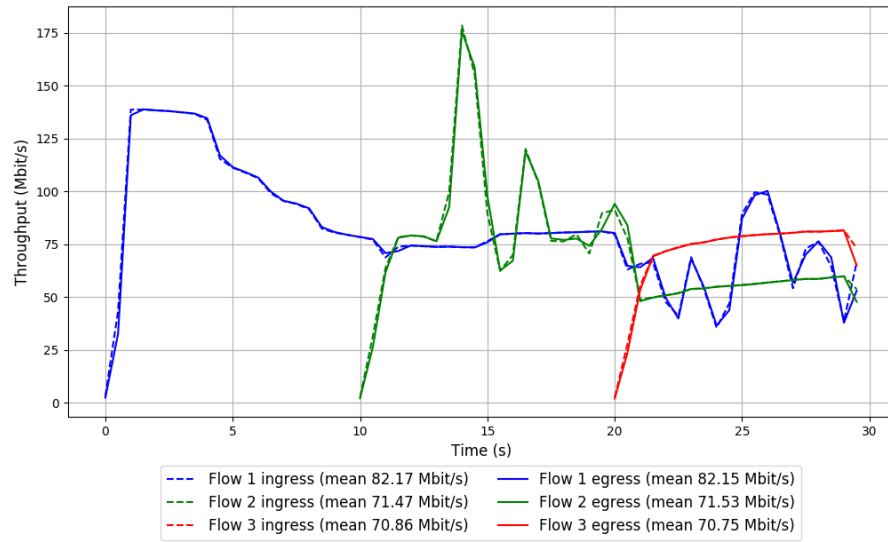
-- Flow 3:

Average throughput: 70.75 Mbit/s

95th percentile per-packet one-way delay: 51.011 ms

Loss rate: 1.16%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-04-18 11:23:59

End at: 2018-04-18 11:24:29

Below is generated by plot.py at 2018-04-18 16:51:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 138.66 Mbit/s

95th percentile per-packet one-way delay: 51.493 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 63.71 Mbit/s

95th percentile per-packet one-way delay: 51.556 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 77.03 Mbit/s

95th percentile per-packet one-way delay: 51.411 ms

Loss rate: 0.48%

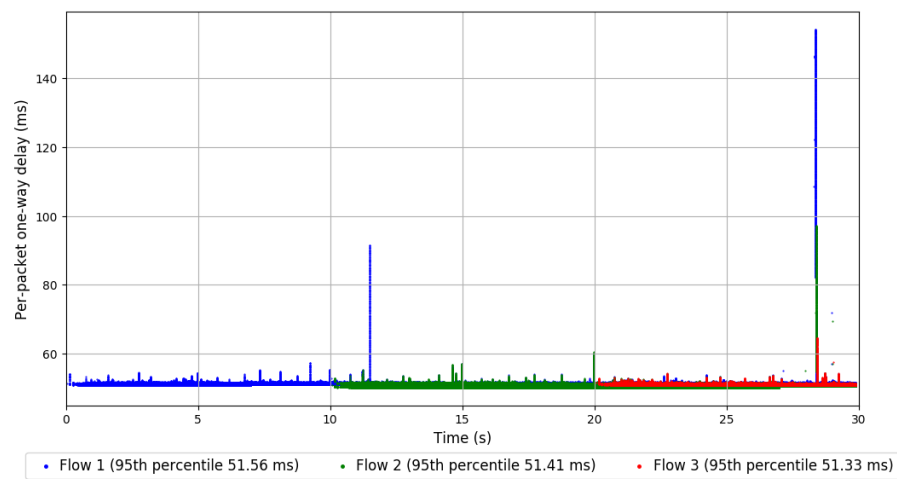
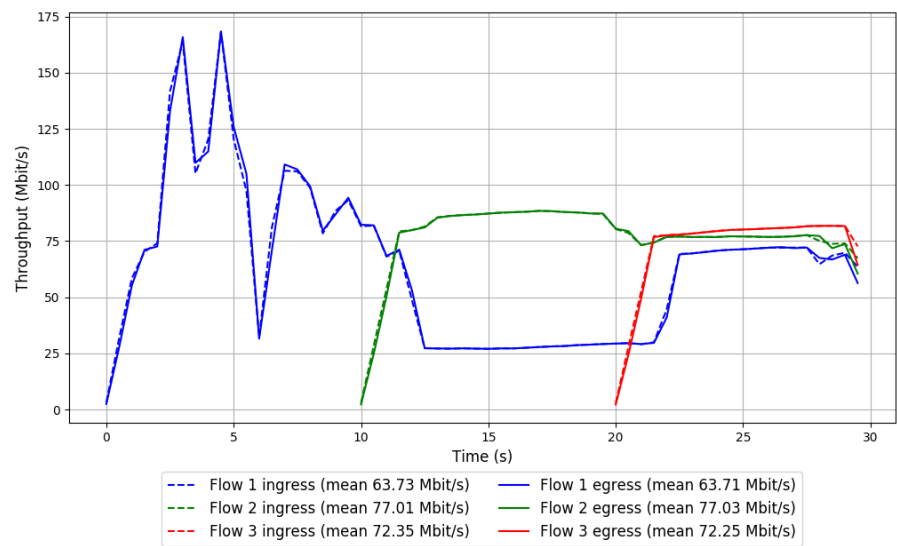
-- Flow 3:

Average throughput: 72.25 Mbit/s

95th percentile per-packet one-way delay: 51.332 ms

Loss rate: 1.16%

Run 5: Report of Copa — Data Link



Run 6: Statistics of Copa

Start at: 2018-04-18 11:39:45

End at: 2018-04-18 11:40:15

Below is generated by plot.py at 2018-04-18 16:52:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 141.68 Mbit/s

95th percentile per-packet one-way delay: 51.642 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 66.78 Mbit/s

95th percentile per-packet one-way delay: 51.627 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 79.54 Mbit/s

95th percentile per-packet one-way delay: 51.680 ms

Loss rate: 0.44%

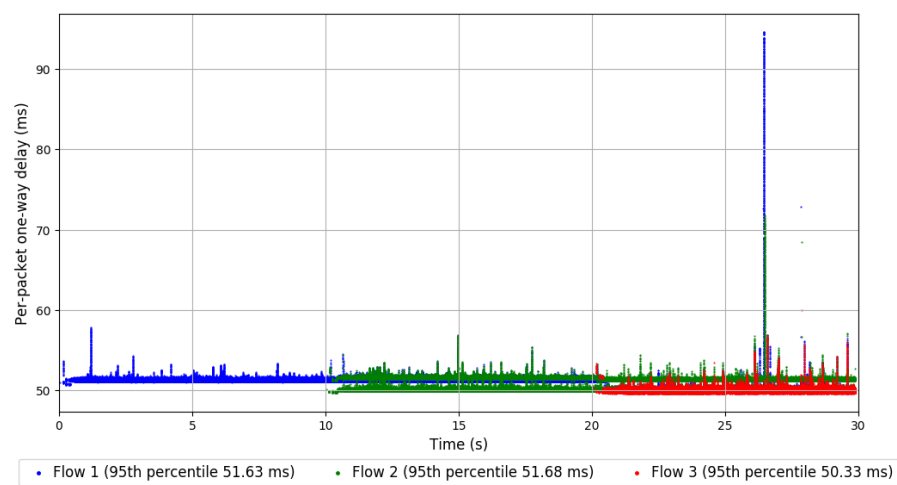
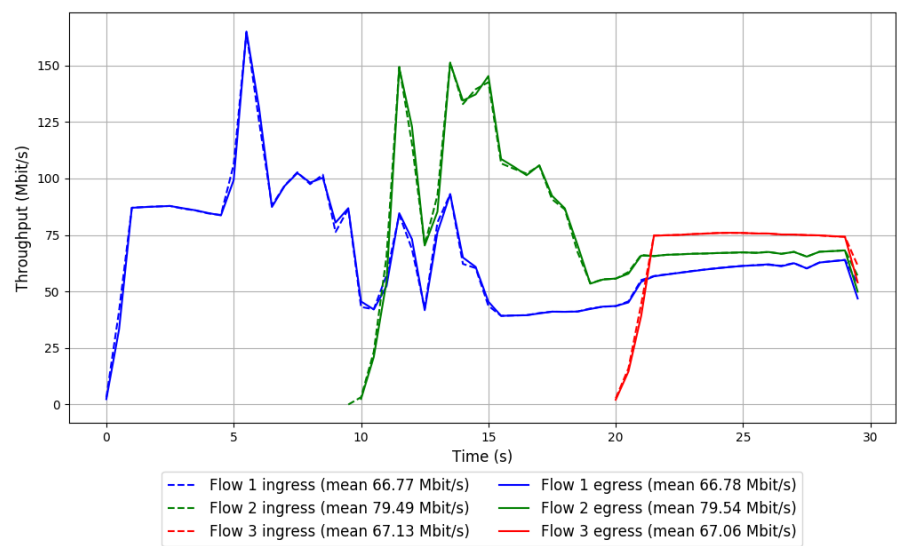
-- Flow 3:

Average throughput: 67.06 Mbit/s

95th percentile per-packet one-way delay: 50.329 ms

Loss rate: 1.12%

Run 6: Report of Copa — Data Link



Run 7: Statistics of Copa

Start at: 2018-04-18 11:55:36

End at: 2018-04-18 11:56:06

Below is generated by plot.py at 2018-04-18 16:53:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 128.04 Mbit/s

95th percentile per-packet one-way delay: 50.853 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 55.70 Mbit/s

95th percentile per-packet one-way delay: 50.887 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 72.20 Mbit/s

95th percentile per-packet one-way delay: 50.815 ms

Loss rate: 0.51%

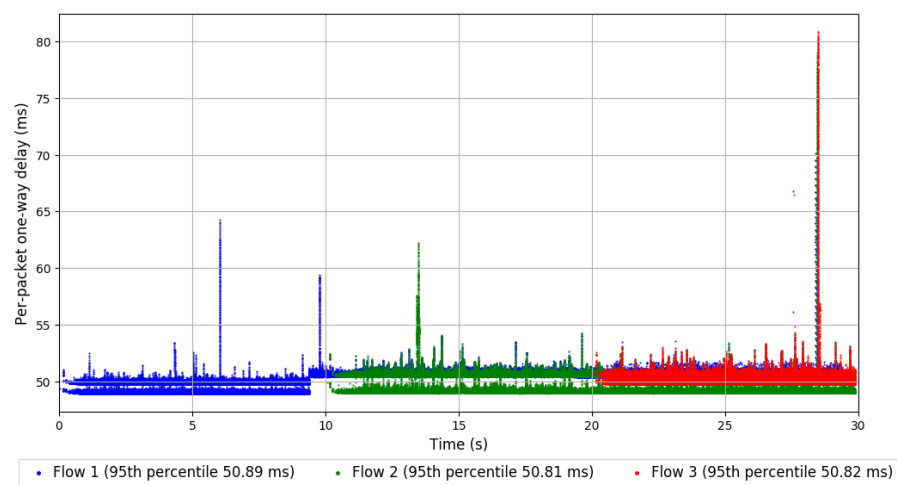
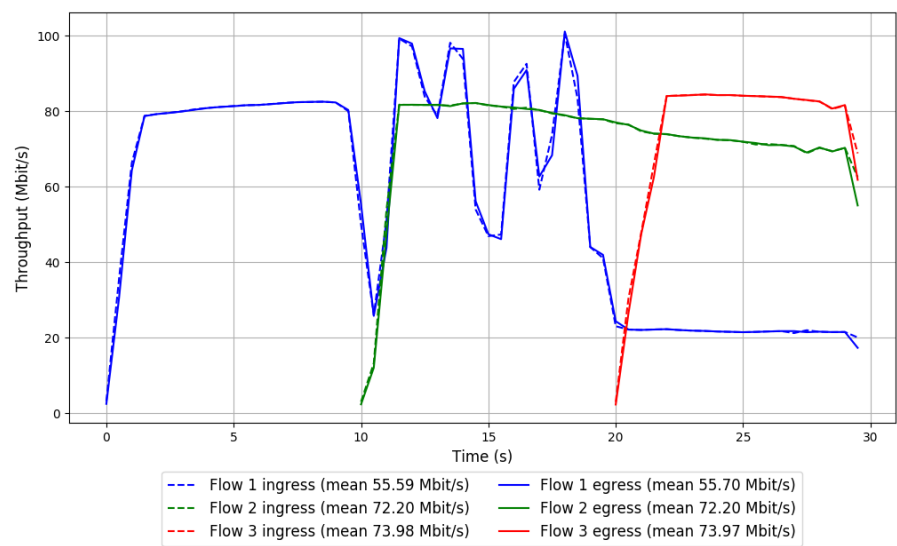
-- Flow 3:

Average throughput: 73.97 Mbit/s

95th percentile per-packet one-way delay: 50.824 ms

Loss rate: 1.03%

Run 7: Report of Copa — Data Link



Run 8: Statistics of Copa

Start at: 2018-04-18 12:11:15

End at: 2018-04-18 12:11:45

Below is generated by plot.py at 2018-04-18 16:53:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 145.69 Mbit/s

95th percentile per-packet one-way delay: 50.695 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 69.14 Mbit/s

95th percentile per-packet one-way delay: 50.811 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 70.08 Mbit/s

95th percentile per-packet one-way delay: 49.936 ms

Loss rate: 0.71%

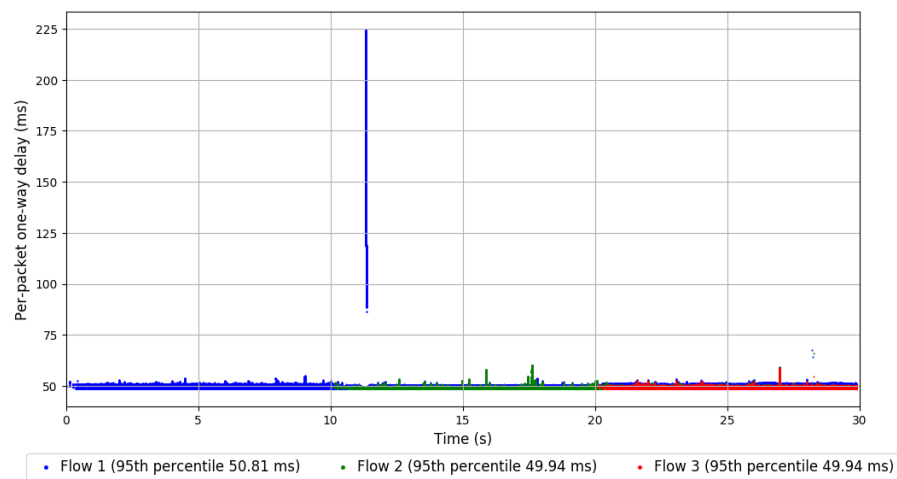
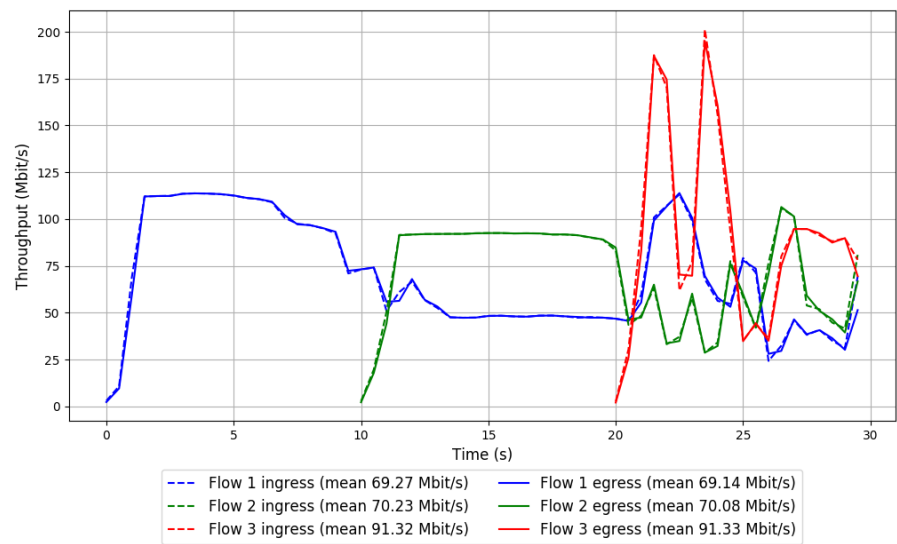
-- Flow 3:

Average throughput: 91.33 Mbit/s

95th percentile per-packet one-way delay: 49.940 ms

Loss rate: 0.97%

Run 8: Report of Copa — Data Link



Run 9: Statistics of Copa

Start at: 2018-04-18 12:27:11

End at: 2018-04-18 12:27:41

Below is generated by plot.py at 2018-04-18 16:53:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 136.19 Mbit/s

95th percentile per-packet one-way delay: 50.789 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 69.17 Mbit/s

95th percentile per-packet one-way delay: 50.773 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 76.41 Mbit/s

