

Pantheon Report

Generated at 2019-03-19 14:40:52 (UTC).

Data path: GCE Tokyo on ens4 (*remote*) →GCE Iowa on ens4 (*local*).

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 `time.google.com` and have been applied to correct the timestamps in logs.

System info:

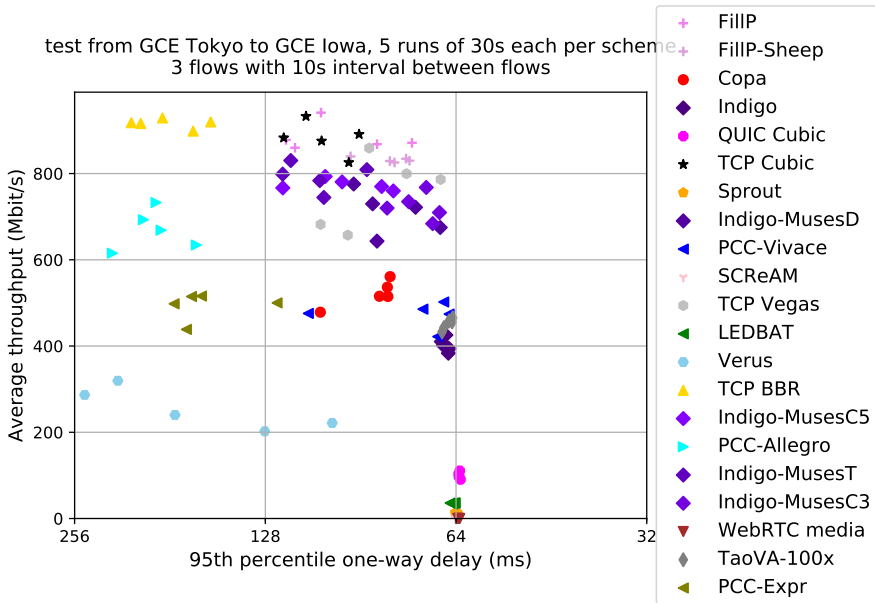
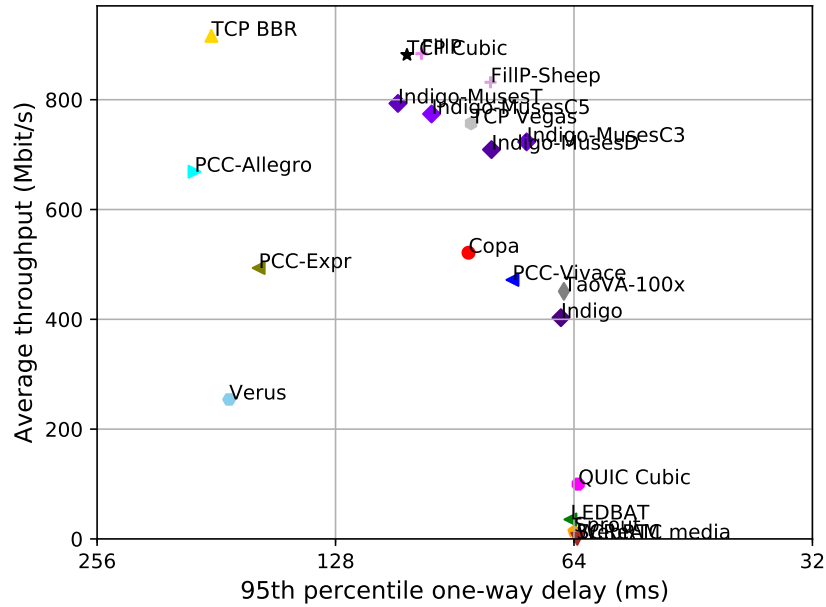
```
Linux 4.15.0-1028-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
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 GCE Tokyo to GCE Iowa, 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 | 479.88 | 450.12 | 416.33 | 171.27 | 193.31 | 181.14 | 1.21 | 2.46 | 3.89 |
| Copa | 5 | 279.51 | 256.60 | 216.24 | 81.82 | 84.72 | 92.66 | 0.33 | 0.59 | 1.36 |
| TCP Cubic | 5 | 466.02 | 440.03 | 373.78 | 98.89 | 85.16 | 127.74 | 0.45 | 0.62 | 2.01 |
| FillP | 5 | 562.31 | 349.54 | 272.35 | 106.95 | 67.93 | 67.32 | 0.88 | 0.56 | 1.47 |
| FillP-Sheep | 5 | 533.30 | 326.77 | 248.72 | 87.78 | 69.60 | 68.73 | 0.31 | 0.56 | 1.48 |
| Indigo | 5 | 212.28 | 200.30 | 173.10 | 65.68 | 66.92 | 67.55 | 0.40 | 0.61 | 1.48 |
| Indigo-MusesC3 | 5 | 432.15 | 350.54 | 252.44 | 76.07 | 67.20 | 65.90 | 0.33 | 0.54 | 2.47 |
| Indigo-MusesC5 | 5 | 498.88 | 387.16 | 101.34 | 98.33 | 91.62 | 63.79 | 0.43 | 0.60 | 1.92 |
| Indigo-MusesD | 5 | 407.34 | 359.53 | 268.78 | 86.71 | 71.75 | 66.77 | 0.26 | 0.64 | 2.05 |
| Indigo-MusesT | 5 | 473.43 | 389.30 | 264.11 | 115.44 | 79.68 | 66.50 | 0.31 | 0.53 | 2.28 |
| LEDBAT | 5 | 22.74 | 15.46 | 7.59 | 64.73 | 64.56 | 64.31 | 0.78 | 1.27 | 2.57 |
| PCC-Allegro | 5 | 383.83 | 306.90 | 249.35 | 195.92 | 162.65 | 165.85 | 4.13 | 2.46 | 1.88 |
| PCC-Expr | 5 | 283.84 | 244.08 | 145.68 | 158.07 | 146.20 | 70.25 | 1.84 | 1.38 | 1.76 |
| QUIC Cubic | 5 | 56.18 | 40.97 | 44.76 | 63.15 | 63.08 | 63.13 | 0.62 | 1.27 | 0.57 |
| SCReAM | 5 | 0.22 | 0.22 | 0.22 | 63.49 | 63.43 | 63.43 | 0.38 | 0.61 | 1.23 |
| Sprout | 5 | 6.81 | 6.70 | 6.42 | 64.00 | 63.77 | 63.90 | 0.49 | 0.72 | 1.50 |
| TaoVA-100x | 5 | 230.64 | 223.39 | 218.14 | 65.61 | 66.39 | 65.71 | 0.43 | 0.70 | 1.43 |
| TCP Vegas | 5 | 369.61 | 390.96 | 386.52 | 68.20 | 88.45 | 87.41 | 0.35 | 0.45 | 1.42 |
| Verus | 5 | 153.83 | 107.25 | 88.68 | 160.18 | 105.44 | 140.98 | 2.11 | 0.93 | 4.07 |
| PCC-Vivace | 5 | 282.01 | 217.95 | 138.33 | 86.33 | 70.75 | 72.02 | 0.40 | 0.62 | 1.93 |
| WebRTC media | 5 | 0.05 | 0.05 | 0.05 | 63.32 | 63.40 | 63.25 | 0.00 | 0.00 | 0.01 |

Run 1: Statistics of TCP BBR

Start at: 2019-03-19 09:16:31

End at: 2019-03-19 09:17:01

Local clock offset: -0.123 ms

Remote clock offset: 0.067 ms

Below is generated by plot.py at 2019-03-19 12:24:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 898.43 Mbit/s

95th percentile per-packet one-way delay: 166.386 ms

Loss rate: 1.39%

-- Flow 1:

Average throughput: 466.29 Mbit/s

95th percentile per-packet one-way delay: 167.172 ms

Loss rate: 0.92%

-- Flow 2:

Average throughput: 426.63 Mbit/s

95th percentile per-packet one-way delay: 171.270 ms

Loss rate: 1.17%

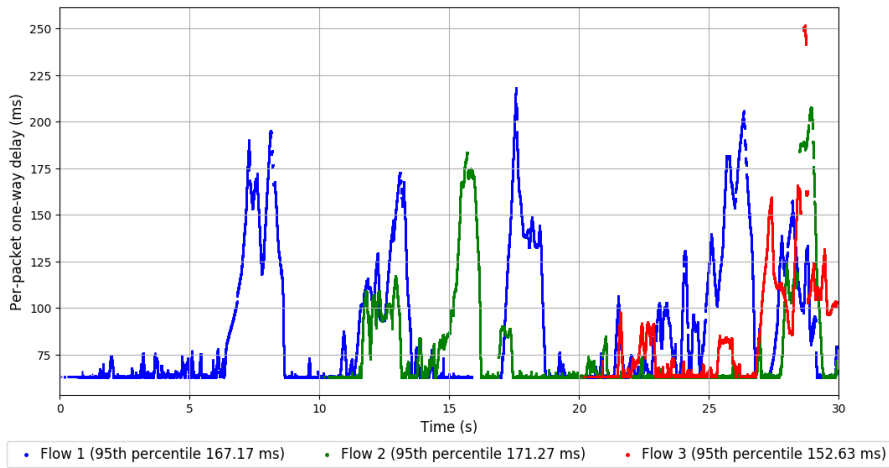
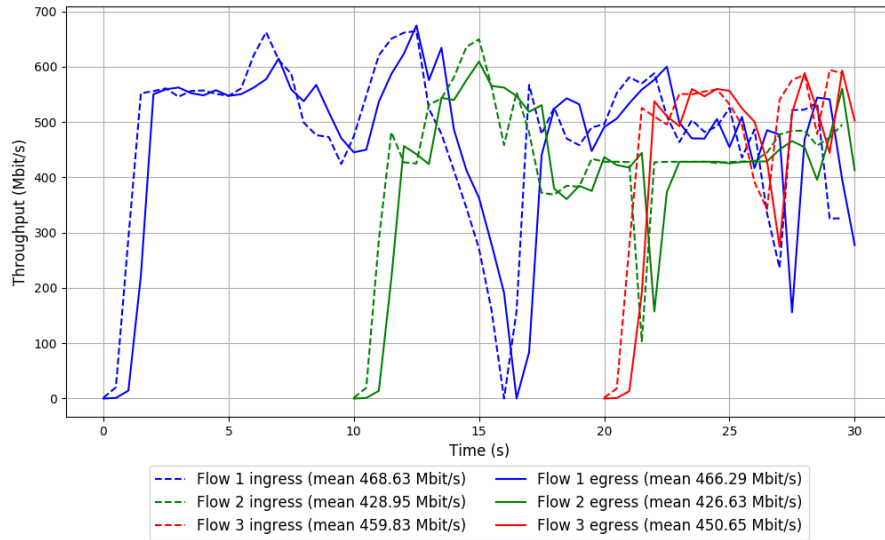
-- Flow 3:

Average throughput: 450.65 Mbit/s

95th percentile per-packet one-way delay: 152.634 ms

Loss rate: 3.25%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-03-19 09:52:53

End at: 2019-03-19 09:53:23

Local clock offset: -0.02 ms

Remote clock offset: 0.524 ms

Below is generated by plot.py at 2019-03-19 12:24:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 919.82 Mbit/s

95th percentile per-packet one-way delay: 156.109 ms

Loss rate: 1.43%

-- Flow 1:

Average throughput: 480.87 Mbit/s

95th percentile per-packet one-way delay: 154.289 ms

Loss rate: 1.17%

-- Flow 2:

Average throughput: 471.94 Mbit/s

95th percentile per-packet one-way delay: 160.975 ms

Loss rate: 1.65%

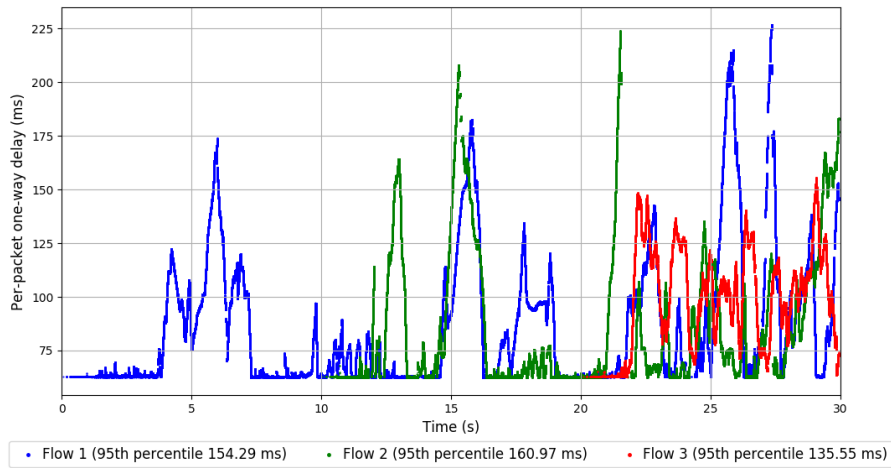
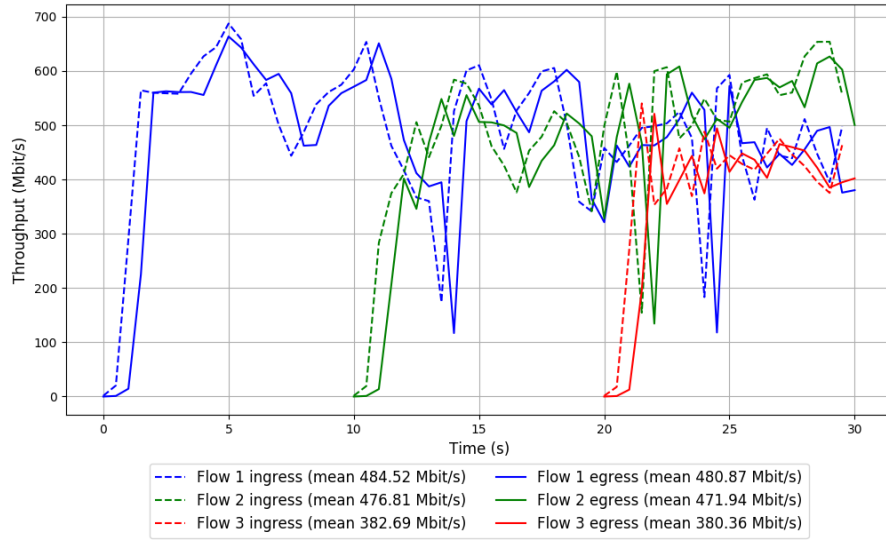
-- Flow 3:

Average throughput: 380.36 Mbit/s

95th percentile per-packet one-way delay: 135.548 ms

Loss rate: 1.86%

Run 2: Report of TCP BBR — Data Link

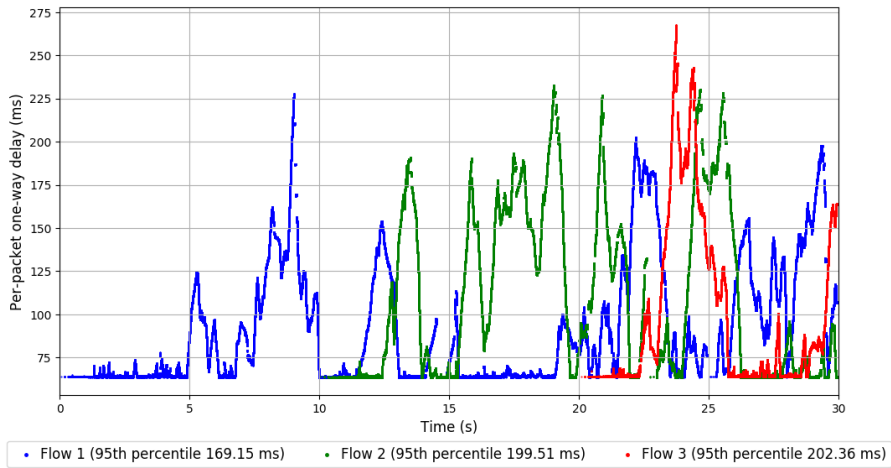
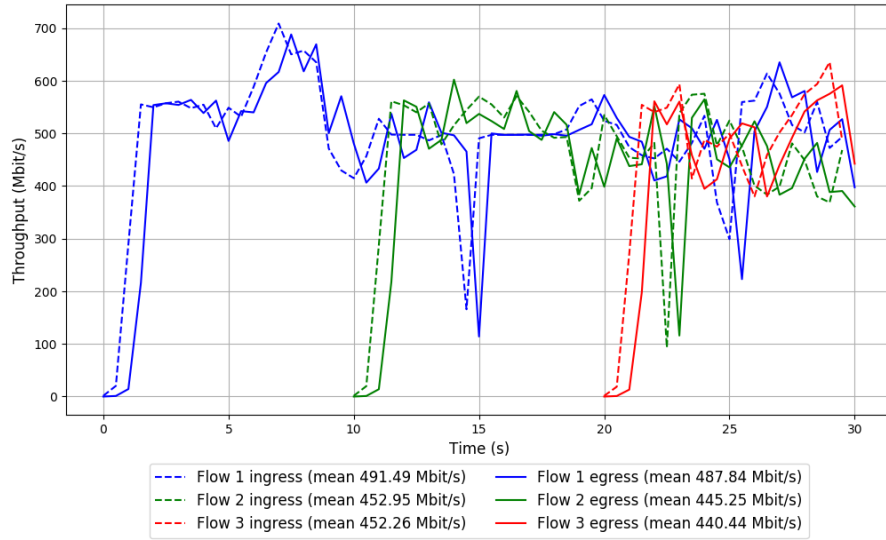


Run 3: Statistics of TCP BBR

Start at: 2019-03-19 10:29:21
End at: 2019-03-19 10:29:51
Local clock offset: -0.026 ms
Remote clock offset: -0.824 ms

```
# Below is generated by plot.py at 2019-03-19 12:25:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 928.94 Mbit/s
95th percentile per-packet one-way delay: 186.022 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 487.84 Mbit/s
95th percentile per-packet one-way delay: 169.152 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 445.25 Mbit/s
95th percentile per-packet one-way delay: 199.509 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 440.44 Mbit/s
95th percentile per-packet one-way delay: 202.358 ms
Loss rate: 3.85%
```

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-03-19 11:05:39

End at: 2019-03-19 11:06:09

Local clock offset: -0.091 ms

Remote clock offset: 0.047 ms

Below is generated by plot.py at 2019-03-19 12:25:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 916.12 Mbit/s

95th percentile per-packet one-way delay: 201.290 ms

Loss rate: 2.42%

-- Flow 1:

Average throughput: 482.80 Mbit/s

95th percentile per-packet one-way delay: 177.799 ms

Loss rate: 1.09%

-- Flow 2:

Average throughput: 448.04 Mbit/s

95th percentile per-packet one-way delay: 219.270 ms

Loss rate: 3.95%

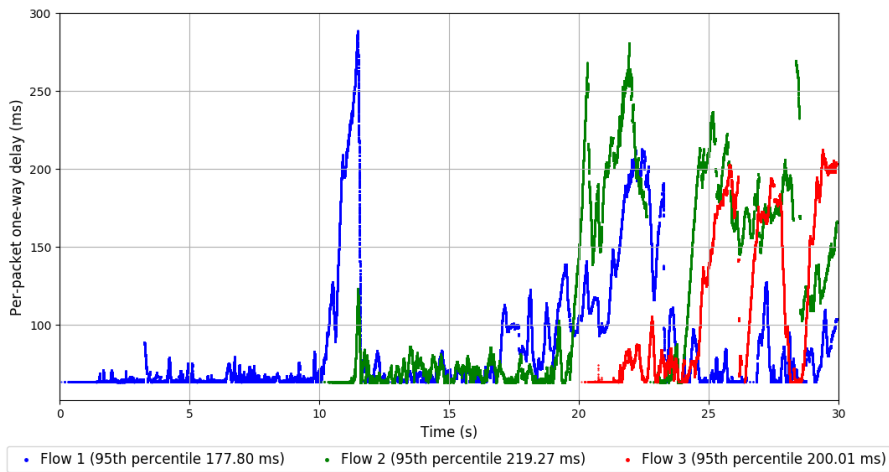
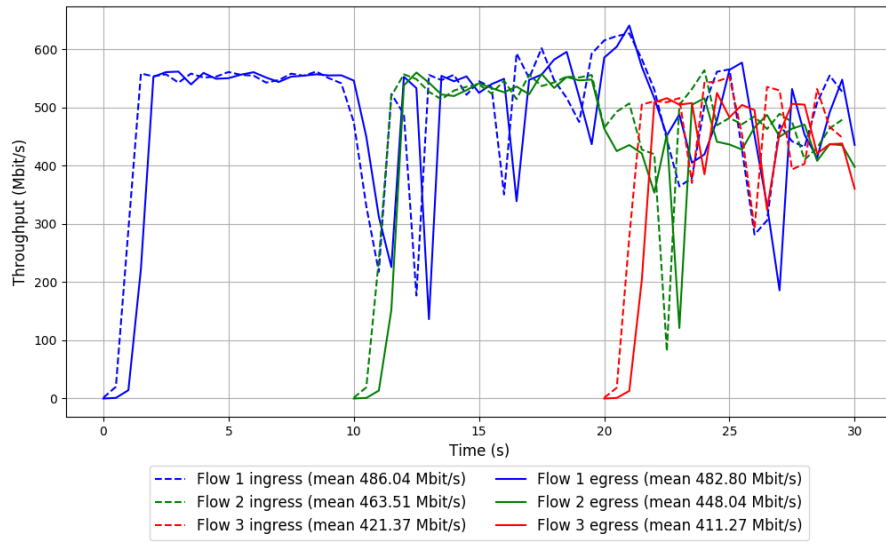
-- Flow 3:

Average throughput: 411.27 Mbit/s

95th percentile per-packet one-way delay: 200.012 ms

Loss rate: 3.64%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-03-19 11:42:08

End at: 2019-03-19 11:42:38

Local clock offset: -0.047 ms

Remote clock offset: 0.6 ms

Below is generated by plot.py at 2019-03-19 12:25:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 918.01 Mbit/s

95th percentile per-packet one-way delay: 208.304 ms

Loss rate: 2.98%

-- Flow 1:

Average throughput: 481.58 Mbit/s

95th percentile per-packet one-way delay: 187.940 ms

Loss rate: 1.71%

-- Flow 2:

Average throughput: 458.74 Mbit/s

95th percentile per-packet one-way delay: 215.540 ms

Loss rate: 3.23%

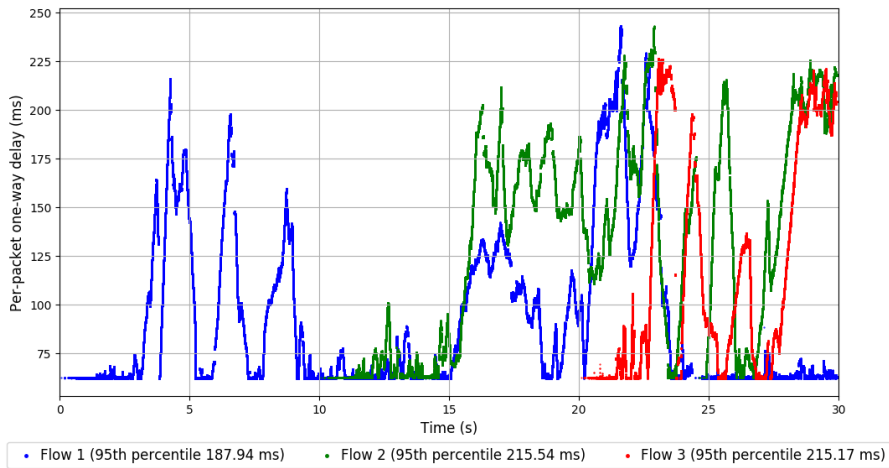
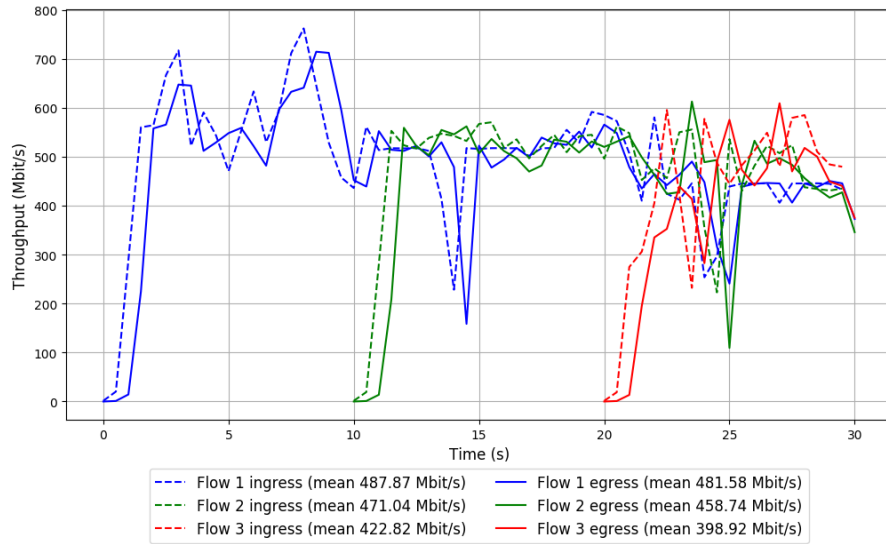
-- Flow 3:

Average throughput: 398.92 Mbit/s

95th percentile per-packet one-way delay: 215.167 ms

Loss rate: 6.86%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-03-19 08:55:29
End at: 2019-03-19 08:55:59
Local clock offset: -0.098 ms
Remote clock offset: -0.028 ms

Below is generated by plot.py at 2019-03-19 12:26:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 536.49 Mbit/s
95th percentile per-packet one-way delay: 82.147 ms
Loss rate: 0.53%

-- Flow 1:

Average throughput: 287.29 Mbit/s
95th percentile per-packet one-way delay: 82.519 ms
Loss rate: 0.34%

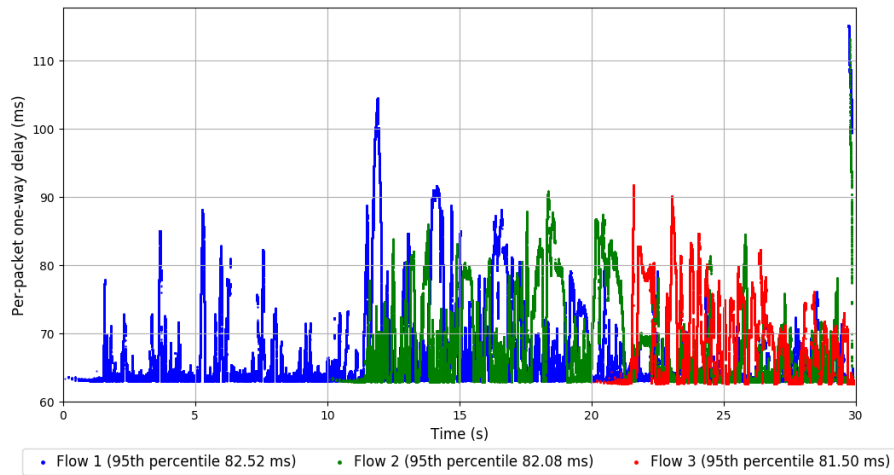
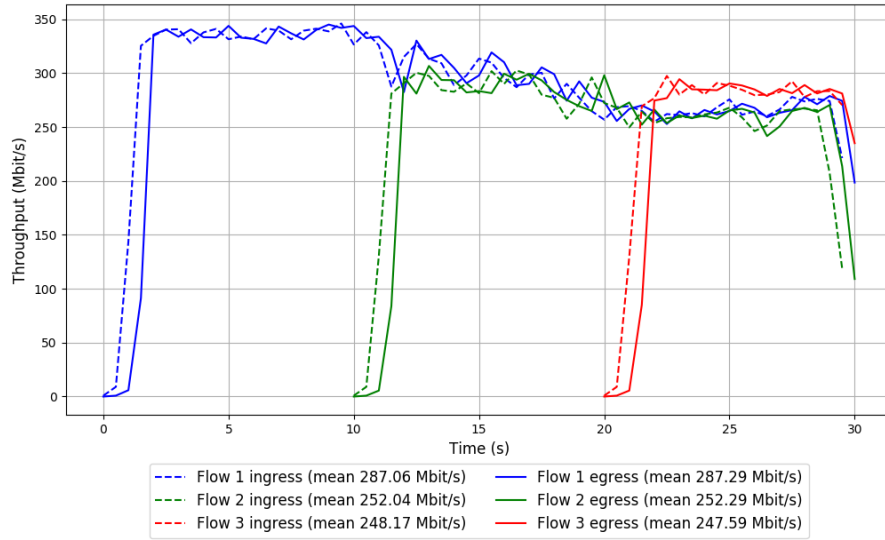
-- Flow 2:

Average throughput: 252.29 Mbit/s
95th percentile per-packet one-way delay: 82.084 ms
Loss rate: 0.37%

-- Flow 3:

Average throughput: 247.59 Mbit/s
95th percentile per-packet one-way delay: 81.504 ms
Loss rate: 1.49%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-03-19 09:31:48

End at: 2019-03-19 09:32:18

Local clock offset: -0.055 ms

Remote clock offset: 0.112 ms

Below is generated by plot.py at 2019-03-19 12:26:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 515.45 Mbit/s

95th percentile per-packet one-way delay: 84.544 ms

Loss rate: 0.60%

-- Flow 1:

Average throughput: 291.44 Mbit/s

95th percentile per-packet one-way delay: 82.155 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 253.36 Mbit/s

95th percentile per-packet one-way delay: 86.293 ms

Loss rate: 0.69%

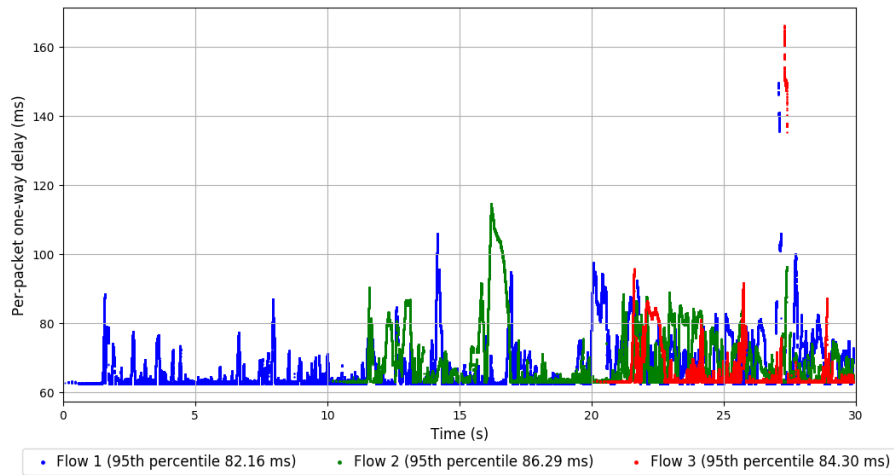
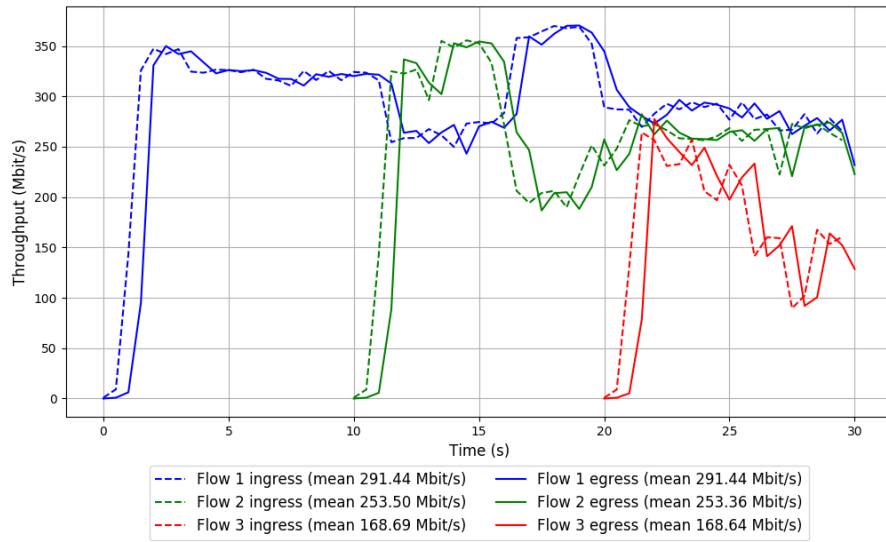
-- Flow 3:

Average throughput: 168.64 Mbit/s

95th percentile per-packet one-way delay: 84.301 ms

Loss rate: 1.29%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-03-19 10:08:16
End at: 2019-03-19 10:08:46
Local clock offset: -0.049 ms
Remote clock offset: -0.451 ms

Below is generated by plot.py at 2019-03-19 12:26:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 514.91 Mbit/s
95th percentile per-packet one-way delay: 81.988 ms
Loss rate: 0.52%

-- Flow 1:

Average throughput: 259.71 Mbit/s
95th percentile per-packet one-way delay: 79.259 ms
Loss rate: 0.15%

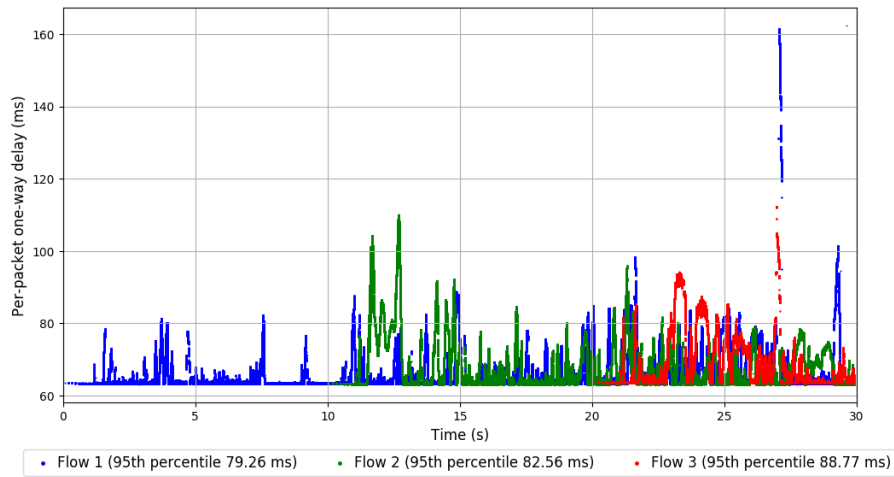
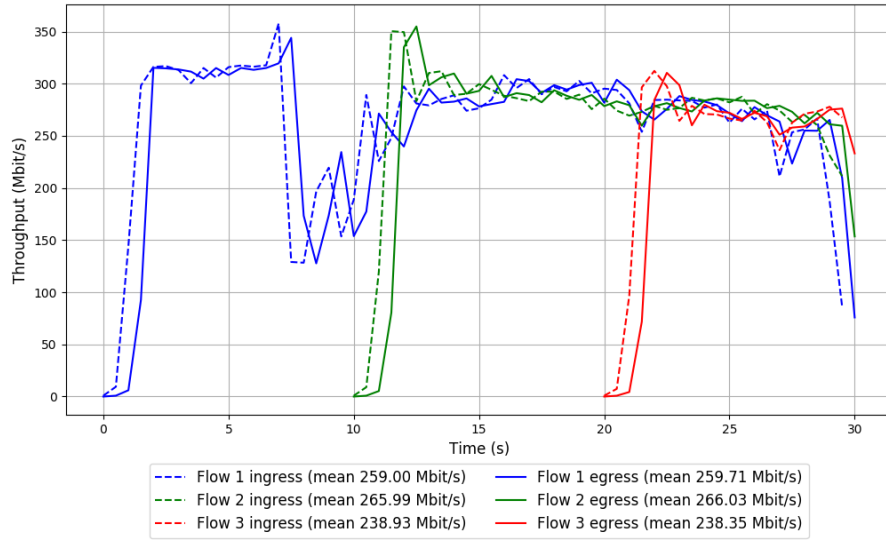
-- Flow 2:

Average throughput: 266.03 Mbit/s
95th percentile per-packet one-way delay: 82.559 ms
Loss rate: 0.62%

-- Flow 3:

Average throughput: 238.35 Mbit/s
95th percentile per-packet one-way delay: 88.765 ms
Loss rate: 1.51%

Run 3: Report of Copa — Data Link

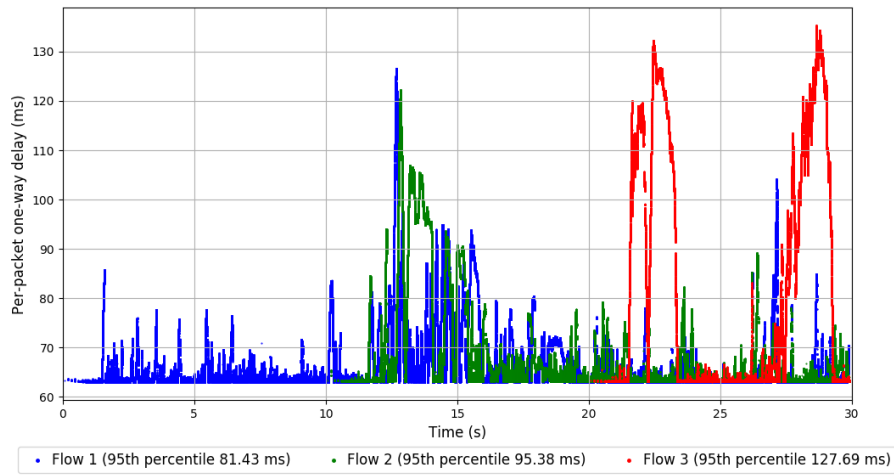
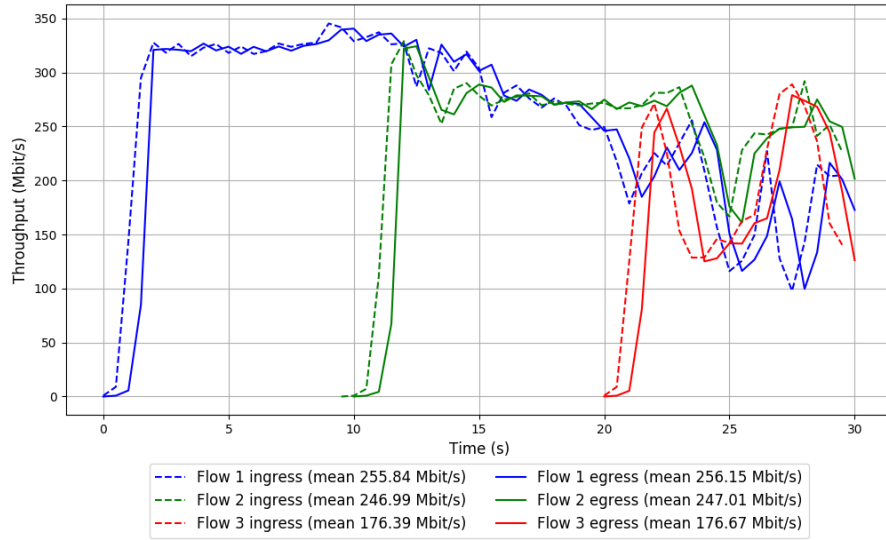


Run 4: Statistics of Copa

Start at: 2019-03-19 10:44:37
End at: 2019-03-19 10:45:07
Local clock offset: -0.013 ms
Remote clock offset: -0.067 ms

```
# Below is generated by plot.py at 2019-03-19 12:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.48 Mbit/s
95th percentile per-packet one-way delay: 104.795 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 256.15 Mbit/s
95th percentile per-packet one-way delay: 81.431 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 247.01 Mbit/s
95th percentile per-packet one-way delay: 95.378 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 176.67 Mbit/s
95th percentile per-packet one-way delay: 127.689 ms
Loss rate: 1.13%
```

Run 4: Report of Copa — Data Link

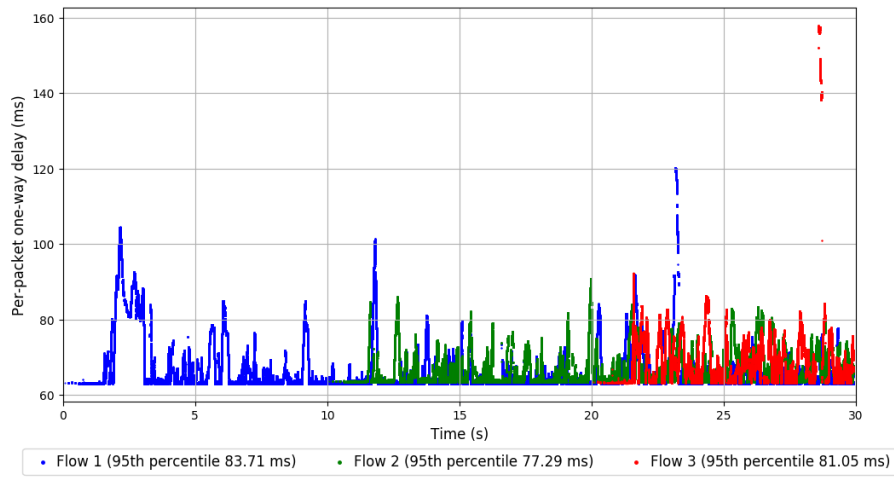
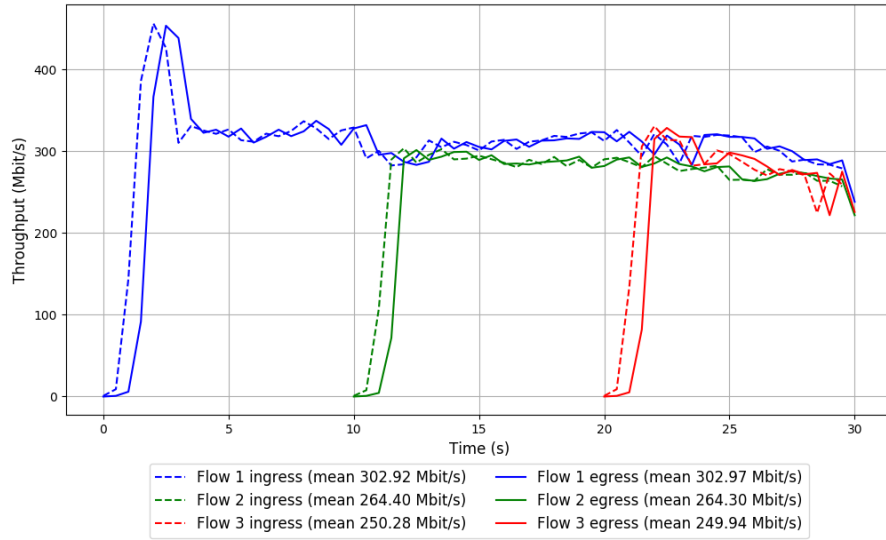


Run 5: Statistics of Copa

Start at: 2019-03-19 11:21:11
End at: 2019-03-19 11:21:41
Local clock offset: -0.151 ms
Remote clock offset: -0.241 ms

```
# Below is generated by plot.py at 2019-03-19 12:42:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 561.00 Mbit/s
95th percentile per-packet one-way delay: 81.324 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 302.97 Mbit/s
95th percentile per-packet one-way delay: 83.712 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 264.30 Mbit/s
95th percentile per-packet one-way delay: 77.288 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 249.94 Mbit/s
95th percentile per-packet one-way delay: 81.050 ms
Loss rate: 1.40%
```

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-03-19 08:51:41
End at: 2019-03-19 08:52:11
Local clock offset: -0.094 ms
Remote clock offset: -0.061 ms

Below is generated by plot.py at 2019-03-19 12:42:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 891.10 Mbit/s
95th percentile per-packet one-way delay: 91.038 ms
Loss rate: 0.68%

-- Flow 1:

Average throughput: 468.40 Mbit/s
95th percentile per-packet one-way delay: 86.521 ms
Loss rate: 0.47%

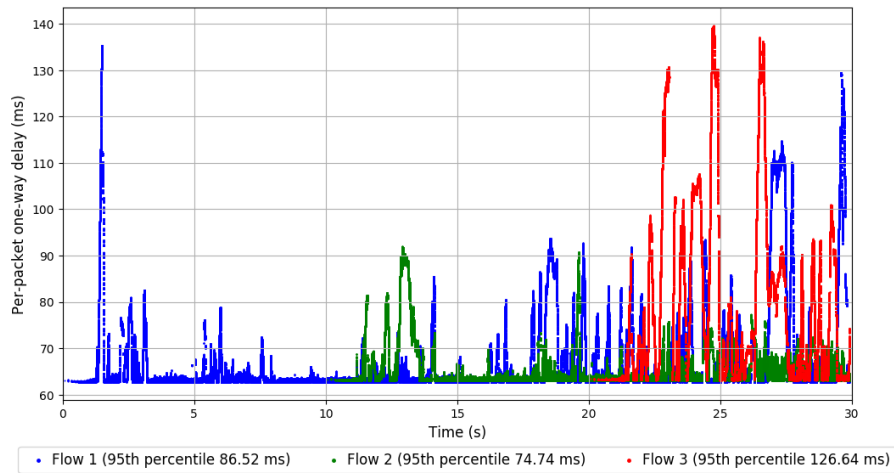
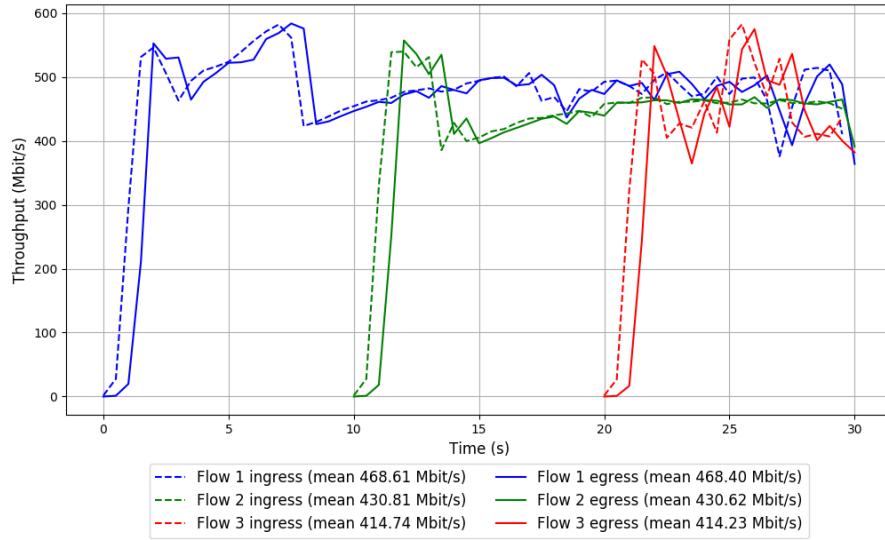
-- Flow 2:

Average throughput: 430.62 Mbit/s
95th percentile per-packet one-way delay: 74.741 ms
Loss rate: 0.68%

-- Flow 3:

Average throughput: 414.23 Mbit/s
95th percentile per-packet one-way delay: 126.643 ms
Loss rate: 1.41%

Run 1: Report of TCP Cubic — Data Link

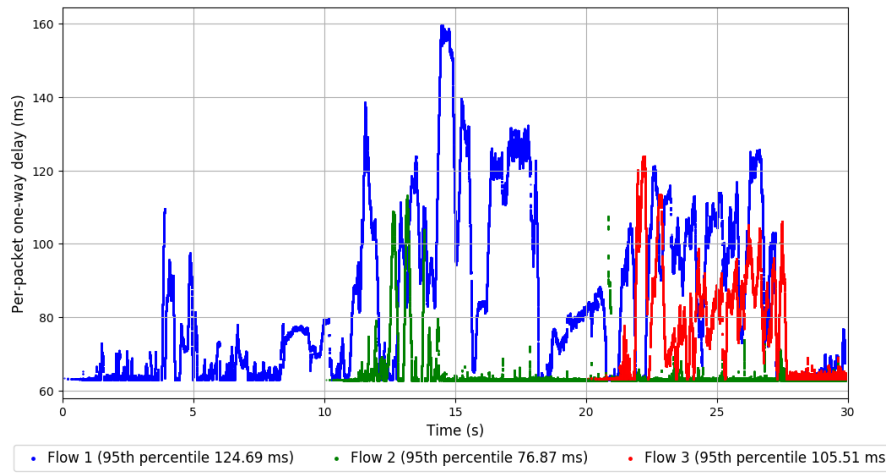
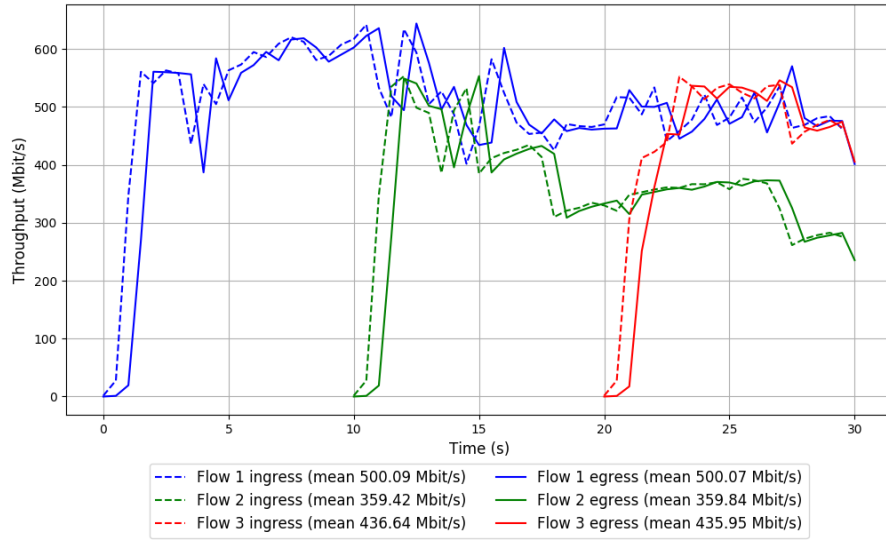


Run 2: Statistics of TCP Cubic

Start at: 2019-03-19 09:27:55
End at: 2019-03-19 09:28:25
Local clock offset: -0.058 ms
Remote clock offset: -0.208 ms

