

## Pantheon Report

Generated at 2019-01-21 15:20:02 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

### System info:

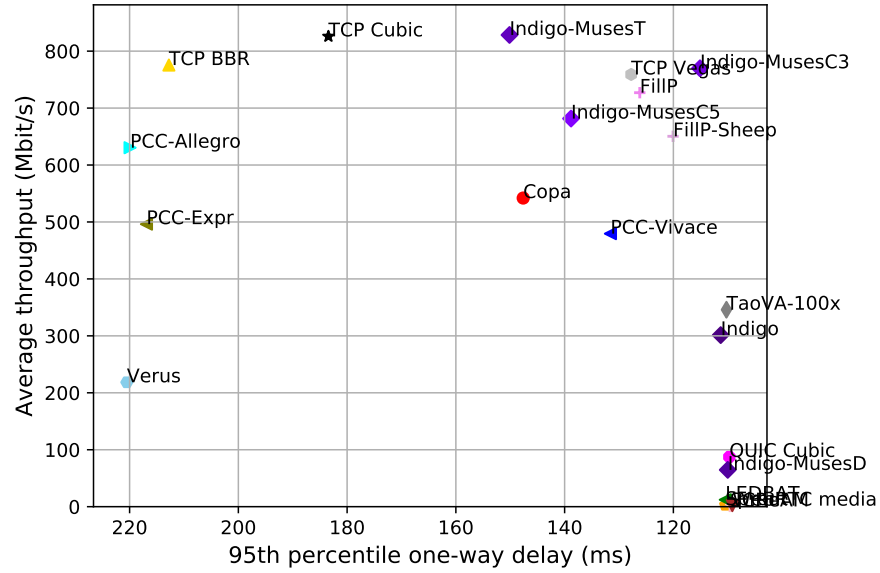
```
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

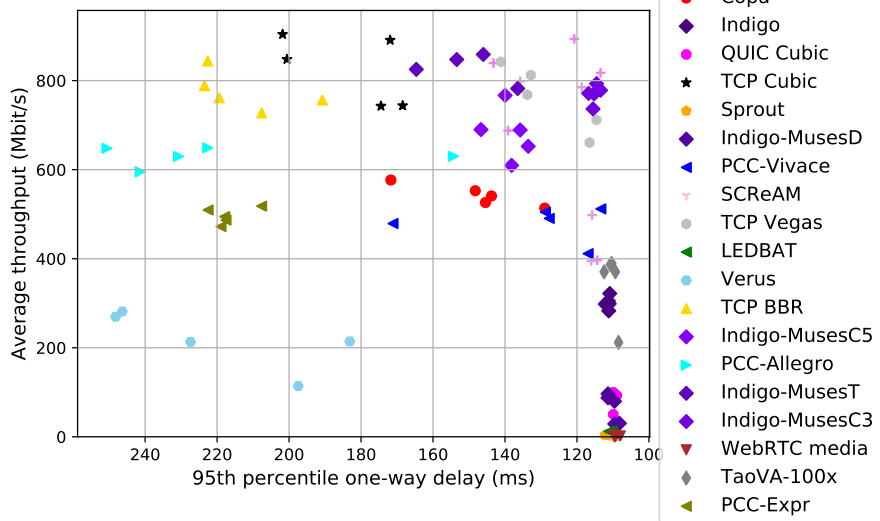
```
branch: muses @ 89d24e57783e7fbfec537a619071de937b639e38
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 1ddcff131048c6962f123bcd22b4d166a422adde
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 London, 5 runs of 30s each per scheme  
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE Tokyo to GCE London, 5 runs of 30s each per scheme  
 3 flows with 10s interval between flows



| 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      | 403.68                 | 399.05 | 320.28 | 210.25                    | 214.15 | 164.03 | 0.86               | 1.37   | 1.02   |
| Copa           | 5      | 290.81                 | 257.23 | 239.63 | 138.20                    | 145.20 | 167.48 | 0.05               | 0.04   | 0.07   |
| TCP Cubic      | 5      | 442.68                 | 408.39 | 335.07 | 170.05                    | 185.97 | 166.01 | 0.04               | 0.22   | 0.26   |
| FillP          | 5      | 416.01                 | 344.71 | 246.62 | 134.50                    | 113.52 | 112.39 | 0.26               | 0.00   | 0.01   |
| FillP-Sheep    | 5      | 361.39                 | 321.18 | 227.41 | 124.72                    | 113.73 | 112.57 | 0.04               | 0.01   | 0.01   |
| Indigo         | 5      | 153.92                 | 154.57 | 139.76 | 111.22                    | 111.08 | 111.65 | 0.00               | 0.03   | 0.01   |
| Indigo-MusesC3 | 5      | 453.84                 | 372.38 | 282.90 | 116.40                    | 114.42 | 112.80 | 0.00               | 0.00   | 0.05   |
| Indigo-MusesC5 | 5      | 414.65                 | 358.06 | 148.93 | 138.76                    | 141.01 | 113.07 | 0.03               | 0.00   | 0.07   |
| Indigo-MusesD  | 5      | 36.18                  | 38.58  | 12.78  | 109.85                    | 109.04 | 108.89 | 0.00               | 0.00   | 0.00   |
| Indigo-MusesT  | 4      | 504.25                 | 413.98 | 199.07 | 159.52                    | 139.14 | 112.68 | 0.09               | 0.01   | 0.01   |
| LEDBAT         | 5      | 7.88                   | 5.21   | 2.54   | 109.93                    | 110.17 | 110.43 | 0.00               | 0.04   | 0.00   |
| PCC-Allegro    | 5      | 363.62                 | 277.32 | 250.63 | 224.97                    | 179.15 | 216.51 | 2.56               | 0.36   | 3.50   |
| PCC-Expr       | 5      | 287.21                 | 226.29 | 176.85 | 212.40                    | 188.95 | 178.19 | 2.45               | 1.75   | 1.38   |
| QUIC Cubic     | 5      | 40.15                  | 50.34  | 42.71  | 109.77                    | 109.67 | 109.56 | 0.00               | 0.00   | 0.00   |
| SCReAM         | 5      | 0.22                   | 0.22   | 0.22   | 109.30                    | 109.58 | 109.01 | 0.00               | 0.00   | 0.00   |
| Sprout         | 5      | 1.03                   | 1.88   | 1.60   | 109.44                    | 109.98 | 110.20 | 0.00               | 0.00   | 0.00   |
| TaoVA-100x     | 5      | 159.97                 | 188.29 | 182.16 | 109.64                    | 110.54 | 109.81 | 0.00               | 0.00   | 0.00   |
| TCP Vegas      | 5      | 420.36                 | 353.37 | 310.55 | 124.92                    | 125.73 | 152.41 | 0.00               | 0.01   | 0.04   |
| Verus          | 5      | 135.05                 | 103.59 | 46.35  | 234.80                    | 184.51 | 117.27 | 2.47               | 0.49   | 0.01   |
| PCC-Vivace     | 5      | 301.41                 | 194.08 | 148.37 | 140.10                    | 111.16 | 133.11 | 0.13               | 0.00   | 0.02   |
| WebRTC media   | 5      | 1.22                   | 0.51   | 0.12   | 108.97                    | 109.37 | 108.67 | 0.00               | 0.00   | 0.00   |



Run 1: Statistics of TCP BBR

Start at: 2019-01-21 09:20:29

End at: 2019-01-21 09:20:59

Local clock offset: -0.714 ms

Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2019-01-21 12:35:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 727.35 Mbit/s

95th percentile per-packet one-way delay: 207.620 ms

Loss rate: 1.12%

-- Flow 1:

Average throughput: 342.58 Mbit/s

95th percentile per-packet one-way delay: 195.963 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 421.46 Mbit/s

95th percentile per-packet one-way delay: 213.021 ms

Loss rate: 1.68%

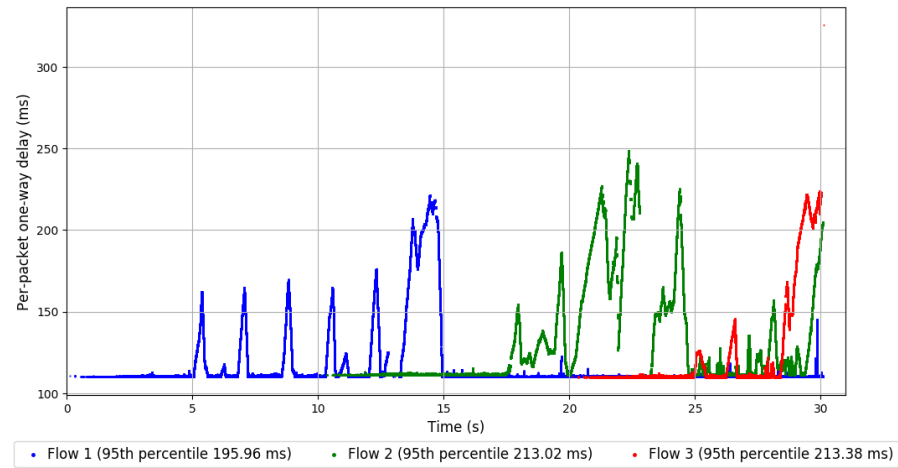
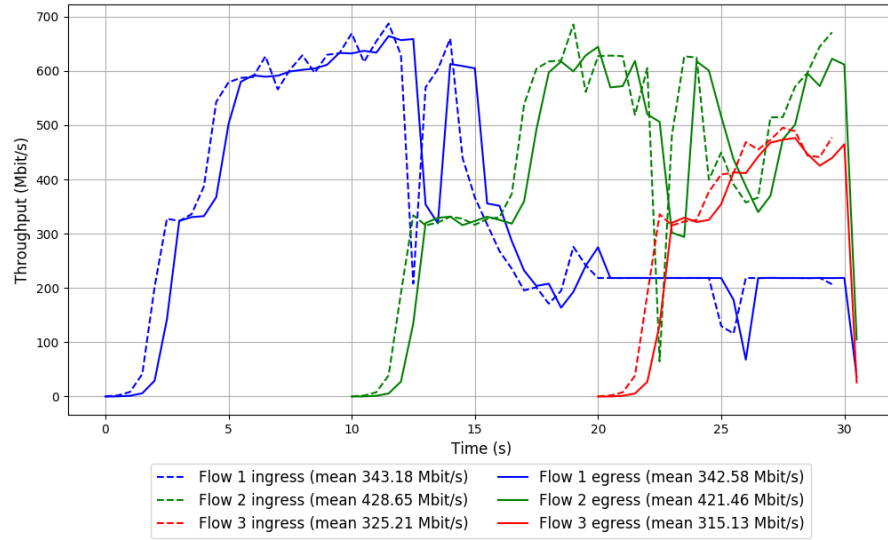
-- Flow 3:

Average throughput: 315.13 Mbit/s

95th percentile per-packet one-way delay: 213.378 ms

Loss rate: 2.65%

## Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-21 09:58:18

End at: 2019-01-21 09:58:48

Local clock offset: -0.022 ms

Remote clock offset: 0.448 ms

# Below is generated by plot.py at 2019-01-21 12:37:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 788.77 Mbit/s

95th percentile per-packet one-way delay: 223.495 ms

Loss rate: 1.02%

-- Flow 1:

Average throughput: 436.84 Mbit/s

95th percentile per-packet one-way delay: 223.920 ms

Loss rate: 1.18%

-- Flow 2:

Average throughput: 357.97 Mbit/s

95th percentile per-packet one-way delay: 236.121 ms

Loss rate: 1.16%

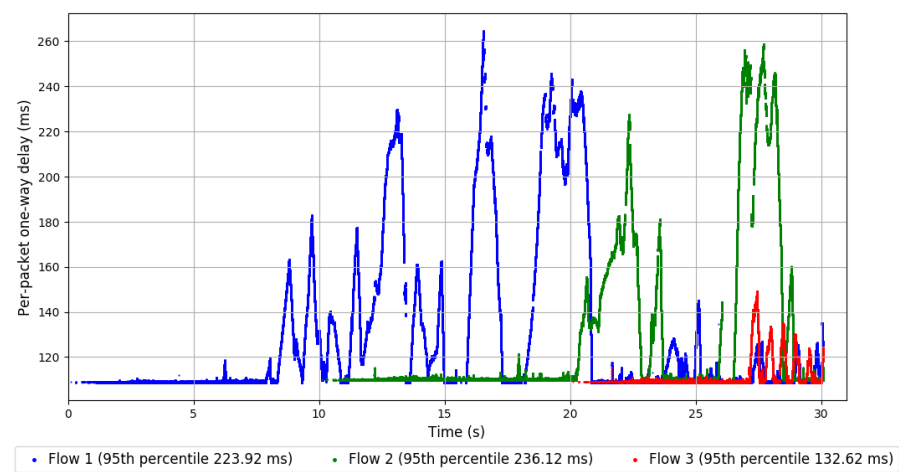
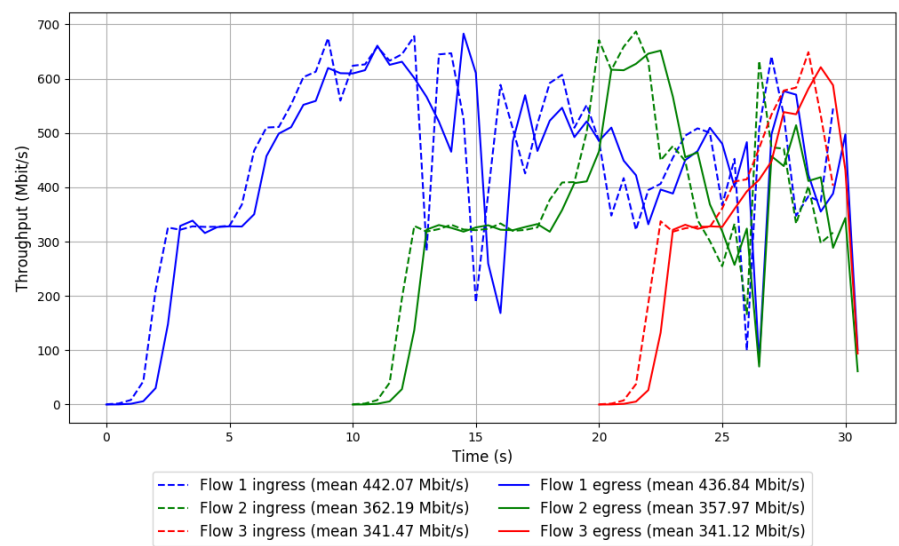
-- Flow 3:

Average throughput: 341.12 Mbit/s

95th percentile per-packet one-way delay: 132.619 ms

Loss rate: 0.08%

Run 2: Report of TCP BBR — Data Link

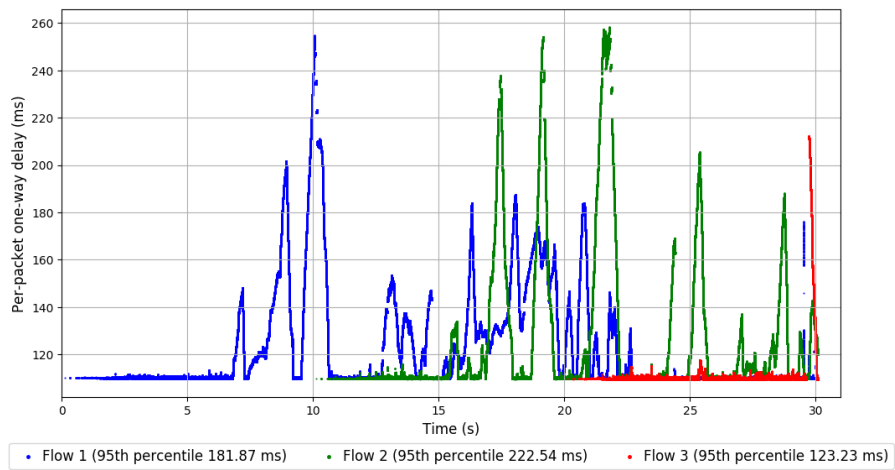
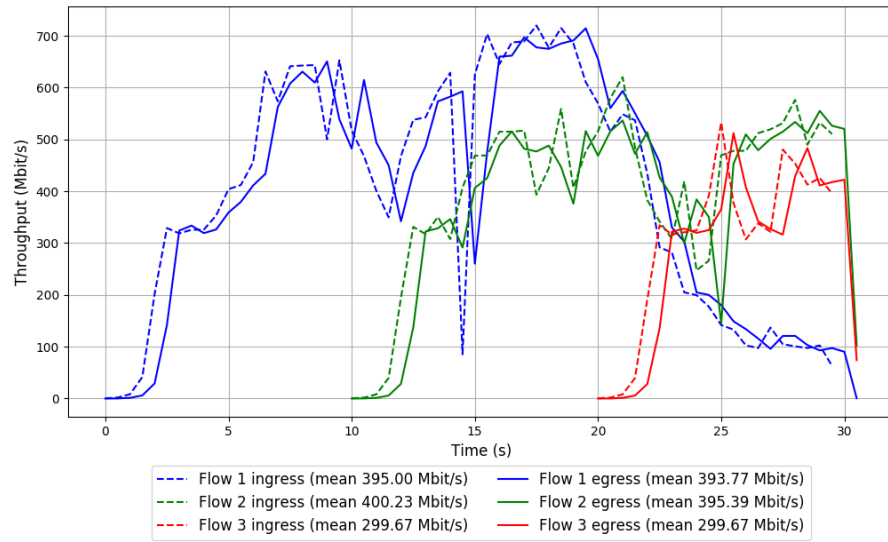


Run 3: Statistics of TCP BBR

Start at: 2019-01-21 10:37:51  
End at: 2019-01-21 10:38:21  
Local clock offset: -0.749 ms  
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2019-01-21 12:37:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 756.34 Mbit/s  
95th percentile per-packet one-way delay: 190.742 ms  
Loss rate: 0.58%  
-- Flow 1:  
Average throughput: 393.77 Mbit/s  
95th percentile per-packet one-way delay: 181.870 ms  
Loss rate: 0.31%  
-- Flow 2:  
Average throughput: 395.39 Mbit/s  
95th percentile per-packet one-way delay: 222.537 ms  
Loss rate: 1.21%  
-- Flow 3:  
Average throughput: 299.67 Mbit/s  
95th percentile per-packet one-way delay: 123.229 ms  
Loss rate: 0.00%

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

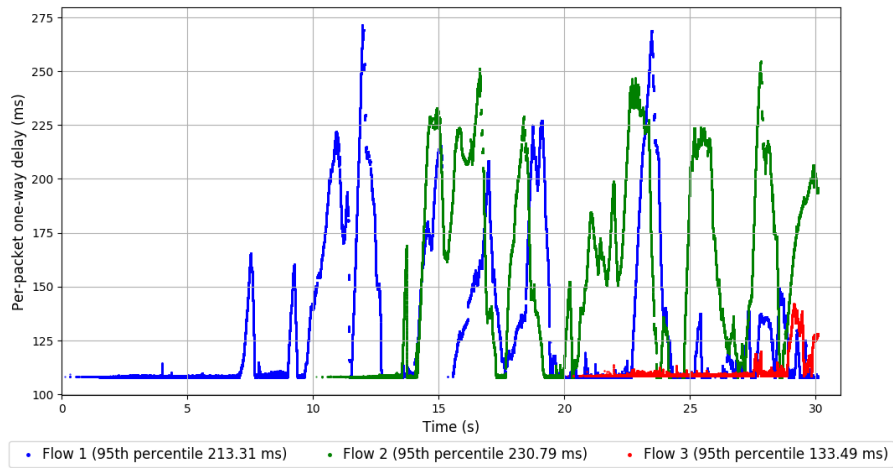
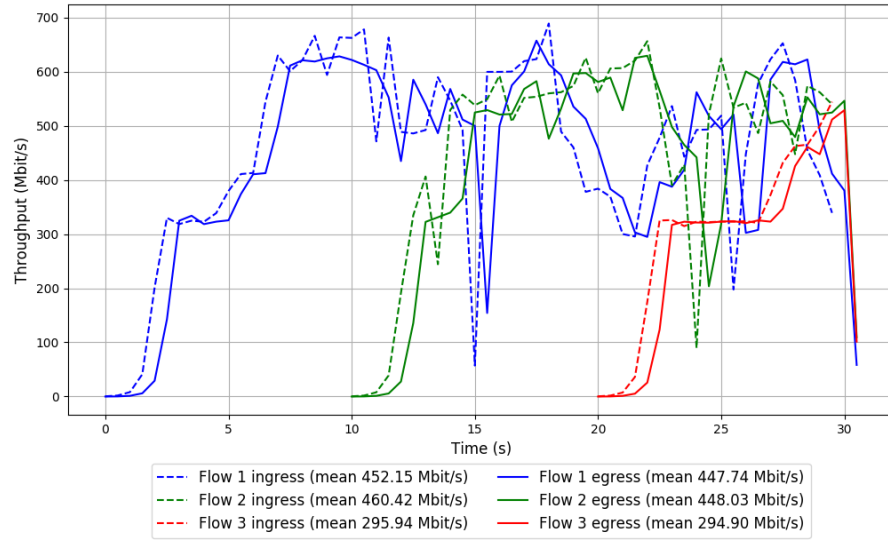


Run 4: Statistics of TCP BBR

Start at: 2019-01-21 11:15:53  
End at: 2019-01-21 11:16:23  
Local clock offset: 0.39 ms  
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-01-21 12:38:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 844.01 Mbit/s  
95th percentile per-packet one-way delay: 222.616 ms  
Loss rate: 1.51%  
-- Flow 1:  
Average throughput: 447.74 Mbit/s  
95th percentile per-packet one-way delay: 213.307 ms  
Loss rate: 0.97%  
-- Flow 2:  
Average throughput: 448.03 Mbit/s  
95th percentile per-packet one-way delay: 230.789 ms  
Loss rate: 2.69%  
-- Flow 3:  
Average throughput: 294.90 Mbit/s  
95th percentile per-packet one-way delay: 133.492 ms  
Loss rate: 0.34%

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





Run 5: Statistics of TCP BBR

Start at: 2019-01-21 11:53:24

End at: 2019-01-21 11:53:54

Local clock offset: 0.425 ms

Remote clock offset: 0.148 ms

# Below is generated by plot.py at 2019-01-21 12:38:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 761.51 Mbit/s

95th percentile per-packet one-way delay: 219.398 ms

Loss rate: 1.21%

-- Flow 1:

Average throughput: 397.47 Mbit/s

95th percentile per-packet one-way delay: 236.198 ms

Loss rate: 1.65%

-- Flow 2:

Average throughput: 372.38 Mbit/s

95th percentile per-packet one-way delay: 168.299 ms

Loss rate: 0.10%

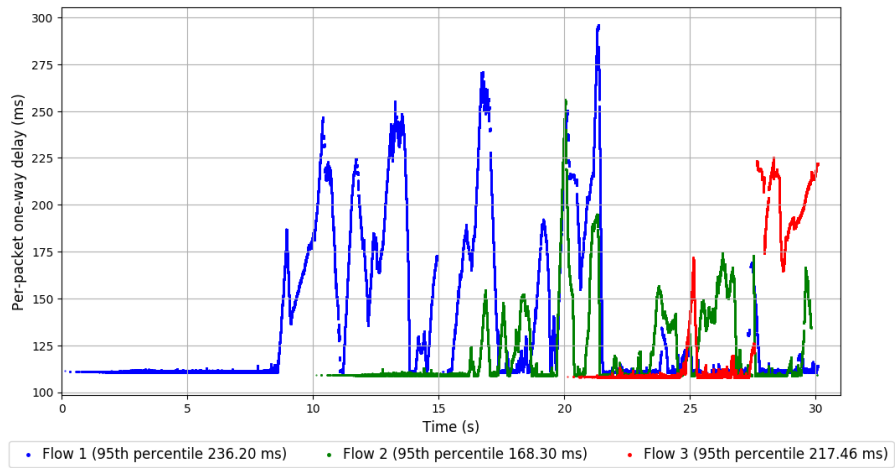
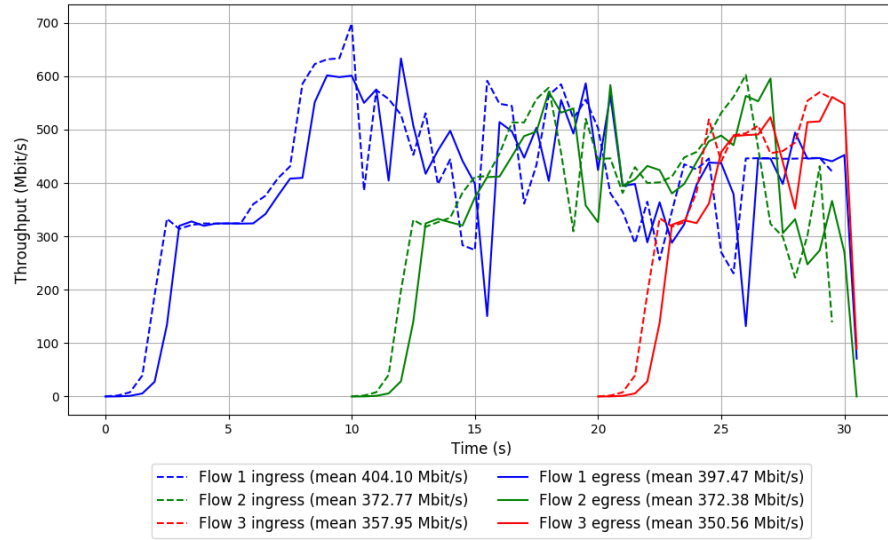
-- Flow 3:

Average throughput: 350.56 Mbit/s

95th percentile per-packet one-way delay: 217.456 ms

Loss rate: 2.05%

# Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-01-21 08:59:03

End at: 2019-01-21 08:59:33

Local clock offset: -0.456 ms

Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2019-01-21 12:41:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 526.09 Mbit/s

95th percentile per-packet one-way delay: 145.425 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 269.42 Mbit/s

95th percentile per-packet one-way delay: 130.997 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 257.37 Mbit/s

95th percentile per-packet one-way delay: 131.695 ms

Loss rate: 0.05%

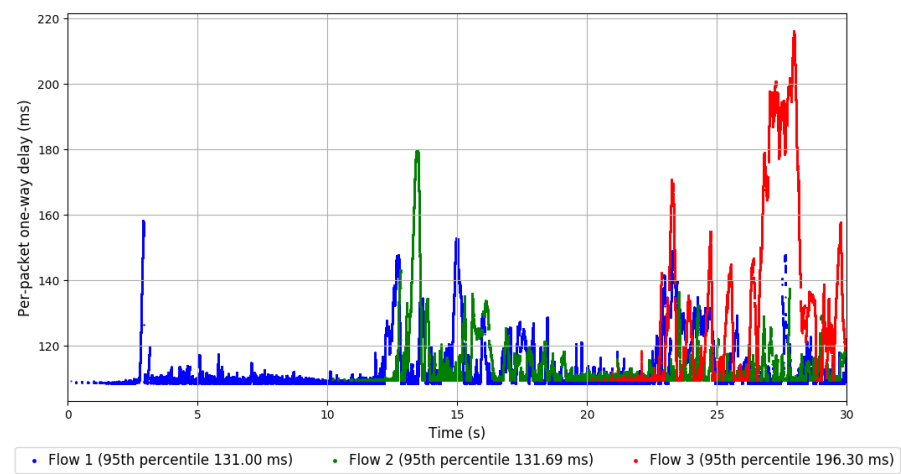
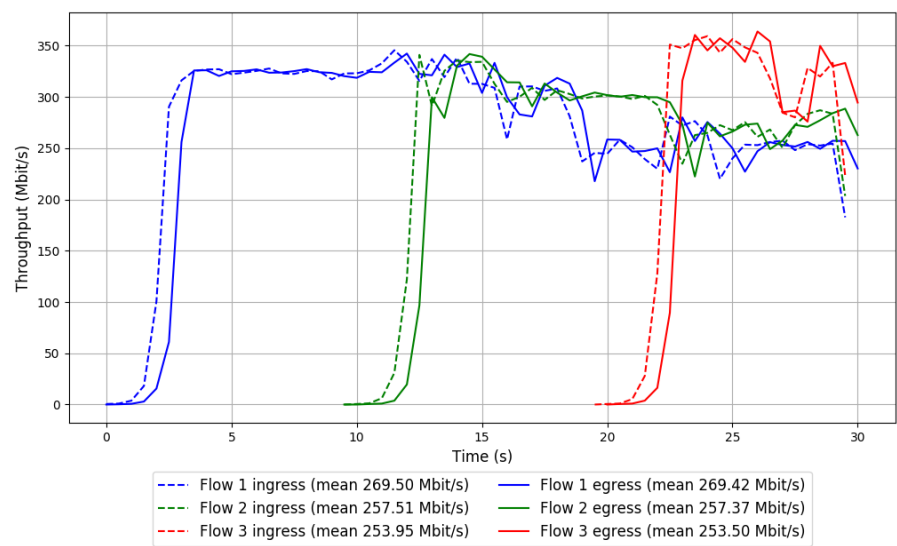
-- Flow 3:

Average throughput: 253.50 Mbit/s

95th percentile per-packet one-way delay: 196.299 ms

Loss rate: 0.18%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-01-21 09:36:21

End at: 2019-01-21 09:36:51

Local clock offset: -1.42 ms

Remote clock offset: 0.031 ms

# Below is generated by plot.py at 2019-01-21 12:43:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 576.70 Mbit/s

95th percentile per-packet one-way delay: 171.714 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 303.57 Mbit/s

95th percentile per-packet one-way delay: 166.609 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 288.95 Mbit/s

95th percentile per-packet one-way delay: 158.657 ms

Loss rate: 0.09%

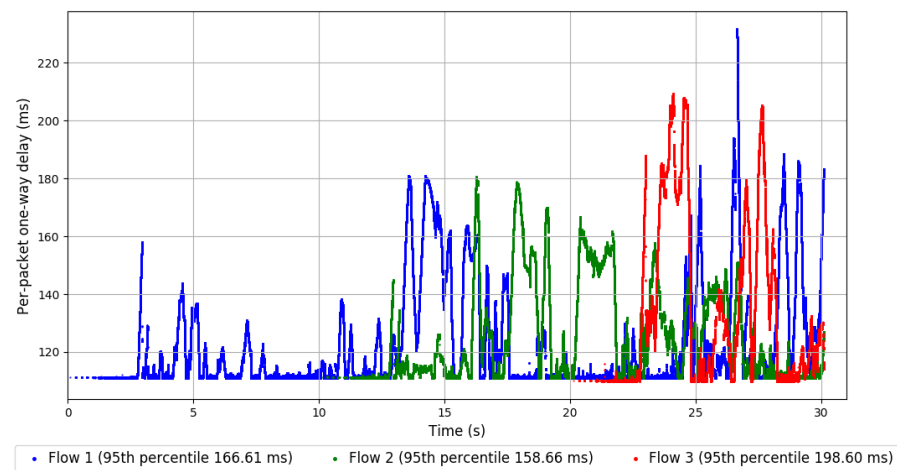
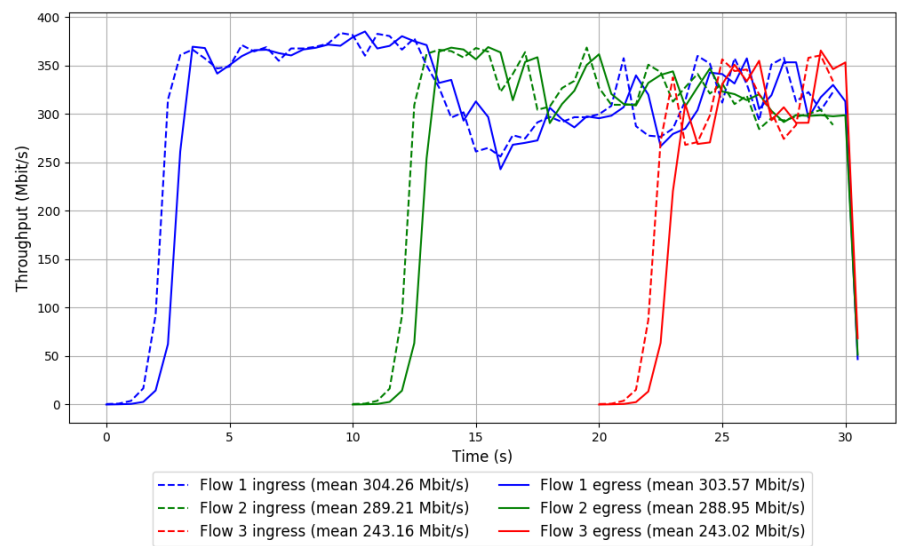
-- Flow 3:

Average throughput: 243.02 Mbit/s

95th percentile per-packet one-way delay: 198.602 ms

Loss rate: 0.04%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-21 10:15:04

End at: 2019-01-21 10:15:34

Local clock offset: -0.06 ms

Remote clock offset: 0.102 ms

# Below is generated by plot.py at 2019-01-21 12:43:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 540.96 Mbit/s

95th percentile per-packet one-way delay: 143.752 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 305.20 Mbit/s

95th percentile per-packet one-way delay: 131.230 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 233.22 Mbit/s

95th percentile per-packet one-way delay: 153.454 ms

Loss rate: 0.00%

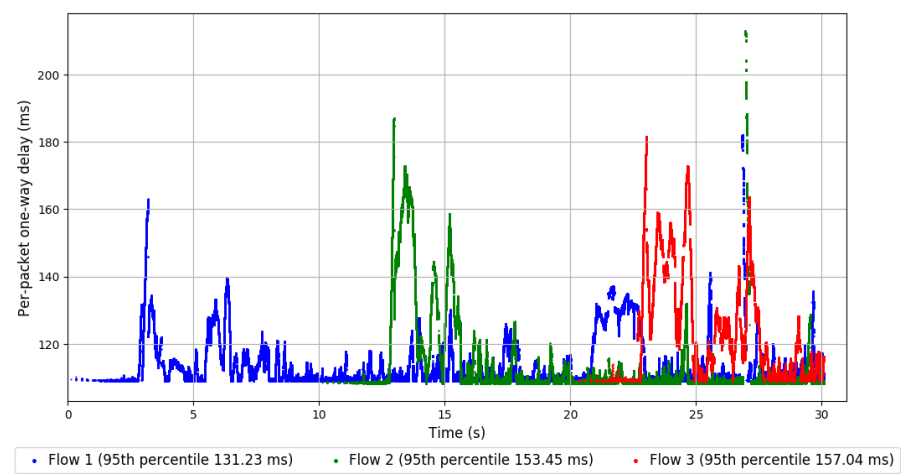
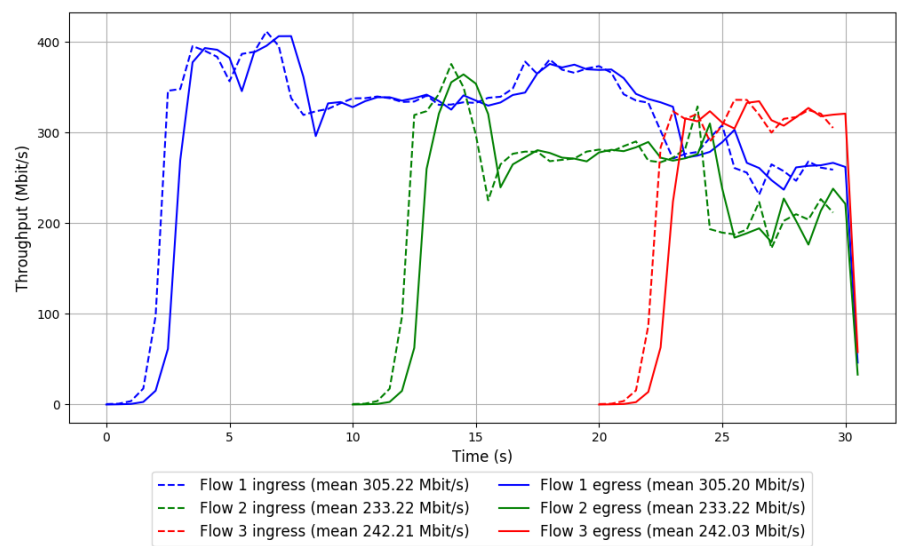
-- Flow 3:

Average throughput: 242.03 Mbit/s

95th percentile per-packet one-way delay: 157.044 ms

Loss rate: 0.07%

Run 3: Report of Copa — Data Link



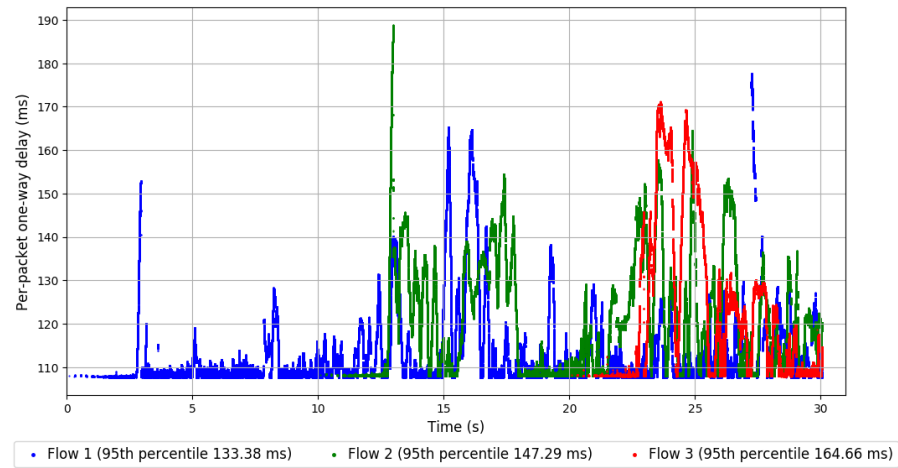
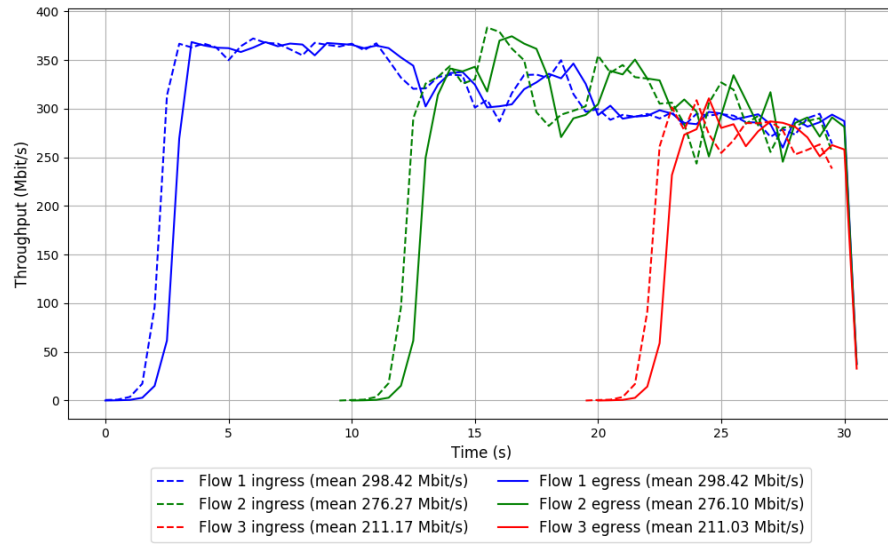


Run 4: Statistics of Copa

Start at: 2019-01-21 10:54:07  
End at: 2019-01-21 10:54:37  
Local clock offset: 1.281 ms  
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-01-21 13:01:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 552.63 Mbit/s  
95th percentile per-packet one-way delay: 148.254 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 298.42 Mbit/s  
95th percentile per-packet one-way delay: 133.379 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 276.10 Mbit/s  
95th percentile per-packet one-way delay: 147.291 ms  
Loss rate: 0.06%  
-- Flow 3:  
Average throughput: 211.03 Mbit/s  
95th percentile per-packet one-way delay: 164.665 ms  
Loss rate: 0.06%

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

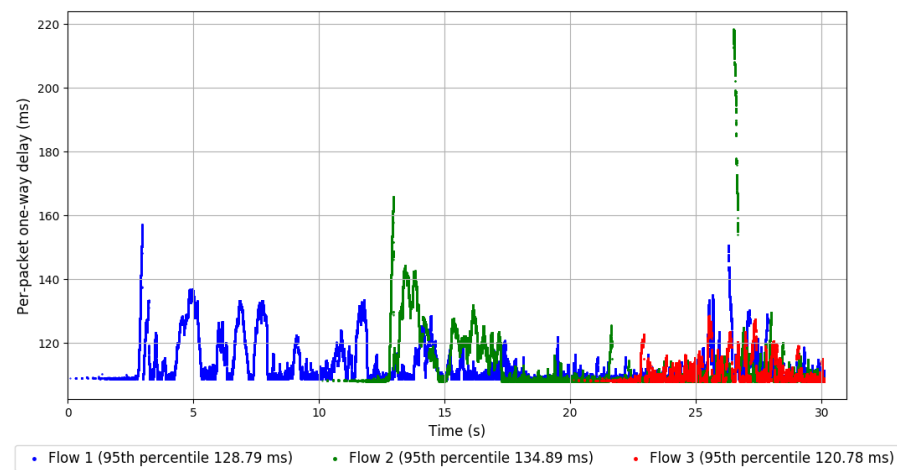
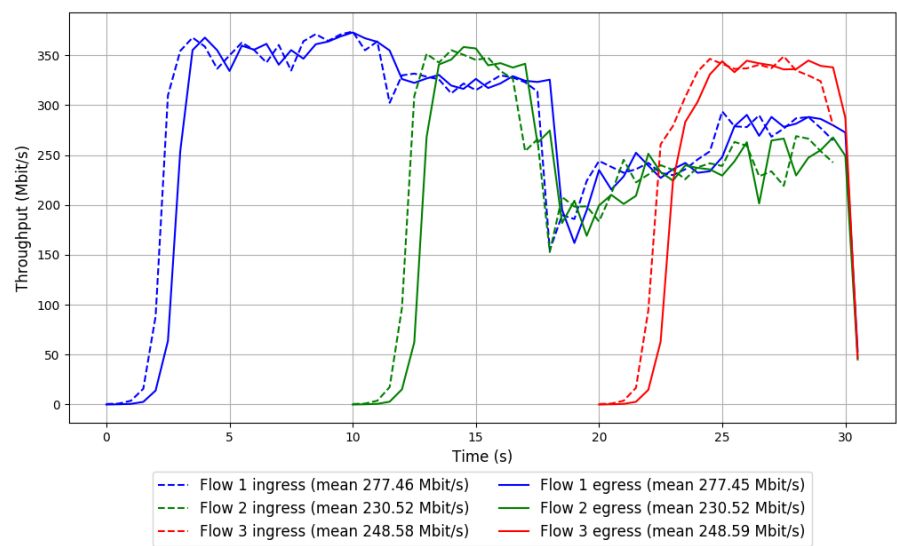


Run 5: Statistics of Copa

Start at: 2019-01-21 11:31:47  
End at: 2019-01-21 11:32:17  
Local clock offset: 0.184 ms  
Remote clock offset: -0.196 ms

# Below is generated by plot.py at 2019-01-21 13:01:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 513.65 Mbit/s  
95th percentile per-packet one-way delay: 128.950 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 277.45 Mbit/s  
95th percentile per-packet one-way delay: 128.795 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 230.52 Mbit/s  
95th percentile per-packet one-way delay: 134.892 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 248.59 Mbit/s  
95th percentile per-packet one-way delay: 120.783 ms  
Loss rate: 0.00%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-01-21 09:10:07

End at: 2019-01-21 09:10:37

Local clock offset: -0.028 ms

Remote clock offset: 0.161 ms

# Below is generated by plot.py at 2019-01-21 13:01:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 743.78 Mbit/s

95th percentile per-packet one-way delay: 168.441 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 345.98 Mbit/s

95th percentile per-packet one-way delay: 156.797 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 405.75 Mbit/s

95th percentile per-packet one-way delay: 184.717 ms

Loss rate: 0.07%

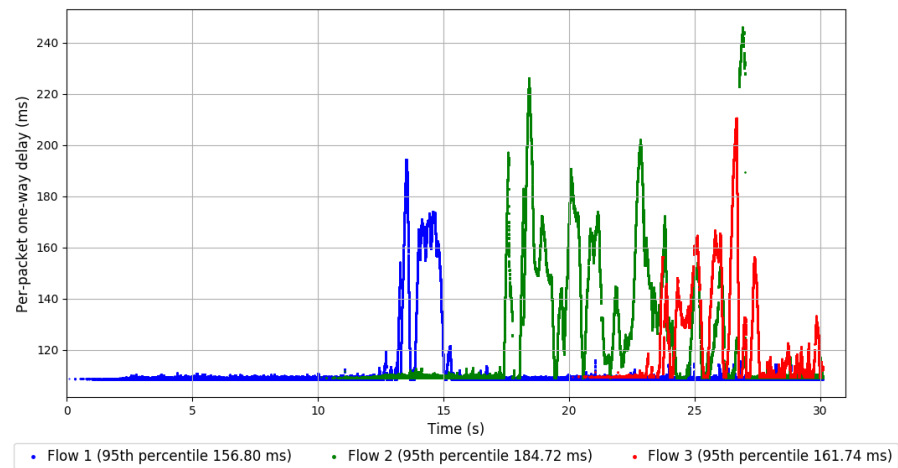
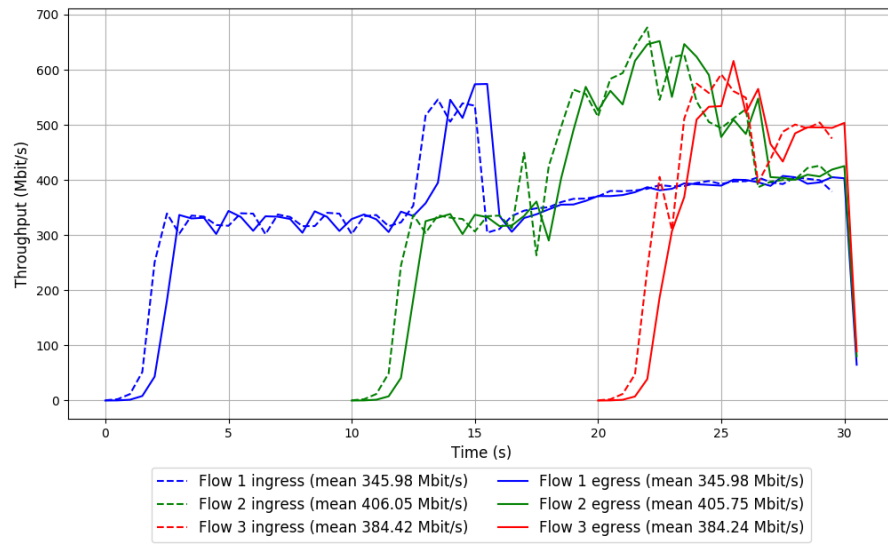
-- Flow 3:

