

Pantheon Report

Generated at 2018-10-09 22:47:37 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

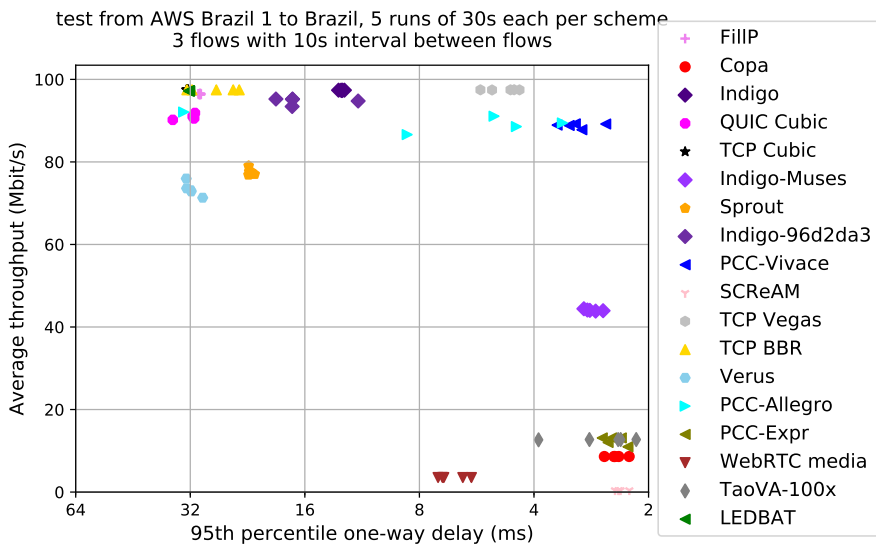
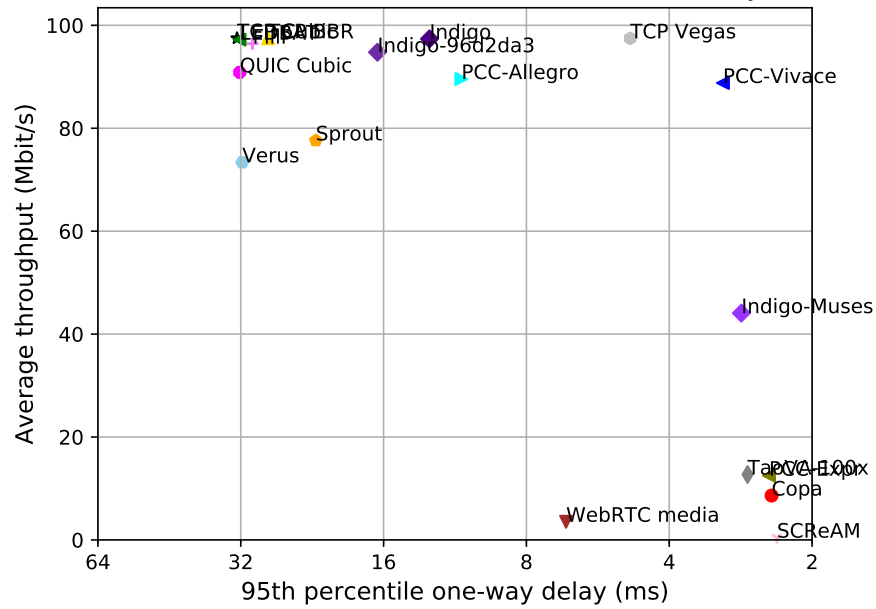
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



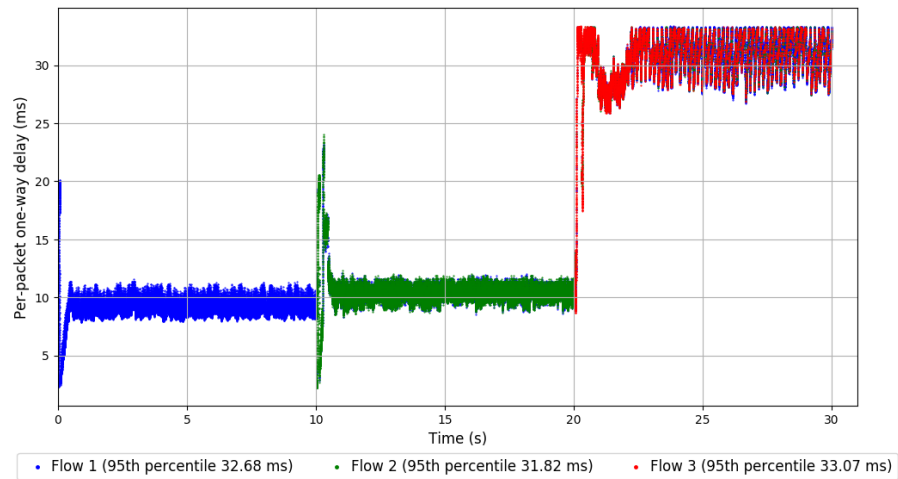
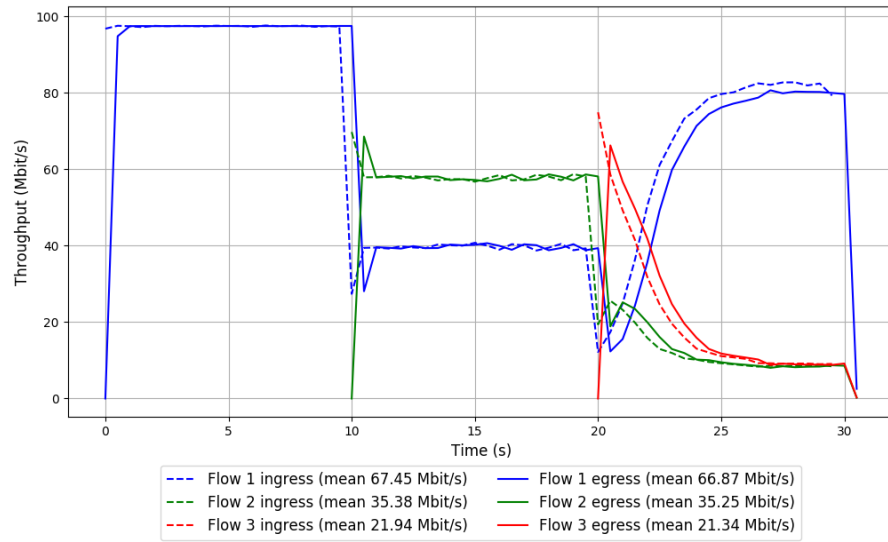
| scheme | # runs | mean avg tput (Mbit/s) | | | mean 95th-%ile delay (ms) | | | mean loss rate (%) | | |
|----------------|--------|------------------------|--------|--------|---------------------------|--------|--------|--------------------|--------|--------|
| | | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 |
| TCP BBR | 5 | 68.58 | 36.20 | 14.31 | 28.15 | 26.58 | 28.79 | 0.18 | 0.06 | 0.80 |
| Copa | 5 | 0.00 | 11.50 | 3.69 | 2.37 | 2.48 | 2.30 | 98.31 | 63.80 | 74.98 |
| TCP Cubic | 5 | 62.72 | 39.20 | 26.11 | 32.49 | 32.66 | 32.70 | 0.04 | 0.04 | 0.06 |
| FillP | 5 | 61.38 | 38.58 | 28.34 | 30.18 | 30.26 | 30.26 | 15.98 | 28.69 | 32.37 |
| Indigo | 5 | 46.84 | 44.69 | 64.04 | 11.12 | 13.22 | 13.48 | 0.00 | 0.00 | 0.00 |
| Indigo-96d2da3 | 5 | 50.71 | 43.49 | 45.93 | 13.97 | 16.72 | 18.12 | 0.00 | 0.00 | 0.00 |
| LEDBAT | 5 | 62.82 | 36.99 | 29.48 | 32.16 | 32.36 | 32.39 | 0.03 | 0.06 | 0.08 |
| Indigo-Muses | 5 | 22.07 | 22.03 | 22.29 | 2.77 | 2.82 | 3.10 | 0.00 | 0.00 | 0.00 |
| PCC-Allegro | 5 | 74.22 | 14.14 | 17.98 | 10.39 | 12.18 | 13.02 | 0.04 | 0.15 | 0.36 |
| PCC-Expr | 5 | 7.60 | 5.64 | 3.39 | 4.57 | 2.44 | 2.44 | 36.12 | 29.73 | 27.51 |
| QUIC Cubic | 5 | 57.23 | 36.71 | 28.06 | 32.45 | 31.33 | 31.36 | 0.16 | 0.18 | 0.21 |
| SCReAM | 5 | 0.22 | 0.22 | 0.22 | 2.38 | 2.35 | 2.35 | 0.00 | 0.00 | 0.00 |
| Sprout | 5 | 42.31 | 37.83 | 30.73 | 20.71 | 22.21 | 24.45 | 0.00 | 0.01 | 0.00 |
| TaoVA-100x | 5 | 8.10 | 4.33 | 8.00 | 2.44 | 5.29 | 5.25 | 83.88 | 81.67 | 91.52 |
| TCP Vegas | 5 | 47.76 | 43.79 | 61.76 | 7.67 | 4.55 | 4.78 | 0.00 | 0.00 | 0.00 |
| Verus | 5 | 43.61 | 31.63 | 26.40 | 29.41 | 31.90 | 32.83 | 7.86 | 12.20 | 32.27 |
| PCC-Vivace | 5 | 57.87 | 33.26 | 26.67 | 2.79 | 3.45 | 4.09 | 0.00 | 0.00 | 0.00 |
| WebRTC media | 5 | 1.93 | 1.25 | 0.36 | 6.26 | 7.01 | 6.91 | 0.00 | 0.03 | 0.00 |

Run 1: Statistics of TCP BBR

Start at: 2018-10-09 21:05:35
End at: 2018-10-09 21:06:05
Local clock offset: -0.905 ms
Remote clock offset: -0.652 ms

Below is generated by plot.py at 2018-10-09 22:38:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.664 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 66.87 Mbit/s
95th percentile per-packet one-way delay: 32.684 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 35.25 Mbit/s
95th percentile per-packet one-way delay: 31.820 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 21.34 Mbit/s
95th percentile per-packet one-way delay: 33.066 ms
Loss rate: 2.49%

Run 1: Report of TCP BBR — Data Link

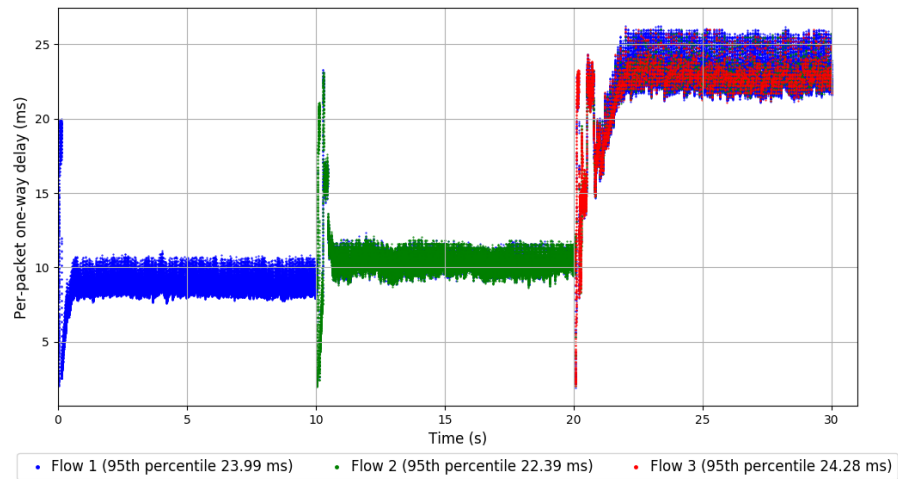
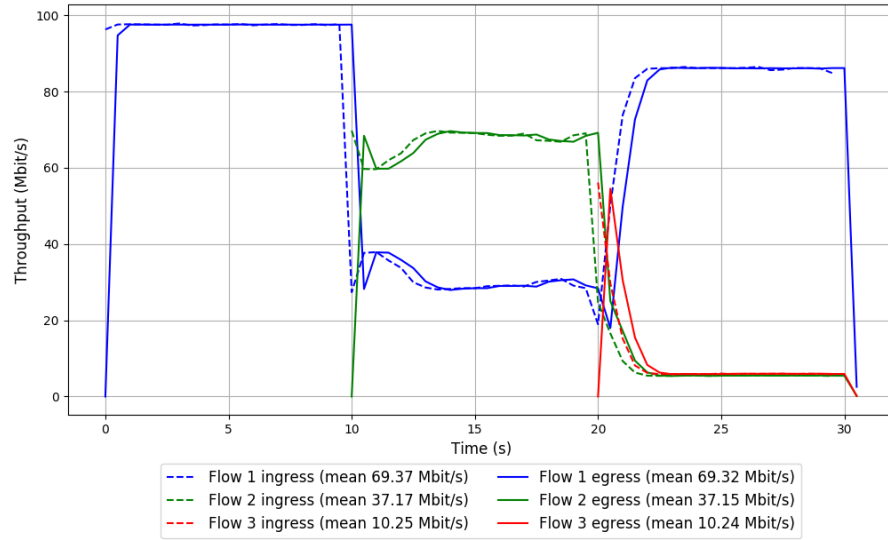


Run 2: Statistics of TCP BBR

Start at: 2018-10-09 21:26:03
End at: 2018-10-09 21:26:33
Local clock offset: -1.346 ms
Remote clock offset: -0.557 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 23.796 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.32 Mbit/s
95th percentile per-packet one-way delay: 23.991 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.15 Mbit/s
95th percentile per-packet one-way delay: 22.387 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.24 Mbit/s
95th percentile per-packet one-way delay: 24.277 ms
Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link

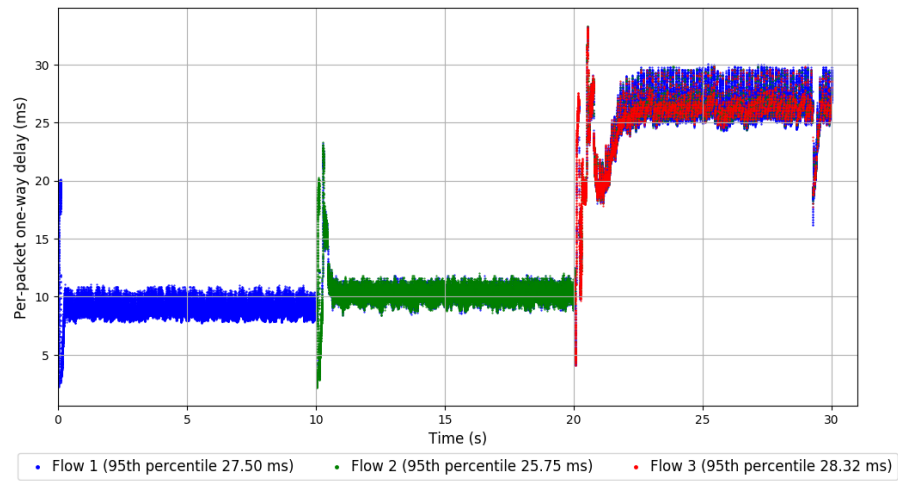
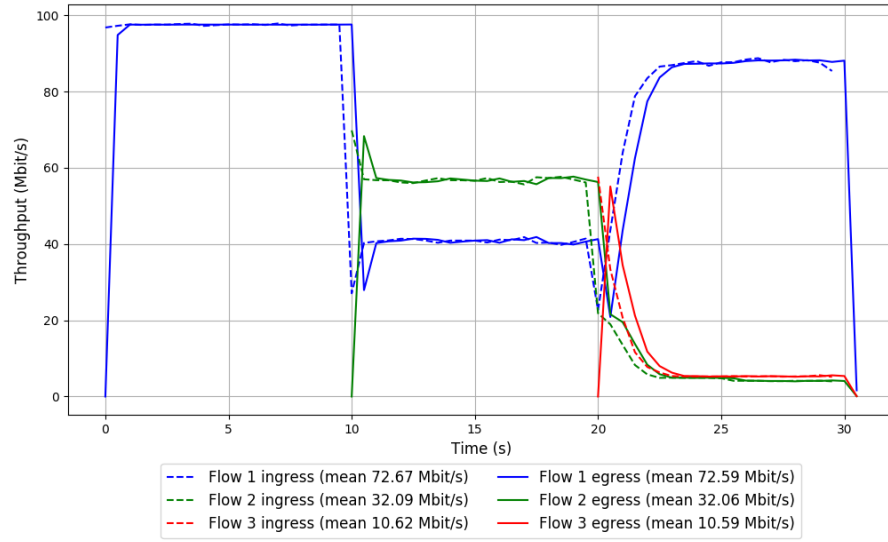


Run 3: Statistics of TCP BBR

Start at: 2018-10-09 21:46:33
End at: 2018-10-09 21:47:03
Local clock offset: -6.099 ms
Remote clock offset: -0.598 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 27.331 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 27.495 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 32.06 Mbit/s
95th percentile per-packet one-way delay: 25.746 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 10.59 Mbit/s
95th percentile per-packet one-way delay: 28.323 ms
Loss rate: 0.11%

Run 3: Report of TCP BBR — Data Link

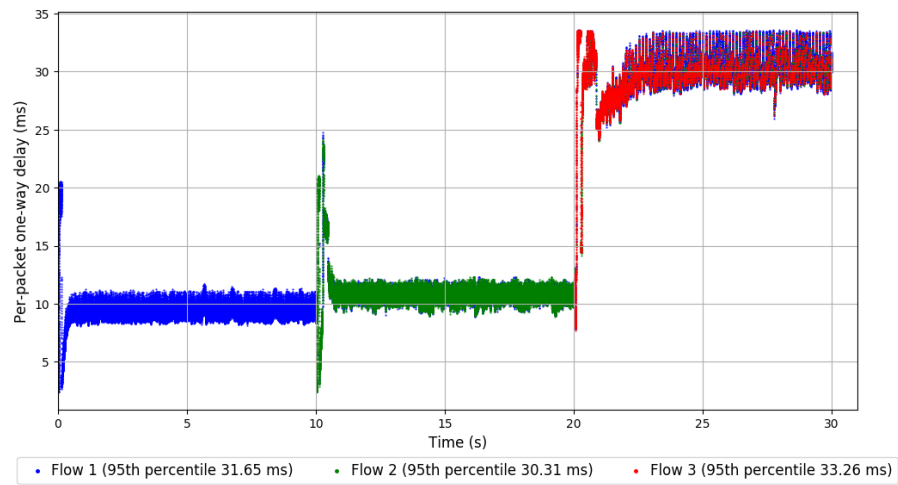
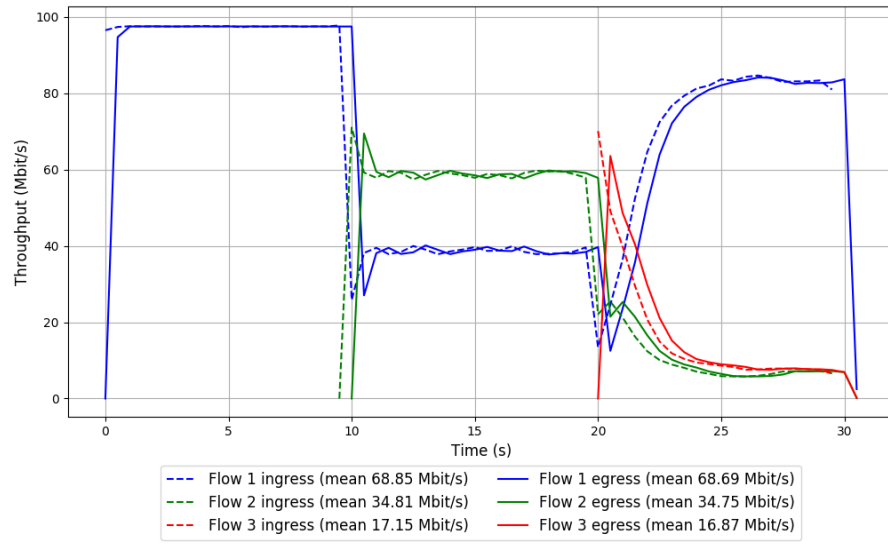


Run 4: Statistics of TCP BBR

Start at: 2018-10-09 22:07:01
End at: 2018-10-09 22:07:31
Local clock offset: -3.392 ms
Remote clock offset: -0.514 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 31.667 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 68.69 Mbit/s
95th percentile per-packet one-way delay: 31.652 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 34.75 Mbit/s
95th percentile per-packet one-way delay: 30.309 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 16.87 Mbit/s
95th percentile per-packet one-way delay: 33.260 ms
Loss rate: 1.42%

Run 4: Report of TCP BBR — Data Link

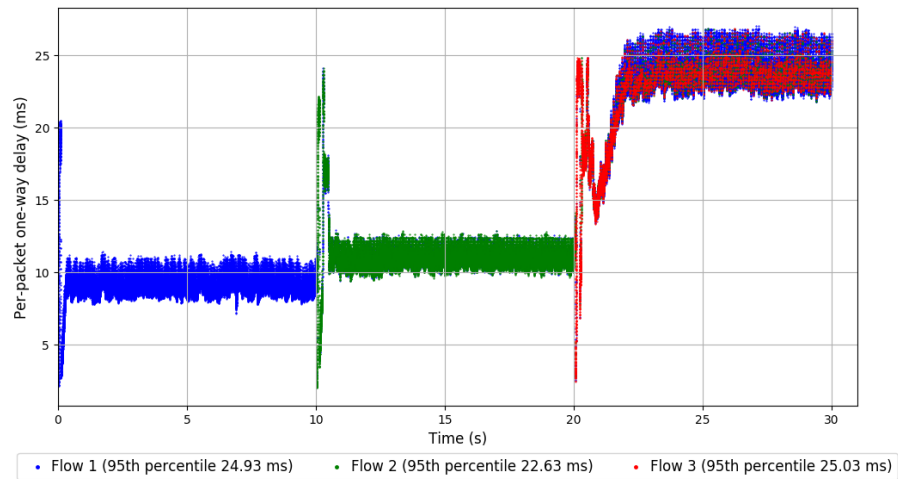
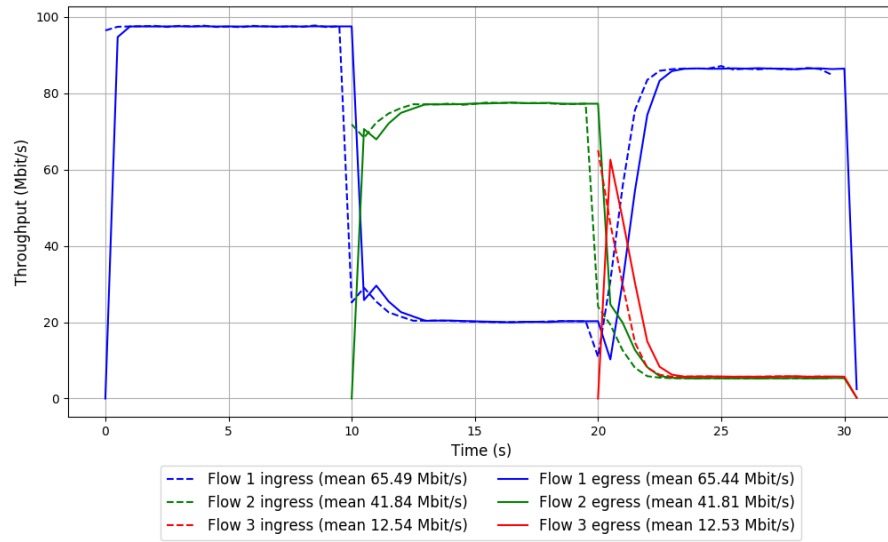


Run 5: Statistics of TCP BBR

Start at: 2018-10-09 22:27:29
End at: 2018-10-09 22:28:00
Local clock offset: -3.291 ms
Remote clock offset: -0.444 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 24.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.44 Mbit/s
95th percentile per-packet one-way delay: 24.925 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.81 Mbit/s
95th percentile per-packet one-way delay: 22.627 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 25.026 ms
Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

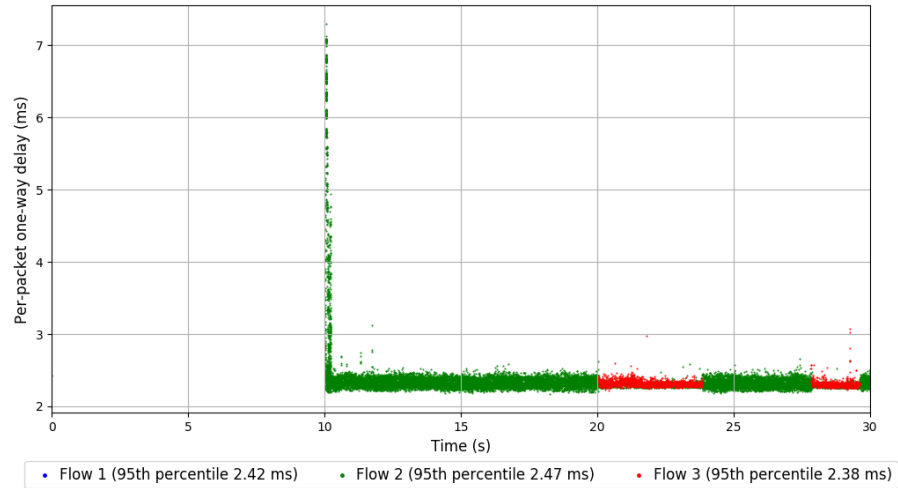
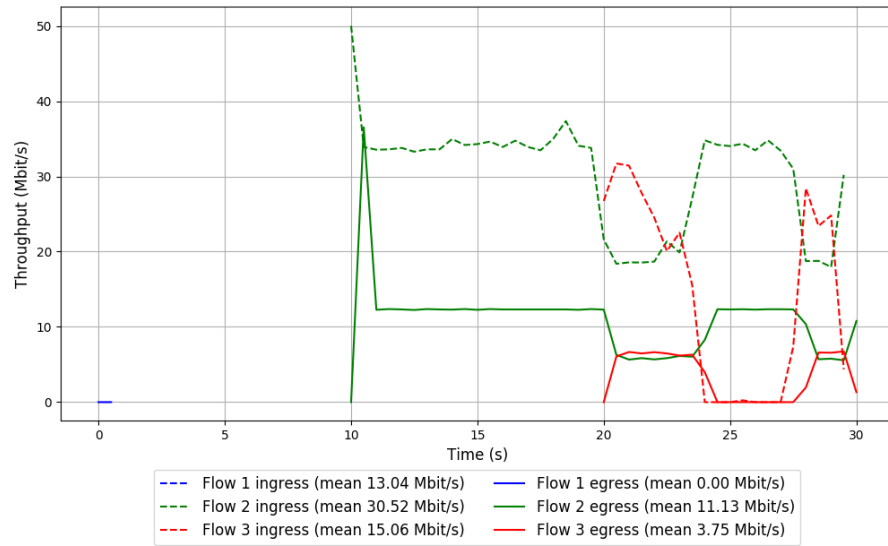


Run 1: Statistics of Copa

Start at: 2018-10-09 21:04:29
End at: 2018-10-09 21:04:59
Local clock offset: -0.905 ms
Remote clock offset: -0.656 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.452 ms
Loss rate: 65.74%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.419 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 11.13 Mbit/s
95th percentile per-packet one-way delay: 2.468 ms
Loss rate: 63.52%
-- Flow 3:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 2.380 ms
Loss rate: 75.10%

Run 1: Report of Copa — Data Link

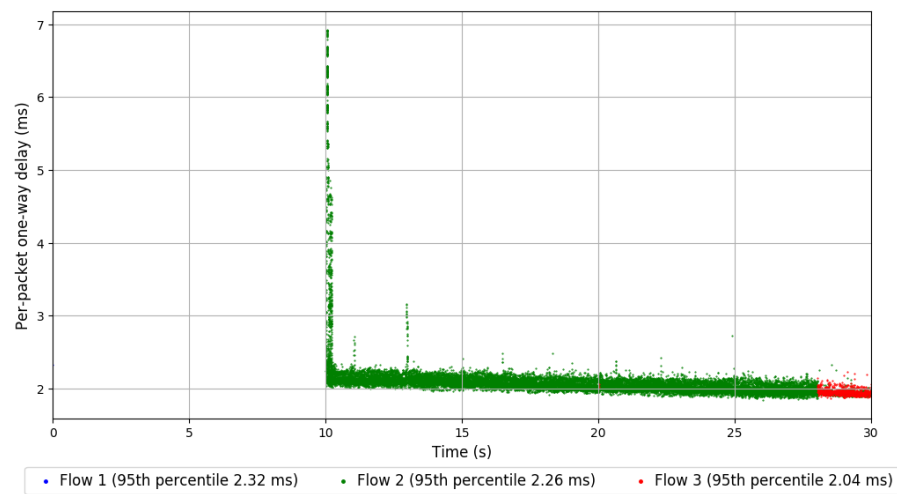
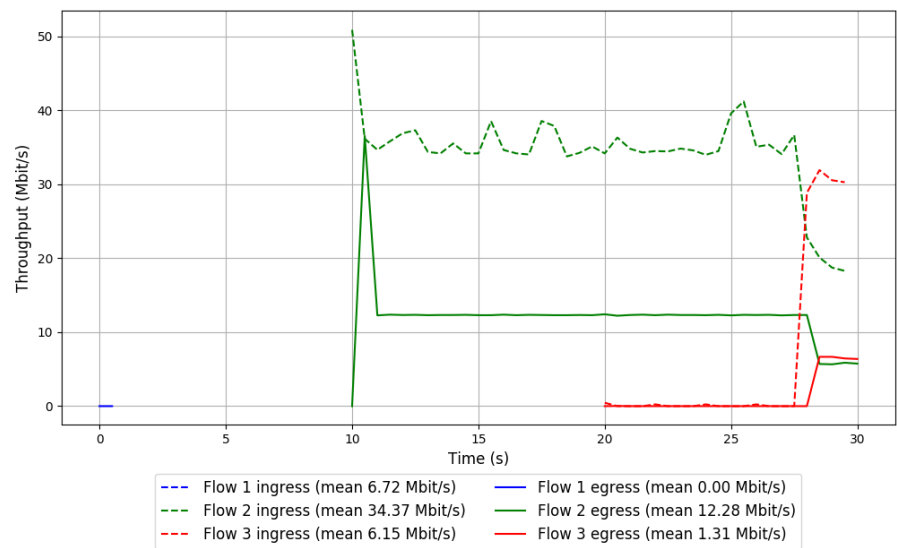


Run 2: Statistics of Copa

Start at: 2018-10-09 21:24:57
End at: 2018-10-09 21:25:27
Local clock offset: -0.812 ms
Remote clock offset: -0.551 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.249 ms
Loss rate: 65.45%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.322 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 2.256 ms
Loss rate: 64.26%
-- Flow 3:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 2.036 ms
Loss rate: 78.67%

Run 2: Report of Copa — Data Link

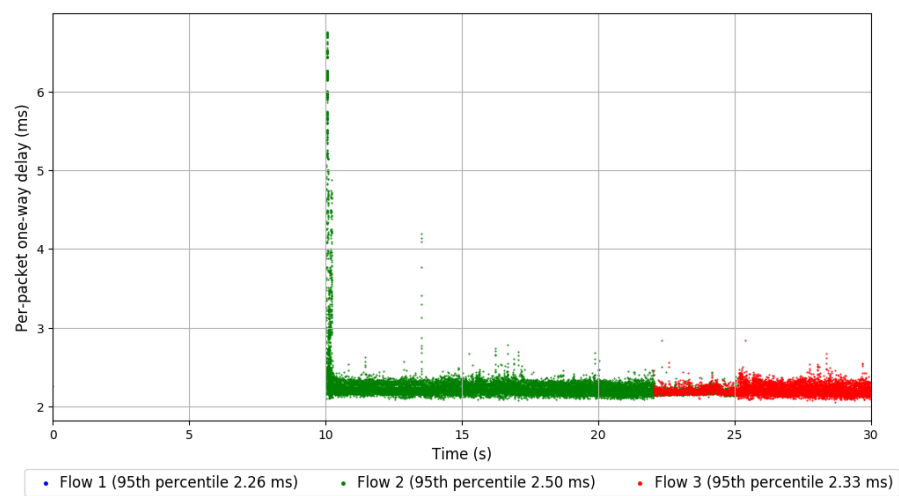
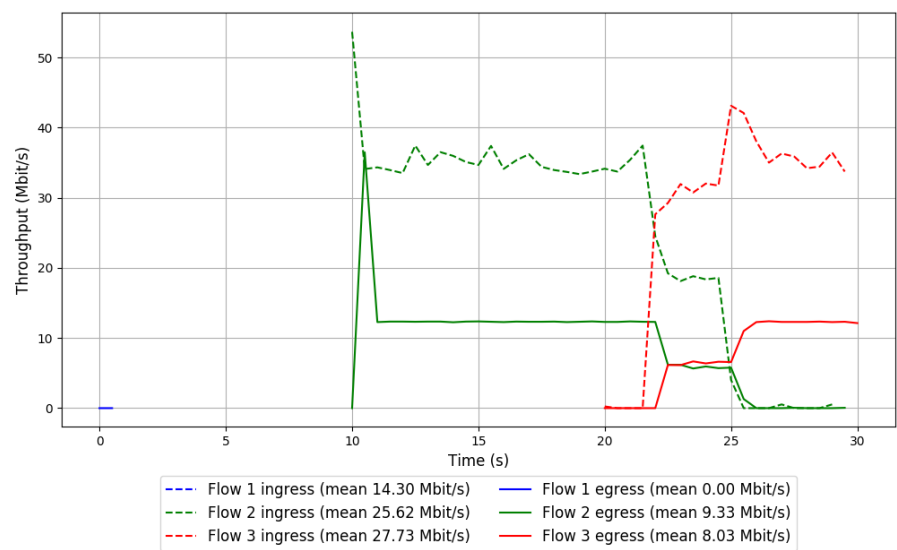


Run 3: Statistics of Copa

Start at: 2018-10-09 21:45:27
End at: 2018-10-09 21:45:57
Local clock offset: -5.98 ms
Remote clock offset: -0.641 ms

Below is generated by plot.py at 2018-10-09 22:38:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.395 ms
Loss rate: 66.28%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.256 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 2.505 ms
Loss rate: 63.59%
-- Flow 3:
Average throughput: 8.03 Mbit/s
95th percentile per-packet one-way delay: 2.335 ms
Loss rate: 71.04%

Run 3: Report of Copa — Data Link

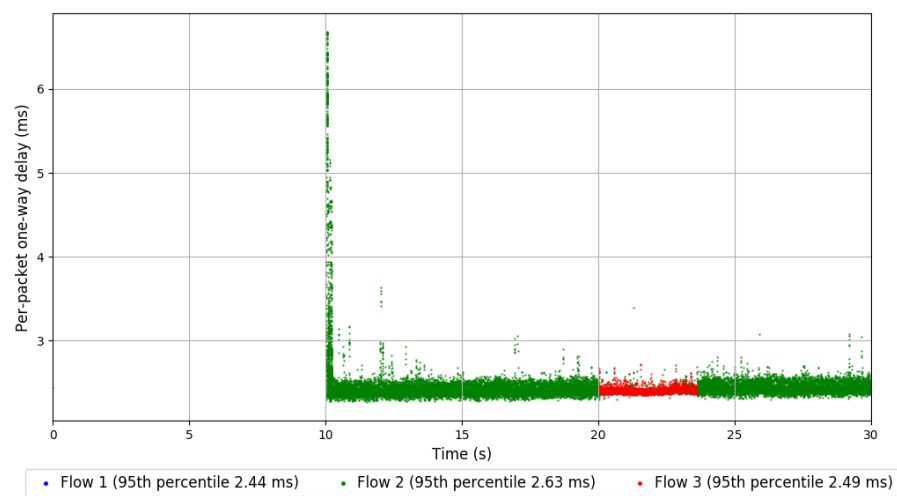
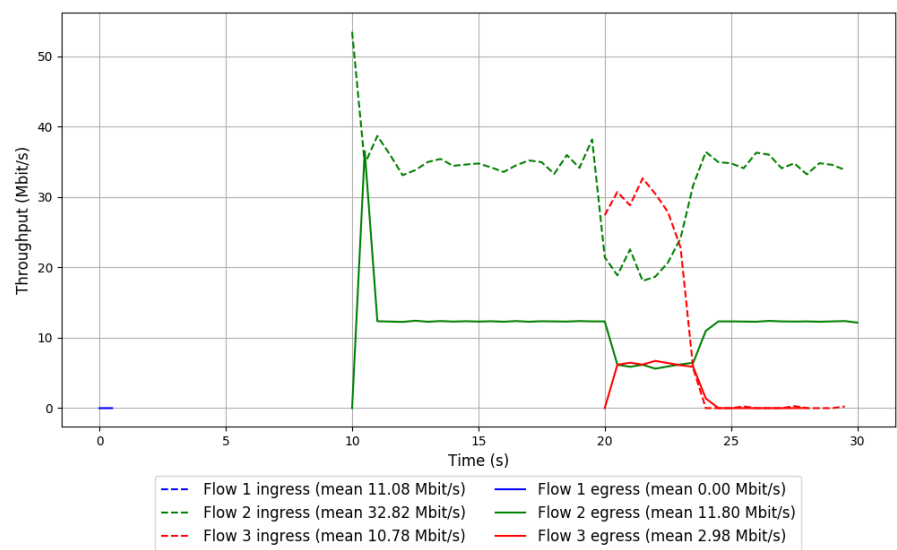


Run 4: Statistics of Copa

Start at: 2018-10-09 22:05:55
End at: 2018-10-09 22:06:25
Local clock offset: -3.473 ms
Remote clock offset: -0.557 ms

```
# Below is generated by plot.py at 2018-10-09 22:38:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.613 ms
Loss rate: 65.97%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.436 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 2.635 ms
Loss rate: 64.04%
-- Flow 3:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 2.488 ms
Loss rate: 78.15%
```

Run 4: Report of Copa — Data Link

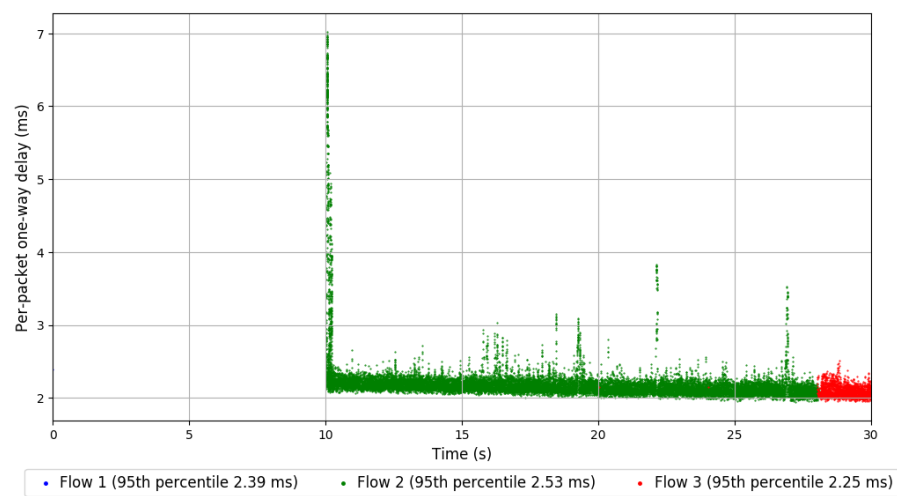
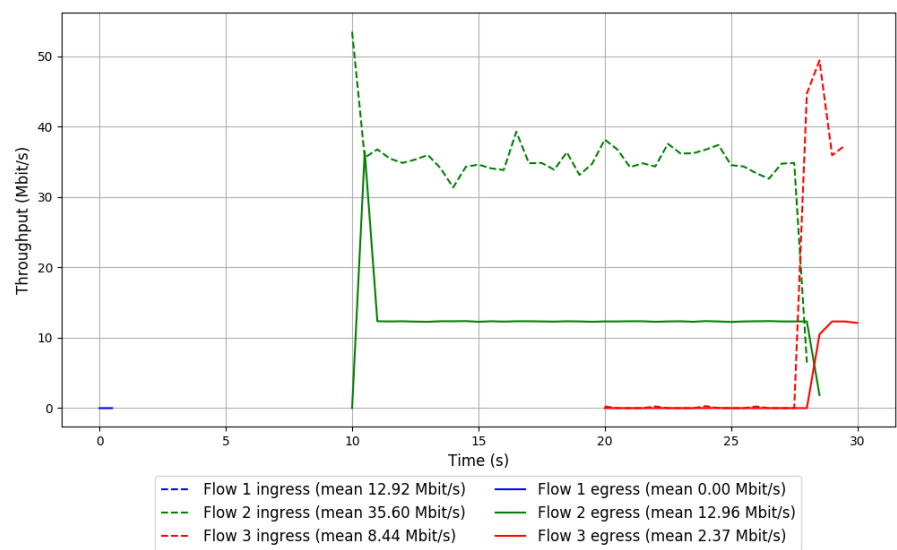