```
# Below is generated by plot.py at 2019-03-19 12:42:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 882.96 Mbit/s
95th percentile per-packet one-way delay: 119.728 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 500.07 Mbit/s
95th percentile per-packet one-way delay: 124.690 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 359.84 Mbit/s
95th percentile per-packet one-way delay: 76.867 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 435.95 Mbit/s
95th percentile per-packet one-way delay: 105.510 ms
Loss rate: 1.42%
```

Run 2: Report of TCP Cubic — Data Link

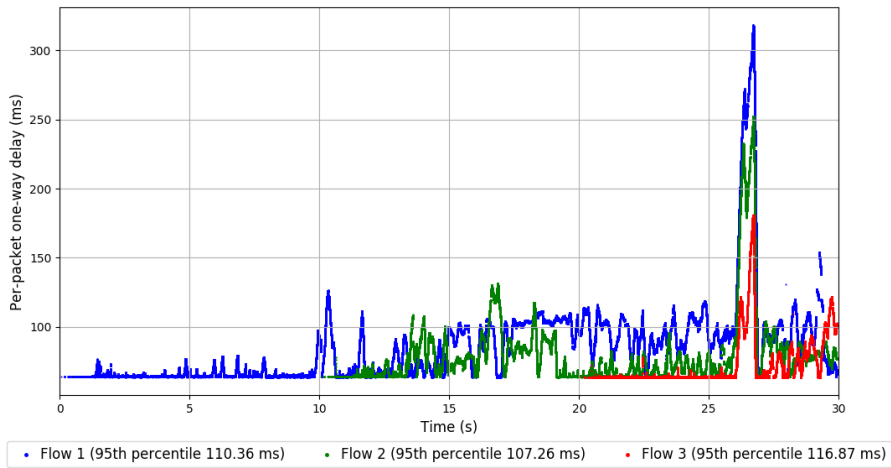
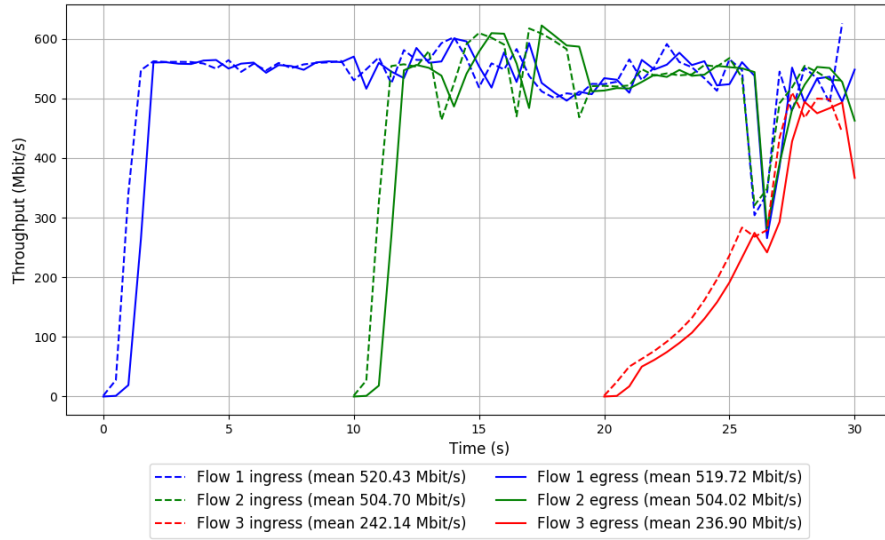


Run 3: Statistics of TCP Cubic

Start at: 2019-03-19 10:04:24
End at: 2019-03-19 10:04:54
Local clock offset: -0.033 ms
Remote clock offset: -0.556 ms

```
# Below is generated by plot.py at 2019-03-19 12:42:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 932.84 Mbit/s
95th percentile per-packet one-way delay: 110.405 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 519.72 Mbit/s
95th percentile per-packet one-way delay: 110.358 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 504.02 Mbit/s
95th percentile per-packet one-way delay: 107.256 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 236.90 Mbit/s
95th percentile per-packet one-way delay: 116.868 ms
Loss rate: 3.40%
```

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-03-19 10:40:50
End at: 2019-03-19 10:41:20
Local clock offset: -0.009 ms
Remote clock offset: -0.214 ms

Below is generated by plot.py at 2019-03-19 12:42:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 825.65 Mbit/s
95th percentile per-packet one-way delay: 94.496 ms
Loss rate: 0.80%

-- Flow 1:

Average throughput: 368.67 Mbit/s
95th percentile per-packet one-way delay: 69.803 ms
Loss rate: 0.41%

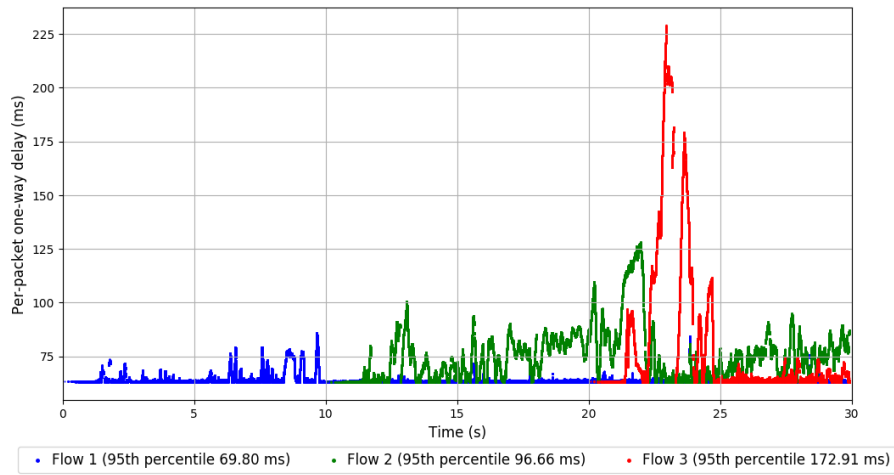
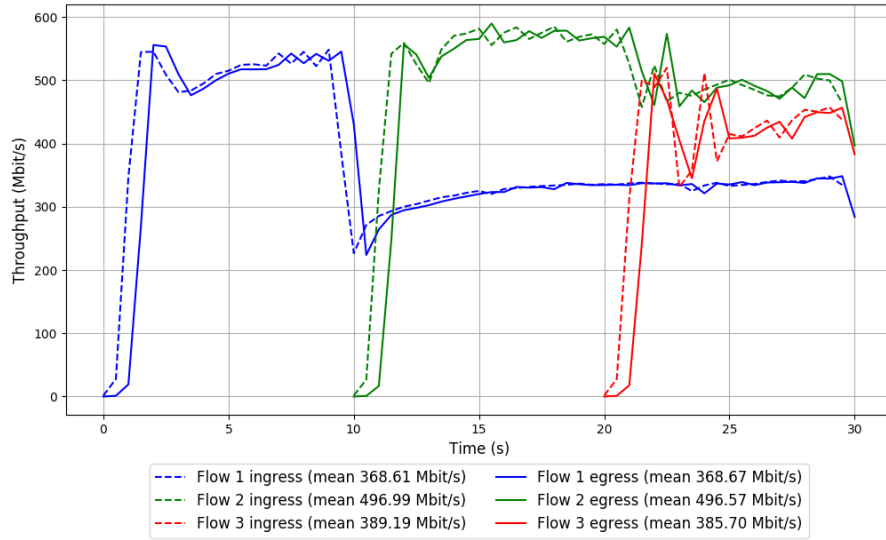
-- Flow 2:

Average throughput: 496.57 Mbit/s
95th percentile per-packet one-way delay: 96.657 ms
Loss rate: 0.71%

-- Flow 3:

Average throughput: 385.70 Mbit/s
95th percentile per-packet one-way delay: 172.908 ms
Loss rate: 2.16%

Run 4: Report of TCP Cubic — Data Link

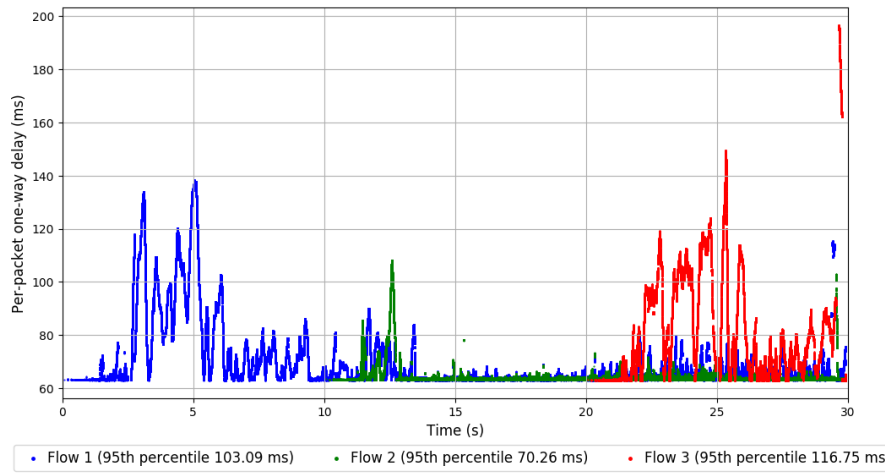
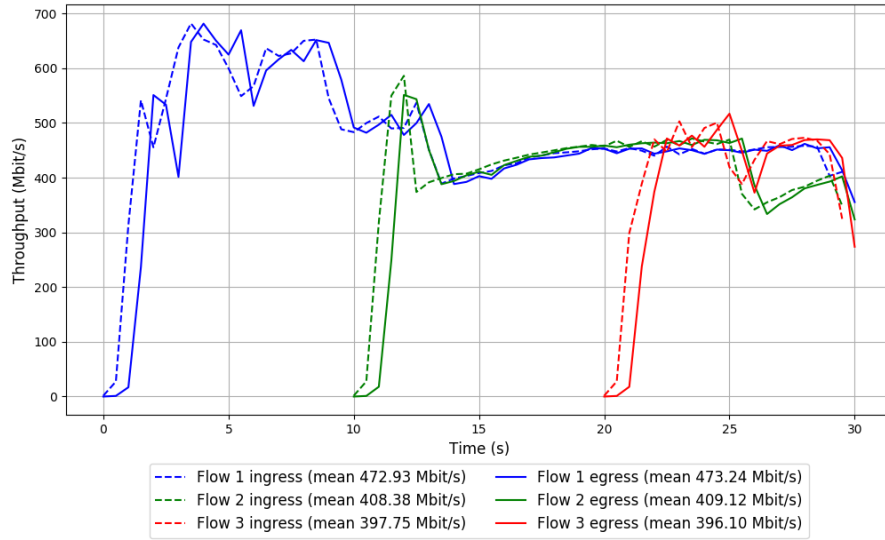


Run 5: Statistics of TCP Cubic

Start at: 2019-03-19 11:17:15
End at: 2019-03-19 11:17:45
Local clock offset: -0.15 ms
Remote clock offset: -0.117 ms

```
# Below is generated by plot.py at 2019-03-19 12:42:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 875.64 Mbit/s
95th percentile per-packet one-way delay: 104.333 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 473.24 Mbit/s
95th percentile per-packet one-way delay: 103.090 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 409.12 Mbit/s
95th percentile per-packet one-way delay: 70.261 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 396.10 Mbit/s
95th percentile per-packet one-way delay: 116.748 ms
Loss rate: 1.66%
```

Run 5: Report of TCP Cubic — Data Link

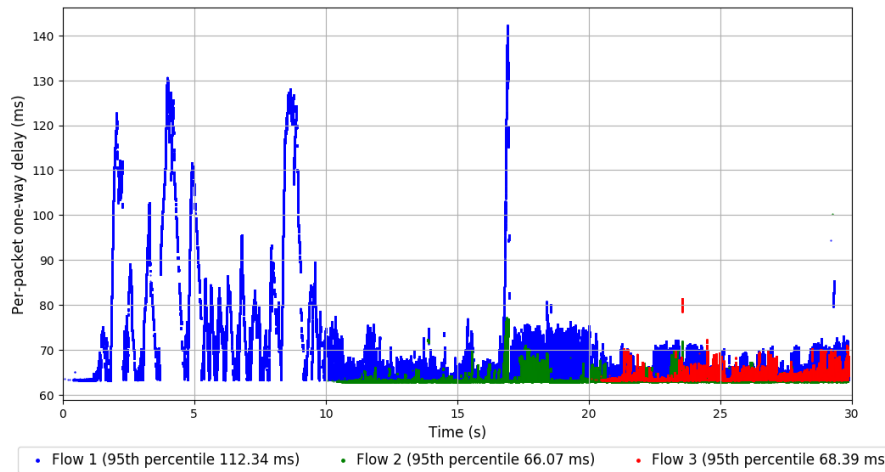
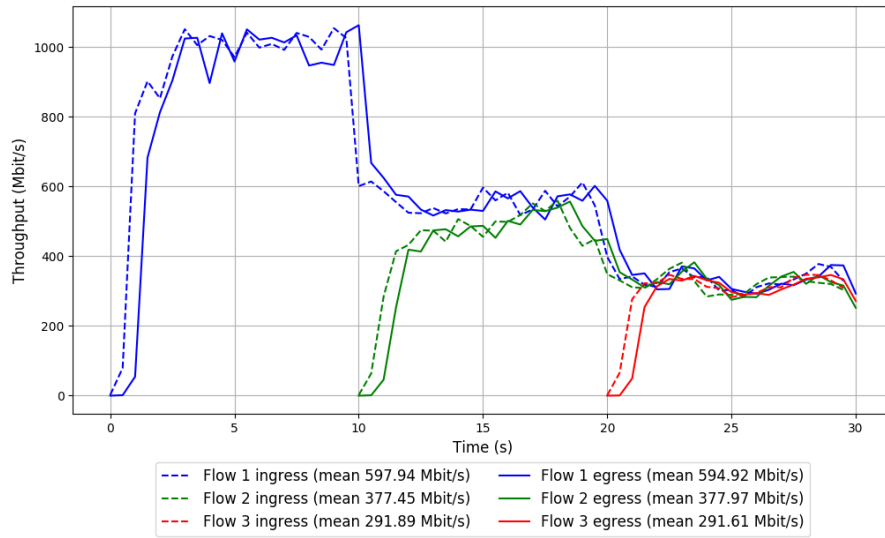


Run 1: Statistics of FillP

Start at: 2019-03-19 09:03:25
End at: 2019-03-19 09:03:55
Local clock offset: -0.122 ms
Remote clock offset: -0.228 ms

```
# Below is generated by plot.py at 2019-03-19 12:46:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 941.27 Mbit/s
95th percentile per-packet one-way delay: 104.550 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 594.92 Mbit/s
95th percentile per-packet one-way delay: 112.340 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 377.97 Mbit/s
95th percentile per-packet one-way delay: 66.066 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 291.61 Mbit/s
95th percentile per-packet one-way delay: 68.385 ms
Loss rate: 1.44%
```

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-03-19 09:39:40

End at: 2019-03-19 09:40:10

Local clock offset: -0.028 ms

Remote clock offset: 0.077 ms

Below is generated by plot.py at 2019-03-19 12:58:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 878.11 Mbit/s

95th percentile per-packet one-way delay: 118.759 ms

Loss rate: 1.36%

-- Flow 1:

Average throughput: 562.94 Mbit/s

95th percentile per-packet one-way delay: 129.436 ms

Loss rate: 1.70%

-- Flow 2:

Average throughput: 342.76 Mbit/s

95th percentile per-packet one-way delay: 66.974 ms

Loss rate: 0.45%

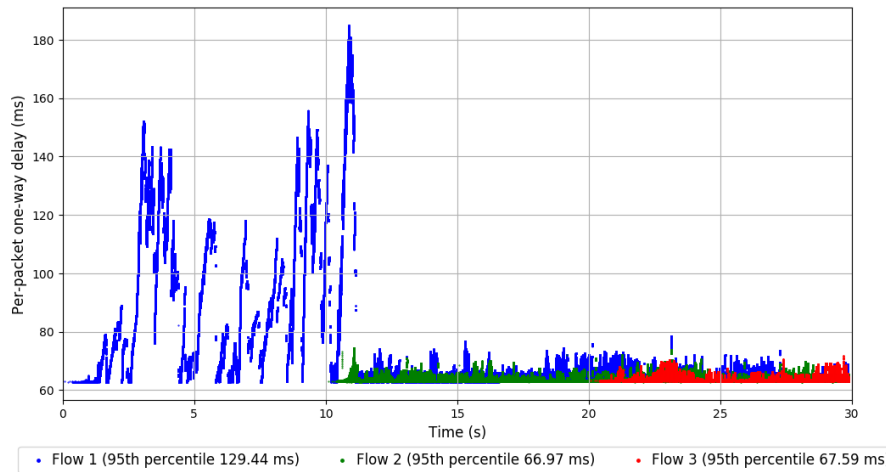
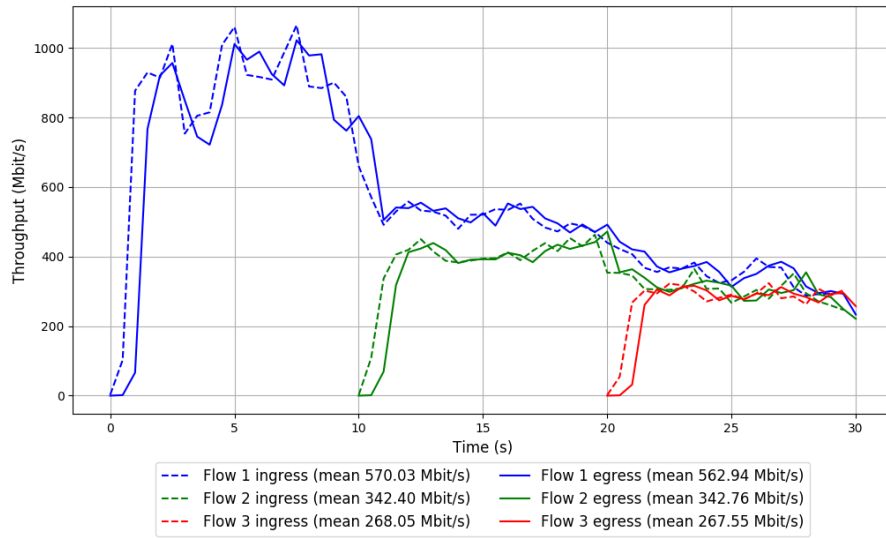
-- Flow 3:

Average throughput: 267.55 Mbit/s

95th percentile per-packet one-way delay: 67.591 ms

Loss rate: 1.53%

Run 2: Report of FillP — Data Link

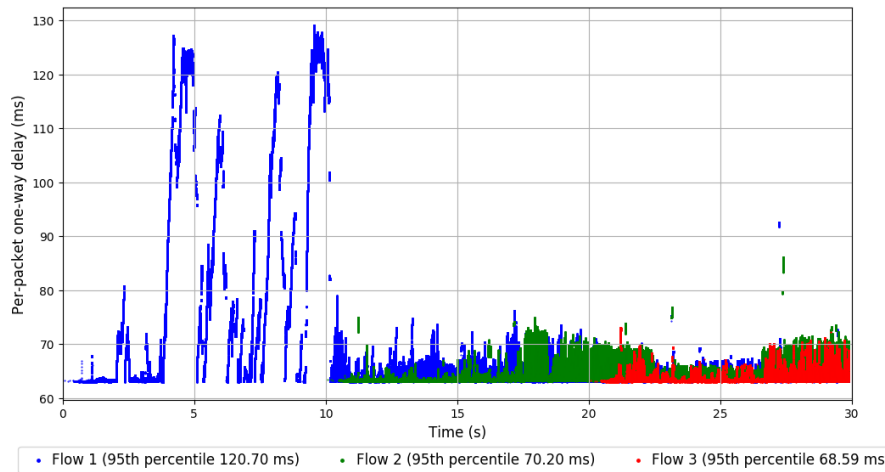
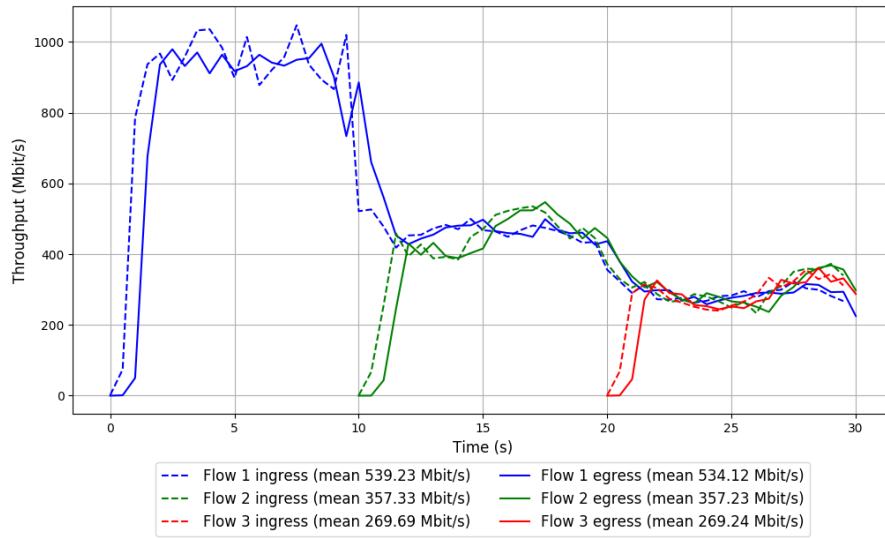


Run 3: Statistics of FillP

Start at: 2019-03-19 10:16:09
End at: 2019-03-19 10:16:39
Local clock offset: -0.045 ms
Remote clock offset: -0.186 ms

```
# Below is generated by plot.py at 2019-03-19 12:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 859.92 Mbit/s
95th percentile per-packet one-way delay: 114.900 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 534.12 Mbit/s
95th percentile per-packet one-way delay: 120.704 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 357.23 Mbit/s
95th percentile per-packet one-way delay: 70.203 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 269.24 Mbit/s
95th percentile per-packet one-way delay: 68.592 ms
Loss rate: 1.44%
```

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-03-19 10:52:33
End at: 2019-03-19 10:53:03
Local clock offset: -0.012 ms
Remote clock offset: -0.632 ms

Below is generated by plot.py at 2019-03-19 12:58:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 871.36 Mbit/s
95th percentile per-packet one-way delay: 75.107 ms
Loss rate: 0.45%

-- Flow 1:

Average throughput: 566.22 Mbit/s
95th percentile per-packet one-way delay: 80.652 ms
Loss rate: 0.25%

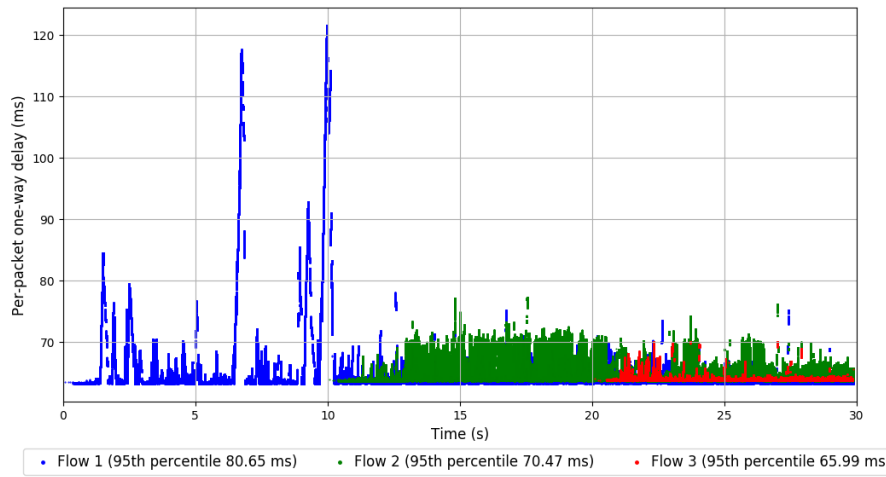
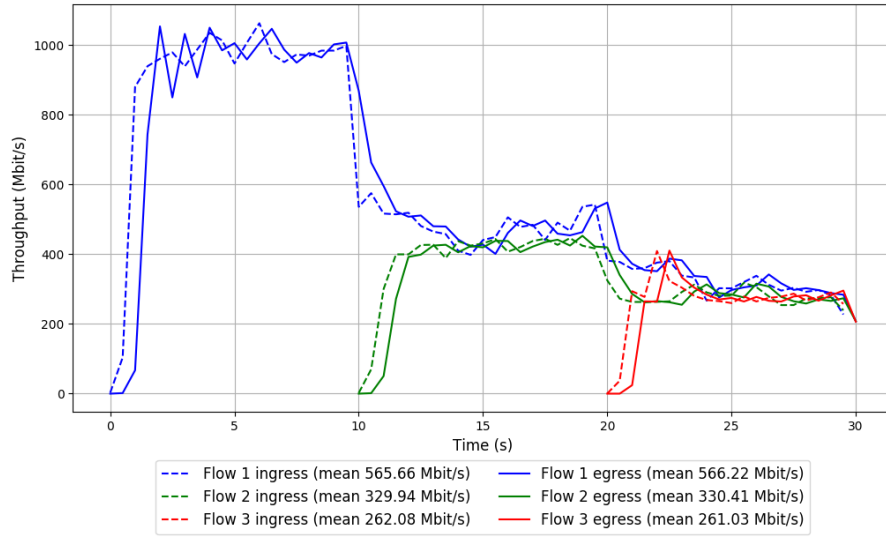
-- Flow 2:

Average throughput: 330.41 Mbit/s
95th percentile per-packet one-way delay: 70.470 ms
Loss rate: 0.54%

-- Flow 3:

Average throughput: 261.03 Mbit/s
95th percentile per-packet one-way delay: 65.990 ms
Loss rate: 1.55%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-03-19 11:29:07

End at: 2019-03-19 11:29:37

Local clock offset: -0.142 ms

Remote clock offset: 0.501 ms

Below is generated by plot.py at 2019-03-19 12:58:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 868.11 Mbit/s

95th percentile per-packet one-way delay: 85.285 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 553.36 Mbit/s

95th percentile per-packet one-way delay: 91.622 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 339.32 Mbit/s

95th percentile per-packet one-way delay: 65.960 ms

Loss rate: 0.55%

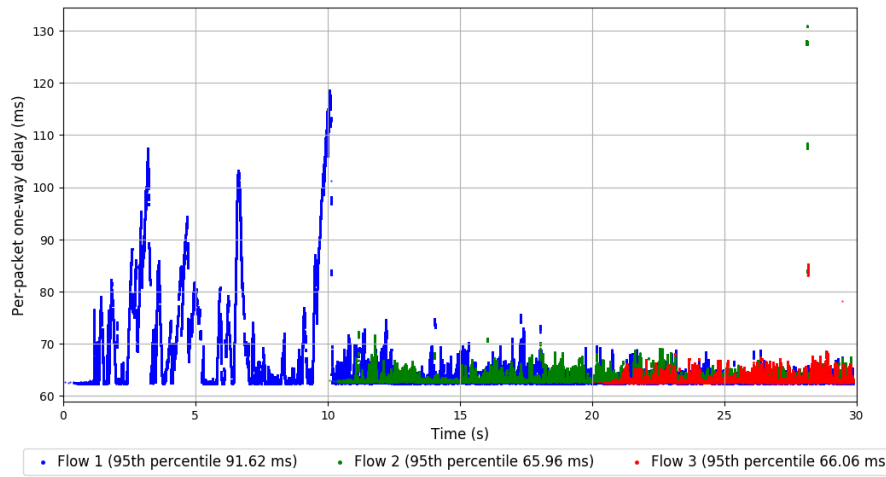
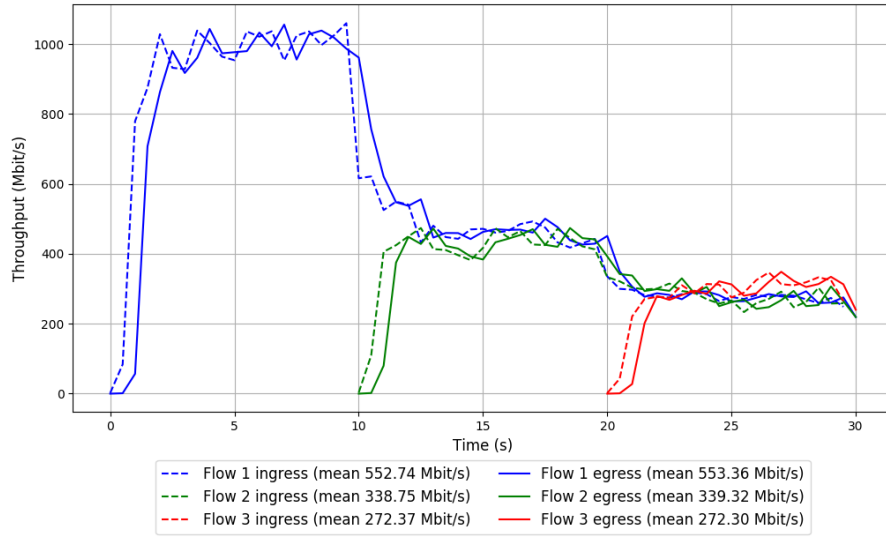
-- Flow 3:

Average throughput: 272.30 Mbit/s

95th percentile per-packet one-way delay: 66.055 ms

Loss rate: 1.37%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-03-19 09:07:09
End at: 2019-03-19 09:07:39
Local clock offset: -0.167 ms
Remote clock offset: -0.228 ms

Below is generated by plot.py at 2019-03-19 12:58:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 829.08 Mbit/s
95th percentile per-packet one-way delay: 81.420 ms
Loss rate: 0.41%

-- Flow 1:

Average throughput: 538.03 Mbit/s
95th percentile per-packet one-way delay: 88.742 ms
Loss rate: 0.20%

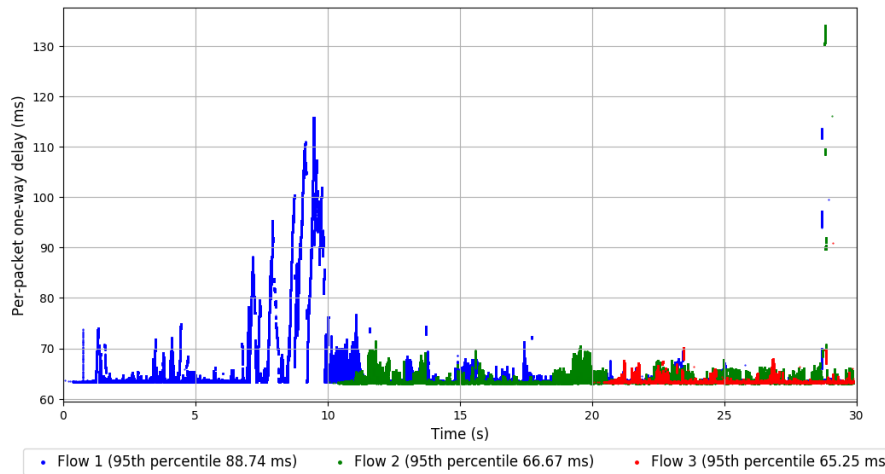
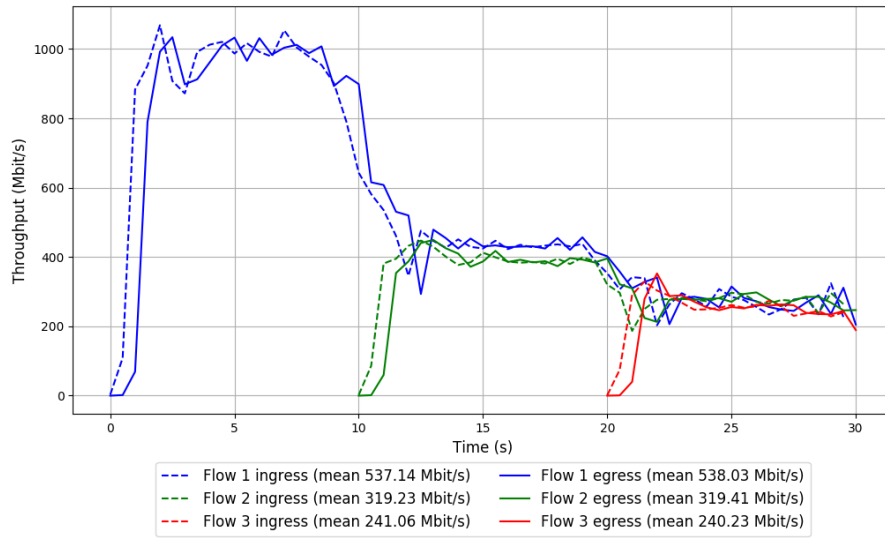
-- Flow 2:

Average throughput: 319.41 Mbit/s
95th percentile per-packet one-way delay: 66.668 ms
Loss rate: 0.53%

-- Flow 3:

Average throughput: 240.23 Mbit/s
95th percentile per-packet one-way delay: 65.245 ms
Loss rate: 1.53%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-19 09:43:24

End at: 2019-03-19 09:43:54

Local clock offset: -0.068 ms

Remote clock offset: 0.372 ms

Below is generated by plot.py at 2019-03-19 12:58:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 825.73 Mbit/s

95th percentile per-packet one-way delay: 80.029 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 528.79 Mbit/s

95th percentile per-packet one-way delay: 85.738 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 330.72 Mbit/s

95th percentile per-packet one-way delay: 72.303 ms

Loss rate: 0.55%

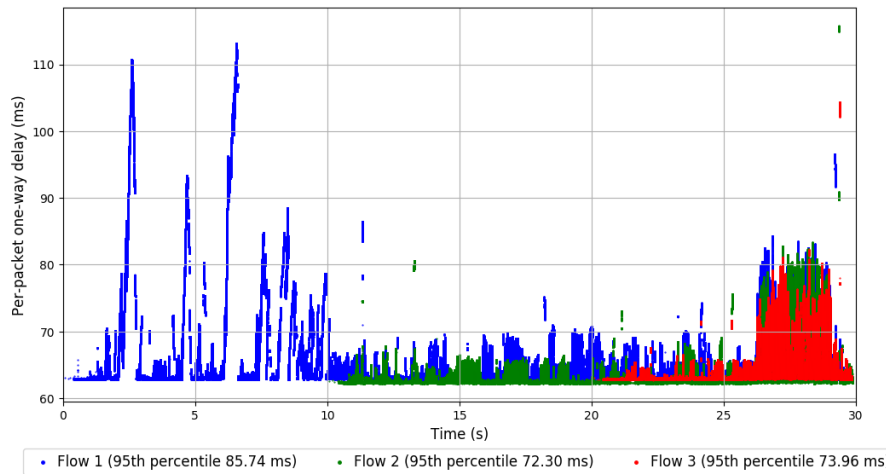
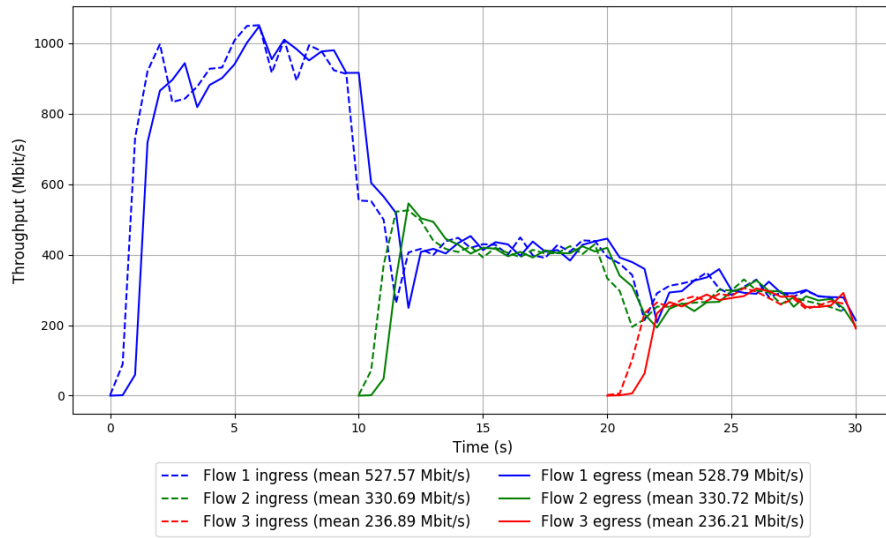
-- Flow 3:

Average throughput: 236.21 Mbit/s

95th percentile per-packet one-way delay: 73.961 ms

Loss rate: 1.73%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-03-19 10:19:51
End at: 2019-03-19 10:20:21
Local clock offset: -0.059 ms
Remote clock offset: -0.294 ms

Below is generated by plot.py at 2019-03-19 13:00:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 829.81 Mbit/s
95th percentile per-packet one-way delay: 75.793 ms
Loss rate: 0.44%

-- Flow 1:

Average throughput: 538.23 Mbit/s
95th percentile per-packet one-way delay: 78.397 ms
Loss rate: 0.28%

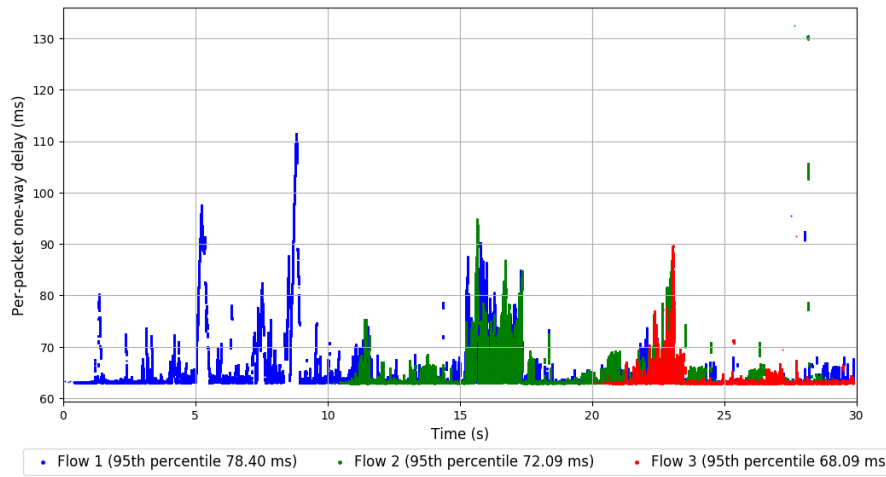
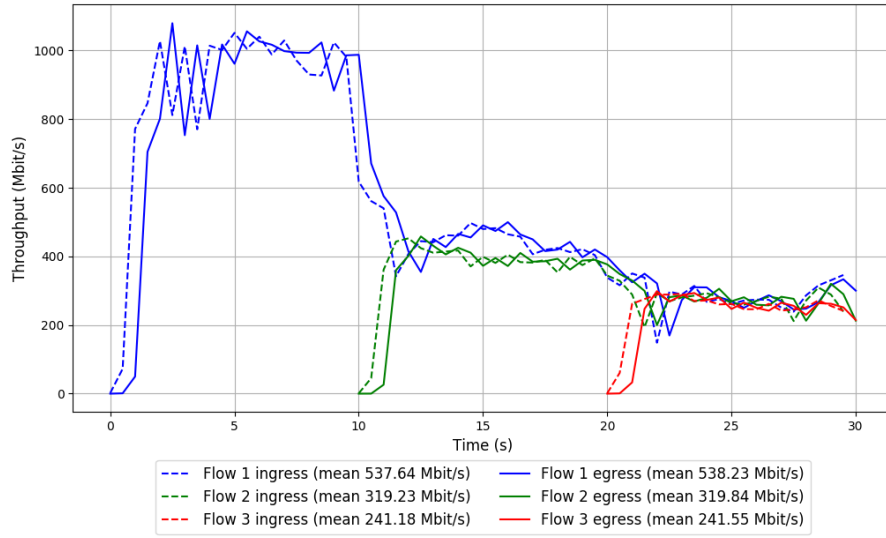
-- Flow 2:

Average throughput: 319.84 Mbit/s
95th percentile per-packet one-way delay: 72.091 ms
Loss rate: 0.49%

-- Flow 3:

Average throughput: 241.55 Mbit/s
95th percentile per-packet one-way delay: 68.091 ms
Loss rate: 1.37%

Run 3: Report of FillP-Sheep — Data Link

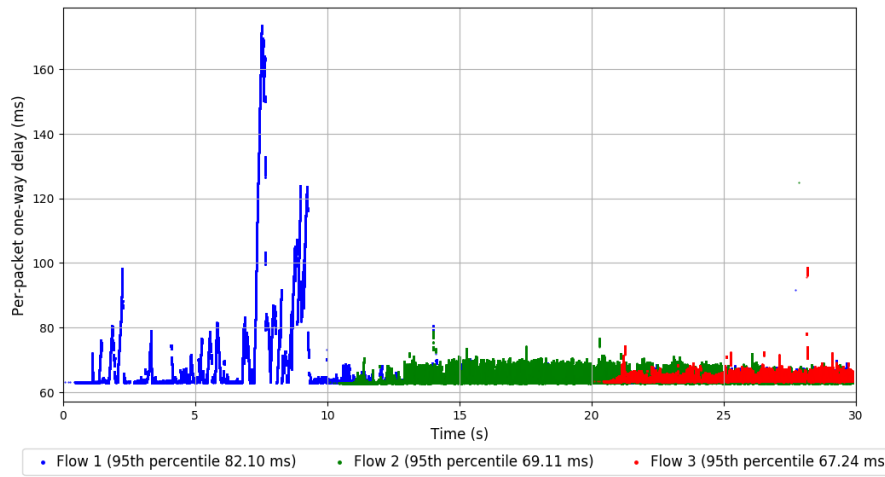
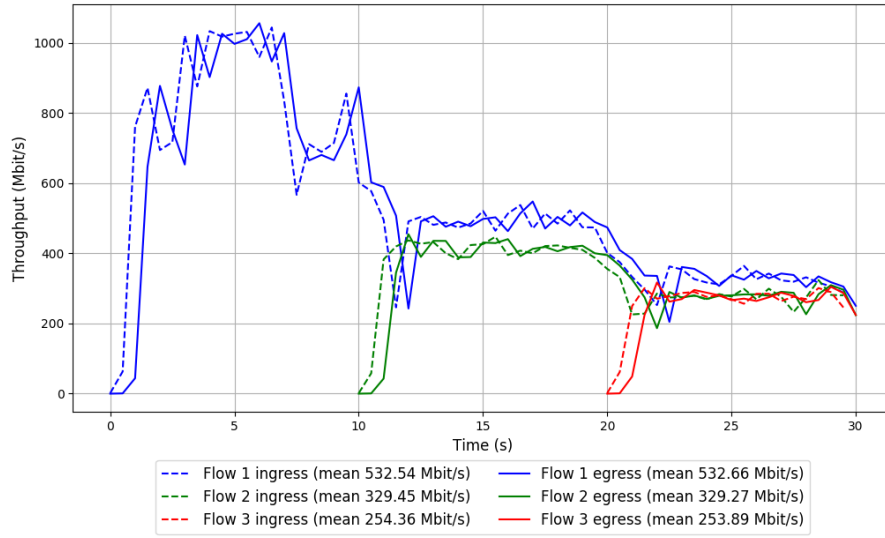


Run 4: Statistics of FillP-Sheep

Start at: 2019-03-19 10:56:14
End at: 2019-03-19 10:56:44
Local clock offset: -0.034 ms
Remote clock offset: -0.093 ms