Average throughput: 384.24 Mbit/s

95th percentile per-packet one-way delay: 161.736 ms

Loss rate: 0.05%

# Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-21 09:47:49

End at: 2019-01-21 09:48:19

Local clock offset: -1.191 ms

Remote clock offset: 0.372 ms

# Below is generated by plot.py at 2019-01-21 13:01:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 904.03 Mbit/s

95th percentile per-packet one-way delay: 201.798 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 532.25 Mbit/s

95th percentile per-packet one-way delay: 187.880 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 398.20 Mbit/s

95th percentile per-packet one-way delay: 229.025 ms

Loss rate: 0.17%

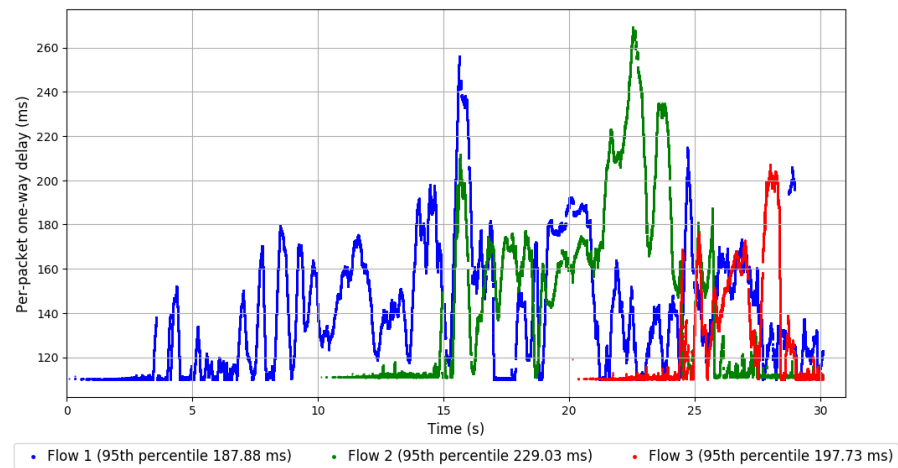
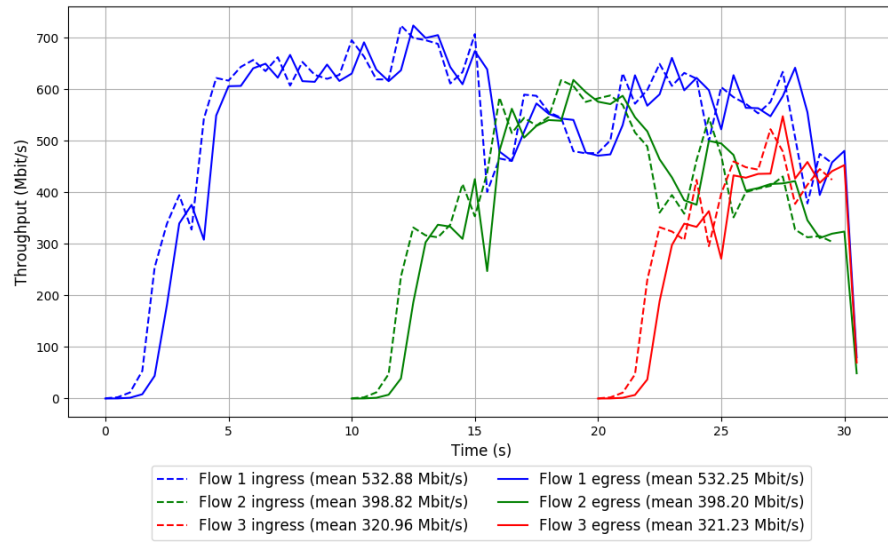
-- Flow 3:

Average throughput: 321.23 Mbit/s

95th percentile per-packet one-way delay: 197.726 ms

Loss rate: 0.00%

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





Run 3: Statistics of TCP Cubic

Start at: 2019-01-21 10:27:07

End at: 2019-01-21 10:27:37

Local clock offset: -0.708 ms

Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2019-01-21 13:01:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 890.90 Mbit/s

95th percentile per-packet one-way delay: 171.911 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 483.25 Mbit/s

95th percentile per-packet one-way delay: 185.361 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 469.23 Mbit/s

95th percentile per-packet one-way delay: 152.267 ms

Loss rate: 0.14%

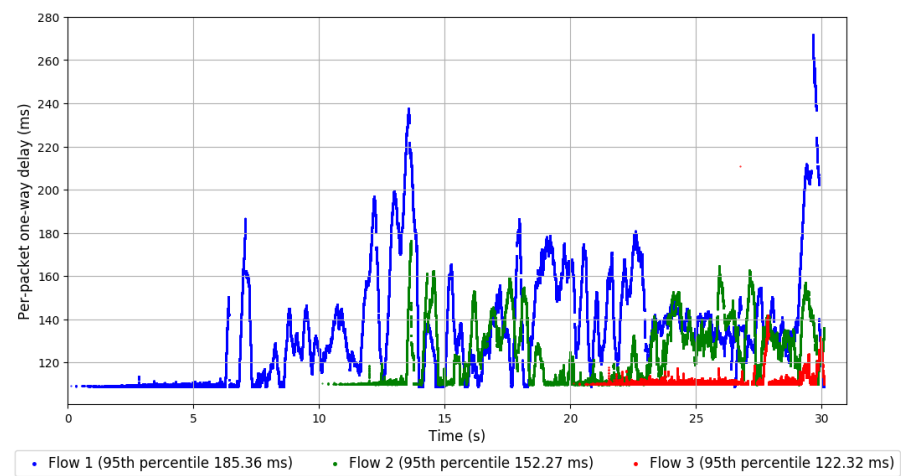
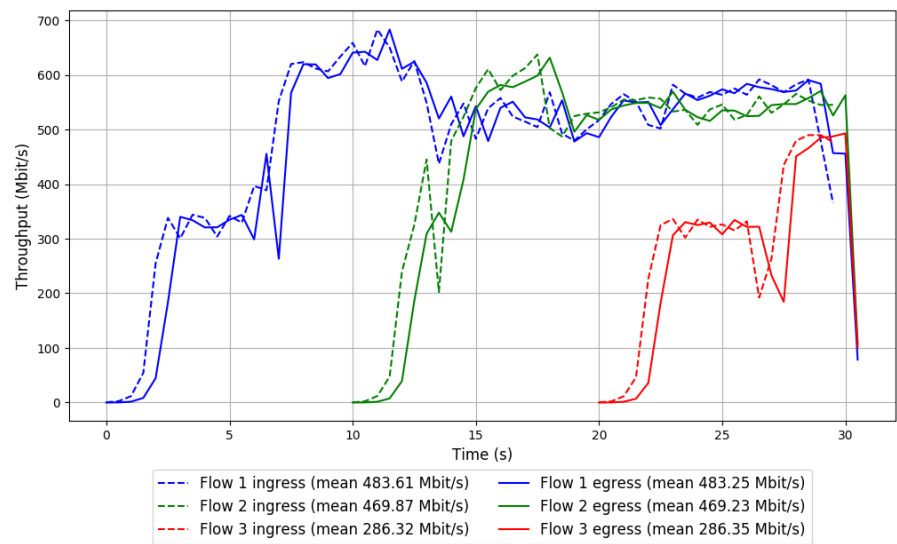
-- Flow 3:

Average throughput: 286.35 Mbit/s

95th percentile per-packet one-way delay: 122.324 ms

Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-01-21 11:05:29

End at: 2019-01-21 11:05:59

Local clock offset: -0.771 ms

Remote clock offset: 0.248 ms

# Below is generated by plot.py at 2019-01-21 13:02:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 847.91 Mbit/s

95th percentile per-packet one-way delay: 200.580 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 455.85 Mbit/s

95th percentile per-packet one-way delay: 131.226 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 426.01 Mbit/s

95th percentile per-packet one-way delay: 210.977 ms

Loss rate: 0.72%

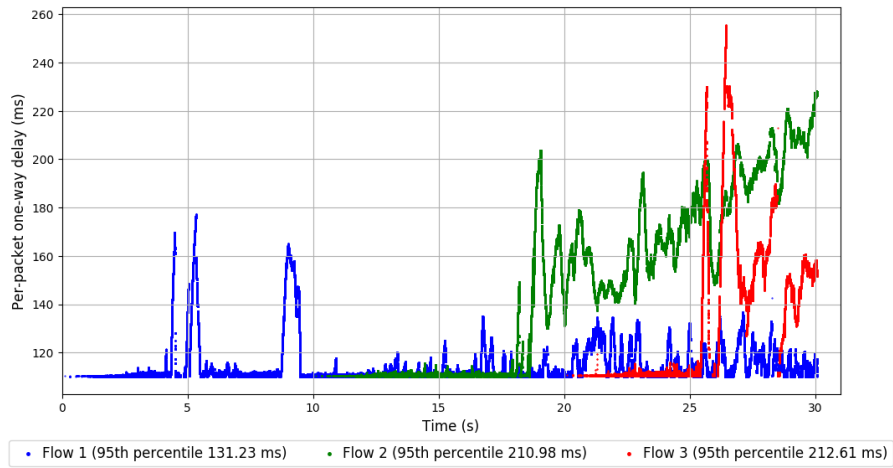
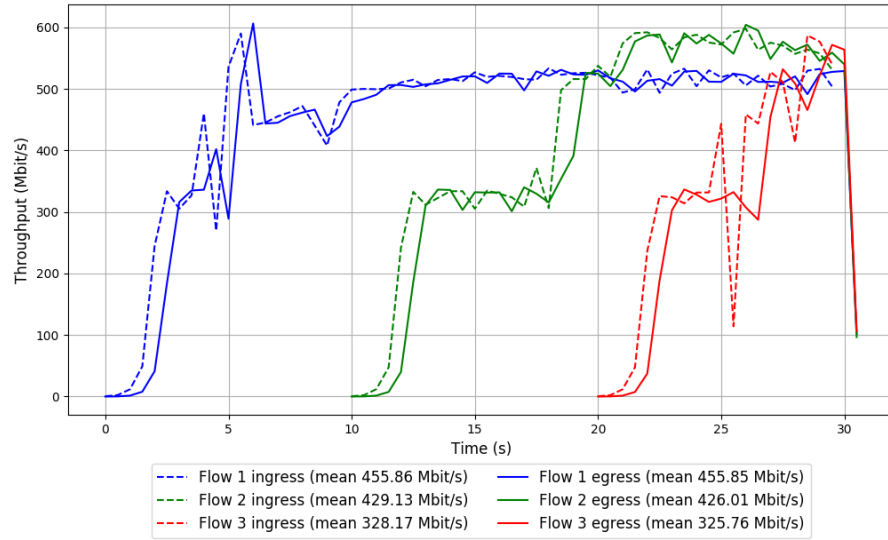
-- Flow 3:

Average throughput: 325.76 Mbit/s

95th percentile per-packet one-way delay: 212.608 ms

Loss rate: 0.73%

# Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-21 11:42:58

End at: 2019-01-21 11:43:28

Local clock offset: 0.415 ms

Remote clock offset: -0.42 ms

# Below is generated by plot.py at 2019-01-21 13:02:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 742.90 Mbit/s

95th percentile per-packet one-way delay: 174.467 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 396.08 Mbit/s

95th percentile per-packet one-way delay: 189.010 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 342.76 Mbit/s

95th percentile per-packet one-way delay: 152.868 ms

Loss rate: 0.00%

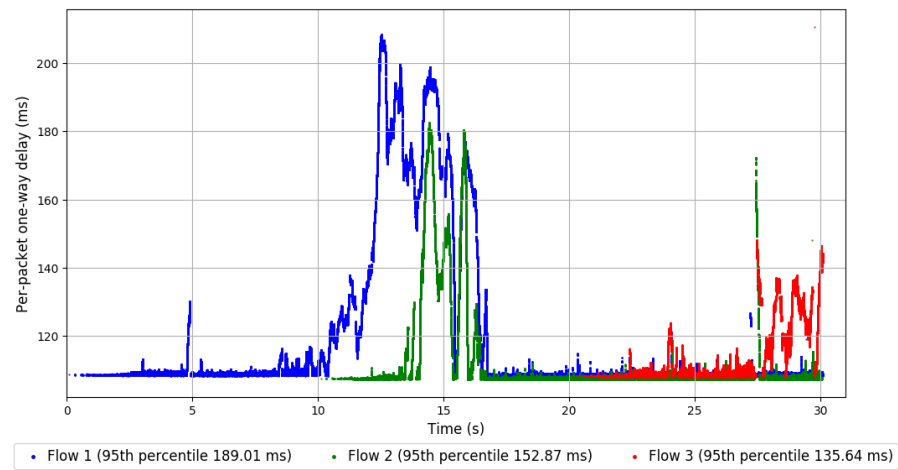
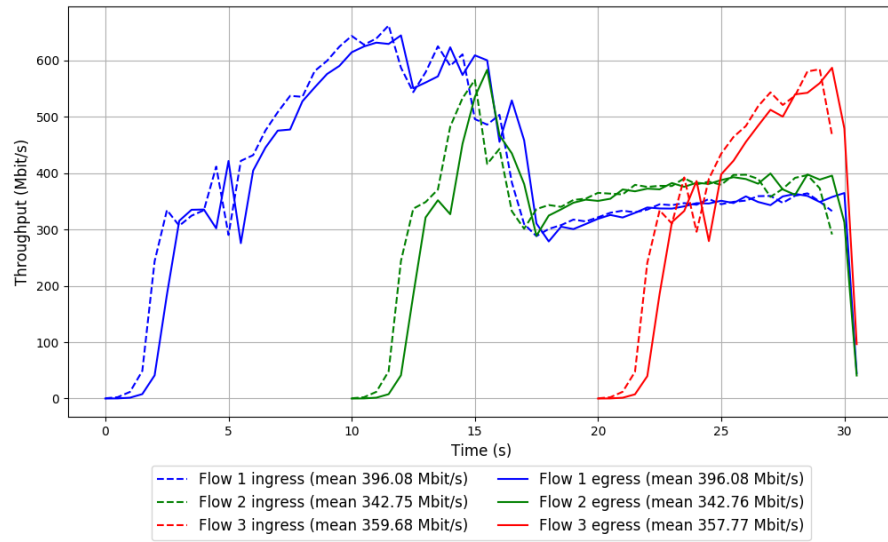
-- Flow 3:

Average throughput: 357.77 Mbit/s

95th percentile per-packet one-way delay: 135.641 ms

Loss rate: 0.52%

# Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-01-21 09:01:16

End at: 2019-01-21 09:01:46

Local clock offset: -0.875 ms

Remote clock offset: 0.338 ms

# Below is generated by plot.py at 2019-01-21 13:02:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 396.59 Mbit/s

95th percentile per-packet one-way delay: 114.386 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 88.62 Mbit/s

95th percentile per-packet one-way delay: 118.257 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 343.23 Mbit/s

95th percentile per-packet one-way delay: 113.752 ms

Loss rate: 0.00%

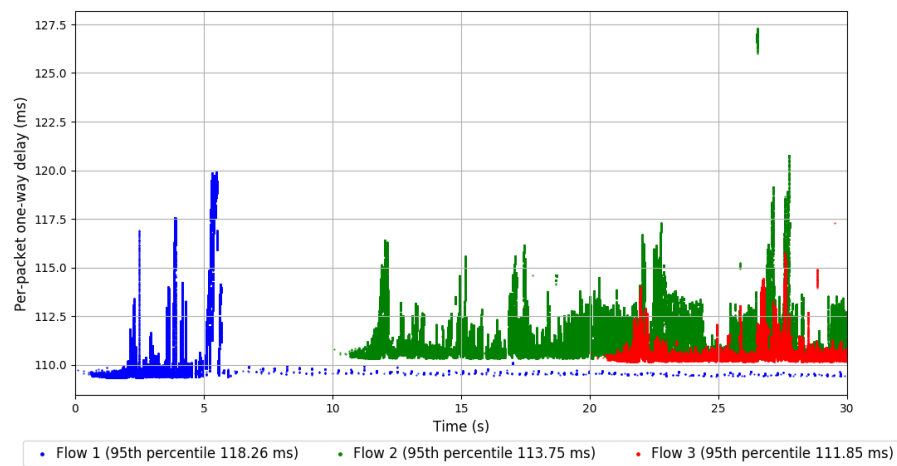
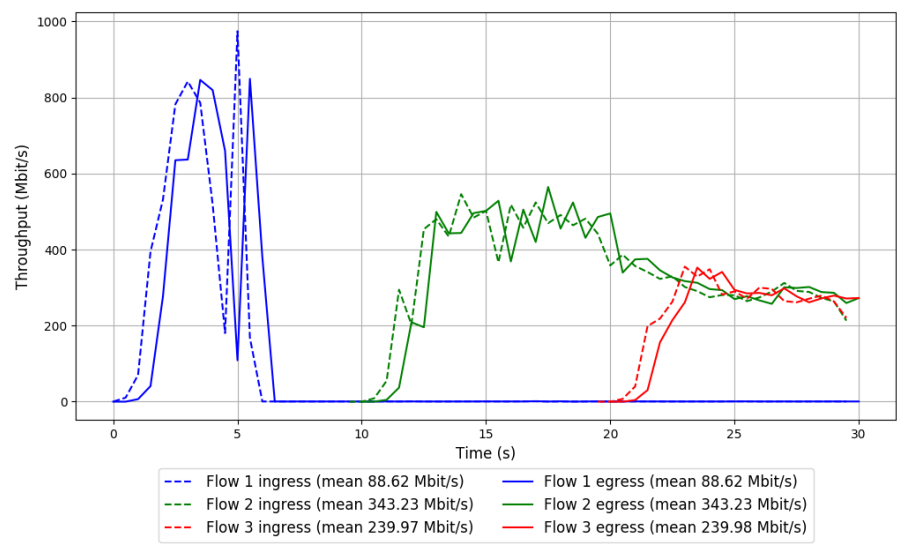
-- Flow 3:

Average throughput: 239.98 Mbit/s

95th percentile per-packet one-way delay: 111.851 ms

Loss rate: 0.00%

Run 1: Report of FillP — Data Link





Run 2: Statistics of FillP

Start at: 2019-01-21 09:38:39

End at: 2019-01-21 09:39:09

Local clock offset: 0.688 ms

Remote clock offset: 0.483 ms

# Below is generated by plot.py at 2019-01-21 13:13:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 687.80 Mbit/s

95th percentile per-packet one-way delay: 139.134 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 366.67 Mbit/s

95th percentile per-packet one-way delay: 156.441 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 354.78 Mbit/s

95th percentile per-packet one-way delay: 112.648 ms

Loss rate: 0.00%

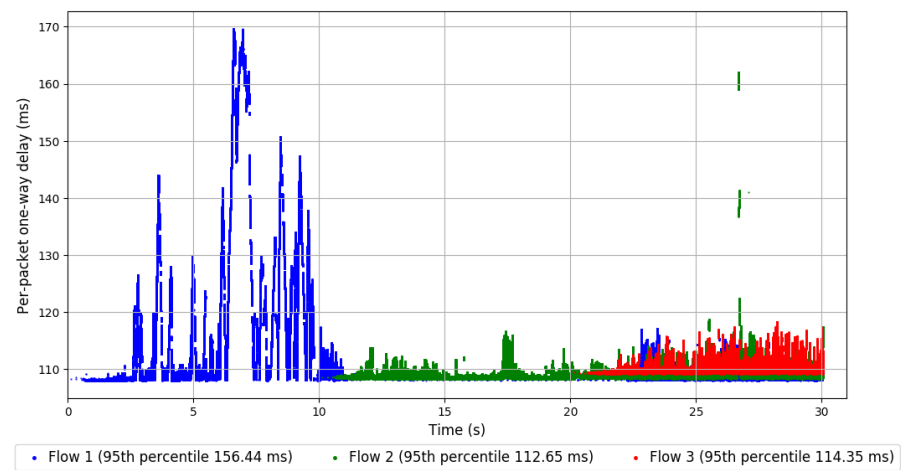
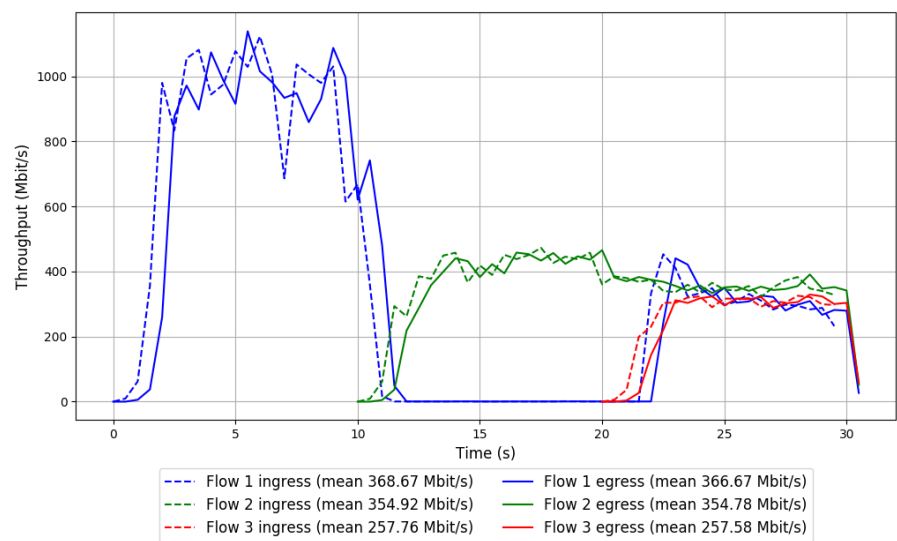
-- Flow 3:

Average throughput: 257.58 Mbit/s

95th percentile per-packet one-way delay: 114.346 ms

Loss rate: 0.06%

Run 2: Report of FillP — Data Link

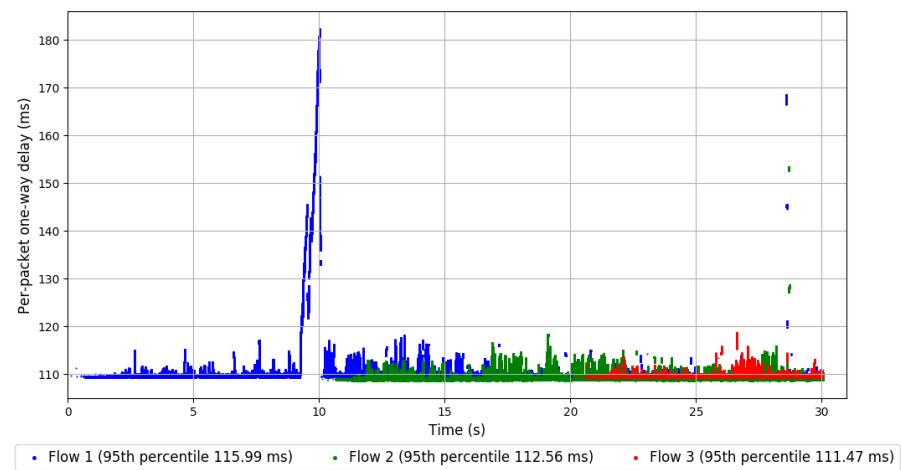
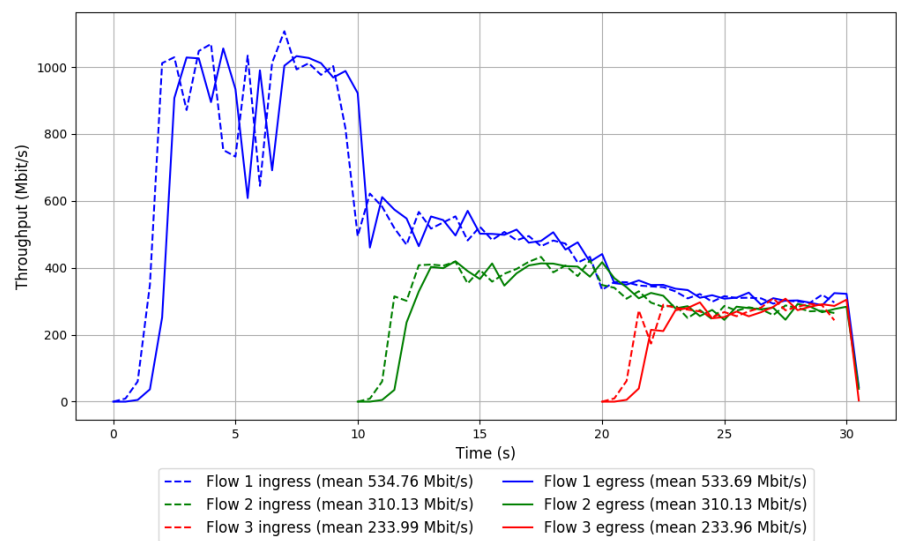


Run 3: Statistics of FillP

Start at: 2019-01-21 10:17:19  
End at: 2019-01-21 10:17:49  
Local clock offset: -0.413 ms  
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2019-01-21 13:20:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 817.46 Mbit/s  
95th percentile per-packet one-way delay: 113.434 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 533.69 Mbit/s  
95th percentile per-packet one-way delay: 115.990 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 310.13 Mbit/s  
95th percentile per-packet one-way delay: 112.559 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 233.96 Mbit/s  
95th percentile per-packet one-way delay: 111.465 ms  
Loss rate: 0.00%

Run 3: Report of FillP — Data Link

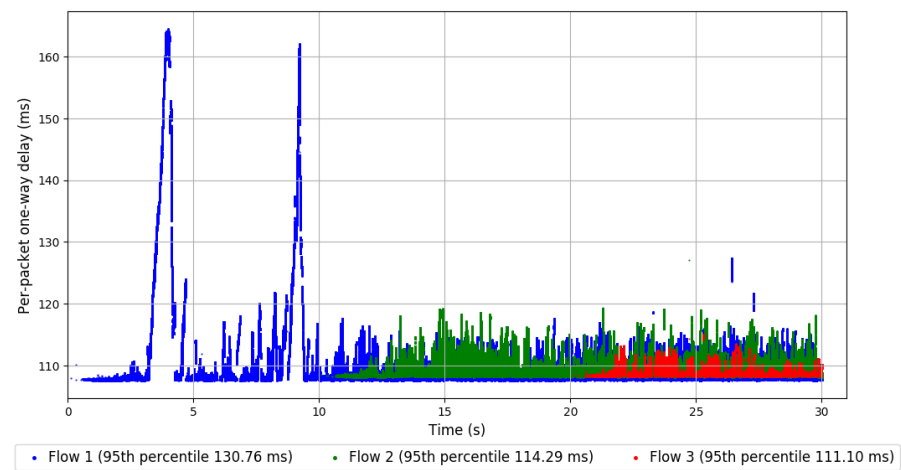
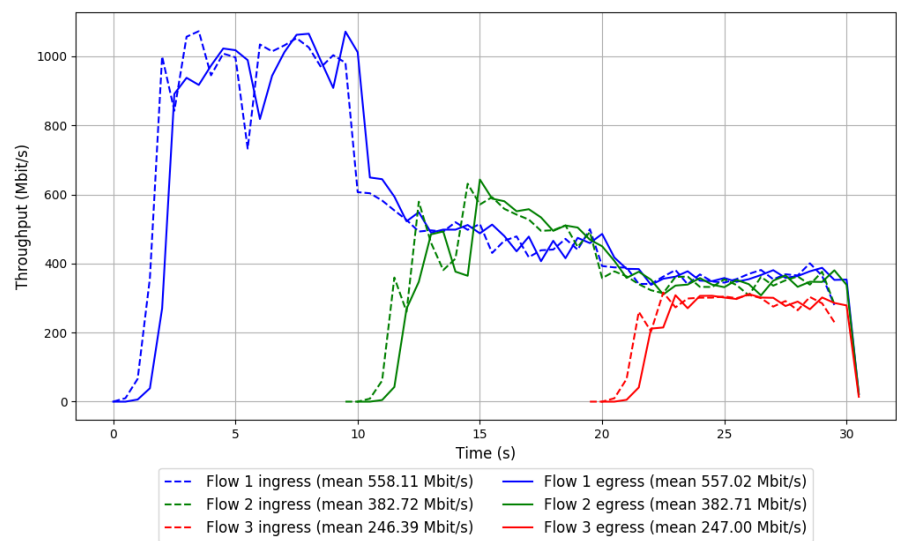


Run 4: Statistics of FillP

Start at: 2019-01-21 10:56:24  
End at: 2019-01-21 10:56:54  
Local clock offset: 0.632 ms  
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-01-21 13:26:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 893.63 Mbit/s  
95th percentile per-packet one-way delay: 120.739 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 557.02 Mbit/s  
95th percentile per-packet one-way delay: 130.760 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 382.71 Mbit/s  
95th percentile per-packet one-way delay: 114.294 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 247.00 Mbit/s  
95th percentile per-packet one-way delay: 111.099 ms  
Loss rate: 0.00%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-21 11:33:59

End at: 2019-01-21 11:34:29

Local clock offset: -0.966 ms

Remote clock offset: 0.282 ms

# Below is generated by plot.py at 2019-01-21 13:26:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 839.66 Mbit/s

95th percentile per-packet one-way delay: 143.201 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 534.04 Mbit/s

95th percentile per-packet one-way delay: 151.066 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 332.71 Mbit/s

95th percentile per-packet one-way delay: 114.355 ms

Loss rate: 0.00%

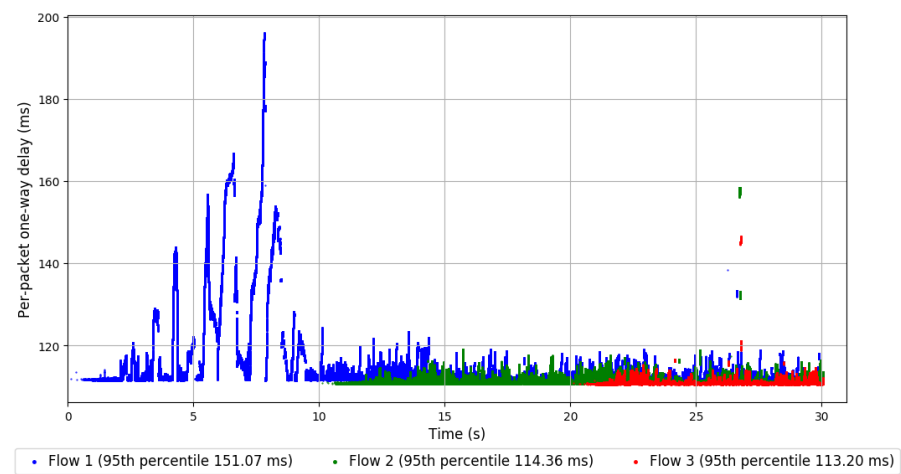
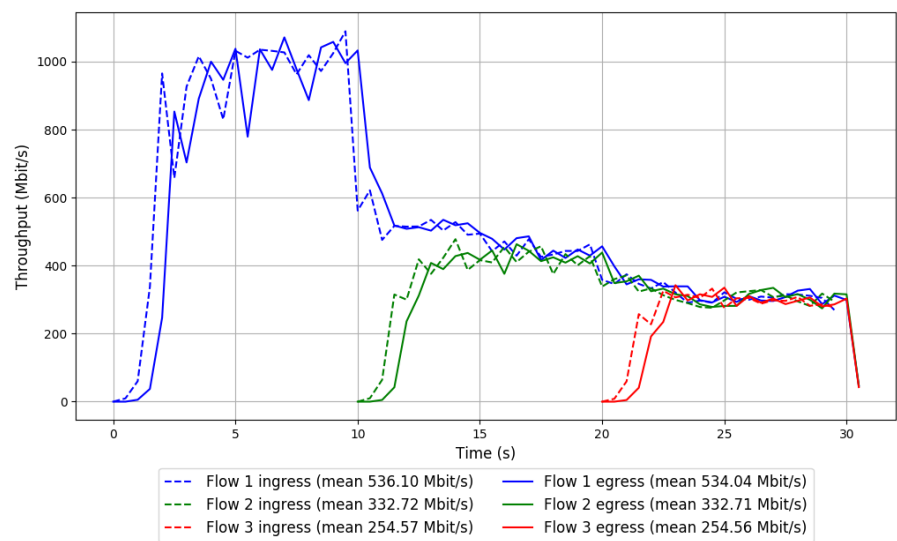
-- Flow 3:

Average throughput: 254.56 Mbit/s

95th percentile per-packet one-way delay: 113.201 ms

Loss rate: 0.00%

Run 5: Report of FillP — Data Link





Run 1: Statistics of FillP-Sheep

Start at: 2019-01-21 09:24:37

End at: 2019-01-21 09:25:07

Local clock offset: -1.107 ms

Remote clock offset: 0.403 ms

# Below is generated by plot.py at 2019-01-21 13:26:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 798.82 Mbit/s

95th percentile per-packet one-way delay: 135.745 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 512.02 Mbit/s

95th percentile per-packet one-way delay: 145.935 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 313.72 Mbit/s

95th percentile per-packet one-way delay: 115.344 ms

Loss rate: 0.00%

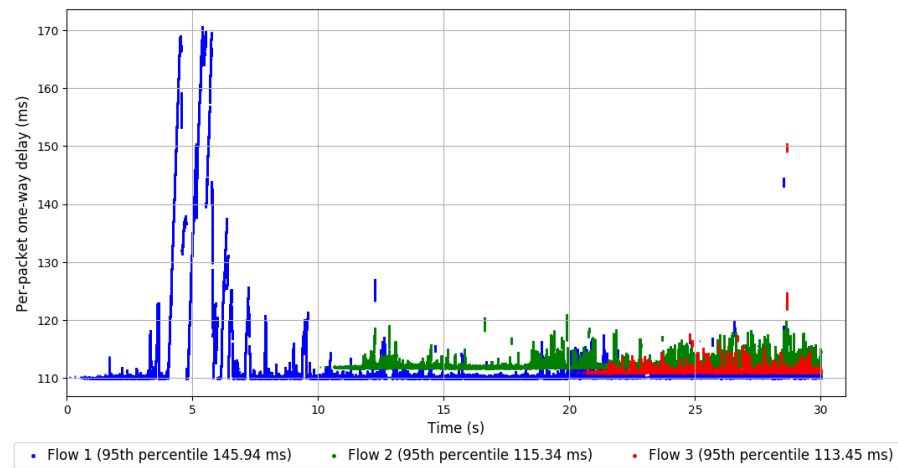
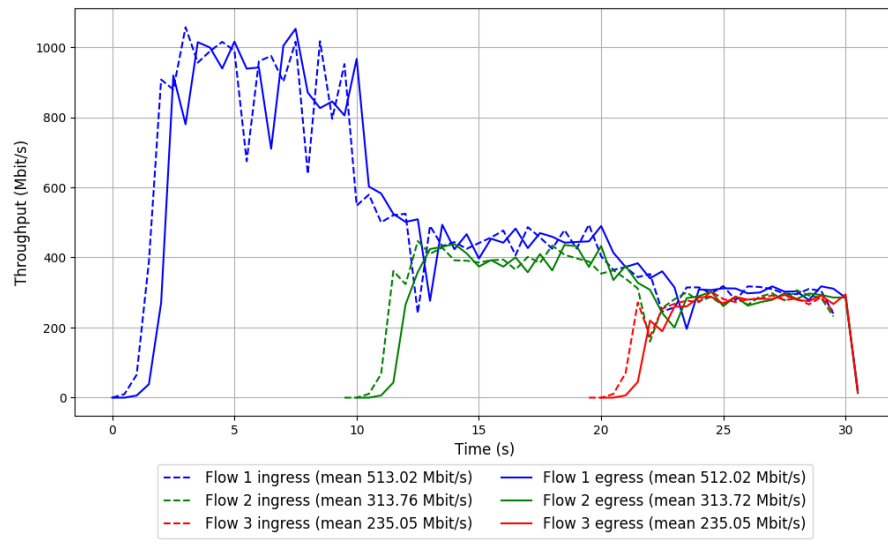
-- Flow 3:

Average throughput: 235.05 Mbit/s

95th percentile per-packet one-way delay: 113.452 ms

Loss rate: 0.00%

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



Run 2: Statistics of FillP-Sheep

Start at: 2019-01-21 10:02:52

End at: 2019-01-21 10:03:22

Local clock offset: -0.048 ms

Remote clock offset: 0.163 ms

# Below is generated by plot.py at 2019-01-21 13:26:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 774.93 Mbit/s

95th percentile per-packet one-way delay: 114.056 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 484.19 Mbit/s

95th percentile per-packet one-way delay: 116.538 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 323.52 Mbit/s

95th percentile per-packet one-way delay: 113.377 ms

Loss rate: 0.03%

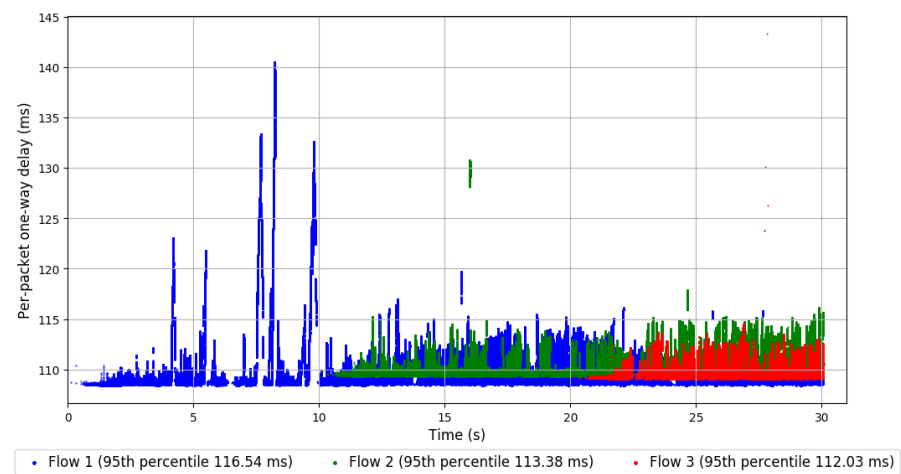
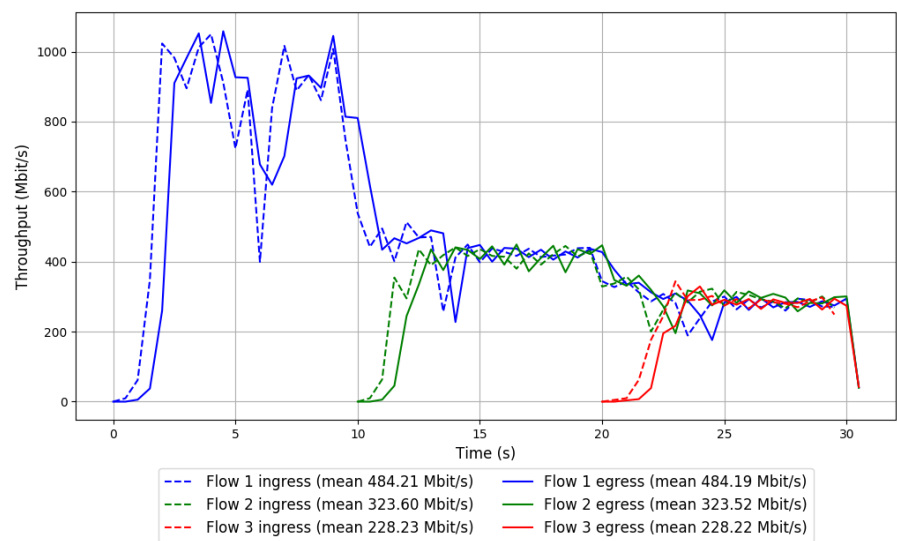
-- Flow 3:

Average throughput: 228.22 Mbit/s

95th percentile per-packet one-way delay: 112.029 ms

Loss rate: 0.00%

Run 2: Report of FillP-Sheep — Data Link

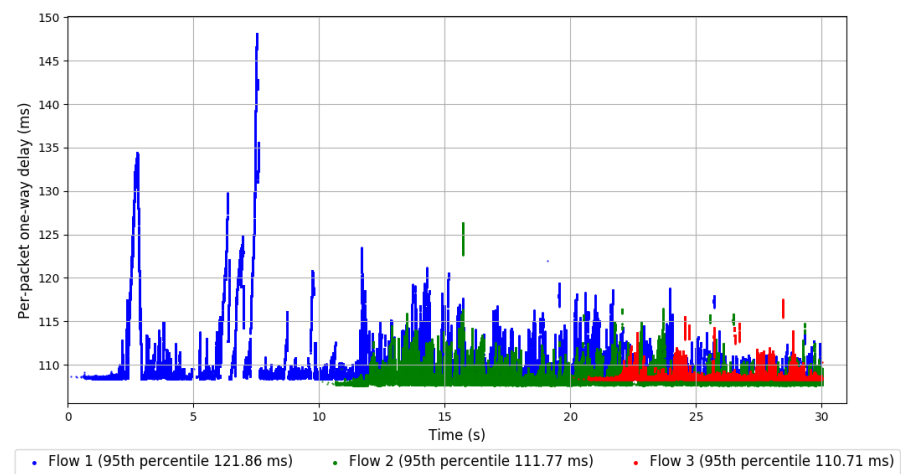
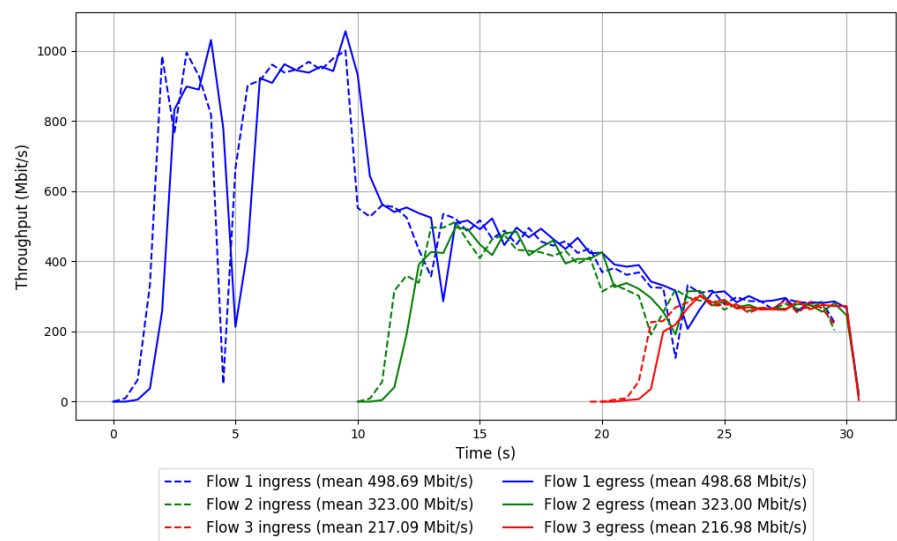


Run 3: Statistics of FillP-Sheep

Start at: 2019-01-21 10:42:01  
End at: 2019-01-21 10:42:31  
Local clock offset: 0.56 ms  
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-01-21 13:26:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 785.39 Mbit/s  
95th percentile per-packet one-way delay: 118.660 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 498.68 Mbit/s  
95th percentile per-packet one-way delay: 121.858 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 323.00 Mbit/s  
95th percentile per-packet one-way delay: 111.765 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 216.98 Mbit/s  
95th percentile per-packet one-way delay: 110.706 ms  
Loss rate: 0.04%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-21 11:20:12

End at: 2019-01-21 11:20:42

Local clock offset: -0.972 ms

Remote clock offset: 0.059 ms

# Below is generated by plot.py at 2019-01-21 13:26:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 394.98 Mbit/s

95th percentile per-packet one-way delay: 116.039 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 107.64 Mbit/s

95th percentile per-packet one-way delay: 120.785 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 316.76 Mbit/s

95th percentile per-packet one-way delay: 114.509 ms

Loss rate: 0.01%

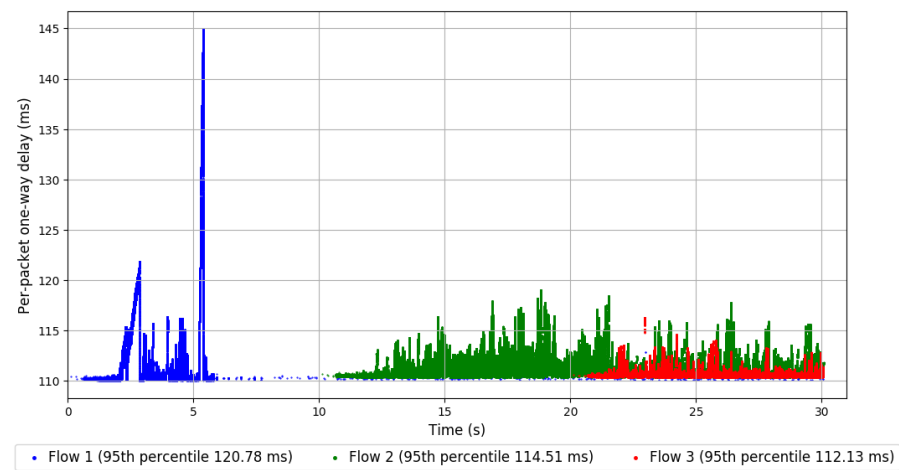
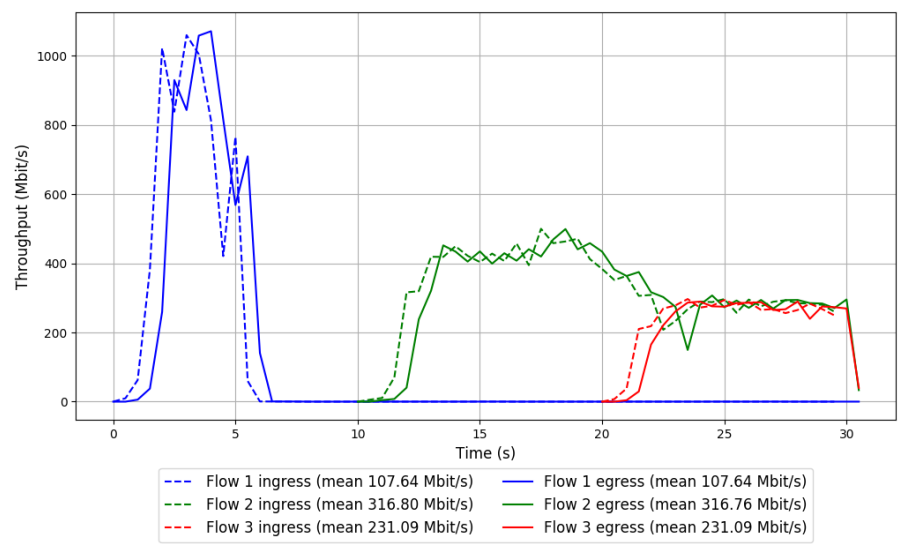
-- Flow 3:

Average throughput: 231.09 Mbit/s

95th percentile per-packet one-way delay: 112.134 ms

Loss rate: 0.00%

Run 4: Report of FillP-Sheep — Data Link



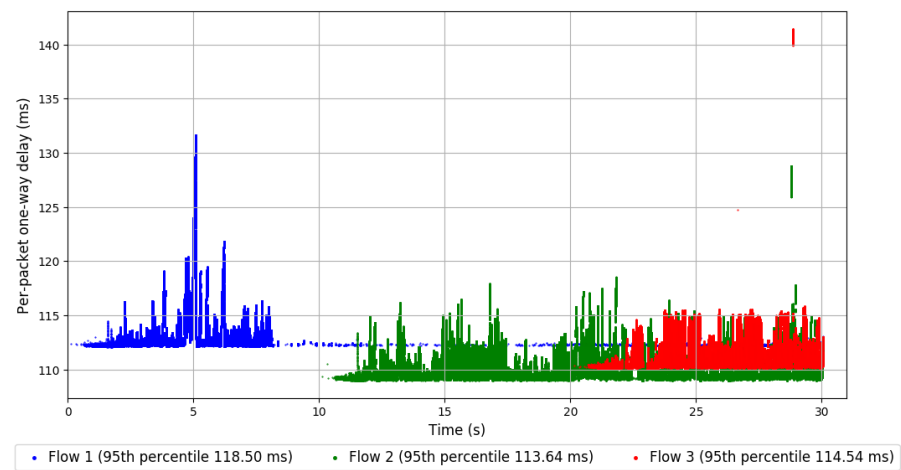
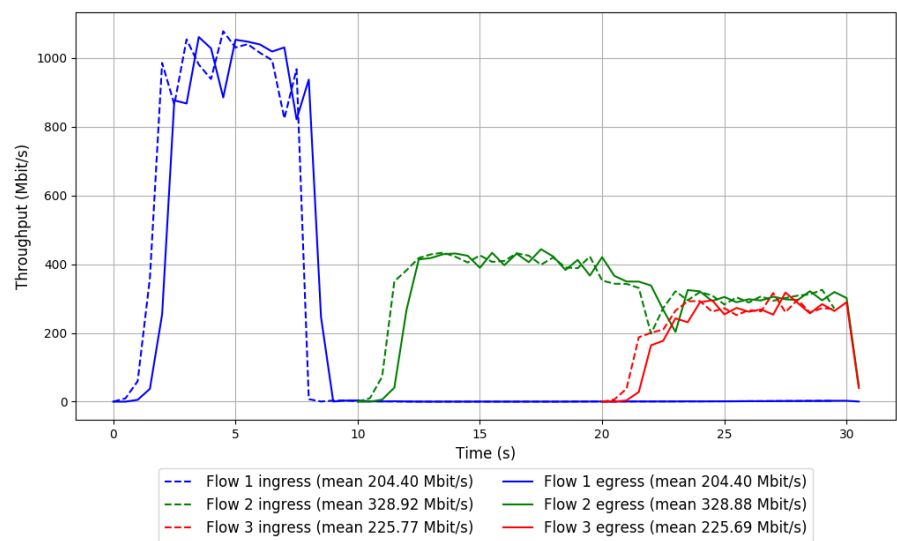


Run 5: Statistics of FillP-Sheep

Start at: 2019-01-21 11:58:07  
End at: 2019-01-21 11:58:37  
Local clock offset: -0.876 ms  
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2019-01-21 13:29:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 498.01 Mbit/s  
95th percentile per-packet one-way delay: 115.784 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 204.40 Mbit/s  
95th percentile per-packet one-way delay: 118.502 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 328.88 Mbit/s  
95th percentile per-packet one-way delay: 113.637 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 225.69 Mbit/s  
95th percentile per-packet one-way delay: 114.543 ms  
Loss rate: 0.03%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-01-21 09:15:23

End at: 2019-01-21 09:15:53

Local clock offset: -1.39 ms

Remote clock offset: 0.26 ms

# Below is generated by plot.py at 2019-01-21 13:29:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 298.05 Mbit/s

95th percentile per-packet one-way delay: 112.123 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 155.71 Mbit/s

95th percentile per-packet one-way delay: 111.848 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 148.29 Mbit/s

95th percentile per-packet one-way delay: 112.048 ms

Loss rate: 0.12%

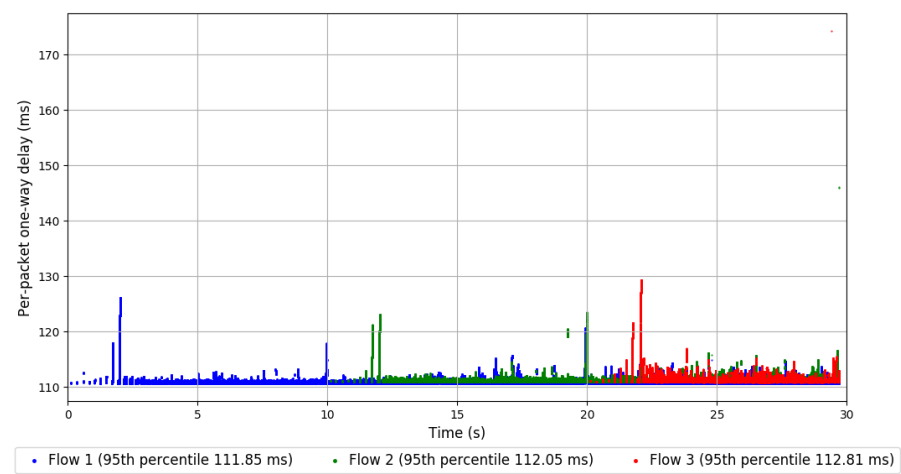
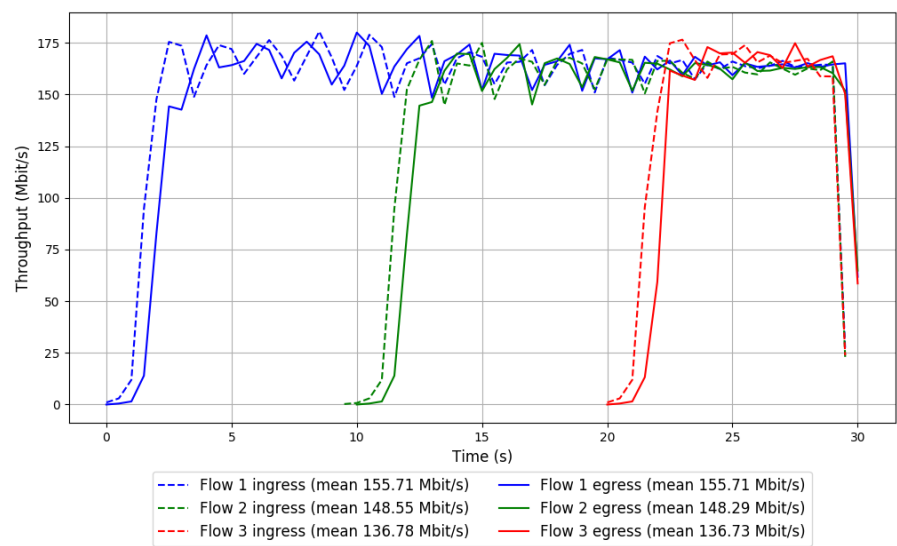
-- Flow 3:

Average throughput: 136.73 Mbit/s

95th percentile per-packet one-way delay: 112.811 ms

Loss rate: 0.03%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-01-21 09:53:12

End at: 2019-01-21 09:53:42

Local clock offset: -0.857 ms

Remote clock offset: 0.216 ms

# Below is generated by plot.py at 2019-01-21 13:33:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 298.77 Mbit/s

95th percentile per-packet one-way delay: 111.030 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 156.89 Mbit/s

95th percentile per-packet one-way delay: 111.181 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 149.52 Mbit/s

95th percentile per-packet one-way delay: 110.599 ms

Loss rate: 0.00%

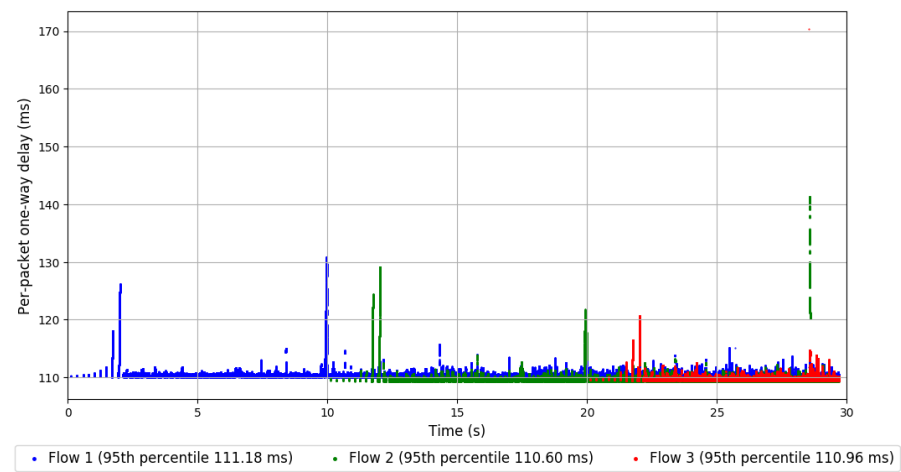
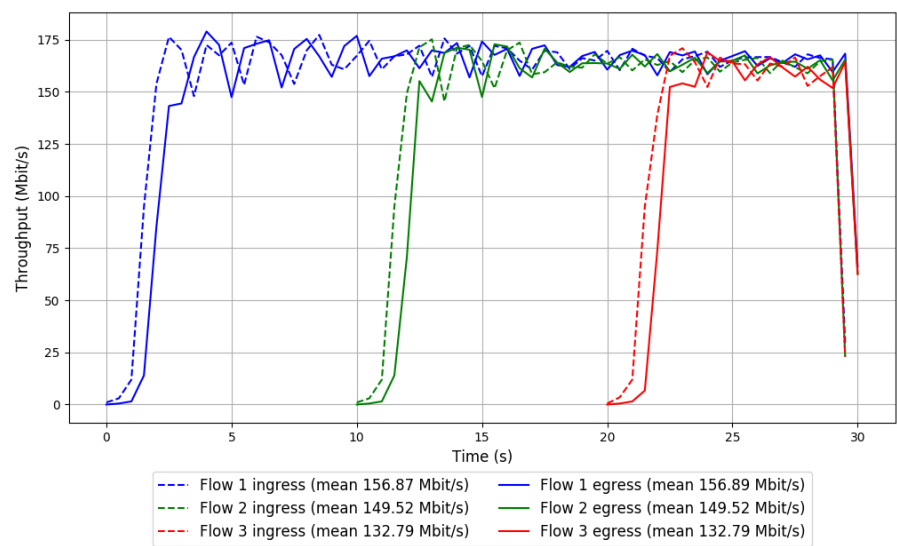
-- Flow 3:

Average throughput: 132.79 Mbit/s

95th percentile per-packet one-way delay: 110.961 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-21 10:32:45

End at: 2019-01-21 10:33:15

Local clock offset: -0.727 ms

Remote clock offset: 0.107 ms

# Below is generated by plot.py at 2019-01-21 13:38:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 321.74 Mbit/s

95th percentile per-packet one-way delay: 110.879 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 154.41 Mbit/s

95th percentile per-packet one-way delay: 110.600 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 189.14 Mbit/s

95th percentile per-packet one-way delay: 110.880 ms

Loss rate: 0.00%

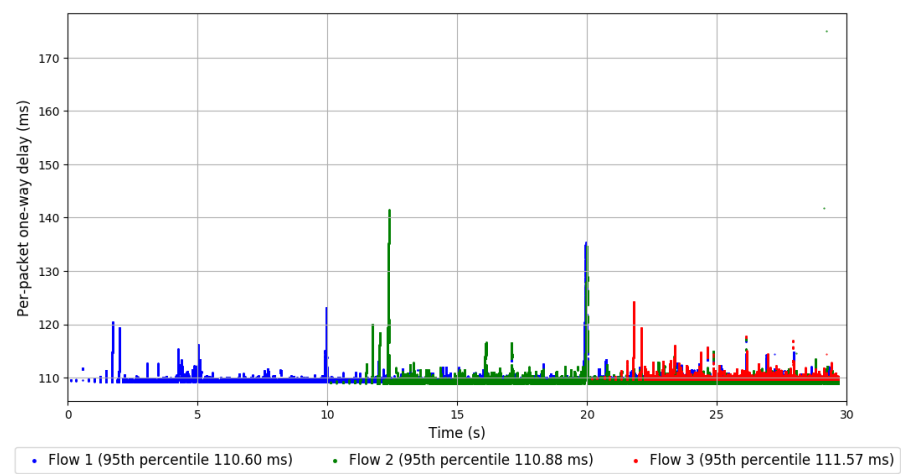
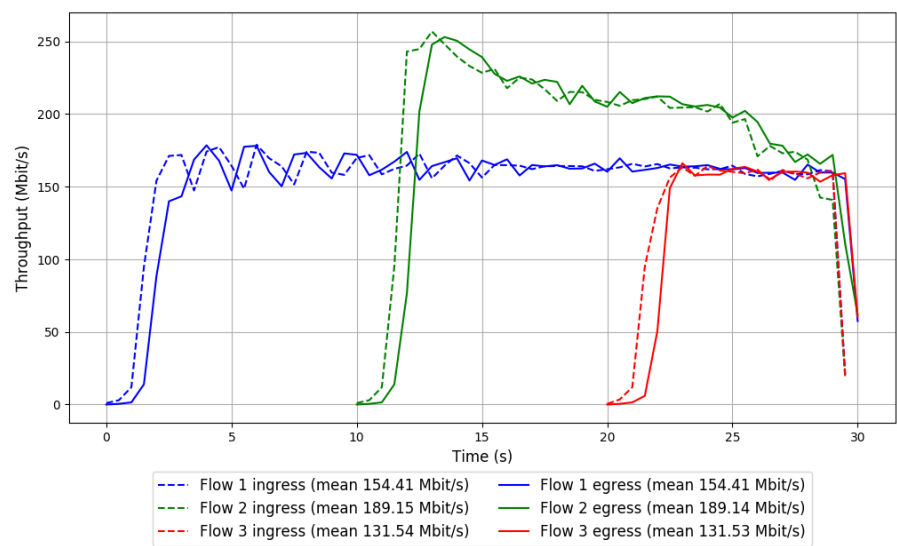
-- Flow 3:

Average throughput: 131.53 Mbit/s

95th percentile per-packet one-way delay: 111.574 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-01-21 11:10:47

End at: 2019-01-21 11:11:17

Local clock offset: -0.655 ms

Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2019-01-21 13:38:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 282.88 Mbit/s

95th percentile per-packet one-way delay: 111.172 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 147.66 Mbit/s

95th percentile per-packet one-way delay: 111.464 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 138.59 Mbit/s

95th percentile per-packet one-way delay: 110.493 ms

Loss rate: 0.01%

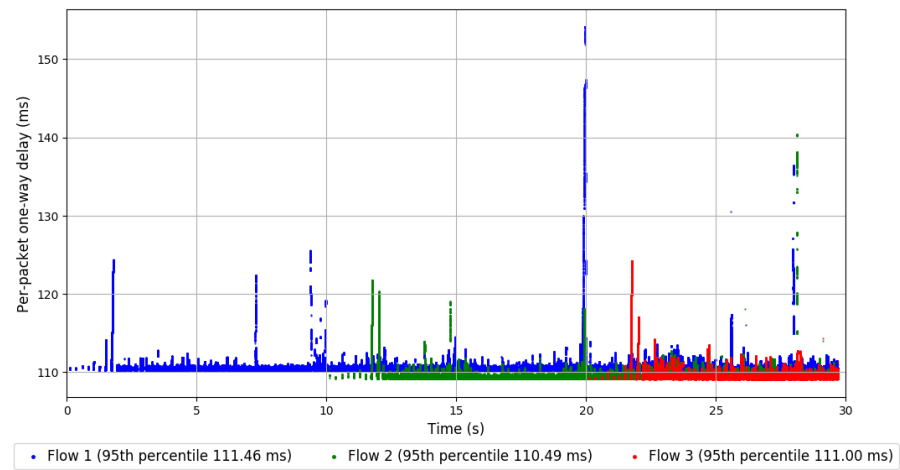
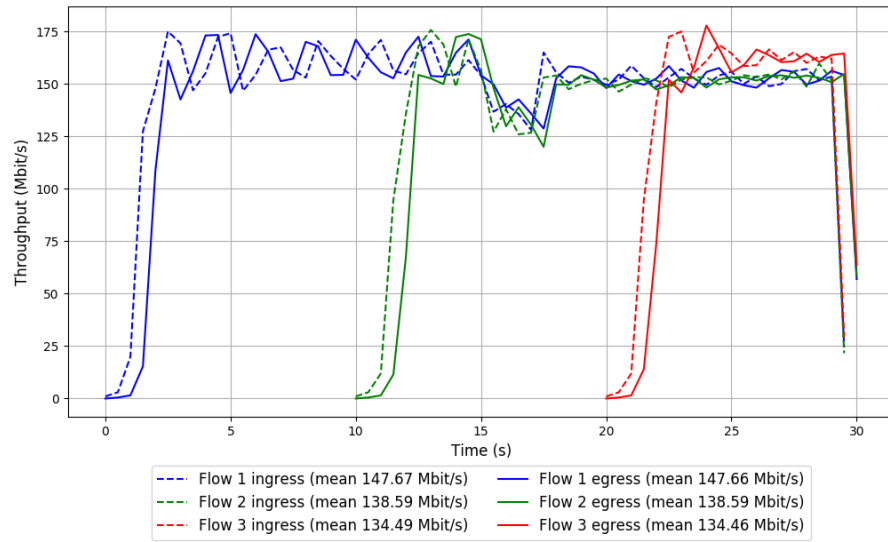
-- Flow 3:

Average throughput: 134.46 Mbit/s

95th percentile per-packet one-way delay: 111.004 ms

Loss rate: 0.01%

# Run 4: Report of Indigo — Data Link

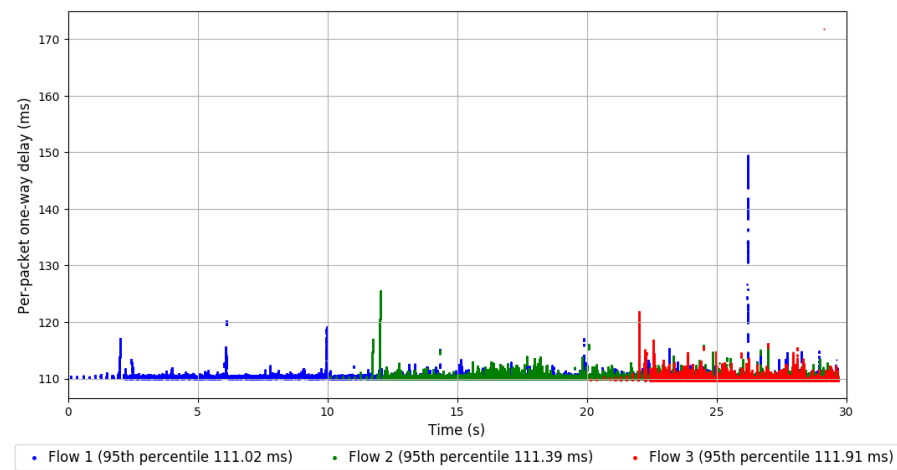
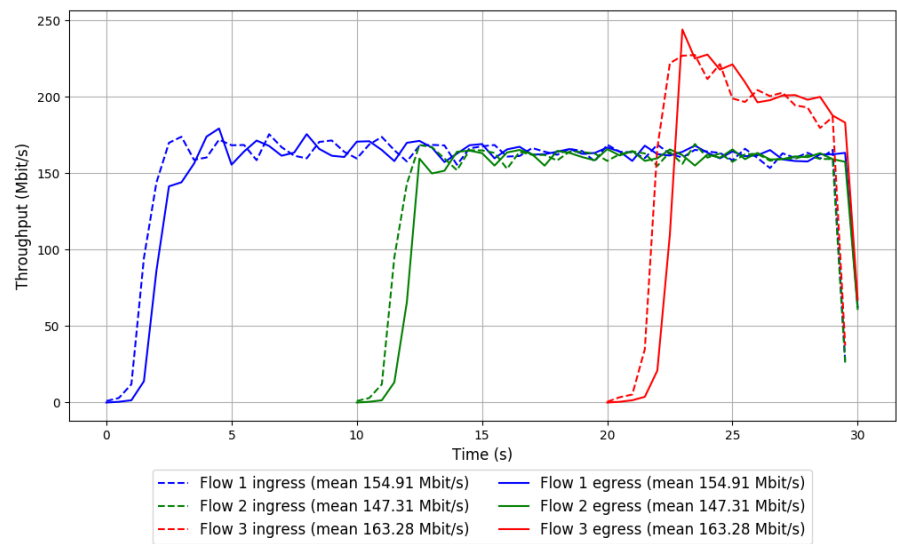


Run 5: Statistics of Indigo

Start at: 2019-01-21 11:48:09  
End at: 2019-01-21 11:48:39  
Local clock offset: -0.827 ms  
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2019-01-21 13:38:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 305.04 Mbit/s  
95th percentile per-packet one-way delay: 111.284 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 154.91 Mbit/s  
95th percentile per-packet one-way delay: 111.015 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 147.31 Mbit/s  
95th percentile per-packet one-way delay: 111.393 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 163.28 Mbit/s  
95th percentile per-packet one-way delay: 111.908 ms  
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-21 09:02:53

End at: 2019-01-21 09:03:23

Local clock offset: 0.232 ms

Remote clock offset: 0.131 ms

# Below is generated by plot.py at 2019-01-21 13:43:41

# Datalink statistics

-- Total of 3 flows:

Average throughput: 778.28 Mbit/s

95th percentile per-packet one-way delay: 113.439 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 459.09 Mbit/s

95th percentile per-packet one-way delay: 114.297 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 376.22 Mbit/s

95th percentile per-packet one-way delay: 112.439 ms

Loss rate: 0.00%

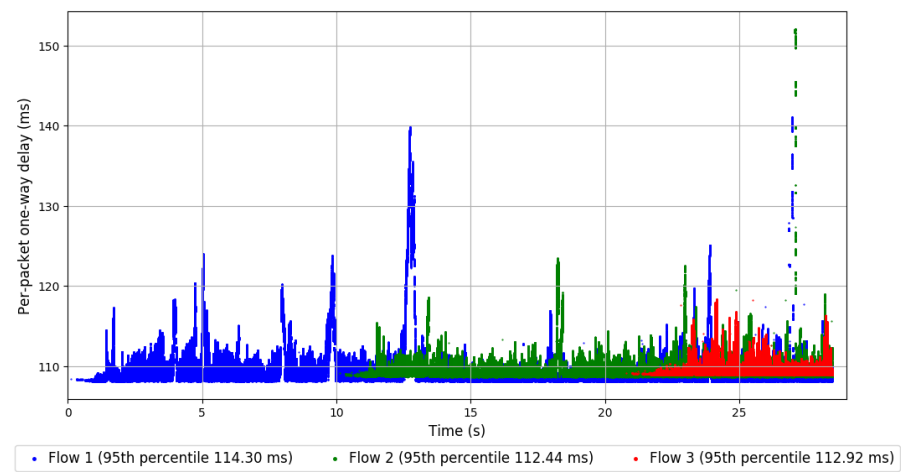
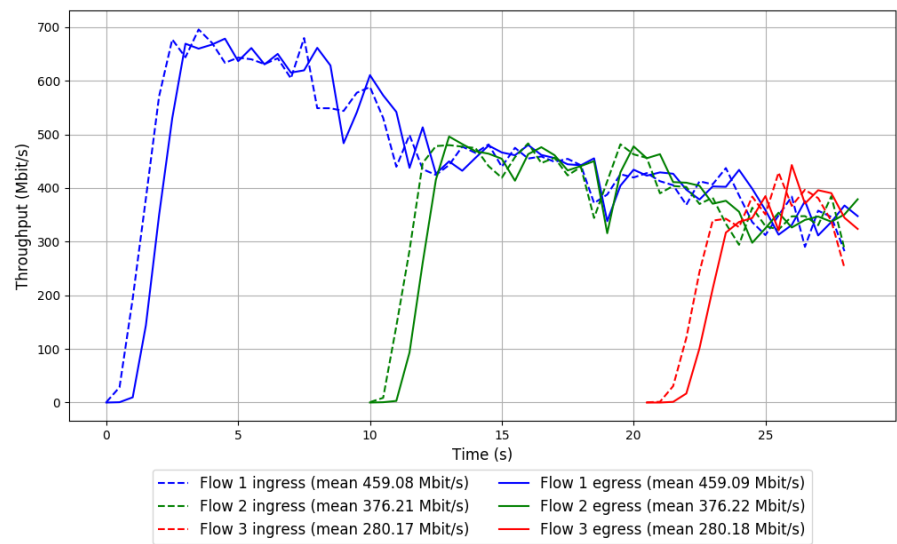
-- Flow 3:

Average throughput: 280.18 Mbit/s

95th percentile per-packet one-way delay: 112.925 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link

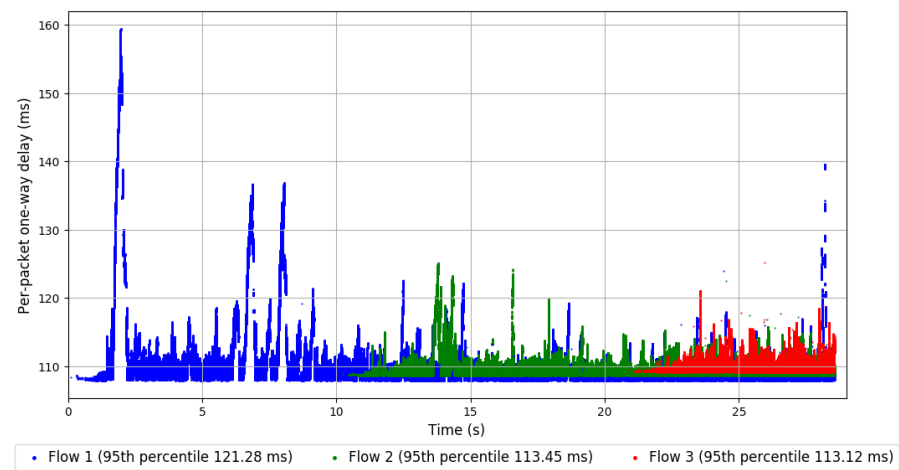
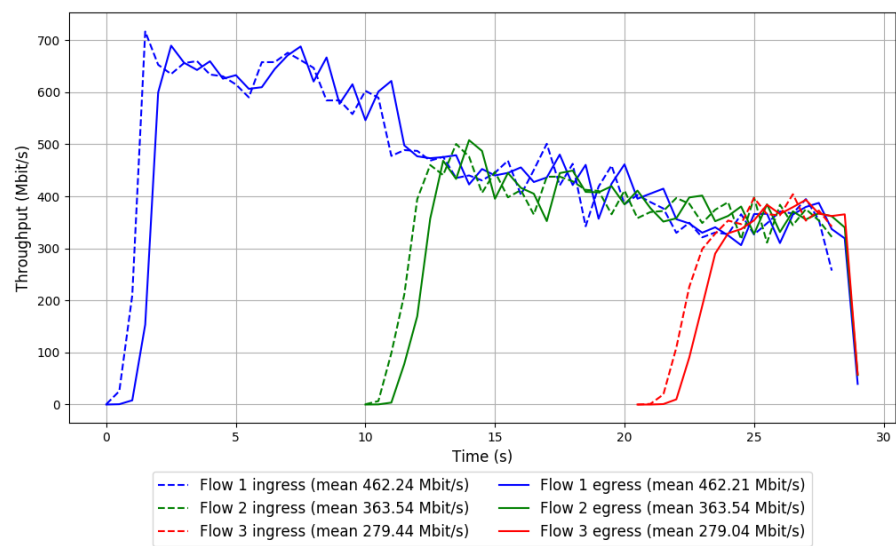


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-21 09:40:29  
End at: 2019-01-21 09:40:59  
Local clock offset: 0.082 ms  
Remote clock offset: -0.243 ms

# Below is generated by plot.py at 2019-01-21 13:44:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 771.28 Mbit/s  
95th percentile per-packet one-way delay: 116.757 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 462.21 Mbit/s  
95th percentile per-packet one-way delay: 121.282 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 363.54 Mbit/s  
95th percentile per-packet one-way delay: 113.453 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 279.04 Mbit/s  
95th percentile per-packet one-way delay: 113.121 ms  
Loss rate: 0.14%

Run 2: Report of Indigo-MusesC3 — Data Link





Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-21 10:19:15

End at: 2019-01-21 10:19:45

Local clock offset: -0.431 ms

Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2019-01-21 13:48:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 793.12 Mbit/s

95th percentile per-packet one-way delay: 114.557 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 469.78 Mbit/s

95th percentile per-packet one-way delay: 115.491 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 373.63 Mbit/s

95th percentile per-packet one-way delay: 113.134 ms

Loss rate: 0.01%

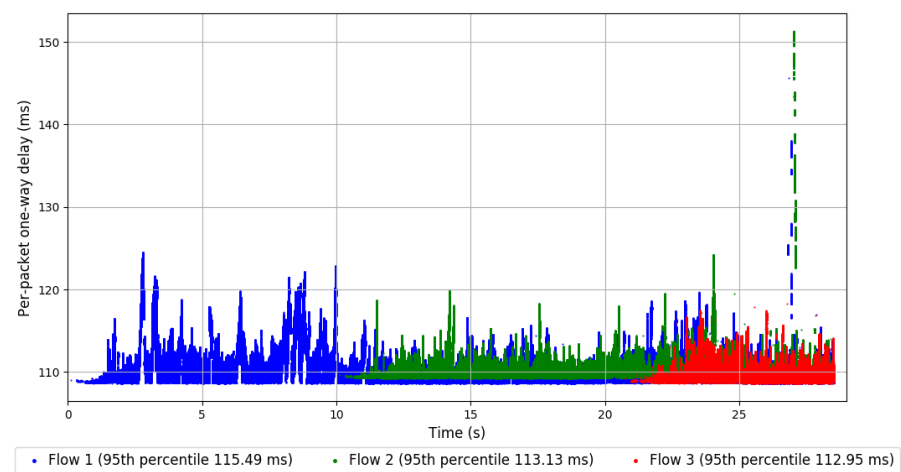
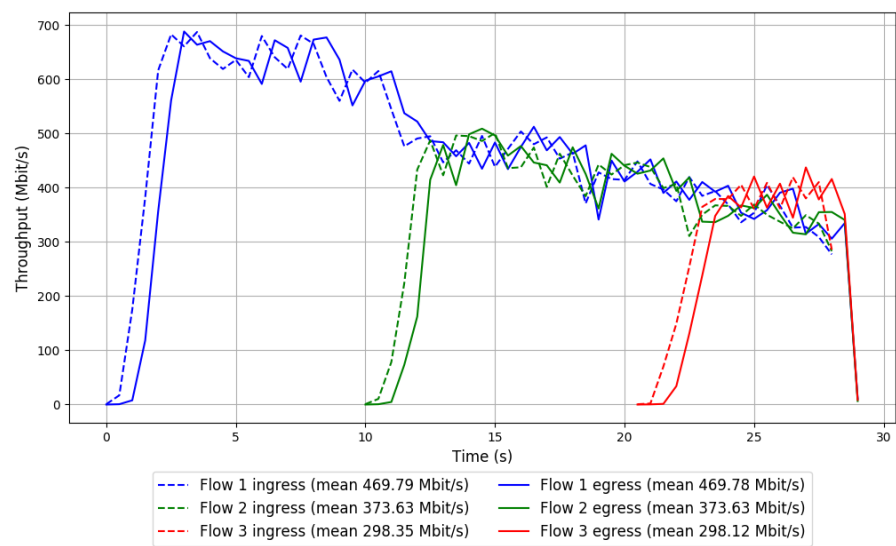
-- Flow 3:

Average throughput: 298.12 Mbit/s

95th percentile per-packet one-way delay: 112.947 ms

Loss rate: 0.09%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-21 10:58:24

End at: 2019-01-21 10:58:54

Local clock offset: -0.771 ms

Remote clock offset: 0.071 ms

# Below is generated by plot.py at 2019-01-21 13:48:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 736.39 Mbit/s

95th percentile per-packet one-way delay: 115.529 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 430.58 Mbit/s

95th percentile per-packet one-way delay: 116.053 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 361.58 Mbit/s

95th percentile per-packet one-way delay: 114.396 ms

Loss rate: 0.00%

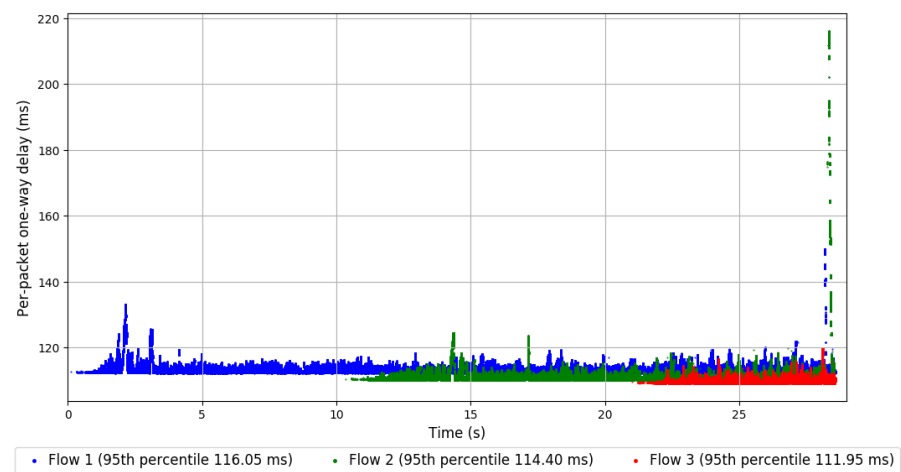
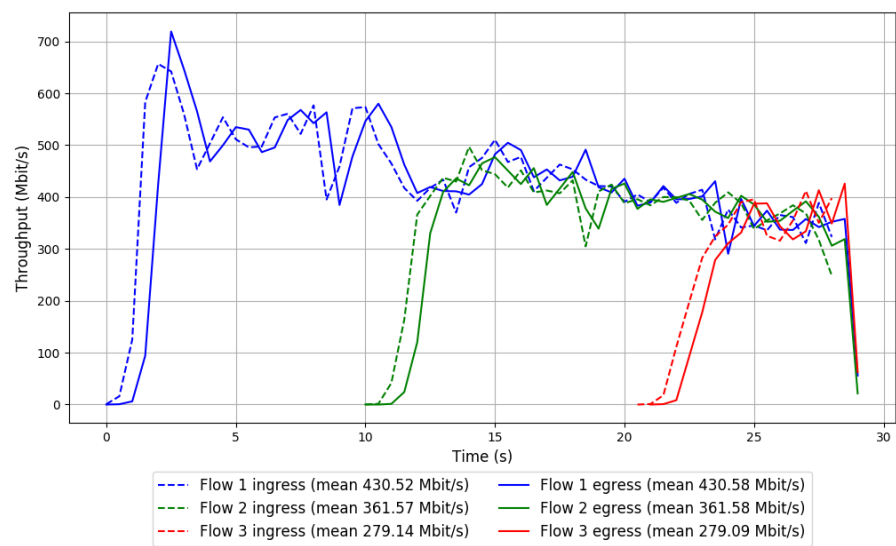
-- Flow 3:

Average throughput: 279.09 Mbit/s

95th percentile per-packet one-way delay: 111.946 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link

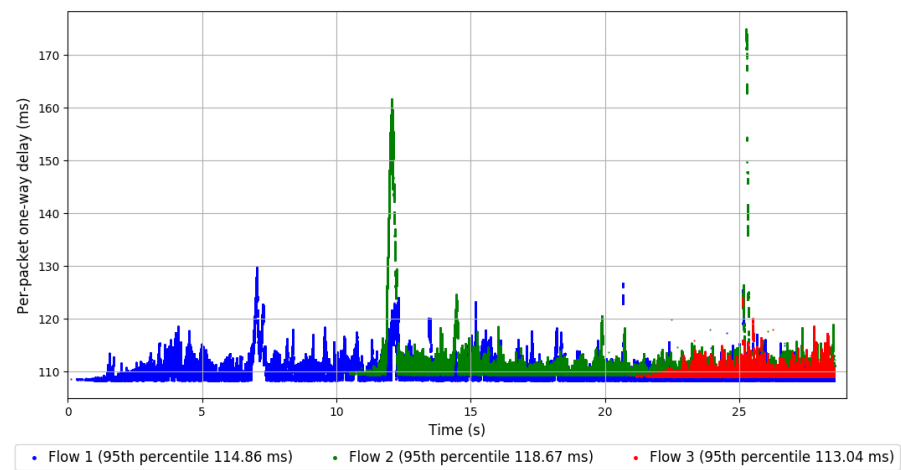
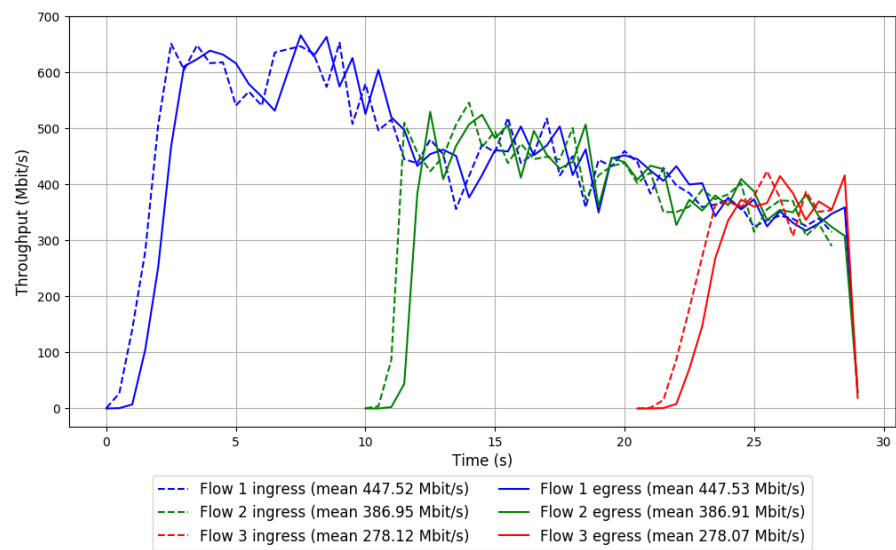


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-21 11:35:57  
End at: 2019-01-21 11:36:27  
Local clock offset: -0.117 ms  
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2019-01-21 13:53:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 770.28 Mbit/s  
95th percentile per-packet one-way delay: 115.246 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 447.53 Mbit/s  
95th percentile per-packet one-way delay: 114.860 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 386.91 Mbit/s  
95th percentile per-packet one-way delay: 118.670 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 278.07 Mbit/s  
95th percentile per-packet one-way delay: 113.041 ms  
Loss rate: 0.01%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-21 09:12:07

End at: 2019-01-21 09:12:37

Local clock offset: -0.804 ms

Remote clock offset: 0.098 ms

# Below is generated by plot.py at 2019-01-21 13:56:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 766.86 Mbit/s

95th percentile per-packet one-way delay: 139.968 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 441.52 Mbit/s

95th percentile per-packet one-way delay: 141.646 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 381.14 Mbit/s

95th percentile per-packet one-way delay: 137.848 ms

Loss rate: 0.00%

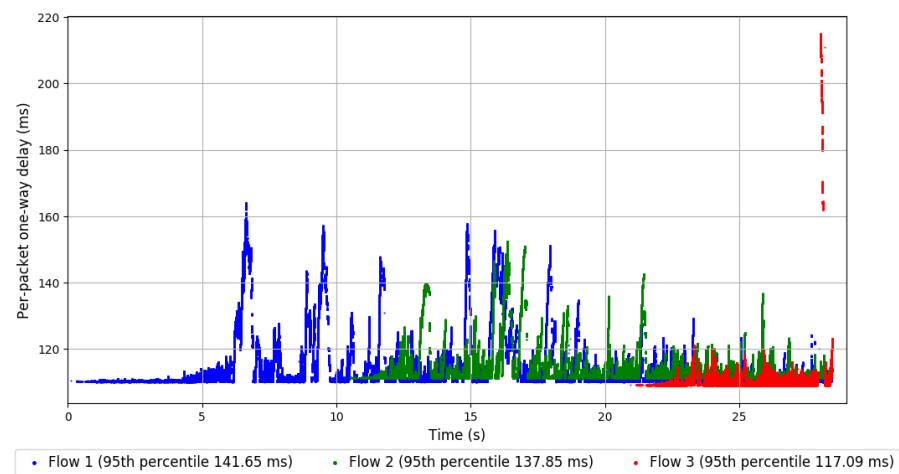
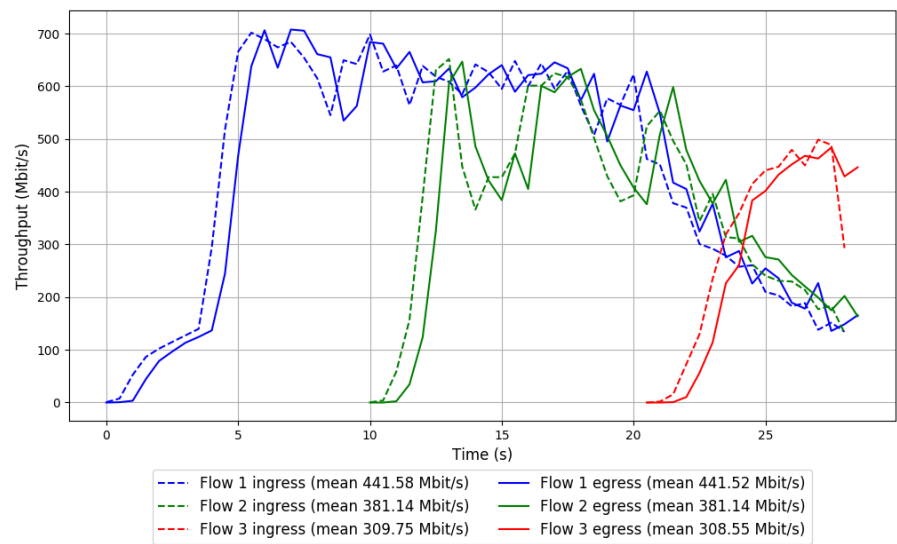
-- Flow 3:

Average throughput: 308.55 Mbit/s

95th percentile per-packet one-way delay: 117.094 ms

Loss rate: 0.37%

Run 1: Report of Indigo-MusesC5 — Data Link



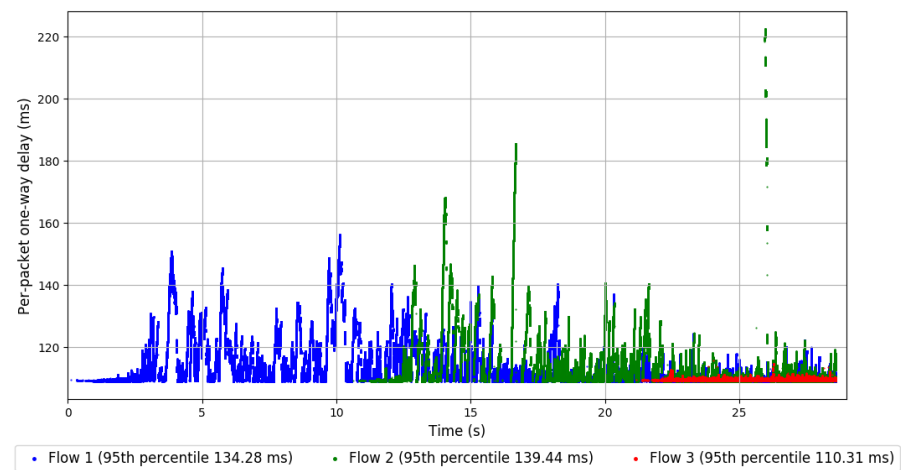
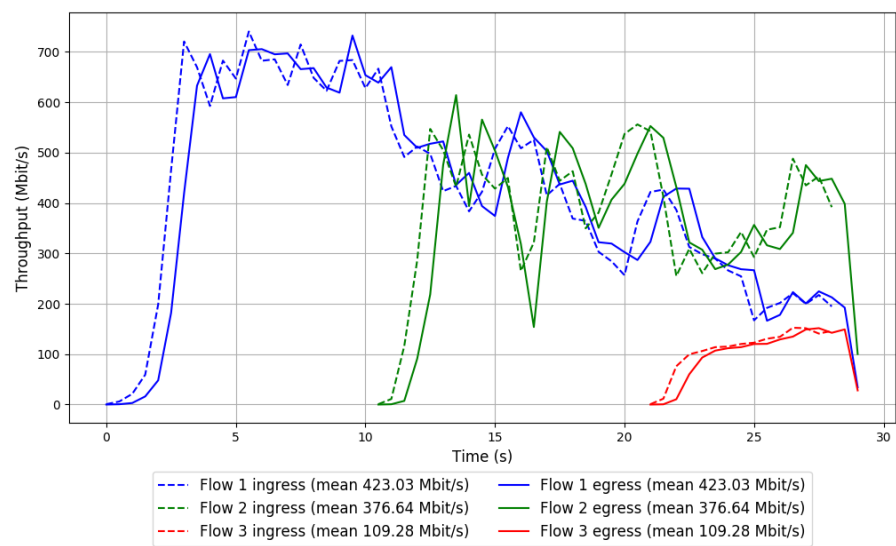


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-21 09:49:58  
End at: 2019-01-21 09:50:28  
Local clock offset: -0.821 ms  
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-01-21 13:56:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 689.05 Mbit/s  
95th percentile per-packet one-way delay: 135.771 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 423.03 Mbit/s  
95th percentile per-packet one-way delay: 134.284 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 376.64 Mbit/s  
95th percentile per-packet one-way delay: 139.441 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 109.28 Mbit/s  
95th percentile per-packet one-way delay: 110.312 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-21 10:29:32

End at: 2019-01-21 10:30:02

Local clock offset: -0.799 ms

Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2019-01-21 13:56:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 652.42 Mbit/s

95th percentile per-packet one-way delay: 133.539 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 386.67 Mbit/s

95th percentile per-packet one-way delay: 129.841 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 373.28 Mbit/s