95th percentile per-packet one-way delay: 50.721 ms

Loss rate: 0.60%

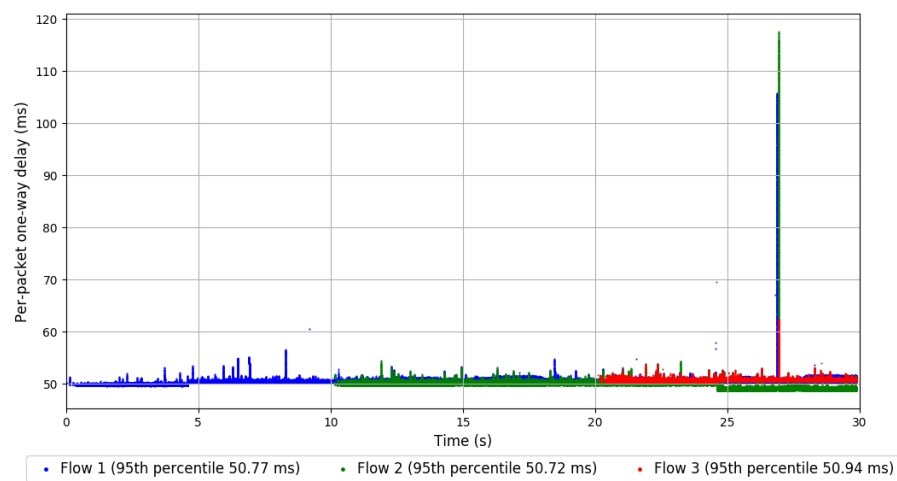
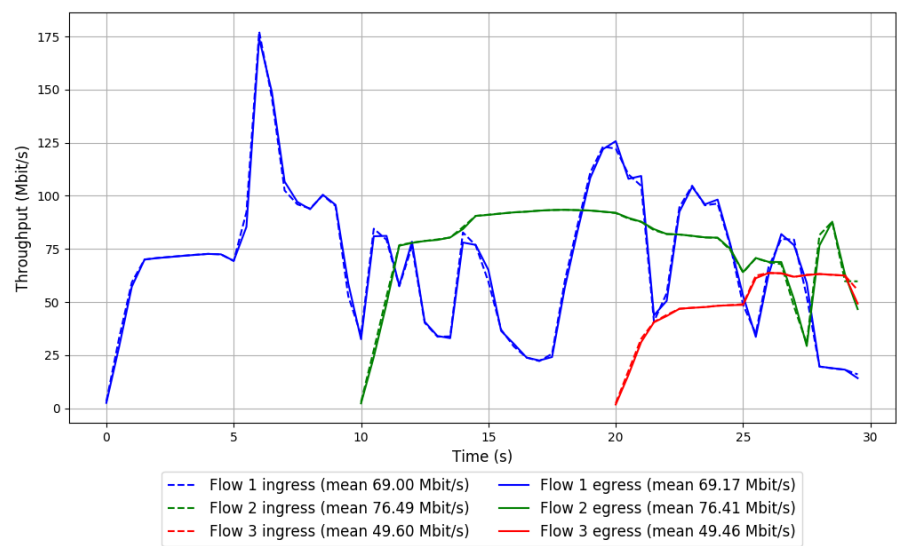
-- Flow 3:

Average throughput: 49.46 Mbit/s

95th percentile per-packet one-way delay: 50.937 ms

Loss rate: 1.30%

Run 9: Report of Copa — Data Link



Run 10: Statistics of Copa

Start at: 2018-04-18 12:43:02

End at: 2018-04-18 12:43:32

Below is generated by plot.py at 2018-04-18 16:53:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 126.56 Mbit/s

95th percentile per-packet one-way delay: 50.932 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 56.08 Mbit/s

95th percentile per-packet one-way delay: 50.846 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 66.95 Mbit/s

95th percentile per-packet one-way delay: 51.019 ms

Loss rate: 0.50%

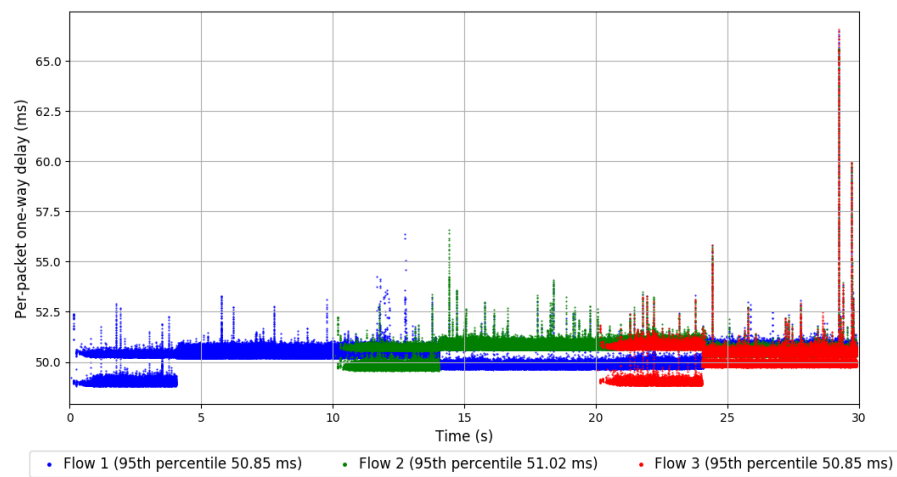
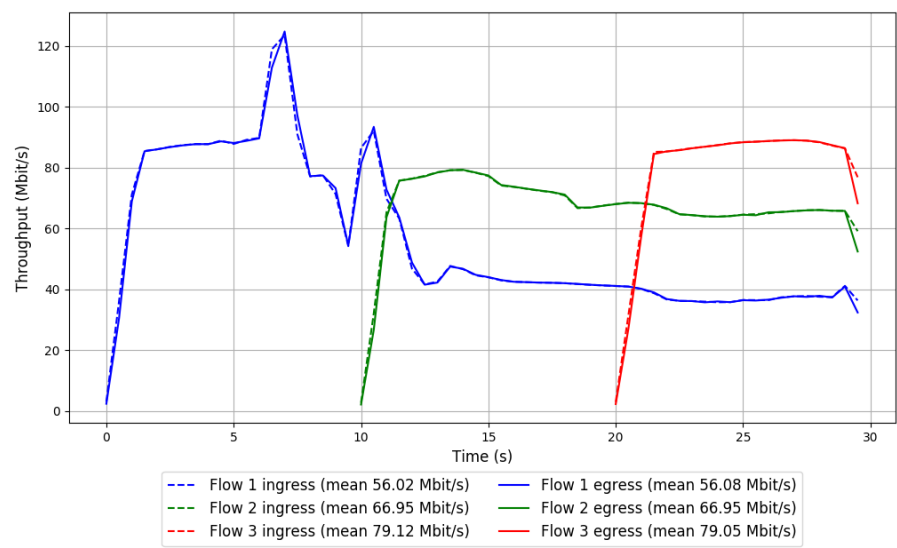
-- Flow 3:

Average throughput: 79.05 Mbit/s

95th percentile per-packet one-way delay: 50.848 ms

Loss rate: 1.10%

Run 10: Report of Copa — Data Link

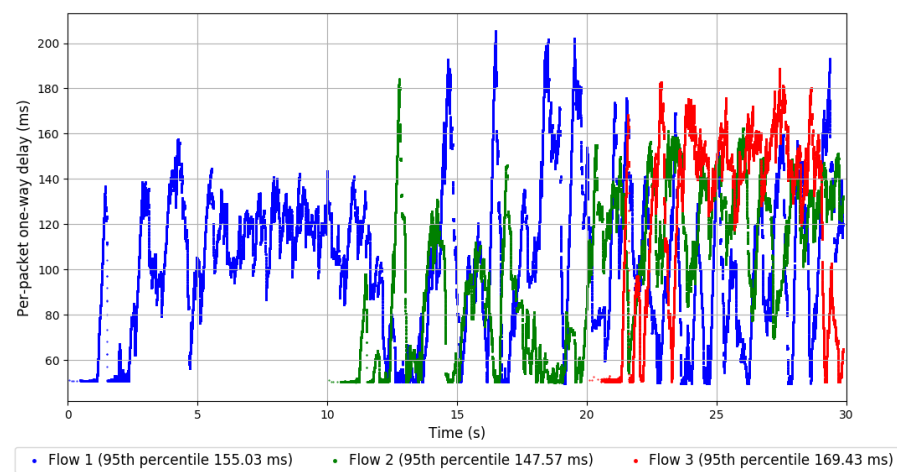
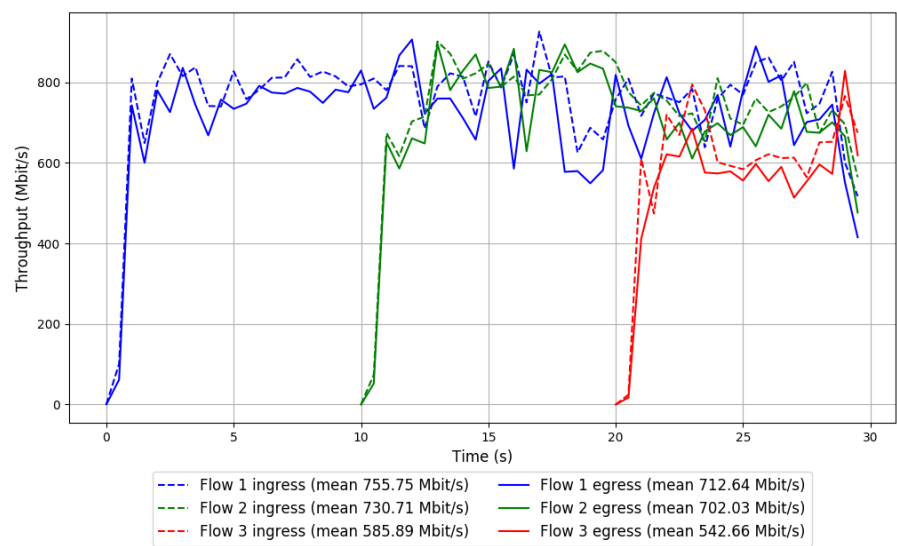


```
Run 1: Statistics of FillP

Start at: 2018-04-18 10:22:37
End at: 2018-04-18 10:23:07

# Below is generated by plot.py at 2018-04-18 17:16:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1356.55 Mbit/s
95th percentile per-packet one-way delay: 157.455 ms
Loss rate: 5.79%
-- Flow 1:
Average throughput: 712.64 Mbit/s
95th percentile per-packet one-way delay: 155.028 ms
Loss rate: 6.02%
-- Flow 2:
Average throughput: 702.03 Mbit/s
95th percentile per-packet one-way delay: 147.568 ms
Loss rate: 4.42%
-- Flow 3:
Average throughput: 542.66 Mbit/s
95th percentile per-packet one-way delay: 169.434 ms
Loss rate: 8.33%
```


Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-04-18 10:38:27

End at: 2018-04-18 10:38:57

Below is generated by plot.py at 2018-04-18 17:18:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 1344.25 Mbit/s

95th percentile per-packet one-way delay: 163.642 ms

Loss rate: 5.73%

-- Flow 1:

Average throughput: 681.50 Mbit/s

95th percentile per-packet one-way delay: 165.082 ms

Loss rate: 4.96%

-- Flow 2:

Average throughput: 660.22 Mbit/s

95th percentile per-packet one-way delay: 166.572 ms

Loss rate: 7.51%

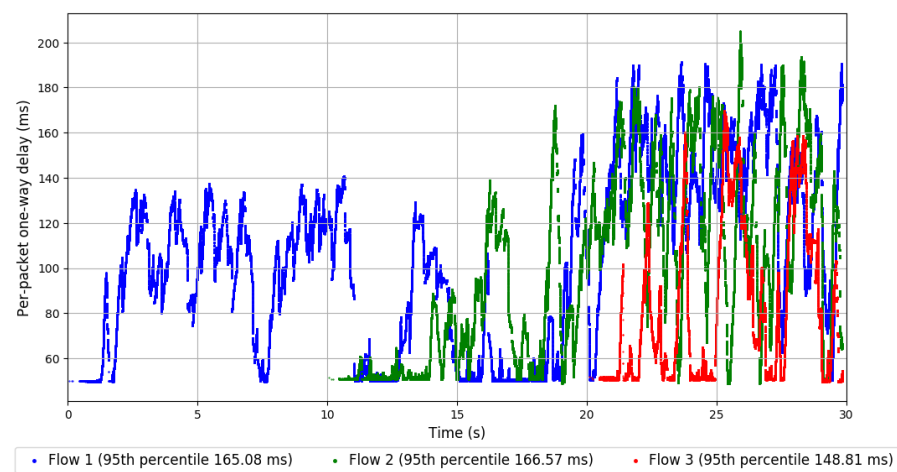
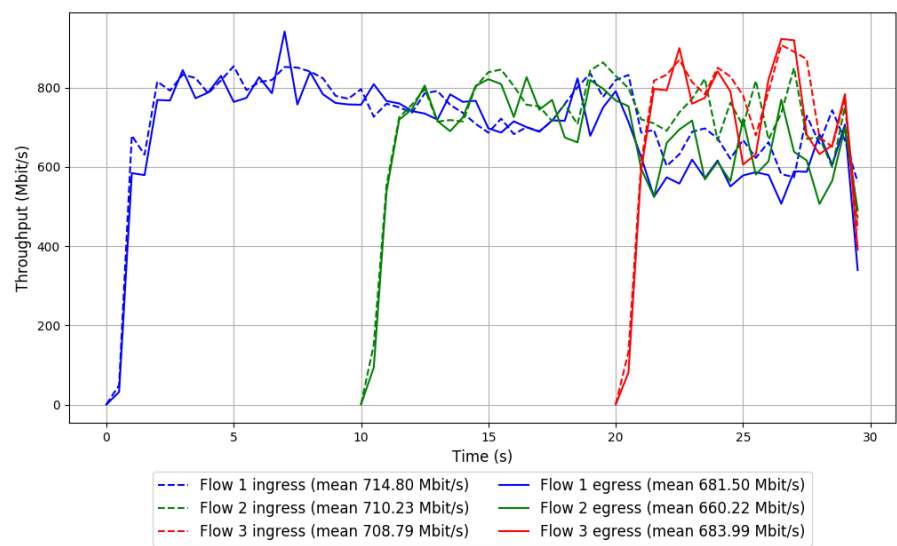
-- Flow 3:

Average throughput: 683.99 Mbit/s

95th percentile per-packet one-way delay: 148.812 ms

Loss rate: 4.50%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-04-18 10:54:24

End at: 2018-04-18 10:54:54

Below is generated by plot.py at 2018-04-18 17:18:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 1262.70 Mbit/s

95th percentile per-packet one-way delay: 178.265 ms

Loss rate: 7.85%

-- Flow 1:

Average throughput: 674.40 Mbit/s

95th percentile per-packet one-way delay: 178.031 ms

Loss rate: 6.91%

-- Flow 2:

Average throughput: 651.35 Mbit/s

95th percentile per-packet one-way delay: 158.572 ms

Loss rate: 5.35%

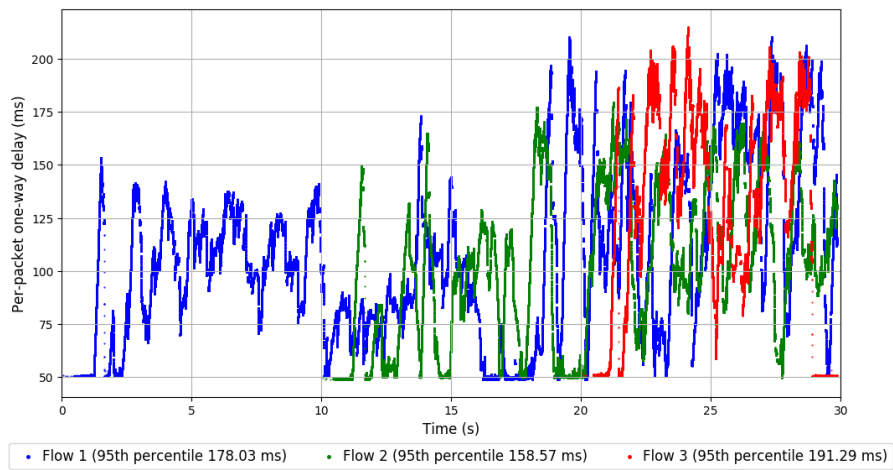
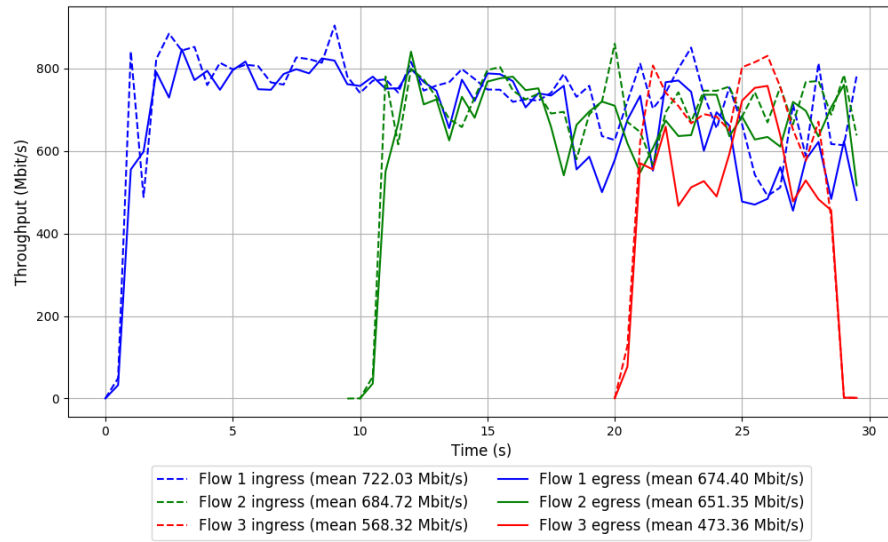
-- Flow 3:

Average throughput: 473.36 Mbit/s

95th percentile per-packet one-way delay: 191.295 ms

Loss rate: 17.54%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-04-18 11:10:13

End at: 2018-04-18 11:10:43

Below is generated by plot.py at 2018-04-18 17:18:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 1268.31 Mbit/s

95th percentile per-packet one-way delay: 272.043 ms

Loss rate: 6.28%

-- Flow 1:

Average throughput: 647.58 Mbit/s

95th percentile per-packet one-way delay: 279.509 ms

Loss rate: 5.66%

-- Flow 2:

Average throughput: 633.36 Mbit/s

95th percentile per-packet one-way delay: 276.073 ms

Loss rate: 5.28%

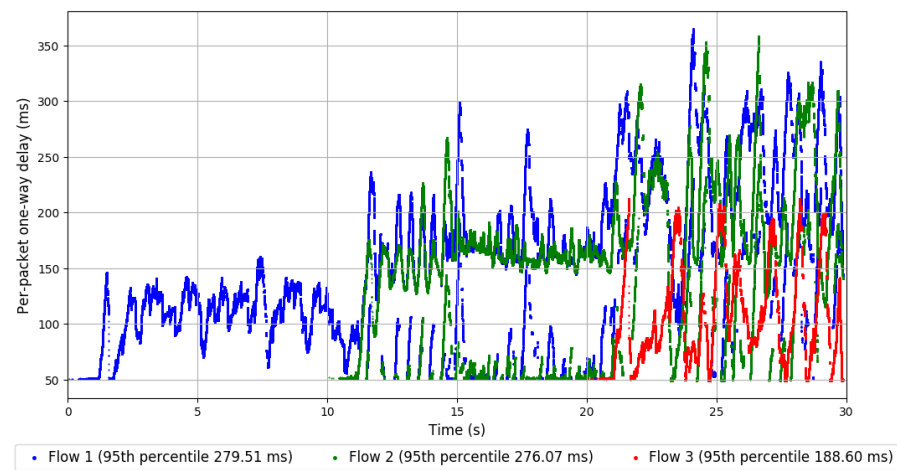
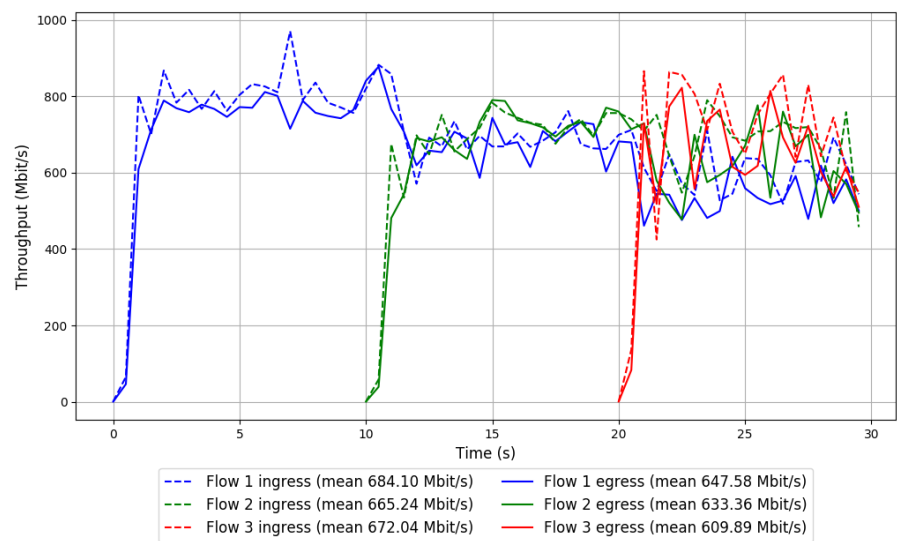
-- Flow 3:

Average throughput: 609.89 Mbit/s

95th percentile per-packet one-way delay: 188.601 ms

Loss rate: 10.18%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-04-18 11:26:09

End at: 2018-04-18 11:26:39

Below is generated by plot.py at 2018-04-18 17:18:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 1158.68 Mbit/s

95th percentile per-packet one-way delay: 163.148 ms

Loss rate: 6.77%

-- Flow 1:

Average throughput: 517.29 Mbit/s

95th percentile per-packet one-way delay: 159.387 ms

Loss rate: 4.78%

-- Flow 2:

Average throughput: 651.80 Mbit/s

95th percentile per-packet one-way delay: 164.225 ms

Loss rate: 7.68%

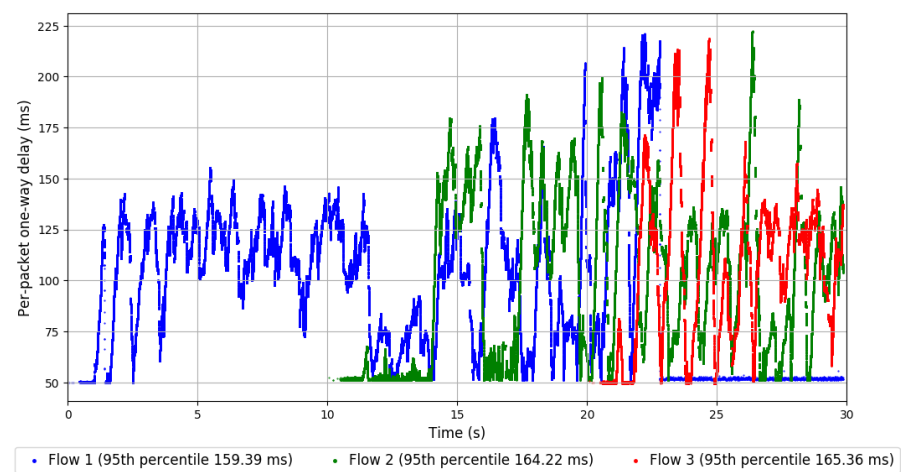
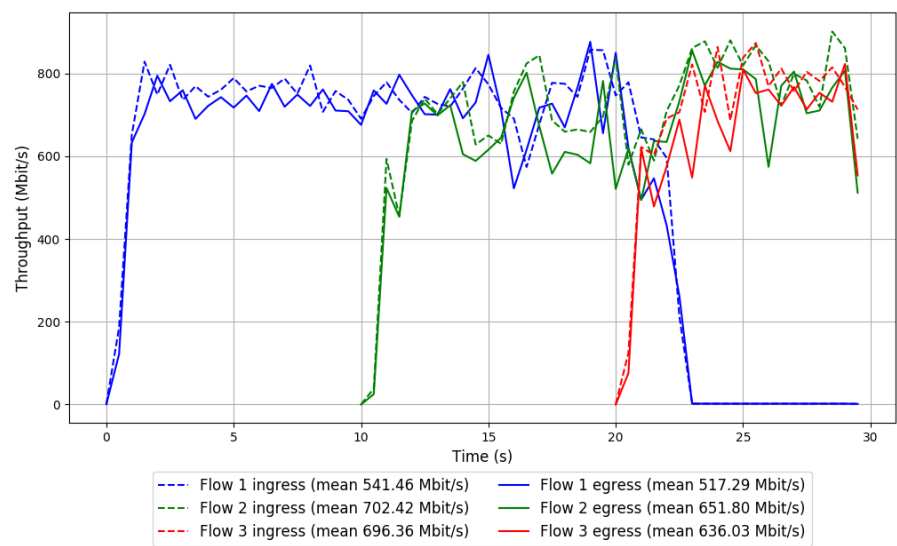
-- Flow 3:

Average throughput: 636.03 Mbit/s

95th percentile per-packet one-way delay: 165.358 ms

Loss rate: 9.59%

Run 5: Report of FillP — Data Link



Run 6: Statistics of FillP

Start at: 2018-04-18 11:41:56

End at: 2018-04-18 11:42:26

Below is generated by plot.py at 2018-04-18 17:18:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 1226.50 Mbit/s

95th percentile per-packet one-way delay: 170.800 ms

Loss rate: 7.94%

-- Flow 1:

Average throughput: 637.21 Mbit/s

95th percentile per-packet one-way delay: 167.260 ms

Loss rate: 6.91%

-- Flow 2:

Average throughput: 602.61 Mbit/s

95th percentile per-packet one-way delay: 175.342 ms

Loss rate: 9.41%

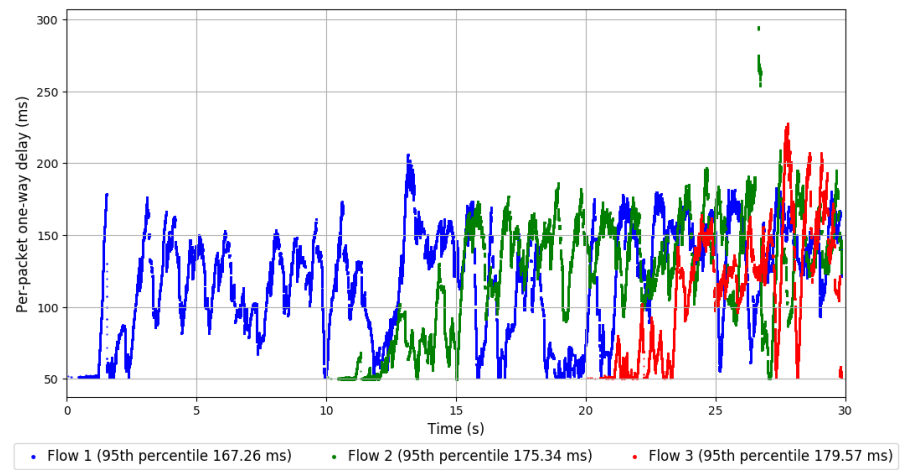
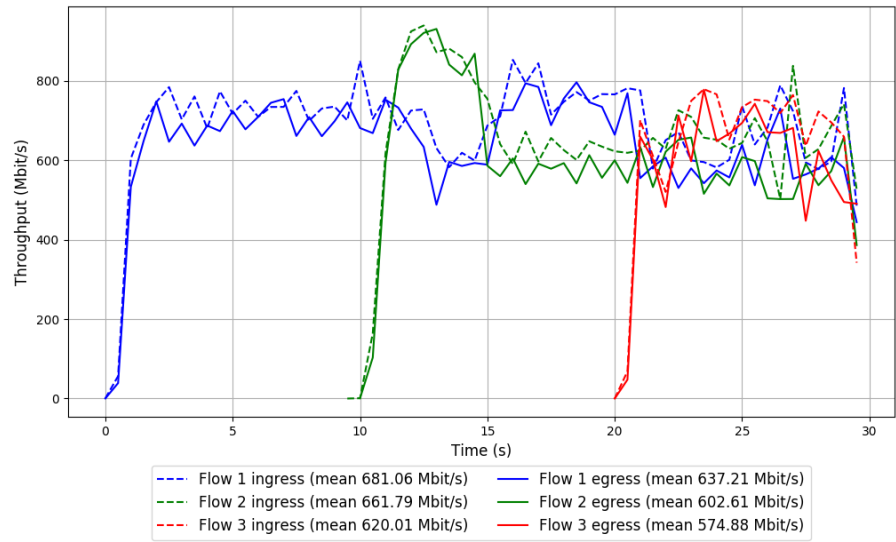
-- Flow 3:

Average throughput: 574.88 Mbit/s

95th percentile per-packet one-way delay: 179.573 ms

Loss rate: 8.23%

Run 6: Report of FillP — Data Link



Run 7: Statistics of FillP

Start at: 2018-04-18 11:57:35

End at: 2018-04-18 11:58:05

Below is generated by plot.py at 2018-04-18 17:19:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 1247.92 Mbit/s

95th percentile per-packet one-way delay: 248.503 ms

Loss rate: 5.56%

-- Flow 1:

Average throughput: 669.93 Mbit/s

95th percentile per-packet one-way delay: 234.412 ms

Loss rate: 3.97%

-- Flow 2:

Average throughput: 608.86 Mbit/s

95th percentile per-packet one-way delay: 165.001 ms

Loss rate: 5.50%

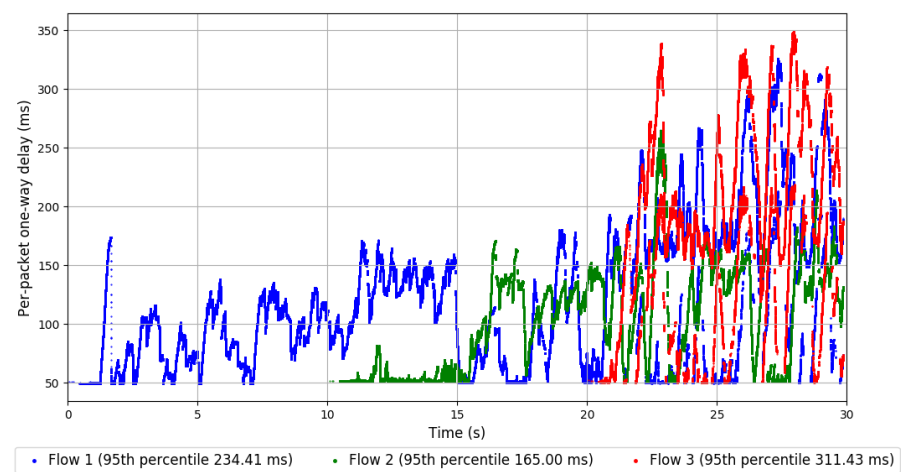
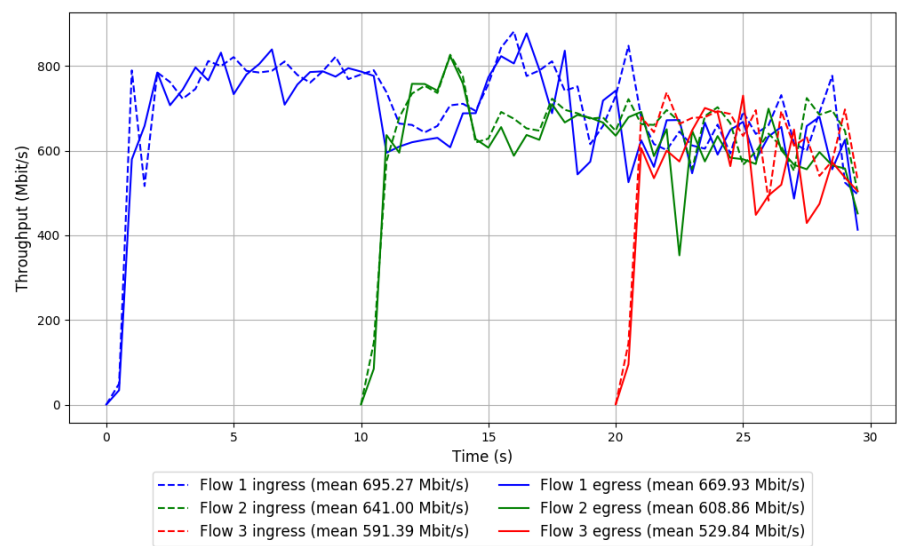
-- Flow 3:

Average throughput: 529.84 Mbit/s

95th percentile per-packet one-way delay: 311.430 ms

Loss rate: 11.34%

Run 7: Report of FillP — Data Link



Run 8: Statistics of FillP

Start at: 2018-04-18 12:13:27

End at: 2018-04-18 12:13:57

Below is generated by plot.py at 2018-04-18 17:19:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 1239.77 Mbit/s

95th percentile per-packet one-way delay: 272.681 ms

Loss rate: 7.28%

-- Flow 1:

Average throughput: 643.85 Mbit/s

95th percentile per-packet one-way delay: 274.404 ms

Loss rate: 5.59%

-- Flow 2:

Average throughput: 618.90 Mbit/s

95th percentile per-packet one-way delay: 281.391 ms

Loss rate: 7.20%

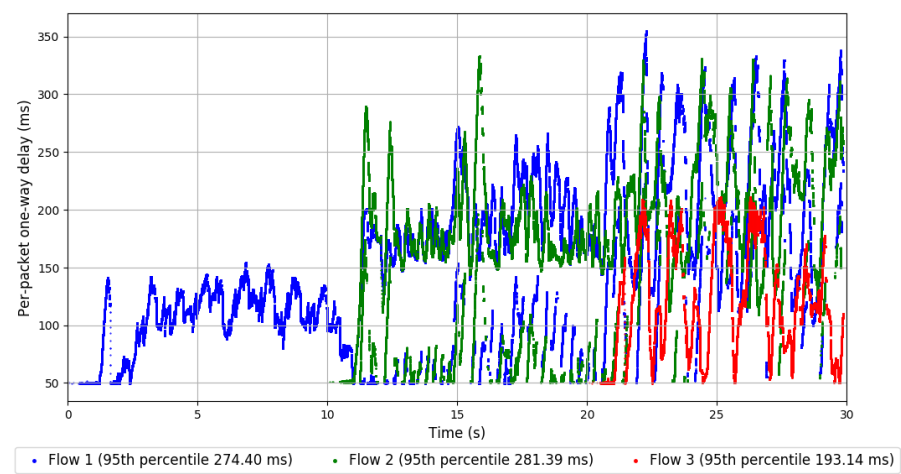
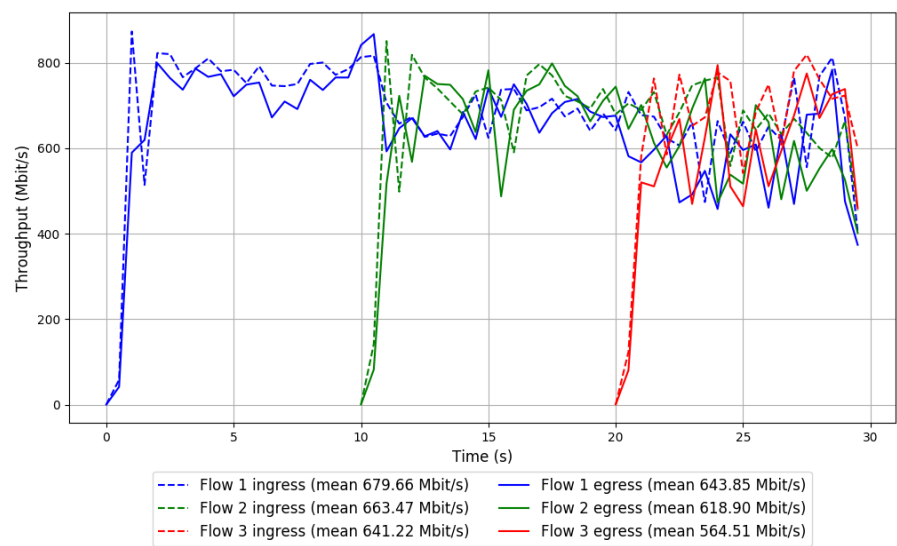
-- Flow 3:

Average throughput: 564.51 Mbit/s

95th percentile per-packet one-way delay: 193.143 ms

Loss rate: 12.89%

Run 8: Report of FillP — Data Link



Run 9: Statistics of FillP

Start at: 2018-04-18 12:29:16

End at: 2018-04-18 12:29:46

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 1286.40 Mbit/s

95th percentile per-packet one-way delay: 173.664 ms

Loss rate: 8.92%

-- Flow 1:

Average throughput: 669.67 Mbit/s

95th percentile per-packet one-way delay: 175.609 ms

Loss rate: 8.43%

-- Flow 2:

Average throughput: 657.73 Mbit/s

95th percentile per-packet one-way delay: 161.495 ms

Loss rate: 6.88%

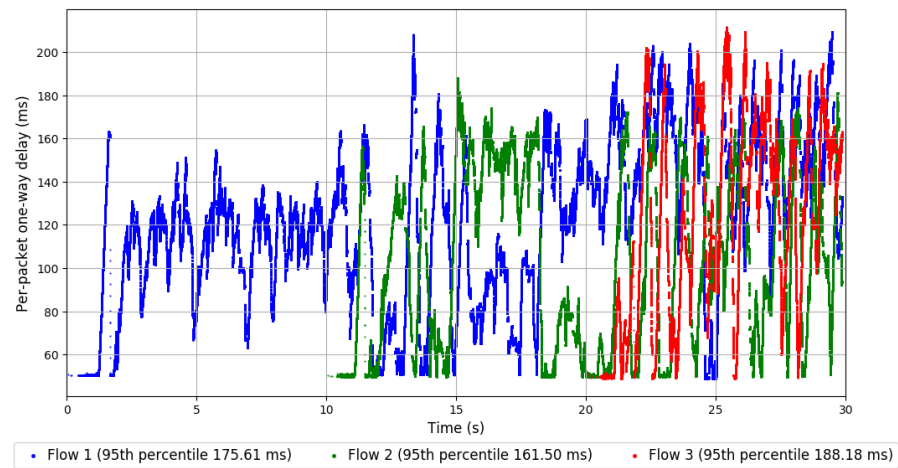
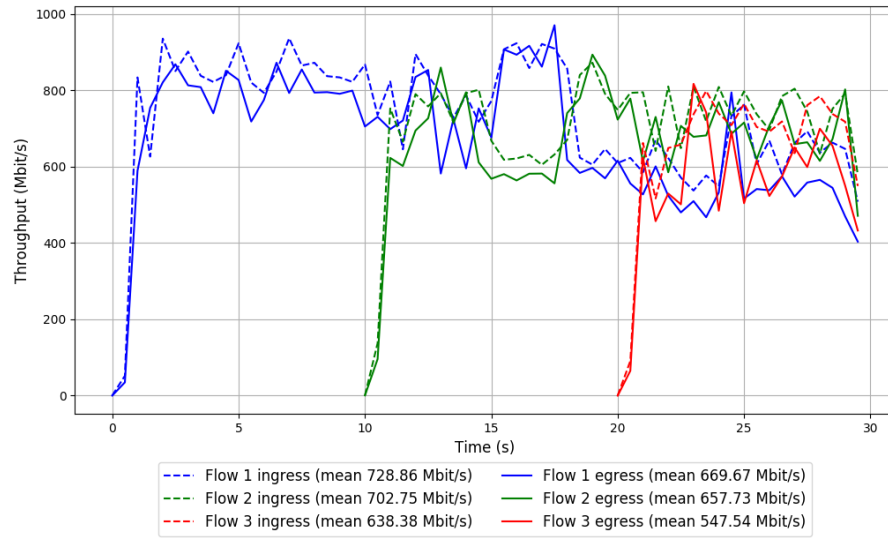
-- Flow 3:

Average throughput: 547.54 Mbit/s

95th percentile per-packet one-way delay: 188.178 ms

Loss rate: 15.11%

Run 9: Report of FillP — Data Link



Run 10: Statistics of FillP

Start at: 2018-04-18 12:45:09

End at: 2018-04-18 12:45:39

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 1169.04 Mbit/s

95th percentile per-packet one-way delay: 216.877 ms

Loss rate: 5.03%

-- Flow 1:

Average throughput: 713.68 Mbit/s

95th percentile per-packet one-way delay: 196.108 ms

Loss rate: 2.94%

-- Flow 2:

Average throughput: 380.12 Mbit/s

95th percentile per-packet one-way delay: 254.098 ms

Loss rate: 2.73%

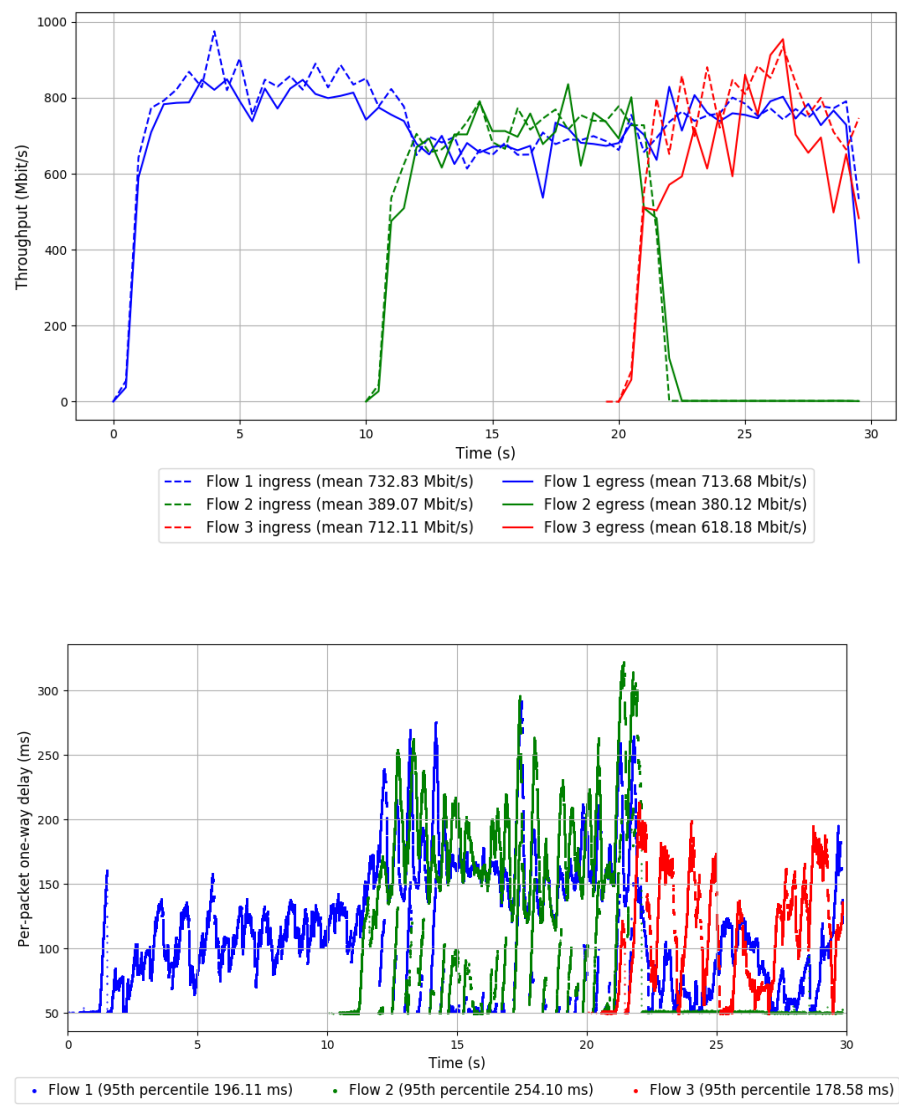
-- Flow 3:

Average throughput: 618.18 Mbit/s

95th percentile per-packet one-way delay: 178.582 ms

Loss rate: 14.09%

Run 10: Report of FillP — Data Link

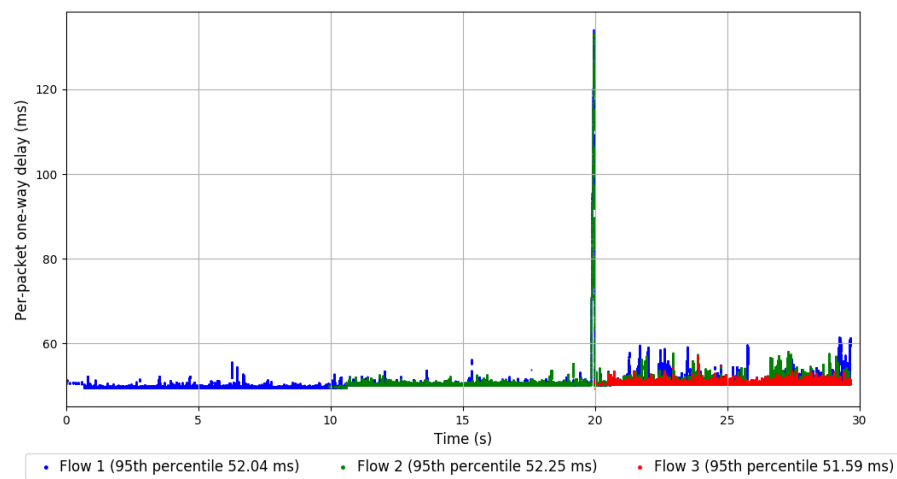
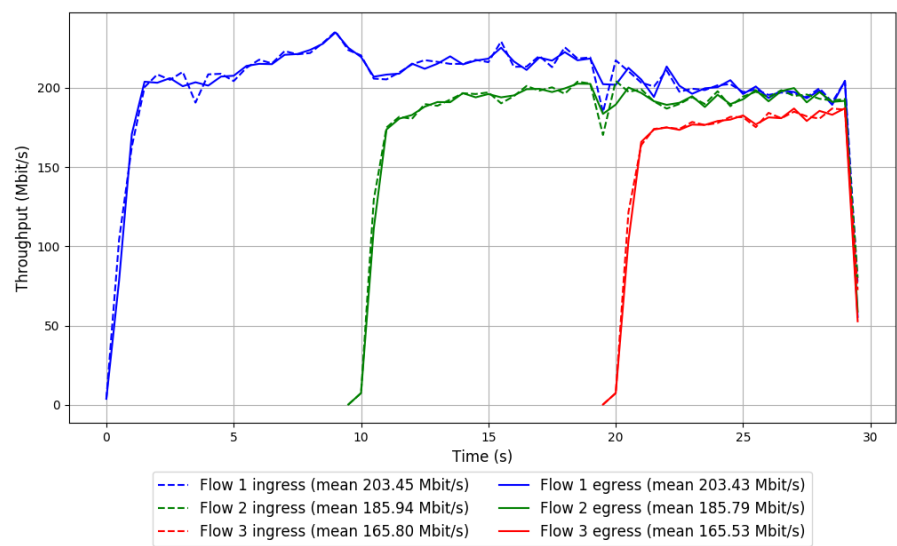


```
Run 1: Statistics of Indigo-1-32

Start at: 2018-04-18 10:28:55
End at: 2018-04-18 10:29:25

# Below is generated by plot.py at 2018-04-18 17:43:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.22 Mbit/s
95th percentile per-packet one-way delay: 51.988 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 203.43 Mbit/s
95th percentile per-packet one-way delay: 52.039 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 185.79 Mbit/s
95th percentile per-packet one-way delay: 52.248 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 165.53 Mbit/s
95th percentile per-packet one-way delay: 51.589 ms
Loss rate: 1.17%
```

Run 1: Report of Indigo-1-32 — Data Link

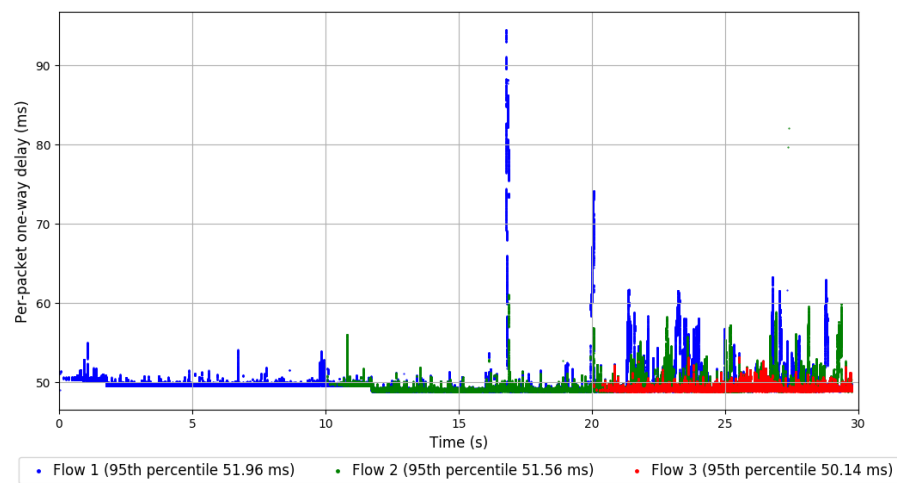
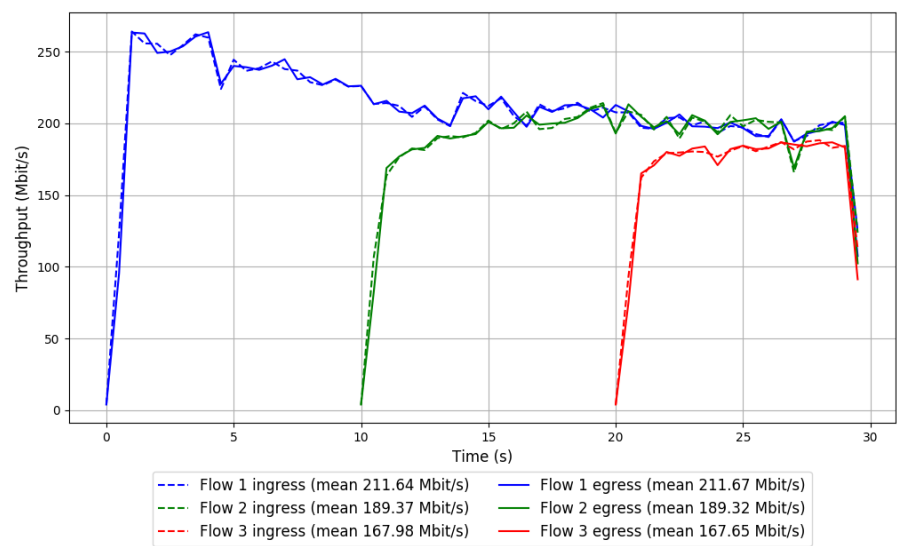


```
Run 2: Statistics of Indigo-1-32

Start at: 2018-04-18 10:44:44
End at: 2018-04-18 10:45:14

# Below is generated by plot.py at 2018-04-18 17:43:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 391.76 Mbit/s
95th percentile per-packet one-way delay: 51.415 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 211.67 Mbit/s
95th percentile per-packet one-way delay: 51.959 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 189.32 Mbit/s
95th percentile per-packet one-way delay: 51.563 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 167.65 Mbit/s
95th percentile per-packet one-way delay: 50.140 ms
Loss rate: 1.19%
```