```
# Below is generated by plot.py at 2019-03-19 13:05:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 834.37 Mbit/s
95th percentile per-packet one-way delay: 76.737 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 532.66 Mbit/s
95th percentile per-packet one-way delay: 82.098 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 329.27 Mbit/s
95th percentile per-packet one-way delay: 69.108 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 253.89 Mbit/s
95th percentile per-packet one-way delay: 67.244 ms
Loss rate: 1.26%
```

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-03-19 11:32:47
End at: 2019-03-19 11:33:17
Local clock offset: -0.108 ms
Remote clock offset: -0.119 ms

Below is generated by plot.py at 2019-03-19 13:16:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 839.70 Mbit/s
95th percentile per-packet one-way delay: 93.881 ms
Loss rate: 0.58%

-- Flow 1:

Average throughput: 528.80 Mbit/s
95th percentile per-packet one-way delay: 103.920 ms
Loss rate: 0.42%

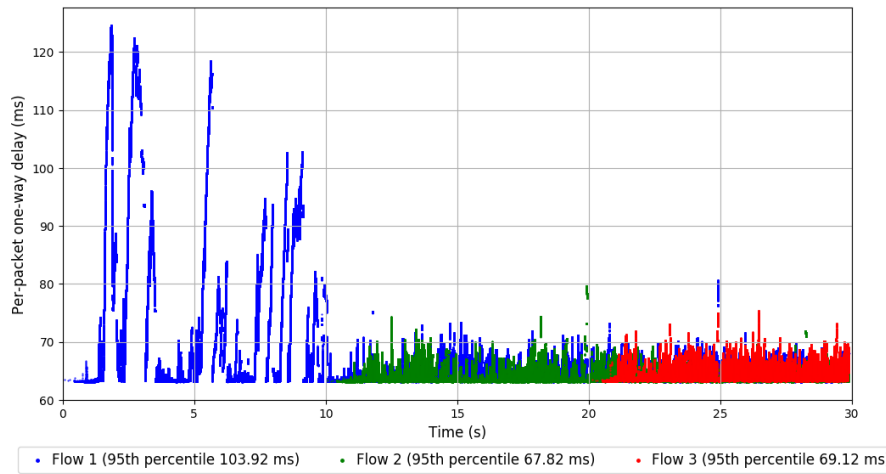
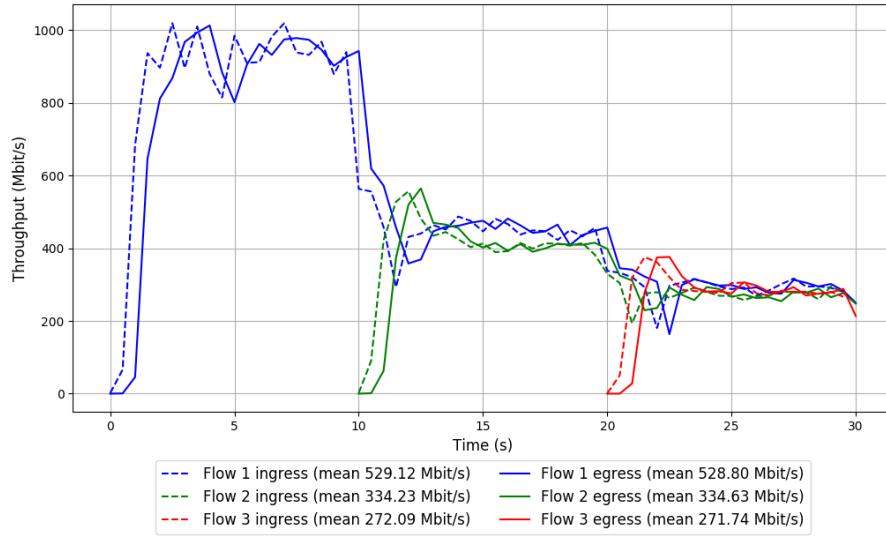
-- Flow 2:

Average throughput: 334.63 Mbit/s
95th percentile per-packet one-way delay: 67.824 ms
Loss rate: 0.56%

-- Flow 3:

Average throughput: 271.74 Mbit/s
95th percentile per-packet one-way delay: 69.118 ms
Loss rate: 1.50%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-03-19 09:05:18

End at: 2019-03-19 09:05:48

Local clock offset: -0.138 ms

Remote clock offset: 0.003 ms

Below is generated by plot.py at 2019-03-19 13:16:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 425.56 Mbit/s

95th percentile per-packet one-way delay: 66.410 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 217.24 Mbit/s

95th percentile per-packet one-way delay: 65.401 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 211.27 Mbit/s

95th percentile per-packet one-way delay: 66.316 ms

Loss rate: 0.50%

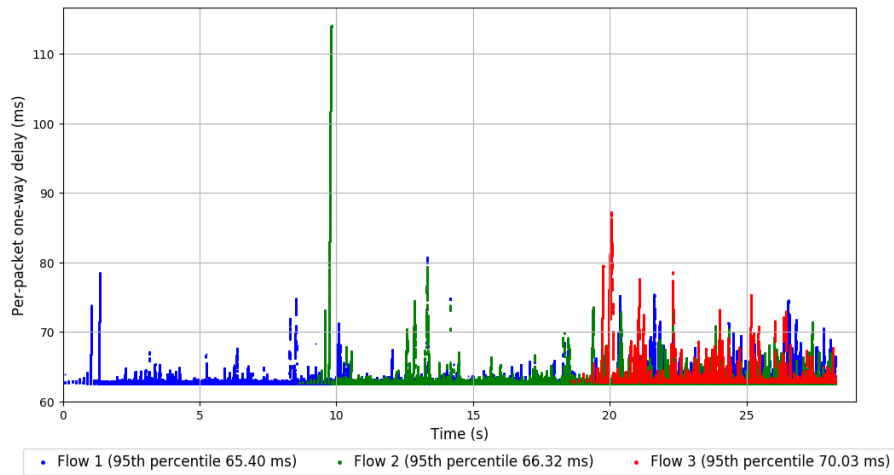
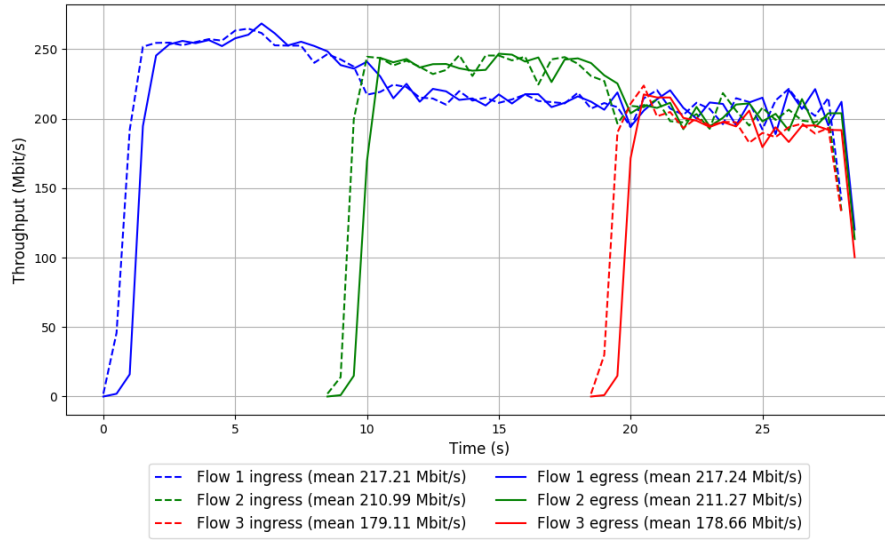
-- Flow 3:

Average throughput: 178.66 Mbit/s

95th percentile per-packet one-way delay: 70.030 ms

Loss rate: 1.53%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-03-19 09:41:29

End at: 2019-03-19 09:41:59

Local clock offset: -0.028 ms

Remote clock offset: 0.106 ms

Below is generated by plot.py at 2019-03-19 13:16:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 393.92 Mbit/s

95th percentile per-packet one-way delay: 65.628 ms

Loss rate: 0.67%

-- Flow 1:

Average throughput: 214.93 Mbit/s

95th percentile per-packet one-way delay: 65.146 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 189.00 Mbit/s

95th percentile per-packet one-way delay: 66.227 ms

Loss rate: 0.71%

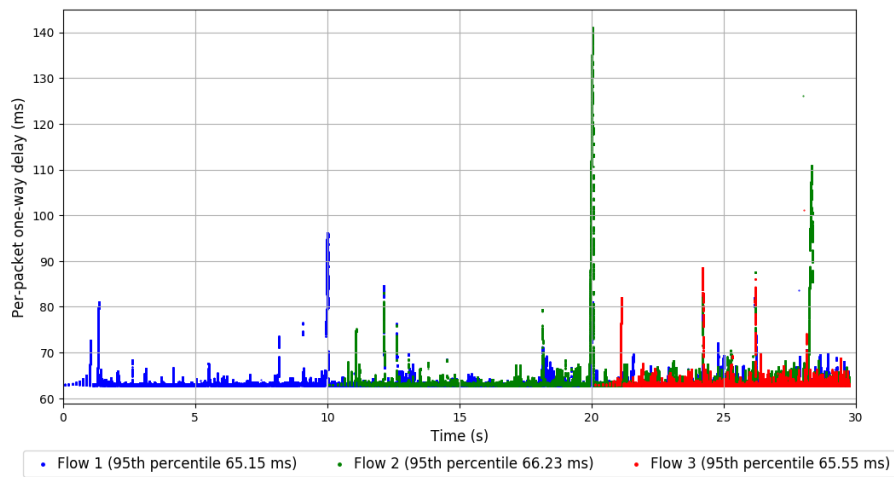
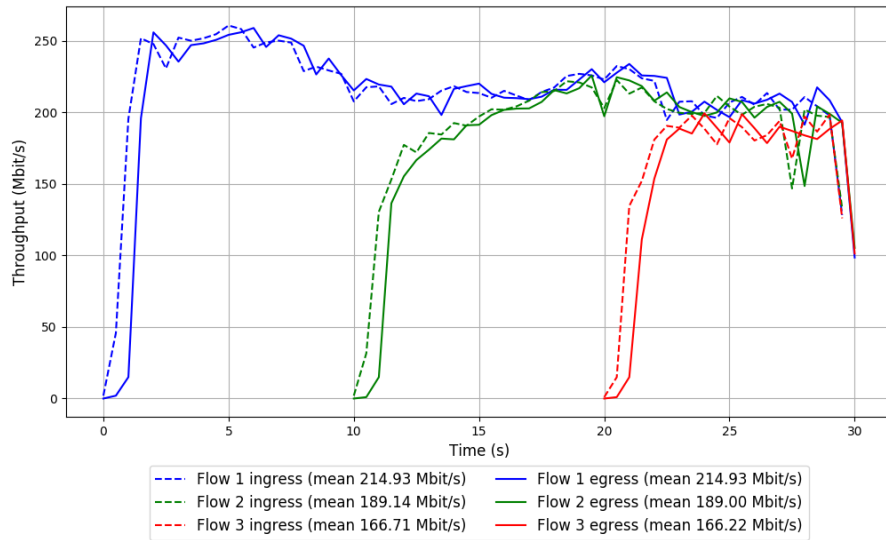
-- Flow 3:

Average throughput: 166.22 Mbit/s

95th percentile per-packet one-way delay: 65.547 ms

Loss rate: 1.59%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-03-19 10:17:59

End at: 2019-03-19 10:18:29

Local clock offset: -0.048 ms

Remote clock offset: -0.84 ms

Below is generated by plot.py at 2019-03-19 13:16:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 410.34 Mbit/s

95th percentile per-packet one-way delay: 67.505 ms

Loss rate: 0.61%

-- Flow 1:

Average throughput: 214.11 Mbit/s

95th percentile per-packet one-way delay: 66.580 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 206.49 Mbit/s

95th percentile per-packet one-way delay: 67.222 ms

Loss rate: 0.64%

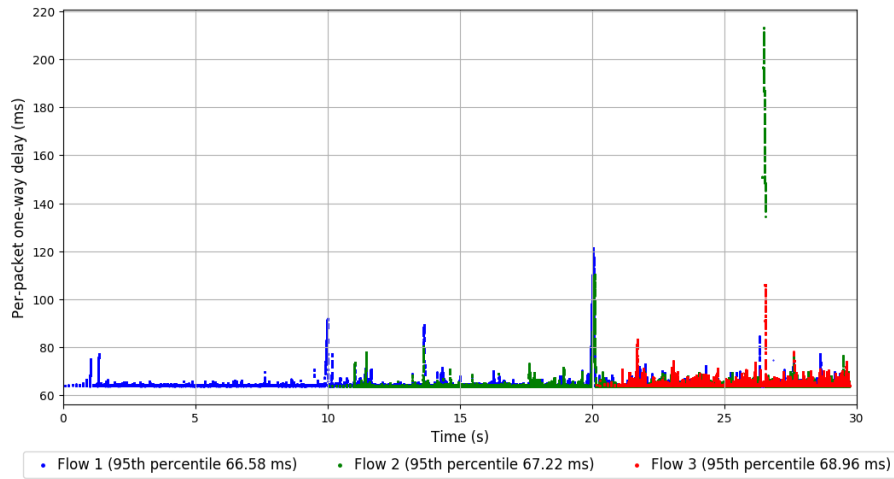
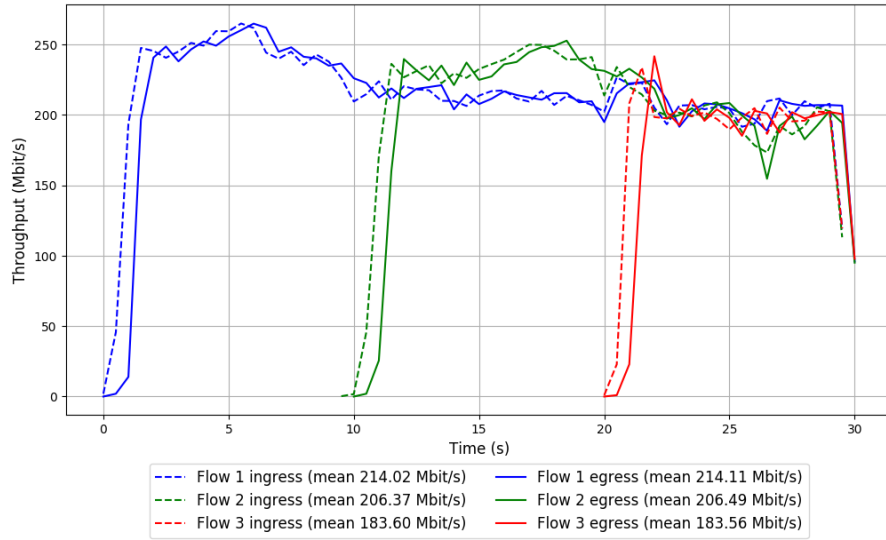
-- Flow 3:

Average throughput: 183.56 Mbit/s

95th percentile per-packet one-way delay: 68.957 ms

Loss rate: 1.33%

Run 3: Report of Indigo — Data Link

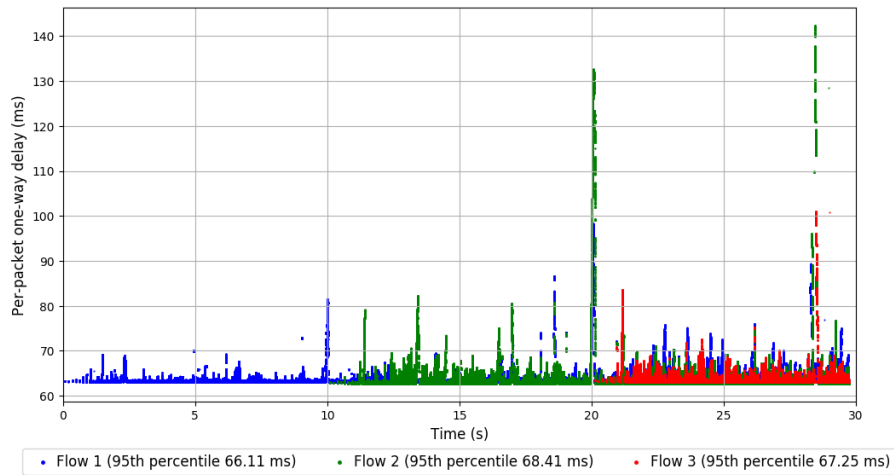
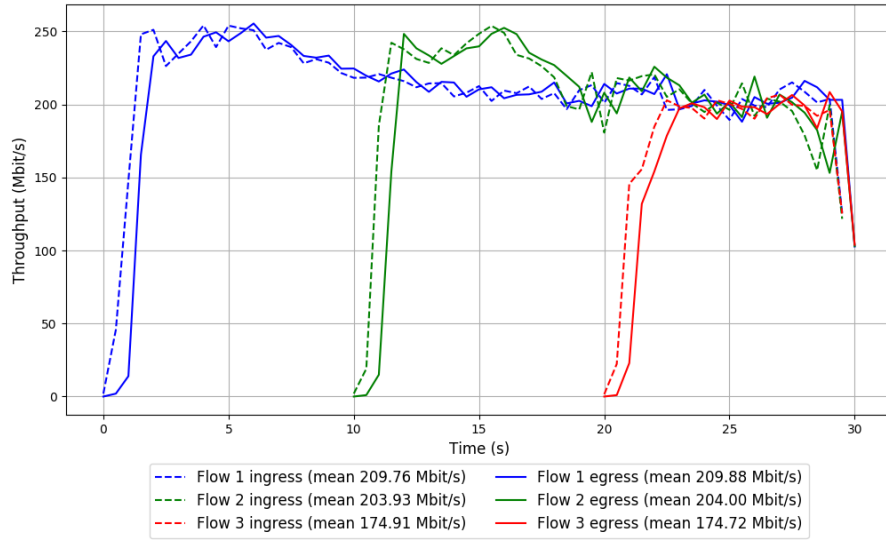


Run 4: Statistics of Indigo

Start at: 2019-03-19 10:54:22
End at: 2019-03-19 10:54:53
Local clock offset: -0.026 ms
Remote clock offset: -0.097 ms

```
# Below is generated by plot.py at 2019-03-19 13:16:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.55 Mbit/s
95th percentile per-packet one-way delay: 67.025 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 209.88 Mbit/s
95th percentile per-packet one-way delay: 66.115 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 204.00 Mbit/s
95th percentile per-packet one-way delay: 68.414 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 174.72 Mbit/s
95th percentile per-packet one-way delay: 67.253 ms
Loss rate: 1.41%
```

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-03-19 11:30:57

End at: 2019-03-19 11:31:27

Local clock offset: -0.111 ms

Remote clock offset: -0.14 ms

Below is generated by plot.py at 2019-03-19 13:16:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 383.40 Mbit/s

95th percentile per-packet one-way delay: 65.814 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 205.24 Mbit/s

95th percentile per-packet one-way delay: 65.173 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 190.73 Mbit/s

95th percentile per-packet one-way delay: 66.412 ms

Loss rate: 0.59%

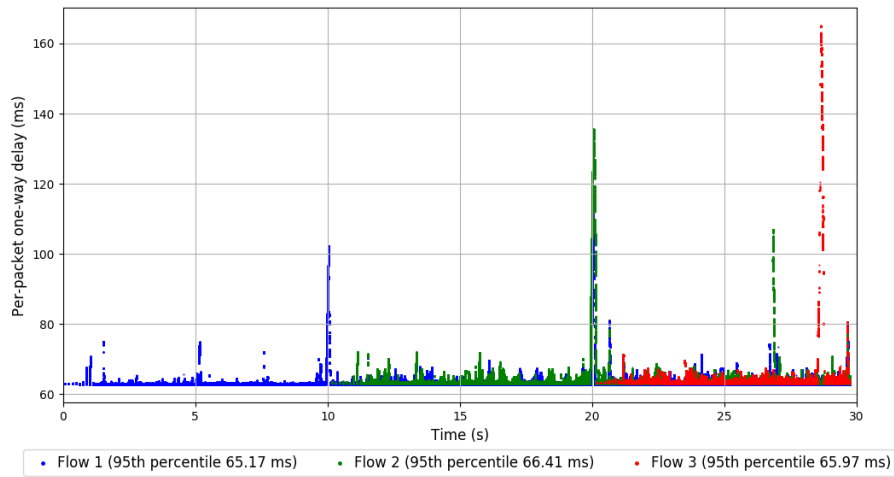
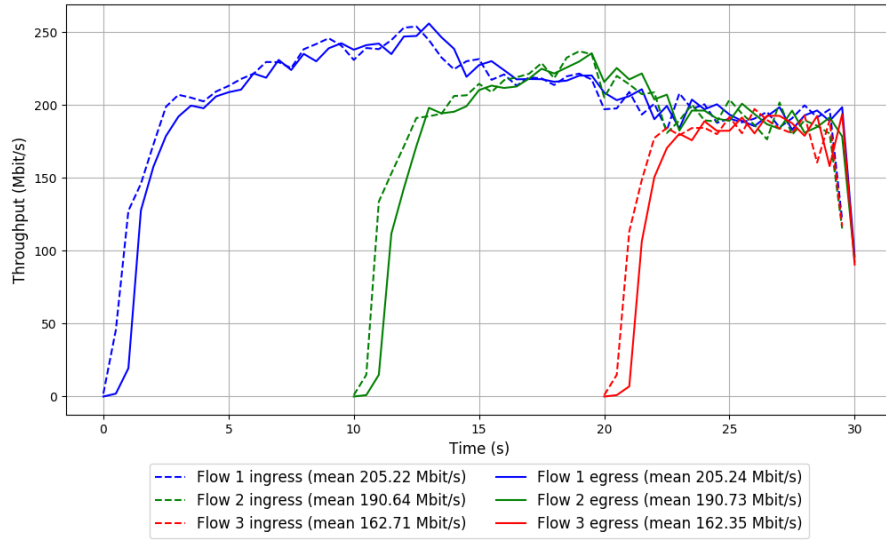
-- Flow 3:

Average throughput: 162.35 Mbit/s

95th percentile per-packet one-way delay: 65.969 ms

Loss rate: 1.52%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-19 09:00:27

End at: 2019-03-19 09:00:57

Local clock offset: -0.113 ms

Remote clock offset: 0.063 ms

Below is generated by plot.py at 2019-03-19 13:16:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 683.84 Mbit/s

95th percentile per-packet one-way delay: 69.663 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 408.49 Mbit/s

95th percentile per-packet one-way delay: 71.968 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 328.41 Mbit/s

95th percentile per-packet one-way delay: 64.796 ms

Loss rate: 0.67%

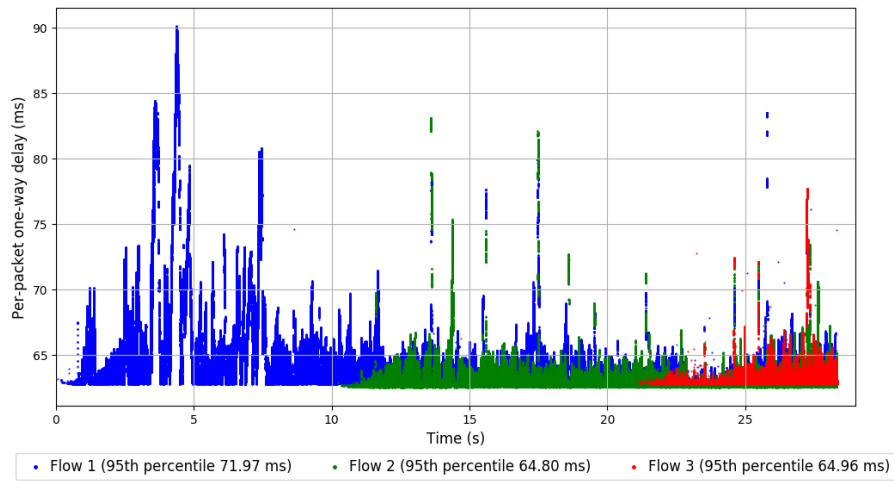
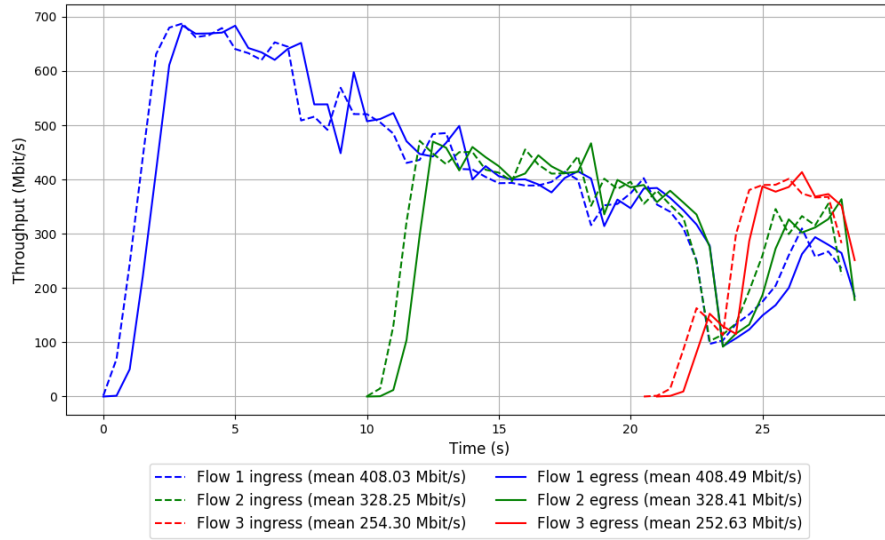
-- Flow 3:

Average throughput: 252.63 Mbit/s

95th percentile per-packet one-way delay: 64.963 ms

Loss rate: 2.32%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-19 09:36:39

End at: 2019-03-19 09:37:09

Local clock offset: -0.038 ms

Remote clock offset: 0.118 ms

Below is generated by plot.py at 2019-03-19 13:19:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 734.88 Mbit/s

95th percentile per-packet one-way delay: 76.041 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 449.09 Mbit/s

95th percentile per-packet one-way delay: 79.931 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 348.43 Mbit/s

95th percentile per-packet one-way delay: 65.101 ms

Loss rate: 0.55%

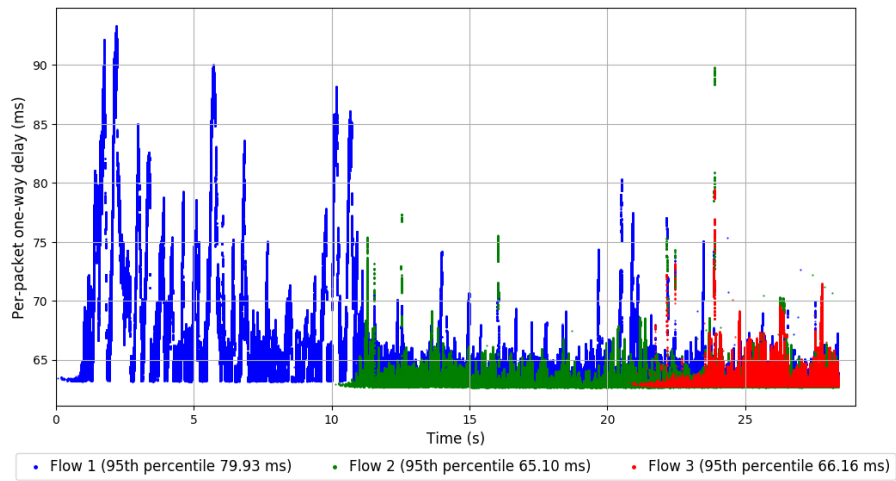
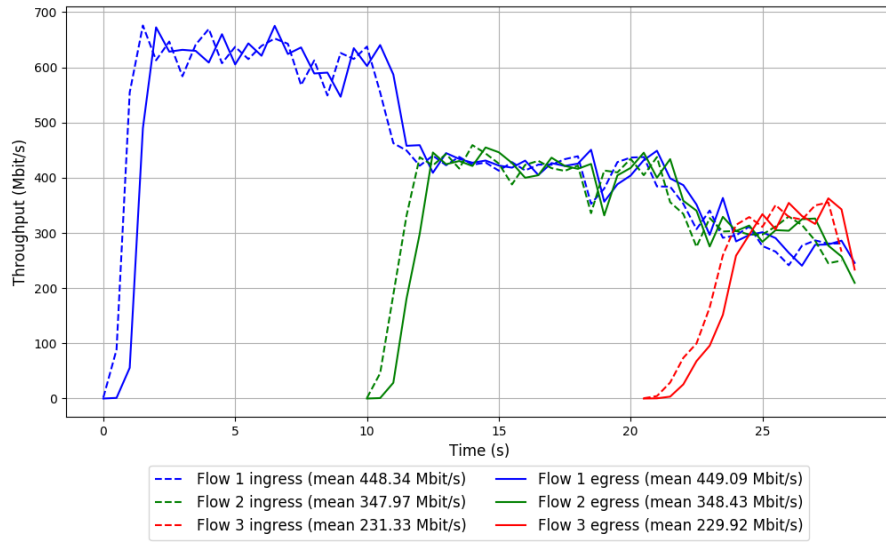
-- Flow 3:

Average throughput: 229.92 Mbit/s

95th percentile per-packet one-way delay: 66.157 ms

Loss rate: 2.25%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-19 10:13:09

End at: 2019-03-19 10:13:39

Local clock offset: -0.046 ms

Remote clock offset: 0.55 ms

Below is generated by plot.py at 2019-03-19 13:24:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 719.88 Mbit/s

95th percentile per-packet one-way delay: 82.229 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 436.83 Mbit/s

95th percentile per-packet one-way delay: 89.447 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 332.47 Mbit/s

95th percentile per-packet one-way delay: 65.296 ms

Loss rate: 0.57%

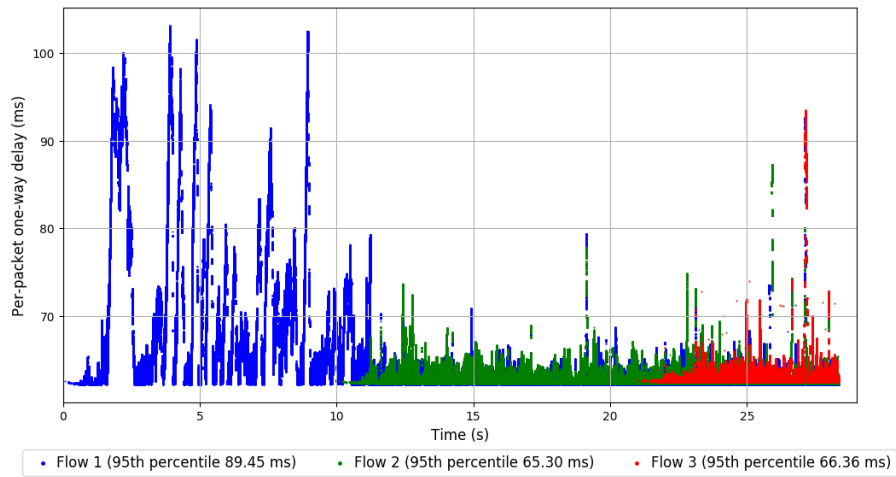
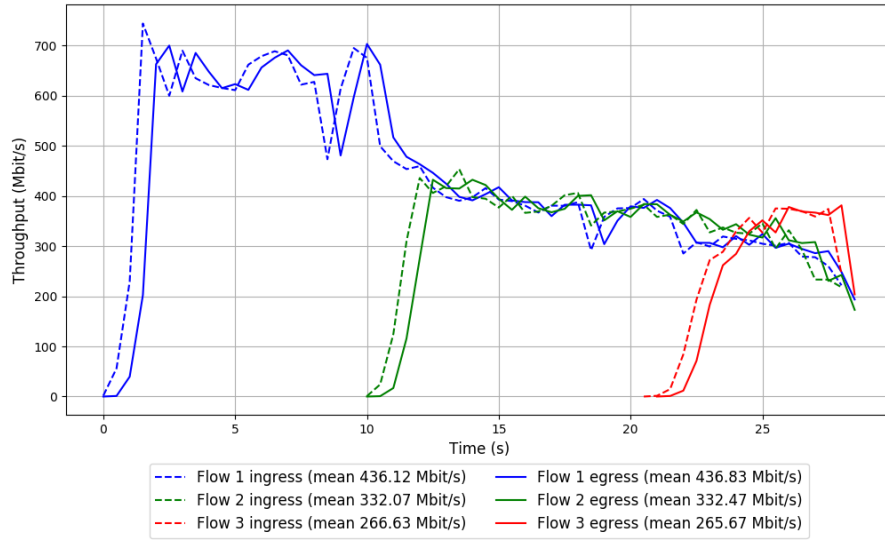
-- Flow 3:

Average throughput: 265.67 Mbit/s

95th percentile per-packet one-way delay: 66.365 ms

Loss rate: 2.07%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-19 10:49:33
End at: 2019-03-19 10:50:03
Local clock offset: -0.044 ms
Remote clock offset: -0.179 ms

Below is generated by plot.py at 2019-03-19 13:24:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 709.62 Mbit/s
95th percentile per-packet one-way delay: 67.969 ms
Loss rate: 0.62%

-- Flow 1:

Average throughput: 417.68 Mbit/s
95th percentile per-packet one-way delay: 68.486 ms
Loss rate: 0.35%

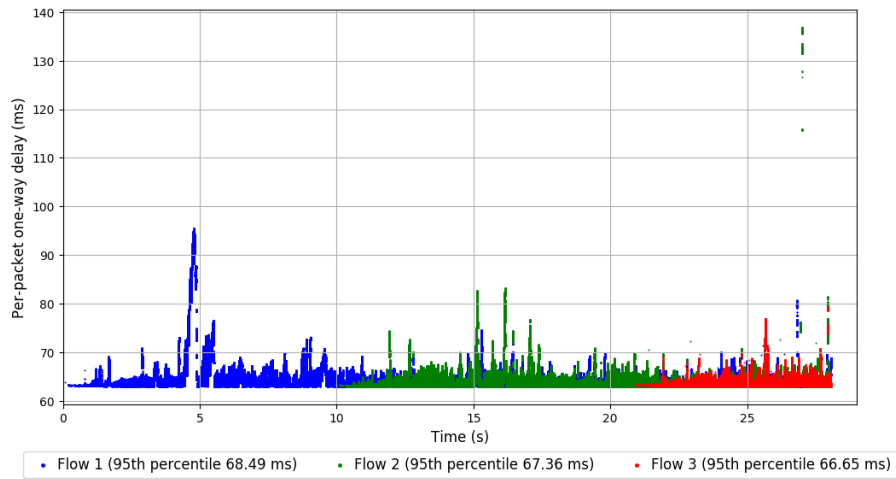
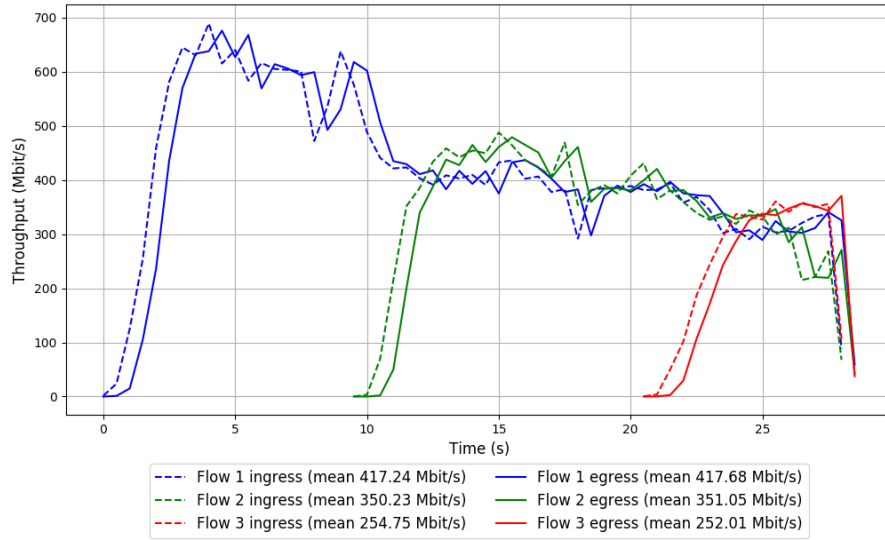
-- Flow 2:

Average throughput: 351.05 Mbit/s
95th percentile per-packet one-way delay: 67.356 ms
Loss rate: 0.47%

-- Flow 3:

Average throughput: 252.01 Mbit/s
95th percentile per-packet one-way delay: 66.652 ms
Loss rate: 2.77%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-19 11:26:04
End at: 2019-03-19 11:26:34
Local clock offset: -0.117 ms
Remote clock offset: -0.086 ms

Below is generated by plot.py at 2019-03-19 13:25:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 767.80 Mbit/s
95th percentile per-packet one-way delay: 71.315 ms
Loss rate: 0.65%

-- Flow 1:

Average throughput: 448.68 Mbit/s
95th percentile per-packet one-way delay: 70.537 ms
Loss rate: 0.39%

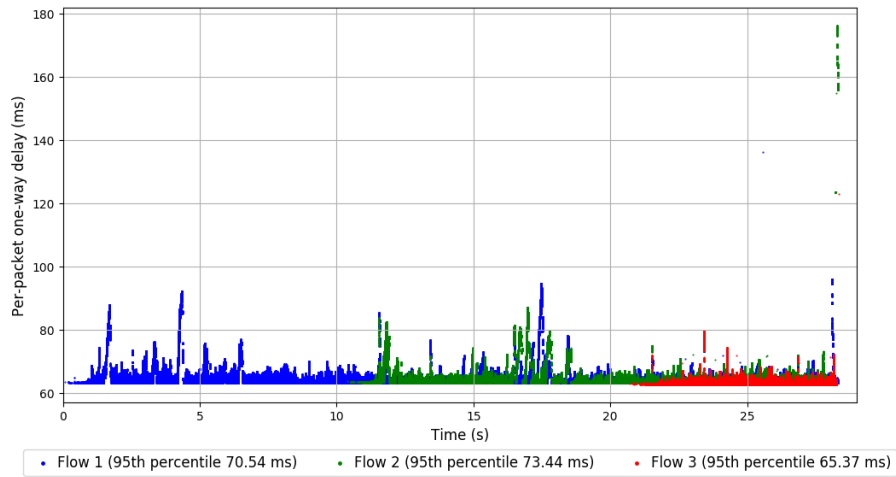
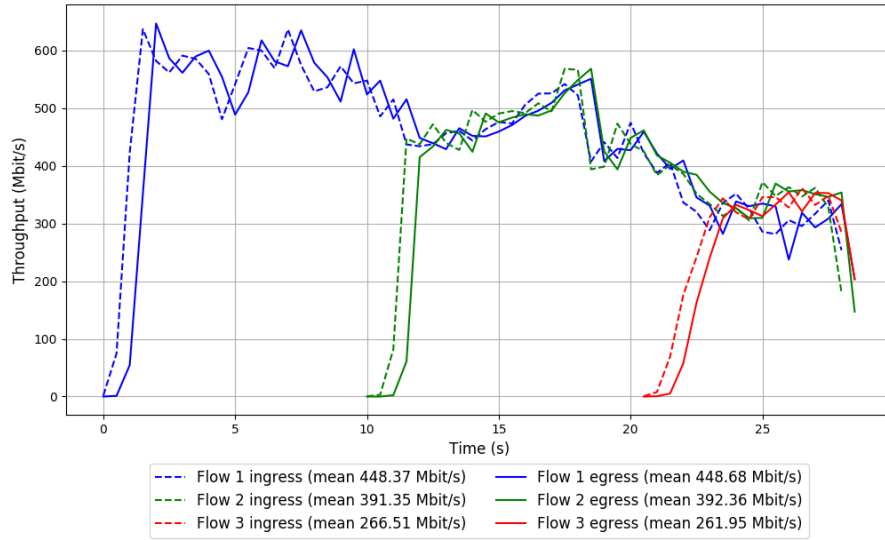
-- Flow 2:

Average throughput: 392.36 Mbit/s
95th percentile per-packet one-way delay: 73.439 ms
Loss rate: 0.45%

-- Flow 3:

Average throughput: 261.95 Mbit/s
95th percentile per-packet one-way delay: 65.372 ms
Loss rate: 2.95%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-19 08:53:39

End at: 2019-03-19 08:54:09

Local clock offset: -0.121 ms

Remote clock offset: -0.08 ms

Below is generated by plot.py at 2019-03-19 13:25:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 759.75 Mbit/s

95th percentile per-packet one-way delay: 80.375 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 471.11 Mbit/s

95th percentile per-packet one-way delay: 82.519 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 407.20 Mbit/s

95th percentile per-packet one-way delay: 72.428 ms

Loss rate: 0.68%

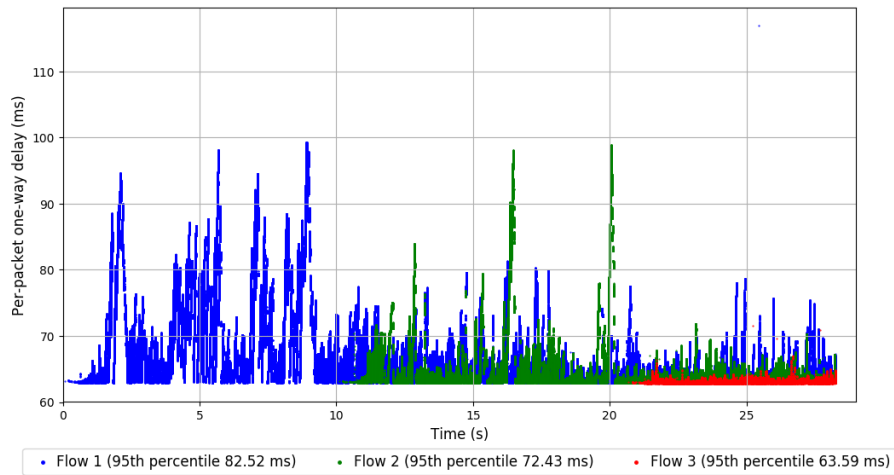
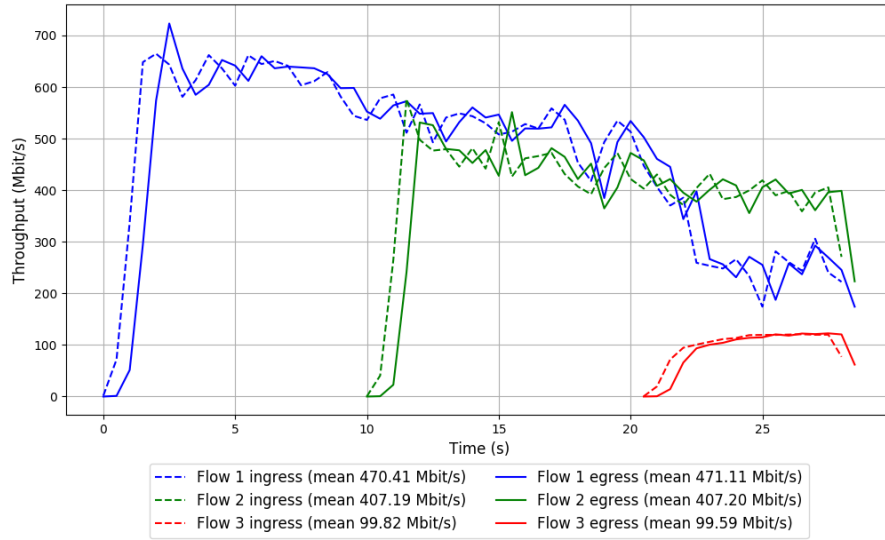
-- Flow 3:

Average throughput: 99.59 Mbit/s

95th percentile per-packet one-way delay: 63.589 ms

Loss rate: 1.89%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-19 09:29:57

End at: 2019-03-19 09:30:27

Local clock offset: -0.036 ms

Remote clock offset: -0.09 ms

Below is generated by plot.py at 2019-03-19 13:25:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 766.80 Mbit/s

95th percentile per-packet one-way delay: 120.116 ms

Loss rate: 0.59%

-- Flow 1:

Average throughput: 494.44 Mbit/s

95th percentile per-packet one-way delay: 124.645 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 387.34 Mbit/s

95th percentile per-packet one-way delay: 75.622 ms

Loss rate: 0.49%

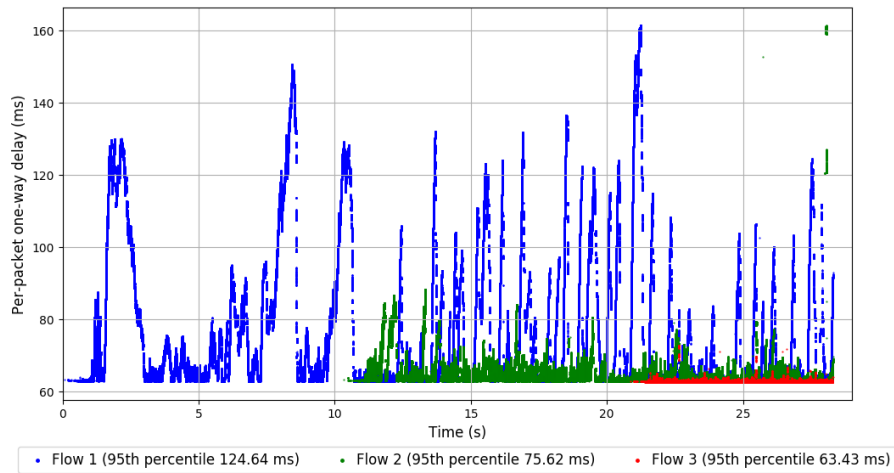
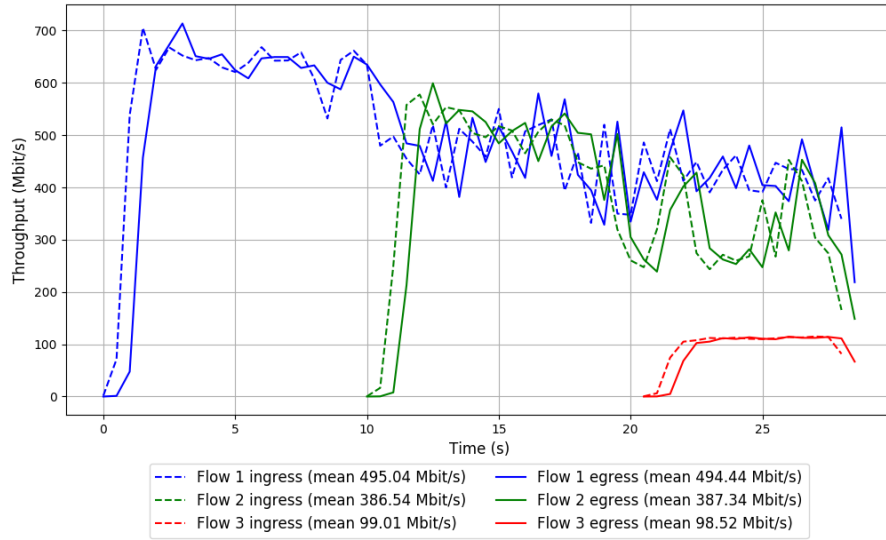
-- Flow 3:

Average throughput: 98.52 Mbit/s

95th percentile per-packet one-way delay: 63.433 ms

Loss rate: 2.09%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-19 10:06:25
End at: 2019-03-19 10:06:55
Local clock offset: -0.063 ms
Remote clock offset: -0.281 ms

Below is generated by plot.py at 2019-03-19 13:26:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 769.93 Mbit/s
95th percentile per-packet one-way delay: 83.864 ms
Loss rate: 0.50%

-- Flow 1:

Average throughput: 512.45 Mbit/s
95th percentile per-packet one-way delay: 86.123 ms
Loss rate: 0.33%

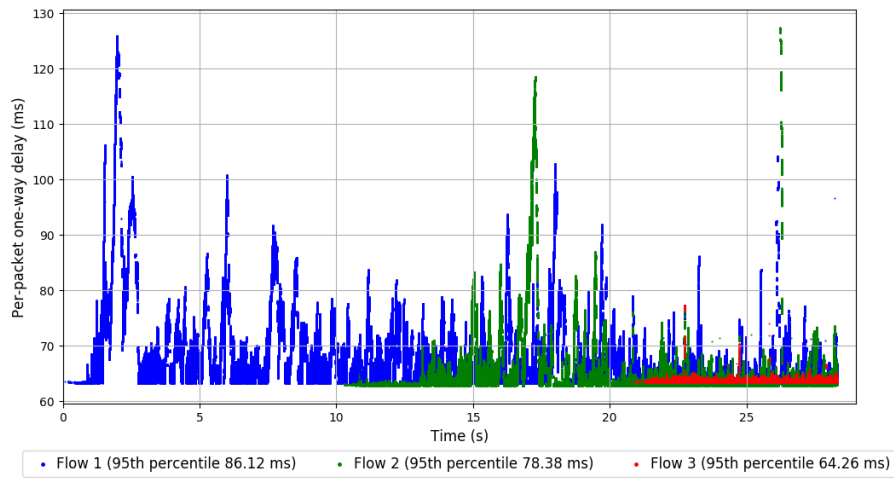
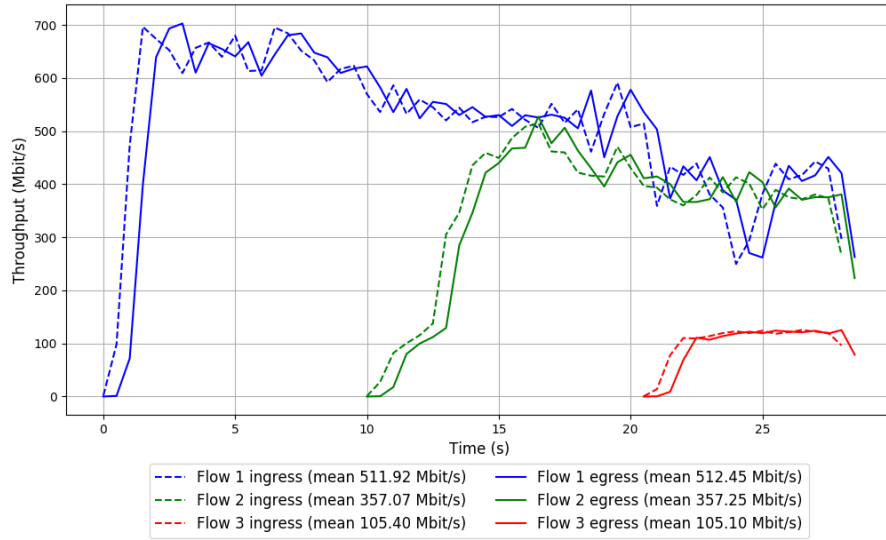
-- Flow 2:

Average throughput: 357.25 Mbit/s
95th percentile per-packet one-way delay: 78.380 ms
Loss rate: 0.70%

-- Flow 3:

Average throughput: 105.10 Mbit/s
95th percentile per-packet one-way delay: 64.262 ms
Loss rate: 1.91%

Run 3: Report of Indigo-MusesC5 — Data Link

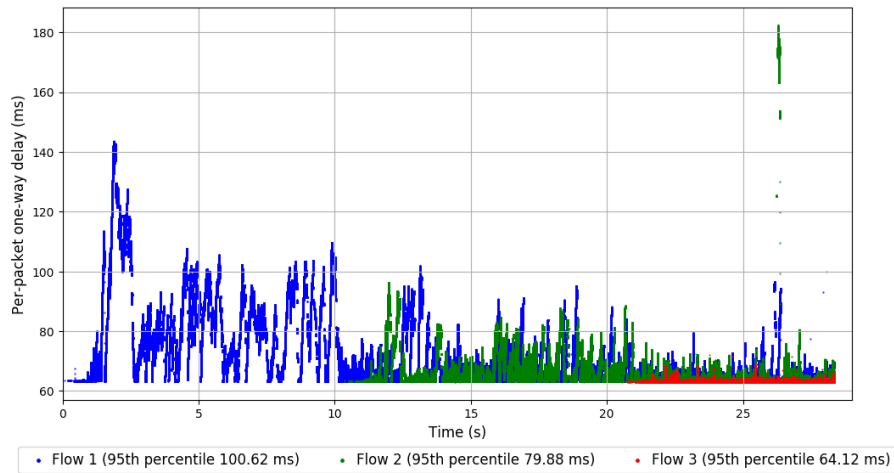
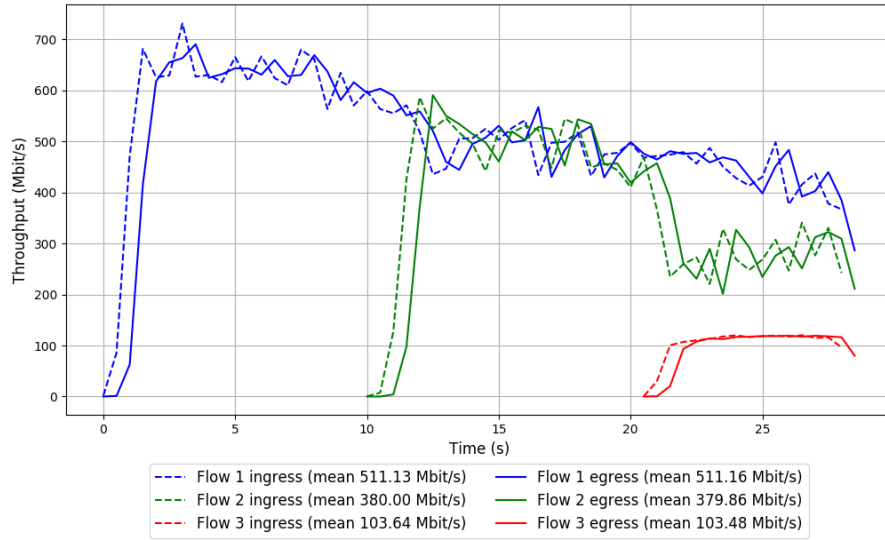


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-19 10:42:46
End at: 2019-03-19 10:43:16
Local clock offset: 0.018 ms
Remote clock offset: -0.227 ms