95th percentile per-packet one-way delay: 139.166 ms

Loss rate: 0.01%

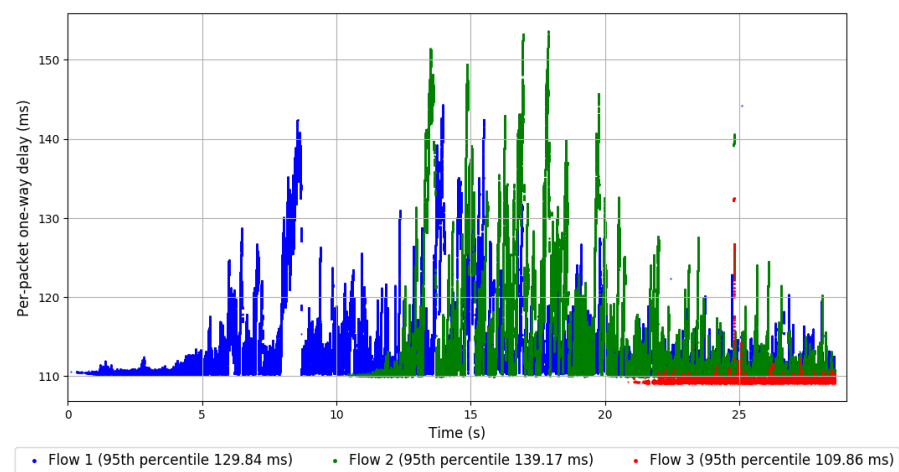
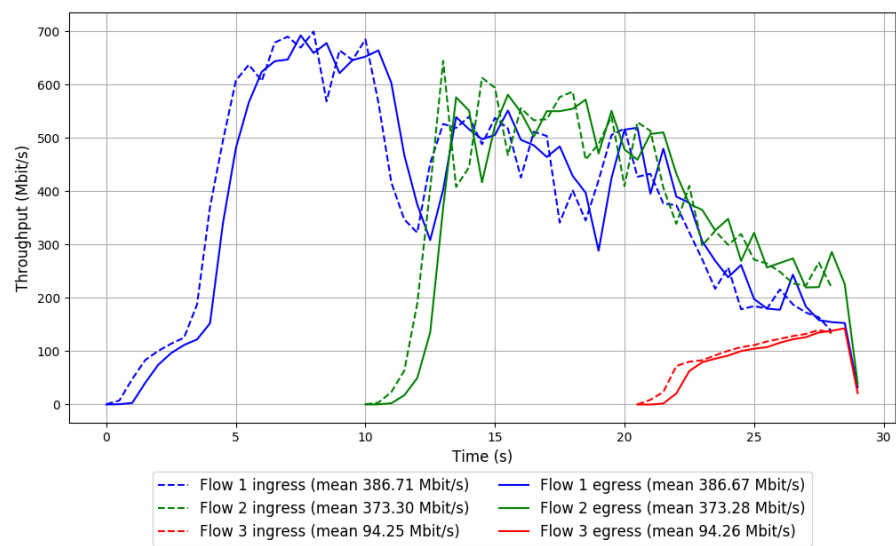
-- Flow 3:

Average throughput: 94.26 Mbit/s

95th percentile per-packet one-way delay: 109.858 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link

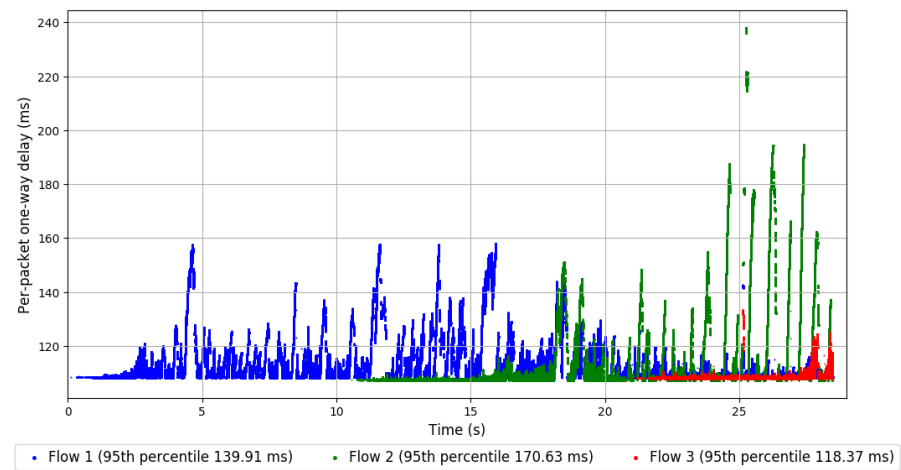
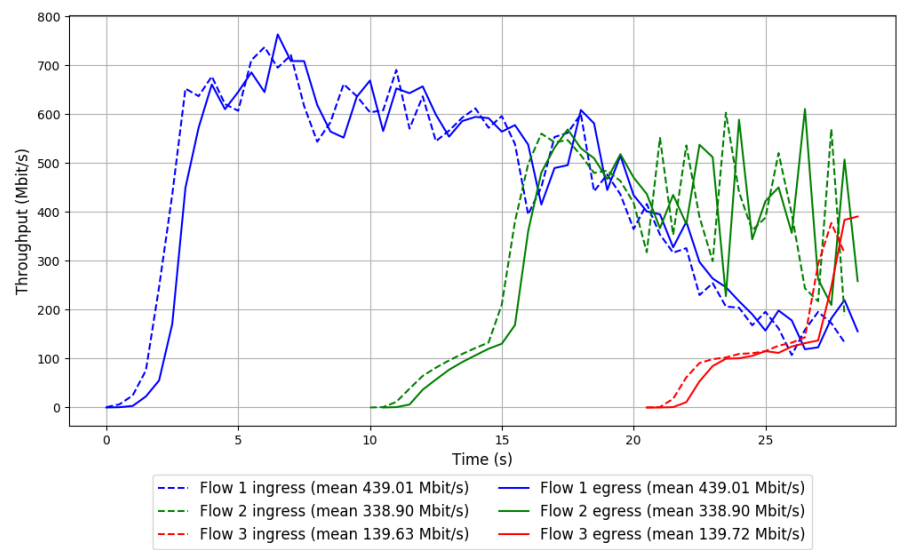


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-21 11:07:34  
End at: 2019-01-21 11:08:04  
Local clock offset: 1.031 ms  
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-01-21 14:00:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 689.93 Mbit/s  
95th percentile per-packet one-way delay: 146.666 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 439.01 Mbit/s  
95th percentile per-packet one-way delay: 139.907 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 338.90 Mbit/s  
95th percentile per-packet one-way delay: 170.632 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 139.72 Mbit/s  
95th percentile per-packet one-way delay: 118.369 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link

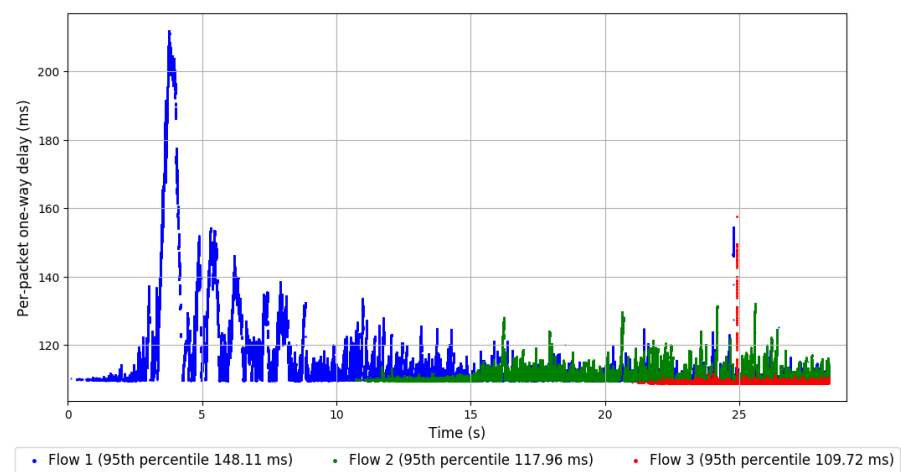
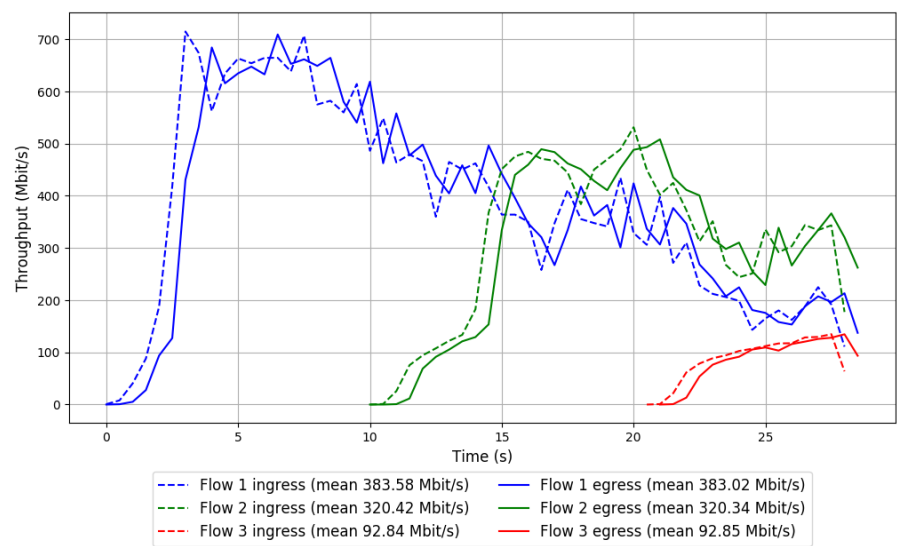


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-21 11:44:59  
End at: 2019-01-21 11:45:29  
Local clock offset: -0.661 ms  
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-01-21 14:00:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 609.64 Mbit/s  
95th percentile per-packet one-way delay: 138.158 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 383.02 Mbit/s  
95th percentile per-packet one-way delay: 148.111 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 320.34 Mbit/s  
95th percentile per-packet one-way delay: 117.956 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 92.85 Mbit/s  
95th percentile per-packet one-way delay: 109.725 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link



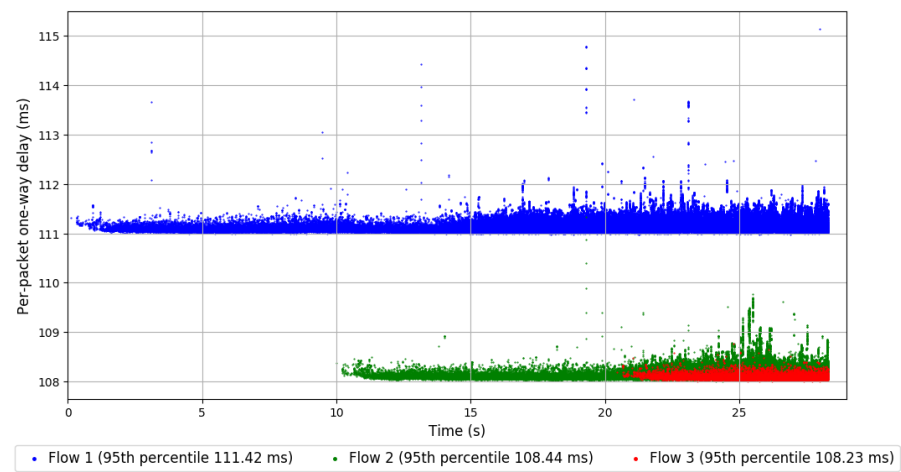
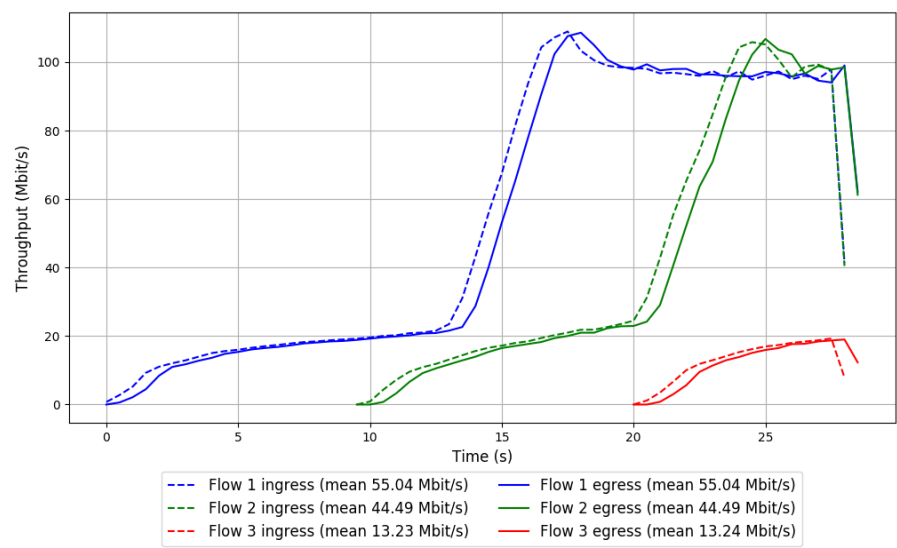


Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-21 09:06:34  
End at: 2019-01-21 09:07:04  
Local clock offset: -0.186 ms  
Remote clock offset: -0.228 ms

# Below is generated by plot.py at 2019-01-21 14:00:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.63 Mbit/s  
95th percentile per-packet one-way delay: 111.369 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 55.04 Mbit/s  
95th percentile per-packet one-way delay: 111.420 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 44.49 Mbit/s  
95th percentile per-packet one-way delay: 108.442 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 13.24 Mbit/s  
95th percentile per-packet one-way delay: 108.231 ms  
Loss rate: 0.00%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-21 09:44:15

End at: 2019-01-21 09:44:45

Local clock offset: -0.084 ms

Remote clock offset: 0.359 ms

# Below is generated by plot.py at 2019-01-21 14:00:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 111.361 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 56.38 Mbit/s

95th percentile per-packet one-way delay: 111.432 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 57.10 Mbit/s

95th percentile per-packet one-way delay: 109.278 ms

Loss rate: 0.00%

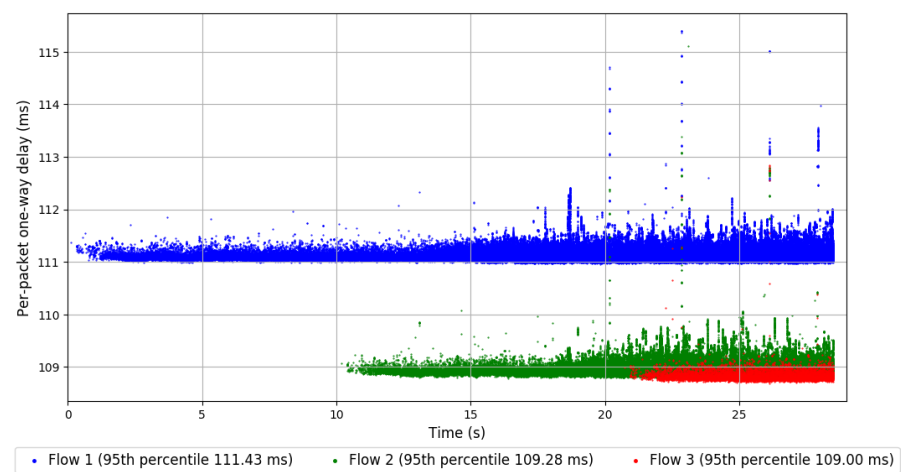
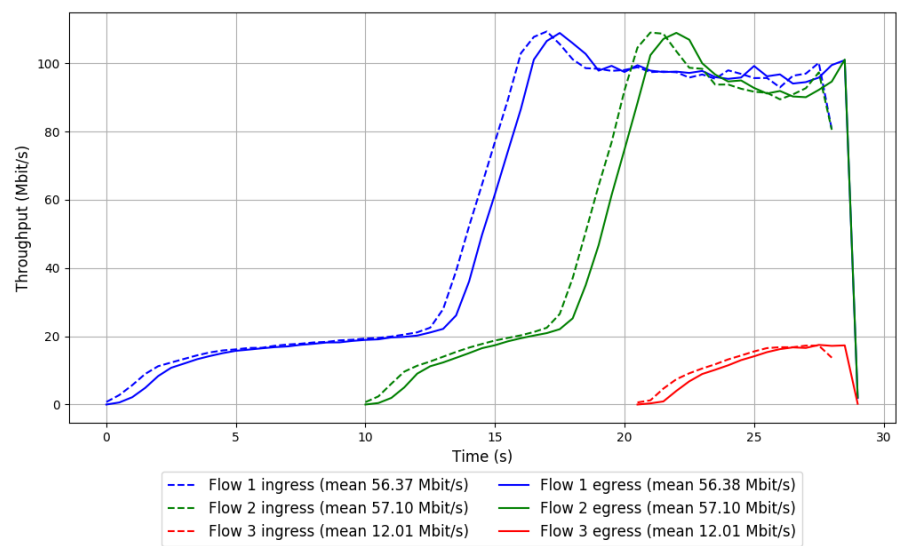
-- Flow 3:

Average throughput: 12.01 Mbit/s

95th percentile per-packet one-way delay: 108.995 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-21 10:23:19

End at: 2019-01-21 10:23:49

Local clock offset: -0.244 ms

Remote clock offset: 0.142 ms

# Below is generated by plot.py at 2019-01-21 14:00:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 79.72 Mbit/s

95th percentile per-packet one-way delay: 109.581 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 38.31 Mbit/s

95th percentile per-packet one-way delay: 108.946 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 58.53 Mbit/s

95th percentile per-packet one-way delay: 109.673 ms

Loss rate: 0.00%

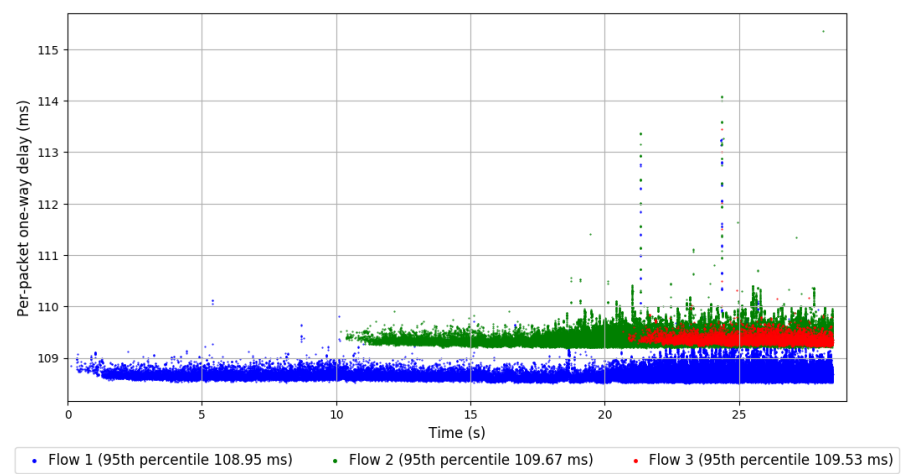
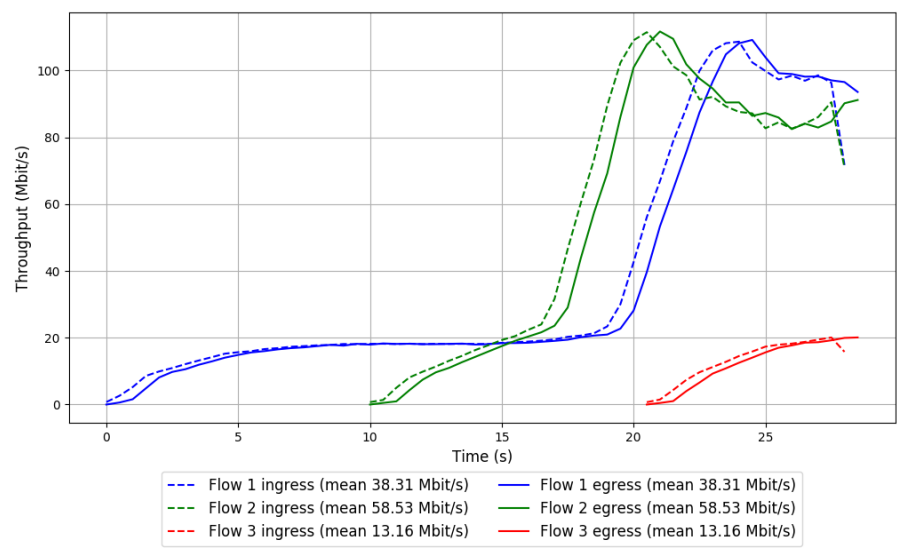
-- Flow 3:

Average throughput: 13.16 Mbit/s

95th percentile per-packet one-way delay: 109.528 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link

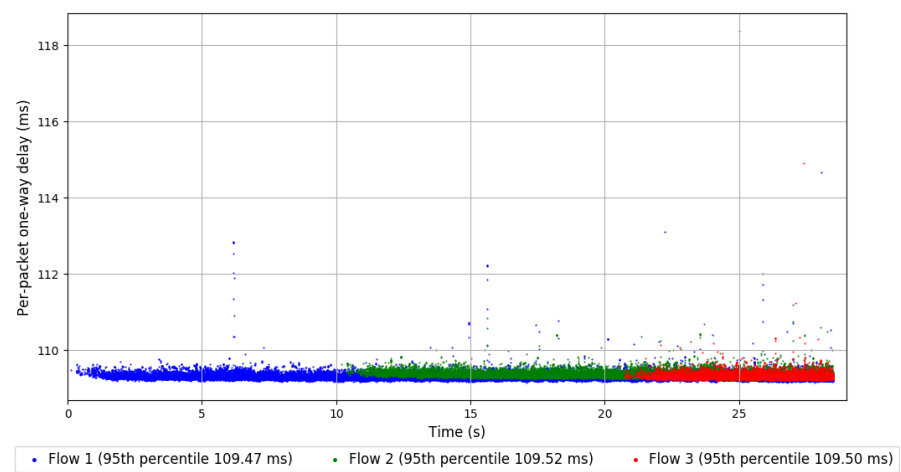
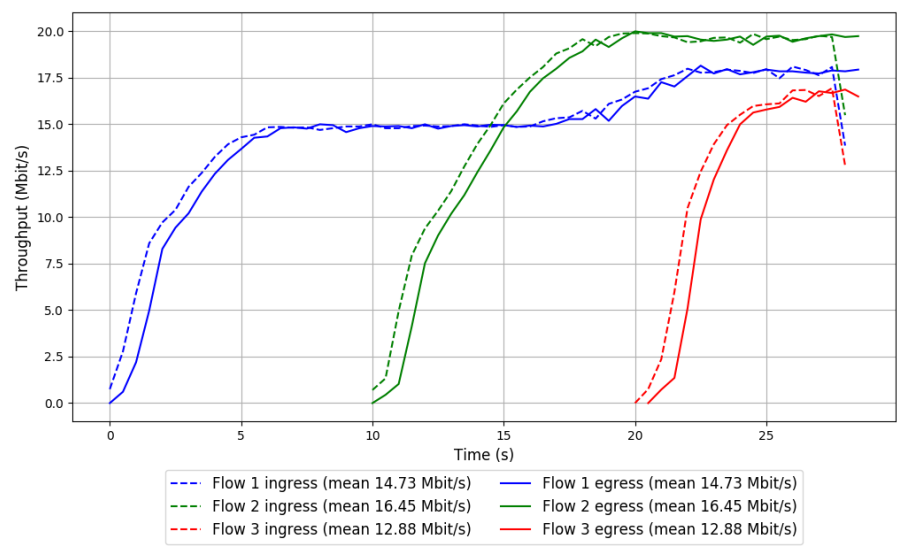


Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-21 11:02:02  
End at: 2019-01-21 11:02:32  
Local clock offset: 0.019 ms  
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-01-21 14:00:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 28.94 Mbit/s  
95th percentile per-packet one-way delay: 109.496 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 14.73 Mbit/s  
95th percentile per-packet one-way delay: 109.466 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 16.45 Mbit/s  
95th percentile per-packet one-way delay: 109.524 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 12.88 Mbit/s  
95th percentile per-packet one-way delay: 109.499 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesD — Data Link



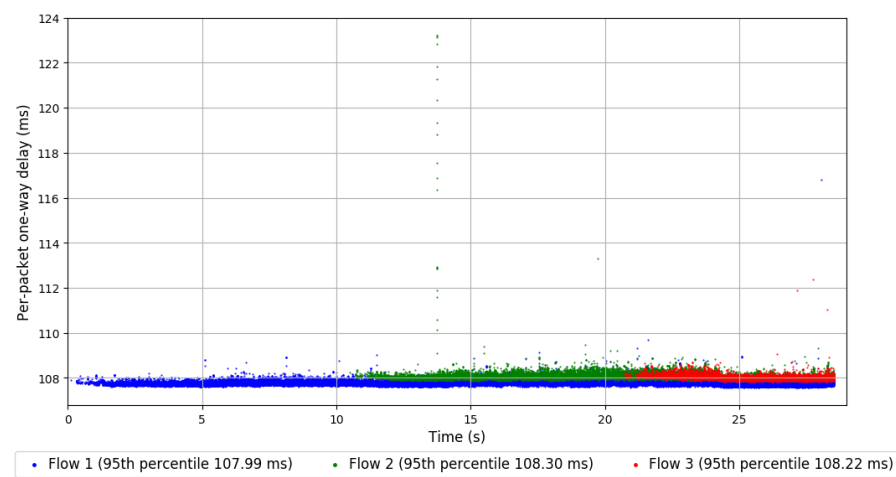
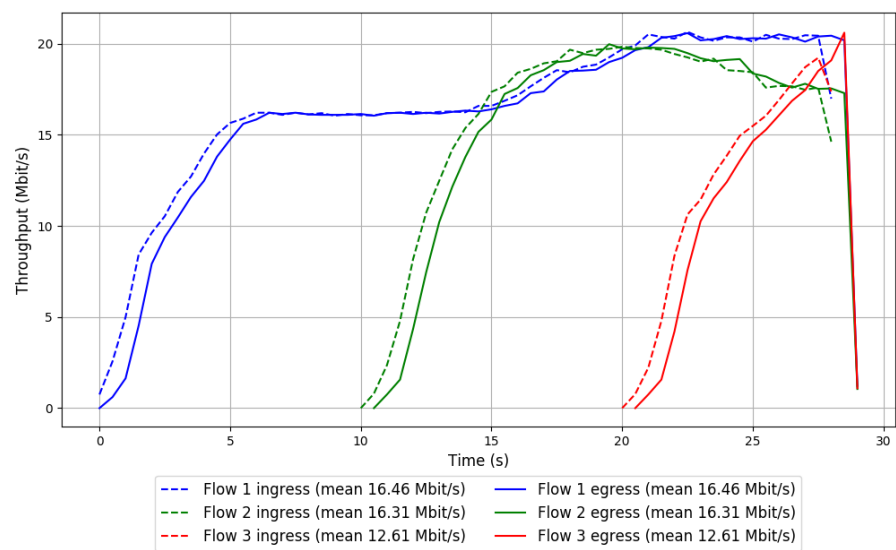


Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-21 11:39:29  
End at: 2019-01-21 11:39:59  
Local clock offset: 1.258 ms  
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-01-21 14:00:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 30.34 Mbit/s  
95th percentile per-packet one-way delay: 108.206 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 16.46 Mbit/s  
95th percentile per-packet one-way delay: 107.989 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 16.31 Mbit/s  
95th percentile per-packet one-way delay: 108.296 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 108.216 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

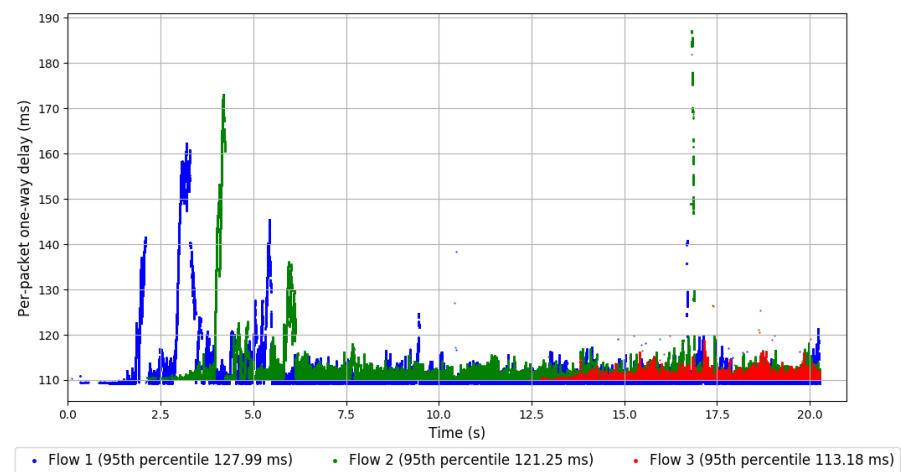
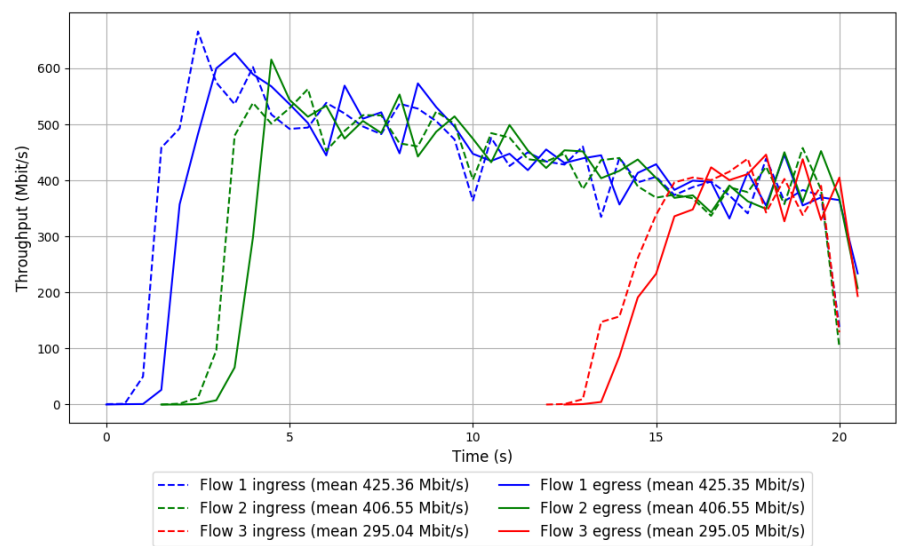
Start at: 2019-01-21 08:55:05

End at: 2019-01-21 08:55:35

Local clock offset: -0.997 ms

Remote clock offset: 0.169 ms

Run 1: Report of Indigo-MusesT — Data Link

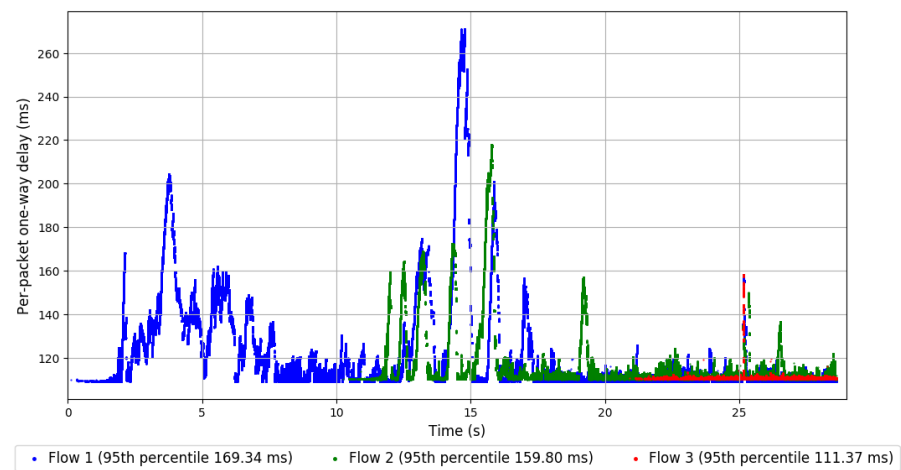
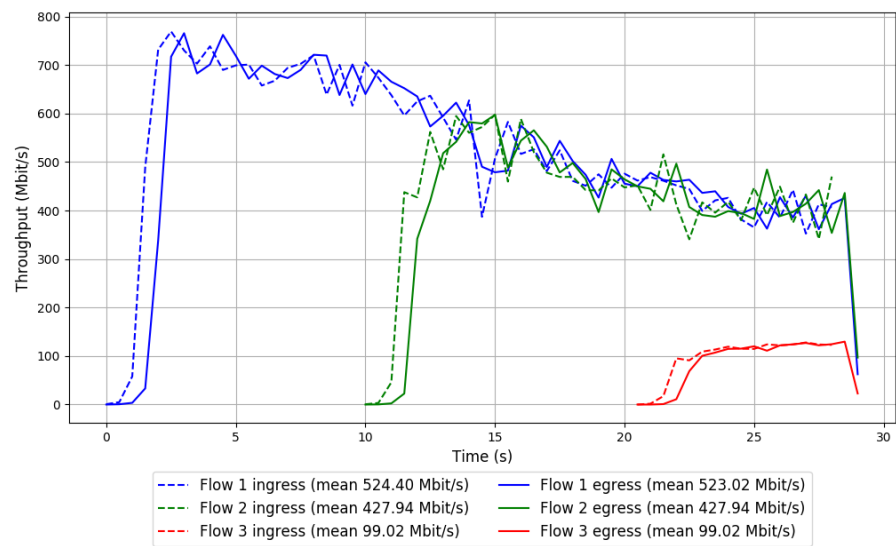


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-21 09:32:22  
End at: 2019-01-21 09:32:52  
Local clock offset: -1.302 ms  
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2019-01-21 14:11:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 825.30 Mbit/s  
95th percentile per-packet one-way delay: 164.643 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 523.02 Mbit/s  
95th percentile per-packet one-way delay: 169.337 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 427.94 Mbit/s  
95th percentile per-packet one-way delay: 159.798 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 99.02 Mbit/s  
95th percentile per-packet one-way delay: 111.366 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-21 10:10:56

End at: 2019-01-21 10:11:26

Local clock offset: -0.026 ms

Remote clock offset: 0.079 ms

# Below is generated by plot.py at 2019-01-21 14:13:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 858.75 Mbit/s

95th percentile per-packet one-way delay: 146.023 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 509.07 Mbit/s

95th percentile per-packet one-way delay: 149.928 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 411.52 Mbit/s

95th percentile per-packet one-way delay: 138.845 ms

Loss rate: 0.03%

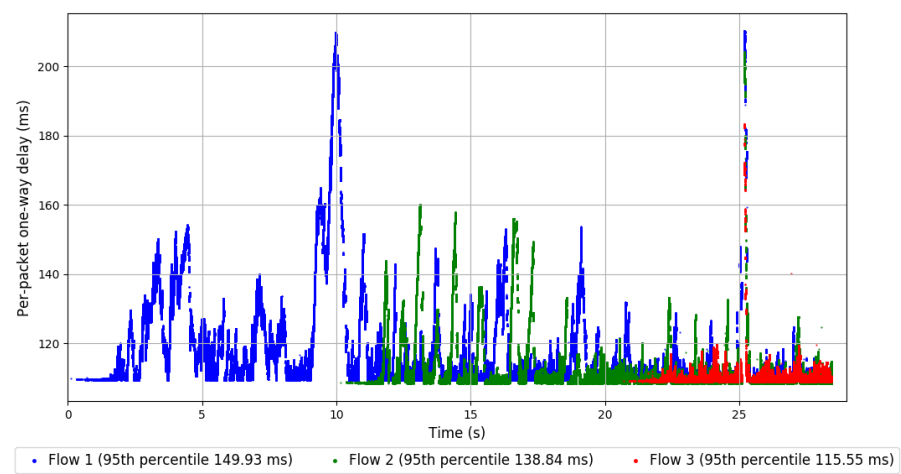
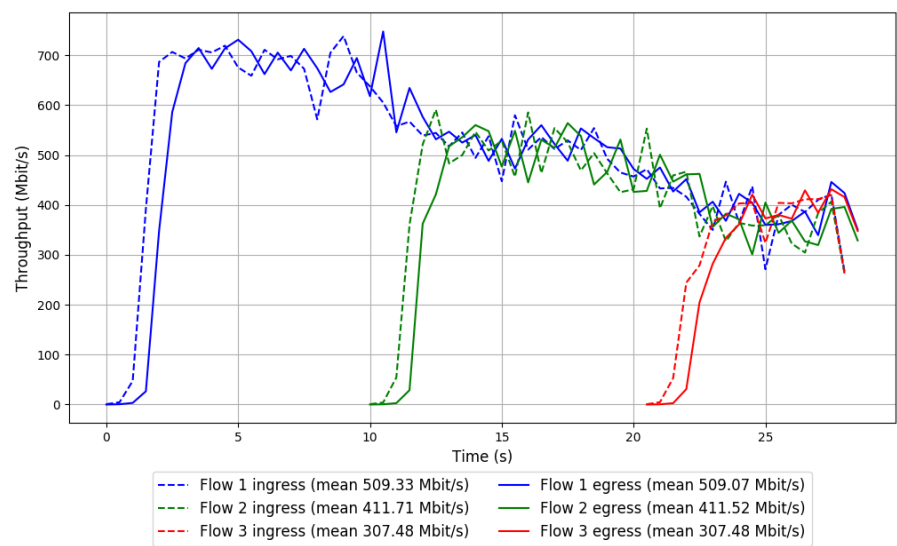
-- Flow 3:

Average throughput: 307.48 Mbit/s

95th percentile per-packet one-way delay: 115.551 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesT — Data Link



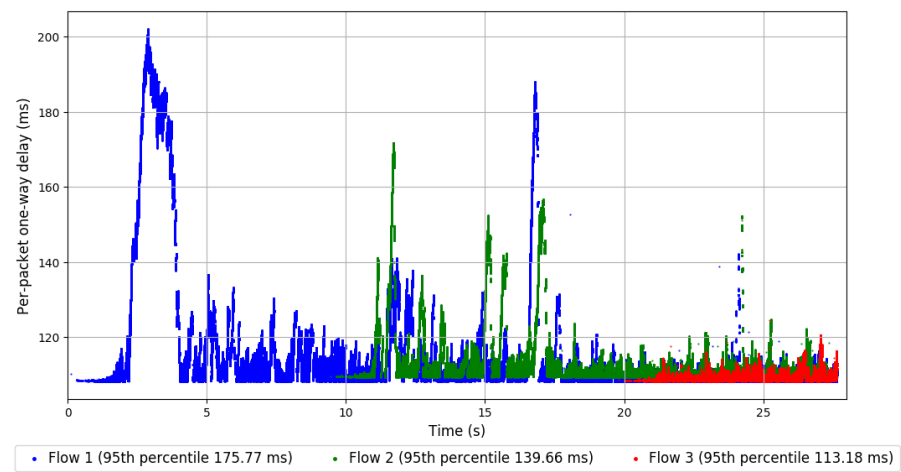
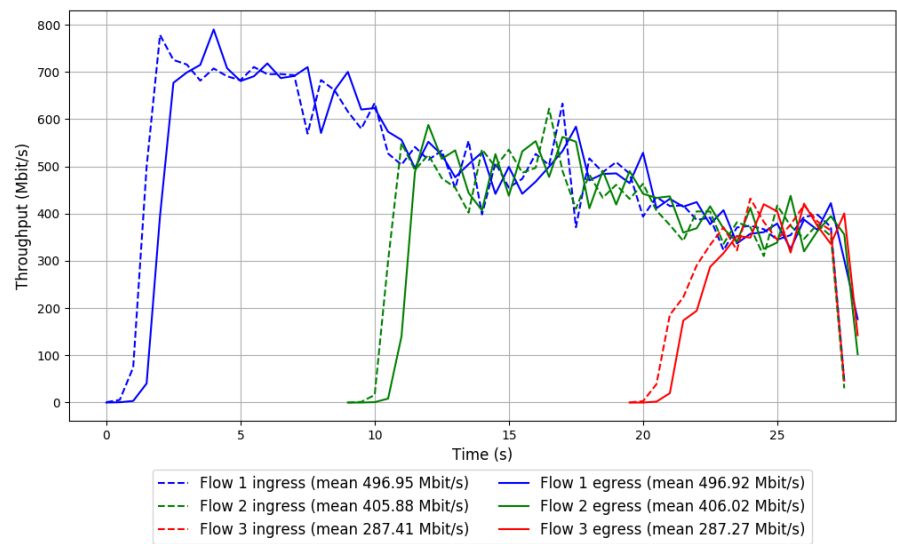


Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-21 10:49:59  
End at: 2019-01-21 10:50:29  
Local clock offset: -0.104 ms  
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-01-21 14:14:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 847.35 Mbit/s  
95th percentile per-packet one-way delay: 153.411 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 496.92 Mbit/s  
95th percentile per-packet one-way delay: 175.770 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 406.02 Mbit/s  
95th percentile per-packet one-way delay: 139.658 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 287.27 Mbit/s  
95th percentile per-packet one-way delay: 113.180 ms  
Loss rate: 0.06%

Run 4: Report of Indigo-MusesT — Data Link

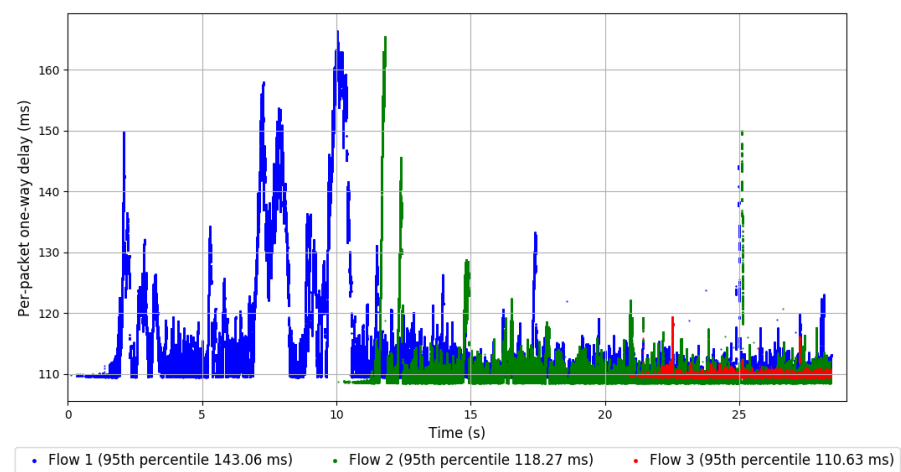
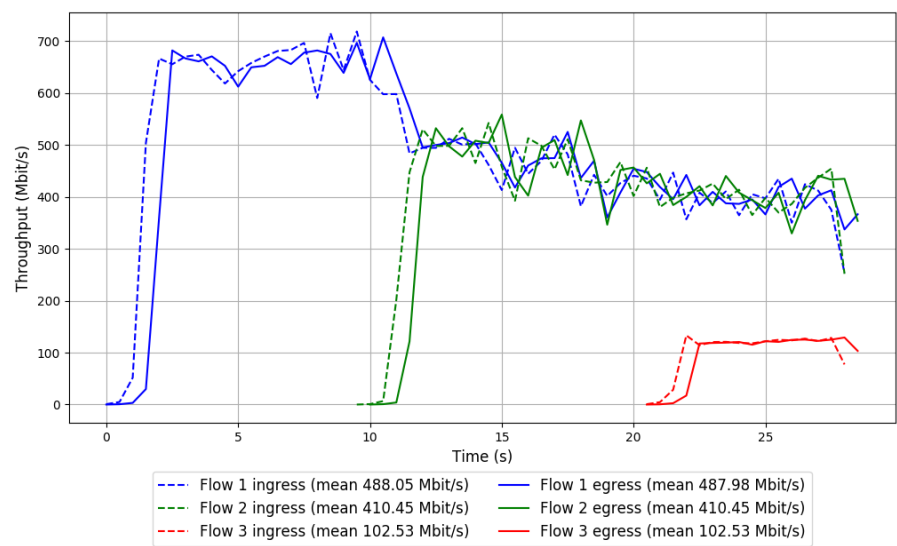


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-21 11:27:44  
End at: 2019-01-21 11:28:14  
Local clock offset: -0.275 ms  
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-01-21 14:14:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 782.21 Mbit/s  
95th percentile per-packet one-way delay: 136.468 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 487.98 Mbit/s  
95th percentile per-packet one-way delay: 143.060 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 410.45 Mbit/s  
95th percentile per-packet one-way delay: 118.271 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 102.53 Mbit/s  
95th percentile per-packet one-way delay: 110.628 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-MusesT — Data Link

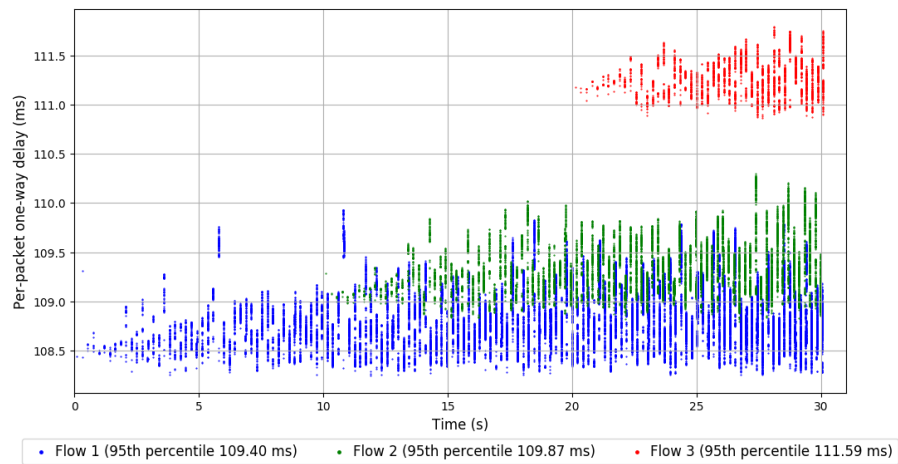
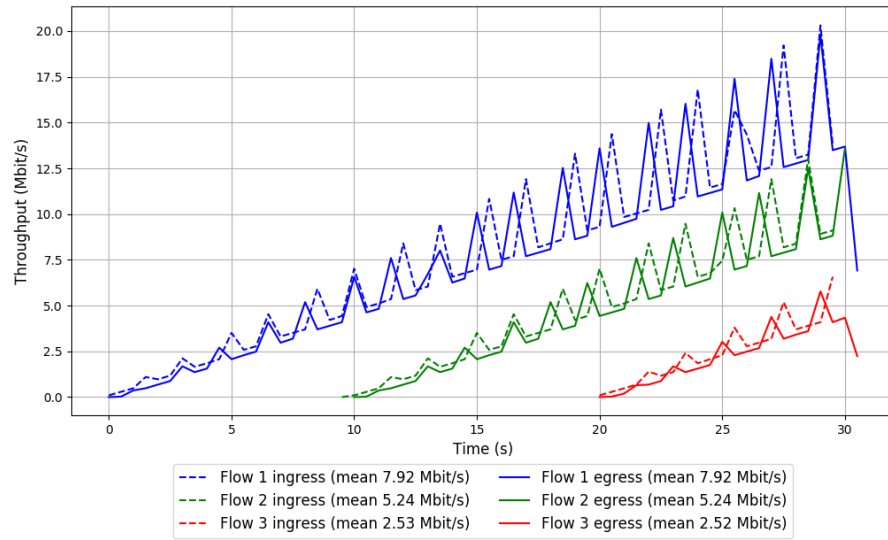


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-21 09:14:05
End at: 2019-01-21 09:14:35
Local clock offset: 0.082 ms
Remote clock offset: 0.155 ms