Run 2: Report of Indigo-1-32 — Data Link



Run 3: Statistics of Indigo-1-32

Start at: 2018-04-18 11:00:39

End at: 2018-04-18 11:01:09

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 378.62 Mbit/s

95th percentile per-packet one-way delay: 54.213 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 202.10 Mbit/s

95th percentile per-packet one-way delay: 54.160 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 185.28 Mbit/s

95th percentile per-packet one-way delay: 55.308 ms

Loss rate: 0.57%

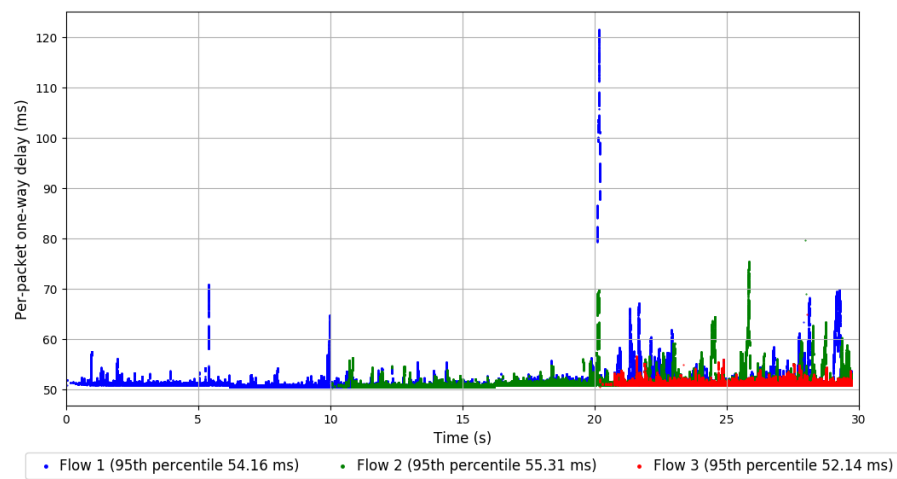
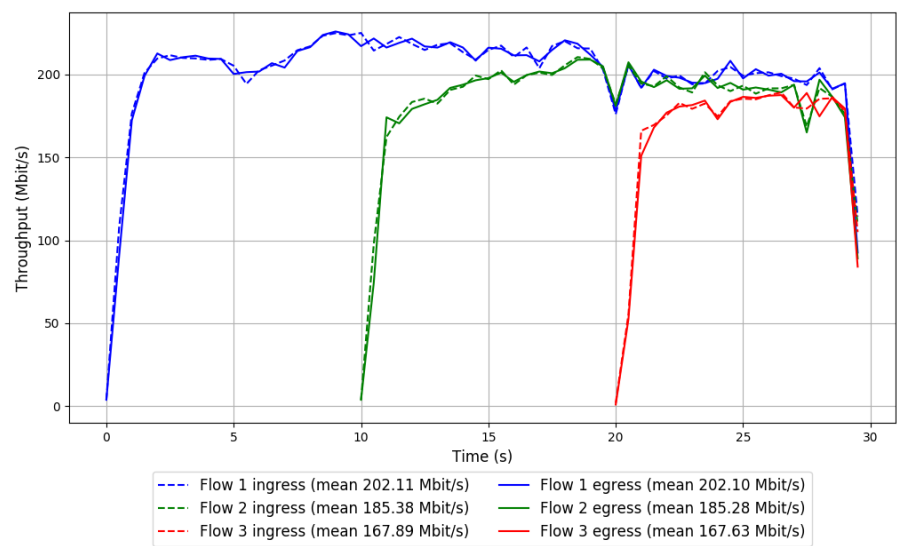
-- Flow 3:

Average throughput: 167.63 Mbit/s

95th percentile per-packet one-way delay: 52.138 ms

Loss rate: 1.21%

Run 3: Report of Indigo-1-32 — Data Link



Run 4: Statistics of Indigo-1-32

Start at: 2018-04-18 11:16:31

End at: 2018-04-18 11:17:01

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 375.97 Mbit/s

95th percentile per-packet one-way delay: 58.857 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 198.94 Mbit/s

95th percentile per-packet one-way delay: 55.570 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 183.18 Mbit/s

95th percentile per-packet one-way delay: 65.044 ms

Loss rate: 0.55%

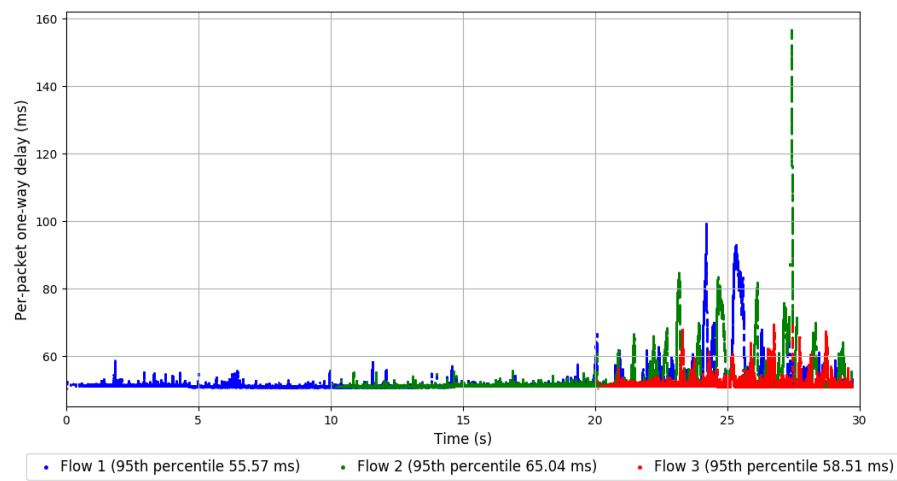
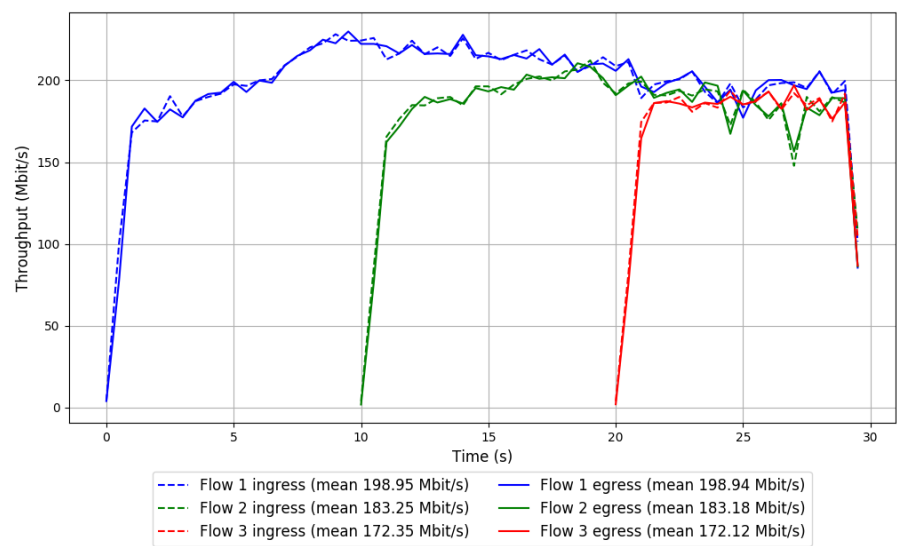
-- Flow 3:

Average throughput: 172.12 Mbit/s

95th percentile per-packet one-way delay: 58.508 ms

Loss rate: 1.19%

Run 4: Report of Indigo-1-32 — Data Link



Run 5: Statistics of Indigo-1-32

Start at: 2018-04-18 11:32:20

End at: 2018-04-18 11:32:50

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 368.78 Mbit/s

95th percentile per-packet one-way delay: 59.822 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 195.51 Mbit/s

95th percentile per-packet one-way delay: 60.712 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 179.43 Mbit/s

95th percentile per-packet one-way delay: 58.337 ms

Loss rate: 0.55%

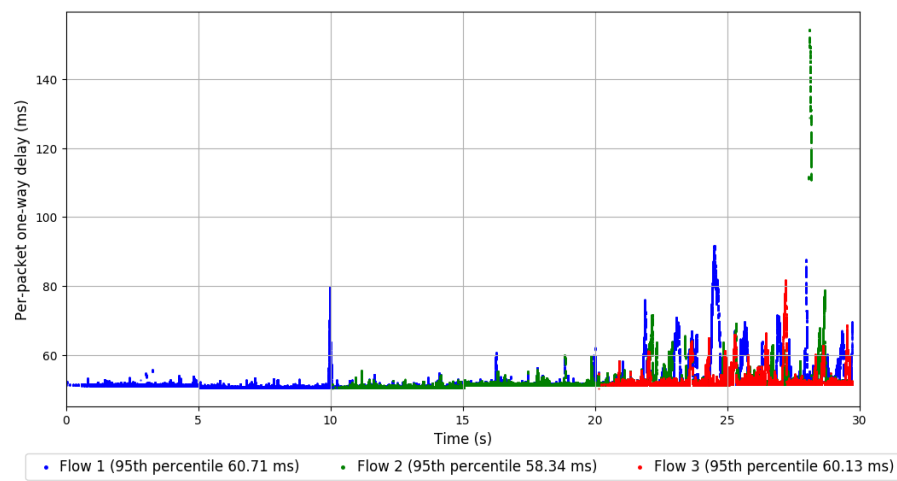
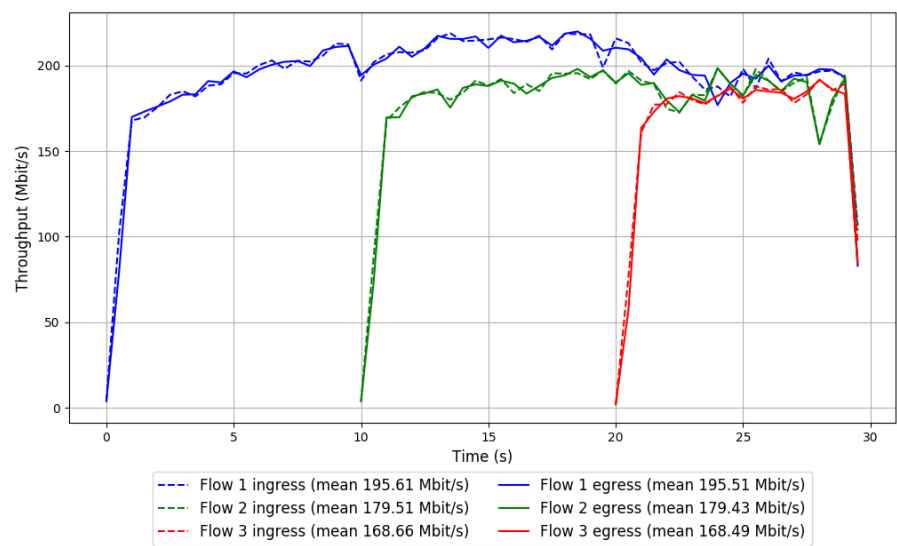
-- Flow 3:

Average throughput: 168.49 Mbit/s

95th percentile per-packet one-way delay: 60.128 ms

Loss rate: 1.12%

Run 5: Report of Indigo-1-32 — Data Link



Run 6: Statistics of Indigo-1-32

Start at: 2018-04-18 11:48:11

End at: 2018-04-18 11:48:41

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 376.41 Mbit/s

95th percentile per-packet one-way delay: 54.558 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 197.55 Mbit/s

95th percentile per-packet one-way delay: 55.159 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 184.86 Mbit/s

95th percentile per-packet one-way delay: 54.773 ms

Loss rate: 0.57%

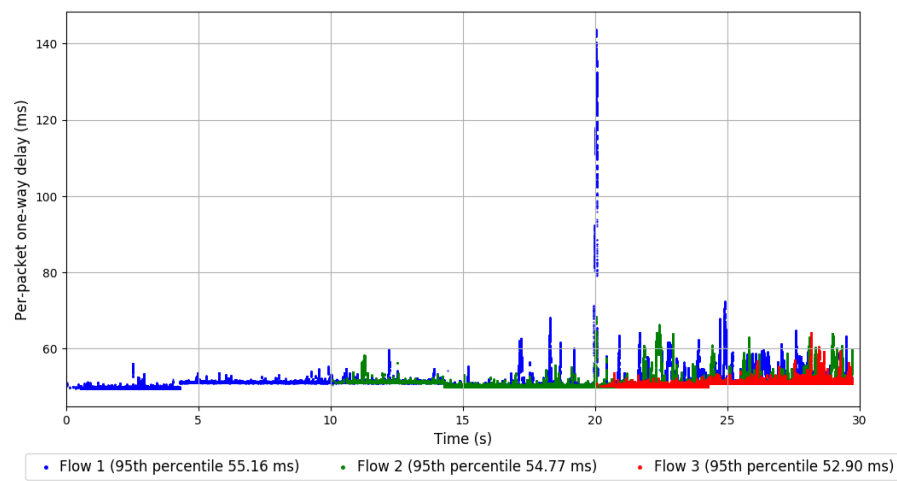
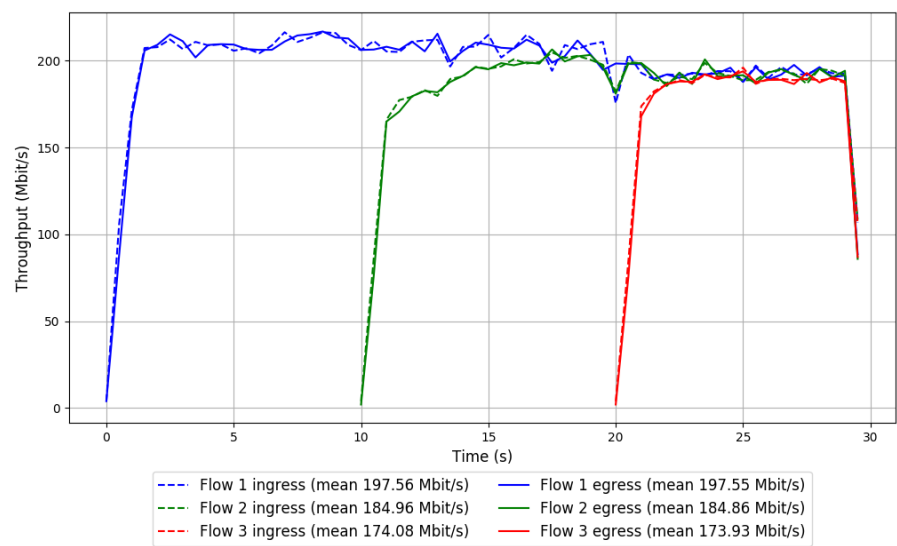
-- Flow 3:

Average throughput: 173.93 Mbit/s

95th percentile per-packet one-way delay: 52.895 ms

Loss rate: 1.12%

Run 6: Report of Indigo-1-32 — Data Link



Run 7: Statistics of Indigo-1-32

Start at: 2018-04-18 12:03:53

End at: 2018-04-18 12:04:23

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 385.95 Mbit/s

95th percentile per-packet one-way delay: 55.320 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 208.74 Mbit/s

95th percentile per-packet one-way delay: 54.452 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 185.47 Mbit/s