```
# Below is generated by plot.py at 2019-03-19 13:30:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 780.67 Mbit/s
95th percentile per-packet one-way delay: 96.830 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 511.16 Mbit/s
95th percentile per-packet one-way delay: 100.625 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 379.86 Mbit/s
95th percentile per-packet one-way delay: 79.881 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 103.48 Mbit/s
95th percentile per-packet one-way delay: 64.125 ms
Loss rate: 1.77%
```

Run 4: Report of Indigo-MusesC5 — Data Link

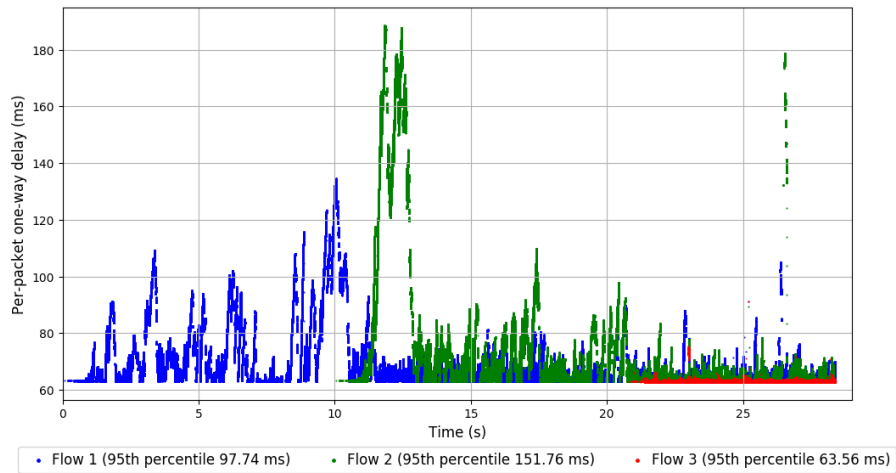
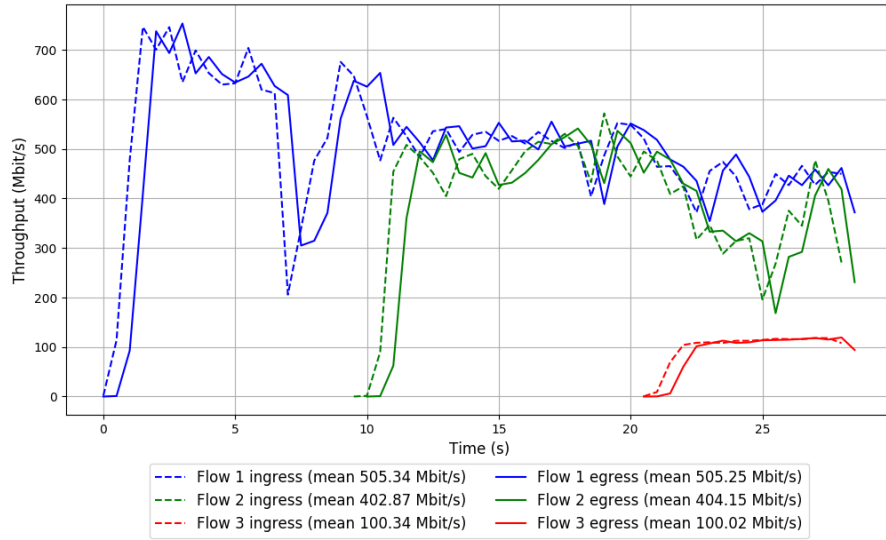


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-19 11:19:17
End at: 2019-03-19 11:19:47
Local clock offset: -0.15 ms
Remote clock offset: -0.214 ms

```
# Below is generated by plot.py at 2019-03-19 13:34:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.25 Mbit/s
95th percentile per-packet one-way delay: 102.961 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 505.25 Mbit/s
95th percentile per-packet one-way delay: 97.740 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 404.15 Mbit/s
95th percentile per-packet one-way delay: 151.764 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 100.02 Mbit/s
95th percentile per-packet one-way delay: 63.564 ms
Loss rate: 1.93%
```

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-19 09:08:56
End at: 2019-03-19 09:09:26
Local clock offset: -0.12 ms
Remote clock offset: -0.194 ms

Below is generated by plot.py at 2019-03-19 13:37:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 721.80 Mbit/s
95th percentile per-packet one-way delay: 74.159 ms
Loss rate: 0.60%

-- Flow 1:

Average throughput: 420.54 Mbit/s
95th percentile per-packet one-way delay: 78.612 ms
Loss rate: 0.29%

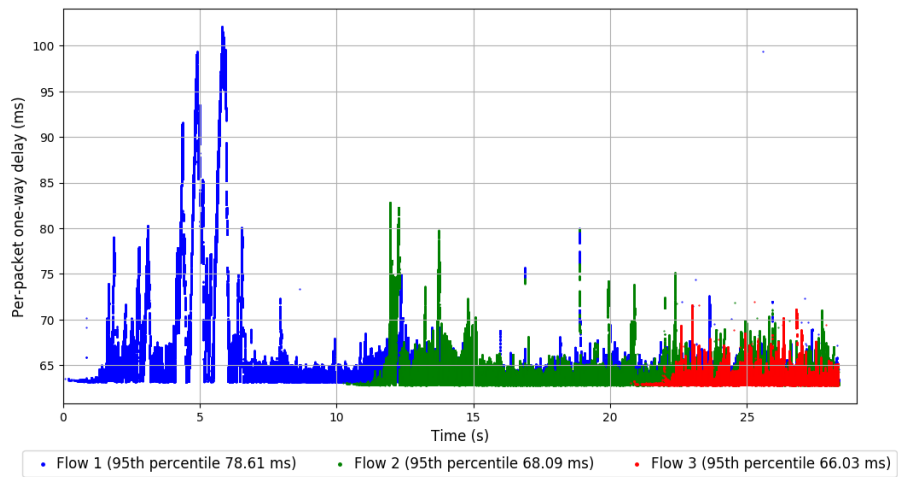
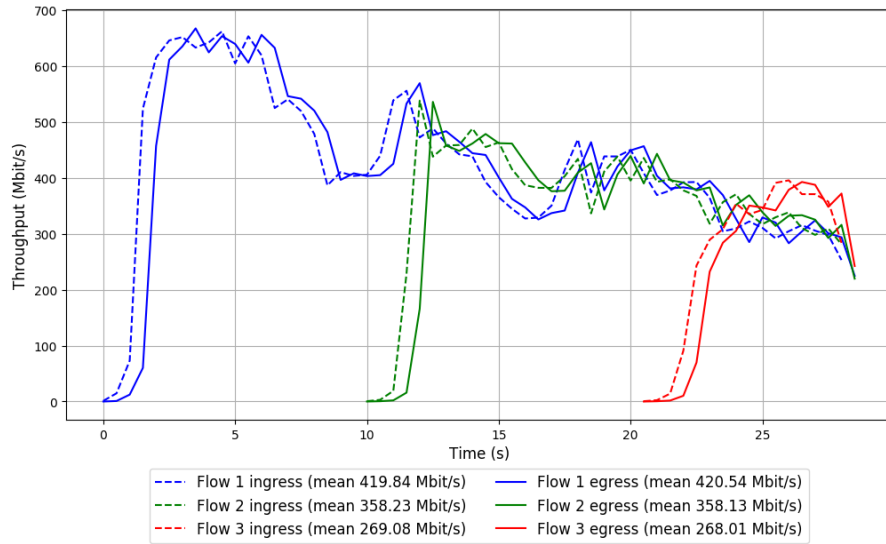
-- Flow 2:

Average throughput: 358.13 Mbit/s
95th percentile per-packet one-way delay: 68.093 ms
Loss rate: 0.72%

-- Flow 3:

Average throughput: 268.01 Mbit/s
95th percentile per-packet one-way delay: 66.025 ms
Loss rate: 2.07%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-19 09:45:15

End at: 2019-03-19 09:45:45

Local clock offset: -0.041 ms

Remote clock offset: 0.555 ms

Below is generated by plot.py at 2019-03-19 13:37:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 674.90 Mbit/s

95th percentile per-packet one-way delay: 67.782 ms

Loss rate: 0.59%

-- Flow 1:

Average throughput: 361.34 Mbit/s

95th percentile per-packet one-way delay: 69.657 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 385.35 Mbit/s

95th percentile per-packet one-way delay: 66.506 ms

Loss rate: 0.57%

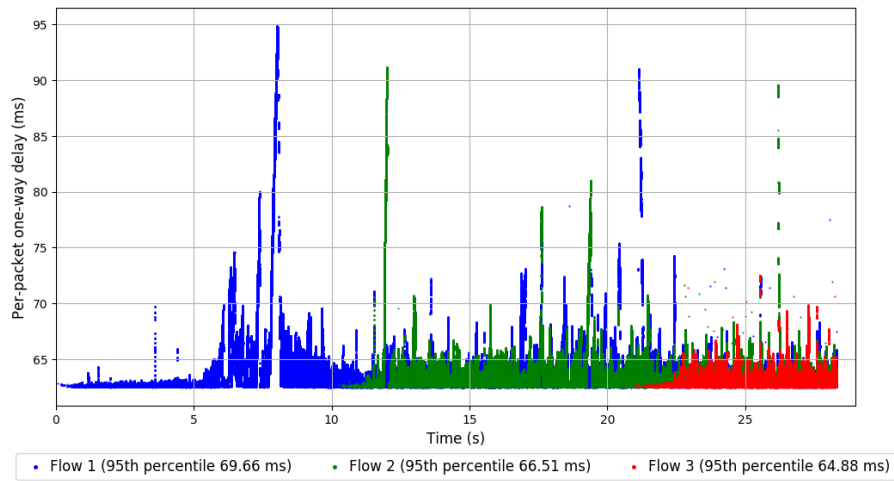
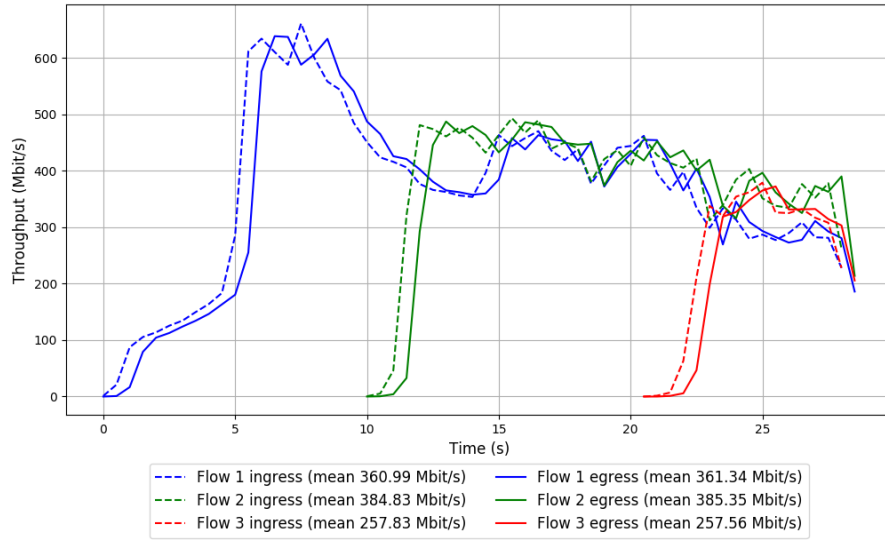
-- Flow 3:

Average throughput: 257.56 Mbit/s

95th percentile per-packet one-way delay: 64.879 ms

Loss rate: 1.80%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-19 10:21:39
End at: 2019-03-19 10:22:09
Local clock offset: -0.042 ms
Remote clock offset: -0.136 ms

Below is generated by plot.py at 2019-03-19 13:38:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 729.76 Mbit/s
95th percentile per-packet one-way delay: 86.660 ms
Loss rate: 0.48%

-- Flow 1:

Average throughput: 403.81 Mbit/s
95th percentile per-packet one-way delay: 87.721 ms
Loss rate: 0.21%

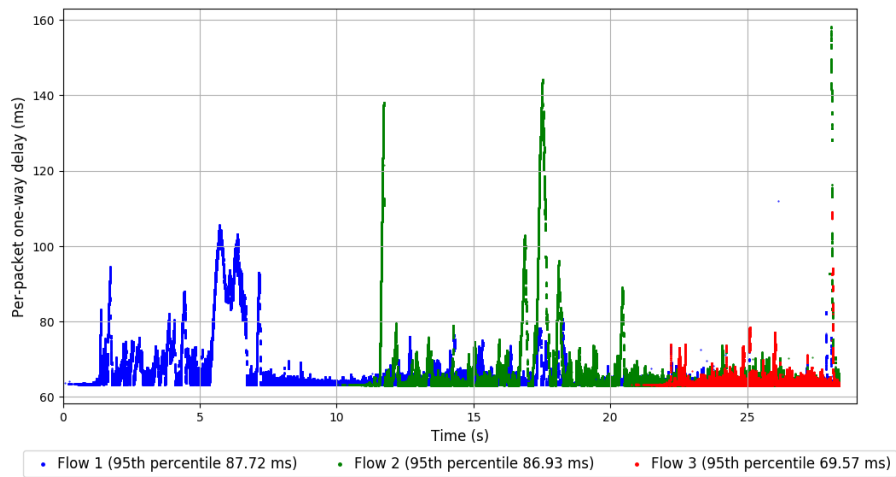
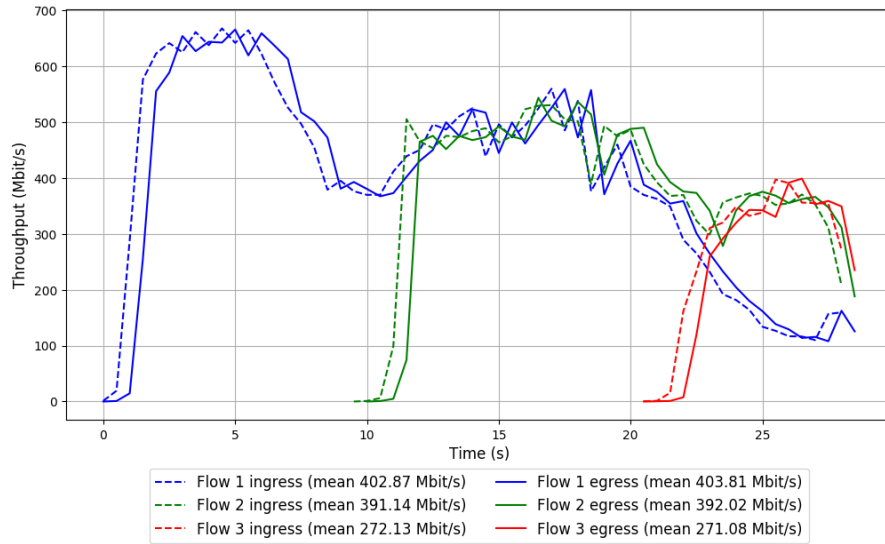
-- Flow 2:

Average throughput: 392.02 Mbit/s
95th percentile per-packet one-way delay: 86.929 ms
Loss rate: 0.47%

-- Flow 3:

Average throughput: 271.08 Mbit/s
95th percentile per-packet one-way delay: 69.572 ms
Loss rate: 2.02%

Run 3: Report of Indigo-MusesD — Data Link

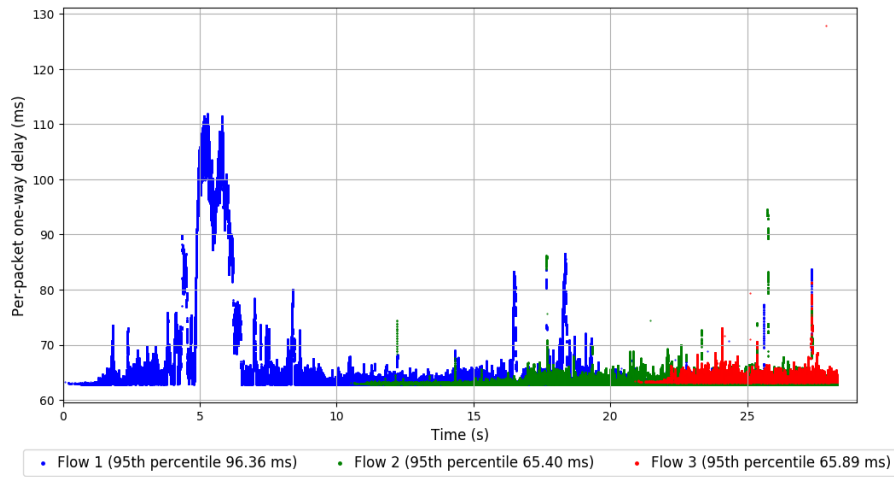
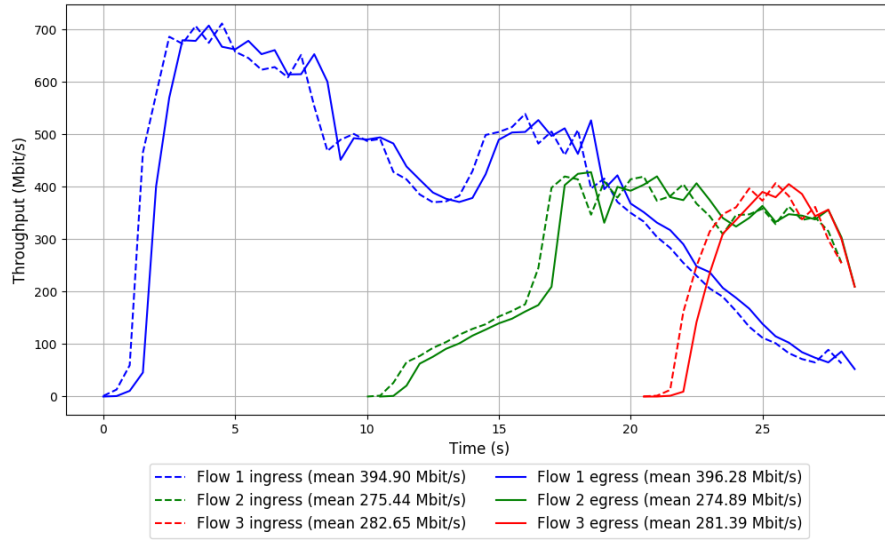


Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-19 10:58:02
End at: 2019-03-19 10:58:32
Local clock offset: -0.031 ms
Remote clock offset: -0.176 ms

```
# Below is generated by plot.py at 2019-03-19 13:38:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.31 Mbit/s
95th percentile per-packet one-way delay: 85.298 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 396.28 Mbit/s
95th percentile per-packet one-way delay: 96.360 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 274.89 Mbit/s
95th percentile per-packet one-way delay: 65.401 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 281.39 Mbit/s
95th percentile per-packet one-way delay: 65.893 ms
Loss rate: 2.12%
```

Run 4: Report of Indigo-MusesD — Data Link

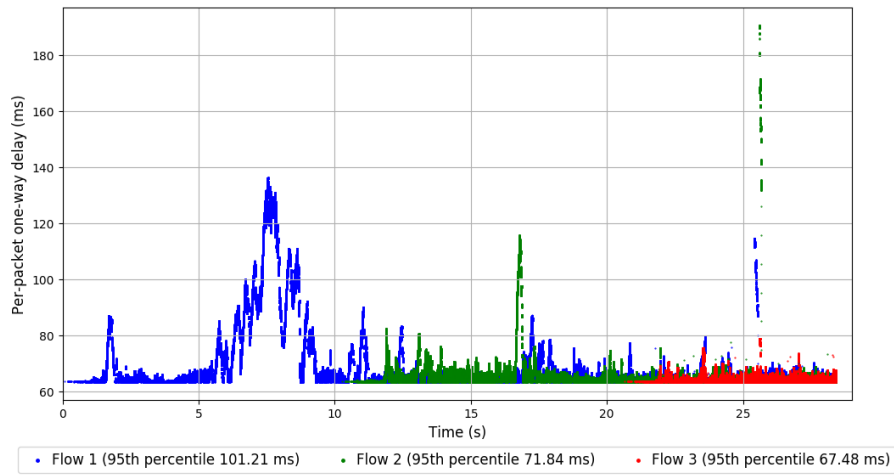
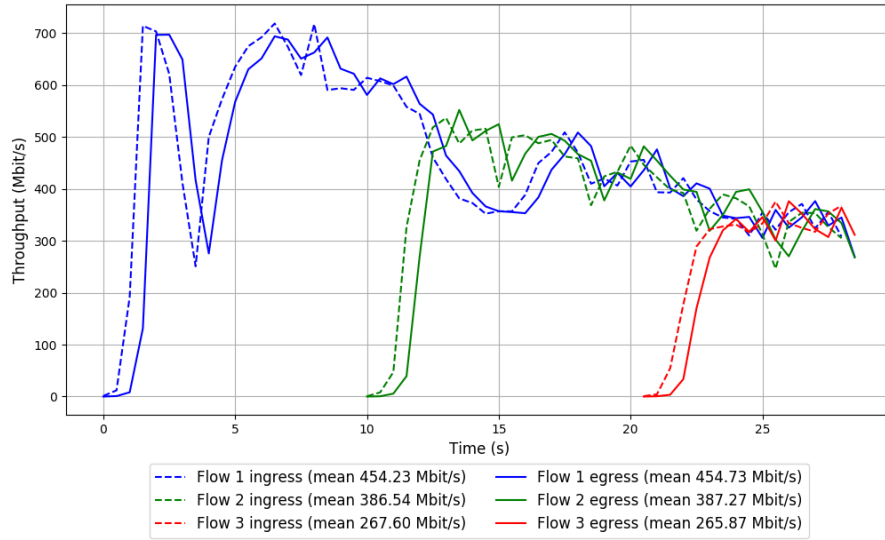


Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-19 11:34:34
End at: 2019-03-19 11:35:04
Local clock offset: -0.109 ms
Remote clock offset: -0.478 ms

```
# Below is generated by plot.py at 2019-03-19 13:39:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 775.77 Mbit/s
95th percentile per-packet one-way delay: 92.848 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 454.73 Mbit/s
95th percentile per-packet one-way delay: 101.211 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 387.27 Mbit/s
95th percentile per-packet one-way delay: 71.836 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 265.87 Mbit/s
95th percentile per-packet one-way delay: 67.484 ms
Loss rate: 2.24%
```

Run 5: Report of Indigo-MusesD — Data Link

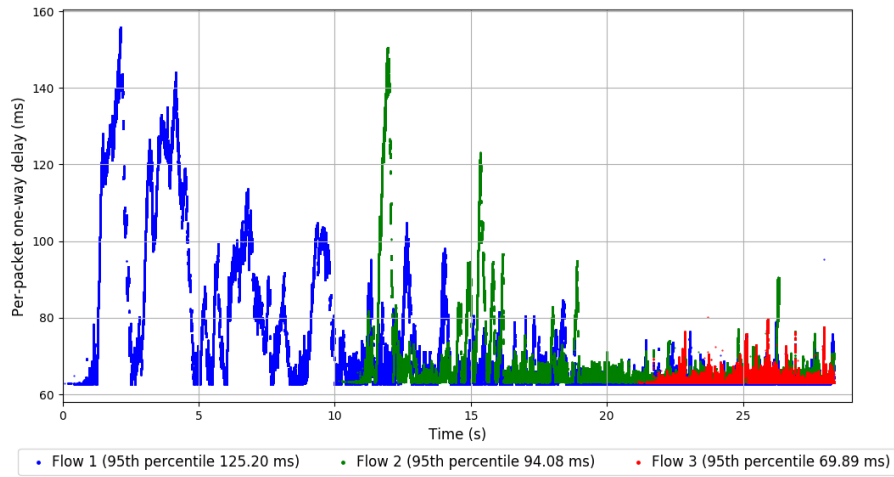
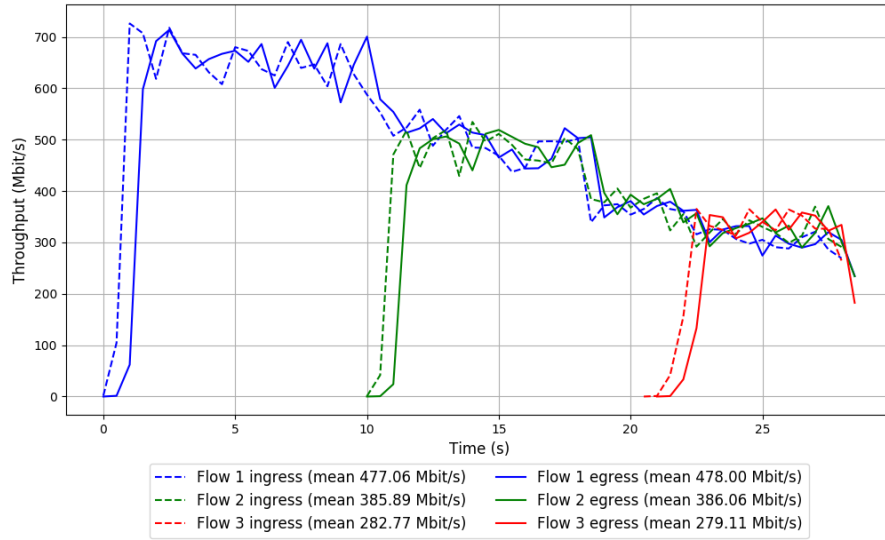


Run 1: Statistics of Indigo-MuseST

Start at: 2019-03-19 09:10:44
End at: 2019-03-19 09:11:14
Local clock offset: -0.163 ms
Remote clock offset: -0.003 ms

```
# Below is generated by plot.py at 2019-03-19 13:40:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 798.65 Mbit/s
95th percentile per-packet one-way delay: 120.172 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 478.00 Mbit/s
95th percentile per-packet one-way delay: 125.200 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 386.06 Mbit/s
95th percentile per-packet one-way delay: 94.075 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 279.11 Mbit/s
95th percentile per-packet one-way delay: 69.893 ms
Loss rate: 2.89%
```

Run 1: Report of Indigo-MusesT — Data Link

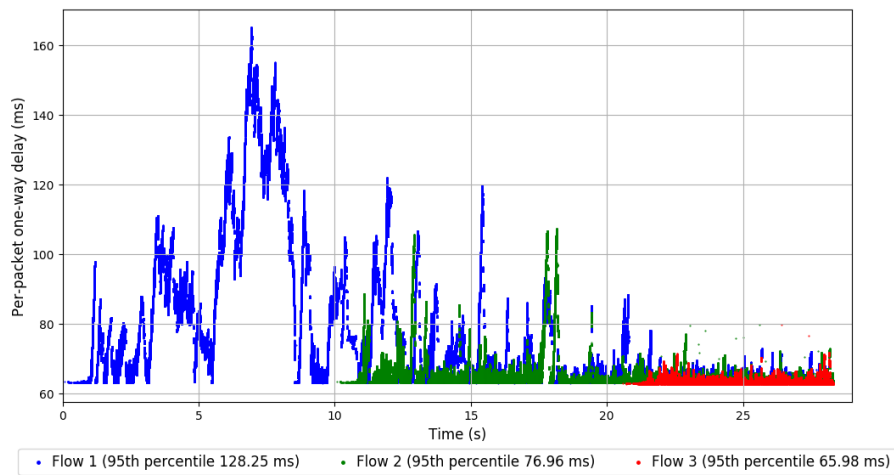
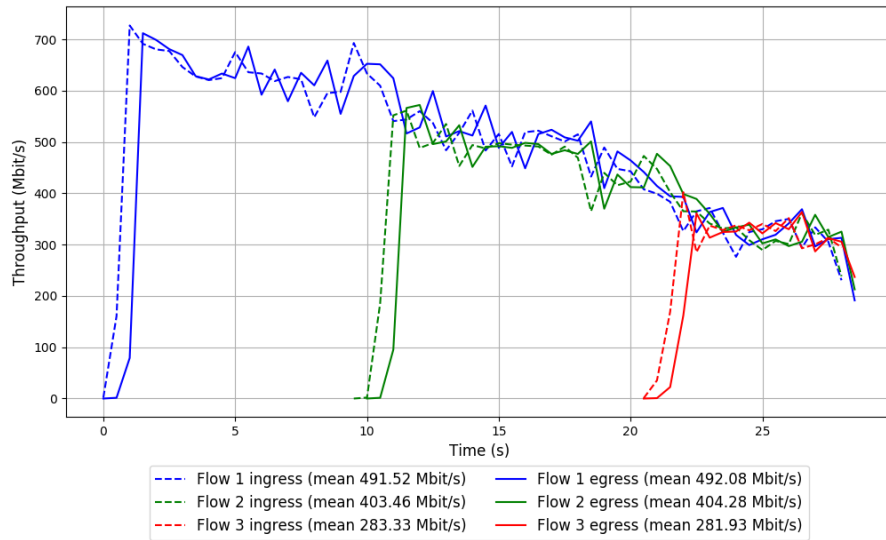


Run 2: Statistics of Indigo-MuseST

Start at: 2019-03-19 09:47:00
End at: 2019-03-19 09:47:30
Local clock offset: -0.041 ms
Remote clock offset: -0.107 ms

```
# Below is generated by plot.py at 2019-03-19 13:46:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 830.23 Mbit/s
95th percentile per-packet one-way delay: 116.693 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 492.08 Mbit/s
95th percentile per-packet one-way delay: 128.252 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 404.28 Mbit/s
95th percentile per-packet one-way delay: 76.959 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 281.93 Mbit/s
95th percentile per-packet one-way delay: 65.981 ms
Loss rate: 2.06%
```

Run 2: Report of Indigo-MusesT — Data Link

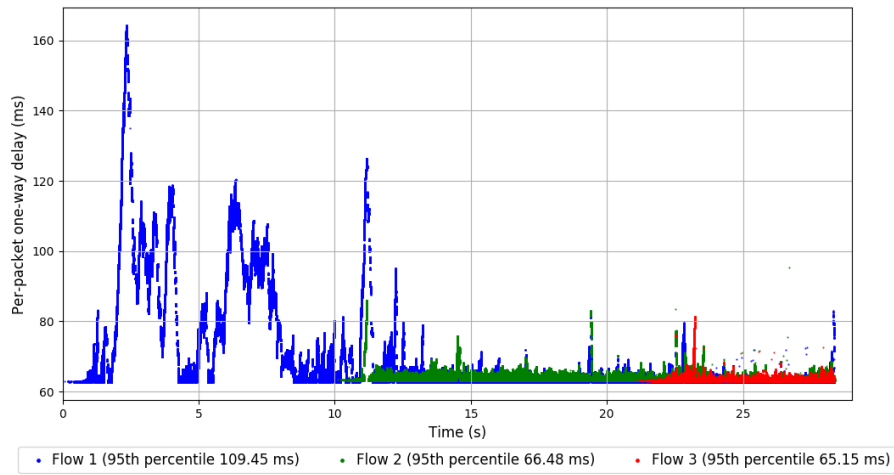
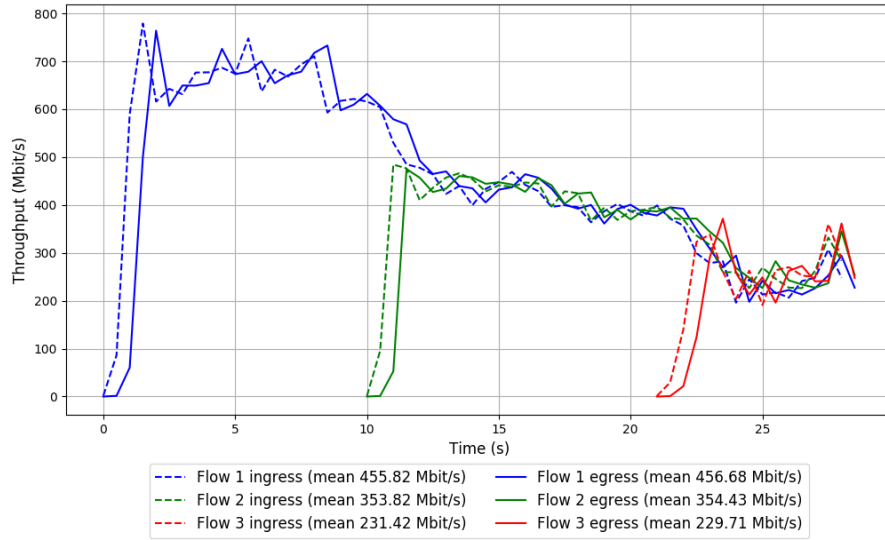


Run 3: Statistics of Indigo-MuseST

Start at: 2019-03-19 10:23:28
End at: 2019-03-19 10:23:58
Local clock offset: -0.035 ms
Remote clock offset: -0.031 ms

```
# Below is generated by plot.py at 2019-03-19 13:47:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 744.59 Mbit/s
95th percentile per-packet one-way delay: 103.473 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 456.68 Mbit/s
95th percentile per-packet one-way delay: 109.450 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 354.43 Mbit/s
95th percentile per-packet one-way delay: 66.484 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 229.71 Mbit/s
95th percentile per-packet one-way delay: 65.152 ms
Loss rate: 2.50%
```

Run 3: Report of Indigo-MusesT — Data Link

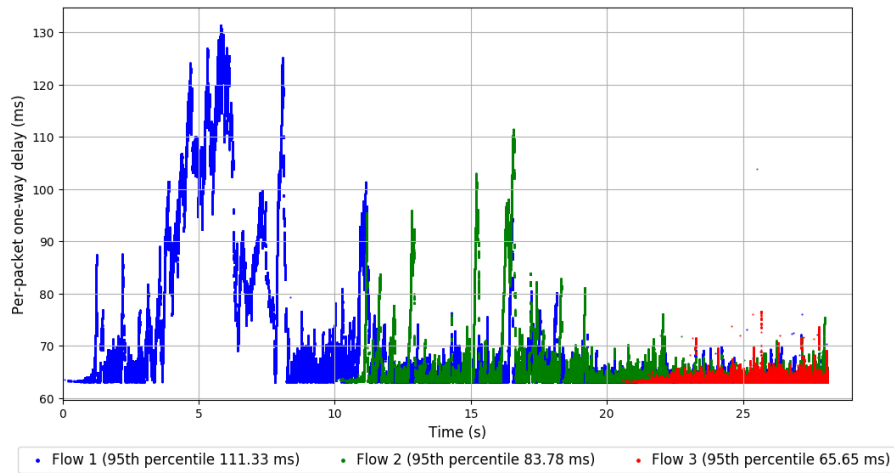
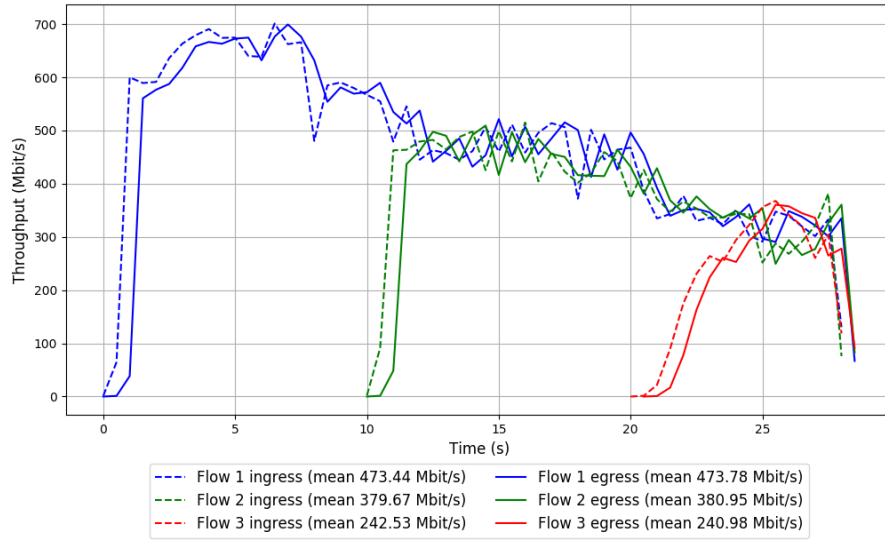


Run 4: Statistics of Indigo-MuseST

Start at: 2019-03-19 10:59:47
End at: 2019-03-19 11:00:17
Local clock offset: -0.057 ms
Remote clock offset: -0.081 ms

```
# Below is generated by plot.py at 2019-03-19 13:49:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 783.69 Mbit/s
95th percentile per-packet one-way delay: 105.009 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 473.78 Mbit/s
95th percentile per-packet one-way delay: 111.334 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 380.95 Mbit/s
95th percentile per-packet one-way delay: 83.784 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 240.98 Mbit/s
95th percentile per-packet one-way delay: 65.654 ms
Loss rate: 2.28%
```

Run 4: Report of Indigo-MusesT — Data Link

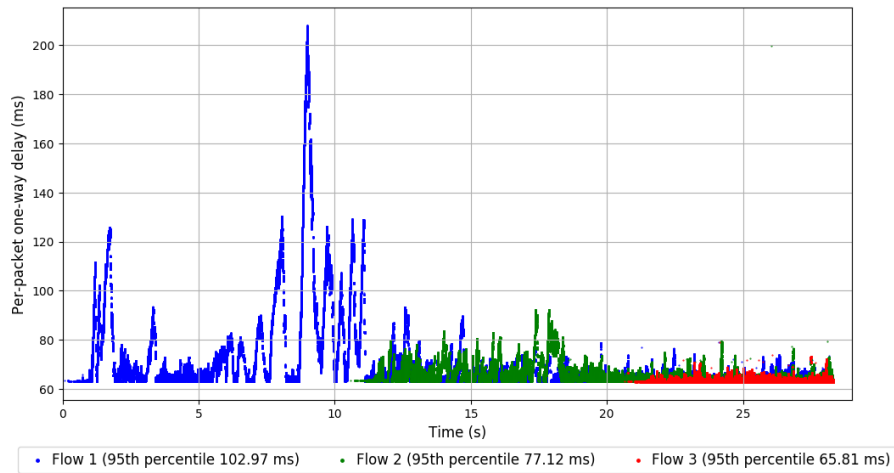
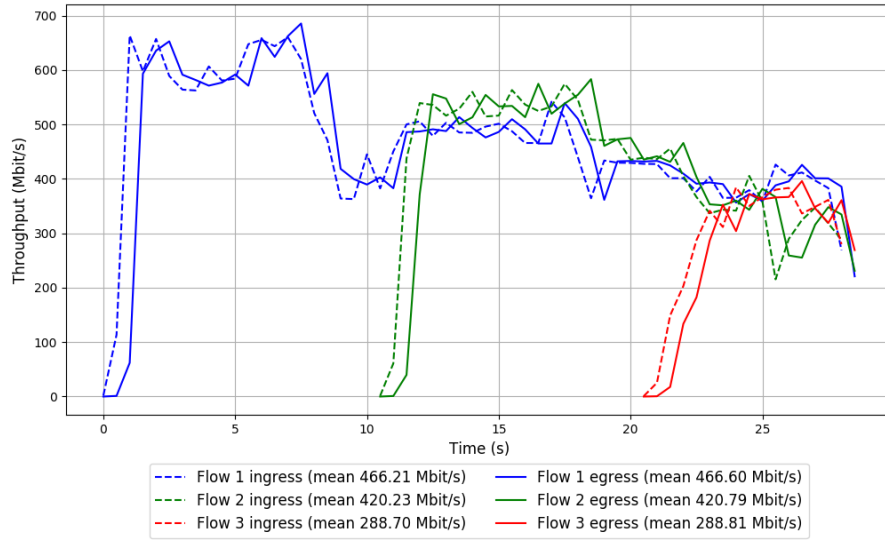


Run 5: Statistics of Indigo-MuseST

Start at: 2019-03-19 11:36:25
End at: 2019-03-19 11:36:55
Local clock offset: -0.14 ms
Remote clock offset: -0.132 ms