# Below is generated by plot.py at 2019-01-21 14:14:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 111.137 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 109.398 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 109.871 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 111.588 ms
Loss rate: 0.00%
```

## Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-21 09:51:53

End at: 2019-01-21 09:52:23

Local clock offset: -0.353 ms

Remote clock offset: 0.172 ms

# Below is generated by plot.py at 2019-01-21 14:14:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.20 Mbit/s

95th percentile per-packet one-way delay: 110.459 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 7.93 Mbit/s

95th percentile per-packet one-way delay: 110.064 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 5.21 Mbit/s

95th percentile per-packet one-way delay: 110.578 ms

Loss rate: 0.00%

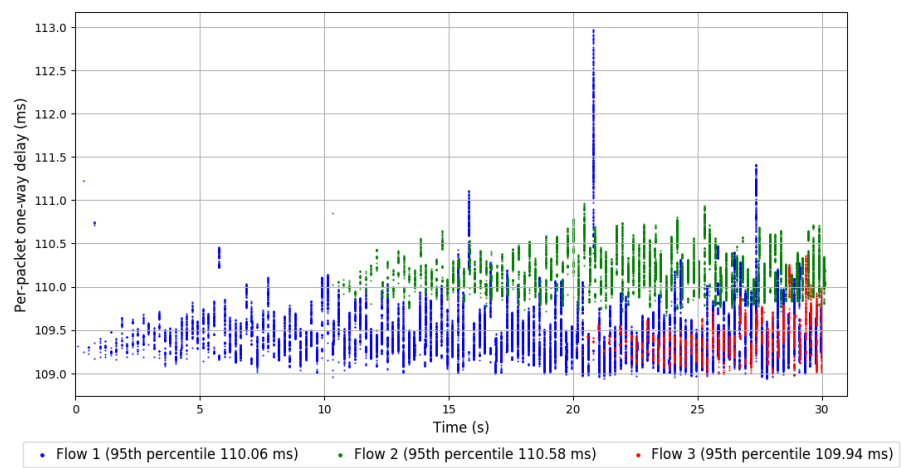
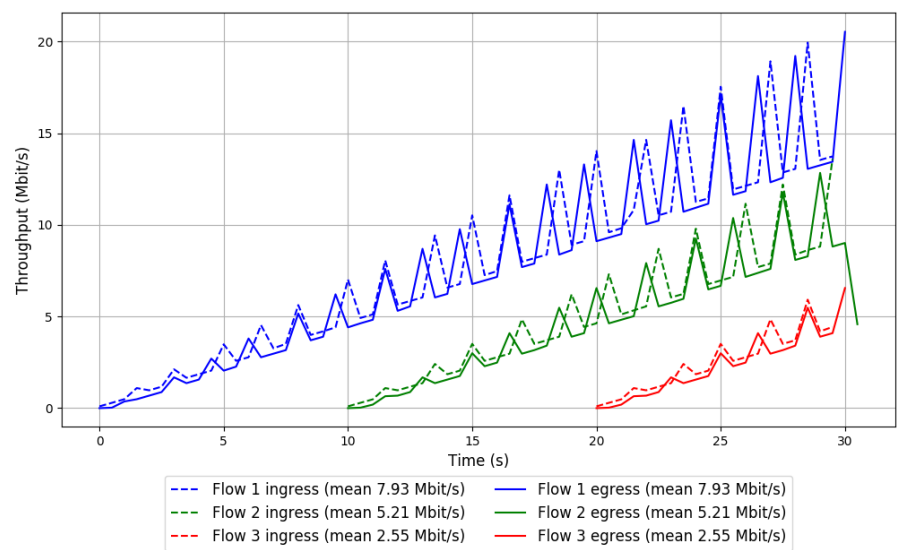
-- Flow 3:

Average throughput: 2.55 Mbit/s

95th percentile per-packet one-way delay: 109.942 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link





Run 3: Statistics of LEDBAT

Start at: 2019-01-21 10:31:27

End at: 2019-01-21 10:31:57

Local clock offset: -0.016 ms

Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2019-01-21 14:14:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.19 Mbit/s

95th percentile per-packet one-way delay: 110.126 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 7.90 Mbit/s

95th percentile per-packet one-way delay: 109.407 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 5.18 Mbit/s

95th percentile per-packet one-way delay: 110.503 ms

Loss rate: 0.19%

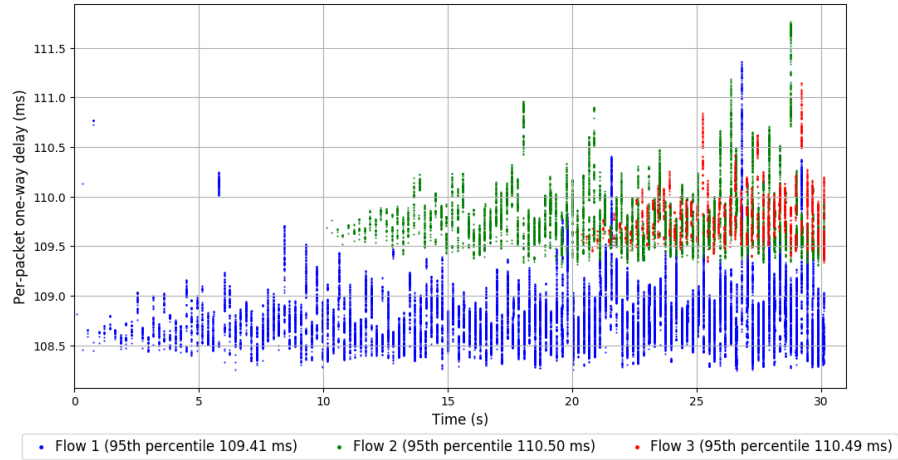
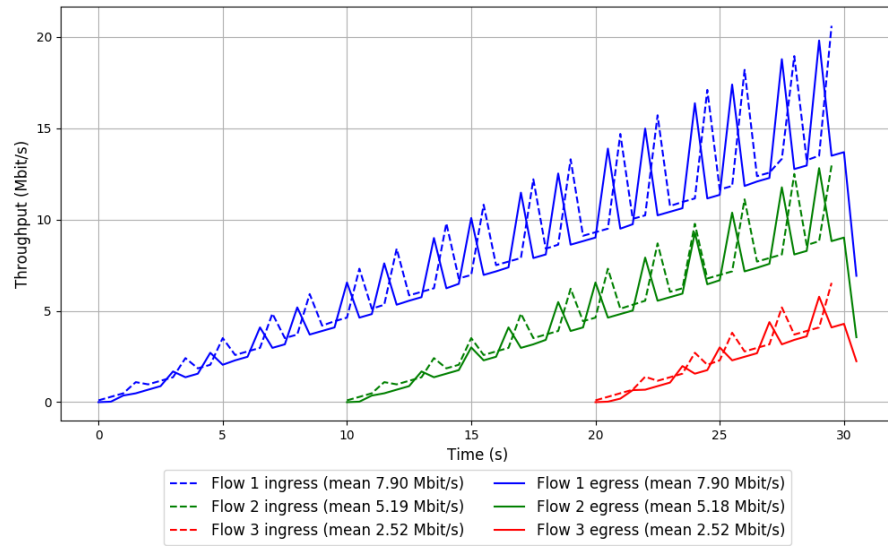
-- Flow 3:

Average throughput: 2.52 Mbit/s

95th percentile per-packet one-way delay: 110.487 ms

Loss rate: 0.00%

### Run 3: Report of LEDBAT — Data Link

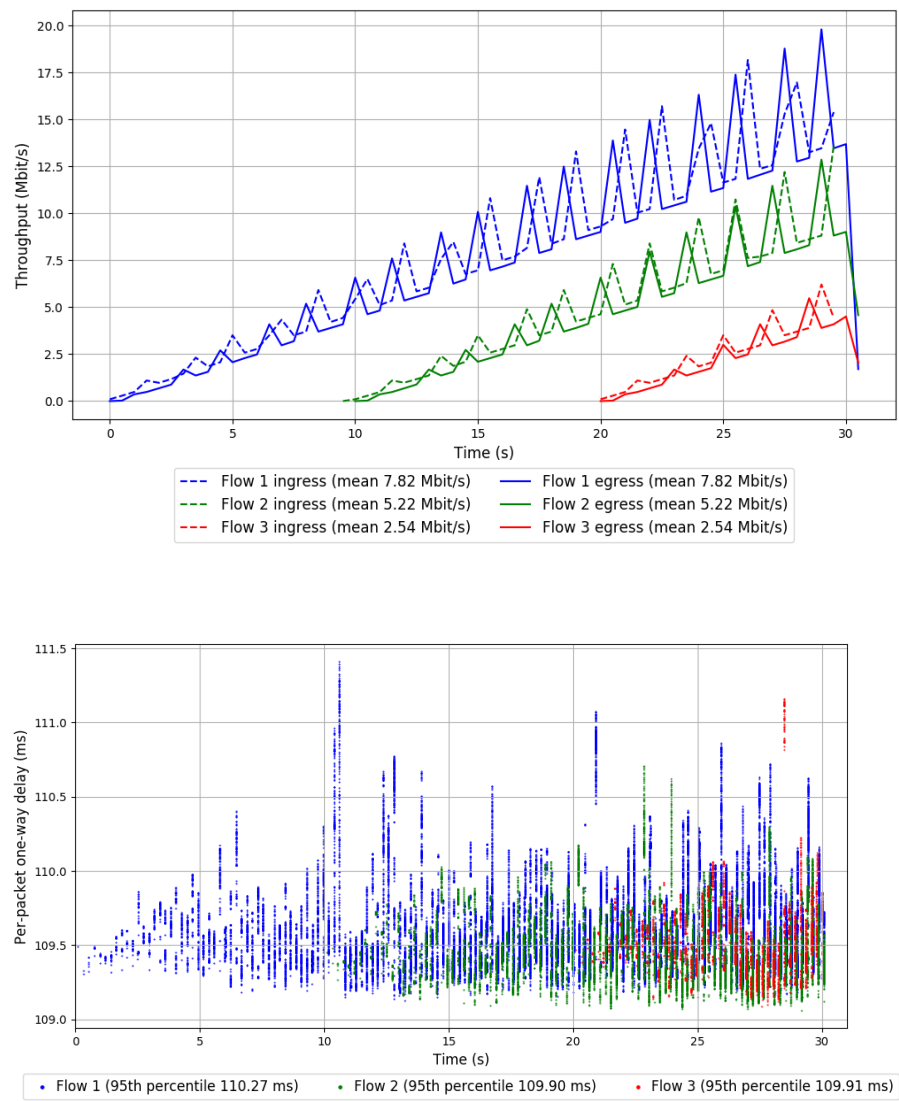


Run 4: Statistics of LEDBAT

Start at: 2019-01-21 11:09:29  
End at: 2019-01-21 11:09:59  
Local clock offset: -0.28 ms  
Remote clock offset: -0.462 ms

# Below is generated by plot.py at 2019-01-21 14:14:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.13 Mbit/s  
95th percentile per-packet one-way delay: 110.143 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 7.82 Mbit/s  
95th percentile per-packet one-way delay: 110.266 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 5.22 Mbit/s  
95th percentile per-packet one-way delay: 109.897 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 2.54 Mbit/s  
95th percentile per-packet one-way delay: 109.910 ms  
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

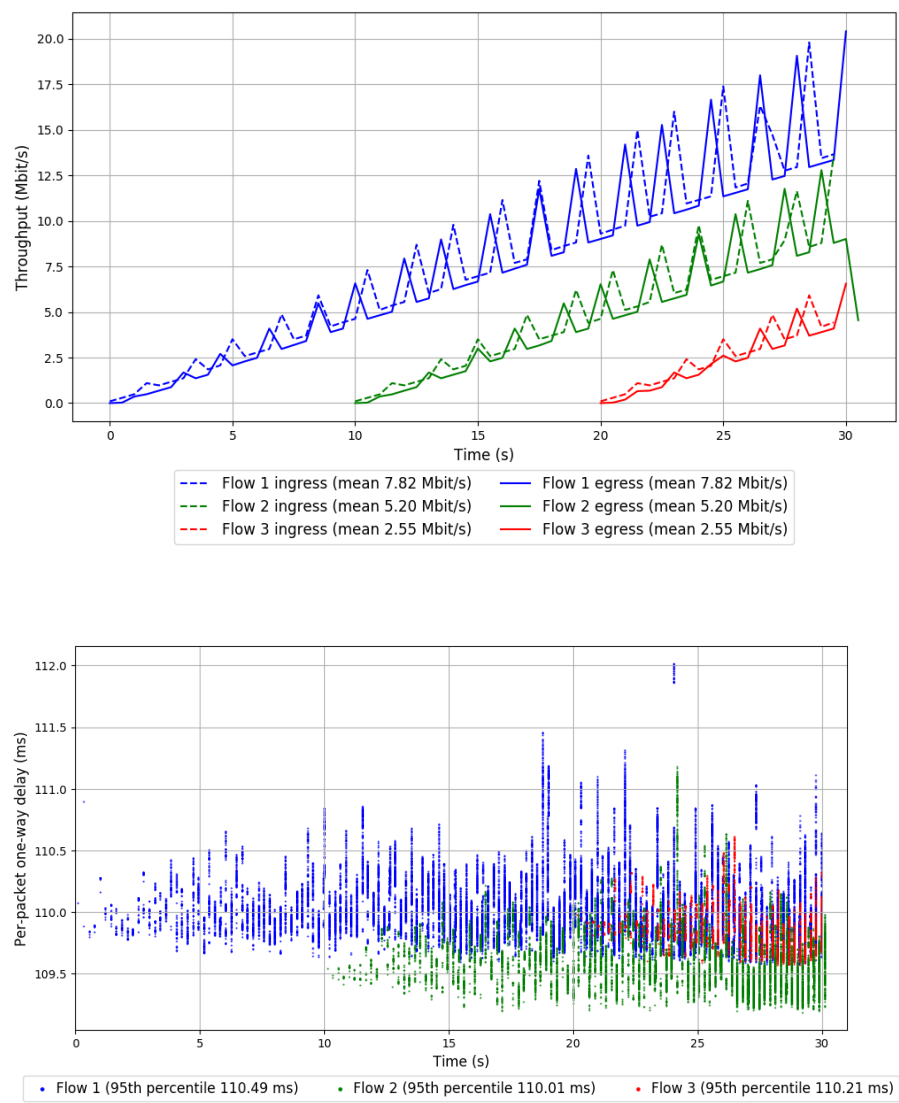


Run 5: Statistics of LEDBAT

Start at: 2019-01-21 11:46:50  
End at: 2019-01-21 11:47:20  
Local clock offset: -0.279 ms  
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2019-01-21 14:14:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.09 Mbit/s  
95th percentile per-packet one-way delay: 110.414 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 7.82 Mbit/s  
95th percentile per-packet one-way delay: 110.491 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 5.20 Mbit/s  
95th percentile per-packet one-way delay: 110.008 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 2.55 Mbit/s  
95th percentile per-packet one-way delay: 110.206 ms  
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

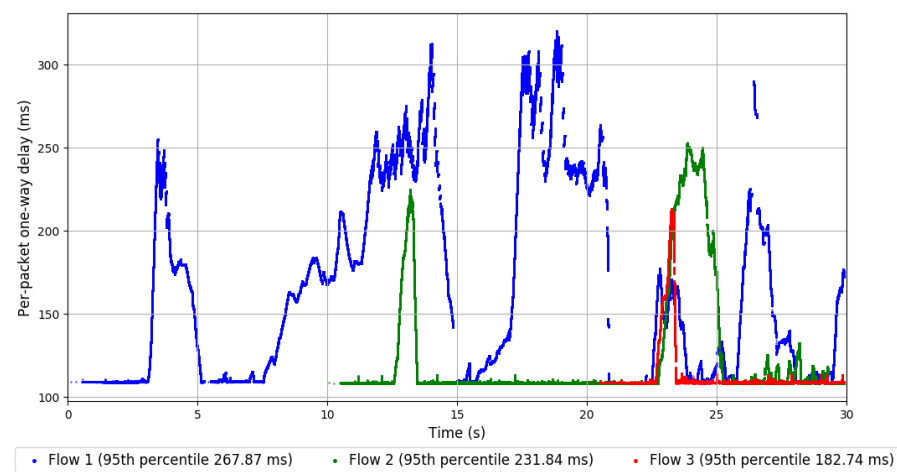
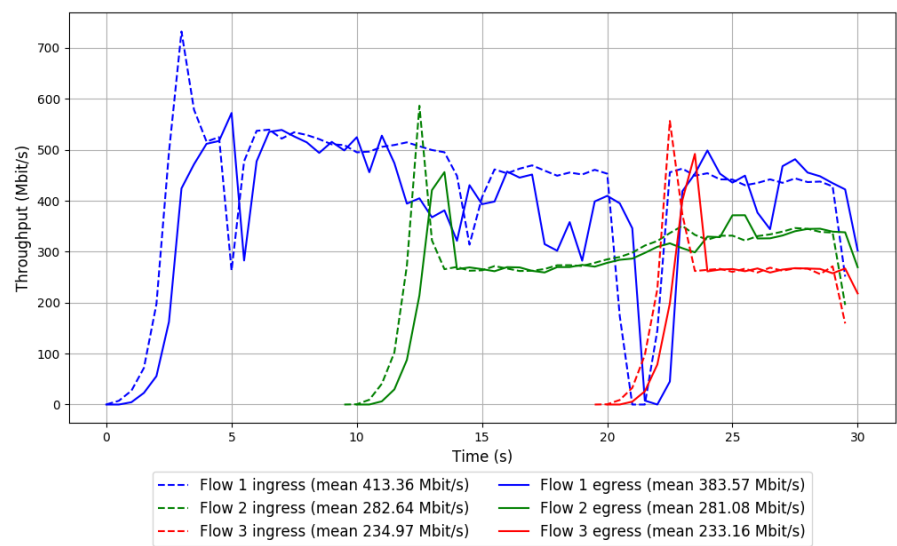


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-21 09:22:30
End at: 2019-01-21 09:23:00
Local clock offset: 0.055 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-01-21 14:28:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 647.94 Mbit/s
95th percentile per-packet one-way delay: 250.599 ms
Loss rate: 4.62%
-- Flow 1:
Average throughput: 383.57 Mbit/s
95th percentile per-packet one-way delay: 267.865 ms
Loss rate: 7.20%
-- Flow 2:
Average throughput: 281.08 Mbit/s
95th percentile per-packet one-way delay: 231.845 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 233.16 Mbit/s
95th percentile per-packet one-way delay: 182.742 ms
Loss rate: 0.77%
```

Run 1: Report of PCC-Allegro — Data Link





Run 2: Statistics of PCC-Allegro

Start at: 2019-01-21 10:00:35

End at: 2019-01-21 10:01:05

Local clock offset: -0.411 ms

Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2019-01-21 14:28:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 649.14 Mbit/s

95th percentile per-packet one-way delay: 222.597 ms

Loss rate: 1.66%

-- Flow 1:

Average throughput: 381.50 Mbit/s

95th percentile per-packet one-way delay: 246.485 ms

Loss rate: 1.98%

-- Flow 2:

Average throughput: 291.55 Mbit/s

95th percentile per-packet one-way delay: 185.470 ms

Loss rate: 0.15%

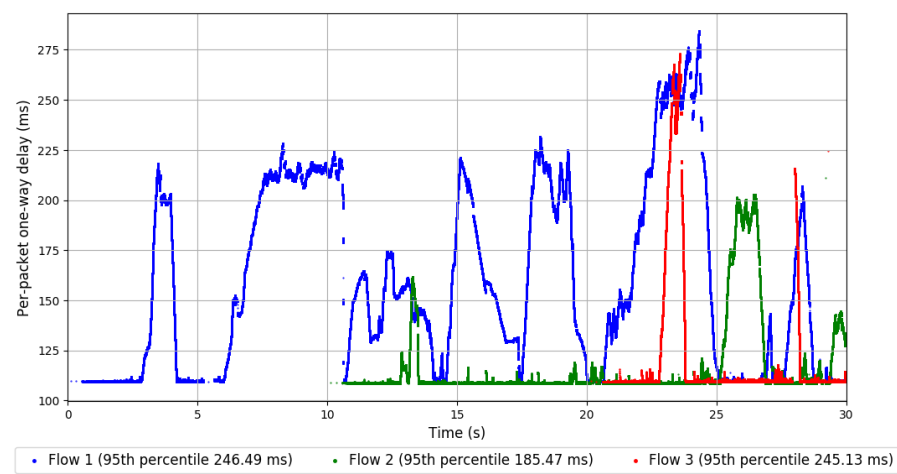
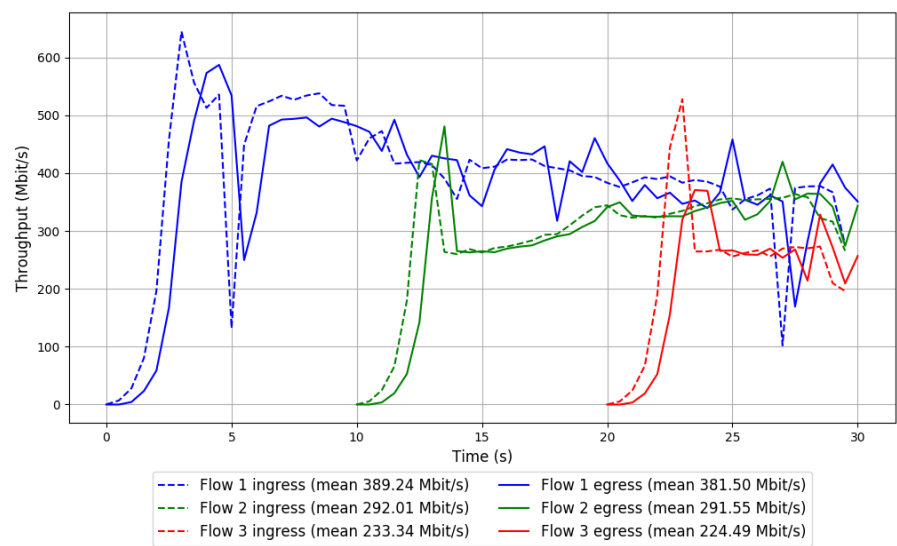
-- Flow 3:

Average throughput: 224.49 Mbit/s

95th percentile per-packet one-way delay: 245.134 ms

Loss rate: 3.80%

Run 2: Report of PCC-Allegro — Data Link

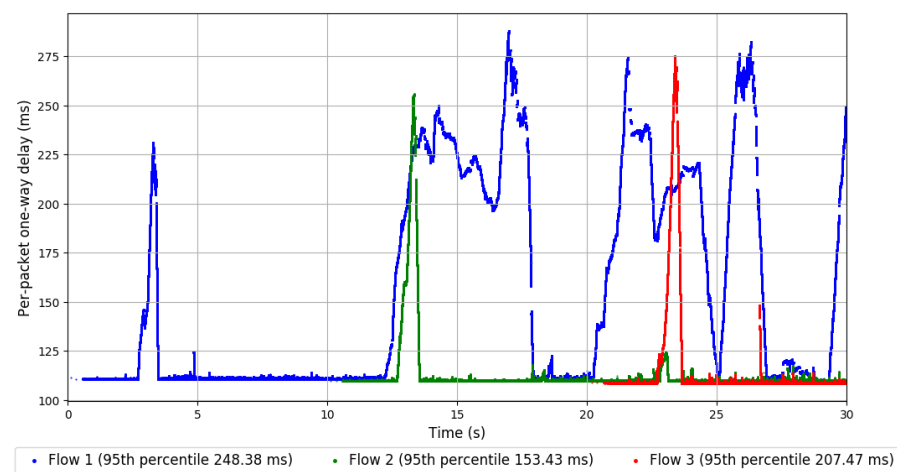
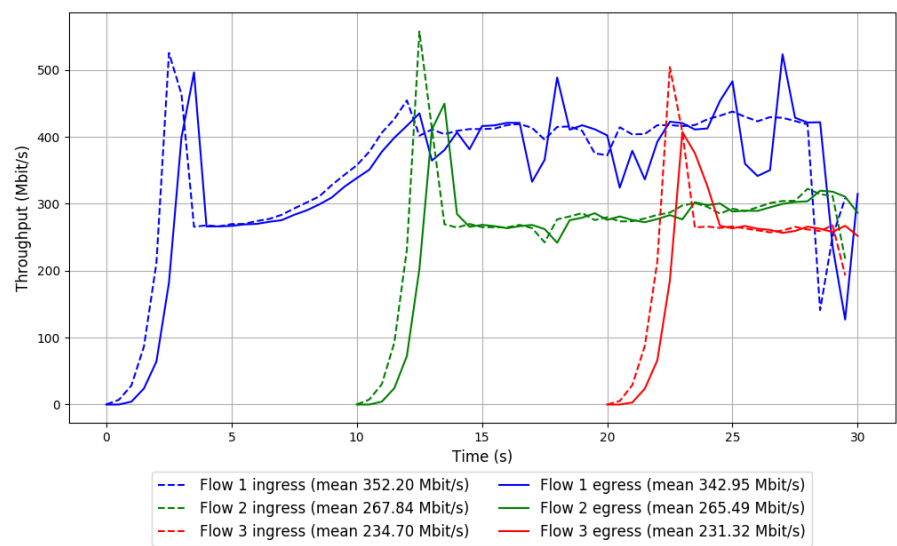


Run 3: Statistics of PCC-Allegro

Start at: 2019-01-21 10:39:57  
End at: 2019-01-21 10:40:27  
Local clock offset: -0.374 ms  
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2019-01-21 14:28:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 595.29 Mbit/s  
95th percentile per-packet one-way delay: 241.356 ms  
Loss rate: 1.96%  
-- Flow 1:  
Average throughput: 342.95 Mbit/s  
95th percentile per-packet one-way delay: 248.377 ms  
Loss rate: 2.63%  
-- Flow 2:  
Average throughput: 265.49 Mbit/s  
95th percentile per-packet one-way delay: 153.428 ms  
Loss rate: 0.88%  
-- Flow 3:  
Average throughput: 231.32 Mbit/s  
95th percentile per-packet one-way delay: 207.472 ms  
Loss rate: 1.44%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-21 11:18:06

End at: 2019-01-21 11:18:36

Local clock offset: -0.643 ms

Remote clock offset: -0.36 ms

# Below is generated by plot.py at 2019-01-21 14:37:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 629.96 Mbit/s

95th percentile per-packet one-way delay: 154.322 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 369.58 Mbit/s

95th percentile per-packet one-way delay: 144.062 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 277.92 Mbit/s

95th percentile per-packet one-way delay: 155.225 ms

Loss rate: 0.03%

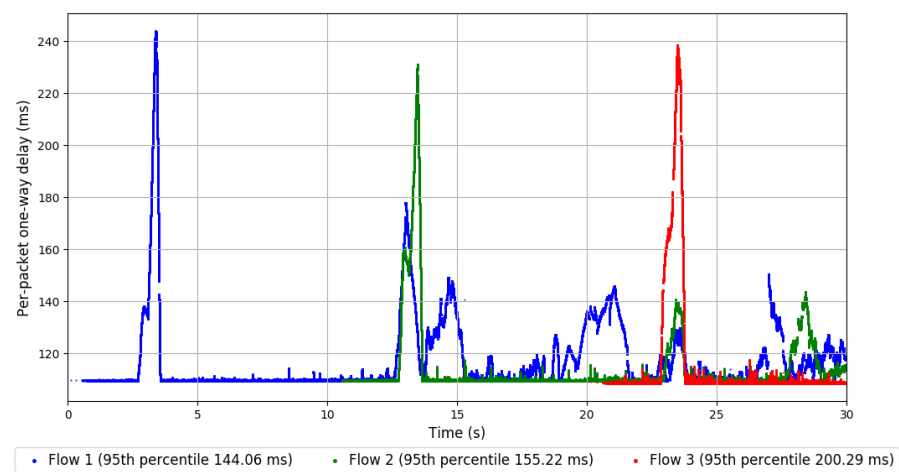
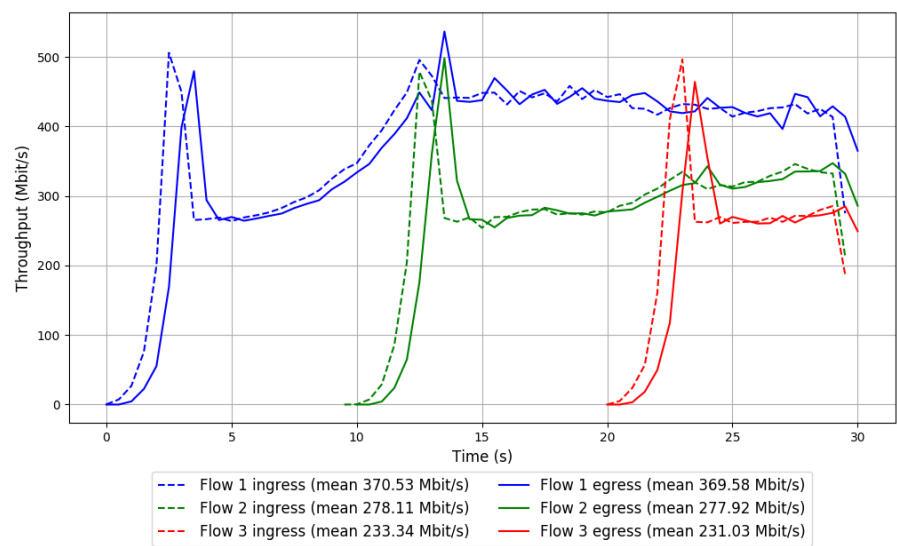
-- Flow 3:

Average throughput: 231.03 Mbit/s

95th percentile per-packet one-way delay: 200.286 ms

Loss rate: 1.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-21 11:55:50

End at: 2019-01-21 11:56:20

Local clock offset: 0.445 ms

Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2019-01-21 14:42:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 629.79 Mbit/s

95th percentile per-packet one-way delay: 230.688 ms

Loss rate: 2.44%

-- Flow 1:

Average throughput: 340.49 Mbit/s

95th percentile per-packet one-way delay: 218.069 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 270.56 Mbit/s

95th percentile per-packet one-way delay: 169.779 ms

Loss rate: 0.18%

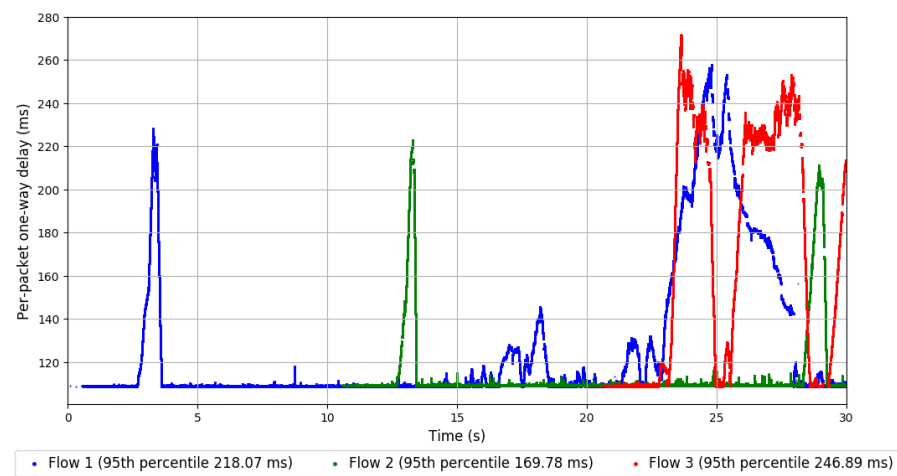
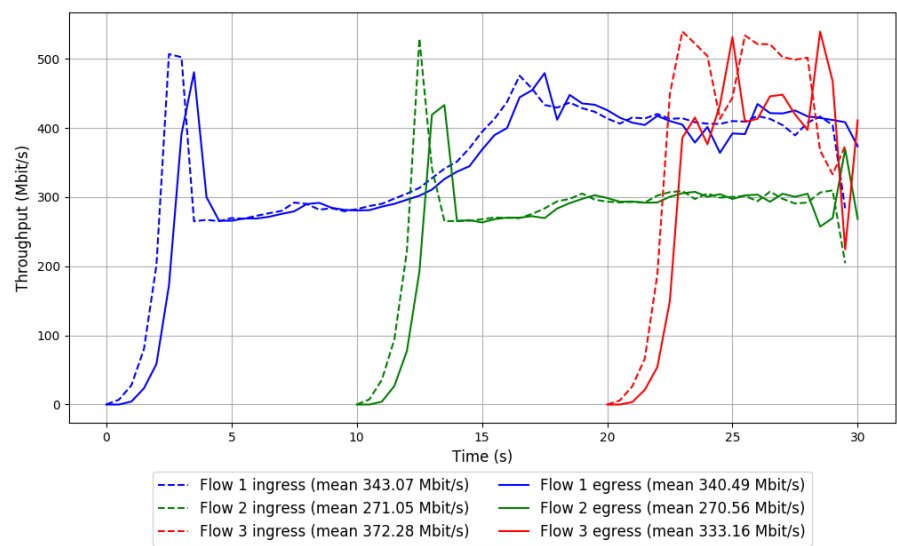
-- Flow 3:

Average throughput: 333.16 Mbit/s

95th percentile per-packet one-way delay: 246.892 ms

Loss rate: 10.48%

Run 5: Report of PCC-Allegro — Data Link





Run 1: Statistics of PCC-Expr

Start at: 2019-01-21 09:07:56

End at: 2019-01-21 09:08:26

Local clock offset: -0.749 ms

Remote clock offset: 0.151 ms

# Below is generated by plot.py at 2019-01-21 14:42:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 517.97 Mbit/s

95th percentile per-packet one-way delay: 207.653 ms

Loss rate: 1.62%

-- Flow 1:

Average throughput: 299.30 Mbit/s

95th percentile per-packet one-way delay: 203.377 ms

Loss rate: 0.96%

-- Flow 2:

Average throughput: 204.55 Mbit/s

95th percentile per-packet one-way delay: 159.996 ms

Loss rate: 0.45%

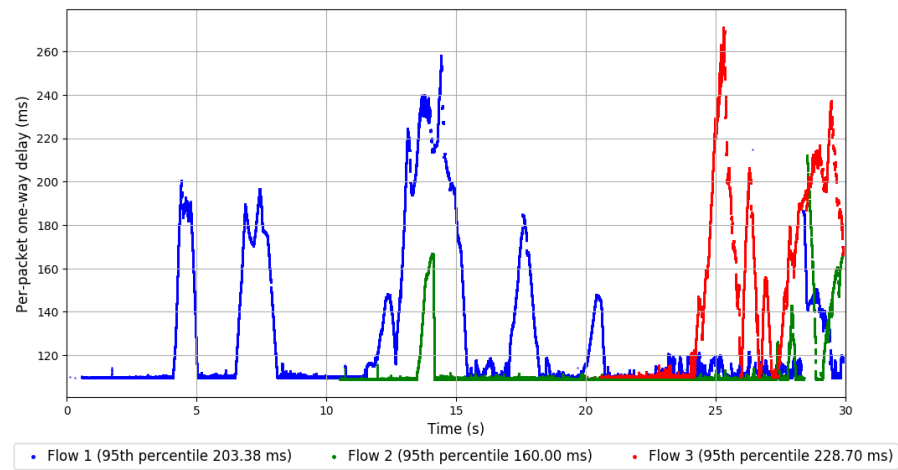
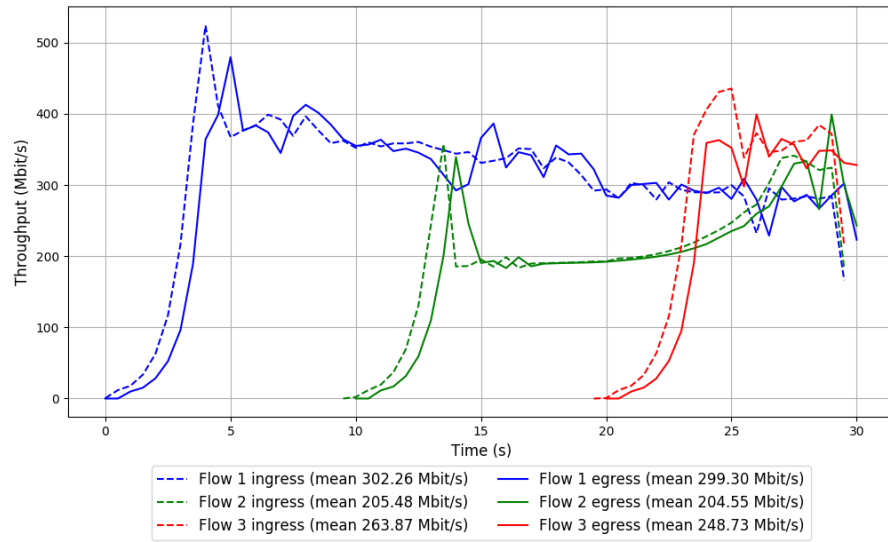
-- Flow 3:

Average throughput: 248.73 Mbit/s

95th percentile per-packet one-way delay: 228.700 ms

Loss rate: 5.73%

# Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-21 09:45:38

End at: 2019-01-21 09:46:08

Local clock offset: -0.715 ms

Remote clock offset: 0.15 ms

# Below is generated by plot.py at 2019-01-21 14:42:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 509.40 Mbit/s

95th percentile per-packet one-way delay: 222.509 ms

Loss rate: 4.00%

-- Flow 1:

Average throughput: 314.61 Mbit/s

95th percentile per-packet one-way delay: 224.044 ms

Loss rate: 5.71%

-- Flow 2:

Average throughput: 215.98 Mbit/s

95th percentile per-packet one-way delay: 220.622 ms

Loss rate: 1.50%

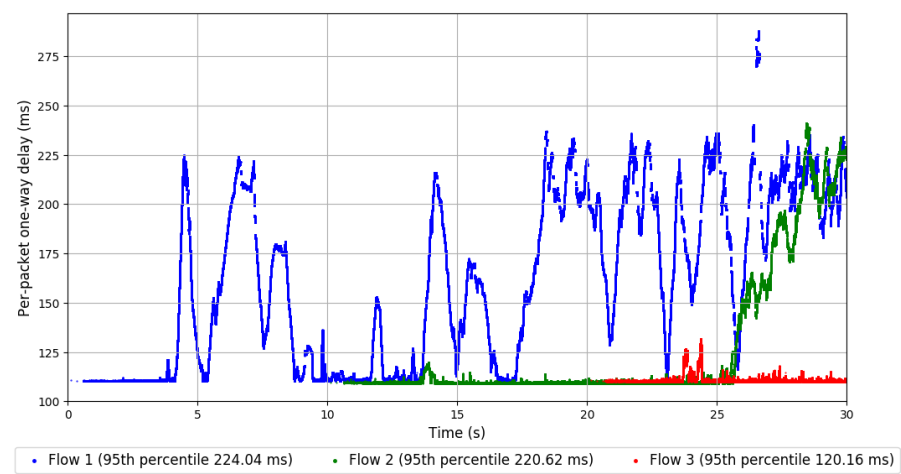
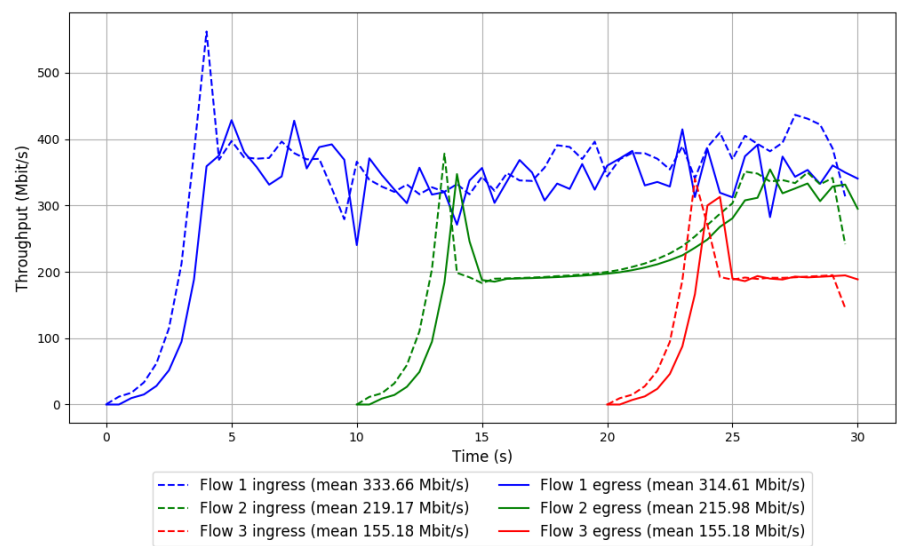
-- Flow 3:

Average throughput: 155.18 Mbit/s

95th percentile per-packet one-way delay: 120.157 ms

Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-01-21 10:24:42

End at: 2019-01-21 10:25:12

Local clock offset: 0.09 ms

Remote clock offset: 0.065 ms

# Below is generated by plot.py at 2019-01-21 14:42:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 486.69 Mbit/s

95th percentile per-packet one-way delay: 217.534 ms

Loss rate: 1.56%

-- Flow 1:

Average throughput: 292.96 Mbit/s

95th percentile per-packet one-way delay: 193.636 ms

Loss rate: 0.70%

-- Flow 2:

Average throughput: 211.51 Mbit/s

95th percentile per-packet one-way delay: 225.887 ms

Loss rate: 3.87%

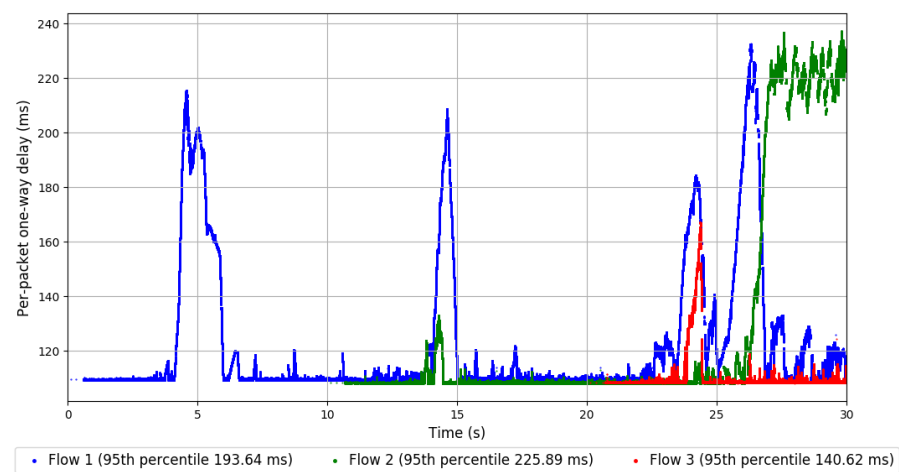
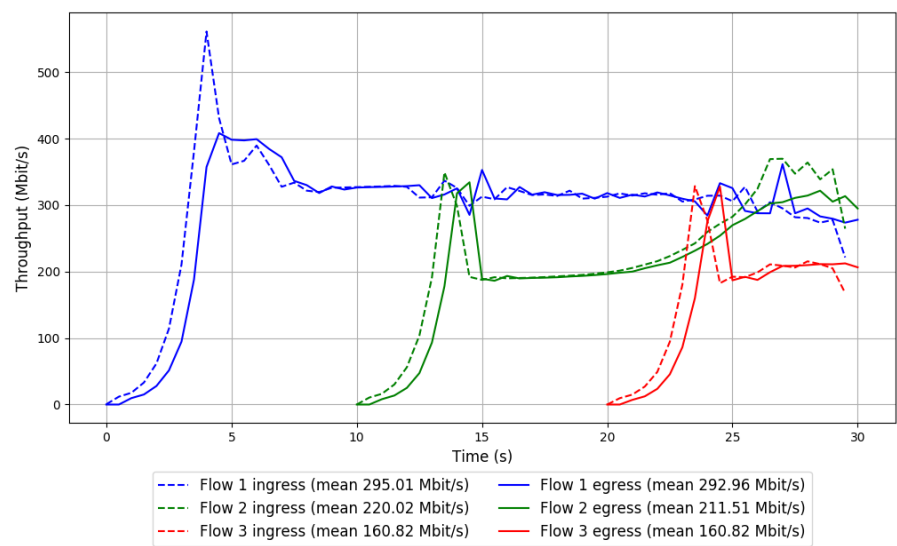
-- Flow 3:

Average throughput: 160.82 Mbit/s

95th percentile per-packet one-way delay: 140.619 ms

Loss rate: 0.00%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-01-21 11:03:20

End at: 2019-01-21 11:03:50

Local clock offset: -0.026 ms

Remote clock offset: 0.094 ms

# Below is generated by plot.py at 2019-01-21 14:51:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 494.65 Mbit/s

95th percentile per-packet one-way delay: 217.889 ms

Loss rate: 2.80%

-- Flow 1:

Average throughput: 246.08 Mbit/s

95th percentile per-packet one-way delay: 216.046 ms

Loss rate: 3.28%

-- Flow 2:

Average throughput: 292.03 Mbit/s

95th percentile per-packet one-way delay: 221.048 ms

Loss rate: 2.94%

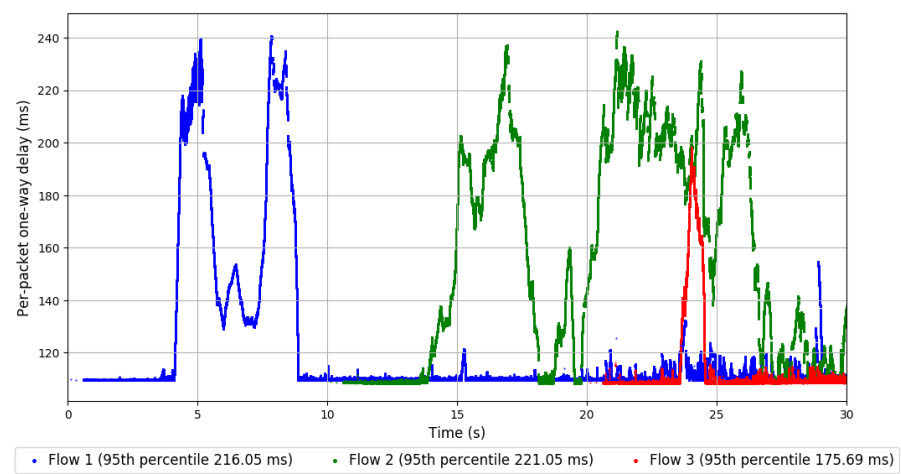
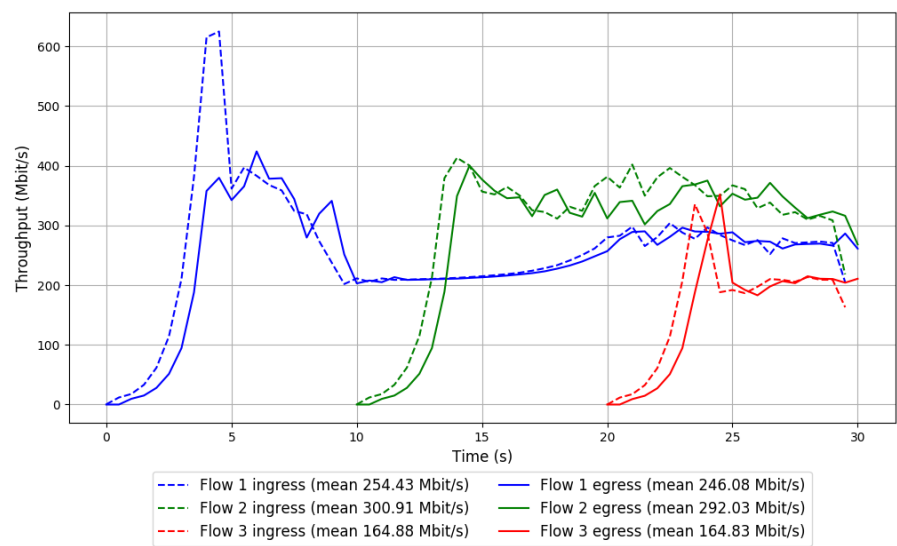
-- Flow 3:

Average throughput: 164.83 Mbit/s

95th percentile per-packet one-way delay: 175.687 ms

Loss rate: 0.01%

Run 4: Report of PCC-Expr — Data Link





Run 5: Statistics of PCC-Expr

Start at: 2019-01-21 11:40:49

End at: 2019-01-21 11:41:19

Local clock offset: 0.053 ms

Remote clock offset: 0.269 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 472.14 Mbit/s

95th percentile per-packet one-way delay: 218.934 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 283.10 Mbit/s

95th percentile per-packet one-way delay: 224.907 ms

Loss rate: 1.59%

-- Flow 2:

Average throughput: 207.39 Mbit/s

95th percentile per-packet one-way delay: 117.194 ms

Loss rate: 0.00%

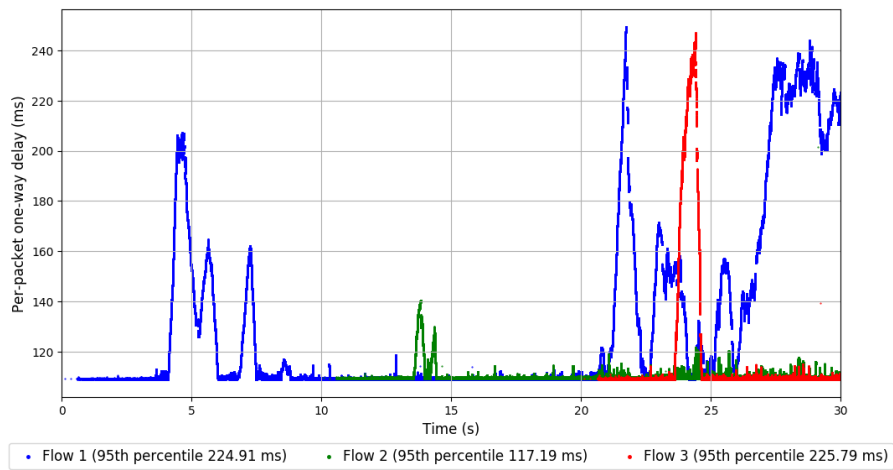
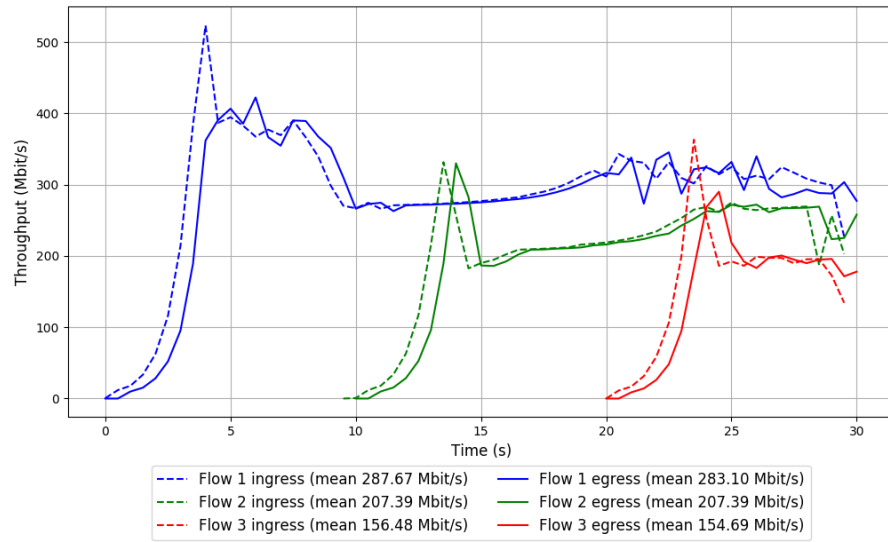
-- Flow 3:

Average throughput: 154.69 Mbit/s

95th percentile per-packet one-way delay: 225.794 ms

Loss rate: 1.14%

# Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-21 09:29:05

End at: 2019-01-21 09:29:35

Local clock offset: -0.714 ms

Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 50.51 Mbit/s

95th percentile per-packet one-way delay: 109.901 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 110.260 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 44.26 Mbit/s

95th percentile per-packet one-way delay: 109.909 ms

Loss rate: 0.00%

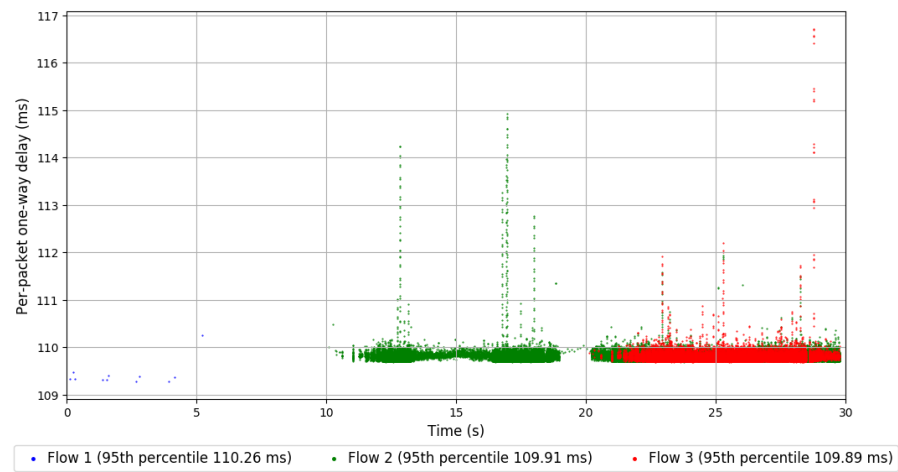
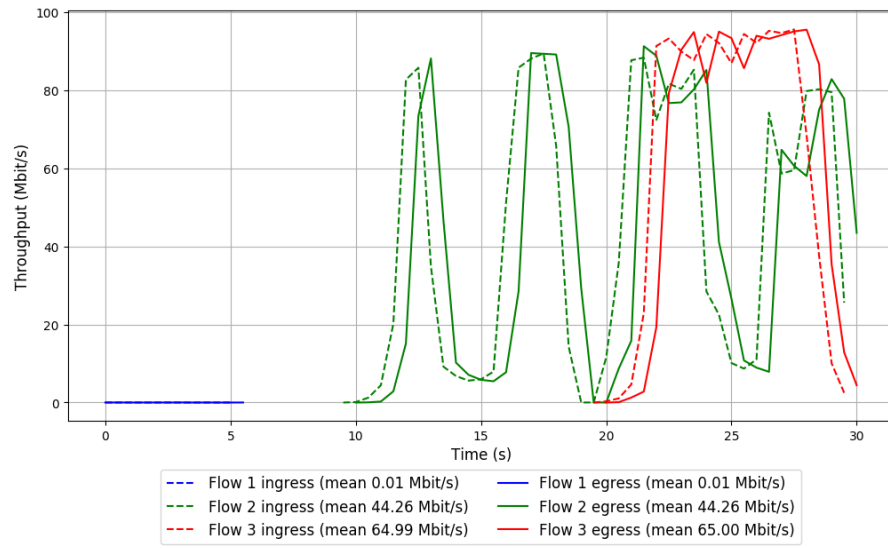
-- Flow 3:

Average throughput: 65.00 Mbit/s

95th percentile per-packet one-way delay: 109.888 ms

Loss rate: 0.00%

# Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-21 10:07:28

End at: 2019-01-21 10:07:58

Local clock offset: -0.746 ms

Remote clock offset: 0.136 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.07 Mbit/s

95th percentile per-packet one-way delay: 110.009 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.57 Mbit/s

95th percentile per-packet one-way delay: 110.030 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 46.77 Mbit/s

95th percentile per-packet one-way delay: 109.997 ms

Loss rate: 0.00%

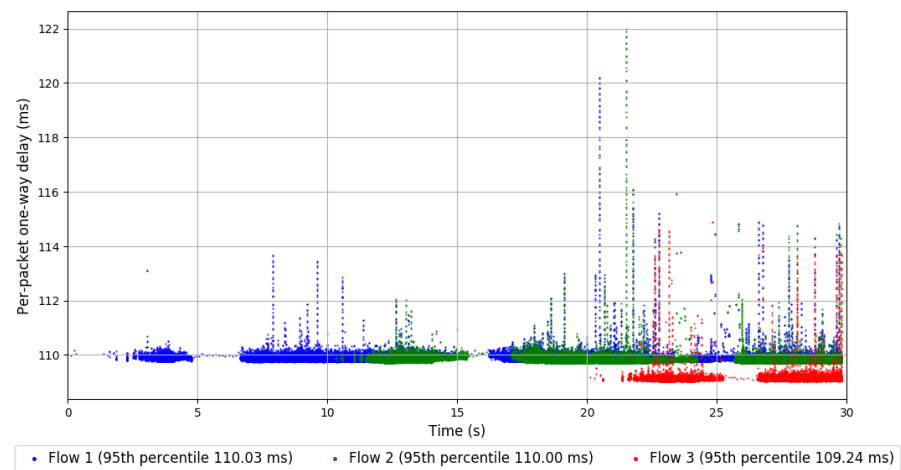
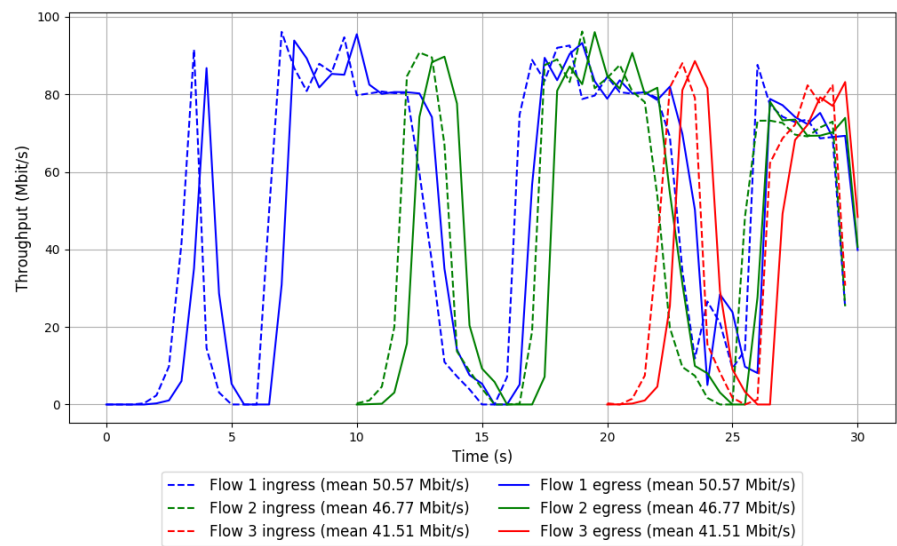
-- Flow 3:

Average throughput: 41.51 Mbit/s

95th percentile per-packet one-way delay: 109.238 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-21 10:46:31

End at: 2019-01-21 10:47:01

Local clock offset: -0.324 ms

Remote clock offset: 0.03 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 99.65 Mbit/s

95th percentile per-packet one-way delay: 109.892 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 54.86 Mbit/s

95th percentile per-packet one-way delay: 109.914 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 52.68 Mbit/s

95th percentile per-packet one-way delay: 109.839 ms

Loss rate: 0.00%

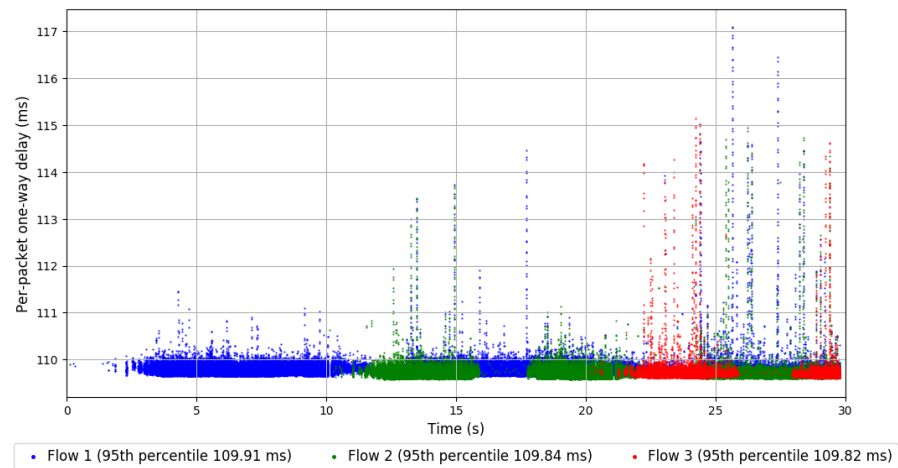
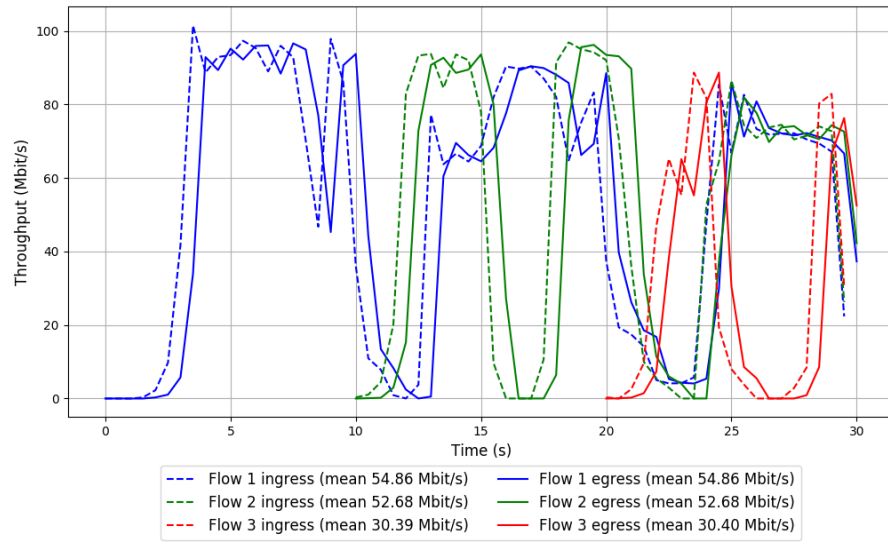
-- Flow 3:

Average throughput: 30.40 Mbit/s

95th percentile per-packet one-way delay: 109.821 ms

Loss rate: 0.01%

### Run 3: Report of QUIC Cubic — Data Link





Run 4: Statistics of QUIC Cubic

Start at: 2019-01-21 11:24:26

End at: 2019-01-21 11:24:56

Local clock offset: 0.353 ms

Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.88 Mbit/s

95th percentile per-packet one-way delay: 108.912 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 42.79 Mbit/s

95th percentile per-packet one-way delay: 108.770 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 56.93 Mbit/s

95th percentile per-packet one-way delay: 108.721 ms

Loss rate: 0.00%

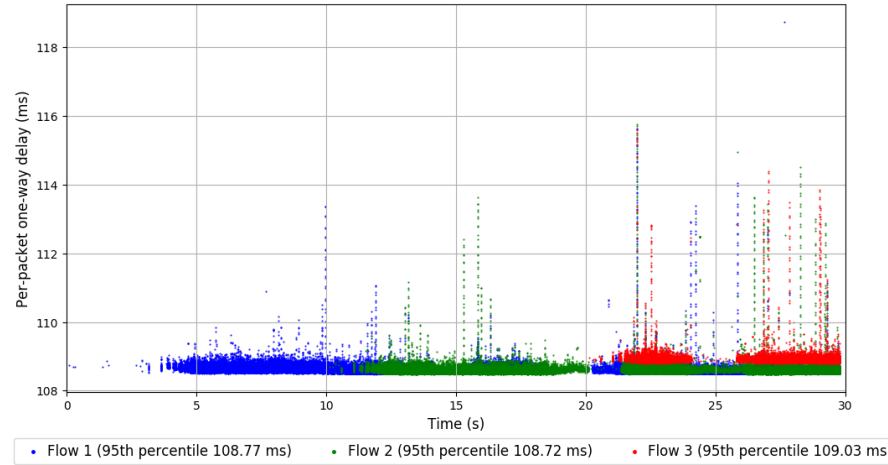
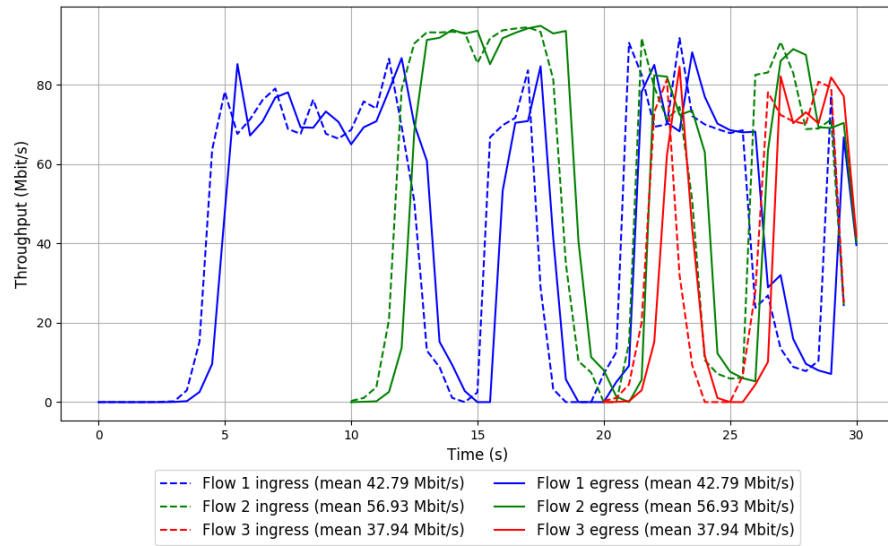
-- Flow 3:

Average throughput: 37.94 Mbit/s

95th percentile per-packet one-way delay: 109.035 ms

Loss rate: 0.00%

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

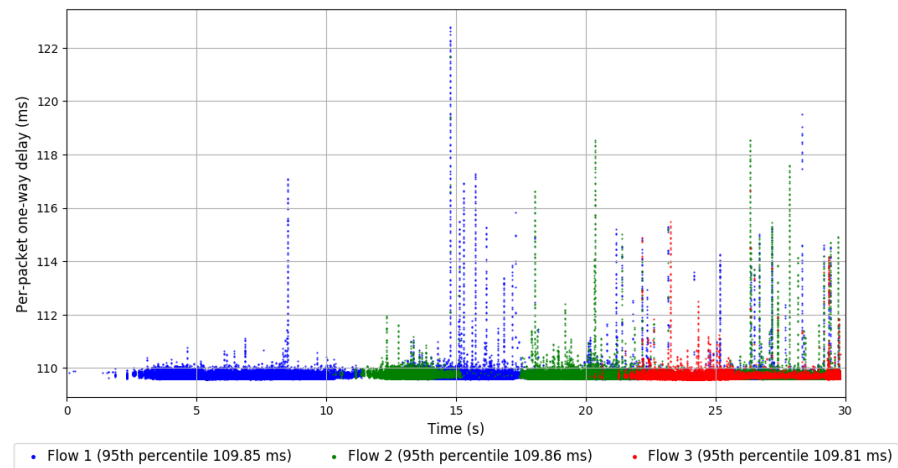
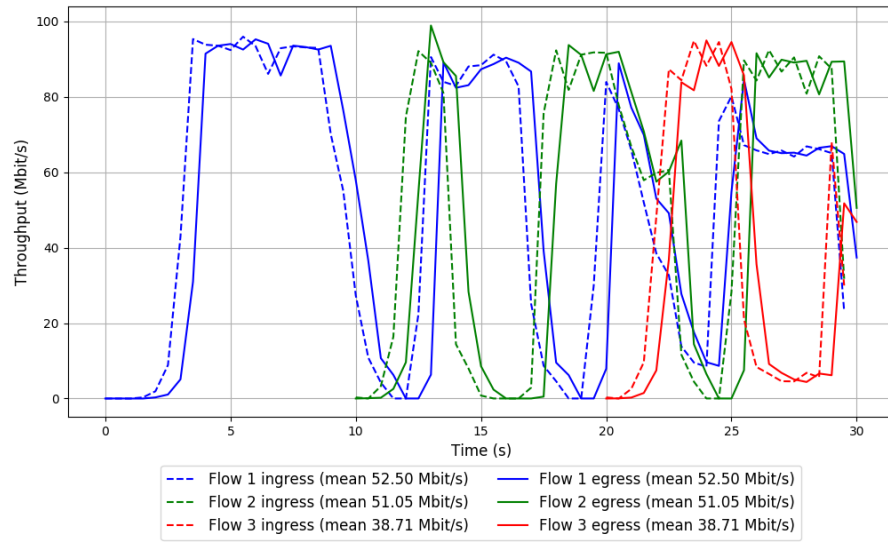


Run 5: Statistics of QUIC Cubic

Start at: 2019-01-21 12:02:22  
End at: 2019-01-21 12:02:52  
Local clock offset: -0.833 ms  
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2019-01-21 14:51:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 98.92 Mbit/s  
95th percentile per-packet one-way delay: 109.851 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 52.50 Mbit/s  
95th percentile per-packet one-way delay: 109.851 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 51.05 Mbit/s  
95th percentile per-packet one-way delay: 109.864 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 38.71 Mbit/s  
95th percentile per-packet one-way delay: 109.809 ms  
Loss rate: 0.00%

## Run 5: Report of QUIC Cubic — Data Link

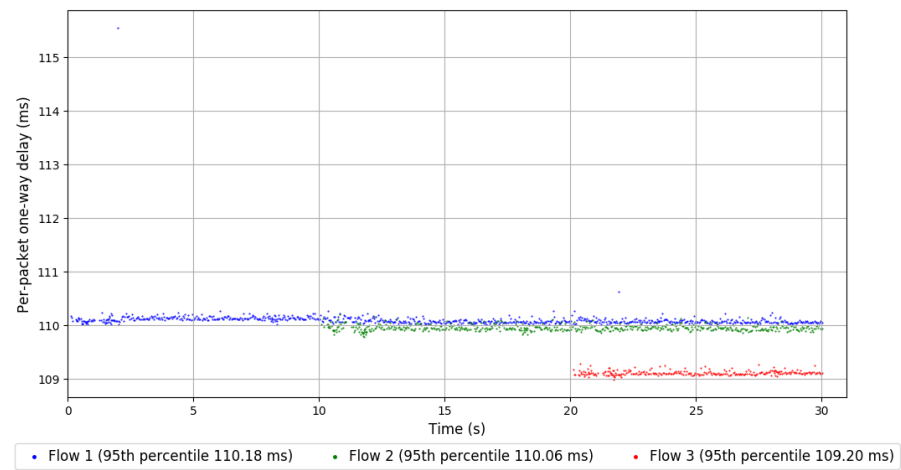
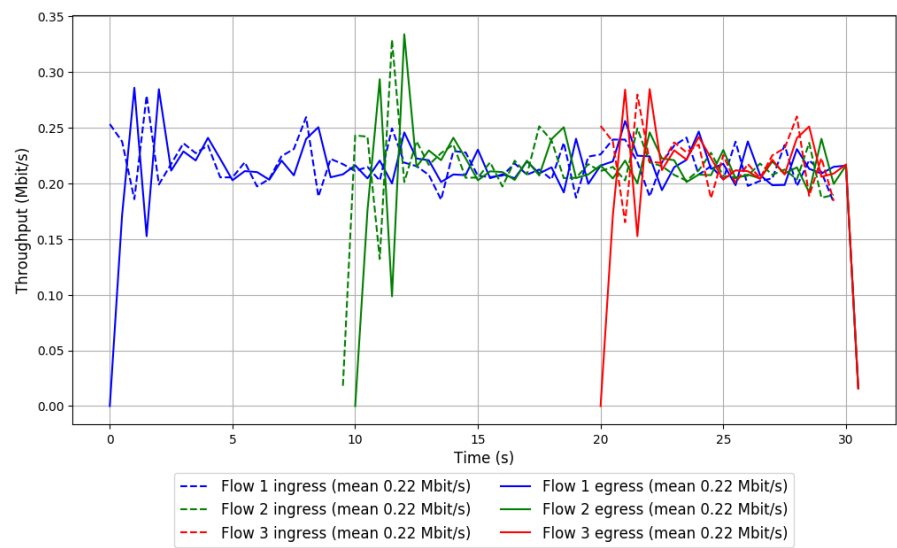


```
Run 1: Statistics of SReAM

Start at: 2019-01-21 09:27:49
End at: 2019-01-21 09:28:19
Local clock offset: -0.722 ms
Remote clock offset: 0.033 ms

# Below is generated by plot.py at 2019-01-21 14:51:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 110.162 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.183 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.057 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.202 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

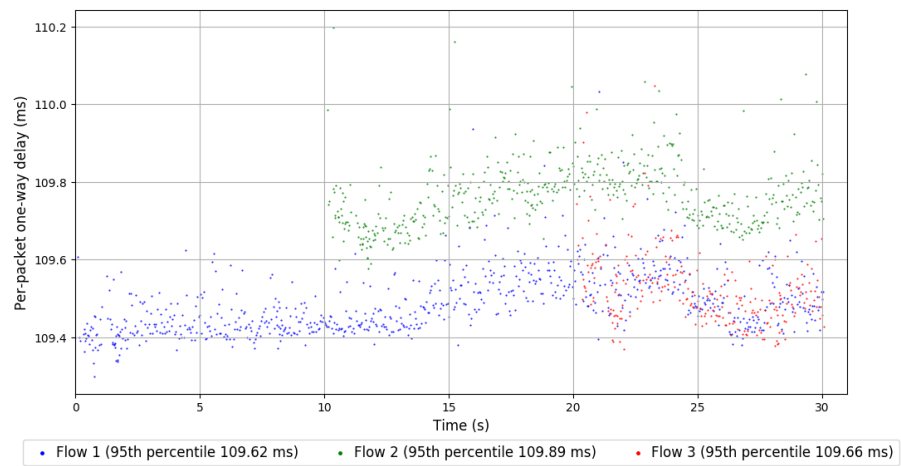
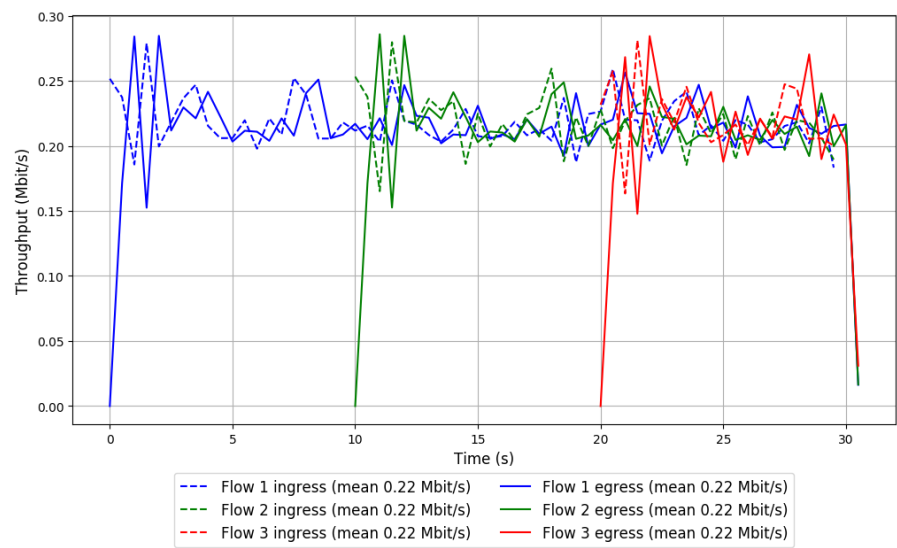


Run 2: Statistics of SReAM

Start at: 2019-01-21 10:06:12  
End at: 2019-01-21 10:06:42  
Local clock offset: -0.933 ms  
Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2019-01-21 14:51:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 109.839 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.619 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.895 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.664 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



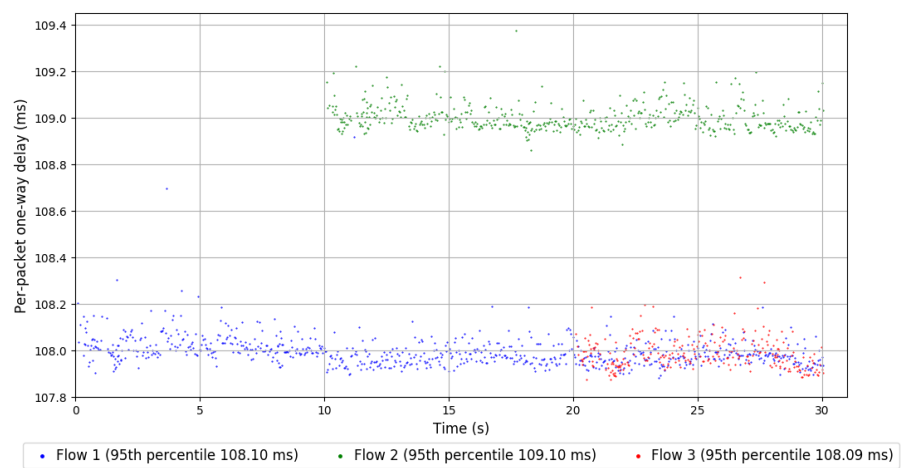
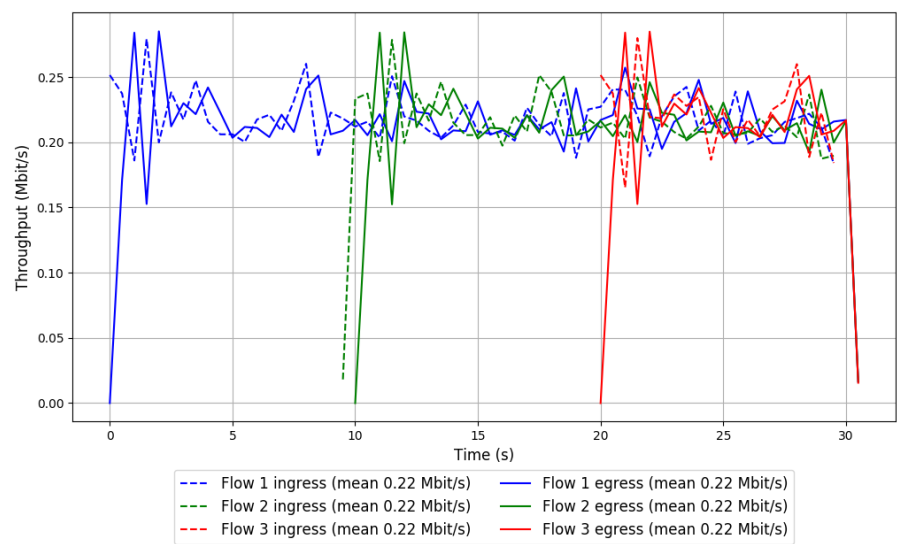


Run 3: Statistics of SReAM

Start at: 2019-01-21 10:45:15  
End at: 2019-01-21 10:45:45  
Local clock offset: 0.45 ms  
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-01-21 14:51:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 109.052 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 108.098 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.099 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 108.094 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

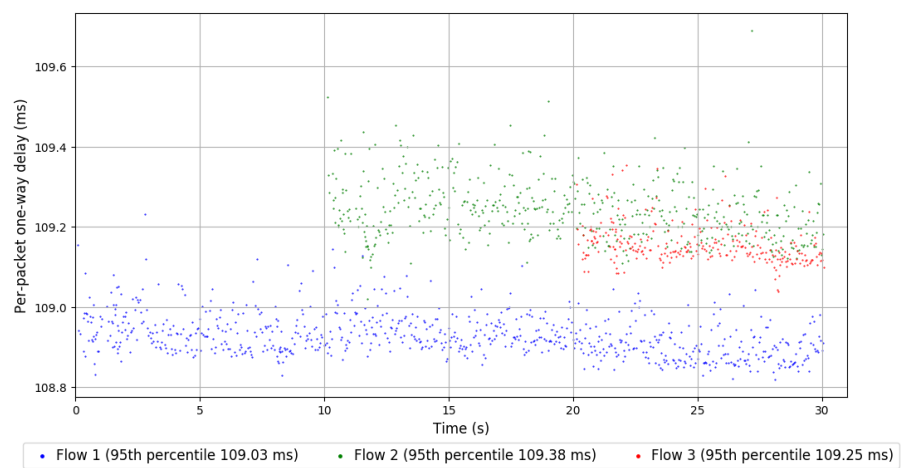
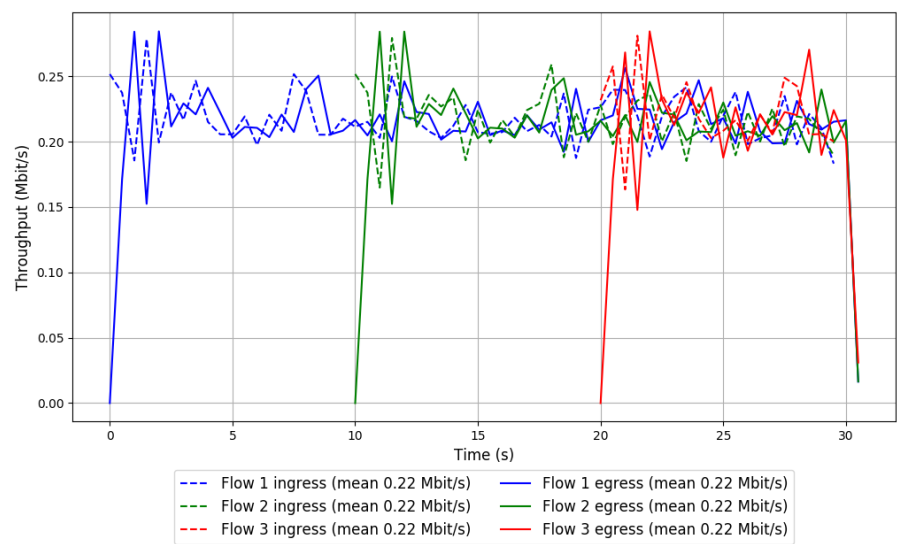


Run 4: Statistics of SReAM

Start at: 2019-01-21 11:23:10  
End at: 2019-01-21 11:23:40  
Local clock offset: 0.068 ms  
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-01-21 14:51:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 109.321 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.034 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.384 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 109.252 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-21 12:01:06

End at: 2019-01-21 12:01:36

Local clock offset: -0.096 ms

Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 109.515 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 109.545 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 109.490 ms

Loss rate: 0.00%

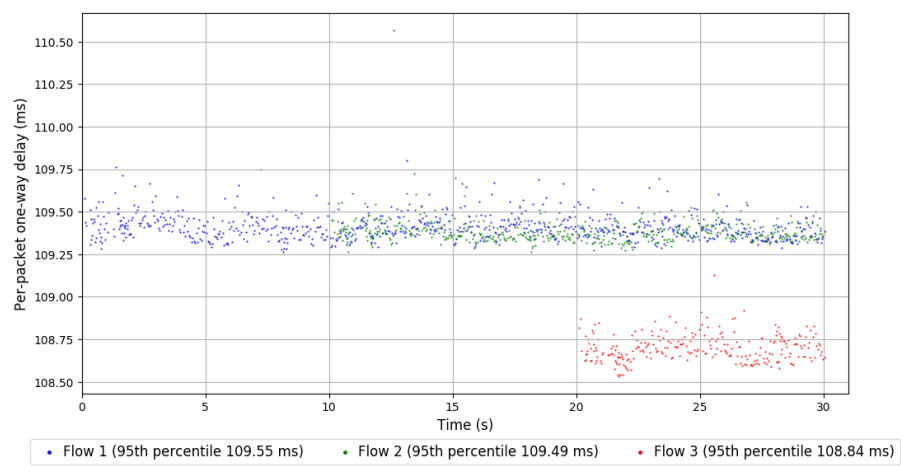
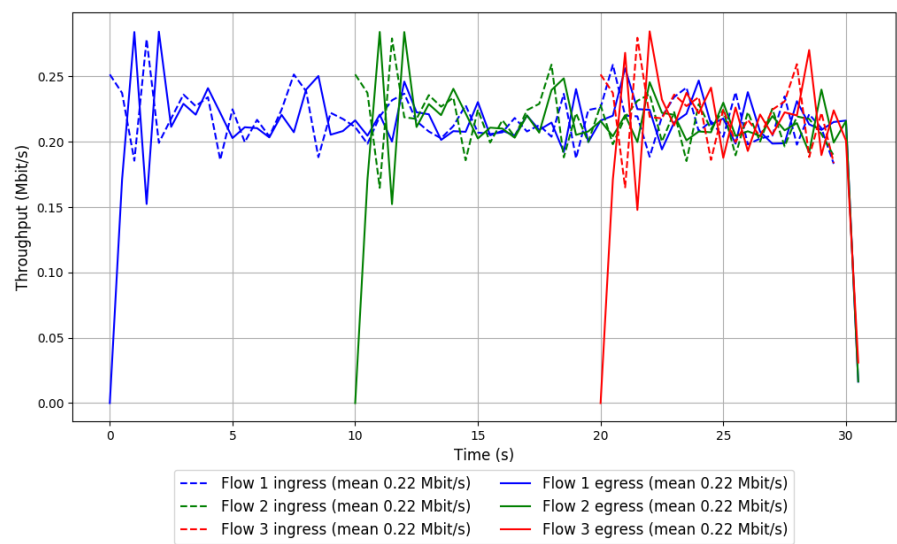
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 108.836 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-01-21 09:26:32

End at: 2019-01-21 09:27:02

Local clock offset: -1.306 ms

Remote clock offset: 0.026 ms

# Below is generated by plot.py at 2019-01-21 14:51:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 111.574 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 110.226 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 3.29 Mbit/s

95th percentile per-packet one-way delay: 111.678 ms

Loss rate: 0.00%

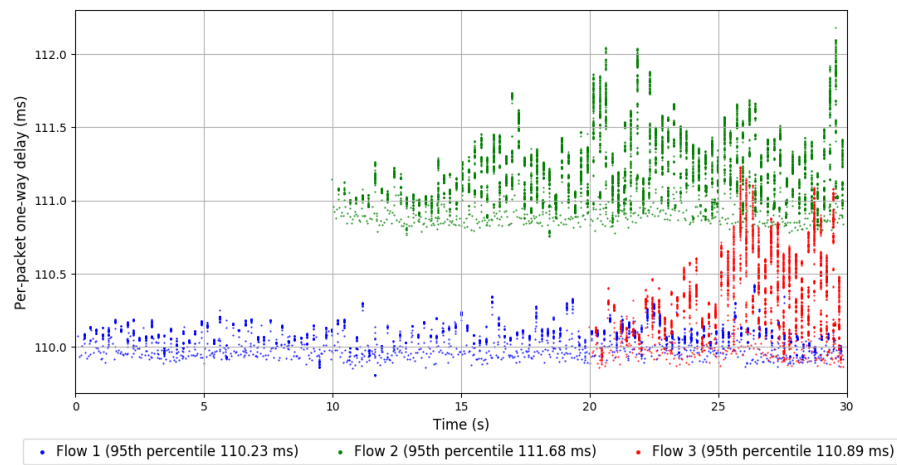
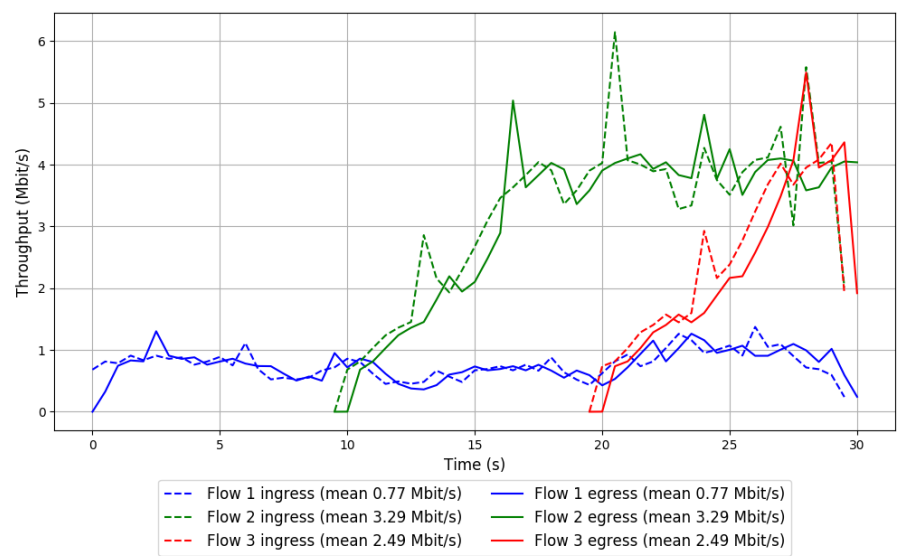
-- Flow 3:

Average throughput: 2.49 Mbit/s

95th percentile per-packet one-way delay: 110.894 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



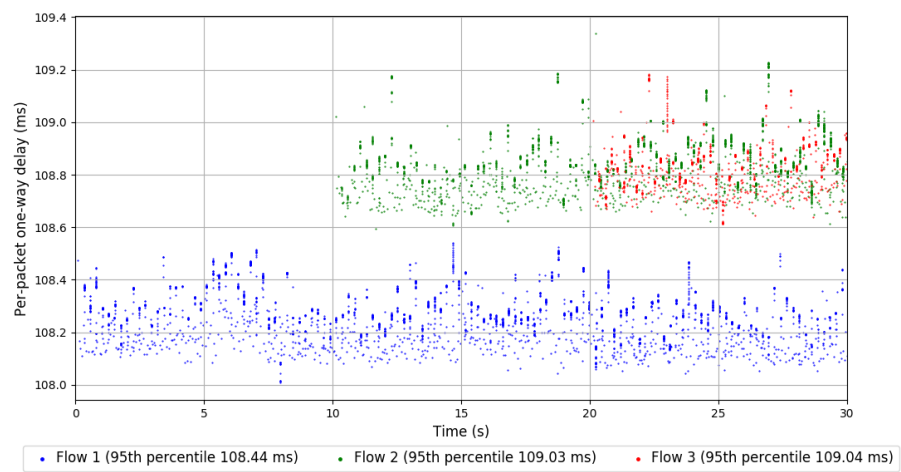
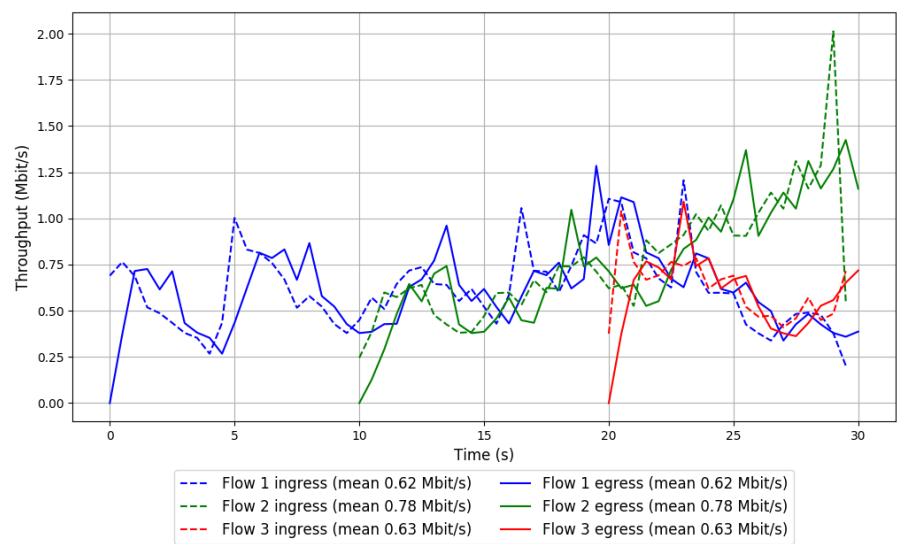


Run 2: Statistics of Sprout

Start at: 2019-01-21 10:04:55  
End at: 2019-01-21 10:05:25  
Local clock offset: 0.424 ms  
Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2019-01-21 14:51:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.34 Mbit/s  
95th percentile per-packet one-way delay: 108.989 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.62 Mbit/s  
95th percentile per-packet one-way delay: 108.444 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 109.025 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.63 Mbit/s  
95th percentile per-packet one-way delay: 109.040 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

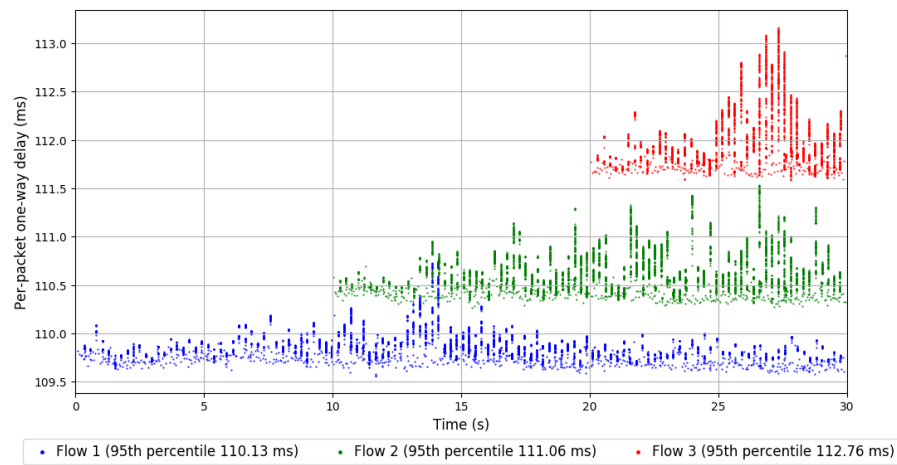
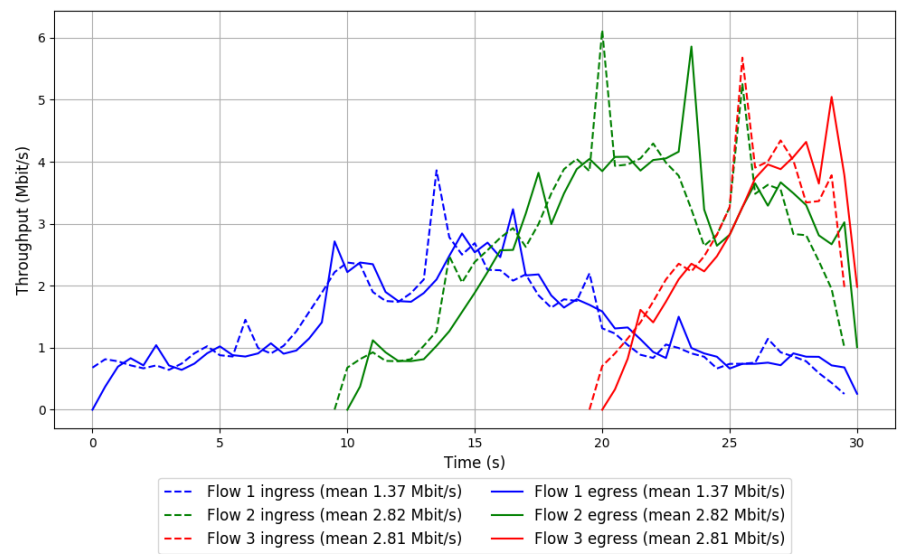


### Run 3: Statistics of Sprout

Start at: 2019-01-21 10:43:57  
End at: 2019-01-21 10:44:27  
Local clock offset: -1.229 ms  
Remote clock offset: 0.012 ms

```
# Below is generated by plot.py at 2019-01-21 14:51:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 112.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 110.134 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 111.059 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 112.759 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

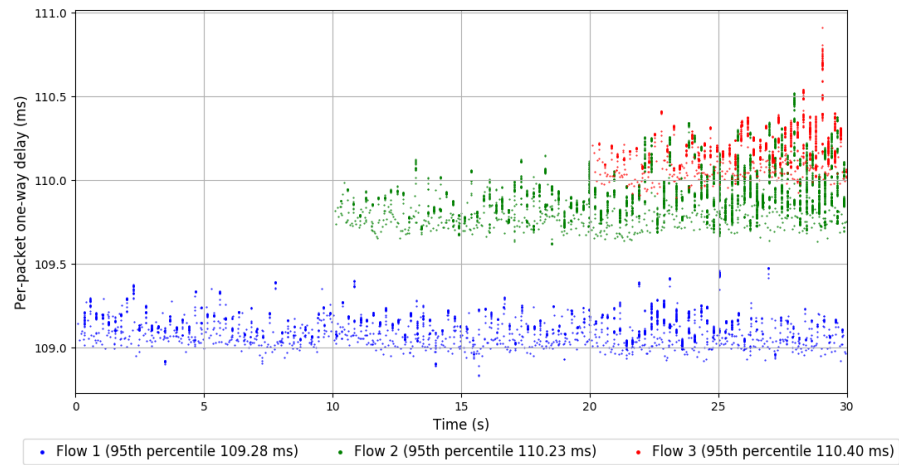
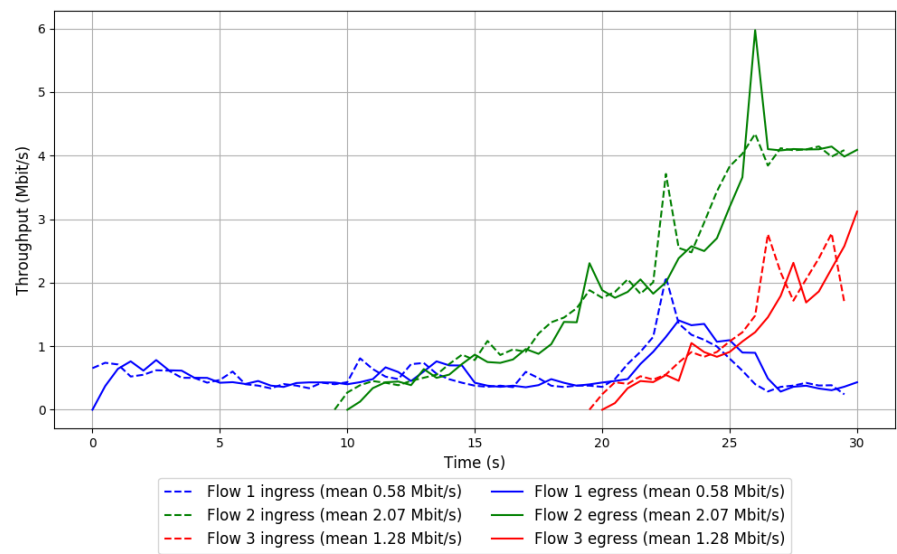


#### Run 4: Statistics of Sprout

Start at: 2019-01-21 11:21:52  
End at: 2019-01-21 11:22:22  
Local clock offset: -0.667 ms  
Remote clock offset: -0.13 ms

```
# Below is generated by plot.py at 2019-01-21 14:51:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 110.303 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 109.285 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 110.230 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 110.399 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

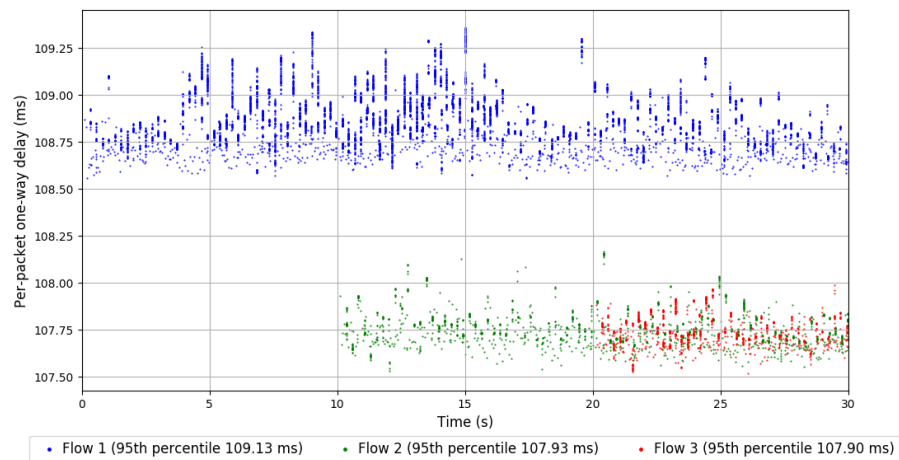
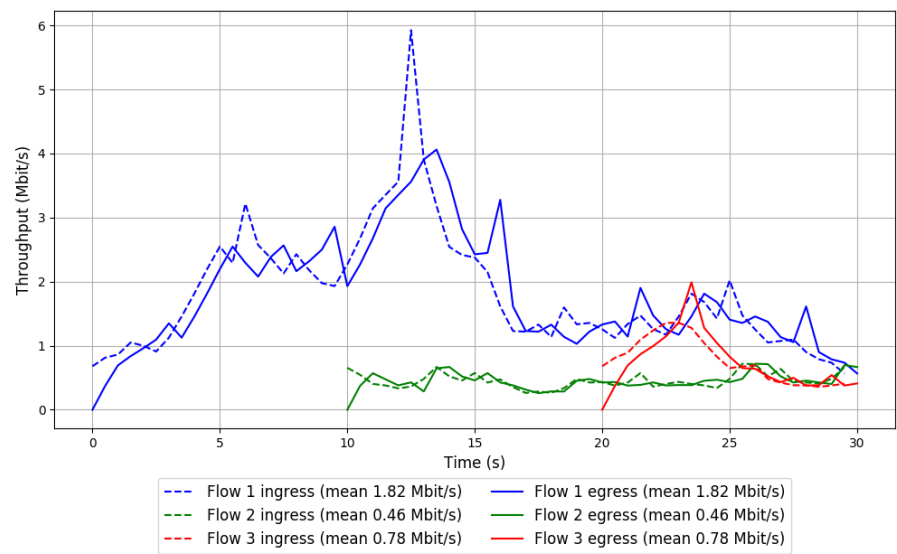


Run 5: Statistics of Sprout

Start at: 2019-01-21 11:59:49  
End at: 2019-01-21 12:00:19  
Local clock offset: 0.601 ms  
Remote clock offset: -0.128 ms

```
# Below is generated by plot.py at 2019-01-21 14:51:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 109.101 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 109.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 107.932 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 107.903 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link





Run 1: Statistics of TaoVA-100x

Start at: 2019-01-21 09:17:12

End at: 2019-01-21 09:17:43

Local clock offset: -0.817 ms

Remote clock offset: 0.268 ms

# Below is generated by plot.py at 2019-01-21 14:56:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 387.08 Mbit/s

95th percentile per-packet one-way delay: 110.679 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 199.79 Mbit/s

95th percentile per-packet one-way delay: 110.354 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 191.84 Mbit/s

95th percentile per-packet one-way delay: 110.899 ms

Loss rate: 0.00%

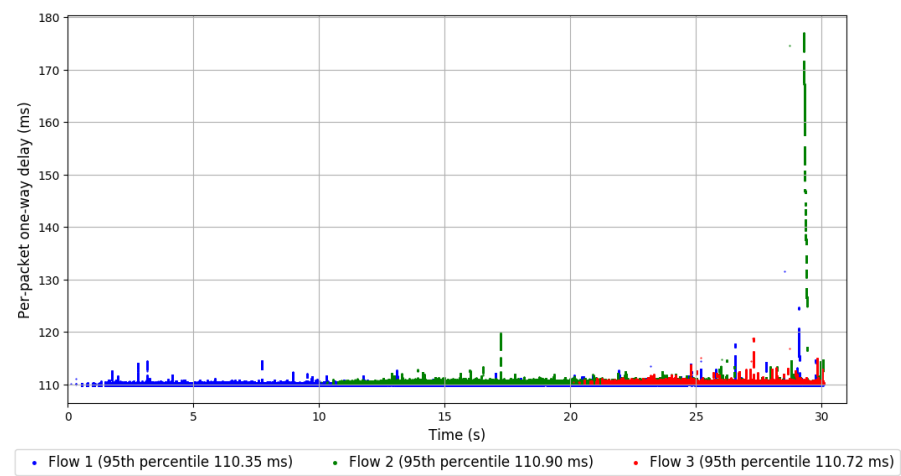
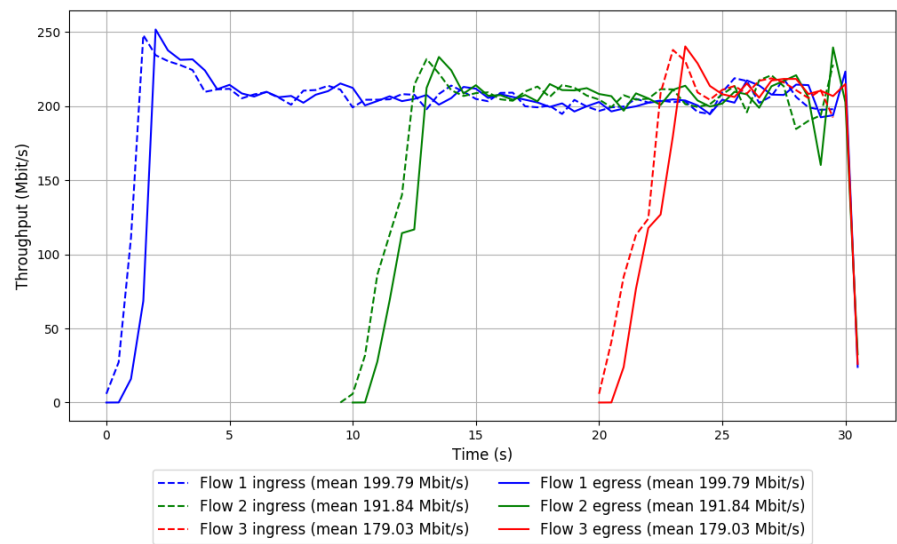
-- Flow 3:

Average throughput: 179.03 Mbit/s

95th percentile per-packet one-way delay: 110.716 ms

Loss rate: 0.00%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-21 09:55:13

End at: 2019-01-21 09:55:43

Local clock offset: 1.177 ms

Remote clock offset: 0.054 ms

# Below is generated by plot.py at 2019-01-21 14:56:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 211.92 Mbit/s

95th percentile per-packet one-way delay: 108.442 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 15.82 Mbit/s

95th percentile per-packet one-way delay: 108.461 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 200.37 Mbit/s

95th percentile per-packet one-way delay: 108.500 ms

Loss rate: 0.00%

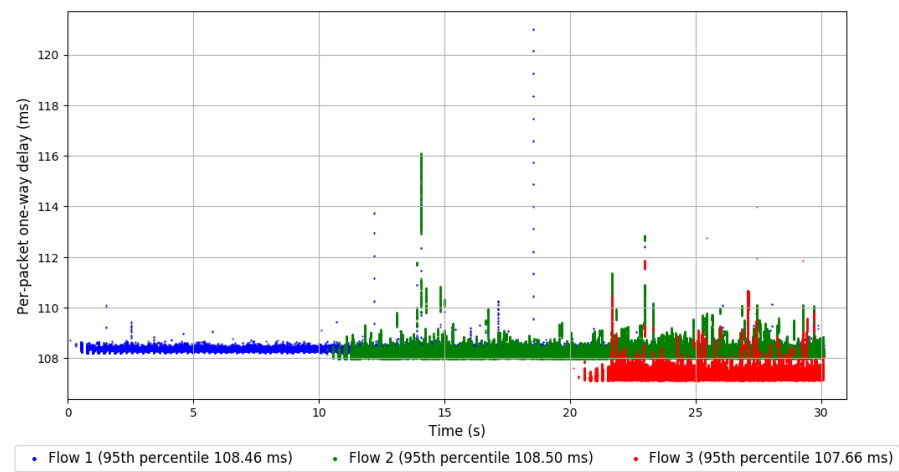
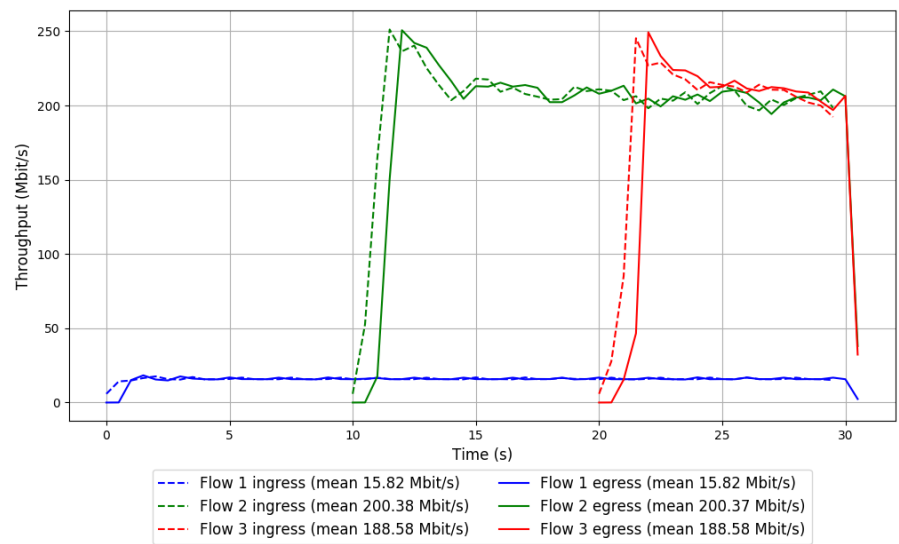
-- Flow 3:

Average throughput: 188.58 Mbit/s

95th percentile per-packet one-way delay: 107.663 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-21 10:34:36

End at: 2019-01-21 10:35:06

Local clock offset: 0.731 ms

Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2019-01-21 14:56:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 370.56 Mbit/s

95th percentile per-packet one-way delay: 109.329 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 194.03 Mbit/s

95th percentile per-packet one-way delay: 108.688 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 179.17 Mbit/s

95th percentile per-packet one-way delay: 109.426 ms

Loss rate: 0.00%

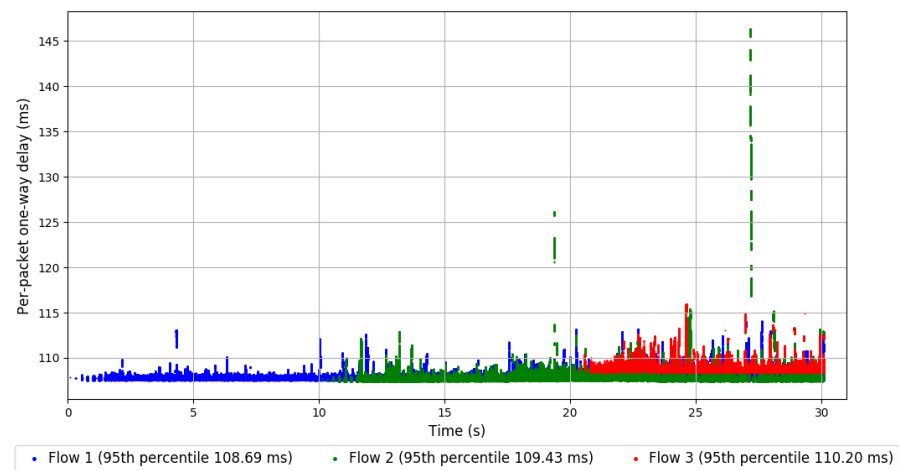
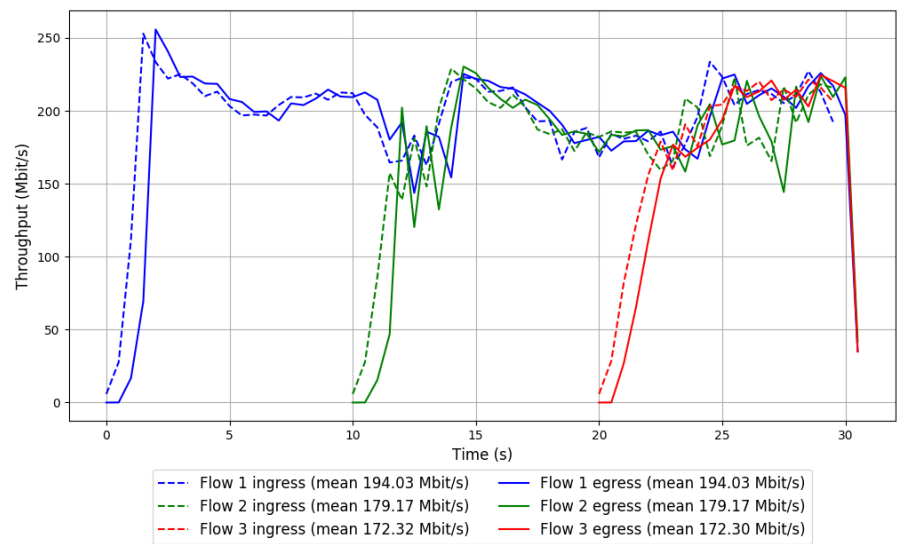
-- Flow 3:

Average throughput: 172.30 Mbit/s

95th percentile per-packet one-way delay: 110.200 ms

Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-21 11:12:35

End at: 2019-01-21 11:13:05

Local clock offset: -0.747 ms

Remote clock offset: -0.3 ms

# Below is generated by plot.py at 2019-01-21 14:57:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 389.33 Mbit/s

95th percentile per-packet one-way delay: 110.321 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 200.61 Mbit/s

95th percentile per-packet one-way delay: 109.952 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 187.76 Mbit/s

95th percentile per-packet one-way delay: 111.064 ms

Loss rate: 0.00%

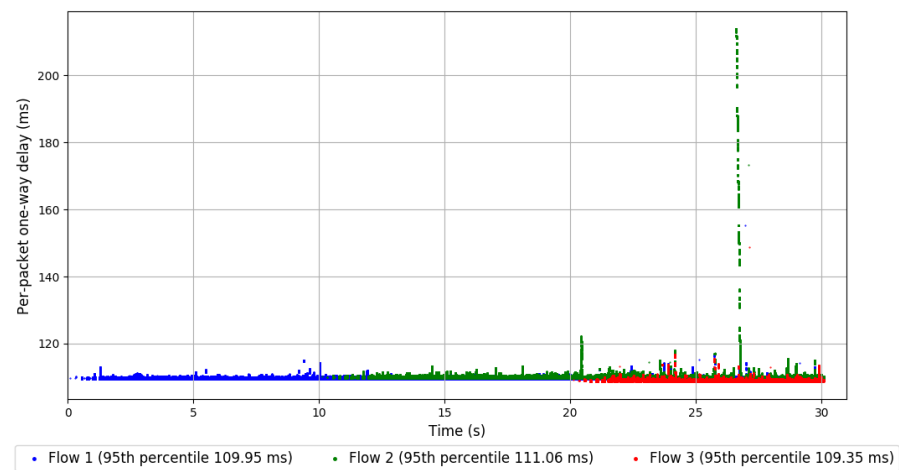
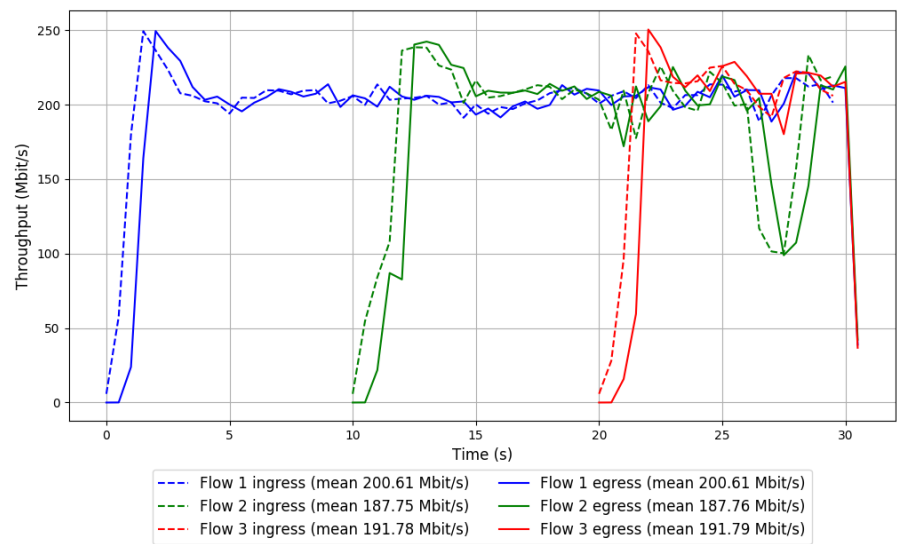
-- Flow 3:

Average throughput: 191.79 Mbit/s

95th percentile per-packet one-way delay: 109.354 ms

Loss rate: 0.00%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-01-21 11:50:02

End at: 2019-01-21 11:50:32

Local clock offset: -0.207 ms

Remote clock offset: 0.304 ms

# Below is generated by plot.py at 2019-01-21 14:57:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 370.54 Mbit/s

95th percentile per-packet one-way delay: 112.439 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 189.61 Mbit/s

95th percentile per-packet one-way delay: 110.738 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 182.31 Mbit/s

95th percentile per-packet one-way delay: 112.811 ms

Loss rate: 0.01%

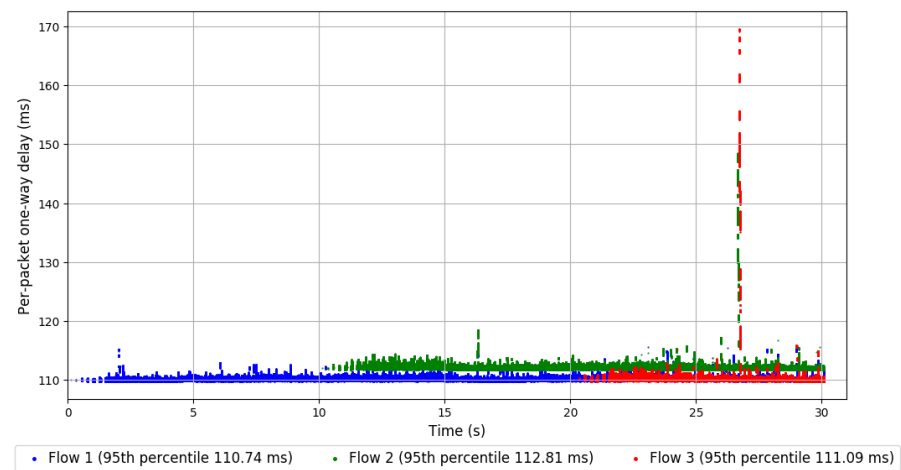
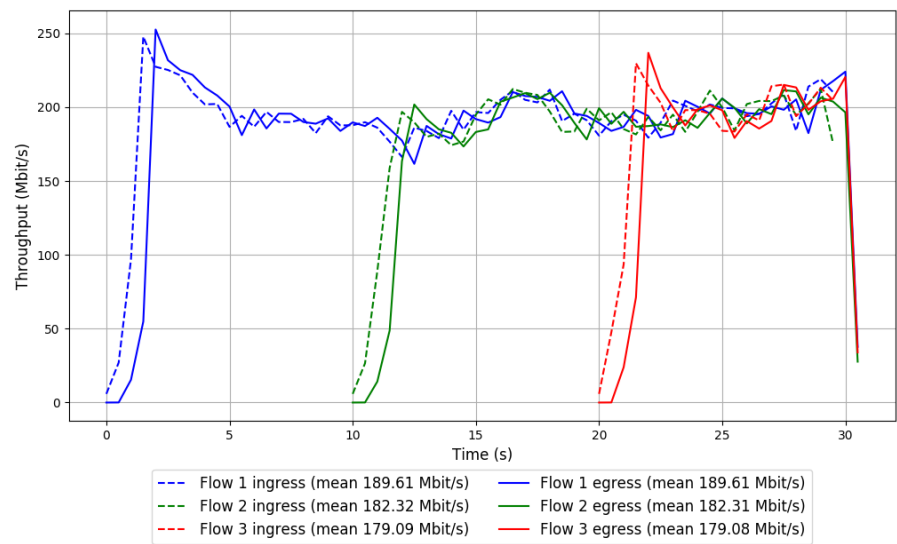
-- Flow 3:

Average throughput: 179.08 Mbit/s

95th percentile per-packet one-way delay: 111.095 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-21 08:56:58

End at: 2019-01-21 08:57:28

Local clock offset: -0.27 ms

Remote clock offset: 0.618 ms

# Below is generated by plot.py at 2019-01-21 15:03:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 842.27 Mbit/s

95th percentile per-packet one-way delay: 141.132 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 477.08 Mbit/s

95th percentile per-packet one-way delay: 153.042 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 374.78 Mbit/s

95th percentile per-packet one-way delay: 130.461 ms

Loss rate: 0.00%

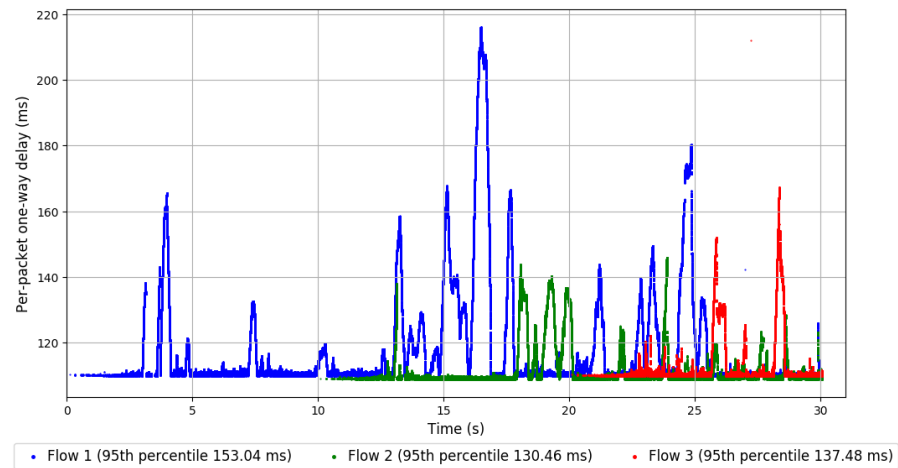
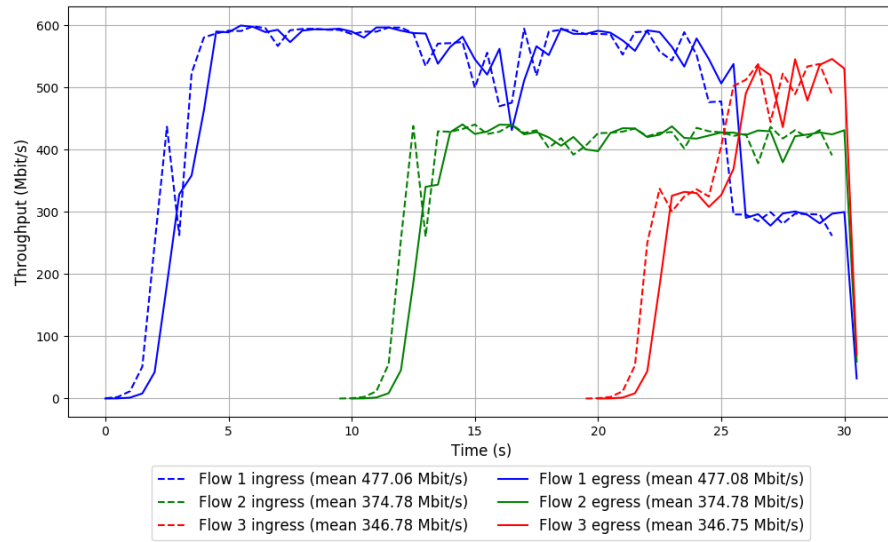
-- Flow 3:

Average throughput: 346.75 Mbit/s

95th percentile per-packet one-way delay: 137.482 ms

Loss rate: 0.01%

## Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-01-21 09:34:24

End at: 2019-01-21 09:34:54

Local clock offset: 0.08 ms

Remote clock offset: 0.525 ms

# Below is generated by plot.py at 2019-01-21 15:04:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 660.75 Mbit/s

95th percentile per-packet one-way delay: 116.498 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 359.61 Mbit/s

95th percentile per-packet one-way delay: 114.458 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 310.26 Mbit/s

95th percentile per-packet one-way delay: 125.574 ms

Loss rate: 0.00%

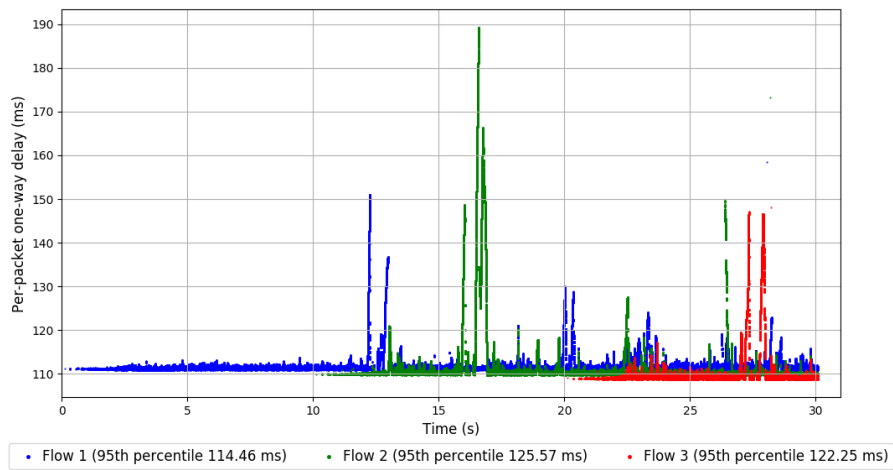
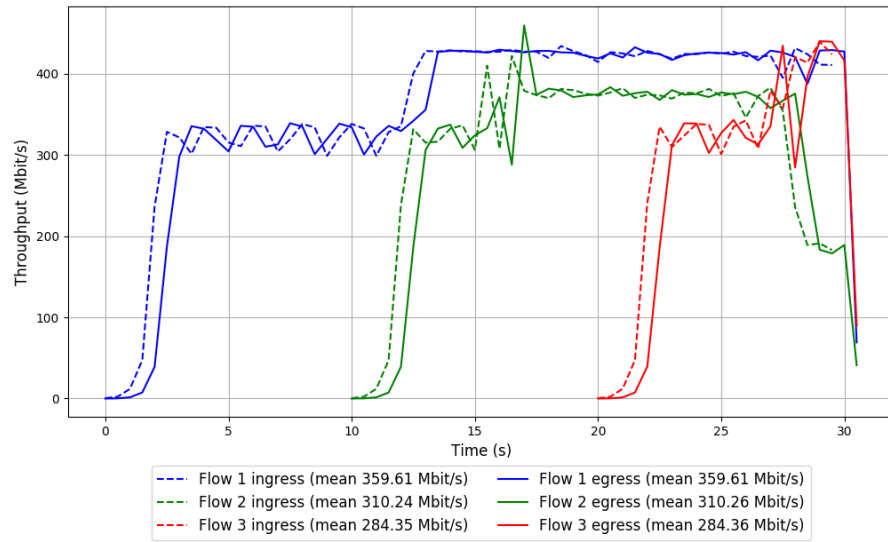
-- Flow 3:

Average throughput: 284.36 Mbit/s

95th percentile per-packet one-way delay: 122.253 ms

Loss rate: 0.00%

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



Run 3: Statistics of TCP Vegas

Start at: 2019-01-21 10:13:01

End at: 2019-01-21 10:13:31

Local clock offset: -0.762 ms

Remote clock offset: 0.245 ms

# Below is generated by plot.py at 2019-01-21 15:12:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 768.07 Mbit/s

95th percentile per-packet one-way delay: 133.786 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 393.26 Mbit/s

95th percentile per-packet one-way delay: 115.595 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 411.29 Mbit/s

95th percentile per-packet one-way delay: 138.441 ms

Loss rate: 0.05%

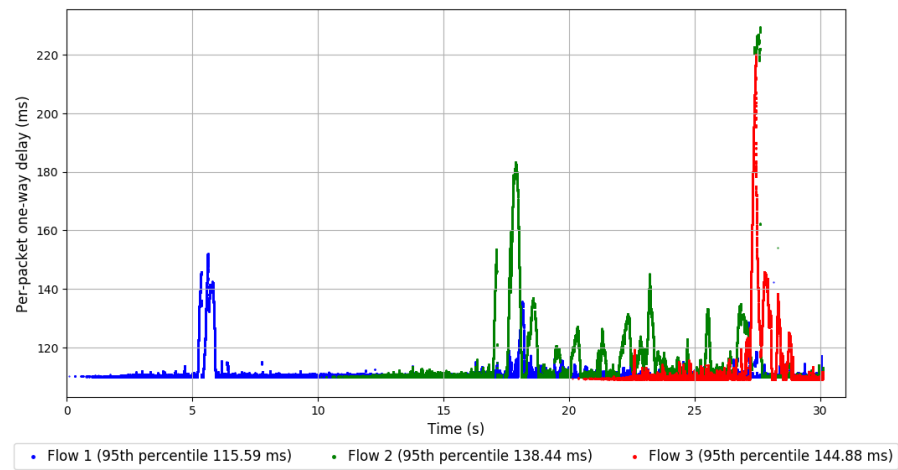
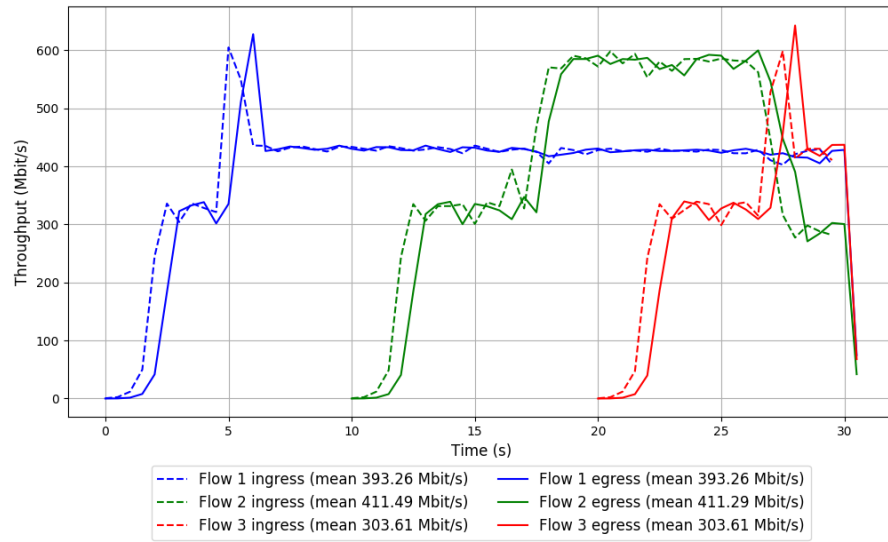
-- Flow 3:

Average throughput: 303.61 Mbit/s

95th percentile per-packet one-way delay: 144.880 ms

Loss rate: 0.00%

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



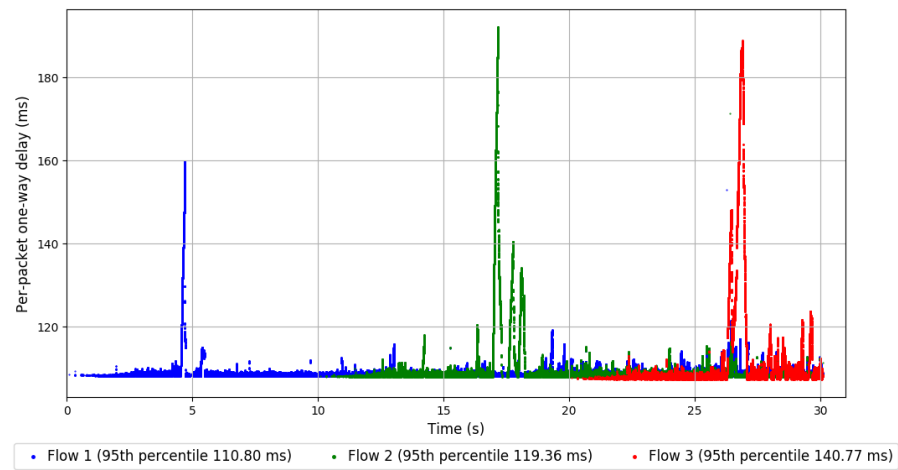
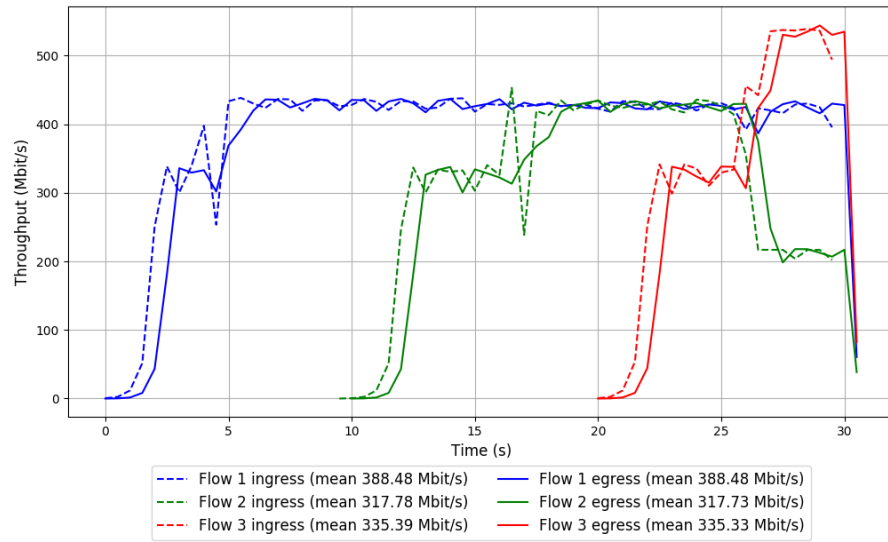


Run 4: Statistics of TCP Vegas

Start at: 2019-01-21 10:52:08  
End at: 2019-01-21 10:52:38  
Local clock offset: 0.912 ms  
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2019-01-21 15:12:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 711.74 Mbit/s  
95th percentile per-packet one-way delay: 114.573 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 388.48 Mbit/s  
95th percentile per-packet one-way delay: 110.798 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 317.73 Mbit/s  
95th percentile per-packet one-way delay: 119.365 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 335.33 Mbit/s  
95th percentile per-packet one-way delay: 140.771 ms  
Loss rate: 0.00%

# Run 4: Report of TCP Vegas — Data Link

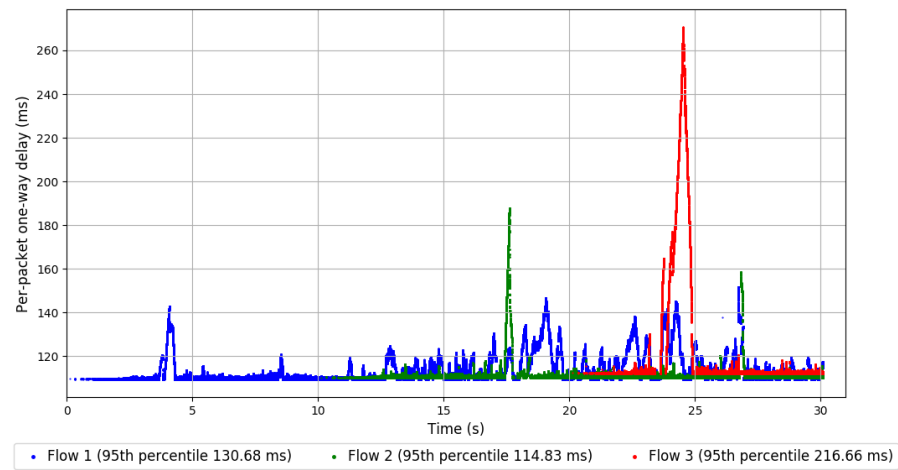
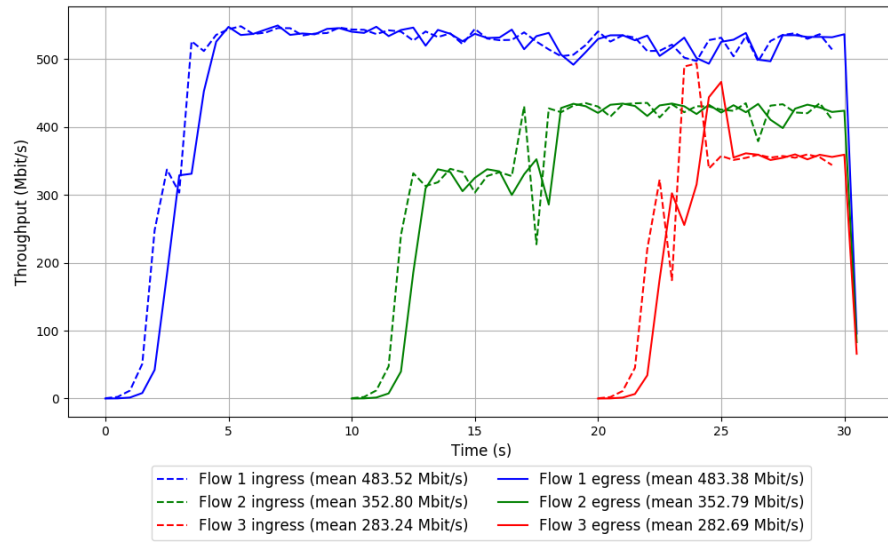


Run 5: Statistics of TCP Vegas

Start at: 2019-01-21 11:29:44  
End at: 2019-01-21 11:30:14  
Local clock offset: -0.827 ms  
Remote clock offset: 0.228 ms

# Below is generated by plot.py at 2019-01-21 15:15:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 812.31 Mbit/s  
95th percentile per-packet one-way delay: 132.817 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 483.38 Mbit/s  
95th percentile per-packet one-way delay: 130.682 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 352.79 Mbit/s  
95th percentile per-packet one-way delay: 114.831 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 282.69 Mbit/s  
95th percentile per-packet one-way delay: 216.657 ms  
Loss rate: 0.20%

# Run 5: Report of TCP Vegas — Data Link

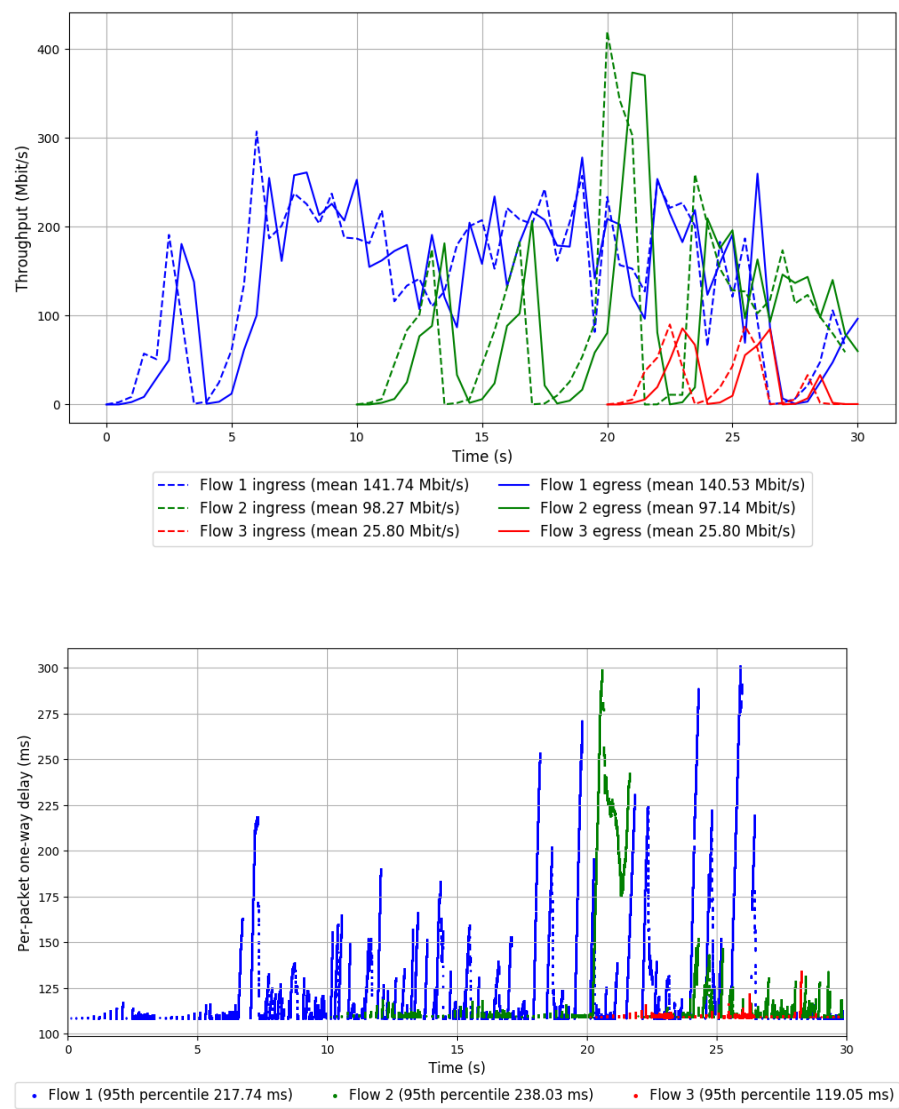


Run 1: Statistics of Verus

Start at: 2019-01-21 09:04:52  
End at: 2019-01-21 09:05:22  
Local clock offset: -0.217 ms  
Remote clock offset: 0.13 ms