95th percentile per-packet one-way delay: 58.350 ms

Loss rate: 0.55%

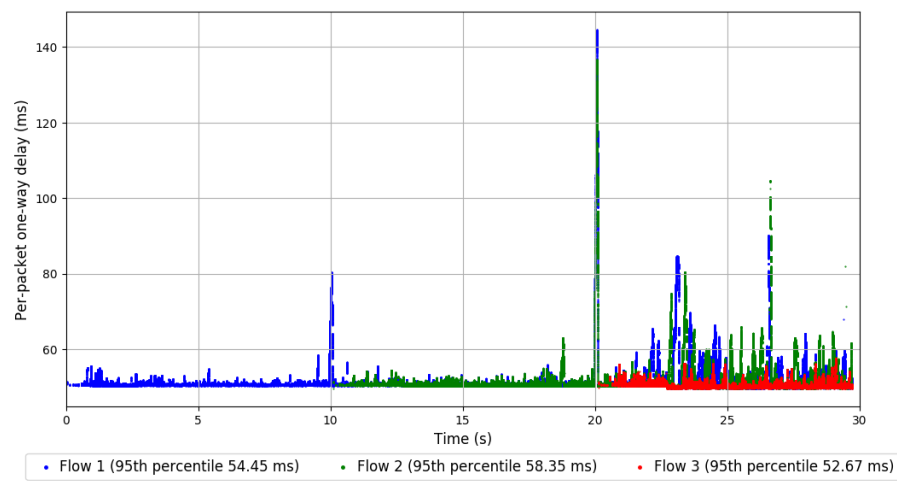
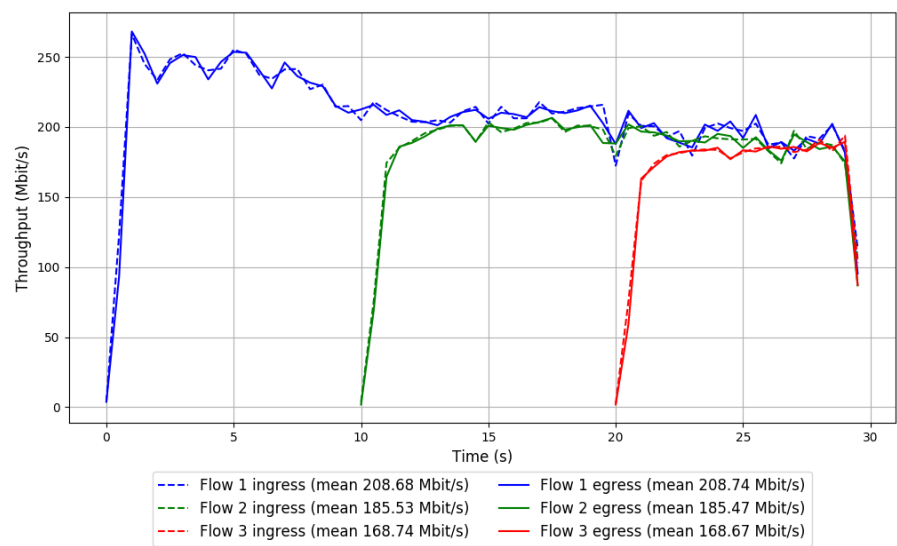
-- Flow 3:

Average throughput: 168.67 Mbit/s

95th percentile per-packet one-way delay: 52.673 ms

Loss rate: 1.13%

Run 7: Report of Indigo-1-32 — Data Link



Run 8: Statistics of Indigo-1-32

Start at: 2018-04-18 12:19:44

End at: 2018-04-18 12:20:14

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 383.81 Mbit/s

95th percentile per-packet one-way delay: 56.917 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 206.98 Mbit/s

95th percentile per-packet one-way delay: 57.035 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 184.82 Mbit/s

95th percentile per-packet one-way delay: 58.346 ms

Loss rate: 0.50%

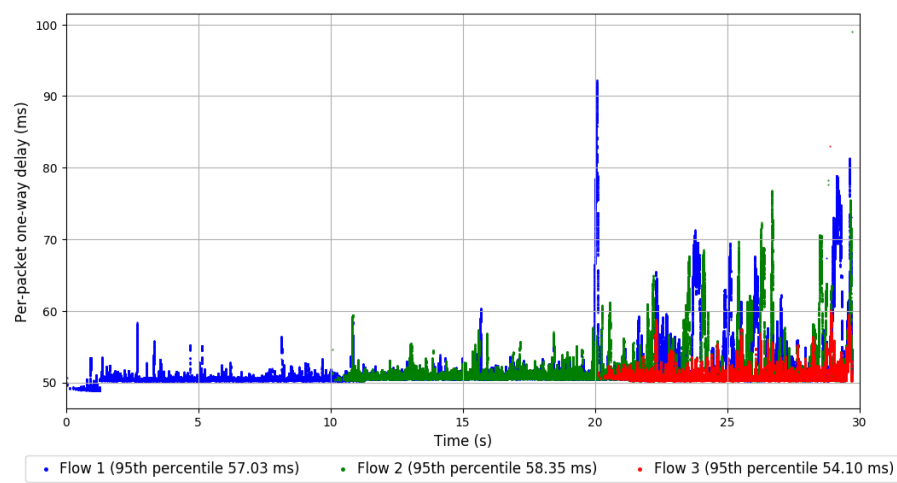
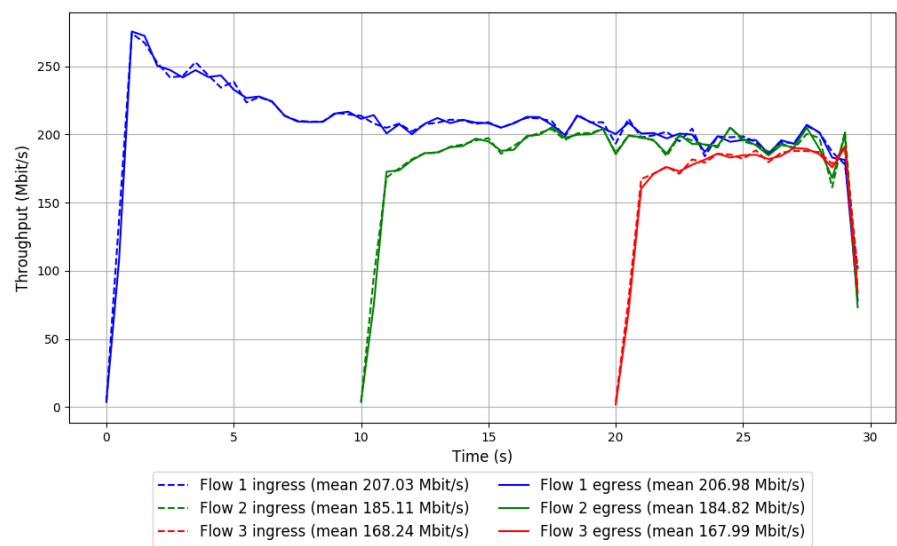
-- Flow 3:

Average throughput: 167.99 Mbit/s

95th percentile per-packet one-way delay: 54.097 ms

Loss rate: 1.19%

Run 8: Report of Indigo-1-32 — Data Link



Run 9: Statistics of Indigo-1-32

Start at: 2018-04-18 12:35:32

End at: 2018-04-18 12:36:02

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 381.90 Mbit/s

95th percentile per-packet one-way delay: 57.245 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 203.05 Mbit/s

95th percentile per-packet one-way delay: 56.517 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 183.81 Mbit/s

95th percentile per-packet one-way delay: 57.864 ms

Loss rate: 0.52%

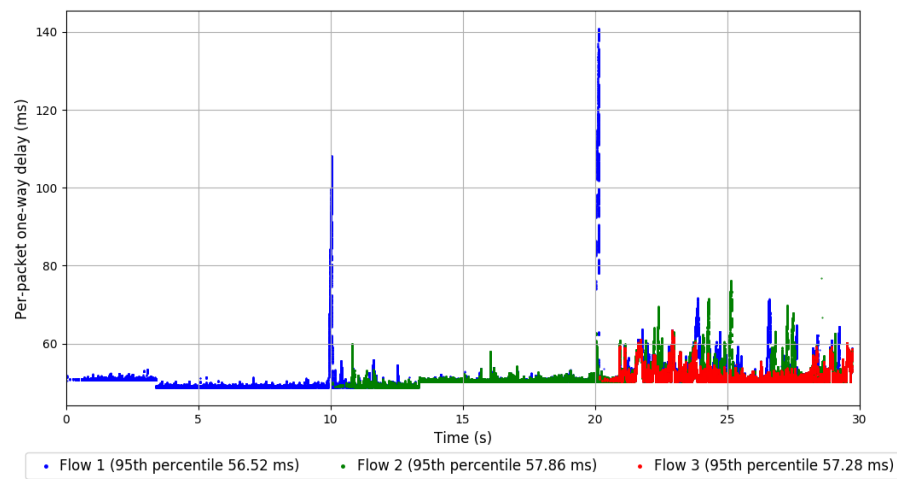
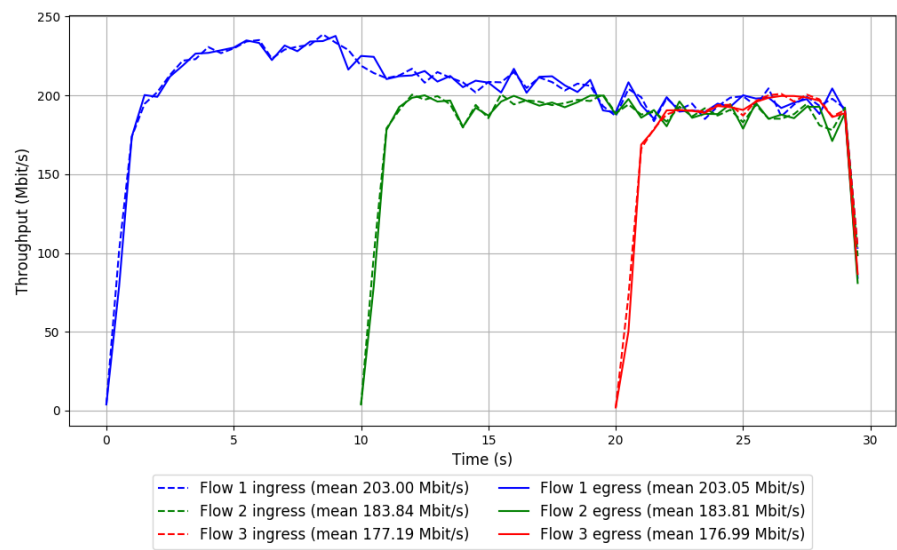
-- Flow 3:

Average throughput: 176.99 Mbit/s

95th percentile per-packet one-way delay: 57.277 ms

Loss rate: 1.16%

Run 9: Report of Indigo-1-32 — Data Link



Run 10: Statistics of Indigo-1-32

Start at: 2018-04-18 12:51:22

End at: 2018-04-18 12:51:52

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 383.66 Mbit/s

95th percentile per-packet one-way delay: 53.881 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 203.86 Mbit/s

95th percentile per-packet one-way delay: 53.353 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 189.13 Mbit/s

95th percentile per-packet one-way delay: 54.517 ms

Loss rate: 0.55%

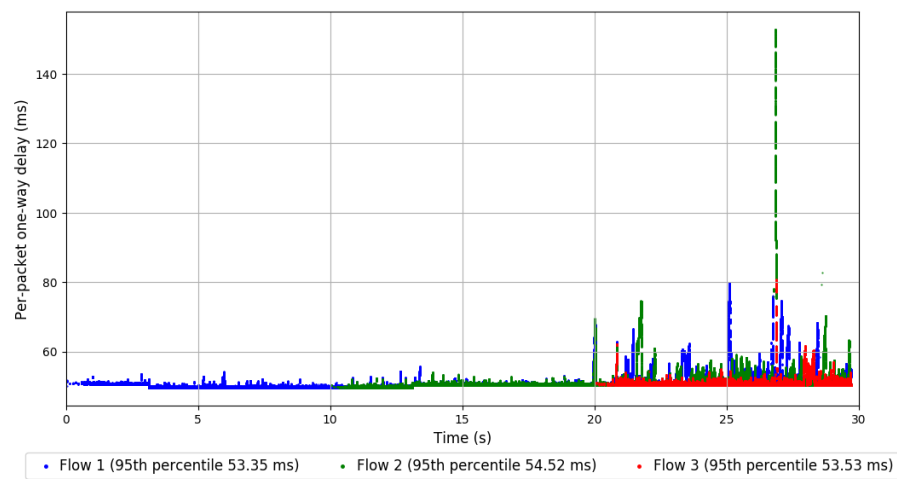
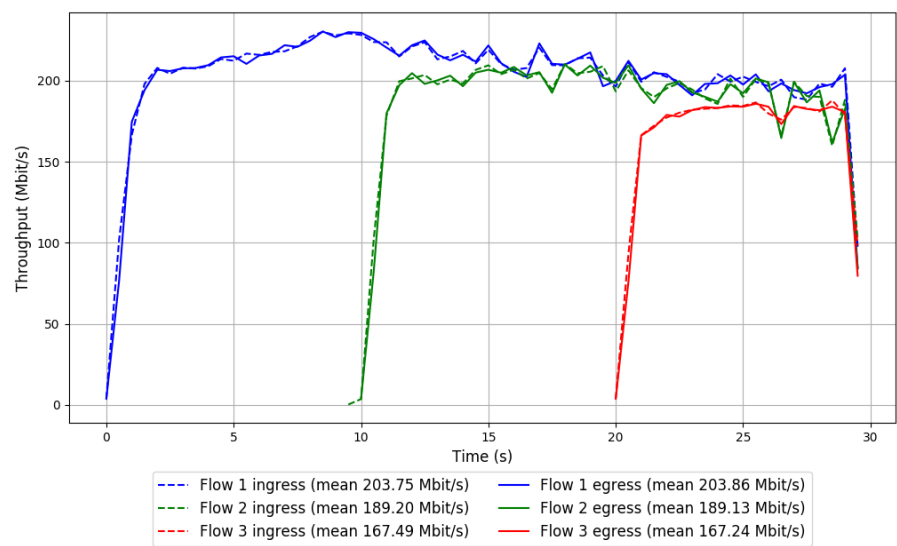
-- Flow 3:

Average throughput: 167.24 Mbit/s

95th percentile per-packet one-way delay: 53.530 ms

Loss rate: 1.20%

Run 10: Report of Indigo-1-32 — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-04-18 10:15:34

End at: 2018-04-18 10:16:04

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 463.92 Mbit/s

95th percentile per-packet one-way delay: 167.128 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 292.26 Mbit/s

95th percentile per-packet one-way delay: 197.500 ms

Loss rate: 0.61%

-- Flow 2:

Average throughput: 233.20 Mbit/s

95th percentile per-packet one-way delay: 62.222 ms

Loss rate: 0.53%

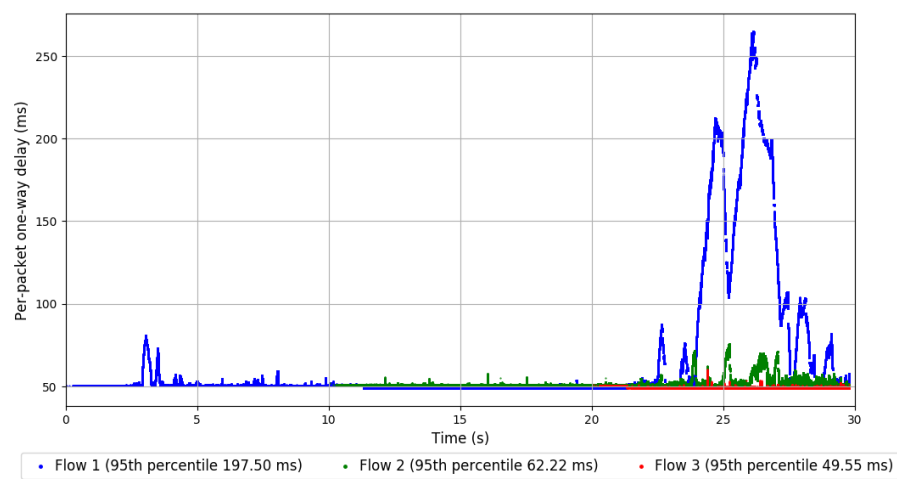
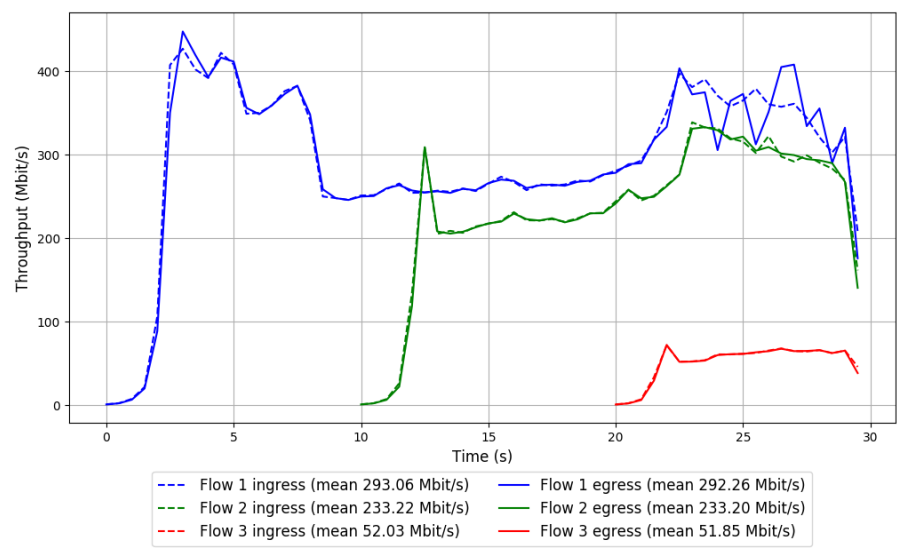
-- Flow 3:

Average throughput: 51.85 Mbit/s

95th percentile per-packet one-way delay: 49.552 ms

Loss rate: 1.35%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-04-18 10:31:20

End at: 2018-04-18 10:31:50

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 491.03 Mbit/s

95th percentile per-packet one-way delay: 55.135 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 283.97 Mbit/s

95th percentile per-packet one-way delay: 56.534 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 231.11 Mbit/s