Run 5: Statistics of Copa

Start at: 2018-10-09 22:26:24
End at: 2018-10-09 22:26:54
Local clock offset: -2.807 ms
Remote clock offset: -0.341 ms

```
# Below is generated by plot.py at 2018-10-09 22:38:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.465 ms
Loss rate: 64.56%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.394 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 2.533 ms
Loss rate: 63.60%
-- Flow 3:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 2.248 ms
Loss rate: 71.93%
```

Run 5: Report of Copa — Data Link

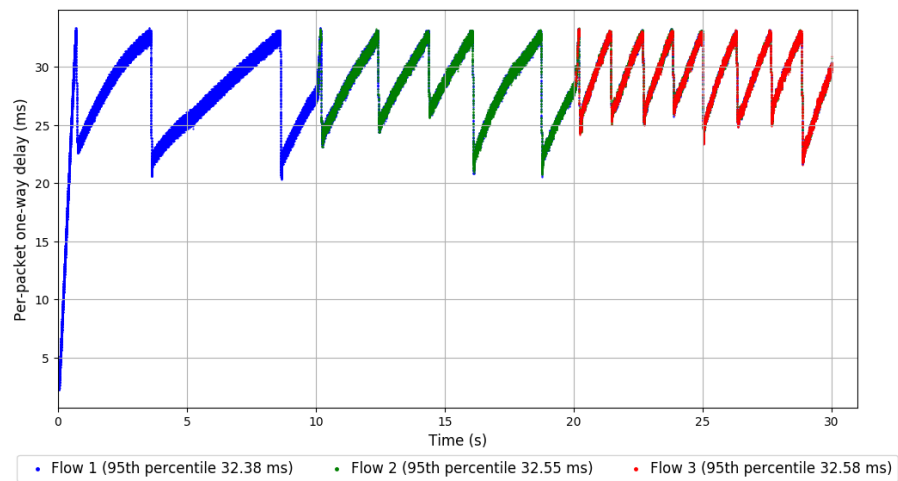
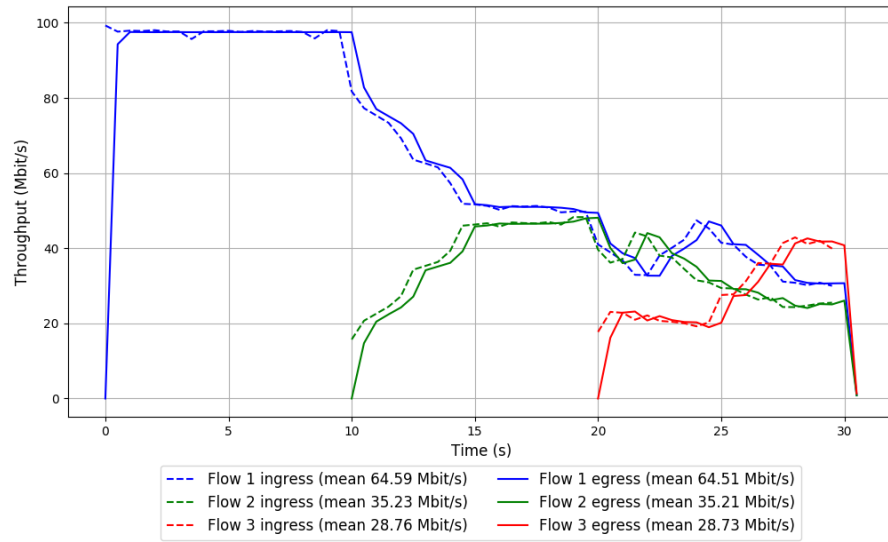


Run 1: Statistics of TCP Cubic

Start at: 2018-10-09 20:57:31
End at: 2018-10-09 20:58:01
Local clock offset: -0.429 ms
Remote clock offset: -0.605 ms

Below is generated by plot.py at 2018-10-09 22:38:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.415 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.51 Mbit/s
95th percentile per-packet one-way delay: 32.381 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 35.21 Mbit/s
95th percentile per-packet one-way delay: 32.555 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 28.73 Mbit/s
95th percentile per-packet one-way delay: 32.579 ms
Loss rate: 0.08%

Run 1: Report of TCP Cubic — Data Link

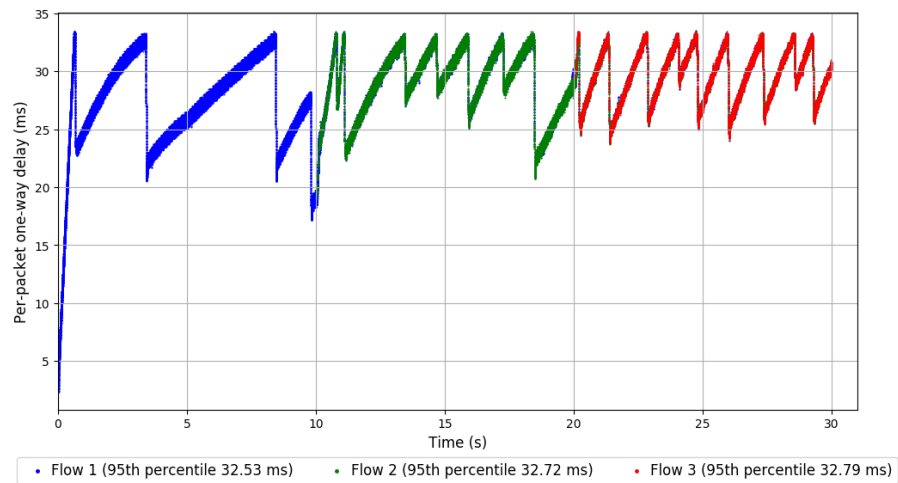
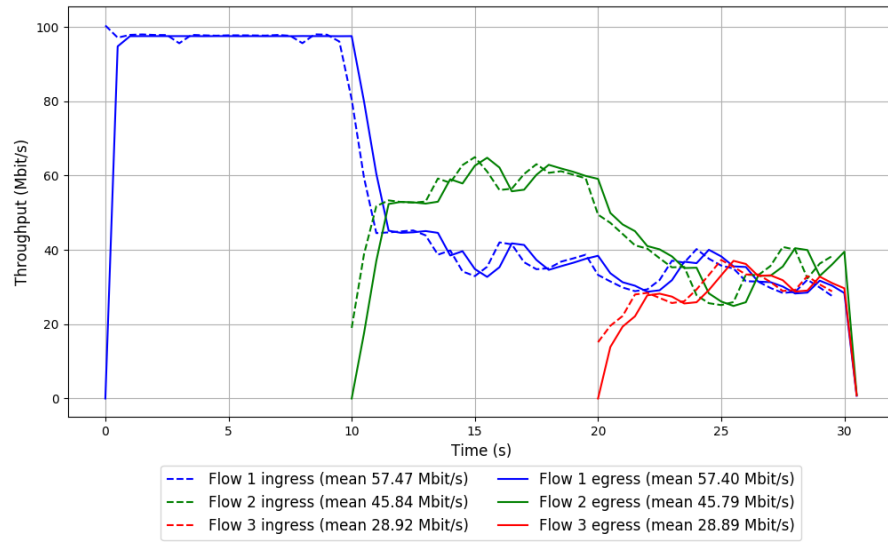


Run 2: Statistics of TCP Cubic

Start at: 2018-10-09 21:17:59
End at: 2018-10-09 21:18:29
Local clock offset: -1.014 ms
Remote clock offset: -0.623 ms

Below is generated by plot.py at 2018-10-09 22:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 32.698 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 57.40 Mbit/s
95th percentile per-packet one-way delay: 32.528 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 45.79 Mbit/s
95th percentile per-packet one-way delay: 32.722 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 28.89 Mbit/s
95th percentile per-packet one-way delay: 32.788 ms
Loss rate: 0.07%

Run 2: Report of TCP Cubic — Data Link

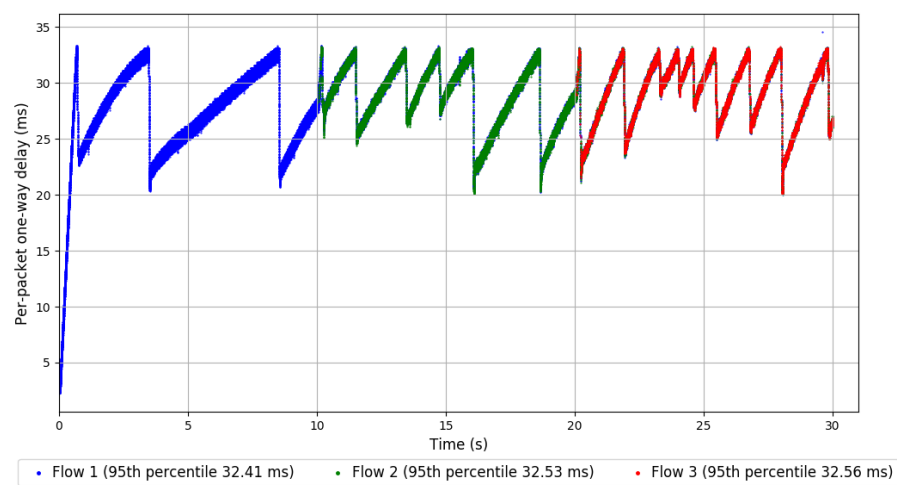
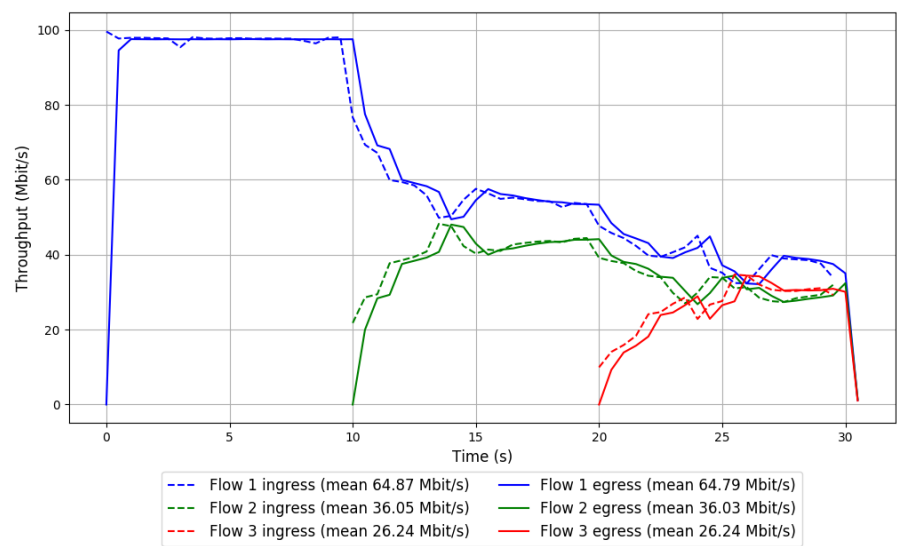


Run 3: Statistics of TCP Cubic

Start at: 2018-10-09 21:38:29
End at: 2018-10-09 21:38:59
Local clock offset: -5.129 ms
Remote clock offset: -0.564 ms

Below is generated by plot.py at 2018-10-09 22:38:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 32.521 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.79 Mbit/s
95th percentile per-packet one-way delay: 32.412 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.03 Mbit/s
95th percentile per-packet one-way delay: 32.535 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 26.24 Mbit/s
95th percentile per-packet one-way delay: 32.560 ms
Loss rate: 0.04%

Run 3: Report of TCP Cubic — Data Link

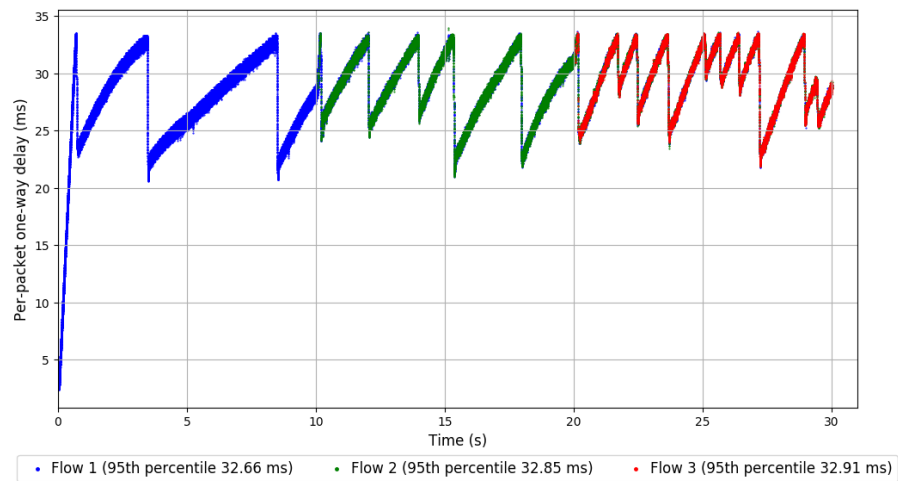
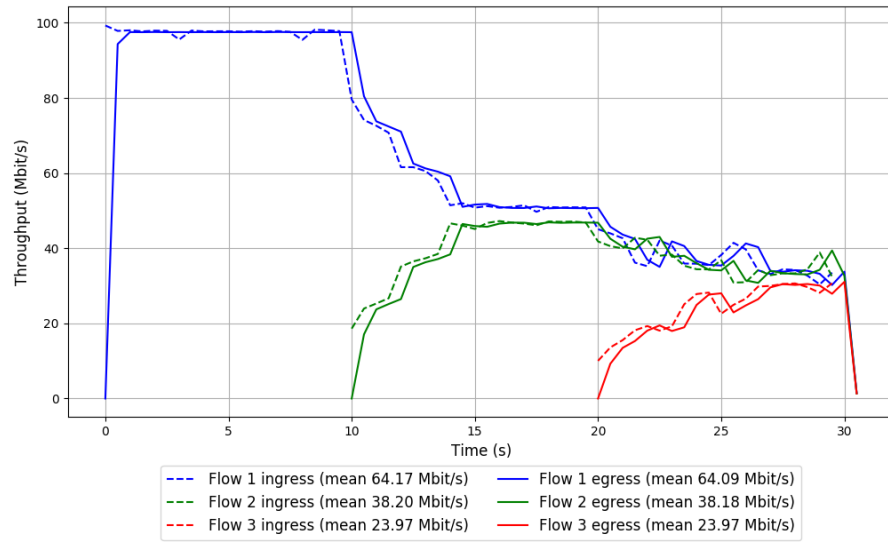


Run 4: Statistics of TCP Cubic

Start at: 2018-10-09 21:58:57
End at: 2018-10-09 21:59:27
Local clock offset: -5.131 ms
Remote clock offset: -0.583 ms

Below is generated by plot.py at 2018-10-09 22:39:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.733 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.09 Mbit/s
95th percentile per-packet one-way delay: 32.655 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.18 Mbit/s
95th percentile per-packet one-way delay: 32.848 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 23.97 Mbit/s
95th percentile per-packet one-way delay: 32.913 ms
Loss rate: 0.04%

Run 4: Report of TCP Cubic — Data Link

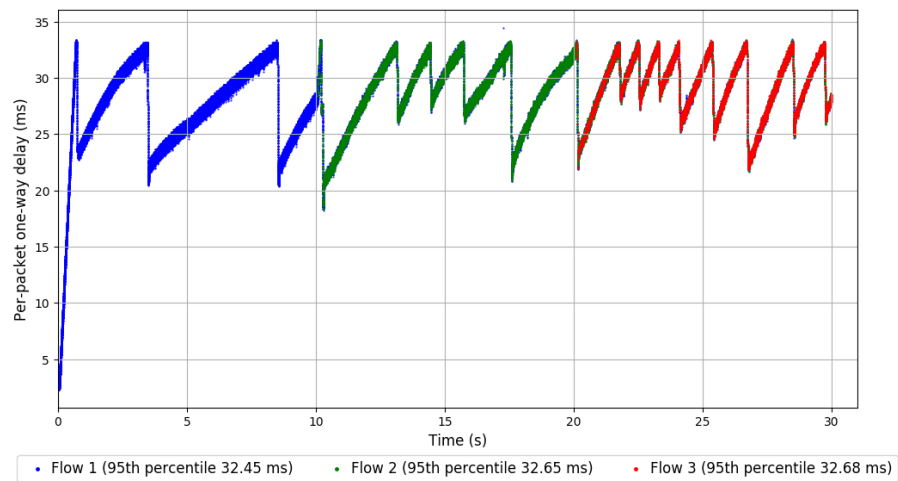
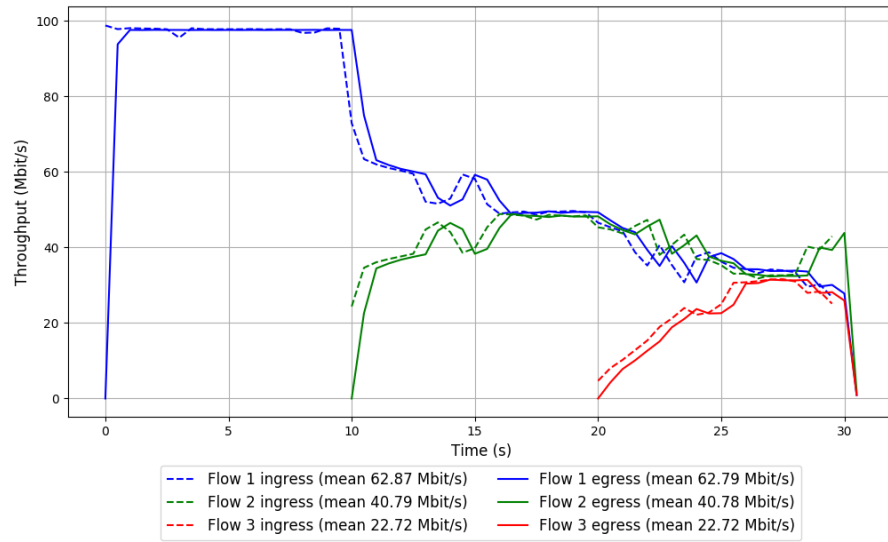


Run 5: Statistics of TCP Cubic

Start at: 2018-10-09 22:19:26
End at: 2018-10-09 22:19:56
Local clock offset: -2.401 ms
Remote clock offset: -0.541 ms

Below is generated by plot.py at 2018-10-09 22:39:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.535 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.79 Mbit/s
95th percentile per-packet one-way delay: 32.455 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 40.78 Mbit/s
95th percentile per-packet one-way delay: 32.647 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 22.72 Mbit/s
95th percentile per-packet one-way delay: 32.684 ms
Loss rate: 0.05%

Run 5: Report of TCP Cubic — Data Link

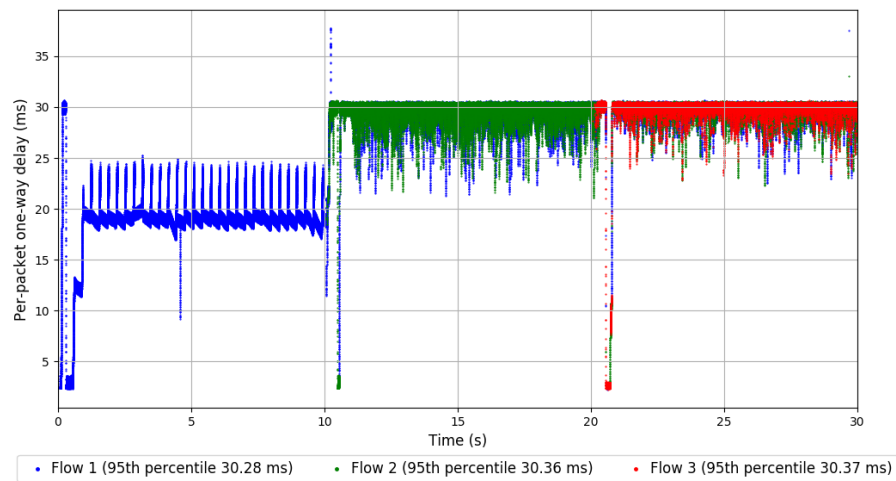
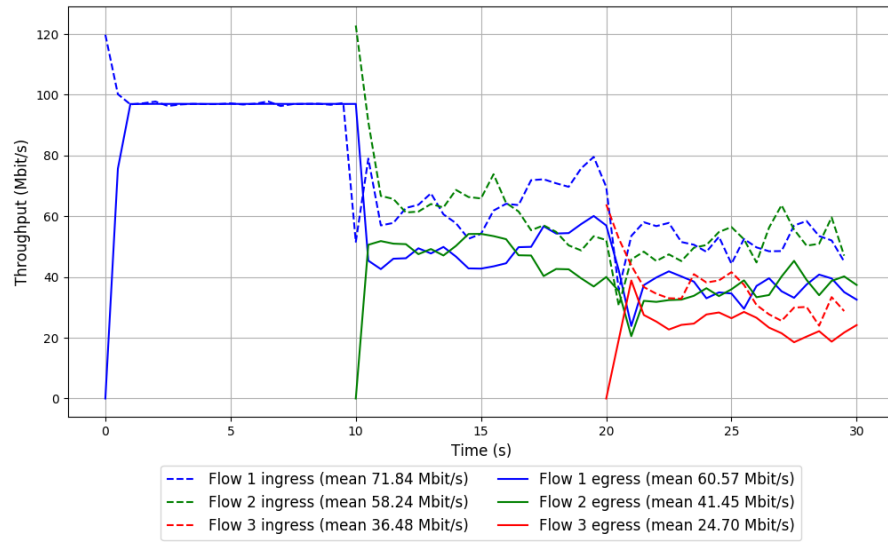


Run 1: Statistics of FillP

Start at: 2018-10-09 21:11:10
End at: 2018-10-09 21:11:40
Local clock offset: -0.988 ms
Remote clock offset: -0.559 ms

Below is generated by plot.py at 2018-10-09 22:40:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.34 Mbit/s
95th percentile per-packet one-way delay: 30.329 ms
Loss rate: 21.42%
-- Flow 1:
Average throughput: 60.57 Mbit/s
95th percentile per-packet one-way delay: 30.282 ms
Loss rate: 15.62%
-- Flow 2:
Average throughput: 41.45 Mbit/s
95th percentile per-packet one-way delay: 30.363 ms
Loss rate: 28.78%
-- Flow 3:
Average throughput: 24.70 Mbit/s
95th percentile per-packet one-way delay: 30.371 ms
Loss rate: 32.28%

Run 1: Report of FillP — Data Link

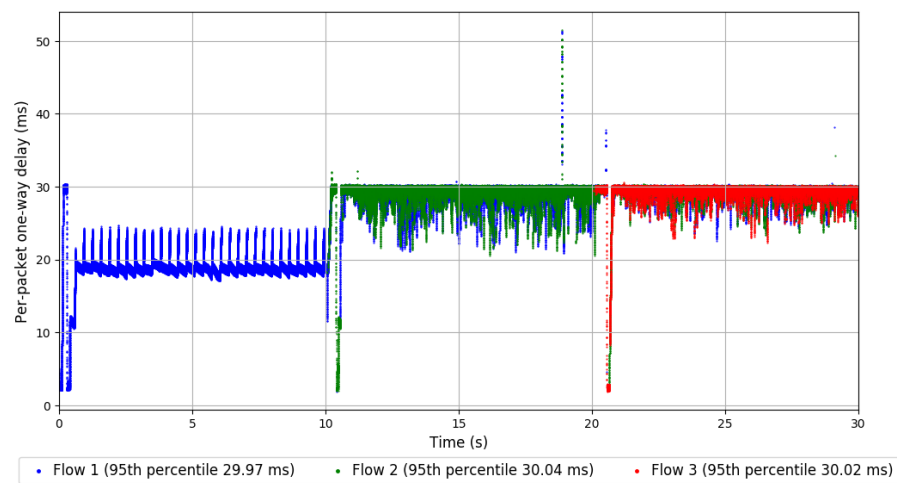
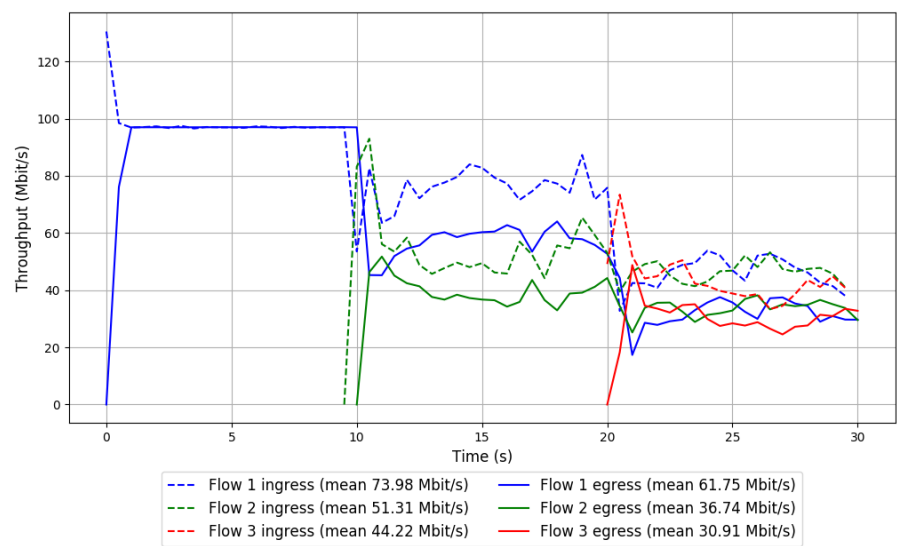


Run 2: Statistics of FillP

Start at: 2018-10-09 21:31:40
End at: 2018-10-09 21:32:10
Local clock offset: -3.676 ms
Remote clock offset: -0.675 ms

Below is generated by plot.py at 2018-10-09 22:40:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.45 Mbit/s
95th percentile per-packet one-way delay: 30.004 ms
Loss rate: 21.39%
-- Flow 1:
Average throughput: 61.75 Mbit/s
95th percentile per-packet one-way delay: 29.968 ms
Loss rate: 16.45%
-- Flow 2:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 30.044 ms
Loss rate: 28.35%
-- Flow 3:
Average throughput: 30.91 Mbit/s
95th percentile per-packet one-way delay: 30.020 ms
Loss rate: 30.11%

Run 2: Report of FillP — Data Link

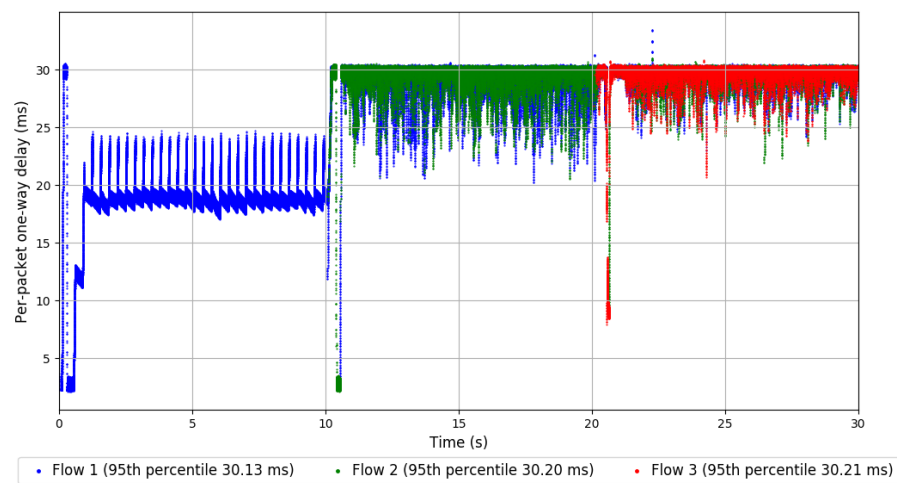
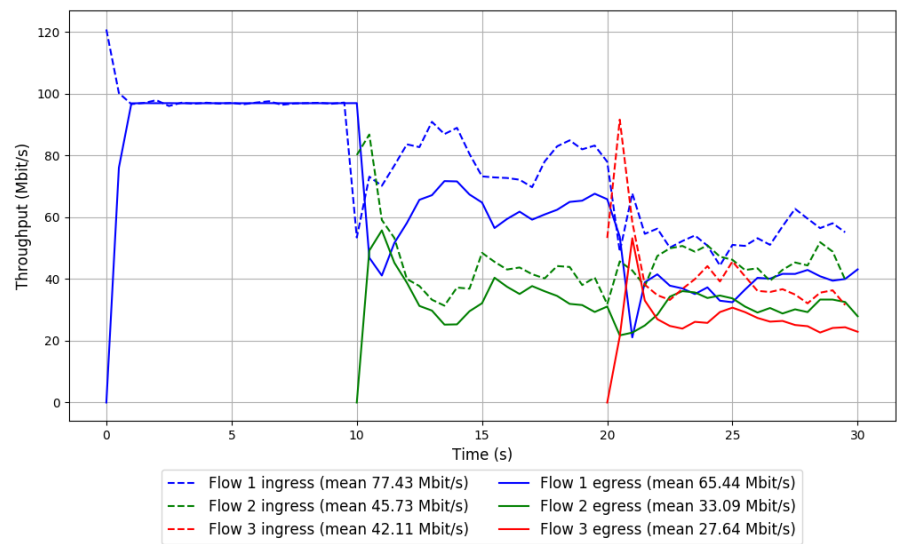


Run 3: Statistics of FillP

Start at: 2018-10-09 21:52:08
End at: 2018-10-09 21:52:38
Local clock offset: -6.504 ms
Remote clock offset: -0.587 ms

Below is generated by plot.py at 2018-10-09 22:40:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.62 Mbit/s
95th percentile per-packet one-way delay: 30.165 ms
Loss rate: 20.62%
-- Flow 1:
Average throughput: 65.44 Mbit/s
95th percentile per-packet one-way delay: 30.129 ms
Loss rate: 15.41%
-- Flow 2:
Average throughput: 33.09 Mbit/s
95th percentile per-packet one-way delay: 30.203 ms
Loss rate: 27.62%
-- Flow 3:
Average throughput: 27.64 Mbit/s
95th percentile per-packet one-way delay: 30.208 ms
Loss rate: 34.34%

Run 3: Report of FillP — Data Link

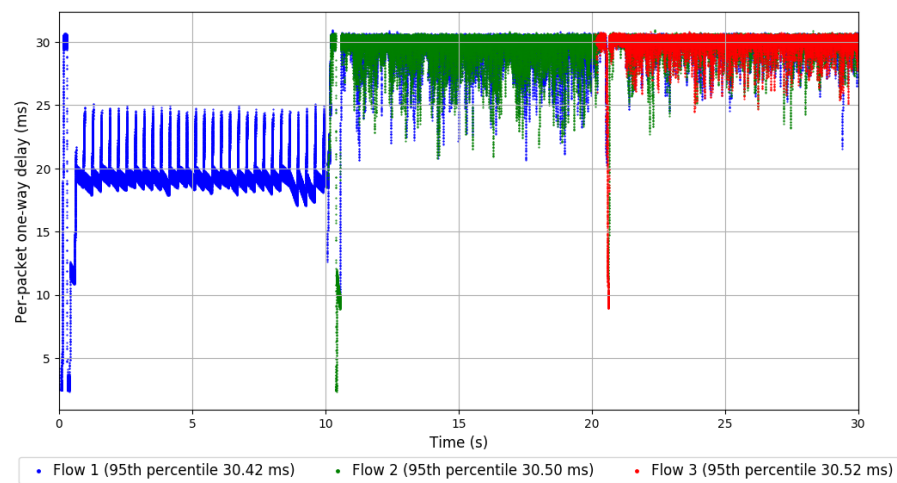
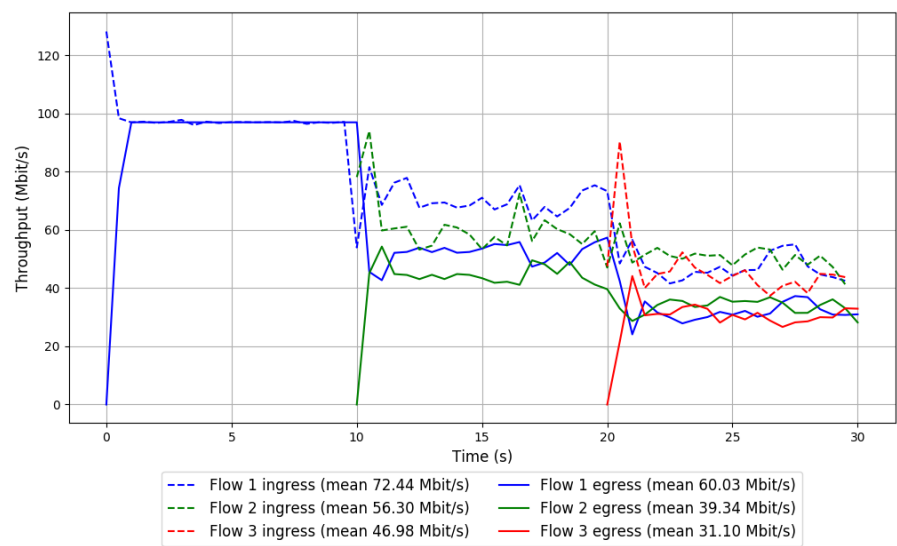


Run 4: Statistics of FillP

Start at: 2018-10-09 22:12:36
End at: 2018-10-09 22:13:06
Local clock offset: -2.805 ms
Remote clock offset: -0.436 ms

Below is generated by plot.py at 2018-10-09 22:40:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.50 Mbit/s
95th percentile per-packet one-way delay: 30.470 ms
Loss rate: 23.02%
-- Flow 1:
Average throughput: 60.03 Mbit/s
95th percentile per-packet one-way delay: 30.419 ms
Loss rate: 17.05%
-- Flow 2:
Average throughput: 39.34 Mbit/s
95th percentile per-packet one-way delay: 30.501 ms
Loss rate: 30.09%
-- Flow 3:
Average throughput: 31.10 Mbit/s
95th percentile per-packet one-way delay: 30.515 ms
Loss rate: 33.80%

Run 4: Report of FillP — Data Link

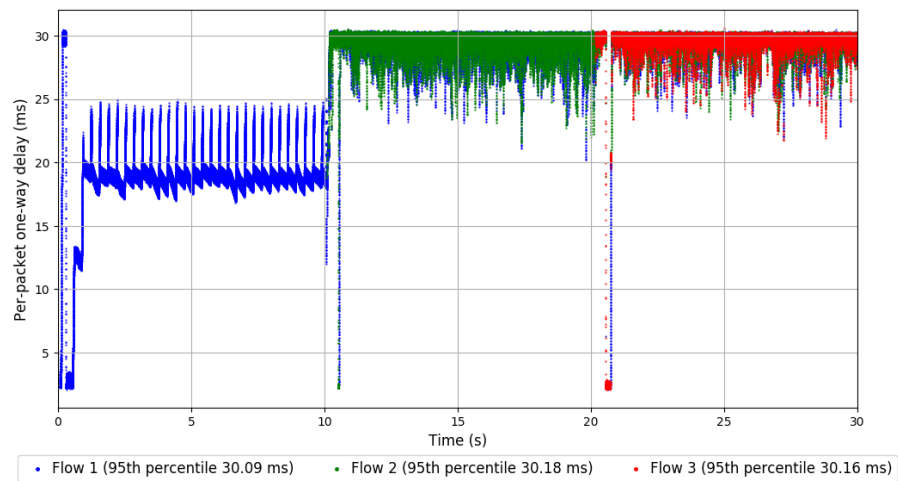
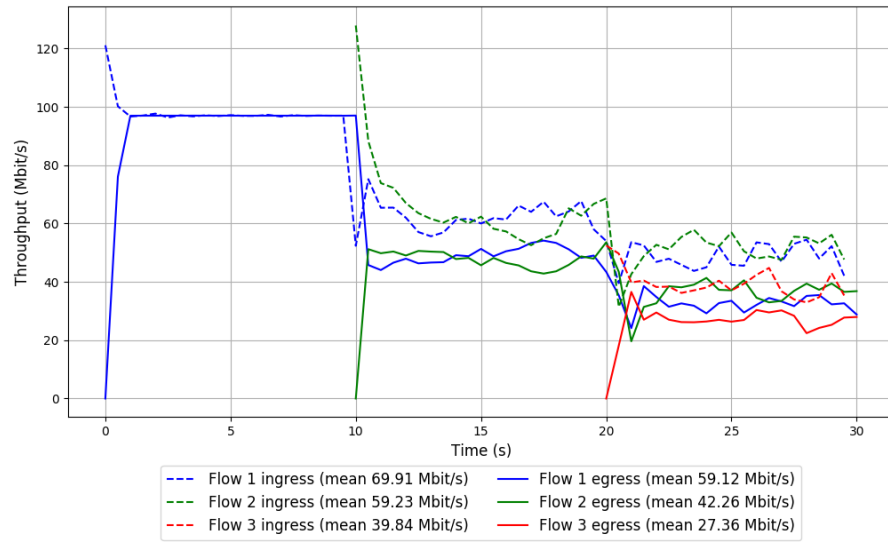


Run 5: Statistics of FillP

Start at: 2018-10-09 22:33:05
End at: 2018-10-09 22:33:35
Local clock offset: -4.97 ms
Remote clock offset: -0.315 ms

Below is generated by plot.py at 2018-10-09 22:40:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.31 Mbit/s
95th percentile per-packet one-way delay: 30.134 ms
Loss rate: 21.34%
-- Flow 1:
Average throughput: 59.12 Mbit/s
95th percentile per-packet one-way delay: 30.088 ms
Loss rate: 15.37%
-- Flow 2:
Average throughput: 42.26 Mbit/s
95th percentile per-packet one-way delay: 30.177 ms
Loss rate: 28.60%
-- Flow 3:
Average throughput: 27.36 Mbit/s
95th percentile per-packet one-way delay: 30.163 ms
Loss rate: 31.32%

Run 5: Report of FillP — Data Link

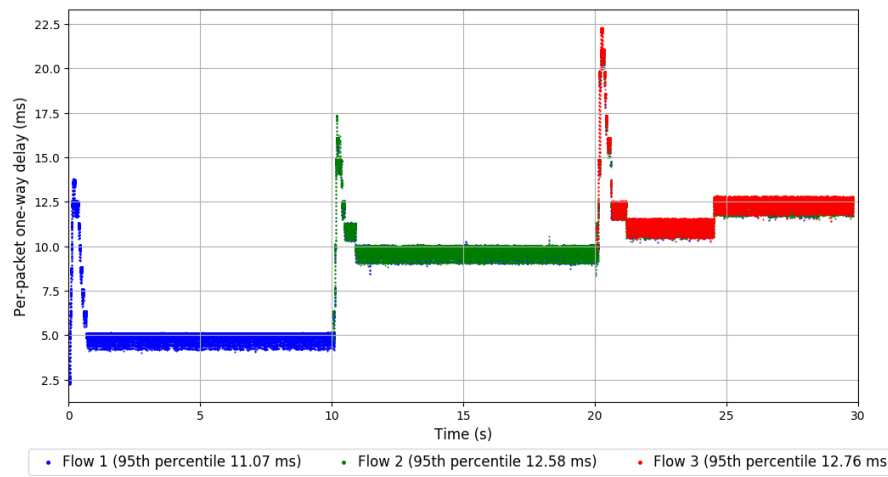
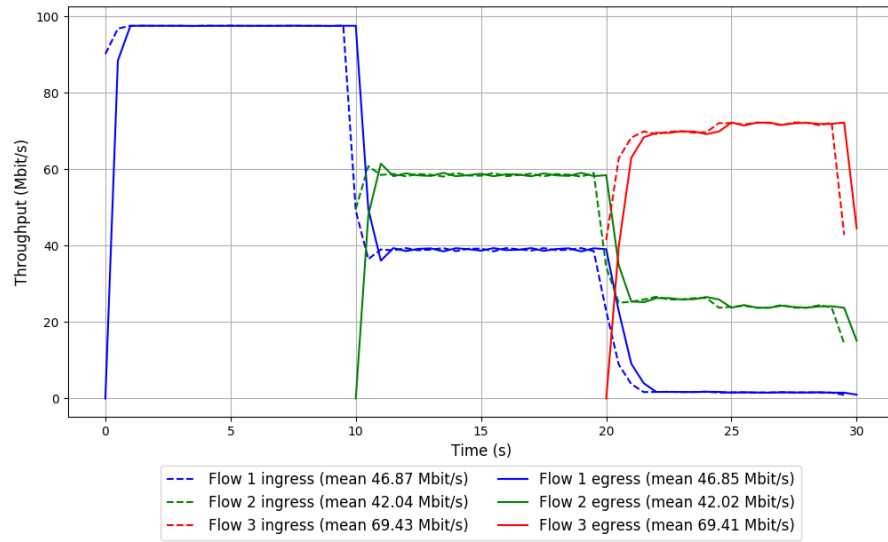


```
Run 1: Statistics of Indigo

Start at: 2018-10-09 21:01:00
End at: 2018-10-09 21:01:30
Local clock offset: -0.727 ms
Remote clock offset: -0.602 ms

# Below is generated by plot.py at 2018-10-09 22:40:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 12.594 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.85 Mbit/s
95th percentile per-packet one-way delay: 11.067 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 12.584 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.41 Mbit/s
95th percentile per-packet one-way delay: 12.762 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

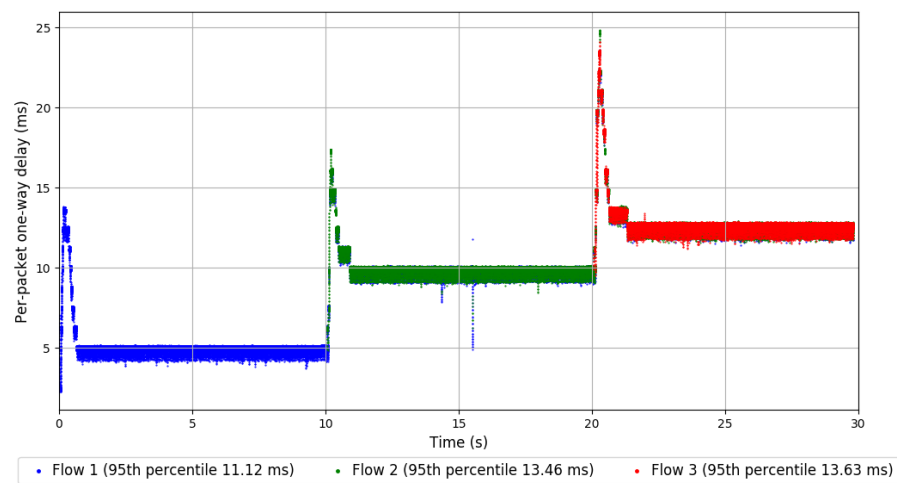
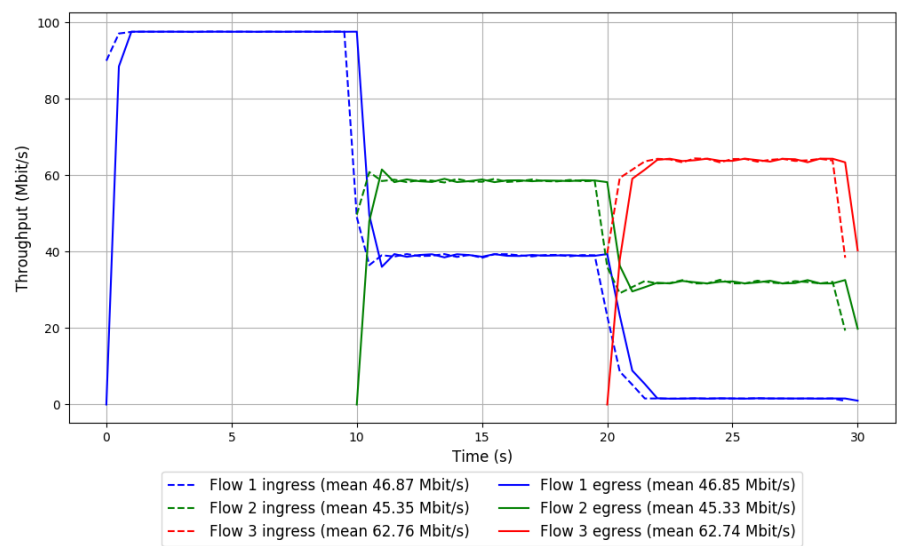


Run 2: Statistics of Indigo

Start at: 2018-10-09 21:21:29
End at: 2018-10-09 21:21:59
Local clock offset: -0.905 ms
Remote clock offset: -0.609 ms

Below is generated by plot.py at 2018-10-09 22:40:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 12.845 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.85 Mbit/s
95th percentile per-packet one-way delay: 11.117 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.33 Mbit/s
95th percentile per-packet one-way delay: 13.458 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.74 Mbit/s
95th percentile per-packet one-way delay: 13.627 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

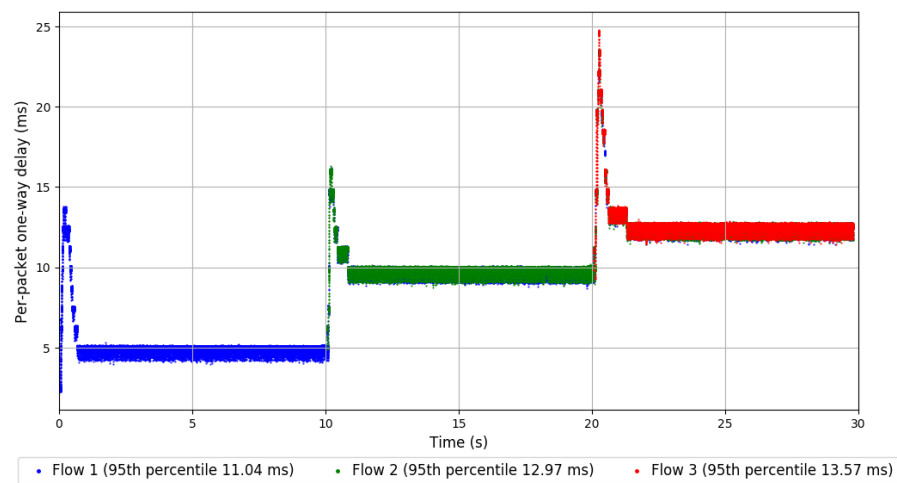
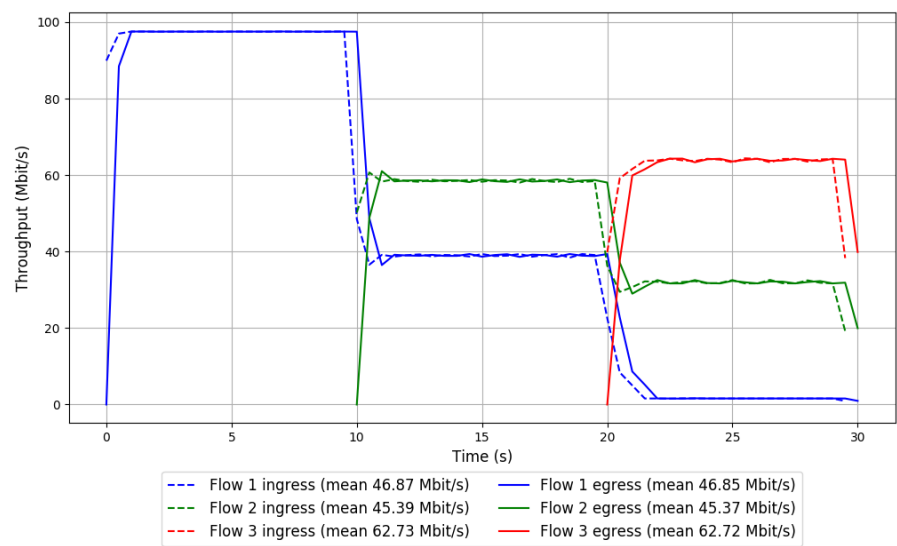


Run 3: Statistics of Indigo

Start at: 2018-10-09 21:41:58
End at: 2018-10-09 21:42:28
Local clock offset: -5.647 ms
Remote clock offset: -0.551 ms

Below is generated by plot.py at 2018-10-09 22:40:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 12.748 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.85 Mbit/s
95th percentile per-packet one-way delay: 11.042 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 12.971 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 13.571 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

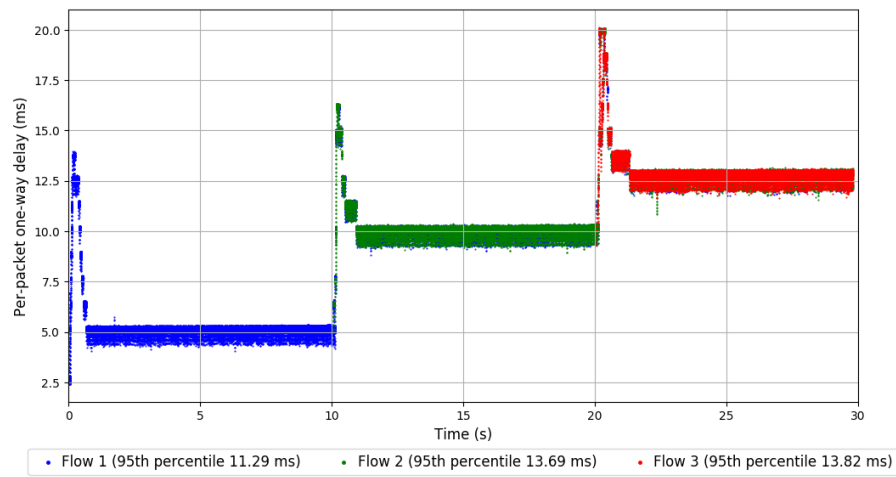
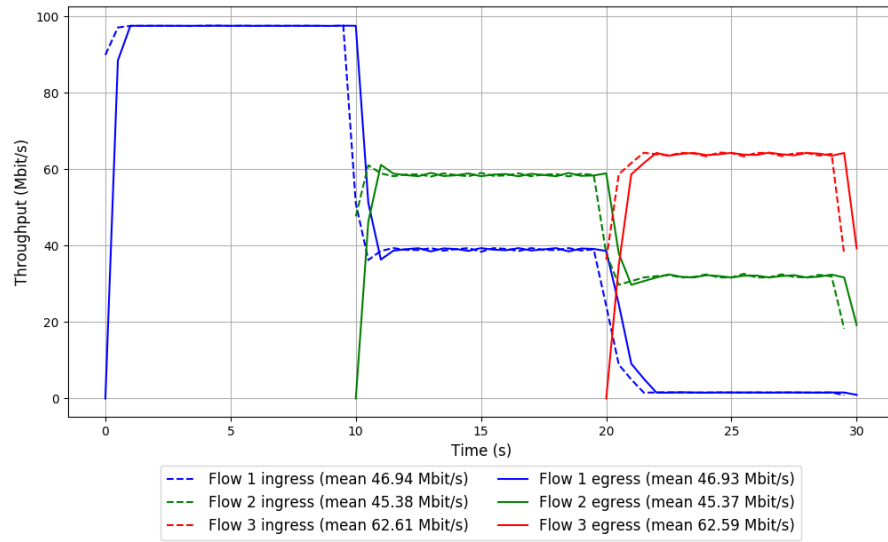


Run 4: Statistics of Indigo

Start at: 2018-10-09 22:02:26
End at: 2018-10-09 22:02:56
Local clock offset: -4.155 ms
Remote clock offset: -0.465 ms

Below is generated by plot.py at 2018-10-09 22:41:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 13.048 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.93 Mbit/s
95th percentile per-packet one-way delay: 11.292 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 13.690 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.59 Mbit/s
95th percentile per-packet one-way delay: 13.823 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

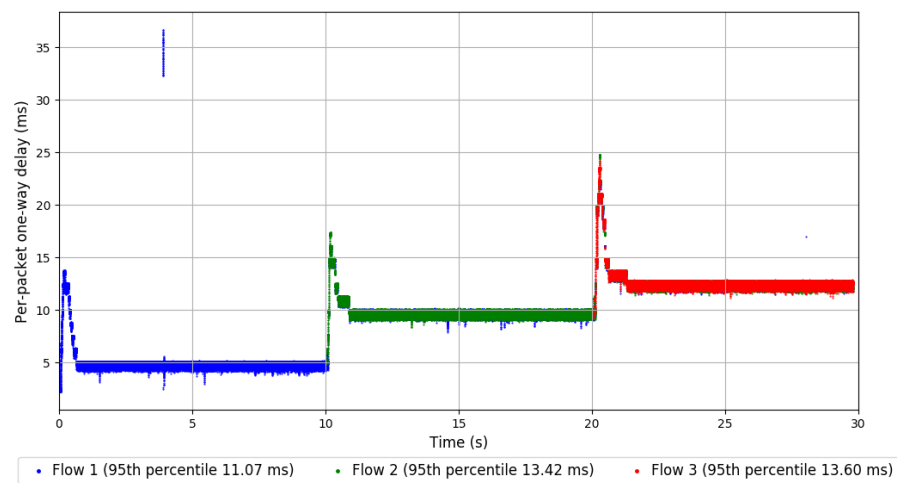
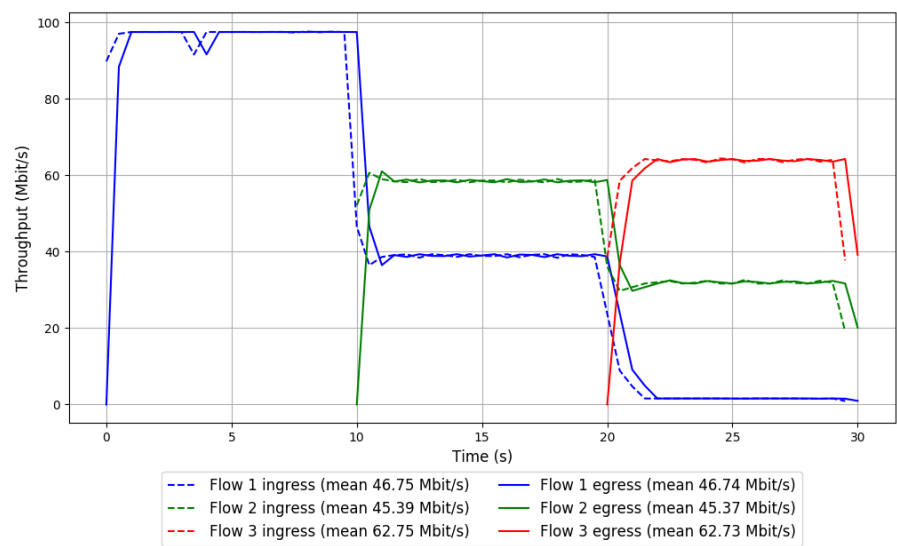


Run 5: Statistics of Indigo

Start at: 2018-10-09 22:22:55
End at: 2018-10-09 22:23:25
Local clock offset: -2.185 ms
Remote clock offset: -0.463 ms

Below is generated by plot.py at 2018-10-09 22:41:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.28 Mbit/s
95th percentile per-packet one-way delay: 12.789 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.74 Mbit/s
95th percentile per-packet one-way delay: 11.070 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 13.422 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.73 Mbit/s
95th percentile per-packet one-way delay: 13.598 ms
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

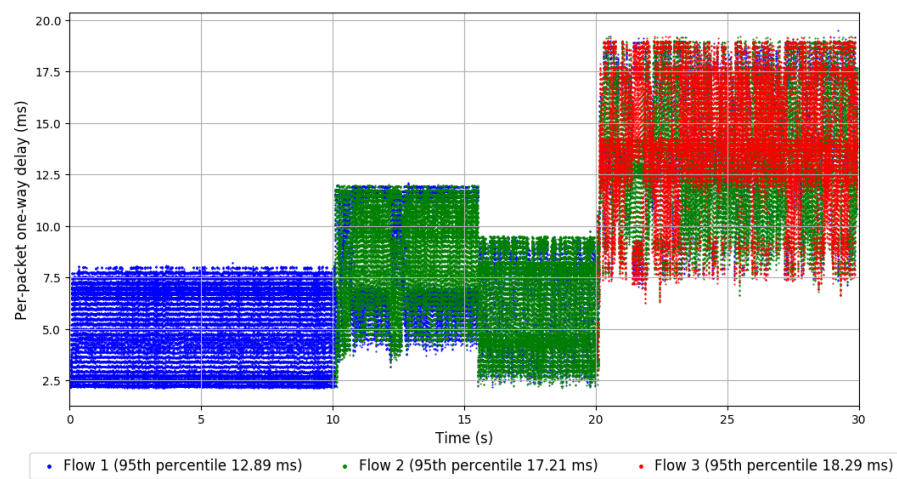
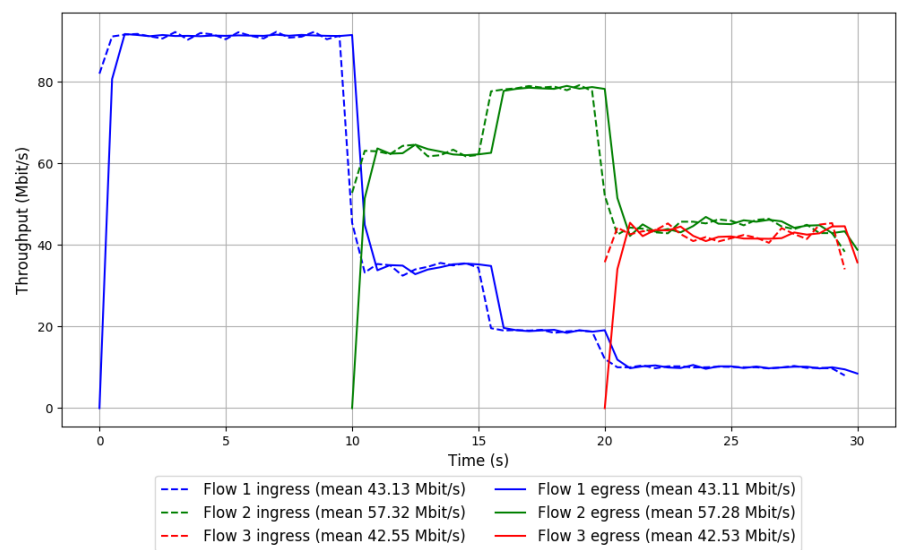


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-09 21:03:20
End at: 2018-10-09 21:03:50
Local clock offset: -0.835 ms
Remote clock offset: -0.683 ms

Below is generated by plot.py at 2018-10-09 22:41:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.23 Mbit/s
95th percentile per-packet one-way delay: 17.236 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.11 Mbit/s
95th percentile per-packet one-way delay: 12.889 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.28 Mbit/s
95th percentile per-packet one-way delay: 17.215 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.53 Mbit/s
95th percentile per-packet one-way delay: 18.294 ms
Loss rate: 0.00%

Run 1: Report of Indigo-96d2da3 — Data Link

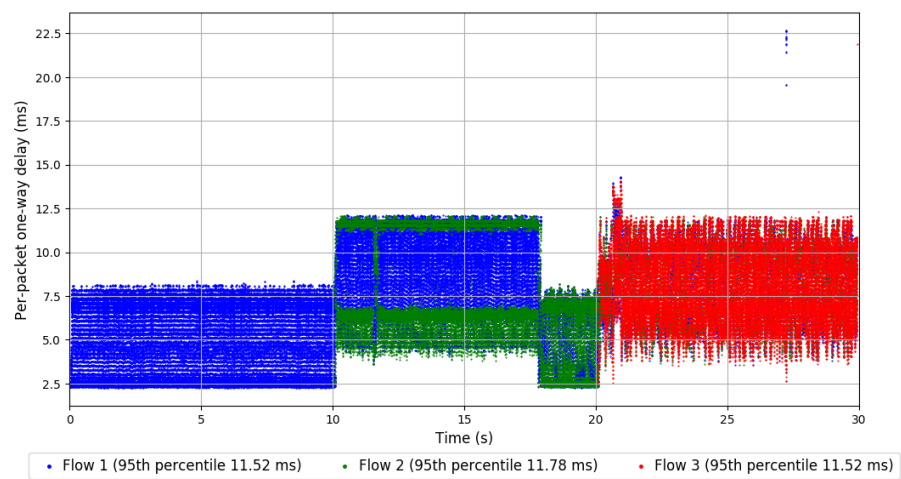
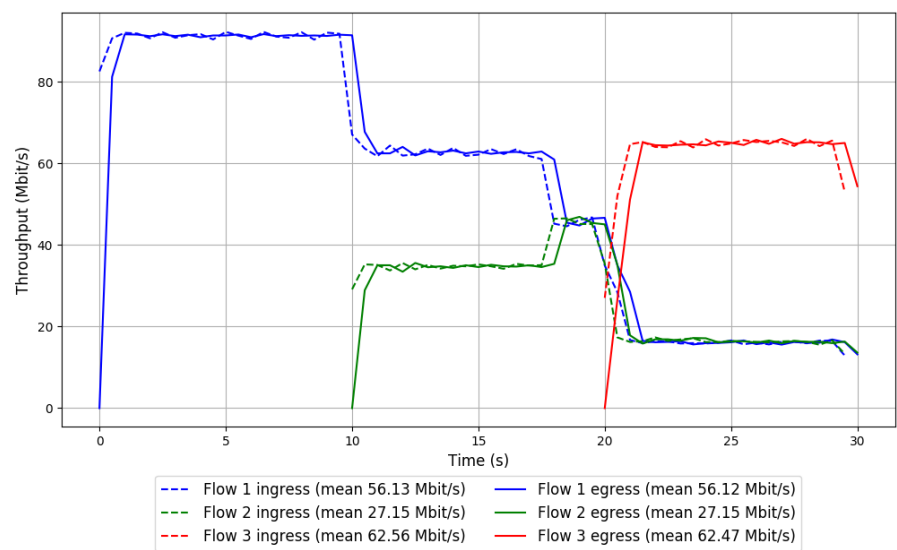


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-09 21:23:48
End at: 2018-10-09 21:24:18
Local clock offset: -0.857 ms
Remote clock offset: -0.616 ms

Below is generated by plot.py at 2018-10-09 22:41:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.76 Mbit/s
95th percentile per-packet one-way delay: 11.590 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.12 Mbit/s
95th percentile per-packet one-way delay: 11.524 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.15 Mbit/s
95th percentile per-packet one-way delay: 11.778 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.47 Mbit/s
95th percentile per-packet one-way delay: 11.515 ms
Loss rate: 0.00%

Run 2: Report of Indigo-96d2da3 — Data Link

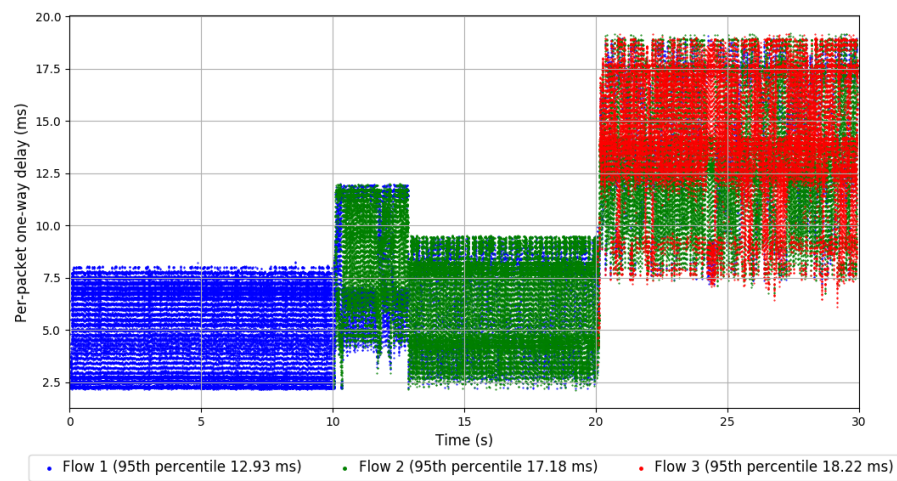
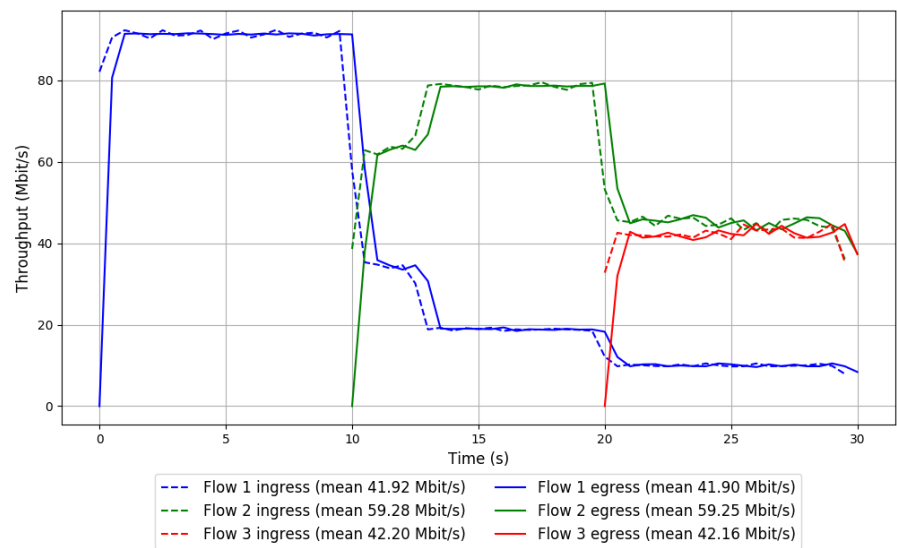


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-09 21:44:18
End at: 2018-10-09 21:44:48
Local clock offset: -5.89 ms
Remote clock offset: -0.613 ms

Below is generated by plot.py at 2018-10-09 22:41:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 17.248 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.90 Mbit/s
95th percentile per-packet one-way delay: 12.931 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 17.184 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.16 Mbit/s
95th percentile per-packet one-way delay: 18.221 ms
Loss rate: 0.00%

Run 3: Report of Indigo-96d2da3 — Data Link

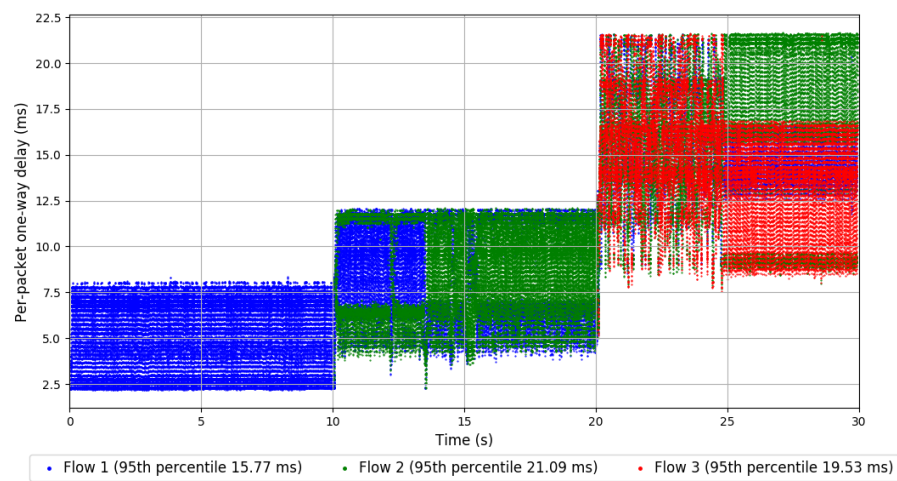
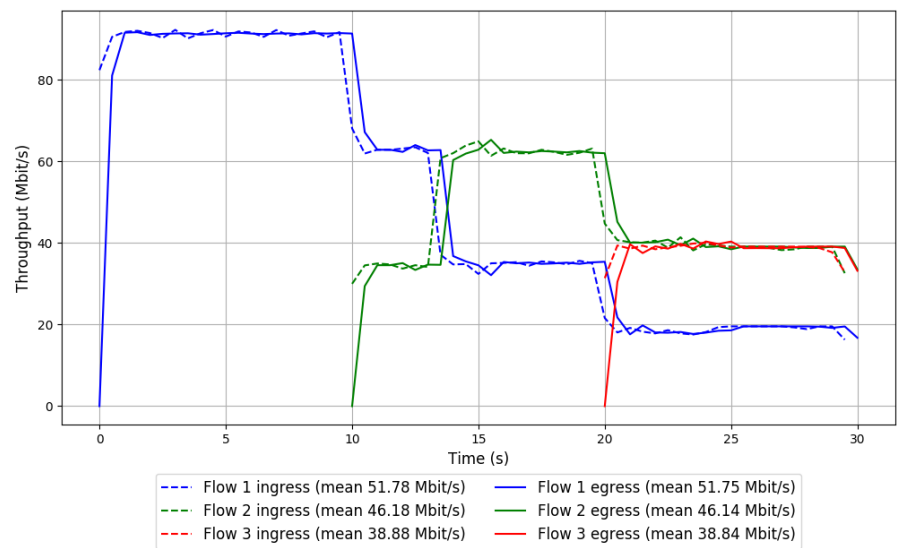


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-09 22:04:46
End at: 2018-10-09 22:05:16
Local clock offset: -3.681 ms
Remote clock offset: -0.633 ms

Below is generated by plot.py at 2018-10-09 22:41:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 19.060 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.75 Mbit/s
95th percentile per-packet one-way delay: 15.766 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.14 Mbit/s
95th percentile per-packet one-way delay: 21.089 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.84 Mbit/s
95th percentile per-packet one-way delay: 19.532 ms
Loss rate: 0.00%

Run 4: Report of Indigo-96d2da3 — Data Link

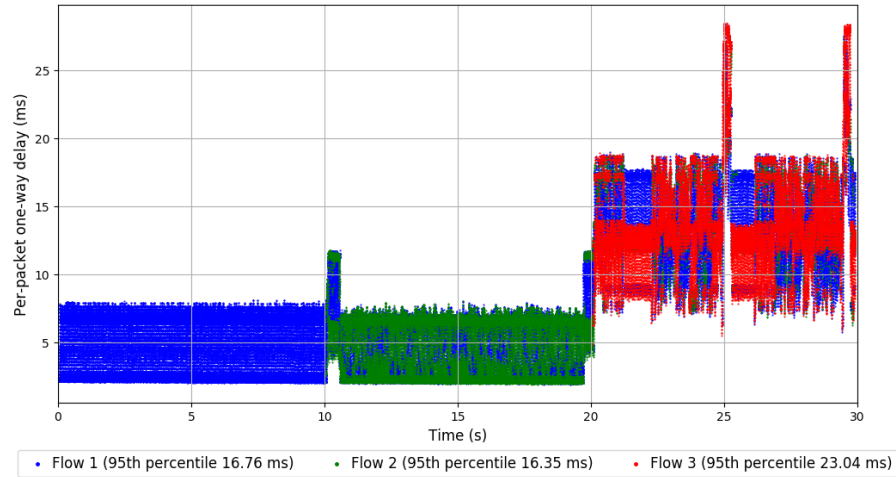
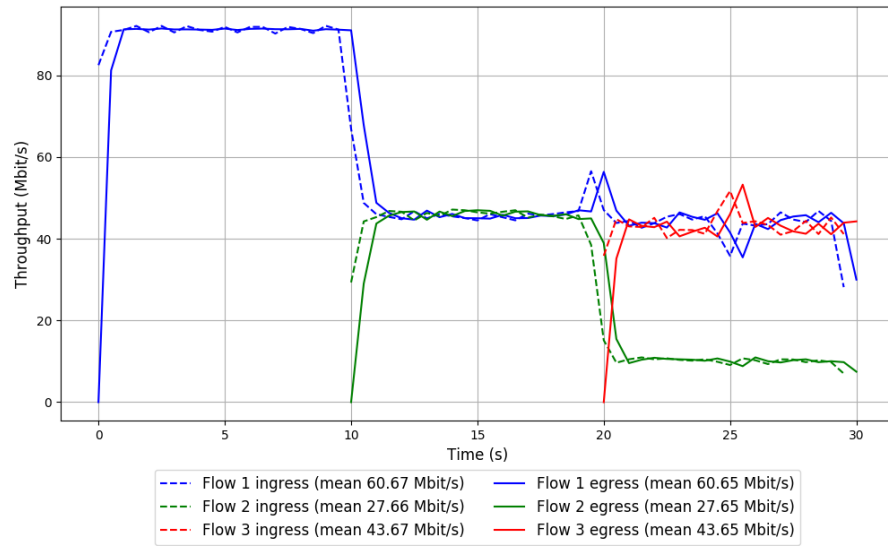


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-09 22:25:14
End at: 2018-10-09 22:25:44
Local clock offset: -2.209 ms
Remote clock offset: -0.375 ms

Below is generated by plot.py at 2018-10-09 22:42:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.43 Mbit/s
95th percentile per-packet one-way delay: 17.276 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.65 Mbit/s
95th percentile per-packet one-way delay: 16.757 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.65 Mbit/s
95th percentile per-packet one-way delay: 16.351 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.65 Mbit/s
95th percentile per-packet one-way delay: 23.042 ms
Loss rate: 0.00%

Run 5: Report of Indigo-96d2da3 — Data Link

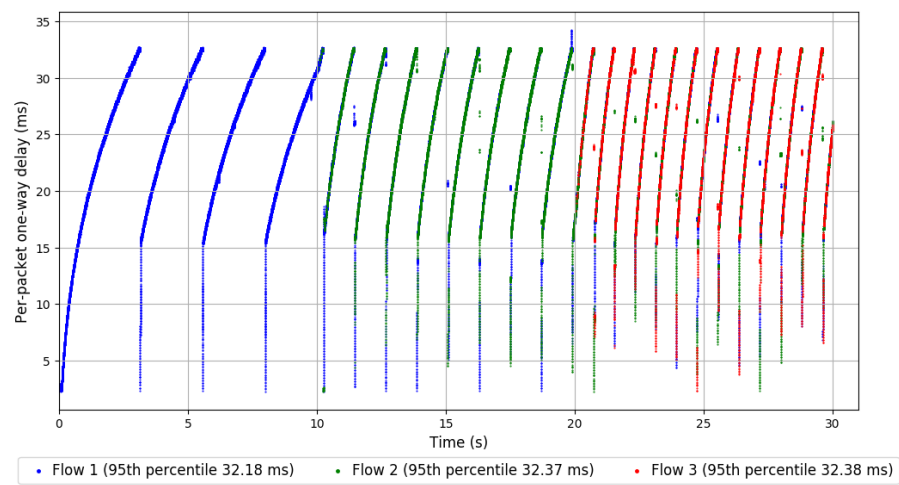
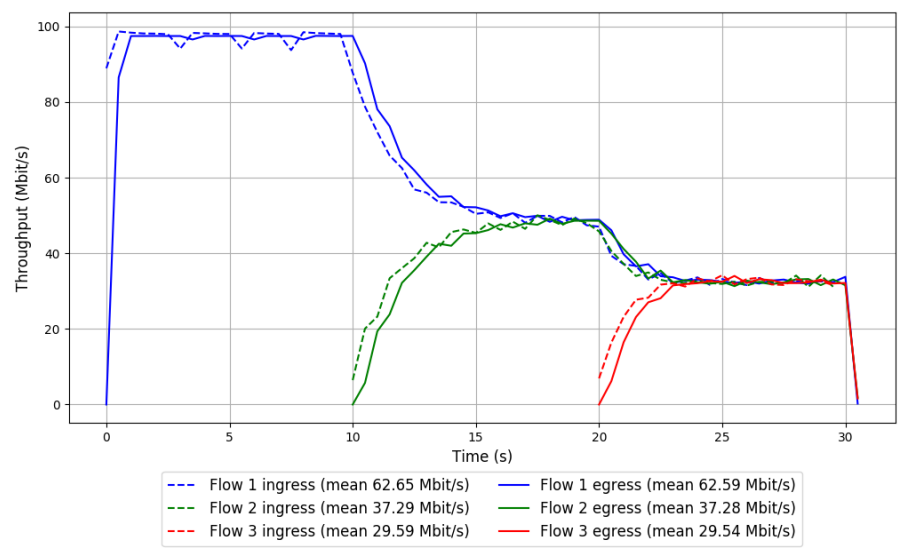


Run 1: Statistics of LEDBAT

Start at: 2018-10-09 20:58:40
End at: 2018-10-09 20:59:10
Local clock offset: -0.556 ms
Remote clock offset: -0.557 ms

Below is generated by plot.py at 2018-10-09 22:42:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 32.204 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.59 Mbit/s
95th percentile per-packet one-way delay: 32.181 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.28 Mbit/s
95th percentile per-packet one-way delay: 32.370 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.54 Mbit/s
95th percentile per-packet one-way delay: 32.381 ms
Loss rate: 0.07%

Run 1: Report of LEDBAT — Data Link

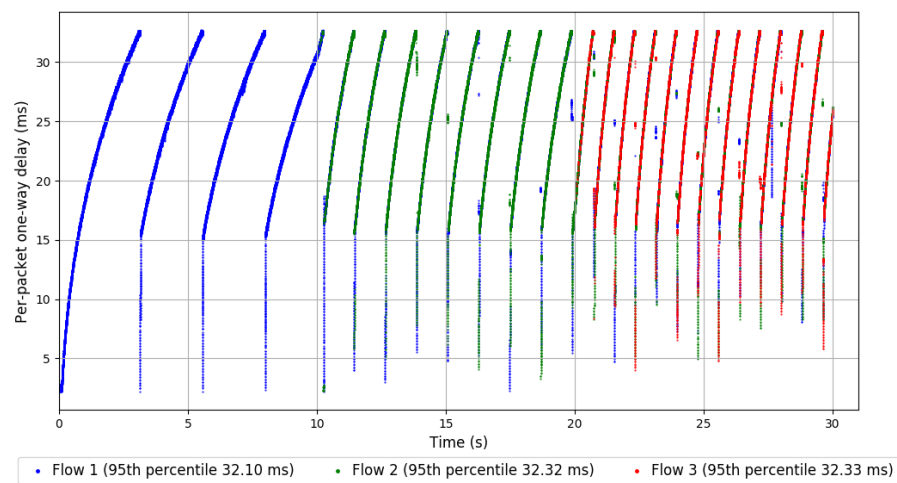
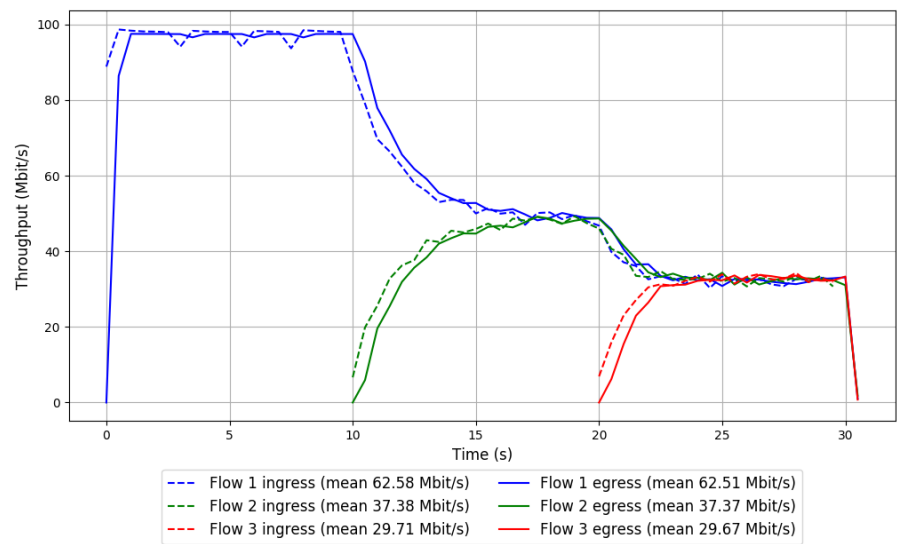


Run 2: Statistics of LEDBAT

Start at: 2018-10-09 21:19:09
End at: 2018-10-09 21:19:39
Local clock offset: -0.943 ms
Remote clock offset: -0.676 ms

Below is generated by plot.py at 2018-10-09 22:42:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 32.132 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.51 Mbit/s
95th percentile per-packet one-way delay: 32.101 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.37 Mbit/s
95th percentile per-packet one-way delay: 32.319 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.67 Mbit/s
95th percentile per-packet one-way delay: 32.332 ms
Loss rate: 0.08%

Run 2: Report of LEDBAT — Data Link

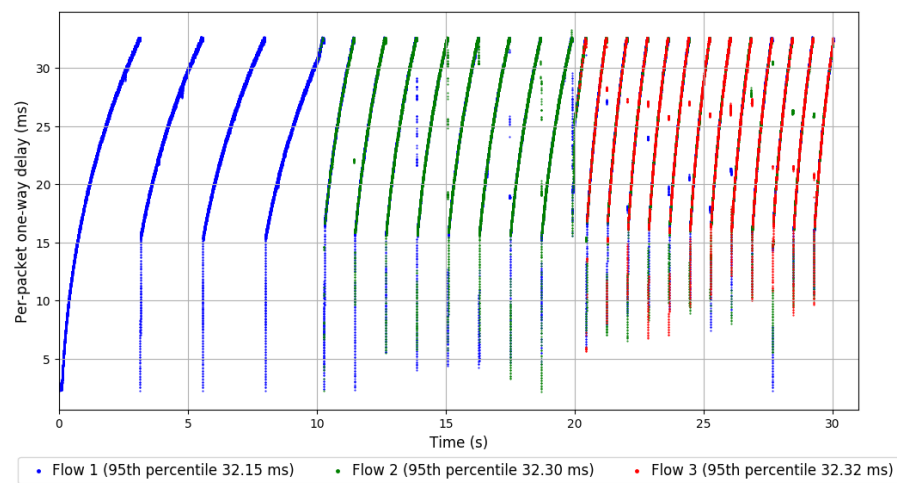
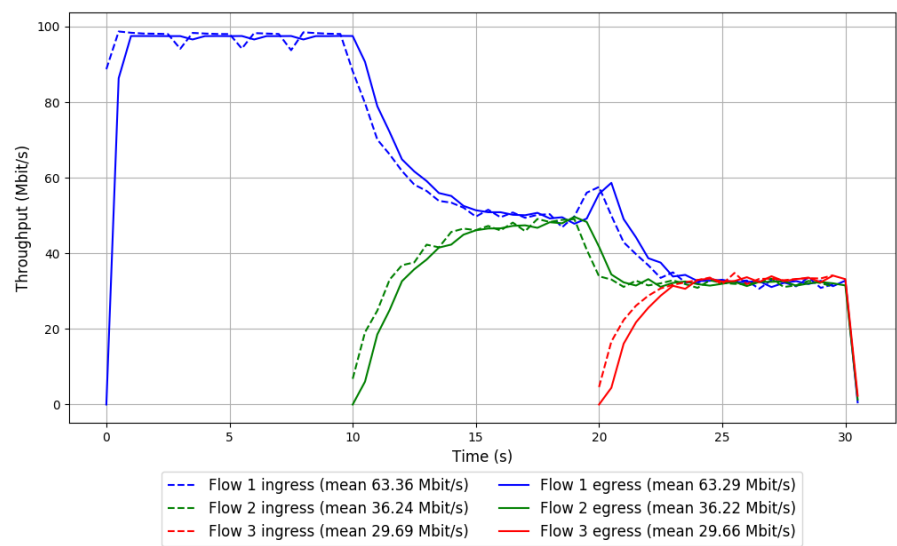


Run 3: Statistics of LEDBAT

Start at: 2018-10-09 21:39:38
End at: 2018-10-09 21:40:08
Local clock offset: -5.337 ms
Remote clock offset: -0.523 ms

Below is generated by plot.py at 2018-10-09 22:42:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 32.168 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 32.153 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 36.22 Mbit/s
95th percentile per-packet one-way delay: 32.298 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.66 Mbit/s
95th percentile per-packet one-way delay: 32.316 ms
Loss rate: 0.07%

Run 3: Report of LEDBAT — Data Link

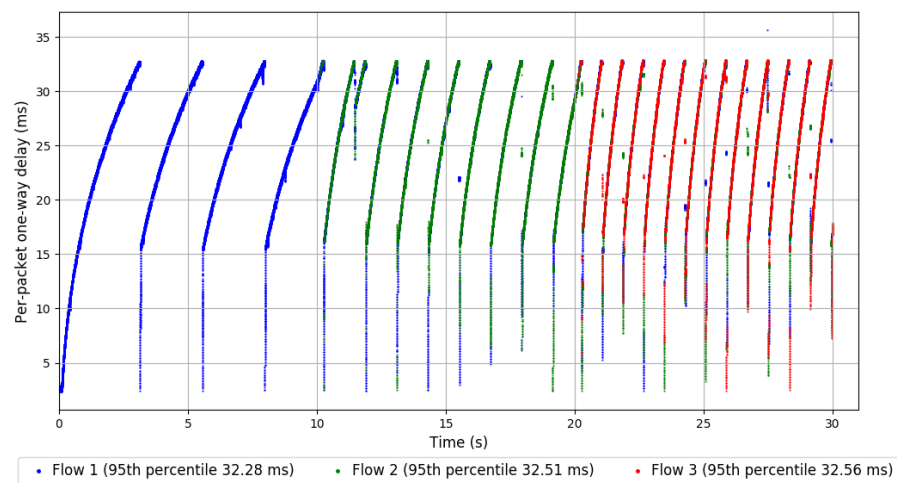
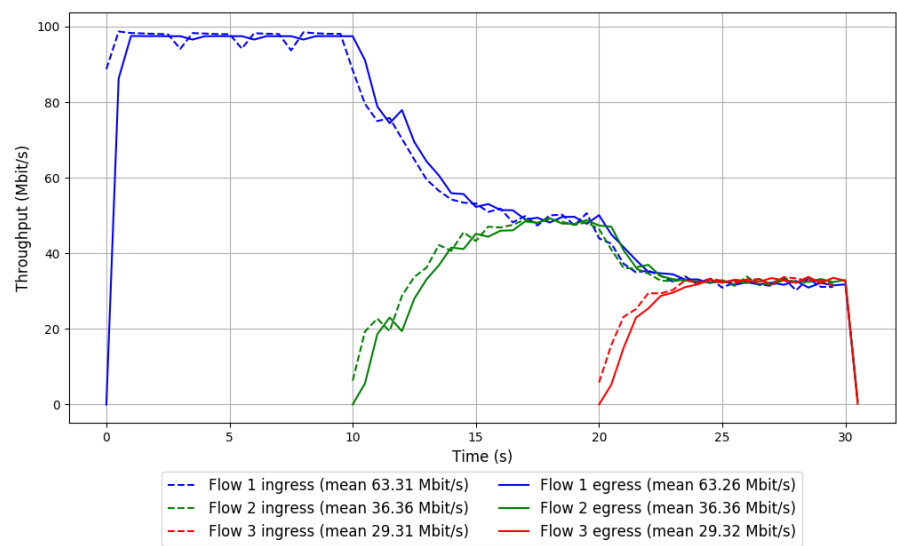


Run 4: Statistics of LEDBAT

Start at: 2018-10-09 22:00:06
End at: 2018-10-09 22:00:36
Local clock offset: -4.709 ms
Remote clock offset: -0.534 ms

Below is generated by plot.py at 2018-10-09 22:42:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.18 Mbit/s
95th percentile per-packet one-way delay: 32.341 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 63.26 Mbit/s
95th percentile per-packet one-way delay: 32.285 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 32.513 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 32.562 ms
Loss rate: 0.08%

Run 4: Report of LEDBAT — Data Link

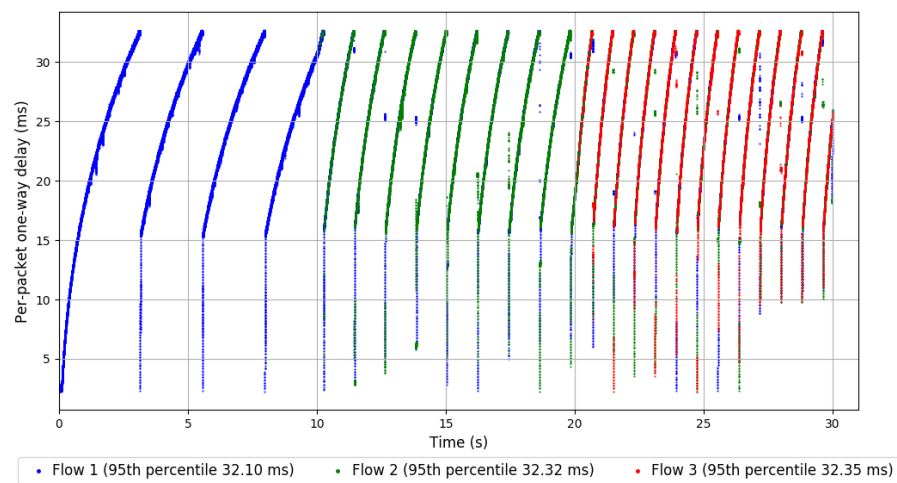
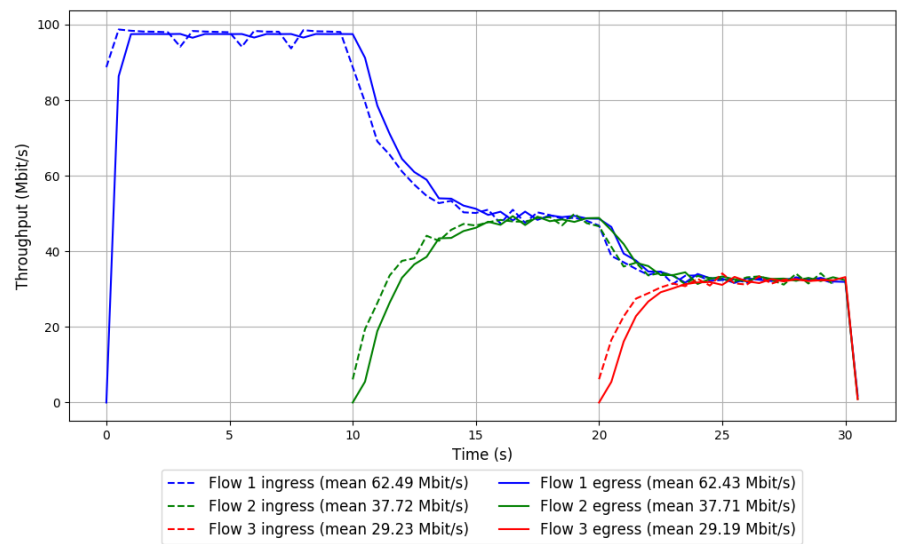


Run 5: Statistics of LEDBAT

Start at: 2018-10-09 22:20:35
End at: 2018-10-09 22:21:05
Local clock offset: -2.288 ms
Remote clock offset: -0.505 ms

Below is generated by plot.py at 2018-10-09 22:42:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 32.136 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.43 Mbit/s
95th percentile per-packet one-way delay: 32.103 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.71 Mbit/s
95th percentile per-packet one-way delay: 32.317 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.19 Mbit/s
95th percentile per-packet one-way delay: 32.351 ms
Loss rate: 0.08%

Run 5: Report of LEDBAT — Data Link

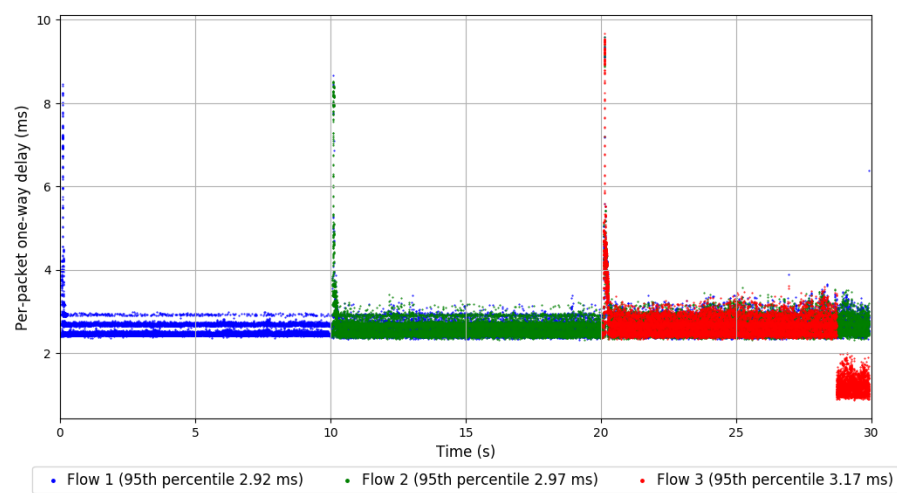
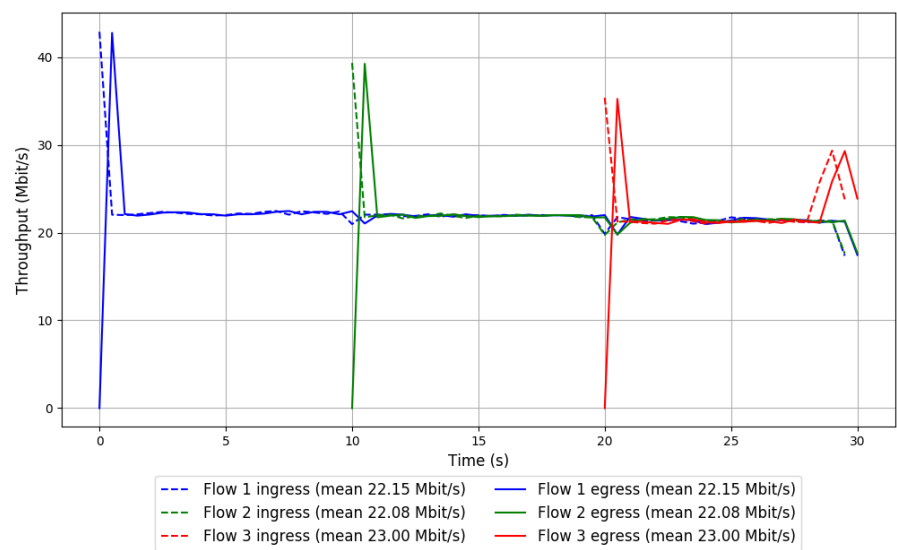


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-09 21:13:27
End at: 2018-10-09 21:13:57
Local clock offset: -1.06 ms
Remote clock offset: -0.568 ms

# Below is generated by plot.py at 2018-10-09 22:42:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.42 Mbit/s
95th percentile per-packet one-way delay: 2.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 22.15 Mbit/s
95th percentile per-packet one-way delay: 2.919 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 22.08 Mbit/s
95th percentile per-packet one-way delay: 2.974 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.00 Mbit/s
95th percentile per-packet one-way delay: 3.171 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

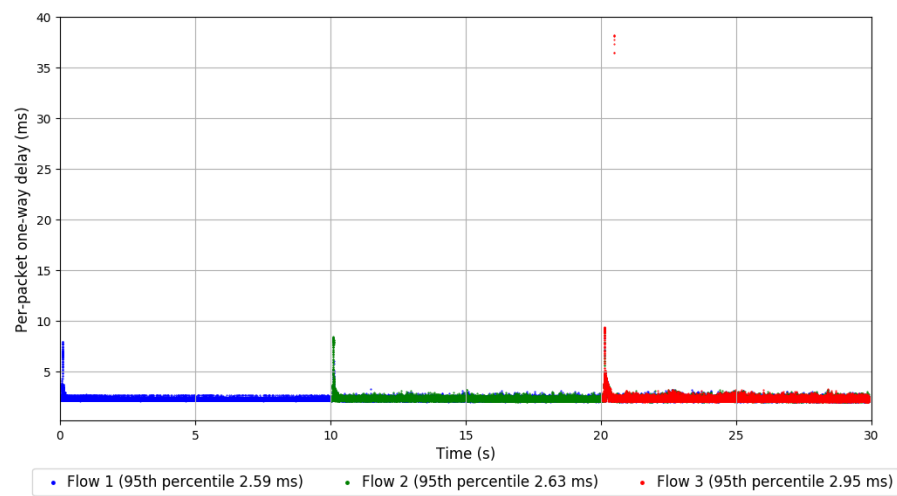
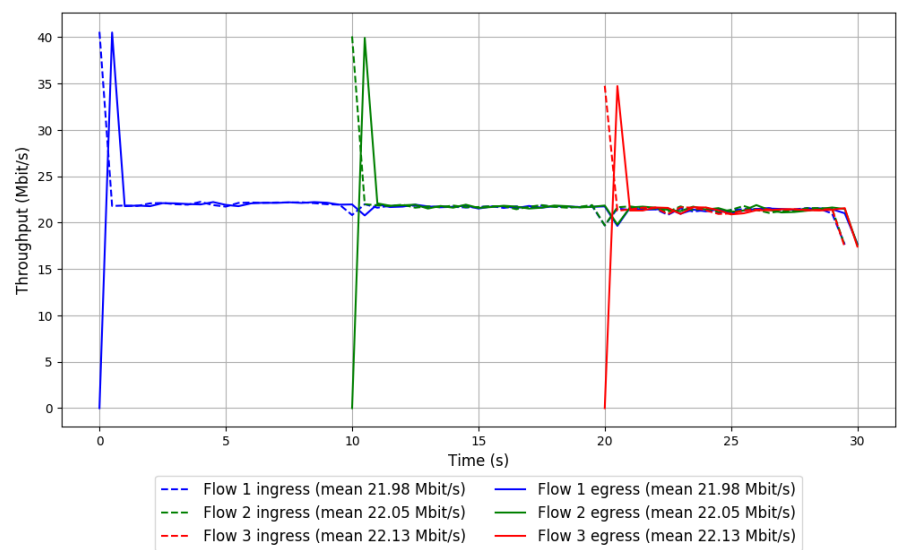


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-09 21:33:57
End at: 2018-10-09 21:34:27
Local clock offset: -4.248 ms
Remote clock offset: -0.643 ms

Below is generated by plot.py at 2018-10-09 22:42:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 43.95 Mbit/s
95th percentile per-packet one-way delay: 2.633 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.98 Mbit/s
95th percentile per-packet one-way delay: 2.588 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.05 Mbit/s
95th percentile per-packet one-way delay: 2.633 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.13 Mbit/s
95th percentile per-packet one-way delay: 2.954 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

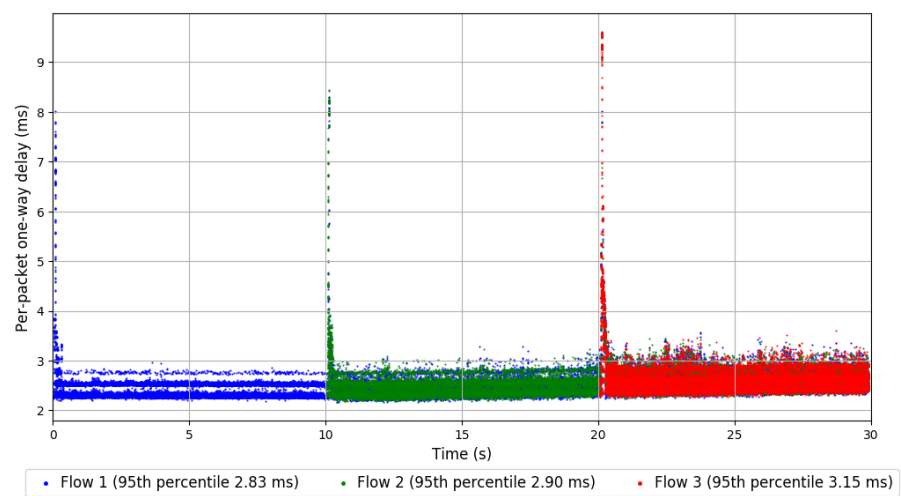
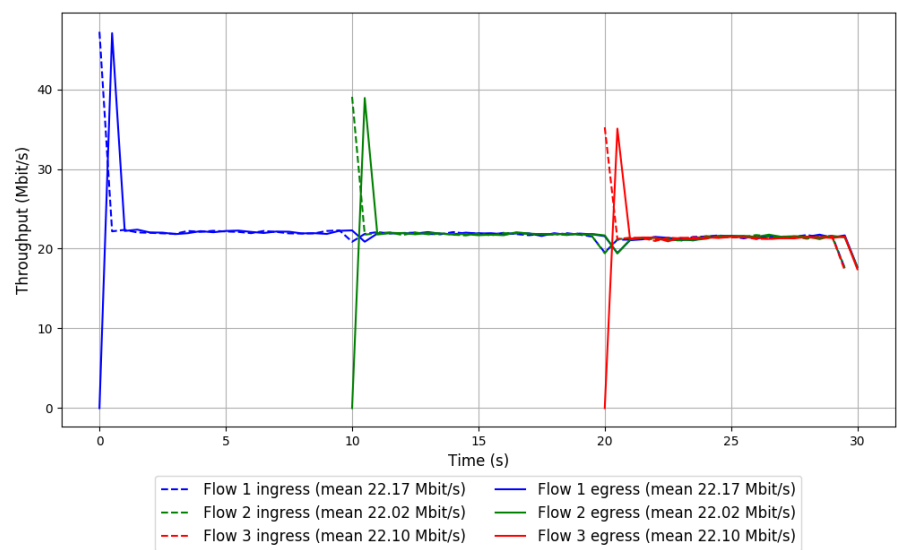


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-09 21:54:25
End at: 2018-10-09 21:54:55
Local clock offset: -6.654 ms
Remote clock offset: -0.533 ms

Below is generated by plot.py at 2018-10-09 22:42:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 44.11 Mbit/s
95th percentile per-packet one-way delay: 2.896 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 22.17 Mbit/s
95th percentile per-packet one-way delay: 2.826 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.02 Mbit/s
95th percentile per-packet one-way delay: 2.900 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.10 Mbit/s
95th percentile per-packet one-way delay: 3.149 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

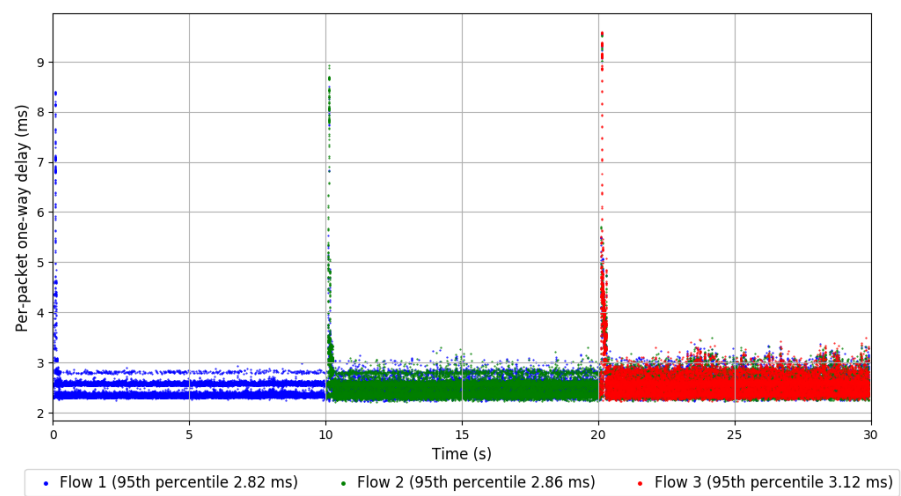
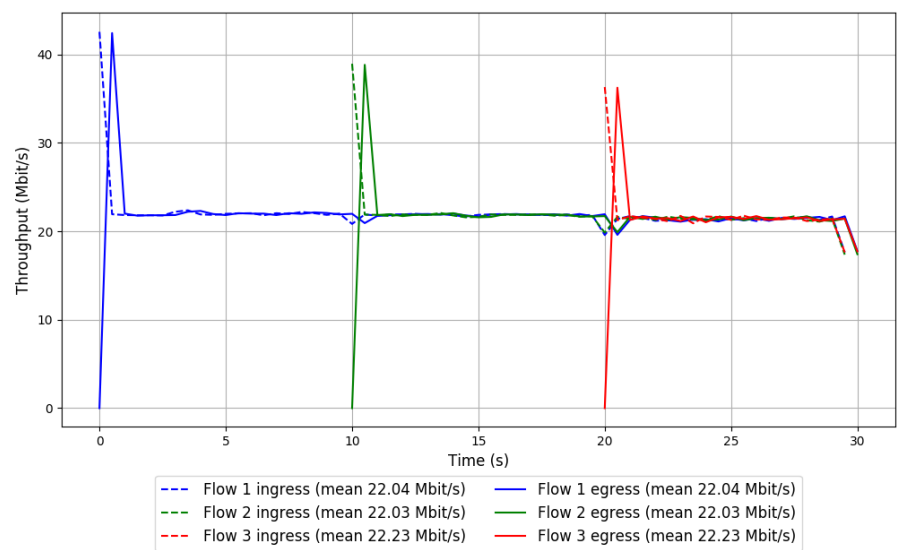


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-09 22:14:53
End at: 2018-10-09 22:15:23
Local clock offset: -2.563 ms
Remote clock offset: -0.497 ms

```
# Below is generated by plot.py at 2018-10-09 22:42:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.04 Mbit/s
95th percentile per-packet one-way delay: 2.853 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 22.04 Mbit/s
95th percentile per-packet one-way delay: 2.816 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.03 Mbit/s
95th percentile per-packet one-way delay: 2.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.23 Mbit/s
95th percentile per-packet one-way delay: 3.124 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-10-09 22:35:23

End at: 2018-10-09 22:35:53

Local clock offset: -5.536 ms

Remote clock offset: -0.39 ms

Below is generated by plot.py at 2018-10-09 22:42:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 43.85 Mbit/s

95th percentile per-packet one-way delay: 2.755 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 21.99 Mbit/s

95th percentile per-packet one-way delay: 2.700 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 21.97 Mbit/s

95th percentile per-packet one-way delay: 2.757 ms

Loss rate: 0.00%

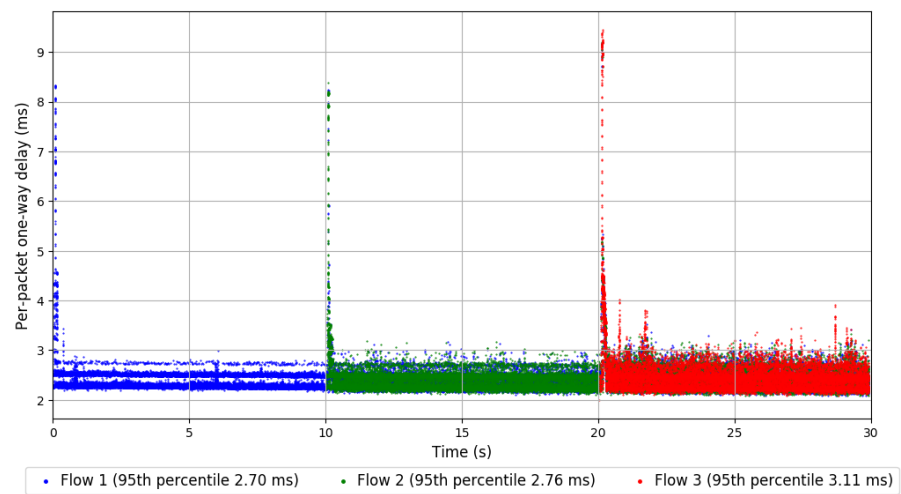
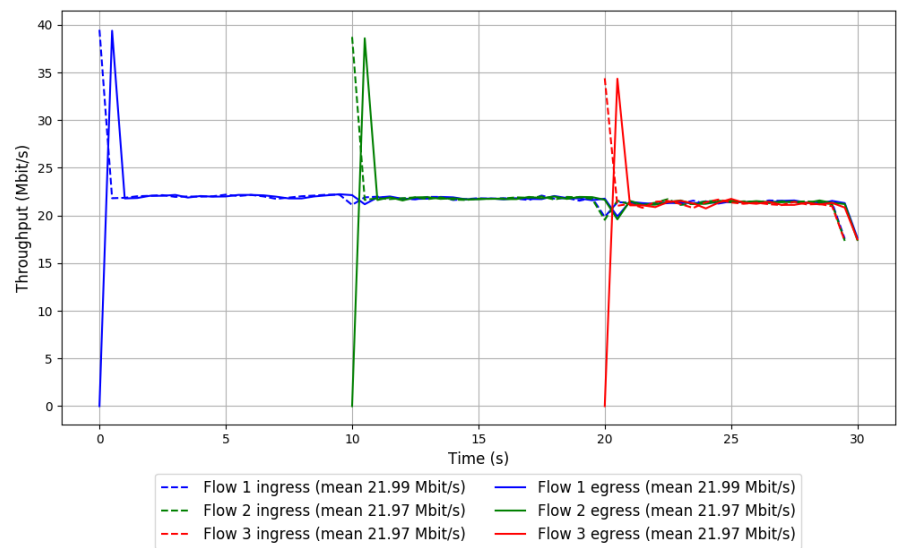
-- Flow 3:

Average throughput: 21.97 Mbit/s

95th percentile per-packet one-way delay: 3.106 ms

Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

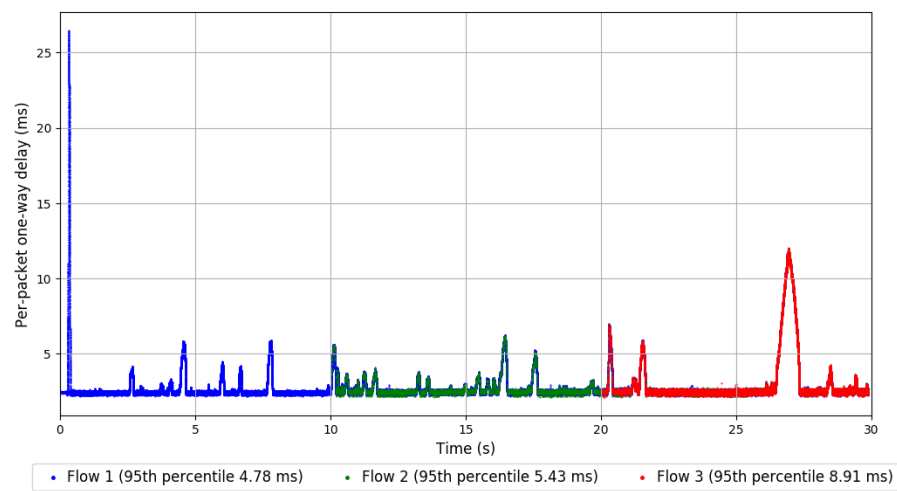
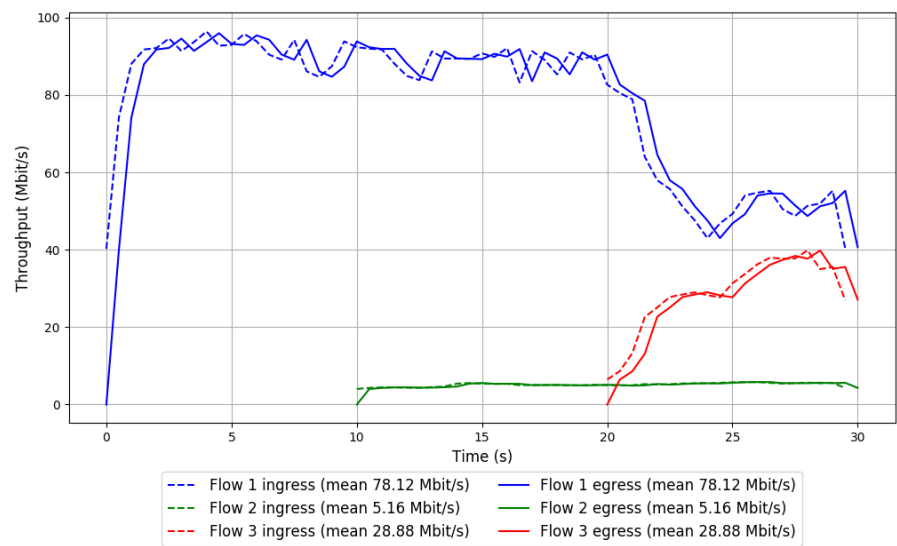


Run 1: Statistics of PCC-Allegro

Start at: 2018-10-09 21:08:56
End at: 2018-10-09 21:09:26
Local clock offset: -1.054 ms
Remote clock offset: -0.648 ms

Below is generated by plot.py at 2018-10-09 22:43:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.08 Mbit/s
95th percentile per-packet one-way delay: 5.093 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.12 Mbit/s
95th percentile per-packet one-way delay: 4.777 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.16 Mbit/s
95th percentile per-packet one-way delay: 5.427 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.88 Mbit/s
95th percentile per-packet one-way delay: 8.909 ms
Loss rate: 0.00%

Run 1: Report of PCC-Allegro — Data Link

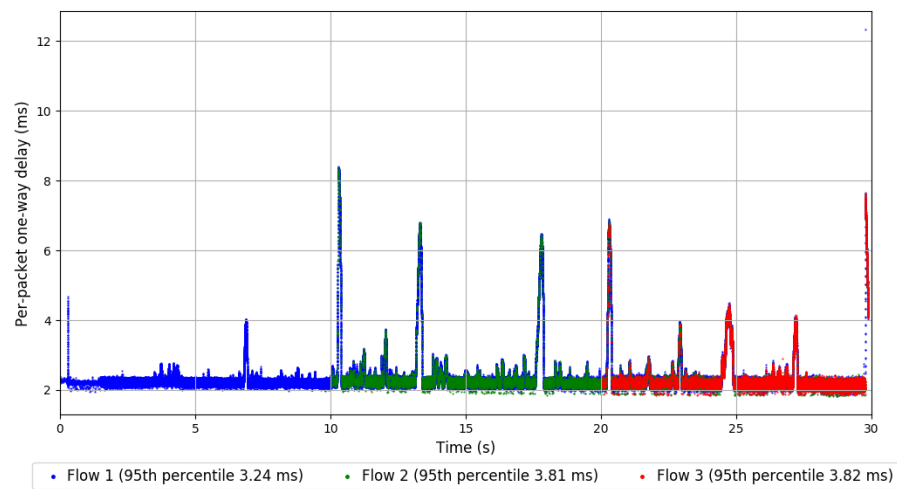
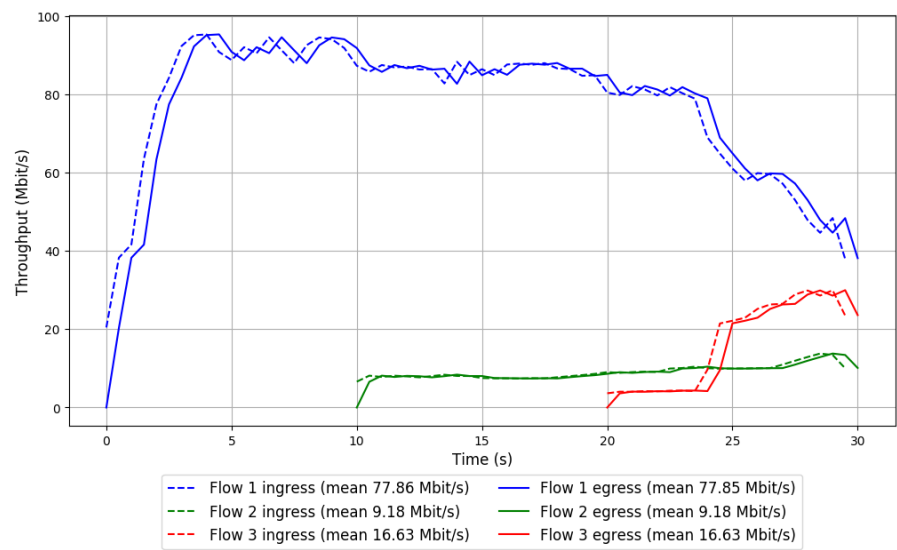


Run 2: Statistics of PCC-Allegro

Start at: 2018-10-09 21:29:26
End at: 2018-10-09 21:29:56
Local clock offset: -3.006 ms
Remote clock offset: -0.666 ms

Below is generated by plot.py at 2018-10-09 22:43:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.44 Mbit/s
95th percentile per-packet one-way delay: 3.369 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 77.85 Mbit/s
95th percentile per-packet one-way delay: 3.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 3.806 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.63 Mbit/s
95th percentile per-packet one-way delay: 3.821 ms
Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link

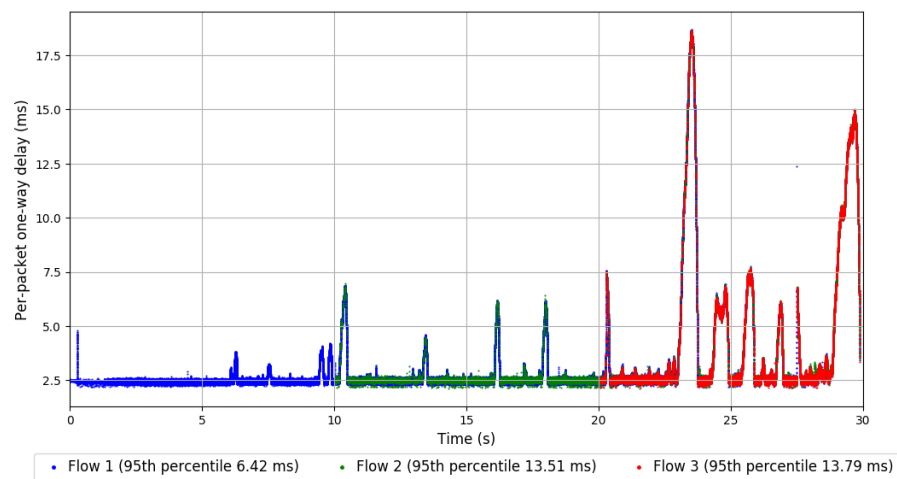
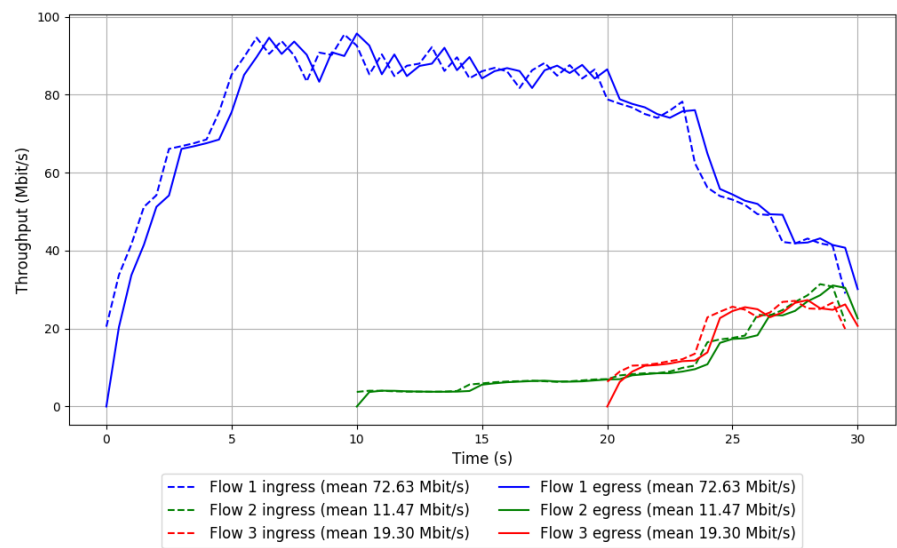


Run 3: Statistics of PCC-Allegro

Start at: 2018-10-09 21:49:54
End at: 2018-10-09 21:50:24
Local clock offset: -6.413 ms
Remote clock offset: -0.485 ms

Below is generated by plot.py at 2018-10-09 22:43:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.62 Mbit/s
95th percentile per-packet one-way delay: 8.614 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 6.417 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.47 Mbit/s
95th percentile per-packet one-way delay: 13.513 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.30 Mbit/s
95th percentile per-packet one-way delay: 13.795 ms
Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link

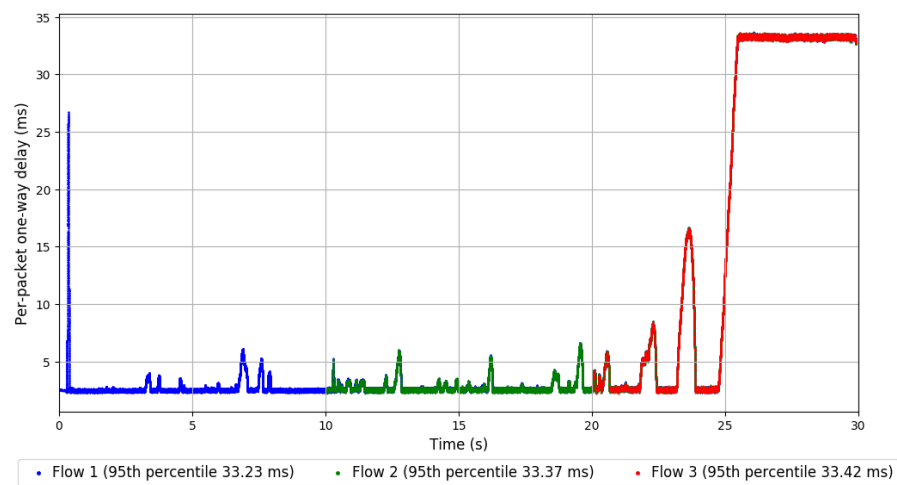
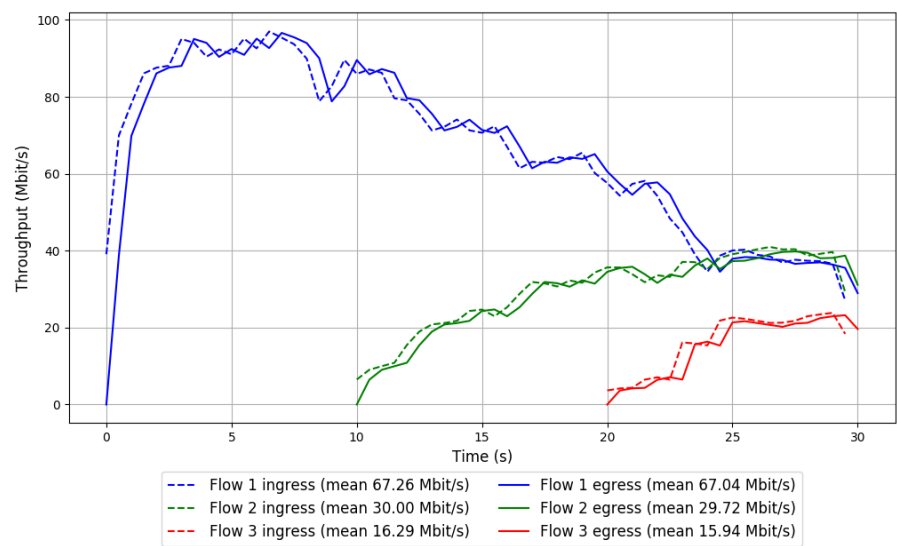


Run 4: Statistics of PCC-Allegro

Start at: 2018-10-09 22:10:22
End at: 2018-10-09 22:10:52
Local clock offset: -2.938 ms
Remote clock offset: -0.443 ms

Below is generated by plot.py at 2018-10-09 22:43:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.09 Mbit/s
95th percentile per-packet one-way delay: 33.318 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 67.04 Mbit/s
95th percentile per-packet one-way delay: 33.230 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 29.72 Mbit/s
95th percentile per-packet one-way delay: 33.371 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 15.94 Mbit/s
95th percentile per-packet one-way delay: 33.421 ms
Loss rate: 1.81%

Run 4: Report of PCC-Allegro — Data Link

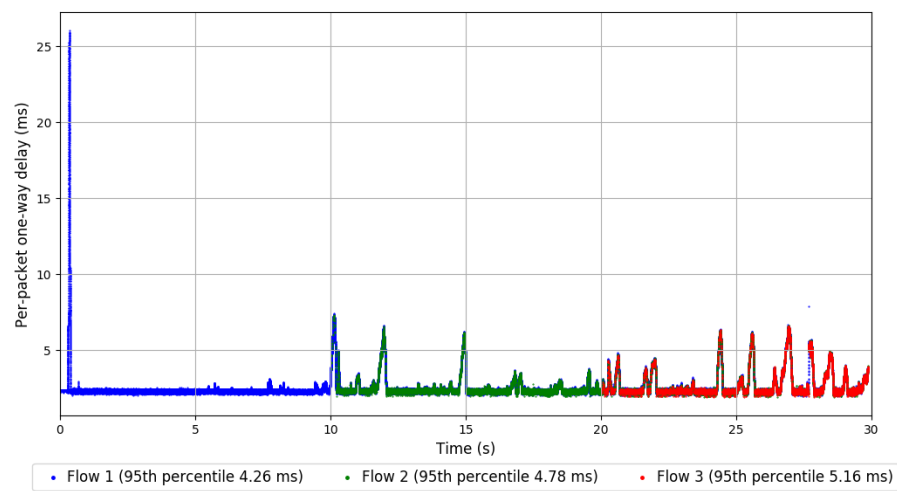
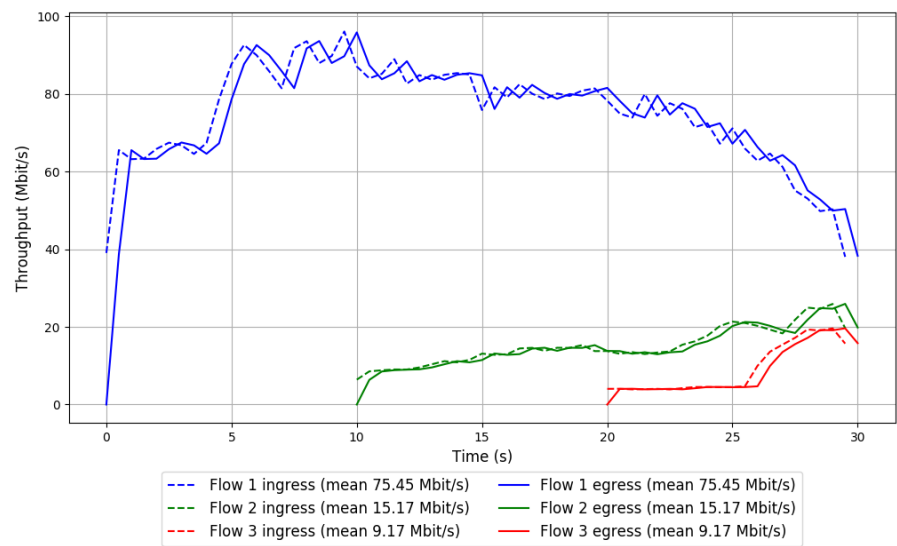


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-09 22:30:51
End at: 2018-10-09 22:31:21
Local clock offset: -4.448 ms
Remote clock offset: -0.339 ms

Below is generated by plot.py at 2018-10-09 22:43:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.56 Mbit/s
95th percentile per-packet one-way delay: 4.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 75.45 Mbit/s
95th percentile per-packet one-way delay: 4.265 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.17 Mbit/s
95th percentile per-packet one-way delay: 4.784 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.17 Mbit/s
95th percentile per-packet one-way delay: 5.156 ms
Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

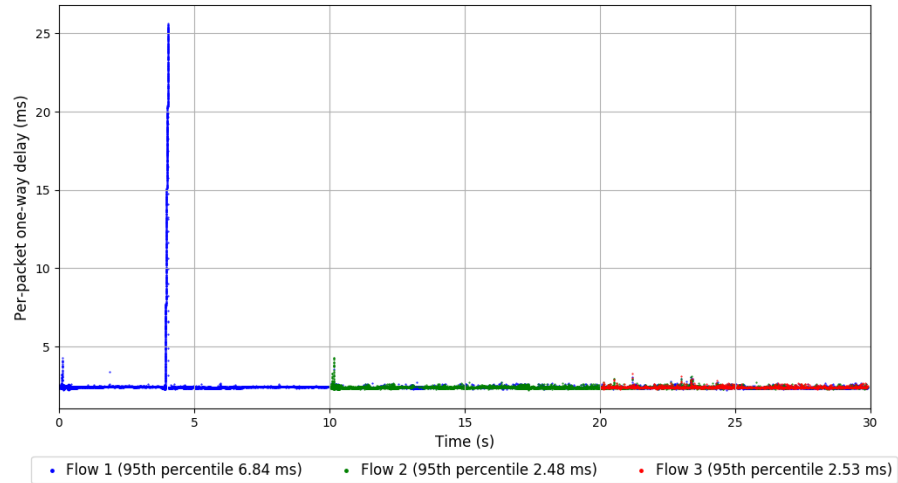
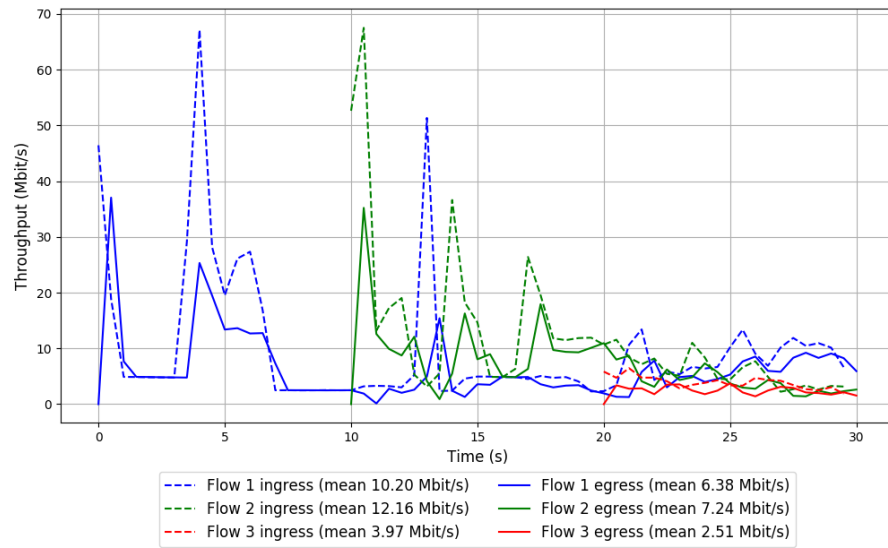


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-09 21:10:04
End at: 2018-10-09 21:10:34
Local clock offset: -1.05 ms
Remote clock offset: -0.65 ms

# Below is generated by plot.py at 2018-10-09 22:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.02 Mbit/s
95th percentile per-packet one-way delay: 2.555 ms
Loss rate: 38.67%
-- Flow 1:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 6.843 ms
Loss rate: 37.47%
-- Flow 2:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 2.475 ms
Loss rate: 40.49%
-- Flow 3:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 2.526 ms
Loss rate: 36.76%
```

Run 1: Report of PCC-Expr — Data Link

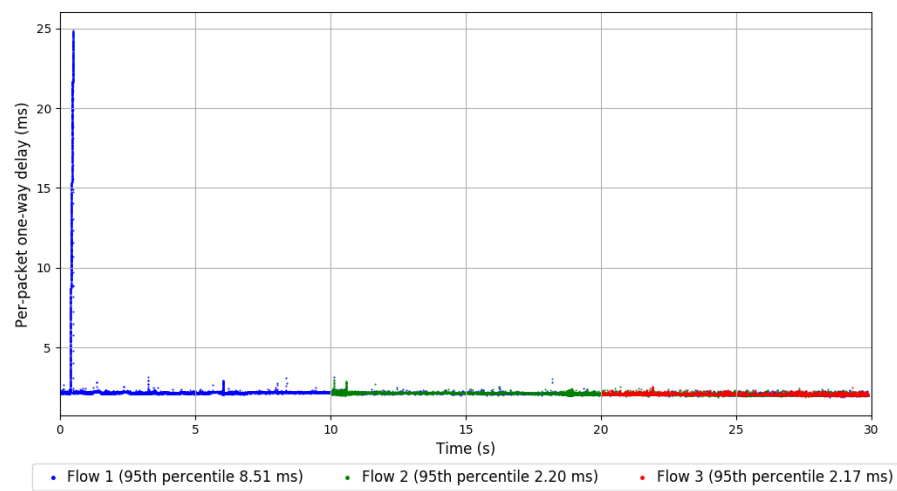
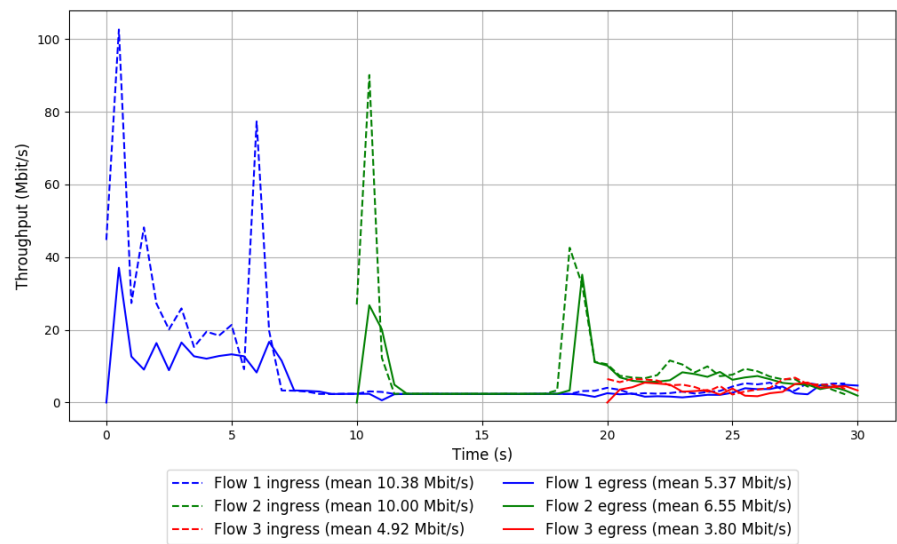


Run 2: Statistics of PCC-Expr

Start at: 2018-10-09 21:30:34
End at: 2018-10-09 21:31:04
Local clock offset: -3.301 ms
Remote clock offset: -0.635 ms

Below is generated by plot.py at 2018-10-09 22:43:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 10.98 Mbit/s
95th percentile per-packet one-way delay: 2.266 ms
Loss rate: 41.13%
-- Flow 1:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 8.507 ms
Loss rate: 48.28%
-- Flow 2:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 2.199 ms
Loss rate: 34.45%
-- Flow 3:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 2.168 ms
Loss rate: 22.79%

Run 2: Report of PCC-Expr — Data Link

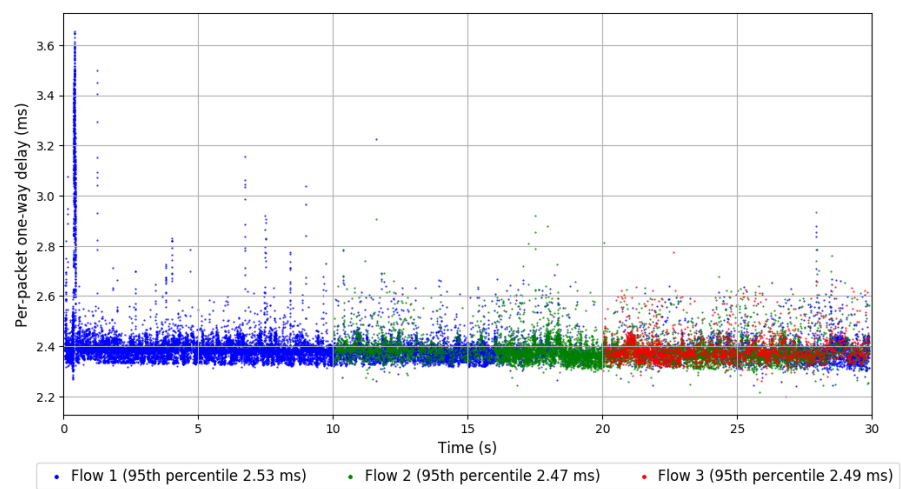
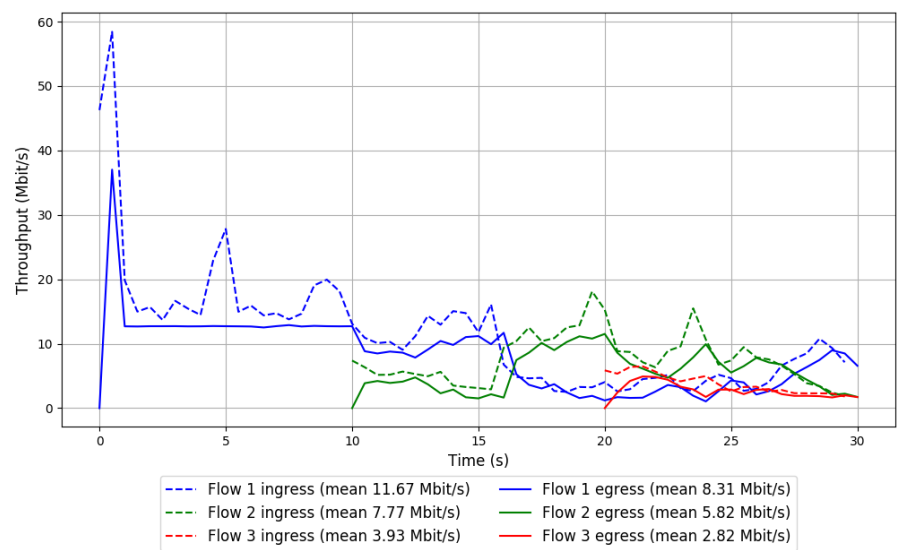


Run 3: Statistics of PCC-Expr

Start at: 2018-10-09 21:51:02
End at: 2018-10-09 21:51:32
Local clock offset: -6.44 ms
Remote clock offset: -0.481 ms

Below is generated by plot.py at 2018-10-09 22:43:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 2.500 ms
Loss rate: 27.65%
-- Flow 1:
Average throughput: 8.31 Mbit/s
95th percentile per-packet one-way delay: 2.527 ms
Loss rate: 28.74%
-- Flow 2:
Average throughput: 5.82 Mbit/s
95th percentile per-packet one-way delay: 2.467 ms
Loss rate: 25.07%
-- Flow 3:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 2.487 ms
Loss rate: 28.11%

Run 3: Report of PCC-Expr — Data Link

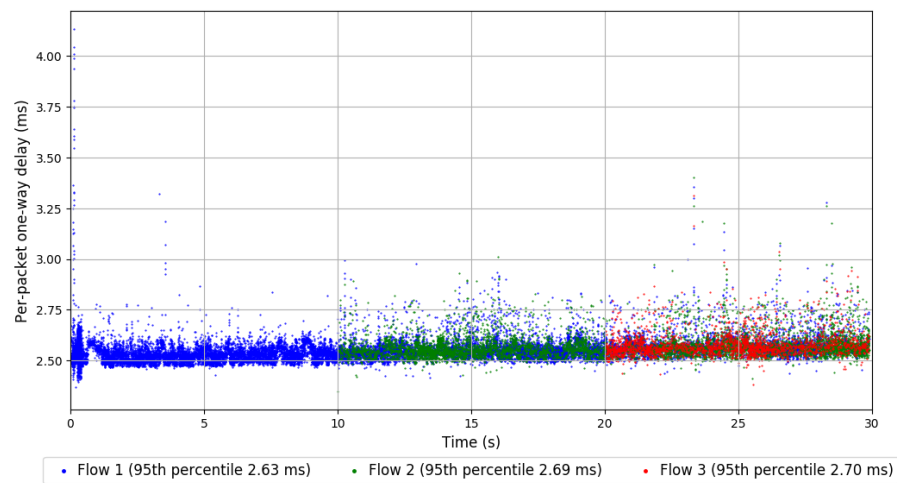
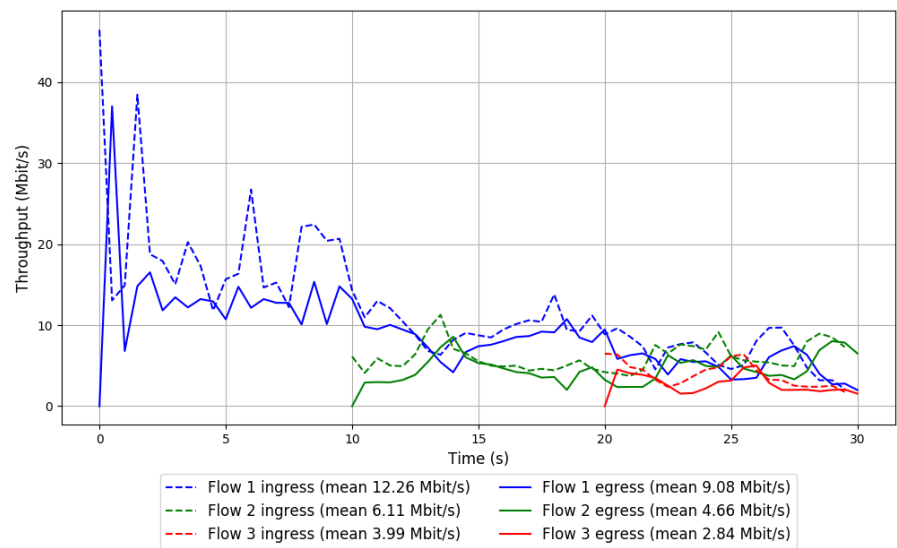


Run 4: Statistics of PCC-Expr

Start at: 2018-10-09 22:11:30
End at: 2018-10-09 22:12:00
Local clock offset: -2.902 ms
Remote clock offset: -0.451 ms

Below is generated by plot.py at 2018-10-09 22:43:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 2.647 ms
Loss rate: 25.62%
-- Flow 1:
Average throughput: 9.08 Mbit/s
95th percentile per-packet one-way delay: 2.627 ms
Loss rate: 25.91%
-- Flow 2:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 2.689 ms
Loss rate: 23.76%
-- Flow 3:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 2.700 ms
Loss rate: 28.70%

Run 4: Report of PCC-Expr — Data Link

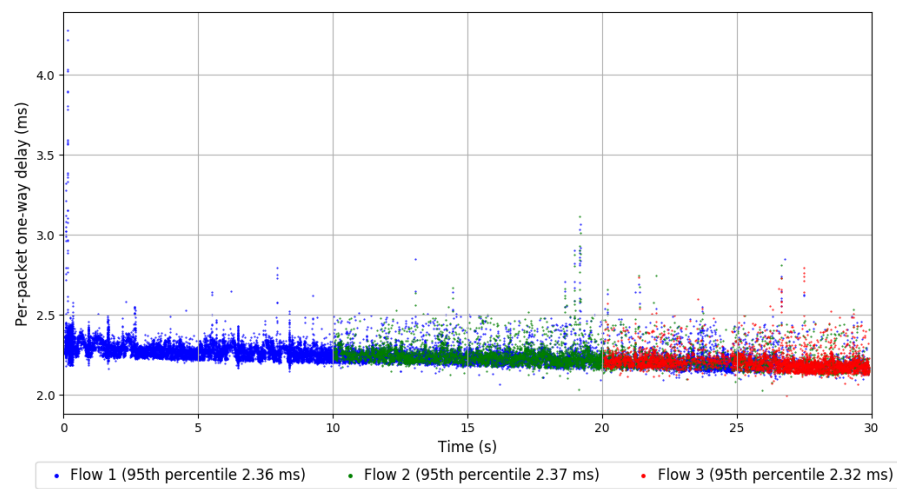
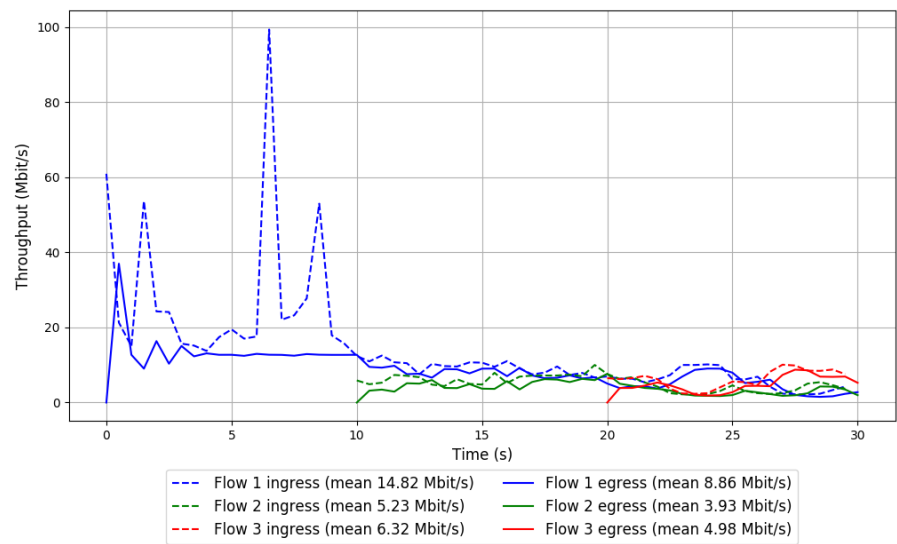


Run 5: Statistics of PCC-Expr

Start at: 2018-10-09 22:31:59
End at: 2018-10-09 22:32:29
Local clock offset: -4.786 ms
Remote clock offset: -0.391 ms

Below is generated by plot.py at 2018-10-09 22:43:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 2.359 ms
Loss rate: 35.62%
-- Flow 1:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 2.362 ms
Loss rate: 40.18%
-- Flow 2:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 2.365 ms
Loss rate: 24.87%
-- Flow 3:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 2.318 ms
Loss rate: 21.18%

Run 5: Report of PCC-Expr — Data Link

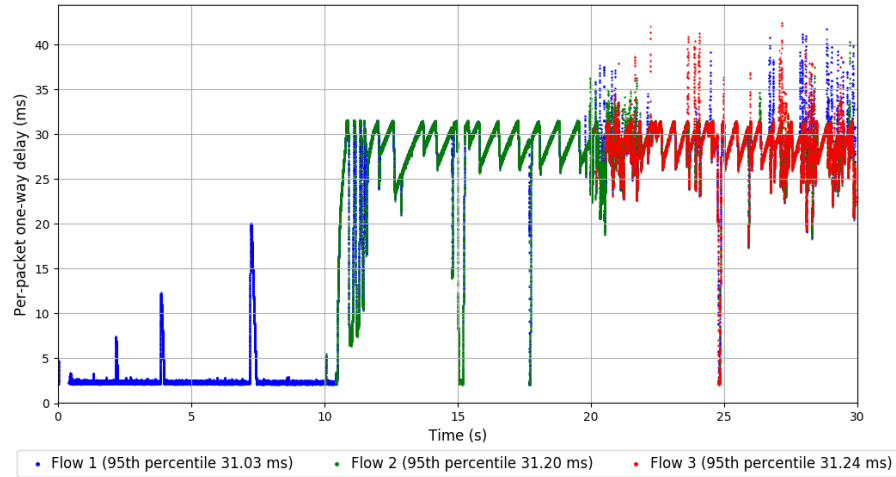
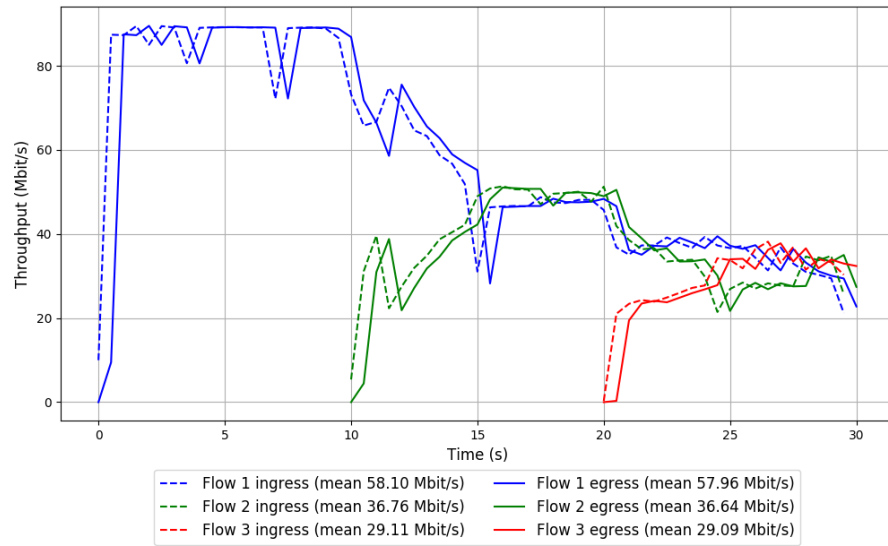


Run 1: Statistics of QUIC Cubic

Start at: 2018-10-09 20:55:11
End at: 2018-10-09 20:55:41
Local clock offset: -0.117 ms
Remote clock offset: -0.591 ms

Below is generated by plot.py at 2018-10-09 22:44:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.86 Mbit/s
95th percentile per-packet one-way delay: 31.110 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 31.033 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 36.64 Mbit/s
95th percentile per-packet one-way delay: 31.195 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 29.09 Mbit/s
95th percentile per-packet one-way delay: 31.237 ms
Loss rate: 0.15%

Run 1: Report of QUIC Cubic — Data Link

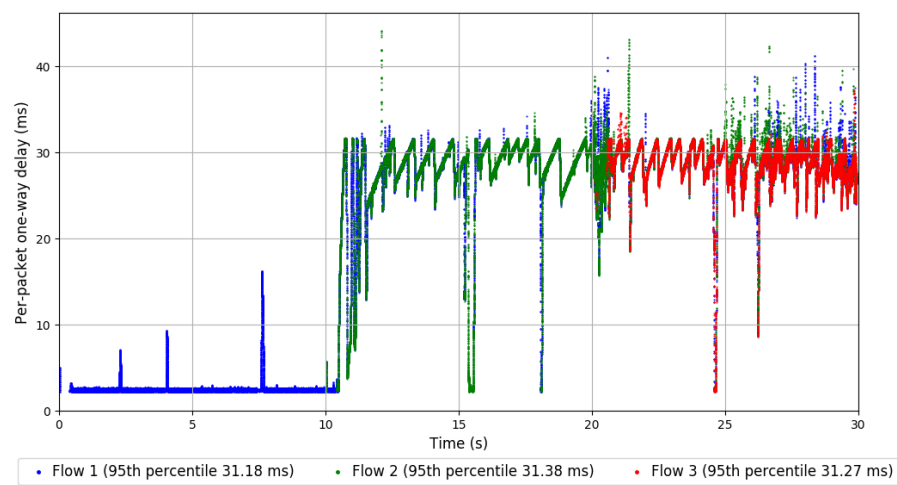
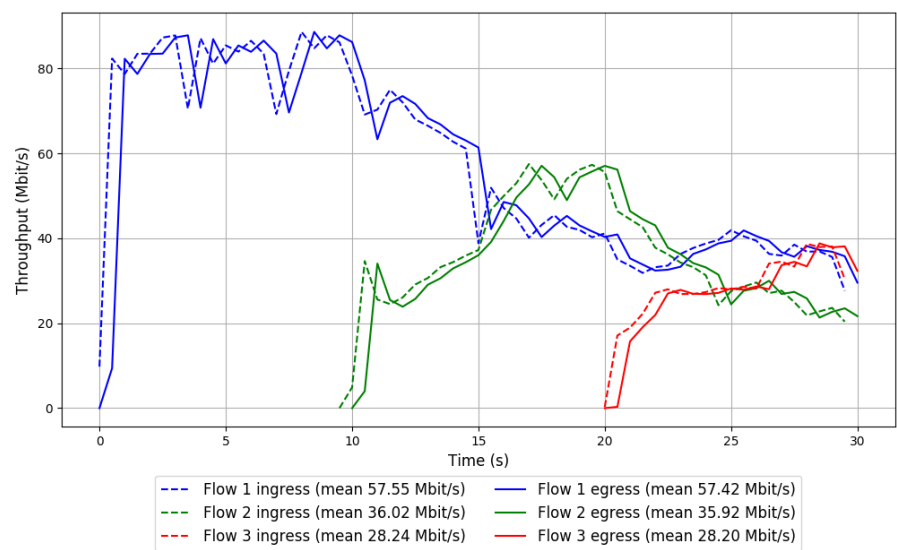


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-09 21:15:40
End at: 2018-10-09 21:16:10
Local clock offset: -1.001 ms
Remote clock offset: -0.629 ms

Below is generated by plot.py at 2018-10-09 22:44:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.60 Mbit/s
95th percentile per-packet one-way delay: 31.260 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 57.42 Mbit/s
95th percentile per-packet one-way delay: 31.177 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 35.92 Mbit/s
95th percentile per-packet one-way delay: 31.375 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 28.20 Mbit/s
95th percentile per-packet one-way delay: 31.274 ms
Loss rate: 0.12%

Run 2: Report of QUIC Cubic — Data Link

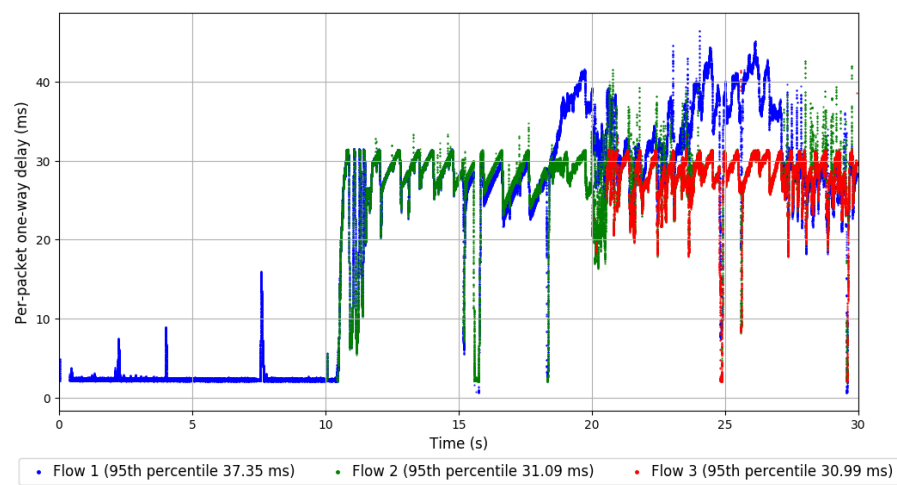
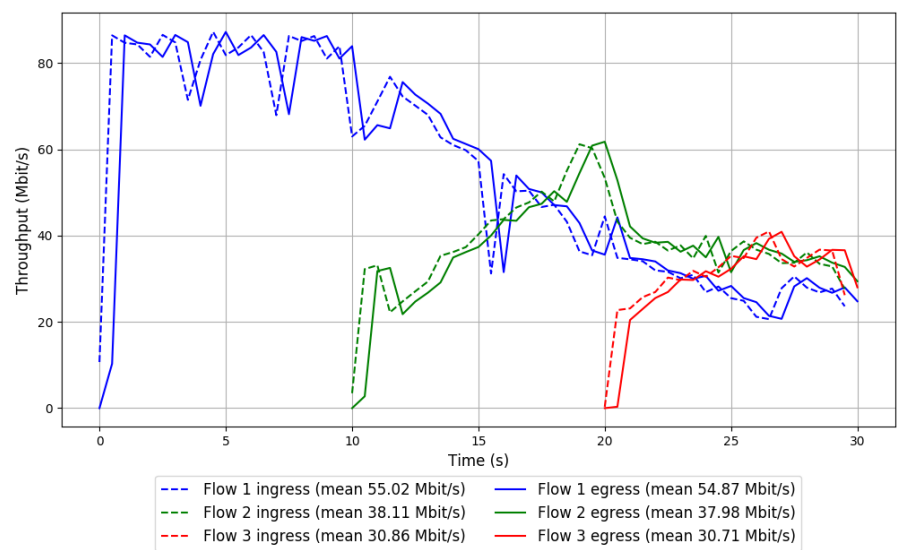


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-09 21:36:09
End at: 2018-10-09 21:36:39
Local clock offset: -4.761 ms
Remote clock offset: -0.659 ms

Below is generated by plot.py at 2018-10-09 22:44:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 35.572 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 54.87 Mbit/s
95th percentile per-packet one-way delay: 37.354 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 37.98 Mbit/s
95th percentile per-packet one-way delay: 31.085 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 30.71 Mbit/s
95th percentile per-packet one-way delay: 30.987 ms
Loss rate: 0.34%

Run 3: Report of QUIC Cubic — Data Link

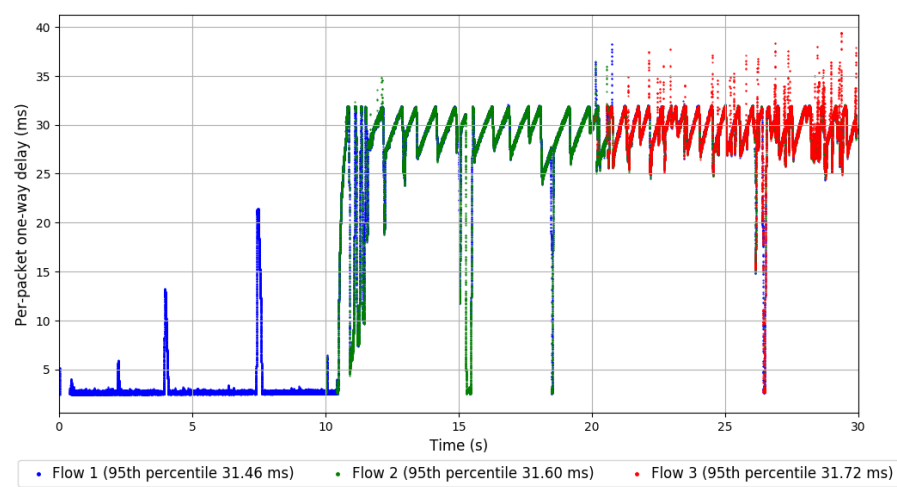
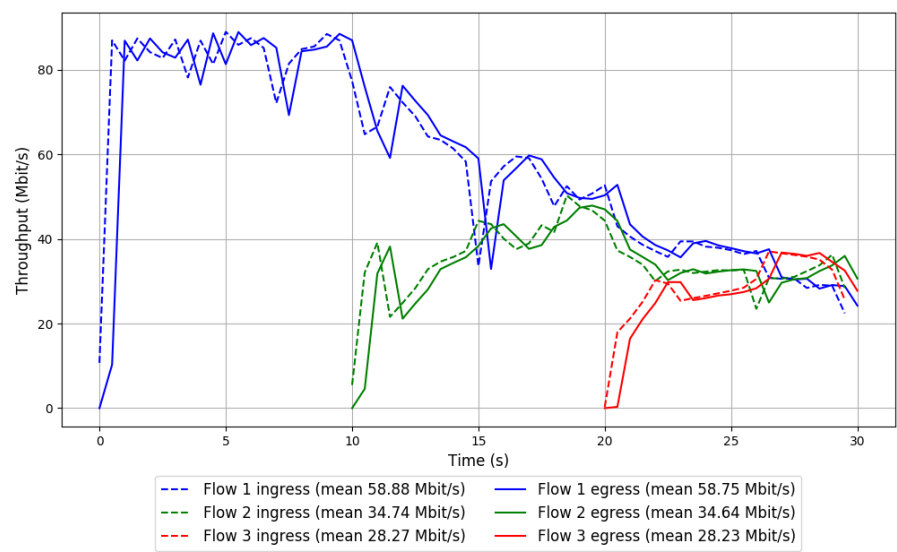


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-09 21:56:38
End at: 2018-10-09 21:57:08
Local clock offset: -5.996 ms
Remote clock offset: -0.562 ms

Below is generated by plot.py at 2018-10-09 22:44:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.06 Mbit/s
95th percentile per-packet one-way delay: 31.543 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 58.75 Mbit/s
95th percentile per-packet one-way delay: 31.457 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 34.64 Mbit/s
95th percentile per-packet one-way delay: 31.601 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 28.23 Mbit/s
95th percentile per-packet one-way delay: 31.723 ms
Loss rate: 0.15%

Run 4: Report of QUIC Cubic — Data Link

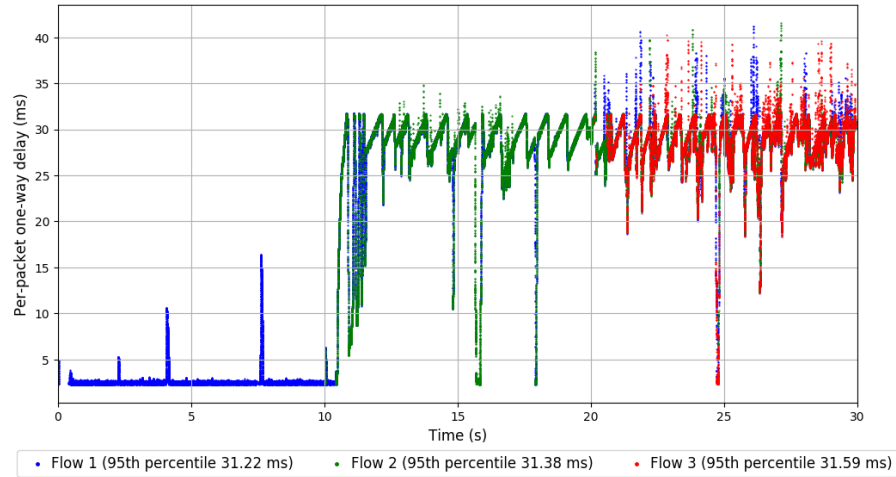
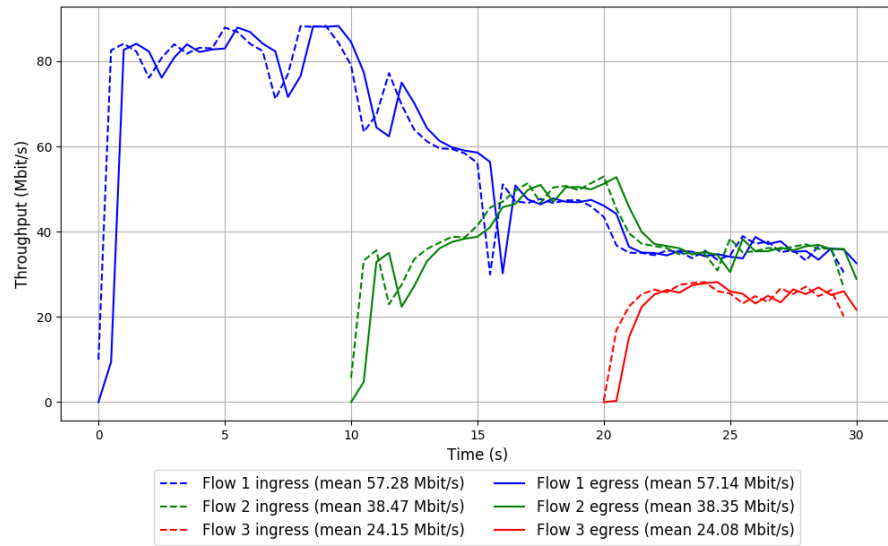


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-09 22:17:06
End at: 2018-10-09 22:17:36
Local clock offset: -2.505 ms
Remote clock offset: -0.493 ms

Below is generated by plot.py at 2018-10-09 22:45:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.58 Mbit/s
95th percentile per-packet one-way delay: 31.311 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 57.14 Mbit/s
95th percentile per-packet one-way delay: 31.224 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 38.35 Mbit/s
95th percentile per-packet one-way delay: 31.378 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 24.08 Mbit/s
95th percentile per-packet one-way delay: 31.593 ms
Loss rate: 0.27%

Run 5: Report of QUIC Cubic — Data Link

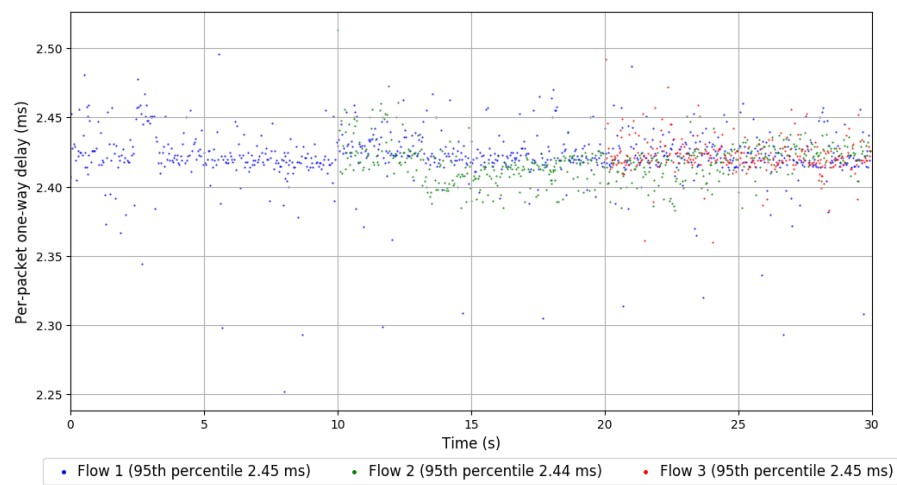
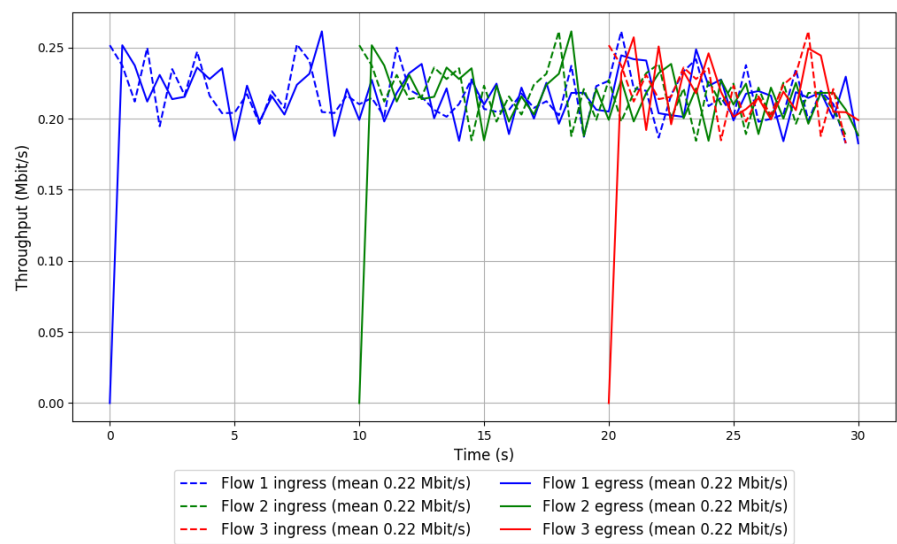


```
Run 1: Statistics of SReAM

Start at: 2018-10-09 21:07:51
End at: 2018-10-09 21:08:21
Local clock offset: -0.963 ms
Remote clock offset: -0.559 ms

# Below is generated by plot.py at 2018-10-09 22:45:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.441 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.446 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

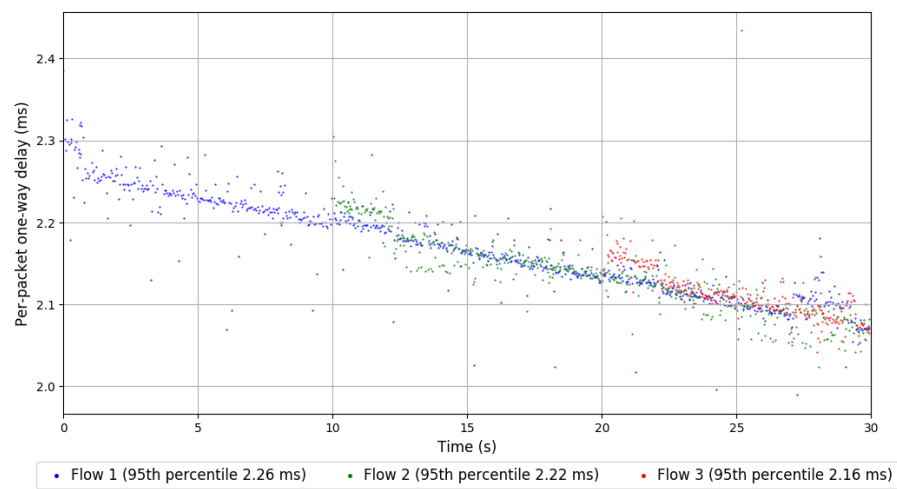
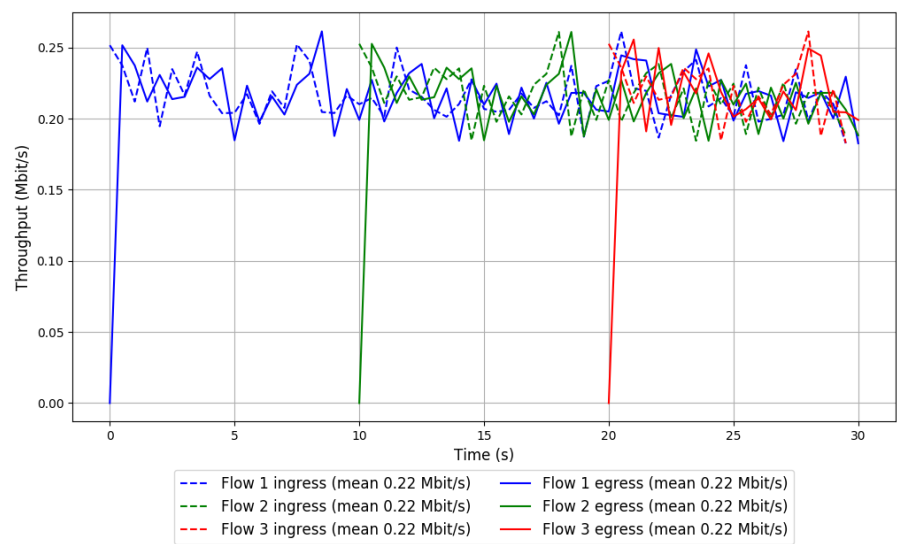


Run 2: Statistics of SReAM

Start at: 2018-10-09 21:28:21
End at: 2018-10-09 21:28:51
Local clock offset: -2.458 ms
Remote clock offset: -0.512 ms

Below is generated by plot.py at 2018-10-09 22:45:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.247 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.262 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.217 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.164 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

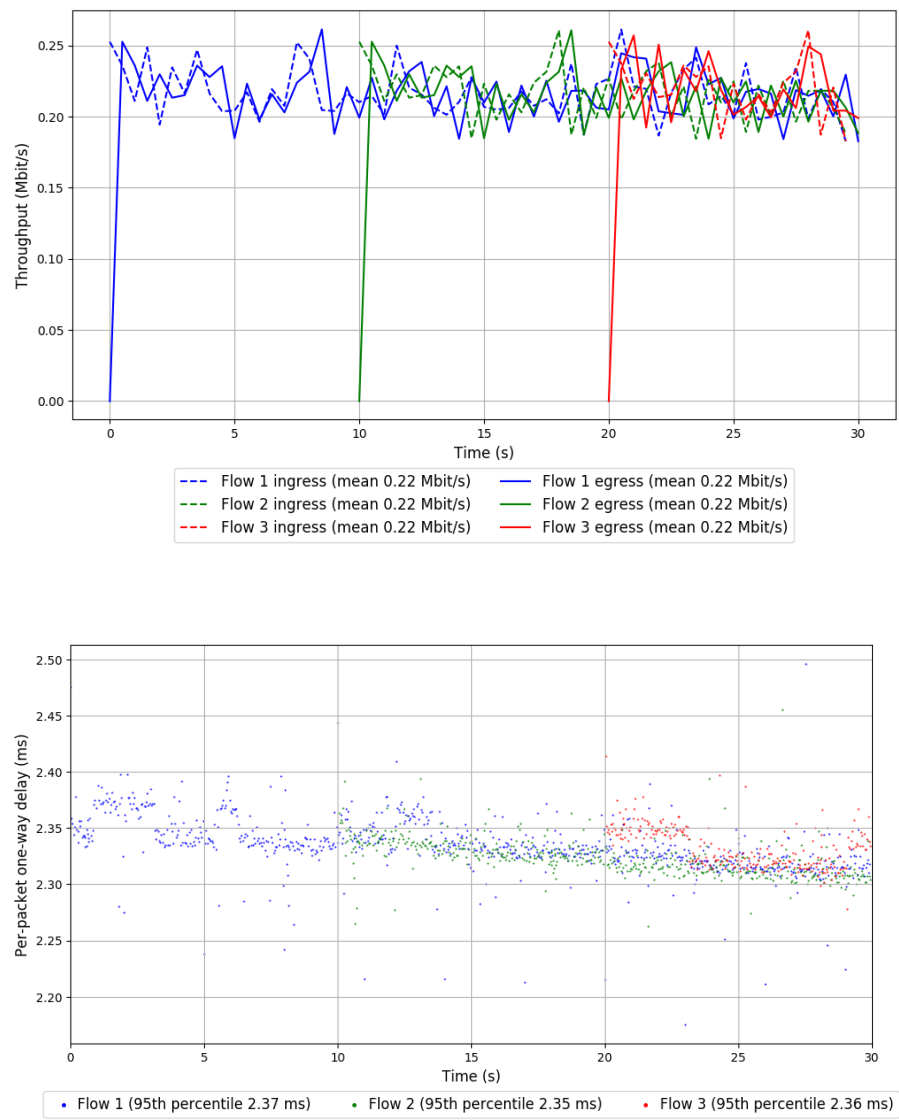


Run 3: Statistics of SReAM

Start at: 2018-10-09 21:48:49
End at: 2018-10-09 21:49:19
Local clock offset: -6.283 ms
Remote clock offset: -0.548 ms

Below is generated by plot.py at 2018-10-09 22:45:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.369 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.373 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.349 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.360 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

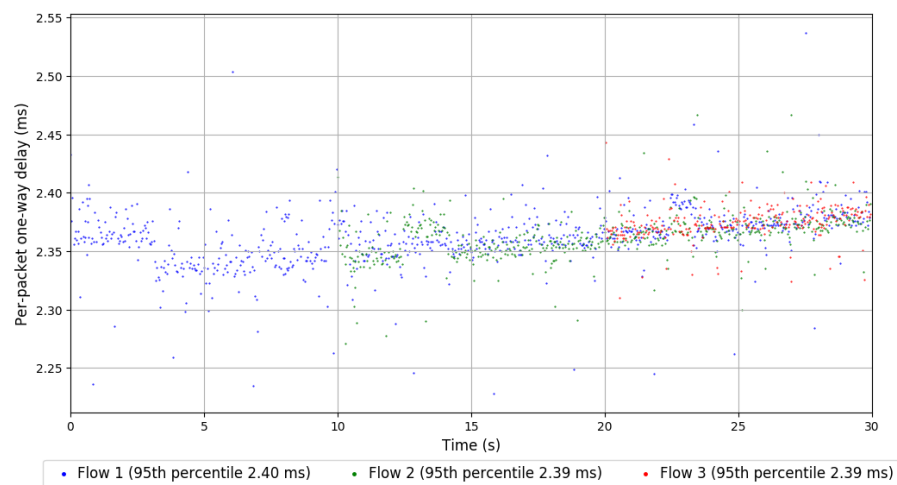
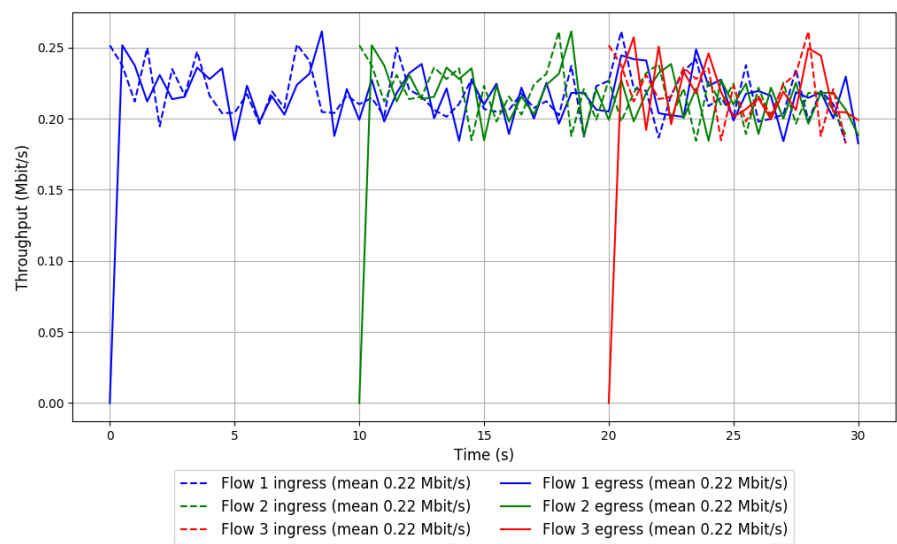


Run 4: Statistics of SReAM

Start at: 2018-10-09 22:09:17
End at: 2018-10-09 22:09:47
Local clock offset: -3.05 ms
Remote clock offset: -0.605 ms

Below is generated by plot.py at 2018-10-09 22:45:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.394 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.395 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.387 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.394 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2018-10-09 22:29:46

End at: 2018-10-09 22:30:16

Local clock offset: -4.165 ms

Remote clock offset: -0.32 ms

Below is generated by plot.py at 2018-10-09 22:45:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 2.400 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.408 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.343 ms

Loss rate: 0.00%

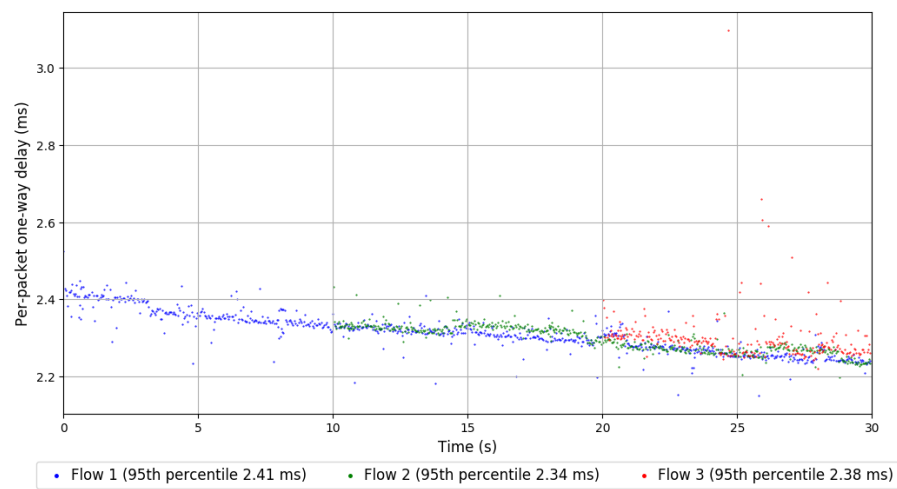
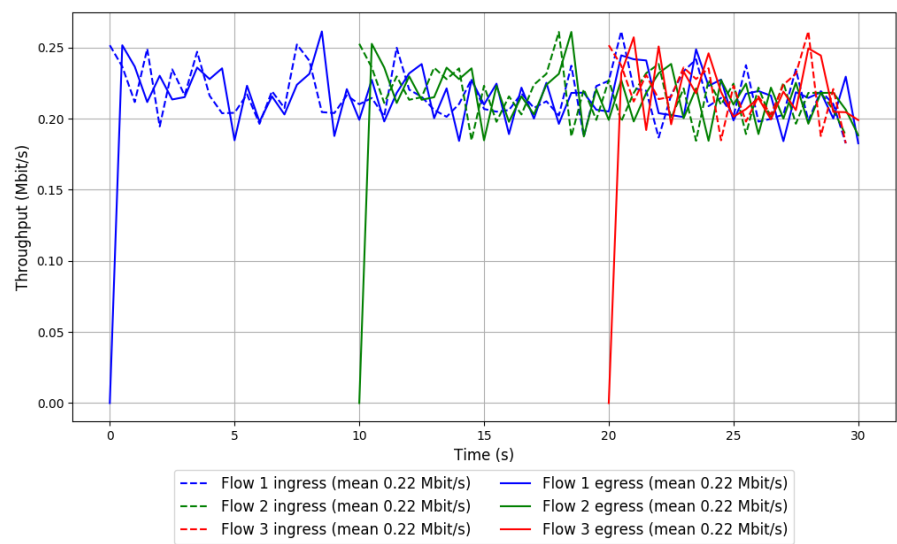
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.375 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

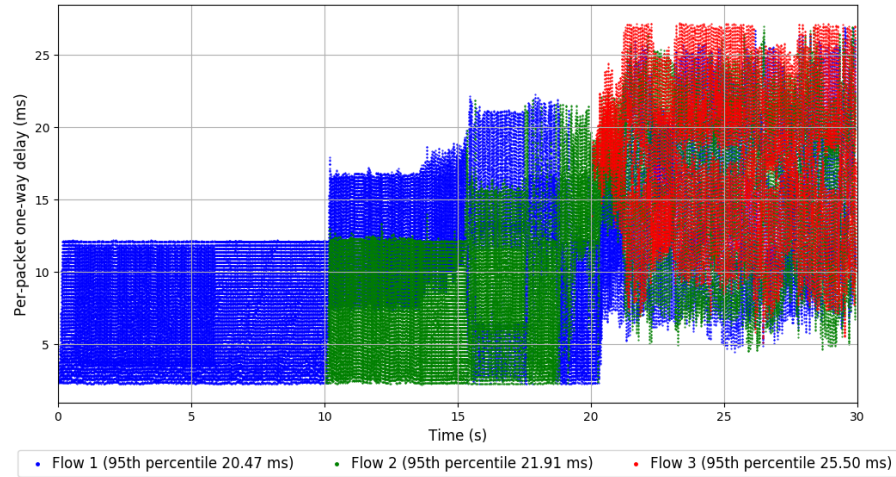
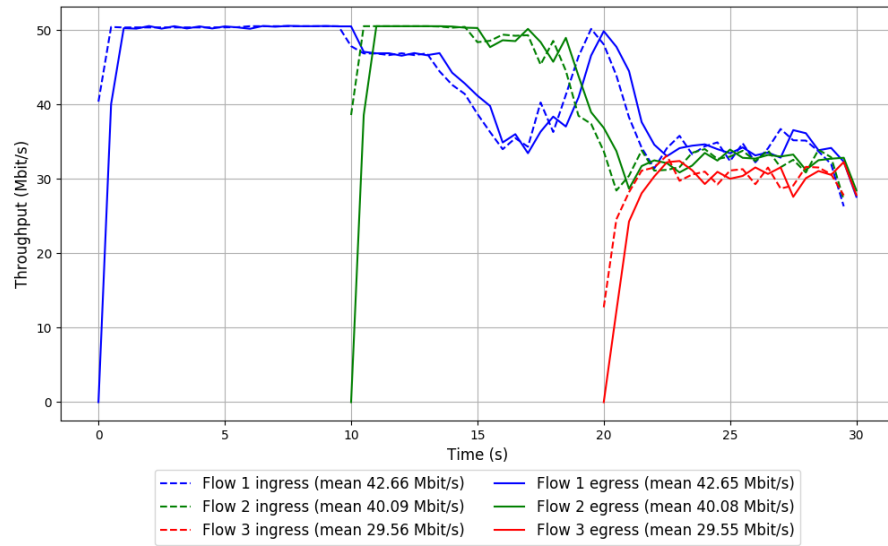


Run 1: Statistics of Sprout

Start at: 2018-10-09 21:12:20
End at: 2018-10-09 21:12:50
Local clock offset: -0.991 ms
Remote clock offset: -0.655 ms

Below is generated by plot.py at 2018-10-09 22:45:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 79.05 Mbit/s
95th percentile per-packet one-way delay: 22.477 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.65 Mbit/s
95th percentile per-packet one-way delay: 20.466 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.08 Mbit/s
95th percentile per-packet one-way delay: 21.910 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.55 Mbit/s
95th percentile per-packet one-way delay: 25.496 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

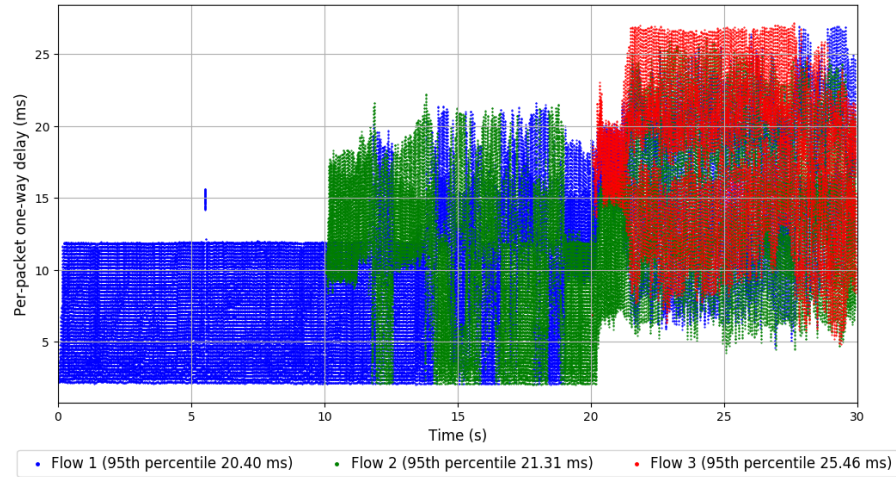
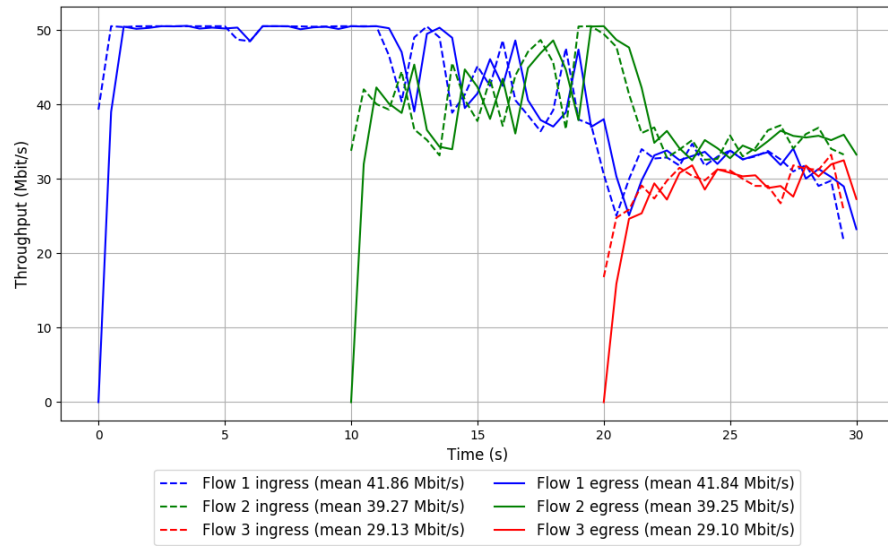


Run 2: Statistics of Sprout

Start at: 2018-10-09 21:32:49
End at: 2018-10-09 21:33:19
Local clock offset: -3.973 ms
Remote clock offset: -0.626 ms

Below is generated by plot.py at 2018-10-09 22:45:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.56 Mbit/s
95th percentile per-packet one-way delay: 22.104 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.84 Mbit/s
95th percentile per-packet one-way delay: 20.396 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 21.308 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.10 Mbit/s
95th percentile per-packet one-way delay: 25.456 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

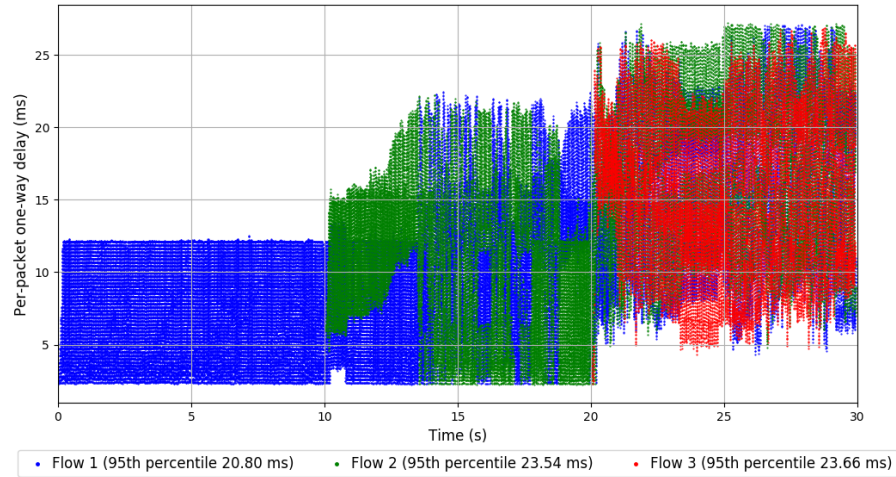
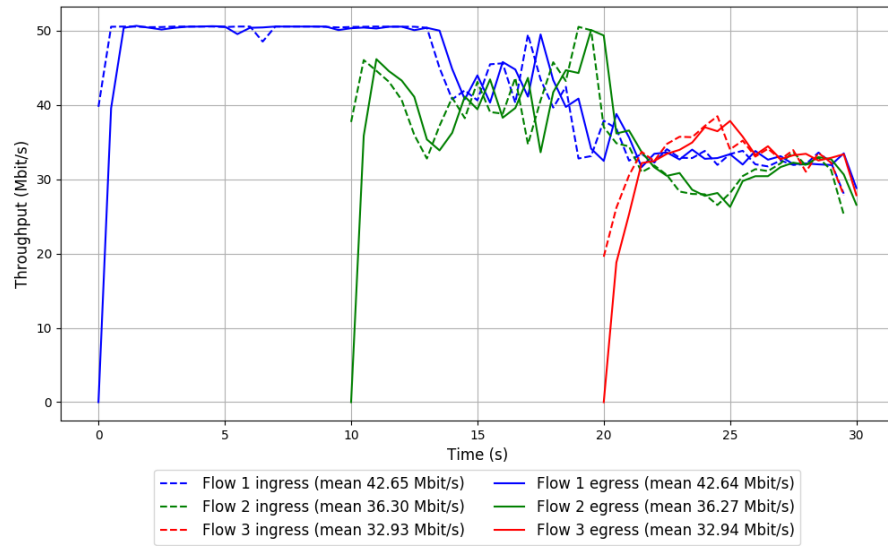


Run 3: Statistics of Sprout

Start at: 2018-10-09 21:53:18
End at: 2018-10-09 21:53:48
Local clock offset: -6.587 ms
Remote clock offset: -0.491 ms

```
# Below is generated by plot.py at 2018-10-09 22:45:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.66 Mbit/s
95th percentile per-packet one-way delay: 22.405 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 20.804 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 23.543 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 23.664 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

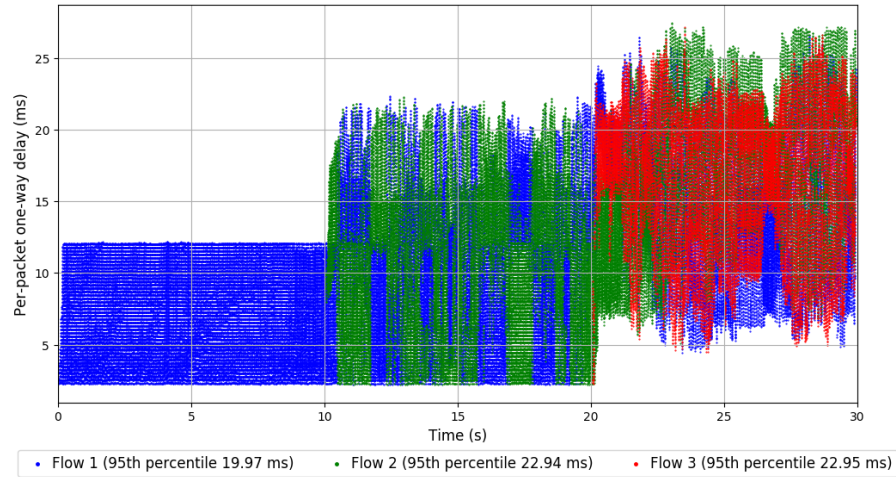
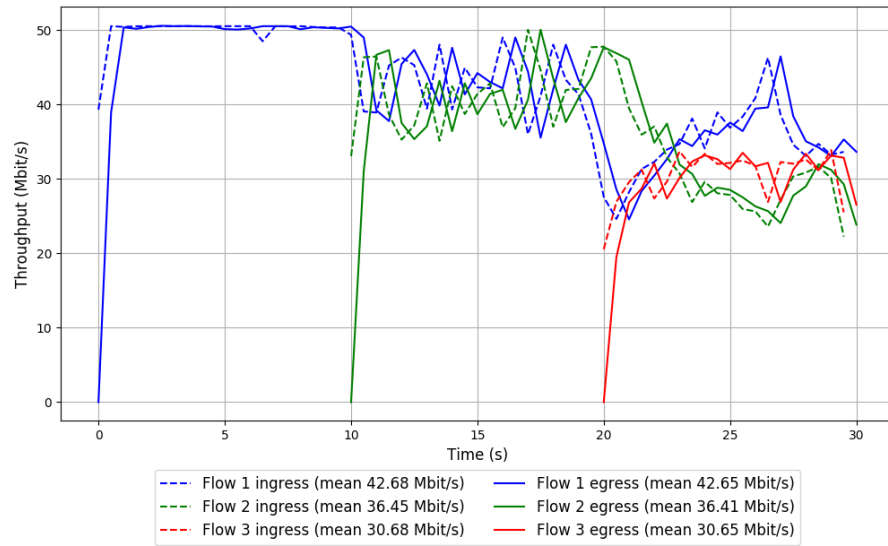


Run 4: Statistics of Sprout

Start at: 2018-10-09 22:13:46
End at: 2018-10-09 22:14:16
Local clock offset: -2.654 ms
Remote clock offset: -0.584 ms

```
# Below is generated by plot.py at 2018-10-09 22:45:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 21.676 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.65 Mbit/s
95th percentile per-packet one-way delay: 19.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.41 Mbit/s
95th percentile per-packet one-way delay: 22.936 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.65 Mbit/s
95th percentile per-packet one-way delay: 22.955 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

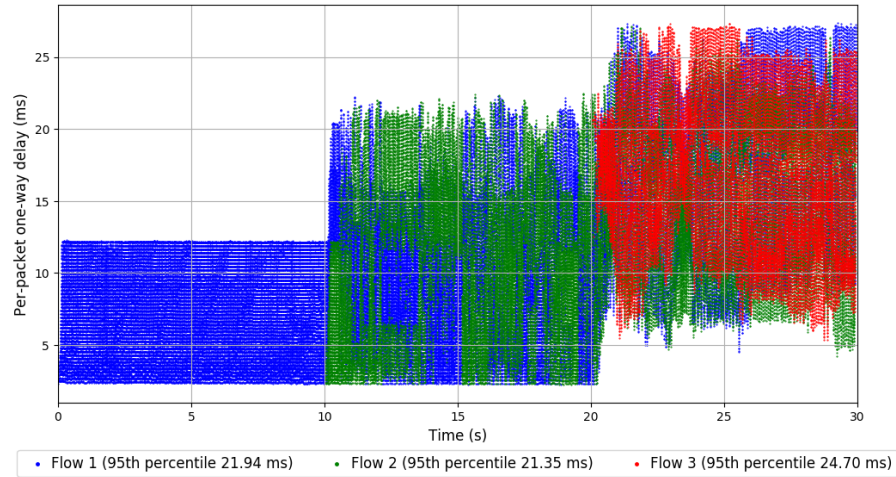
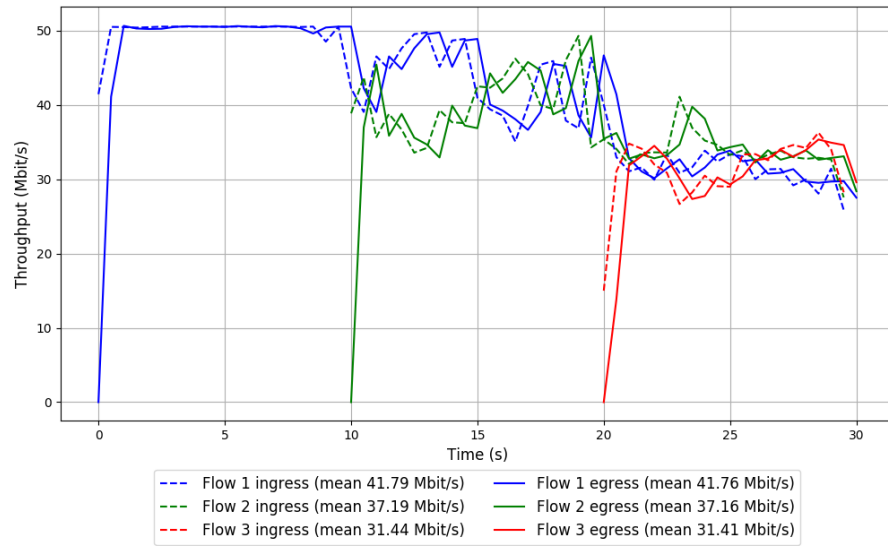


Run 5: Statistics of Sprout

Start at: 2018-10-09 22:34:15
End at: 2018-10-09 22:34:45
Local clock offset: -5.333 ms
Remote clock offset: -0.305 ms

```
# Below is generated by plot.py at 2018-10-09 22:45:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.85 Mbit/s
95th percentile per-packet one-way delay: 22.500 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.76 Mbit/s
95th percentile per-packet one-way delay: 21.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.16 Mbit/s
95th percentile per-packet one-way delay: 21.352 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.41 Mbit/s
95th percentile per-packet one-way delay: 24.700 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

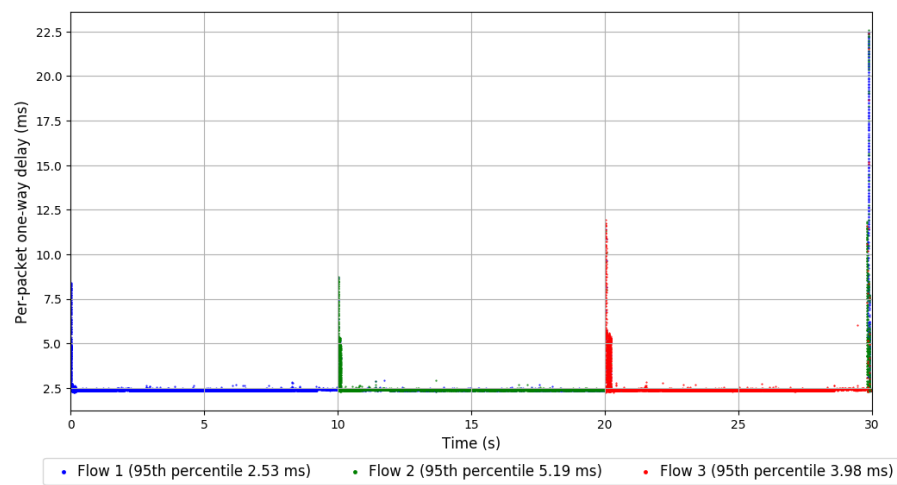
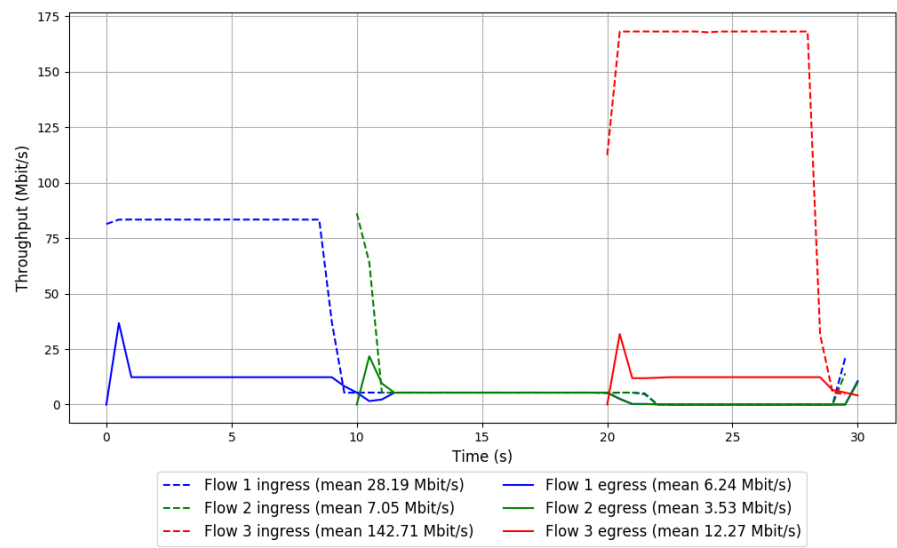


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-09 21:06:44
End at: 2018-10-09 21:07:14
Local clock offset: -1.016 ms
Remote clock offset: -0.642 ms

# Below is generated by plot.py at 2018-10-09 22:45:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 3.891 ms
Loss rate: 84.23%
-- Flow 1:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 2.528 ms
Loss rate: 77.86%
-- Flow 2:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 5.193 ms
Loss rate: 49.90%
-- Flow 3:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 3.979 ms
Loss rate: 91.42%
```

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

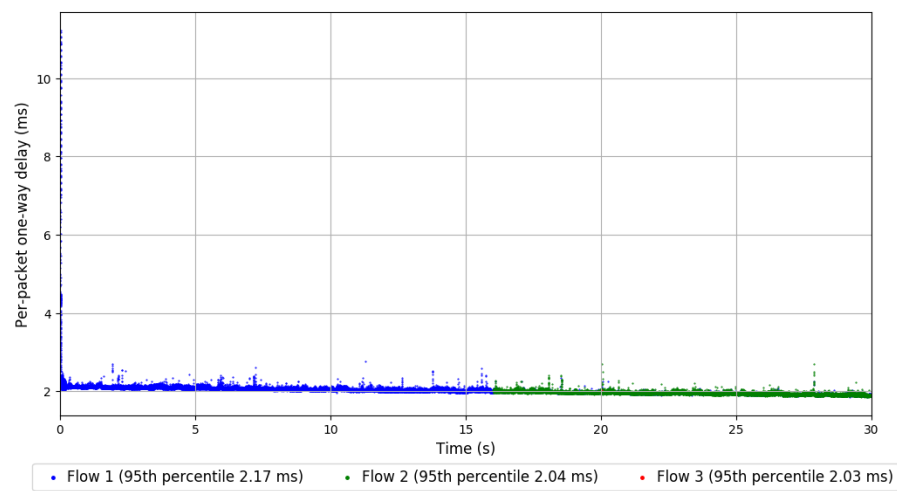
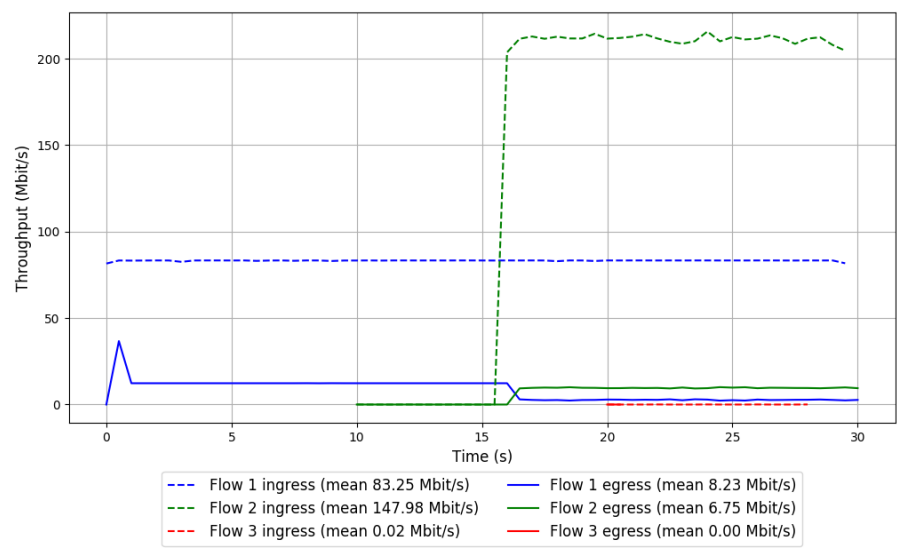


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-09 21:27:13
End at: 2018-10-09 21:27:43
Local clock offset: -1.898 ms
Remote clock offset: -0.558 ms

Below is generated by plot.py at 2018-10-09 22:45:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.155 ms
Loss rate: 93.00%
-- Flow 1:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 2.174 ms
Loss rate: 90.11%
-- Flow 2:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 2.041 ms
Loss rate: 95.44%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.029 ms
Loss rate: 99.16%

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

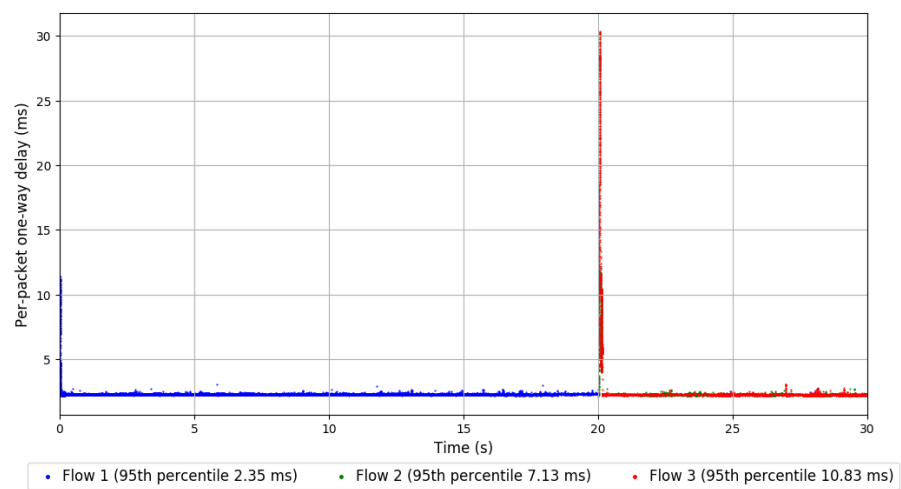
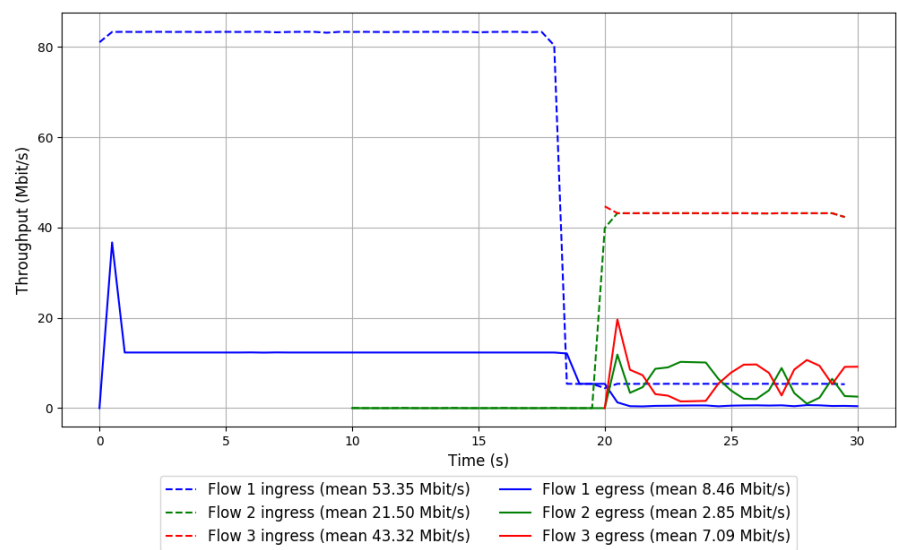


Run 3: Statistics of TaoVA-100x

Start at: 2018-10-09 21:47:42
End at: 2018-10-09 21:48:12
Local clock offset: -6.192 ms
Remote clock offset: -0.589 ms

Below is generated by plot.py at 2018-10-09 22:45:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 2.404 ms
Loss rate: 84.50%
-- Flow 1:
Average throughput: 8.46 Mbit/s
95th percentile per-packet one-way delay: 2.354 ms
Loss rate: 84.14%
-- Flow 2:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 7.127 ms
Loss rate: 86.75%
-- Flow 3:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 10.834 ms
Loss rate: 83.64%

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

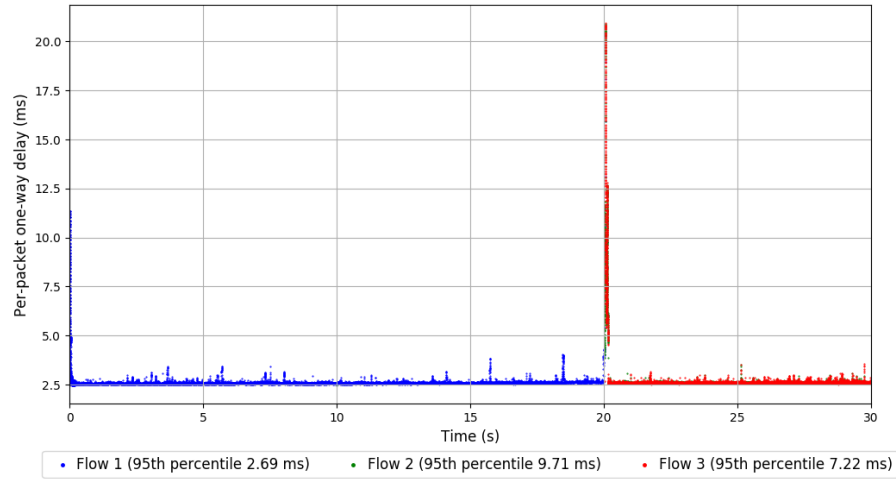
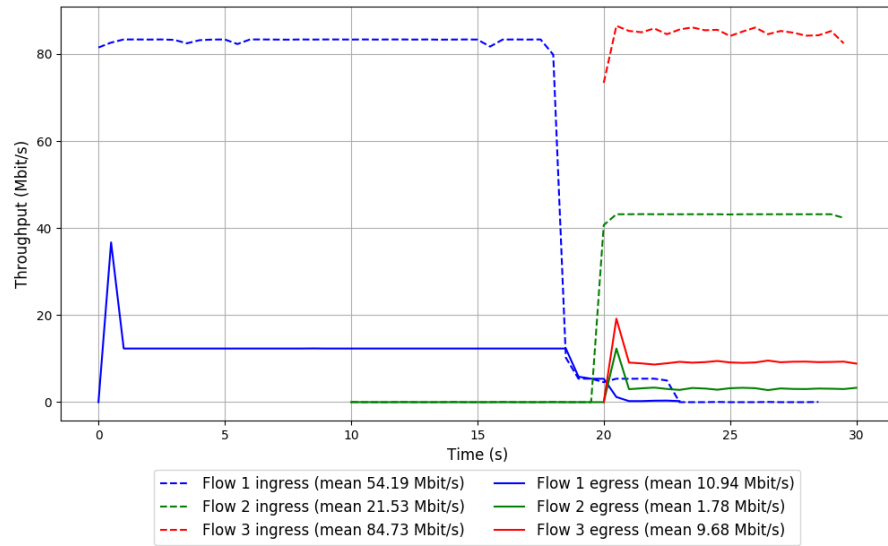


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-09 22:08:10
End at: 2018-10-09 22:08:40
Local clock offset: -3.262 ms
Remote clock offset: -0.435 ms

Below is generated by plot.py at 2018-10-09 22:45:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.860 ms
Loss rate: 86.55%
-- Flow 1:
Average throughput: 10.94 Mbit/s
95th percentile per-packet one-way delay: 2.688 ms
Loss rate: 84.02%
-- Flow 2:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 9.708 ms
Loss rate: 91.74%
-- Flow 3:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 7.225 ms
Loss rate: 88.58%

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

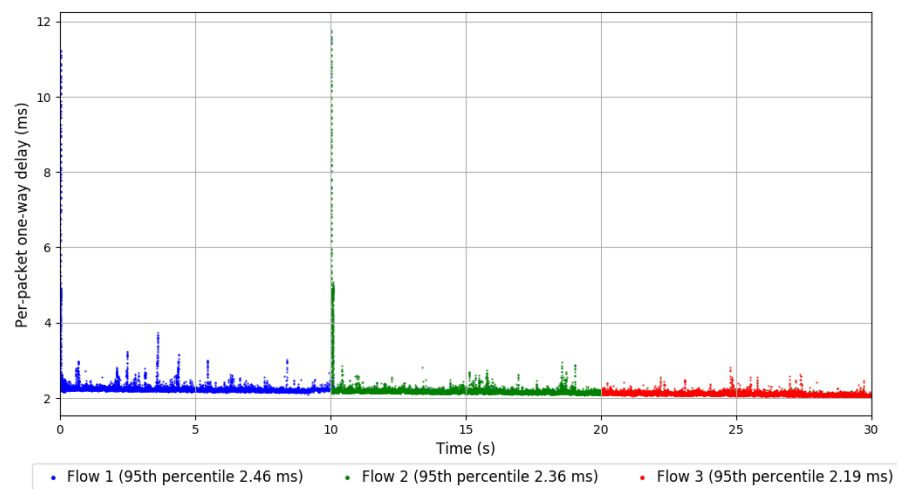
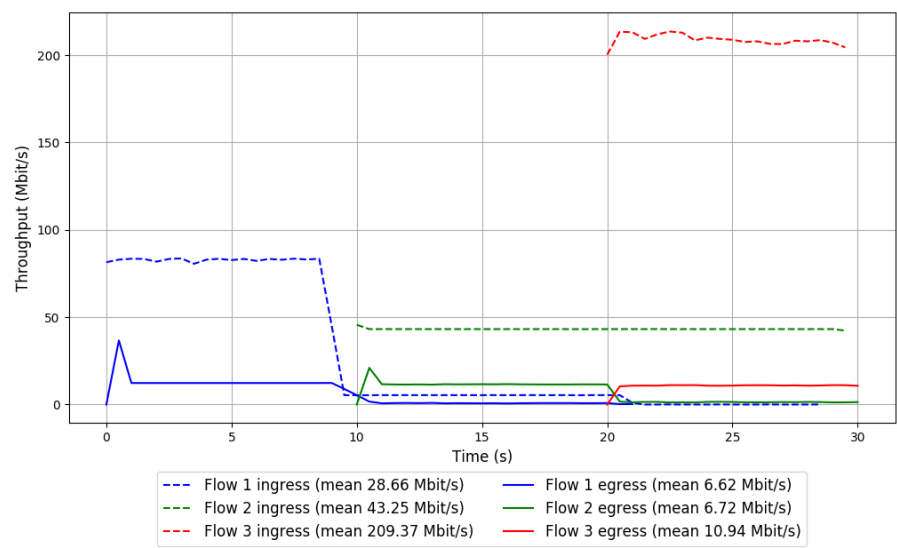


Run 5: Statistics of TaoVA-100x

Start at: 2018-10-09 22:28:39
End at: 2018-10-09 22:29:09
Local clock offset: -3.756 ms
Remote clock offset: -0.399 ms

Below is generated by plot.py at 2018-10-09 22:45:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.368 ms
Loss rate: 89.91%
-- Flow 1:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 2.461 ms
Loss rate: 83.29%
-- Flow 2:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 2.359 ms
Loss rate: 84.51%
-- Flow 3:
Average throughput: 10.94 Mbit/s
95th percentile per-packet one-way delay: 2.185 ms
Loss rate: 94.78%

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

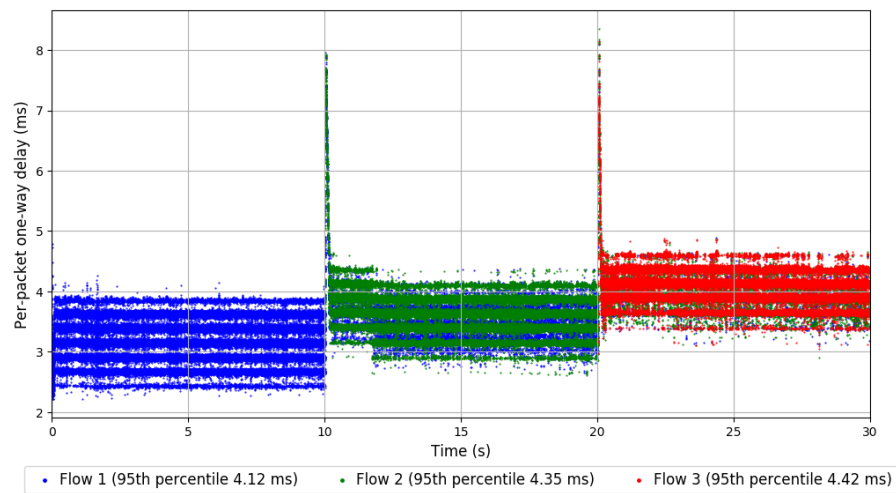
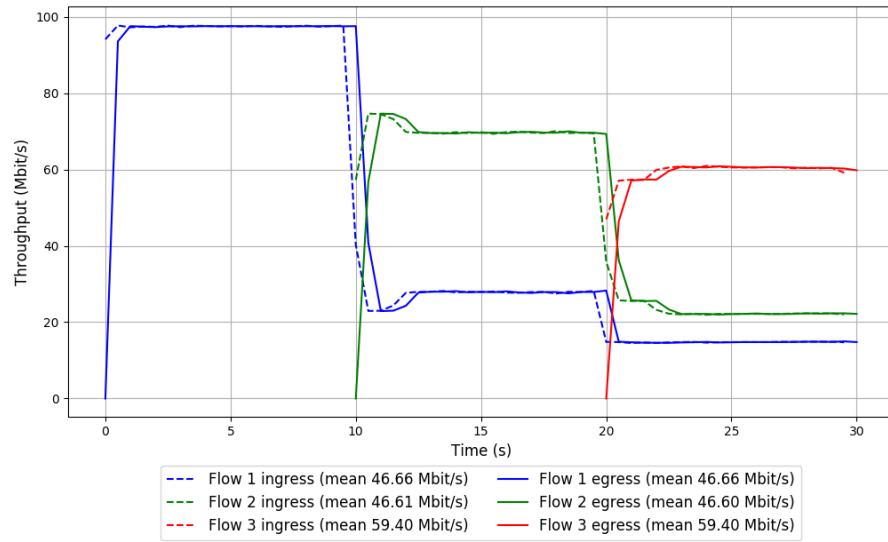


Run 1: Statistics of TCP Vegas

Start at: 2018-10-09 21:02:11
End at: 2018-10-09 21:02:41
Local clock offset: -0.787 ms
Remote clock offset: -0.625 ms

Below is generated by plot.py at 2018-10-09 22:46:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 4.366 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.66 Mbit/s
95th percentile per-packet one-way delay: 4.122 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.60 Mbit/s
95th percentile per-packet one-way delay: 4.346 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 59.40 Mbit/s
95th percentile per-packet one-way delay: 4.418 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

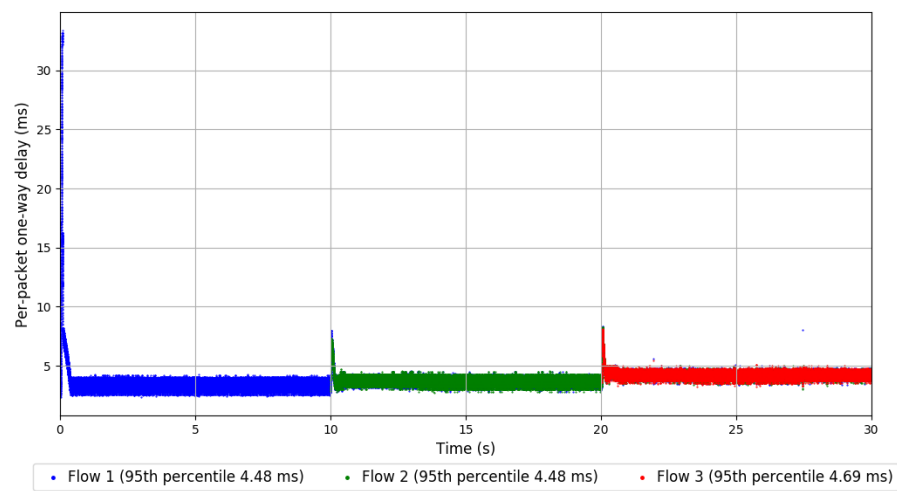
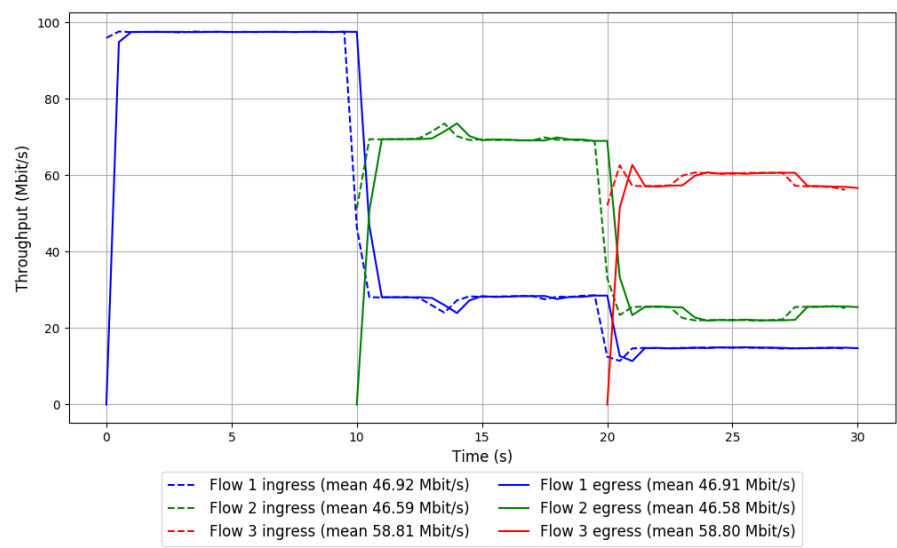


Run 2: Statistics of TCP Vegas

Start at: 2018-10-09 21:22:39
End at: 2018-10-09 21:23:09
Local clock offset: -0.925 ms
Remote clock offset: -0.612 ms

Below is generated by plot.py at 2018-10-09 22:46:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 4.510 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 46.91 Mbit/s
95th percentile per-packet one-way delay: 4.480 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 46.58 Mbit/s
95th percentile per-packet one-way delay: 4.482 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 58.80 Mbit/s
95th percentile per-packet one-way delay: 4.693 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

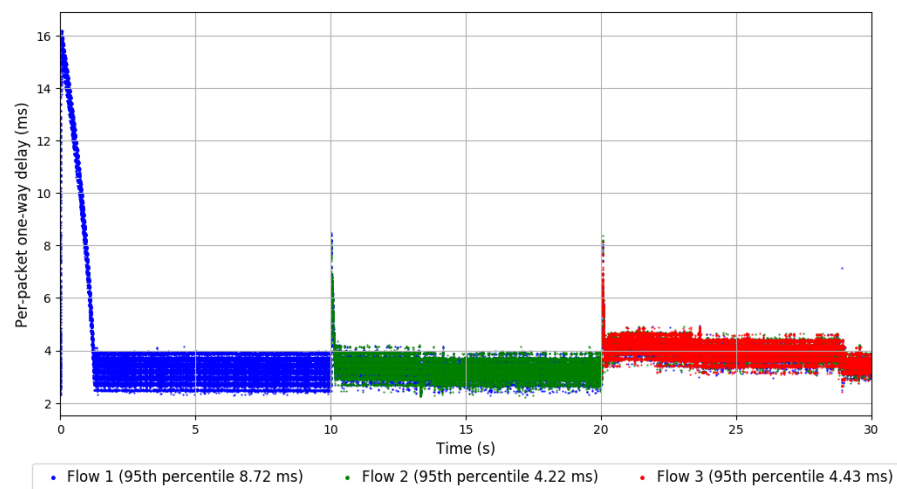
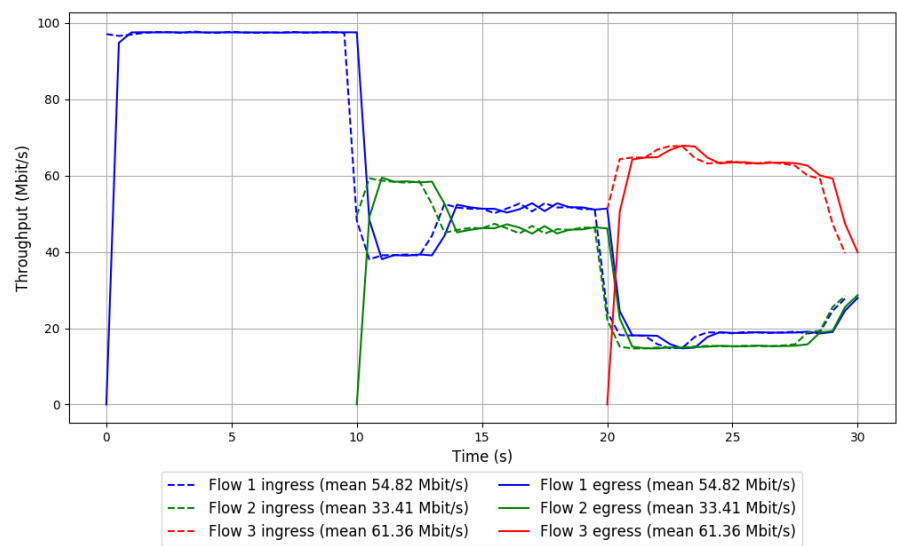


Run 3: Statistics of TCP Vegas

Start at: 2018-10-09 21:43:08
End at: 2018-10-09 21:43:38
Local clock offset: -5.816 ms
Remote clock offset: -0.568 ms

Below is generated by plot.py at 2018-10-09 22:46:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 4.611 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.82 Mbit/s
95th percentile per-packet one-way delay: 8.725 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.41 Mbit/s
95th percentile per-packet one-way delay: 4.217 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 61.36 Mbit/s
95th percentile per-packet one-way delay: 4.430 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

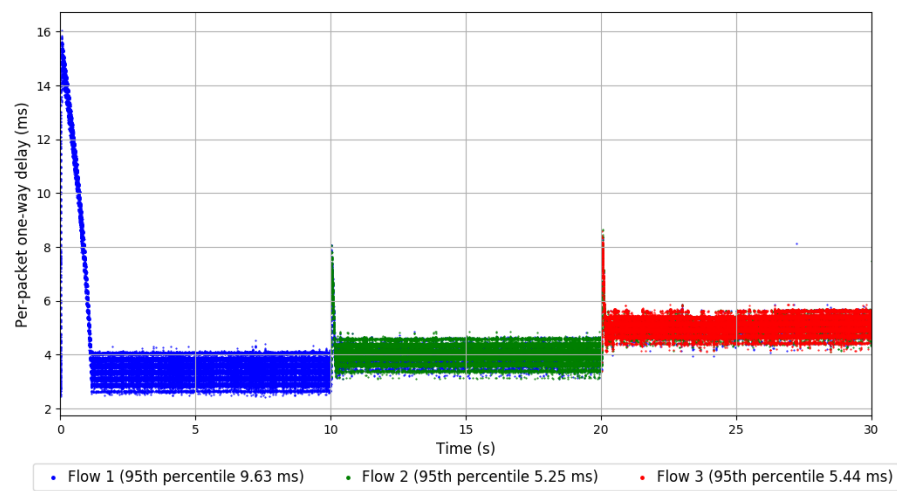
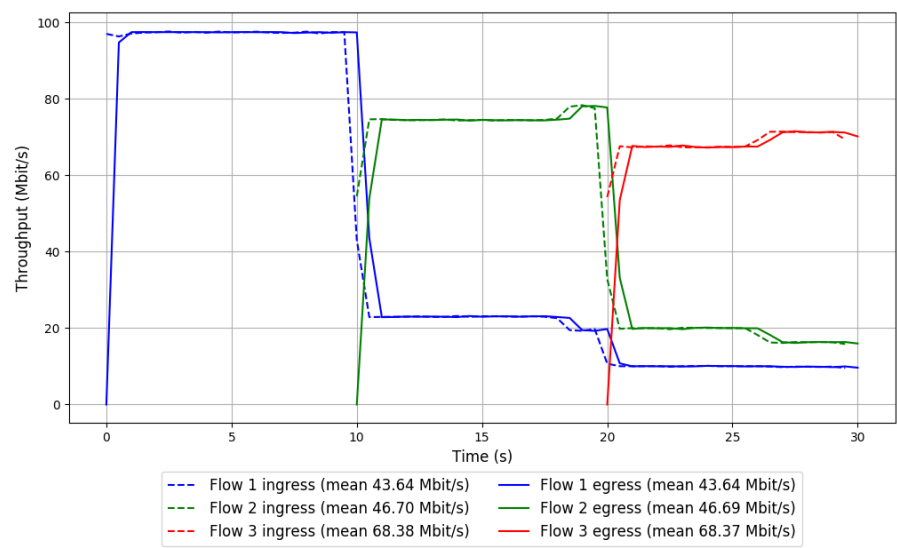


Run 4: Statistics of TCP Vegas

Start at: 2018-10-09 22:03:37
End at: 2018-10-09 22:04:07
Local clock offset: -3.913 ms
Remote clock offset: -0.461 ms

Below is generated by plot.py at 2018-10-09 22:46:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 5.531 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.64 Mbit/s
95th percentile per-packet one-way delay: 9.634 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.69 Mbit/s
95th percentile per-packet one-way delay: 5.251 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 68.37 Mbit/s
95th percentile per-packet one-way delay: 5.442 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link

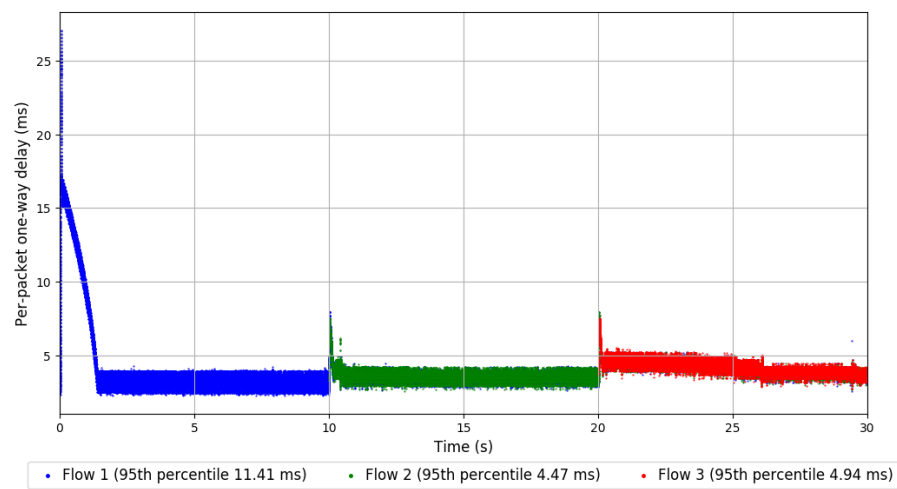
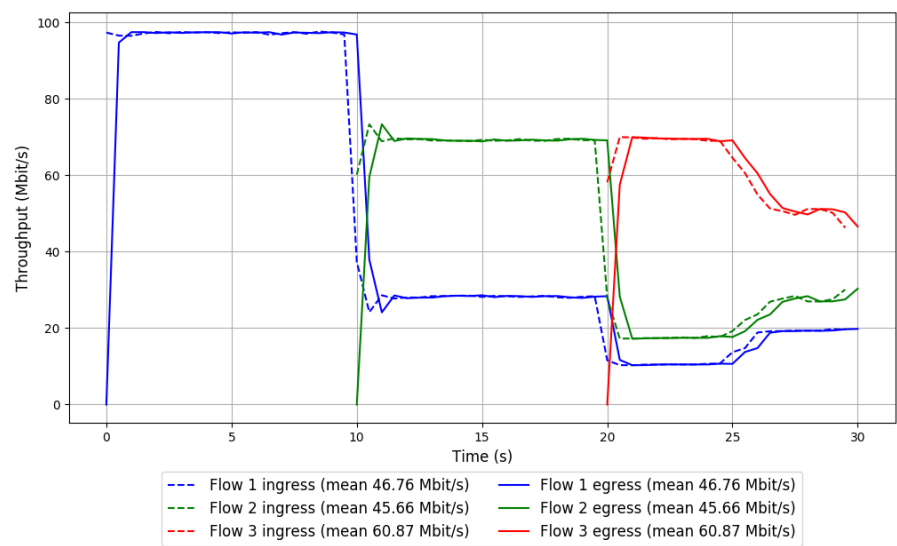


Run 5: Statistics of TCP Vegas

Start at: 2018-10-09 22:24:05
End at: 2018-10-09 22:24:35
Local clock offset: -2.179 ms
Remote clock offset: -0.454 ms

Below is generated by plot.py at 2018-10-09 22:46:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 5.155 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.76 Mbit/s
95th percentile per-packet one-way delay: 11.413 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.66 Mbit/s
95th percentile per-packet one-way delay: 4.466 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.87 Mbit/s
95th percentile per-packet one-way delay: 4.941 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

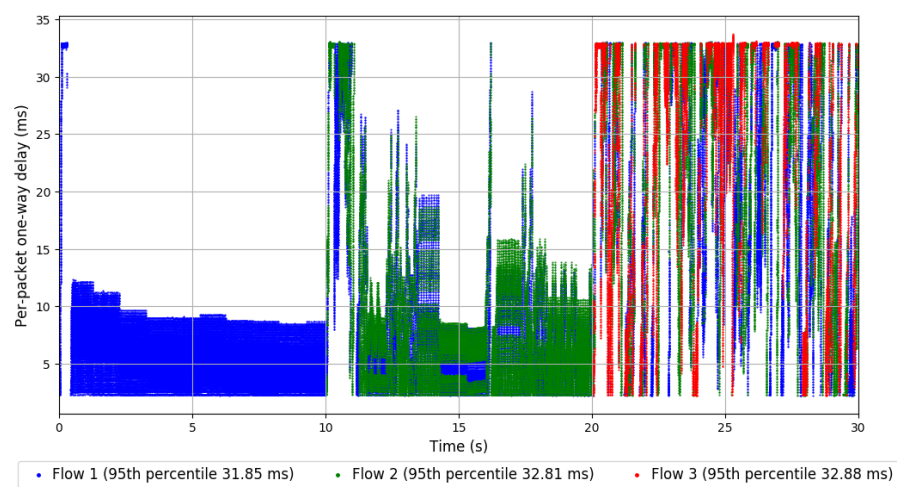
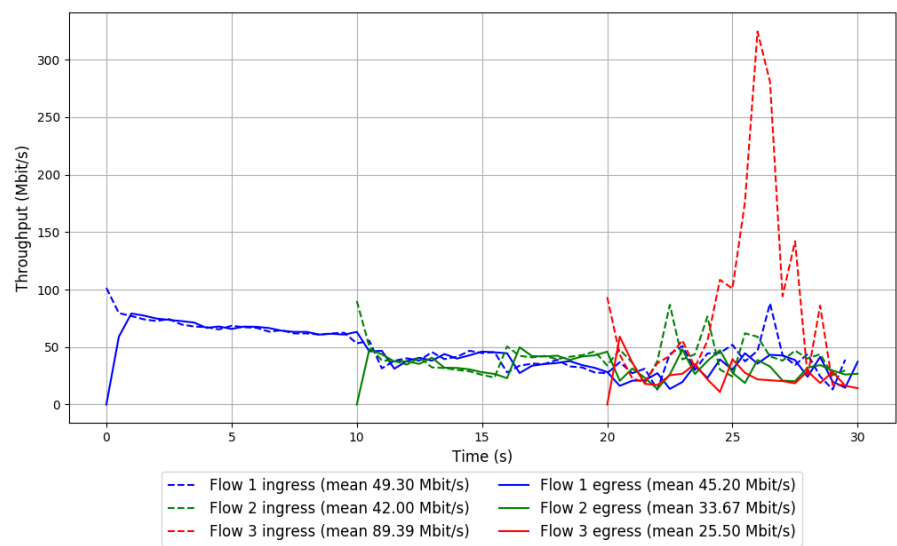


Run 1: Statistics of Verus

Start at: 2018-10-09 20:59:50
End at: 2018-10-09 21:00:20
Local clock offset: -0.628 ms
Remote clock offset: -0.553 ms

Below is generated by plot.py at 2018-10-09 22:46:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 75.97 Mbit/s
95th percentile per-packet one-way delay: 32.785 ms
Loss rate: 28.77%
-- Flow 1:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 31.848 ms
Loss rate: 8.24%
-- Flow 2:
Average throughput: 33.67 Mbit/s
95th percentile per-packet one-way delay: 32.811 ms
Loss rate: 19.74%
-- Flow 3:
Average throughput: 25.50 Mbit/s
95th percentile per-packet one-way delay: 32.877 ms
Loss rate: 71.42%

Run 1: Report of Verus — Data Link

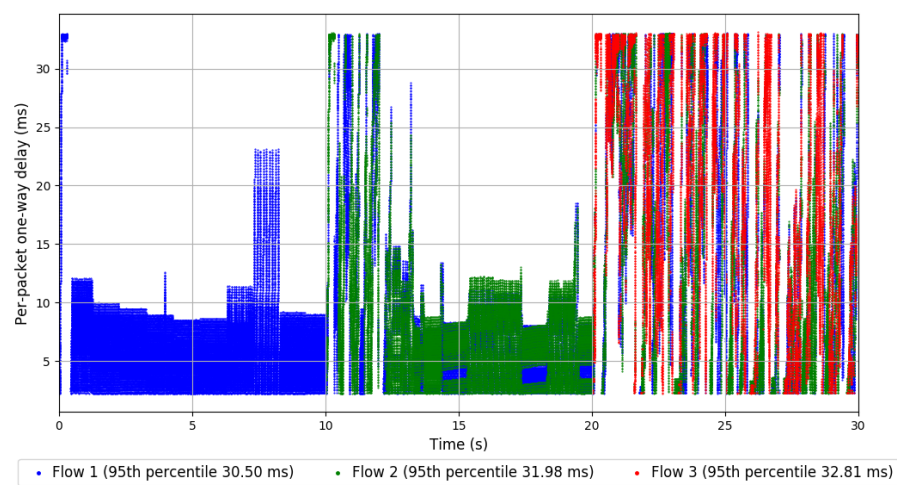
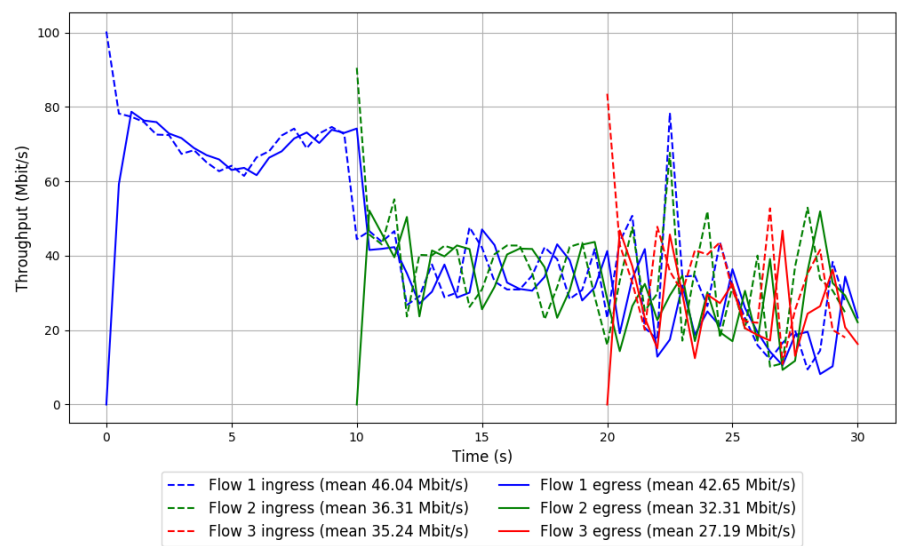


Run 2: Statistics of Verus

Start at: 2018-10-09 21:20:19
End at: 2018-10-09 21:20:49
Local clock offset: -0.91 ms
Remote clock offset: -0.608 ms

Below is generated by plot.py at 2018-10-09 22:46:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 73.14 Mbit/s
95th percentile per-packet one-way delay: 31.887 ms
Loss rate: 10.53%
-- Flow 1:
Average throughput: 42.65 Mbit/s
95th percentile per-packet one-way delay: 30.501 ms
Loss rate: 7.27%
-- Flow 2:
Average throughput: 32.31 Mbit/s
95th percentile per-packet one-way delay: 31.984 ms
Loss rate: 10.91%
-- Flow 3:
Average throughput: 27.19 Mbit/s
95th percentile per-packet one-way delay: 32.808 ms
Loss rate: 22.63%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-09 21:40:49

End at: 2018-10-09 21:41:19

Local clock offset: -5.509 ms

Remote clock offset: -0.63 ms

Below is generated by plot.py at 2018-10-09 22:46:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.85 Mbit/s

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

Loss rate: 10.76%

-- Flow 1:

Average throughput: 43.16 Mbit/s

95th percentile per-packet one-way delay: 29.607 ms

Loss rate: 8.43%

-- Flow 2:

Average throughput: 32.41 Mbit/s

95th percentile per-packet one-way delay: 31.665 ms

Loss rate: 9.45%

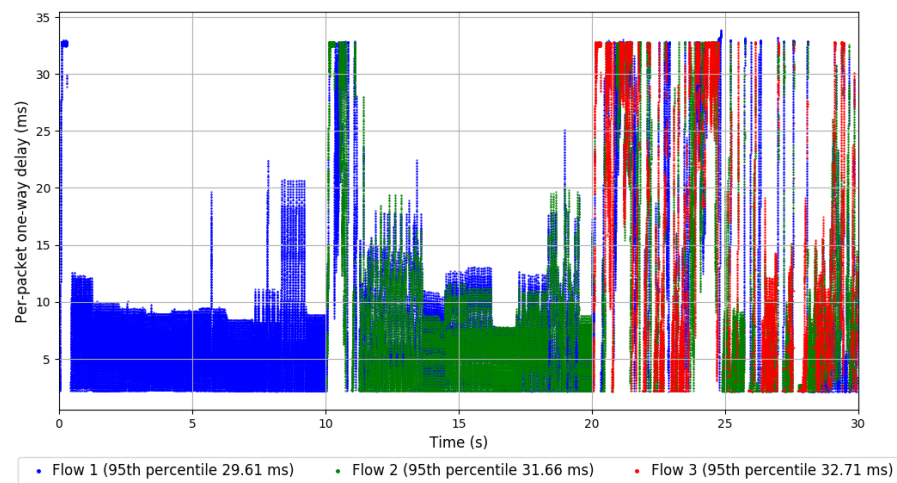
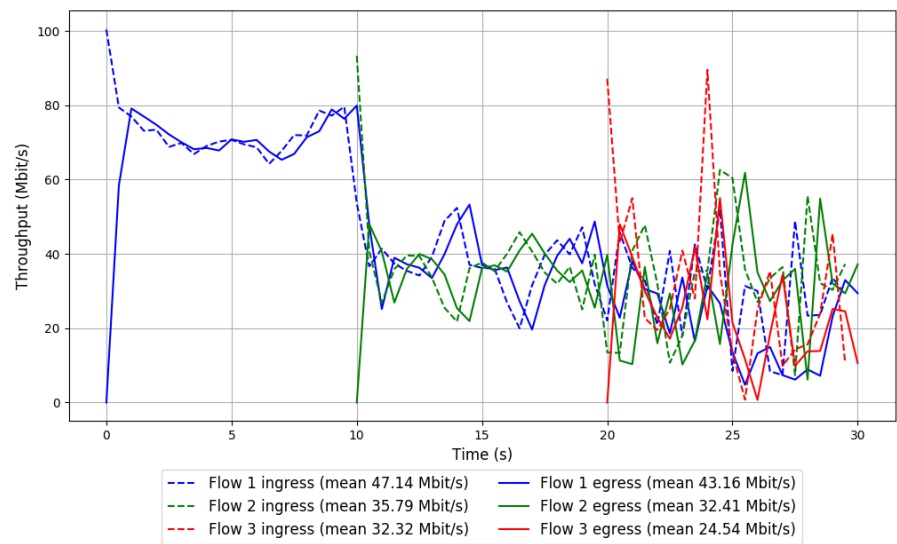
-- Flow 3:

Average throughput: 24.54 Mbit/s

95th percentile per-packet one-way delay: 32.706 ms

Loss rate: 23.98%

Run 3: Report of Verus — Data Link

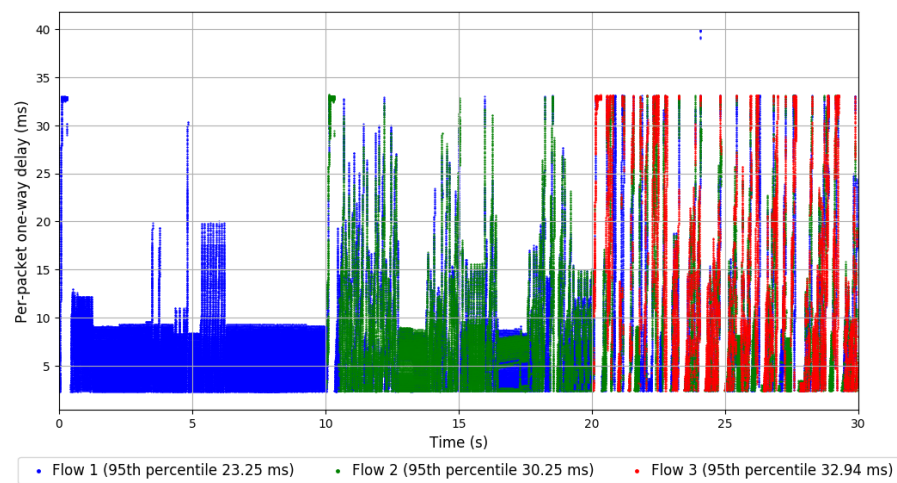
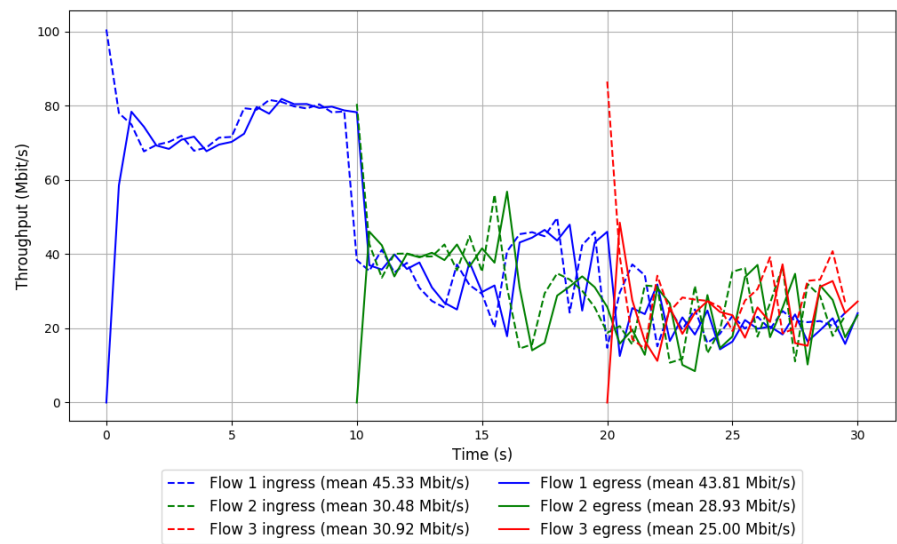


Run 4: Statistics of Verus

Start at: 2018-10-09 22:01:17
End at: 2018-10-09 22:01:47
Local clock offset: -4.399 ms
Remote clock offset: -0.544 ms

Below is generated by plot.py at 2018-10-09 22:47:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 71.33 Mbit/s
95th percentile per-packet one-way delay: 29.682 ms
Loss rate: 5.96%
-- Flow 1:
Average throughput: 43.81 Mbit/s
95th percentile per-packet one-way delay: 23.247 ms
Loss rate: 3.36%
-- Flow 2:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 30.249 ms
Loss rate: 5.08%
-- Flow 3:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 32.936 ms
Loss rate: 19.21%

Run 4: Report of Verus — Data Link

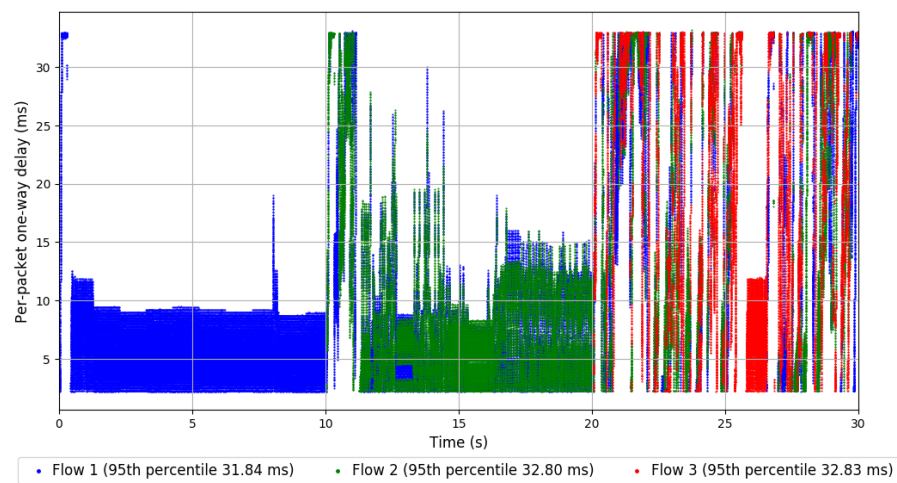
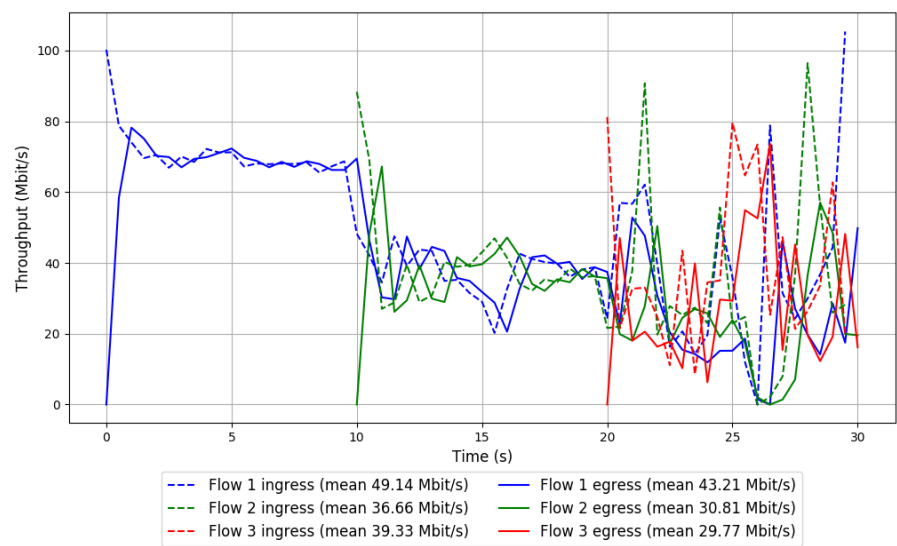


Run 5: Statistics of Verus

Start at: 2018-10-09 22:21:45
End at: 2018-10-09 22:22:15
Local clock offset: -2.233 ms
Remote clock offset: -0.468 ms

Below is generated by plot.py at 2018-10-09 22:47:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 73.60 Mbit/s
95th percentile per-packet one-way delay: 32.721 ms
Loss rate: 14.89%
-- Flow 1:
Average throughput: 43.21 Mbit/s
95th percentile per-packet one-way delay: 31.840 ms
Loss rate: 11.99%
-- Flow 2:
Average throughput: 30.81 Mbit/s
95th percentile per-packet one-way delay: 32.804 ms
Loss rate: 15.83%
-- Flow 3:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 32.829 ms
Loss rate: 24.09%

Run 5: Report of Verus — Data Link

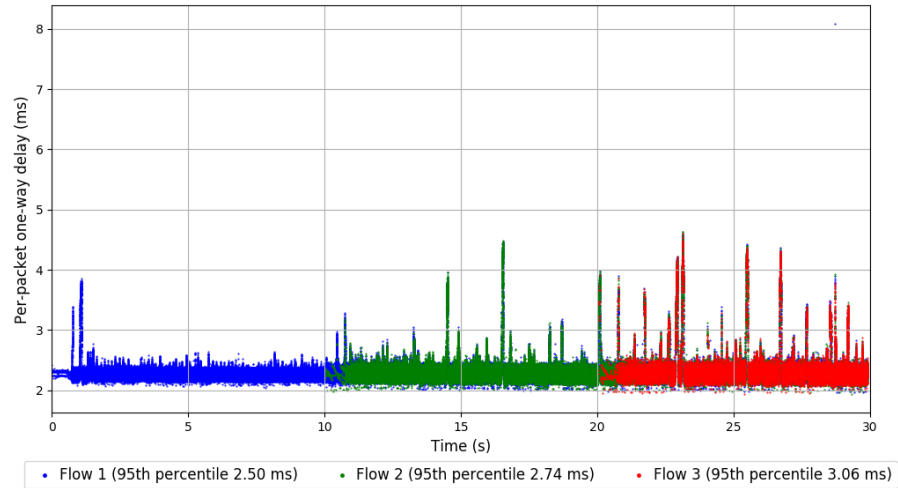
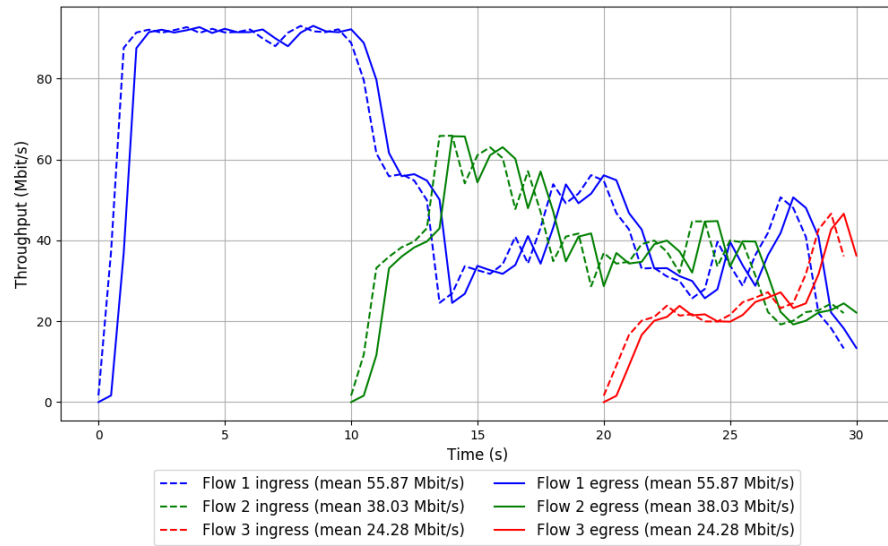


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-09 20:56:20
End at: 2018-10-09 20:56:50
Local clock offset: -0.285 ms
Remote clock offset: -0.636 ms

Below is generated by plot.py at 2018-10-09 22:47:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.19 Mbit/s
95th percentile per-packet one-way delay: 2.592 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.87 Mbit/s
95th percentile per-packet one-way delay: 2.495 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.03 Mbit/s
95th percentile per-packet one-way delay: 2.736 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 3.055 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

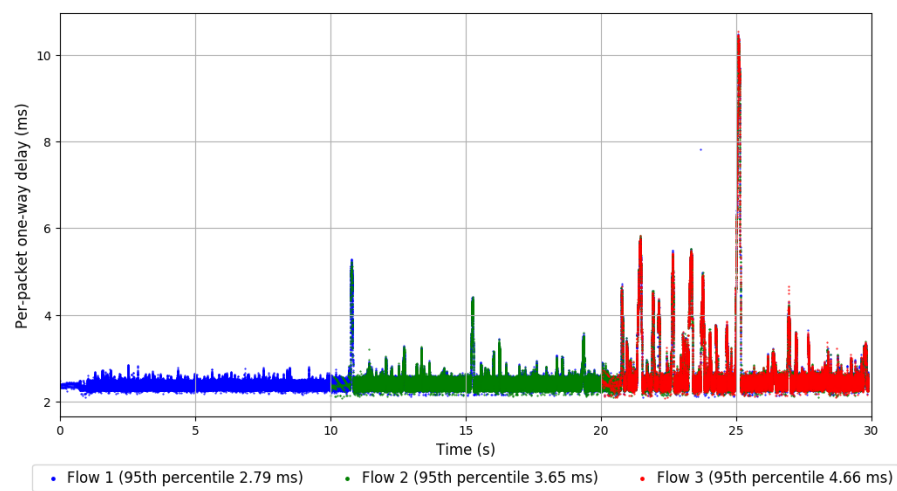
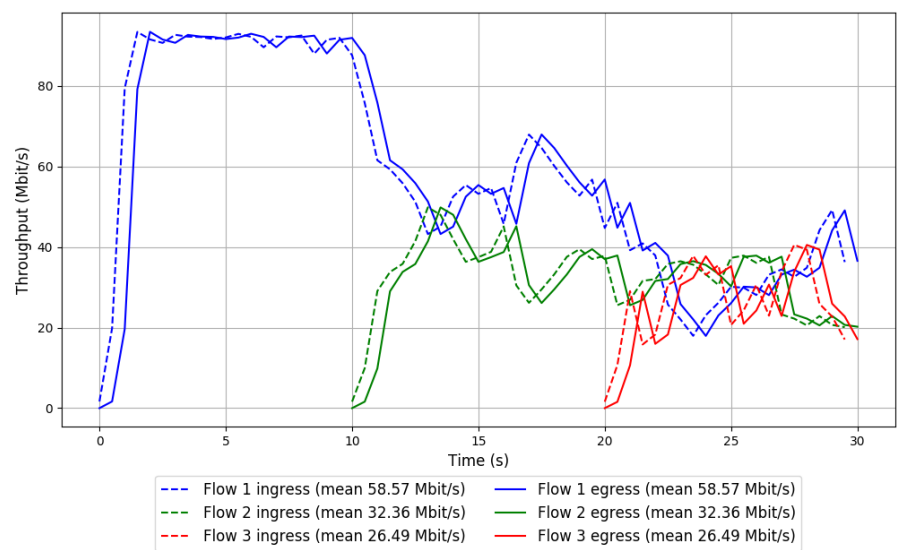


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-09 21:16:49
End at: 2018-10-09 21:17:19
Local clock offset: -0.974 ms
Remote clock offset: -0.624 ms

Below is generated by plot.py at 2018-10-09 22:47:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.84 Mbit/s
95th percentile per-packet one-way delay: 3.233 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.57 Mbit/s
95th percentile per-packet one-way delay: 2.788 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.36 Mbit/s
95th percentile per-packet one-way delay: 3.653 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.49 Mbit/s
95th percentile per-packet one-way delay: 4.660 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

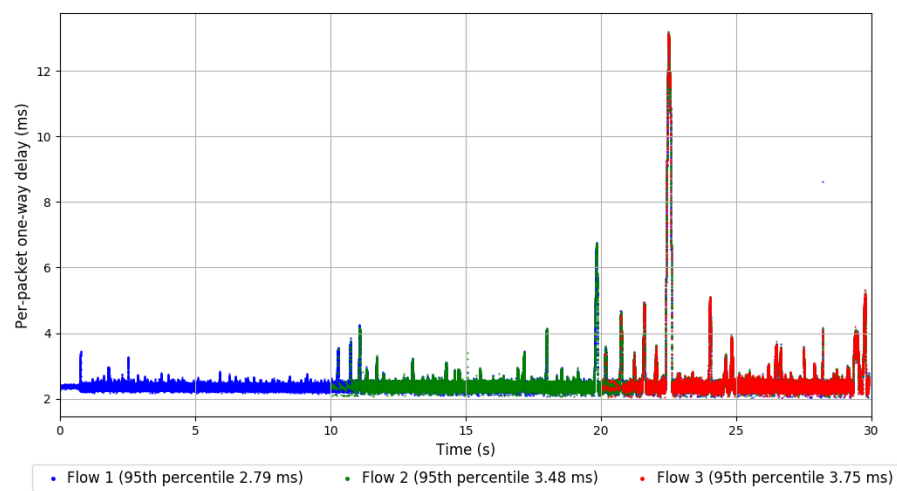
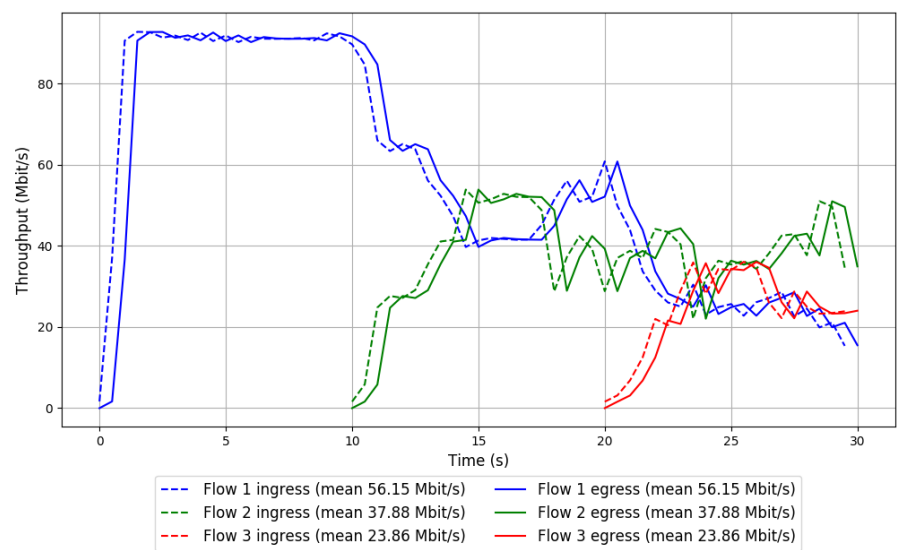


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-09 21:37:19
End at: 2018-10-09 21:37:49
Local clock offset: -4.983 ms
Remote clock offset: -0.546 ms

Below is generated by plot.py at 2018-10-09 22:47:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.23 Mbit/s
95th percentile per-packet one-way delay: 3.116 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.15 Mbit/s
95th percentile per-packet one-way delay: 2.787 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 3.477 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.86 Mbit/s
95th percentile per-packet one-way delay: 3.753 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

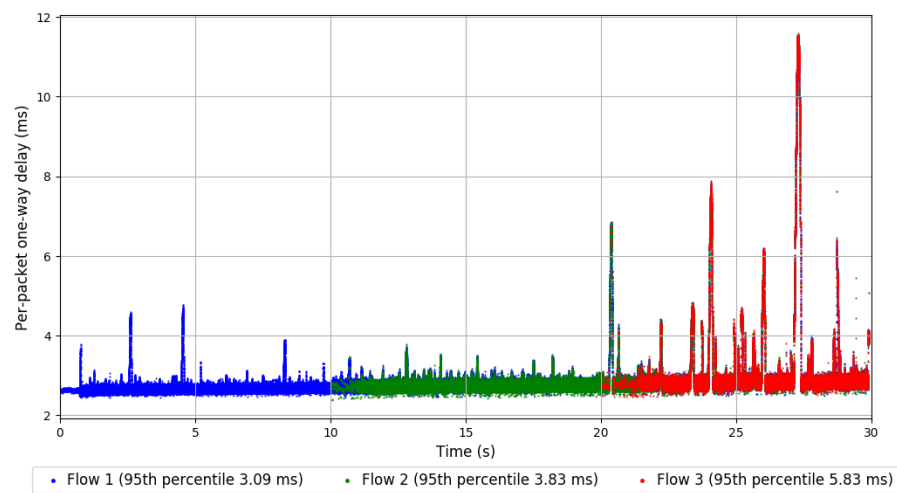
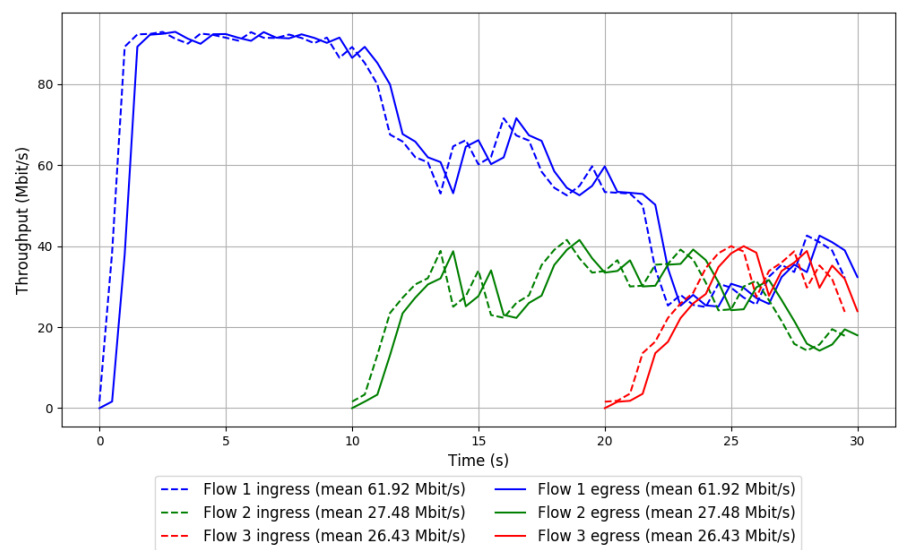


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-09 21:57:47
End at: 2018-10-09 21:58:17
Local clock offset: -5.529 ms
Remote clock offset: -0.466 ms

Below is generated by plot.py at 2018-10-09 22:47:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.92 Mbit/s
95th percentile per-packet one-way delay: 3.478 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.92 Mbit/s
95th percentile per-packet one-way delay: 3.087 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.48 Mbit/s
95th percentile per-packet one-way delay: 3.835 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.43 Mbit/s
95th percentile per-packet one-way delay: 5.832 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

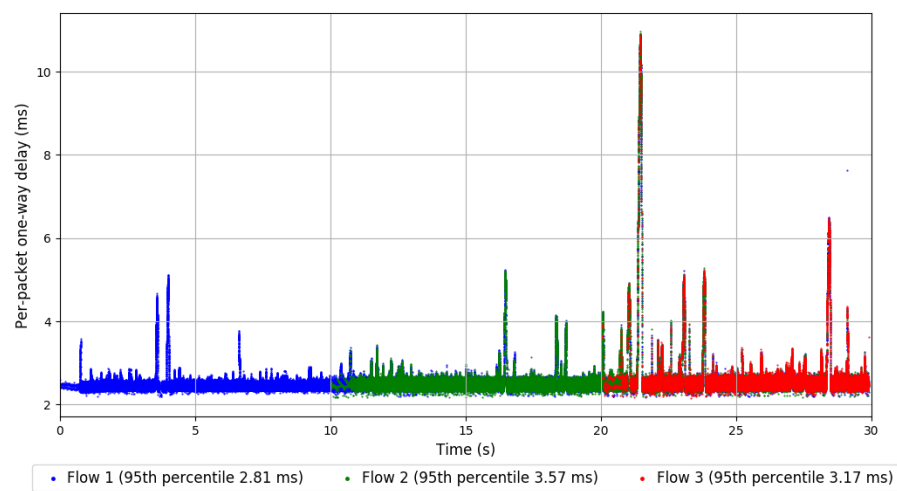
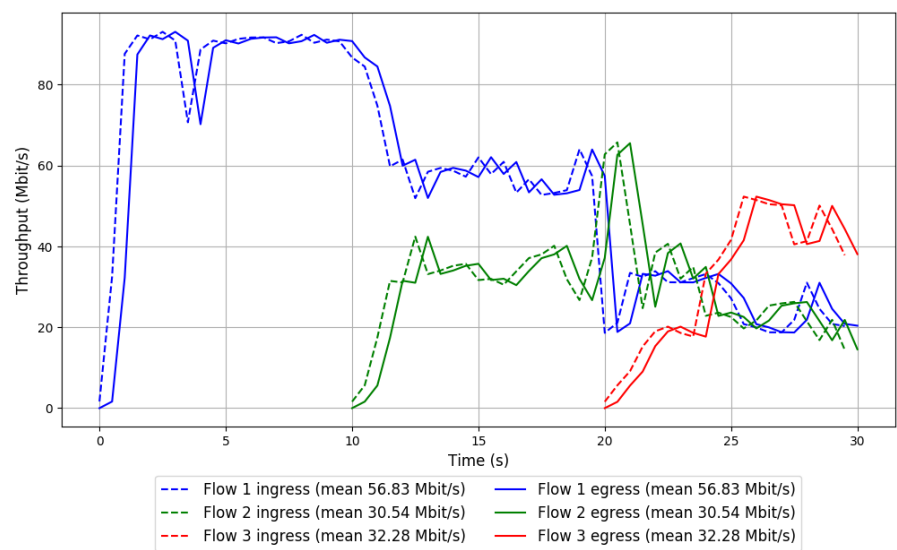


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-09 22:18:15
End at: 2018-10-09 22:18:45
Local clock offset: -2.377 ms
Remote clock offset: -0.409 ms

Below is generated by plot.py at 2018-10-09 22:47:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.80 Mbit/s
95th percentile per-packet one-way delay: 2.994 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.83 Mbit/s
95th percentile per-packet one-way delay: 2.809 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.54 Mbit/s
95th percentile per-packet one-way delay: 3.568 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.28 Mbit/s
95th percentile per-packet one-way delay: 3.168 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

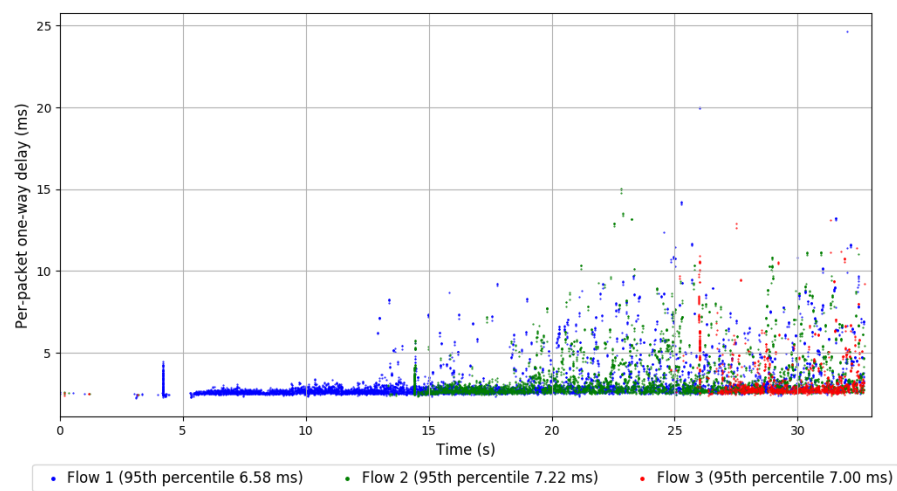
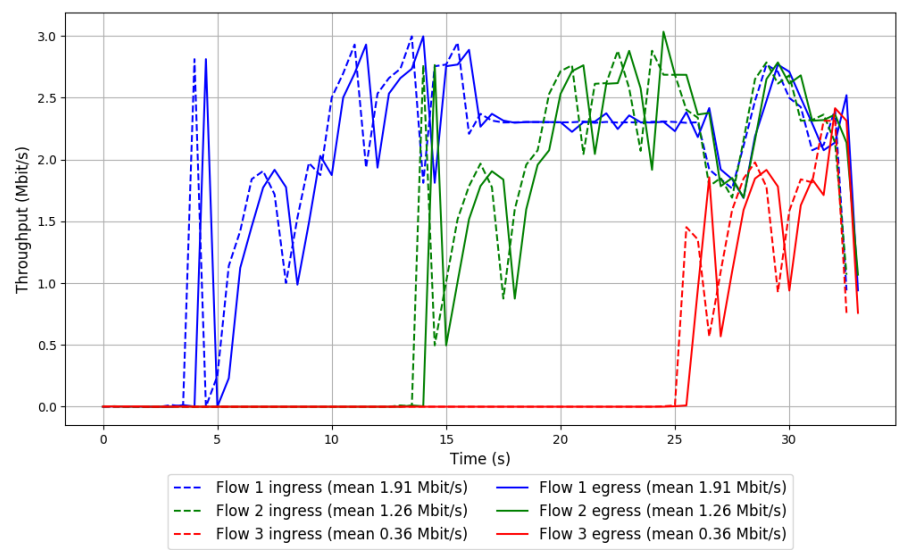


Run 1: Statistics of WebRTC media

Start at: 2018-10-09 20:54:05
End at: 2018-10-09 20:54:36
Local clock offset: -0.162 ms
Remote clock offset: -0.497 ms

Below is generated by plot.py at 2018-10-09 22:47:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 6.904 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 6.580 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 7.218 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 7.002 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

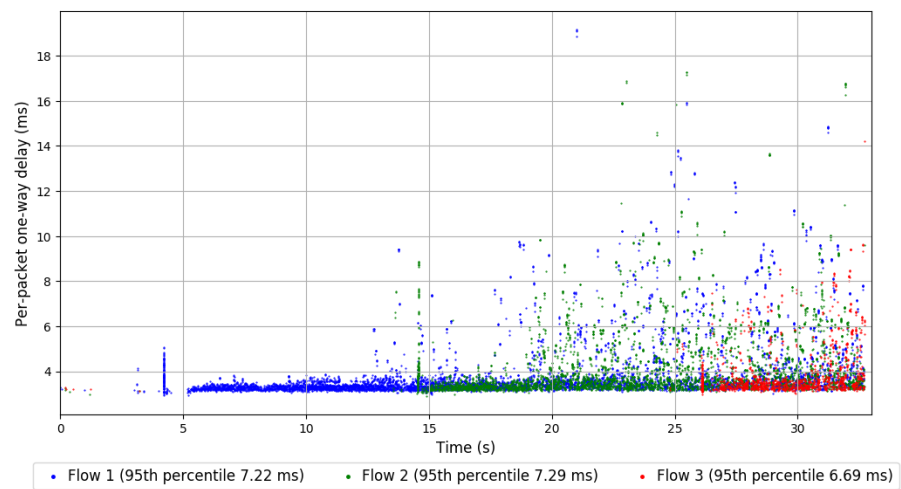
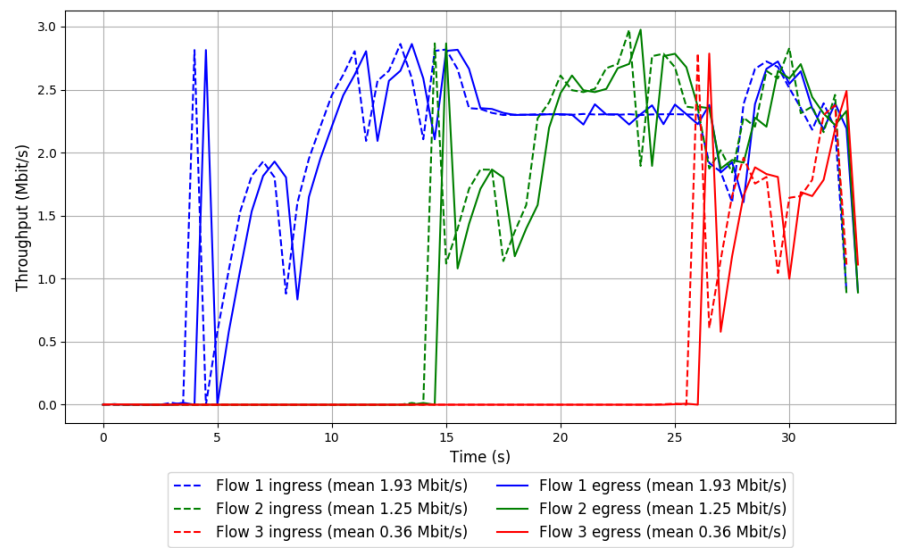


Run 2: Statistics of WebRTC media

Start at: 2018-10-09 21:14:35
End at: 2018-10-09 21:15:05
Local clock offset: -1.819 ms
Remote clock offset: -0.672 ms

Below is generated by plot.py at 2018-10-09 22:47:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 7.146 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 7.218 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 7.293 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 6.694 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

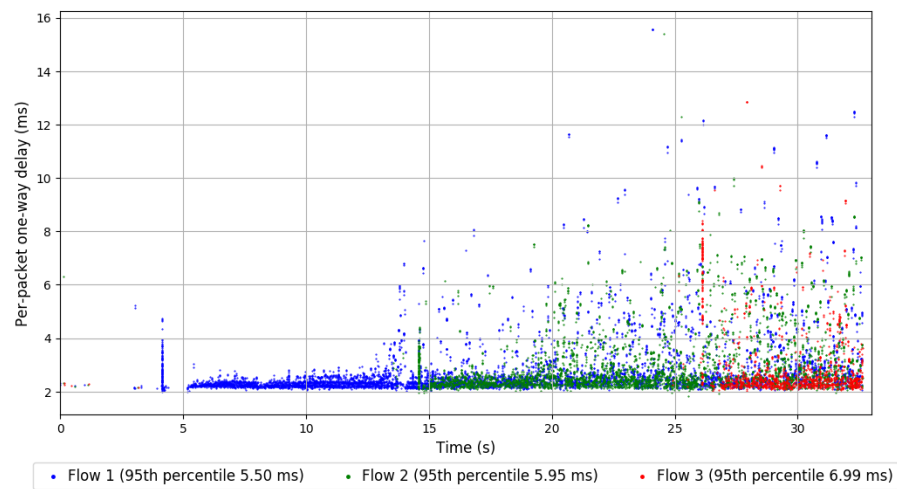
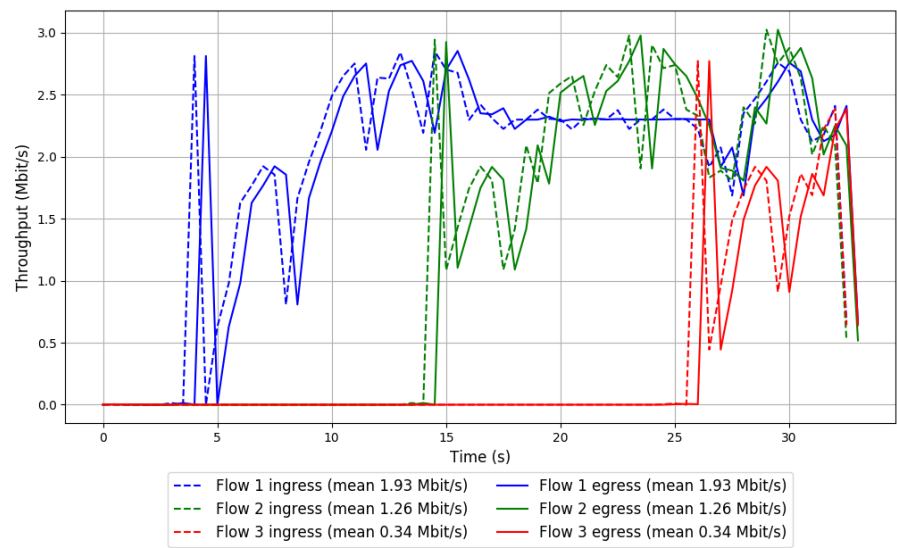


Run 3: Statistics of WebRTC media

Start at: 2018-10-09 21:35:04
End at: 2018-10-09 21:35:34
Local clock offset: -4.486 ms
Remote clock offset: -0.675 ms

Below is generated by plot.py at 2018-10-09 22:47:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 5.841 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 5.502 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 5.945 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 6.993 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

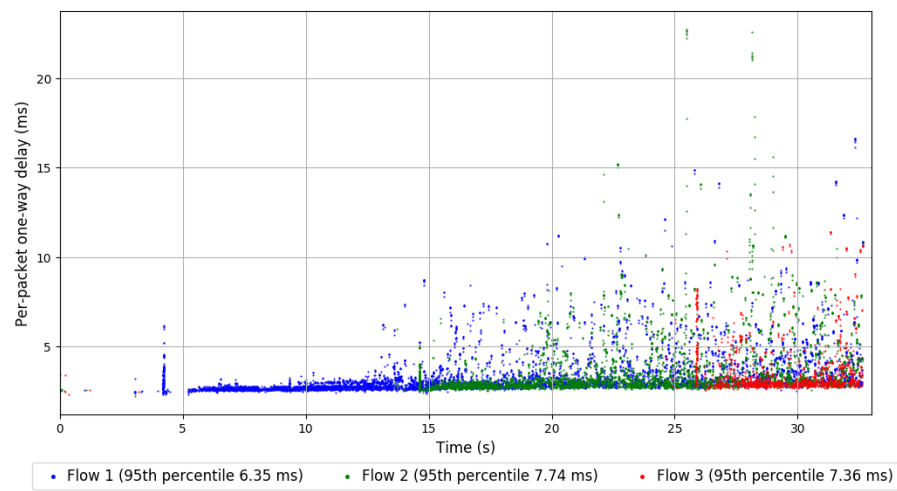
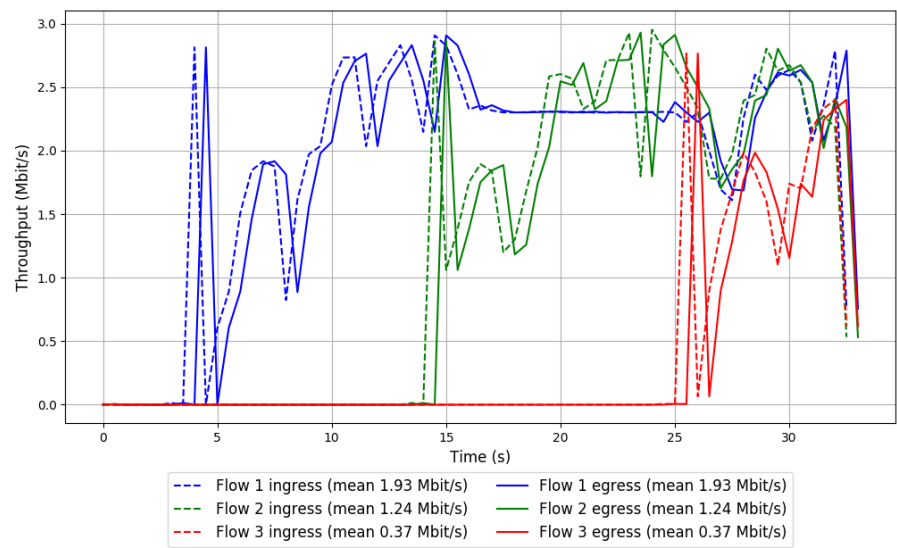


Run 4: Statistics of WebRTC media

Start at: 2018-10-09 21:55:32
End at: 2018-10-09 21:56:02
Local clock offset: -6.4 ms
Remote clock offset: -0.573 ms

Below is generated by plot.py at 2018-10-09 22:47:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 6.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 6.354 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 7.744 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 7.359 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-09 22:16:01
End at: 2018-10-09 22:16:31
Local clock offset: -2.483 ms
Remote clock offset: -0.446 ms

Below is generated by plot.py at 2018-10-09 22:47:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 6.152 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 5.671 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 6.831 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 6.516 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