# Below is generated by plot.py at 2019-01-21 15:15:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 213.19 Mbit/s  
95th percentile per-packet one-way delay: 227.386 ms  
Loss rate: 0.91%  
-- Flow 1:  
Average throughput: 140.53 Mbit/s  
95th percentile per-packet one-way delay: 217.737 ms  
Loss rate: 0.85%  
-- Flow 2:  
Average throughput: 97.14 Mbit/s  
95th percentile per-packet one-way delay: 238.027 ms  
Loss rate: 1.16%  
-- Flow 3:  
Average throughput: 25.80 Mbit/s  
95th percentile per-packet one-way delay: 119.054 ms  
Loss rate: 0.00%

Run 1: Report of Verus — Data Link

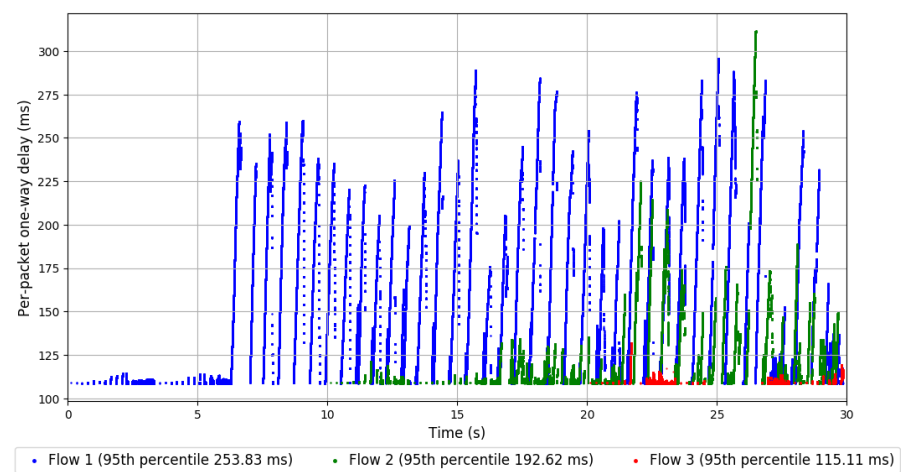
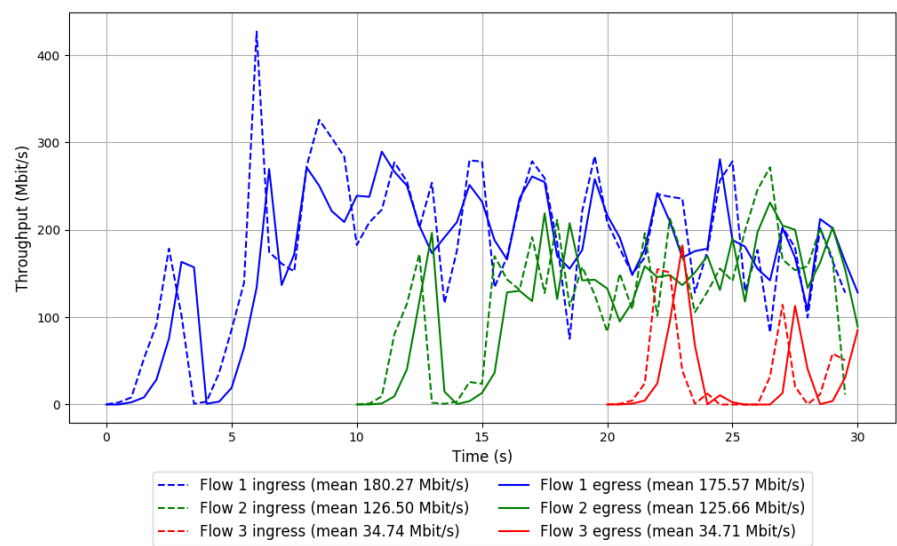


Run 2: Statistics of Verus

Start at: 2019-01-21 09:42:28  
End at: 2019-01-21 09:42:58  
Local clock offset: -0.381 ms  
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-01-21 15:15:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 269.55 Mbit/s  
95th percentile per-packet one-way delay: 248.212 ms  
Loss rate: 1.86%  
-- Flow 1:  
Average throughput: 175.57 Mbit/s  
95th percentile per-packet one-way delay: 253.833 ms  
Loss rate: 2.61%  
-- Flow 2:  
Average throughput: 125.66 Mbit/s  
95th percentile per-packet one-way delay: 192.625 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 34.71 Mbit/s  
95th percentile per-packet one-way delay: 115.107 ms  
Loss rate: 0.07%

Run 2: Report of Verus — Data Link



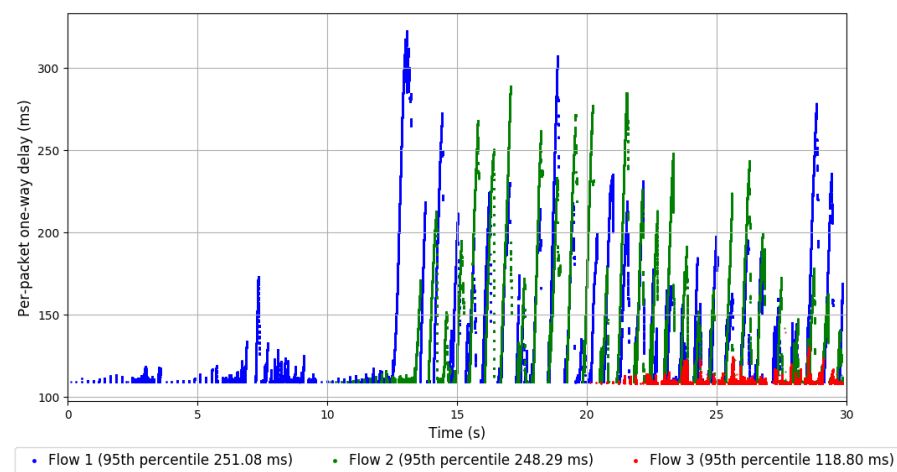
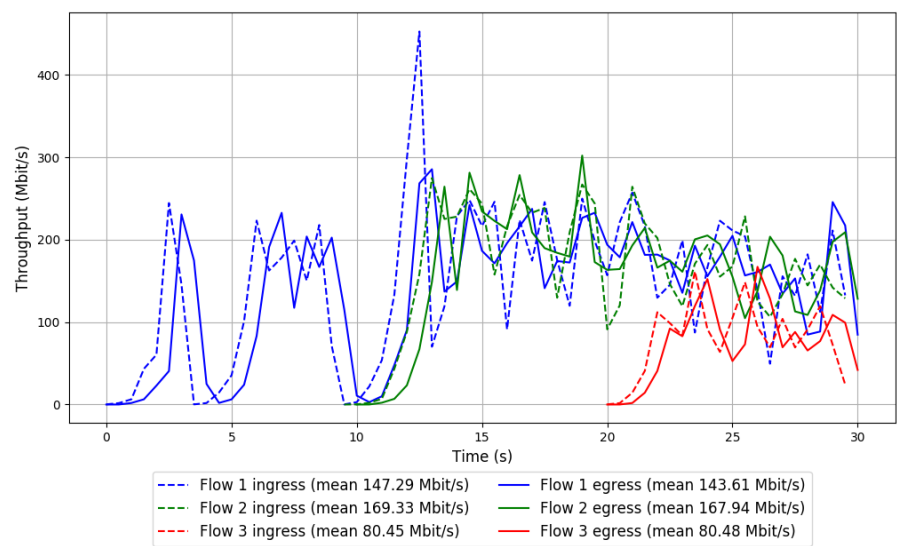


Run 3: Statistics of Verus

Start at: 2019-01-21 10:21:20  
End at: 2019-01-21 10:21:50  
Local clock offset: 0.048 ms  
Remote clock offset: 0.233 ms

# Below is generated by plot.py at 2019-01-21 15:15:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 281.43 Mbit/s  
95th percentile per-packet one-way delay: 246.354 ms  
Loss rate: 1.61%  
-- Flow 1:  
Average throughput: 143.61 Mbit/s  
95th percentile per-packet one-way delay: 251.080 ms  
Loss rate: 2.50%  
-- Flow 2:  
Average throughput: 167.94 Mbit/s  
95th percentile per-packet one-way delay: 248.286 ms  
Loss rate: 0.82%  
-- Flow 3:  
Average throughput: 80.48 Mbit/s  
95th percentile per-packet one-way delay: 118.796 ms  
Loss rate: 0.00%

Run 3: Report of Verus — Data Link

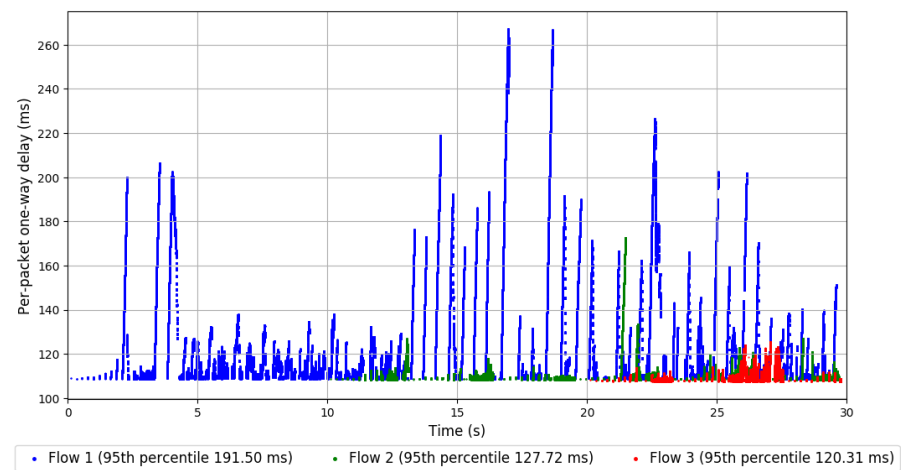
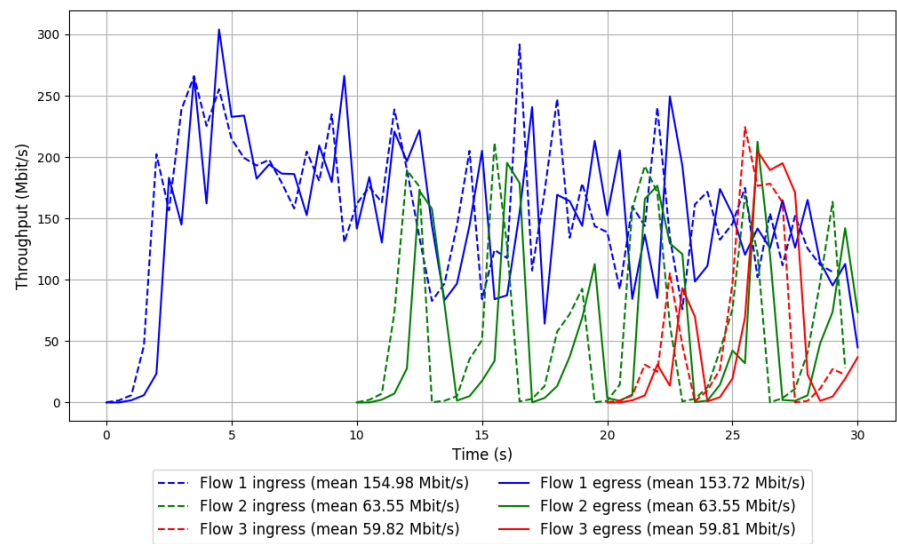


Run 4: Statistics of Verus

Start at: 2019-01-21 11:00:21  
End at: 2019-01-21 11:00:51  
Local clock offset: 0.578 ms  
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-01-21 15:15:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 214.22 Mbit/s  
95th percentile per-packet one-way delay: 183.136 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 153.72 Mbit/s  
95th percentile per-packet one-way delay: 191.502 ms  
Loss rate: 0.67%  
-- Flow 2:  
Average throughput: 63.55 Mbit/s  
95th percentile per-packet one-way delay: 127.725 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 59.81 Mbit/s  
95th percentile per-packet one-way delay: 120.307 ms  
Loss rate: 0.00%

Run 4: Report of Verus — Data Link

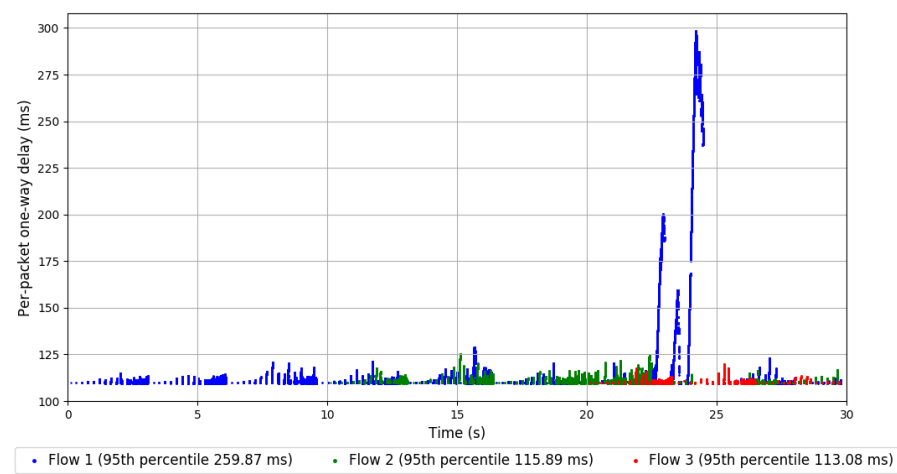
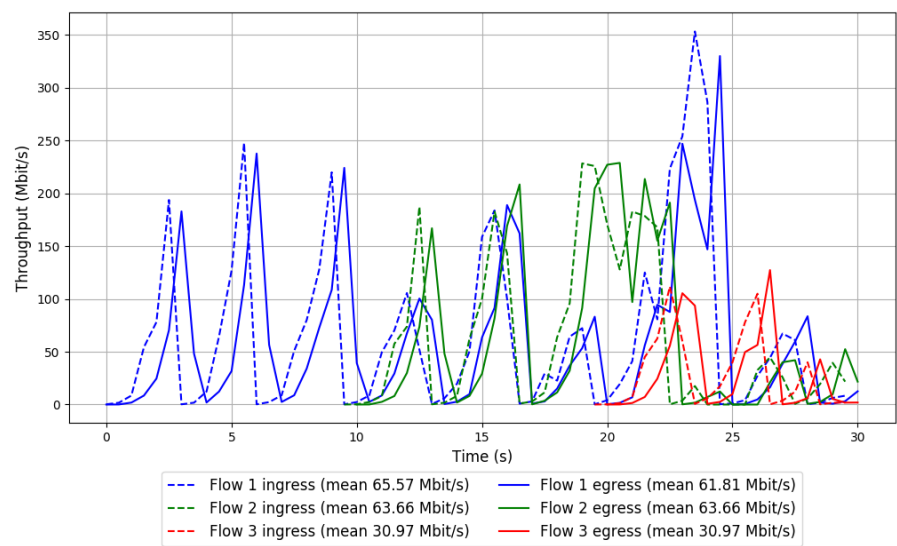


Run 5: Statistics of Verus

Start at: 2019-01-21 11:37:58  
End at: 2019-01-21 11:38:28  
Local clock offset: -0.282 ms  
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-01-21 15:15:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 113.89 Mbit/s  
95th percentile per-packet one-way delay: 197.471 ms  
Loss rate: 3.19%  
-- Flow 1:  
Average throughput: 61.81 Mbit/s  
95th percentile per-packet one-way delay: 259.868 ms  
Loss rate: 5.73%  
-- Flow 2:  
Average throughput: 63.66 Mbit/s  
95th percentile per-packet one-way delay: 115.895 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 30.97 Mbit/s  
95th percentile per-packet one-way delay: 113.081 ms  
Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-01-21 08:53:08

End at: 2019-01-21 08:53:38

Local clock offset: -0.865 ms

Remote clock offset: 0.154 ms

# Below is generated by plot.py at 2019-01-21 15:17:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 490.50 Mbit/s

95th percentile per-packet one-way delay: 127.712 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 314.54 Mbit/s

95th percentile per-packet one-way delay: 147.355 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 197.48 Mbit/s

95th percentile per-packet one-way delay: 109.903 ms

Loss rate: 0.00%

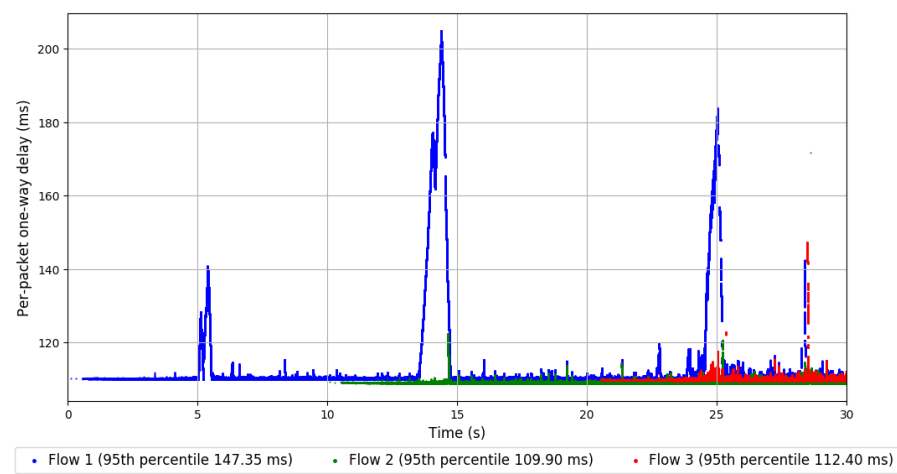
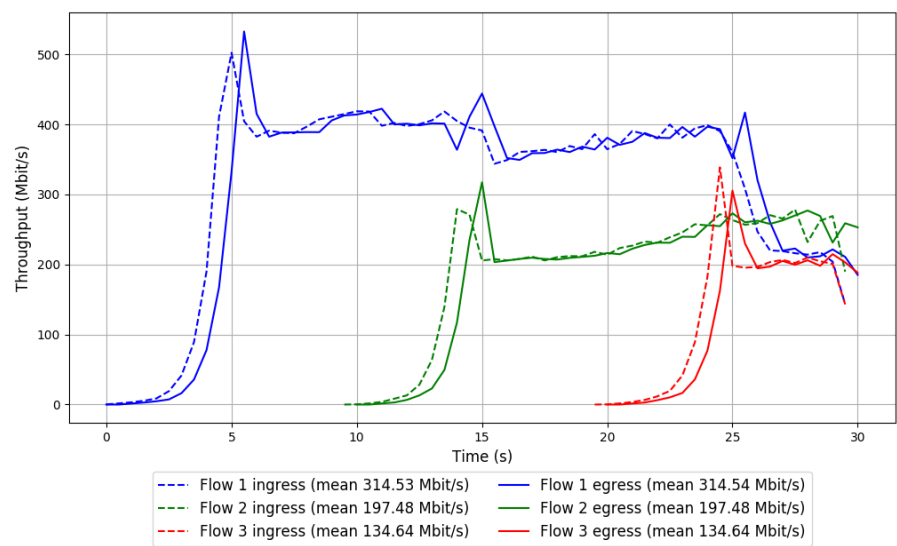
-- Flow 3:

Average throughput: 134.64 Mbit/s

95th percentile per-packet one-way delay: 112.402 ms

Loss rate: 0.02%

Run 1: Report of PCC-Vivace — Data Link





Run 2: Statistics of PCC-Vivace

Start at: 2019-01-21 09:30:25

End at: 2019-01-21 09:30:55

Local clock offset: -0.703 ms

Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2019-01-21 15:19:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 504.57 Mbit/s

95th percentile per-packet one-way delay: 128.781 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 308.54 Mbit/s

95th percentile per-packet one-way delay: 126.509 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 181.28 Mbit/s

95th percentile per-packet one-way delay: 111.026 ms

Loss rate: 0.00%

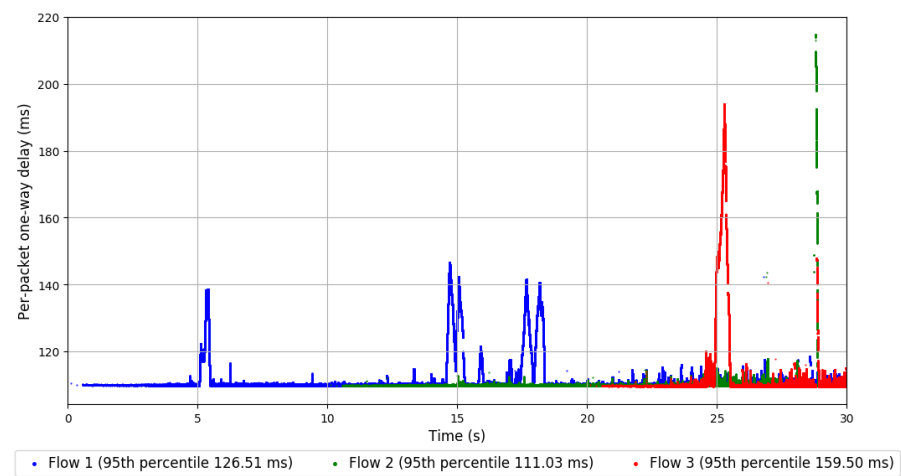
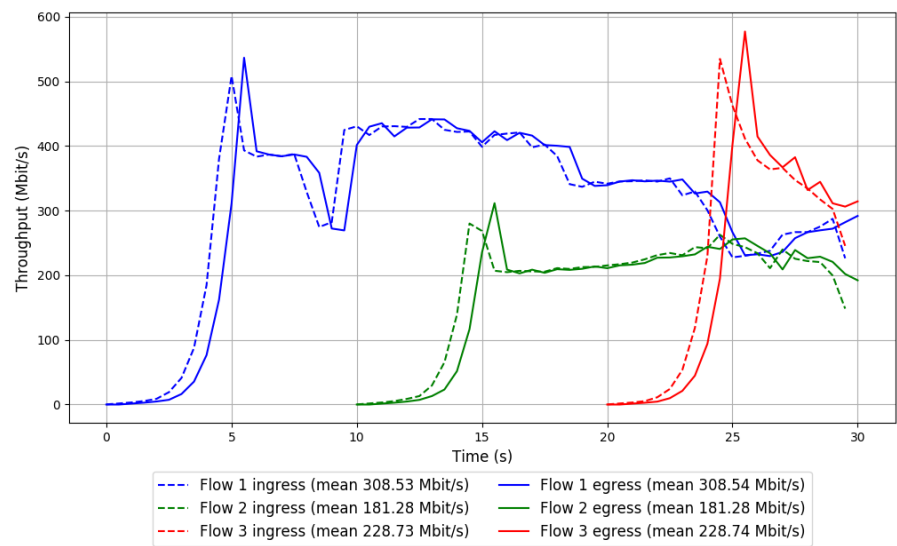
-- Flow 3:

Average throughput: 228.74 Mbit/s

95th percentile per-packet one-way delay: 159.498 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

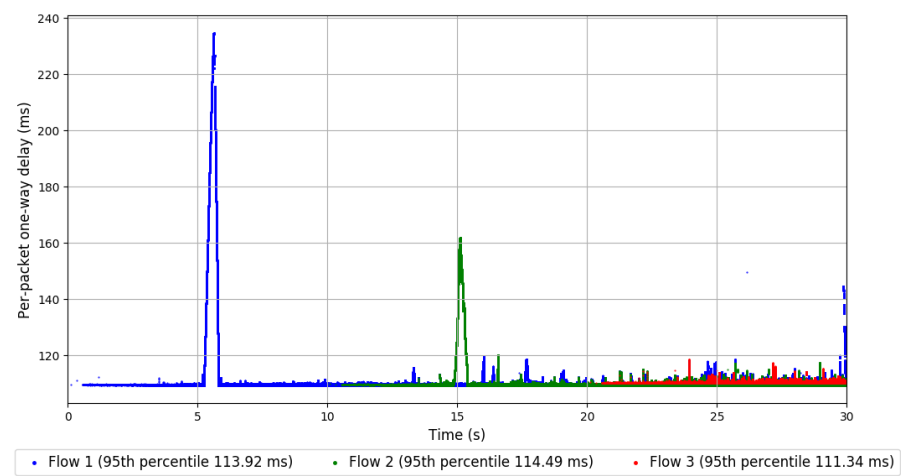
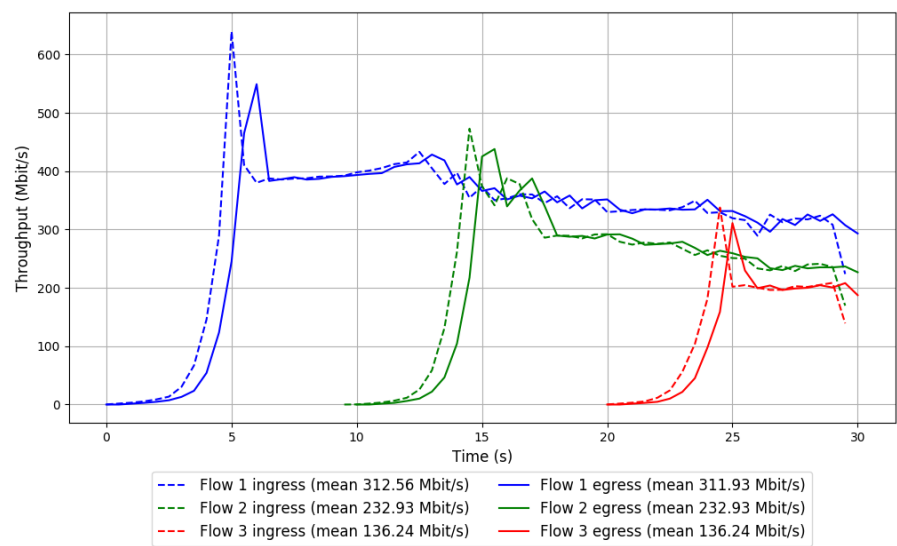


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-21 10:08:53  
End at: 2019-01-21 10:09:23  
Local clock offset: -1.485 ms  
Remote clock offset: -0.277 ms

# Below is generated by plot.py at 2019-01-21 15:19:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 511.87 Mbit/s  
95th percentile per-packet one-way delay: 113.366 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 311.93 Mbit/s  
95th percentile per-packet one-way delay: 113.925 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 232.93 Mbit/s  
95th percentile per-packet one-way delay: 114.489 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 136.24 Mbit/s  
95th percentile per-packet one-way delay: 111.337 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-21 10:47:56

End at: 2019-01-21 10:48:26

Local clock offset: -0.276 ms

Remote clock offset: 0.402 ms

# Below is generated by plot.py at 2019-01-21 15:19:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 479.07 Mbit/s

95th percentile per-packet one-way delay: 171.128 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 320.80 Mbit/s

95th percentile per-packet one-way delay: 194.285 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 168.99 Mbit/s

95th percentile per-packet one-way delay: 110.897 ms

Loss rate: 0.01%

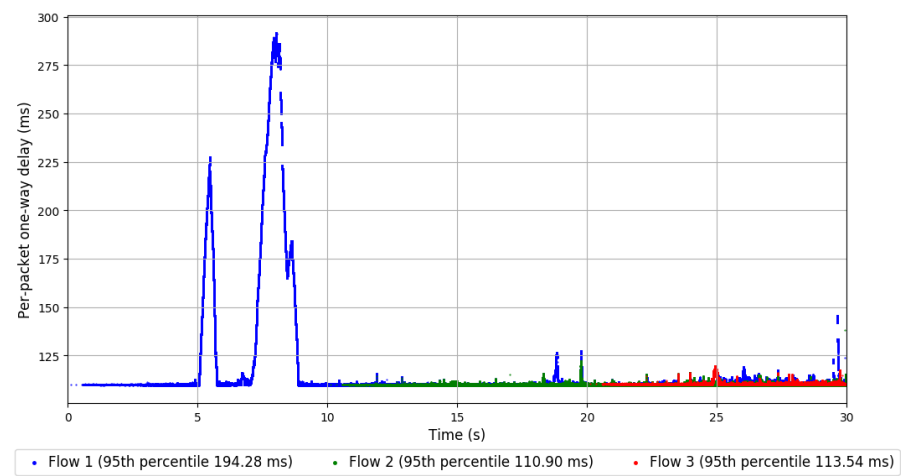
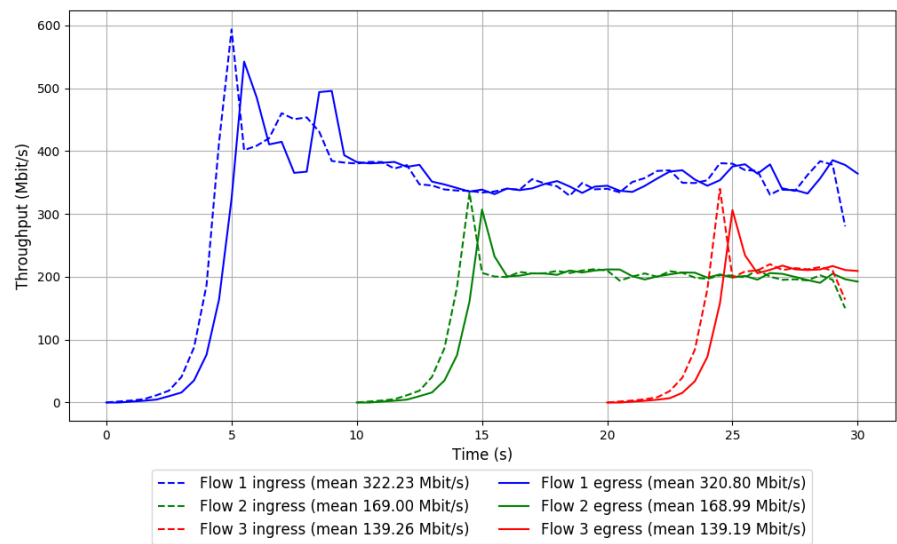
-- Flow 3:

Average throughput: 139.19 Mbit/s

95th percentile per-packet one-way delay: 113.543 ms

Loss rate: 0.07%

Run 4: Report of PCC-Vivace — Data Link

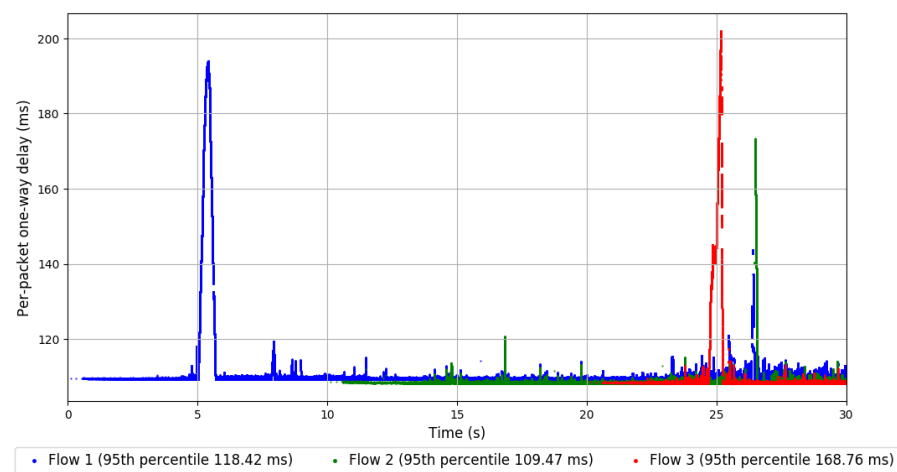
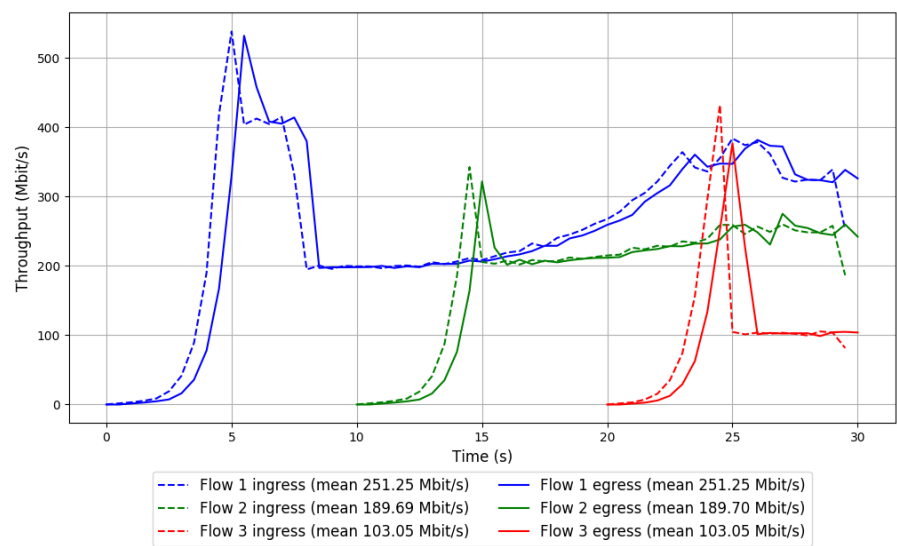


Run 5: Statistics of PCC-Vivace

Start at: 2019-01-21 11:25:51  
End at: 2019-01-21 11:26:21  
Local clock offset: -0.093 ms  
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-01-21 15:19:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 411.37 Mbit/s  
95th percentile per-packet one-way delay: 116.903 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 251.25 Mbit/s  
95th percentile per-packet one-way delay: 118.425 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 189.70 Mbit/s  
95th percentile per-packet one-way delay: 109.466 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 103.05 Mbit/s  
95th percentile per-packet one-way delay: 168.764 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link





Run 1: Statistics of WebRTC media

Start at: 2019-01-21 09:19:12

End at: 2019-01-21 09:19:42

Local clock offset: 0.308 ms

Remote clock offset: 0.464 ms

# Below is generated by plot.py at 2019-01-21 15:19:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.64 Mbit/s

95th percentile per-packet one-way delay: 109.718 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 109.730 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.24 Mbit/s

95th percentile per-packet one-way delay: 109.708 ms

Loss rate: 0.00%

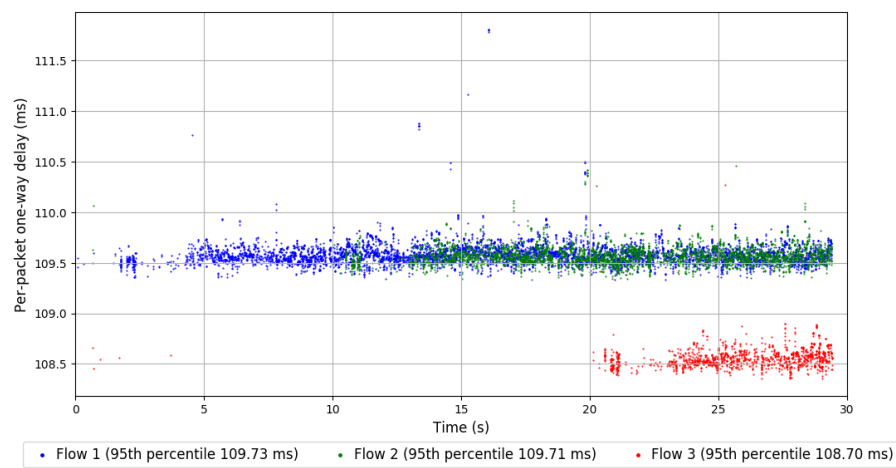
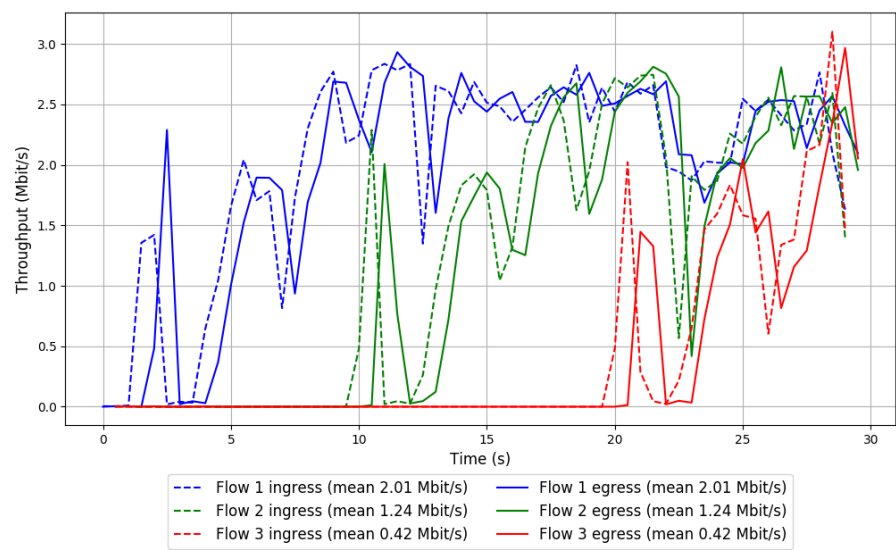
-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 108.702 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-21 09:57:02

End at: 2019-01-21 09:57:32

Local clock offset: -0.125 ms

Remote clock offset: 0.021 ms

# Below is generated by plot.py at 2019-01-21 15:19:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 109.534 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 108.944 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 109.584 ms

Loss rate: 0.00%

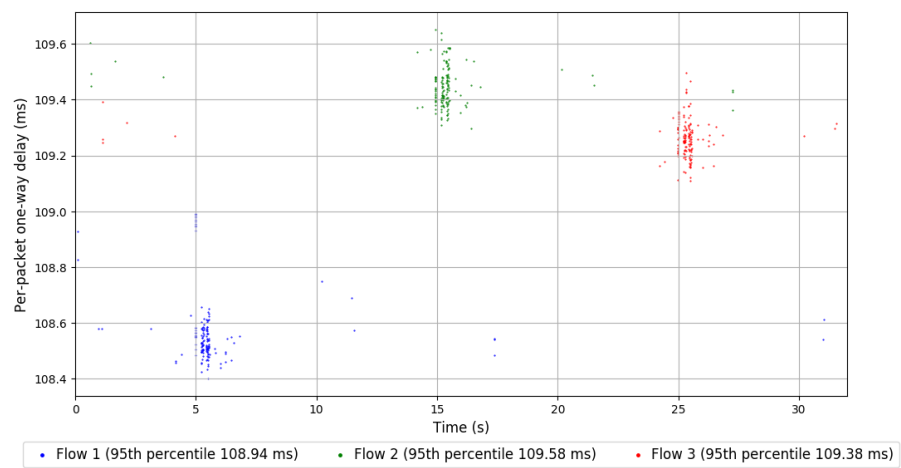
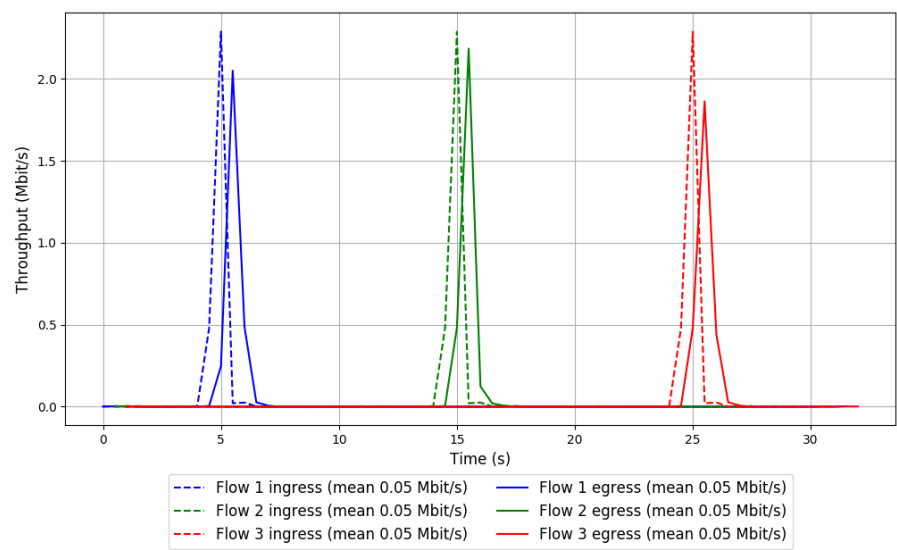
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 109.379 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

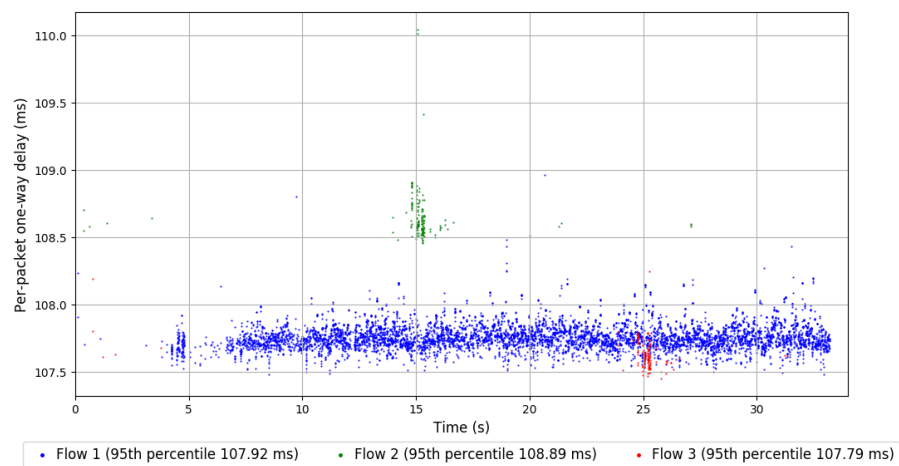
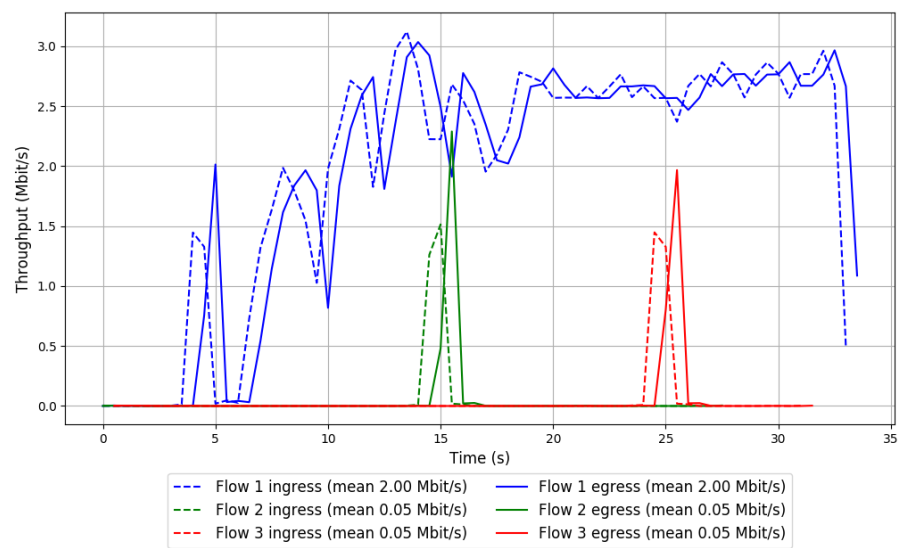


Run 3: Statistics of WebRTC media

Start at: 2019-01-21 10:36:34  
End at: 2019-01-21 10:37:04  
Local clock offset: 0.719 ms  
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-01-21 15:19:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.09 Mbit/s  
95th percentile per-packet one-way delay: 107.955 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.00 Mbit/s  
95th percentile per-packet one-way delay: 107.918 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 108.893 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 107.789 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-21 11:14:36

End at: 2019-01-21 11:15:06

Local clock offset: 0.513 ms

Remote clock offset: 0.093 ms

# Below is generated by plot.py at 2019-01-21 15:19:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.19 Mbit/s

95th percentile per-packet one-way delay: 109.229 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 108.878 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.14 Mbit/s

95th percentile per-packet one-way delay: 109.294 ms

Loss rate: 0.00%

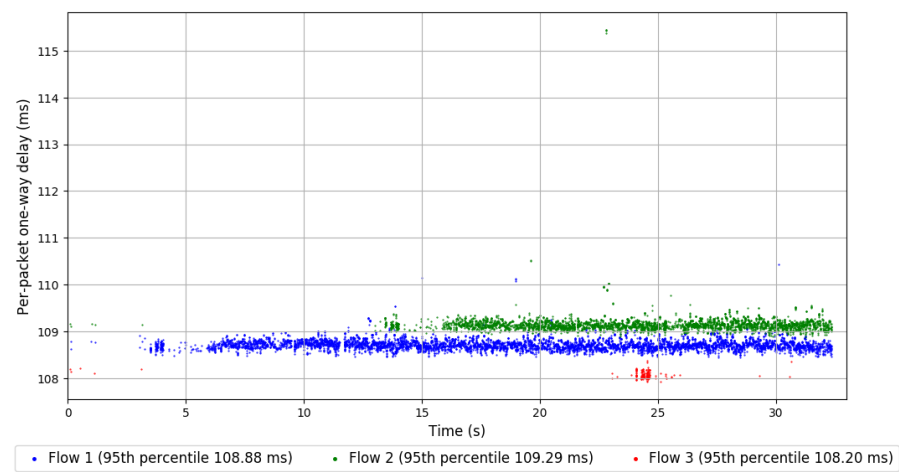
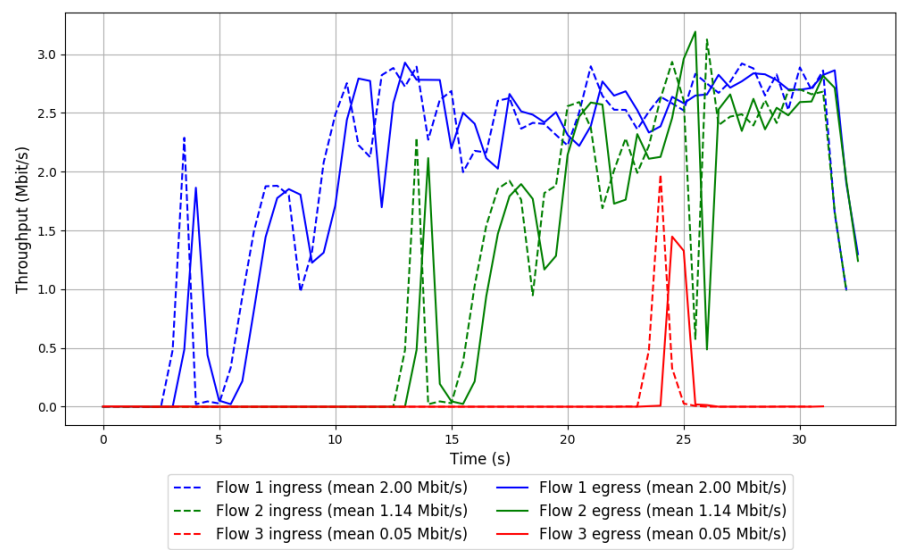
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 108.201 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-01-21 11:52:08

End at: 2019-01-21 11:52:38

Local clock offset: -0.013 ms

Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-01-21 15:19:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 109.366 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 109.377 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 109.376 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 109.269 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