95th percentile per-packet one-way delay: 53.618 ms

Loss rate: 0.62%

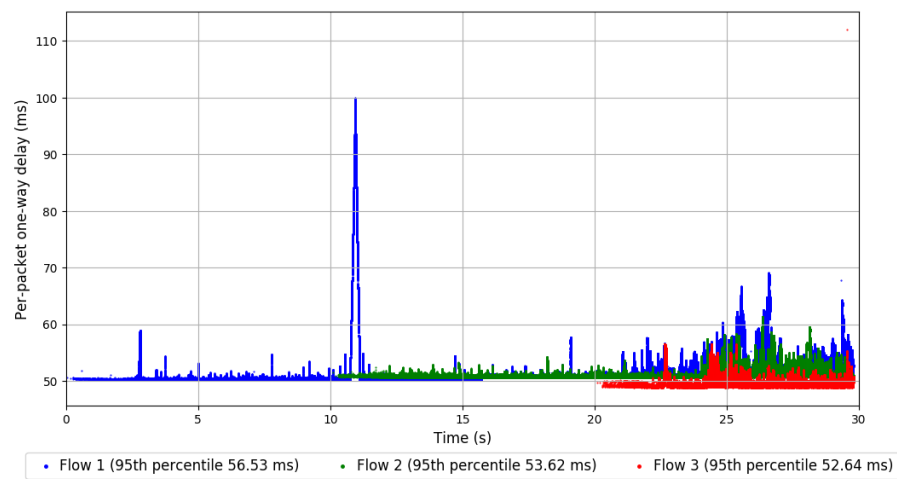
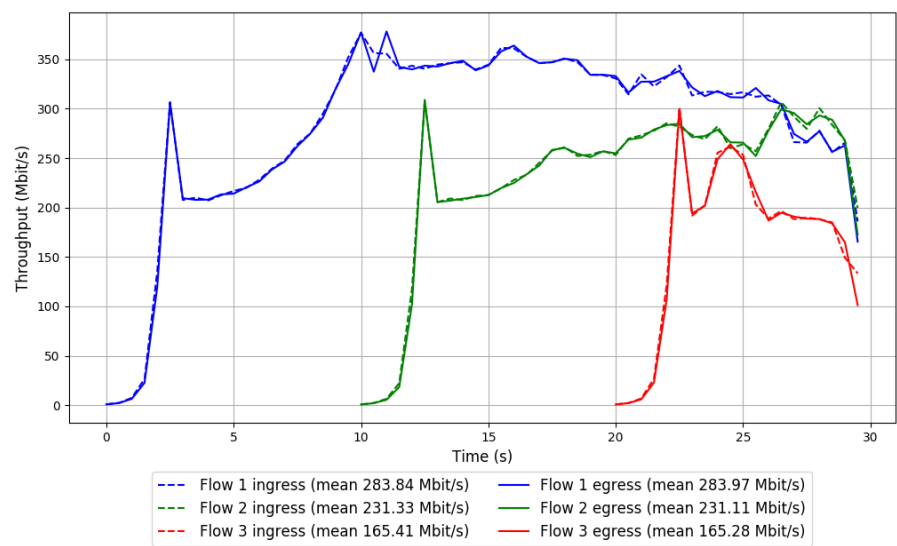
-- Flow 3:

Average throughput: 165.28 Mbit/s

95th percentile per-packet one-way delay: 52.642 ms

Loss rate: 1.11%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-04-18 10:47:10

End at: 2018-04-18 10:47:40

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 478.30 Mbit/s

95th percentile per-packet one-way delay: 80.923 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 270.60 Mbit/s

95th percentile per-packet one-way delay: 53.018 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 215.79 Mbit/s

95th percentile per-packet one-way delay: 193.983 ms

Loss rate: 0.57%

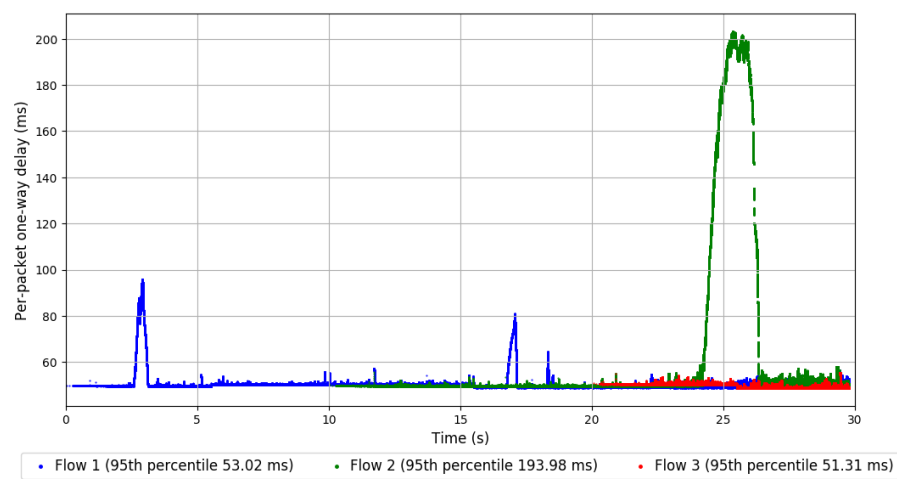
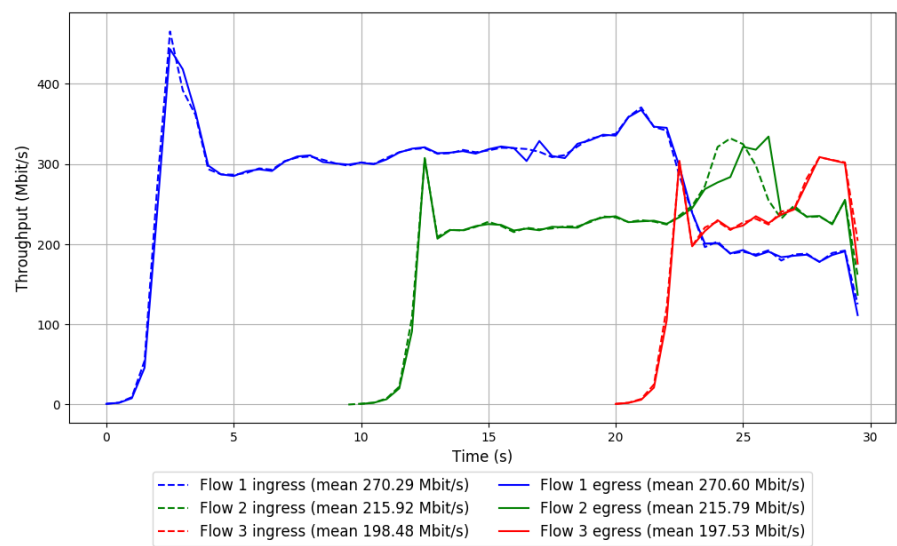
-- Flow 3:

Average throughput: 197.53 Mbit/s

95th percentile per-packet one-way delay: 51.306 ms

Loss rate: 1.51%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-04-18 11:03:07

End at: 2018-04-18 11:03:37

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 484.46 Mbit/s

95th percentile per-packet one-way delay: 110.096 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 288.98 Mbit/s

95th percentile per-packet one-way delay: 115.984 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 209.30 Mbit/s

95th percentile per-packet one-way delay: 103.476 ms

Loss rate: 0.37%

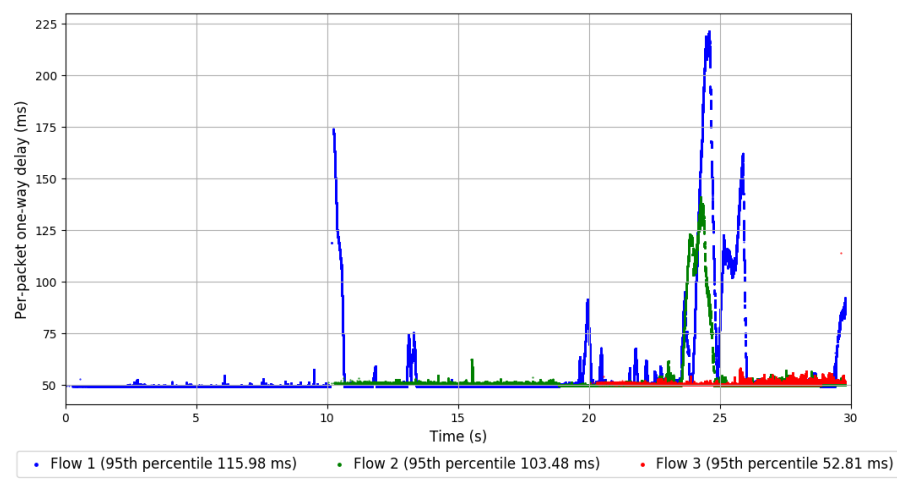
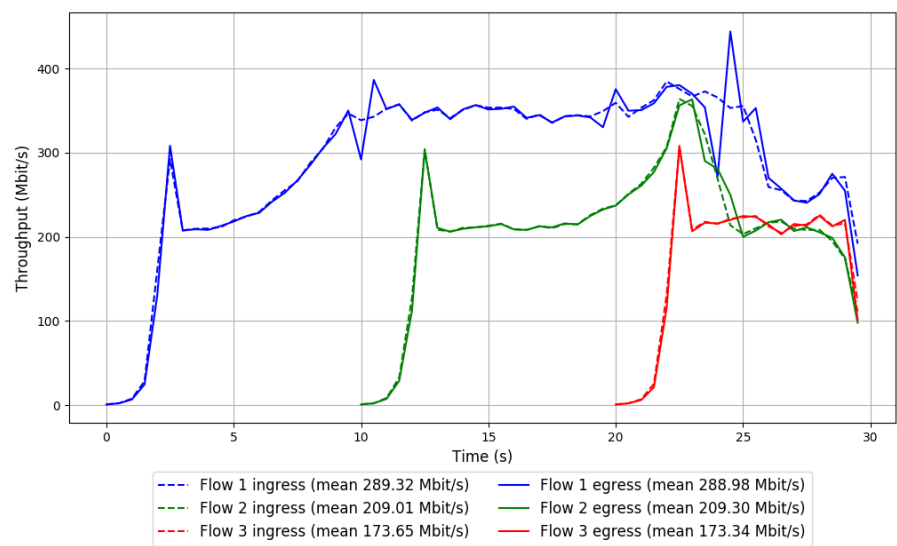
-- Flow 3:

Average throughput: 173.34 Mbit/s

95th percentile per-packet one-way delay: 52.810 ms

Loss rate: 1.21%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-04-18 11:18:58

End at: 2018-04-18 11:19:28

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 423.67 Mbit/s

95th percentile per-packet one-way delay: 123.154 ms

Loss rate: 0.78%

-- Flow 1:

Average throughput: 237.18 Mbit/s

95th percentile per-packet one-way delay: 63.824 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 264.34 Mbit/s

95th percentile per-packet one-way delay: 190.226 ms

Loss rate: 1.39%

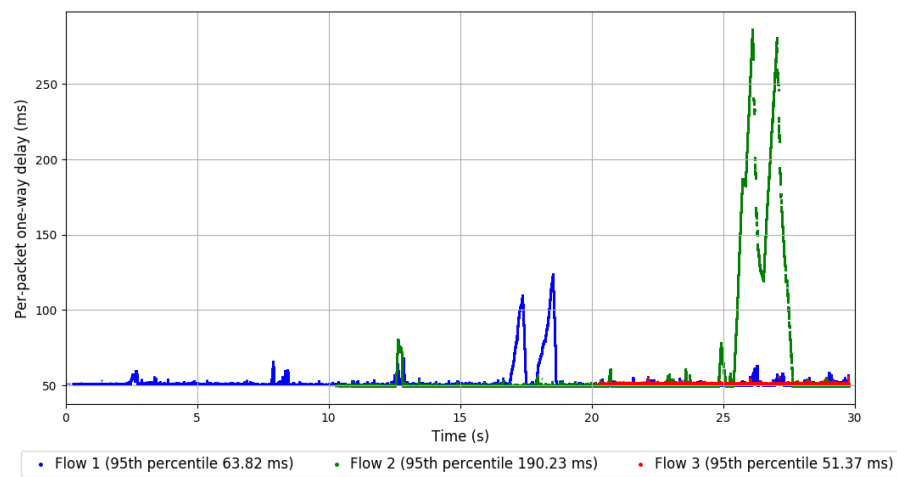
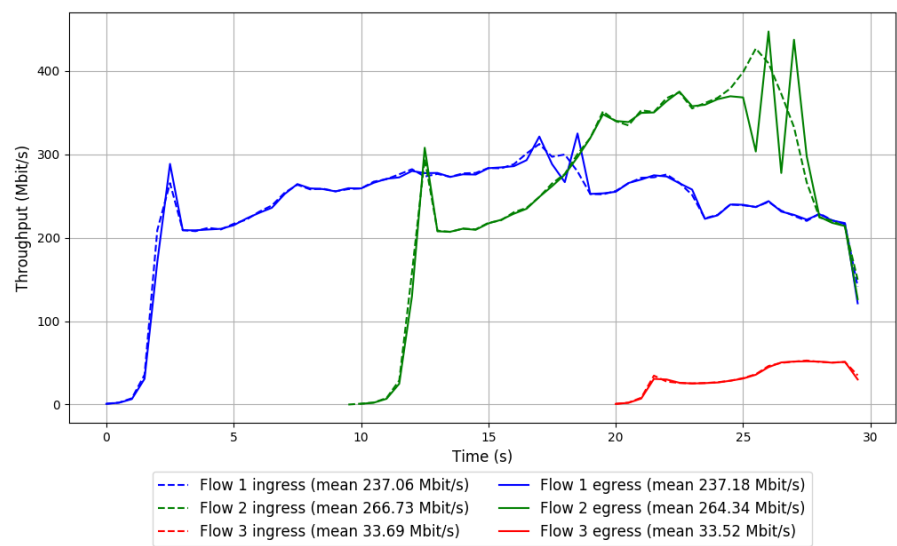
-- Flow 3:

Average throughput: 33.52 Mbit/s

95th percentile per-packet one-way delay: 51.372 ms

Loss rate: 1.55%

Run 5: Report of PCC-Vivace — Data Link



Run 6: Statistics of PCC-Vivace

Start at: 2018-04-18 11:34:47

End at: 2018-04-18 11:35:17

Below is generated by plot.py at 2018-04-18 17:43:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 432.73 Mbit/s

95th percentile per-packet one-way delay: 60.574 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 242.97 Mbit/s

95th percentile per-packet one-way delay: 60.527 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 258.74 Mbit/s

95th percentile per-packet one-way delay: 62.258 ms

Loss rate: 0.60%

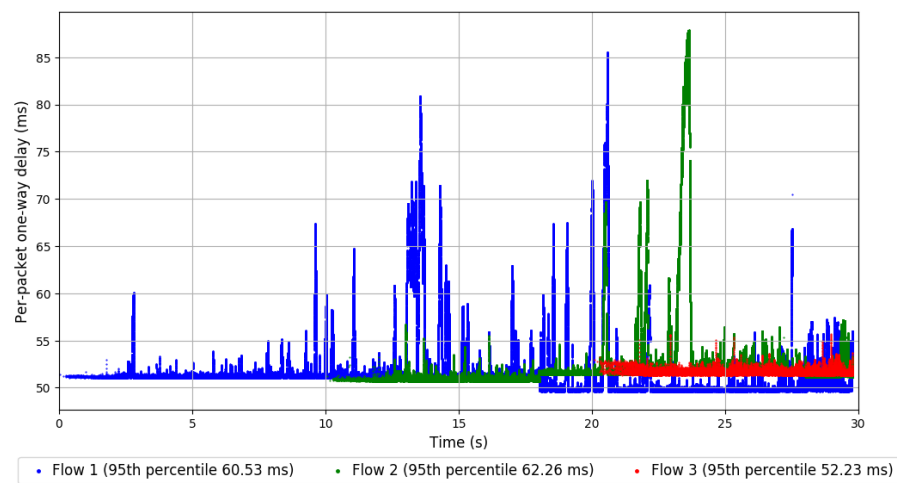
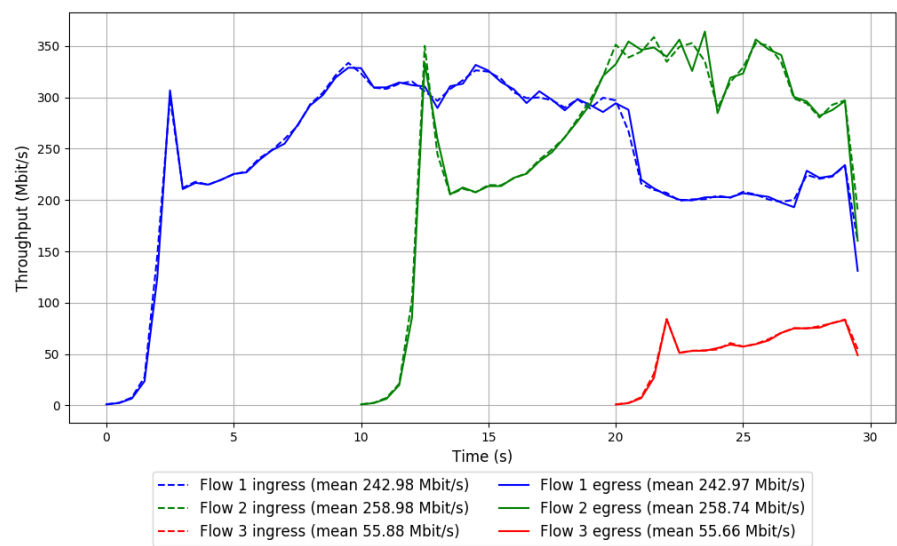
-- Flow 3:

Average throughput: 55.66 Mbit/s

95th percentile per-packet one-way delay: 52.225 ms

Loss rate: 1.41%

Run 6: Report of PCC-Vivace — Data Link



Run 7: Statistics of PCC-Vivace

Start at: 2018-04-18 11:50:39

End at: 2018-04-18 11:51:09

Below is generated by plot.py at 2018-04-18 17:43:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 394.25 Mbit/s

95th percentile per-packet one-way delay: 57.500 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 253.16 Mbit/s

95th percentile per-packet one-way delay: 61.951 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 188.70 Mbit/s

95th percentile per-packet one-way delay: 55.144 ms

Loss rate: 0.66%

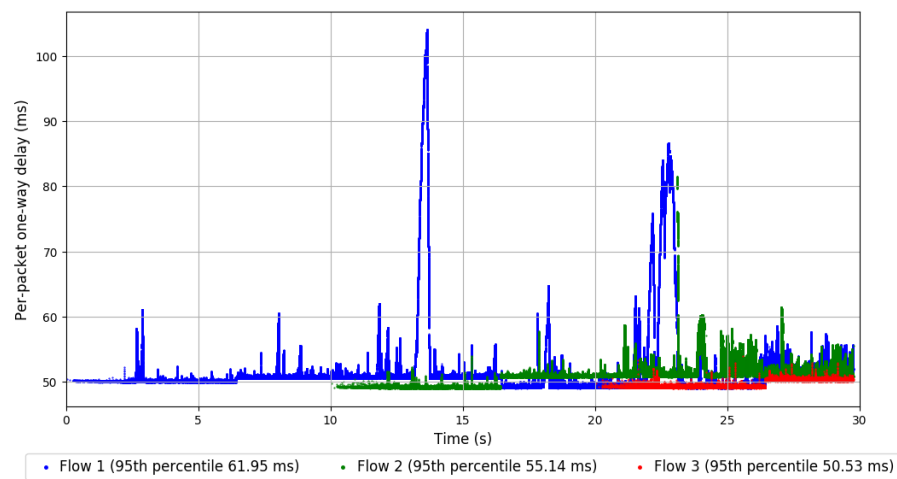
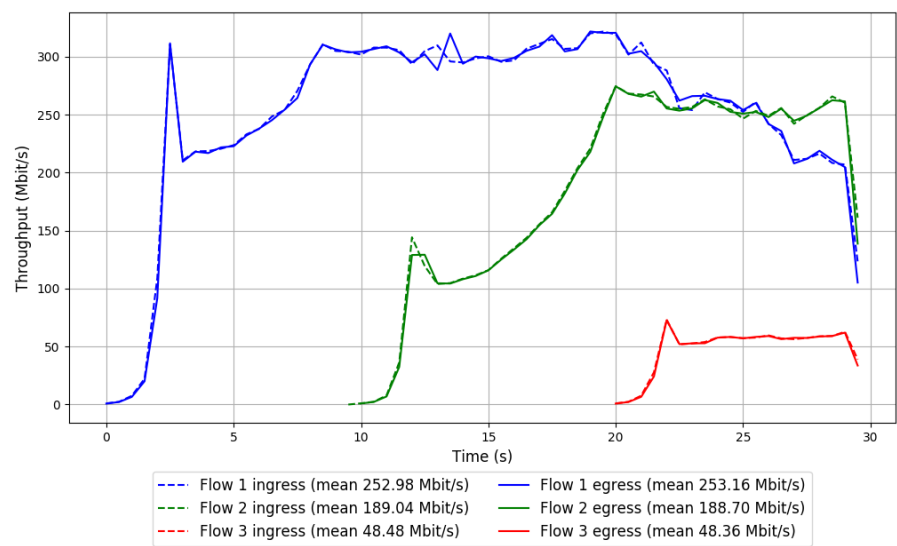
-- Flow 3:

Average throughput: 48.36 Mbit/s

95th percentile per-packet one-way delay: 50.526 ms

Loss rate: 1.26%

Run 7: Report of PCC-Vivace — Data Link



Run 8: Statistics of PCC-Vivace

Start at: 2018-04-18 12:06:20

End at: 2018-04-18 12:06:50

Below is generated by plot.py at 2018-04-18 17:44:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 429.67 Mbit/s

95th percentile per-packet one-way delay: 52.741 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 260.88 Mbit/s

95th percentile per-packet one-way delay: 52.444 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 242.17 Mbit/s

95th percentile per-packet one-way delay: 59.388 ms

Loss rate: 0.98%

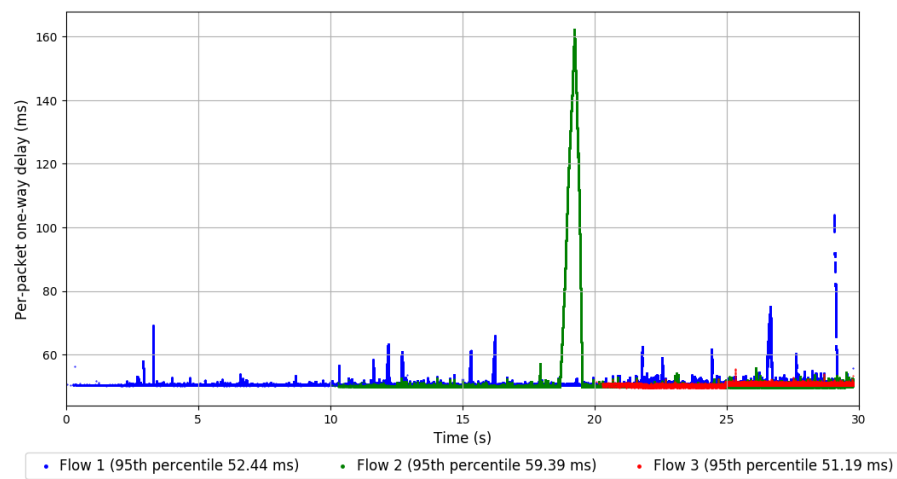
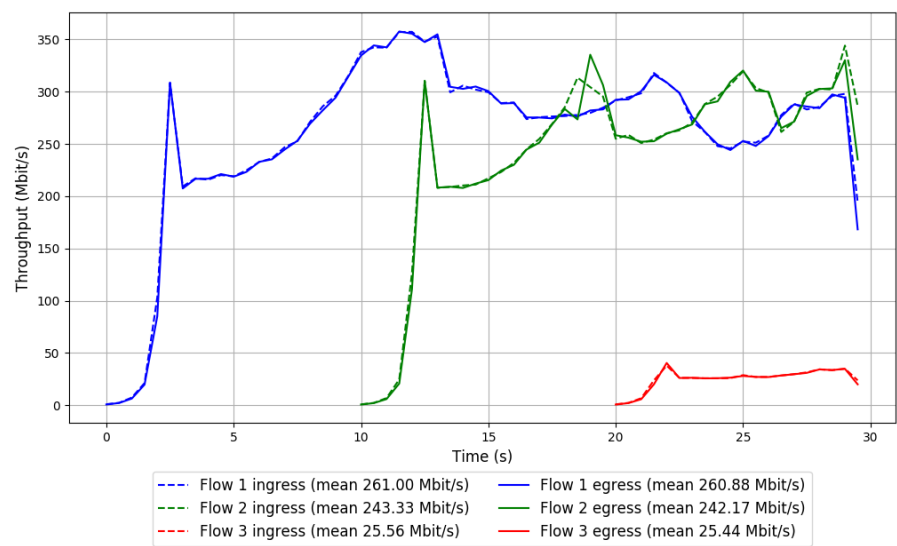
-- Flow 3:

Average throughput: 25.44 Mbit/s

95th percentile per-packet one-way delay: 51.185 ms

Loss rate: 1.47%

Run 8: Report of PCC-Vivace — Data Link



Run 9: Statistics of PCC-Vivace

Start at: 2018-04-18 12:22:12

End at: 2018-04-18 12:22:42

Below is generated by plot.py at 2018-04-18 17:45:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 458.96 Mbit/s

95th percentile per-packet one-way delay: 99.126 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 262.81 Mbit/s

95th percentile per-packet one-way delay: 146.656 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 227.49 Mbit/s

95th percentile per-packet one-way delay: 71.186 ms

Loss rate: 0.50%

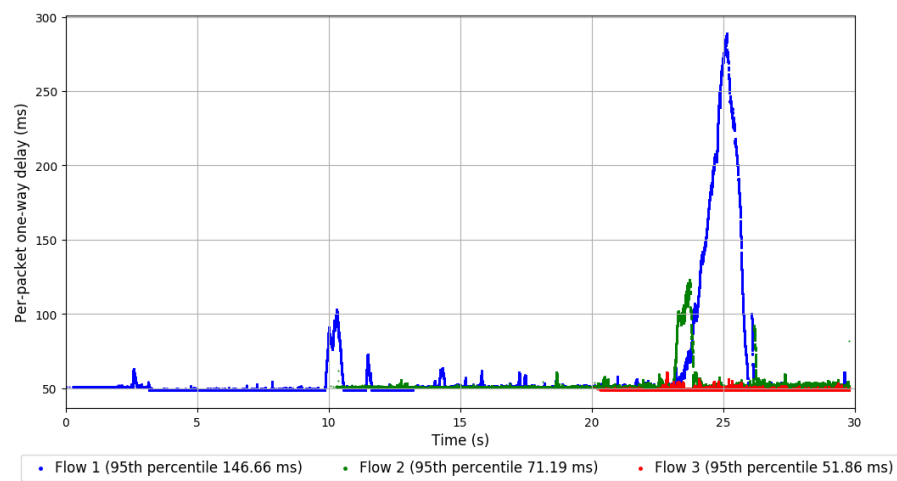
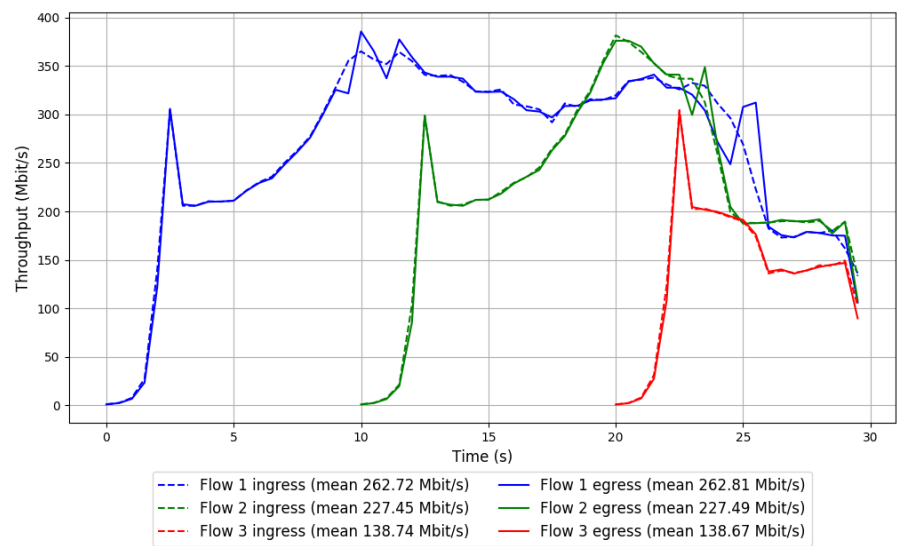
-- Flow 3:

Average throughput: 138.67 Mbit/s

95th percentile per-packet one-way delay: 51.856 ms

Loss rate: 1.07%

Run 9: Report of PCC-Vivace — Data Link

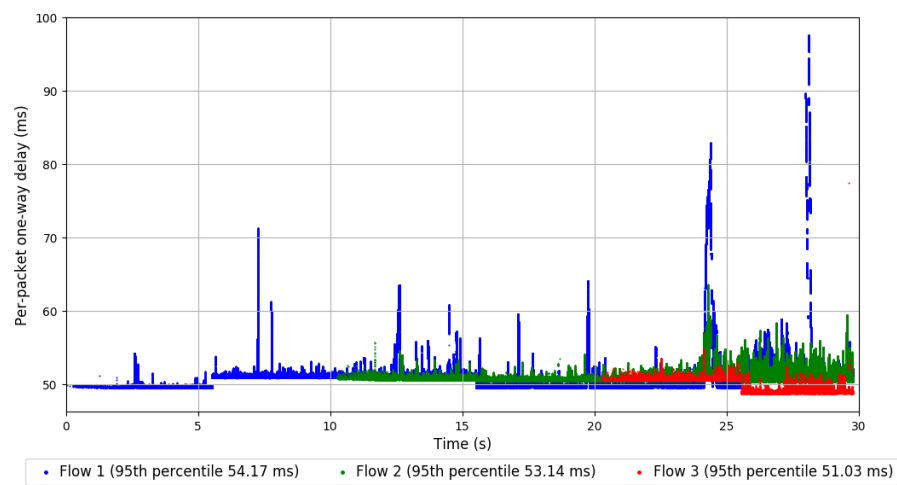
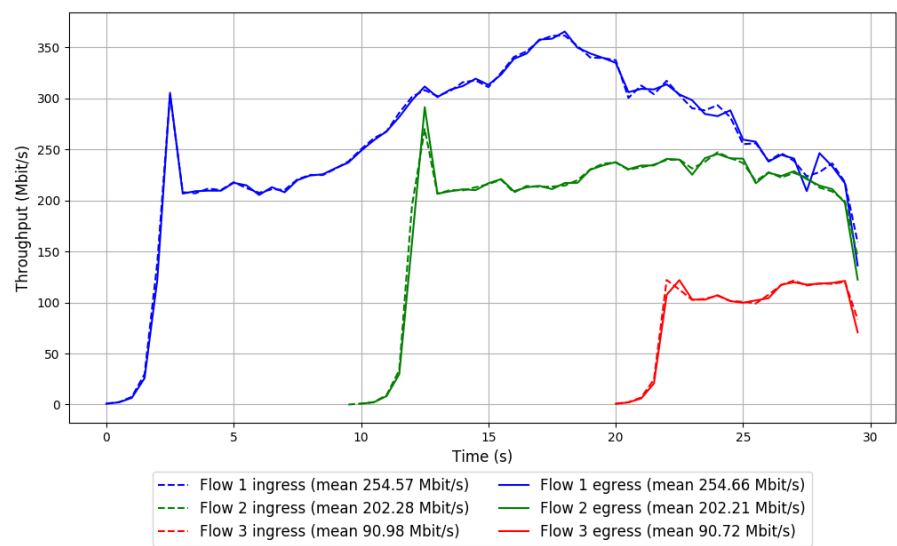


```
Run 10: Statistics of PCC-Vivace

Start at: 2018-04-18 12:38:00
End at: 2018-04-18 12:38:30

# Below is generated by plot.py at 2018-04-18 17:45:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.49 Mbit/s
95th percentile per-packet one-way delay: 53.432 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 254.66 Mbit/s
95th percentile per-packet one-way delay: 54.174 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 202.21 Mbit/s
95th percentile per-packet one-way delay: 53.136 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 90.72 Mbit/s
95th percentile per-packet one-way delay: 51.028 ms
Loss rate: 1.30%
```

Run 10: Report of PCC-Vivace — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-04-18 10:24:08

End at: 2018-04-18 10:24:38

Run 1: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of PCC-Expr

Start at: 2018-04-18 10:39:55

End at: 2018-04-18 10:40:25

Run 2: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of PCC-Expr

Start at: 2018-04-18 10:55:51

End at: 2018-04-18 10:56:21

Run 3: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 4: Statistics of PCC-Expr

Start at: 2018-04-18 11:11:43

End at: 2018-04-18 11:12:13

Run 4: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 5: Statistics of PCC-Expr

Start at: 2018-04-18 11:27:34

End at: 2018-04-18 11:28:04

Run 5: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 6: Statistics of PCC-Expr

Start at: 2018-04-18 11:43:24

End at: 2018-04-18 11:43:54

Run 6: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 7: Statistics of PCC-Expr

Start at: 2018-04-18 11:59:03

End at: 2018-04-18 11:59:33

Run 7: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 8: Statistics of PCC-Expr

Start at: 2018-04-18 12:14:56

End at: 2018-04-18 12:15:26

Run 8: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 9: Statistics of PCC-Expr

Start at: 2018-04-18 12:30:46

End at: 2018-04-18 12:31:16

Run 9: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 10: Statistics of PCC-Expr

Start at: 2018-04-18 12:46:33

End at: 2018-04-18 12:47:03

Run 10: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing