

## Pantheon Report

Generated at 2019-01-25 03:17:51 (UTC).

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

Repeated the test of 21 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:

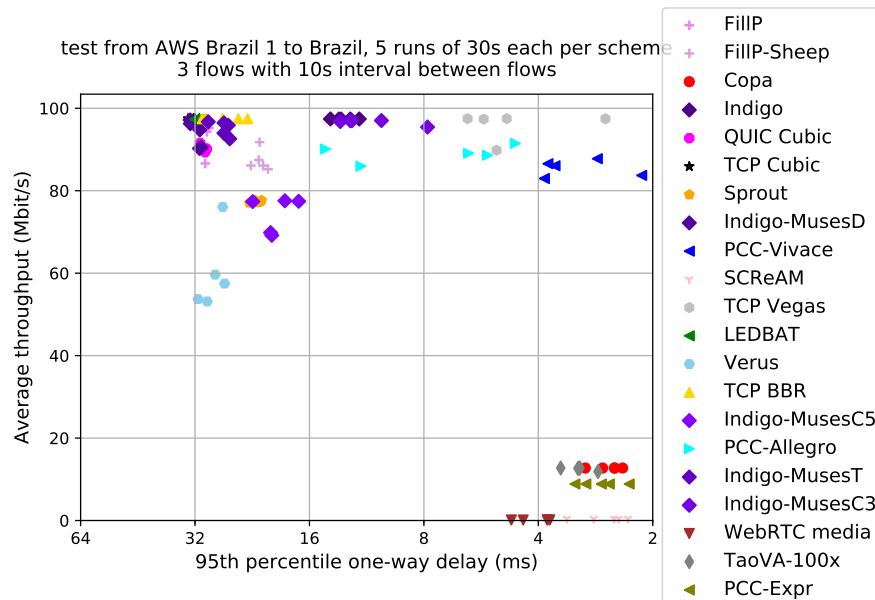
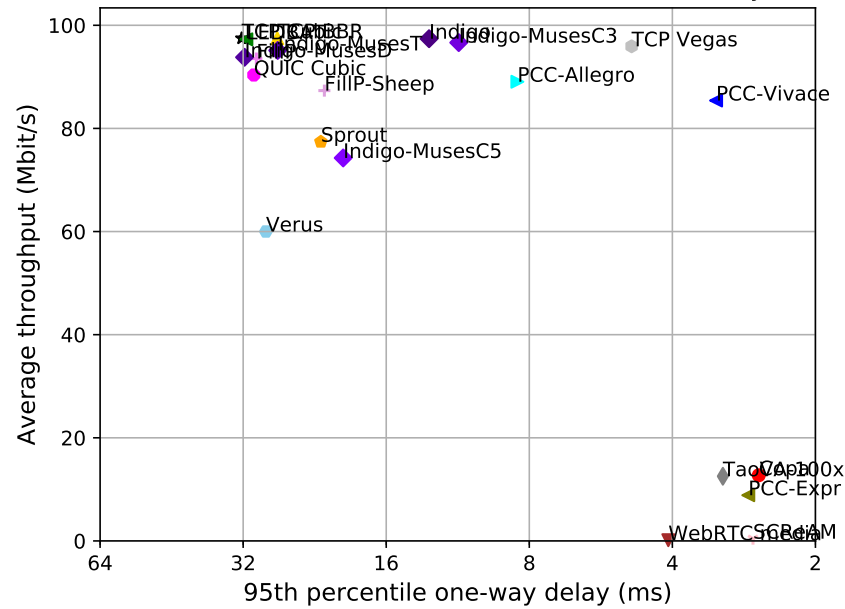
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 0b8e9a949603c3842368430acf469eec3b941f9f
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ d9c5ea33091330aca25ecd105ab2db6d34d5c40d
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      | 73.46                  | 24.46  | 23.22  | 27.10                     | 25.57  | 31.35  | 0.16               | 0.04   | 0.38   |
| Copa           | 5      | 11.74                  | 2.02   | 0.52   | 2.64                      | 1.83   | 2.32   | 64.32              | 81.87  | 88.59  |
| TCP Cubic      | 5      | 62.52                  | 38.77  | 27.53  | 32.22                     | 31.79  | 32.13  | 0.04               | 0.03   | 0.05   |
| FillP          | 5      | 46.29                  | 51.88  | 38.37  | 28.71                     | 29.56  | 30.00  | 10.72              | 18.30  | 39.80  |
| FillP-Sheep    | 5      | 48.02                  | 36.81  | 44.68  | 16.94                     | 22.76  | 25.09  | 1.06               | 1.56   | 1.85   |
| Indigo         | 5      | 47.42                  | 39.84  | 72.34  | 10.88                     | 13.41  | 13.19  | 0.00               | 0.00   | 0.00   |
| Indigo-MusesC3 | 5      | 51.45                  | 51.93  | 37.90  | 10.72                     | 12.05  | 8.76   | 0.00               | 0.00   | 0.00   |
| Indigo-MusesC5 | 5      | 41.82                  | 34.58  | 32.75  | 18.44                     | 20.10  | 20.90  | 0.00               | 0.01   | 0.00   |
| Indigo-MusesD  | 5      | 65.15                  | 31.45  | 27.09  | 31.81                     | 30.14  | 28.41  | 1.00               | 1.32   | 2.26   |
| Indigo-MusesT  | 5      | 62.27                  | 37.57  | 27.77  | 24.34                     | 28.53  | 30.09  | 0.14               | 0.23   | 0.74   |
| LEDBAT         | 5      | 59.33                  | 41.69  | 30.84  | 31.13                     | 31.81  | 31.82  | 0.03               | 0.05   | 0.09   |
| PCC-Allegro    | 5      | 74.47                  | 17.04  | 9.85   | 6.67                      | 14.28  | 16.00  | 0.00               | 0.00   | 0.00   |
| PCC-Expr       | 5      | 0.51                   | 10.21  | 6.27   | 1.97                      | 2.51   | 2.81   | 85.71              | 26.69  | 21.84  |
| QUIC Cubic     | 5      | 57.28                  | 35.20  | 29.46  | 29.97                     | 30.48  | 31.06  | 0.14               | 0.19   | 0.27   |
| SCReAM         | 5      | 0.22                   | 0.22   | 0.22   | 1.92                      | 1.90   | 2.44   | 0.00               | 0.00   | 0.00   |
| Sprout         | 5      | 41.64                  | 37.51  | 32.73  | 21.01                     | 21.73  | 23.77  | 0.00               | 0.00   | 0.00   |
| TaoVA-100x     | 5      | 5.91                   | 9.78   | 1.49   | 3.14                      | 2.83   | 2.80   | 85.52              | 89.63  | 97.87  |
| TCP Vegas      | 5      | 46.47                  | 45.39  | 57.77  | 9.32                      | 3.93   | 3.86   | 0.00               | 0.00   | 0.00   |
| Verus          | 5      | 34.56                  | 25.67  | 25.24  | 24.04                     | 29.18  | 31.56  | 6.50               | 6.70   | 11.42  |
| PCC-Vivace     | 5      | 53.72                  | 35.47  | 24.52  | 2.64                      | 3.99   | 3.66   | 0.00               | 0.00   | 0.00   |
| WebRTC media   | 5      | 0.05                   | 0.05   | 0.05   | 4.43                      | 4.02   | 4.23   | 0.00               | 0.01   | 0.00   |

Run 1: Statistics of TCP BBR

Start at: 2019-01-25 01:26:08

End at: 2019-01-25 01:26:38

Local clock offset: -4.374 ms

Remote clock offset: 0.158 ms

# Below is generated by plot.py at 2019-01-25 03:07:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 30.019 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 75.62 Mbit/s

95th percentile per-packet one-way delay: 30.005 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 26.59 Mbit/s

95th percentile per-packet one-way delay: 28.945 ms

Loss rate: 0.02%

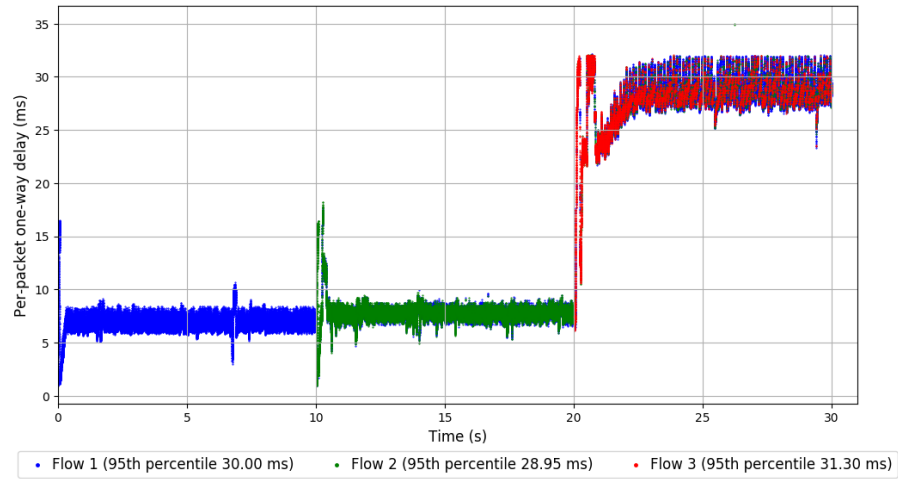
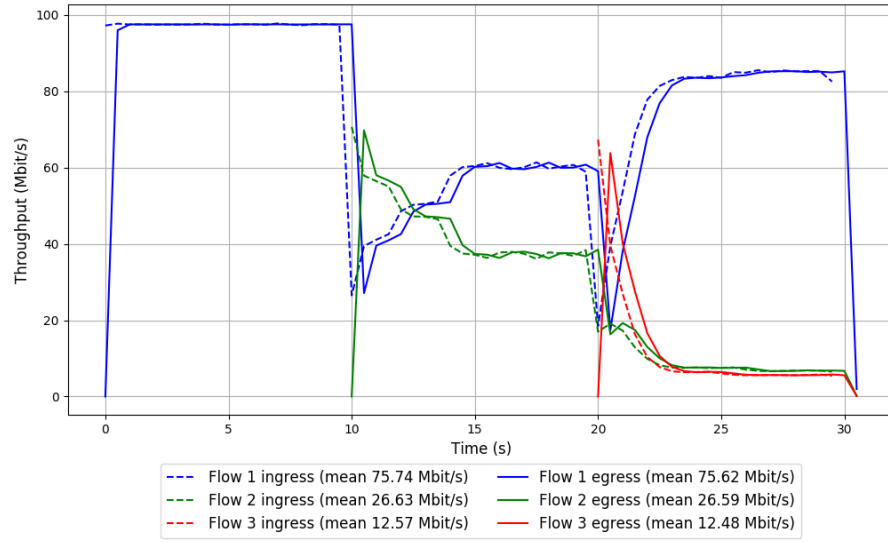
-- Flow 3:

Average throughput: 12.48 Mbit/s

95th percentile per-packet one-way delay: 31.300 ms

Loss rate: 0.49%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-25 01:50:03

End at: 2019-01-25 01:50:33

Local clock offset: 0.546 ms

Remote clock offset: 0.427 ms

# Below is generated by plot.py at 2019-01-25 03:07:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 27.057 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 73.56 Mbit/s

95th percentile per-packet one-way delay: 26.786 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 18.21 Mbit/s

95th percentile per-packet one-way delay: 25.787 ms

Loss rate: 0.08%

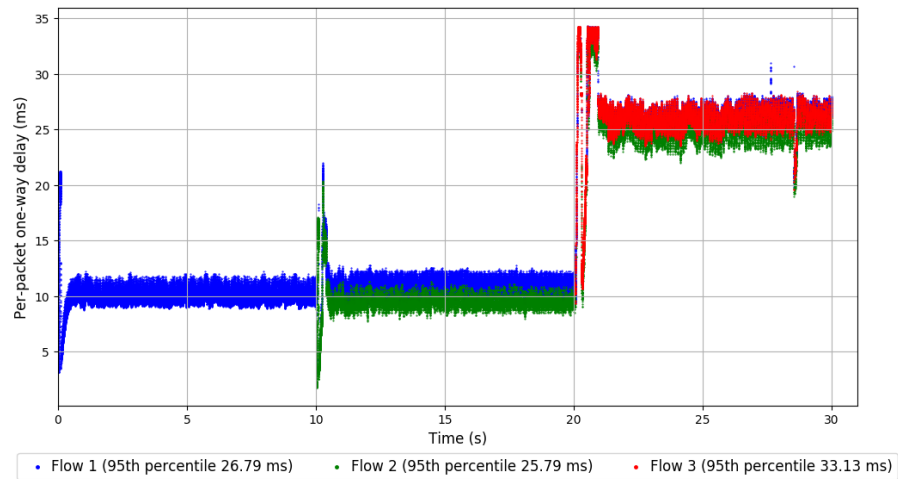
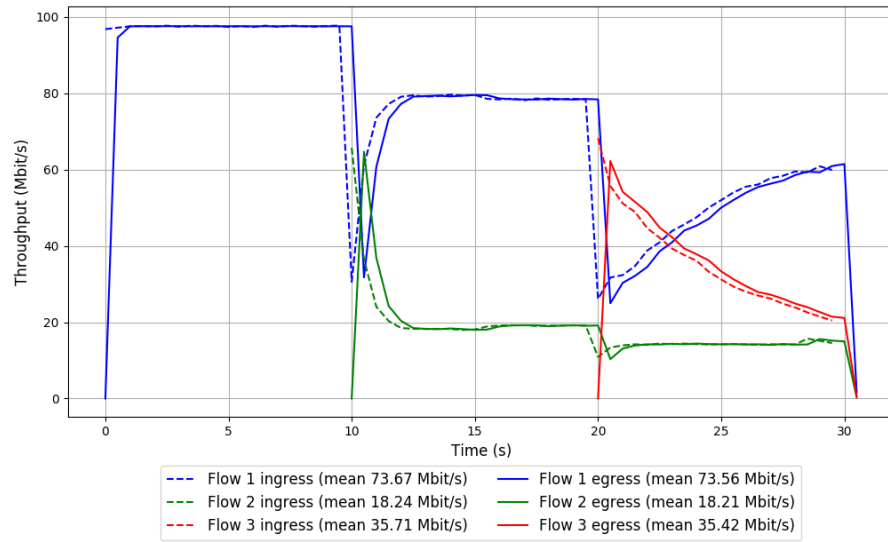
-- Flow 3:

Average throughput: 35.42 Mbit/s

95th percentile per-packet one-way delay: 33.132 ms

Loss rate: 0.66%

## Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-25 02:13:58

End at: 2019-01-25 02:14:28

Local clock offset: -4.434 ms

Remote clock offset: 0.577 ms

# Below is generated by plot.py at 2019-01-25 03:07:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 30.632 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 72.47 Mbit/s

95th percentile per-packet one-way delay: 30.934 ms

Loss rate: 0.63%

-- Flow 2:

Average throughput: 32.95 Mbit/s

95th percentile per-packet one-way delay: 27.782 ms

Loss rate: 0.06%

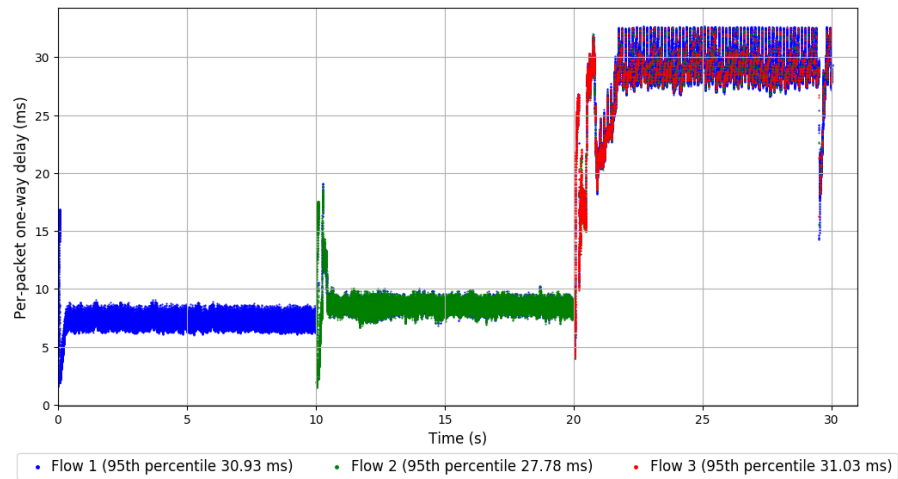
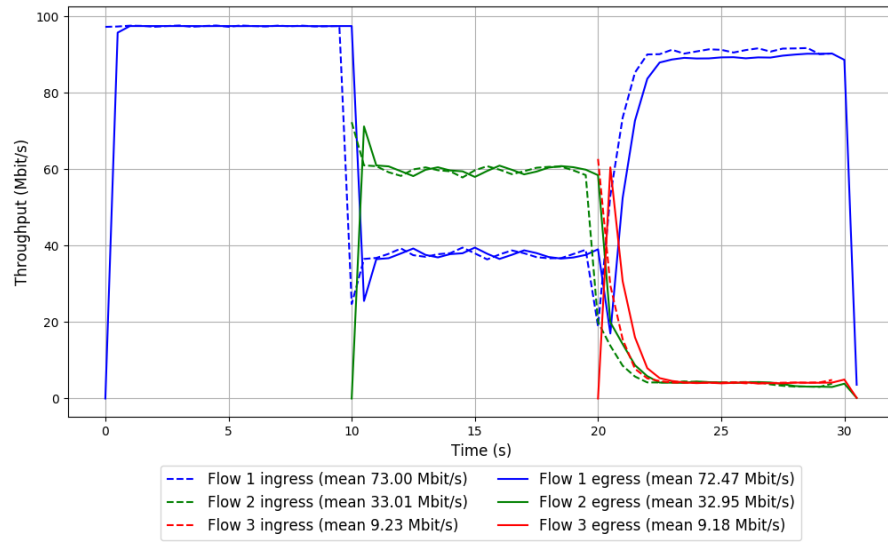
-- Flow 3:

Average throughput: 9.18 Mbit/s

95th percentile per-packet one-way delay: 31.033 ms

Loss rate: 0.38%

### Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-01-25 02:37:52

End at: 2019-01-25 02:38:22

Local clock offset: -4.565 ms

Remote clock offset: 0.791 ms

# Below is generated by plot.py at 2019-01-25 03:07:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 24.607 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 76.16 Mbit/s

95th percentile per-packet one-way delay: 24.482 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 22.07 Mbit/s

95th percentile per-packet one-way delay: 22.950 ms

Loss rate: 0.02%

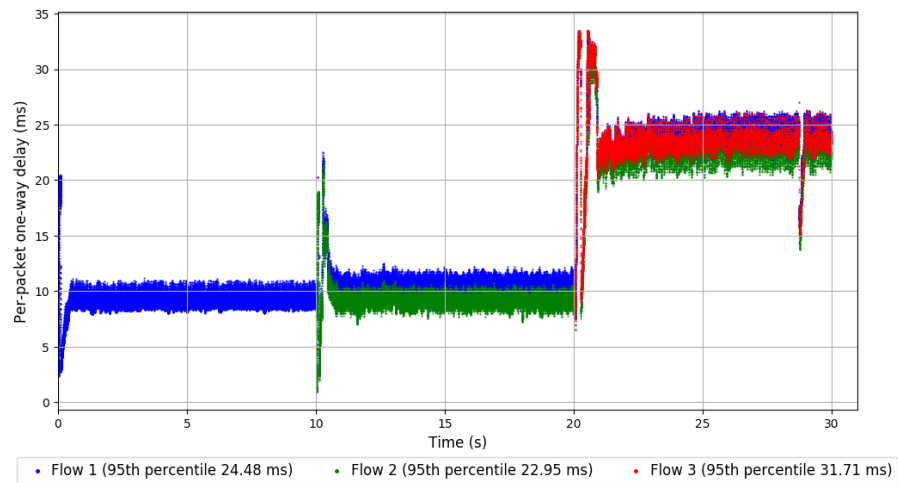
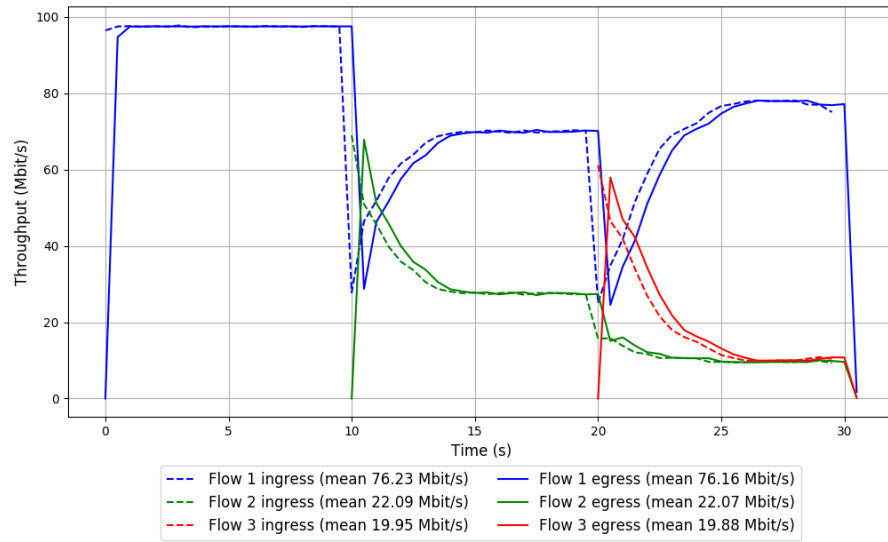
-- Flow 3:

Average throughput: 19.88 Mbit/s

95th percentile per-packet one-way delay: 31.710 ms

Loss rate: 0.18%

#### Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-25 03:01:47

End at: 2019-01-25 03:02:17

Local clock offset: -5.135 ms

Remote clock offset: 0.785 ms

# Below is generated by plot.py at 2019-01-25 03:07:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 23.276 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 69.47 Mbit/s

95th percentile per-packet one-way delay: 23.279 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 22.48 Mbit/s

95th percentile per-packet one-way delay: 22.368 ms

Loss rate: 0.01%

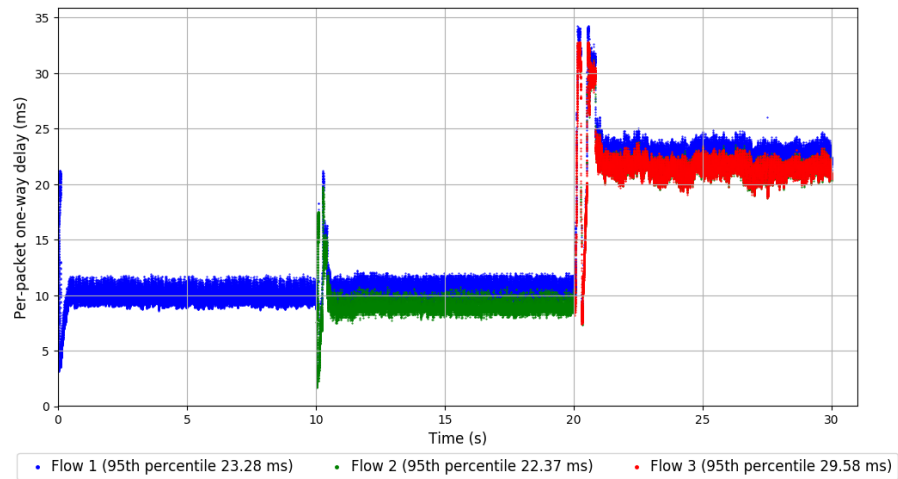
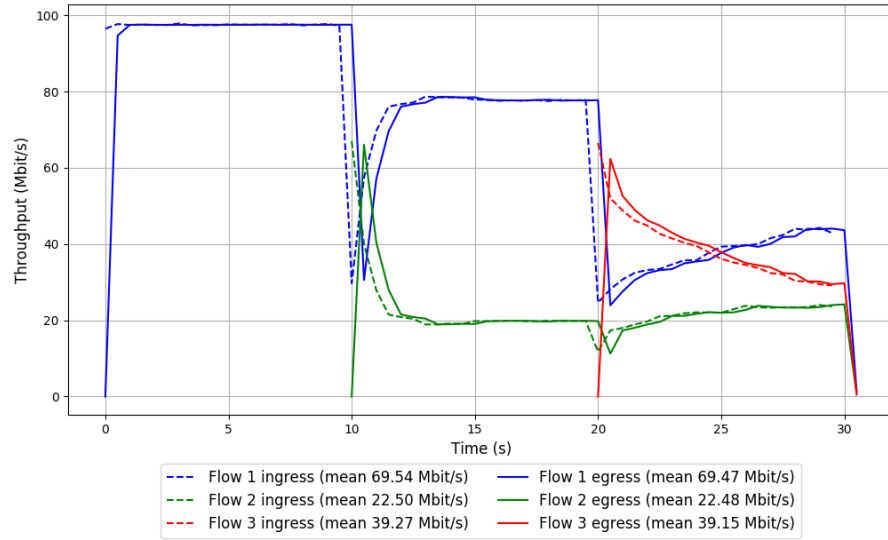
-- Flow 3:

Average throughput: 39.15 Mbit/s

95th percentile per-packet one-way delay: 29.581 ms

Loss rate: 0.17%

## Run 5: Report of TCP BBR — Data Link

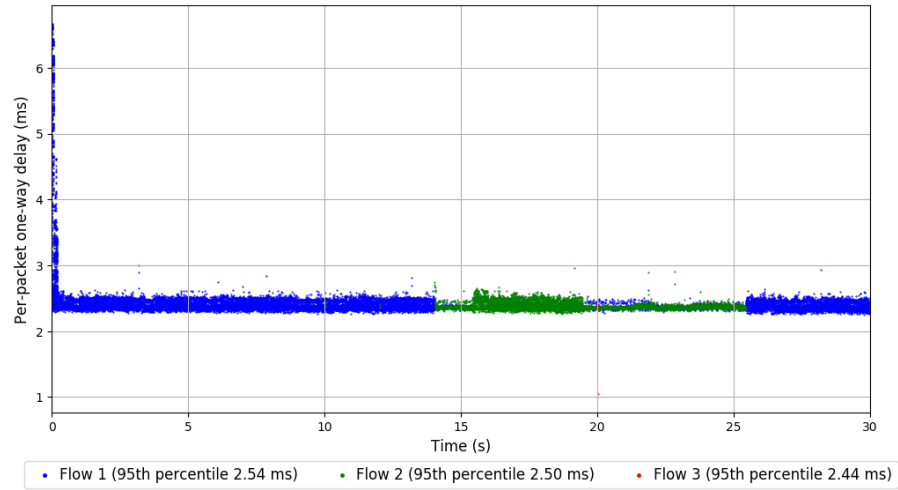
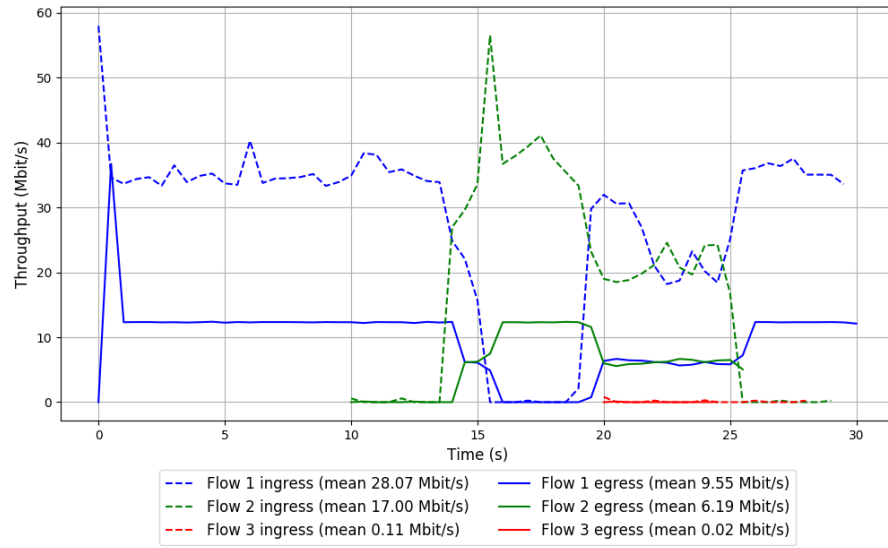


Run 1: Statistics of Copa

Start at: 2019-01-25 01:15:55  
End at: 2019-01-25 01:16:25  
Local clock offset: -3.997 ms  
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-01-25 03:07:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 2.524 ms  
Loss rate: 67.45%  
-- Flow 1:  
Average throughput: 9.55 Mbit/s  
95th percentile per-packet one-way delay: 2.537 ms  
Loss rate: 65.99%  
-- Flow 2:  
Average throughput: 6.19 Mbit/s  
95th percentile per-packet one-way delay: 2.504 ms  
Loss rate: 71.11%  
-- Flow 3:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 2.444 ms  
Loss rate: 93.23%

## Run 1: Report of Copa — Data Link

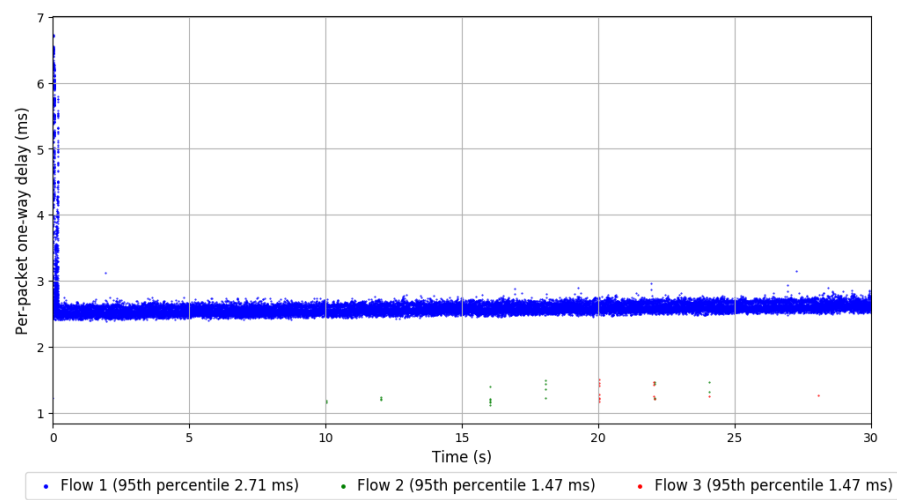
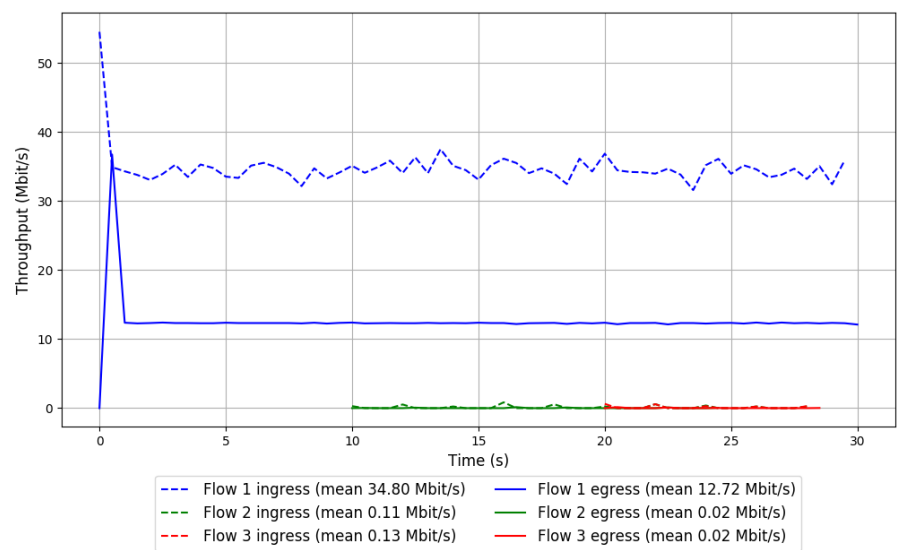


Run 2: Statistics of Copa

Start at: 2019-01-25 01:39:50  
End at: 2019-01-25 01:40:20  
Local clock offset: -0.338 ms  
Remote clock offset: 0.325 ms

# Below is generated by plot.py at 2019-01-25 03:07:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 2.710 ms  
Loss rate: 63.53%  
-- Flow 1:  
Average throughput: 12.72 Mbit/s  
95th percentile per-packet one-way delay: 2.710 ms  
Loss rate: 63.46%  
-- Flow 2:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 1.468 ms  
Loss rate: 88.33%  
-- Flow 3:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 1.469 ms  
Loss rate: 85.63%

Run 2: Report of Copa — Data Link

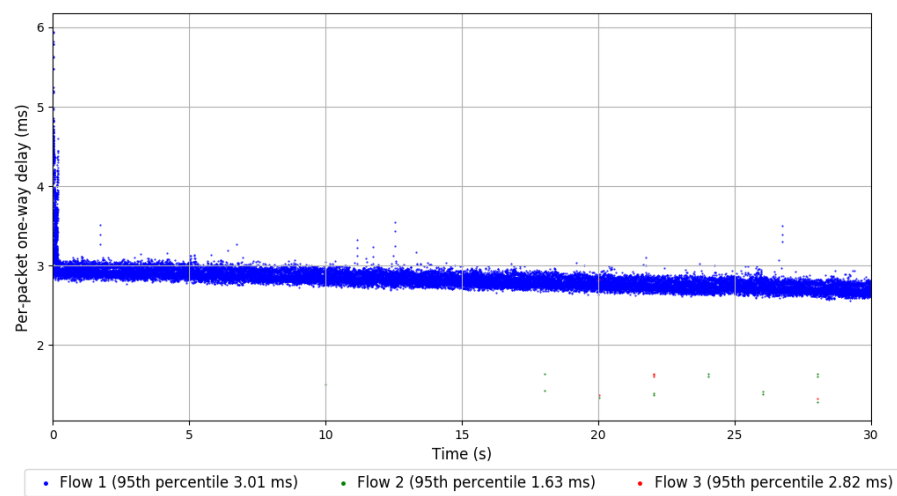
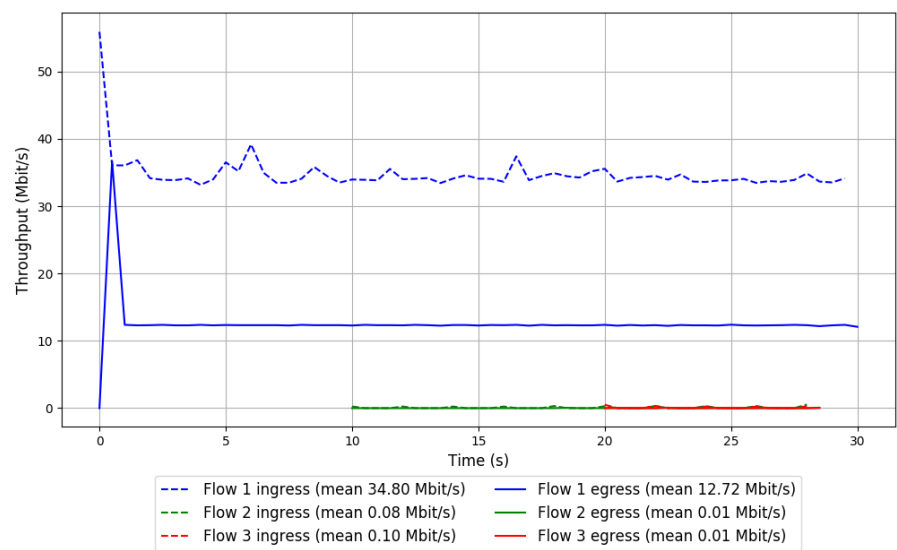


Run 3: Statistics of Copa

Start at: 2019-01-25 02:03:44  
End at: 2019-01-25 02:04:14  
Local clock offset: -1.143 ms  
Remote clock offset: 0.55 ms

# Below is generated by plot.py at 2019-01-25 03:07:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 3.009 ms  
Loss rate: 63.50%  
-- Flow 1:  
Average throughput: 12.72 Mbit/s  
95th percentile per-packet one-way delay: 3.009 ms  
Loss rate: 63.44%  
-- Flow 2:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 1.631 ms  
Loss rate: 90.42%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 2.819 ms  
Loss rate: 92.42%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-25 02:27:39

End at: 2019-01-25 02:28:09

Local clock offset: -5.237 ms

Remote clock offset: 0.631 ms

# Below is generated by plot.py at 2019-01-25 03:07:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.401 ms

Loss rate: 67.98%

-- Flow 1:

Average throughput: 10.99 Mbit/s

95th percentile per-packet one-way delay: 2.430 ms

Loss rate: 65.50%

-- Flow 2:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 2.304 ms

Loss rate: 70.71%

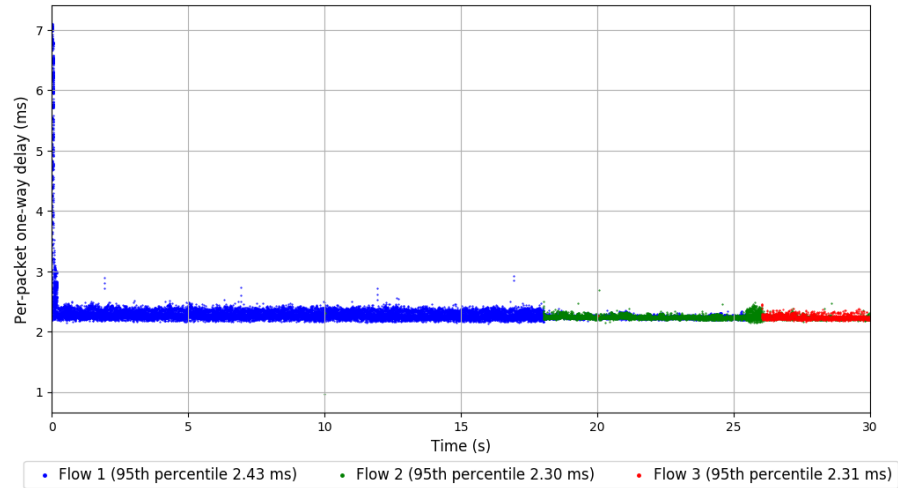
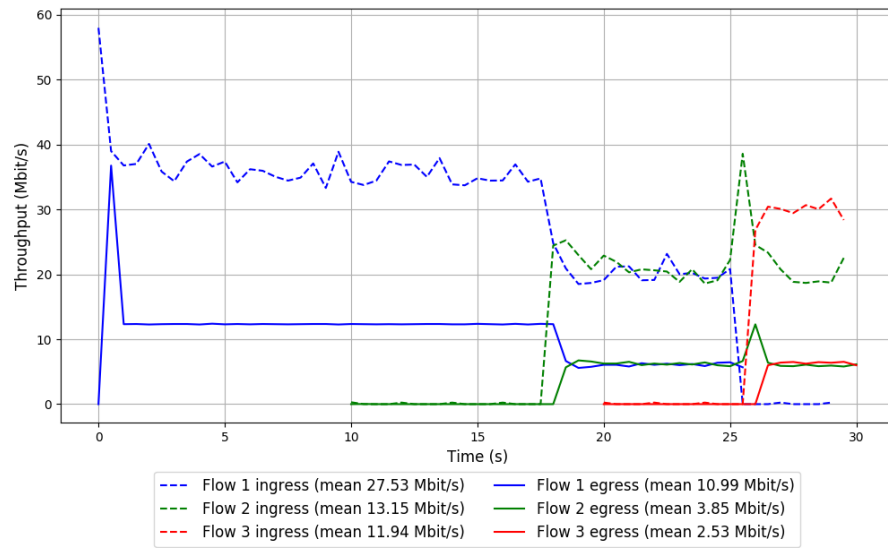
-- Flow 3:

Average throughput: 2.53 Mbit/s

95th percentile per-packet one-way delay: 2.308 ms

Loss rate: 78.81%

#### Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-25 02:51:34

End at: 2019-01-25 02:52:04

Local clock offset: -4.357 ms

Remote clock offset: 0.825 ms

# Below is generated by plot.py at 2019-01-25 03:07:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.516 ms

Loss rate: 63.27%

-- Flow 1:

Average throughput: 12.72 Mbit/s

95th percentile per-packet one-way delay: 2.516 ms

Loss rate: 63.20%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1.228 ms

Loss rate: 88.78%

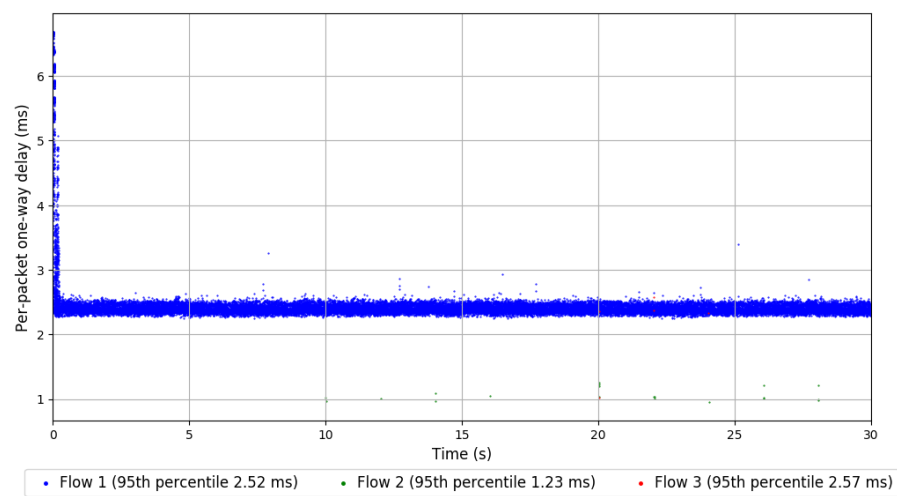
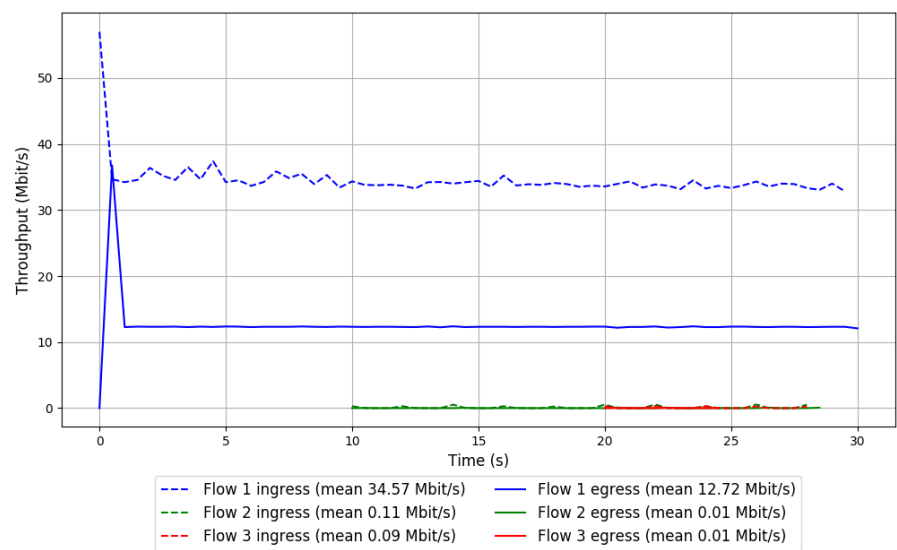
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 2.571 ms

Loss rate: 92.84%

Run 5: Report of Copa — Data Link

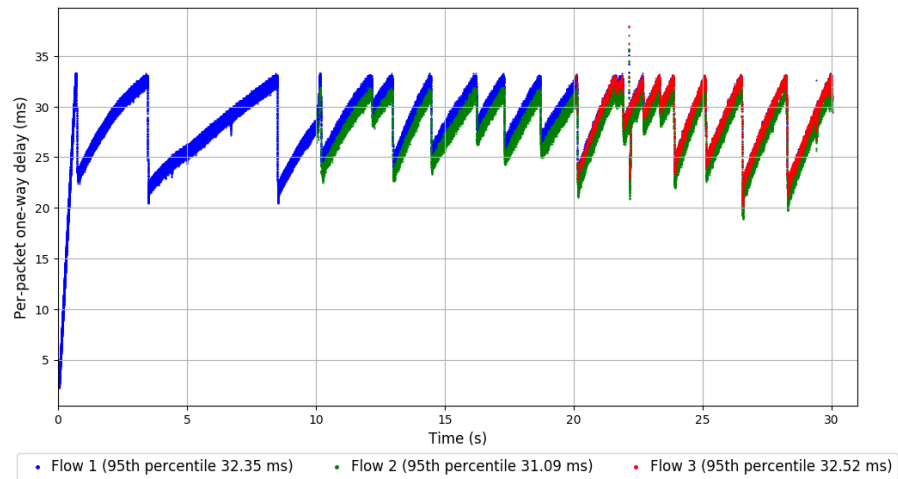
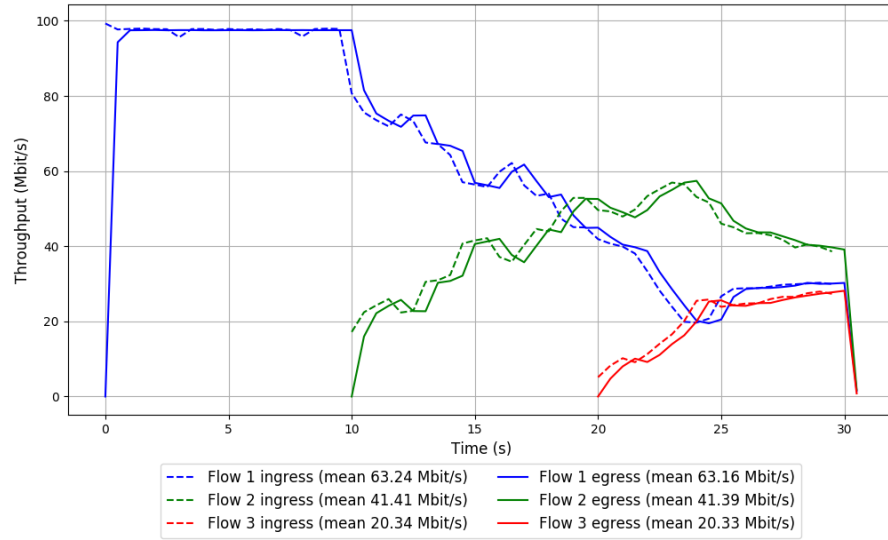


Run 1: Statistics of TCP Cubic

Start at: 2019-01-25 01:23:49  
End at: 2019-01-25 01:24:19  
Local clock offset: -4.281 ms  
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2019-01-25 03:07:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.47 Mbit/s  
95th percentile per-packet one-way delay: 32.292 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 63.16 Mbit/s  
95th percentile per-packet one-way delay: 32.351 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 41.39 Mbit/s  
95th percentile per-packet one-way delay: 31.092 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 20.33 Mbit/s  
95th percentile per-packet one-way delay: 32.525 ms  
Loss rate: 0.05%

# Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-25 01:47:45

End at: 2019-01-25 01:48:15

Local clock offset: 0.27 ms

Remote clock offset: 0.337 ms

# Below is generated by plot.py at 2019-01-25 03:07:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 32.024 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 62.28 Mbit/s

95th percentile per-packet one-way delay: 31.988 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 37.31 Mbit/s

95th percentile per-packet one-way delay: 32.121 ms

Loss rate: 0.04%

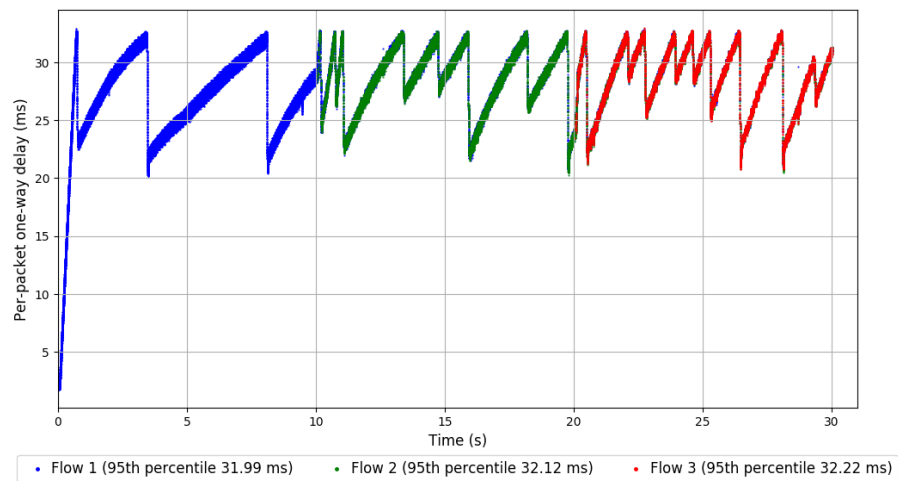
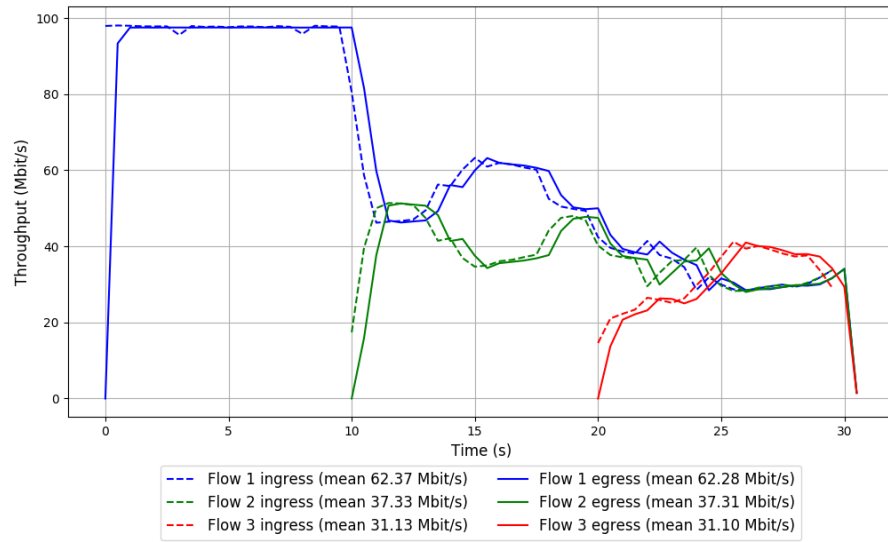
-- Flow 3:

Average throughput: 31.10 Mbit/s

95th percentile per-packet one-way delay: 32.222 ms

Loss rate: 0.02%

## Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-01-25 02:11:39

End at: 2019-01-25 02:12:09

Local clock offset: -3.17 ms

Remote clock offset: 0.553 ms

# Below is generated by plot.py at 2019-01-25 03:07:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 31.200 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 63.73 Mbit/s

95th percentile per-packet one-way delay: 30.941 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 32.73 Mbit/s

95th percentile per-packet one-way delay: 30.978 ms

Loss rate: 0.05%

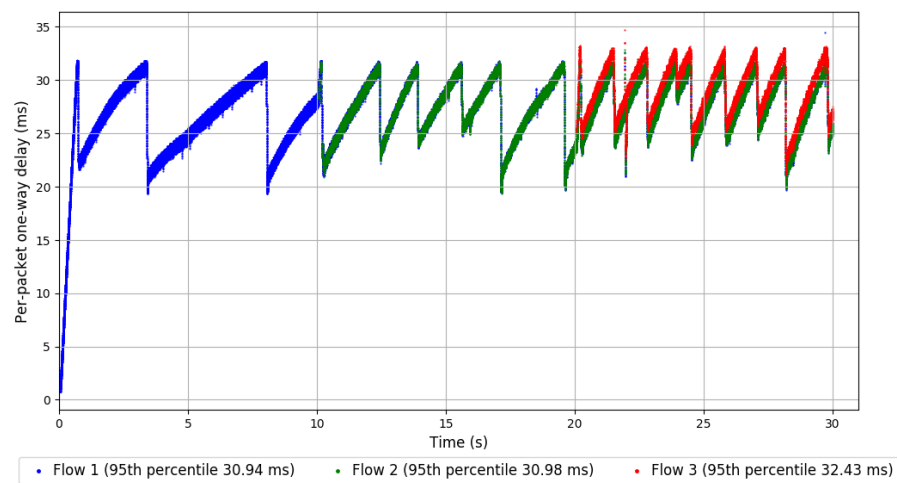
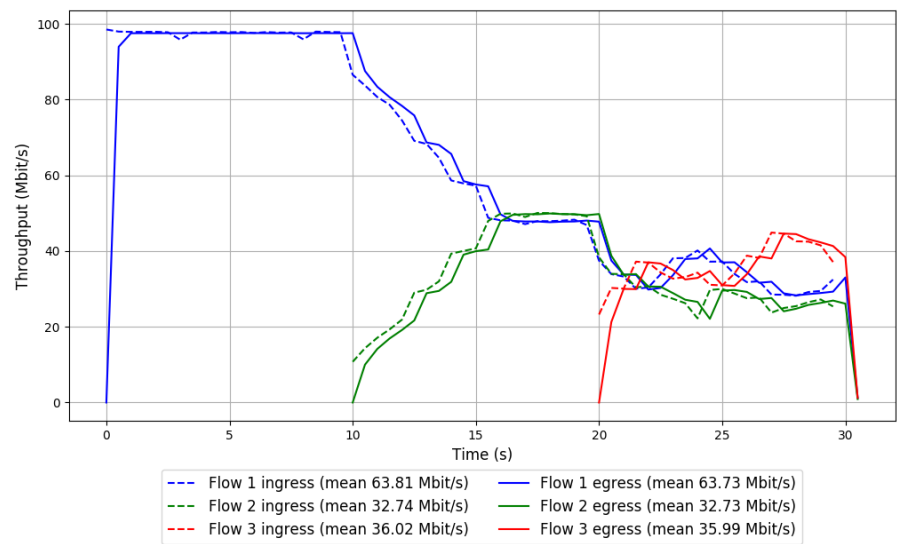
-- Flow 3:

Average throughput: 35.99 Mbit/s

95th percentile per-packet one-way delay: 32.432 ms

Loss rate: 0.08%

Run 3: Report of TCP Cubic — Data Link

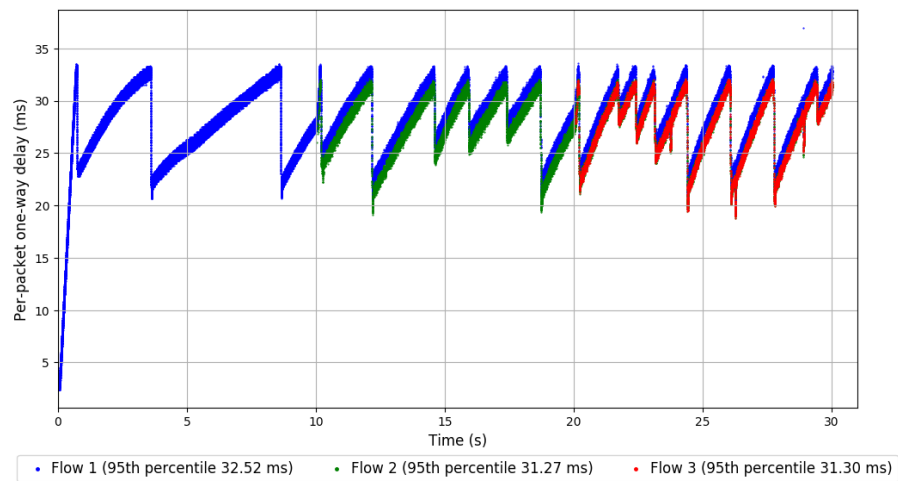
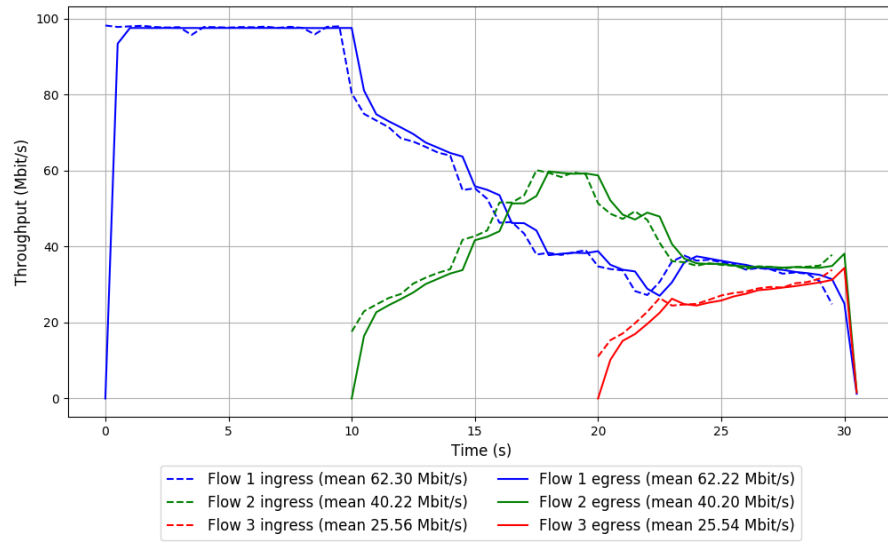


Run 4: Statistics of TCP Cubic

Start at: 2019-01-25 02:35:34  
End at: 2019-01-25 02:36:04  
Local clock offset: -4.802 ms  
Remote clock offset: 0.707 ms

# Below is generated by plot.py at 2019-01-25 03:08:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.47 Mbit/s  
95th percentile per-packet one-way delay: 32.277 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 62.22 Mbit/s  
95th percentile per-packet one-way delay: 32.521 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 40.20 Mbit/s  
95th percentile per-packet one-way delay: 31.268 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 25.54 Mbit/s  
95th percentile per-packet one-way delay: 31.295 ms  
Loss rate: 0.04%

# Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-25 02:59:29

End at: 2019-01-25 02:59:59

Local clock offset: -5.202 ms

Remote clock offset: 0.774 ms

# Below is generated by plot.py at 2019-01-25 03:08:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 33.361 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 61.19 Mbit/s

95th percentile per-packet one-way delay: 33.288 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 42.20 Mbit/s

95th percentile per-packet one-way delay: 33.468 ms

Loss rate: 0.02%

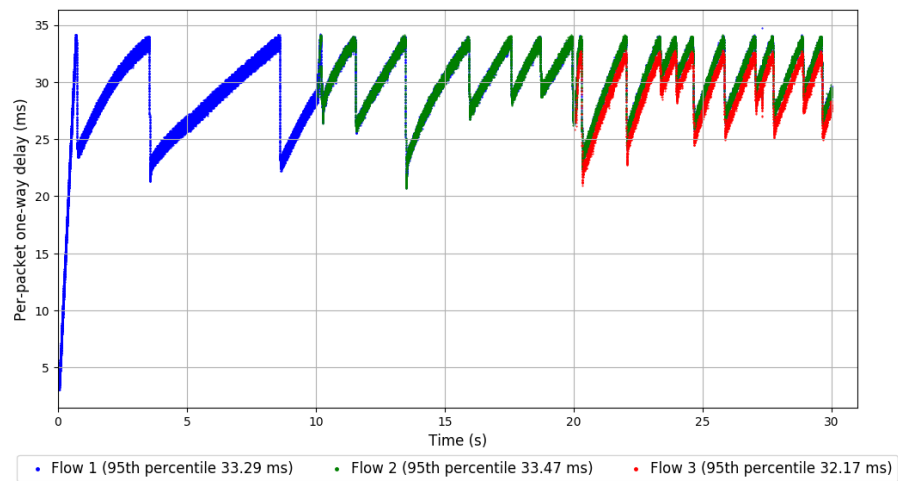
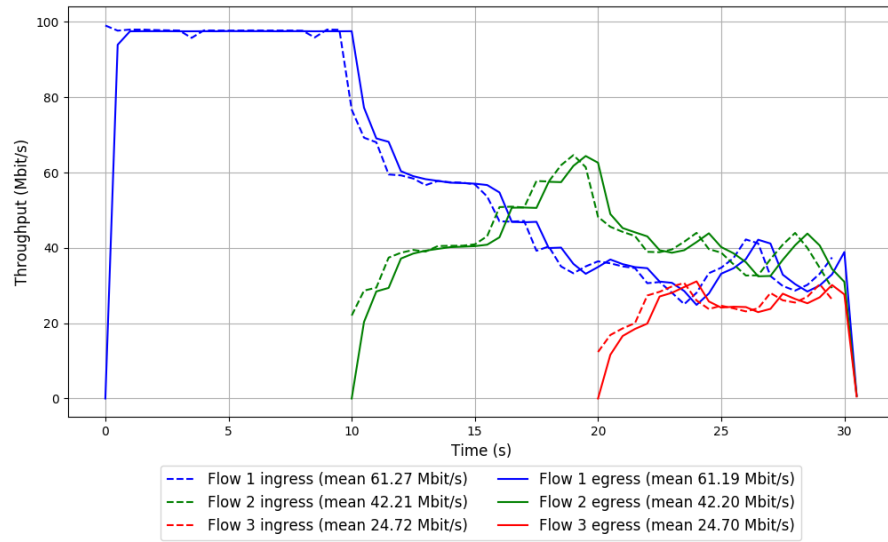
-- Flow 3:

Average throughput: 24.70 Mbit/s

95th percentile per-packet one-way delay: 32.169 ms

Loss rate: 0.04%

# Run 5: Report of TCP Cubic — Data Link

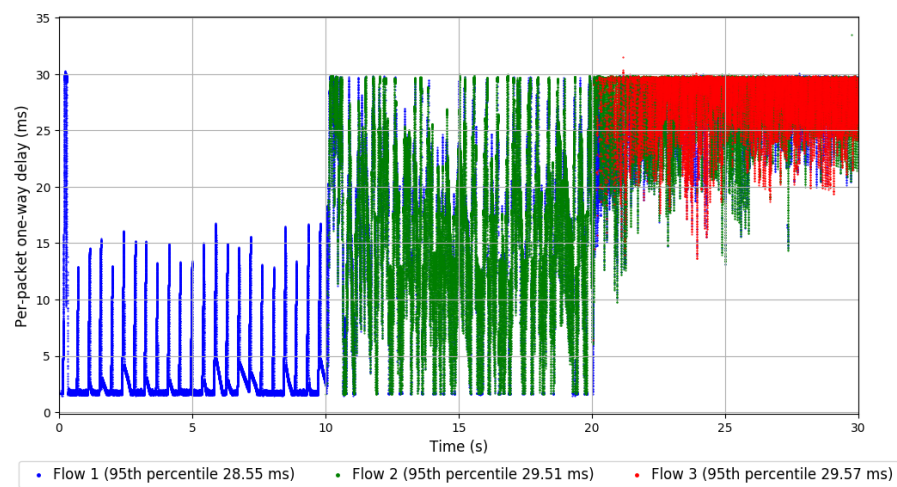
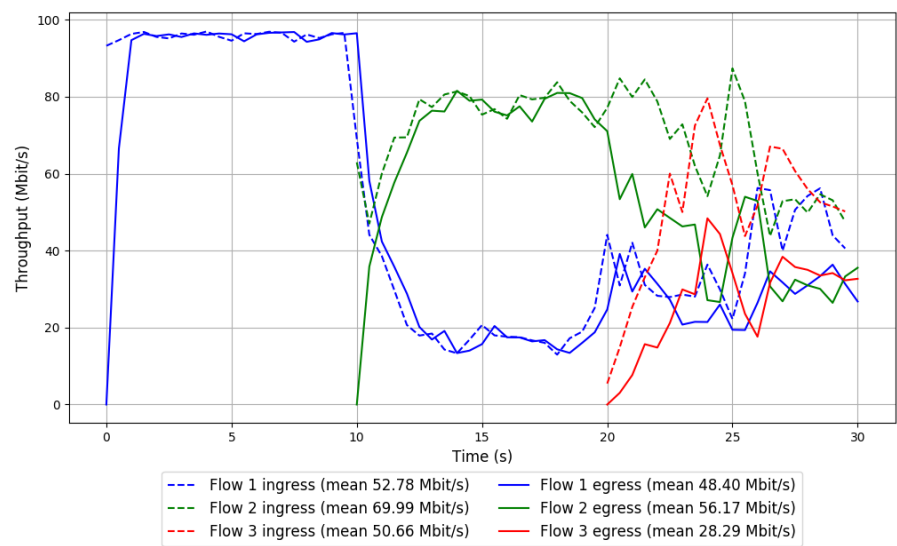


Run 1: Statistics of FillP

Start at: 2019-01-25 01:07:56  
End at: 2019-01-25 01:08:26  
Local clock offset: -4.166 ms  
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-25 03:08:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.18 Mbit/s  
95th percentile per-packet one-way delay: 29.411 ms  
Loss rate: 17.99%  
-- Flow 1:  
Average throughput: 48.40 Mbit/s  
95th percentile per-packet one-way delay: 28.548 ms  
Loss rate: 8.23%  
-- Flow 2:  
Average throughput: 56.17 Mbit/s  
95th percentile per-packet one-way delay: 29.508 ms  
Loss rate: 19.66%  
-- Flow 3:  
Average throughput: 28.29 Mbit/s  
95th percentile per-packet one-way delay: 29.571 ms  
Loss rate: 44.04%

Run 1: Report of FillP — Data Link

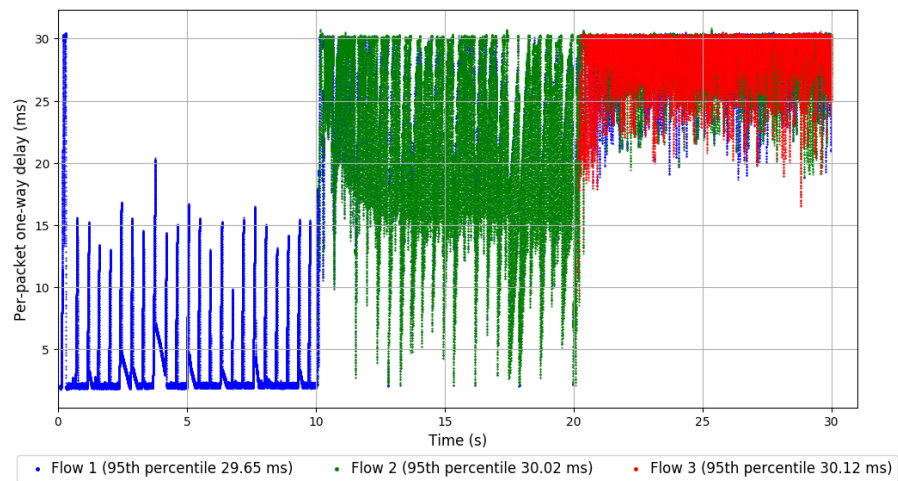
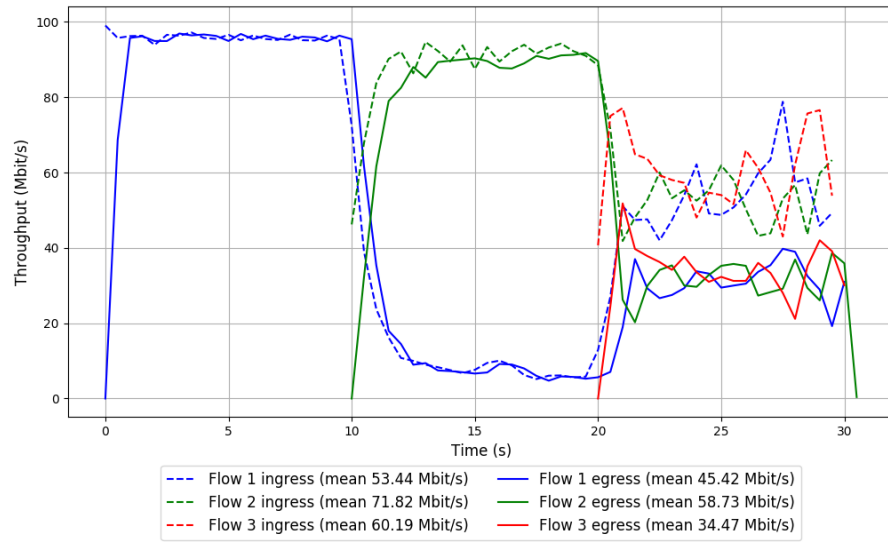


Run 2: Statistics of FillP

Start at: 2019-01-25 01:31:51  
End at: 2019-01-25 01:32:21  
Local clock offset: -4.044 ms  
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2019-01-25 03:08:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.96 Mbit/s  
95th percentile per-packet one-way delay: 29.979 ms  
Loss rate: 20.76%  
-- Flow 1:  
Average throughput: 45.42 Mbit/s  
95th percentile per-packet one-way delay: 29.650 ms  
Loss rate: 14.92%  
-- Flow 2:  
Average throughput: 58.73 Mbit/s  
95th percentile per-packet one-way delay: 30.019 ms  
Loss rate: 18.12%  
-- Flow 3:  
Average throughput: 34.47 Mbit/s  
95th percentile per-packet one-way delay: 30.121 ms  
Loss rate: 42.70%

## Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-01-25 01:55:47

End at: 2019-01-25 01:56:17

Local clock offset: 1.807 ms

Remote clock offset: 0.508 ms

# Below is generated by plot.py at 2019-01-25 03:08:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.31 Mbit/s

95th percentile per-packet one-way delay: 29.796 ms

Loss rate: 19.11%

-- Flow 1:

Average throughput: 46.44 Mbit/s

95th percentile per-packet one-way delay: 29.623 ms

Loss rate: 12.40%

-- Flow 2:

Average throughput: 54.62 Mbit/s

95th percentile per-packet one-way delay: 28.855 ms

Loss rate: 17.66%

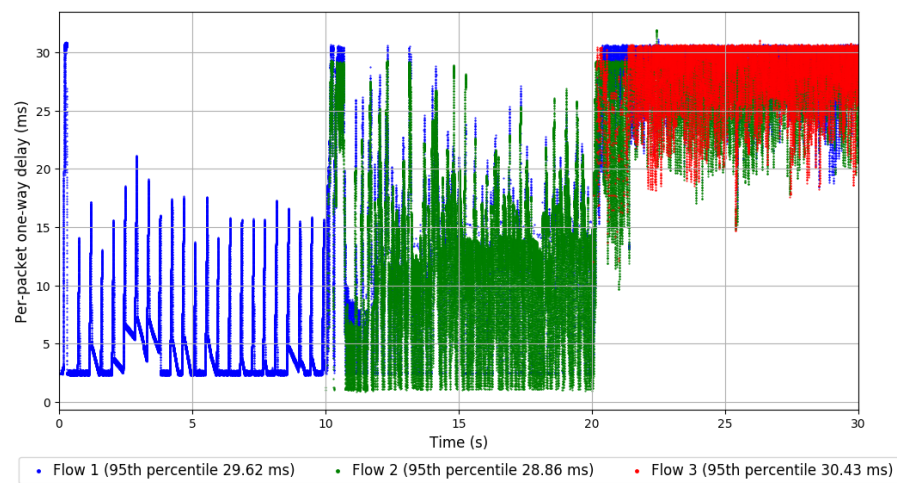
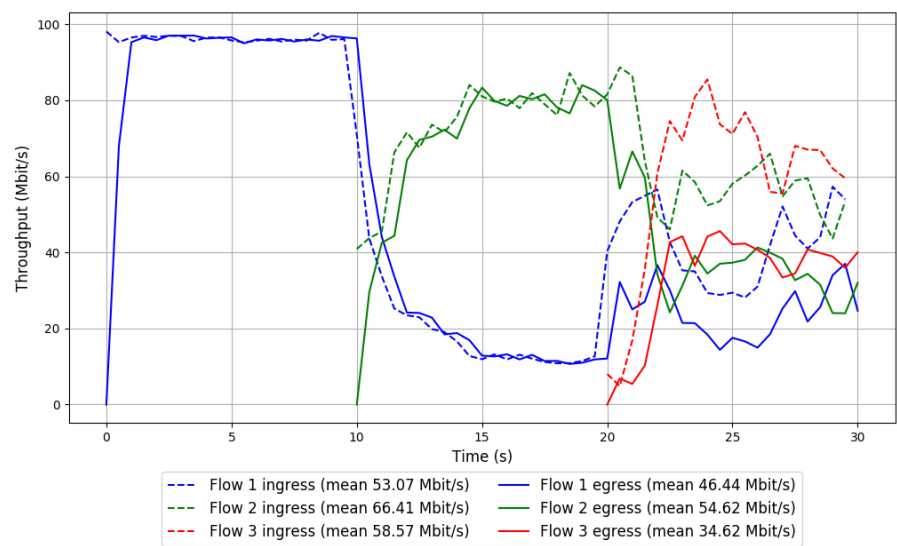
-- Flow 3:

Average throughput: 34.62 Mbit/s

95th percentile per-packet one-way delay: 30.430 ms

Loss rate: 40.79%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-01-25 02:19:41

End at: 2019-01-25 02:20:11

Local clock offset: -5.243 ms

Remote clock offset: 0.691 ms

# Below is generated by plot.py at 2019-01-25 03:09:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.68 Mbit/s

95th percentile per-packet one-way delay: 30.834 ms

Loss rate: 20.94%

-- Flow 1:

Average throughput: 44.43 Mbit/s

95th percentile per-packet one-way delay: 30.513 ms

Loss rate: 14.16%

-- Flow 2:

Average throughput: 61.32 Mbit/s

95th percentile per-packet one-way delay: 30.928 ms

Loss rate: 18.98%

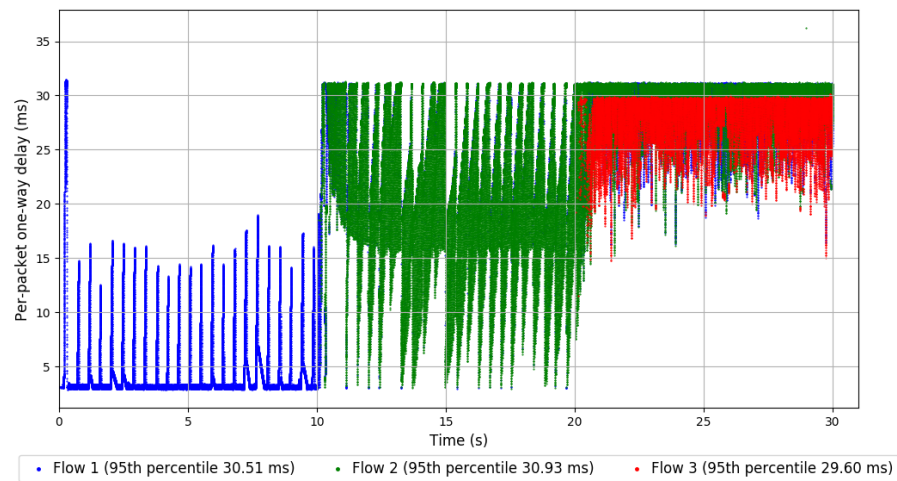
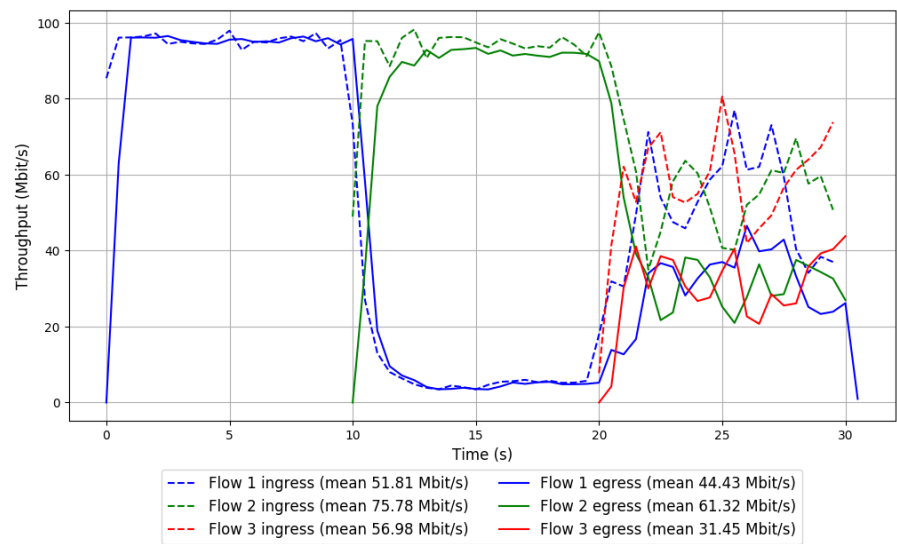
-- Flow 3:

Average throughput: 31.45 Mbit/s

95th percentile per-packet one-way delay: 29.602 ms

Loss rate: 44.78%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-25 02:43:36

End at: 2019-01-25 02:44:06

Local clock offset: -4.405 ms

Remote clock offset: 0.756 ms

# Below is generated by plot.py at 2019-01-25 03:09:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.62 Mbit/s

95th percentile per-packet one-way delay: 30.079 ms

Loss rate: 13.40%

-- Flow 1:

Average throughput: 46.74 Mbit/s

95th percentile per-packet one-way delay: 25.230 ms

Loss rate: 3.89%

-- Flow 2:

Average throughput: 28.57 Mbit/s

95th percentile per-packet one-way delay: 28.488 ms

Loss rate: 17.06%

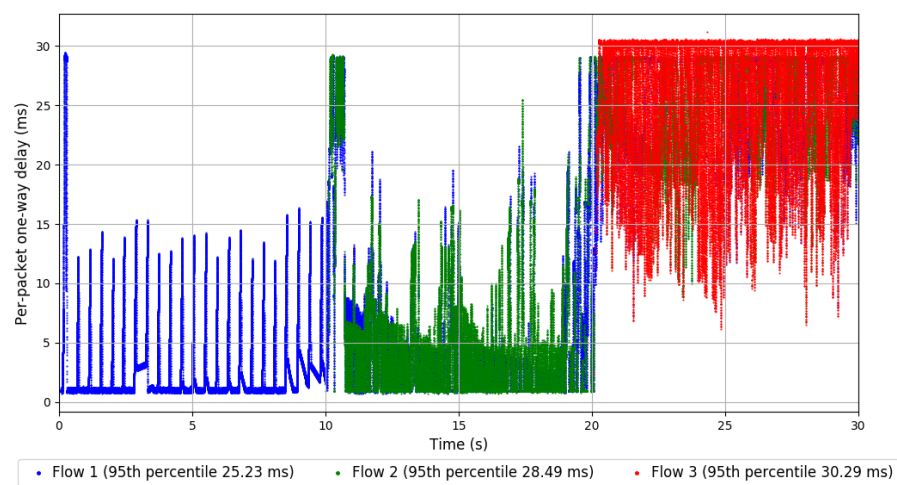
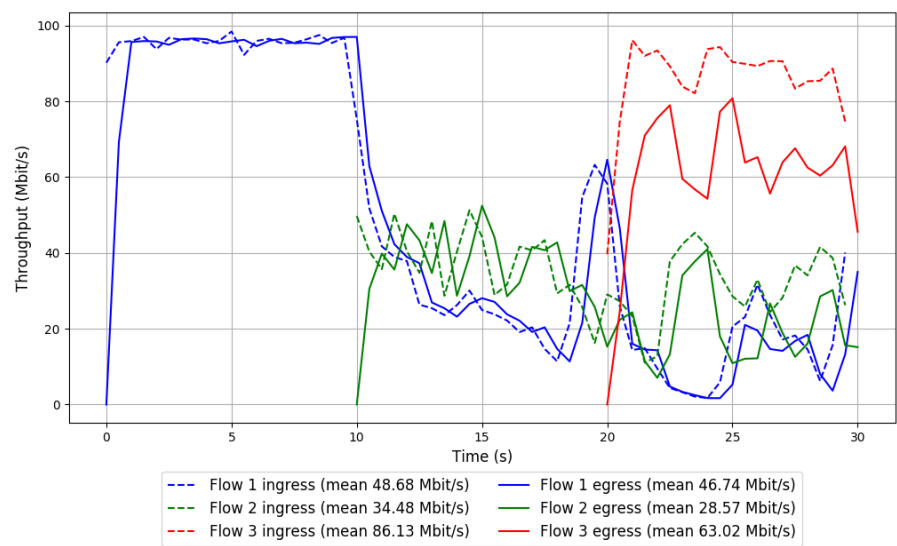
-- Flow 3:

Average throughput: 63.02 Mbit/s

95th percentile per-packet one-way delay: 30.285 ms

Loss rate: 26.70%

Run 5: Report of FillP — Data Link

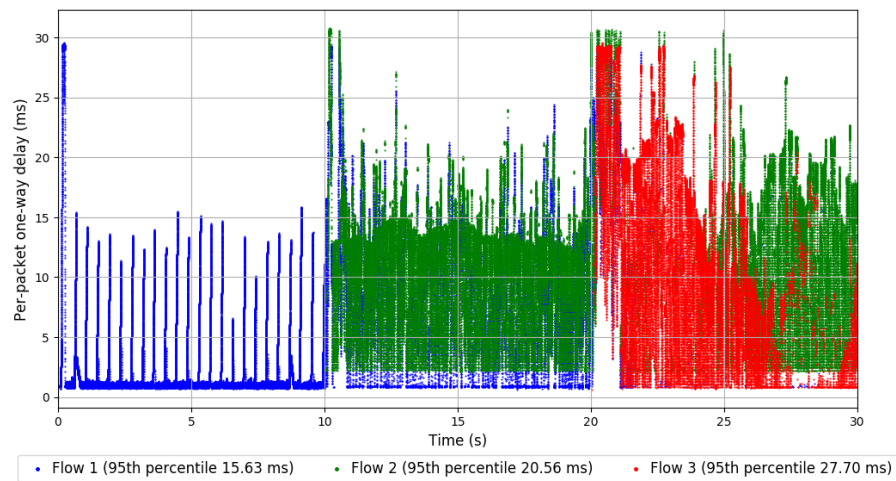
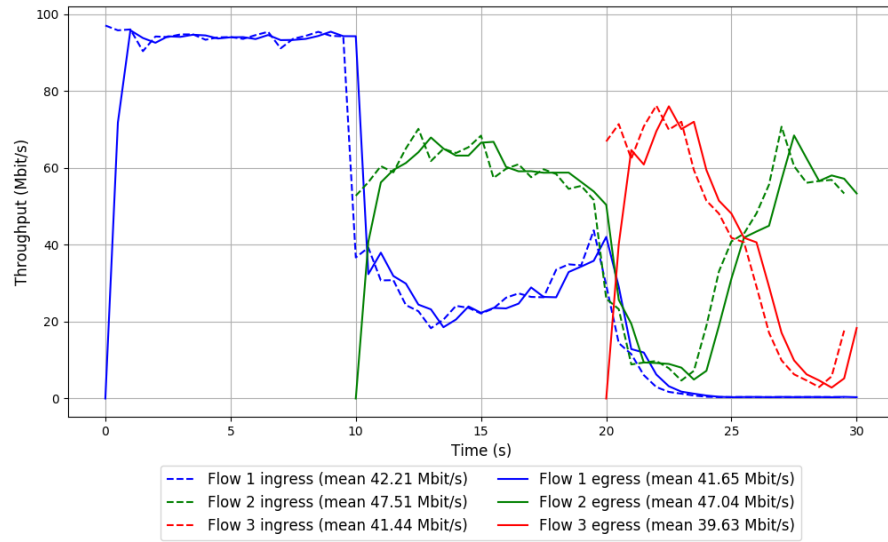


Run 1: Statistics of FillP-Sheep

Start at: 2019-01-25 01:06:48  
End at: 2019-01-25 01:07:18  
Local clock offset: -3.318 ms  
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-01-25 03:09:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.10 Mbit/s  
95th percentile per-packet one-way delay: 21.177 ms  
Loss rate: 1.65%  
-- Flow 1:  
Average throughput: 41.65 Mbit/s  
95th percentile per-packet one-way delay: 15.632 ms  
Loss rate: 1.29%  
-- Flow 2:  
Average throughput: 47.04 Mbit/s  
95th percentile per-packet one-way delay: 20.557 ms  
Loss rate: 0.93%  
-- Flow 3:  
Average throughput: 39.63 Mbit/s  
95th percentile per-packet one-way delay: 27.700 ms  
Loss rate: 4.40%

# Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-01-25 01:30:43

End at: 2019-01-25 01:31:13

Local clock offset: -4.619 ms

Remote clock offset: 0.071 ms

# Below is generated by plot.py at 2019-01-25 03:09:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.10 Mbit/s

95th percentile per-packet one-way delay: 22.816 ms

Loss rate: 1.13%

-- Flow 1:

Average throughput: 60.33 Mbit/s

95th percentile per-packet one-way delay: 19.770 ms

Loss rate: 0.73%

-- Flow 2:

Average throughput: 15.17 Mbit/s

95th percentile per-packet one-way delay: 25.414 ms

Loss rate: 3.27%

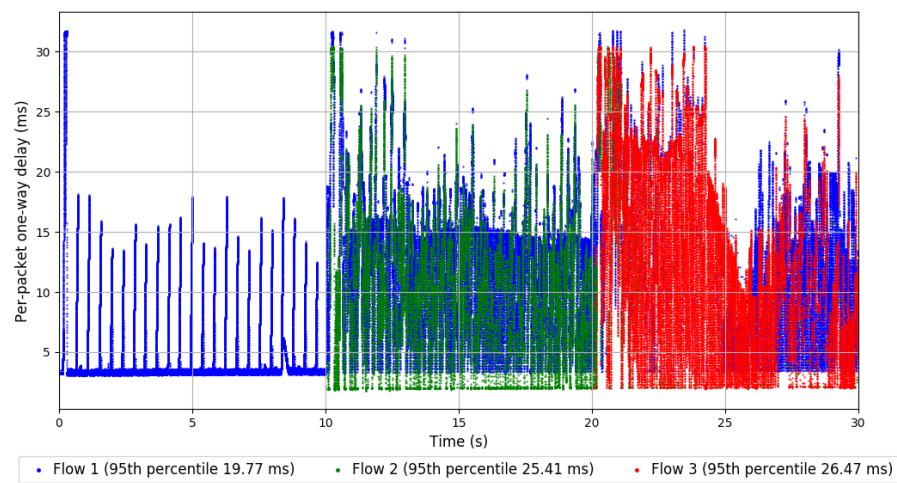
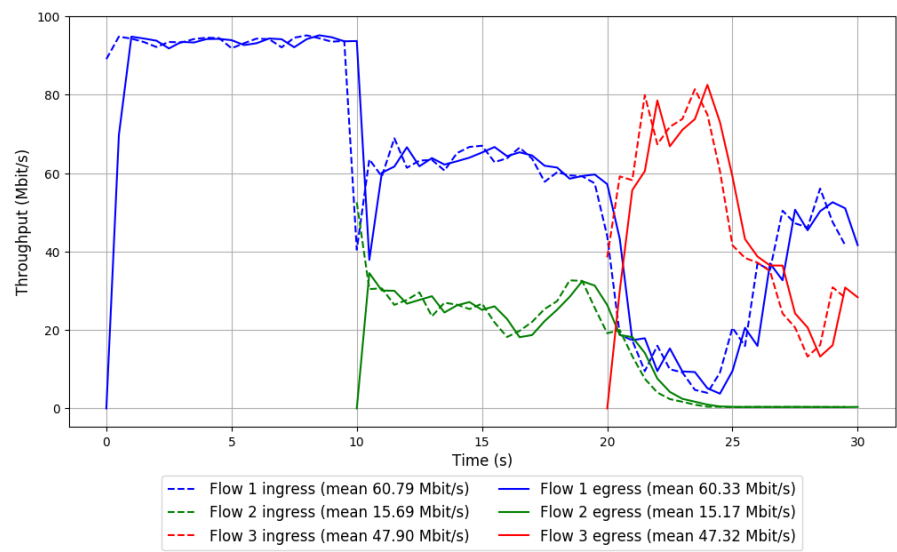
-- Flow 3:

Average throughput: 47.32 Mbit/s

95th percentile per-packet one-way delay: 26.474 ms

Loss rate: 1.25%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-25 01:54:39

End at: 2019-01-25 01:55:09

Local clock offset: 0.986 ms

Remote clock offset: 0.485 ms

# Below is generated by plot.py at 2019-01-25 03:09:44

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.46 Mbit/s

95th percentile per-packet one-way delay: 21.757 ms

Loss rate: 1.00%

-- Flow 1:

Average throughput: 41.03 Mbit/s

95th percentile per-packet one-way delay: 14.642 ms

Loss rate: 1.02%

-- Flow 2:

Average throughput: 40.46 Mbit/s

95th percentile per-packet one-way delay: 23.262 ms

Loss rate: 1.22%

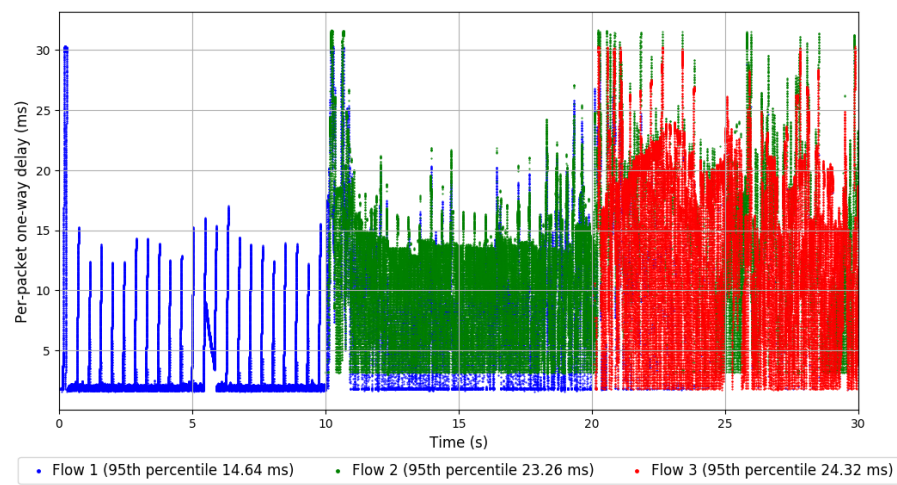
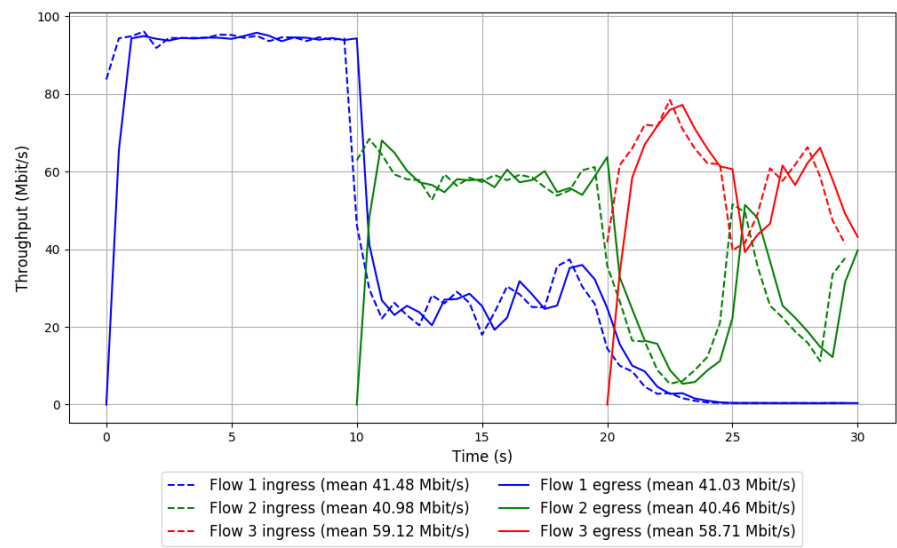
-- Flow 3:

Average throughput: 58.71 Mbit/s

95th percentile per-packet one-way delay: 24.319 ms

Loss rate: 0.66%

Run 3: Report of FillP-Sheep — Data Link



#### Run 4: Statistics of FillP-Sheep

Start at: 2019-01-25 02:18:33

End at: 2019-01-25 02:19:03

Local clock offset: -4.367 ms

Remote clock offset: 0.568 ms

# Below is generated by plot.py at 2019-01-25 03:10:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.22 Mbit/s

95th percentile per-packet one-way delay: 20.570 ms

Loss rate: 1.45%

-- Flow 1:

Average throughput: 41.27 Mbit/s

95th percentile per-packet one-way delay: 14.438 ms

Loss rate: 1.23%

-- Flow 2:

Average throughput: 41.86 Mbit/s

95th percentile per-packet one-way delay: 20.890 ms

Loss rate: 1.45%

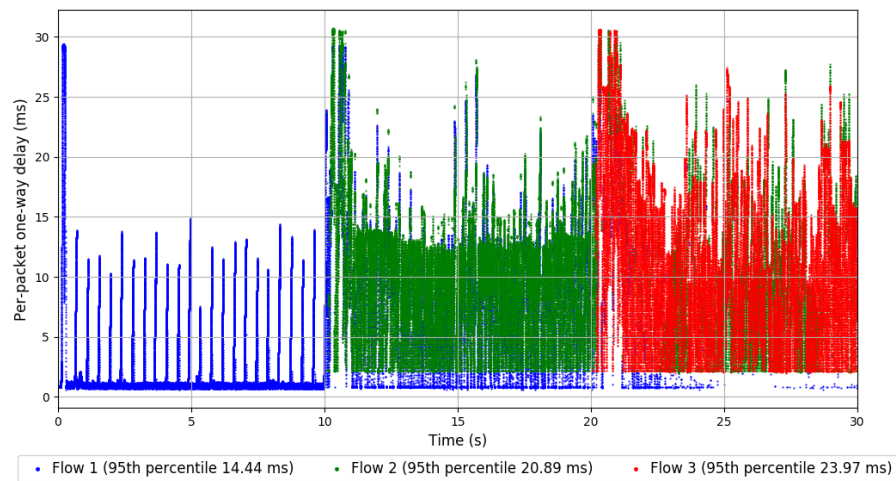
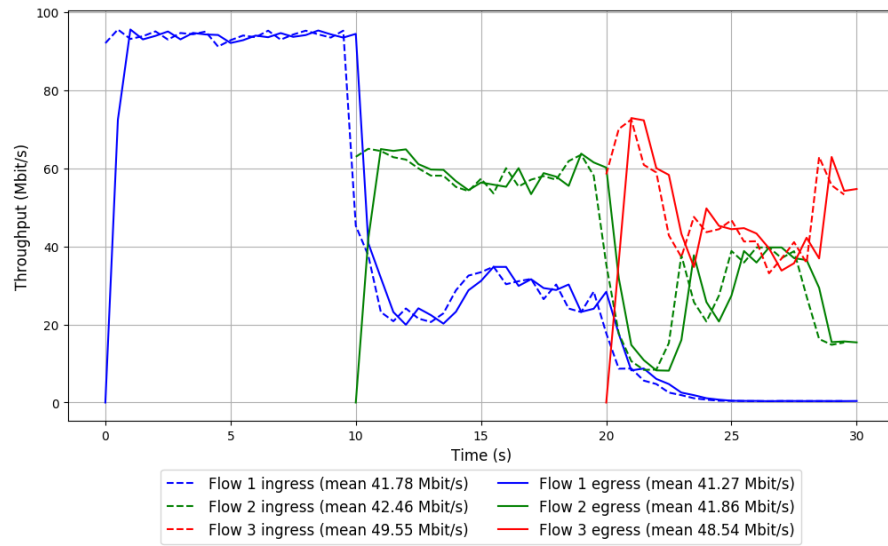
-- Flow 3:

Average throughput: 48.54 Mbit/s

95th percentile per-packet one-way delay: 23.970 ms

Loss rate: 1.99%

# Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-25 02:42:28

End at: 2019-01-25 02:42:58

Local clock offset: -4.409 ms

Remote clock offset: 0.75 ms

# Below is generated by plot.py at 2019-01-25 03:10:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.78 Mbit/s

95th percentile per-packet one-way delay: 21.636 ms

Loss rate: 1.00%

-- Flow 1:

Average throughput: 55.82 Mbit/s

95th percentile per-packet one-way delay: 20.218 ms

Loss rate: 1.03%

-- Flow 2:

Average throughput: 39.50 Mbit/s

95th percentile per-packet one-way delay: 23.657 ms

Loss rate: 0.94%

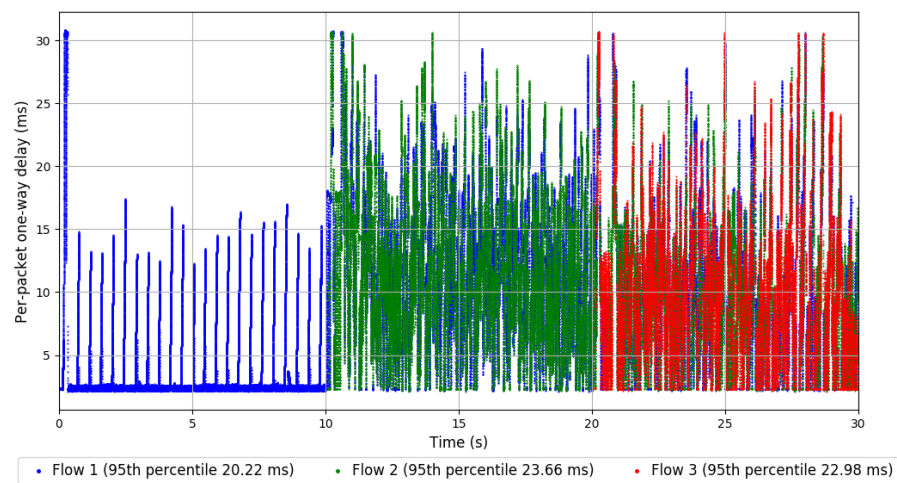
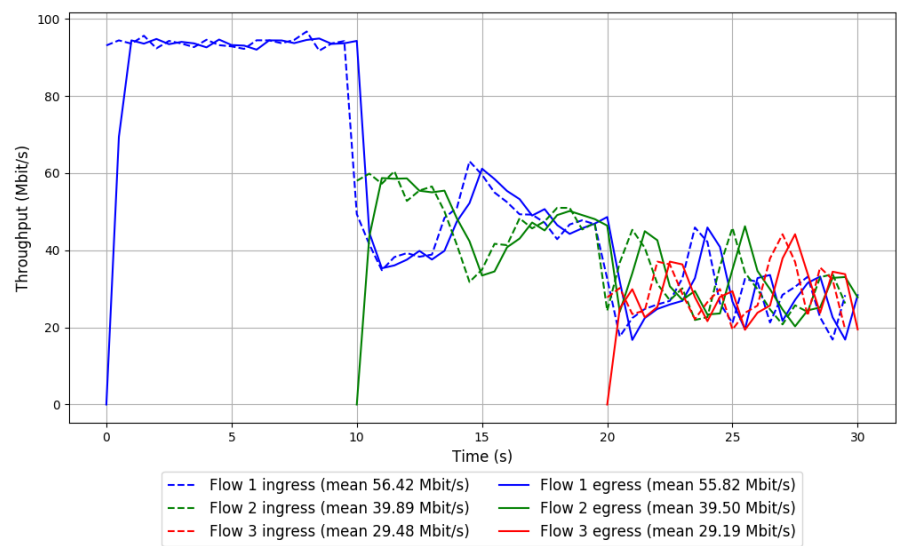
-- Flow 3:

Average throughput: 29.19 Mbit/s

95th percentile per-packet one-way delay: 22.979 ms

Loss rate: 0.96%

Run 5: Report of FillP-Sheep — Data Link

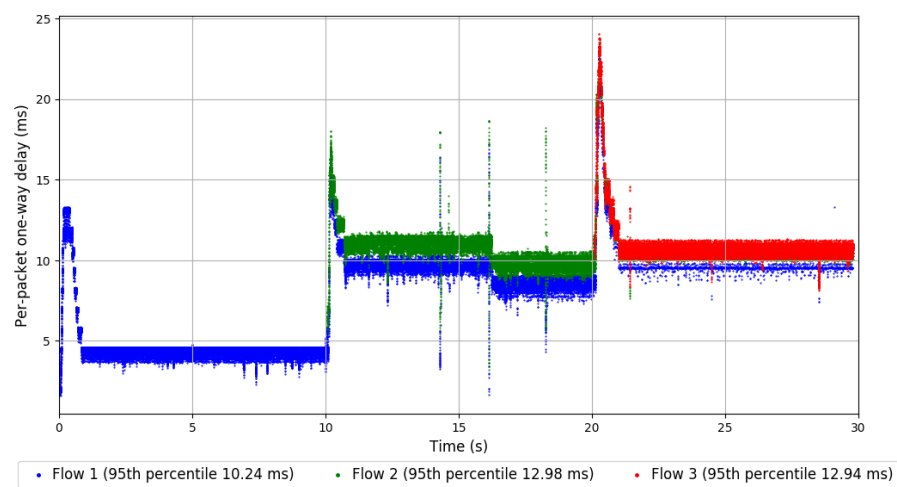
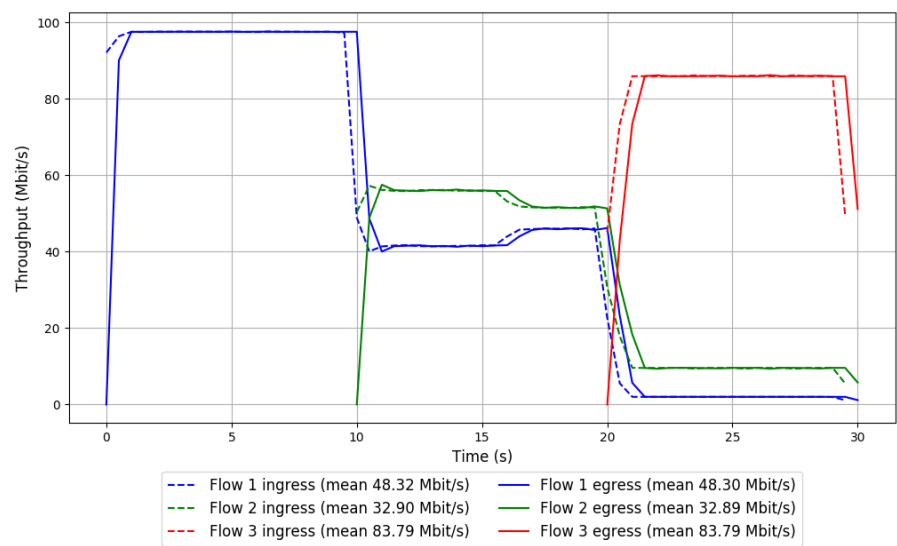


```
Run 1: Statistics of Indigo

Start at: 2019-01-25 01:20:24
End at: 2019-01-25 01:20:54
Local clock offset: -4.91 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2019-01-25 03:10:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 11.832 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 48.30 Mbit/s
95th percentile per-packet one-way delay: 10.236 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 32.89 Mbit/s
95th percentile per-packet one-way delay: 12.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 83.79 Mbit/s
95th percentile per-packet one-way delay: 12.944 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-01-25 01:44:20

End at: 2019-01-25 01:44:50

Local clock offset: 0.51 ms

Remote clock offset: 0.401 ms

# Below is generated by plot.py at 2019-01-25 03:10:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 14.093 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.43 Mbit/s

95th percentile per-packet one-way delay: 10.781 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 39.60 Mbit/s

95th percentile per-packet one-way delay: 14.096 ms

Loss rate: 0.00%

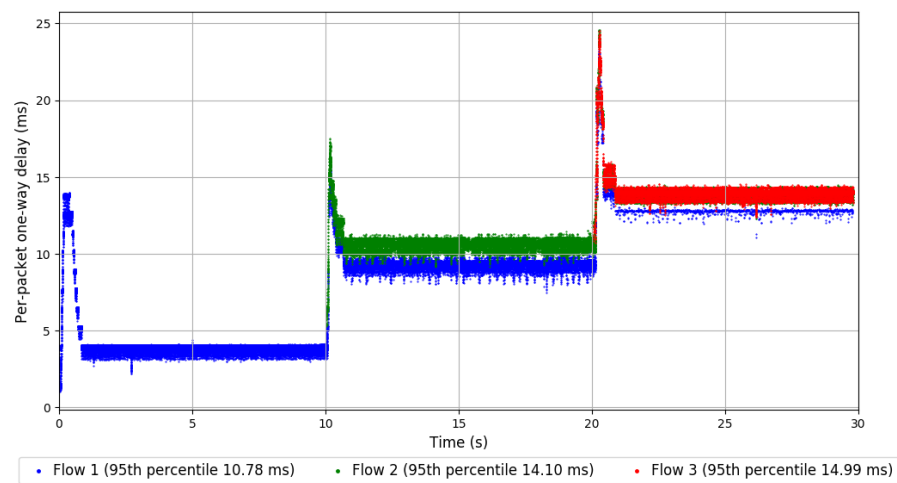
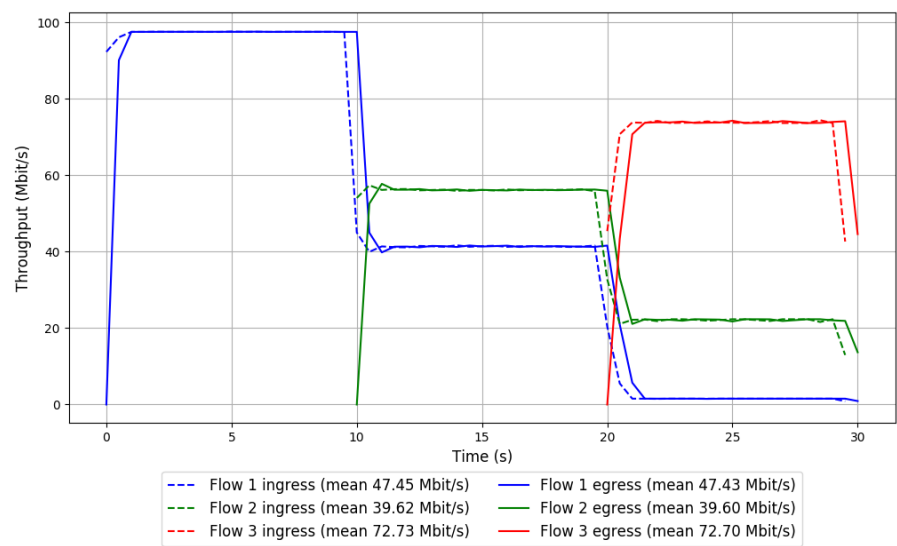
-- Flow 3:

Average throughput: 72.70 Mbit/s

95th percentile per-packet one-way delay: 14.987 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

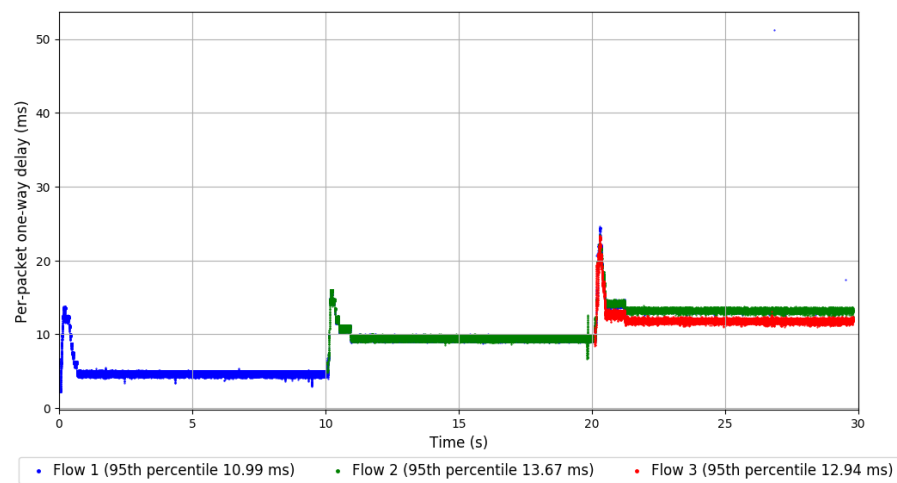
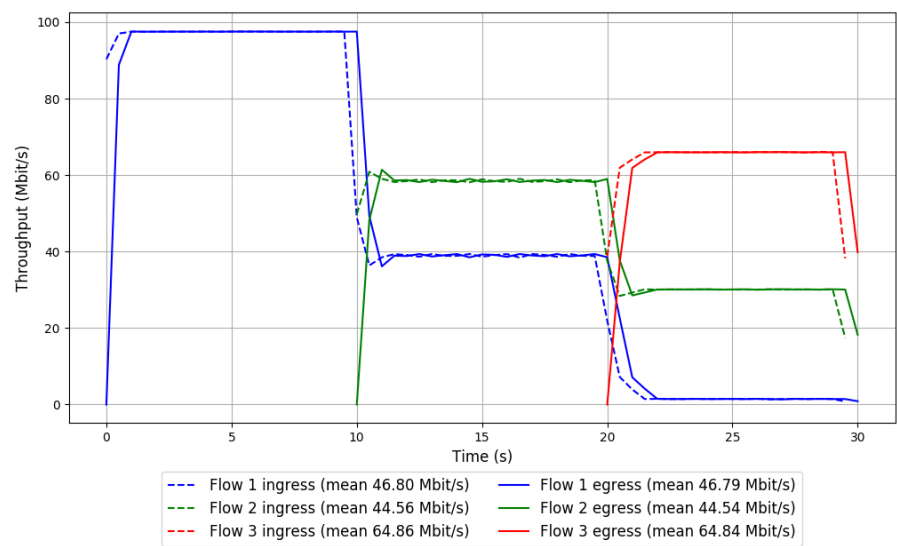


Run 3: Statistics of Indigo

Start at: 2019-01-25 02:08:14  
End at: 2019-01-25 02:08:45  
Local clock offset: -2.314 ms  
Remote clock offset: 0.584 ms

```
# Below is generated by plot.py at 2019-01-25 03:10:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 13.386 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.79 Mbit/s
95th percentile per-packet one-way delay: 10.994 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.54 Mbit/s
95th percentile per-packet one-way delay: 13.670 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.84 Mbit/s
95th percentile per-packet one-way delay: 12.940 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-01-25 02:32:09

End at: 2019-01-25 02:32:39

Local clock offset: -5.059 ms

Remote clock offset: 0.751 ms

# Below is generated by plot.py at 2019-01-25 03:10:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 12.489 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.69 Mbit/s

95th percentile per-packet one-way delay: 10.466 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 40.53 Mbit/s

95th percentile per-packet one-way delay: 12.747 ms

Loss rate: 0.00%

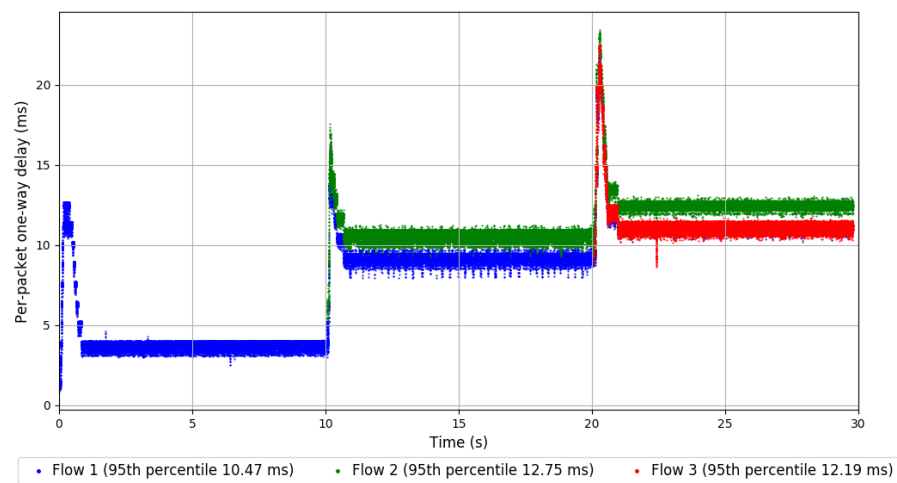
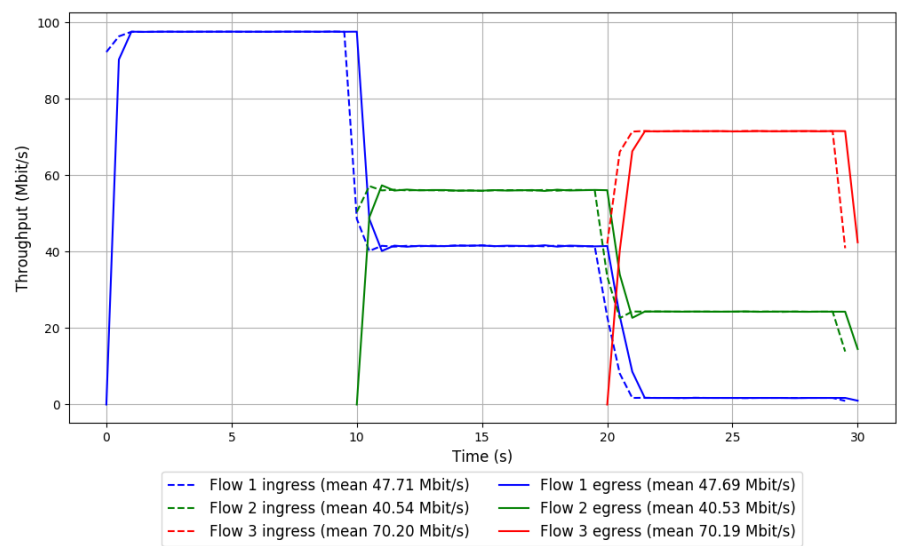
-- Flow 3:

Average throughput: 70.19 Mbit/s

95th percentile per-packet one-way delay: 12.189 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-25 02:56:04

End at: 2019-01-25 02:56:34

Local clock offset: -5.158 ms

Remote clock offset: 0.862 ms

# Below is generated by plot.py at 2019-01-25 03:10:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 13.207 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.88 Mbit/s

95th percentile per-packet one-way delay: 11.932 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 41.66 Mbit/s

95th percentile per-packet one-way delay: 13.549 ms

Loss rate: 0.00%

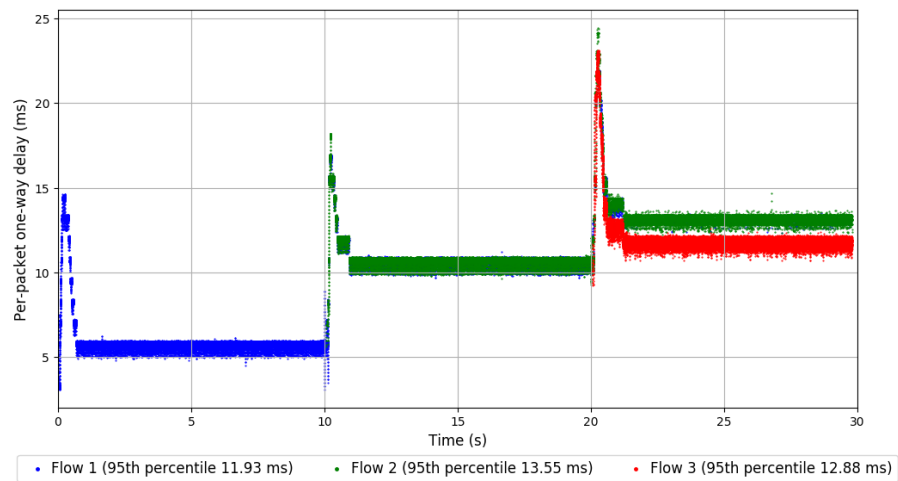
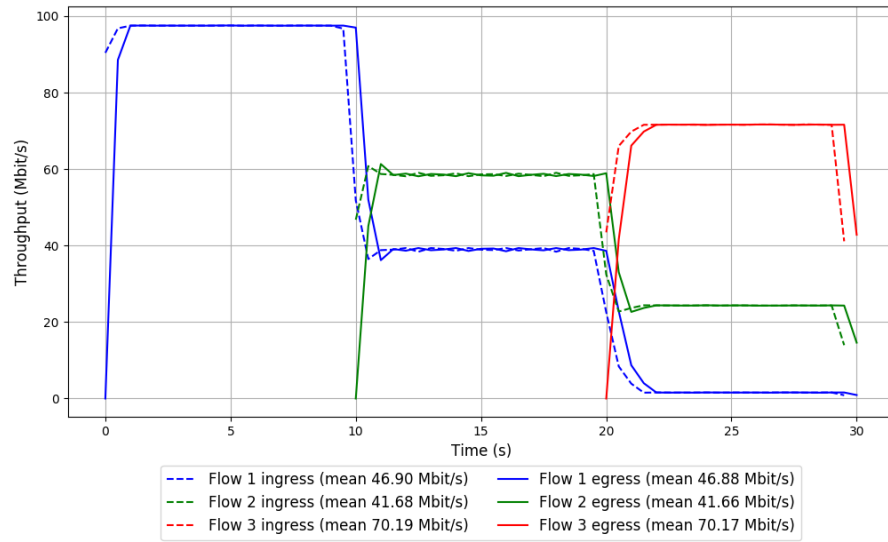
-- Flow 3:

Average throughput: 70.17 Mbit/s

95th percentile per-packet one-way delay: 12.885 ms

Loss rate: 0.00%

## Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-25 01:22:40

End at: 2019-01-25 01:23:10

Local clock offset: -4.258 ms

Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2019-01-25 03:10:52

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.00 Mbit/s

95th percentile per-packet one-way delay: 12.367 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.49 Mbit/s

95th percentile per-packet one-way delay: 12.043 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 49.62 Mbit/s

95th percentile per-packet one-way delay: 13.031 ms

Loss rate: 0.00%

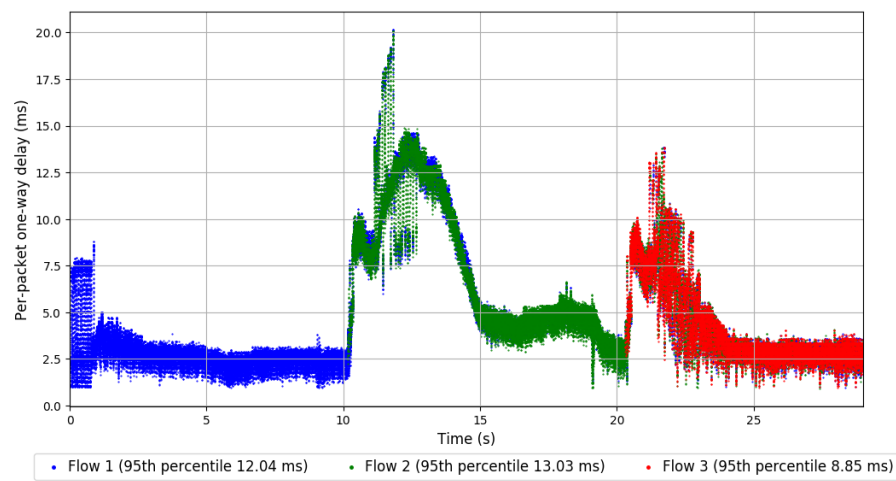
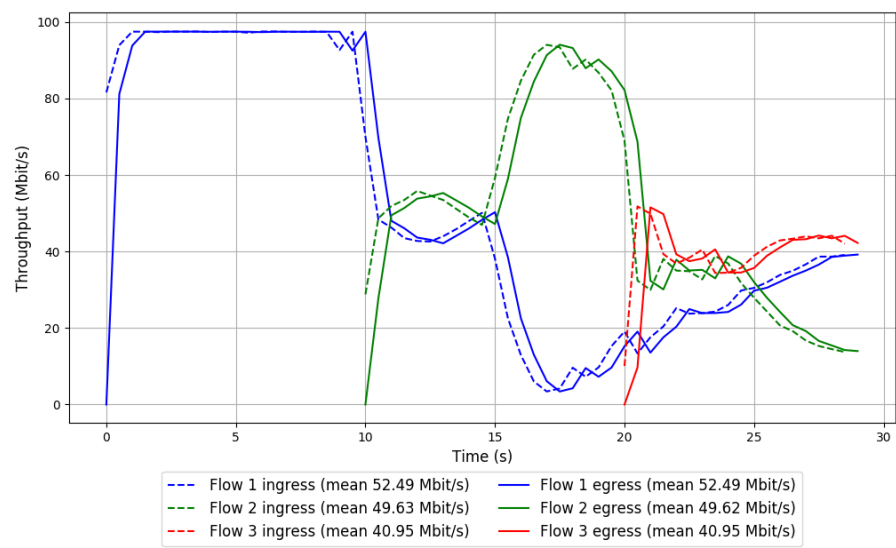
-- Flow 3:

Average throughput: 40.95 Mbit/s

95th percentile per-packet one-way delay: 8.854 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-25 01:46:36

End at: 2019-01-25 01:47:06

Local clock offset: 0.888 ms

Remote clock offset: 0.292 ms

# Below is generated by plot.py at 2019-01-25 03:11:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.03 Mbit/s

95th percentile per-packet one-way delay: 10.348 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.43 Mbit/s

95th percentile per-packet one-way delay: 9.556 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 53.67 Mbit/s

95th percentile per-packet one-way delay: 11.221 ms

Loss rate: 0.00%

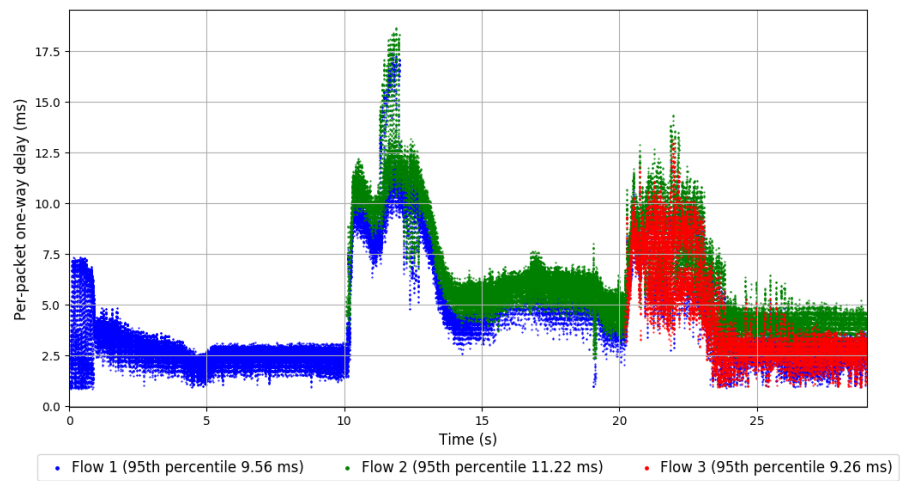
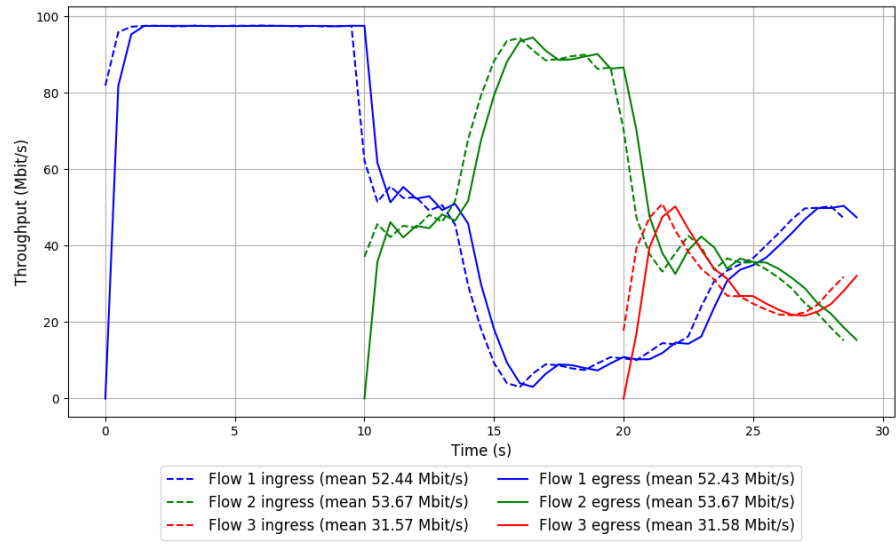
-- Flow 3:

Average throughput: 31.58 Mbit/s

95th percentile per-packet one-way delay: 9.258 ms

Loss rate: 0.00%

## Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-25 02:10:30

End at: 2019-01-25 02:11:00

Local clock offset: -3.769 ms

Remote clock offset: 0.614 ms

# Below is generated by plot.py at 2019-01-25 03:11:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.44 Mbit/s

95th percentile per-packet one-way delay: 7.826 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.98 Mbit/s

95th percentile per-packet one-way delay: 8.095 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 56.48 Mbit/s

95th percentile per-packet one-way delay: 7.879 ms

Loss rate: 0.00%

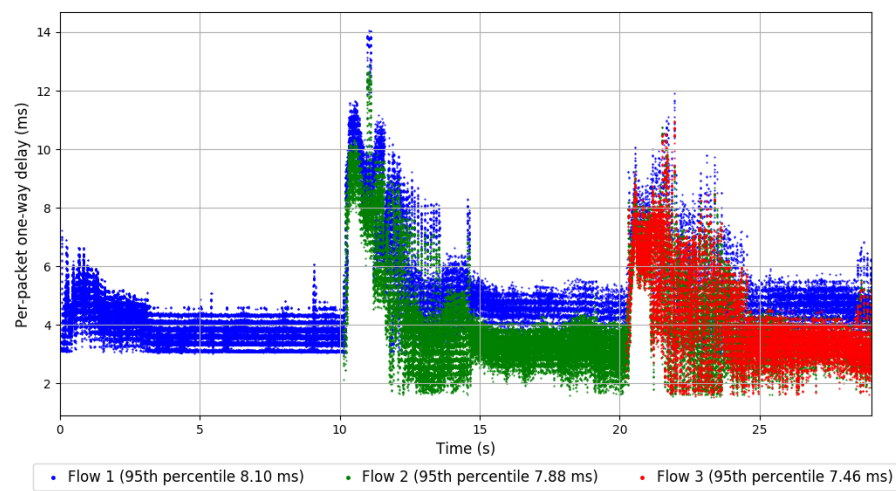
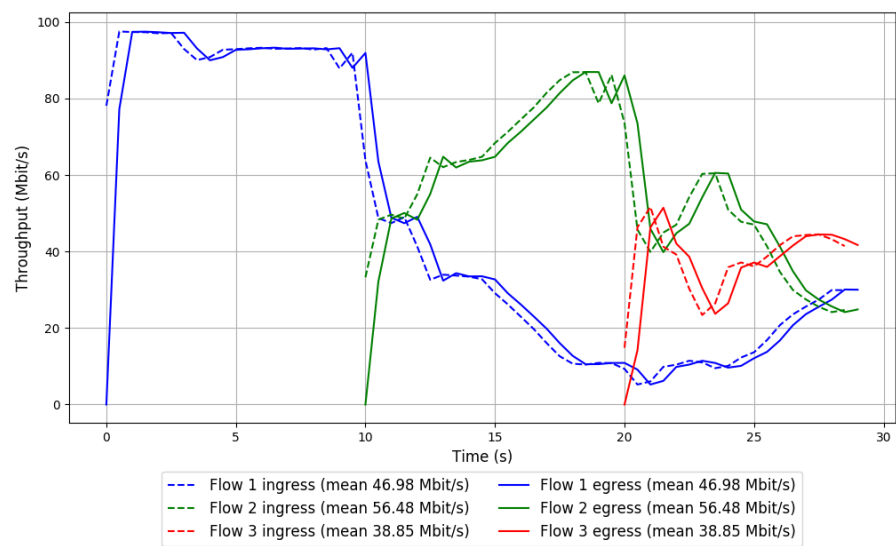
-- Flow 3:

Average throughput: 38.85 Mbit/s

95th percentile per-packet one-way delay: 7.463 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-25 02:34:25

End at: 2019-01-25 02:34:55

Local clock offset: -4.871 ms

Remote clock offset: 0.783 ms

# Below is generated by plot.py at 2019-01-25 03:11:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 12.485 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 53.89 Mbit/s

95th percentile per-packet one-way delay: 11.078 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 49.72 Mbit/s

95th percentile per-packet one-way delay: 14.273 ms

Loss rate: 0.00%

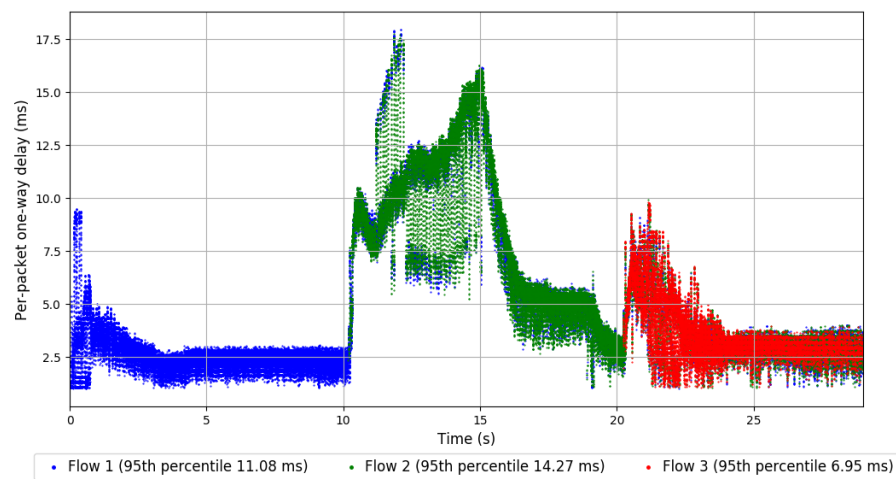
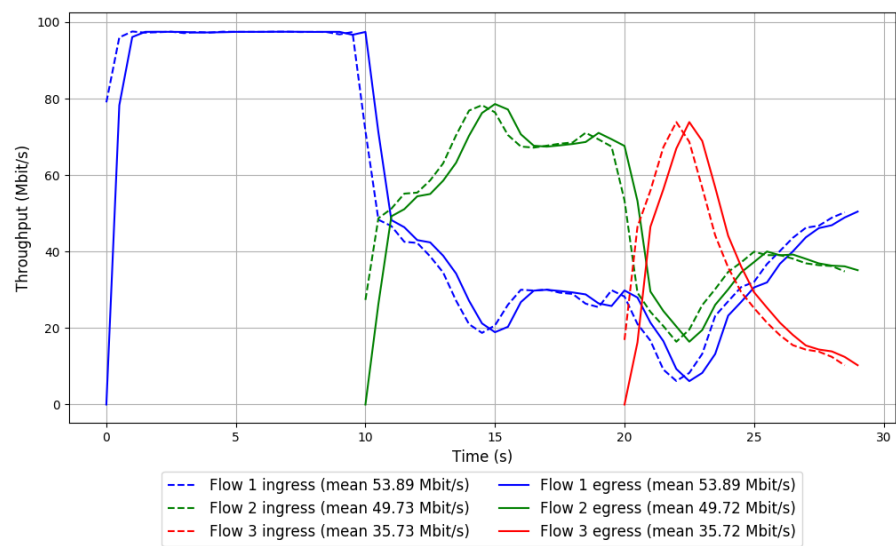
-- Flow 3:

Average throughput: 35.72 Mbit/s

95th percentile per-packet one-way delay: 6.953 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-25 02:58:20

End at: 2019-01-25 02:58:50

Local clock offset: -5.179 ms

Remote clock offset: 0.791 ms

# Below is generated by plot.py at 2019-01-25 03:11:21

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.77 Mbit/s

95th percentile per-packet one-way delay: 13.275 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 51.44 Mbit/s

95th percentile per-packet one-way delay: 12.816 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 50.16 Mbit/s

95th percentile per-packet one-way delay: 13.823 ms

Loss rate: 0.00%

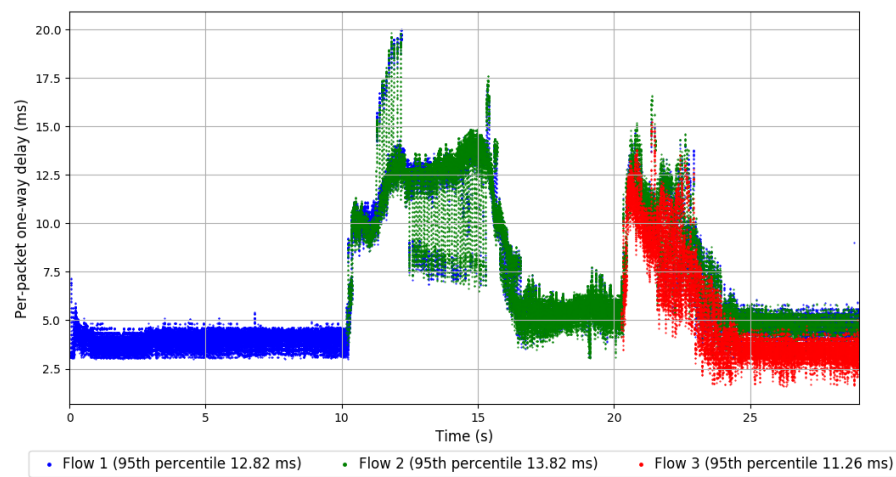
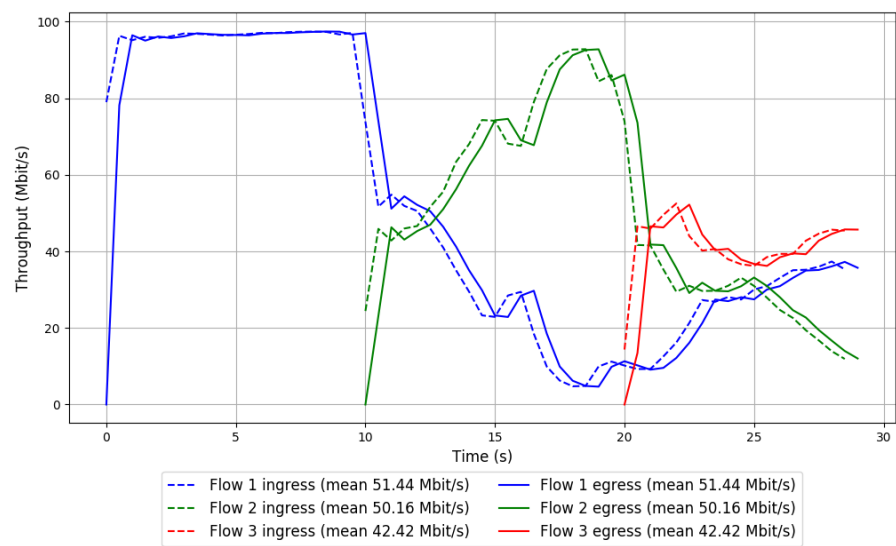
-- Flow 3:

Average throughput: 42.42 Mbit/s

95th percentile per-packet one-way delay: 11.257 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-25 01:19:16

End at: 2019-01-25 01:19:46

Local clock offset: -4.878 ms

Remote clock offset: 0.071 ms

# Below is generated by plot.py at 2019-01-25 03:11:21

# Datalink statistics

-- Total of 3 flows:

Average throughput: 69.83 Mbit/s

95th percentile per-packet one-way delay: 20.249 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 34.23 Mbit/s

95th percentile per-packet one-way delay: 19.699 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.52 Mbit/s

95th percentile per-packet one-way delay: 19.559 ms

Loss rate: 0.00%

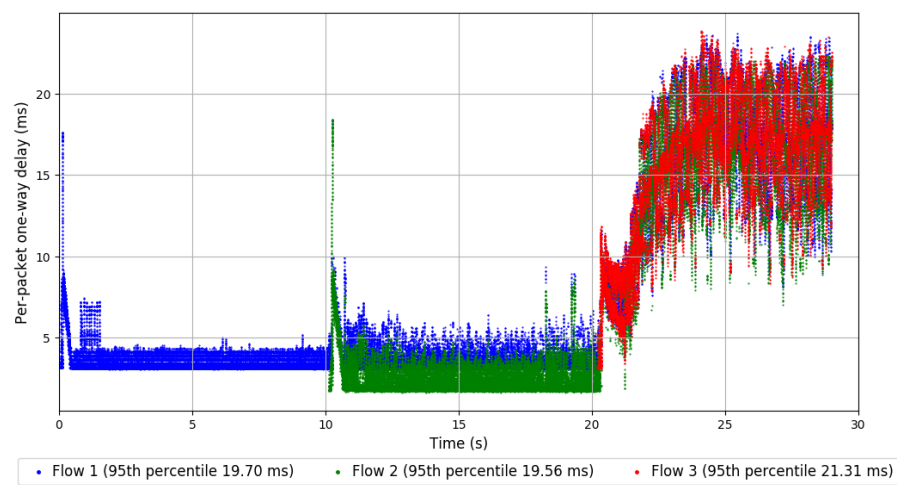
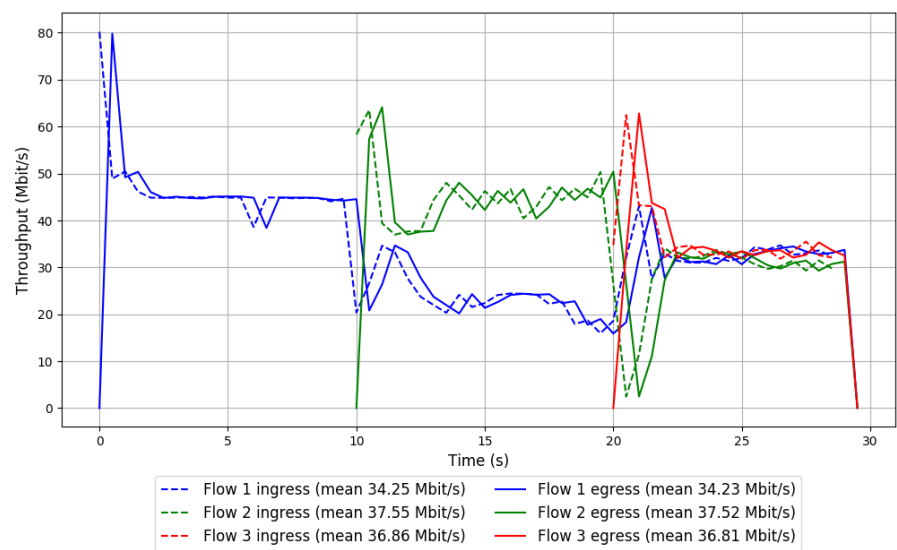
-- Flow 3:

Average throughput: 36.81 Mbit/s

95th percentile per-packet one-way delay: 21.306 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-25 01:43:12

End at: 2019-01-25 01:43:42

Local clock offset: 0.338 ms

Remote clock offset: 0.196 ms

# Below is generated by plot.py at 2019-01-25 03:11:21

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.36 Mbit/s

95th percentile per-packet one-way delay: 22.558 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.90 Mbit/s

95th percentile per-packet one-way delay: 20.263 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 36.82 Mbit/s

95th percentile per-packet one-way delay: 24.096 ms

Loss rate: 0.02%

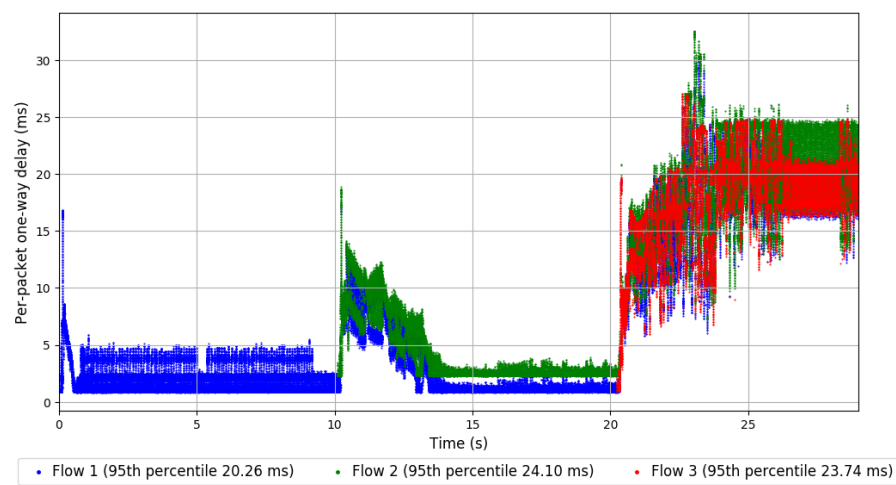
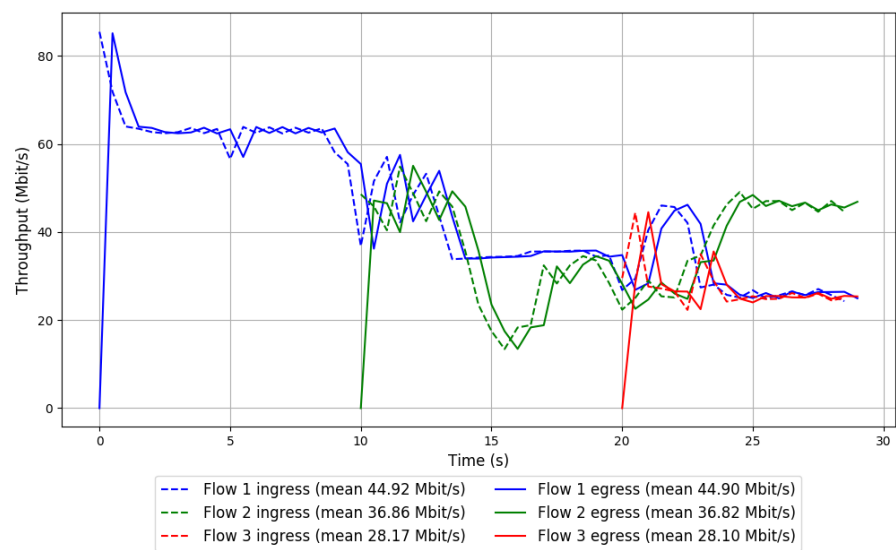
-- Flow 3:

Average throughput: 28.10 Mbit/s

95th percentile per-packet one-way delay: 23.736 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-25 02:07:06

End at: 2019-01-25 02:07:36

Local clock offset: -1.891 ms

Remote clock offset: 0.586 ms

# Below is generated by plot.py at 2019-01-25 03:11:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.56 Mbit/s

95th percentile per-packet one-way delay: 18.565 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 45.00 Mbit/s

95th percentile per-packet one-way delay: 16.560 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.68 Mbit/s

95th percentile per-packet one-way delay: 18.760 ms

Loss rate: 0.01%

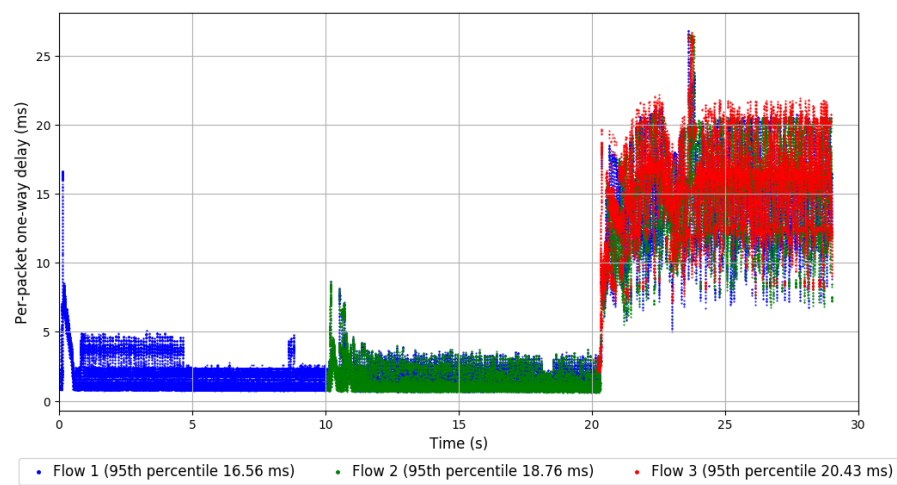
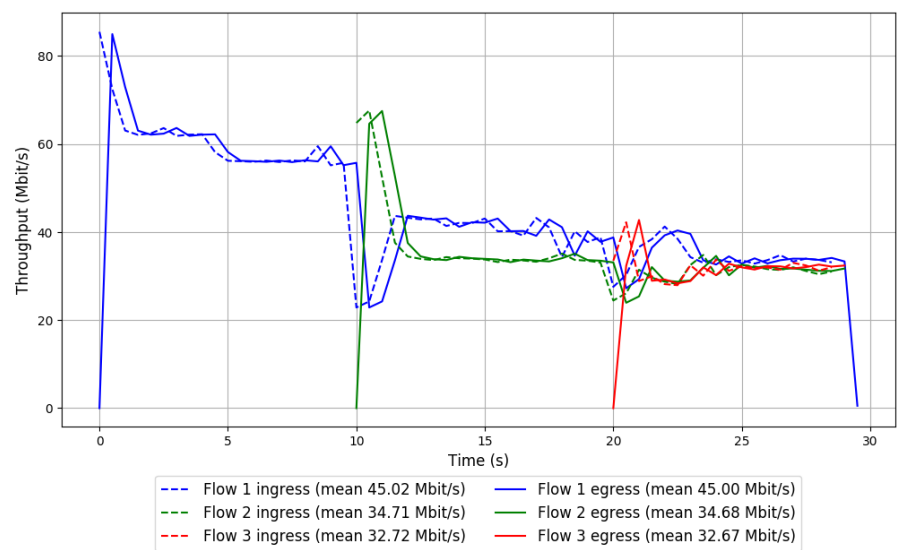
-- Flow 3:

Average throughput: 32.67 Mbit/s

95th percentile per-packet one-way delay: 20.435 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-25 02:31:00

End at: 2019-01-25 02:31:30

Local clock offset: -5.273 ms

Remote clock offset: 0.767 ms

# Below is generated by plot.py at 2019-01-25 03:11:44

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.43 Mbit/s

95th percentile per-packet one-way delay: 17.079 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 48.47 Mbit/s

95th percentile per-packet one-way delay: 15.804 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 28.52 Mbit/s

95th percentile per-packet one-way delay: 18.124 ms

Loss rate: 0.00%

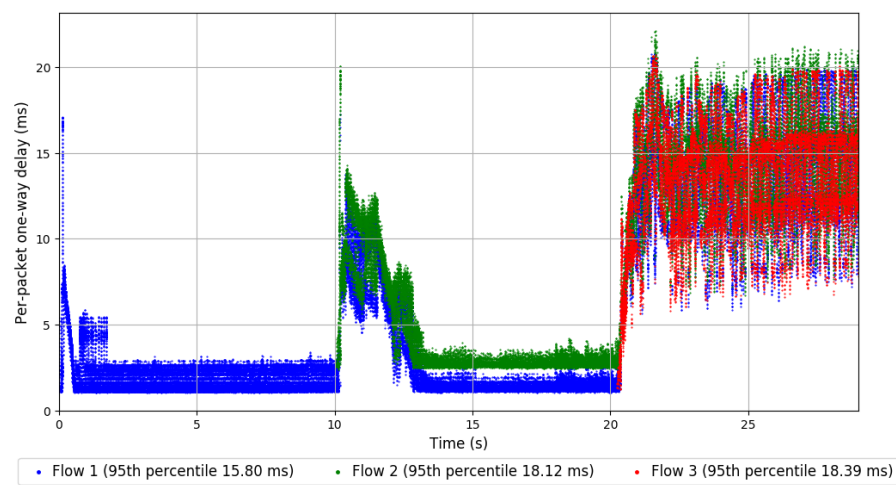
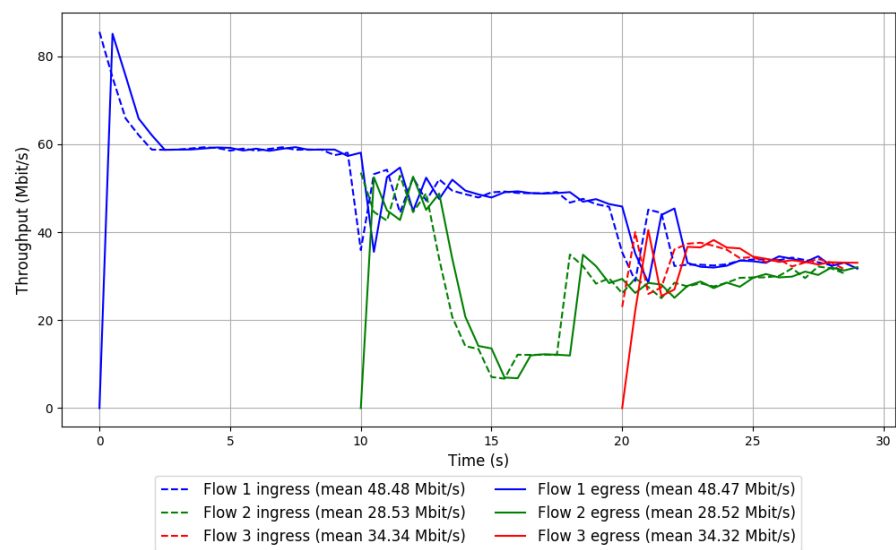
-- Flow 3:

Average throughput: 34.32 Mbit/s

95th percentile per-packet one-way delay: 18.394 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-25 02:54:56

End at: 2019-01-25 02:55:26

Local clock offset: -5.192 ms

Remote clock offset: 0.839 ms

# Below is generated by plot.py at 2019-01-25 03:11:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 69.18 Mbit/s

95th percentile per-packet one-way delay: 20.096 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 36.49 Mbit/s

95th percentile per-packet one-way delay: 19.882 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 35.35 Mbit/s

95th percentile per-packet one-way delay: 19.938 ms

Loss rate: 0.00%

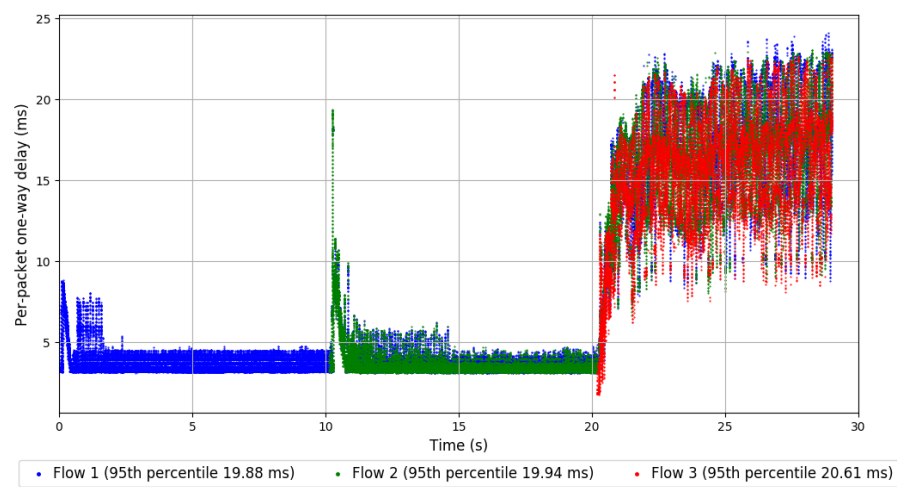
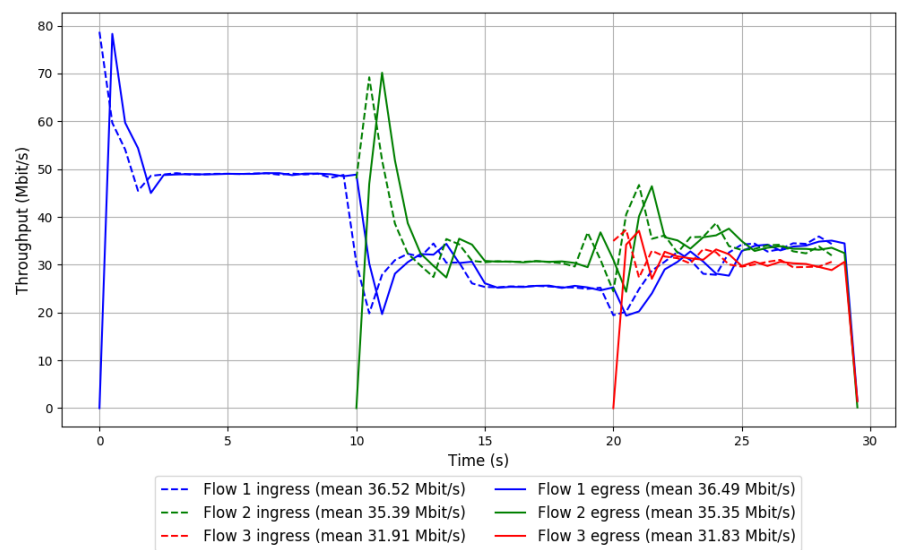
-- Flow 3:

Average throughput: 31.83 Mbit/s

95th percentile per-packet one-way delay: 20.605 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-25 01:28:26

End at: 2019-01-25 01:28:56

Local clock offset: -4.442 ms

Remote clock offset: 0.043 ms

# Below is generated by plot.py at 2019-01-25 03:12:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.77 Mbit/s

95th percentile per-packet one-way delay: 31.089 ms

Loss rate: 0.48%

-- Flow 1:

Average throughput: 56.36 Mbit/s

95th percentile per-packet one-way delay: 31.844 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 37.81 Mbit/s

95th percentile per-packet one-way delay: 25.318 ms

Loss rate: 0.11%

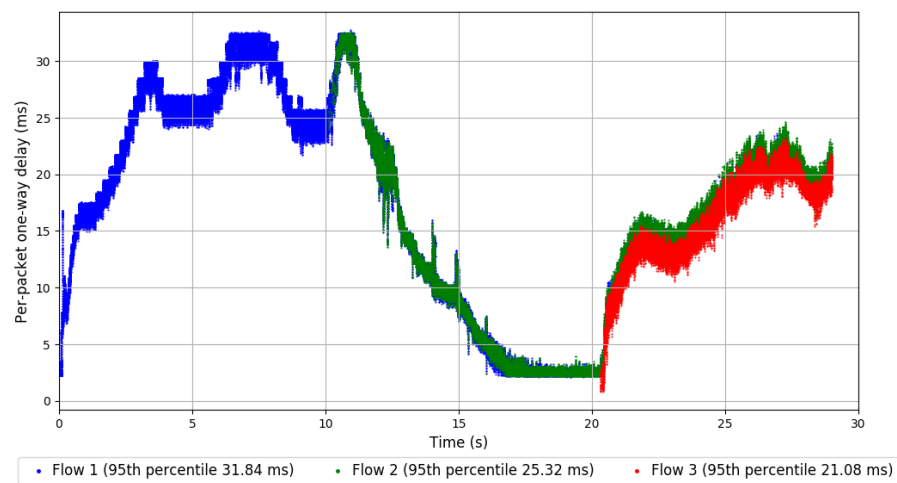
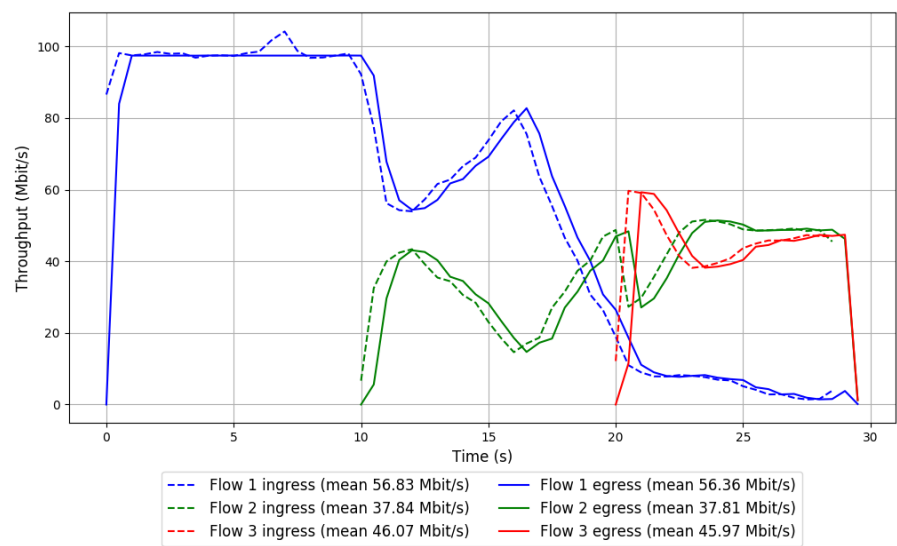
-- Flow 3:

Average throughput: 45.97 Mbit/s

95th percentile per-packet one-way delay: 21.081 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-25 01:52:22

End at: 2019-01-25 01:52:52

Local clock offset: 0.774 ms

Remote clock offset: 0.305 ms

# Below is generated by plot.py at 2019-01-25 03:12:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.16 Mbit/s

95th percentile per-packet one-way delay: 32.968 ms

Loss rate: 2.05%

-- Flow 1:

Average throughput: 82.08 Mbit/s

95th percentile per-packet one-way delay: 32.987 ms

Loss rate: 1.96%

-- Flow 2:

Average throughput: 8.58 Mbit/s

95th percentile per-packet one-way delay: 32.995 ms

Loss rate: 1.50%

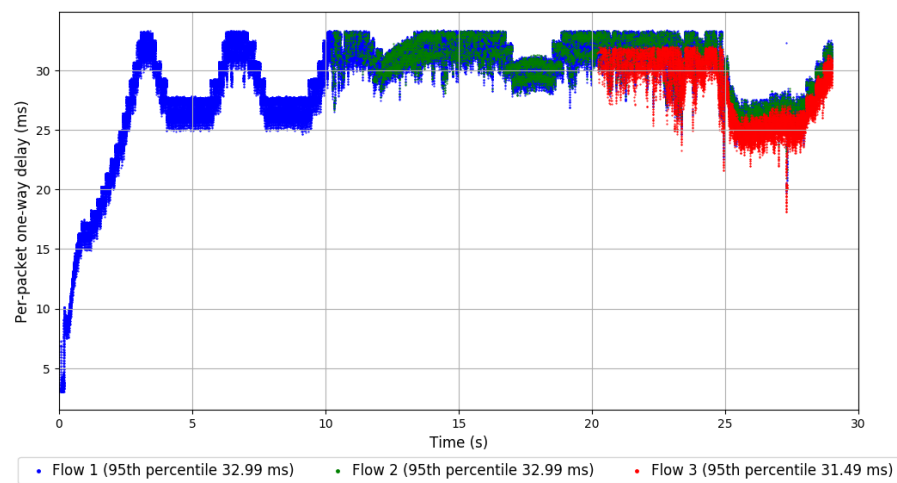
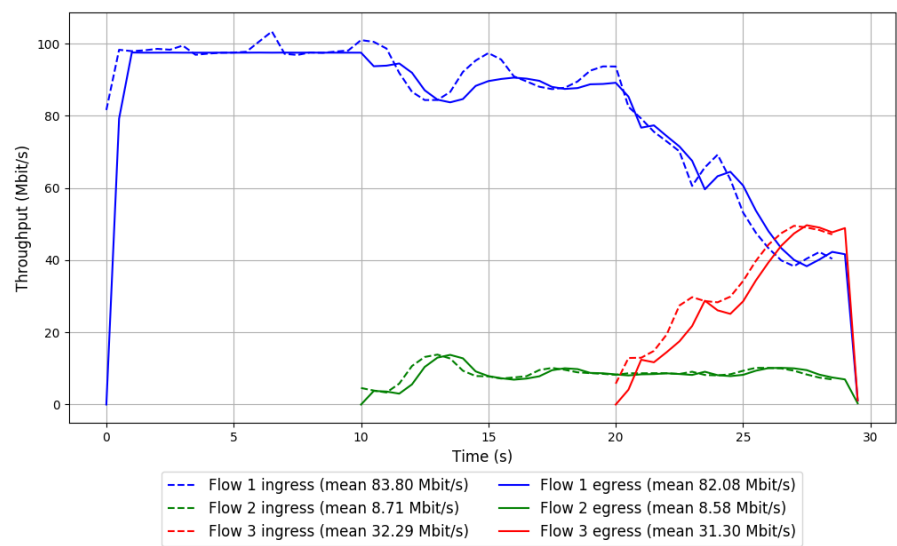
-- Flow 3:

Average throughput: 31.30 Mbit/s

95th percentile per-packet one-way delay: 31.489 ms

Loss rate: 3.08%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-25 02:16:16

End at: 2019-01-25 02:16:46

Local clock offset: -4.106 ms

Remote clock offset: 0.496 ms

# Below is generated by plot.py at 2019-01-25 03:12:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.54 Mbit/s

95th percentile per-packet one-way delay: 30.807 ms

Loss rate: 1.78%

-- Flow 1:

Average throughput: 56.45 Mbit/s

95th percentile per-packet one-way delay: 31.107 ms

Loss rate: 0.62%

-- Flow 2:

Average throughput: 40.95 Mbit/s

95th percentile per-packet one-way delay: 30.576 ms

Loss rate: 2.83%

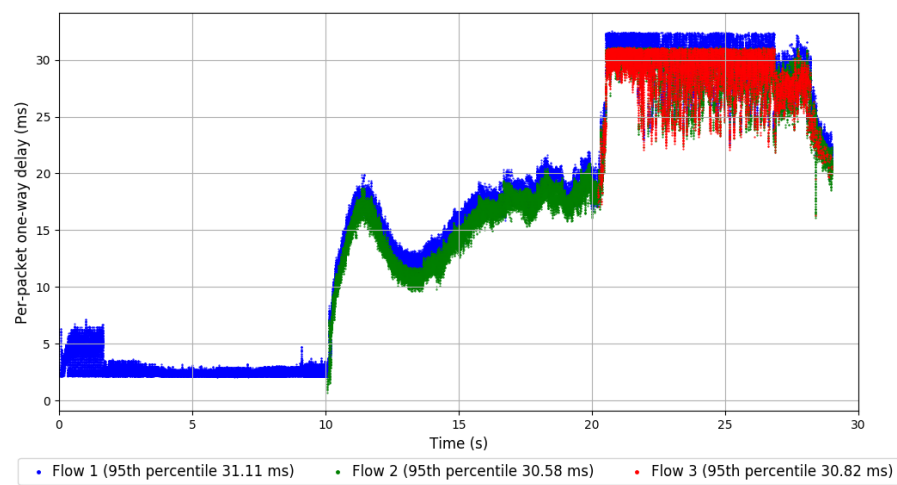
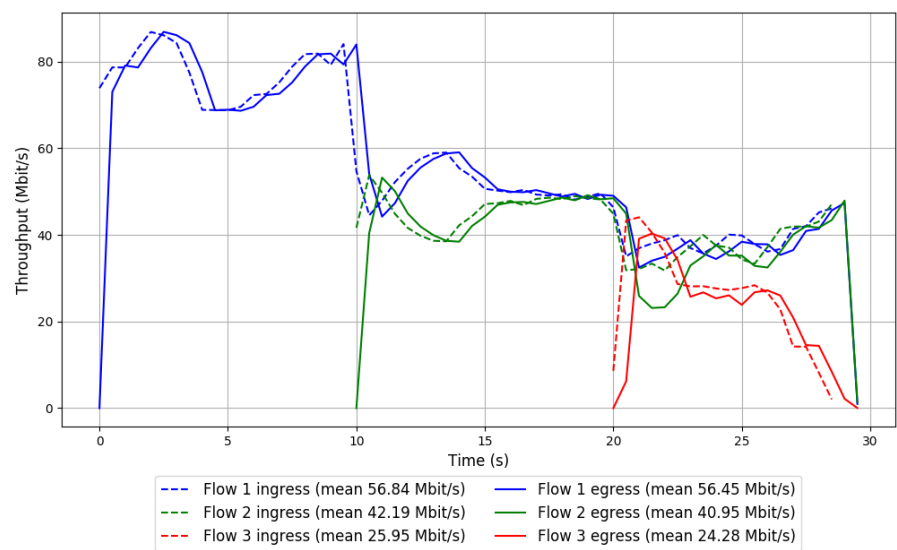
-- Flow 3:

Average throughput: 24.28 Mbit/s

95th percentile per-packet one-way delay: 30.822 ms

Loss rate: 6.40%

Run 3: Report of Indigo-MusesD — Data Link

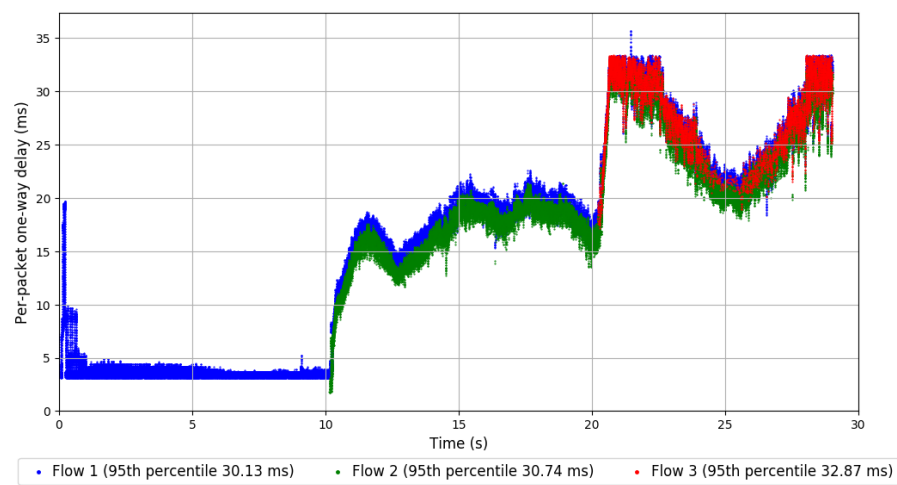
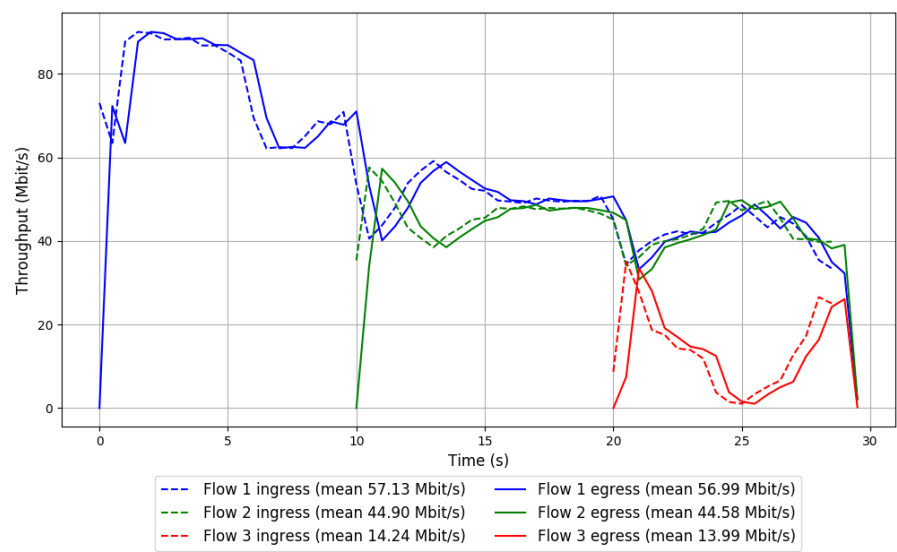


Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-25 02:40:11  
End at: 2019-01-25 02:40:41  
Local clock offset: -5.304 ms  
Remote clock offset: 0.735 ms

# Below is generated by plot.py at 2019-01-25 03:12:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.24 Mbit/s  
95th percentile per-packet one-way delay: 31.140 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 56.99 Mbit/s  
95th percentile per-packet one-way delay: 30.127 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 44.58 Mbit/s  
95th percentile per-packet one-way delay: 30.739 ms  
Loss rate: 0.56%  
-- Flow 3:  
Average throughput: 13.99 Mbit/s  
95th percentile per-packet one-way delay: 32.867 ms  
Loss rate: 1.66%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-25 03:04:06

End at: 2019-01-25 03:04:36

Local clock offset: -5.08 ms

Remote clock offset: 0.769 ms

# Below is generated by plot.py at 2019-01-25 03:12:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.27 Mbit/s

95th percentile per-packet one-way delay: 32.926 ms

Loss rate: 1.42%

-- Flow 1:

Average throughput: 73.85 Mbit/s

95th percentile per-packet one-way delay: 32.994 ms

Loss rate: 1.49%

-- Flow 2:

Average throughput: 25.31 Mbit/s

95th percentile per-packet one-way delay: 31.088 ms

Loss rate: 1.59%

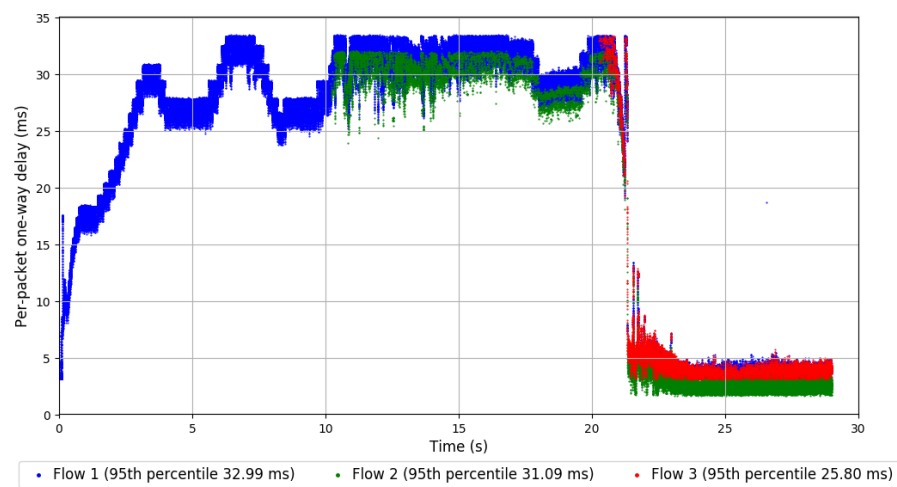
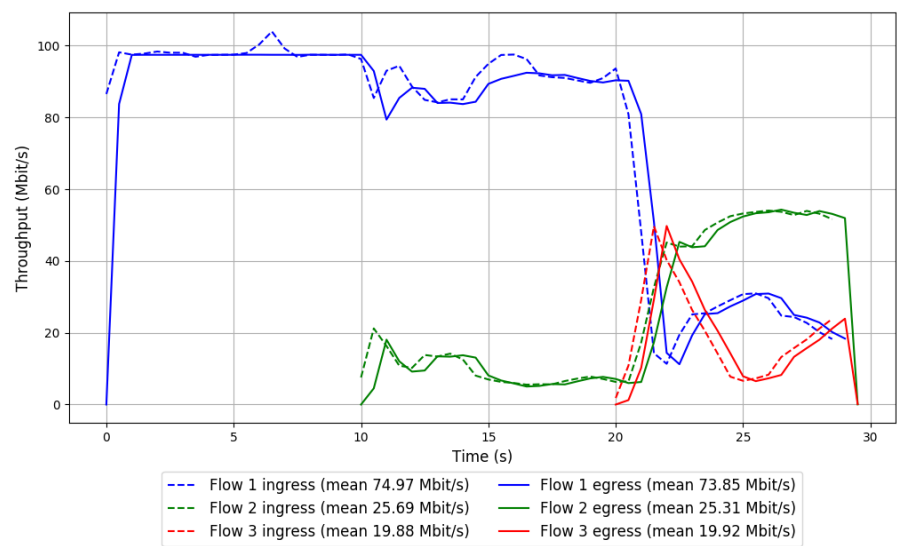
-- Flow 3:

Average throughput: 19.92 Mbit/s

95th percentile per-packet one-way delay: 25.800 ms

Loss rate: 0.14%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-25 01:24:59

End at: 2019-01-25 01:25:29

Local clock offset: -5.152 ms

Remote clock offset: 0.12 ms

# Below is generated by plot.py at 2019-01-25 03:12:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.59 Mbit/s

95th percentile per-packet one-way delay: 25.934 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 60.14 Mbit/s

95th percentile per-packet one-way delay: 23.368 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 37.51 Mbit/s

95th percentile per-packet one-way delay: 26.882 ms

Loss rate: 0.15%

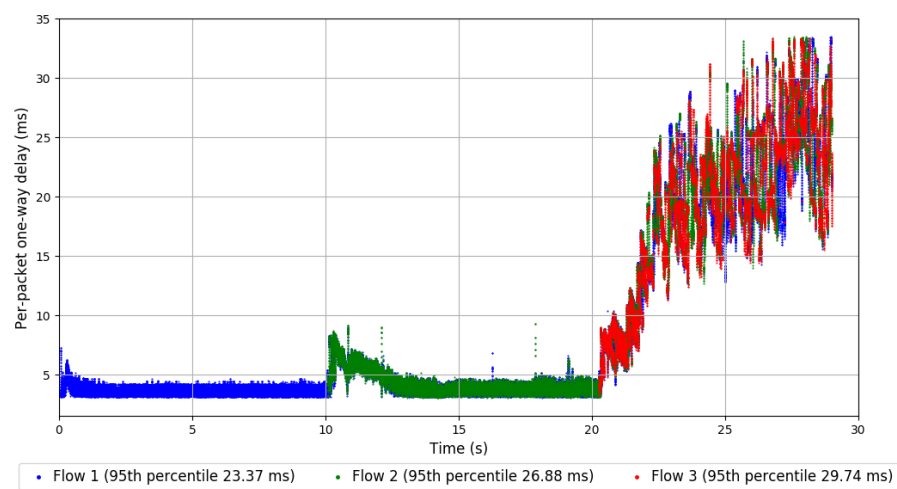
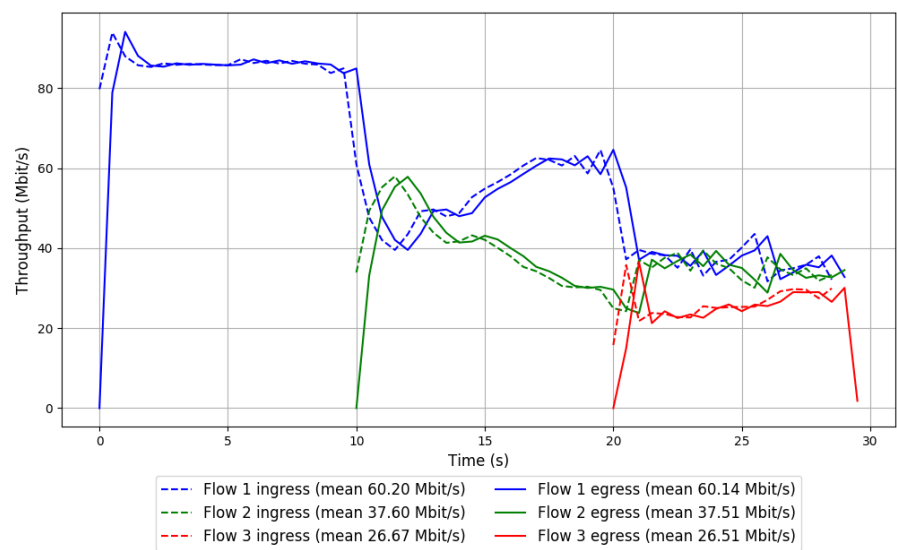
-- Flow 3:

Average throughput: 26.51 Mbit/s

95th percentile per-packet one-way delay: 29.737 ms

Loss rate: 0.38%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-25 01:48:54

End at: 2019-01-25 01:49:24

Local clock offset: 0.426 ms

Remote clock offset: 0.439 ms

# Below is generated by plot.py at 2019-01-25 03:12:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.72 Mbit/s

95th percentile per-packet one-way delay: 29.535 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 58.55 Mbit/s

95th percentile per-packet one-way delay: 26.342 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 44.36 Mbit/s

95th percentile per-packet one-way delay: 30.318 ms

Loss rate: 0.37%

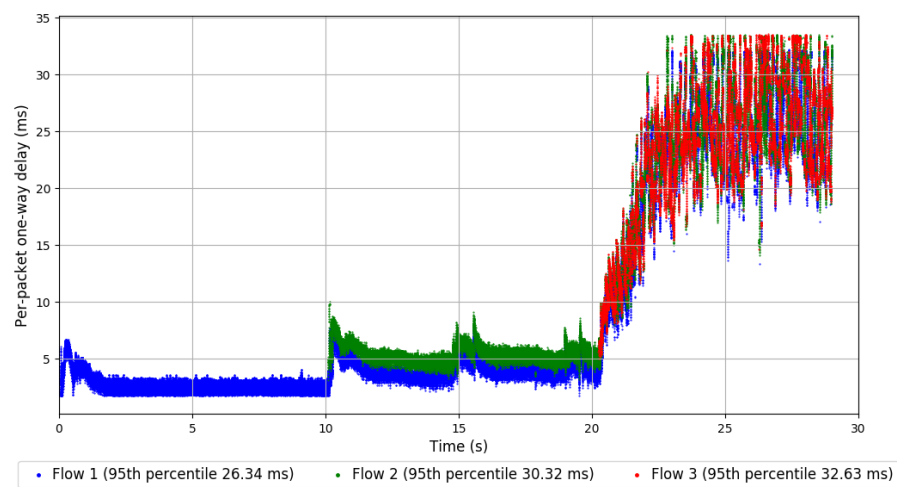
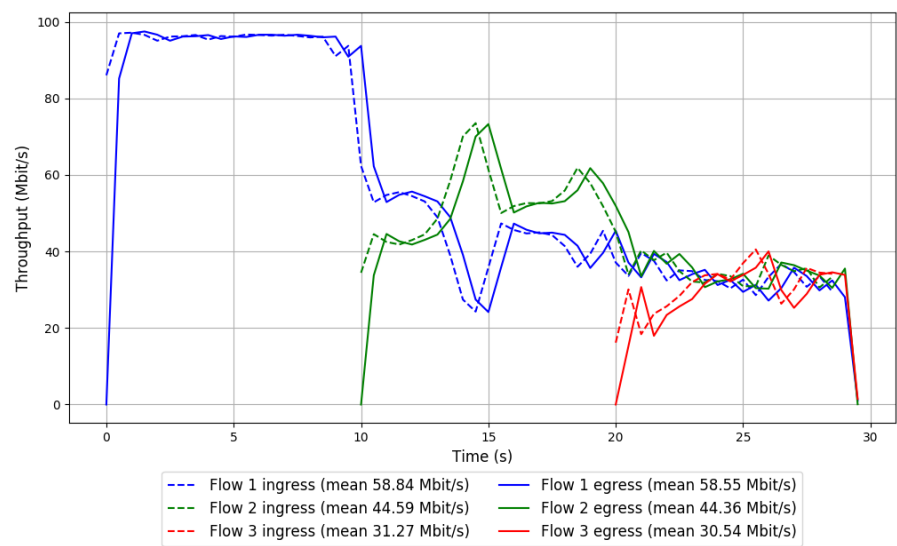
-- Flow 3:

Average throughput: 30.54 Mbit/s

95th percentile per-packet one-way delay: 32.633 ms

Loss rate: 2.09%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-25 02:12:49

End at: 2019-01-25 02:13:19

Local clock offset: -3.474 ms

Remote clock offset: 0.526 ms

# Below is generated by plot.py at 2019-01-25 03:12:52

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.87 Mbit/s

95th percentile per-packet one-way delay: 26.158 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 68.71 Mbit/s

95th percentile per-packet one-way delay: 23.341 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 28.88 Mbit/s

95th percentile per-packet one-way delay: 28.406 ms

Loss rate: 0.18%

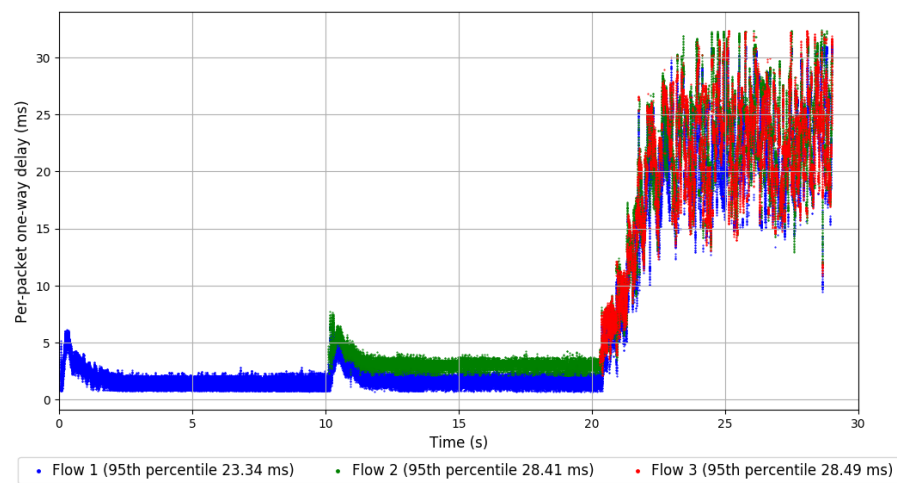
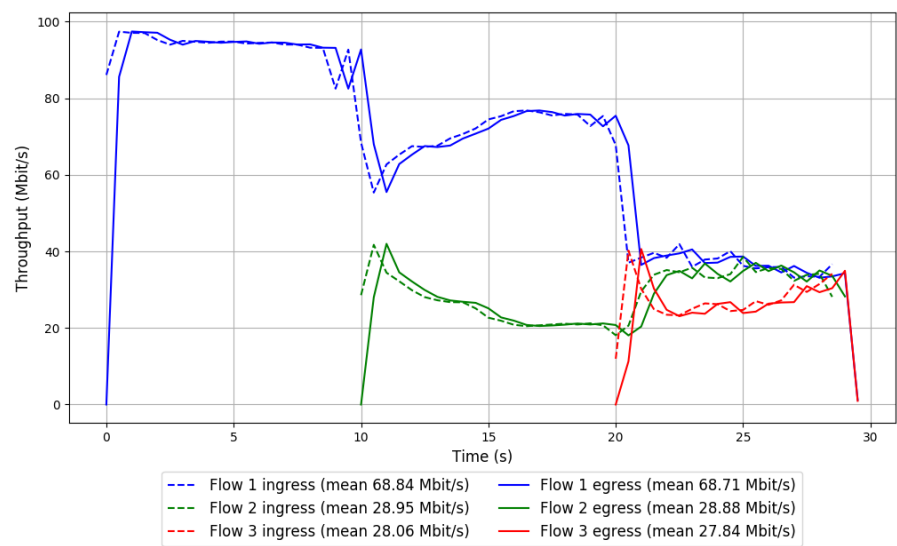
-- Flow 3:

Average throughput: 27.84 Mbit/s

95th percentile per-packet one-way delay: 28.490 ms

Loss rate: 0.45%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-25 02:36:43

End at: 2019-01-25 02:37:13

Local clock offset: -4.688 ms

Remote clock offset: 0.784 ms

# Below is generated by plot.py at 2019-01-25 03:13:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.46 Mbit/s

95th percentile per-packet one-way delay: 26.853 ms

Loss rate: 0.21%

-- Flow 1:

Average throughput: 67.18 Mbit/s

95th percentile per-packet one-way delay: 23.667 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 31.42 Mbit/s

95th percentile per-packet one-way delay: 28.971 ms

Loss rate: 0.40%

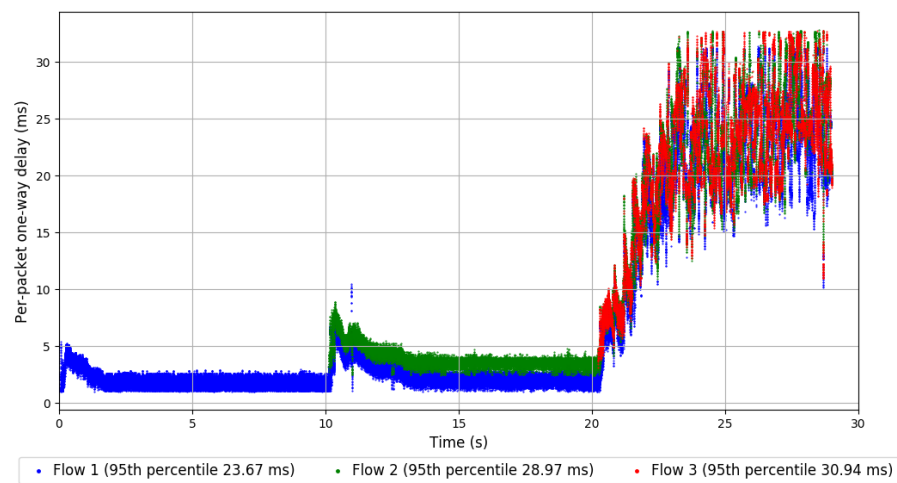
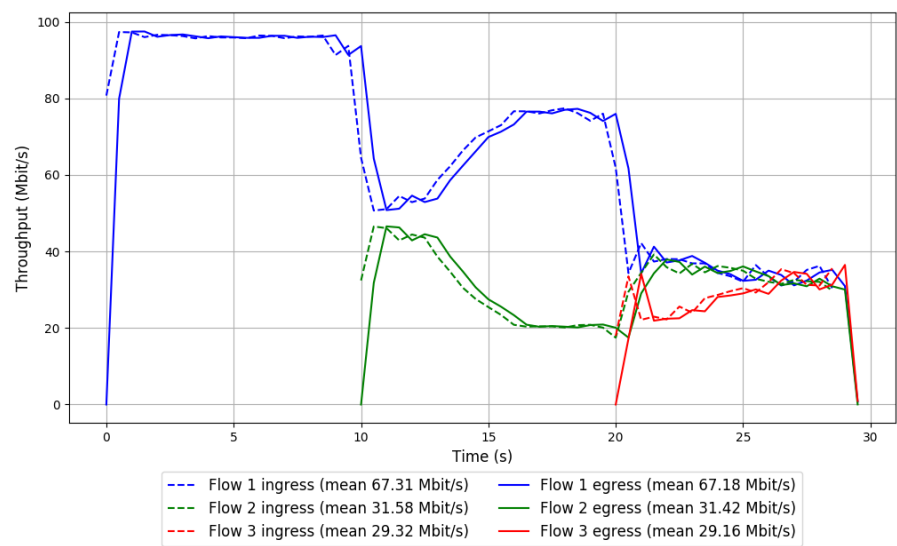
-- Flow 3:

Average throughput: 29.16 Mbit/s

95th percentile per-packet one-way delay: 30.936 ms

Loss rate: 0.36%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-25 03:00:38

End at: 2019-01-25 03:01:08

Local clock offset: -5.163 ms

Remote clock offset: 0.806 ms

# Below is generated by plot.py at 2019-01-25 03:13:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.97 Mbit/s

95th percentile per-packet one-way delay: 26.858 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 56.75 Mbit/s

95th percentile per-packet one-way delay: 24.978 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 45.68 Mbit/s

95th percentile per-packet one-way delay: 28.071 ms

Loss rate: 0.06%

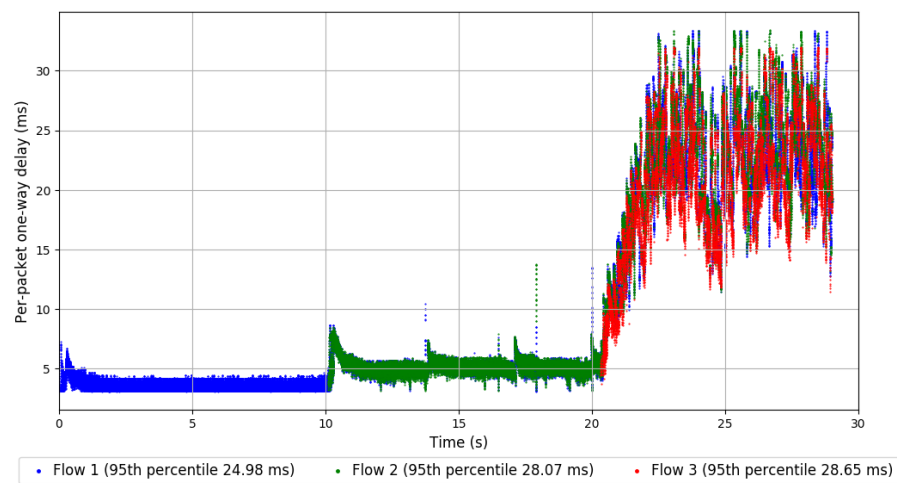
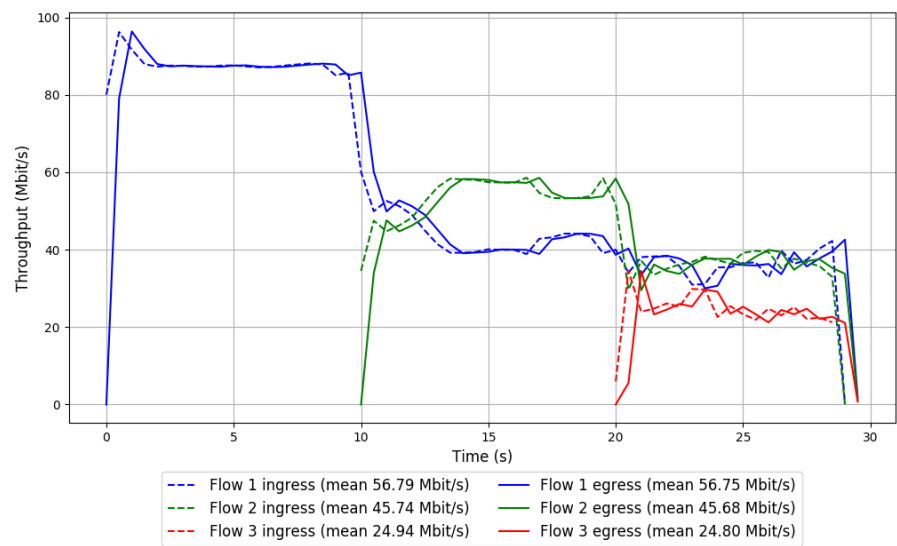
-- Flow 3:

Average throughput: 24.80 Mbit/s

95th percentile per-packet one-way delay: 28.646 ms

Loss rate: 0.42%

Run 5: Report of Indigo-MusesT — Data Link

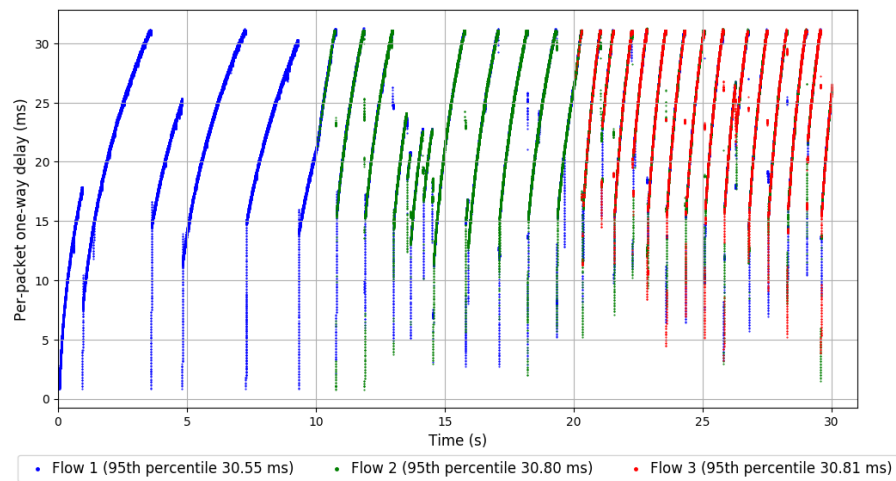
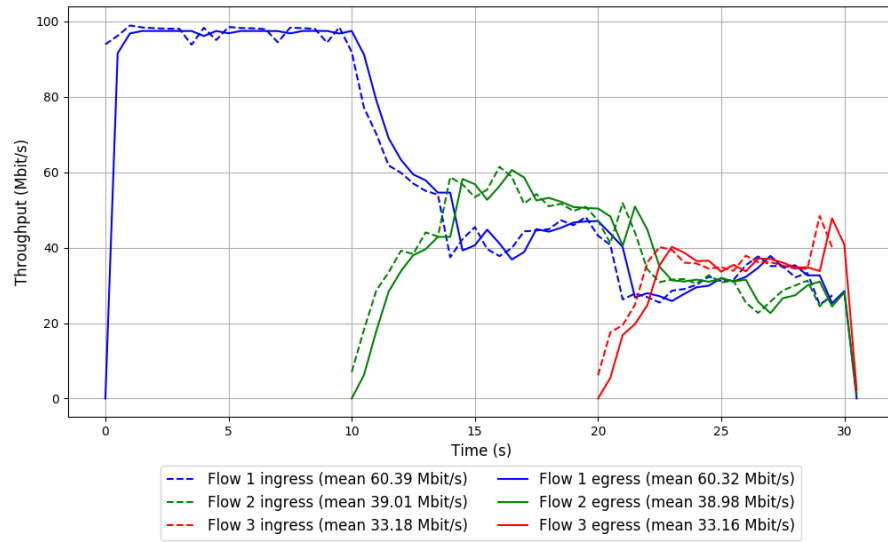


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-25 01:11:20
End at: 2019-01-25 01:11:50
Local clock offset: -3.679 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2019-01-25 03:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.29 Mbit/s
95th percentile per-packet one-way delay: 30.711 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 60.32 Mbit/s
95th percentile per-packet one-way delay: 30.547 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 38.98 Mbit/s
95th percentile per-packet one-way delay: 30.805 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 33.16 Mbit/s
95th percentile per-packet one-way delay: 30.814 ms
Loss rate: 0.06%
```

# Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-25 01:35:15

End at: 2019-01-25 01:35:45

Local clock offset: -1.787 ms

Remote clock offset: 0.199 ms

# Below is generated by plot.py at 2019-01-25 03:13:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 31.984 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 65.16 Mbit/s

95th percentile per-packet one-way delay: 32.336 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 37.39 Mbit/s

95th percentile per-packet one-way delay: 31.173 ms

Loss rate: 0.08%

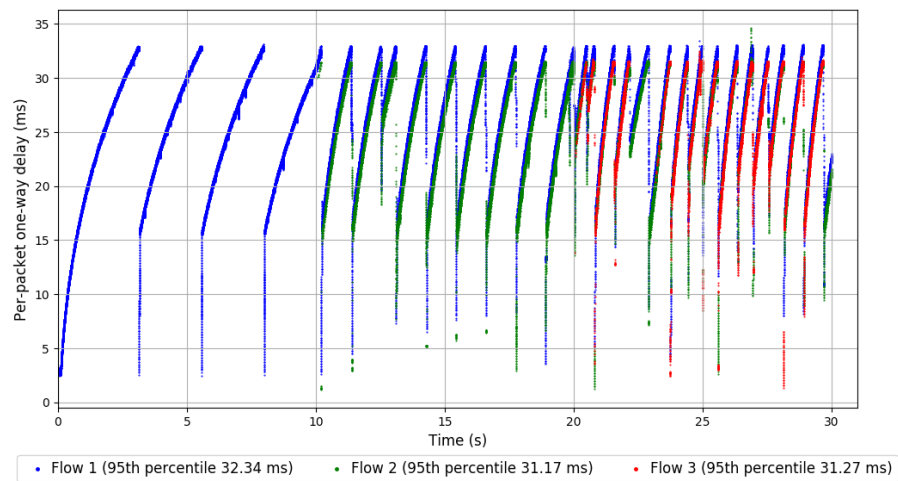
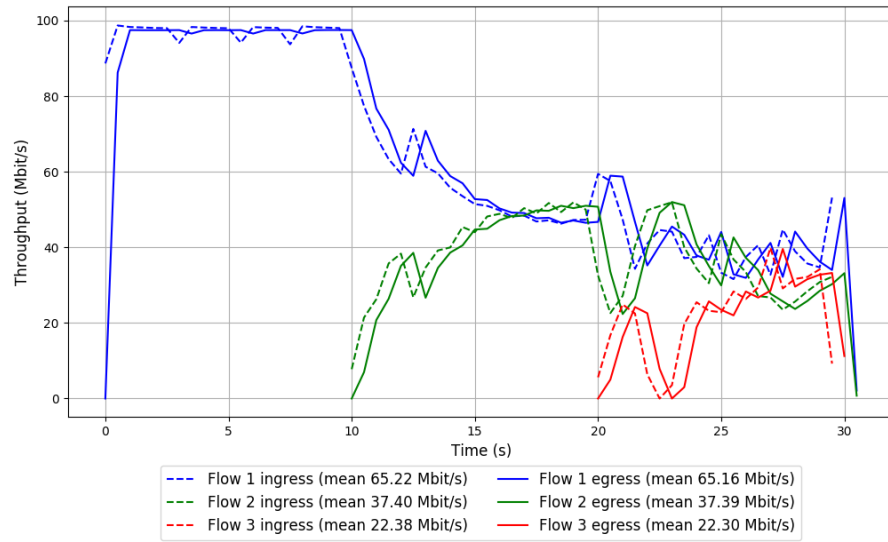
-- Flow 3:

Average throughput: 22.30 Mbit/s

95th percentile per-packet one-way delay: 31.269 ms

Loss rate: 0.17%

## Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-01-25 01:59:11

End at: 2019-01-25 01:59:41

Local clock offset: 2.075 ms

Remote clock offset: 0.491 ms

# Below is generated by plot.py at 2019-01-25 03:13:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.29 Mbit/s

95th percentile per-packet one-way delay: 31.310 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 58.80 Mbit/s

95th percentile per-packet one-way delay: 30.717 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 41.39 Mbit/s

95th percentile per-packet one-way delay: 32.087 ms

Loss rate: 0.05%

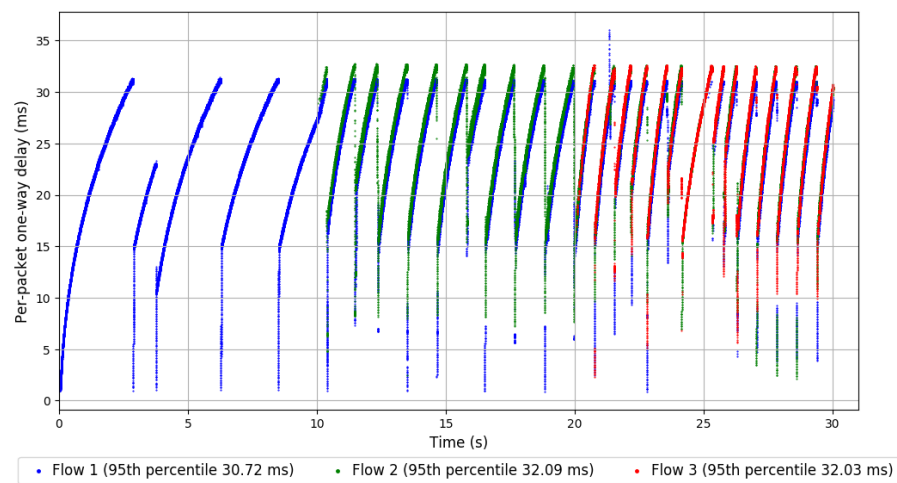
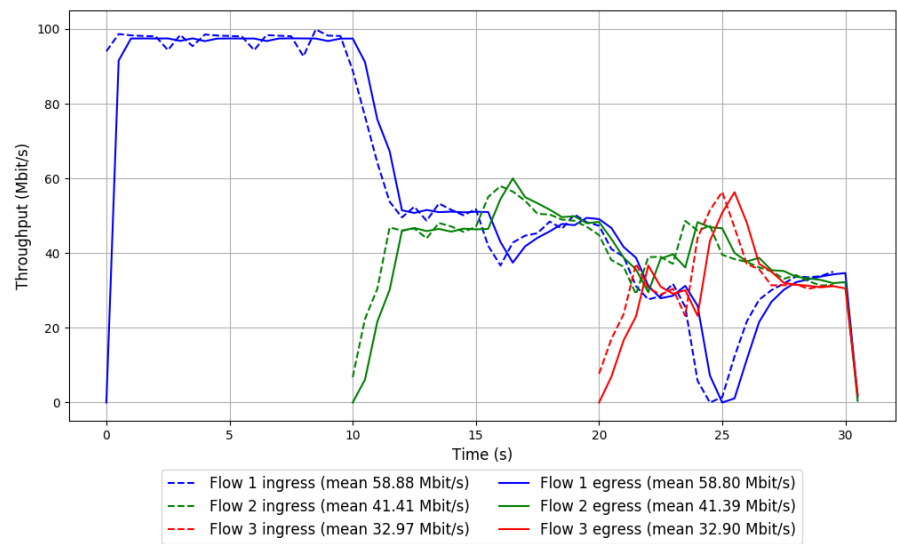
-- Flow 3:

Average throughput: 32.90 Mbit/s

95th percentile per-packet one-way delay: 32.035 ms

Loss rate: 0.08%

Run 3: Report of LEDBAT — Data Link

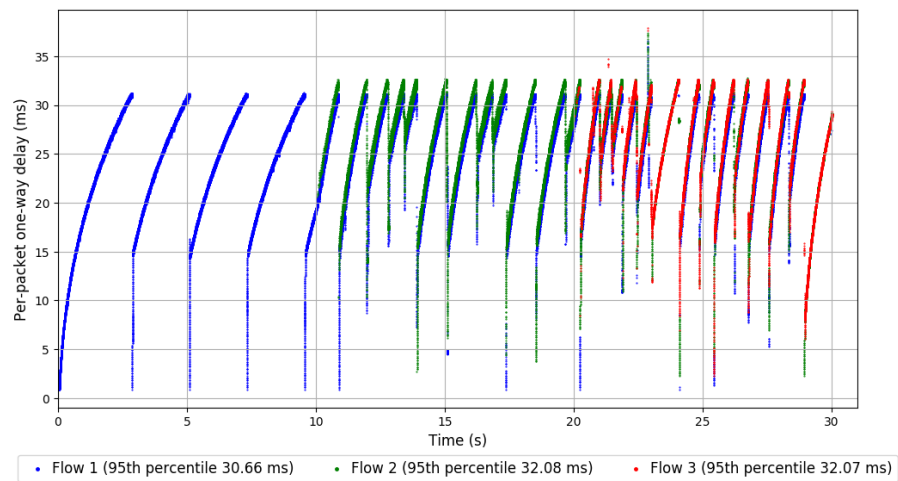
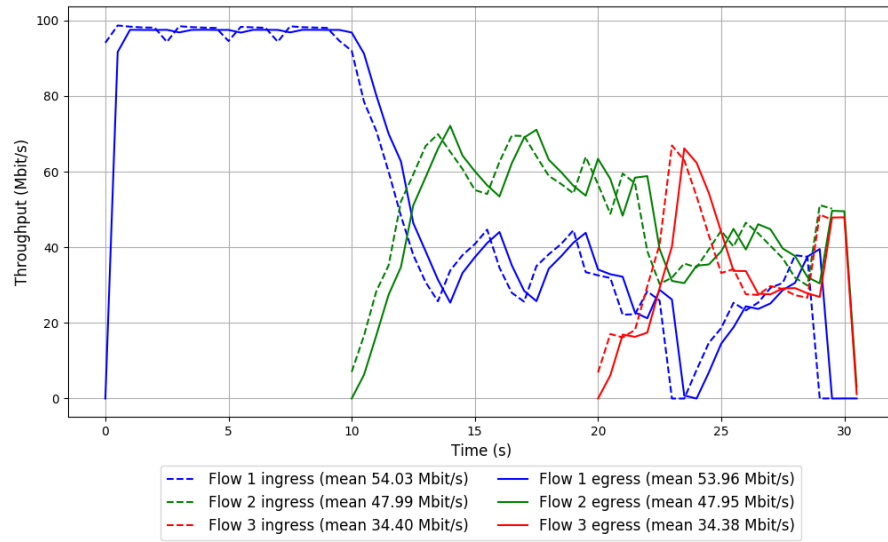


Run 4: Statistics of LEDBAT

Start at: 2019-01-25 02:23:05  
End at: 2019-01-25 02:23:35  
Local clock offset: -4.854 ms  
Remote clock offset: 0.692 ms

# Below is generated by plot.py at 2019-01-25 03:13:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.28 Mbit/s  
95th percentile per-packet one-way delay: 31.394 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 53.96 Mbit/s  
95th percentile per-packet one-way delay: 30.662 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 47.95 Mbit/s  
95th percentile per-packet one-way delay: 32.080 ms  
Loss rate: 0.04%  
-- Flow 3:  
Average throughput: 34.38 Mbit/s  
95th percentile per-packet one-way delay: 32.072 ms  
Loss rate: 0.07%

# Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-25 02:46:59

End at: 2019-01-25 02:47:29

Local clock offset: -5.119 ms

Remote clock offset: 0.778 ms

# Below is generated by plot.py at 2019-01-25 03:14:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.30 Mbit/s

95th percentile per-packet one-way delay: 32.159 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 58.42 Mbit/s

95th percentile per-packet one-way delay: 31.408 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 42.74 Mbit/s

95th percentile per-packet one-way delay: 32.900 ms

Loss rate: 0.04%

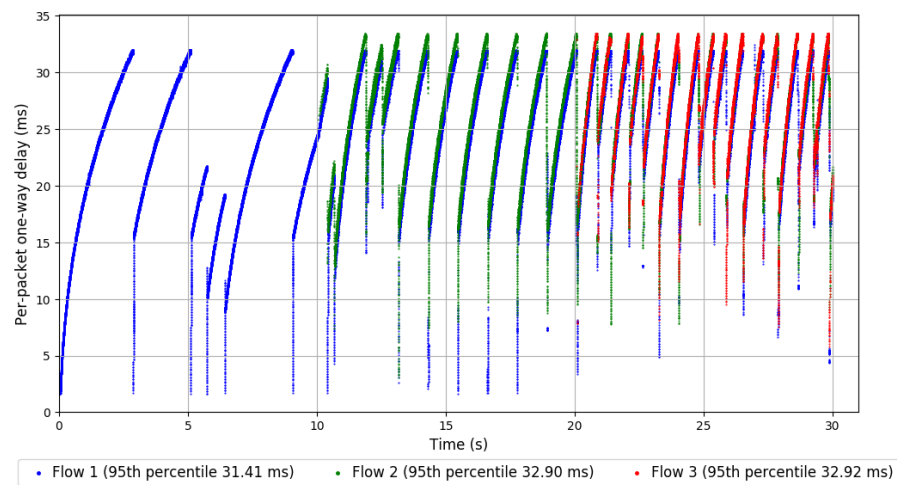
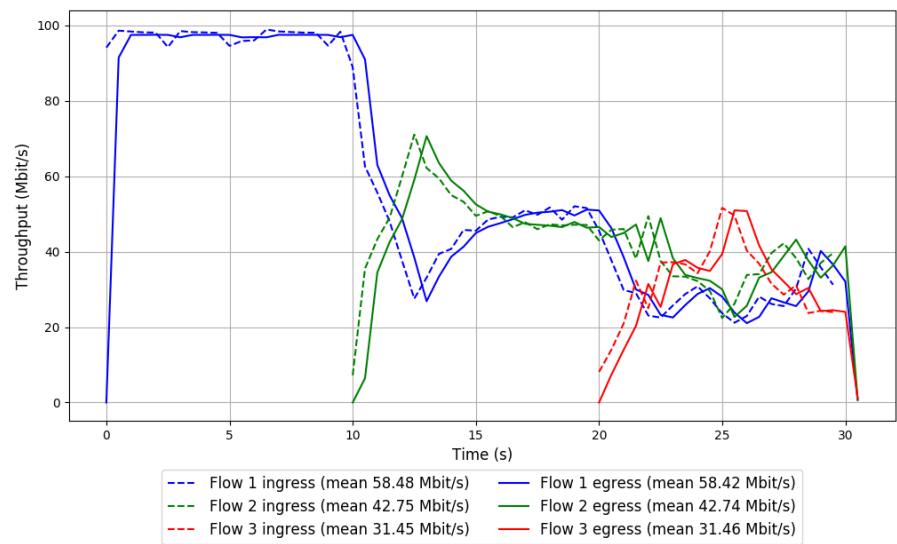
-- Flow 3:

Average throughput: 31.46 Mbit/s

95th percentile per-packet one-way delay: 32.918 ms

Loss rate: 0.09%

Run 5: Report of LEDBAT — Data Link

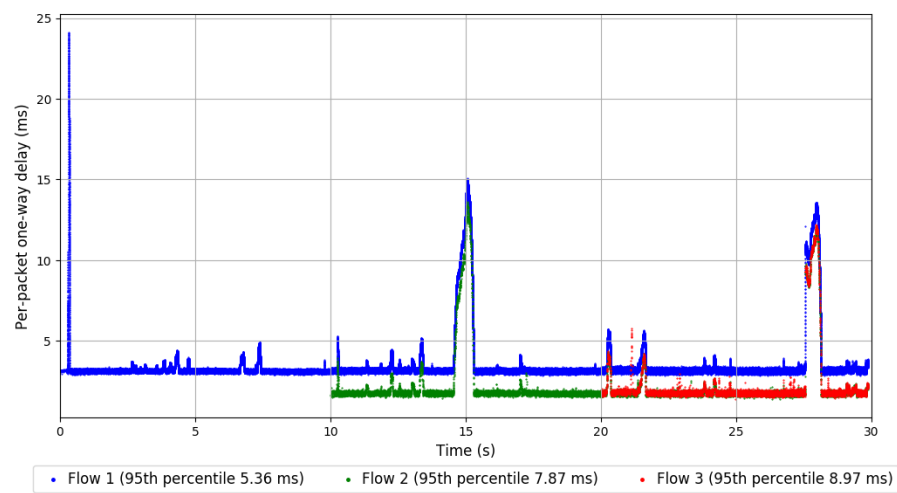
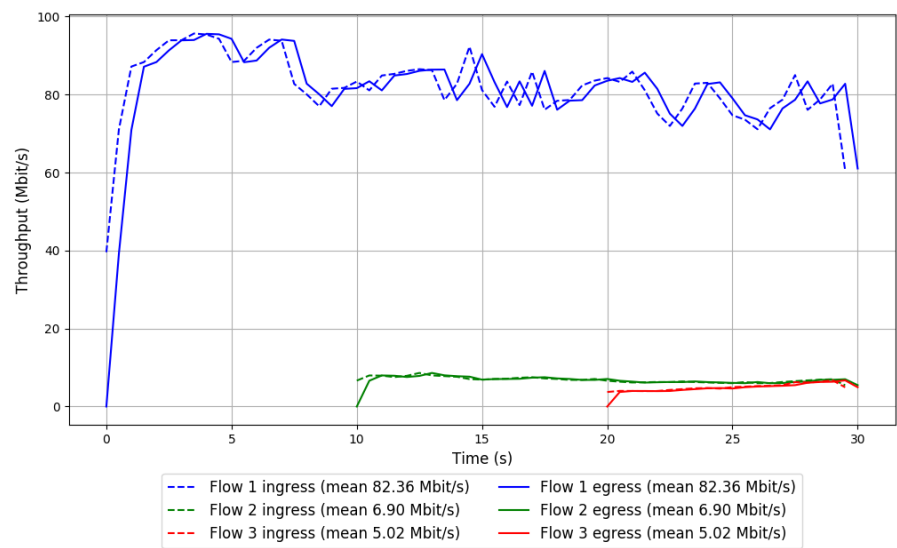


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-25 01:05:40
End at: 2019-01-25 01:06:10
Local clock offset: -3.95 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-01-25 03:14:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.61 Mbit/s
95th percentile per-packet one-way delay: 5.441 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.36 Mbit/s
95th percentile per-packet one-way delay: 5.361 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 7.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 8.974 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-01-25 01:29:35

End at: 2019-01-25 01:30:05

Local clock offset: -4.467 ms

Remote clock offset: 0.075 ms

# Below is generated by plot.py at 2019-01-25 03:14:23

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 6.103 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 70.06 Mbit/s

95th percentile per-packet one-way delay: 5.951 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 22.04 Mbit/s

95th percentile per-packet one-way delay: 6.856 ms

Loss rate: 0.00%

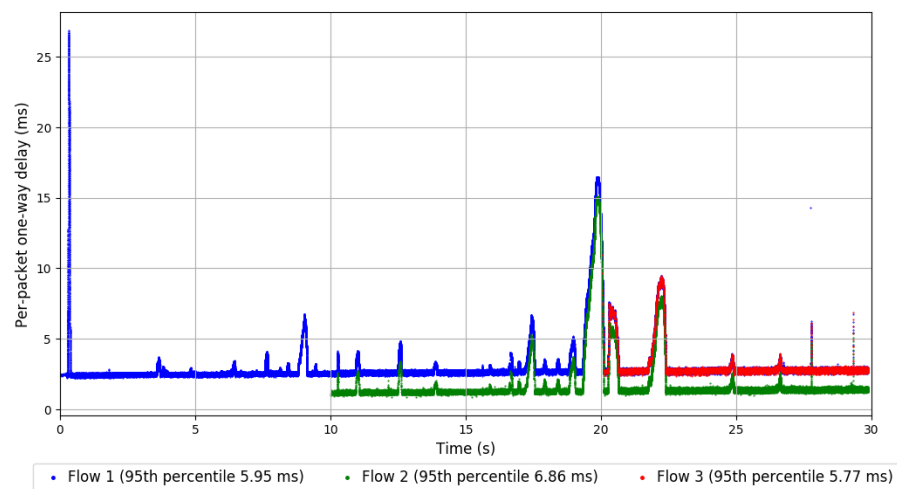
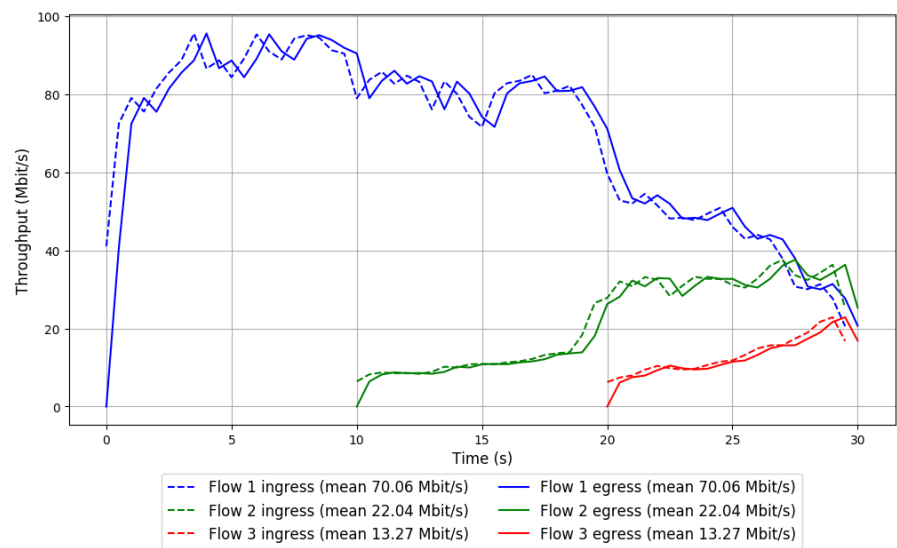
-- Flow 3:

Average throughput: 13.27 Mbit/s

95th percentile per-packet one-way delay: 5.772 ms

Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-25 01:53:31

End at: 2019-01-25 01:54:01

Local clock offset: 1.648 ms

Remote clock offset: 0.445 ms

# Below is generated by plot.py at 2019-01-25 03:14:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.47 Mbit/s

95th percentile per-packet one-way delay: 4.598 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 82.53 Mbit/s

95th percentile per-packet one-way delay: 4.544 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 10.99 Mbit/s

95th percentile per-packet one-way delay: 4.997 ms

Loss rate: 0.00%

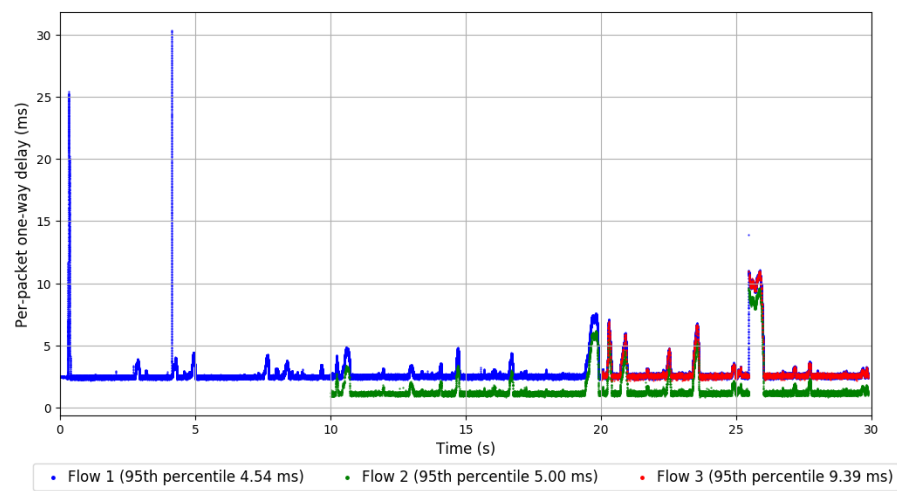
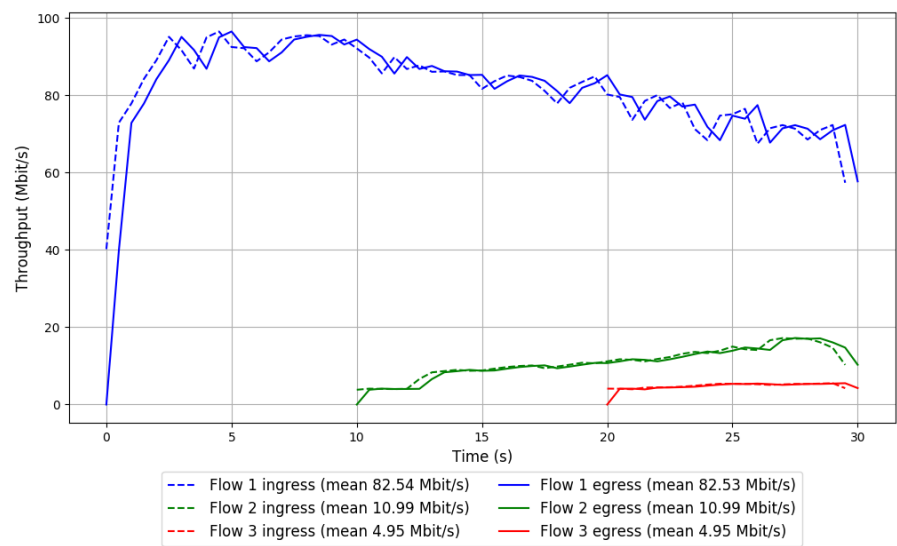
-- Flow 3:

Average throughput: 4.95 Mbit/s

95th percentile per-packet one-way delay: 9.393 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-25 02:17:25

End at: 2019-01-25 02:17:55

Local clock offset: -4.211 ms

Remote clock offset: 0.68 ms

# Below is generated by plot.py at 2019-01-25 03:14:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.96 Mbit/s

95th percentile per-packet one-way delay: 11.715 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 61.32 Mbit/s

95th percentile per-packet one-way delay: 8.016 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.37 Mbit/s

95th percentile per-packet one-way delay: 22.290 ms

Loss rate: 0.01%

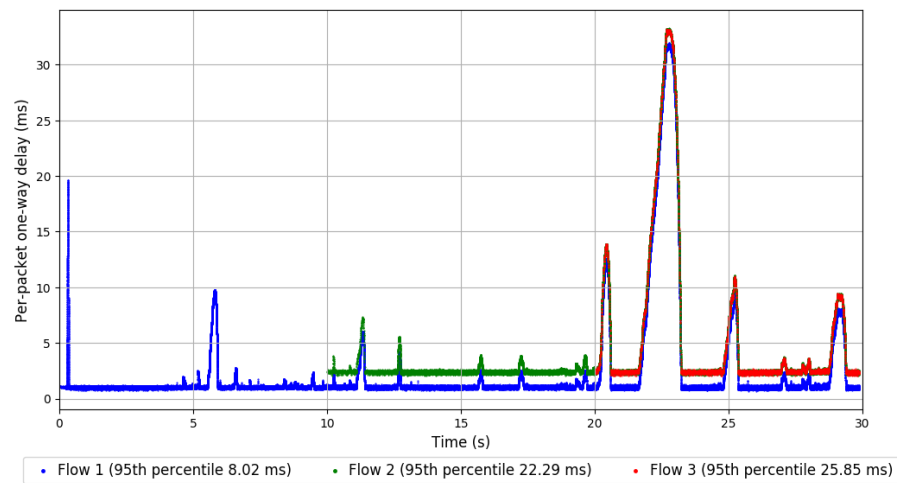
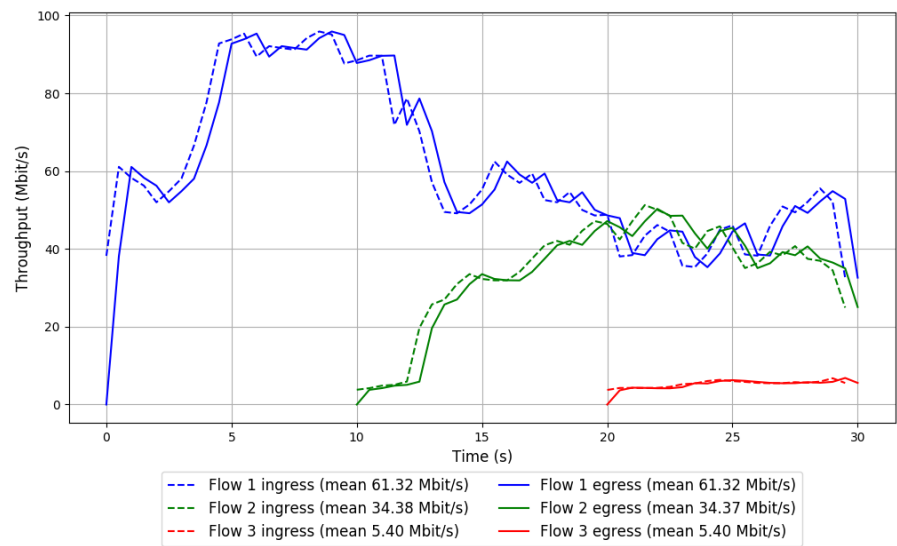
-- Flow 3:

Average throughput: 5.40 Mbit/s

95th percentile per-packet one-way delay: 25.846 ms

Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-25 02:41:19

End at: 2019-01-25 02:41:49

Local clock offset: -5.277 ms

Remote clock offset: 0.722 ms

# Below is generated by plot.py at 2019-01-25 03:14:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.12 Mbit/s

95th percentile per-packet one-way delay: 14.519 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 76.08 Mbit/s

95th percentile per-packet one-way delay: 9.498 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 10.91 Mbit/s

95th percentile per-packet one-way delay: 29.386 ms

Loss rate: 0.00%

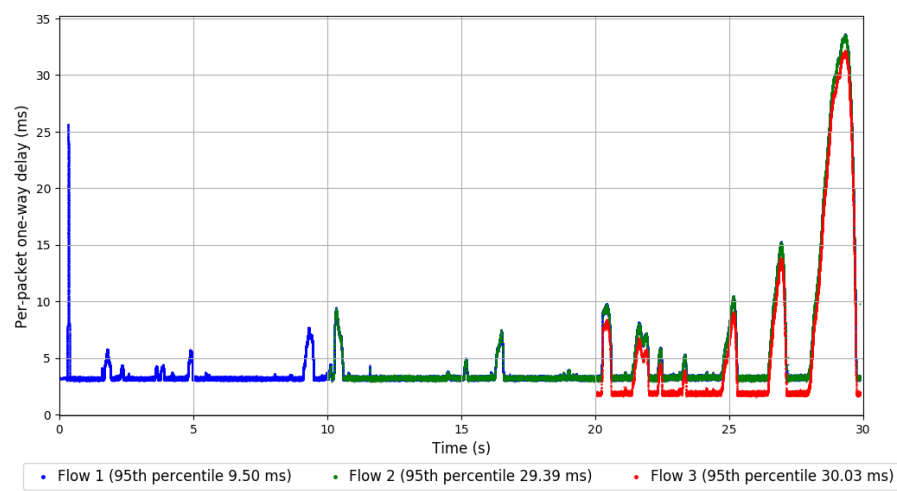
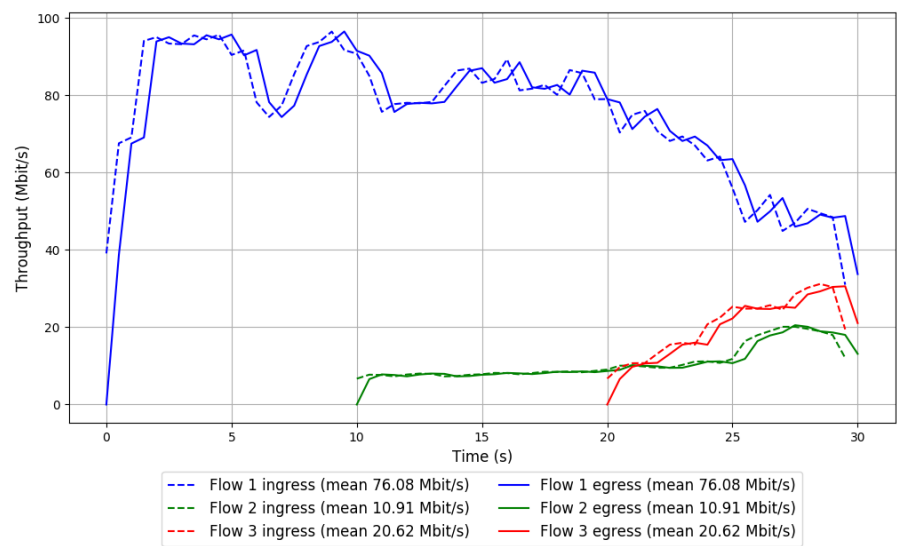
-- Flow 3:

Average throughput: 20.62 Mbit/s

95th percentile per-packet one-way delay: 30.032 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

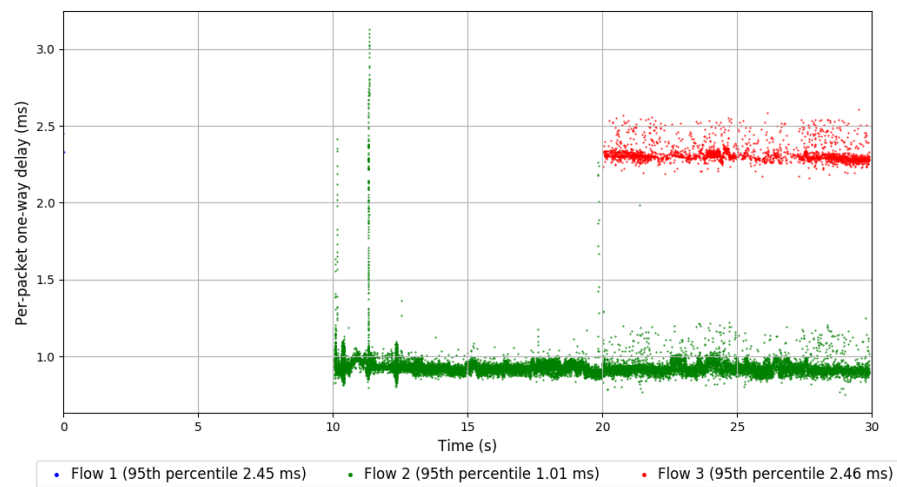
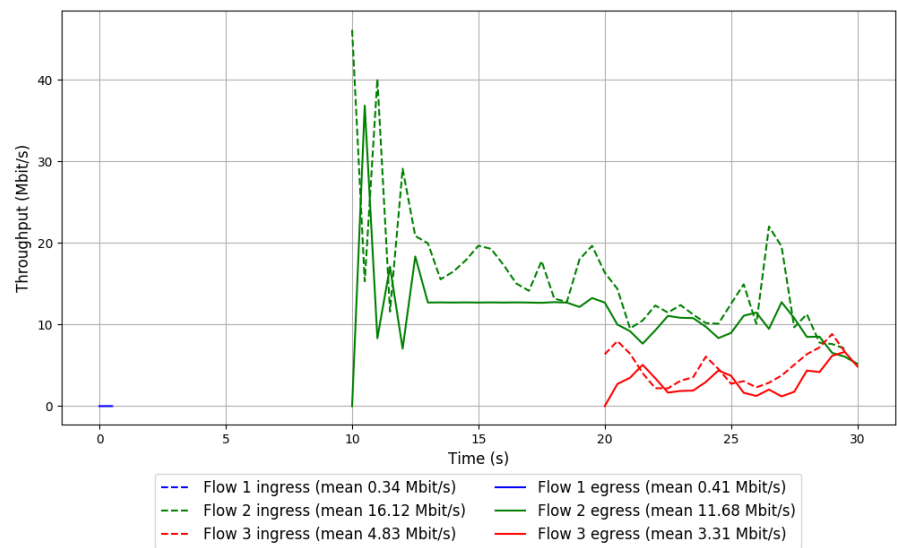


Run 1: Statistics of PCC-Expr

Start at: 2019-01-25 01:09:05  
End at: 2019-01-25 01:09:35  
Local clock offset: -3.501 ms  
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-01-25 03:14:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 8.86 Mbit/s  
95th percentile per-packet one-way delay: 2.307 ms  
Loss rate: 28.05%  
-- Flow 1:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 2.451 ms  
Loss rate: 85.71%  
-- Flow 2:  
Average throughput: 11.68 Mbit/s  
95th percentile per-packet one-way delay: 1.006 ms  
Loss rate: 27.52%  
-- Flow 3:  
Average throughput: 3.31 Mbit/s  
95th percentile per-packet one-way delay: 2.462 ms  
Loss rate: 31.56%

Run 1: Report of PCC-Expr — Data Link

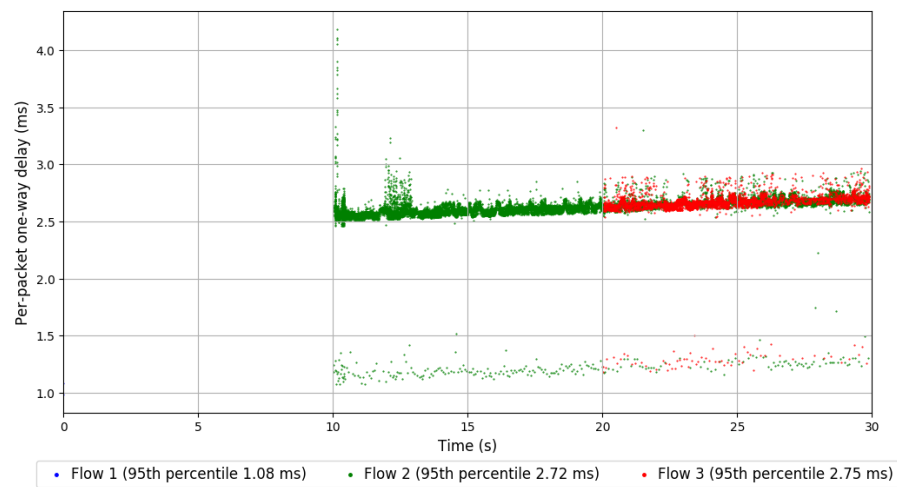
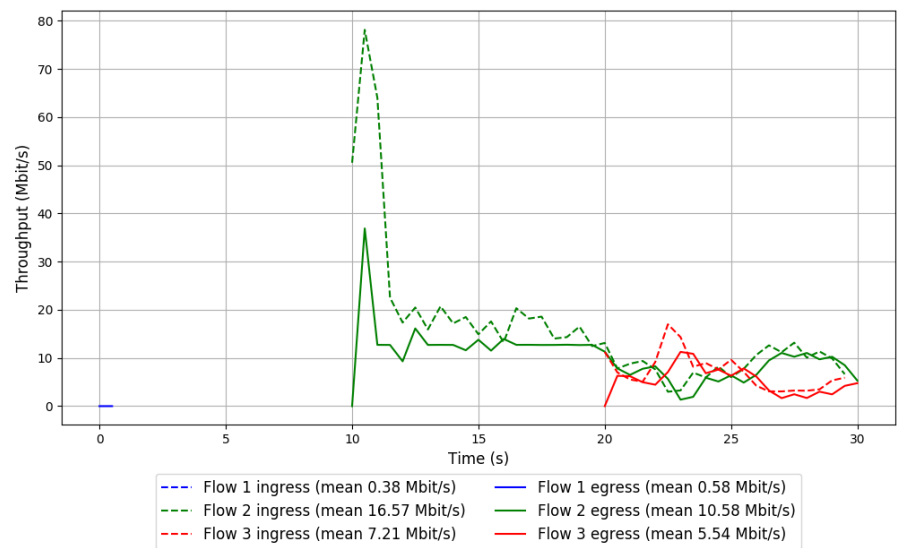


```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-25 01:33:00
End at: 2019-01-25 01:33:30
Local clock offset: -2.662 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2019-01-25 03:14:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 2.731 ms
Loss rate: 33.85%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1.080 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 2.723 ms
Loss rate: 36.15%
-- Flow 3:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 2.755 ms
Loss rate: 23.19%
```

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-01-25 01:56:56

End at: 2019-01-25 01:57:26

Local clock offset: 1.855 ms

Remote clock offset: 0.482 ms

# Below is generated by plot.py at 2019-01-25 03:14:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.86 Mbit/s

95th percentile per-packet one-way delay: 2.603 ms

Loss rate: 19.80%

-- Flow 1:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 2.629 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.52 Mbit/s

95th percentile per-packet one-way delay: 2.598 ms

Loss rate: 19.23%

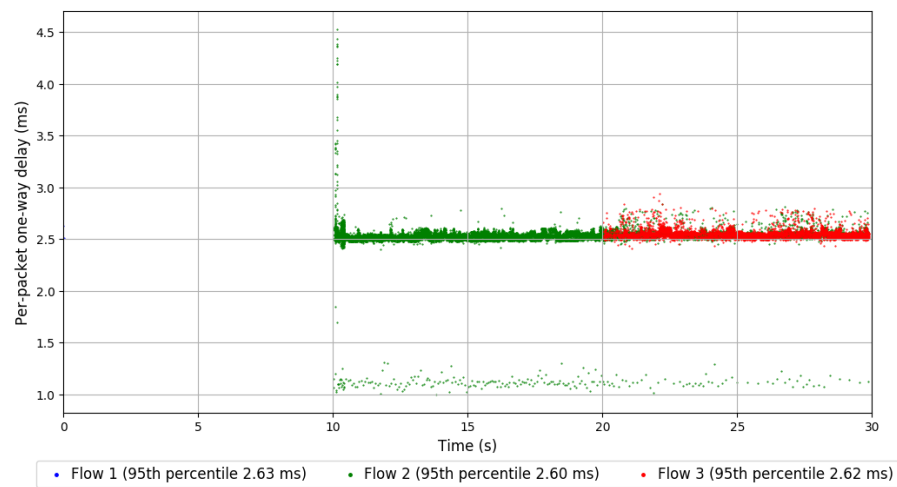
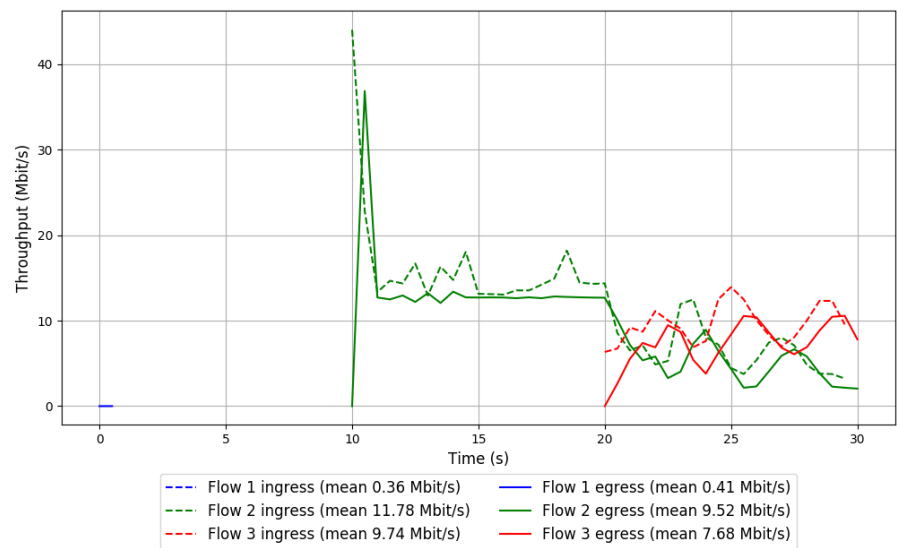
-- Flow 3:

Average throughput: 7.68 Mbit/s

95th percentile per-packet one-way delay: 2.615 ms

Loss rate: 21.19%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-01-25 02:20:50

End at: 2019-01-25 02:21:20

Local clock offset: -5.4 ms

Remote clock offset: 0.517 ms

# Below is generated by plot.py at 2019-01-25 03:14:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.87 Mbit/s

95th percentile per-packet one-way delay: 3.000 ms

Loss rate: 26.98%

-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 1.708 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.53 Mbit/s

95th percentile per-packet one-way delay: 3.004 ms

Loss rate: 30.37%

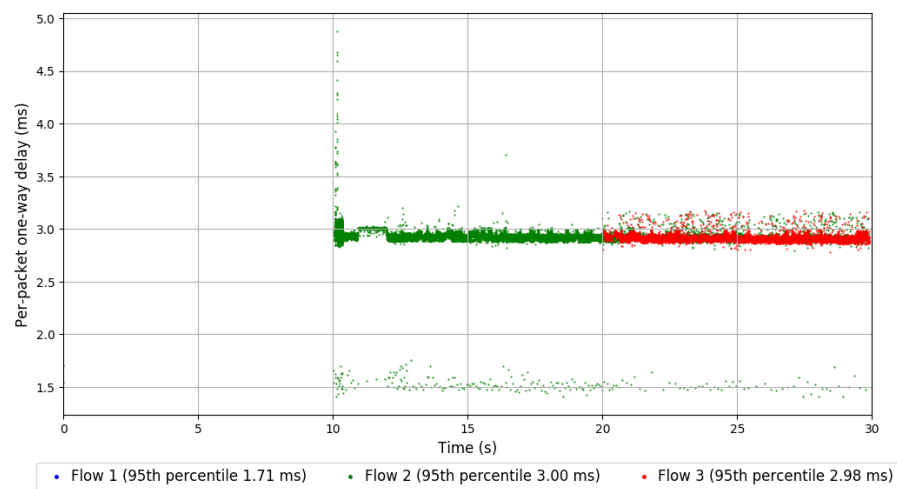
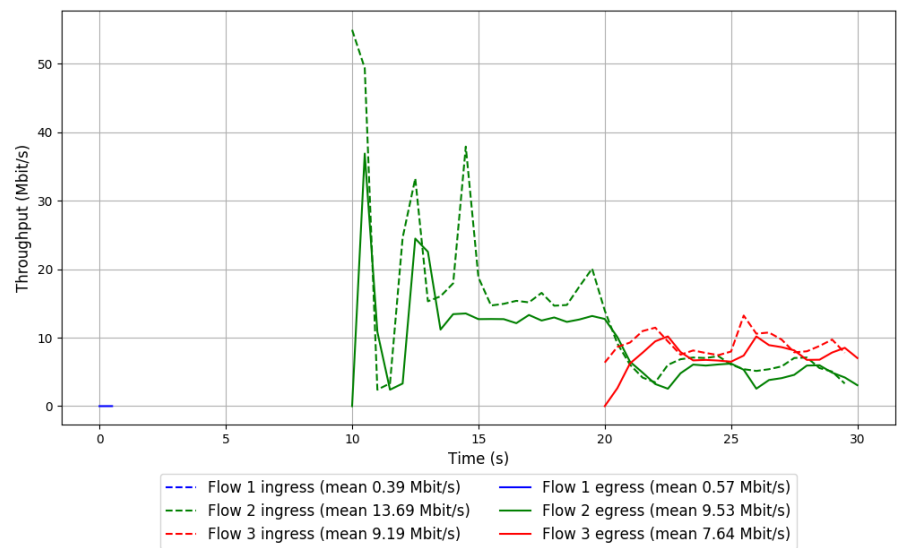
-- Flow 3:

Average throughput: 7.64 Mbit/s

95th percentile per-packet one-way delay: 2.978 ms

Loss rate: 16.81%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-01-25 02:44:44

End at: 2019-01-25 02:45:14

Local clock offset: -5.13 ms

Remote clock offset: 0.786 ms

# Below is generated by plot.py at 2019-01-25 03:14:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.86 Mbit/s

95th percentile per-packet one-way delay: 3.205 ms

Loss rate: 19.23%

-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 1.981 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.76 Mbit/s

95th percentile per-packet one-way delay: 3.199 ms

Loss rate: 20.19%

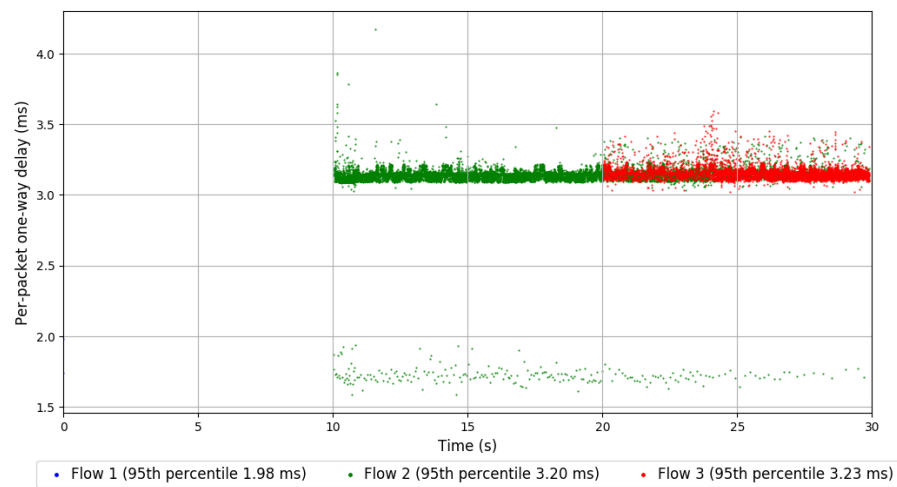
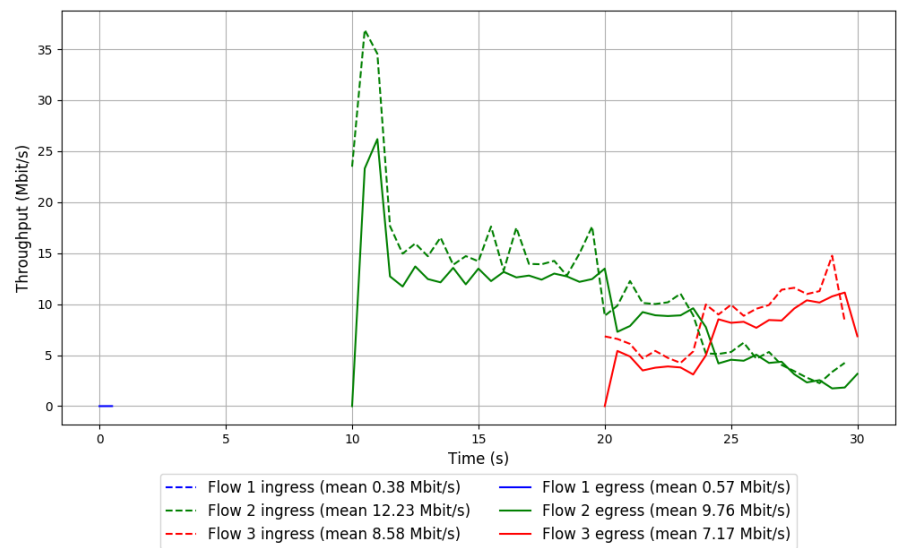
-- Flow 3:

Average throughput: 7.17 Mbit/s

95th percentile per-packet one-way delay: 3.231 ms

Loss rate: 16.44%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-25 01:10:11

End at: 2019-01-25 01:10:41

Local clock offset: -3.597 ms

Remote clock offset: -0.21 ms

# Below is generated by plot.py at 2019-01-25 03:15:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.58 Mbit/s

95th percentile per-packet one-way delay: 31.019 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 59.05 Mbit/s

95th percentile per-packet one-way delay: 30.978 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 35.63 Mbit/s

95th percentile per-packet one-way delay: 31.179 ms

Loss rate: 0.19%

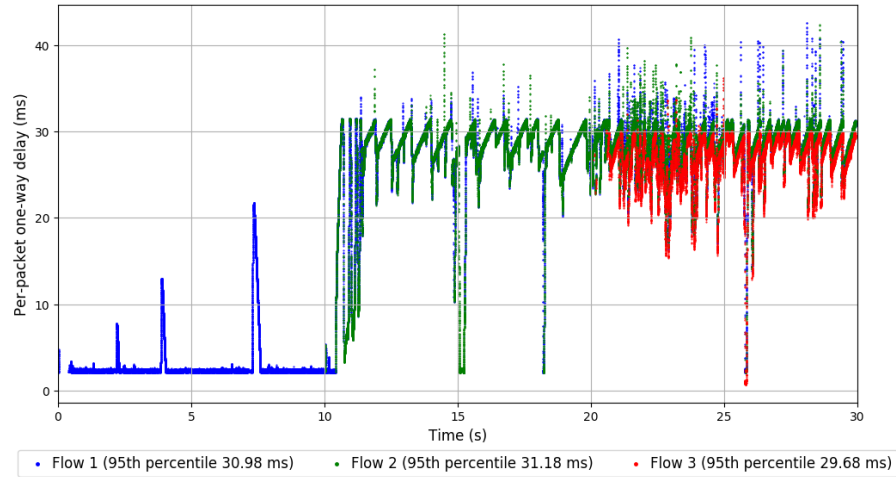
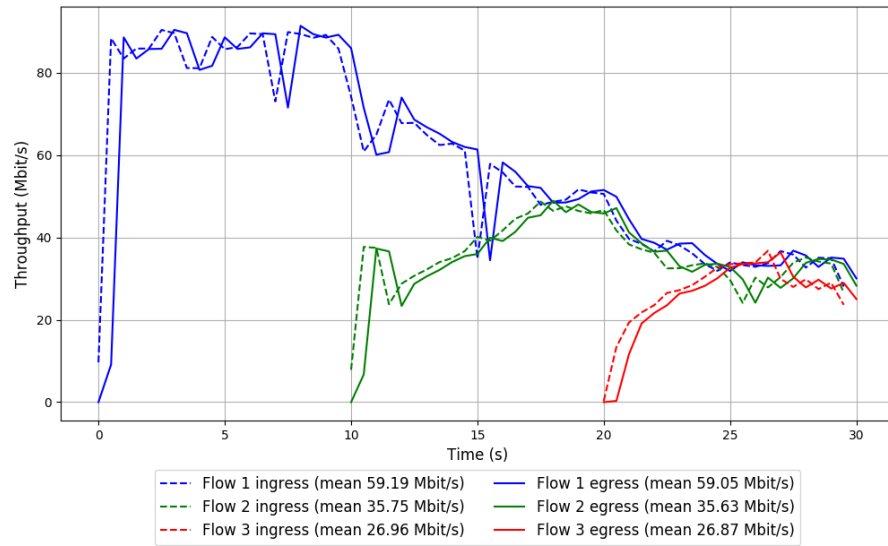
-- Flow 3:

Average throughput: 26.87 Mbit/s

95th percentile per-packet one-way delay: 29.682 ms

Loss rate: 0.28%

## Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-25 01:34:06

End at: 2019-01-25 01:34:36

Local clock offset: -2.157 ms

Remote clock offset: 0.136 ms

# Below is generated by plot.py at 2019-01-25 03:15:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.53 Mbit/s

95th percentile per-packet one-way delay: 31.112 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 58.37 Mbit/s

95th percentile per-packet one-way delay: 29.838 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 34.16 Mbit/s

95th percentile per-packet one-way delay: 31.601 ms

Loss rate: 0.18%

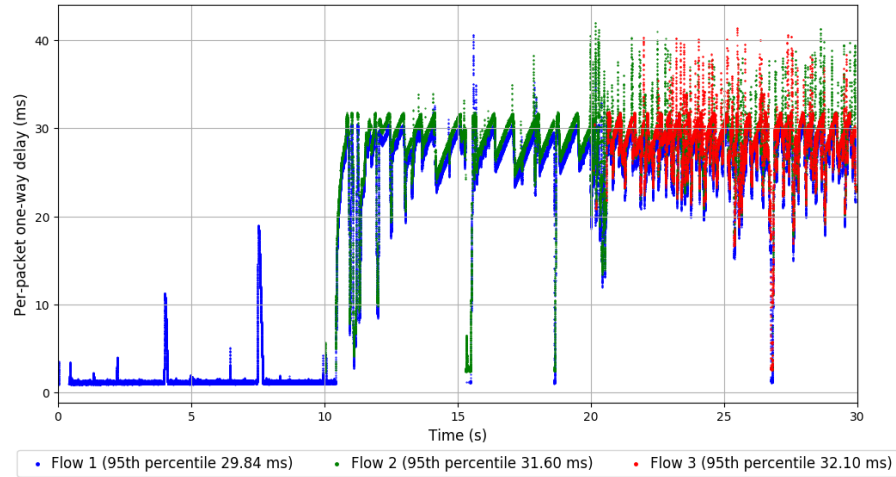
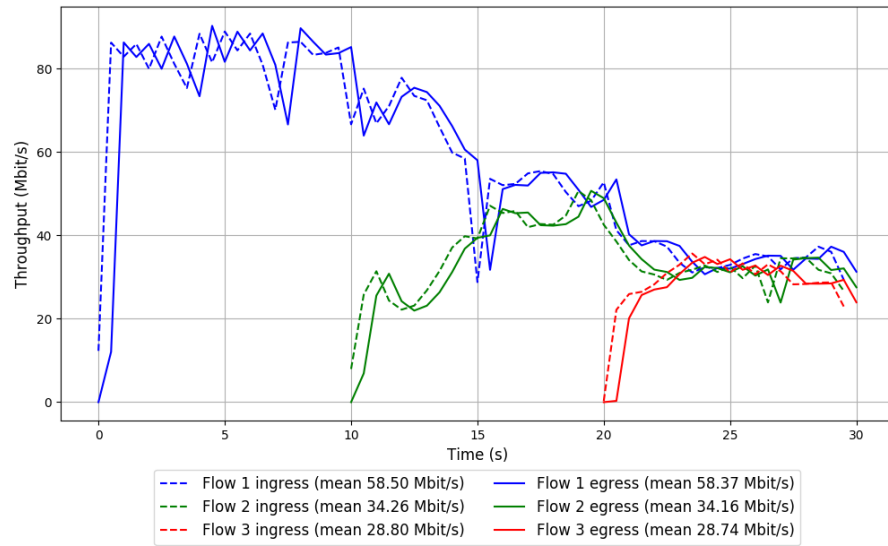
-- Flow 3:

Average throughput: 28.74 Mbit/s

95th percentile per-packet one-way delay: 32.102 ms

Loss rate: 0.26%

## Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-25 01:58:02

End at: 2019-01-25 01:58:32

Local clock offset: 2.01 ms

Remote clock offset: 0.428 ms

# Below is generated by plot.py at 2019-01-25 03:15:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.33 Mbit/s

95th percentile per-packet one-way delay: 30.100 ms

Loss rate: 0.22%

-- Flow 1:

Average throughput: 58.24 Mbit/s

95th percentile per-packet one-way delay: 29.728 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 29.69 Mbit/s

95th percentile per-packet one-way delay: 29.926 ms

Loss rate: 0.30%

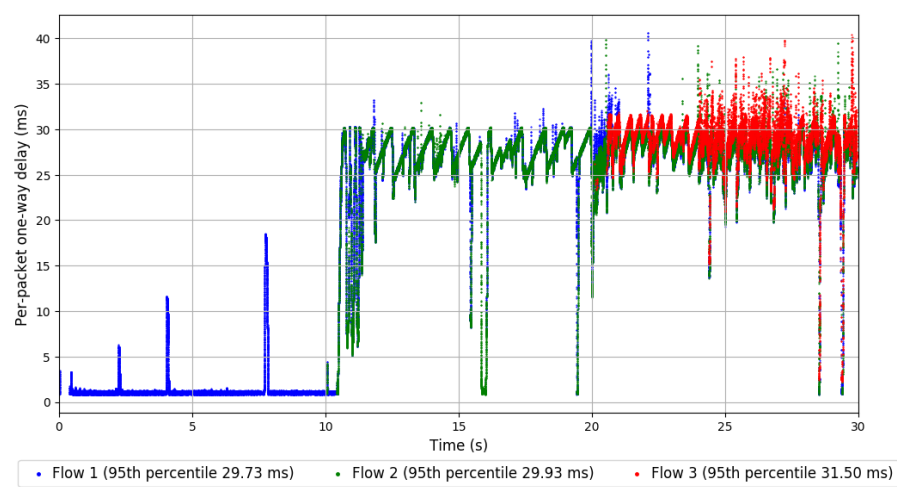
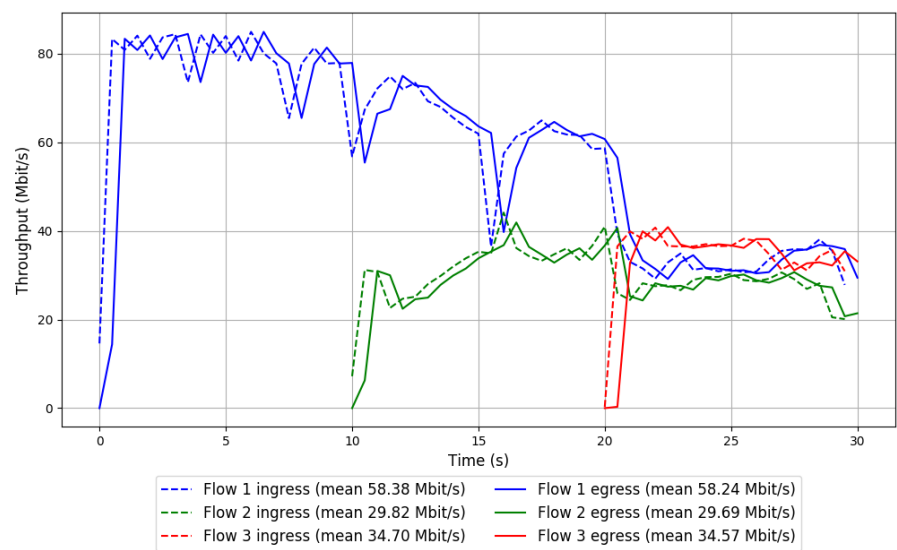
-- Flow 3:

Average throughput: 34.57 Mbit/s

95th percentile per-packet one-way delay: 31.504 ms

Loss rate: 0.37%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-25 02:21:56

End at: 2019-01-25 02:22:26

Local clock offset: -4.767 ms

Remote clock offset: 0.639 ms

# Below is generated by plot.py at 2019-01-25 03:15:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.09 Mbit/s

95th percentile per-packet one-way delay: 29.796 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 56.35 Mbit/s

95th percentile per-packet one-way delay: 29.700 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 36.66 Mbit/s

95th percentile per-packet one-way delay: 29.839 ms

Loss rate: 0.19%

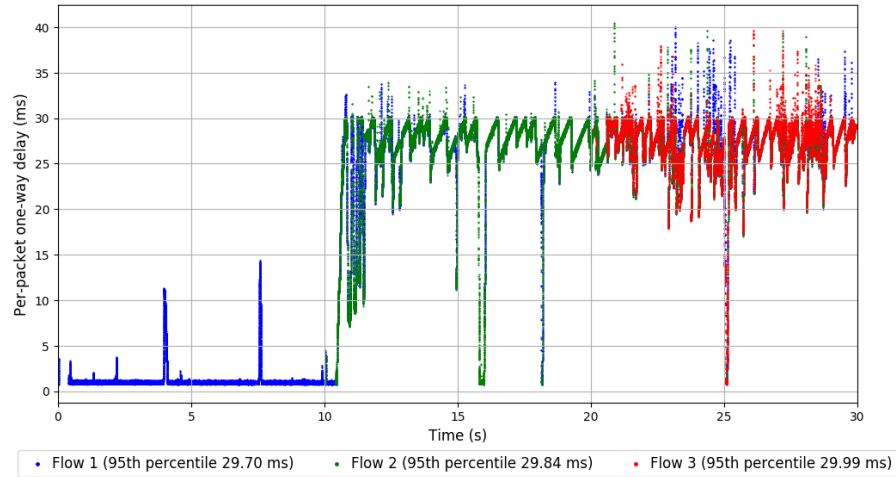
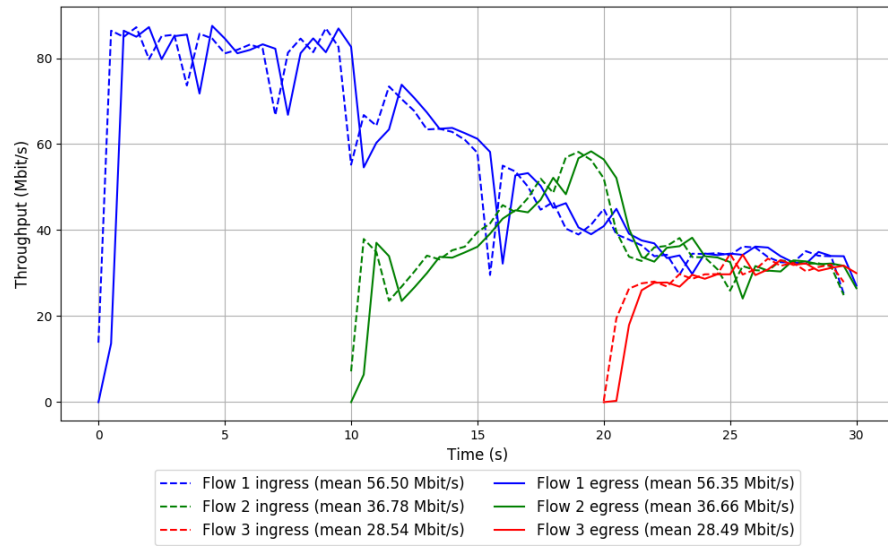
-- Flow 3:

Average throughput: 28.49 Mbit/s

95th percentile per-packet one-way delay: 29.994 ms

Loss rate: 0.19%

#### Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-25 02:45:50

End at: 2019-01-25 02:46:20

Local clock offset: -4.44 ms

Remote clock offset: 0.706 ms

# Below is generated by plot.py at 2019-01-25 03:15:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.25 Mbit/s

95th percentile per-packet one-way delay: 29.933 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 54.37 Mbit/s

95th percentile per-packet one-way delay: 29.608 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 39.85 Mbit/s

95th percentile per-packet one-way delay: 29.858 ms

Loss rate: 0.11%

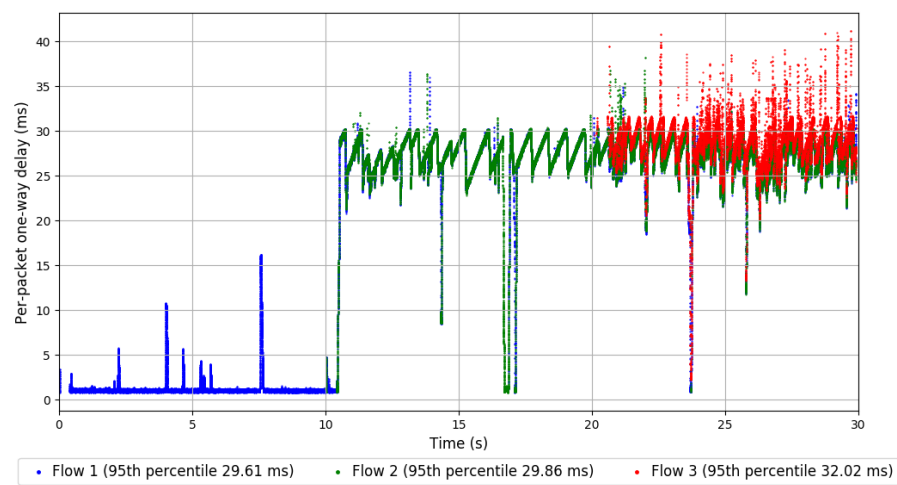
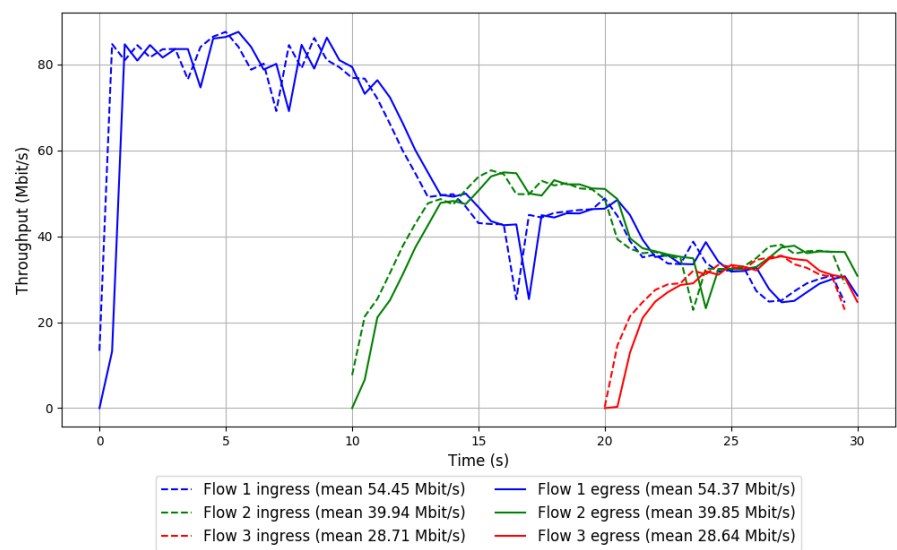
-- Flow 3:

Average throughput: 28.64 Mbit/s

95th percentile per-packet one-way delay: 32.024 ms

Loss rate: 0.26%

Run 5: Report of QUIC Cubic — Data Link

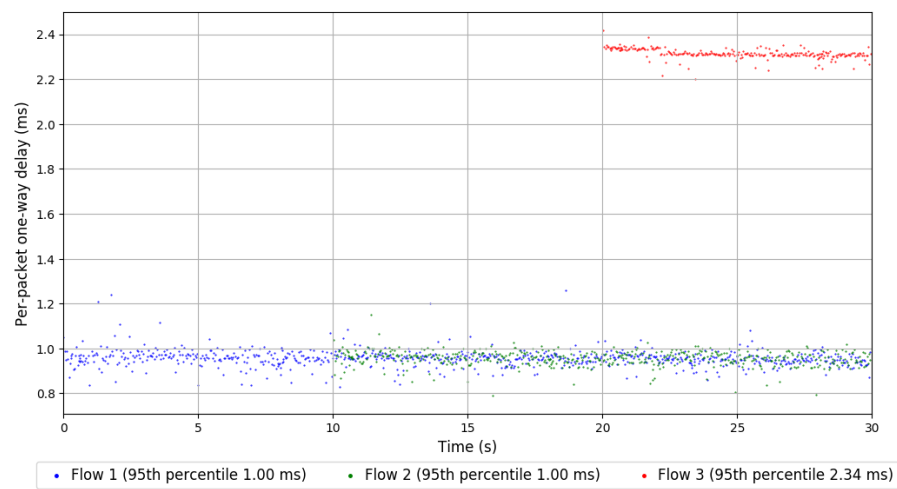
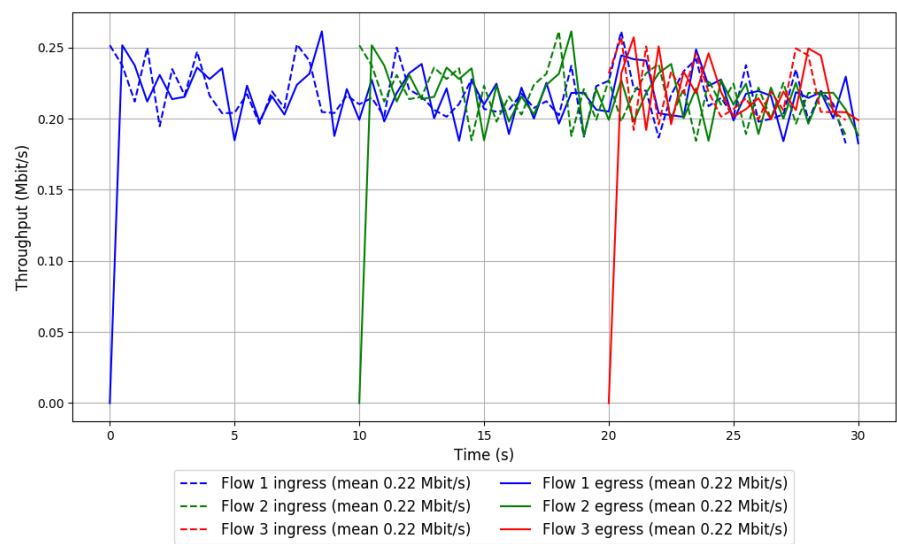


```
Run 1: Statistics of SReAM

Start at: 2019-01-25 01:21:35
End at: 2019-01-25 01:22:05
Local clock offset: -4.191 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-01-25 03:15:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.005 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.344 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

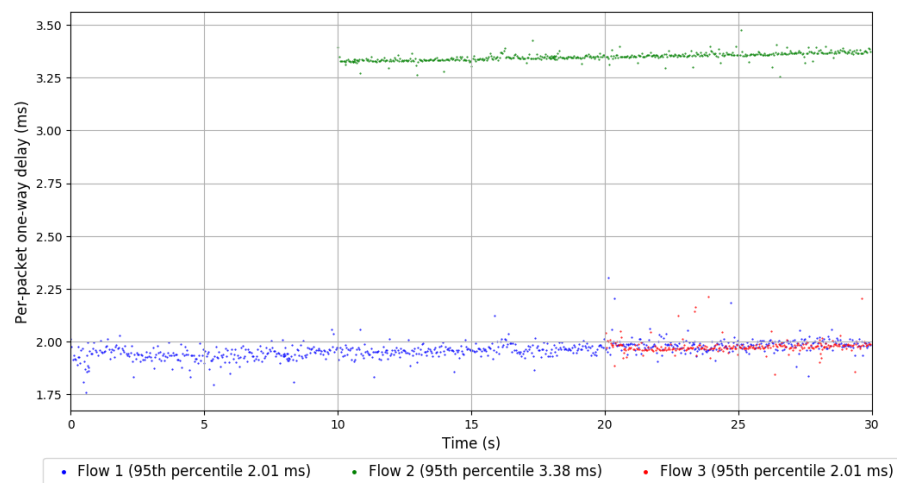
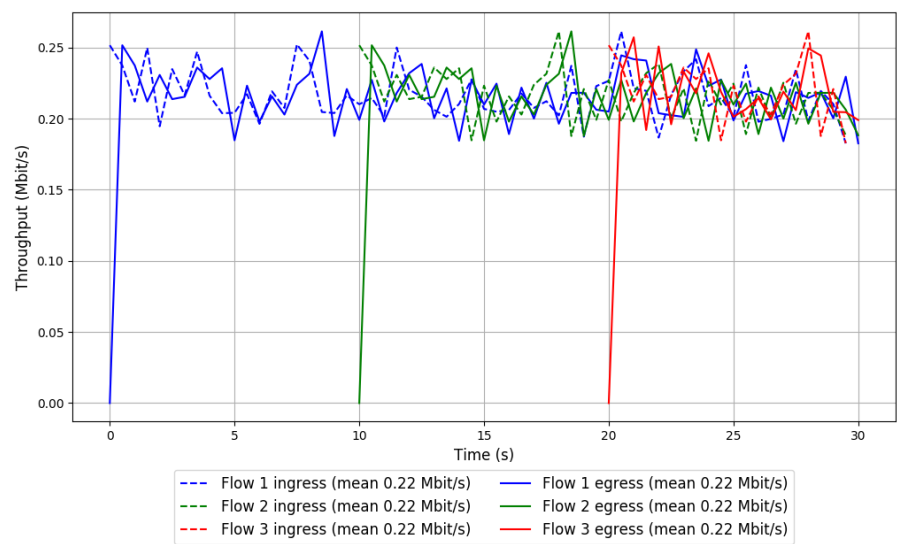


Run 2: Statistics of SReAM

Start at: 2019-01-25 01:45:30  
End at: 2019-01-25 01:46:00  
Local clock offset: -0.098 ms  
Remote clock offset: 0.387 ms

# Below is generated by plot.py at 2019-01-25 03:15:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 3.366 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.012 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 3.378 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.013 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

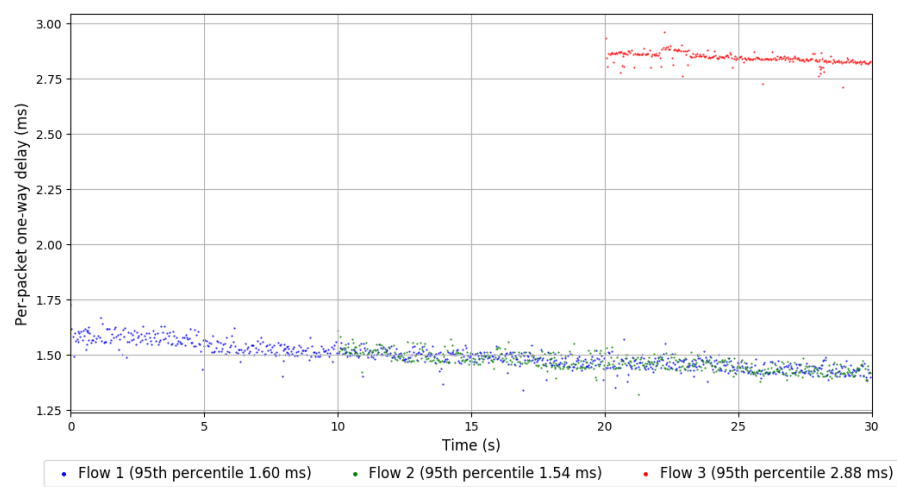
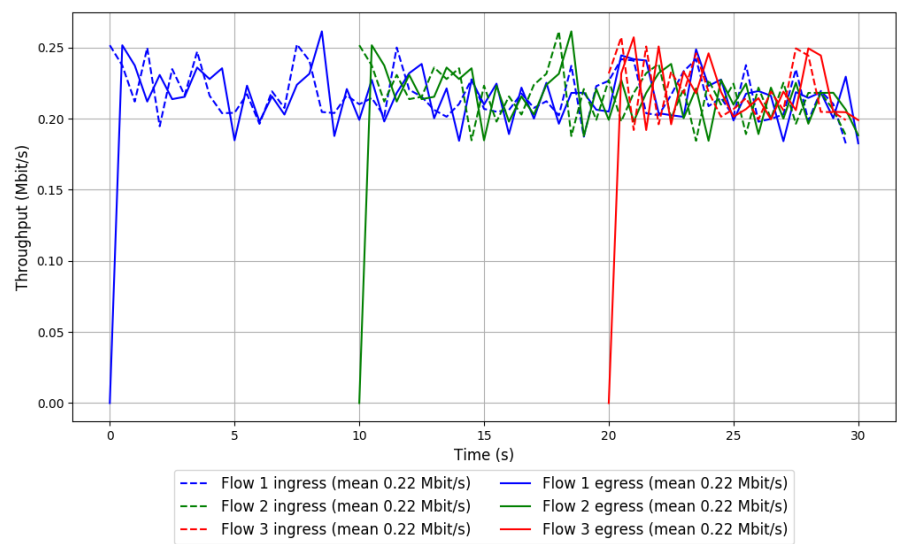


Run 3: Statistics of SReAM

Start at: 2019-01-25 02:09:25  
End at: 2019-01-25 02:09:55  
Local clock offset: -3.395 ms  
Remote clock offset: 0.467 ms

# Below is generated by plot.py at 2019-01-25 03:15:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 2.858 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.598 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.536 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.881 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

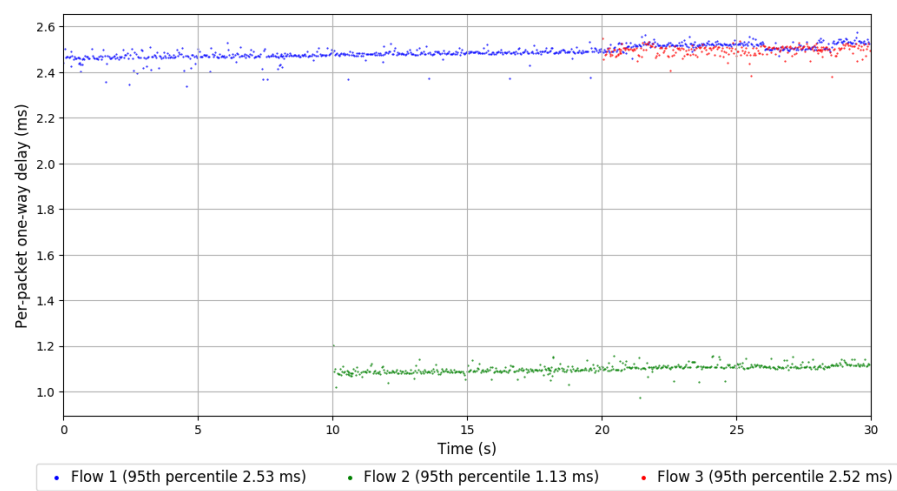
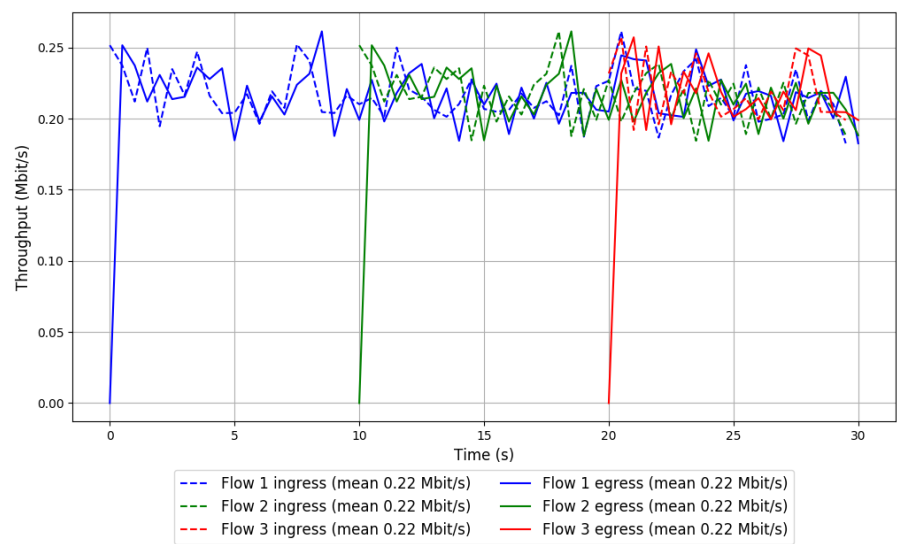


Run 4: Statistics of SReAM

Start at: 2019-01-25 02:33:19  
End at: 2019-01-25 02:33:49  
Local clock offset: -4.923 ms  
Remote clock offset: 0.753 ms

# Below is generated by plot.py at 2019-01-25 03:15:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 2.527 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.534 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.132 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.524 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-25 02:57:15

End at: 2019-01-25 02:57:45

Local clock offset: -4.396 ms

Remote clock offset: 0.829 ms

# Below is generated by plot.py at 2019-01-25 03:15:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 2.459 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.442 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.465 ms

Loss rate: 0.00%

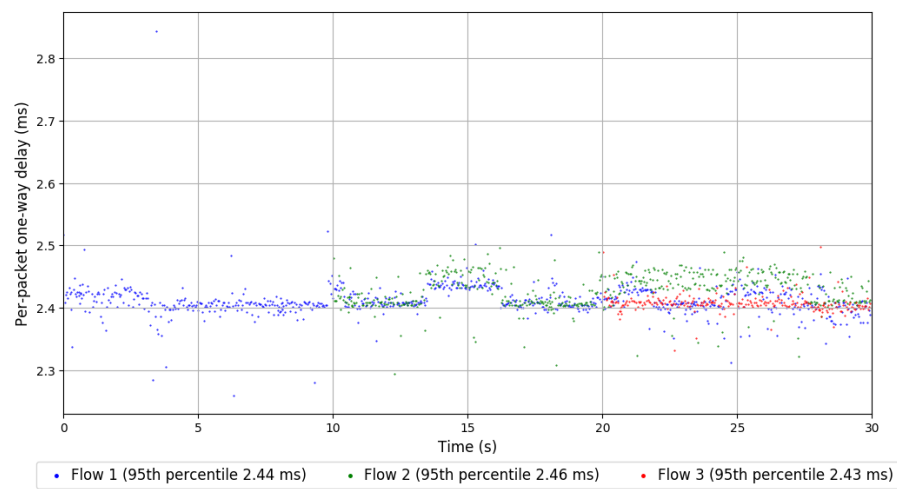
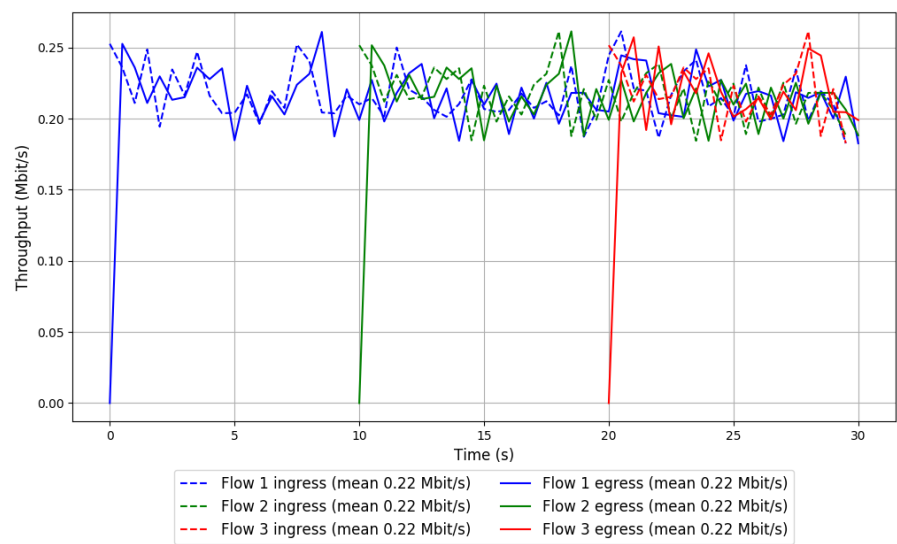
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.428 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-01-25 01:14:47

End at: 2019-01-25 01:15:17

Local clock offset: -4.661 ms

Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2019-01-25 03:15:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.06 Mbit/s

95th percentile per-packet one-way delay: 23.013 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 41.46 Mbit/s

95th percentile per-packet one-way delay: 22.193 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.66 Mbit/s

95th percentile per-packet one-way delay: 22.190 ms

Loss rate: 0.00%

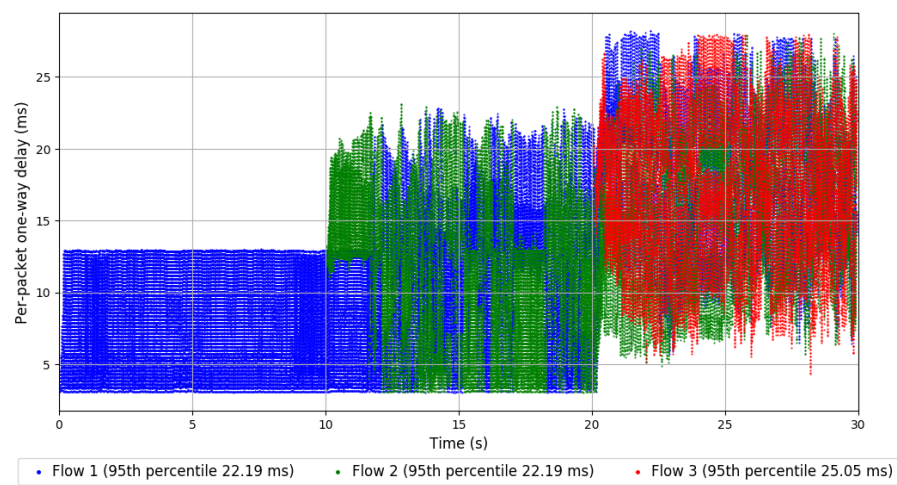
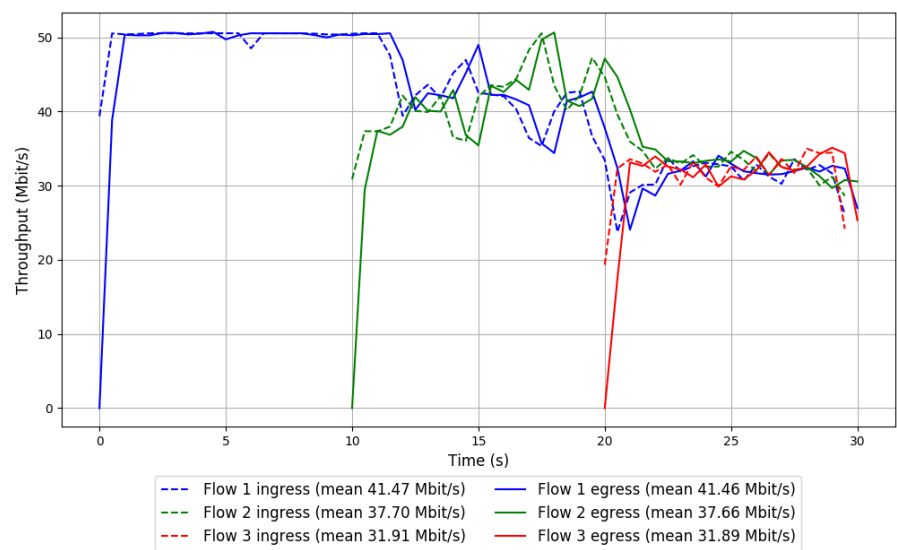
-- Flow 3:

Average throughput: 31.89 Mbit/s

95th percentile per-packet one-way delay: 25.052 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

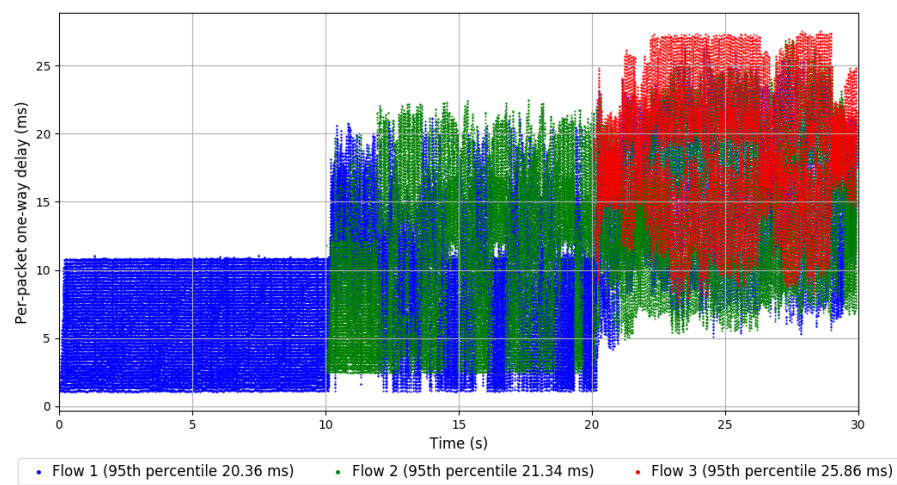
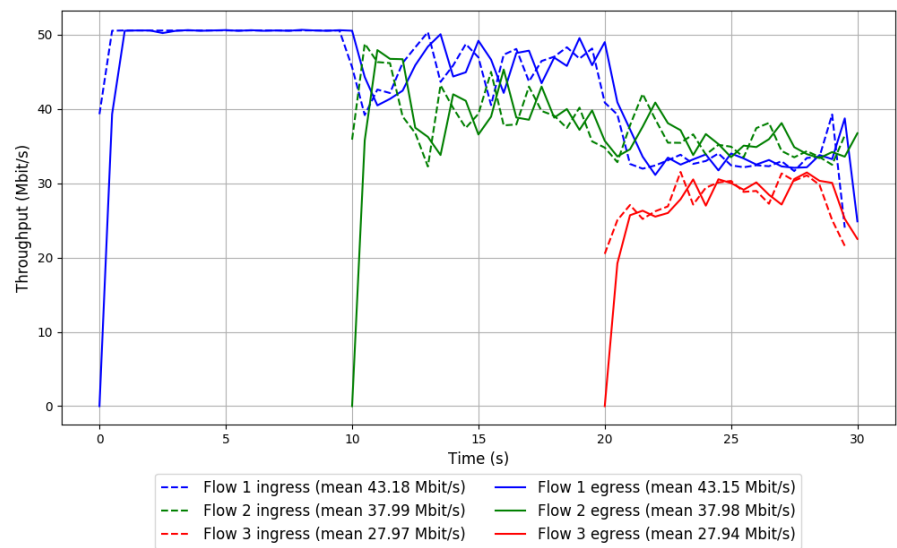


Run 2: Statistics of Sprout

Start at: 2019-01-25 01:38:42  
End at: 2019-01-25 01:39:12  
Local clock offset: -0.614 ms  
Remote clock offset: 0.271 ms

# Below is generated by plot.py at 2019-01-25 03:15:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.64 Mbit/s  
95th percentile per-packet one-way delay: 22.200 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 43.15 Mbit/s  
95th percentile per-packet one-way delay: 20.364 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 37.98 Mbit/s  
95th percentile per-packet one-way delay: 21.345 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 27.94 Mbit/s  
95th percentile per-packet one-way delay: 25.864 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

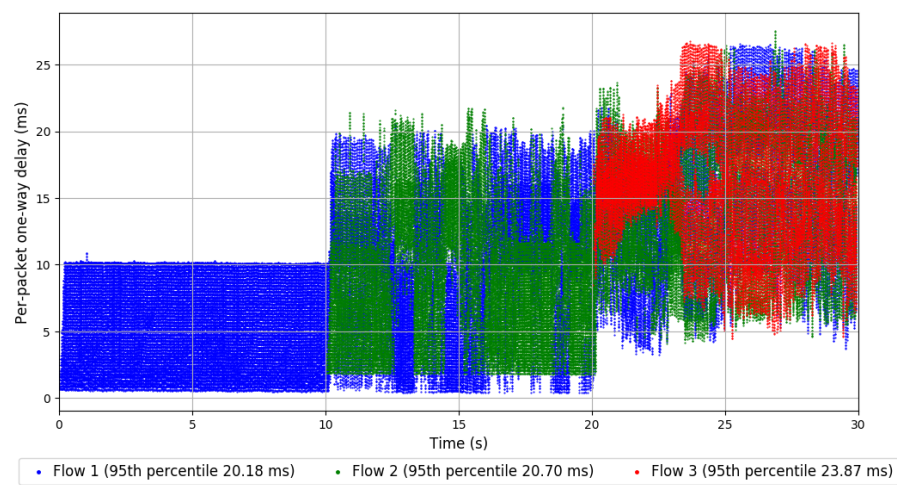
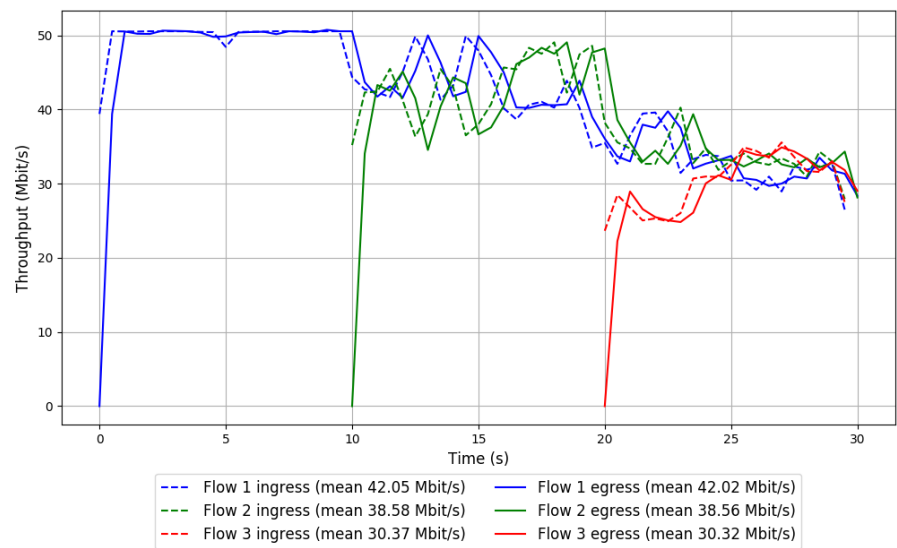


Run 3: Statistics of Sprout

Start at: 2019-01-25 02:02:37  
End at: 2019-01-25 02:03:07  
Local clock offset: 0.239 ms  
Remote clock offset: 0.426 ms

# Below is generated by plot.py at 2019-01-25 03:15:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.68 Mbit/s  
95th percentile per-packet one-way delay: 21.370 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 42.02 Mbit/s  
95th percentile per-packet one-way delay: 20.177 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 38.56 Mbit/s  
95th percentile per-packet one-way delay: 20.701 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 30.32 Mbit/s  
95th percentile per-packet one-way delay: 23.872 ms  
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

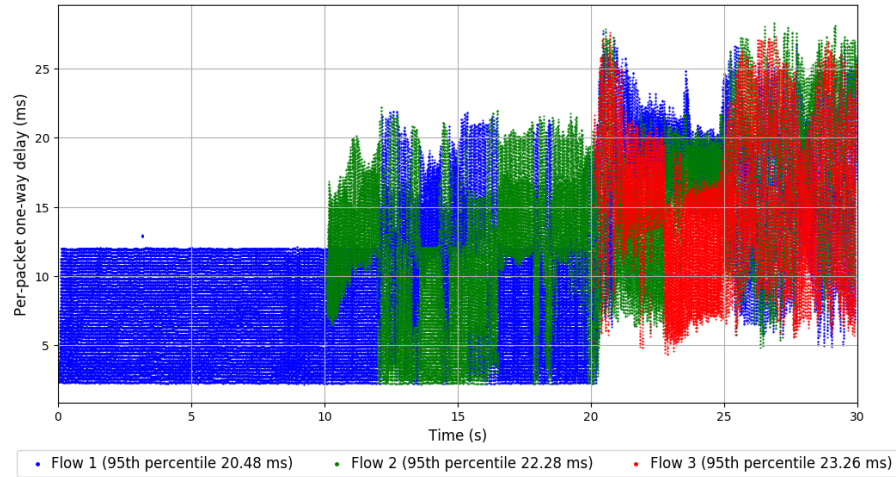
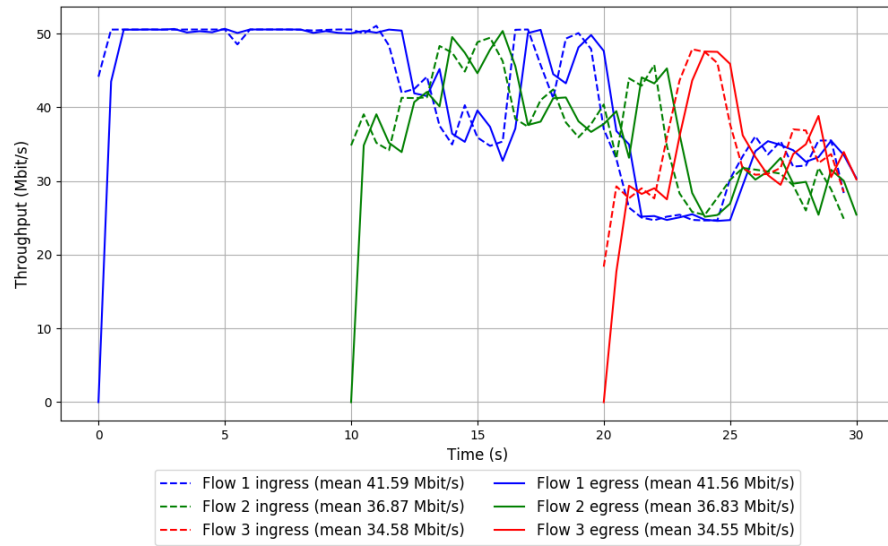


#### Run 4: Statistics of Sprout

Start at: 2019-01-25 02:26:31  
End at: 2019-01-25 02:27:01  
Local clock offset: -5.17 ms  
Remote clock offset: 0.642 ms

```
# Below is generated by plot.py at 2019-01-25 03:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.48 Mbit/s
95th percentile per-packet one-way delay: 21.473 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.56 Mbit/s
95th percentile per-packet one-way delay: 20.478 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 22.277 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.55 Mbit/s
95th percentile per-packet one-way delay: 23.261 ms
Loss rate: 0.00%
```

#### Run 4: Report of Sprout — Data Link

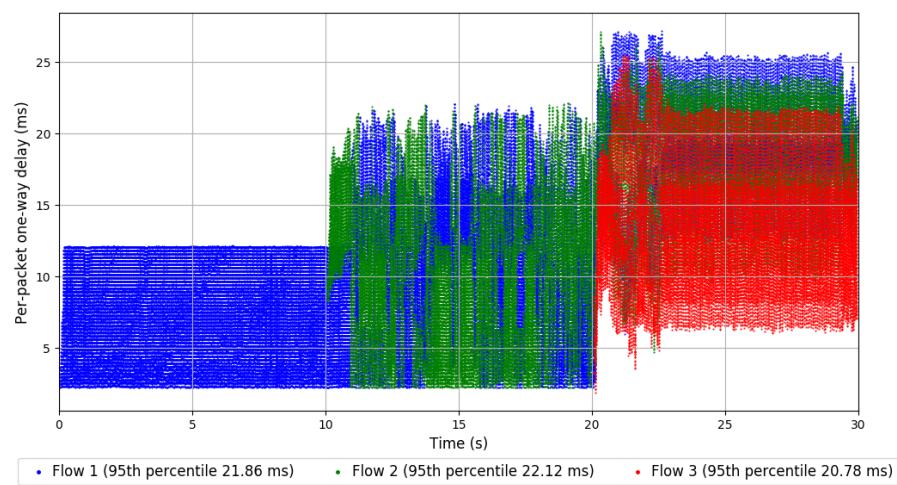
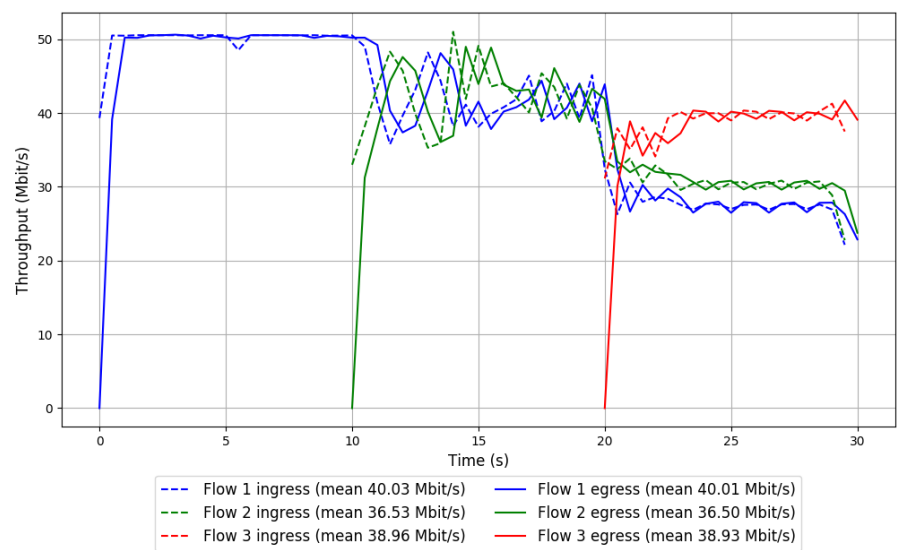


Run 5: Statistics of Sprout

Start at: 2019-01-25 02:50:27  
End at: 2019-01-25 02:50:57  
Local clock offset: -4.364 ms  
Remote clock offset: 0.75 ms

```
# Below is generated by plot.py at 2019-01-25 03:16:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.17 Mbit/s
95th percentile per-packet one-way delay: 21.759 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 21.856 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.50 Mbit/s
95th percentile per-packet one-way delay: 22.120 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 20.778 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

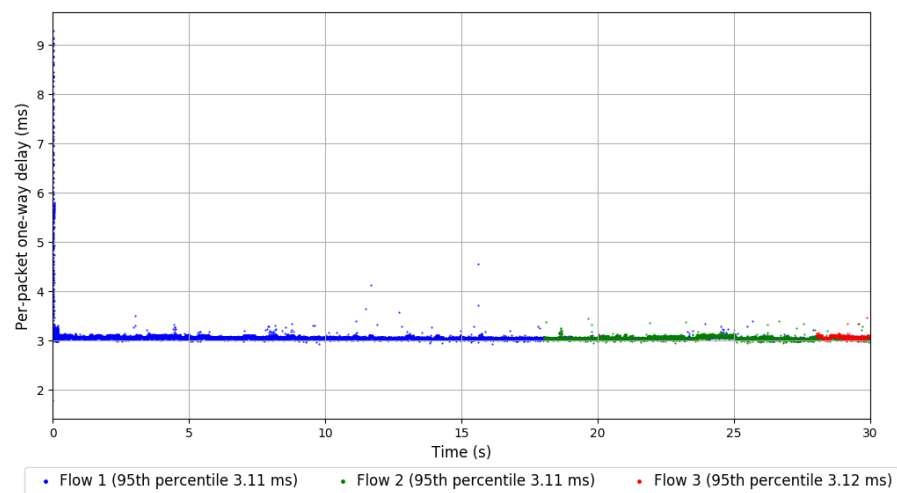
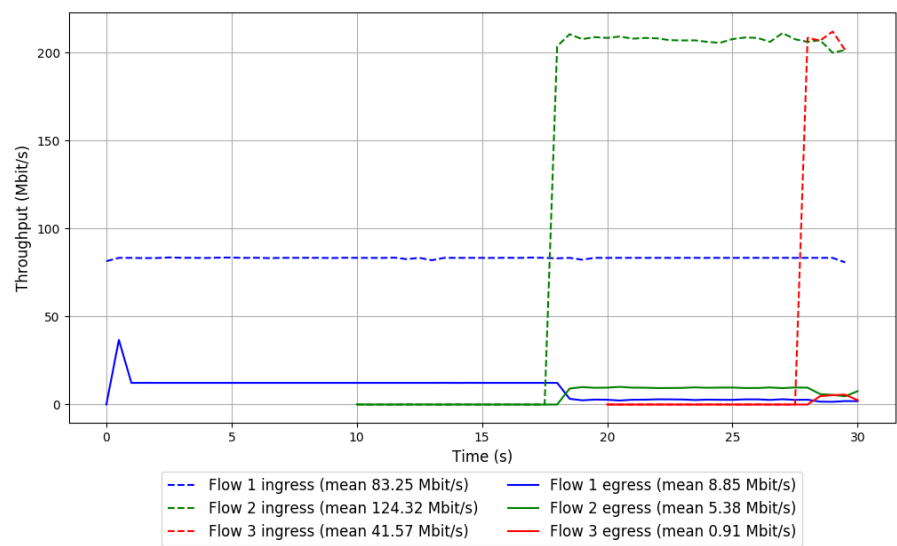


```
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-25 01:12:31
End at: 2019-01-25 01:13:01
Local clock offset: -4.526 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2019-01-25 03:16:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 3.110 ms
Loss rate: 92.92%
-- Flow 1:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 3.111 ms
Loss rate: 89.38%
-- Flow 2:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 3.107 ms
Loss rate: 95.68%
-- Flow 3:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 3.115 ms
Loss rate: 97.81%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-25 01:36:26

End at: 2019-01-25 01:36:56

Local clock offset: -2.14 ms

Remote clock offset: 0.197 ms

# Below is generated by plot.py at 2019-01-25 03:16:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.493 ms

Loss rate: 89.32%

-- Flow 1:

Average throughput: 5.64 Mbit/s

95th percentile per-packet one-way delay: 3.421 ms

Loss rate: 83.91%

-- Flow 2:

Average throughput: 10.23 Mbit/s

95th percentile per-packet one-way delay: 3.480 ms

Loss rate: 87.80%

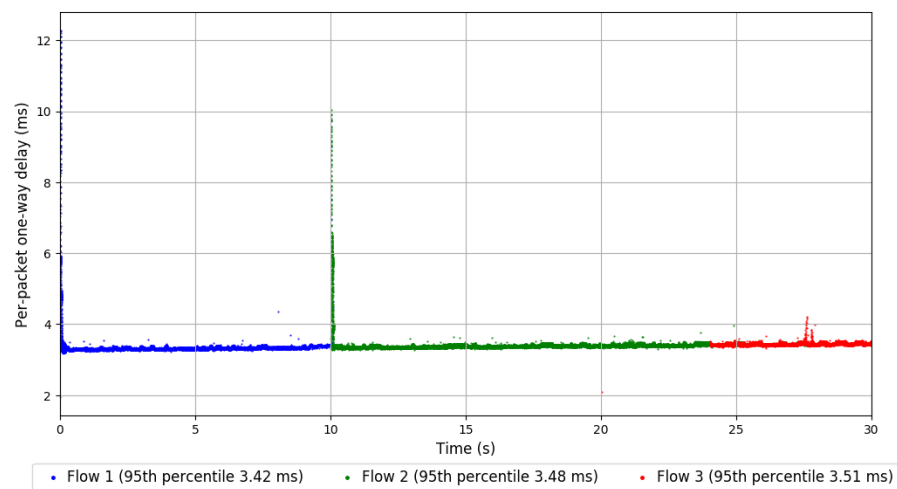
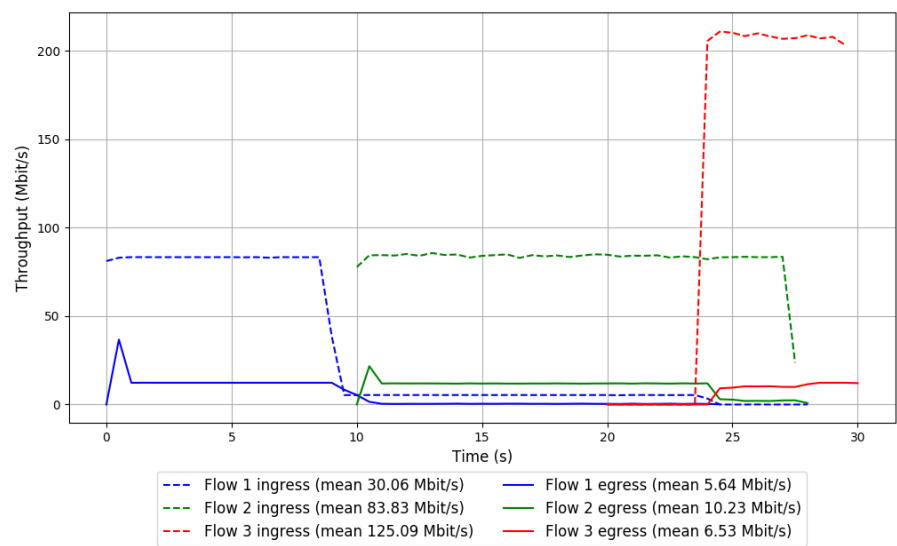
-- Flow 3:

Average throughput: 6.53 Mbit/s

95th percentile per-packet one-way delay: 3.513 ms

Loss rate: 94.78%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-25 02:00:22

End at: 2019-01-25 02:00:52

Local clock offset: 0.962 ms

Remote clock offset: 0.444 ms

# Below is generated by plot.py at 2019-01-25 03:16:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 11.89 Mbit/s

95th percentile per-packet one-way delay: 2.786 ms

Loss rate: 82.90%

-- Flow 1:

Average throughput: 3.92 Mbit/s

95th percentile per-packet one-way delay: 2.847 ms

Loss rate: 78.53%

-- Flow 2:

Average throughput: 11.96 Mbit/s

95th percentile per-packet one-way delay: 2.680 ms

Loss rate: 84.46%

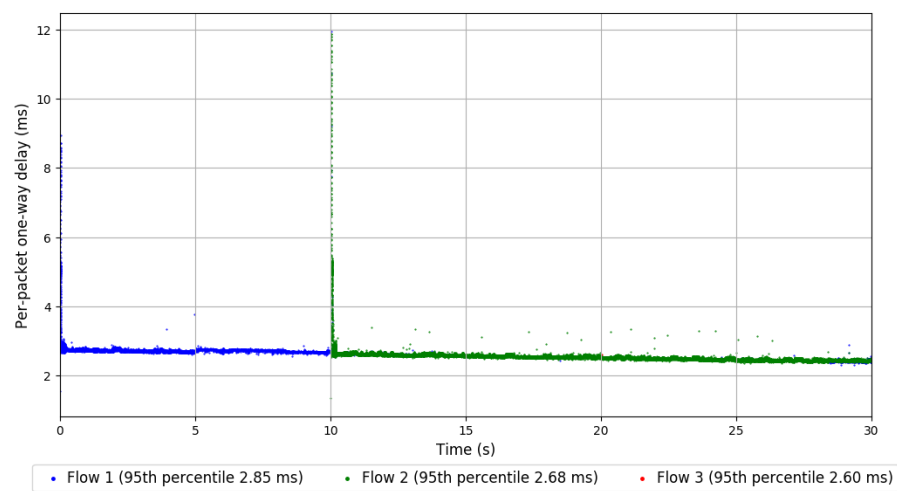
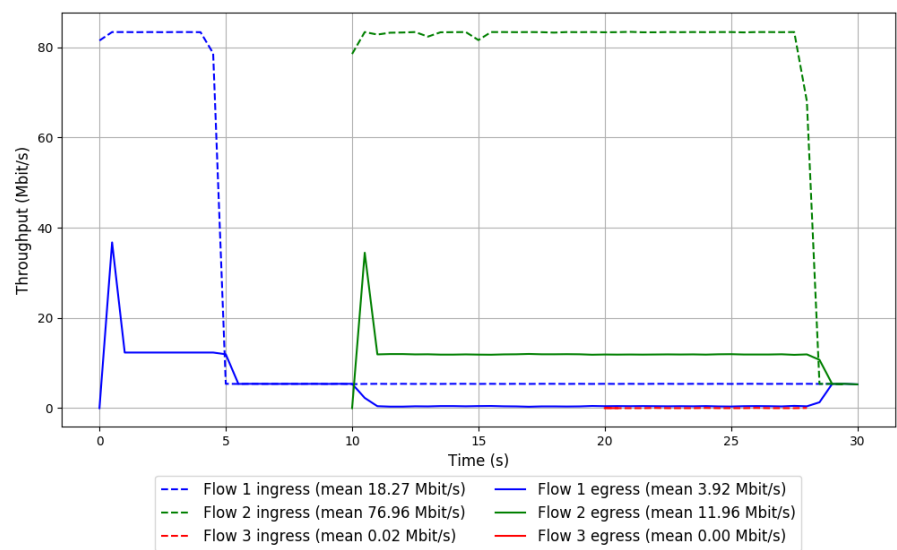
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.601 ms

Loss rate: 99.16%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-25 02:24:16

End at: 2019-01-25 02:24:46

Local clock offset: -5.799 ms

Remote clock offset: 0.62 ms

# Below is generated by plot.py at 2019-01-25 03:16:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.64 Mbit/s

95th percentile per-packet one-way delay: 3.146 ms

Loss rate: 84.26%

-- Flow 1:

Average throughput: 4.90 Mbit/s

95th percentile per-packet one-way delay: 3.183 ms

Loss rate: 83.26%

-- Flow 2:

Average throughput: 11.62 Mbit/s

95th percentile per-packet one-way delay: 1.750 ms

Loss rate: 84.84%

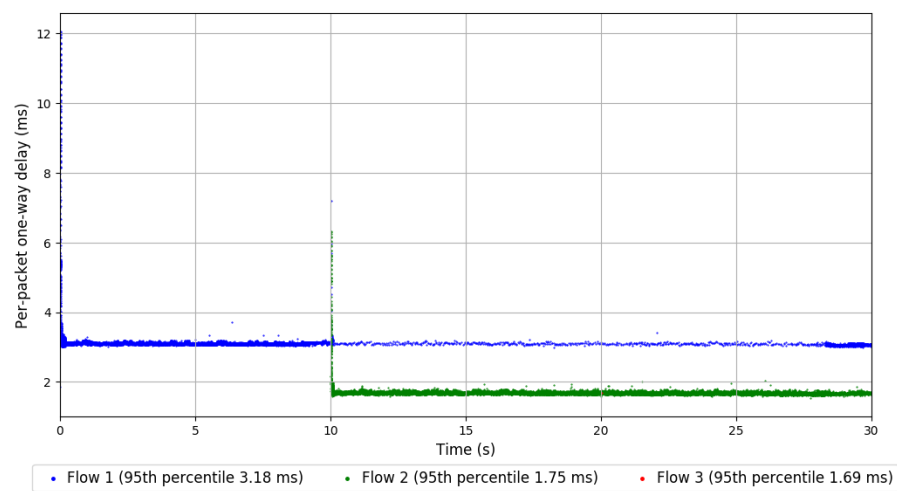
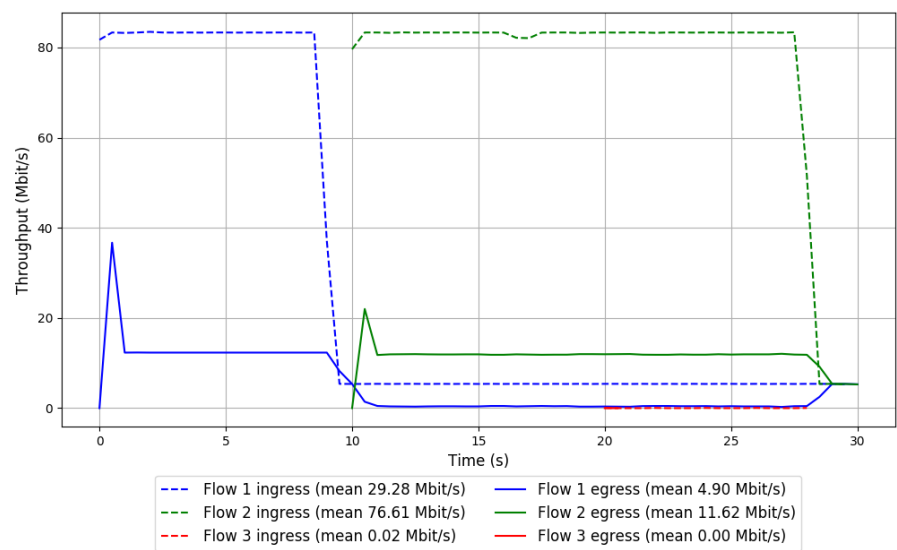
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 1.690 ms

Loss rate: 99.16%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-25 02:48:10

End at: 2019-01-25 02:48:40

Local clock offset: -5.103 ms

Remote clock offset: 0.736 ms

# Below is generated by plot.py at 2019-01-25 03:16:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.124 ms

Loss rate: 94.28%

-- Flow 1:

Average throughput: 6.25 Mbit/s

95th percentile per-packet one-way delay: 3.128 ms

Loss rate: 92.50%

-- Flow 2:

Average throughput: 9.73 Mbit/s

95th percentile per-packet one-way delay: 3.117 ms

Loss rate: 95.35%

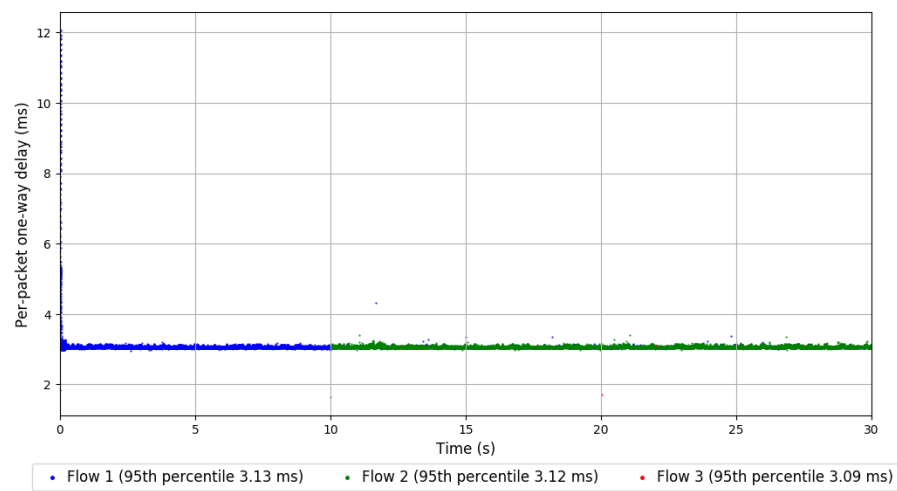
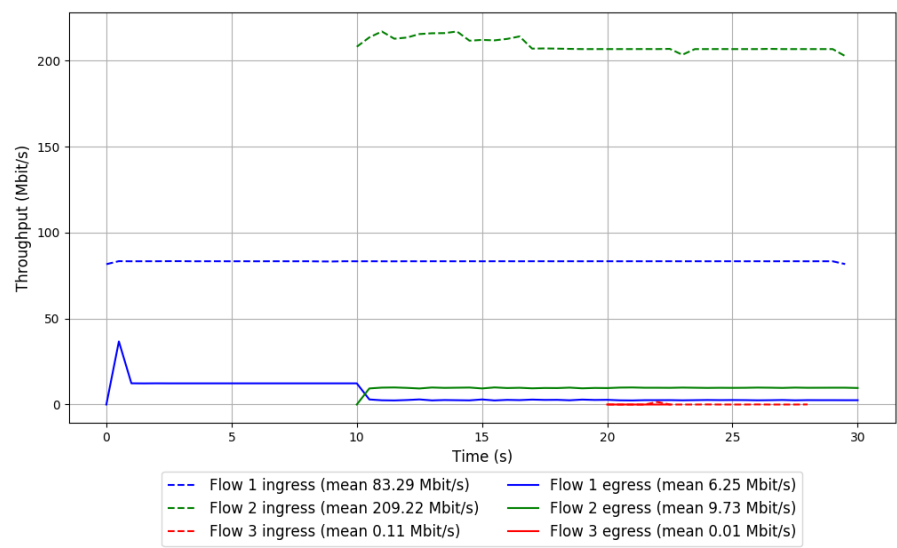
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 3.087 ms

Loss rate: 98.45%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-25 01:27:17

End at: 2019-01-25 01:27:47

Local clock offset: -4.399 ms

Remote clock offset: 0.084 ms

# Below is generated by plot.py at 2019-01-25 03:16:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.82 Mbit/s

95th percentile per-packet one-way delay: 5.150 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 35.57 Mbit/s

95th percentile per-packet one-way delay: 10.588 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 50.09 Mbit/s

95th percentile per-packet one-way delay: 4.376 ms

Loss rate: 0.00%

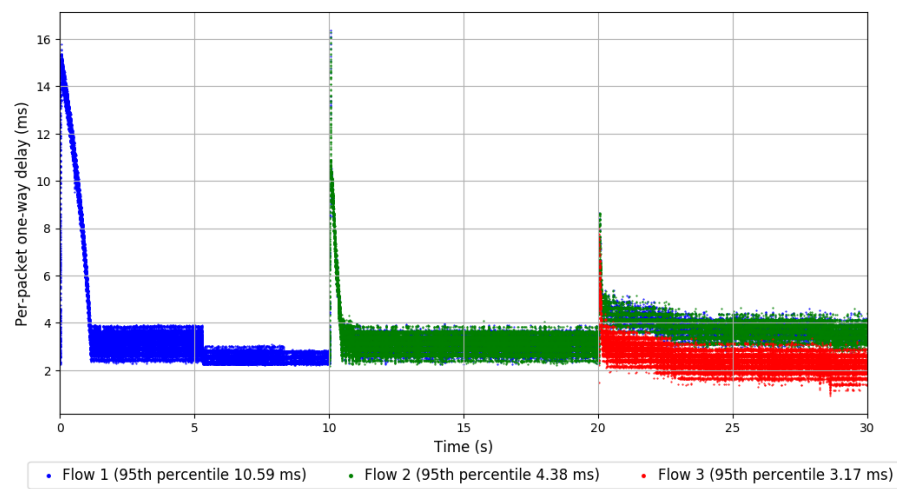
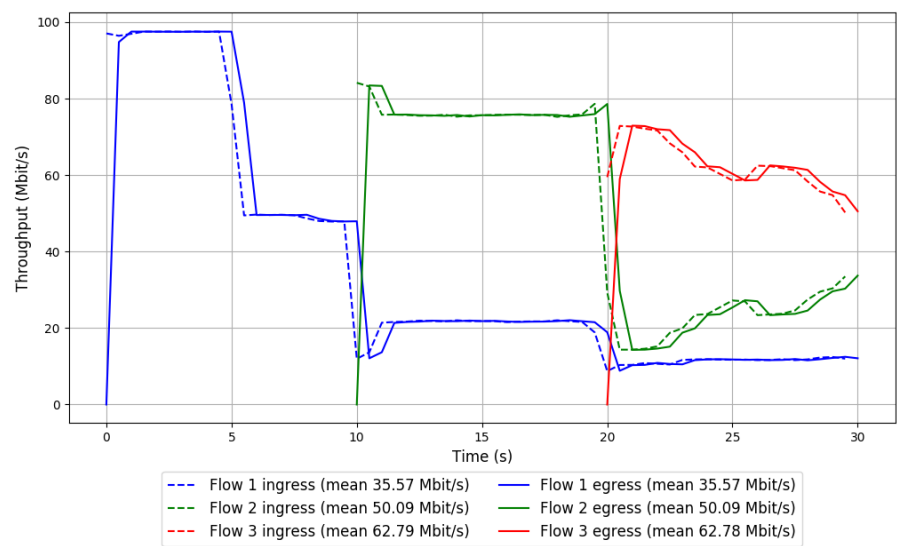
-- Flow 3:

Average throughput: 62.78 Mbit/s

95th percentile per-packet one-way delay: 3.165 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

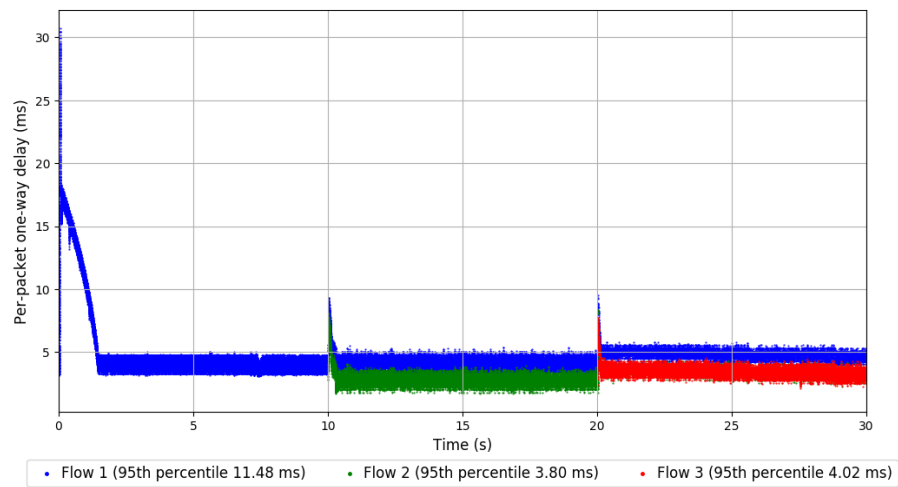
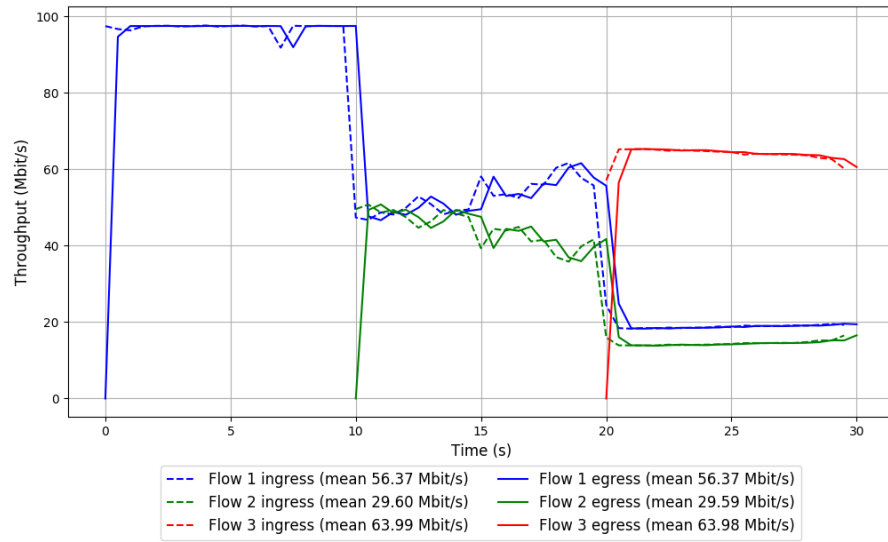


Run 2: Statistics of TCP Vegas

Start at: 2019-01-25 01:51:13  
End at: 2019-01-25 01:51:43  
Local clock offset: 0.657 ms  
Remote clock offset: 0.401 ms

# Below is generated by plot.py at 2019-01-25 03:16:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.36 Mbit/s  
95th percentile per-packet one-way delay: 5.569 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 56.37 Mbit/s  
95th percentile per-packet one-way delay: 11.478 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 29.59 Mbit/s  
95th percentile per-packet one-way delay: 3.804 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 63.98 Mbit/s  
95th percentile per-packet one-way delay: 4.017 ms  
Loss rate: 0.00%

## Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-01-25 02:15:07

End at: 2019-01-25 02:15:37

Local clock offset: -4.616 ms

Remote clock offset: 0.644 ms

# Below is generated by plot.py at 2019-01-25 03:16:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 6.140 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.46 Mbit/s

95th percentile per-packet one-way delay: 11.962 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 44.39 Mbit/s

95th percentile per-packet one-way delay: 4.078 ms

Loss rate: 0.00%

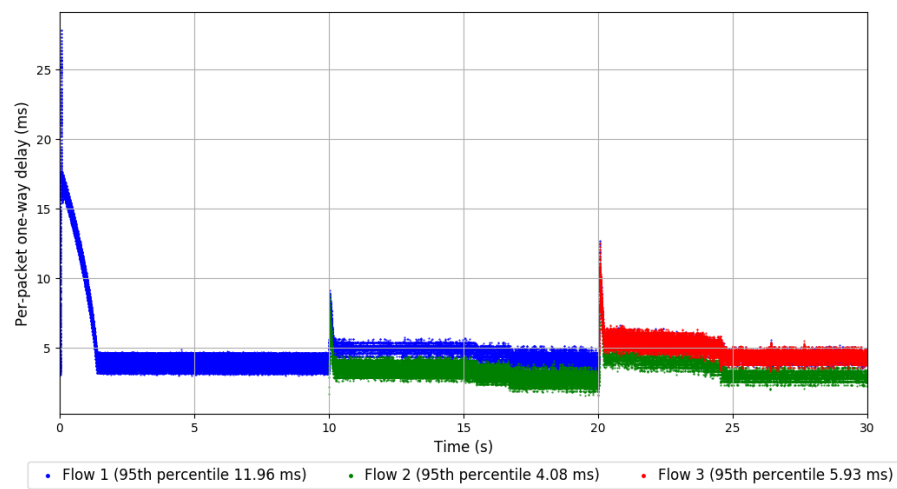
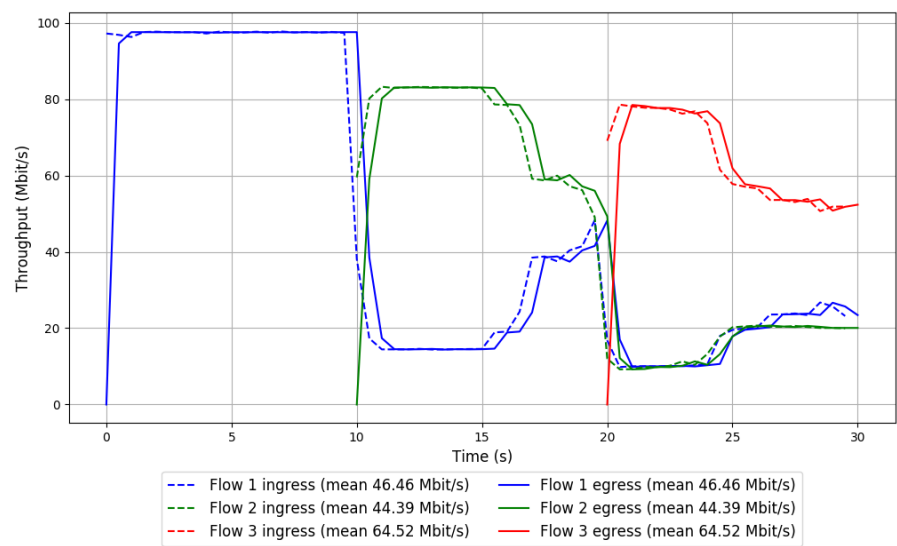
-- Flow 3:

Average throughput: 64.52 Mbit/s

95th percentile per-packet one-way delay: 5.932 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-25 02:39:01

End at: 2019-01-25 02:39:31

Local clock offset: -4.533 ms

Remote clock offset: 0.788 ms

# Below is generated by plot.py at 2019-01-25 03:16:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 4.844 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 43.44 Mbit/s

95th percentile per-packet one-way delay: 9.715 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 58.66 Mbit/s

95th percentile per-packet one-way delay: 4.765 ms

Loss rate: 0.00%

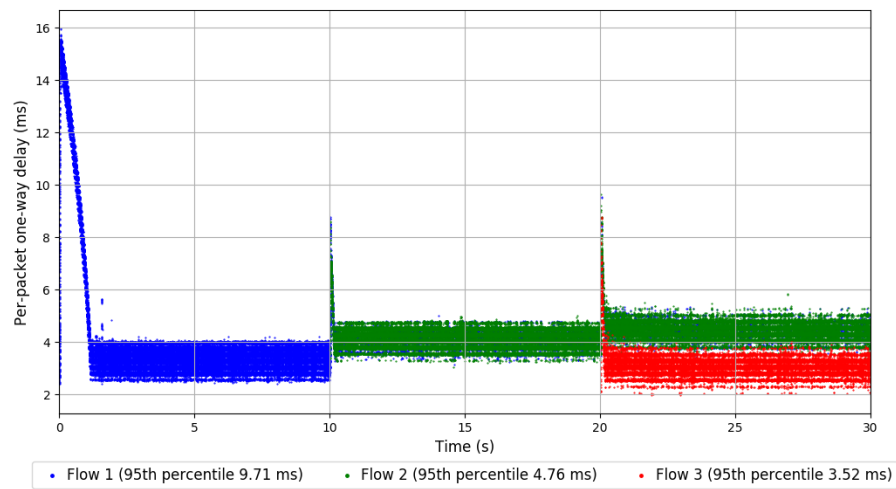
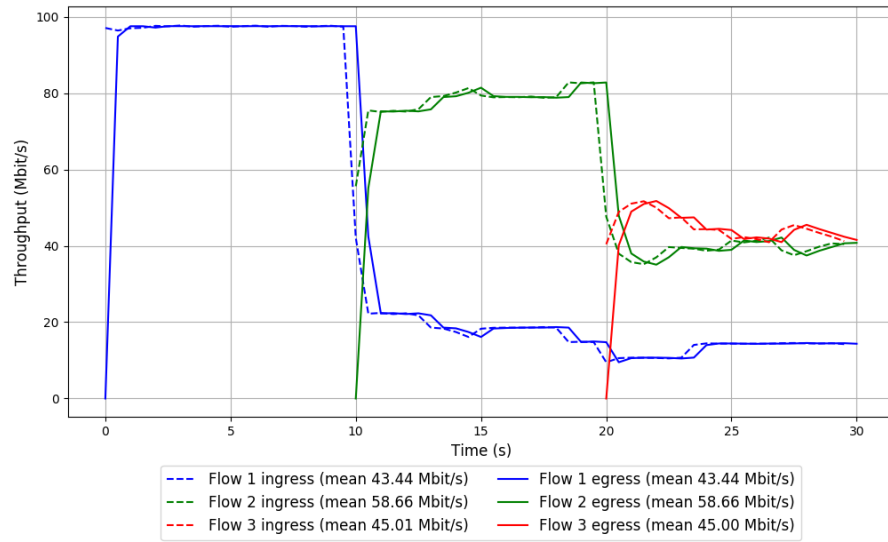
-- Flow 3:

Average throughput: 45.00 Mbit/s

95th percentile per-packet one-way delay: 3.518 ms

Loss rate: 0.00%

#### Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-01-25 03:02:56

End at: 2019-01-25 03:03:26

Local clock offset: -4.352 ms

Remote clock offset: 0.67 ms

# Below is generated by plot.py at 2019-01-25 03:17:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 2.664 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.52 Mbit/s

95th percentile per-packet one-way delay: 2.855 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 44.20 Mbit/s

95th percentile per-packet one-way delay: 2.614 ms

Loss rate: 0.00%

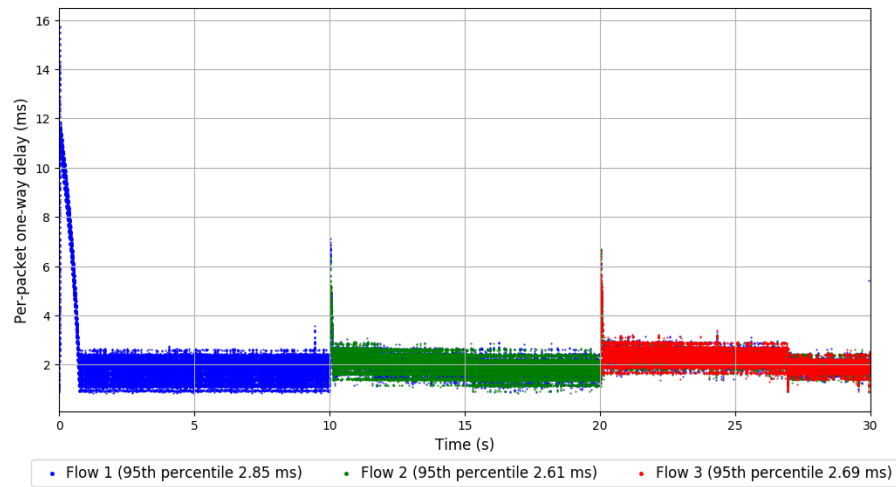
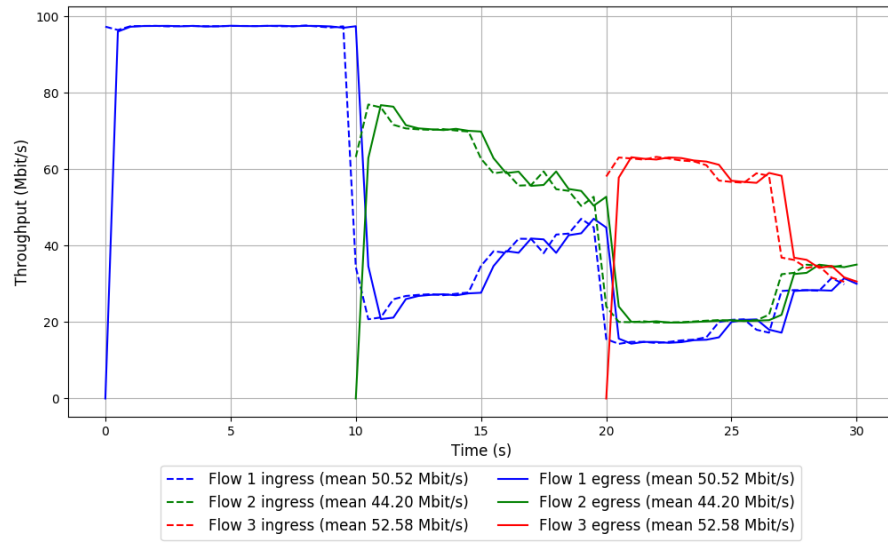
-- Flow 3:

Average throughput: 52.58 Mbit/s

95th percentile per-packet one-way delay: 2.692 ms

Loss rate: 0.00%

# Run 5: Report of TCP Vegas — Data Link

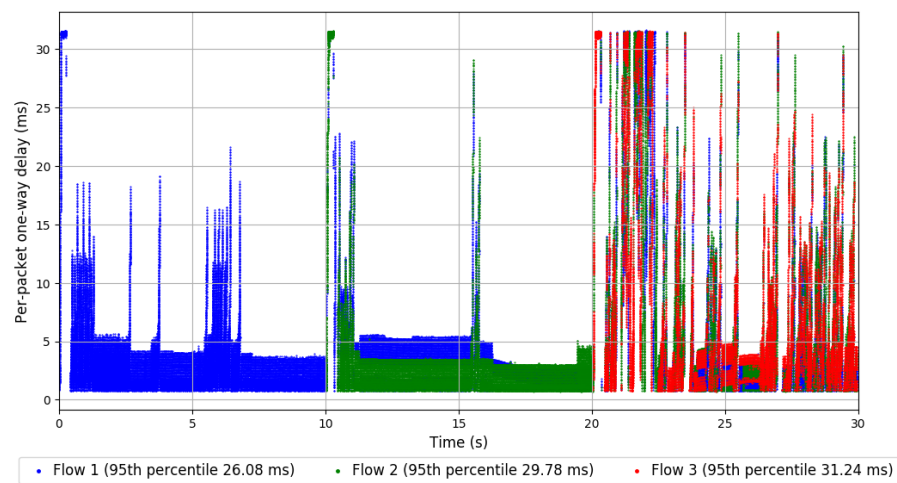
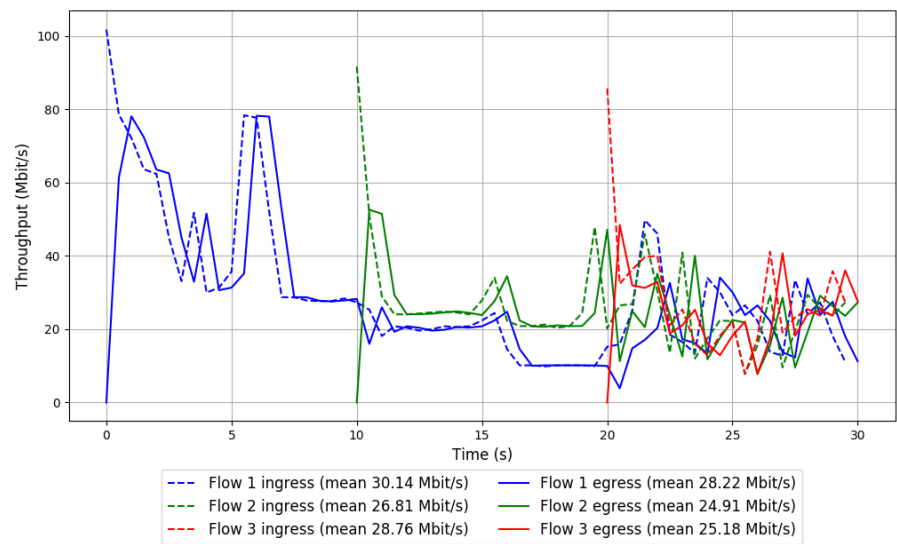


Run 1: Statistics of Verus

Start at: 2019-01-25 01:13:39  
End at: 2019-01-25 01:14:09  
Local clock offset: -3.829 ms  
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-01-25 03:17:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 53.14 Mbit/s  
95th percentile per-packet one-way delay: 29.719 ms  
Loss rate: 7.61%  
-- Flow 1:  
Average throughput: 28.22 Mbit/s  
95th percentile per-packet one-way delay: 26.080 ms  
Loss rate: 6.37%  
-- Flow 2:  
Average throughput: 24.91 Mbit/s  
95th percentile per-packet one-way delay: 29.776 ms  
Loss rate: 7.12%  
-- Flow 3:  
Average throughput: 25.18 Mbit/s  
95th percentile per-packet one-way delay: 31.237 ms  
Loss rate: 12.46%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-01-25 01:37:33

End at: 2019-01-25 01:38:03

Local clock offset: -1.002 ms

Remote clock offset: 0.214 ms

# Below is generated by plot.py at 2019-01-25 03:17:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.06 Mbit/s

95th percentile per-packet one-way delay: 27.056 ms

Loss rate: 5.30%

-- Flow 1:

Average throughput: 51.42 Mbit/s

95th percentile per-packet one-way delay: 18.228 ms

Loss rate: 3.49%

-- Flow 2:

Average throughput: 24.63 Mbit/s

95th percentile per-packet one-way delay: 30.450 ms

Loss rate: 7.72%

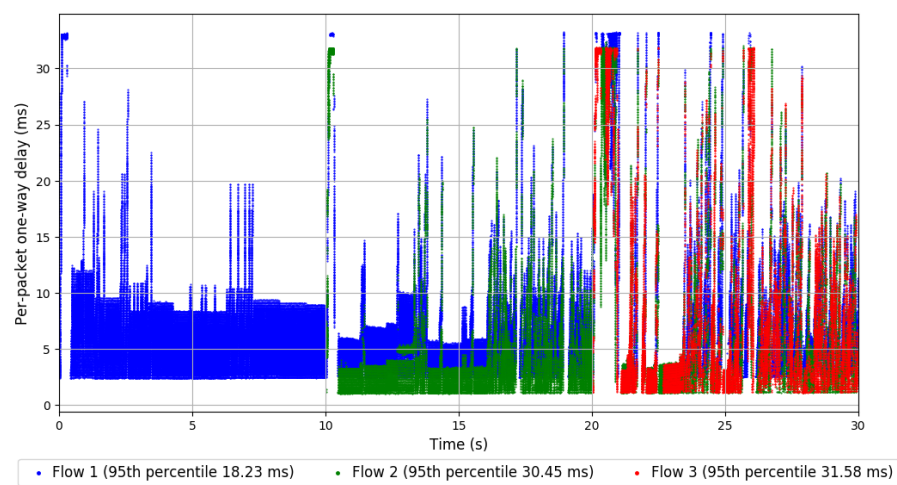
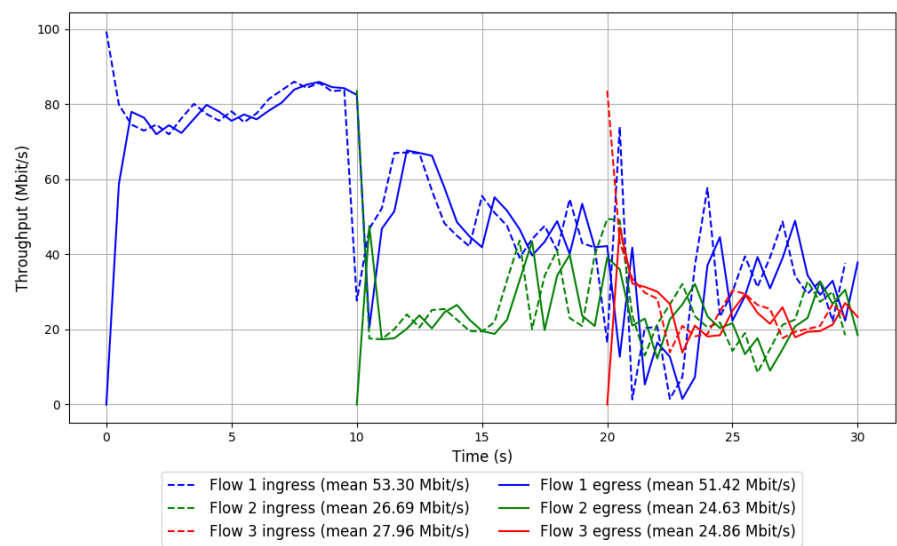
-- Flow 3:

Average throughput: 24.86 Mbit/s

95th percentile per-packet one-way delay: 31.582 ms

Loss rate: 11.05%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-01-25 02:01:28

End at: 2019-01-25 02:01:58

Local clock offset: 0.099 ms

Remote clock offset: 0.392 ms

# Below is generated by plot.py at 2019-01-25 03:17:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 53.71 Mbit/s

95th percentile per-packet one-way delay: 31.425 ms

Loss rate: 10.77%

-- Flow 1:

Average throughput: 27.71 Mbit/s

95th percentile per-packet one-way delay: 29.534 ms

Loss rate: 10.51%

-- Flow 2:

Average throughput: 25.69 Mbit/s

95th percentile per-packet one-way delay: 30.470 ms

Loss rate: 7.63%

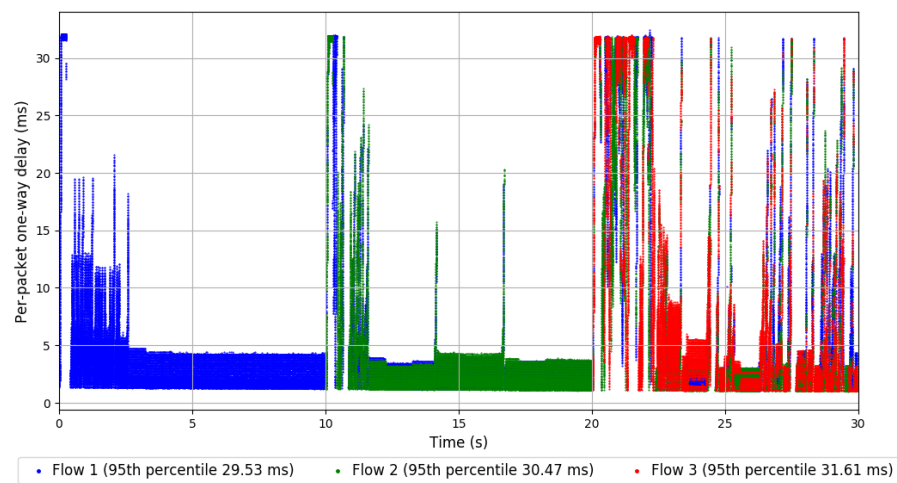
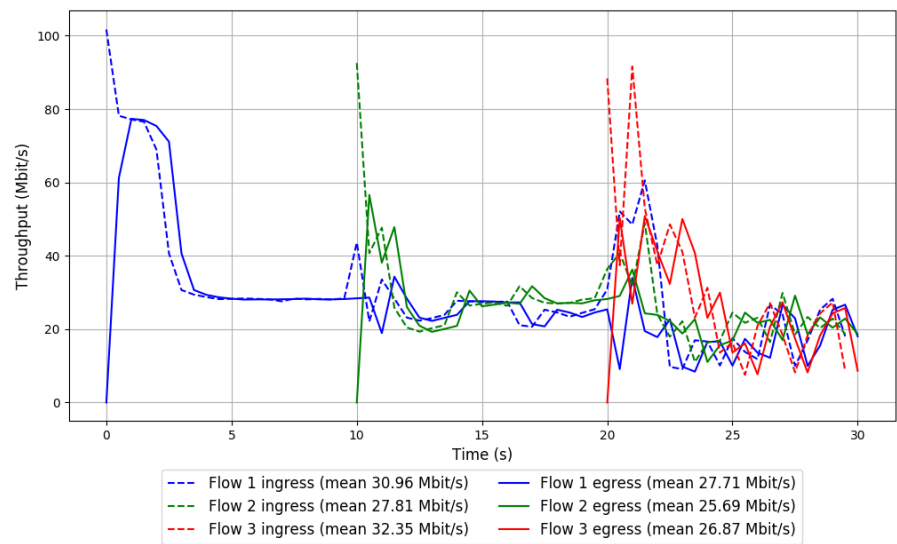
-- Flow 3:

Average throughput: 26.87 Mbit/s

95th percentile per-packet one-way delay: 31.615 ms

Loss rate: 16.94%

Run 3: Report of Verus — Data Link

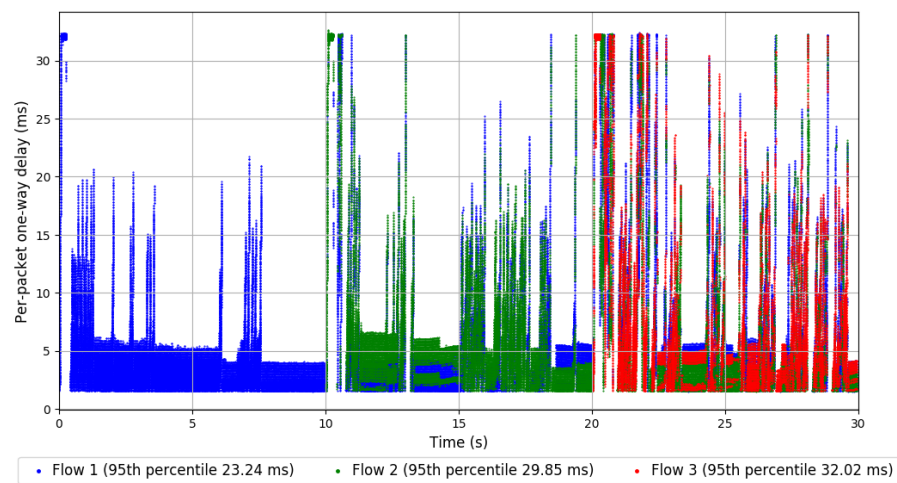
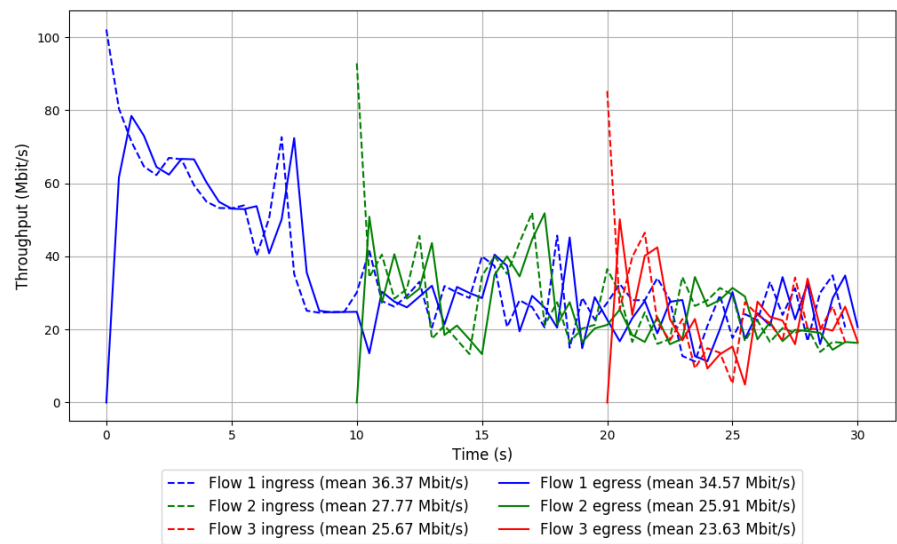


Run 4: Statistics of Verus

Start at: 2019-01-25 02:25:23  
End at: 2019-01-25 02:25:53  
Local clock offset: -5.814 ms  
Remote clock offset: 0.664 ms

# Below is generated by plot.py at 2019-01-25 03:17:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 59.65 Mbit/s  
95th percentile per-packet one-way delay: 28.336 ms  
Loss rate: 5.87%  
-- Flow 1:  
Average throughput: 34.57 Mbit/s  
95th percentile per-packet one-way delay: 23.237 ms  
Loss rate: 4.96%  
-- Flow 2:  
Average throughput: 25.91 Mbit/s  
95th percentile per-packet one-way delay: 29.852 ms  
Loss rate: 6.70%  
-- Flow 3:  
Average throughput: 23.63 Mbit/s  
95th percentile per-packet one-way delay: 32.021 ms  
Loss rate: 8.00%

Run 4: Report of Verus — Data Link

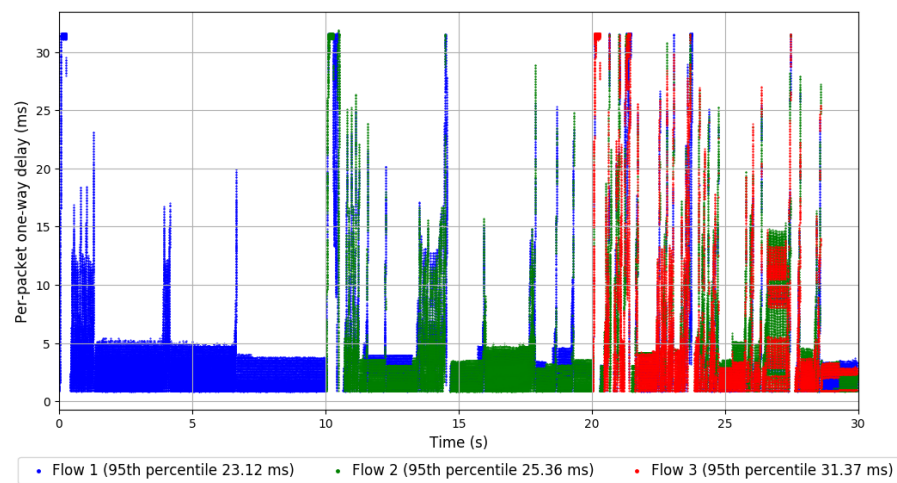
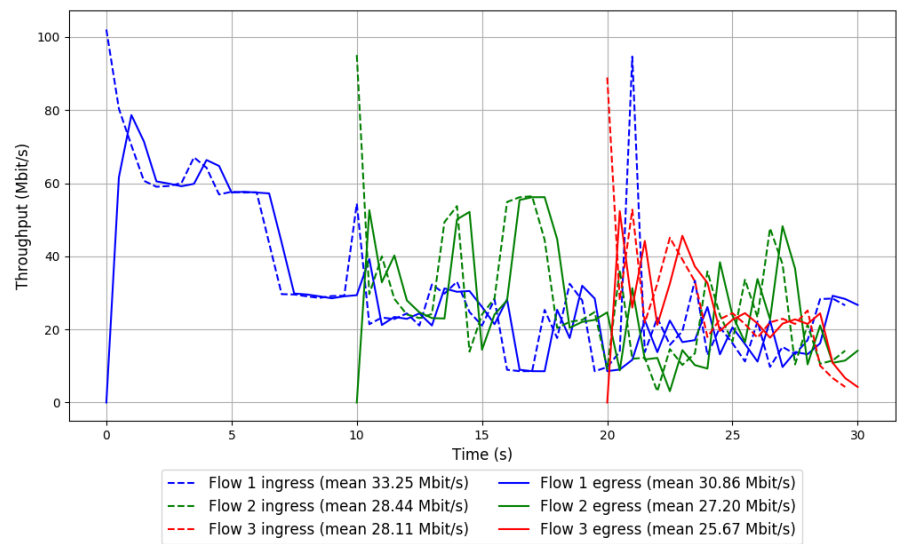


Run 5: Statistics of Verus

Start at: 2019-01-25 02:49:18  
End at: 2019-01-25 02:49:48  
Local clock offset: -4.366 ms  
Remote clock offset: 0.8 ms

# Below is generated by plot.py at 2019-01-25 03:17:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 57.48 Mbit/s  
95th percentile per-packet one-way delay: 26.751 ms  
Loss rate: 6.53%  
-- Flow 1:  
Average throughput: 30.86 Mbit/s  
95th percentile per-packet one-way delay: 23.124 ms  
Loss rate: 7.17%  
-- Flow 2:  
Average throughput: 27.20 Mbit/s  
95th percentile per-packet one-way delay: 25.360 ms  
Loss rate: 4.35%  
-- Flow 3:  
Average throughput: 25.67 Mbit/s  
95th percentile per-packet one-way delay: 31.369 ms  
Loss rate: 8.67%

Run 5: Report of Verus — Data Link

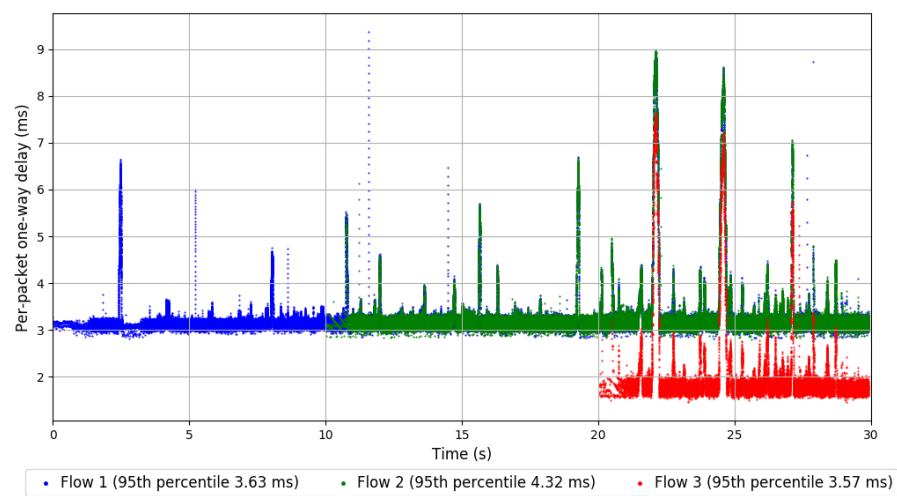
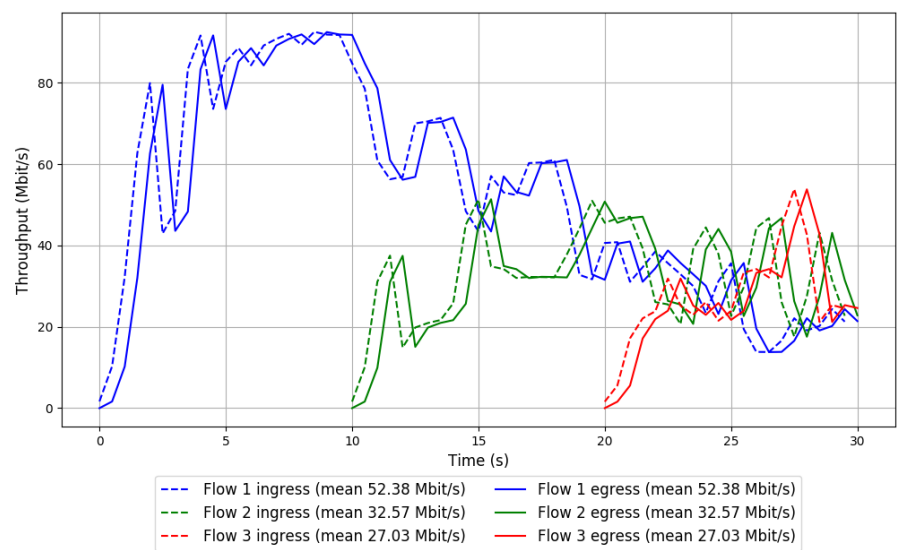


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-25 01:17:01  
End at: 2019-01-25 01:17:31  
Local clock offset: -4.75 ms  
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2019-01-25 03:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 82.97 Mbit/s  
95th percentile per-packet one-way delay: 3.856 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 52.38 Mbit/s  
95th percentile per-packet one-way delay: 3.626 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 32.57 Mbit/s  
95th percentile per-packet one-way delay: 4.321 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 27.03 Mbit/s  
95th percentile per-packet one-way delay: 3.571 ms  
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-01-25 01:40:56

End at: 2019-01-25 01:41:26

Local clock offset: -0.09 ms

Remote clock offset: 0.274 ms

# Below is generated by plot.py at 2019-01-25 03:17:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.55 Mbit/s

95th percentile per-packet one-way delay: 3.774 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 57.55 Mbit/s

95th percentile per-packet one-way delay: 3.088 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 4.996 ms

Loss rate: 0.00%

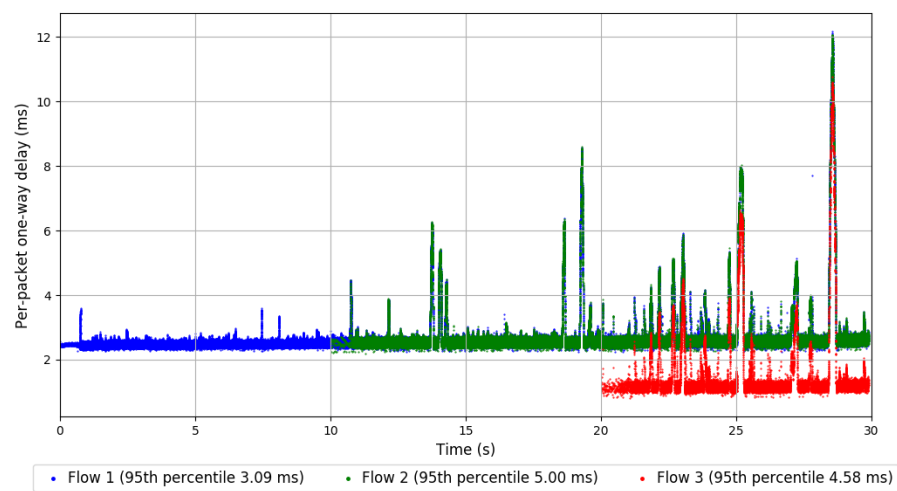
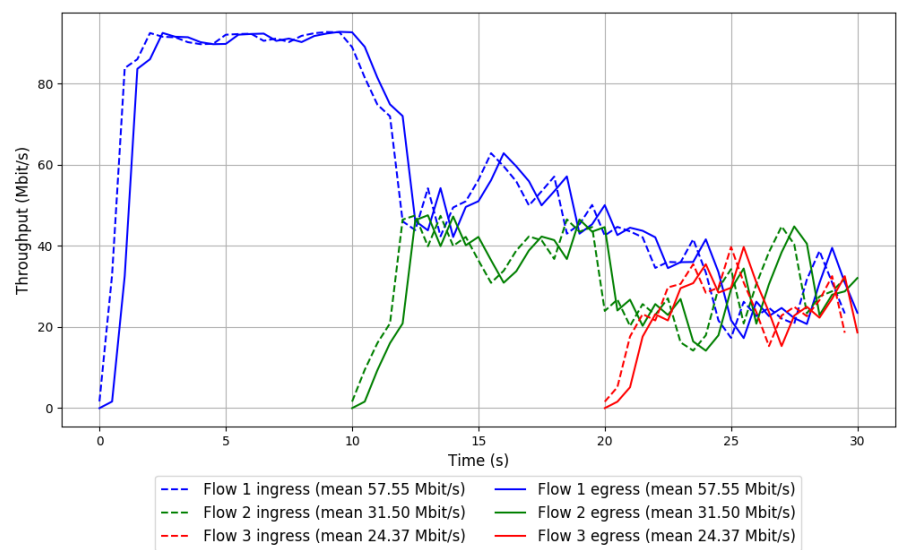
-- Flow 3:

Average throughput: 24.37 Mbit/s

95th percentile per-packet one-way delay: 4.582 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-01-25 02:04:50

End at: 2019-01-25 02:05:20

Local clock offset: -0.892 ms

Remote clock offset: 0.562 ms

# Below is generated by plot.py at 2019-01-25 03:17:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.77 Mbit/s

95th percentile per-packet one-way delay: 2.799 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 57.97 Mbit/s

95th percentile per-packet one-way delay: 2.627 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.41 Mbit/s

95th percentile per-packet one-way delay: 3.298 ms

Loss rate: 0.00%

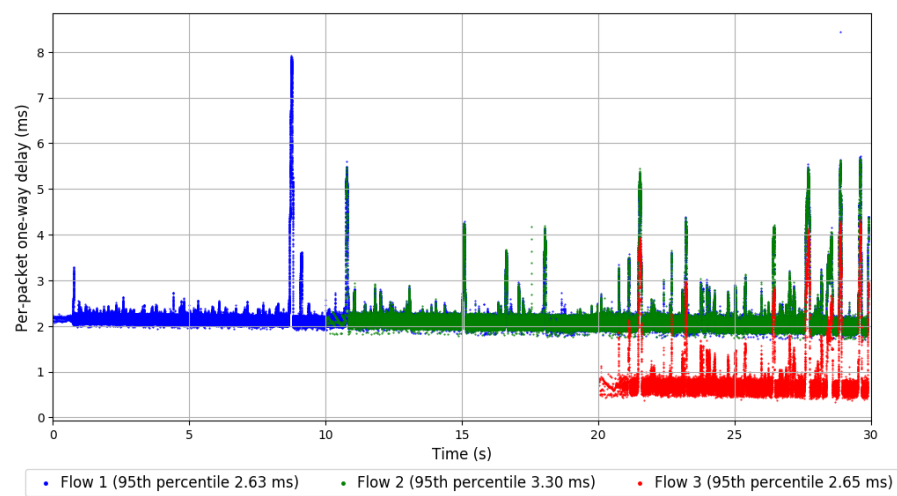
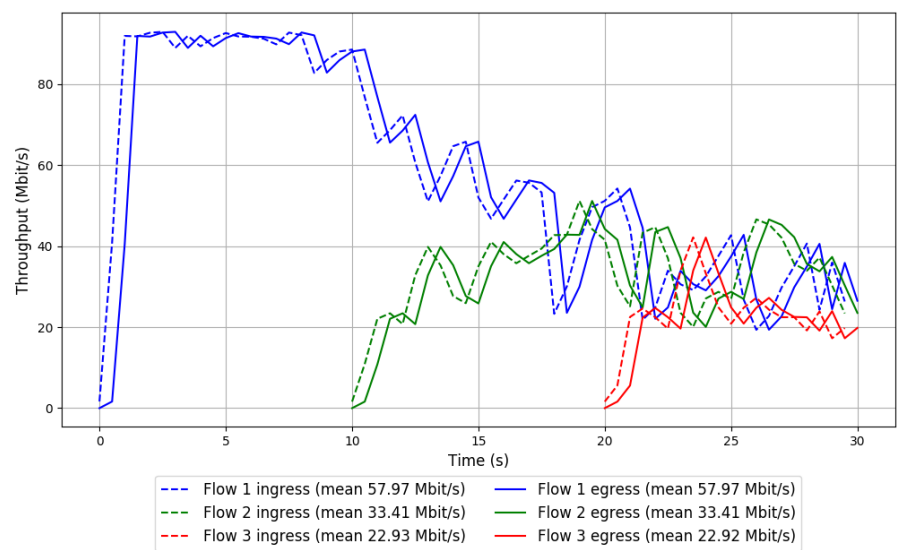
-- Flow 3:

Average throughput: 22.92 Mbit/s

95th percentile per-packet one-way delay: 2.645 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-25 02:28:45

End at: 2019-01-25 02:29:15

Local clock offset: -5.365 ms

Remote clock offset: 0.755 ms

# Below is generated by plot.py at 2019-01-25 03:17:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 83.72 Mbit/s

95th percentile per-packet one-way delay: 2.139 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 1.520 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.70 Mbit/s

95th percentile per-packet one-way delay: 2.977 ms

Loss rate: 0.00%

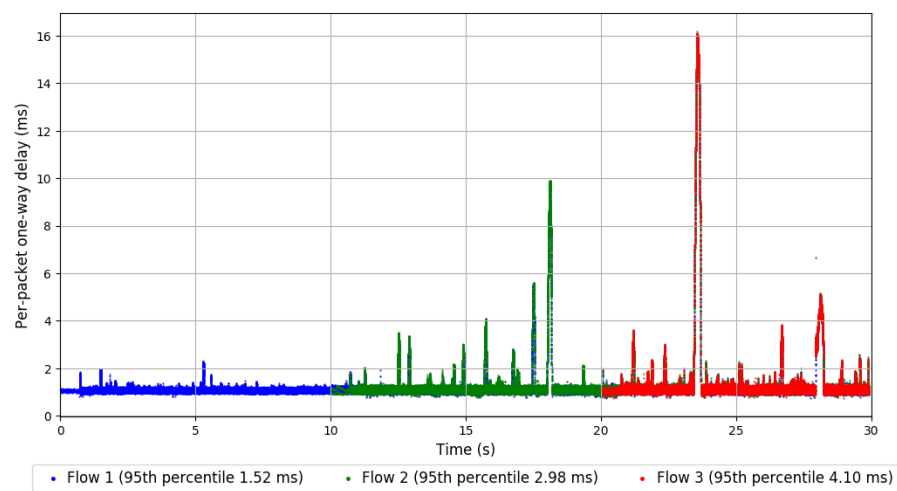
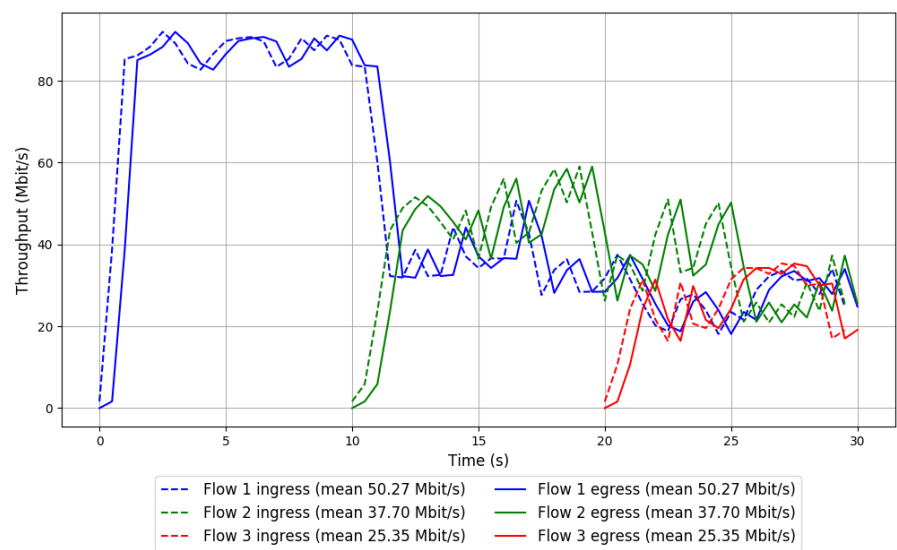
-- Flow 3:

Average throughput: 25.35 Mbit/s

95th percentile per-packet one-way delay: 4.104 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-25 02:52:40

End at: 2019-01-25 02:53:10

Local clock offset: -5.147 ms

Remote clock offset: 0.818 ms

# Below is generated by plot.py at 2019-01-25 03:17:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.05 Mbit/s

95th percentile per-packet one-way delay: 3.616 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.45 Mbit/s

95th percentile per-packet one-way delay: 2.314 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 42.16 Mbit/s

95th percentile per-packet one-way delay: 4.336 ms

Loss rate: 0.00%

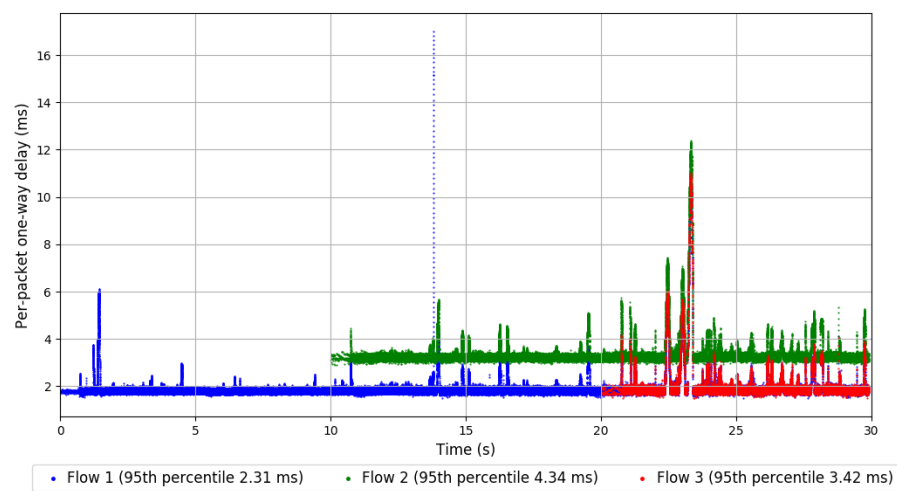
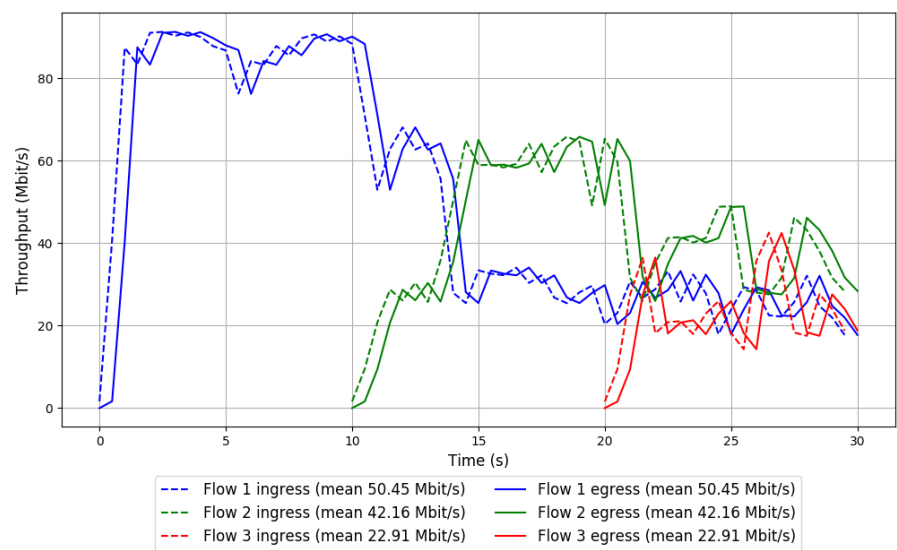
-- Flow 3:

Average throughput: 22.91 Mbit/s

95th percentile per-packet one-way delay: 3.415 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

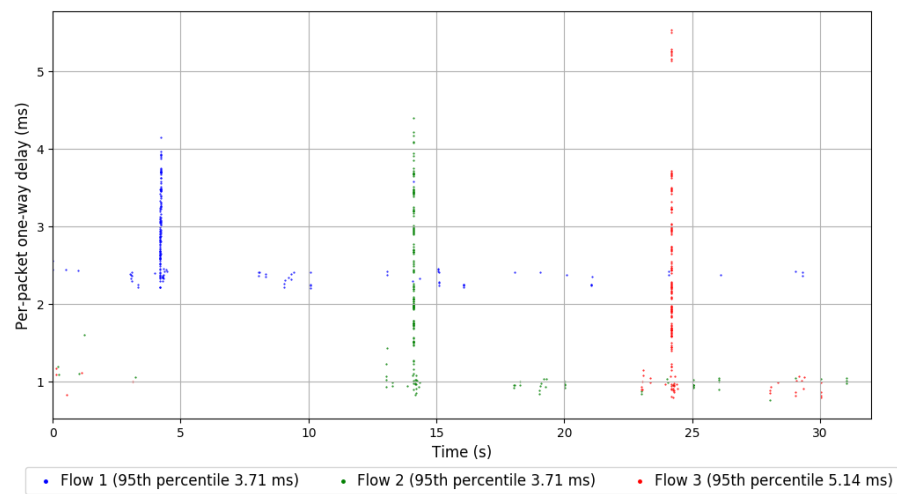
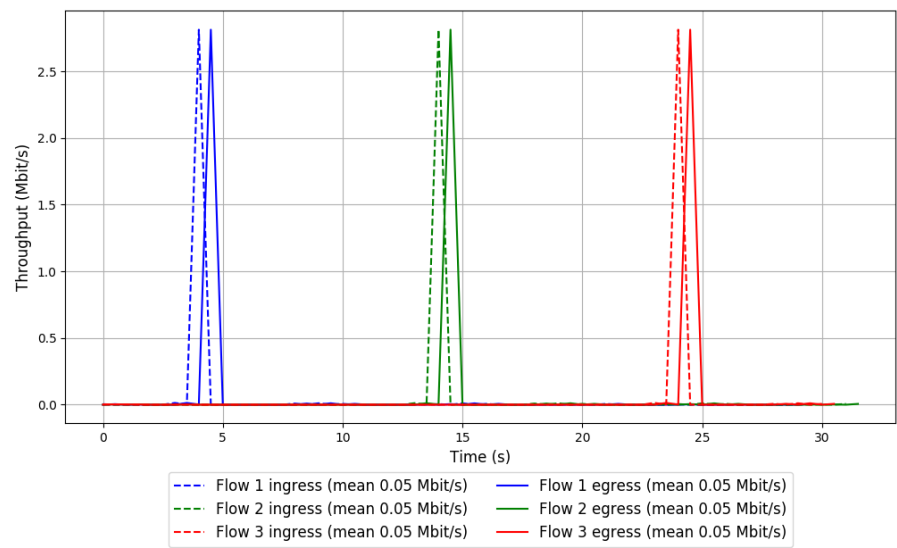


```
Run 1: Statistics of WebRTC media

Start at: 2019-01-25 01:18:11
End at: 2019-01-25 01:18:41
Local clock offset: -4.058 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2019-01-25 03:17:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3.731 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.712 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.714 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.139 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-25 01:42:06

End at: 2019-01-25 01:42:36

Local clock offset: 0.155 ms

Remote clock offset: 0.186 ms

# Below is generated by plot.py at 2019-01-25 03:17:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 3.792 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.538 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.396 ms

Loss rate: 0.00%

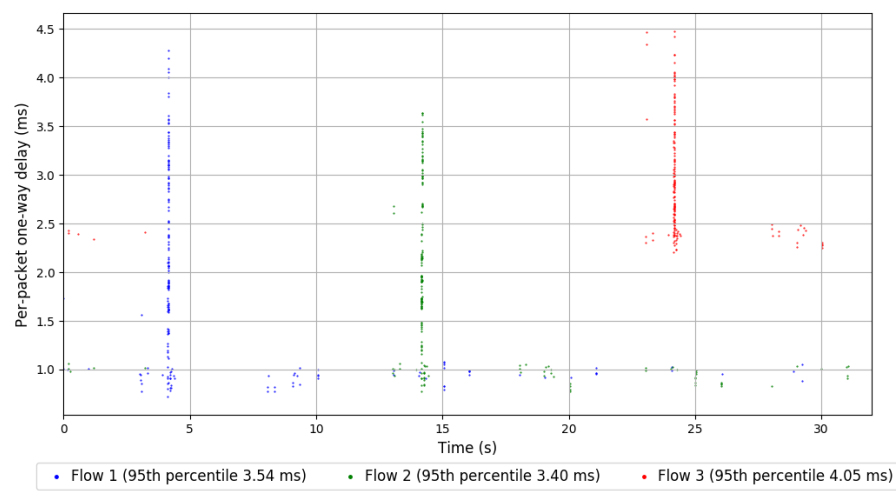
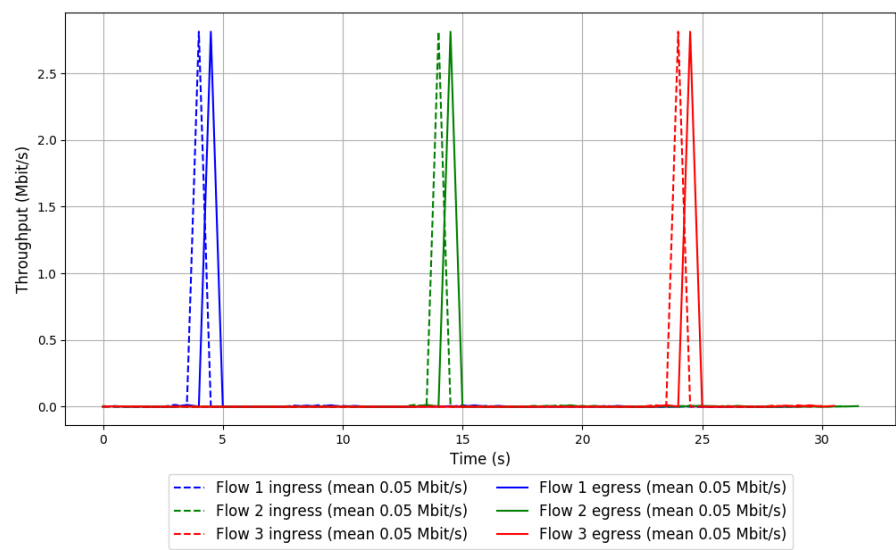
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.048 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-25 02:06:01

End at: 2019-01-25 02:06:31

Local clock offset: -2.234 ms

Remote clock offset: 0.448 ms

# Below is generated by plot.py at 2019-01-25 03:17:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 4.384 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 4.457 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.671 ms

Loss rate: 0.05%

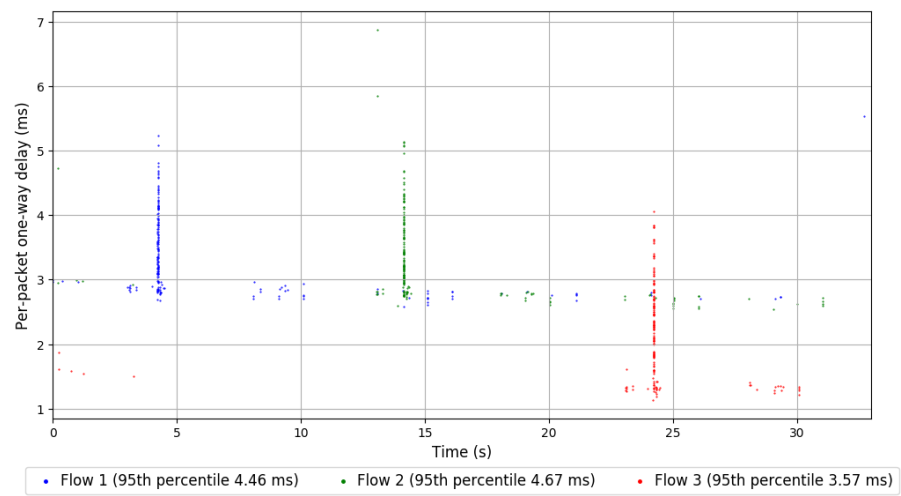
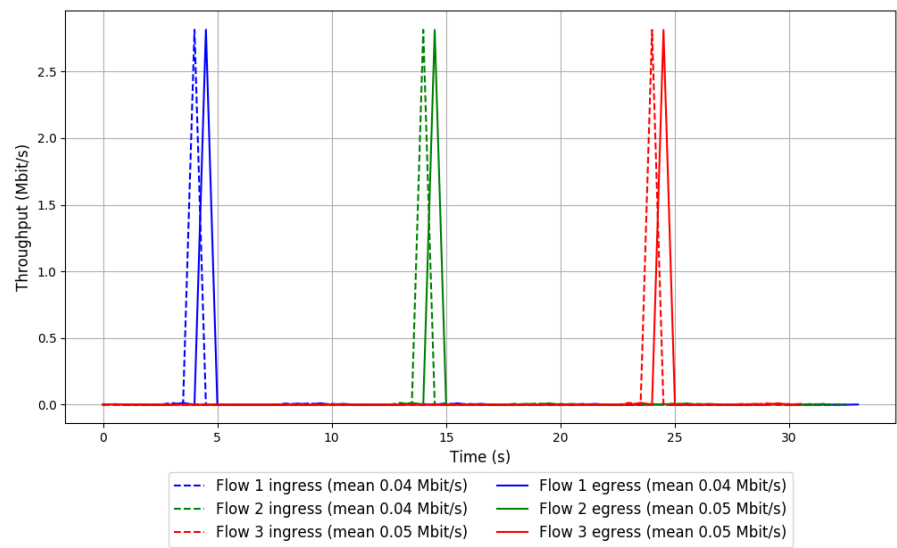
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.567 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-25 02:29:55

End at: 2019-01-25 02:30:25

Local clock offset: -6.134 ms

Remote clock offset: 0.669 ms

# Below is generated by plot.py at 2019-01-25 03:17:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4.710 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 6.763 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.729 ms

Loss rate: 0.00%

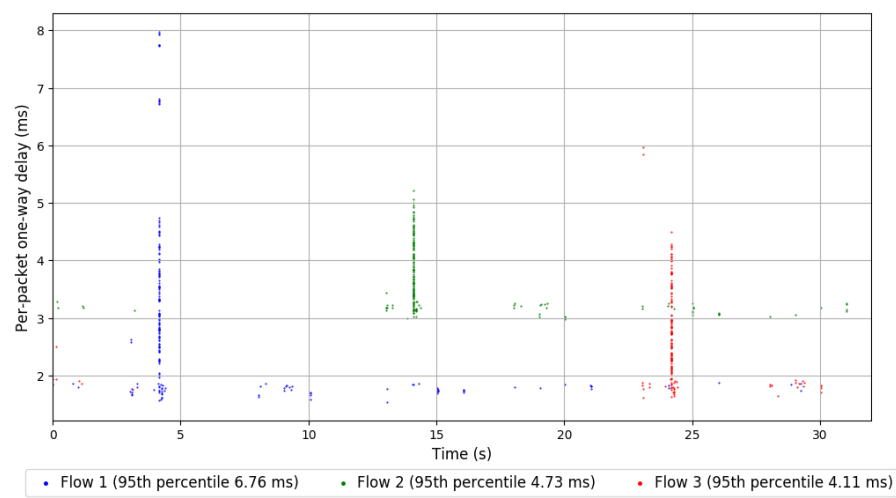
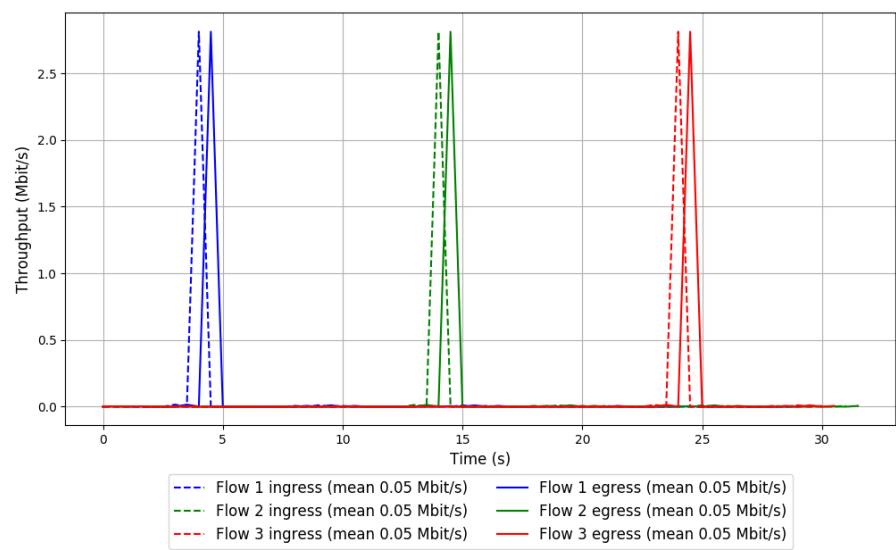
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.107 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-25 02:53:51

End at: 2019-01-25 02:54:21

Local clock offset: -4.377 ms

Remote clock offset: 0.715 ms

# Below is generated by plot.py at 2019-01-25 03:17:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 3.781 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.684 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.603 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.303 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