```
# Below is generated by plot.py at 2019-03-19 13:49:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 809.08 Mbit/s
95th percentile per-packet one-way delay: 88.500 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 466.60 Mbit/s
95th percentile per-packet one-way delay: 102.970 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 420.79 Mbit/s
95th percentile per-packet one-way delay: 77.122 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 288.81 Mbit/s
95th percentile per-packet one-way delay: 65.811 ms
Loss rate: 1.65%
```

Run 5: Report of Indigo-MusesT — Data Link



Run 1: Statistics of LEDBAT

Start at: 2019-03-19 09:18:35

End at: 2019-03-19 09:19:05

Local clock offset: -0.064 ms

Remote clock offset: -0.97 ms

Below is generated by plot.py at 2019-03-19 13:49:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 35.97 Mbit/s

95th percentile per-packet one-way delay: 65.393 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 23.22 Mbit/s

95th percentile per-packet one-way delay: 65.466 ms

Loss rate: 0.84%

-- Flow 2:

Average throughput: 15.47 Mbit/s

95th percentile per-packet one-way delay: 65.249 ms

Loss rate: 1.27%

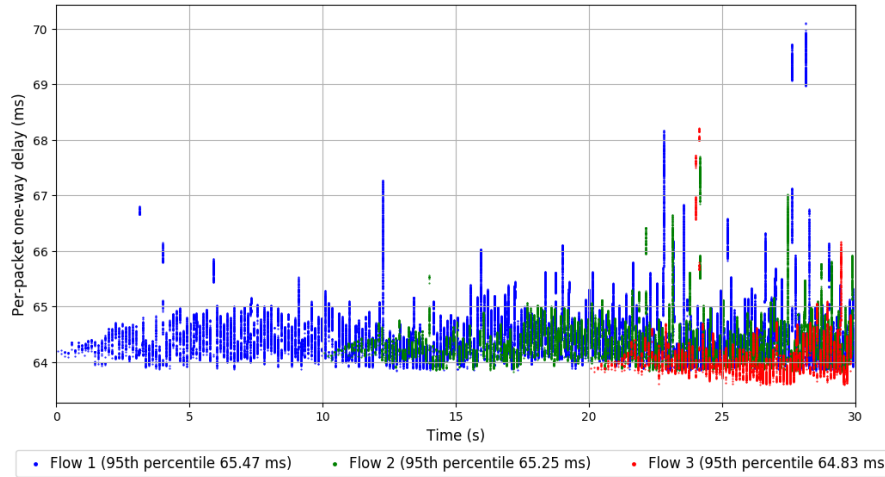
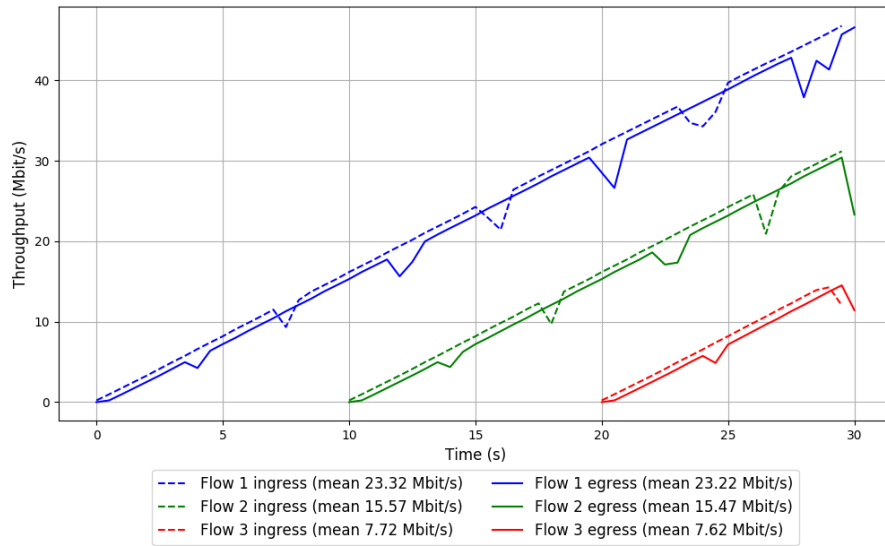
-- Flow 3:

Average throughput: 7.62 Mbit/s

95th percentile per-packet one-way delay: 64.830 ms

Loss rate: 2.57%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-03-19 09:54:57
End at: 2019-03-19 09:55:27
Local clock offset: -0.033 ms
Remote clock offset: -0.396 ms

Below is generated by plot.py at 2019-03-19 13:49:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 33.56 Mbit/s
95th percentile per-packet one-way delay: 64.839 ms
Loss rate: 0.90%

-- Flow 1:

Average throughput: 20.89 Mbit/s
95th percentile per-packet one-way delay: 64.890 ms
Loss rate: 0.52%

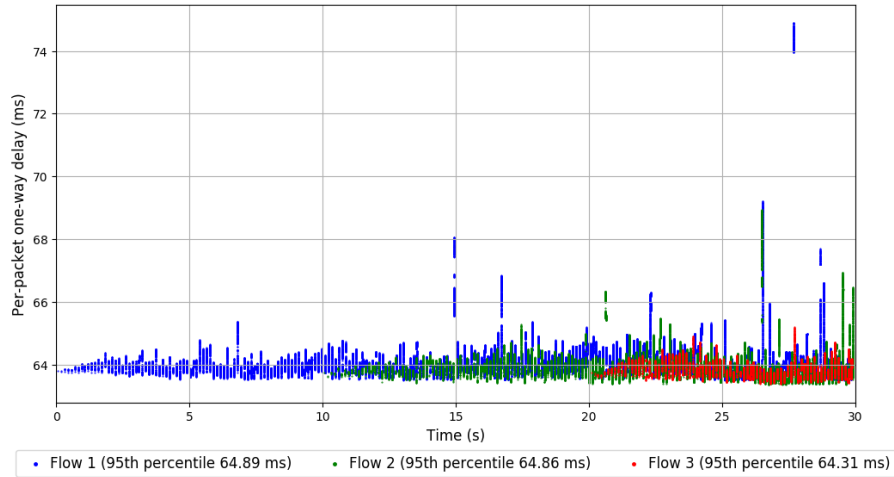
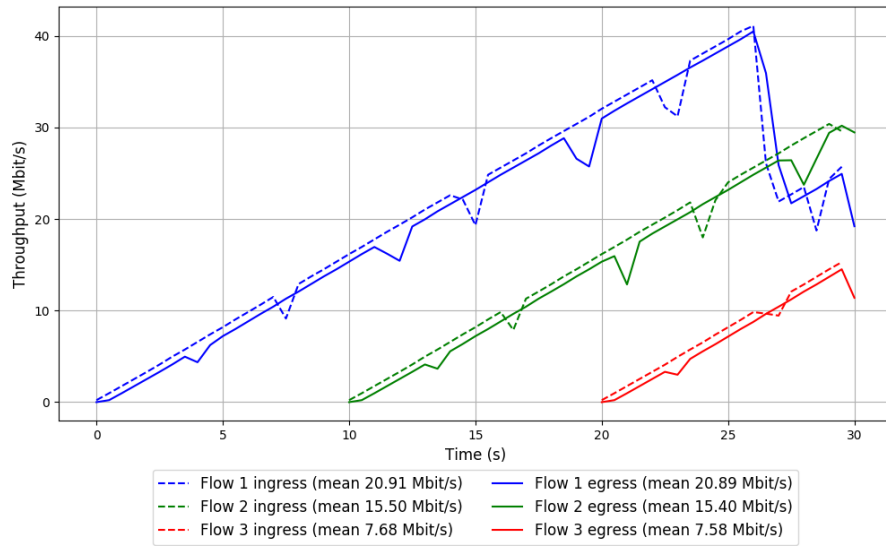
-- Flow 2:

Average throughput: 15.40 Mbit/s
95th percentile per-packet one-way delay: 64.860 ms
Loss rate: 1.26%

-- Flow 3:

Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 64.313 ms
Loss rate: 2.56%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-03-19 10:31:28
End at: 2019-03-19 10:31:58
Local clock offset: -0.022 ms
Remote clock offset: -0.067 ms

Below is generated by plot.py at 2019-03-19 13:49:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 35.85 Mbit/s
95th percentile per-packet one-way delay: 64.605 ms
Loss rate: 1.09%

-- Flow 1:

Average throughput: 23.07 Mbit/s
95th percentile per-packet one-way delay: 64.695 ms
Loss rate: 0.84%

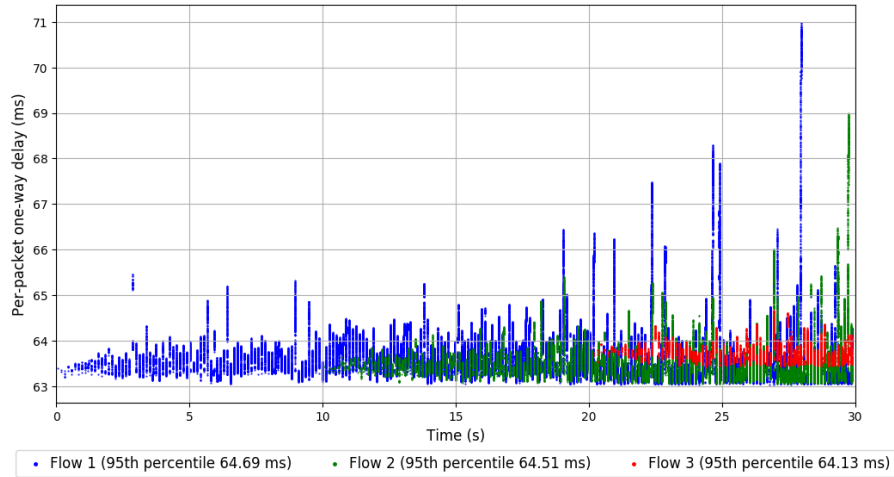
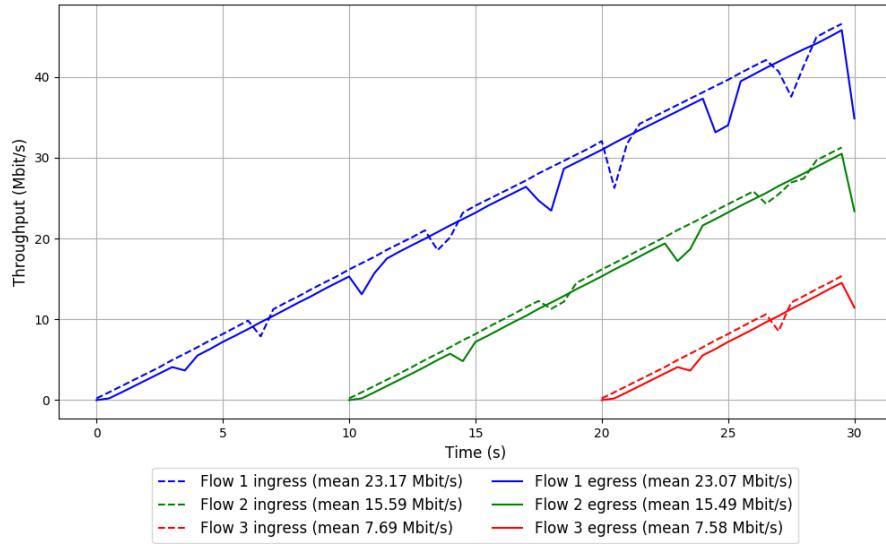
-- Flow 2:

Average throughput: 15.49 Mbit/s
95th percentile per-packet one-way delay: 64.512 ms
Loss rate: 1.27%

-- Flow 3:

Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 64.127 ms
Loss rate: 2.57%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-03-19 11:07:46

End at: 2019-03-19 11:08:16

Local clock offset: -0.106 ms

Remote clock offset: 0.038 ms

Below is generated by plot.py at 2019-03-19 13:49:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 36.03 Mbit/s

95th percentile per-packet one-way delay: 64.230 ms

Loss rate: 1.09%

-- Flow 1:

Average throughput: 23.26 Mbit/s

95th percentile per-packet one-way delay: 64.356 ms

Loss rate: 0.84%

-- Flow 2:

Average throughput: 15.47 Mbit/s

95th percentile per-packet one-way delay: 63.714 ms

Loss rate: 1.27%

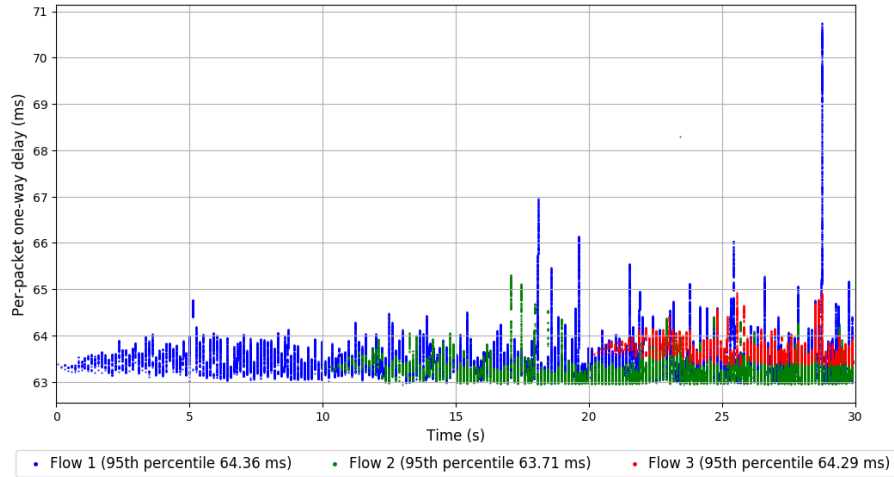
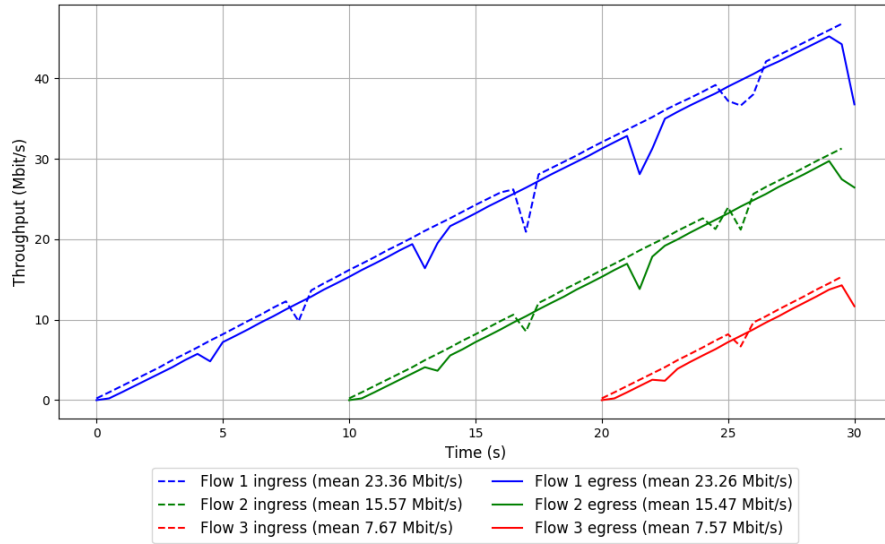
-- Flow 3:

Average throughput: 7.57 Mbit/s

95th percentile per-packet one-way delay: 64.287 ms

Loss rate: 2.57%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-19 11:44:12

End at: 2019-03-19 11:44:42

Local clock offset: -0.069 ms

Remote clock offset: 0.055 ms

Below is generated by plot.py at 2019-03-19 13:49:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 36.02 Mbit/s

95th percentile per-packet one-way delay: 64.269 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 23.26 Mbit/s

95th percentile per-packet one-way delay: 64.229 ms

Loss rate: 0.84%

-- Flow 2:

Average throughput: 15.47 Mbit/s

95th percentile per-packet one-way delay: 64.445 ms

Loss rate: 1.27%

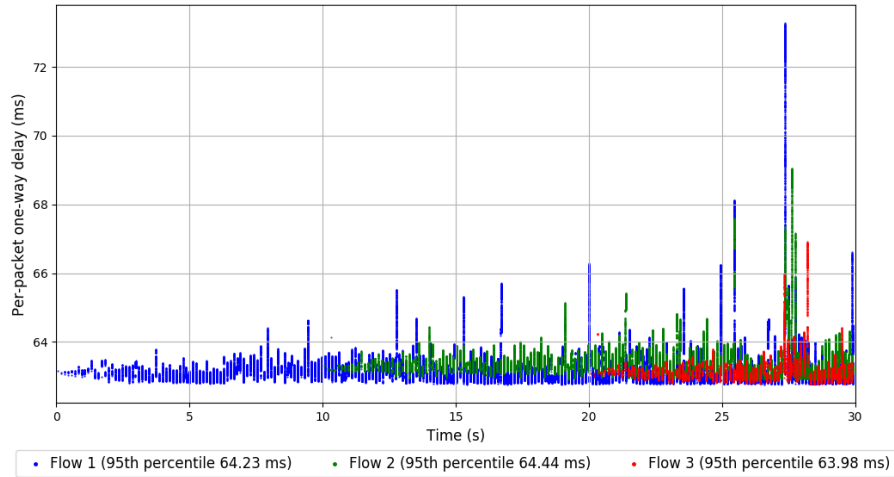
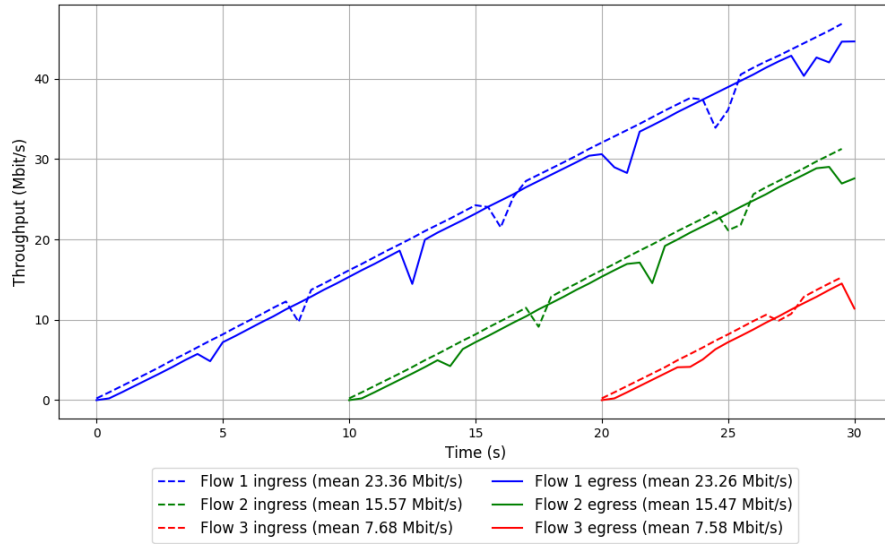
-- Flow 3:

Average throughput: 7.58 Mbit/s

95th percentile per-packet one-way delay: 63.978 ms

Loss rate: 2.56%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-03-19 09:14:35
End at: 2019-03-19 09:15:05
Local clock offset: -0.117 ms
Remote clock offset: -0.118 ms

Below is generated by plot.py at 2019-03-19 14:01:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 634.30 Mbit/s
95th percentile per-packet one-way delay: 164.471 ms
Loss rate: 1.22%

-- Flow 1:

Average throughput: 355.35 Mbit/s
95th percentile per-packet one-way delay: 174.142 ms
Loss rate: 1.23%

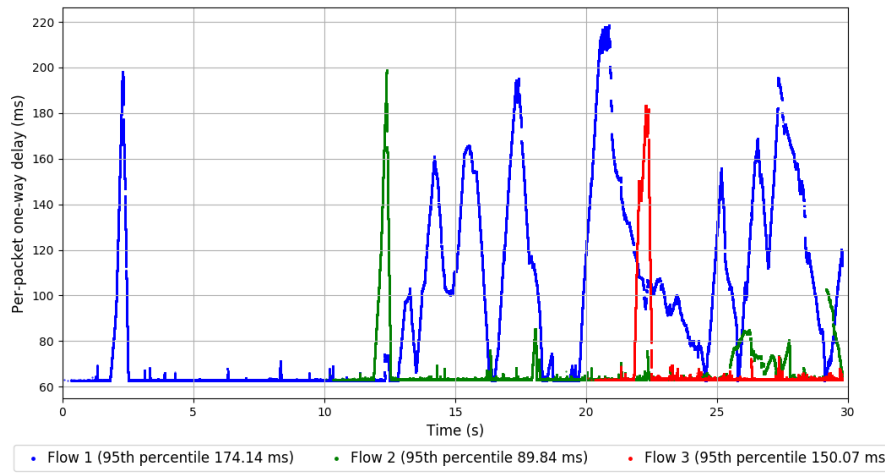
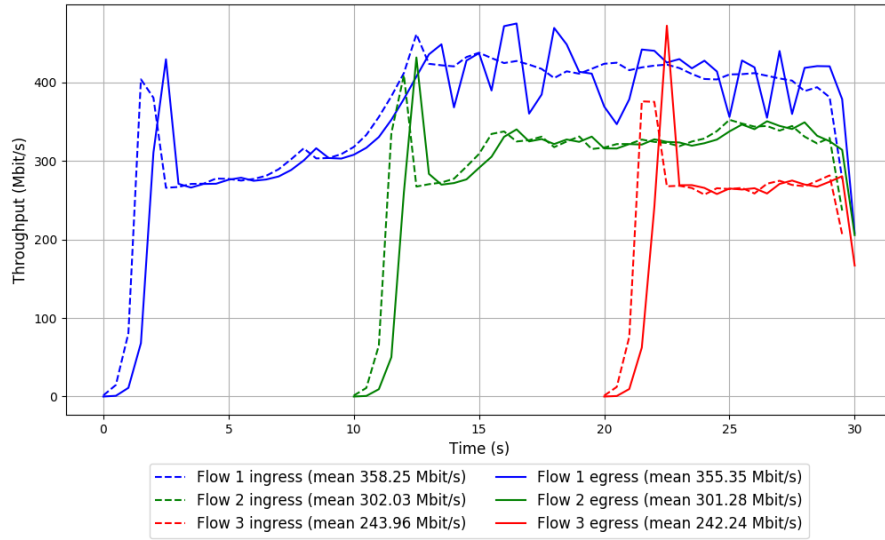
-- Flow 2:

Average throughput: 301.28 Mbit/s
95th percentile per-packet one-way delay: 89.838 ms
Loss rate: 0.89%

-- Flow 3:

Average throughput: 242.24 Mbit/s
95th percentile per-packet one-way delay: 150.067 ms
Loss rate: 1.98%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-03-19 09:50:54

End at: 2019-03-19 09:51:24

Local clock offset: -0.03 ms

Remote clock offset: -0.136 ms

Below is generated by plot.py at 2019-03-19 14:04:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 693.09 Mbit/s

95th percentile per-packet one-way delay: 199.333 ms

Loss rate: 2.13%

-- Flow 1:

Average throughput: 367.33 Mbit/s

95th percentile per-packet one-way delay: 208.677 ms

Loss rate: 3.15%

-- Flow 2:

Average throughput: 369.44 Mbit/s

95th percentile per-packet one-way delay: 166.252 ms

Loss rate: 0.74%

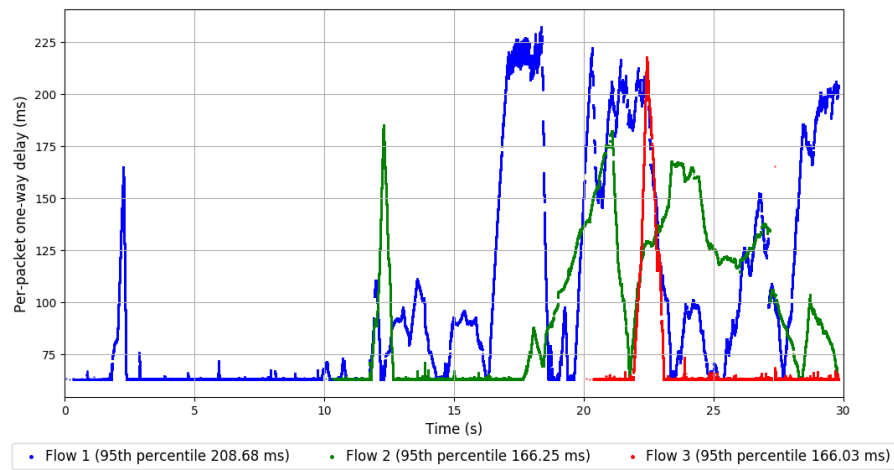
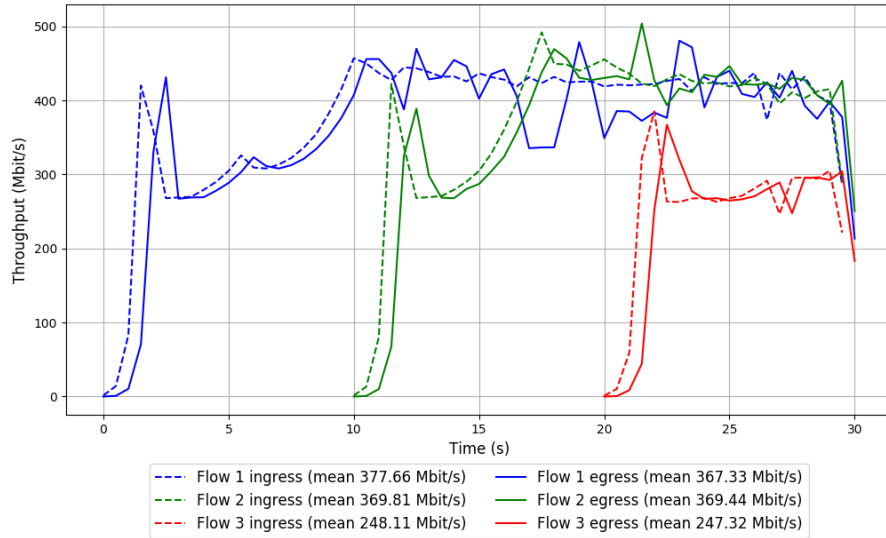
-- Flow 3:

Average throughput: 247.32 Mbit/s

95th percentile per-packet one-way delay: 166.035 ms

Loss rate: 1.61%

Run 2: Report of PCC-Allegro — Data Link

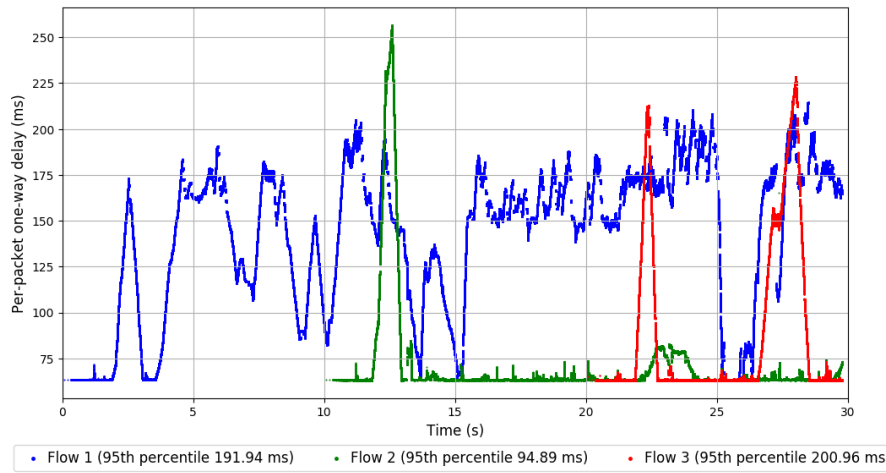
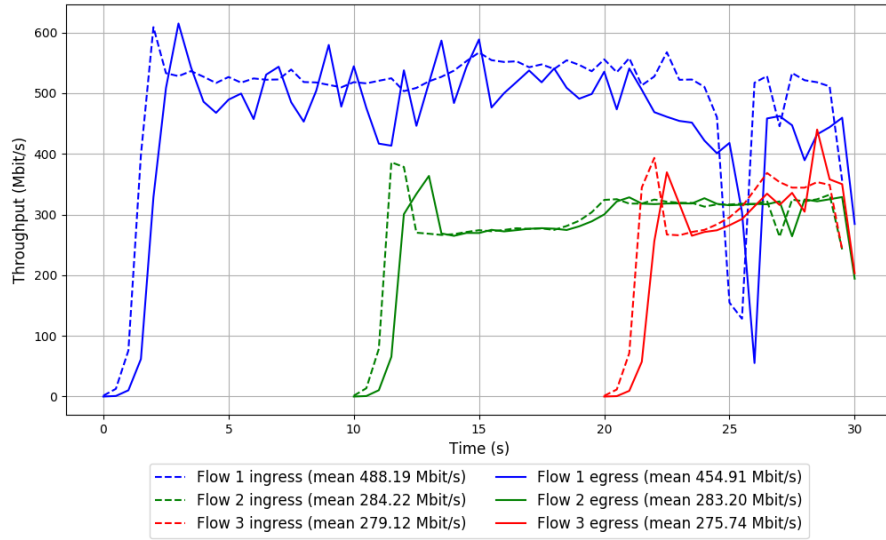


Run 3: Statistics of PCC-Allegro

Start at: 2019-03-19 10:27:18
End at: 2019-03-19 10:27:48
Local clock offset: -0.036 ms
Remote clock offset: -0.286 ms

```
# Below is generated by plot.py at 2019-03-19 14:06:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 732.79 Mbit/s
95th percentile per-packet one-way delay: 190.387 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 454.91 Mbit/s
95th percentile per-packet one-way delay: 191.943 ms
Loss rate: 7.21%
-- Flow 2:
Average throughput: 283.20 Mbit/s
95th percentile per-packet one-way delay: 94.895 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 275.74 Mbit/s
95th percentile per-packet one-way delay: 200.957 ms
Loss rate: 2.50%
```

Run 3: Report of PCC-Allegro — Data Link

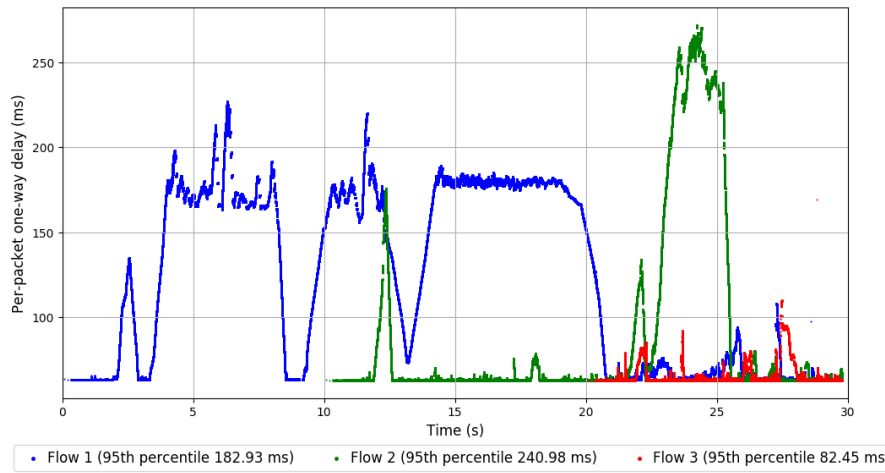
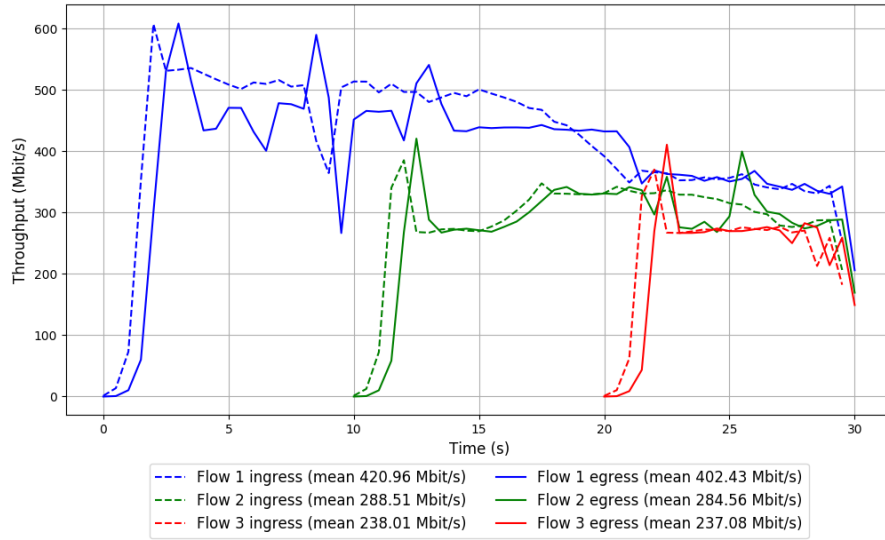


Run 4: Statistics of PCC-Allegro

Start at: 2019-03-19 11:03:39
End at: 2019-03-19 11:04:09
Local clock offset: -0.092 ms
Remote clock offset: -0.056 ms

```
# Below is generated by plot.py at 2019-03-19 14:06:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 668.60 Mbit/s
95th percentile per-packet one-way delay: 186.972 ms
Loss rate: 3.67%
-- Flow 1:
Average throughput: 402.43 Mbit/s
95th percentile per-packet one-way delay: 182.929 ms
Loss rate: 4.81%
-- Flow 2:
Average throughput: 284.56 Mbit/s
95th percentile per-packet one-way delay: 240.984 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 237.08 Mbit/s
95th percentile per-packet one-way delay: 82.446 ms
Loss rate: 1.68%
```

Run 4: Report of PCC-Allegro — Data Link

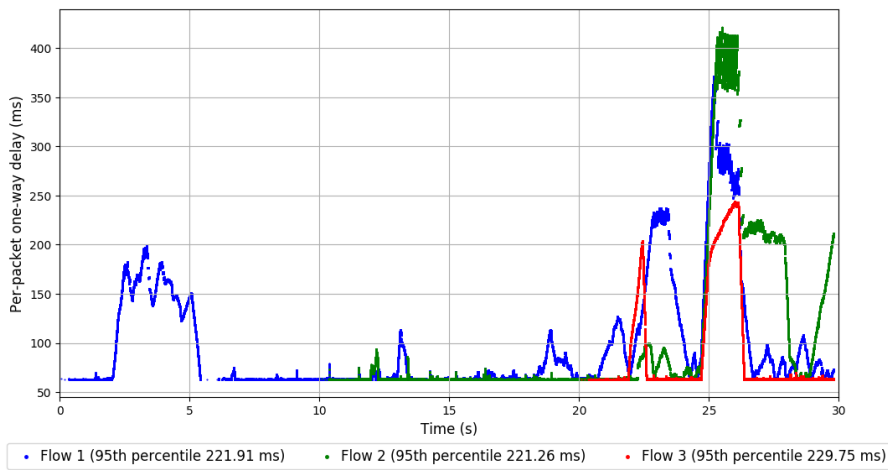
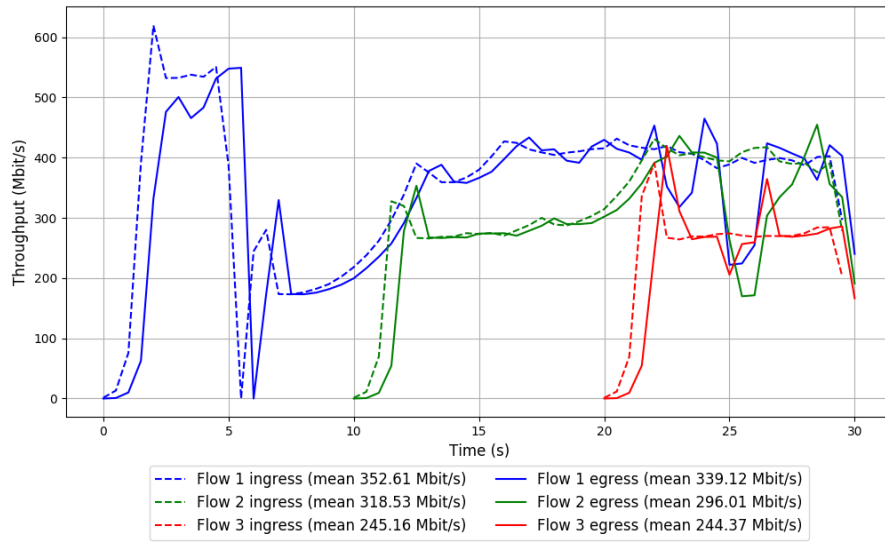


Run 5: Statistics of PCC-Allegro

Start at: 2019-03-19 11:40:13
End at: 2019-03-19 11:40:43
Local clock offset: -0.115 ms
Remote clock offset: -0.288 ms

```
# Below is generated by plot.py at 2019-03-19 14:08:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 615.25 Mbit/s
95th percentile per-packet one-way delay: 223.128 ms
Loss rate: 5.03%
-- Flow 1:
Average throughput: 339.12 Mbit/s
95th percentile per-packet one-way delay: 221.906 ms
Loss rate: 4.24%
-- Flow 2:
Average throughput: 296.01 Mbit/s
95th percentile per-packet one-way delay: 221.260 ms
Loss rate: 7.67%
-- Flow 3:
Average throughput: 244.37 Mbit/s
95th percentile per-packet one-way delay: 229.751 ms
Loss rate: 1.61%
```

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2019-03-19 09:12:36
End at: 2019-03-19 09:13:06
Local clock offset: -0.141 ms
Remote clock offset: -0.074 ms

Below is generated by plot.py at 2019-03-19 14:08:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 497.94 Mbit/s
95th percentile per-packet one-way delay: 178.304 ms
Loss rate: 3.77%

-- Flow 1:

Average throughput: 309.89 Mbit/s
95th percentile per-packet one-way delay: 184.095 ms
Loss rate: 5.25%

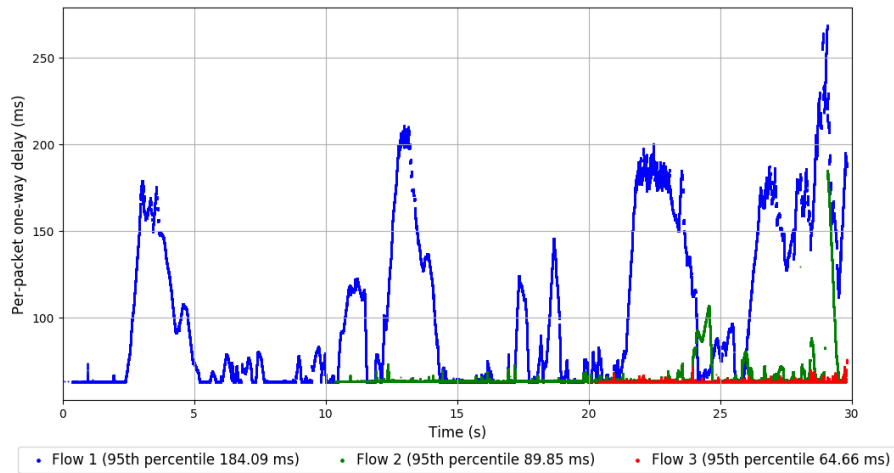
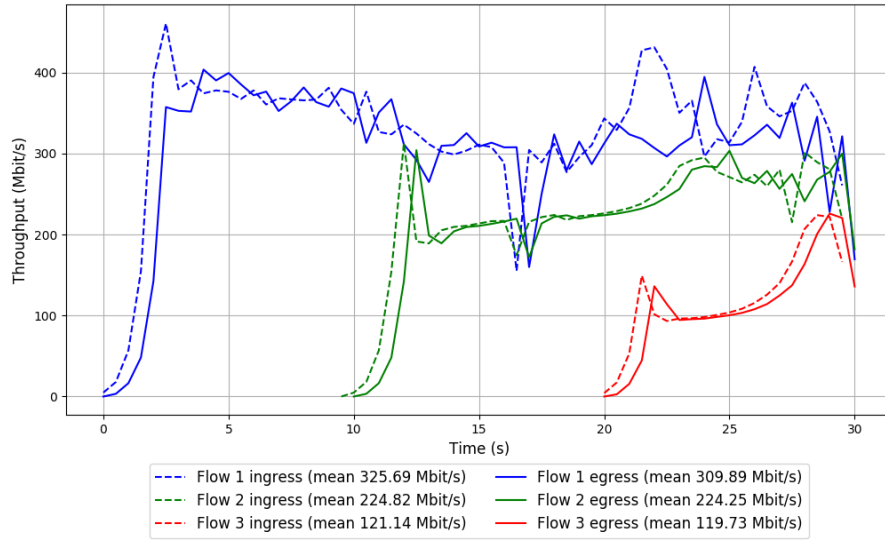
-- Flow 2:

Average throughput: 224.25 Mbit/s
95th percentile per-packet one-way delay: 89.852 ms
Loss rate: 0.89%

-- Flow 3:

Average throughput: 119.73 Mbit/s
95th percentile per-packet one-way delay: 64.661 ms
Loss rate: 2.43%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-03-19 09:48:55
End at: 2019-03-19 09:49:25
Local clock offset: -0.041 ms
Remote clock offset: -0.254 ms

Below is generated by plot.py at 2019-03-19 14:08:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 500.09 Mbit/s
95th percentile per-packet one-way delay: 122.661 ms
Loss rate: 0.80%

-- Flow 1:

Average throughput: 289.63 Mbit/s
95th percentile per-packet one-way delay: 123.046 ms
Loss rate: 0.39%

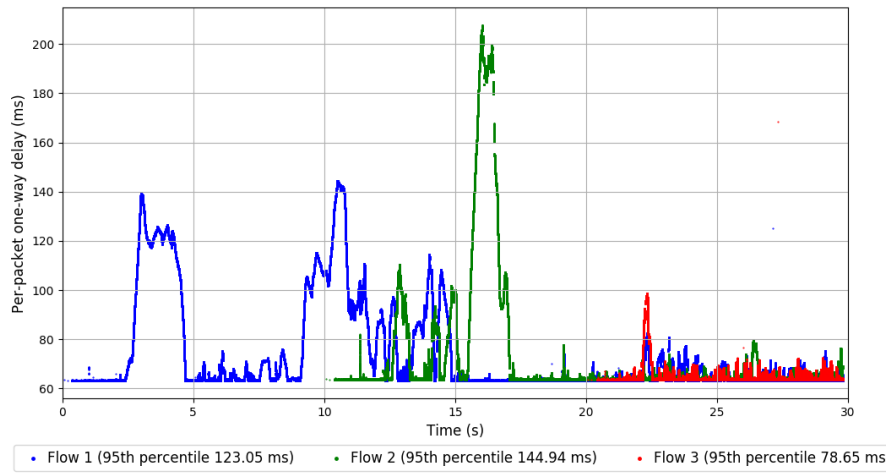
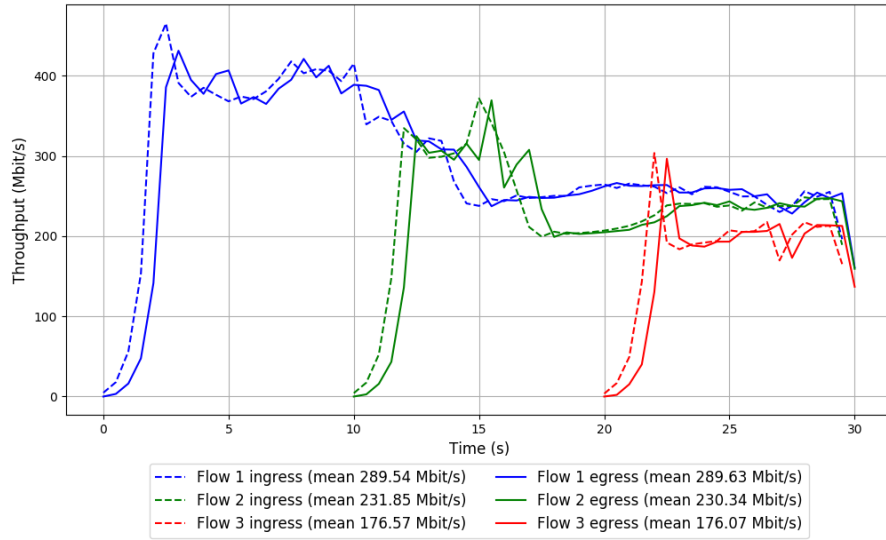
-- Flow 2:

Average throughput: 230.34 Mbit/s
95th percentile per-packet one-way delay: 144.941 ms
Loss rate: 1.29%

-- Flow 3:

Average throughput: 176.07 Mbit/s
95th percentile per-packet one-way delay: 78.649 ms
Loss rate: 1.56%

Run 2: Report of PCC-Expr — Data Link

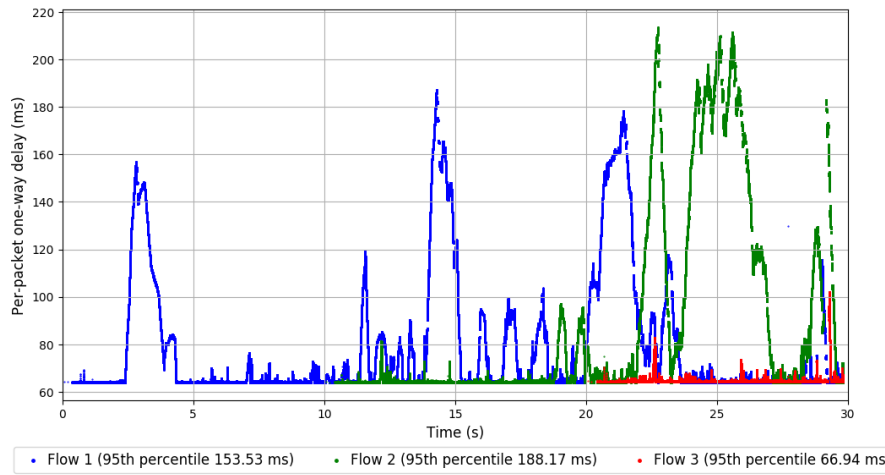
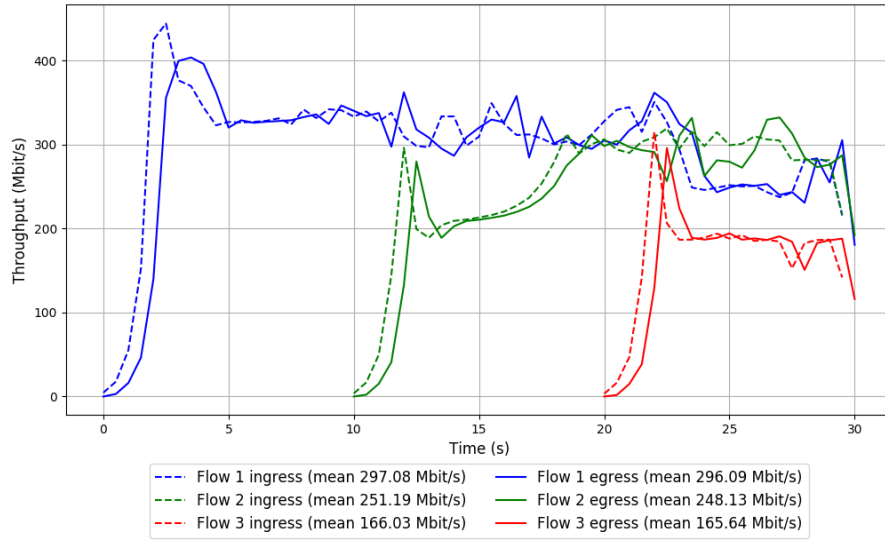


Run 3: Statistics of PCC-Expr

Start at: 2019-03-19 10:25:18
End at: 2019-03-19 10:25:48
Local clock offset: 0.009 ms
Remote clock offset: -0.987 ms

```
# Below is generated by plot.py at 2019-03-19 14:08:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 514.86 Mbit/s
95th percentile per-packet one-way delay: 167.387 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 296.09 Mbit/s
95th percentile per-packet one-way delay: 153.525 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 248.13 Mbit/s
95th percentile per-packet one-way delay: 188.173 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 165.64 Mbit/s
95th percentile per-packet one-way delay: 66.936 ms
Loss rate: 1.52%
```

Run 3: Report of PCC-Expr — Data Link

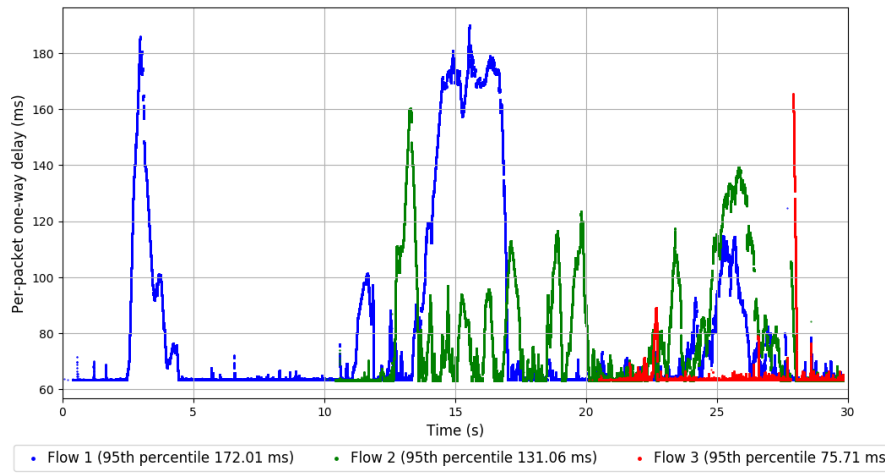
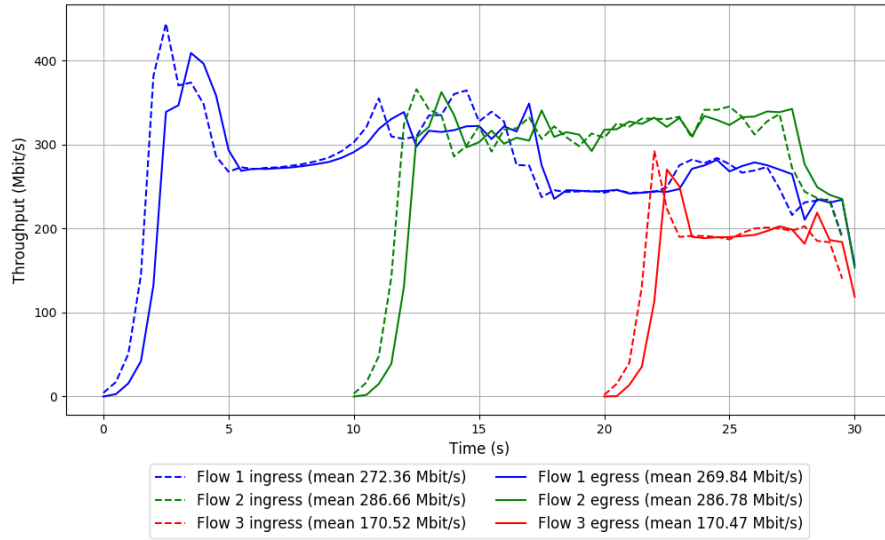


Run 4: Statistics of PCC-Expr

Start at: 2019-03-19 11:01:39
End at: 2019-03-19 11:02:09
Local clock offset: -0.091 ms
Remote clock offset: -0.341 ms

```
# Below is generated by plot.py at 2019-03-19 14:19:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 515.89 Mbit/s
95th percentile per-packet one-way delay: 161.445 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 269.84 Mbit/s
95th percentile per-packet one-way delay: 172.009 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 286.78 Mbit/s
95th percentile per-packet one-way delay: 131.063 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 170.47 Mbit/s
95th percentile per-packet one-way delay: 75.707 ms
Loss rate: 1.34%
```

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-03-19 11:38:19

End at: 2019-03-19 11:38:49

Local clock offset: -0.097 ms

Remote clock offset: -1.38 ms

Below is generated by plot.py at 2019-03-19 14:19:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 438.54 Mbit/s

95th percentile per-packet one-way delay: 170.546 ms

Loss rate: 1.77%

-- Flow 1:

Average throughput: 253.73 Mbit/s

95th percentile per-packet one-way delay: 157.687 ms

Loss rate: 1.45%

-- Flow 2:

Average throughput: 230.92 Mbit/s

95th percentile per-packet one-way delay: 176.990 ms

Loss rate: 2.24%

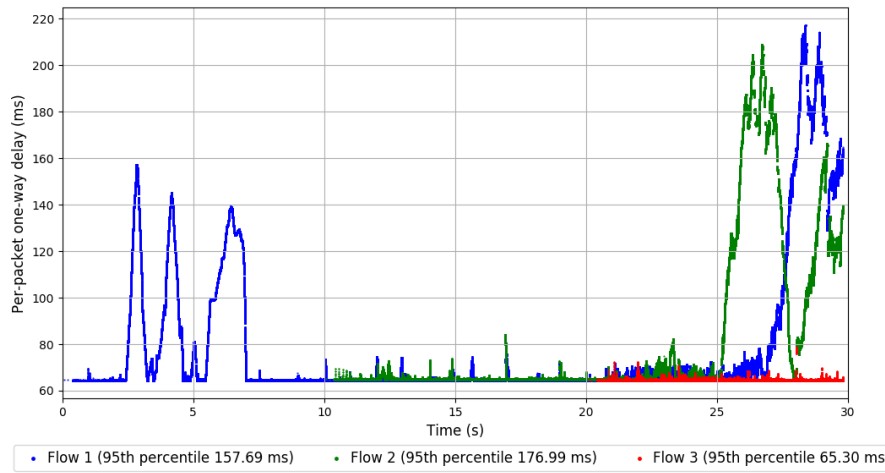
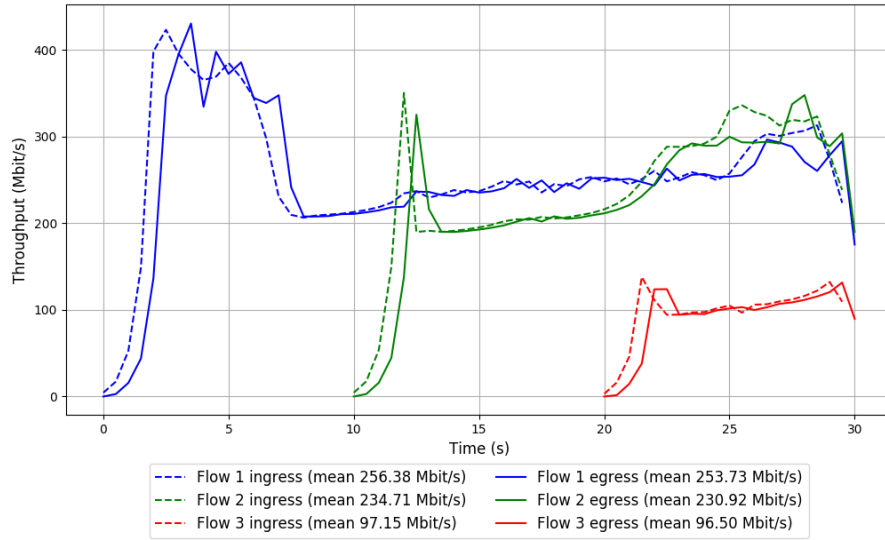
-- Flow 3:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 65.300 ms

Loss rate: 1.95%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-03-19 08:50:22

End at: 2019-03-19 08:50:52

Local clock offset: -0.11 ms

Remote clock offset: -0.21 ms

Below is generated by plot.py at 2019-03-19 14:19:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.92 Mbit/s

95th percentile per-packet one-way delay: 63.313 ms

Loss rate: 0.89%

-- Flow 1:

Average throughput: 65.06 Mbit/s

95th percentile per-packet one-way delay: 63.331 ms

Loss rate: 0.77%

-- Flow 2:

Average throughput: 34.69 Mbit/s

95th percentile per-packet one-way delay: 62.982 ms

Loss rate: 1.34%

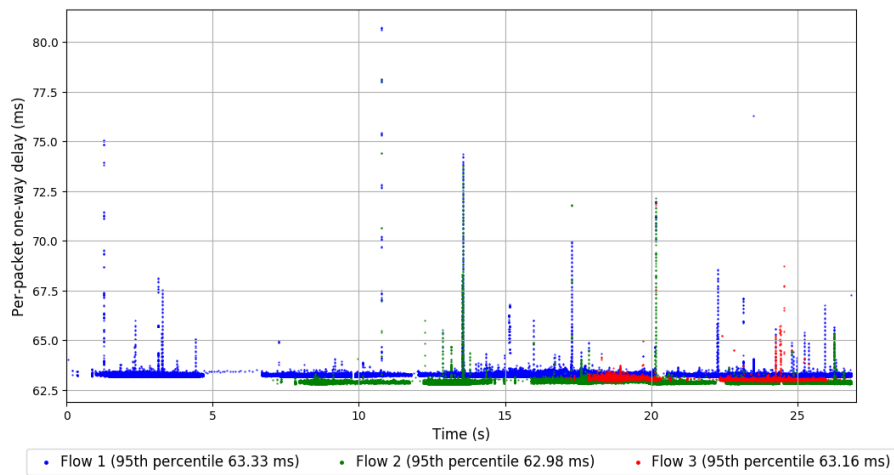
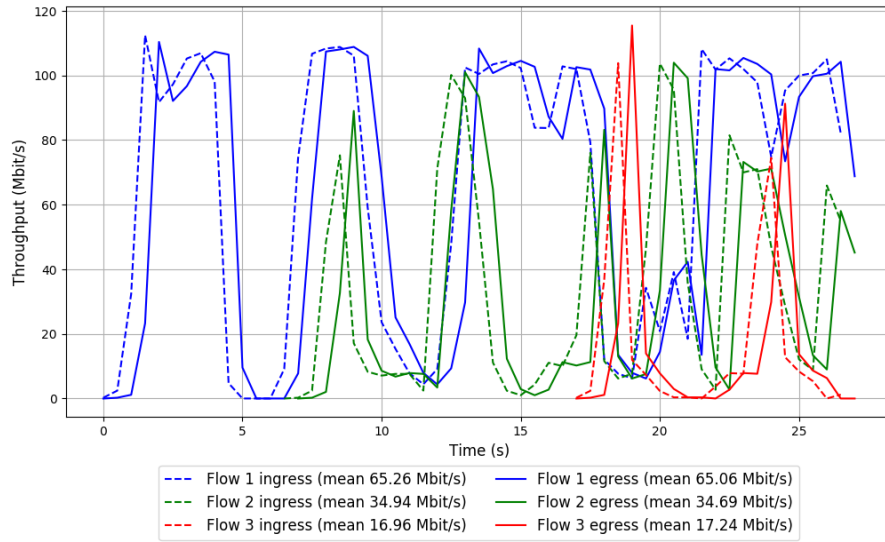
-- Flow 3:

Average throughput: 17.24 Mbit/s

95th percentile per-packet one-way delay: 63.159 ms

Loss rate: 0.36%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-03-19 09:26:36

End at: 2019-03-19 09:27:06

Local clock offset: -0.035 ms

Remote clock offset: 0.047 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 110.85 Mbit/s

95th percentile per-packet one-way delay: 63.139 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 58.07 Mbit/s

95th percentile per-packet one-way delay: 63.142 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 48.00 Mbit/s

95th percentile per-packet one-way delay: 63.157 ms

Loss rate: 1.40%

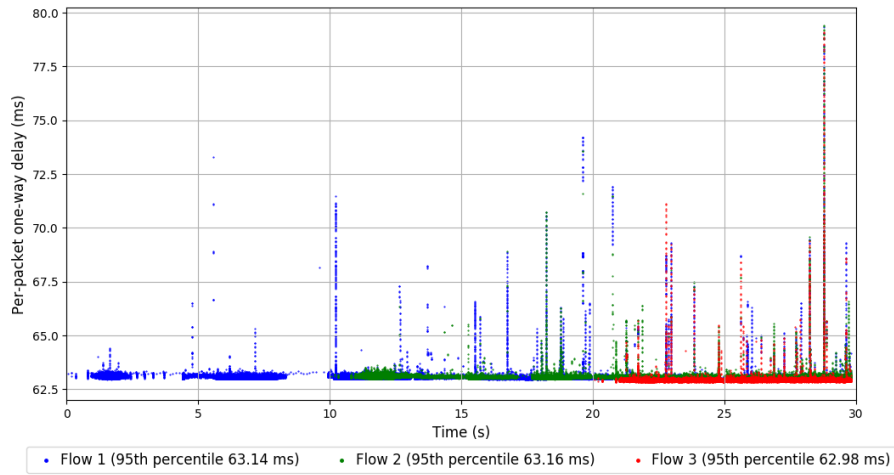
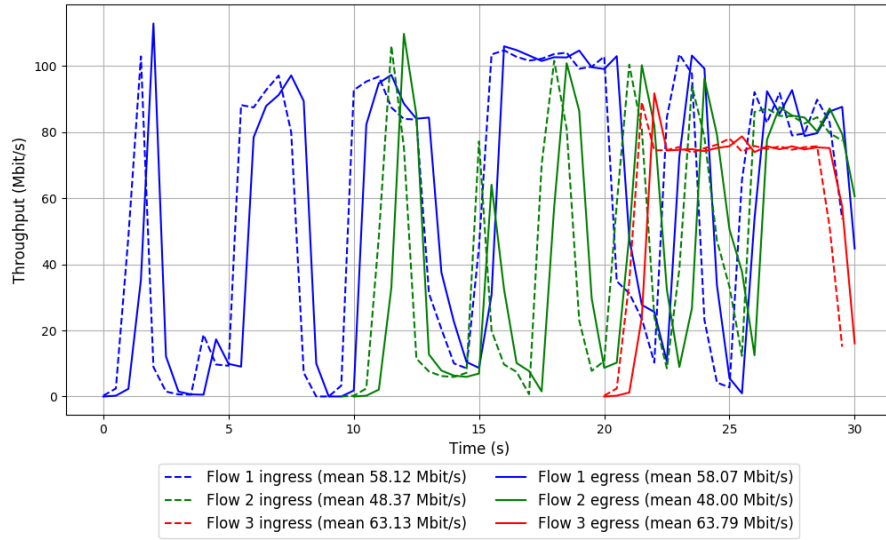
-- Flow 3:

Average throughput: 63.79 Mbit/s

95th percentile per-packet one-way delay: 62.979 ms

Loss rate: 0.22%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-03-19 10:03:05

End at: 2019-03-19 10:03:35

Local clock offset: -0.03 ms

Remote clock offset: -0.157 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.67 Mbit/s

95th percentile per-packet one-way delay: 63.281 ms

Loss rate: 0.93%

-- Flow 1:

Average throughput: 49.84 Mbit/s

95th percentile per-packet one-way delay: 63.303 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 40.35 Mbit/s

95th percentile per-packet one-way delay: 62.898 ms

Loss rate: 1.36%

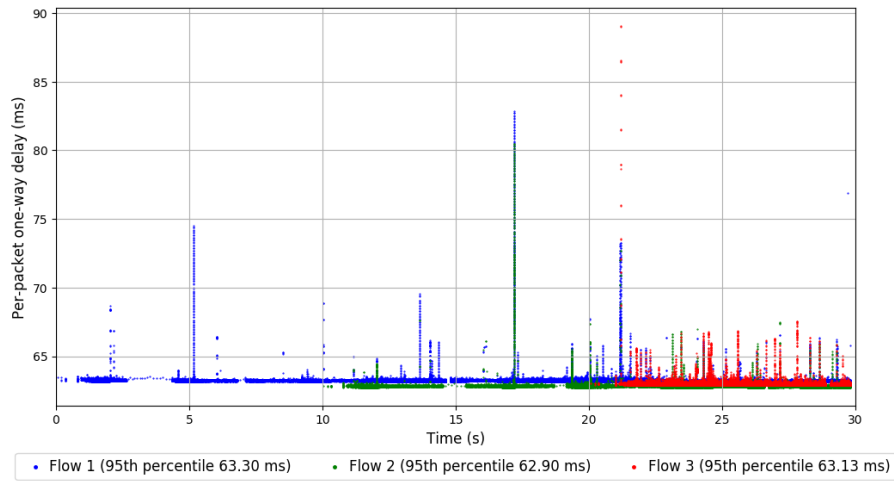
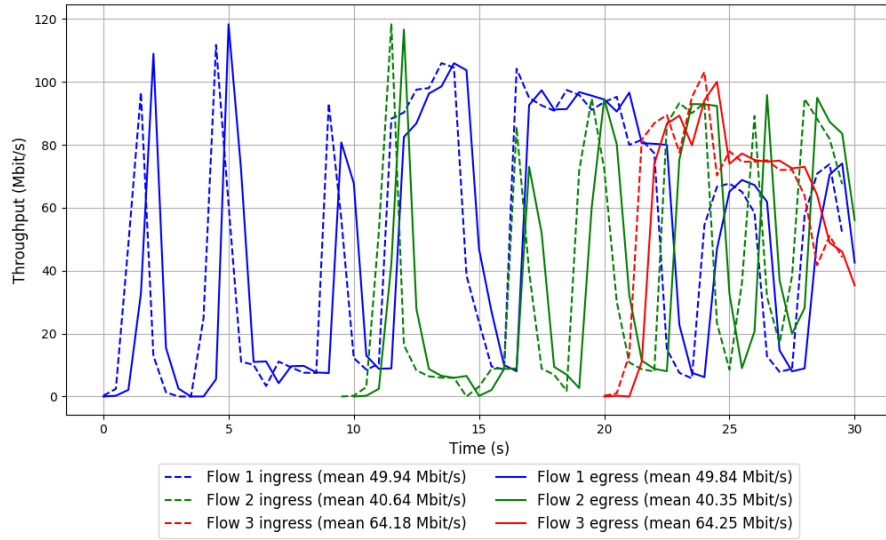
-- Flow 3:

Average throughput: 64.25 Mbit/s

95th percentile per-packet one-way delay: 63.131 ms

Loss rate: 1.17%

Run 3: Report of QUIC Cubic — Data Link

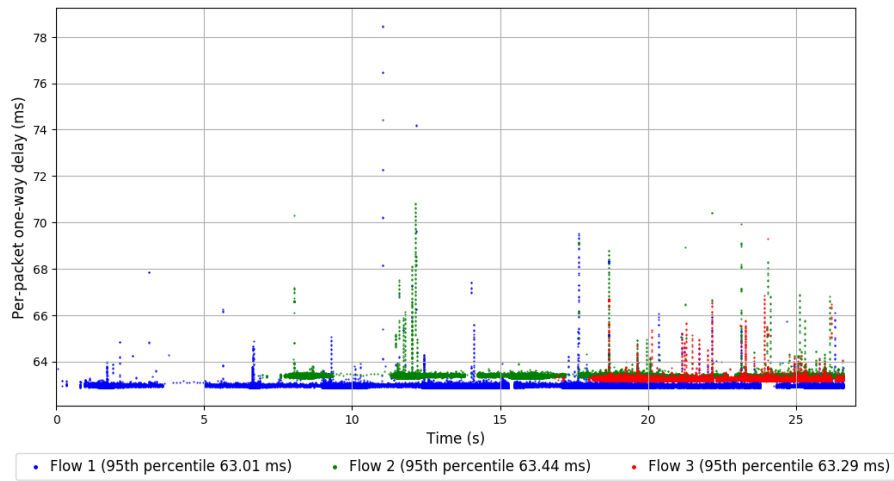
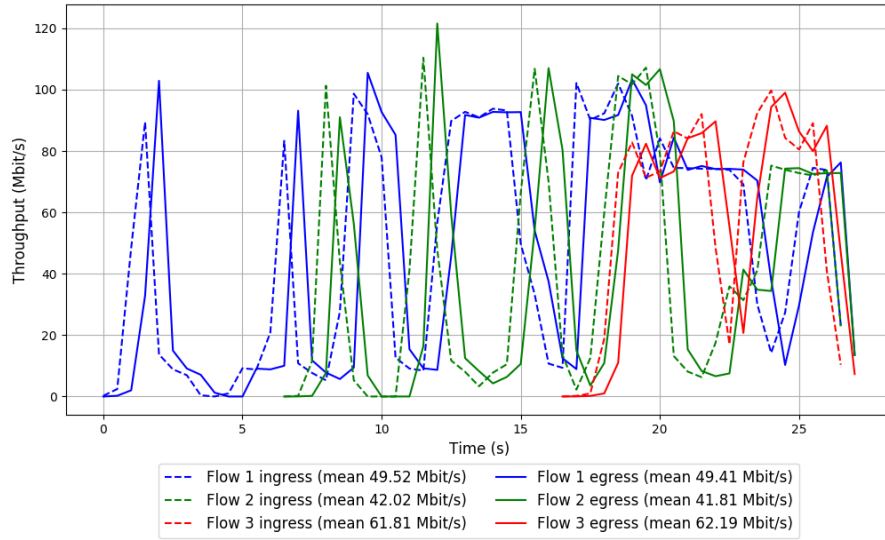


Run 4: Statistics of QUIC Cubic

Start at: 2019-03-19 10:39:31
End at: 2019-03-19 10:40:01
Local clock offset: 0.018 ms
Remote clock offset: -0.264 ms

```
# Below is generated by plot.py at 2019-03-19 14:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.42 Mbit/s
95th percentile per-packet one-way delay: 63.394 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 49.41 Mbit/s
95th percentile per-packet one-way delay: 63.009 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 41.81 Mbit/s
95th percentile per-packet one-way delay: 63.438 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 62.19 Mbit/s
95th percentile per-packet one-way delay: 63.292 ms
Loss rate: 0.67%
```

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-19 11:15:56
End at: 2019-03-19 11:16:26
Local clock offset: -0.127 ms
Remote clock offset: -0.129 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.48 Mbit/s
95th percentile per-packet one-way delay: 62.968 ms
Loss rate: 0.71%

-- Flow 1:

Average throughput: 58.54 Mbit/s
95th percentile per-packet one-way delay: 62.948 ms
Loss rate: 0.54%

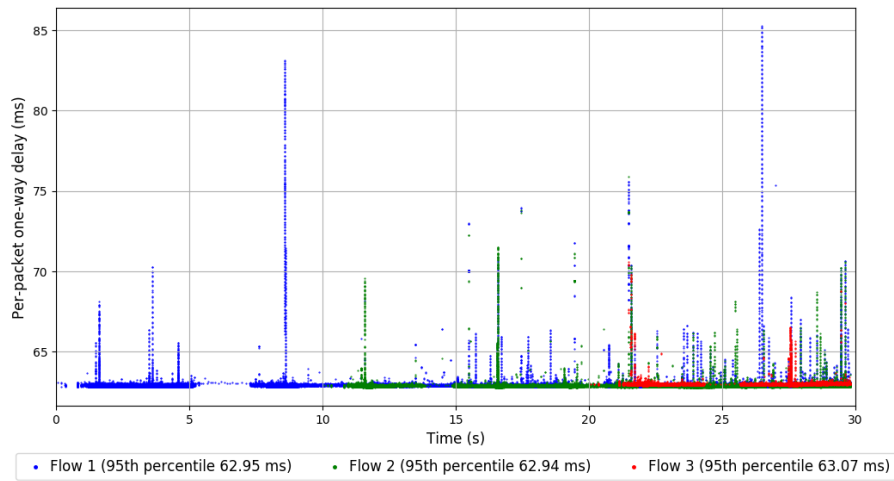
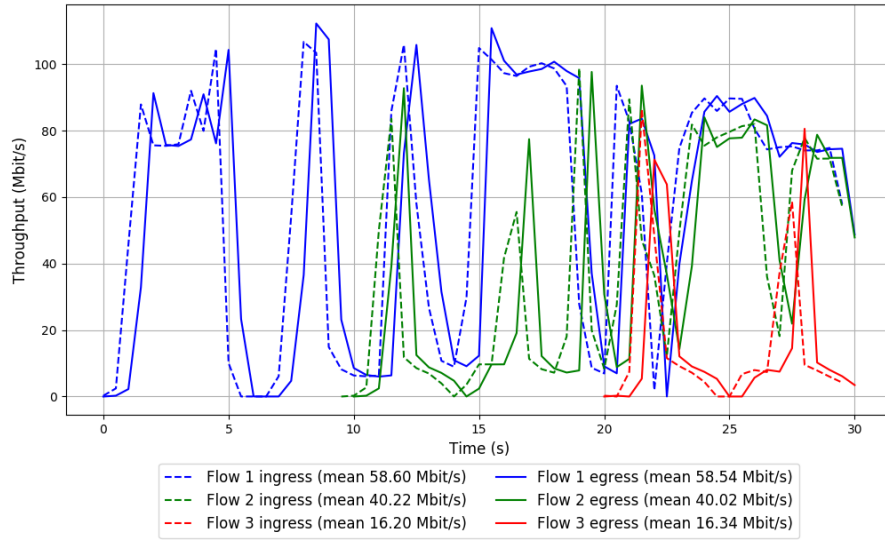
-- Flow 2:

Average throughput: 40.02 Mbit/s
95th percentile per-packet one-way delay: 62.942 ms
Loss rate: 1.13%

-- Flow 3:

Average throughput: 16.34 Mbit/s
95th percentile per-packet one-way delay: 63.066 ms
Loss rate: 0.45%

Run 5: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2019-03-19 08:57:33
End at: 2019-03-19 08:58:03
Local clock offset: -0.098 ms
Remote clock offset: -0.305 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 63.296 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.231 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.318 ms

Loss rate: 0.61%

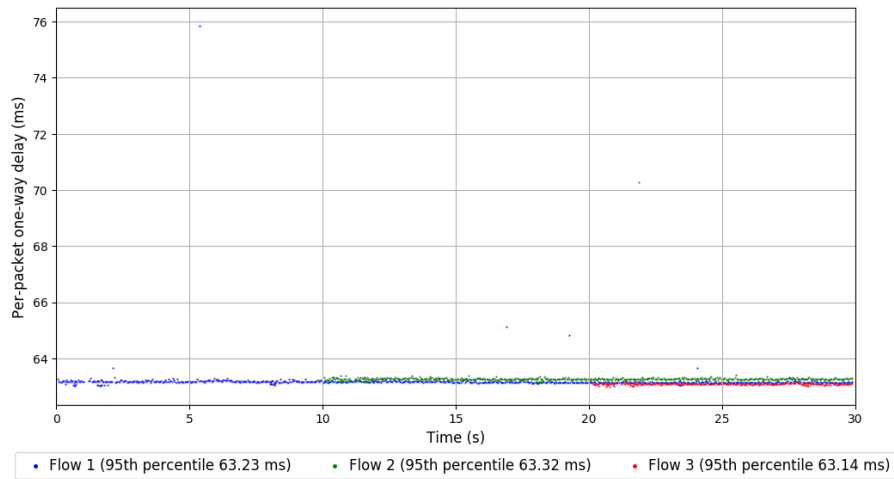
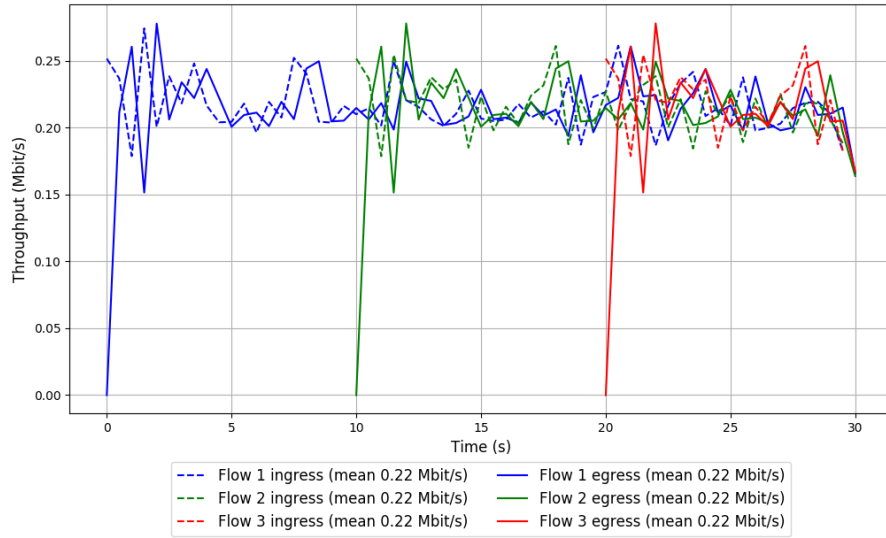
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.138 ms

Loss rate: 1.08%

Run 1: Report of SCReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2019-03-19 09:33:51

End at: 2019-03-19 09:34:21

Local clock offset: -0.053 ms

Remote clock offset: -0.49 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 63.762 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.674 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.786 ms

Loss rate: 0.61%

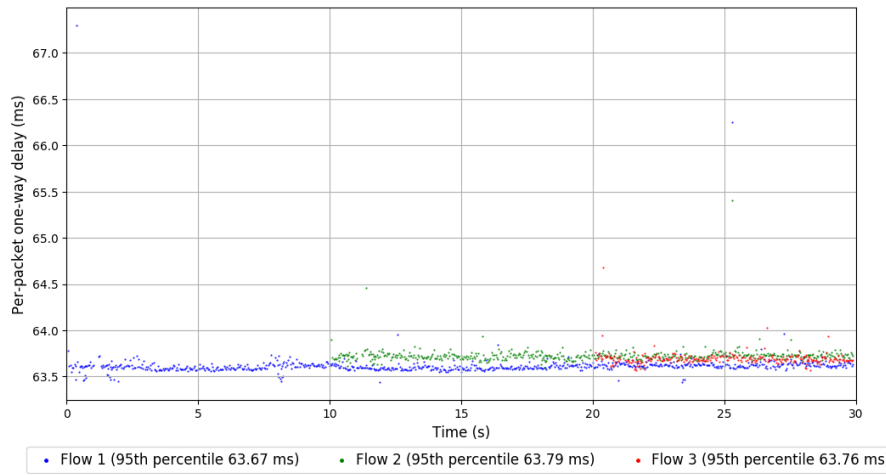
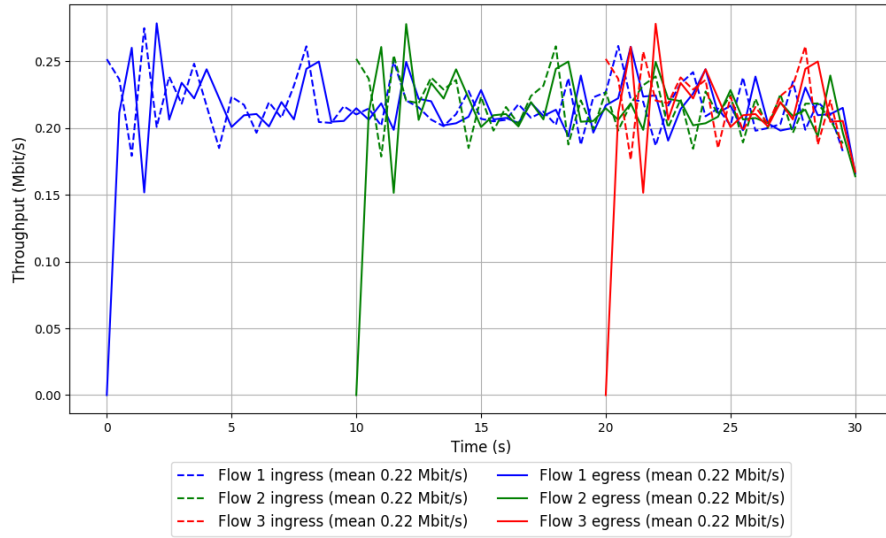
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.755 ms

Loss rate: 1.08%

Run 2: Report of SCReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-03-19 10:10:20
End at: 2019-03-19 10:10:50
Local clock offset: -0.012 ms
Remote clock offset: -0.215 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 63.323 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.158 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.301 ms

Loss rate: 0.61%

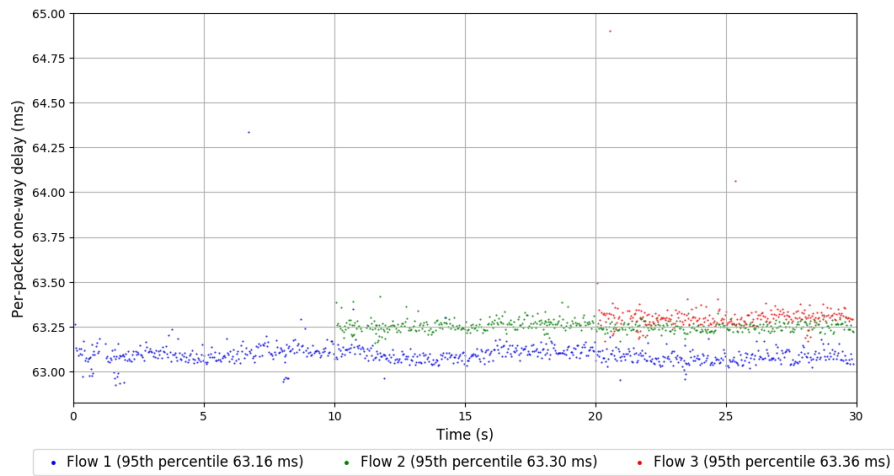
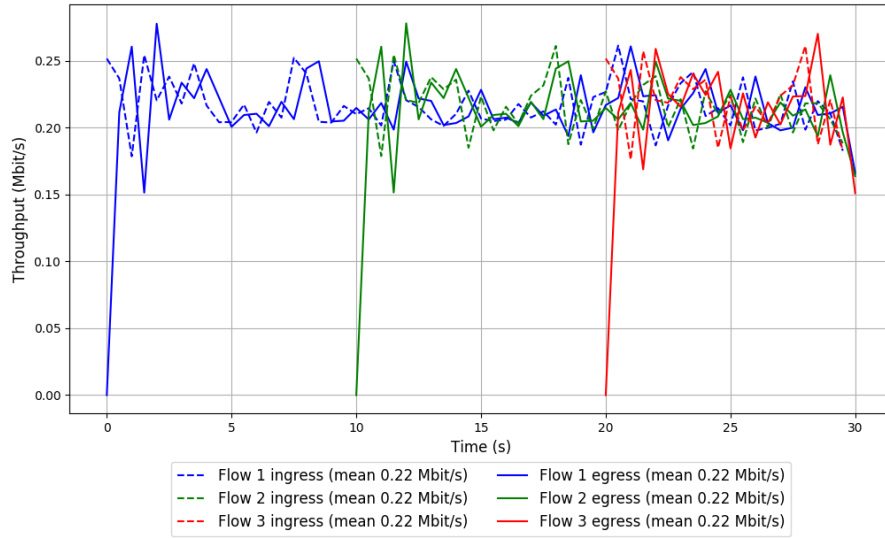
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.362 ms

Loss rate: 1.45%

Run 3: Report of SCReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2019-03-19 10:46:35
End at: 2019-03-19 10:47:05
Local clock offset: -0.013 ms
Remote clock offset: -0.759 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 64.194 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 64.214 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.719 ms

Loss rate: 0.61%

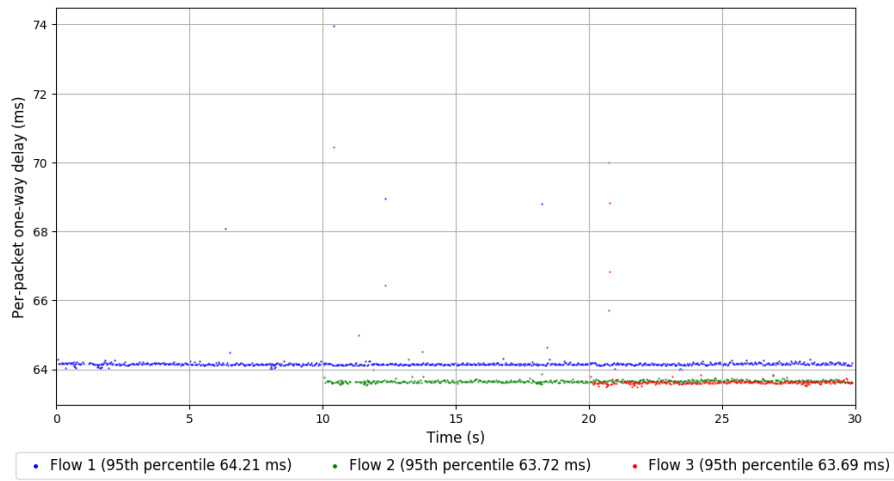
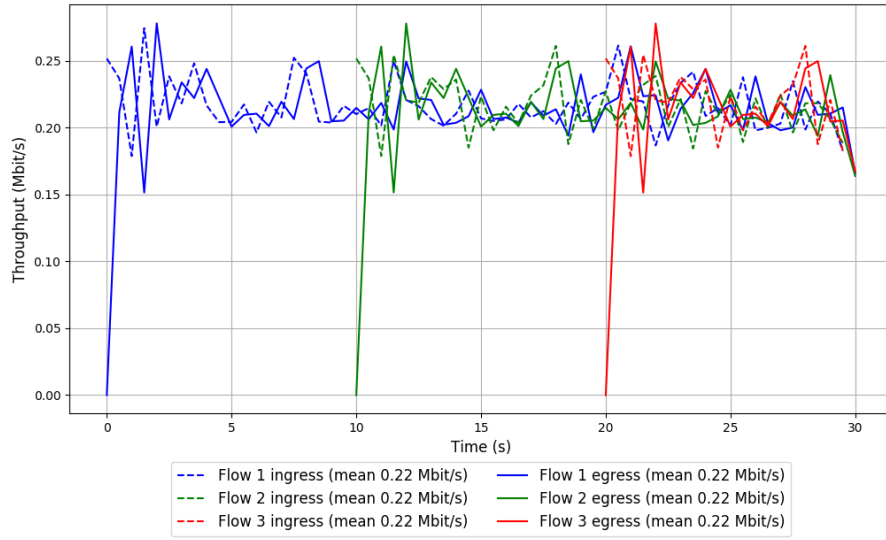
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.691 ms

Loss rate: 1.08%

Run 4: Report of SCReAM — Data Link

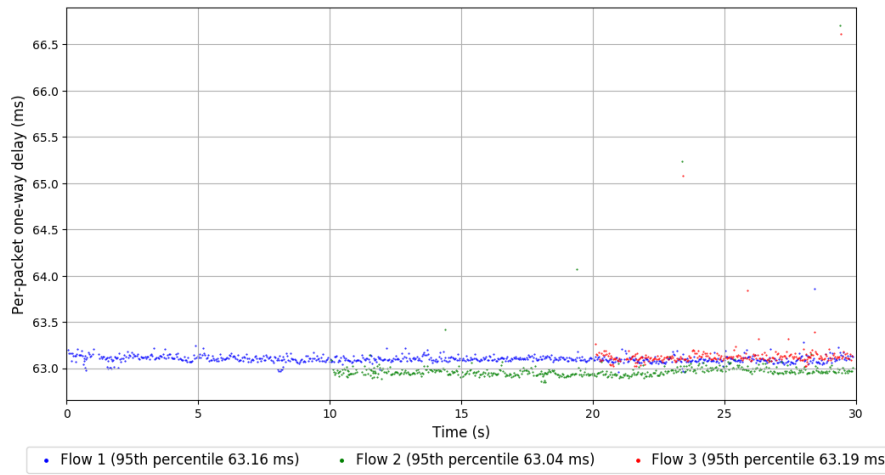
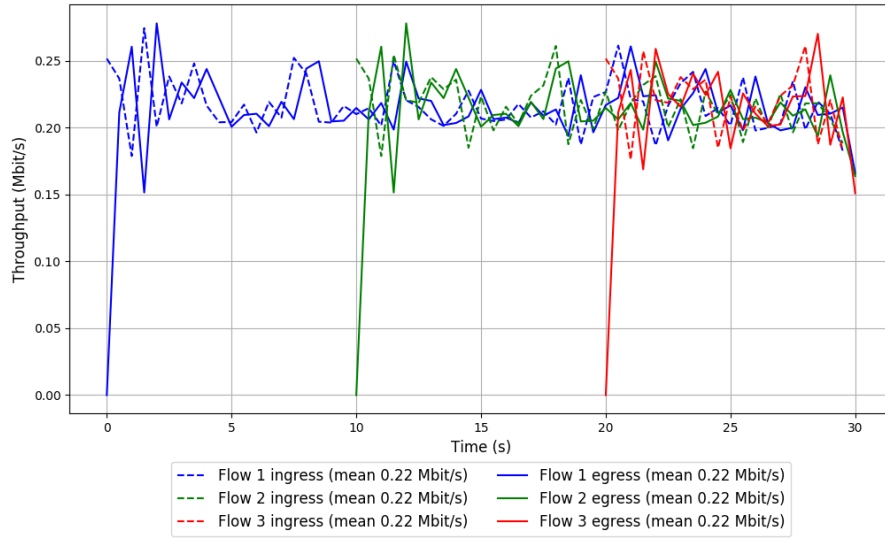


Run 5: Statistics of SCReAM

Start at: 2019-03-19 11:23:18
End at: 2019-03-19 11:23:48
Local clock offset: -0.167 ms
Remote clock offset: -0.023 ms

```
# Below is generated by plot.py at 2019-03-19 14:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.164 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.165 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.036 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.190 ms
Loss rate: 1.45%
```

Run 5: Report of SCReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-03-19 08:49:08
End at: 2019-03-19 08:49:38
Local clock offset: -0.123 ms
Remote clock offset: -0.288 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 13.35 Mbit/s
95th percentile per-packet one-way delay: 64.082 ms
Loss rate: 0.74%

-- Flow 1:

Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 64.123 ms
Loss rate: 0.49%

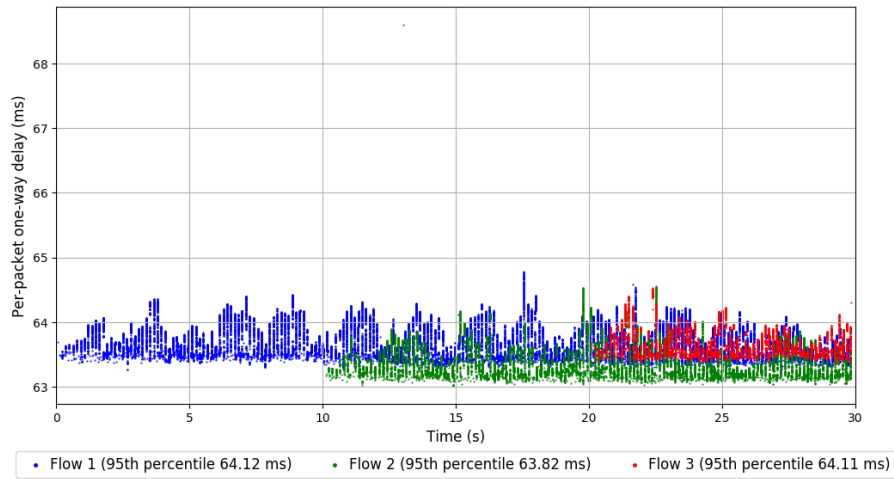
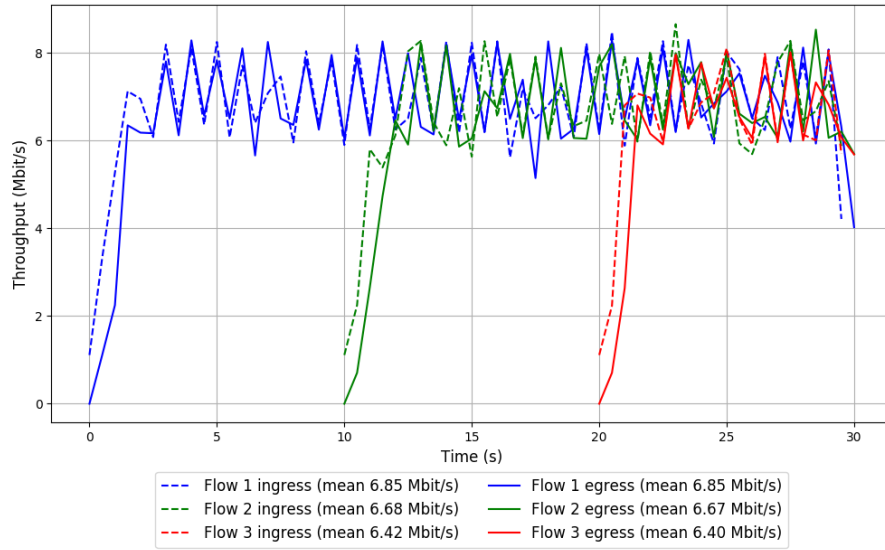
-- Flow 2:

Average throughput: 6.67 Mbit/s
95th percentile per-packet one-way delay: 63.824 ms
Loss rate: 0.73%

-- Flow 3:

Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 64.107 ms
Loss rate: 1.58%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2019-03-19 09:25:22

End at: 2019-03-19 09:25:52

Local clock offset: -0.074 ms

Remote clock offset: -0.15 ms

Below is generated by plot.py at 2019-03-19 14:19:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 13.32 Mbit/s

95th percentile per-packet one-way delay: 64.149 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 6.80 Mbit/s

95th percentile per-packet one-way delay: 64.189 ms

Loss rate: 0.49%

-- Flow 2:

Average throughput: 6.68 Mbit/s

95th percentile per-packet one-way delay: 63.631 ms

Loss rate: 0.83%

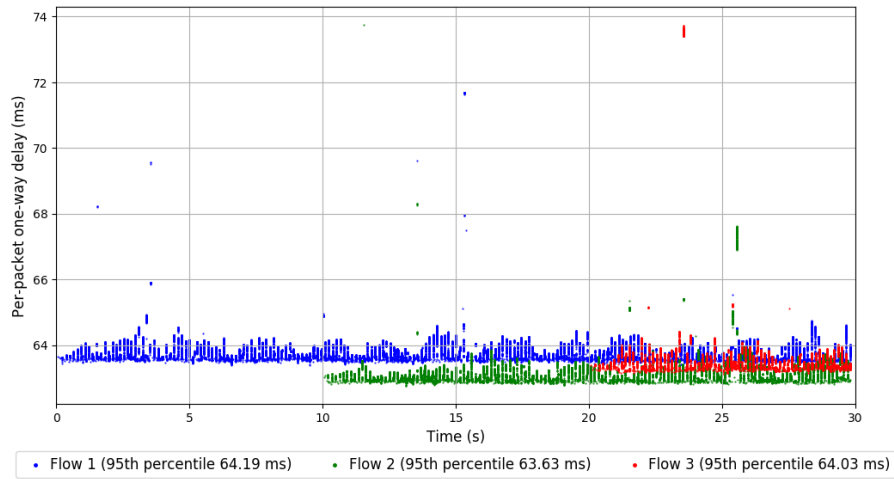
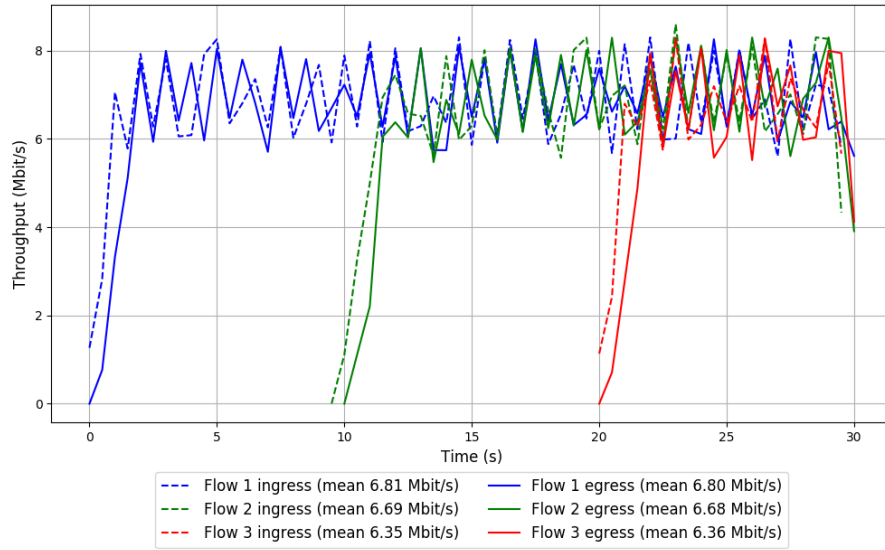
-- Flow 3:

Average throughput: 6.36 Mbit/s

95th percentile per-packet one-way delay: 64.035 ms

Loss rate: 1.28%

Run 2: Report of Sprout — Data Link

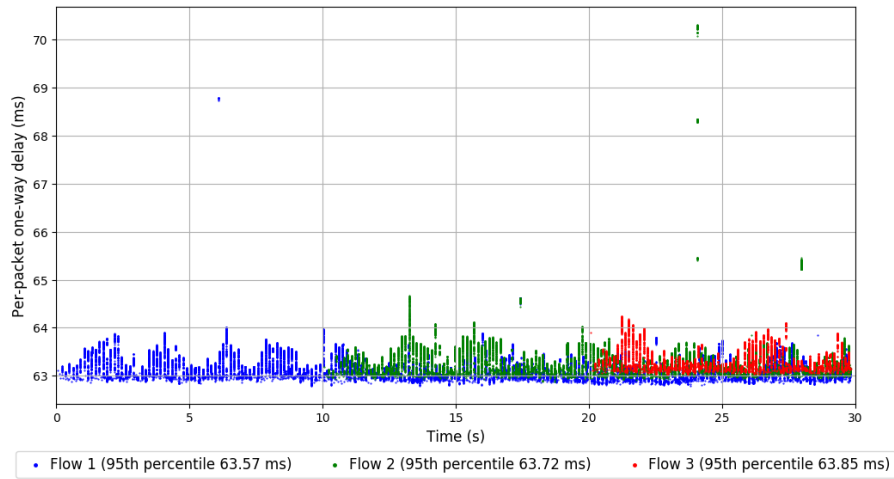
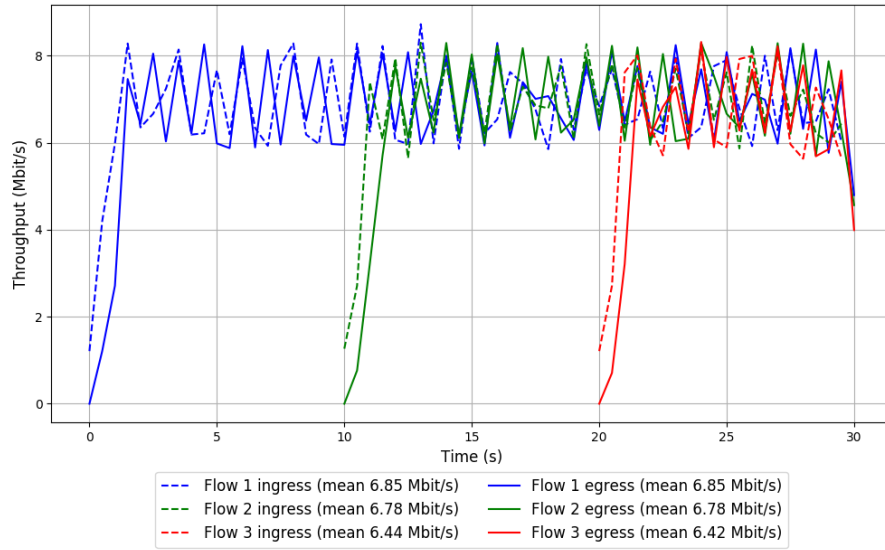


Run 3: Statistics of Sprout

Start at: 2019-03-19 10:01:52
End at: 2019-03-19 10:02:22
Local clock offset: -0.061 ms
Remote clock offset: -0.005 ms

```
# Below is generated by plot.py at 2019-03-19 14:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.44 Mbit/s
95th percentile per-packet one-way delay: 63.686 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 63.571 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 63.719 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 63.847 ms
Loss rate: 1.54%
```

Run 3: Report of Sprout — Data Link

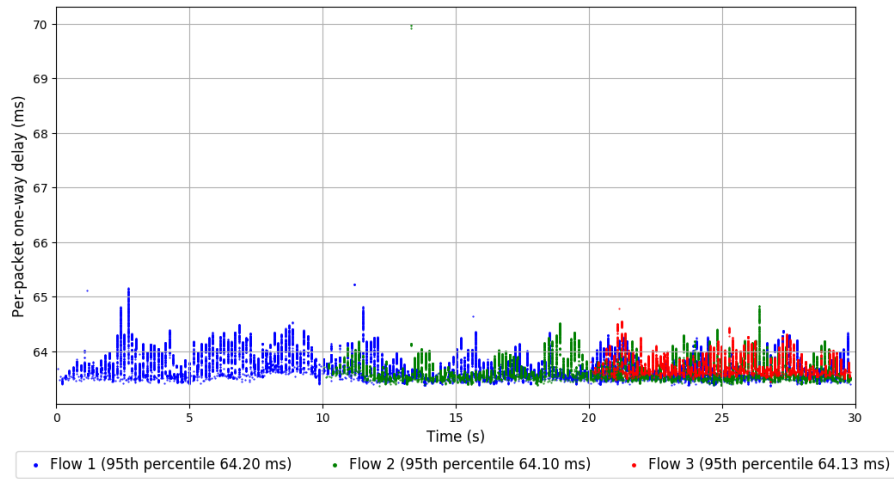
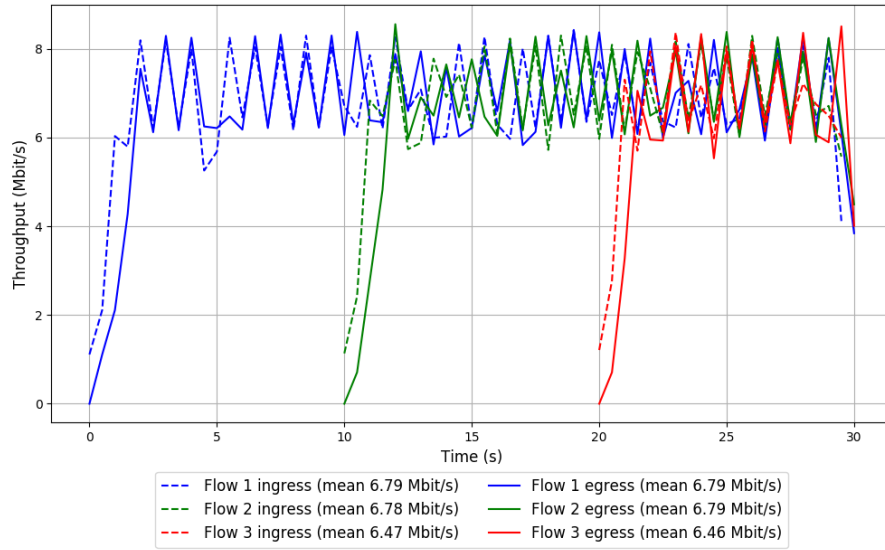


Run 4: Statistics of Sprout

Start at: 2019-03-19 10:38:17
End at: 2019-03-19 10:38:47
Local clock offset: -0.024 ms
Remote clock offset: -0.415 ms

```
# Below is generated by plot.py at 2019-03-19 14:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.41 Mbit/s
95th percentile per-packet one-way delay: 64.163 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 64.201 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 64.102 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 64.132 ms
Loss rate: 1.55%
```

Run 4: Report of Sprout — Data Link

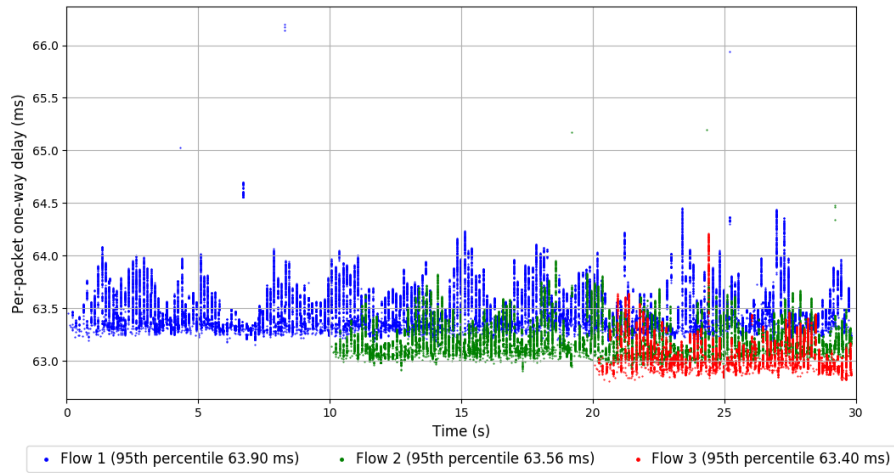
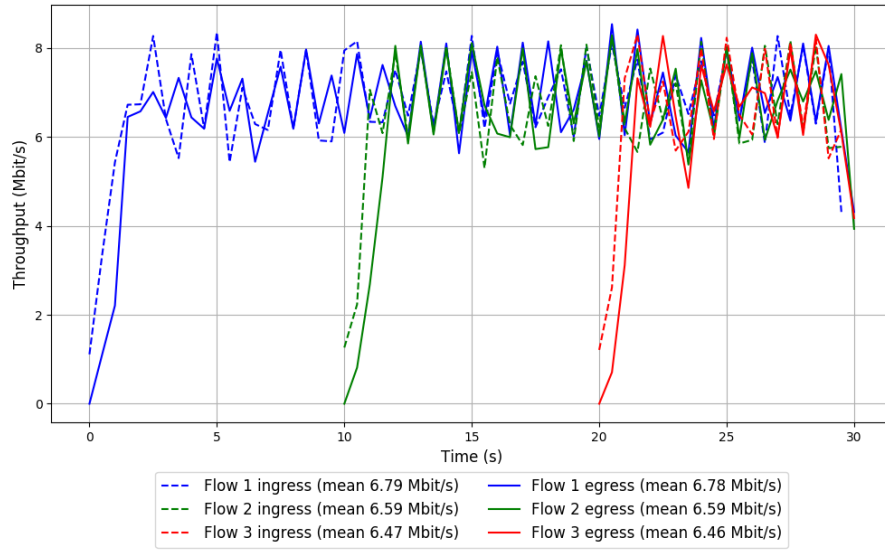


Run 5: Statistics of Sprout

Start at: 2019-03-19 11:14:42
End at: 2019-03-19 11:15:12
Local clock offset: -0.117 ms
Remote clock offset: -0.073 ms

```
# Below is generated by plot.py at 2019-03-19 14:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 63.806 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 63.903 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 6.59 Mbit/s
95th percentile per-packet one-way delay: 63.561 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 63.398 ms
Loss rate: 1.56%
```

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-03-19 09:21:38

End at: 2019-03-19 09:22:08

Local clock offset: -0.063 ms

Remote clock offset: -0.77 ms

Below is generated by plot.py at 2019-03-19 14:23:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 465.20 Mbit/s

95th percentile per-packet one-way delay: 64.782 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 238.37 Mbit/s

95th percentile per-packet one-way delay: 64.785 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 227.96 Mbit/s

95th percentile per-packet one-way delay: 64.883 ms

Loss rate: 0.66%

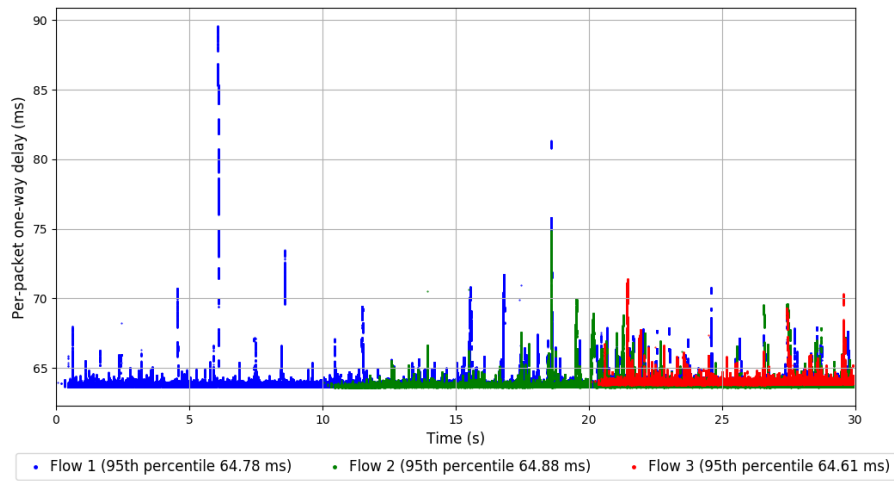
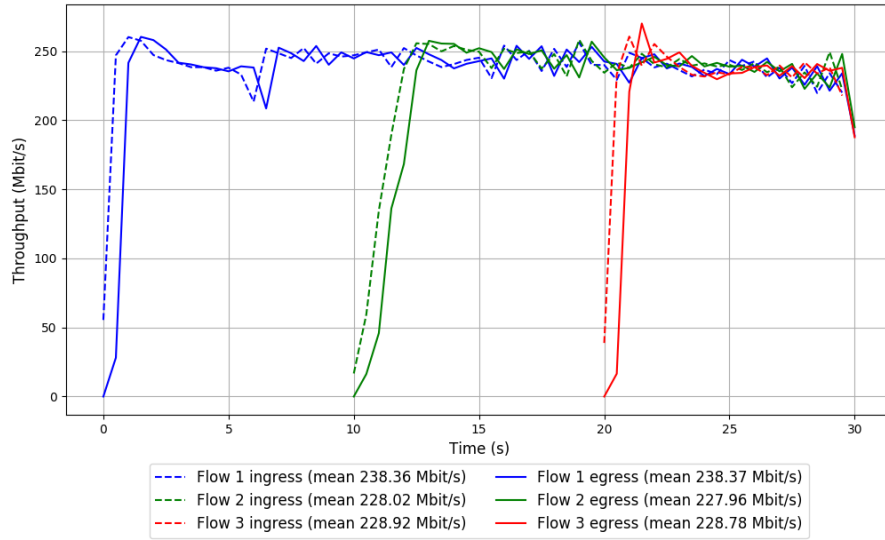
-- Flow 3:

Average throughput: 228.78 Mbit/s

95th percentile per-packet one-way delay: 64.605 ms

Loss rate: 1.32%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-19 09:58:07
End at: 2019-03-19 09:58:37
Local clock offset: -0.033 ms
Remote clock offset: -0.692 ms

Below is generated by plot.py at 2019-03-19 14:23:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 458.19 Mbit/s
95th percentile per-packet one-way delay: 65.625 ms
Loss rate: 0.70%

-- Flow 1:

Average throughput: 231.23 Mbit/s
95th percentile per-packet one-way delay: 65.845 ms
Loss rate: 0.45%

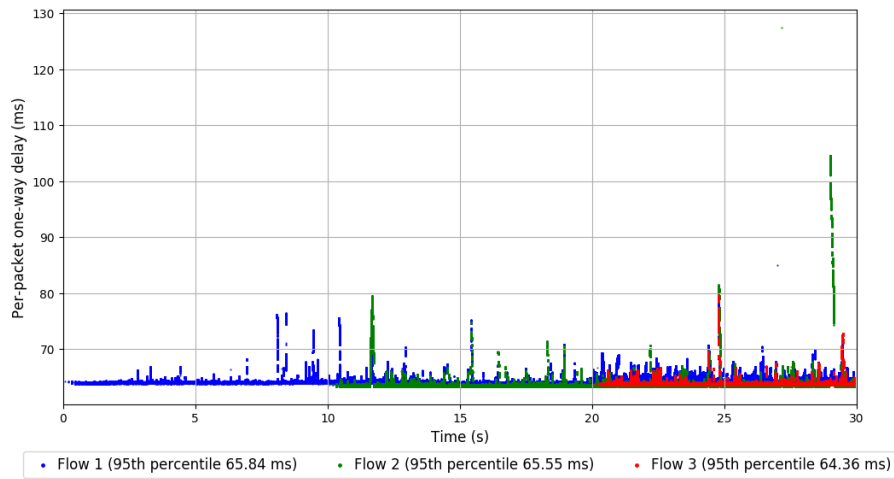
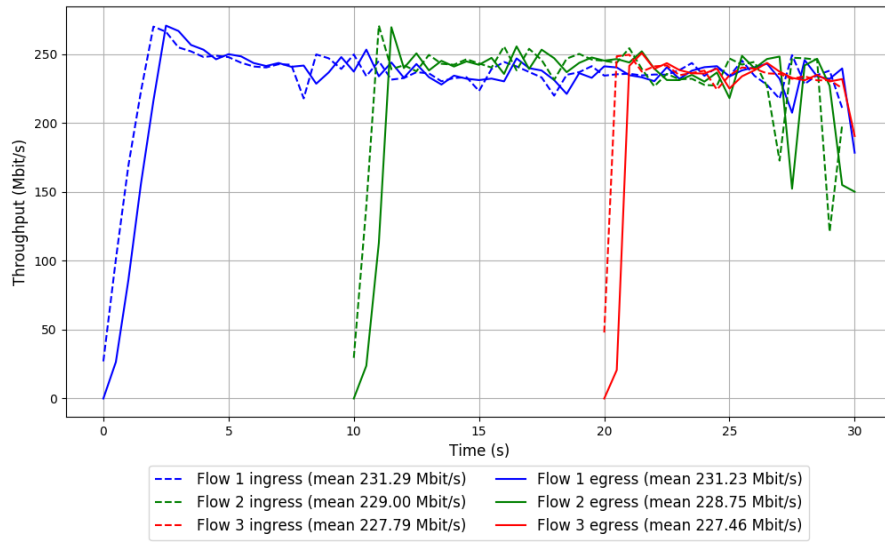
-- Flow 2:

Average throughput: 228.75 Mbit/s
95th percentile per-packet one-way delay: 65.545 ms
Loss rate: 0.74%

-- Flow 3:

Average throughput: 227.46 Mbit/s
95th percentile per-packet one-way delay: 64.364 ms
Loss rate: 1.41%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-19 10:34:32
End at: 2019-03-19 10:35:02
Local clock offset: 0.0 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2019-03-19 14:23:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 456.19 Mbit/s
95th percentile per-packet one-way delay: 64.917 ms
Loss rate: 0.64%

-- Flow 1:

Average throughput: 236.04 Mbit/s
95th percentile per-packet one-way delay: 63.881 ms
Loss rate: 0.39%

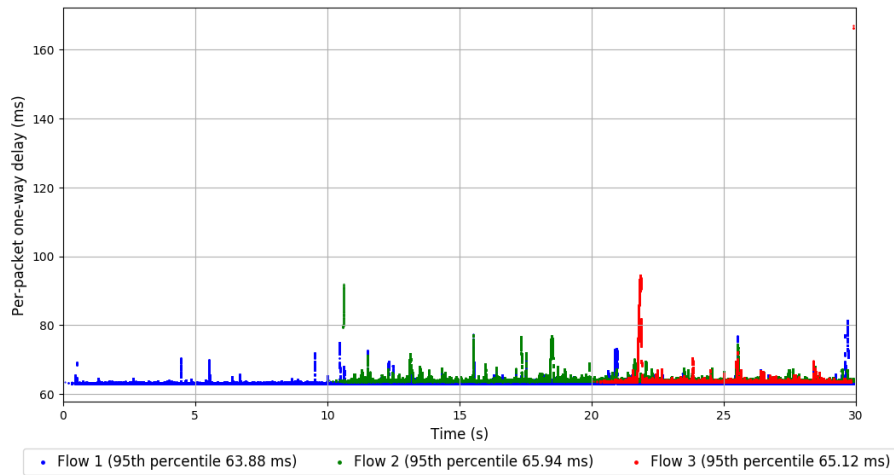
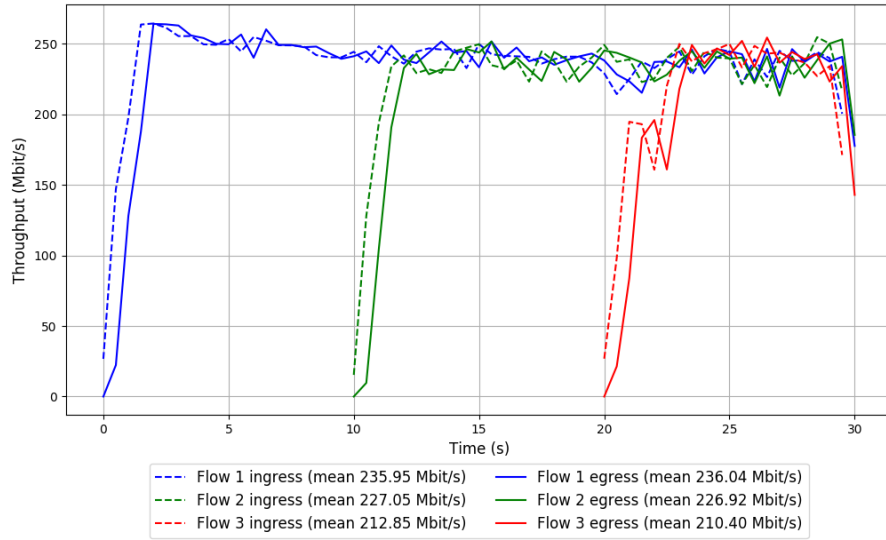
-- Flow 2:

Average throughput: 226.92 Mbit/s
95th percentile per-packet one-way delay: 65.935 ms
Loss rate: 0.69%

-- Flow 3:

Average throughput: 210.40 Mbit/s
95th percentile per-packet one-way delay: 65.123 ms
Loss rate: 1.37%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-19 11:11:01
End at: 2019-03-19 11:11:31
Local clock offset: -0.099 ms
Remote clock offset: -0.673 ms

Below is generated by plot.py at 2019-03-19 14:23:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 432.71 Mbit/s
95th percentile per-packet one-way delay: 67.332 ms
Loss rate: 0.73%

-- Flow 1:

Average throughput: 217.29 Mbit/s
95th percentile per-packet one-way delay: 67.491 ms
Loss rate: 0.48%

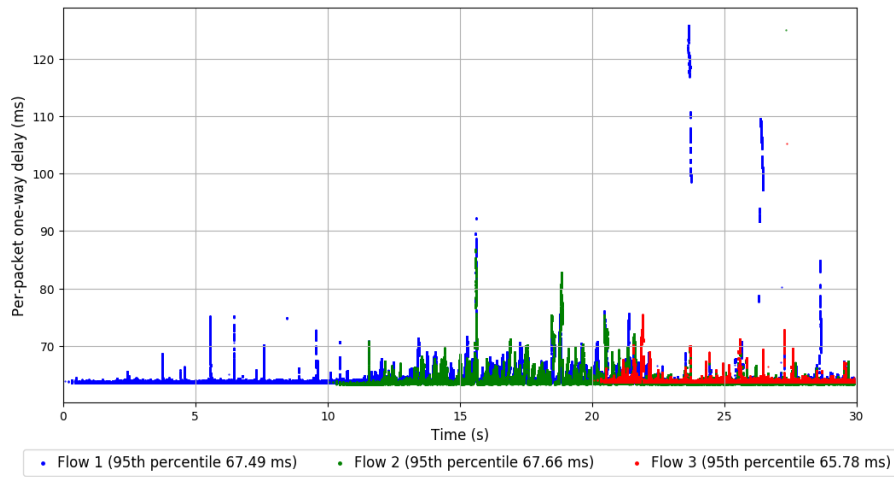
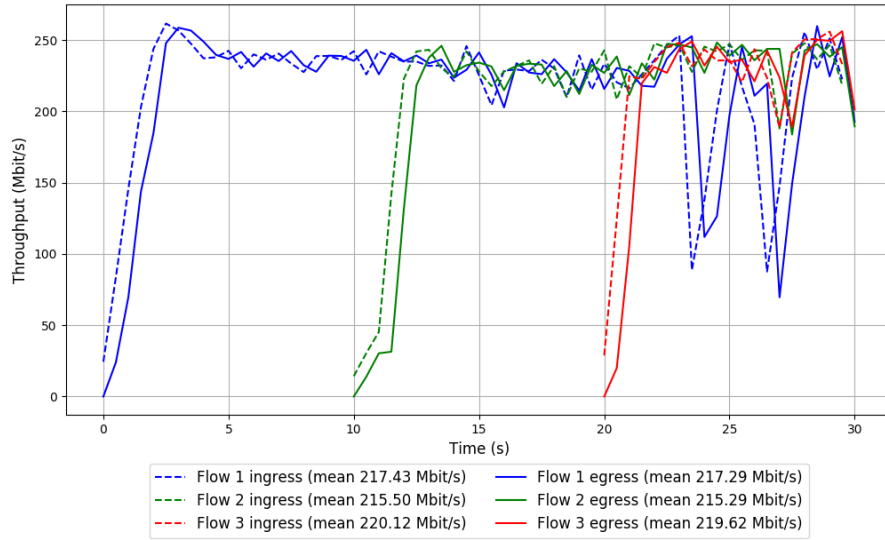
-- Flow 2:

Average throughput: 215.29 Mbit/s
95th percentile per-packet one-way delay: 67.657 ms
Loss rate: 0.73%

-- Flow 3:

Average throughput: 219.62 Mbit/s
95th percentile per-packet one-way delay: 65.775 ms
Loss rate: 1.49%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-03-19 11:47:22
End at: 2019-03-19 11:47:52
Local clock offset: -0.081 ms
Remote clock offset: -0.098 ms

Below is generated by plot.py at 2019-03-19 14:23:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 442.57 Mbit/s
95th percentile per-packet one-way delay: 66.886 ms
Loss rate: 0.68%

-- Flow 1:

Average throughput: 230.29 Mbit/s
95th percentile per-packet one-way delay: 66.029 ms
Loss rate: 0.41%

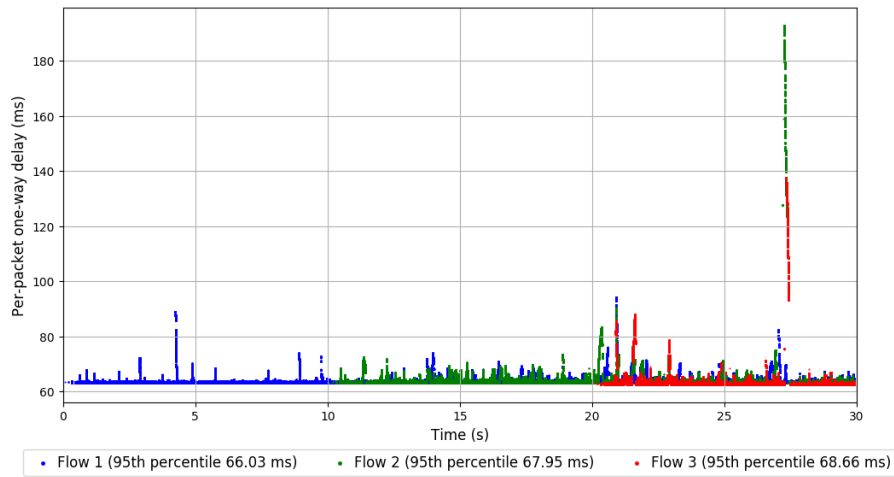
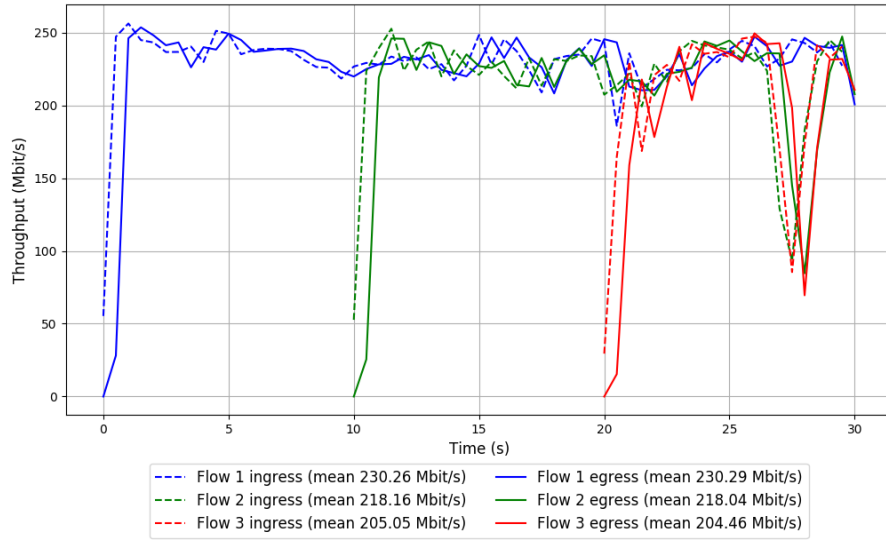
-- Flow 2:

Average throughput: 218.04 Mbit/s
95th percentile per-packet one-way delay: 67.947 ms
Loss rate: 0.70%

-- Flow 3:

Average throughput: 204.46 Mbit/s
95th percentile per-packet one-way delay: 68.659 ms
Loss rate: 1.54%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-03-19 09:19:51
End at: 2019-03-19 09:20:21
Local clock offset: -0.077 ms
Remote clock offset: -0.091 ms

Below is generated by plot.py at 2019-03-19 14:23:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 657.21 Mbit/s
95th percentile per-packet one-way delay: 94.865 ms
Loss rate: 0.55%

-- Flow 1:

Average throughput: 279.98 Mbit/s
95th percentile per-packet one-way delay: 67.020 ms
Loss rate: 0.37%

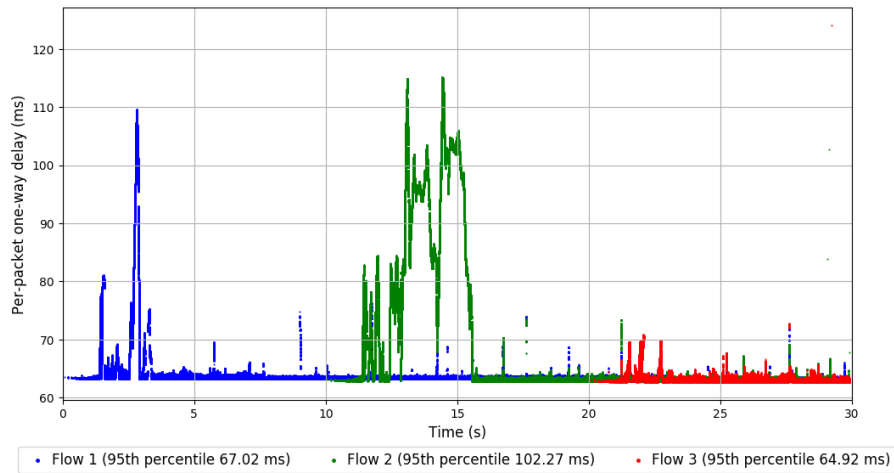
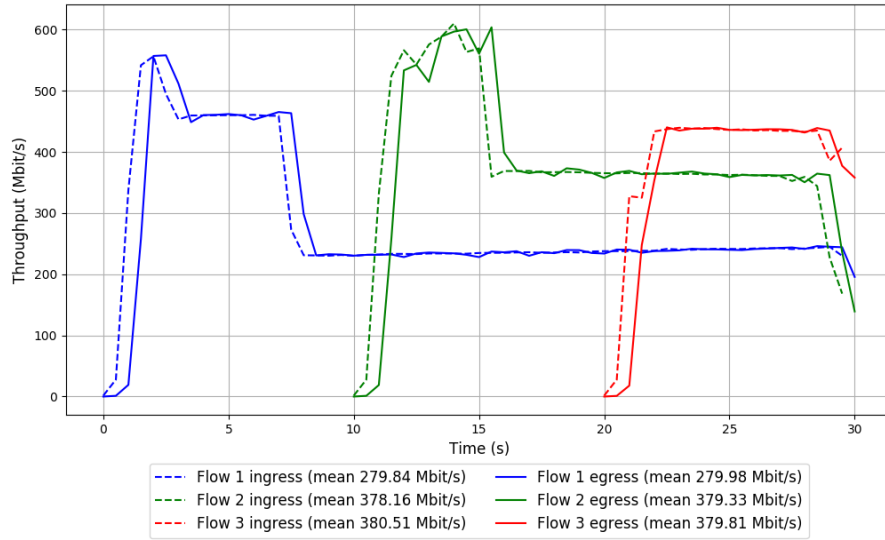
-- Flow 2:

Average throughput: 379.33 Mbit/s
95th percentile per-packet one-way delay: 102.270 ms
Loss rate: 0.30%

-- Flow 3:

Average throughput: 379.81 Mbit/s
95th percentile per-packet one-way delay: 64.921 ms
Loss rate: 1.44%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-03-19 09:56:13
End at: 2019-03-19 09:56:43
Local clock offset: -0.055 ms
Remote clock offset: -0.012 ms

Below is generated by plot.py at 2019-03-19 14:33:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 799.61 Mbit/s
95th percentile per-packet one-way delay: 76.613 ms
Loss rate: 0.57%

-- Flow 1:

Average throughput: 436.20 Mbit/s
95th percentile per-packet one-way delay: 67.822 ms
Loss rate: 0.42%

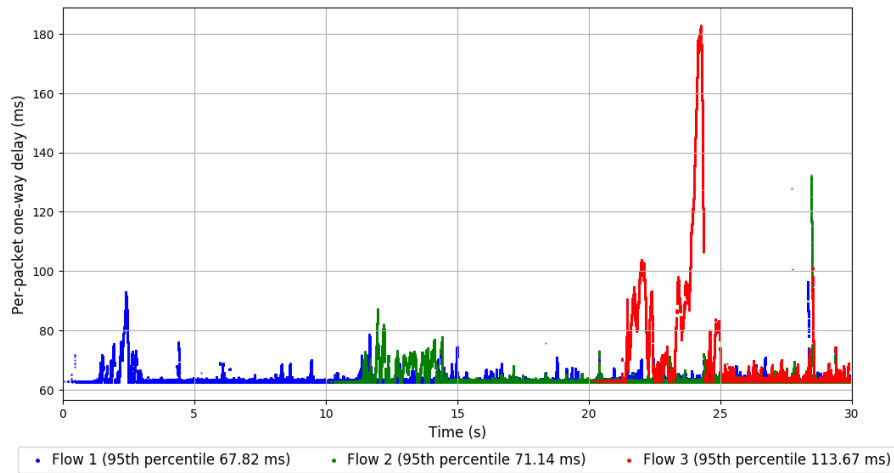
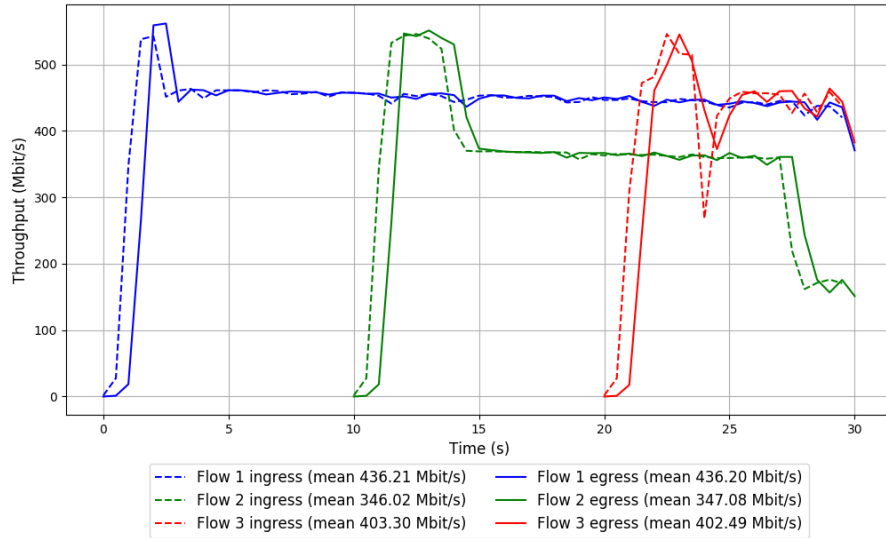
-- Flow 2:

Average throughput: 347.08 Mbit/s
95th percentile per-packet one-way delay: 71.138 ms
Loss rate: 0.33%

-- Flow 3:

Average throughput: 402.49 Mbit/s
95th percentile per-packet one-way delay: 113.666 ms
Loss rate: 1.46%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-03-19 10:32:44
End at: 2019-03-19 10:33:14
Local clock offset: -0.044 ms
Remote clock offset: -0.088 ms

Below is generated by plot.py at 2019-03-19 14:33:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 682.11 Mbit/s
95th percentile per-packet one-way delay: 104.702 ms
Loss rate: 0.58%

-- Flow 1:

Average throughput: 317.07 Mbit/s
95th percentile per-packet one-way delay: 65.797 ms
Loss rate: 0.28%

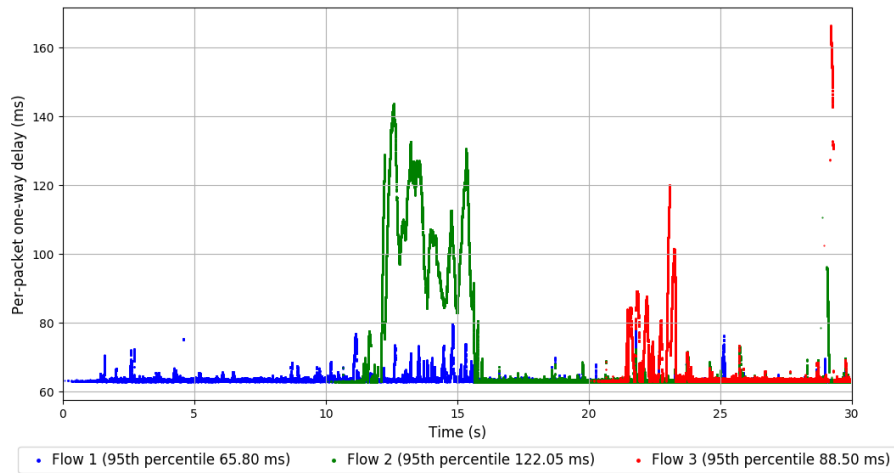
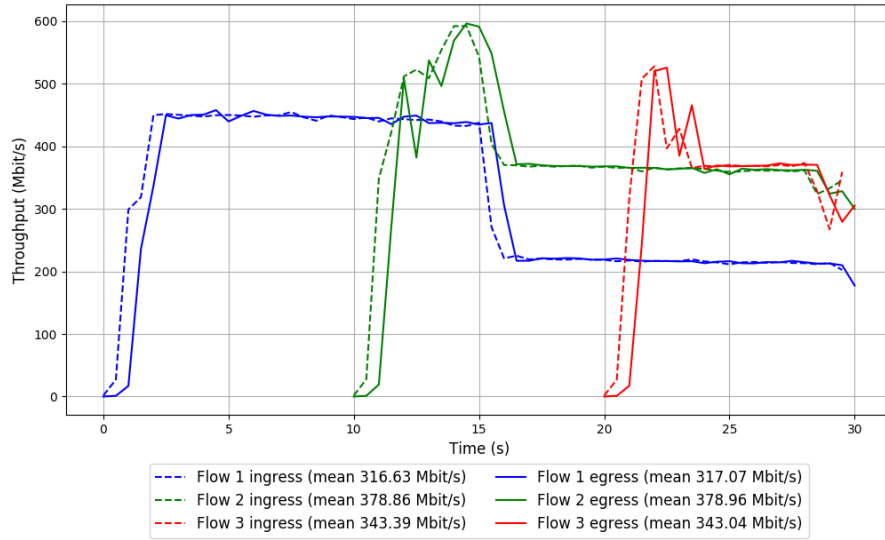
-- Flow 2:

Average throughput: 378.96 Mbit/s
95th percentile per-packet one-way delay: 122.046 ms
Loss rate: 0.60%

-- Flow 3:

Average throughput: 343.04 Mbit/s
95th percentile per-packet one-way delay: 88.499 ms
Loss rate: 1.38%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-03-19 11:09:03
End at: 2019-03-19 11:09:33
Local clock offset: -0.107 ms
Remote clock offset: -0.085 ms

Below is generated by plot.py at 2019-03-19 14:36:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 859.10 Mbit/s
95th percentile per-packet one-way delay: 87.757 ms
Loss rate: 0.67%

-- Flow 1:

Average throughput: 429.20 Mbit/s
95th percentile per-packet one-way delay: 72.526 ms
Loss rate: 0.45%

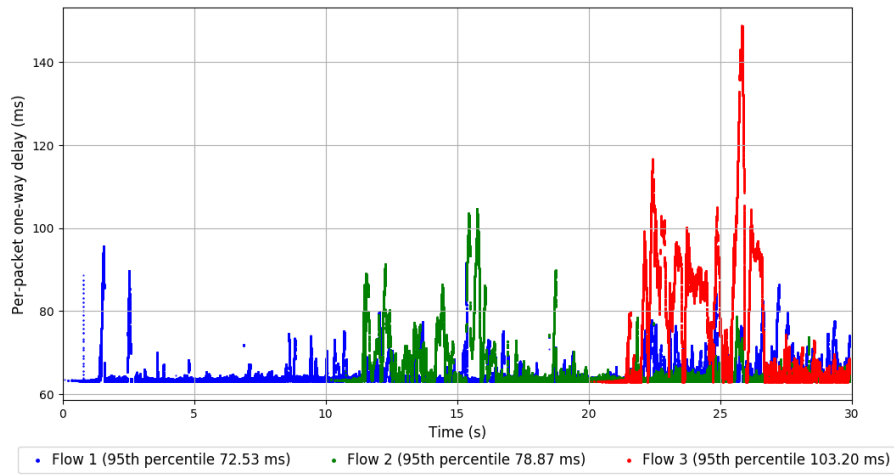
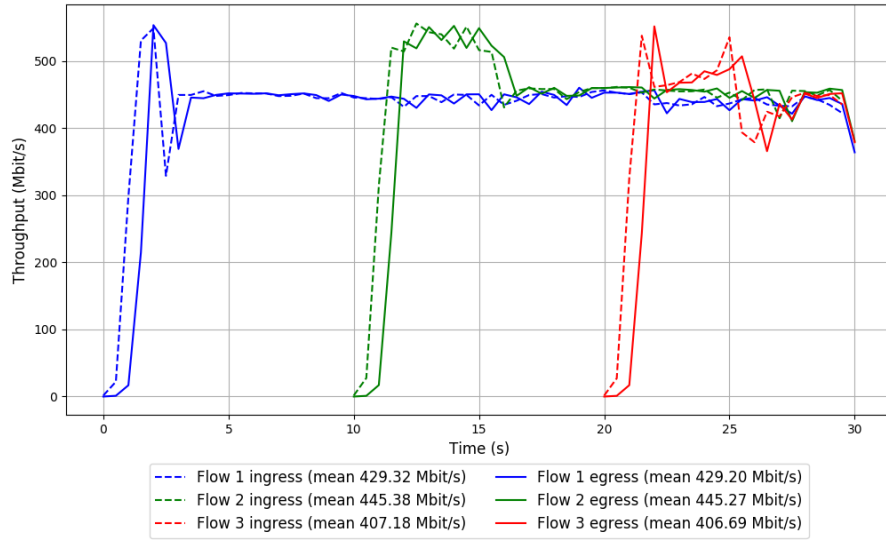
-- Flow 2:

Average throughput: 445.27 Mbit/s
95th percentile per-packet one-way delay: 78.869 ms
Loss rate: 0.65%

-- Flow 3:

Average throughput: 406.69 Mbit/s
95th percentile per-packet one-way delay: 103.201 ms
Loss rate: 1.39%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-03-19 11:45:29
End at: 2019-03-19 11:45:59
Local clock offset: -0.11 ms
Remote clock offset: -0.095 ms

Below is generated by plot.py at 2019-03-19 14:37:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 786.29 Mbit/s
95th percentile per-packet one-way delay: 67.668 ms
Loss rate: 0.48%

-- Flow 1:

Average throughput: 385.61 Mbit/s
95th percentile per-packet one-way delay: 67.847 ms
Loss rate: 0.24%

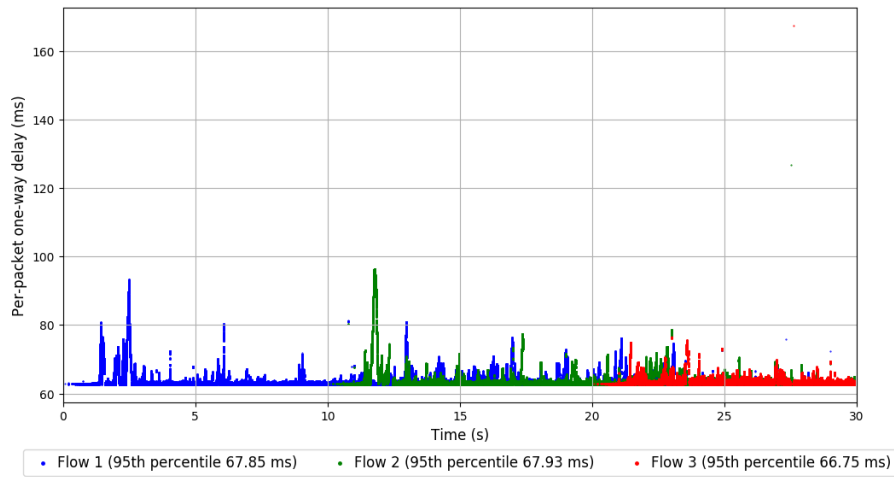
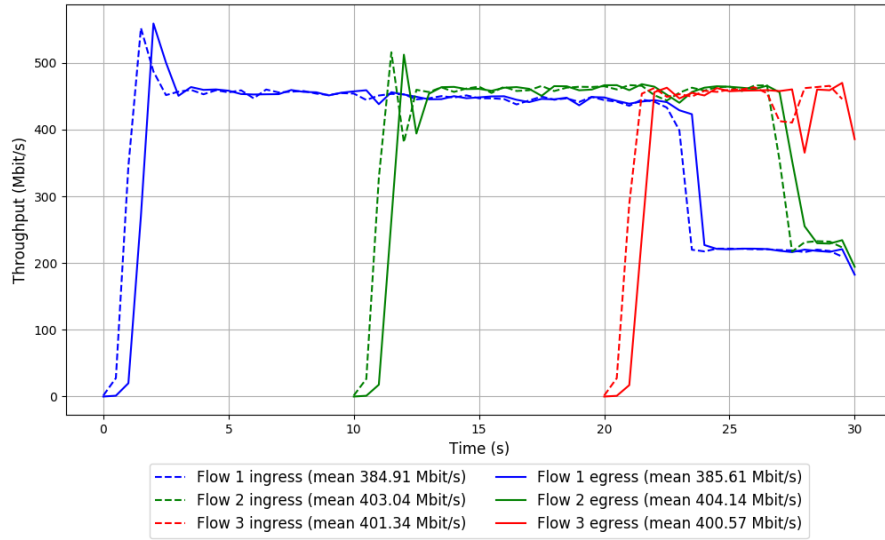
-- Flow 2:

Average throughput: 404.14 Mbit/s
95th percentile per-packet one-way delay: 67.930 ms
Loss rate: 0.36%

-- Flow 3:

Average throughput: 400.57 Mbit/s
95th percentile per-packet one-way delay: 66.752 ms
Loss rate: 1.45%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-03-19 08:58:46

End at: 2019-03-19 08:59:16

Local clock offset: -0.133 ms

Remote clock offset: 0.651 ms

Below is generated by plot.py at 2019-03-19 14:37:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 286.71 Mbit/s

95th percentile per-packet one-way delay: 246.802 ms

Loss rate: 3.38%

-- Flow 1:

Average throughput: 179.30 Mbit/s

95th percentile per-packet one-way delay: 194.199 ms

Loss rate: 1.24%

-- Flow 2:

Average throughput: 86.75 Mbit/s

95th percentile per-packet one-way delay: 75.310 ms

Loss rate: 1.11%

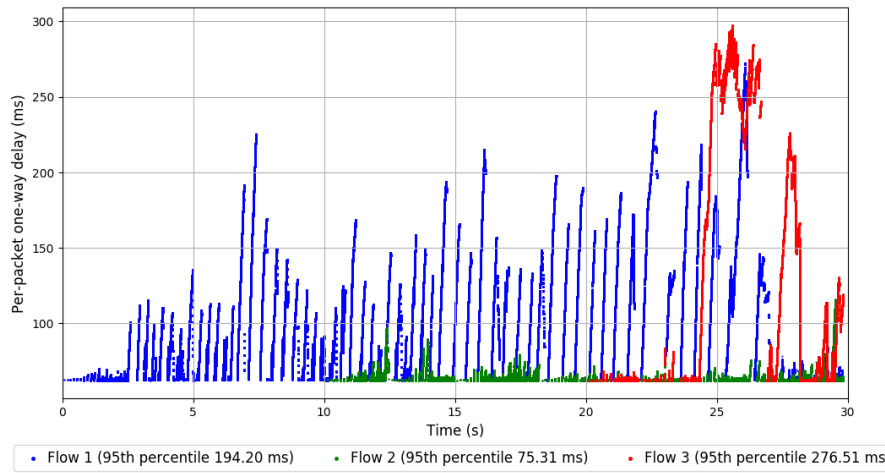
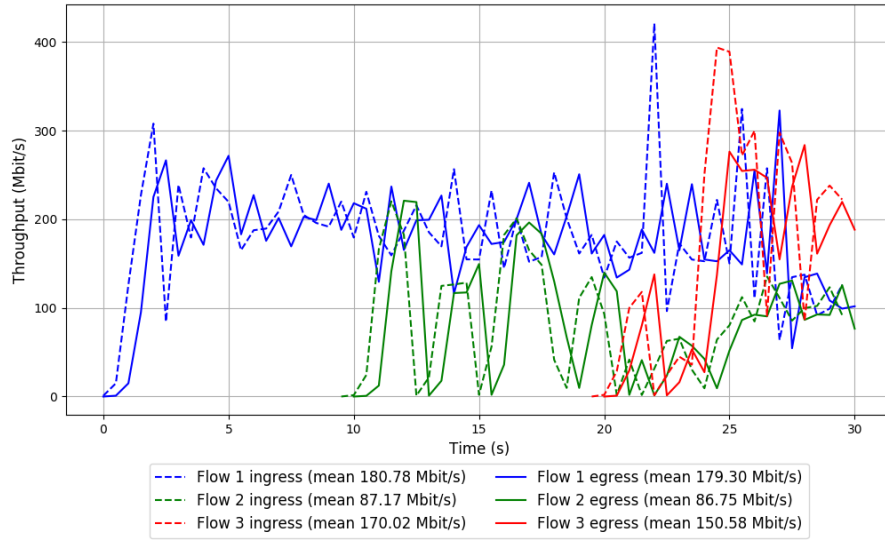
-- Flow 3:

Average throughput: 150.58 Mbit/s

95th percentile per-packet one-way delay: 276.506 ms

Loss rate: 12.58%

Run 1: Report of Verus — Data Link

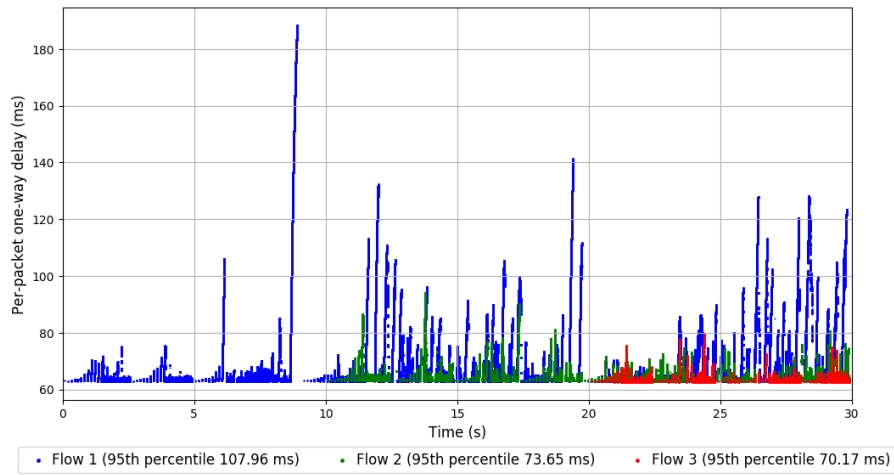
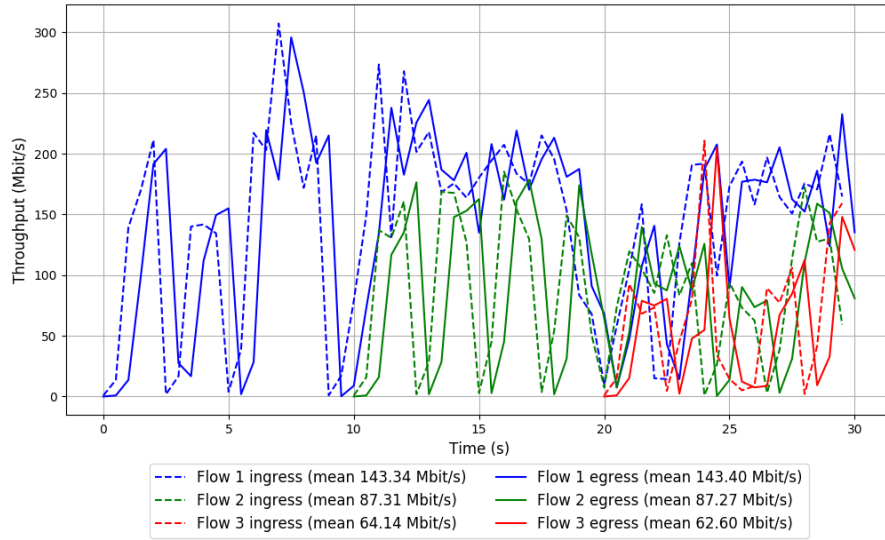


Run 2: Statistics of Verus

Start at: 2019-03-19 09:35:04
End at: 2019-03-19 09:35:34
Local clock offset: -0.046 ms
Remote clock offset: 0.017 ms

```
# Below is generated by plot.py at 2019-03-19 14:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 221.51 Mbit/s
95th percentile per-packet one-way delay: 100.371 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 143.40 Mbit/s
95th percentile per-packet one-way delay: 107.958 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 87.27 Mbit/s
95th percentile per-packet one-way delay: 73.651 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 62.60 Mbit/s
95th percentile per-packet one-way delay: 70.165 ms
Loss rate: 3.37%
```

Run 2: Report of Verus — Data Link

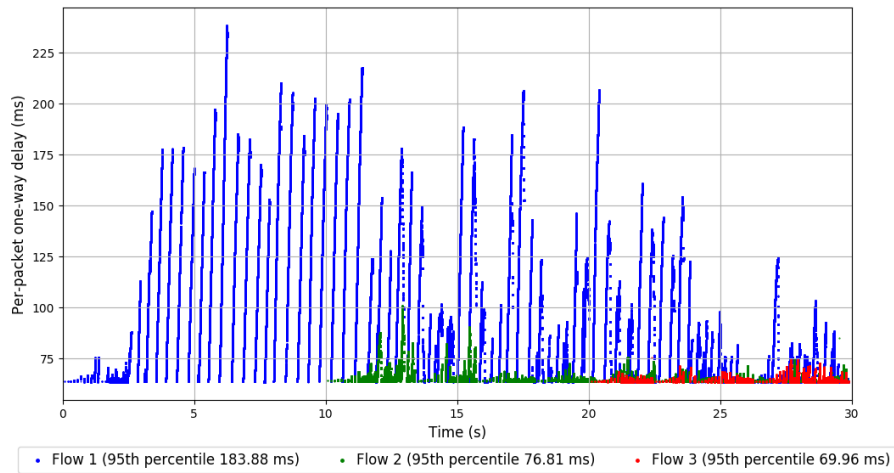
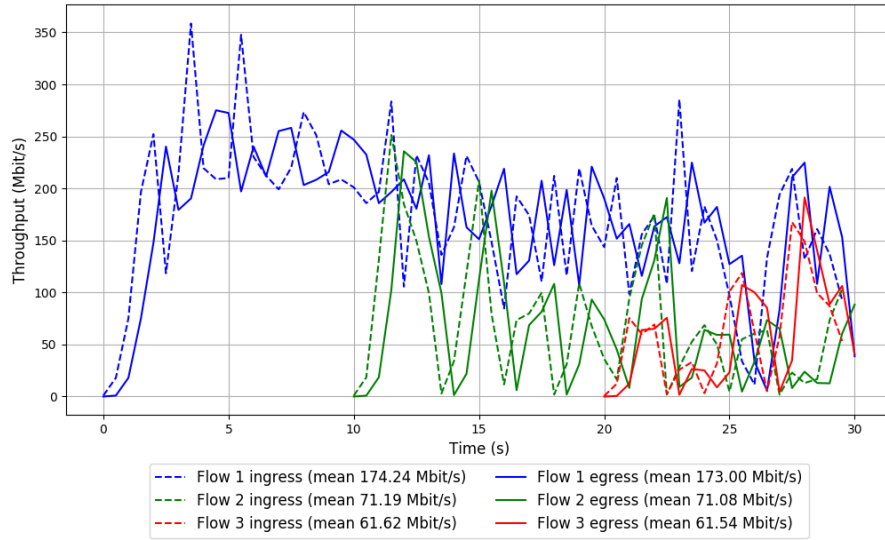


Run 3: Statistics of Verus

Start at: 2019-03-19 10:11:32
End at: 2019-03-19 10:12:02
Local clock offset: -0.057 ms
Remote clock offset: -0.804 ms

```
# Below is generated by plot.py at 2019-03-19 14:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.21 Mbit/s
95th percentile per-packet one-way delay: 177.734 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 173.00 Mbit/s
95th percentile per-packet one-way delay: 183.883 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 71.08 Mbit/s
95th percentile per-packet one-way delay: 76.815 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 61.54 Mbit/s
95th percentile per-packet one-way delay: 69.961 ms
Loss rate: 1.04%
```

Run 3: Report of Verus — Data Link

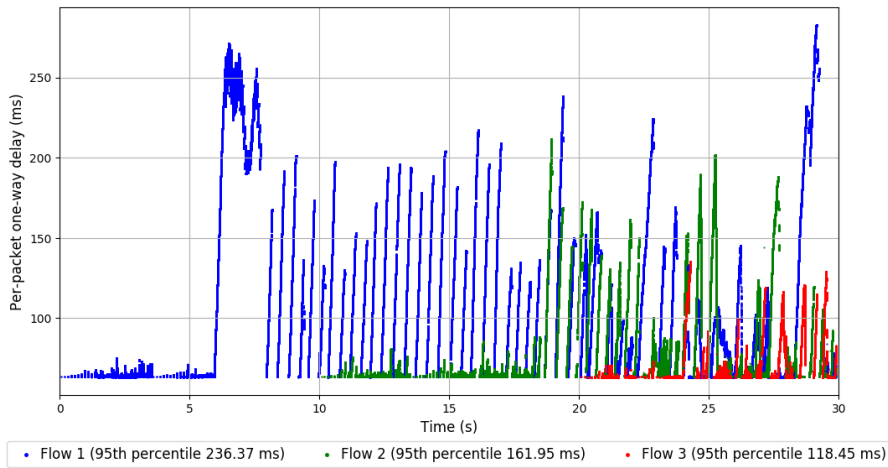
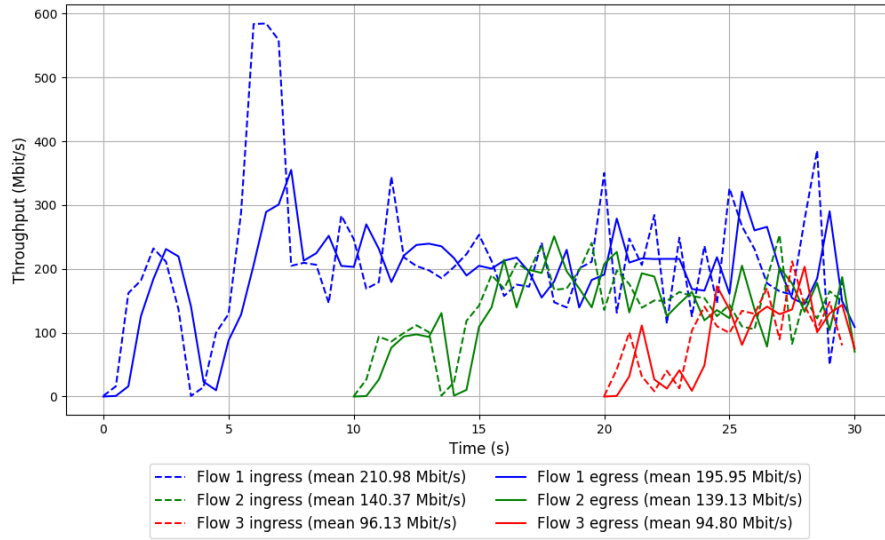


Run 4: Statistics of Verus

Start at: 2019-03-19 10:47:48
End at: 2019-03-19 10:48:18
Local clock offset: 0.018 ms
Remote clock offset: -0.152 ms

```
# Below is generated by plot.py at 2019-03-19 14:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.51 Mbit/s
95th percentile per-packet one-way delay: 218.761 ms
Loss rate: 5.37%
-- Flow 1:
Average throughput: 195.95 Mbit/s
95th percentile per-packet one-way delay: 236.372 ms
Loss rate: 7.53%
-- Flow 2:
Average throughput: 139.13 Mbit/s
95th percentile per-packet one-way delay: 161.952 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 118.450 ms
Loss rate: 2.28%
```

Run 4: Report of Verus — Data Link

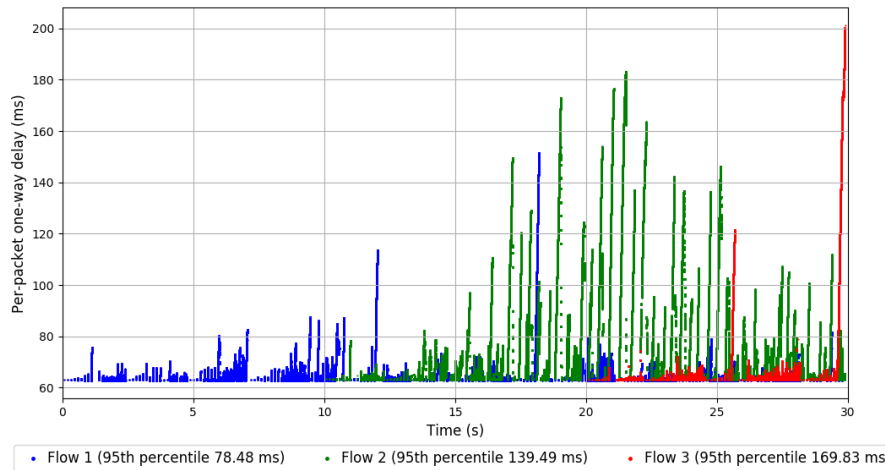
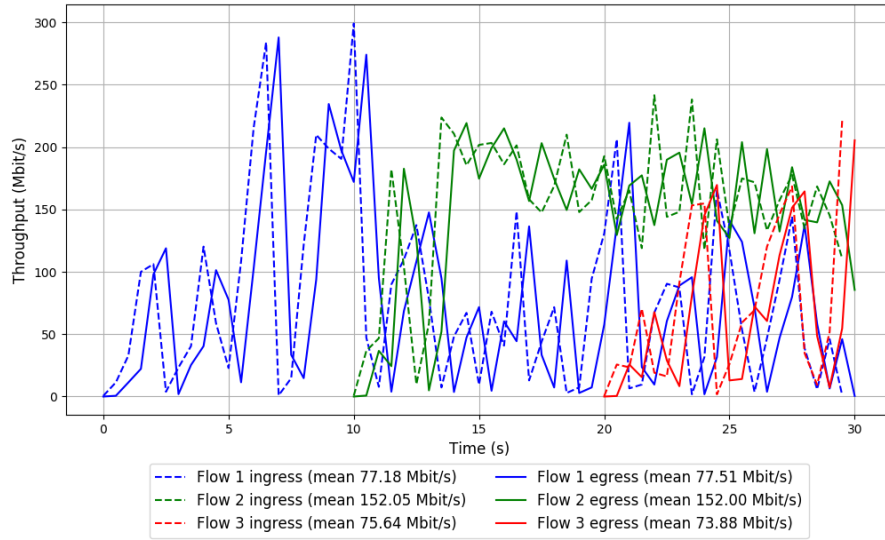


Run 5: Statistics of Verus

Start at: 2019-03-19 11:24:31
End at: 2019-03-19 11:25:01
Local clock offset: -0.149 ms
Remote clock offset: -0.011 ms

```
# Below is generated by plot.py at 2019-03-19 14:38:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.33 Mbit/s
95th percentile per-packet one-way delay: 128.245 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 77.51 Mbit/s
95th percentile per-packet one-way delay: 78.479 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 152.00 Mbit/s
95th percentile per-packet one-way delay: 139.489 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 73.88 Mbit/s
95th percentile per-packet one-way delay: 169.832 ms
Loss rate: 1.07%
```

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-03-19 08:47:26

End at: 2019-03-19 08:47:56

Local clock offset: -0.106 ms

Remote clock offset: -0.24 ms

Below is generated by plot.py at 2019-03-19 14:39:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 421.89 Mbit/s

95th percentile per-packet one-way delay: 68.404 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 221.95 Mbit/s

95th percentile per-packet one-way delay: 64.497 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 200.43 Mbit/s

95th percentile per-packet one-way delay: 65.607 ms

Loss rate: 0.87%

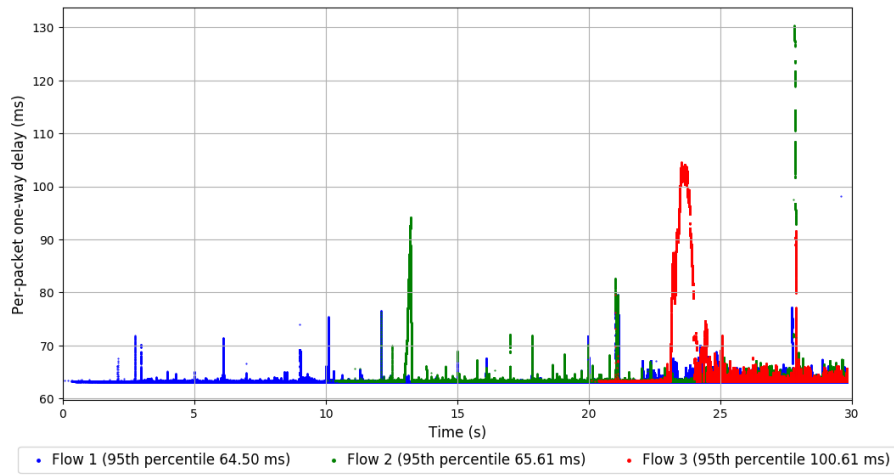
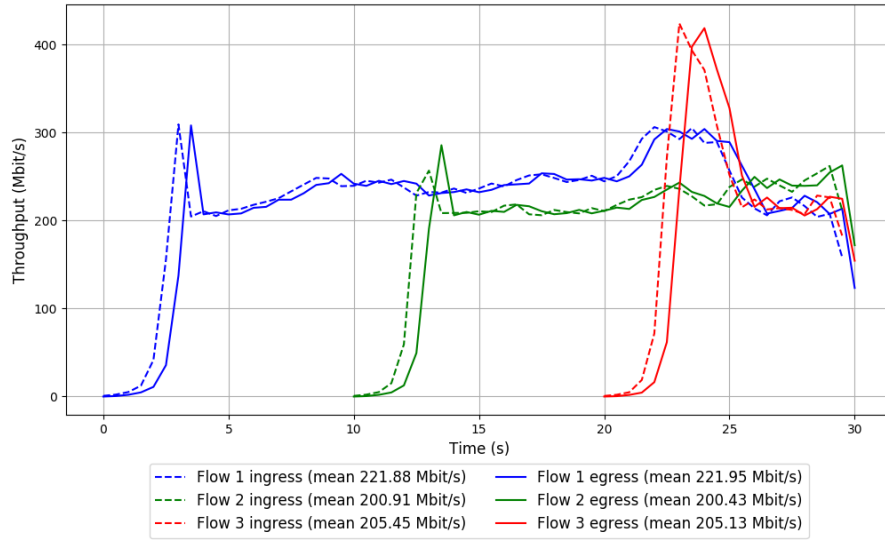
-- Flow 3:

Average throughput: 205.13 Mbit/s

95th percentile per-packet one-way delay: 100.611 ms

Loss rate: 1.44%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-03-19 09:23:36
End at: 2019-03-19 09:24:06
Local clock offset: -0.028 ms
Remote clock offset: -0.266 ms

Below is generated by plot.py at 2019-03-19 14:39:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 474.14 Mbit/s
95th percentile per-packet one-way delay: 65.644 ms
Loss rate: 0.56%

-- Flow 1:

Average throughput: 308.23 Mbit/s
95th percentile per-packet one-way delay: 66.315 ms
Loss rate: 0.31%

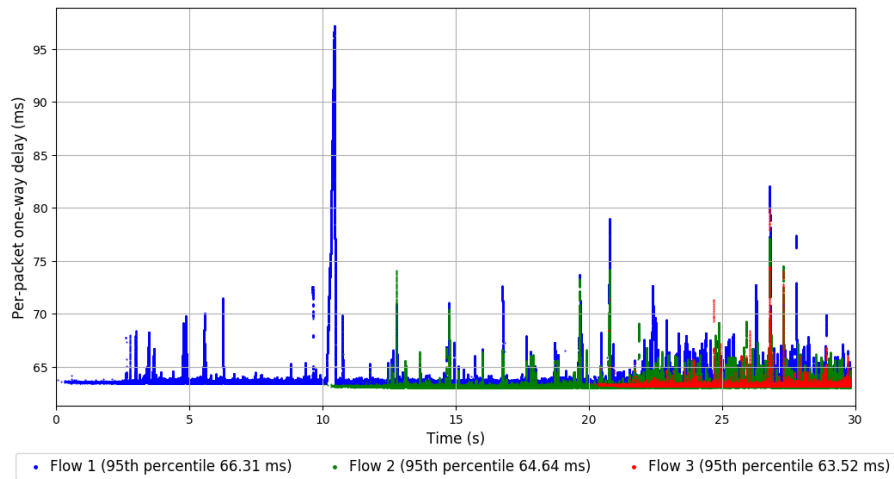
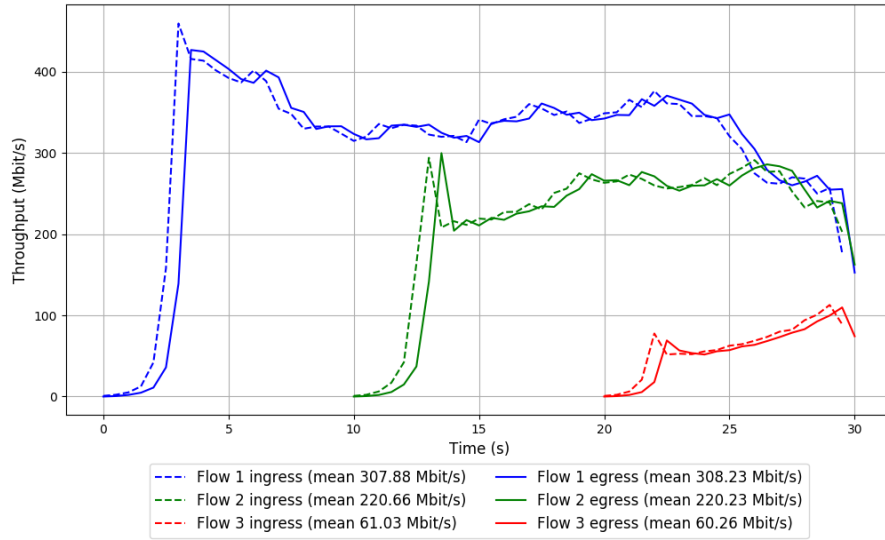
-- Flow 2:

Average throughput: 220.23 Mbit/s
95th percentile per-packet one-way delay: 64.636 ms
Loss rate: 0.83%

-- Flow 3:

Average throughput: 60.26 Mbit/s
95th percentile per-packet one-way delay: 63.523 ms
Loss rate: 2.53%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-03-19 10:00:04

End at: 2019-03-19 10:00:34

Local clock offset: -0.05 ms

Remote clock offset: 0.081 ms

Below is generated by plot.py at 2019-03-19 14:40:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 502.10 Mbit/s

95th percentile per-packet one-way delay: 66.936 ms

Loss rate: 0.46%

-- Flow 1:

Average throughput: 320.14 Mbit/s

95th percentile per-packet one-way delay: 67.350 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 184.13 Mbit/s

95th percentile per-packet one-way delay: 65.643 ms

Loss rate: 0.32%

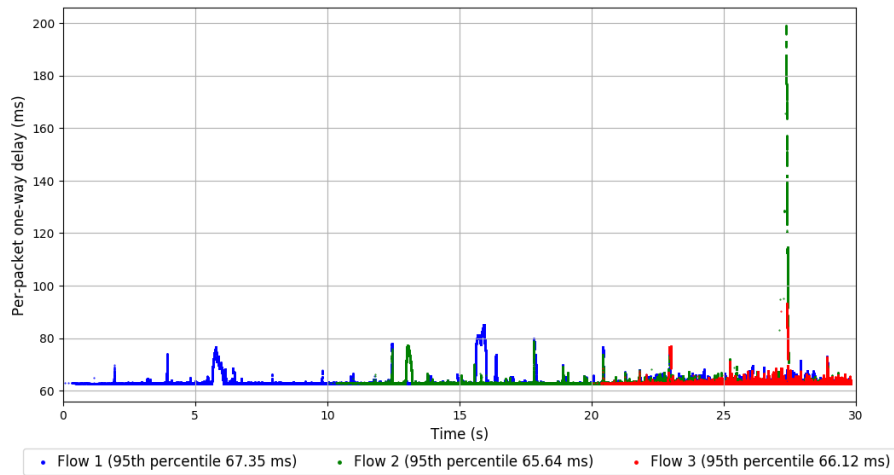
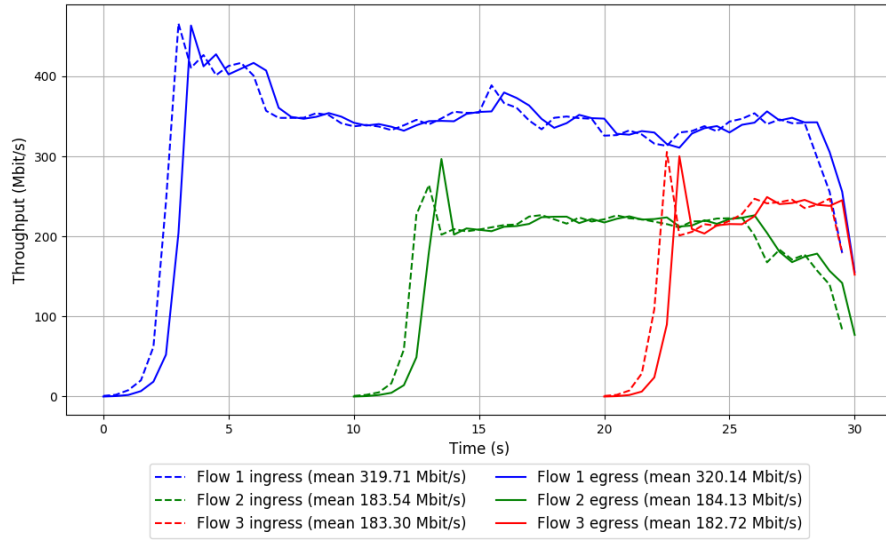
-- Flow 3:

Average throughput: 182.72 Mbit/s

95th percentile per-packet one-way delay: 66.116 ms

Loss rate: 1.59%

Run 3: Report of PCC-Vivace — Data Link

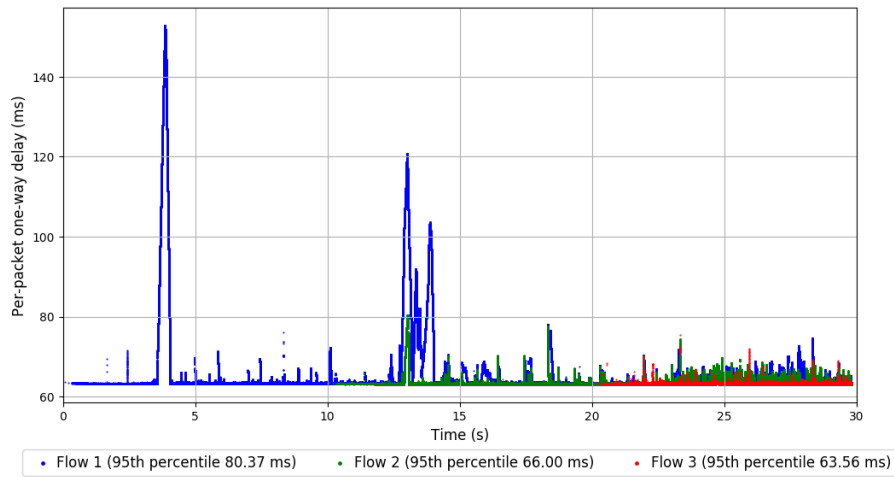
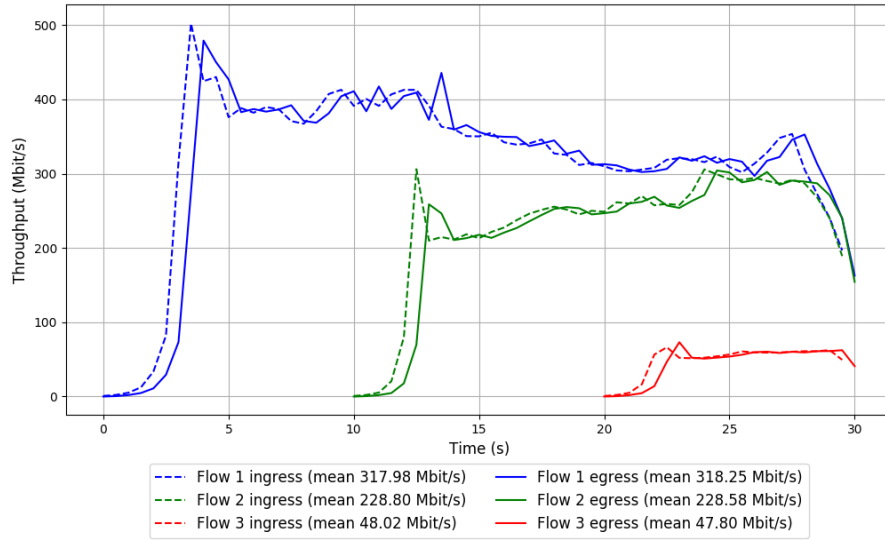


Run 4: Statistics of PCC-Vivace

Start at: 2019-03-19 10:36:30
End at: 2019-03-19 10:37:00
Local clock offset: -0.016 ms
Remote clock offset: -0.196 ms

```
# Below is generated by plot.py at 2019-03-19 14:40:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 485.58 Mbit/s
95th percentile per-packet one-way delay: 72.196 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 318.25 Mbit/s
95th percentile per-packet one-way delay: 80.374 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 228.58 Mbit/s
95th percentile per-packet one-way delay: 66.002 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 47.80 Mbit/s
95th percentile per-packet one-way delay: 63.556 ms
Loss rate: 1.72%
```

Run 4: Report of PCC-Vivace — Data Link

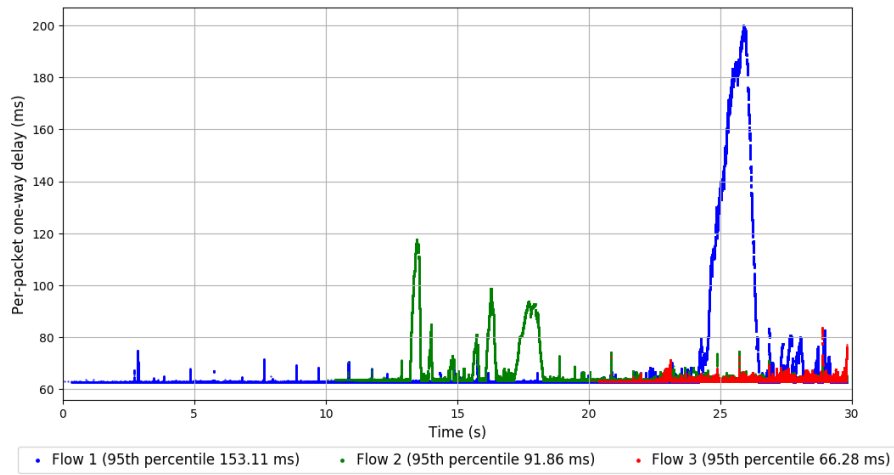
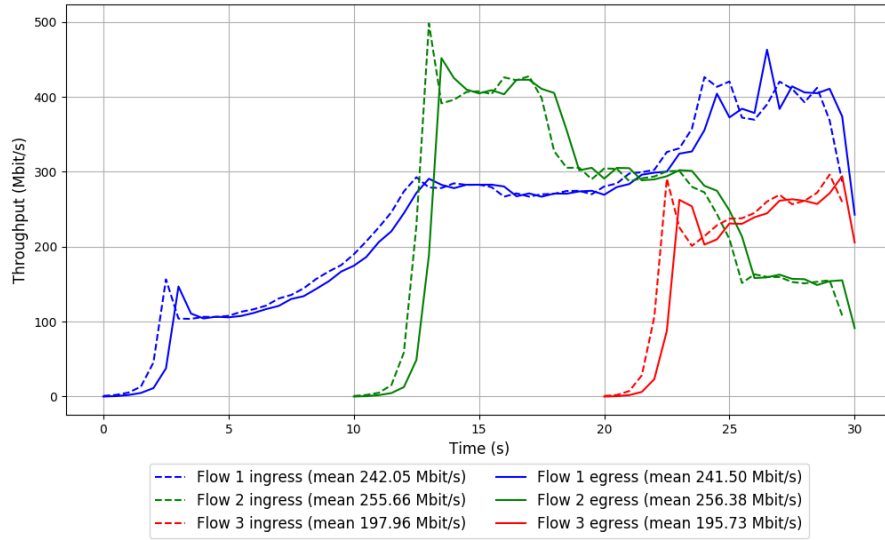


Run 5: Statistics of PCC-Vivace

Start at: 2019-03-19 11:12:56
End at: 2019-03-19 11:13:26
Local clock offset: -0.117 ms
Remote clock offset: -0.056 ms

```
# Below is generated by plot.py at 2019-03-19 14:40:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 475.64 Mbit/s
95th percentile per-packet one-way delay: 109.495 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 241.50 Mbit/s
95th percentile per-packet one-way delay: 153.114 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 256.38 Mbit/s
95th percentile per-packet one-way delay: 91.862 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 195.73 Mbit/s
95th percentile per-packet one-way delay: 66.285 ms
Loss rate: 2.38%
```

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-03-19 09:02:13
End at: 2019-03-19 09:02:43
Local clock offset: -0.132 ms
Remote clock offset: -0.167 ms

Below is generated by plot.py at 2019-03-19 14:40:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 63.402 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 63.242 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 63.483 ms

Loss rate: 0.00%

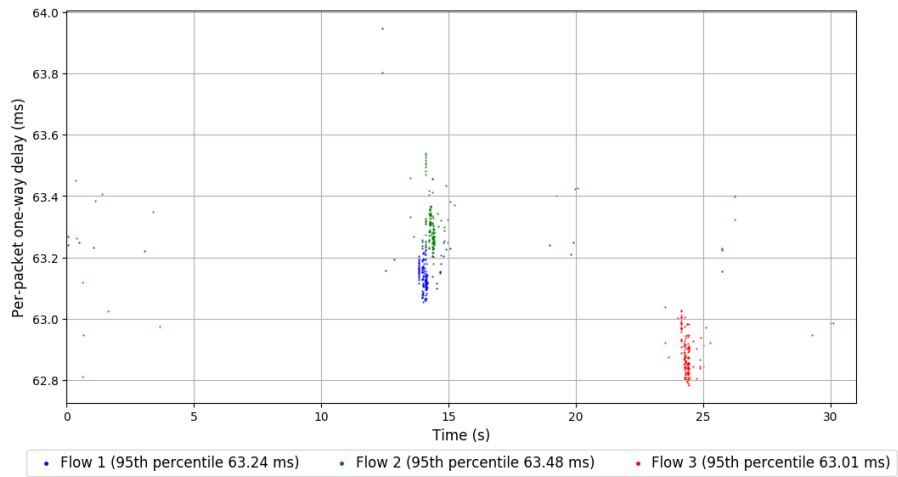
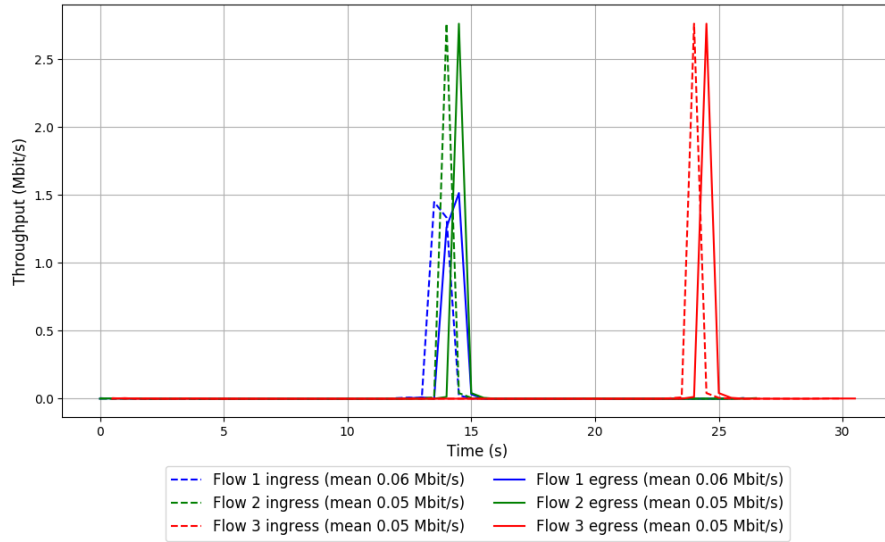
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 63.005 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

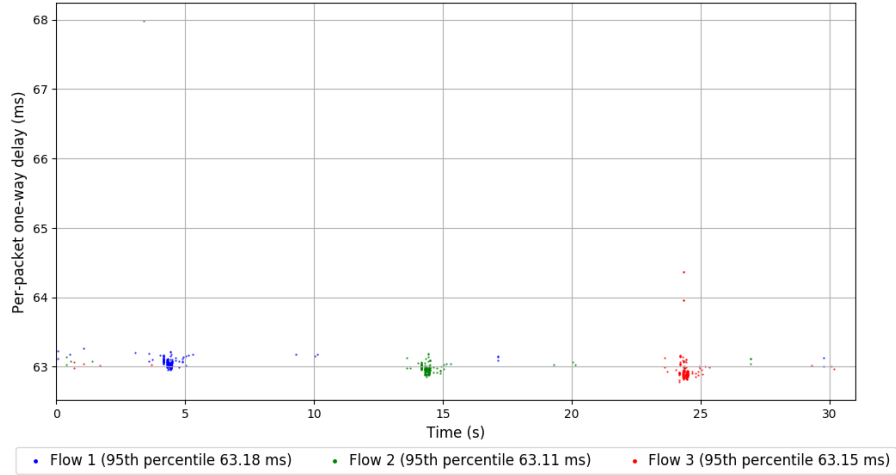
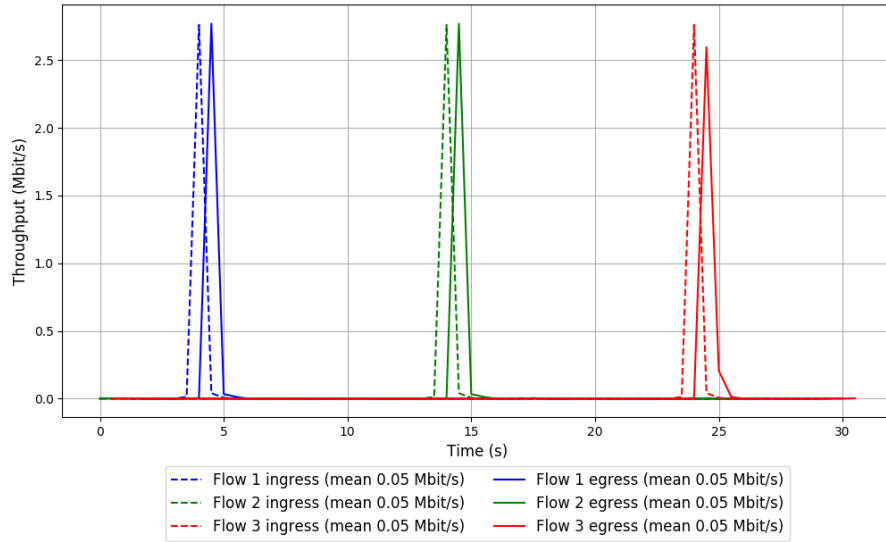


Run 2: Statistics of WebRTC media

Start at: 2019-03-19 09:38:27
End at: 2019-03-19 09:38:57
Local clock offset: -0.037 ms
Remote clock offset: -0.157 ms

```
# Below is generated by plot.py at 2019-03-19 14:40:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.159 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.179 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.112 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.147 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

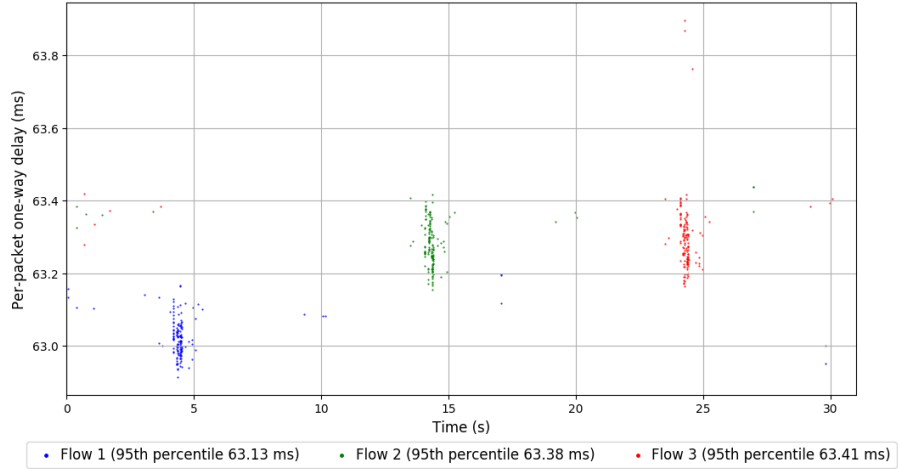
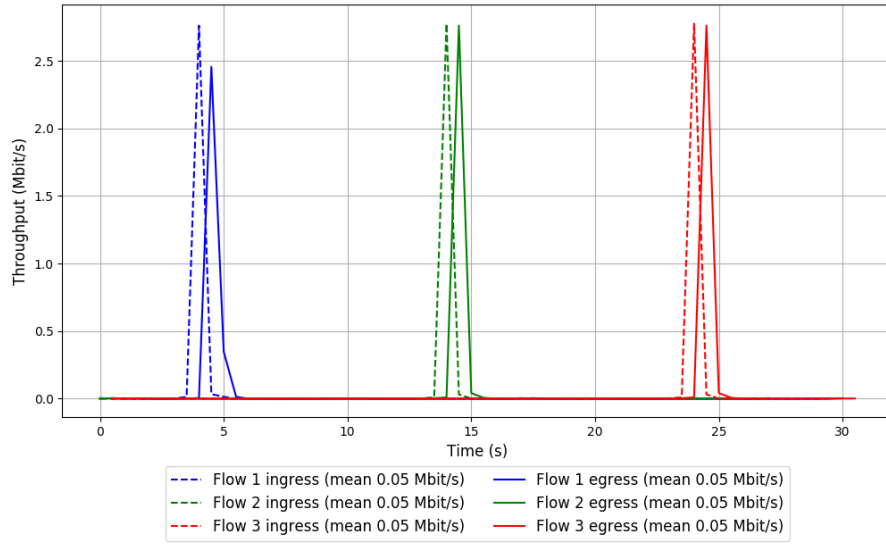


Run 3: Statistics of WebRTC media

Start at: 2019-03-19 10:14:57
End at: 2019-03-19 10:15:27
Local clock offset: -0.069 ms
Remote clock offset: -0.187 ms

```
# Below is generated by plot.py at 2019-03-19 14:40:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.386 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.385 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.405 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

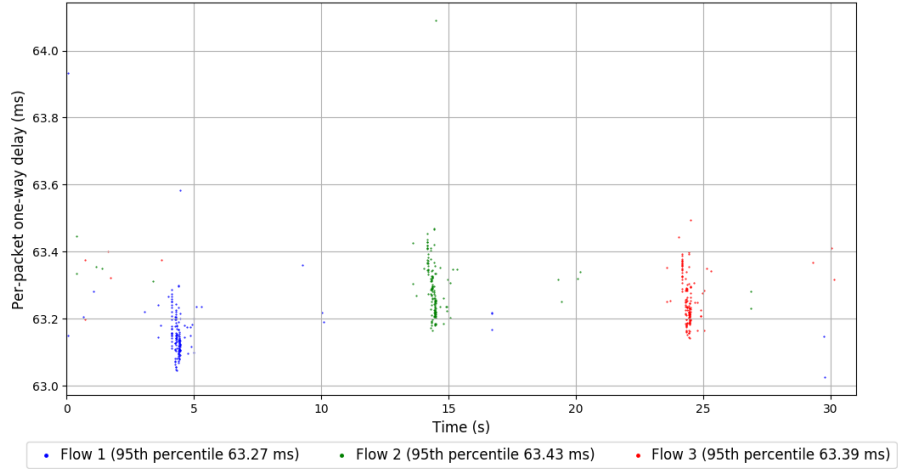
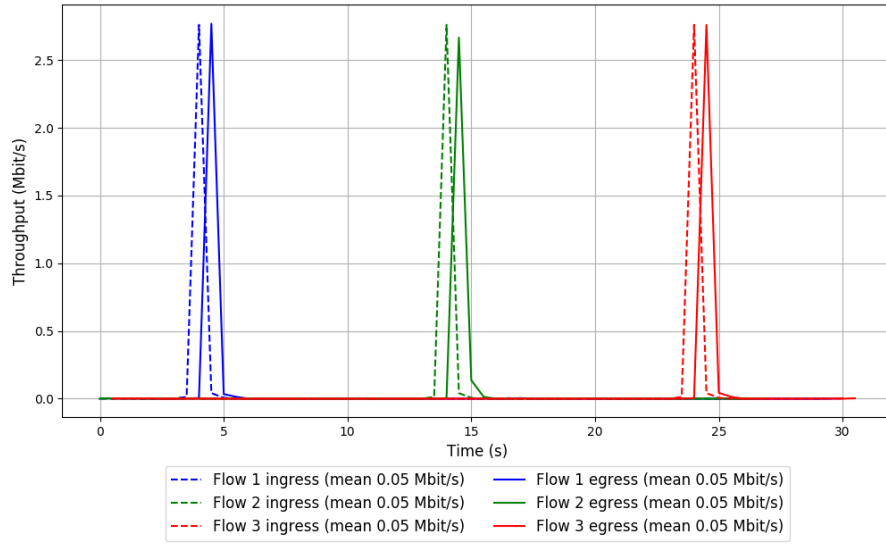


Run 4: Statistics of WebRTC media

Start at: 2019-03-19 10:51:21
End at: 2019-03-19 10:51:51
Local clock offset: 0.016 ms
Remote clock offset: -0.089 ms

```
# Below is generated by plot.py at 2019-03-19 14:40:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.401 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.267 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.429 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.387 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-03-19 11:27:54
End at: 2019-03-19 11:28:24
Local clock offset: -0.193 ms
Remote clock offset: -0.248 ms

```
# Below is generated by plot.py at 2019-03-19 14:40:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.591 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.787 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.605 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.326 ms
Loss rate: 0.05%
```

Run 5: Report of WebRTC media — Data Link

