

Pantheon Report

Generated at 2018-10-26 11:42:38 (UTC).
Data path: India on `em1` (*remote*) → AWS India 1 on `ens5` (*local*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

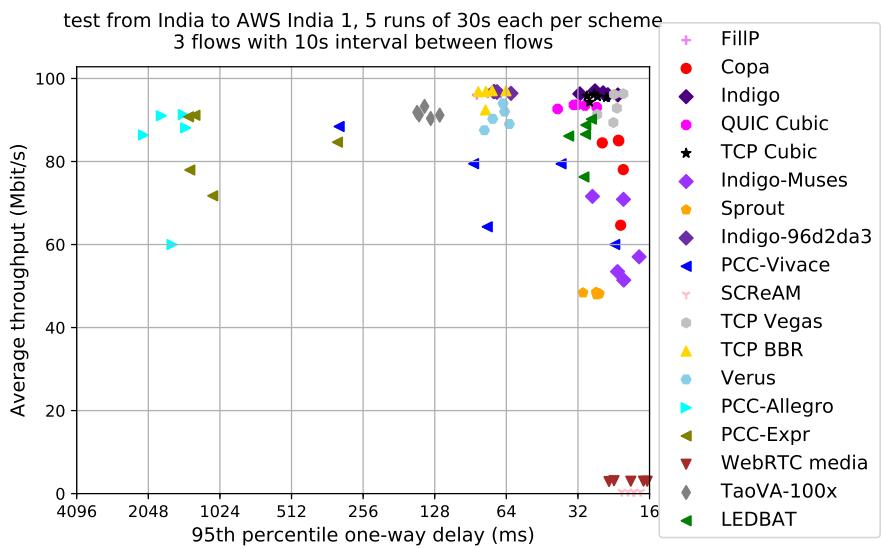
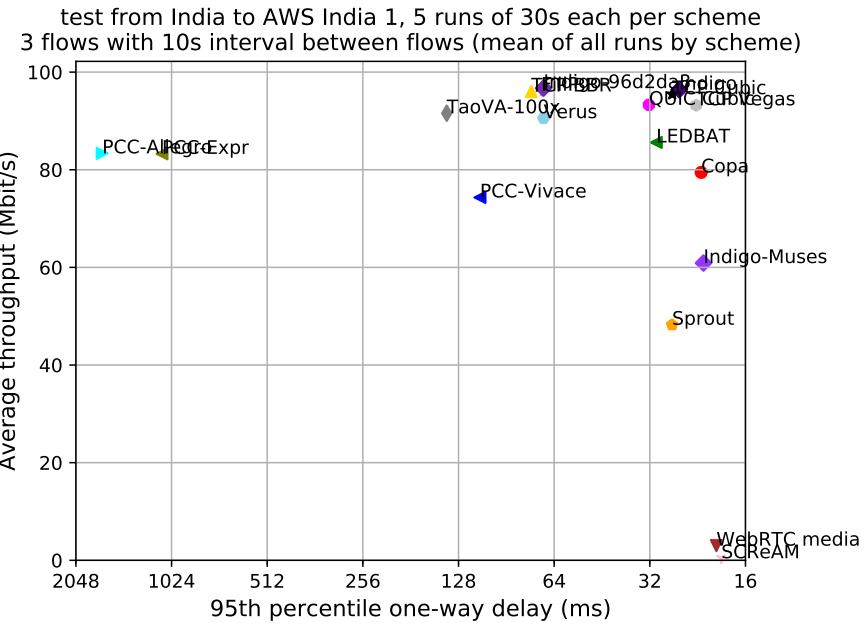
System info:

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

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-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



↳

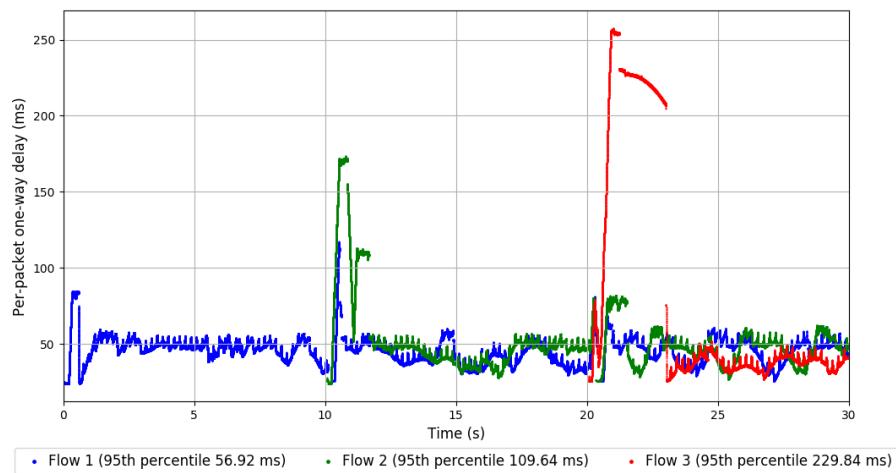
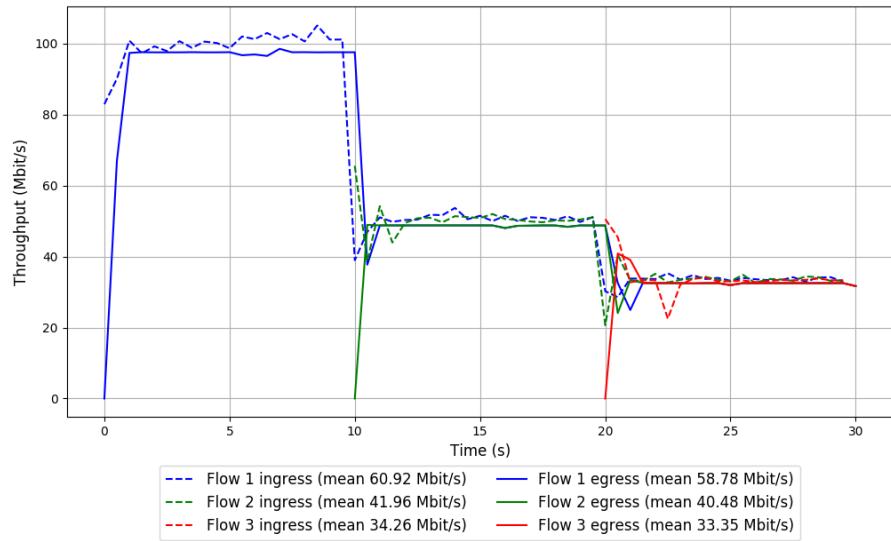
| scheme | # runs | mean avg tput (Mbit/s) | | | mean 95th-%ile delay (ms) | | | mean loss rate (%) | | |
|----------------|--------|------------------------|--------|--------|---------------------------|--------|--------|--------------------|--------|--------|
| | | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 |
| TCP BBR | 5 | 56.50 | 40.59 | 37.68 | 55.25 | 101.52 | 114.60 | 2.96 | 3.49 | 3.31 |
| Copa | 5 | 49.01 | 31.76 | 27.98 | 21.77 | 22.50 | 21.98 | 0.06 | 0.11 | 0.22 |
| TCP Cubic | 5 | 59.10 | 41.69 | 25.98 | 27.02 | 27.26 | 28.21 | 0.07 | 0.15 | 0.34 |
| FillP | 5 | 58.96 | 40.02 | 32.05 | 57.18 | 79.57 | 211.49 | 1.40 | 1.36 | 0.98 |
| Indigo | 5 | 57.76 | 41.43 | 33.80 | 25.21 | 25.54 | 26.45 | 0.05 | 0.14 | 0.32 |
| Indigo-96d2da3 | 5 | 58.57 | 42.07 | 30.73 | 68.46 | 68.38 | 103.47 | 3.99 | 6.20 | 5.74 |
| LEDBAT | 5 | 51.79 | 36.70 | 30.03 | 29.67 | 31.34 | 32.75 | 0.11 | 0.25 | 0.29 |
| Indigo-Muses | 5 | 34.71 | 22.61 | 33.68 | 20.44 | 23.18 | 25.31 | 0.04 | 0.05 | 0.51 |
| PCC-Allegro | 5 | 49.46 | 38.38 | 24.95 | 1384.17 | 684.71 | 30.60 | 8.20 | 4.99 | 0.33 |
| PCC-Expr | 5 | 52.00 | 36.87 | 20.43 | 917.69 | 643.82 | 78.13 | 11.86 | 8.06 | 1.23 |
| QUIC Cubic | 5 | 55.64 | 42.57 | 27.96 | 32.92 | 33.21 | 51.83 | 0.10 | 0.26 | 0.68 |
| SCReAM | 5 | 0.21 | 0.21 | 0.22 | 19.07 | 19.06 | 19.08 | 0.13 | 0.19 | 0.35 |
| Sprout | 5 | 24.34 | 24.14 | 23.82 | 26.48 | 27.56 | 27.63 | 0.08 | 0.14 | 0.33 |
| TaoVA-100x | 5 | 57.47 | 37.42 | 27.64 | 86.02 | 175.50 | 179.06 | 0.27 | 0.95 | 2.56 |
| TCP Vegas | 5 | 56.22 | 37.89 | 35.43 | 22.62 | 23.69 | 23.04 | 0.07 | 0.16 | 0.27 |
| Verus | 5 | 55.93 | 36.45 | 31.33 | 67.16 | 82.19 | 158.23 | 0.54 | 0.44 | 0.67 |
| PCC-Vivace | 5 | 43.66 | 35.46 | 21.48 | 58.61 | 47.81 | 97.52 | 0.11 | 0.18 | 2.12 |
| WebRTC media | 5 | 1.59 | 0.99 | 0.43 | 19.27 | 19.81 | 19.93 | 0.03 | 0.18 | 0.04 |

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-26 09:49:32
End at: 2018-10-26 09:50:02
Local clock offset: 2.976 ms
Remote clock offset: -5.337 ms

# Below is generated by plot.py at 2018-10-26 11:31:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 83.974 ms
Loss rate: 3.54%
-- Flow 1:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: 56.925 ms
Loss rate: 3.61%
-- Flow 2:
Average throughput: 40.48 Mbit/s
95th percentile per-packet one-way delay: 109.635 ms
Loss rate: 3.67%
-- Flow 3:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 229.839 ms
Loss rate: 2.91%
```

Run 1: Report of TCP BBR — Data Link

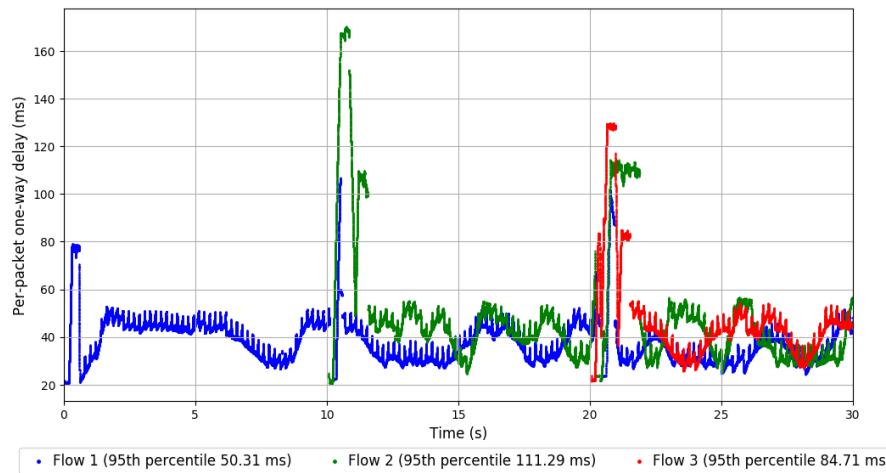
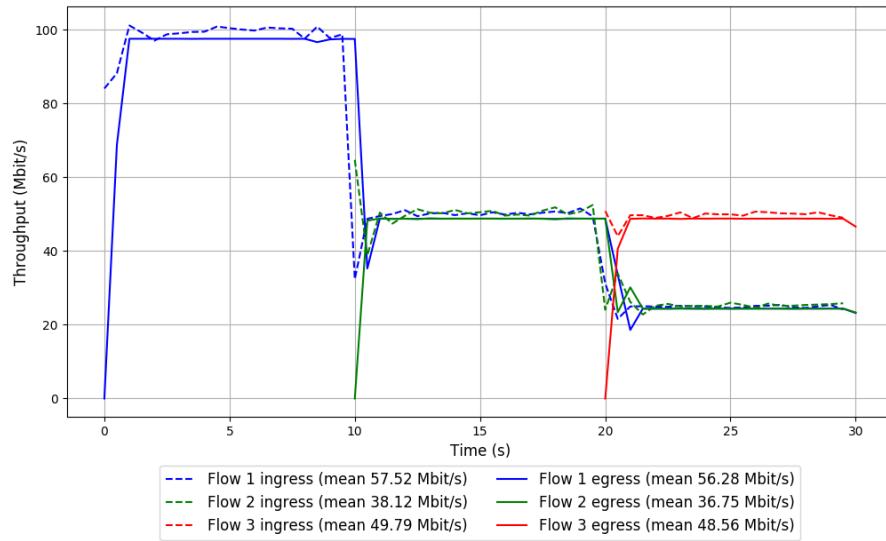


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-26 10:11:57
End at: 2018-10-26 10:12:27
Local clock offset: 1.743 ms
Remote clock offset: -2.69 ms

# Below is generated by plot.py at 2018-10-26 11:31:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 78.011 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 56.28 Mbit/s
95th percentile per-packet one-way delay: 50.314 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 36.75 Mbit/s
95th percentile per-packet one-way delay: 111.291 ms
Loss rate: 3.72%
-- Flow 3:
Average throughput: 48.56 Mbit/s
95th percentile per-packet one-way delay: 84.709 ms
Loss rate: 2.76%
```

Run 2: Report of TCP BBR — Data Link

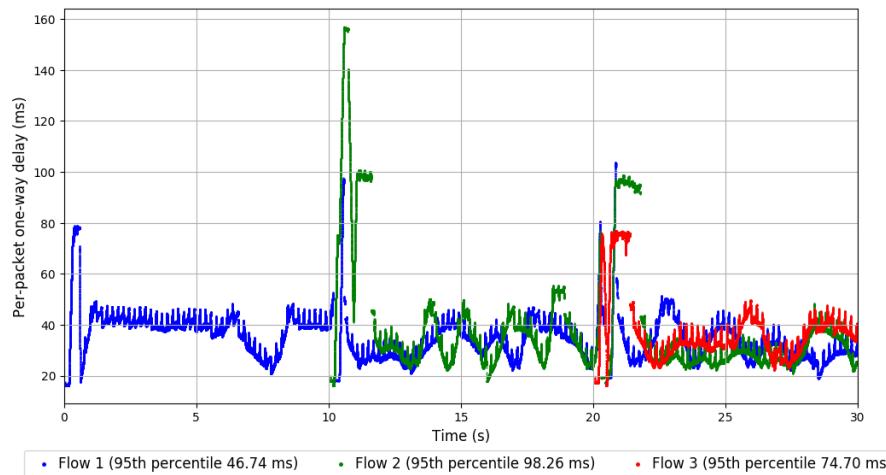
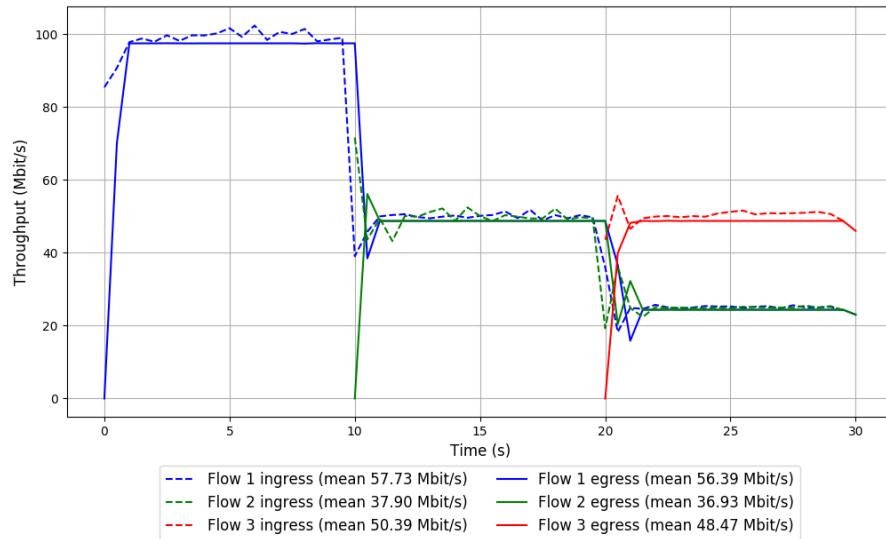


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-26 10:34:29
End at: 2018-10-26 10:34:59
Local clock offset: -0.01 ms
Remote clock offset: 0.215 ms

# Below is generated by plot.py at 2018-10-26 11:31:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.05 Mbit/s
95th percentile per-packet one-way delay: 73.413 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 56.39 Mbit/s
95th percentile per-packet one-way delay: 46.736 ms
Loss rate: 2.40%
-- Flow 2:
Average throughput: 36.93 Mbit/s
95th percentile per-packet one-way delay: 98.261 ms
Loss rate: 2.71%
-- Flow 3:
Average throughput: 48.47 Mbit/s
95th percentile per-packet one-way delay: 74.700 ms
Loss rate: 4.05%
```

Run 3: Report of TCP BBR — Data Link

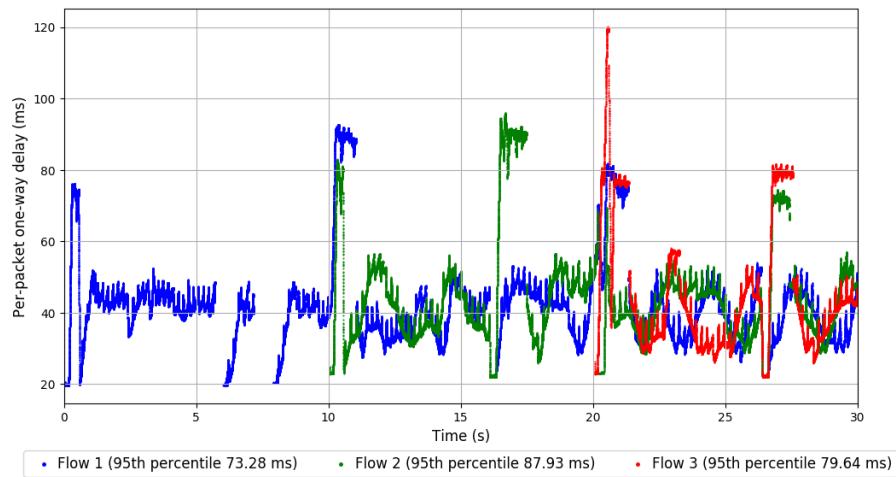
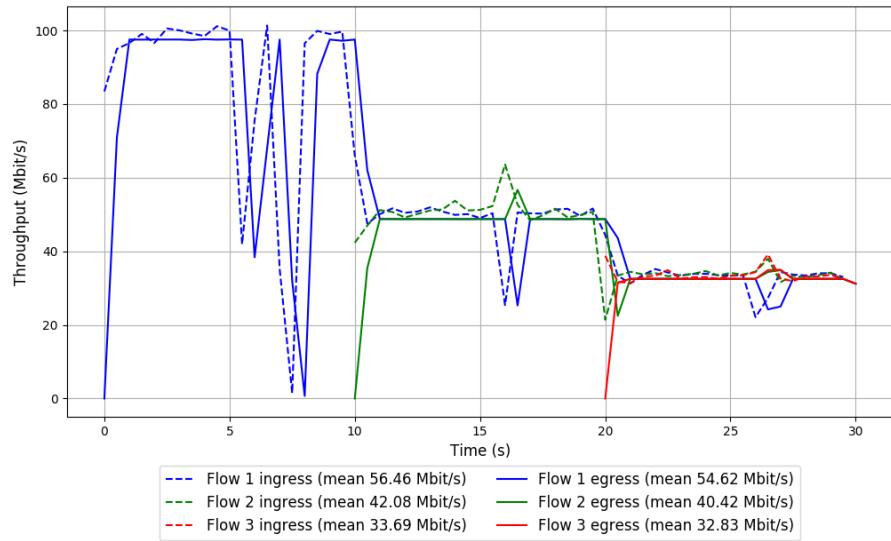


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-26 10:56:54
End at: 2018-10-26 10:57:24
Local clock offset: 4.615 ms
Remote clock offset: -2.093 ms

# Below is generated by plot.py at 2018-10-26 11:31:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.43 Mbit/s
95th percentile per-packet one-way delay: 78.277 ms
Loss rate: 3.49%
-- Flow 1:
Average throughput: 54.62 Mbit/s
95th percentile per-packet one-way delay: 73.275 ms
Loss rate: 3.34%
-- Flow 2:
Average throughput: 40.42 Mbit/s
95th percentile per-packet one-way delay: 87.933 ms
Loss rate: 4.06%
-- Flow 3:
Average throughput: 32.83 Mbit/s
95th percentile per-packet one-way delay: 79.636 ms
Loss rate: 2.81%
```

Run 4: Report of TCP BBR — Data Link

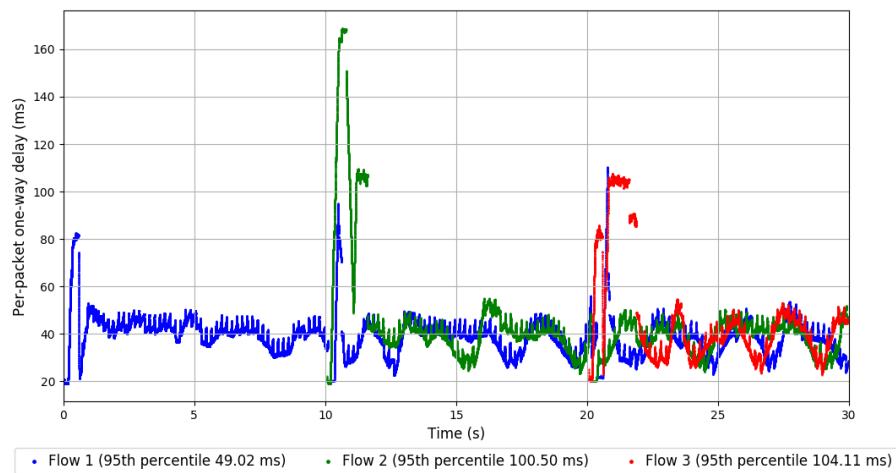
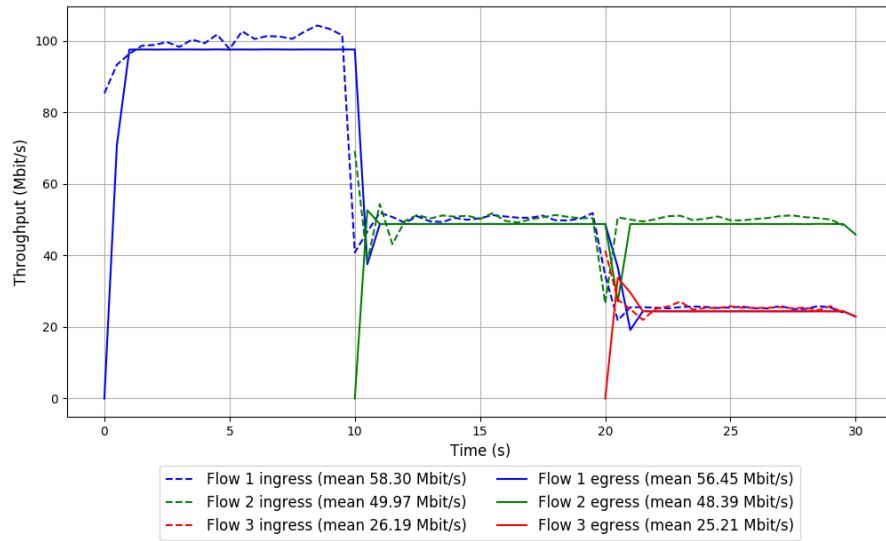


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-26 11:18:51
End at: 2018-10-26 11:19:21
Local clock offset: 1.137 ms
Remote clock offset: -2.673 ms

# Below is generated by plot.py at 2018-10-26 11:31:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 64.203 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 49.016 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 48.39 Mbit/s
95th percentile per-packet one-way delay: 100.500 ms
Loss rate: 3.27%
-- Flow 3:
Average throughput: 25.21 Mbit/s
95th percentile per-packet one-way delay: 104.110 ms
Loss rate: 4.00%
```

Run 5: Report of TCP BBR — Data Link

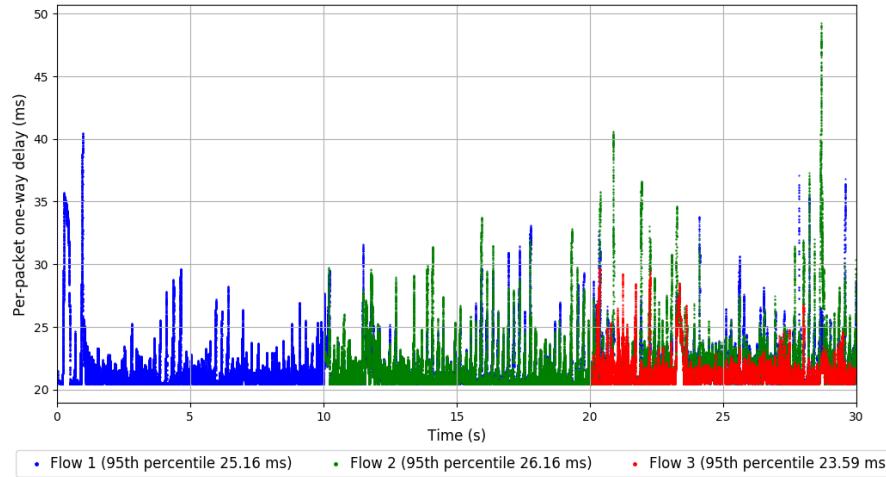
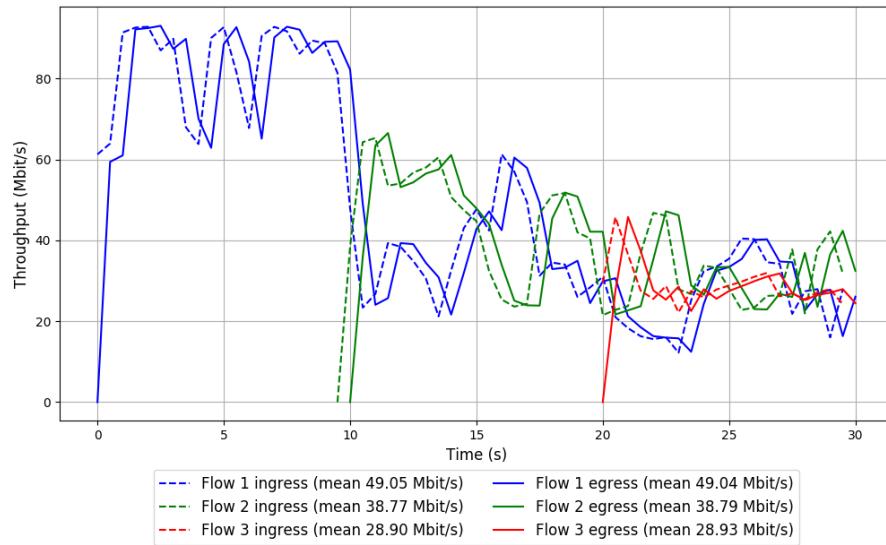


Run 1: Statistics of Copa

```
Start at: 2018-10-26 09:58:15
End at: 2018-10-26 09:58:45
Local clock offset: 0.516 ms
Remote clock offset: -4.328 ms

# Below is generated by plot.py at 2018-10-26 11:32:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.49 Mbit/s
95th percentile per-packet one-way delay: 25.283 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 49.04 Mbit/s
95th percentile per-packet one-way delay: 25.163 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 38.79 Mbit/s
95th percentile per-packet one-way delay: 26.160 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 23.591 ms
Loss rate: 0.17%
```

Run 1: Report of Copa — Data Link

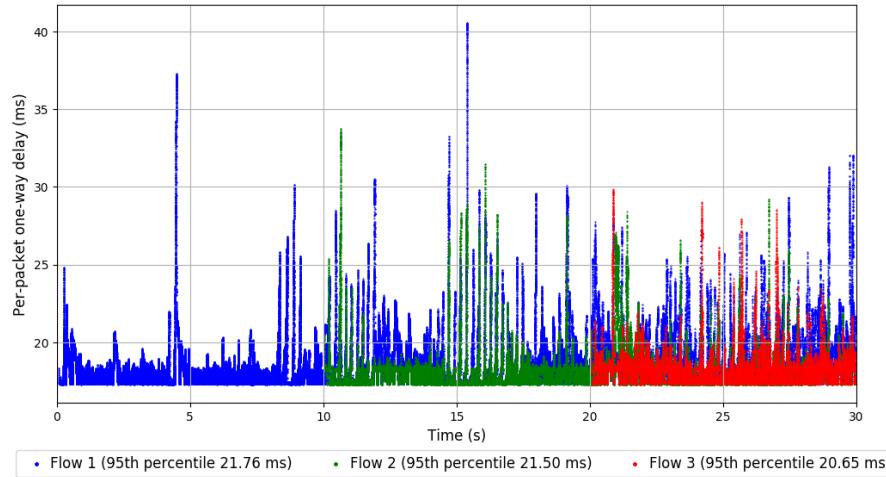
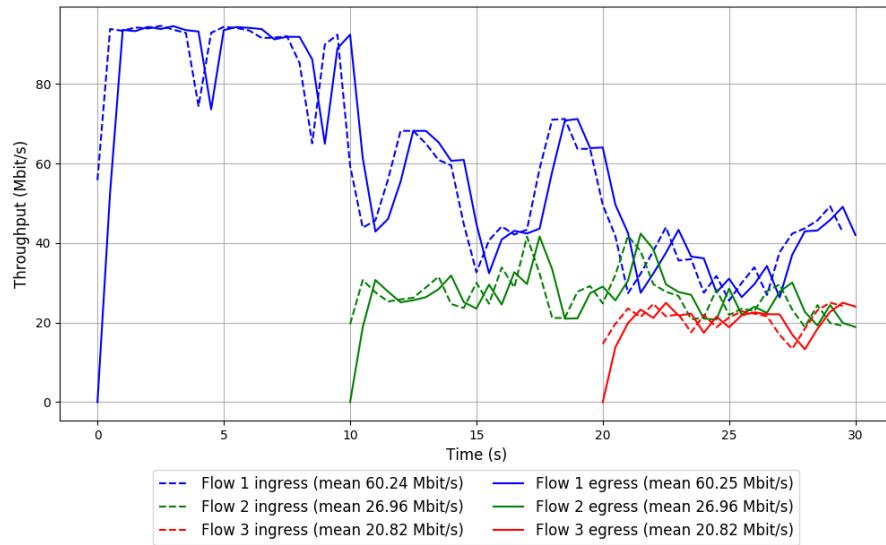


Run 2: Statistics of Copa

```
Start at: 2018-10-26 10:20:40
End at: 2018-10-26 10:21:10
Local clock offset: 0.963 ms
Remote clock offset: 0.117 ms

# Below is generated by plot.py at 2018-10-26 11:32:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.12 Mbit/s
95th percentile per-packet one-way delay: 21.636 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 60.25 Mbit/s
95th percentile per-packet one-way delay: 21.757 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 26.96 Mbit/s
95th percentile per-packet one-way delay: 21.495 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 20.82 Mbit/s
95th percentile per-packet one-way delay: 20.647 ms
Loss rate: 0.26%
```

Run 2: Report of Copa — Data Link

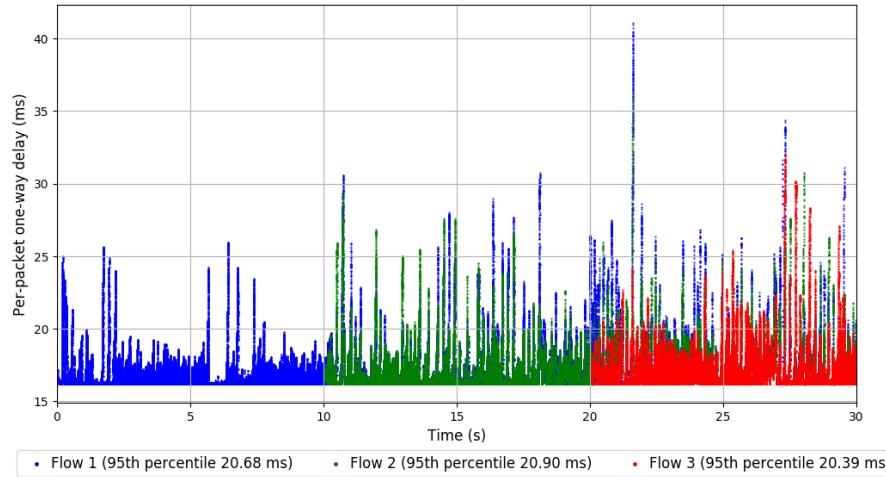
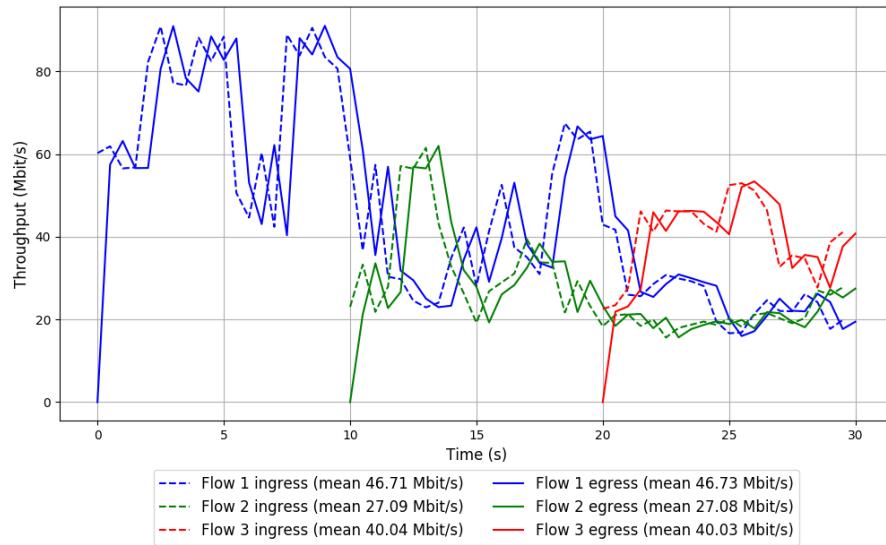


Run 3: Statistics of Copa

```
Start at: 2018-10-26 10:43:19
End at: 2018-10-26 10:43:49
Local clock offset: 1.012 ms
Remote clock offset: -1.875 ms

# Below is generated by plot.py at 2018-10-26 11:32:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.05 Mbit/s
95th percentile per-packet one-way delay: 20.638 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 46.73 Mbit/s
95th percentile per-packet one-way delay: 20.675 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 27.08 Mbit/s
95th percentile per-packet one-way delay: 20.900 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 20.385 ms
Loss rate: 0.25%
```

Run 3: Report of Copa — Data Link

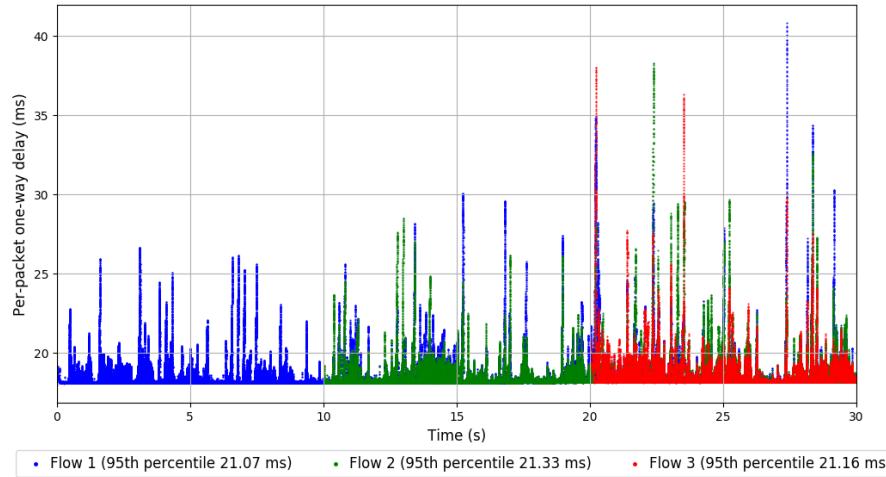
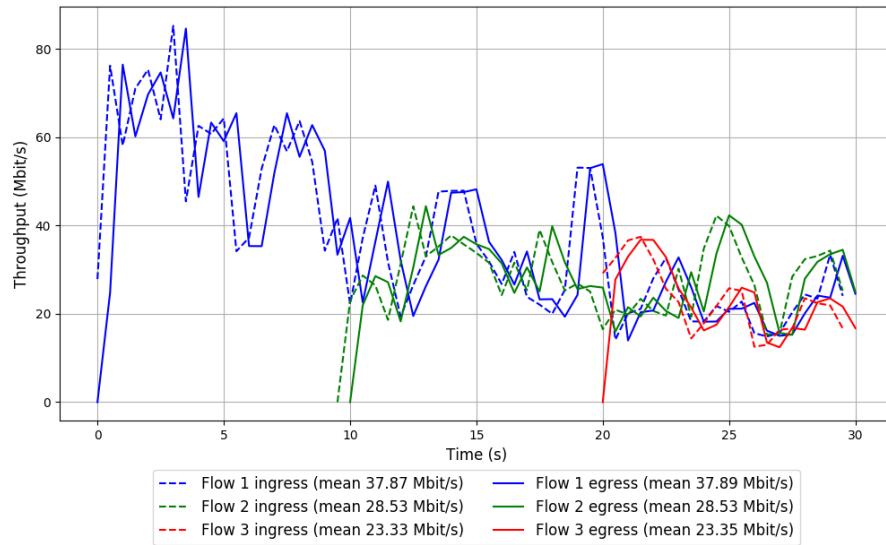


Run 4: Statistics of Copa

```
Start at: 2018-10-26 11:05:36
End at: 2018-10-26 11:06:06
Local clock offset: 2.25 ms
Remote clock offset: -1.736 ms

# Below is generated by plot.py at 2018-10-26 11:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.65 Mbit/s
95th percentile per-packet one-way delay: 21.166 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 37.89 Mbit/s
95th percentile per-packet one-way delay: 21.069 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 28.53 Mbit/s
95th percentile per-packet one-way delay: 21.329 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.35 Mbit/s
95th percentile per-packet one-way delay: 21.161 ms
Loss rate: 0.15%
```

Run 4: Report of Copa — Data Link

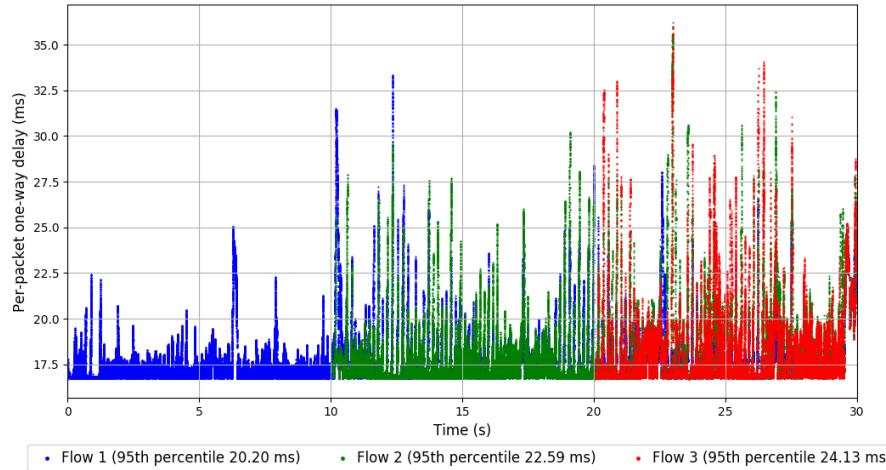
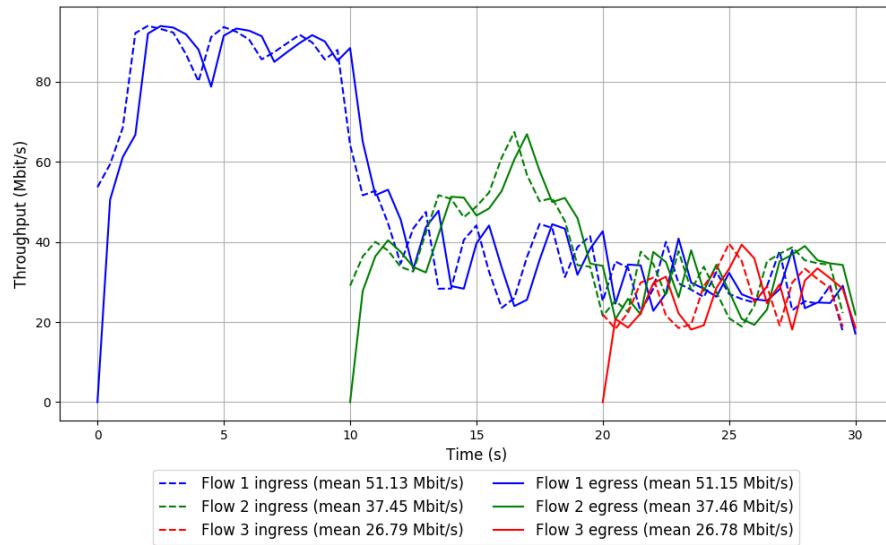


Run 5: Statistics of Copa

```
Start at: 2018-10-26 11:27:33
End at: 2018-10-26 11:28:03
Local clock offset: -0.616 ms
Remote clock offset: -2.177 ms

# Below is generated by plot.py at 2018-10-26 11:33:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.98 Mbit/s
95th percentile per-packet one-way delay: 21.550 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 51.15 Mbit/s
95th percentile per-packet one-way delay: 20.199 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.46 Mbit/s
95th percentile per-packet one-way delay: 22.595 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 26.78 Mbit/s
95th percentile per-packet one-way delay: 24.130 ms
Loss rate: 0.26%
```

Run 5: Report of Copa — Data Link

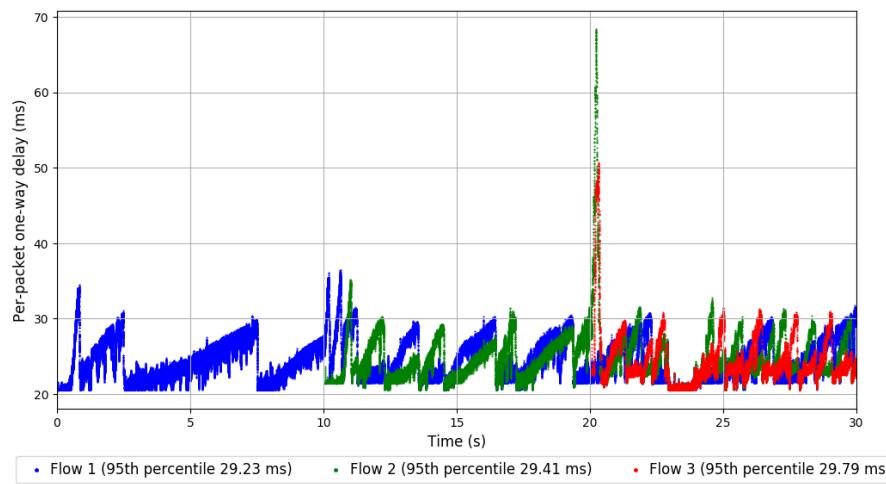
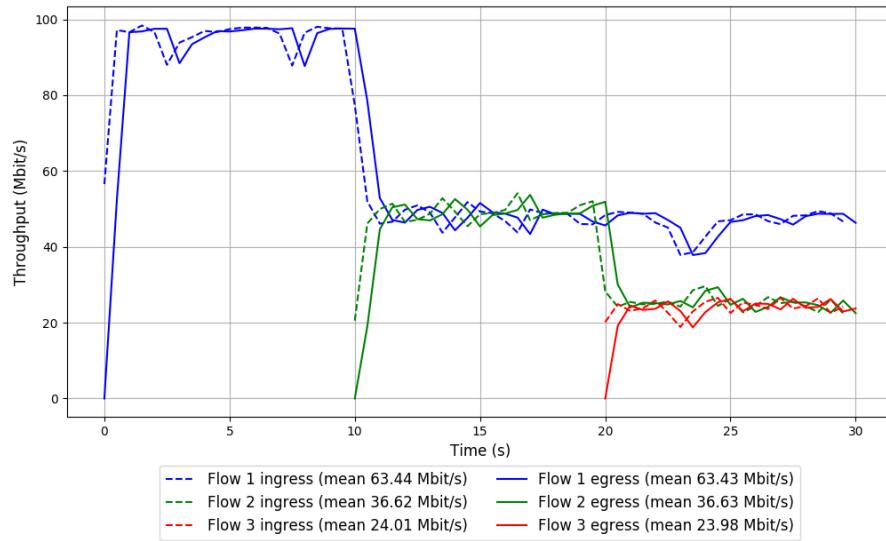


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-26 09:54:24
End at: 2018-10-26 09:54:54
Local clock offset: 0.37 ms
Remote clock offset: -4.61 ms

# Below is generated by plot.py at 2018-10-26 11:33:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 29.314 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 63.43 Mbit/s
95th percentile per-packet one-way delay: 29.228 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 29.405 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 23.98 Mbit/s
95th percentile per-packet one-way delay: 29.788 ms
Loss rate: 0.40%
```

Run 1: Report of TCP Cubic — Data Link

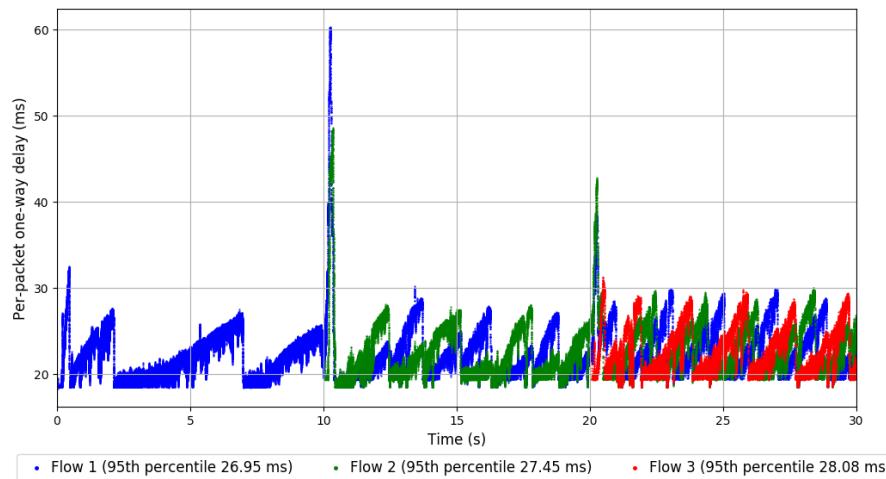
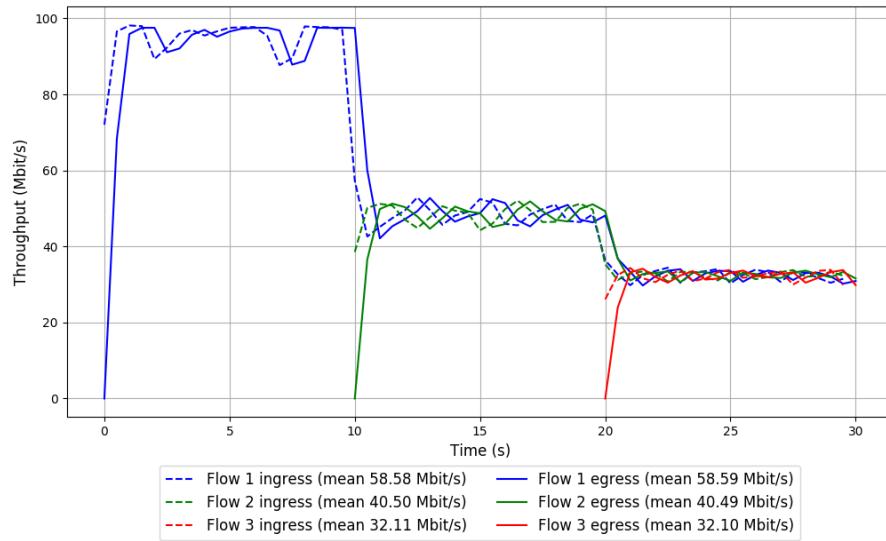


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-26 10:16:50
End at: 2018-10-26 10:17:20
Local clock offset: -0.116 ms
Remote clock offset: -2.226 ms

# Below is generated by plot.py at 2018-10-26 11:33:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.20 Mbit/s
95th percentile per-packet one-way delay: 27.356 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.59 Mbit/s
95th percentile per-packet one-way delay: 26.949 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 27.450 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 32.10 Mbit/s
95th percentile per-packet one-way delay: 28.082 ms
Loss rate: 0.30%
```

Run 2: Report of TCP Cubic — Data Link

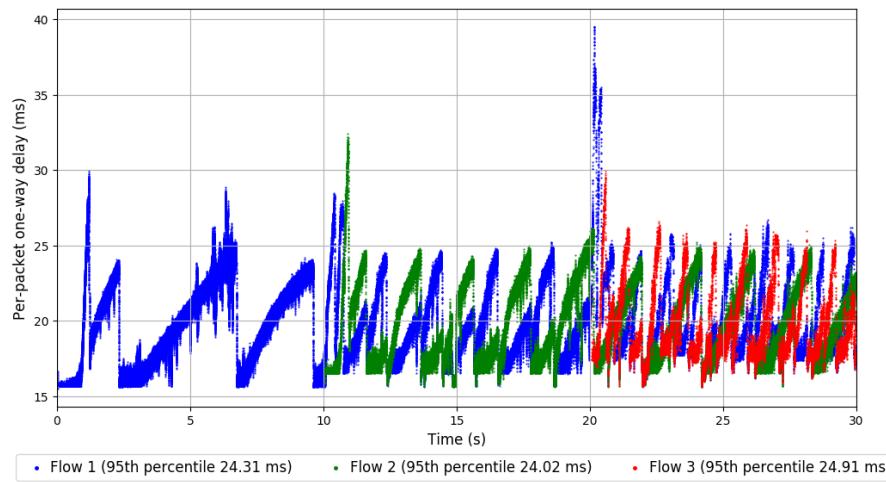
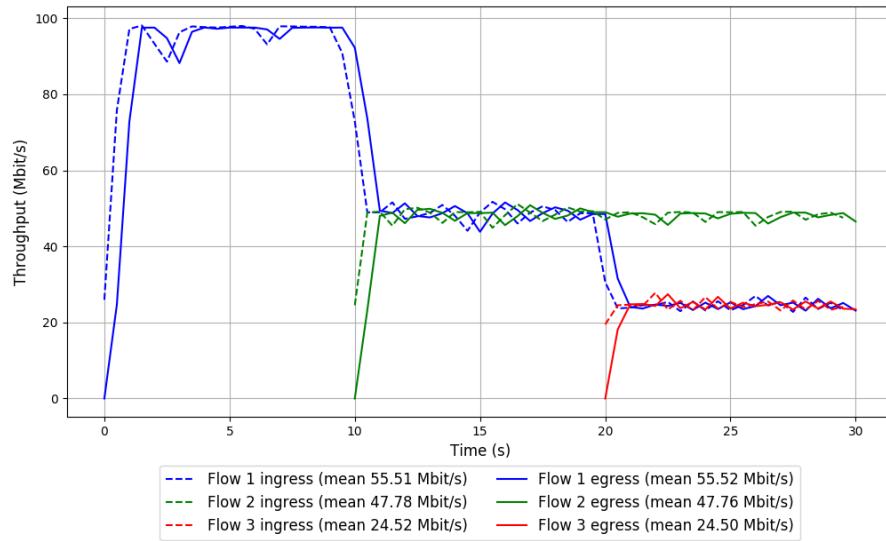


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-26 10:39:23
End at: 2018-10-26 10:39:53
Local clock offset: 0.998 ms
Remote clock offset: -1.197 ms

# Below is generated by plot.py at 2018-10-26 11:33:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.46 Mbit/s
95th percentile per-packet one-way delay: 24.255 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 55.52 Mbit/s
95th percentile per-packet one-way delay: 24.308 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 47.76 Mbit/s
95th percentile per-packet one-way delay: 24.022 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 24.909 ms
Loss rate: 0.33%
```

Run 3: Report of TCP Cubic — Data Link

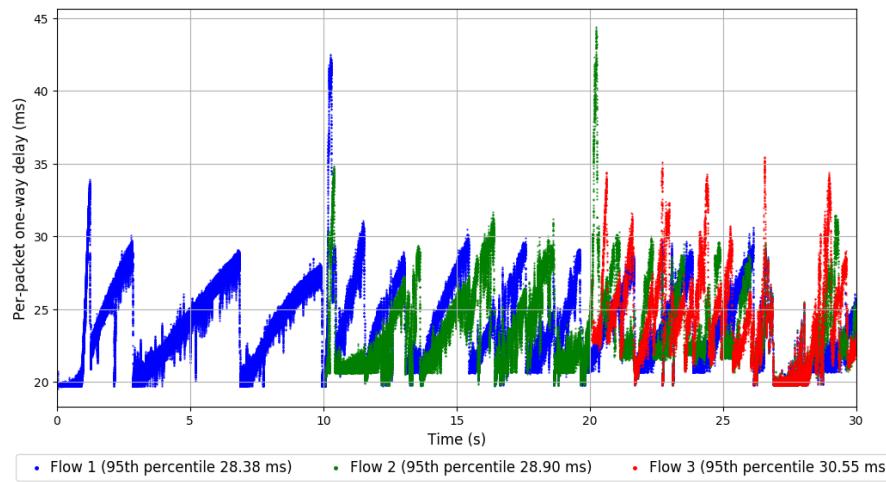
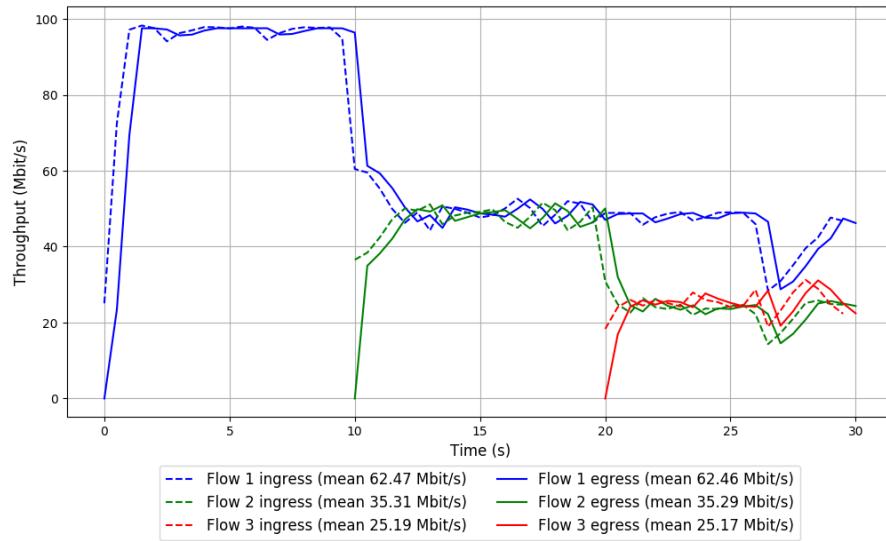


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-26 11:01:43
End at: 2018-10-26 11:02:13
Local clock offset: 3.321 ms
Remote clock offset: -2.969 ms

# Below is generated by plot.py at 2018-10-26 11:33:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.30 Mbit/s
95th percentile per-packet one-way delay: 28.597 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 62.46 Mbit/s
95th percentile per-packet one-way delay: 28.384 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 35.29 Mbit/s
95th percentile per-packet one-way delay: 28.896 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 25.17 Mbit/s
95th percentile per-packet one-way delay: 30.545 ms
Loss rate: 0.35%
```

Run 4: Report of TCP Cubic — Data Link

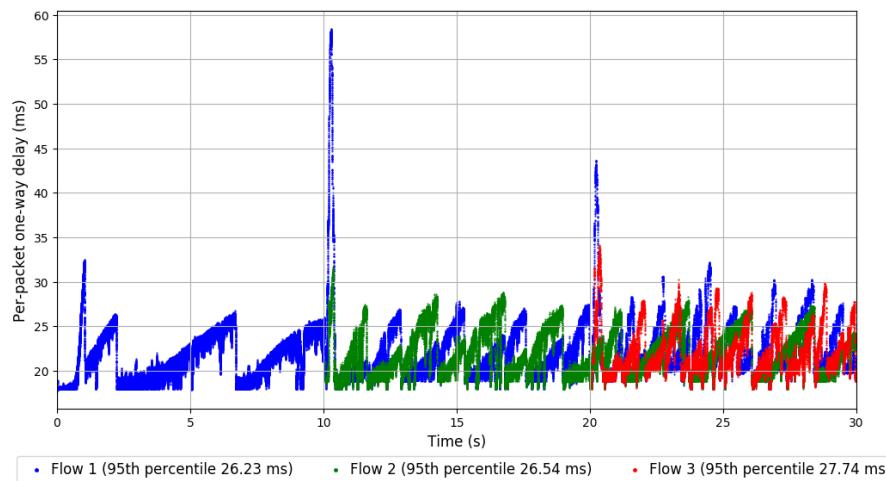
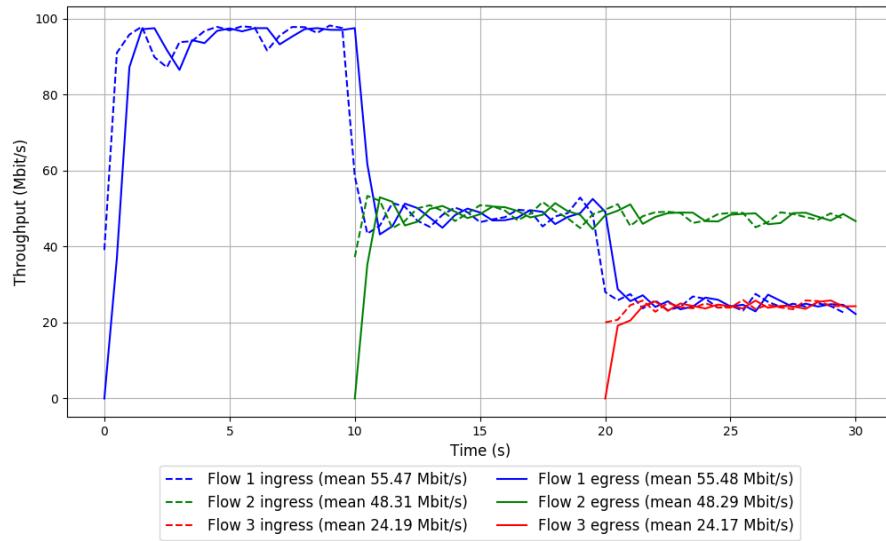


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-26 11:23:40
End at: 2018-10-26 11:24:10
Local clock offset: -0.148 ms
Remote clock offset: -2.944 ms

# Below is generated by plot.py at 2018-10-26 11:33:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 26.510 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 55.48 Mbit/s
95th percentile per-packet one-way delay: 26.226 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 48.29 Mbit/s
95th percentile per-packet one-way delay: 26.540 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 24.17 Mbit/s
95th percentile per-packet one-way delay: 27.739 ms
Loss rate: 0.31%
```

Run 5: Report of TCP Cubic — Data Link

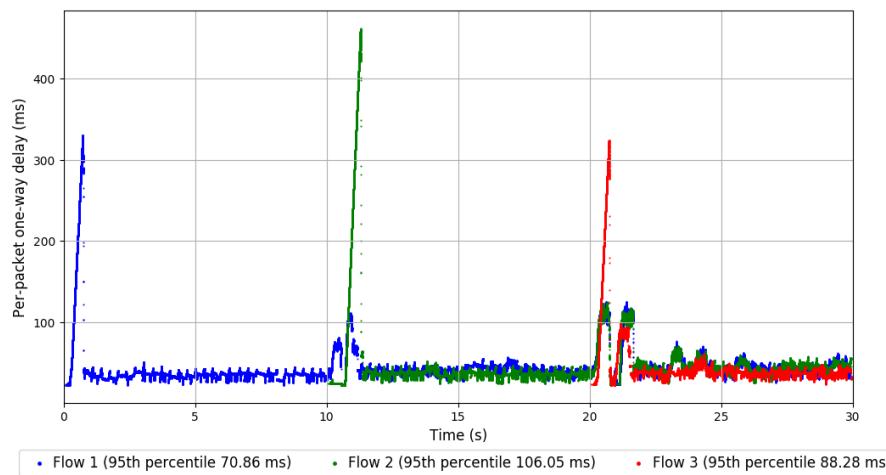
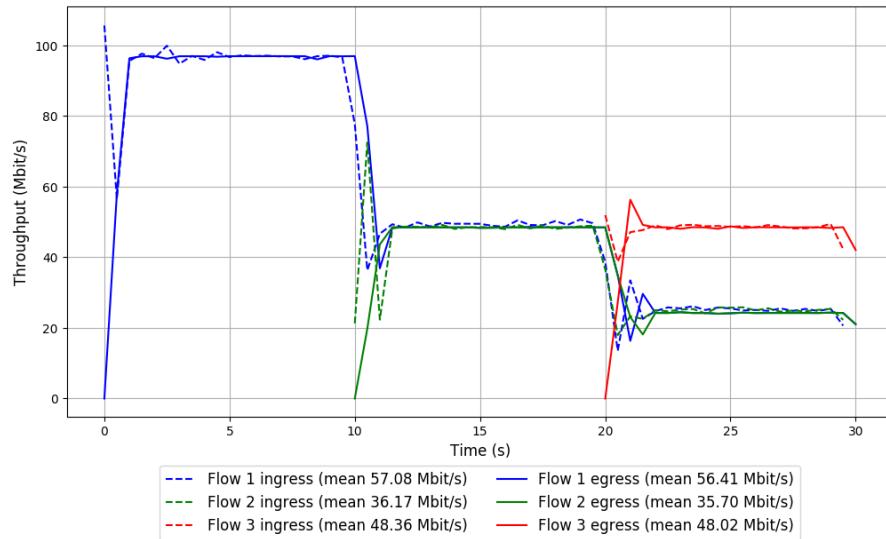


```
Run 1: Statistics of FillP

Start at: 2018-10-26 09:48:19
End at: 2018-10-26 09:48:49
Local clock offset: 3.281 ms
Remote clock offset: -4.25 ms

# Below is generated by plot.py at 2018-10-26 11:33:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 85.182 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 56.41 Mbit/s
95th percentile per-packet one-way delay: 70.864 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 35.70 Mbit/s
95th percentile per-packet one-way delay: 106.047 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 48.02 Mbit/s
95th percentile per-packet one-way delay: 88.280 ms
Loss rate: 0.96%
```

Run 1: Report of FillP — Data Link

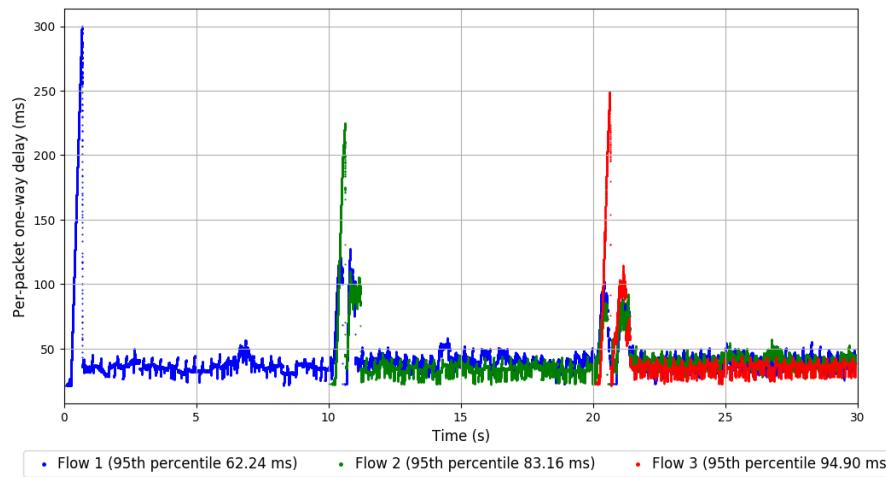
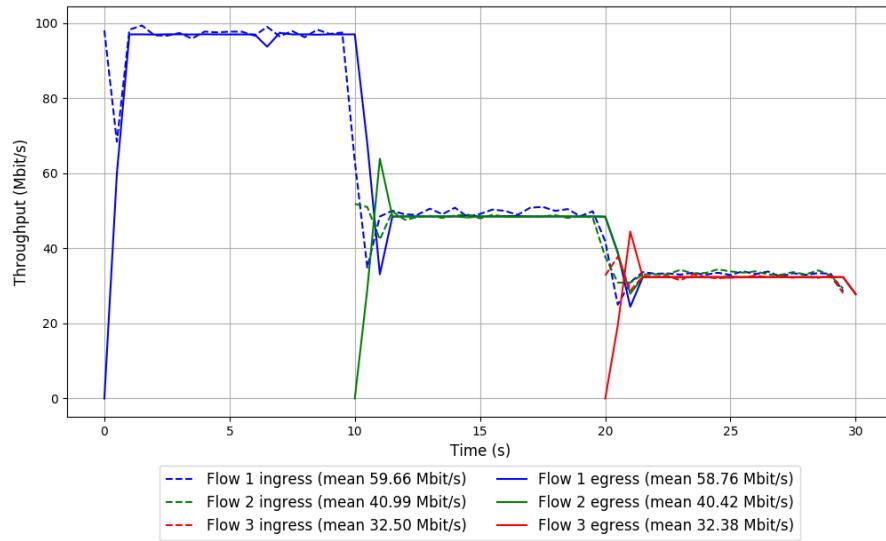


Run 2: Statistics of FillP

```
Start at: 2018-10-26 10:10:44
End at: 2018-10-26 10:11:14
Local clock offset: 2.133 ms
Remote clock offset: -3.203 ms

# Below is generated by plot.py at 2018-10-26 11:33:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 76.521 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 58.76 Mbit/s
95th percentile per-packet one-way delay: 62.242 ms
Loss rate: 1.59%
-- Flow 2:
Average throughput: 40.42 Mbit/s
95th percentile per-packet one-way delay: 83.159 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 32.38 Mbit/s
95th percentile per-packet one-way delay: 94.897 ms
Loss rate: 0.63%
```

Run 2: Report of FillP — Data Link

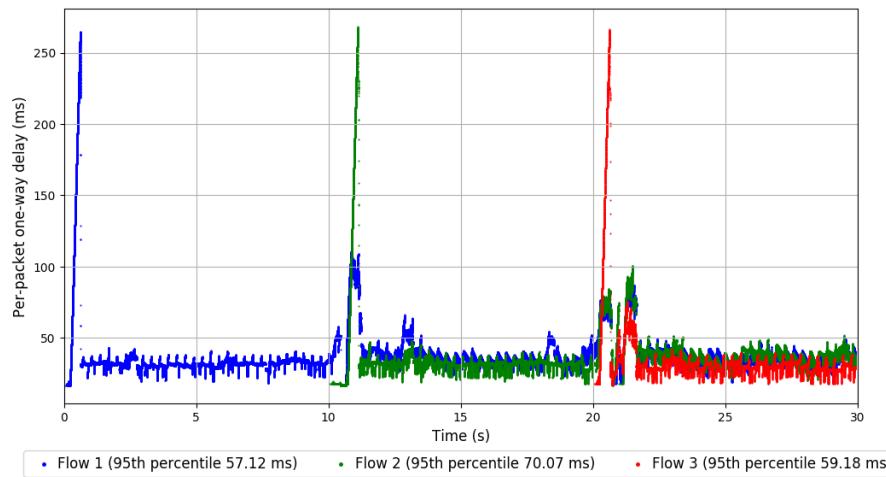
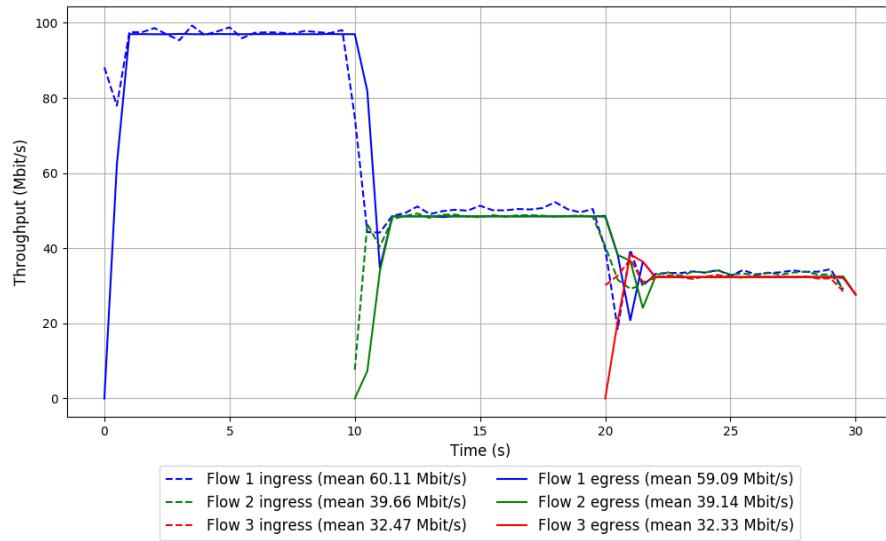


Run 3: Statistics of FillP

```
Start at: 2018-10-26 10:33:15
End at: 2018-10-26 10:38:45
Local clock offset: -0.667 ms
Remote clock offset: -1.112 ms

# Below is generated by plot.py at 2018-10-26 11:33:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 61.134 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 57.116 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 39.14 Mbit/s
95th percentile per-packet one-way delay: 70.068 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 32.33 Mbit/s
95th percentile per-packet one-way delay: 59.178 ms
Loss rate: 0.68%
```

Run 3: Report of FillP — Data Link

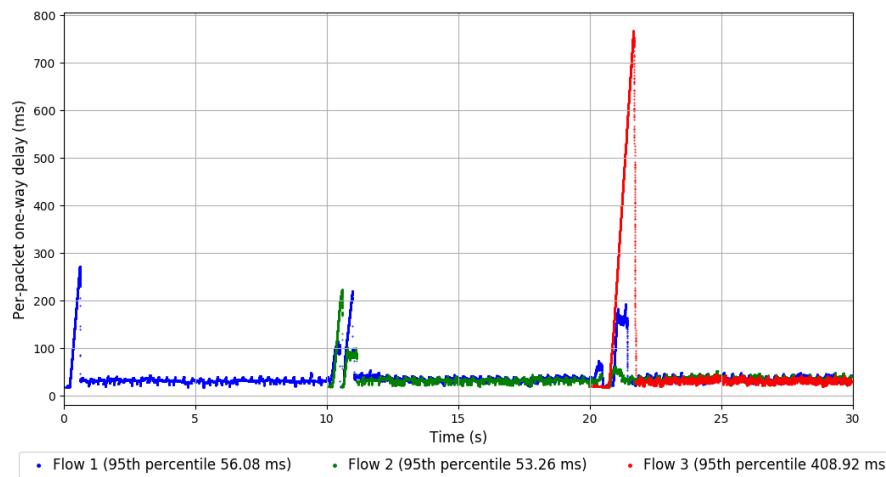
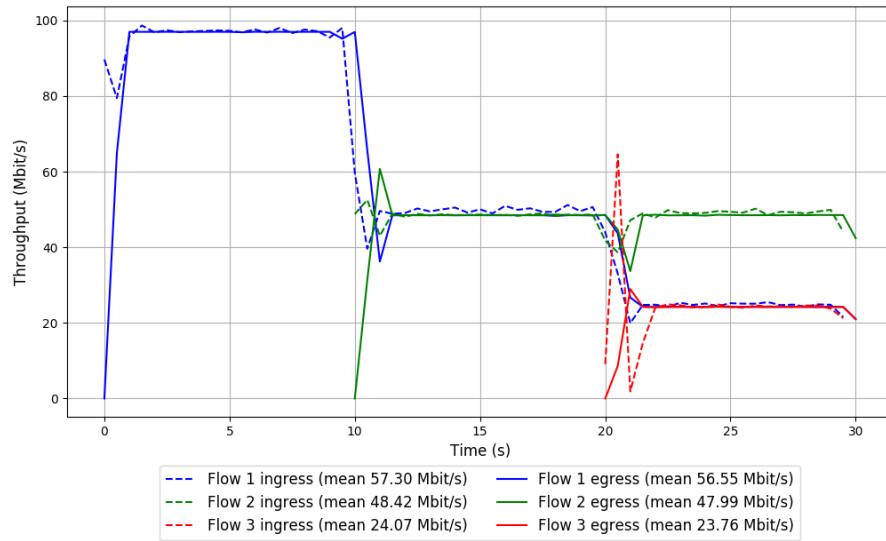


Run 4: Statistics of FillP

```
Start at: 2018-10-26 10:55:40
End at: 2018-10-26 10:56:10
Local clock offset: 0.498 ms
Remote clock offset: -4.805 ms

# Below is generated by plot.py at 2018-10-26 11:33:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.32 Mbit/s
95th percentile per-packet one-way delay: 61.342 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 56.080 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 47.99 Mbit/s
95th percentile per-packet one-way delay: 53.256 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 408.917 ms
Loss rate: 1.41%
```

Run 4: Report of FillP — Data Link

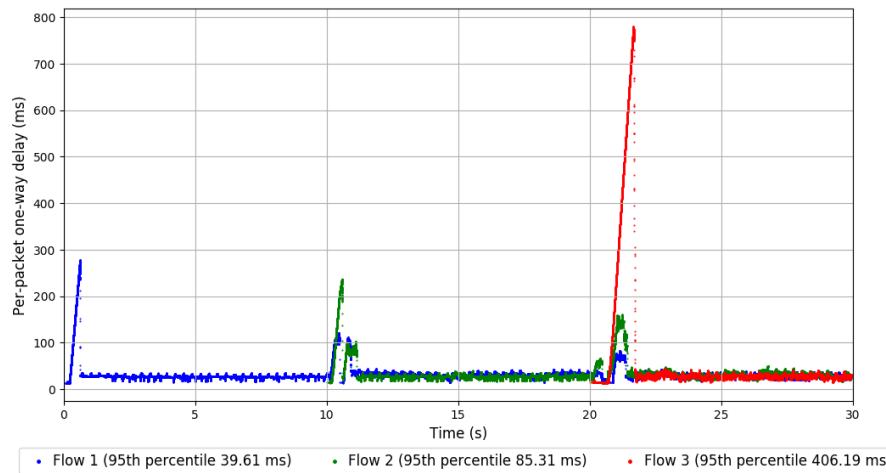
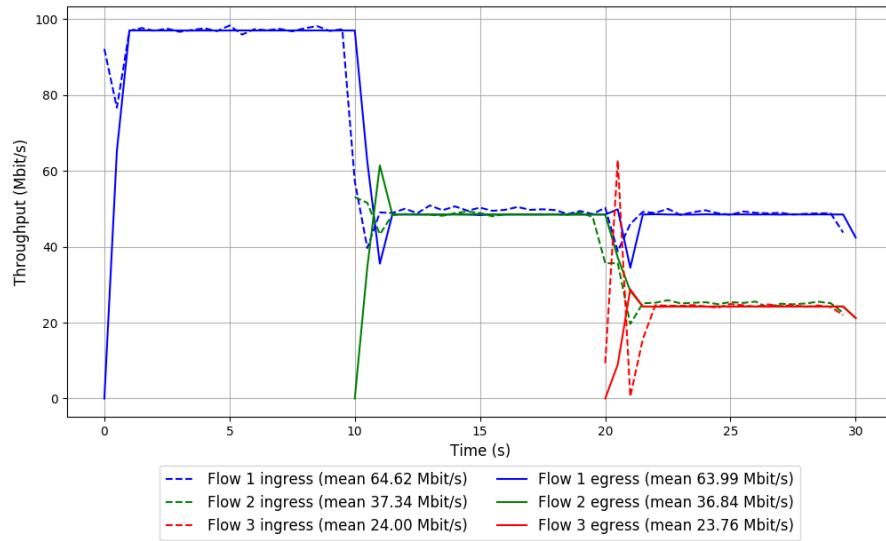


Run 5: Statistics of FillP

```
Start at: 2018-10-26 11:17:39
End at: 2018-10-26 11:18:09
Local clock offset: 0.096 ms
Remote clock offset: 1.91 ms

# Below is generated by plot.py at 2018-10-26 11:34:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.38 Mbit/s
95th percentile per-packet one-way delay: 67.471 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 39.610 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 36.84 Mbit/s
95th percentile per-packet one-way delay: 85.315 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 406.192 ms
Loss rate: 1.22%
```

Run 5: Report of FillP — Data Link

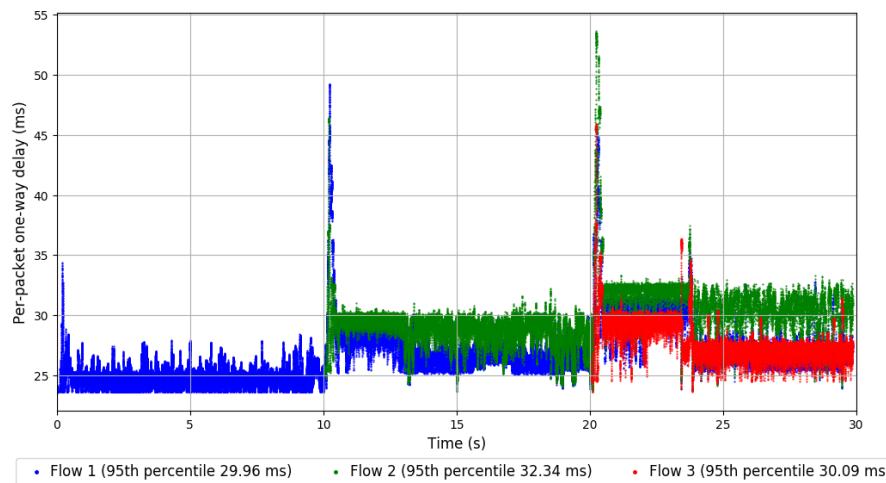
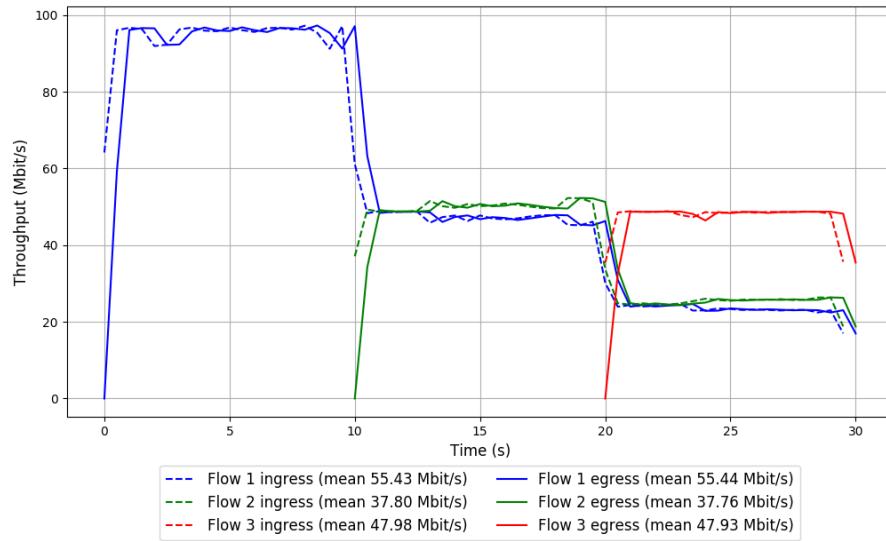


Run 1: Statistics of Indigo

```
Start at: 2018-10-26 09:56:58
End at: 2018-10-26 09:57:28
Local clock offset: 2.538 ms
Remote clock offset: -5.457 ms

# Below is generated by plot.py at 2018-10-26 11:34:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 31.425 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 55.44 Mbit/s
95th percentile per-packet one-way delay: 29.963 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.76 Mbit/s
95th percentile per-packet one-way delay: 32.342 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 47.93 Mbit/s
95th percentile per-packet one-way delay: 30.085 ms
Loss rate: 0.39%
```

Run 1: Report of Indigo — Data Link

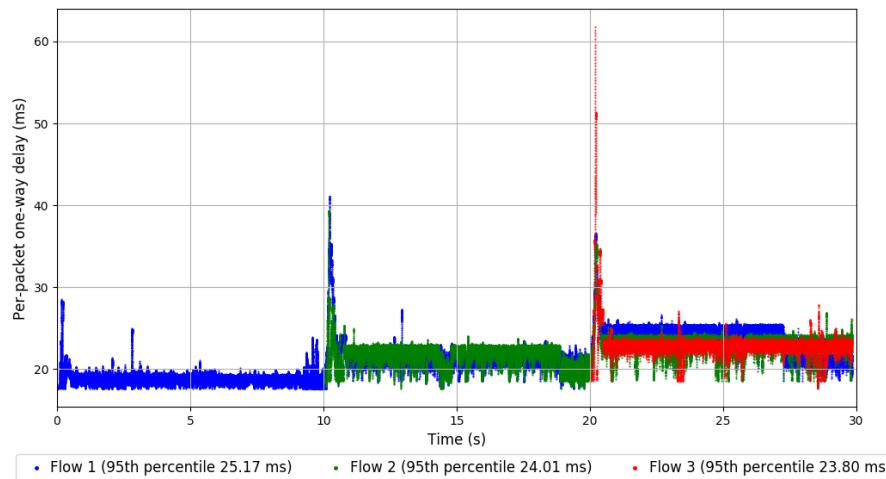
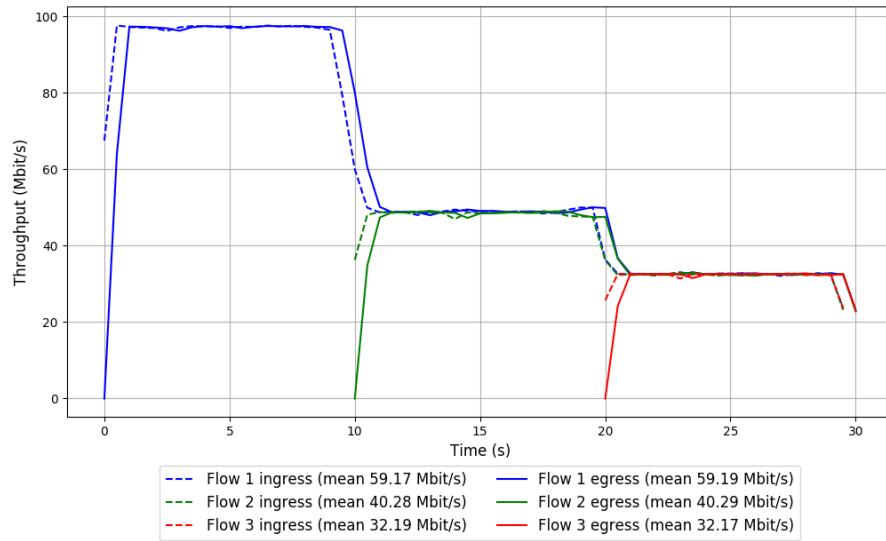


Run 2: Statistics of Indigo

```
Start at: 2018-10-26 10:19:25
End at: 2018-10-26 10:19:55
Local clock offset: -0.498 ms
Remote clock offset: -1.685 ms

# Below is generated by plot.py at 2018-10-26 11:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.55 Mbit/s
95th percentile per-packet one-way delay: 25.084 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 25.167 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.29 Mbit/s
95th percentile per-packet one-way delay: 24.012 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 23.804 ms
Loss rate: 0.32%
```

Run 2: Report of Indigo — Data Link

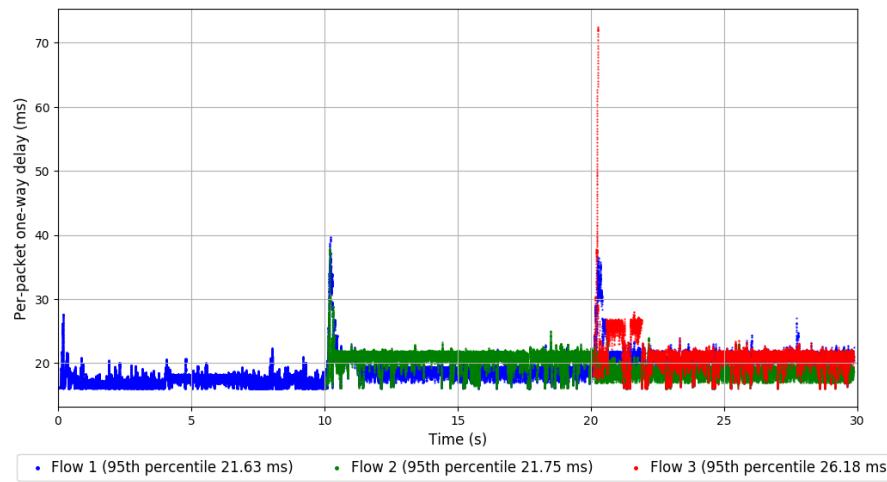
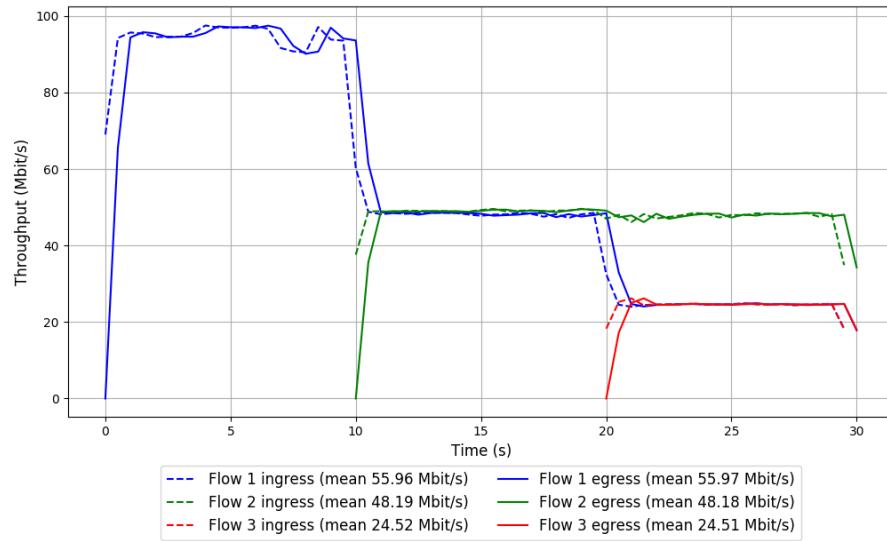


Run 3: Statistics of Indigo

```
Start at: 2018-10-26 10:42:02
End at: 2018-10-26 10:42:32
Local clock offset: 0.957 ms
Remote clock offset: -1.763 ms

# Below is generated by plot.py at 2018-10-26 11:34:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 21.749 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 55.97 Mbit/s
95th percentile per-packet one-way delay: 21.630 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 21.745 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 26.183 ms
Loss rate: 0.29%
```

Run 3: Report of Indigo — Data Link

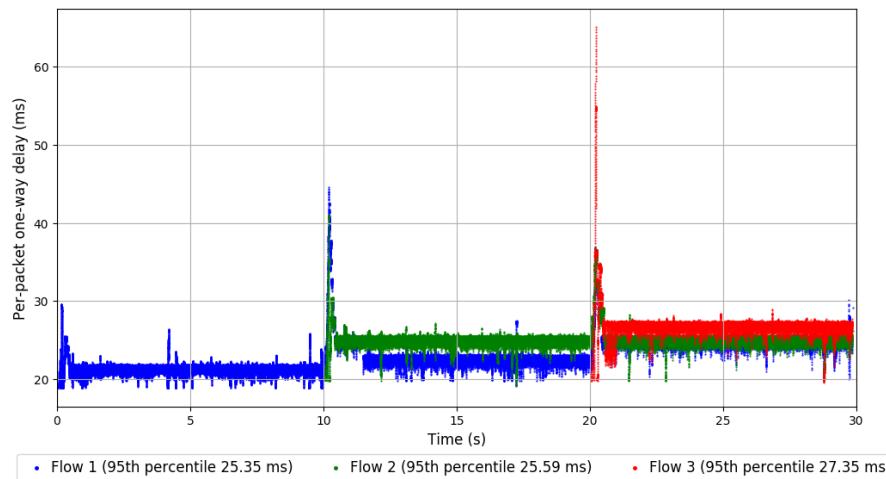
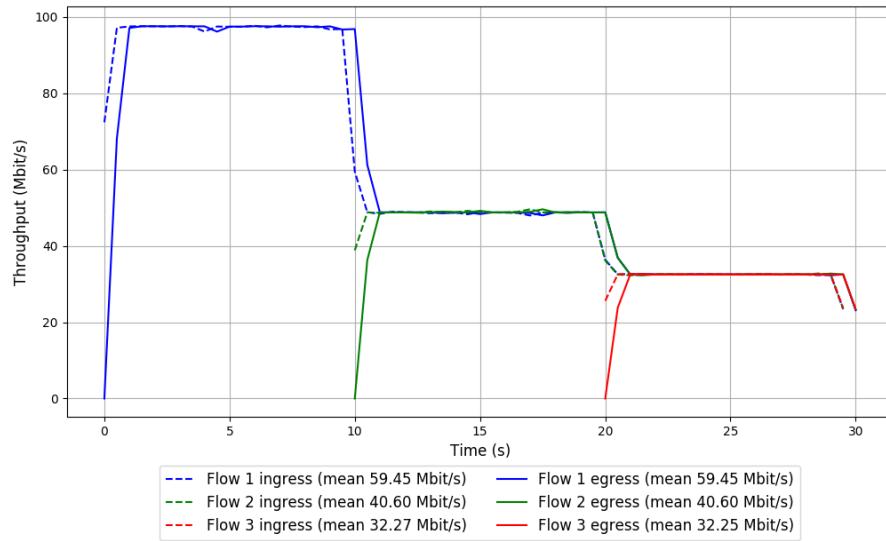


Run 4: Statistics of Indigo

```
Start at: 2018-10-26 11:04:21
End at: 2018-10-26 11:04:51
Local clock offset: 2.637 ms
Remote clock offset: -2.29 ms

# Below is generated by plot.py at 2018-10-26 11:34:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 27.124 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.45 Mbit/s
95th percentile per-packet one-way delay: 25.352 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 25.592 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.25 Mbit/s
95th percentile per-packet one-way delay: 27.349 ms
Loss rate: 0.33%
```

Run 4: Report of Indigo — Data Link

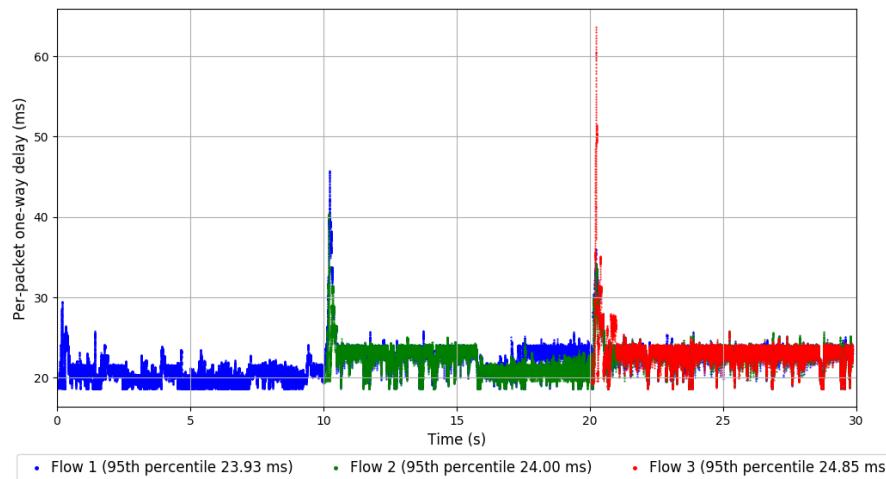
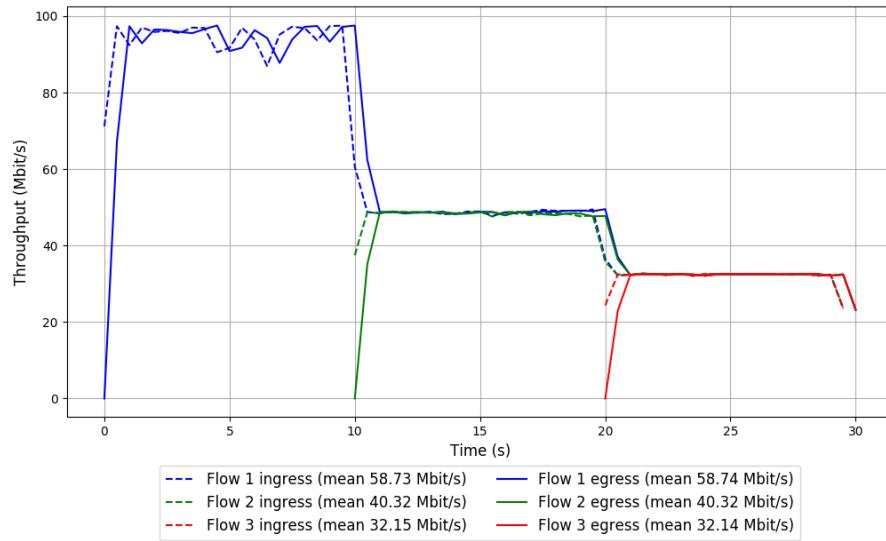


Run 5: Statistics of Indigo

```
Start at: 2018-10-26 11:26:19
End at: 2018-10-26 11:26:49
Local clock offset: 0.805 ms
Remote clock offset: -2.637 ms

# Below is generated by plot.py at 2018-10-26 11:34:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.09 Mbit/s
95th percentile per-packet one-way delay: 23.965 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 58.74 Mbit/s
95th percentile per-packet one-way delay: 23.925 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 40.32 Mbit/s
95th percentile per-packet one-way delay: 23.995 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 32.14 Mbit/s
95th percentile per-packet one-way delay: 24.847 ms
Loss rate: 0.28%
```

Run 5: Report of Indigo — Data Link

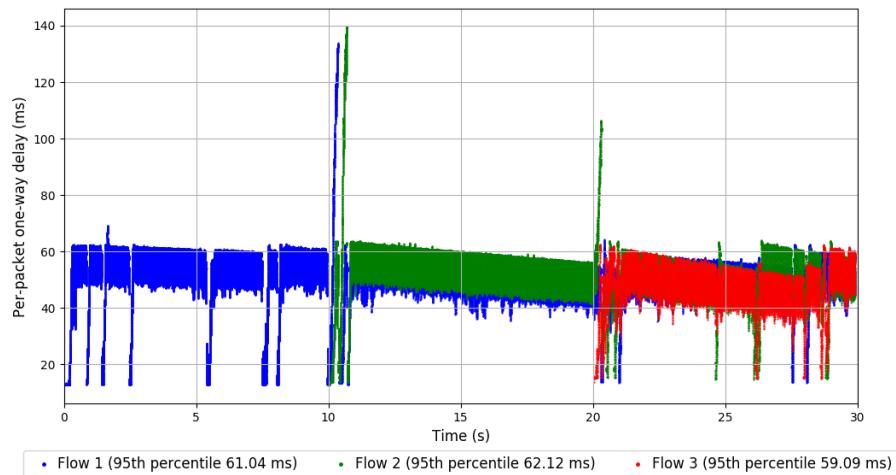
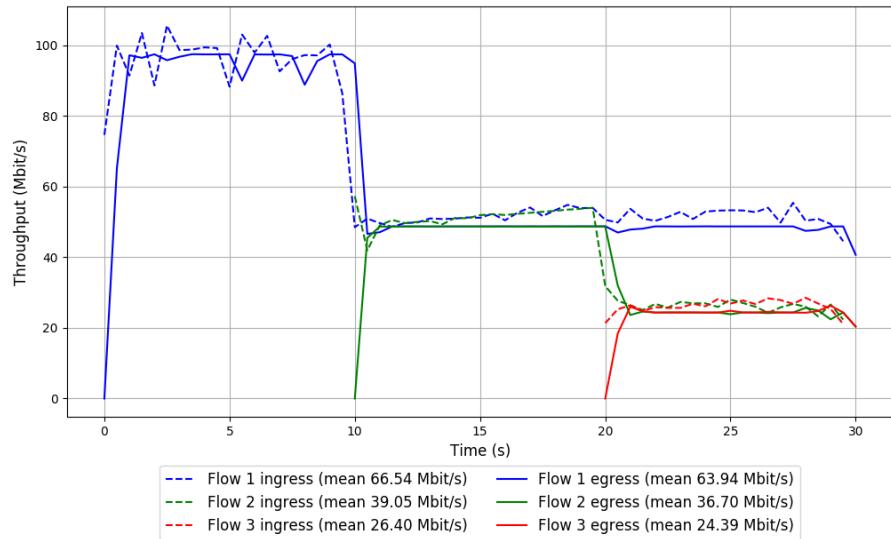


```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-26 09:38:07
End at: 2018-10-26 09:38:37
Local clock offset: 2.974 ms
Remote clock offset: 5.858 ms

# Below is generated by plot.py at 2018-10-26 11:35:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.43 Mbit/s
95th percentile per-packet one-way delay: 61.199 ms
Loss rate: 4.83%
-- Flow 1:
Average throughput: 63.94 Mbit/s
95th percentile per-packet one-way delay: 61.044 ms
Loss rate: 3.96%
-- Flow 2:
Average throughput: 36.70 Mbit/s
95th percentile per-packet one-way delay: 62.115 ms
Loss rate: 6.09%
-- Flow 3:
Average throughput: 24.39 Mbit/s
95th percentile per-packet one-way delay: 59.088 ms
Loss rate: 7.72%
```

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

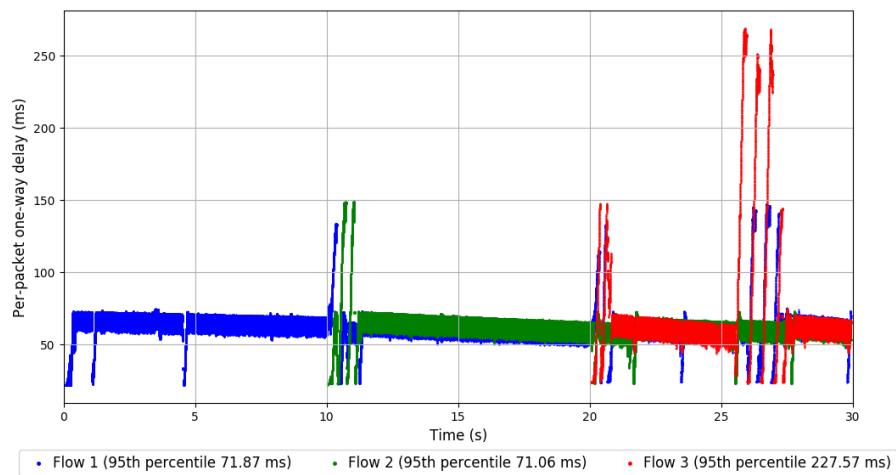
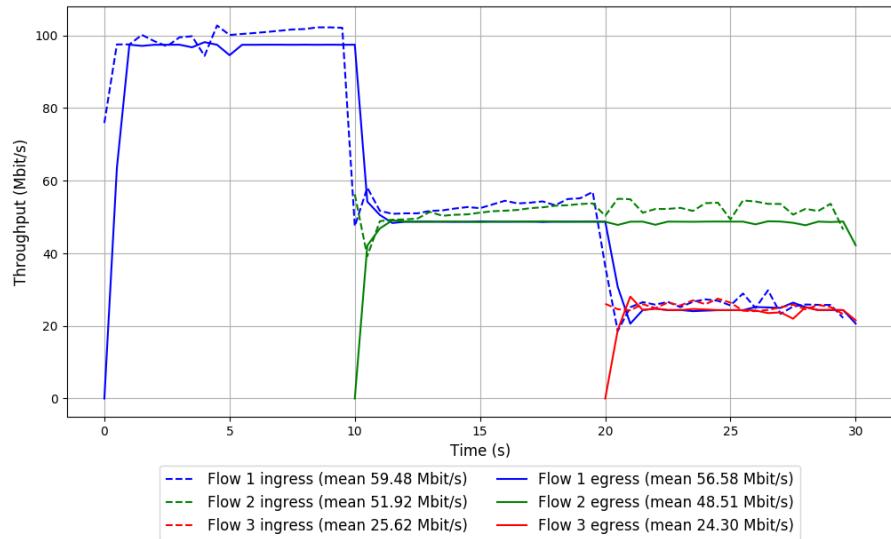


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 10:00:48
End at: 2018-10-26 10:01:18
Local clock offset: 0.473 ms
Remote clock offset: -5.615 ms

# Below is generated by plot.py at 2018-10-26 11:35:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.88 Mbit/s
95th percentile per-packet one-way delay: 71.933 ms
Loss rate: 5.57%
-- Flow 1:
Average throughput: 56.58 Mbit/s
95th percentile per-packet one-way delay: 71.866 ms
Loss rate: 4.96%
-- Flow 2:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 71.065 ms
Loss rate: 6.70%
-- Flow 3:
Average throughput: 24.30 Mbit/s
95th percentile per-packet one-way delay: 227.569 ms
Loss rate: 5.29%
```

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

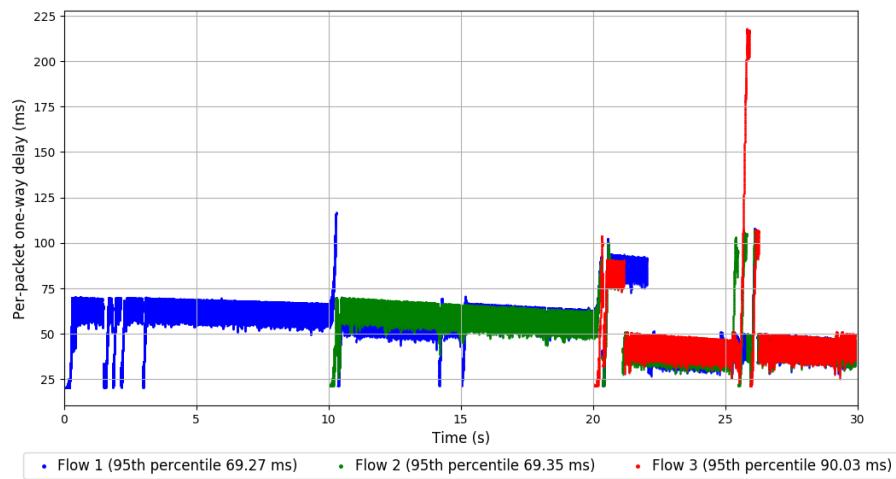
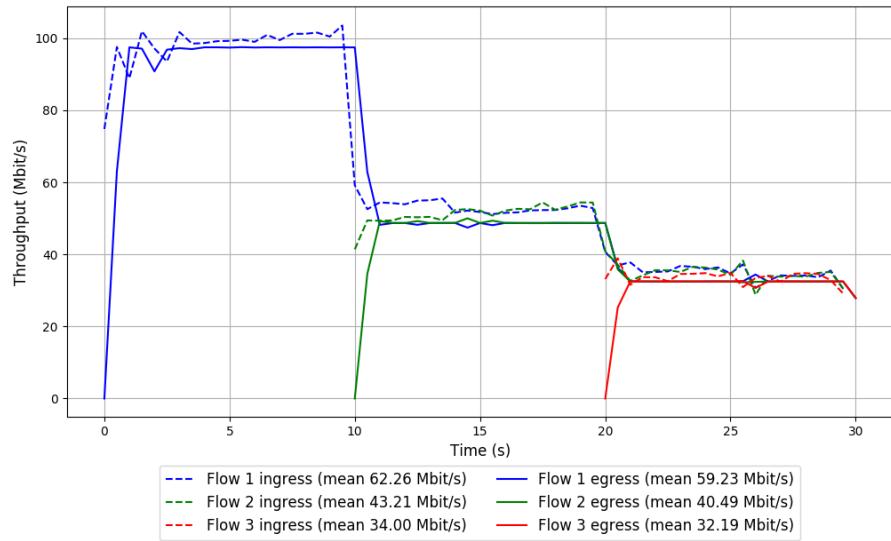


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 10:23:07
End at: 2018-10-26 10:23:37
Local clock offset: 2.678 ms
Remote clock offset: -1.049 ms

# Below is generated by plot.py at 2018-10-26 11:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 72.329 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 69.269 ms
Loss rate: 4.96%
-- Flow 2:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 69.347 ms
Loss rate: 6.41%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 90.026 ms
Loss rate: 5.48%
```

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

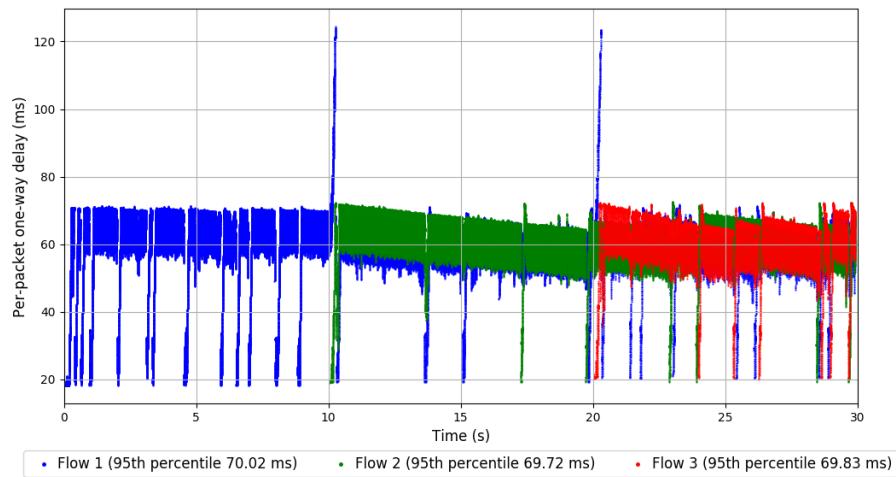
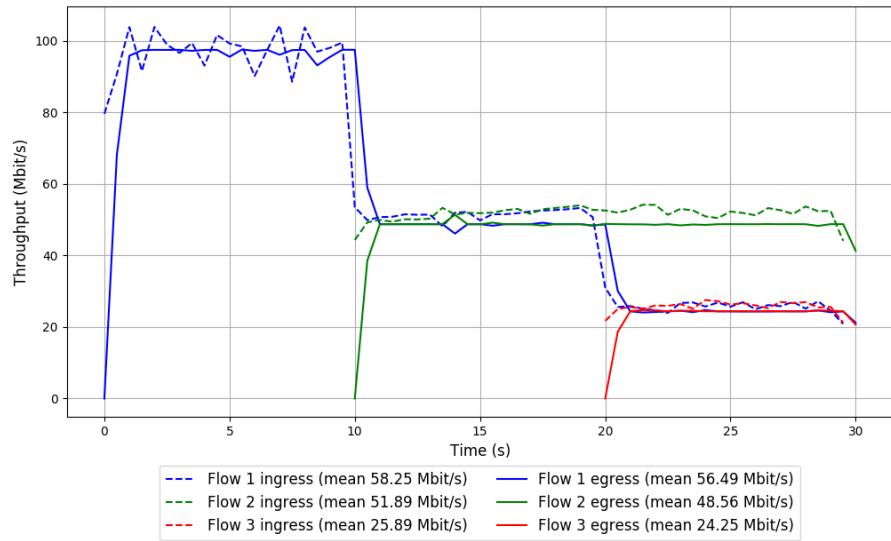


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 10:45:50
End at: 2018-10-26 10:46:20
Local clock offset: 2.885 ms
Remote clock offset: -2.081 ms

# Below is generated by plot.py at 2018-10-26 11:35:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 69.974 ms
Loss rate: 4.46%
-- Flow 1:
Average throughput: 56.49 Mbit/s
95th percentile per-packet one-way delay: 70.019 ms
Loss rate: 2.95%
-- Flow 2:
Average throughput: 48.56 Mbit/s
95th percentile per-packet one-way delay: 69.721 ms
Loss rate: 6.49%
-- Flow 3:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 69.830 ms
Loss rate: 6.45%
```

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

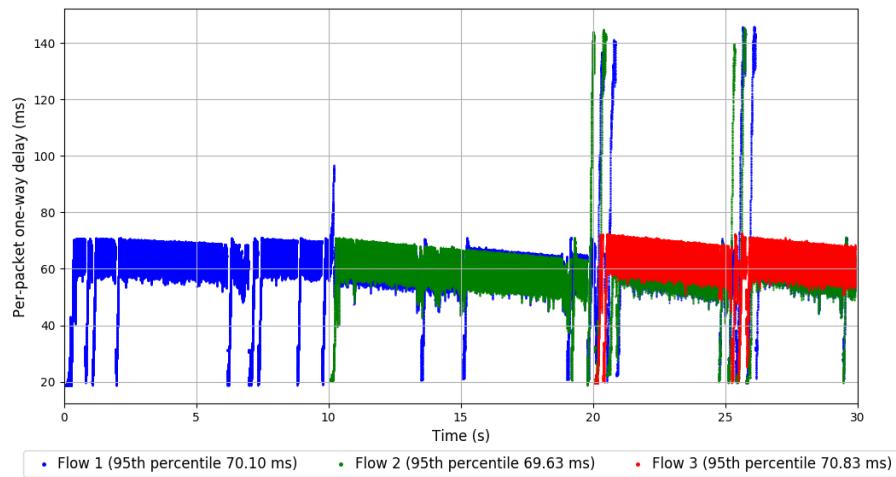
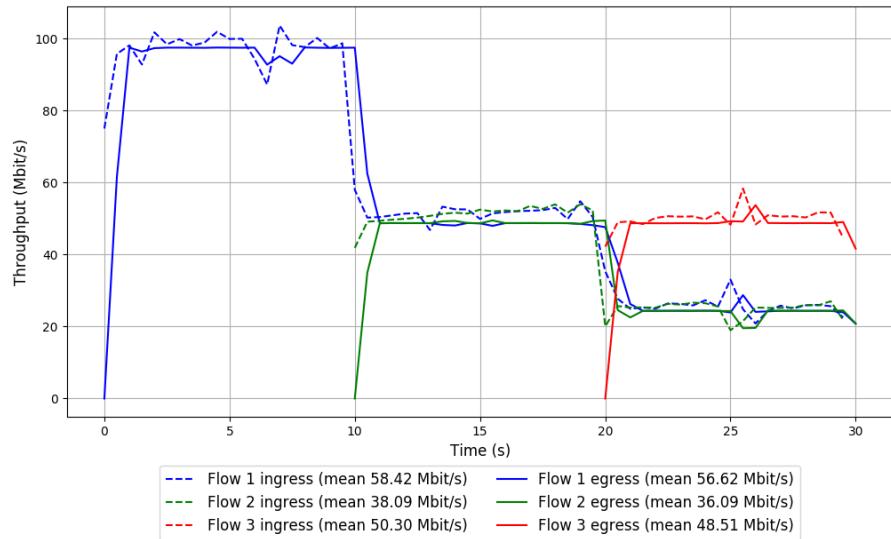


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 11:08:03
End at: 2018-10-26 11:08:33
Local clock offset: 0.655 ms
Remote clock offset: -3.699 ms

# Below is generated by plot.py at 2018-10-26 11:35:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.68 Mbit/s
95th percentile per-packet one-way delay: 70.202 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 56.62 Mbit/s
95th percentile per-packet one-way delay: 70.096 ms
Loss rate: 3.12%
-- Flow 2:
Average throughput: 36.09 Mbit/s
95th percentile per-packet one-way delay: 69.628 ms
Loss rate: 5.30%
-- Flow 3:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 70.831 ms
Loss rate: 3.78%
```

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

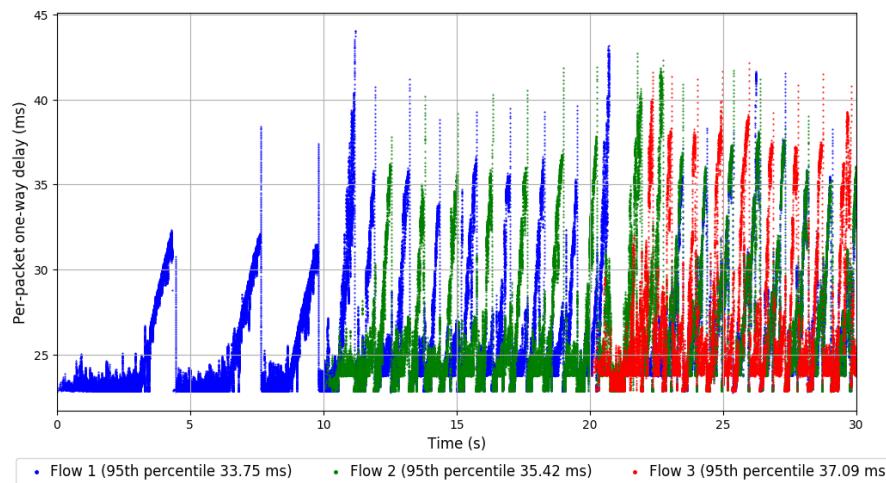
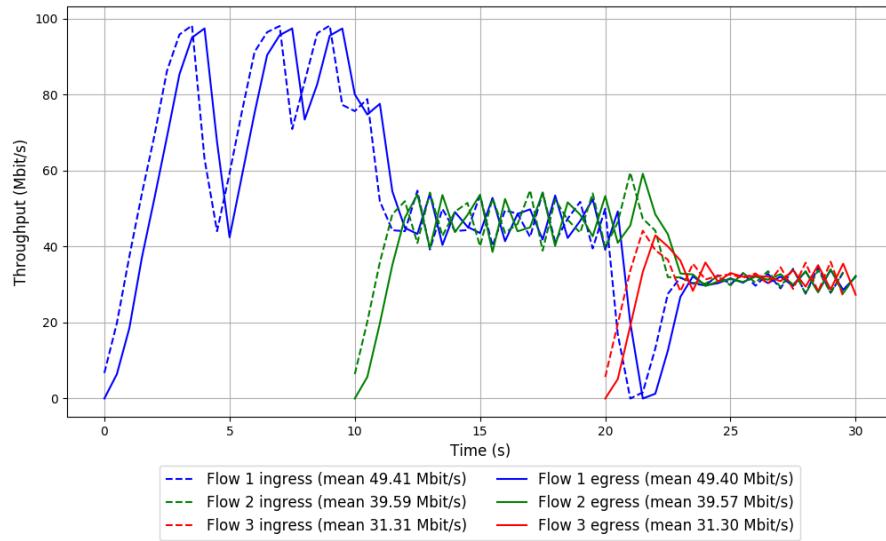


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-10-26 09:52:01
End at: 2018-10-26 09:52:31
Local clock offset: 2.793 ms
Remote clock offset: -4.536 ms

# Below is generated by plot.py at 2018-10-26 11:35:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.13 Mbit/s
95th percentile per-packet one-way delay: 35.015 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 49.40 Mbit/s
95th percentile per-packet one-way delay: 33.753 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 39.57 Mbit/s
95th percentile per-packet one-way delay: 35.416 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 31.30 Mbit/s
95th percentile per-packet one-way delay: 37.090 ms
Loss rate: 0.30%
```

Run 1: Report of LEDBAT — Data Link

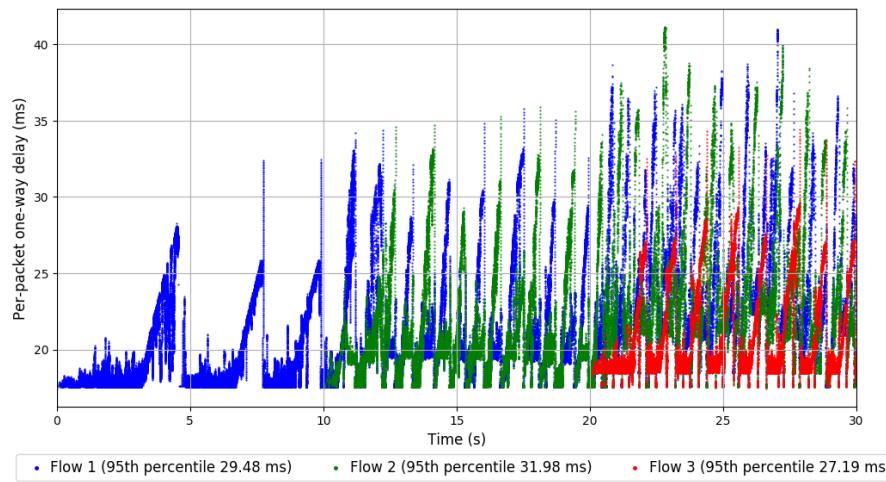
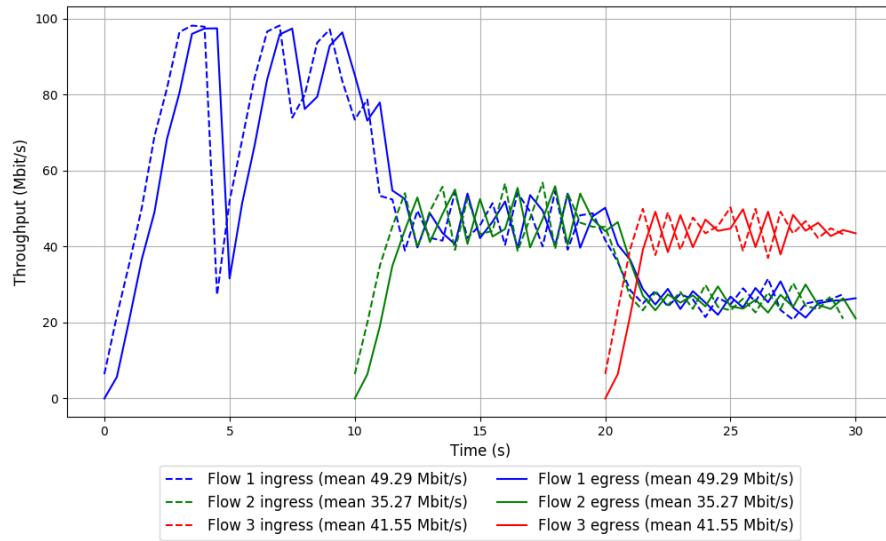


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-26 10:14:24
End at: 2018-10-26 10:14:54
Local clock offset: -0.007 ms
Remote clock offset: -1.231 ms

# Below is generated by plot.py at 2018-10-26 11:35:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.56 Mbit/s
95th percentile per-packet one-way delay: 29.769 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 49.29 Mbit/s
95th percentile per-packet one-way delay: 29.485 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 31.980 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 27.194 ms
Loss rate: 0.25%
```

Run 2: Report of LEDBAT — Data Link

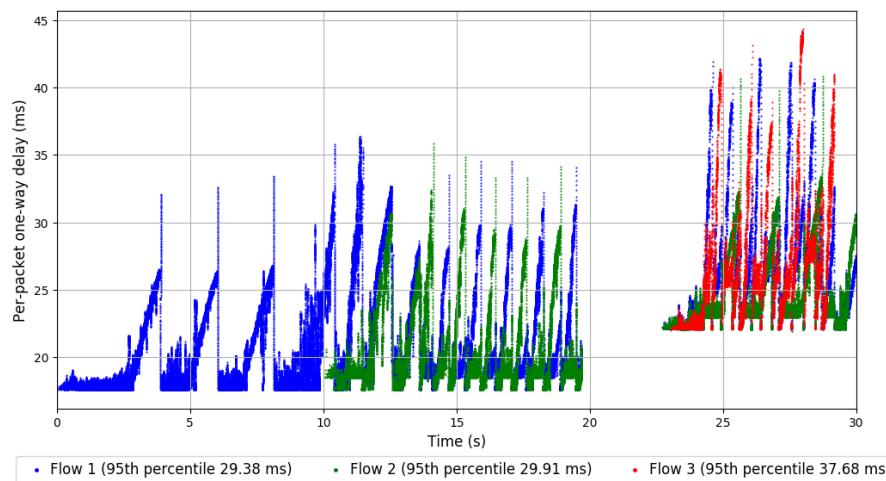
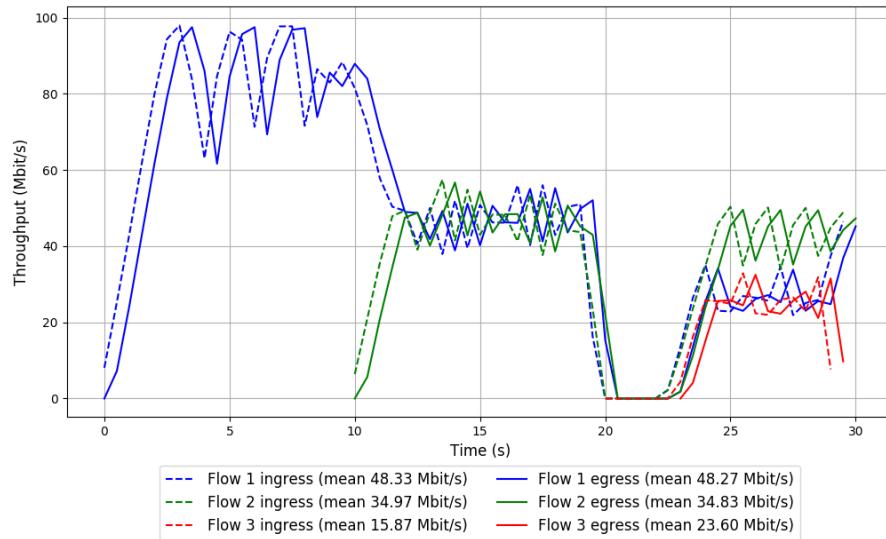


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-26 10:37:04
End at: 2018-10-26 10:37:34
Local clock offset: 1.297 ms
Remote clock offset: 0.086 ms

# Below is generated by plot.py at 2018-10-26 11:35:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.28 Mbit/s
95th percentile per-packet one-way delay: 30.210 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 48.27 Mbit/s
95th percentile per-packet one-way delay: 29.377 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 34.83 Mbit/s
95th percentile per-packet one-way delay: 29.915 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 23.60 Mbit/s
95th percentile per-packet one-way delay: 37.678 ms
Loss rate: 0.04%
```

Run 3: Report of LEDBAT — Data Link

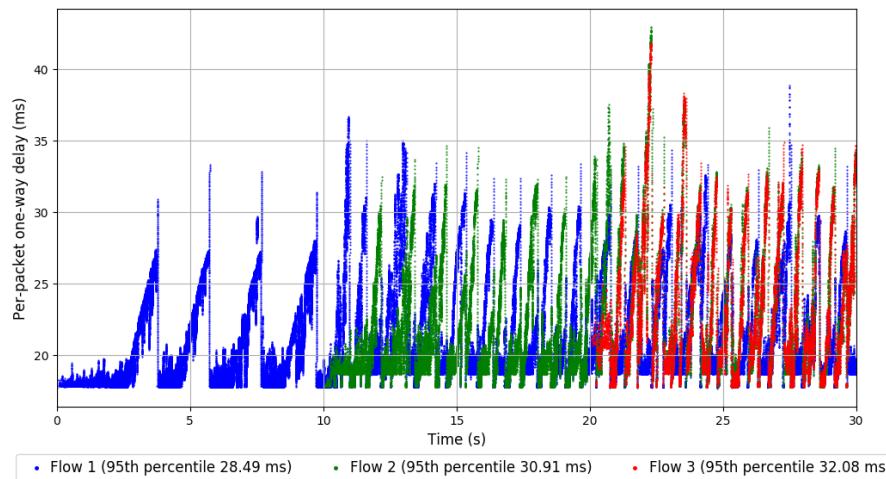
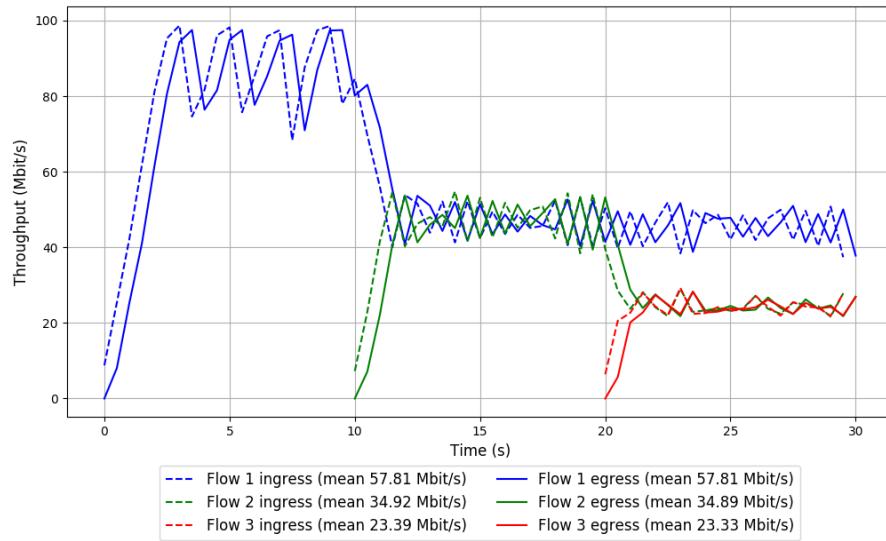


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-26 10:59:21
End at: 2018-10-26 10:59:51
Local clock offset: 0.883 ms
Remote clock offset: -3.625 ms

# Below is generated by plot.py at 2018-10-26 11:36:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.78 Mbit/s
95th percentile per-packet one-way delay: 29.674 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 57.81 Mbit/s
95th percentile per-packet one-way delay: 28.489 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 34.89 Mbit/s
95th percentile per-packet one-way delay: 30.913 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 32.076 ms
Loss rate: 0.52%
```

Run 4: Report of LEDBAT — Data Link

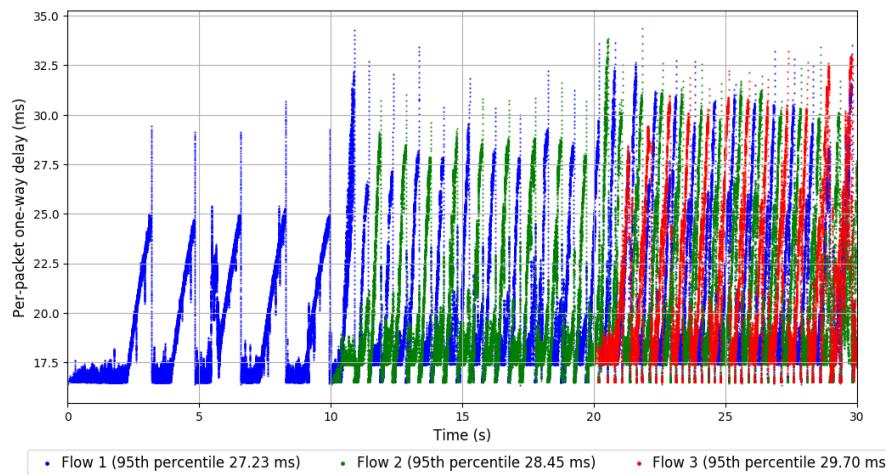
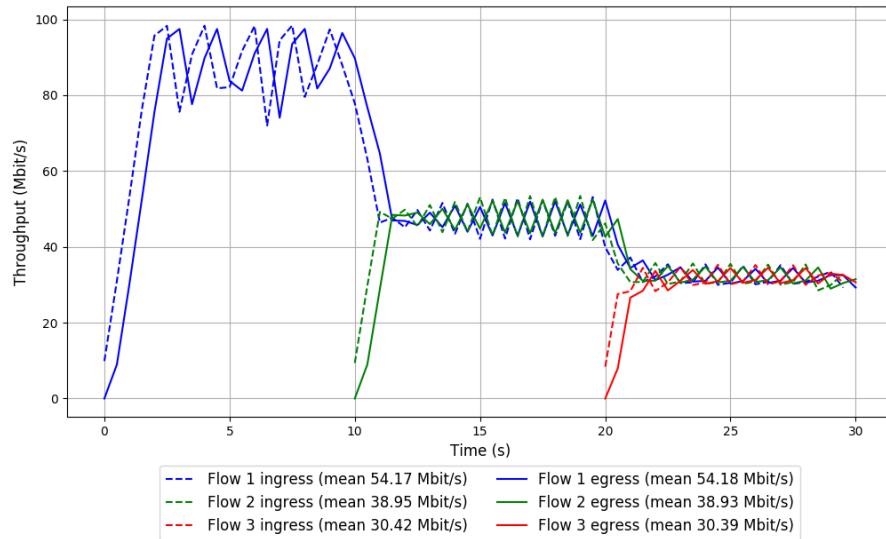


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-26 11:21:19
End at: 2018-10-26 11:21:49
Local clock offset: -1.4 ms
Remote clock offset: -2.817 ms

# Below is generated by plot.py at 2018-10-26 11:36:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 28.099 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 54.18 Mbit/s
95th percentile per-packet one-way delay: 27.228 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 28.455 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 30.39 Mbit/s
95th percentile per-packet one-way delay: 29.701 ms
Loss rate: 0.36%
```

Run 5: Report of LEDBAT — Data Link

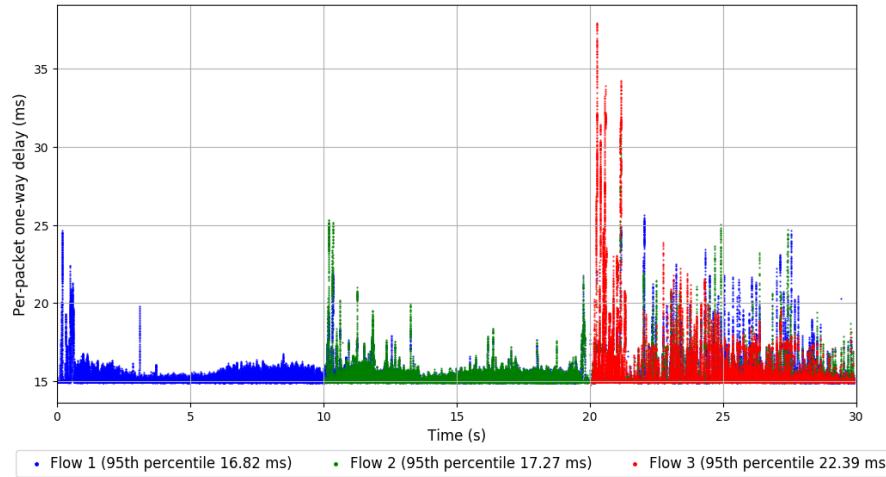
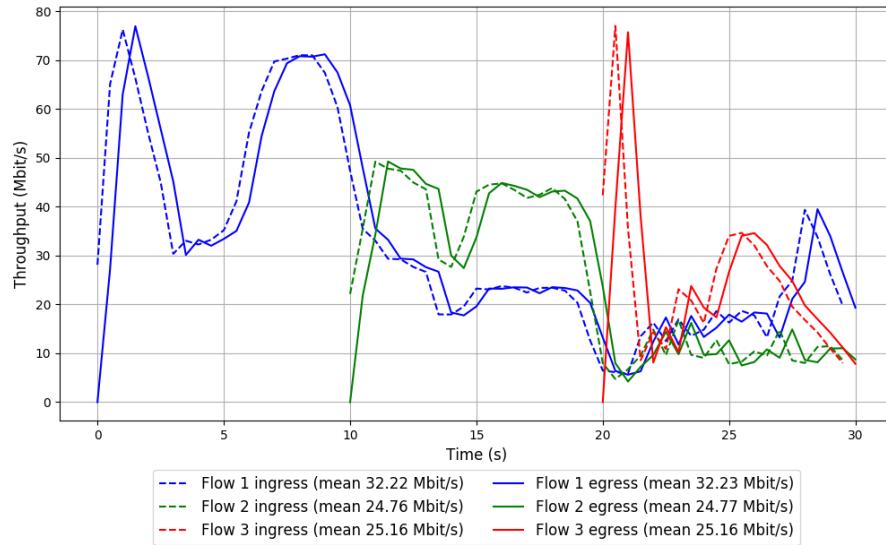


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-26 09:39:30
End at: 2018-10-26 09:40:00
Local clock offset: 2.267 ms
Remote clock offset: 2.893 ms

# Below is generated by plot.py at 2018-10-26 11:36:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.04 Mbit/s
95th percentile per-packet one-way delay: 17.694 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 32.23 Mbit/s
95th percentile per-packet one-way delay: 16.823 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 17.268 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 22.388 ms
Loss rate: 0.25%
```

Run 1: Report of Indigo-Muses — Data Link

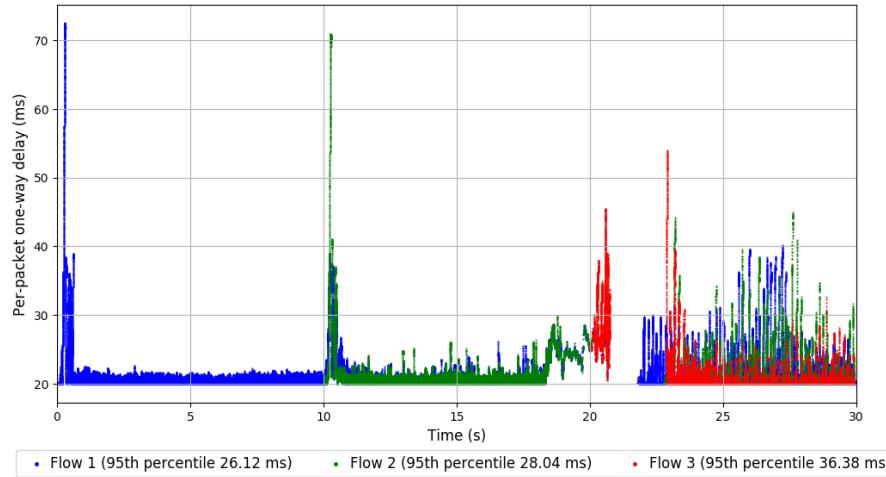
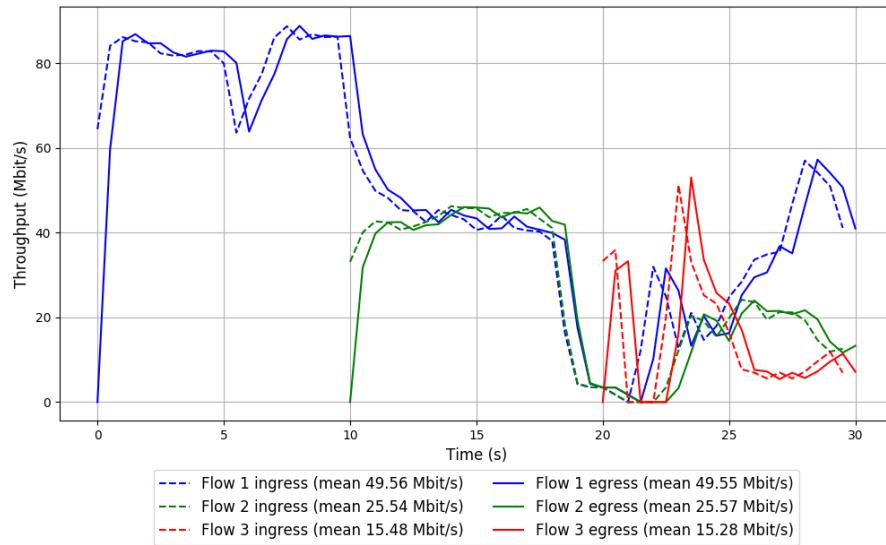


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-26 10:02:04
End at: 2018-10-26 10:02:34
Local clock offset: 0.238 ms
Remote clock offset: -3.951 ms

# Below is generated by plot.py at 2018-10-26 11:36:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.60 Mbit/s
95th percentile per-packet one-way delay: 27.808 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 26.118 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 25.57 Mbit/s
95th percentile per-packet one-way delay: 28.042 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 15.28 Mbit/s
95th percentile per-packet one-way delay: 36.384 ms
Loss rate: 1.70%
```

Run 2: Report of Indigo-Muses — Data Link

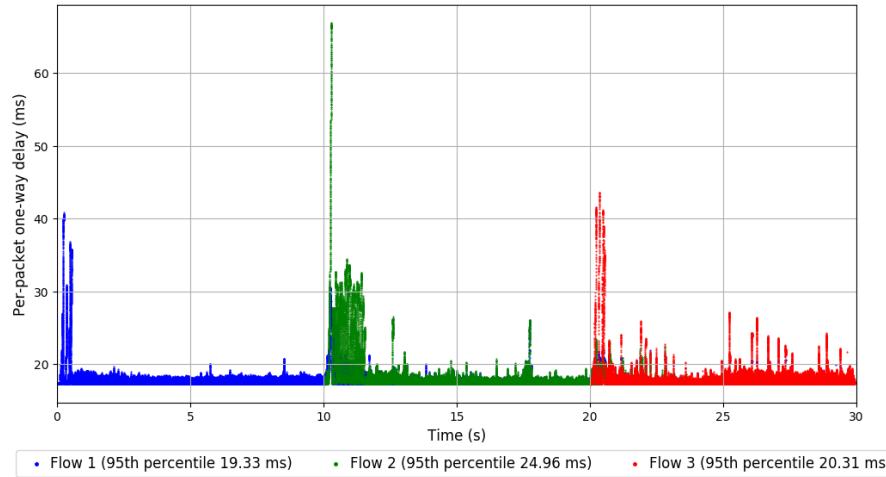
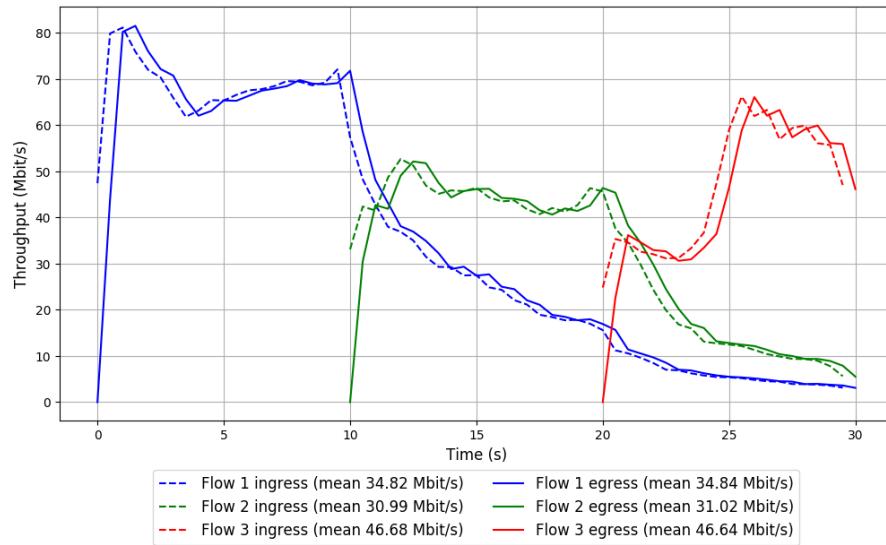


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-26 10:24:25
End at: 2018-10-26 10:24:55
Local clock offset: -0.718 ms
Remote clock offset: -1.502 ms

# Below is generated by plot.py at 2018-10-26 11:36:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 20.600 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 34.84 Mbit/s
95th percentile per-packet one-way delay: 19.334 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 24.956 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 46.64 Mbit/s
95th percentile per-packet one-way delay: 20.307 ms
Loss rate: 0.31%
```

Run 3: Report of Indigo-Muses — Data Link

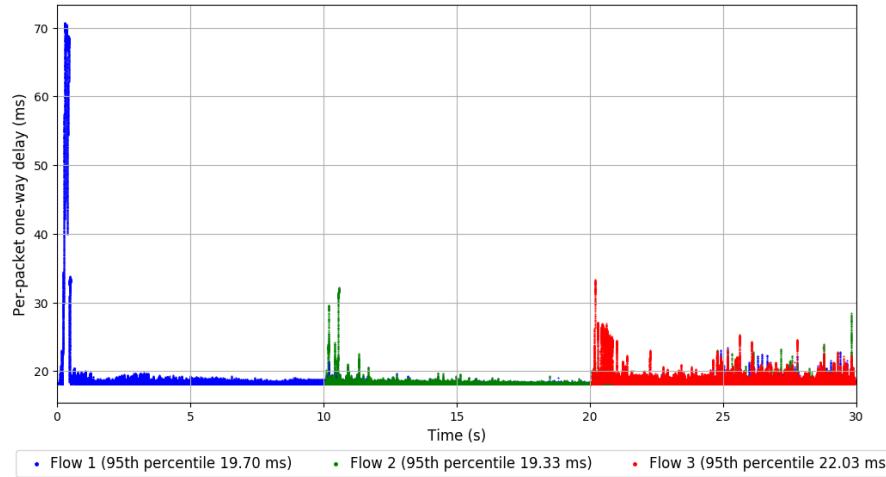
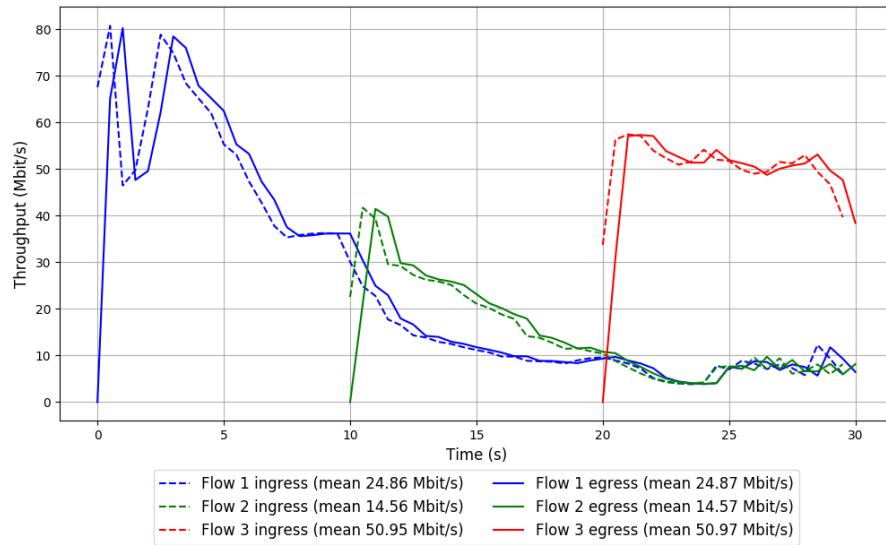


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-26 10:47:11
End at: 2018-10-26 10:47:41
Local clock offset: 3.928 ms
Remote clock offset: -1.061 ms

# Below is generated by plot.py at 2018-10-26 11:36:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.43 Mbit/s
95th percentile per-packet one-way delay: 20.540 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 24.87 Mbit/s
95th percentile per-packet one-way delay: 19.700 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 14.57 Mbit/s
95th percentile per-packet one-way delay: 19.327 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 50.97 Mbit/s
95th percentile per-packet one-way delay: 22.026 ms
Loss rate: 0.20%
```

Run 4: Report of Indigo-Muses — Data Link

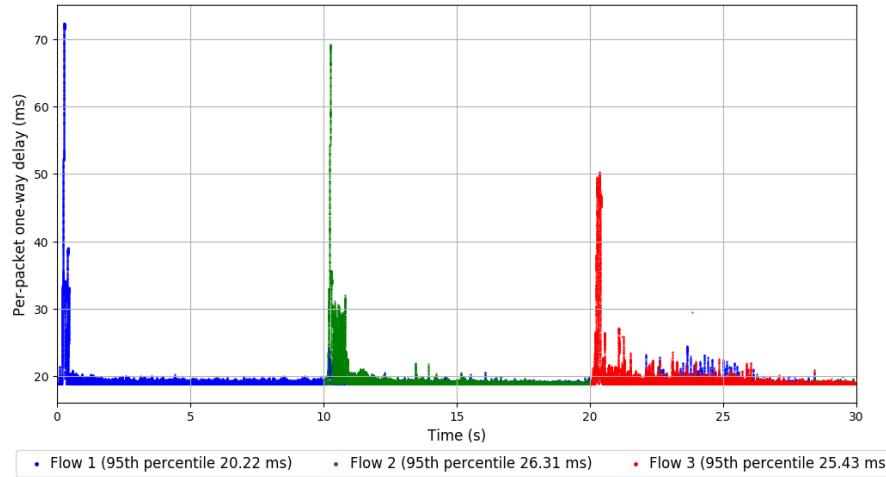
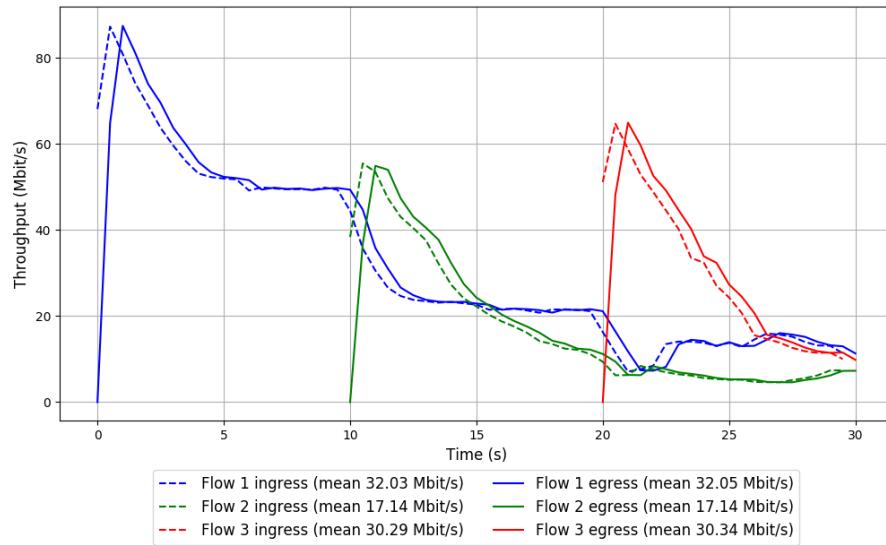


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-26 11:09:19
End at: 2018-10-26 11:09:49
Local clock offset: 1.82 ms
Remote clock offset: -2.578 ms

# Below is generated by plot.py at 2018-10-26 11:36:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.48 Mbit/s
95th percentile per-packet one-way delay: 21.818 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 20.217 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 17.14 Mbit/s
95th percentile per-packet one-way delay: 26.308 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.34 Mbit/s
95th percentile per-packet one-way delay: 25.434 ms
Loss rate: 0.10%
```

Run 5: Report of Indigo-Muses — Data Link

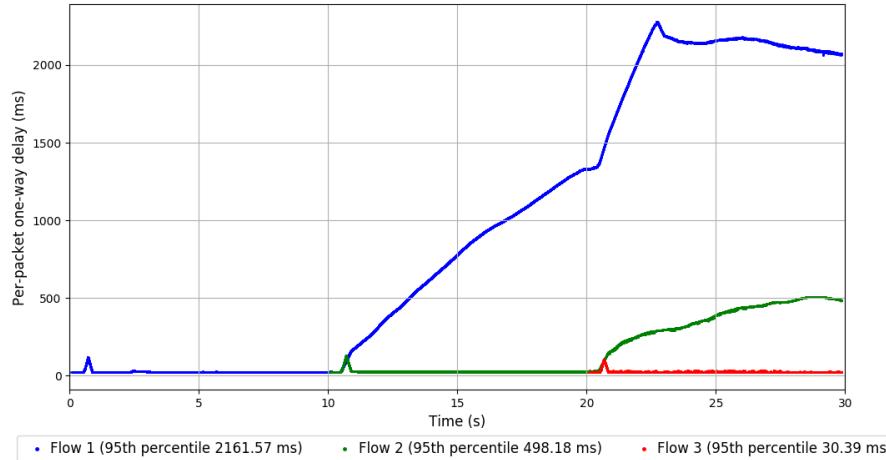
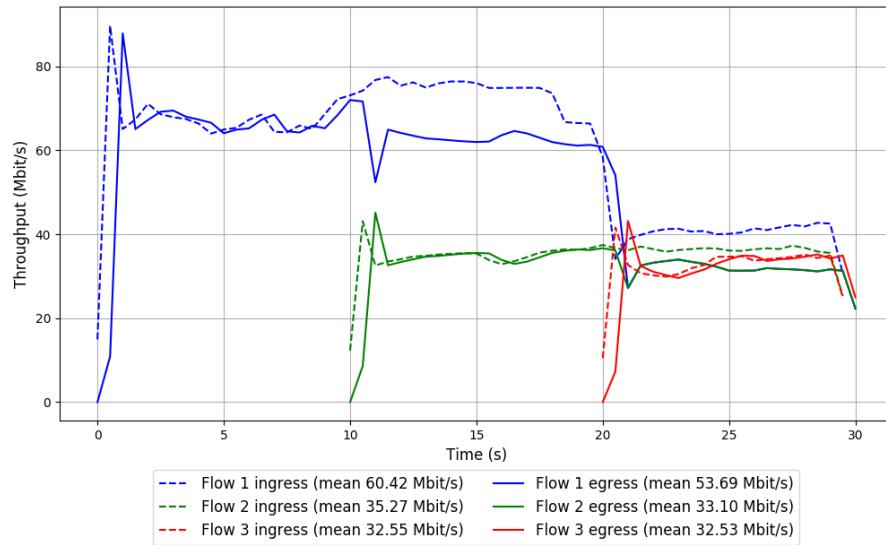


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-26 09:50:48
End at: 2018-10-26 09:51:18
Local clock offset: 2.536 ms
Remote clock offset: -4.603 ms

# Below is generated by plot.py at 2018-10-26 11:37:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.38 Mbit/s
95th percentile per-packet one-way delay: 2144.487 ms
Loss rate: 8.76%
-- Flow 1:
Average throughput: 53.69 Mbit/s
95th percentile per-packet one-way delay: 2161.574 ms
Loss rate: 11.22%
-- Flow 2:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 498.176 ms
Loss rate: 6.26%
-- Flow 3:
Average throughput: 32.53 Mbit/s
95th percentile per-packet one-way delay: 30.392 ms
Loss rate: 0.35%
```

Run 1: Report of PCC-Allegro — Data Link

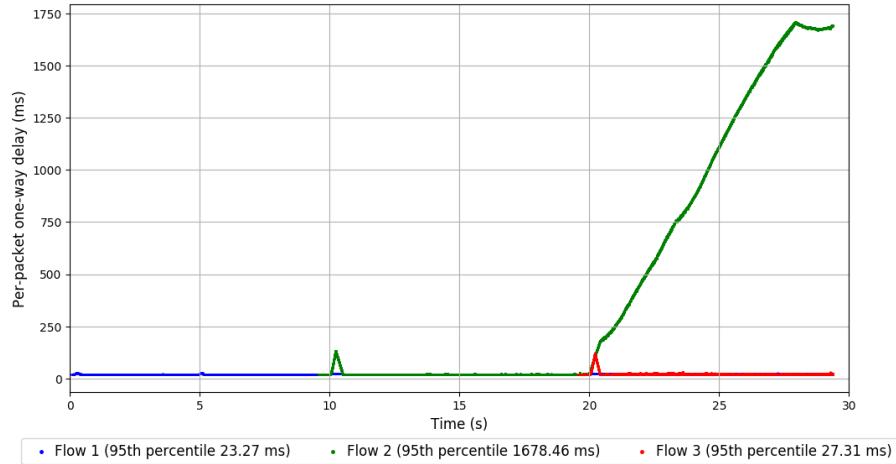
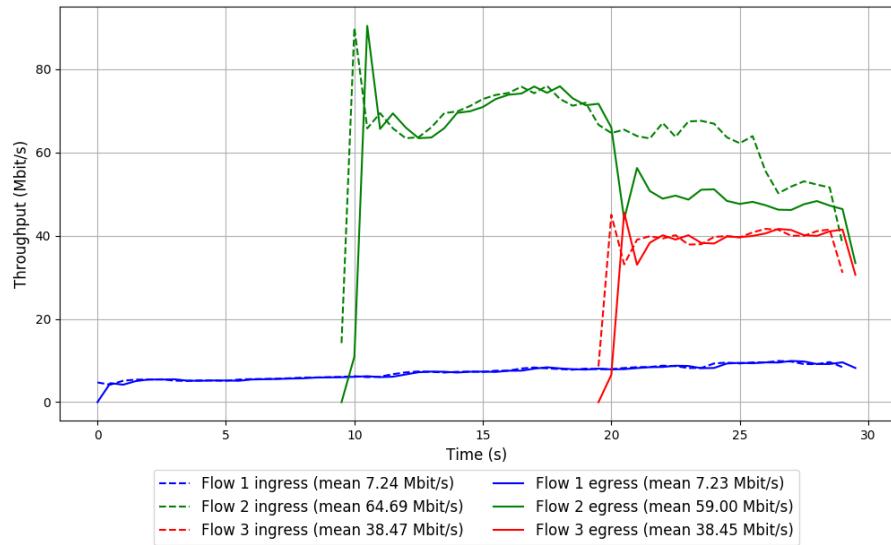


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-26 10:13:11
End at: 2018-10-26 10:13:41
Local clock offset: -0.411 ms
Remote clock offset: -4.196 ms

# Below is generated by plot.py at 2018-10-26 11:37:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.99 Mbit/s
95th percentile per-packet one-way delay: 1627.363 ms
Loss rate: 6.19%
-- Flow 1:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 23.275 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 1678.462 ms
Loss rate: 8.91%
-- Flow 3:
Average throughput: 38.45 Mbit/s
95th percentile per-packet one-way delay: 27.313 ms
Loss rate: 0.31%
```

Run 2: Report of PCC-Allegro — Data Link

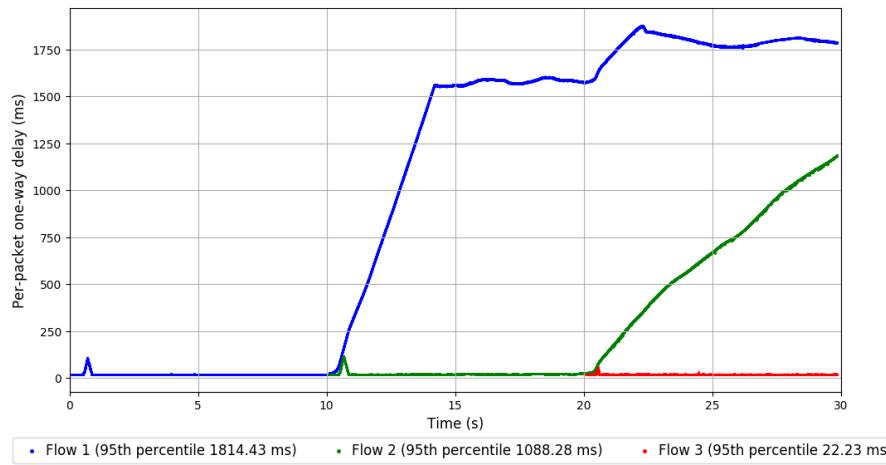
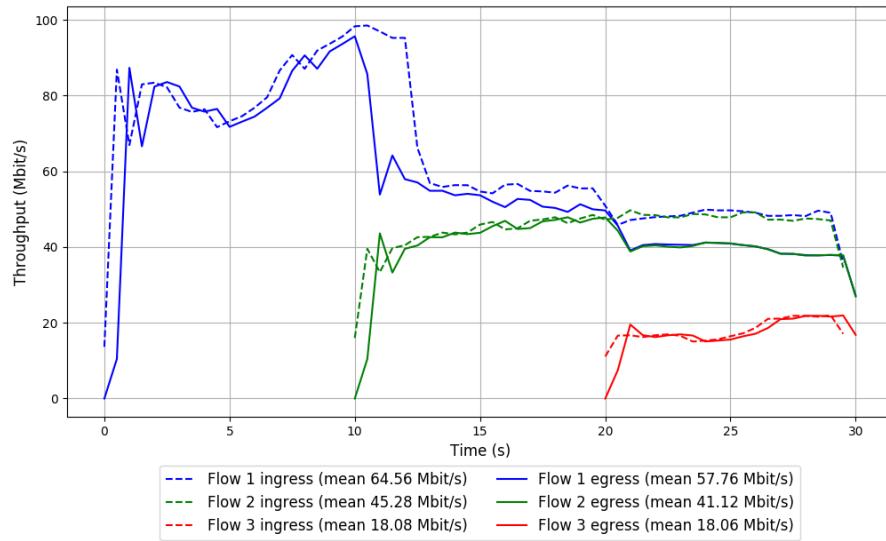


```
Run 3: Statistics of PCC-Allegro
```

```
Start at: 2018-10-26 10:35:51
End at: 2018-10-26 10:36:21
Local clock offset: 3.926 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2018-10-26 11:37:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.03 Mbit/s
95th percentile per-packet one-way delay: 1805.921 ms
Loss rate: 9.60%
-- Flow 1:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 1814.434 ms
Loss rate: 10.59%
-- Flow 2:
Average throughput: 41.12 Mbit/s
95th percentile per-packet one-way delay: 1088.278 ms
Loss rate: 9.30%
-- Flow 3:
Average throughput: 18.06 Mbit/s
95th percentile per-packet one-way delay: 22.229 ms
Loss rate: 0.35%
```

Run 3: Report of PCC-Allegro — Data Link

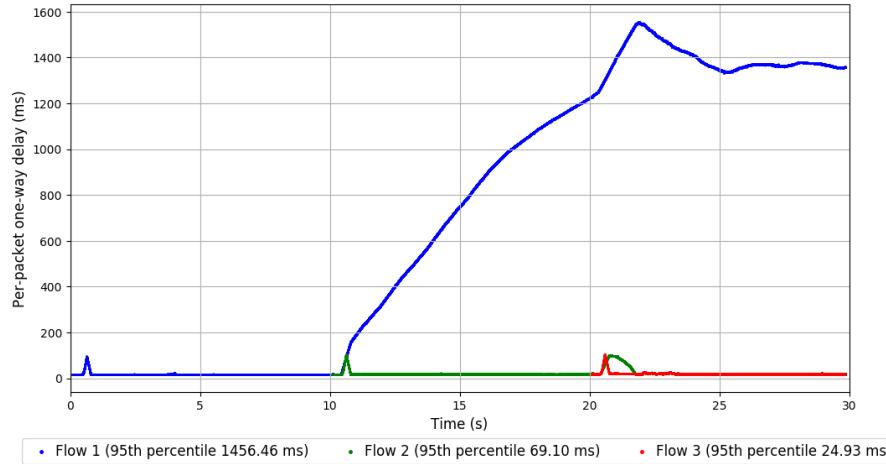
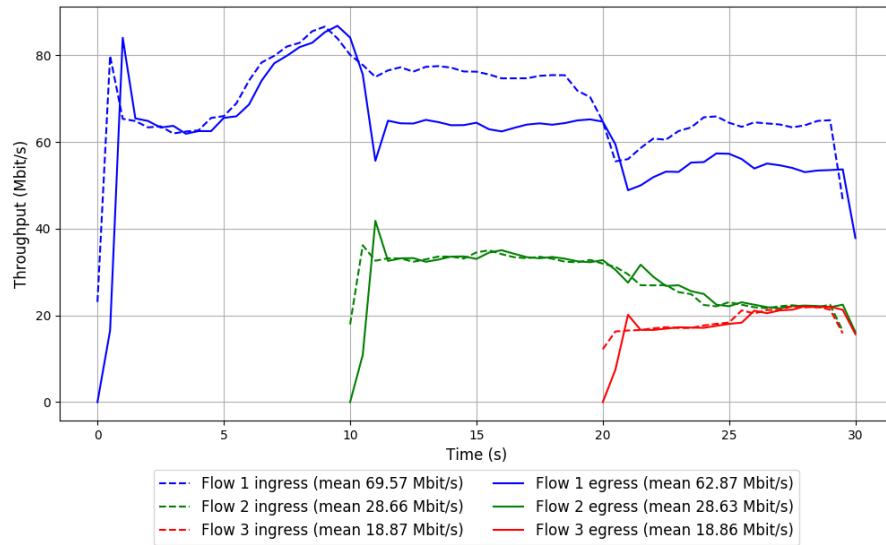


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-26 10:58:10
End at: 2018-10-26 10:58:40
Local clock offset: 0.812 ms
Remote clock offset: -3.308 ms

# Below is generated by plot.py at 2018-10-26 11:37:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.10 Mbit/s
95th percentile per-packet one-way delay: 1425.690 ms
Loss rate: 7.17%
-- Flow 1:
Average throughput: 62.87 Mbit/s
95th percentile per-packet one-way delay: 1456.463 ms
Loss rate: 9.69%
-- Flow 2:
Average throughput: 28.63 Mbit/s
95th percentile per-packet one-way delay: 69.098 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 18.86 Mbit/s
95th percentile per-packet one-way delay: 24.934 ms
Loss rate: 0.30%
```

Run 4: Report of PCC-Allegro — Data Link

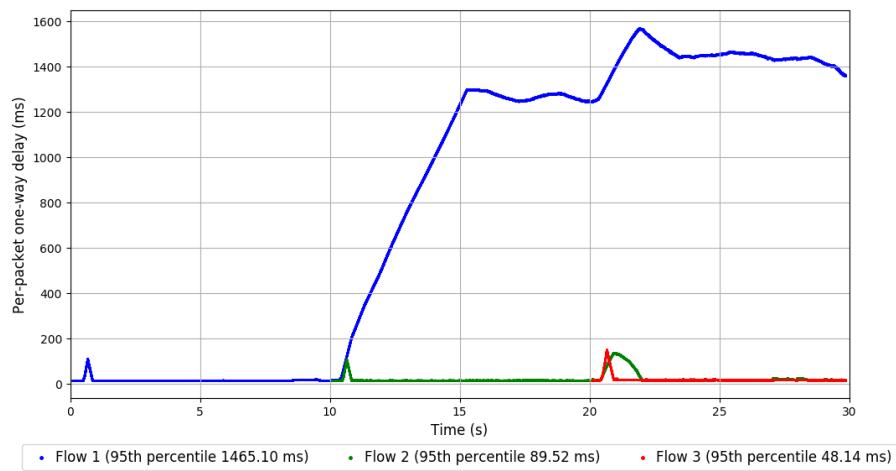
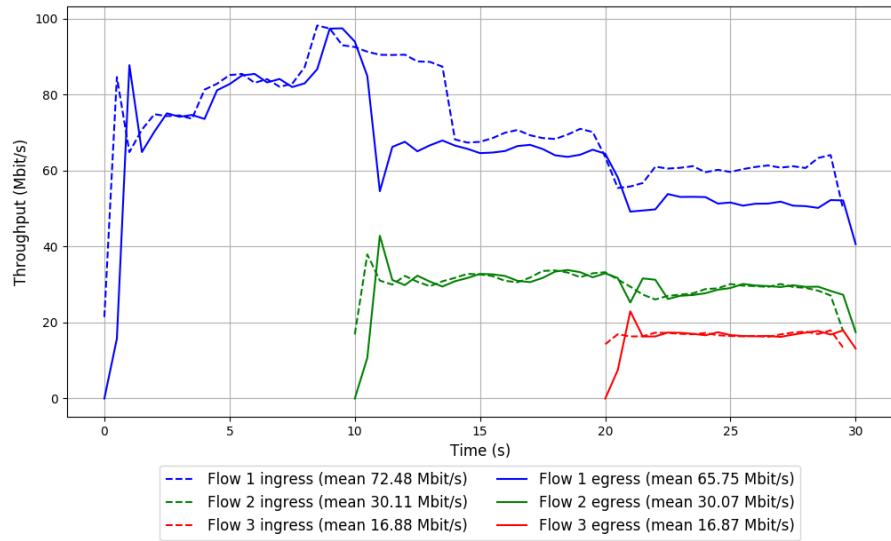


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-26 11:20:07
End at: 2018-10-26 11:20:37
Local clock offset: 0.203 ms
Remote clock offset: -1.715 ms

# Below is generated by plot.py at 2018-10-26 11:37:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.29 Mbit/s
95th percentile per-packet one-way delay: 1459.359 ms
Loss rate: 6.98%
-- Flow 1:
Average throughput: 65.75 Mbit/s
95th percentile per-packet one-way delay: 1465.099 ms
Loss rate: 9.35%
-- Flow 2:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 89.519 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 16.87 Mbit/s
95th percentile per-packet one-way delay: 48.137 ms
Loss rate: 0.32%
```

Run 5: Report of PCC-Allegro — Data Link

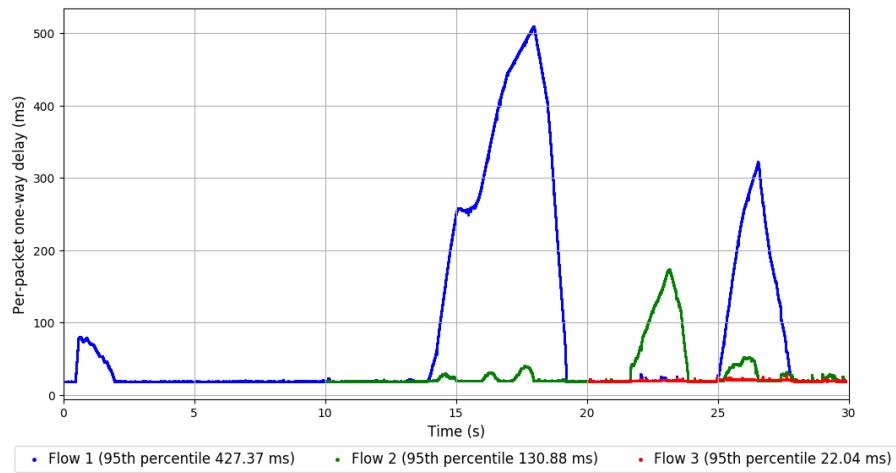
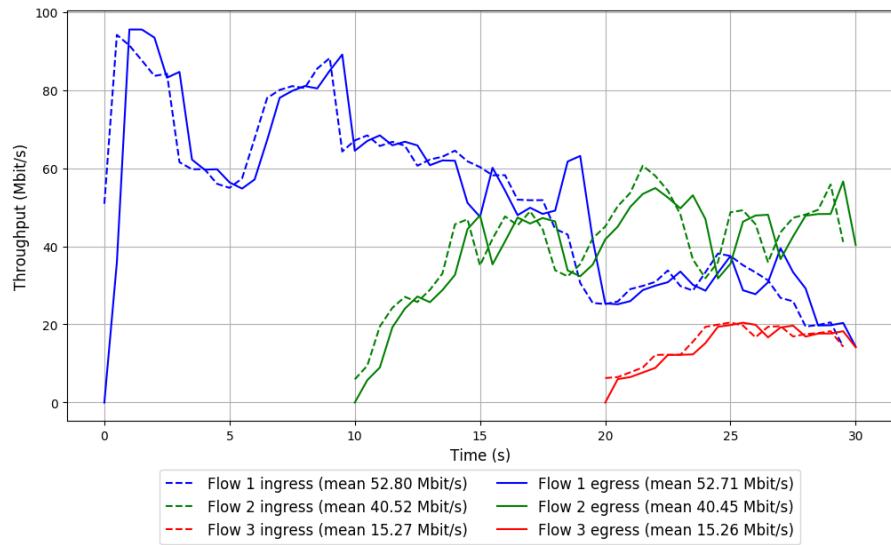


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-10-26 09:44:28
End at: 2018-10-26 09:44:58
Local clock offset: 2.203 ms
Remote clock offset: -1.261 ms

# Below is generated by plot.py at 2018-10-26 11:38:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.65 Mbit/s
95th percentile per-packet one-way delay: 328.202 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 52.71 Mbit/s
95th percentile per-packet one-way delay: 427.367 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 130.877 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 15.26 Mbit/s
95th percentile per-packet one-way delay: 22.041 ms
Loss rate: 0.30%
```

Run 1: Report of PCC-Expr — Data Link

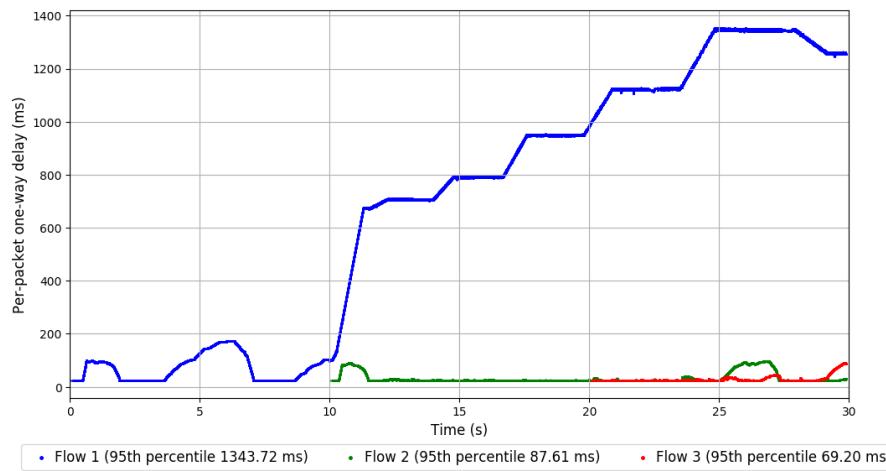
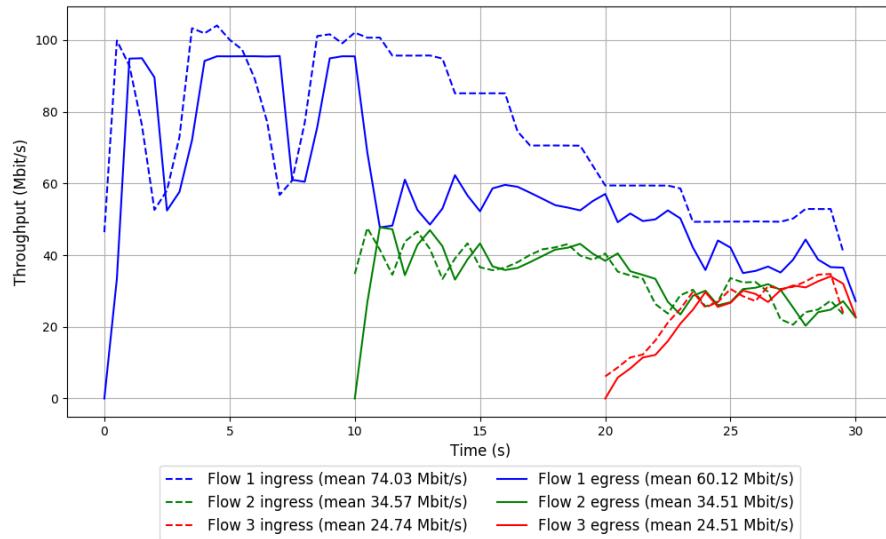


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-26 10:06:58
End at: 2018-10-26 10:07:28
Local clock offset: 3.224 ms
Remote clock offset: -4.654 ms

# Below is generated by plot.py at 2018-10-26 11:38:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.13 Mbit/s
95th percentile per-packet one-way delay: 1304.448 ms
Loss rate: 13.48%
-- Flow 1:
Average throughput: 60.12 Mbit/s
95th percentile per-packet one-way delay: 1343.717 ms
Loss rate: 18.91%
-- Flow 2:
Average throughput: 34.51 Mbit/s
95th percentile per-packet one-way delay: 87.611 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 69.205 ms
Loss rate: 1.25%
```

Run 2: Report of PCC-Expr — Data Link

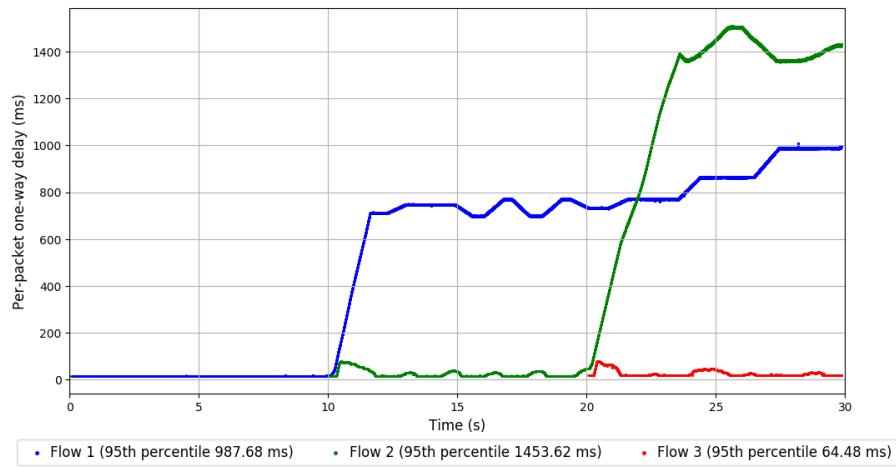
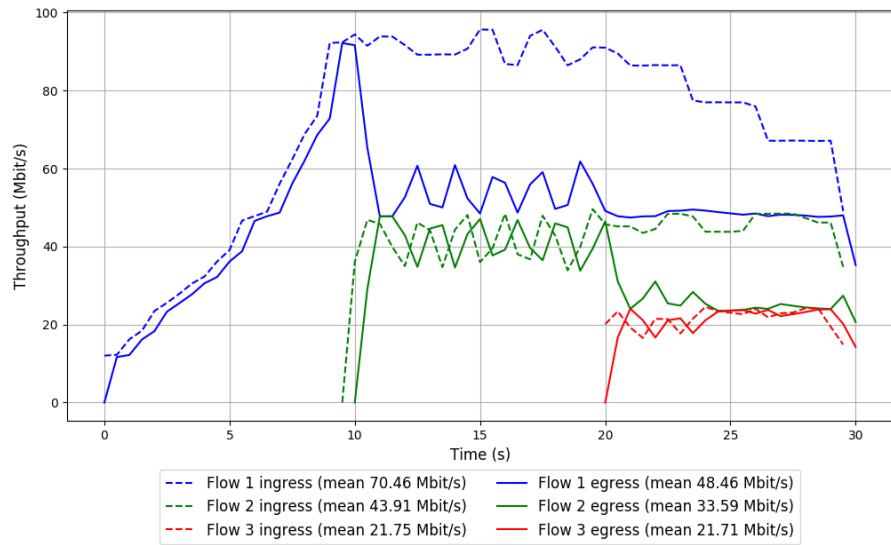


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-26 10:29:18
End at: 2018-10-26 10:29:48
Local clock offset: -2.062 ms
Remote clock offset: -0.675 ms

# Below is generated by plot.py at 2018-10-26 11:38:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.96 Mbit/s
95th percentile per-packet one-way delay: 1370.619 ms
Loss rate: 27.13%
-- Flow 1:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 987.677 ms
Loss rate: 31.31%
-- Flow 2:
Average throughput: 33.59 Mbit/s
95th percentile per-packet one-way delay: 1453.621 ms
Loss rate: 23.59%
-- Flow 3:
Average throughput: 21.71 Mbit/s
95th percentile per-packet one-way delay: 64.481 ms
Loss rate: 0.48%
```

Run 3: Report of PCC-Expr — Data Link

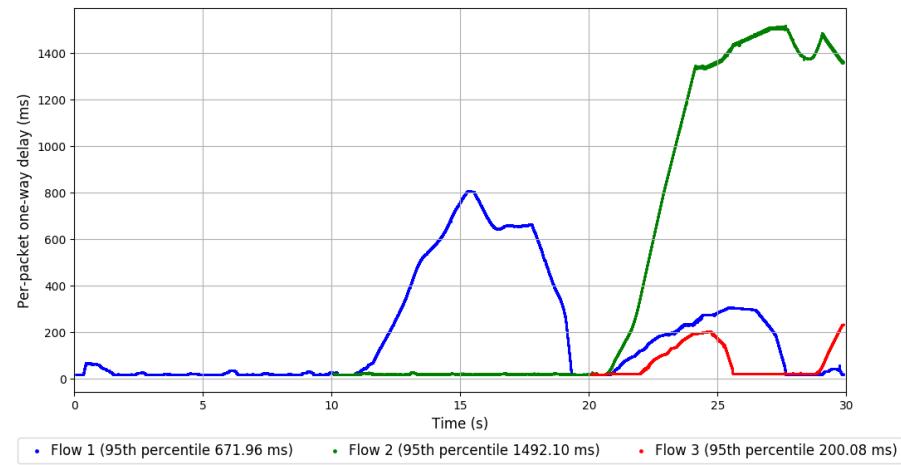
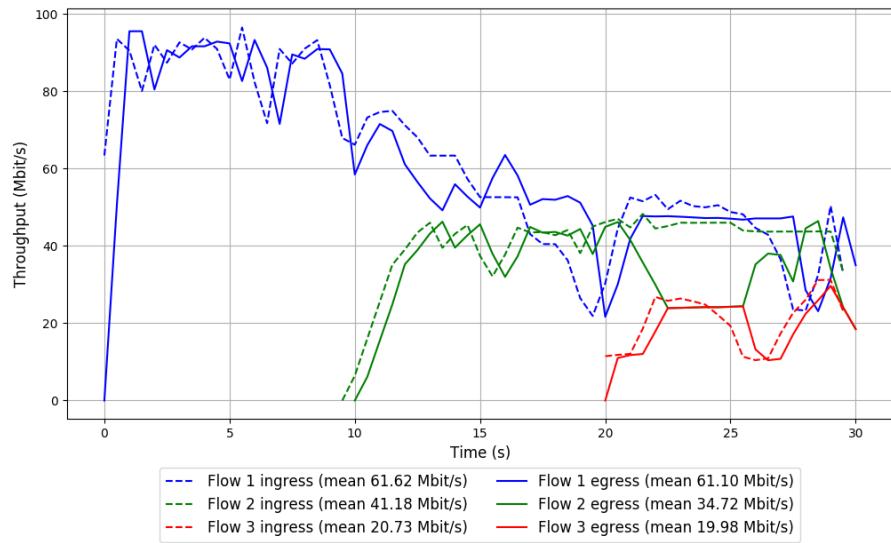


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-26 10:51:59
End at: 2018-10-26 10:52:29
Local clock offset: 1.334 ms
Remote clock offset: -3.257 ms

# Below is generated by plot.py at 2018-10-26 11:38:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 1386.753 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 61.10 Mbit/s
95th percentile per-packet one-way delay: 671.960 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 1492.095 ms
Loss rate: 15.82%
-- Flow 3:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 200.079 ms
Loss rate: 3.78%
```

Run 4: Report of PCC-Expr — Data Link

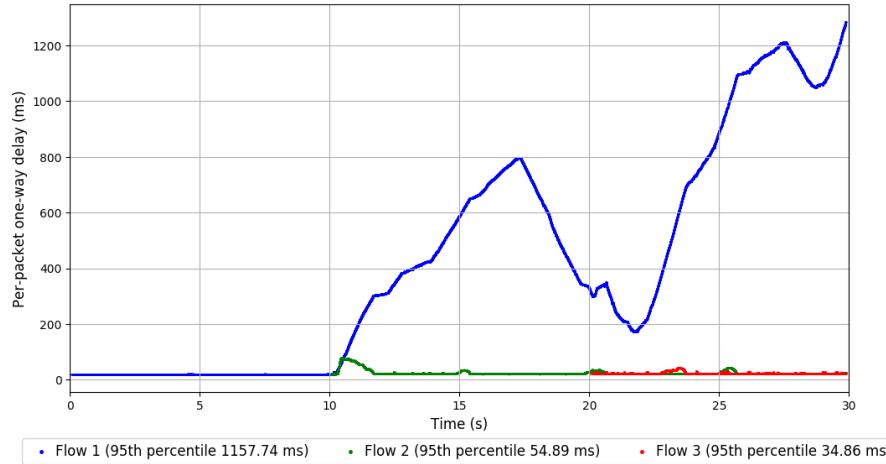
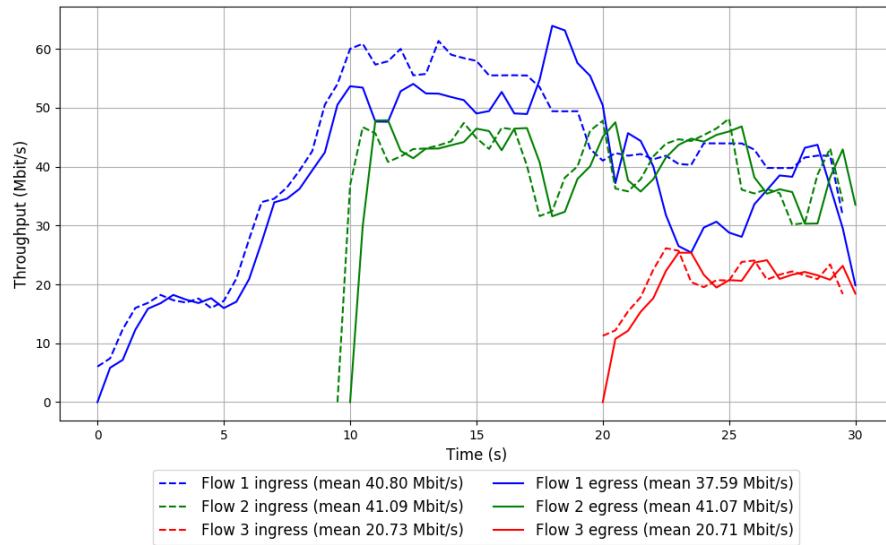


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-26 11:14:03
End at: 2018-10-26 11:14:33
Local clock offset: 1.62 ms
Remote clock offset: -3.125 ms

# Below is generated by plot.py at 2018-10-26 11:38:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.74 Mbit/s
95th percentile per-packet one-way delay: 1098.119 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 1157.740 ms
Loss rate: 7.95%
-- Flow 2:
Average throughput: 41.07 Mbit/s
95th percentile per-packet one-way delay: 54.886 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 20.71 Mbit/s
95th percentile per-packet one-way delay: 34.858 ms
Loss rate: 0.32%
```

Run 5: Report of PCC-Expr — Data Link

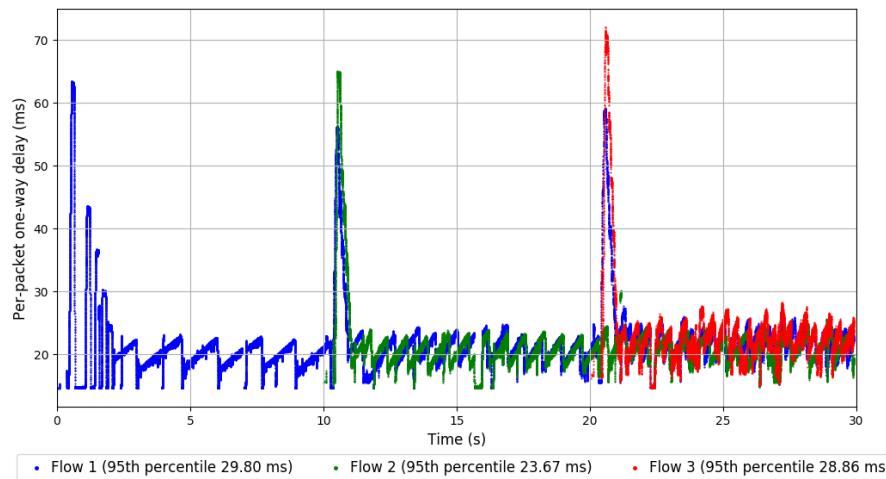
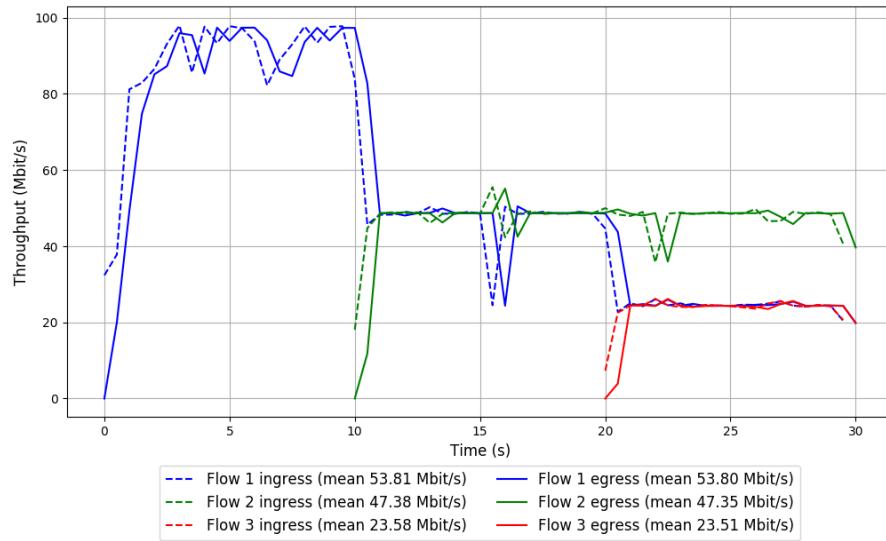


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-10-26 09:41:48
End at: 2018-10-26 09:42:18
Local clock offset: -13.804 ms
Remote clock offset: -12.905 ms

# Below is generated by plot.py at 2018-10-26 11:38:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.07 Mbit/s
95th percentile per-packet one-way delay: 26.687 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 29.797 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 47.35 Mbit/s
95th percentile per-packet one-way delay: 23.667 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 23.51 Mbit/s
95th percentile per-packet one-way delay: 28.855 ms
Loss rate: 0.54%
```

Run 1: Report of QUIC Cubic — Data Link

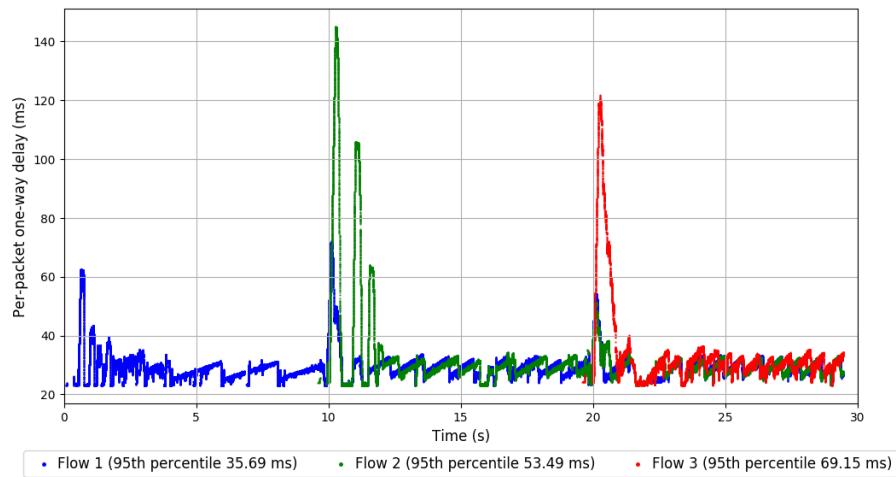
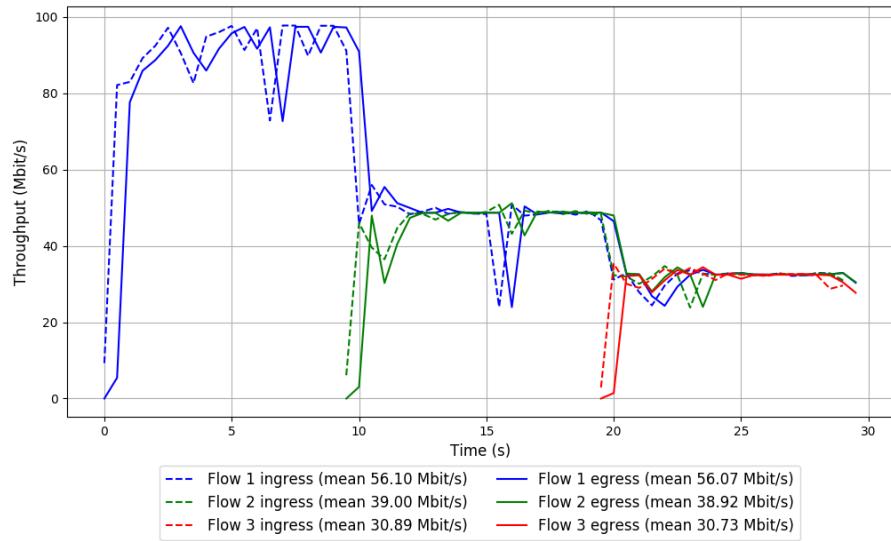


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-26 10:04:24
End at: 2018-10-26 10:04:54
Local clock offset: 3.191 ms
Remote clock offset: -4.003 ms

# Below is generated by plot.py at 2018-10-26 11:38:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 38.957 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 56.07 Mbit/s
95th percentile per-packet one-way delay: 35.694 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 38.92 Mbit/s
95th percentile per-packet one-way delay: 53.487 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 30.73 Mbit/s
95th percentile per-packet one-way delay: 69.154 ms
Loss rate: 0.77%
```

Run 2: Report of QUIC Cubic — Data Link

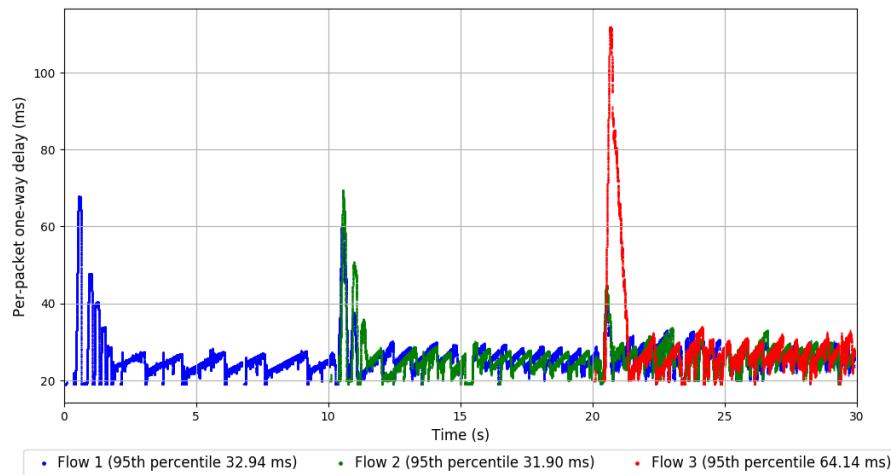
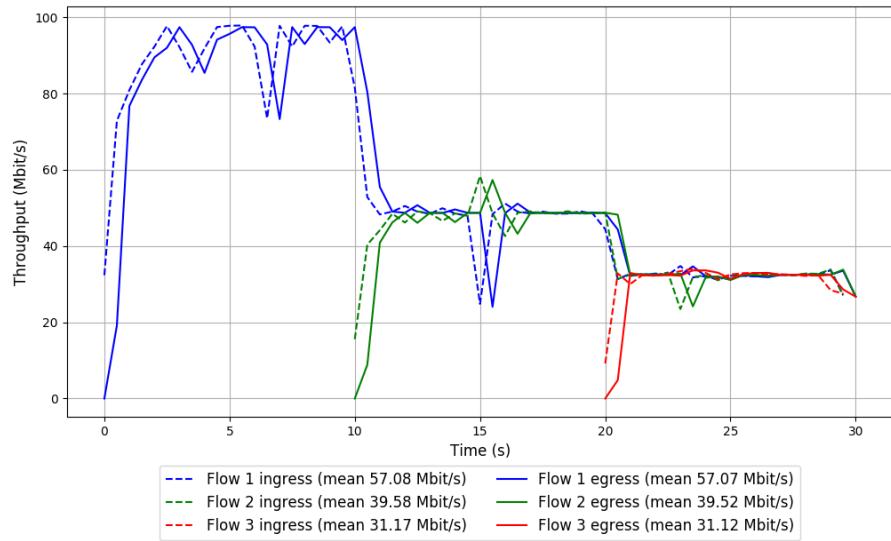


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-26 10:26:49
End at: 2018-10-26 10:27:19
Local clock offset: 2.126 ms
Remote clock offset: -0.355 ms

# Below is generated by plot.py at 2018-10-26 11:38:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 33.288 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 57.07 Mbit/s
95th percentile per-packet one-way delay: 32.939 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.52 Mbit/s
95th percentile per-packet one-way delay: 31.898 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 64.136 ms
Loss rate: 0.49%
```

Run 3: Report of QUIC Cubic — Data Link

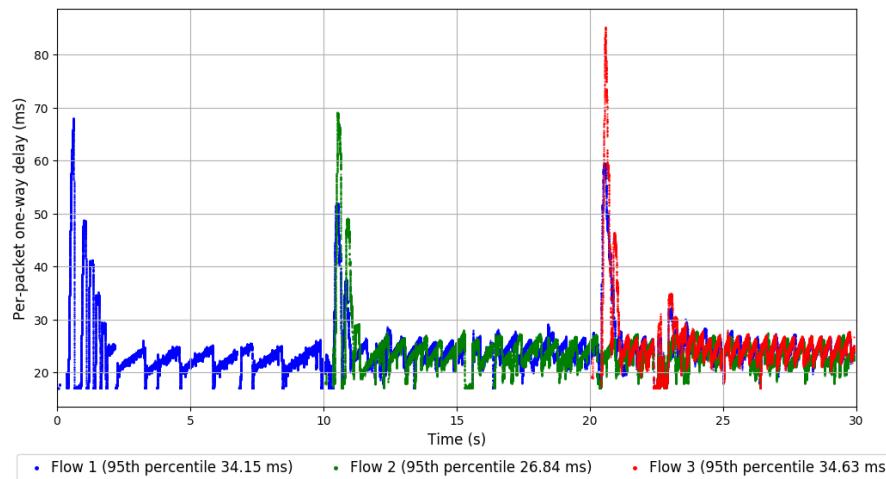
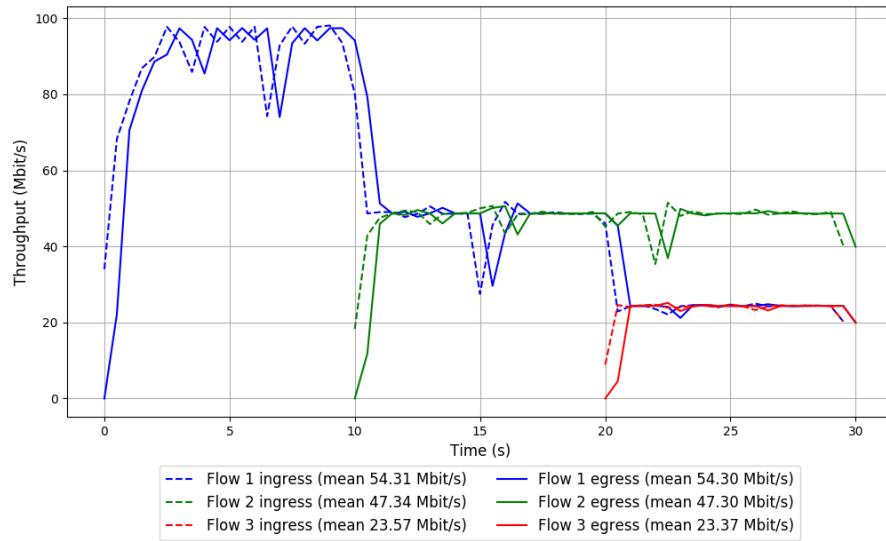


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-26 10:49:28
End at: 2018-10-26 10:49:58
Local clock offset: 1.679 ms
Remote clock offset: -2.292 ms

# Below is generated by plot.py at 2018-10-26 11:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.47 Mbit/s
95th percentile per-packet one-way delay: 29.907 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 54.30 Mbit/s
95th percentile per-packet one-way delay: 34.147 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 26.837 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 34.635 ms
Loss rate: 1.11%
```

Run 4: Report of QUIC Cubic — Data Link

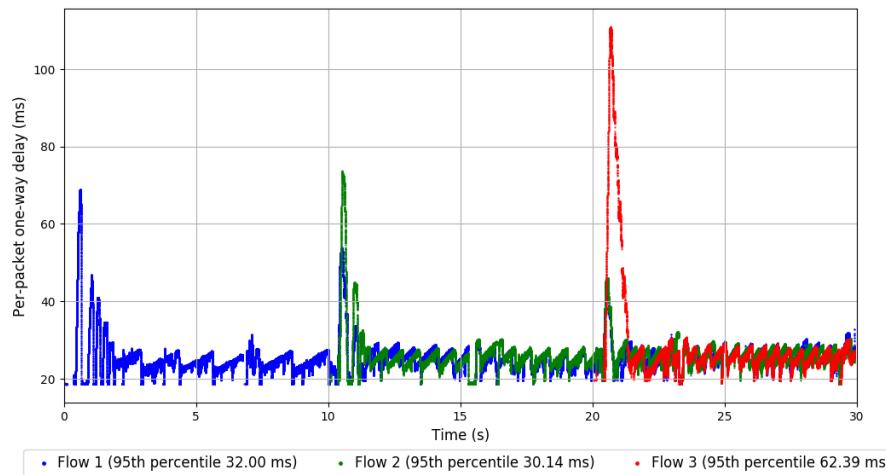
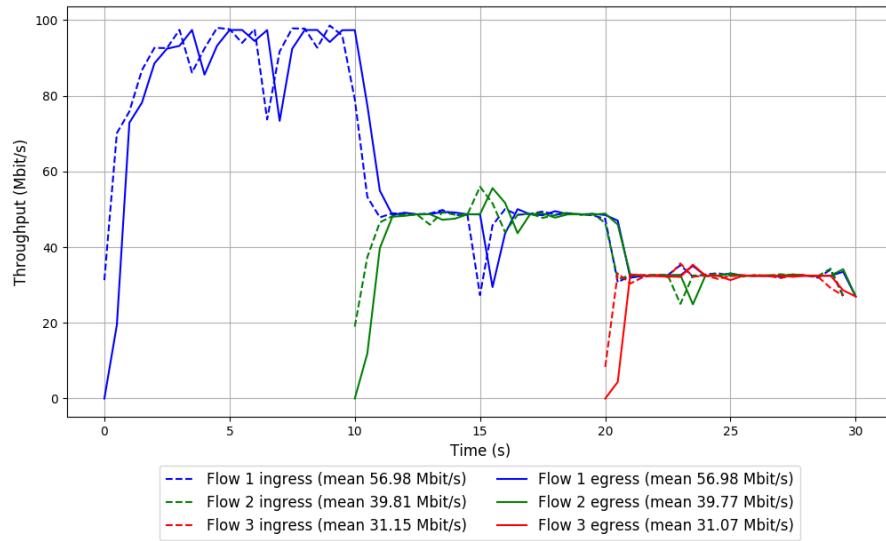


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-26 11:11:36
End at: 2018-10-26 11:12:06
Local clock offset: 1.349 ms
Remote clock offset: -2.472 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.68 Mbit/s
95th percentile per-packet one-way delay: 32.218 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 31.999 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.77 Mbit/s
95th percentile per-packet one-way delay: 30.145 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 62.389 ms
Loss rate: 0.47%
```

Run 5: Report of QUIC Cubic — Data Link

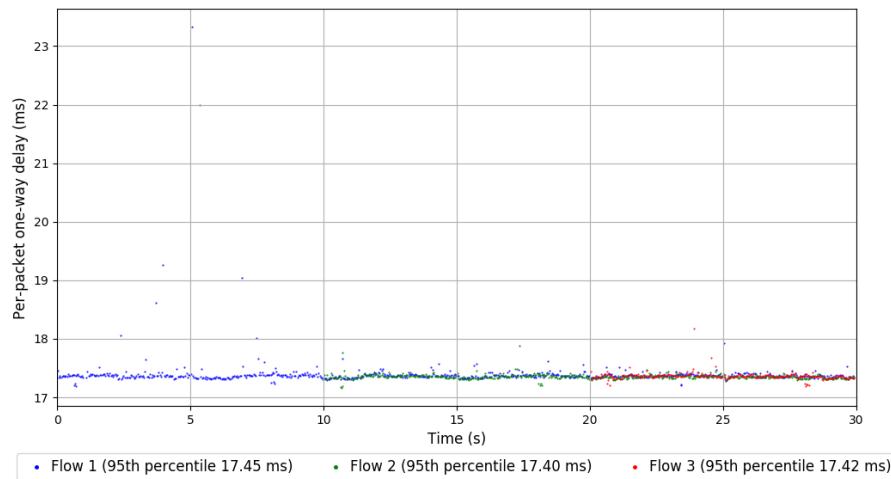
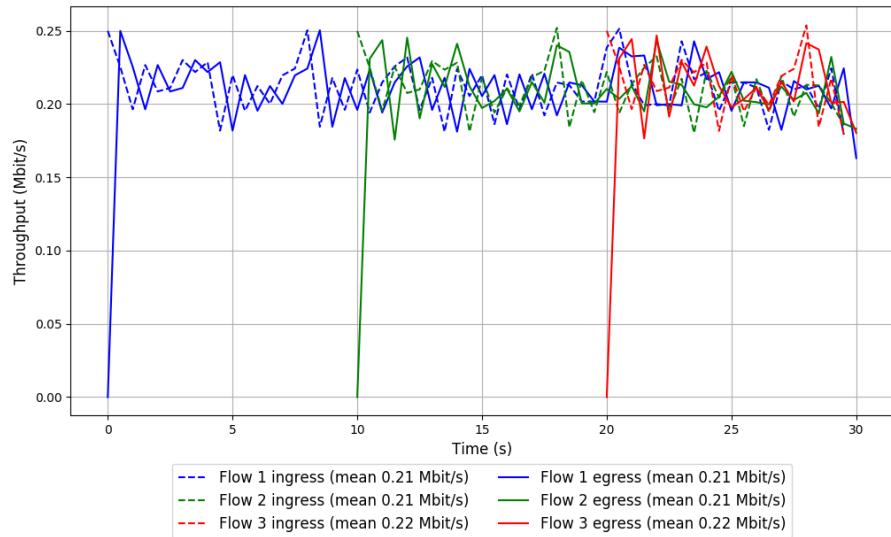


Run 1: Statistics of SCReAM

```
Start at: 2018-10-26 09:40:42
End at: 2018-10-26 09:41:12
Local clock offset: -6.633 ms
Remote clock offset: -8.411 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 17.428 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.451 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.404 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.416 ms
Loss rate: 0.35%
```

Run 1: Report of SCReAM — Data Link

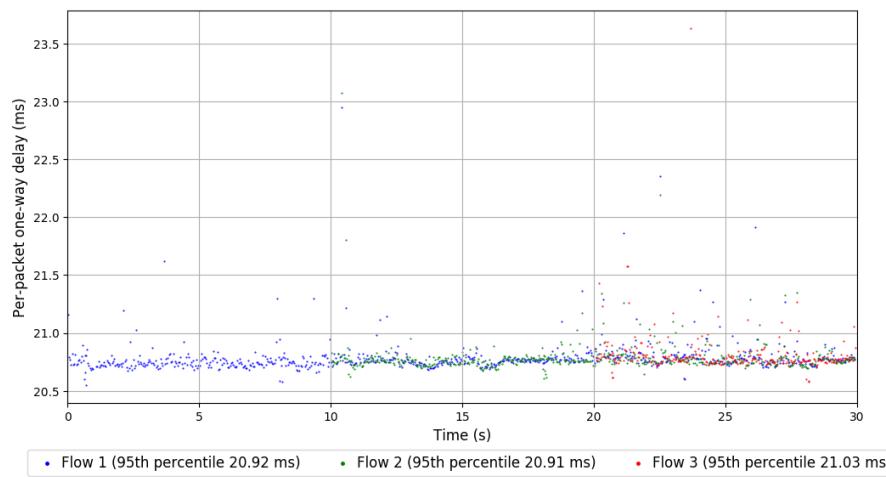
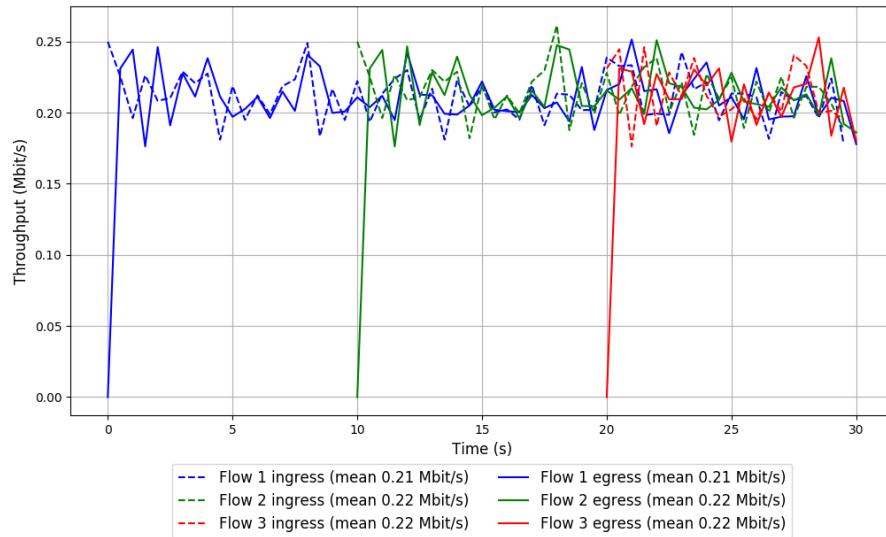


Run 2: Statistics of SCReAM

```
Start at: 2018-10-26 10:03:17
End at: 2018-10-26 10:03:47
Local clock offset: -0.235 ms
Remote clock offset: -5.053 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 20.929 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.916 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.910 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 21.029 ms
Loss rate: 0.35%
```

Run 2: Report of SCReAM — Data Link

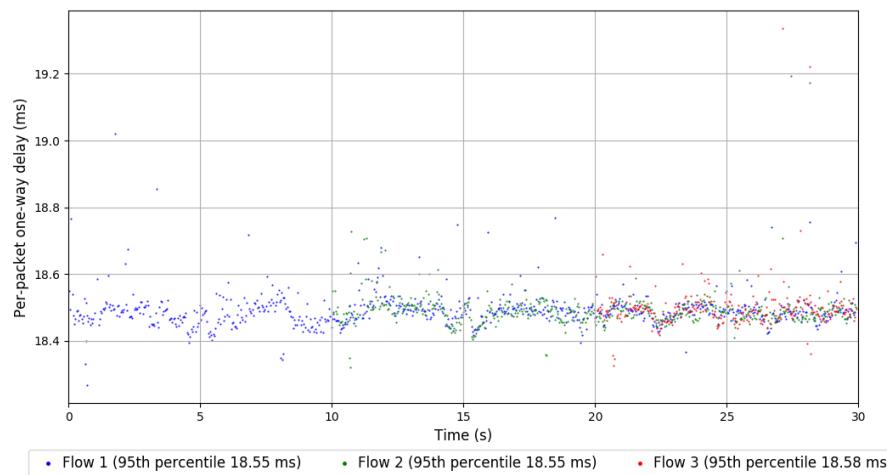
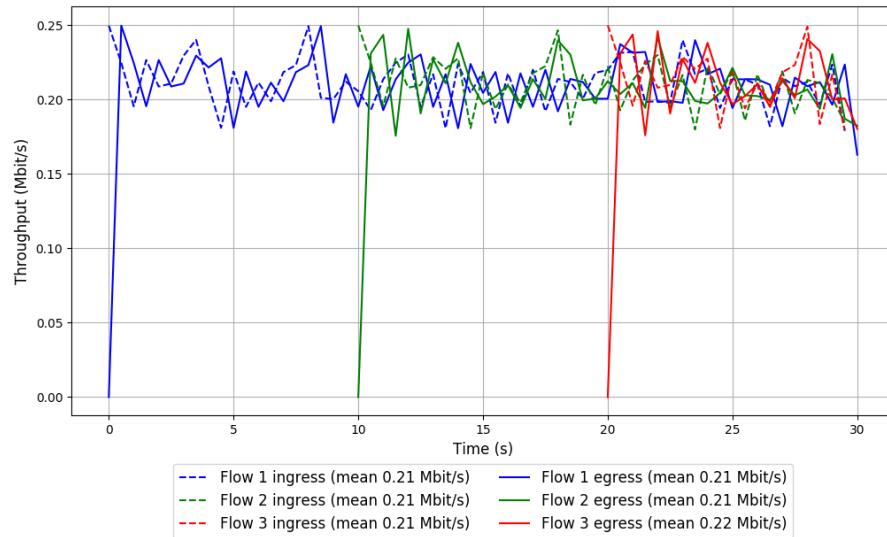


Run 3: Statistics of SCReAM

```
Start at: 2018-10-26 10:25:43
End at: 2018-10-26 10:26:13
Local clock offset: 0.475 ms
Remote clock offset: -1.469 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 18.551 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.551 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.549 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 18.577 ms
Loss rate: 0.35%
```

Run 3: Report of SCReAM — Data Link

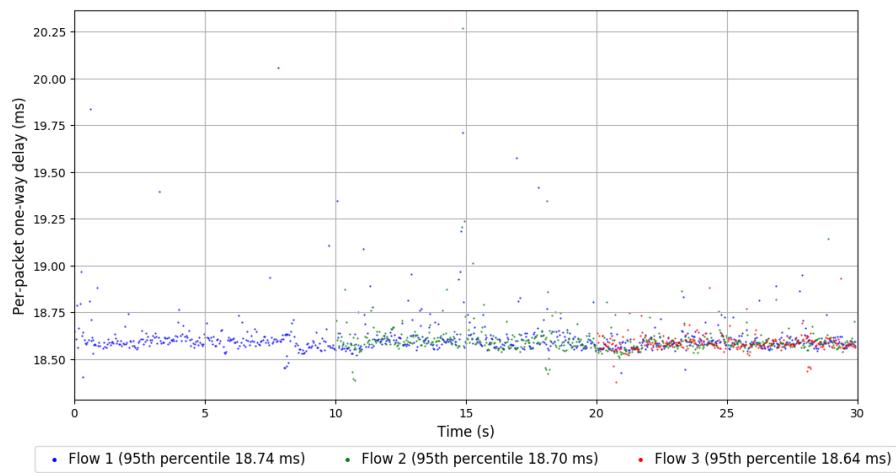
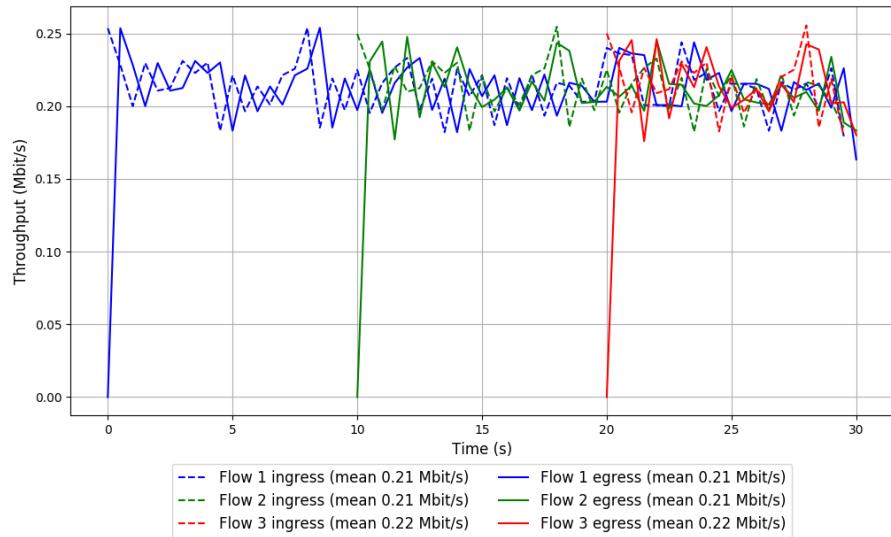


Run 4: Statistics of SCReAM

```
Start at: 2018-10-26 10:48:21
End at: 2018-10-26 10:48:51
Local clock offset: 3.598 ms
Remote clock offset: -1.774 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 18.713 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.741 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 18.702 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 18.642 ms
Loss rate: 0.35%
```

Run 4: Report of SCReAM — Data Link

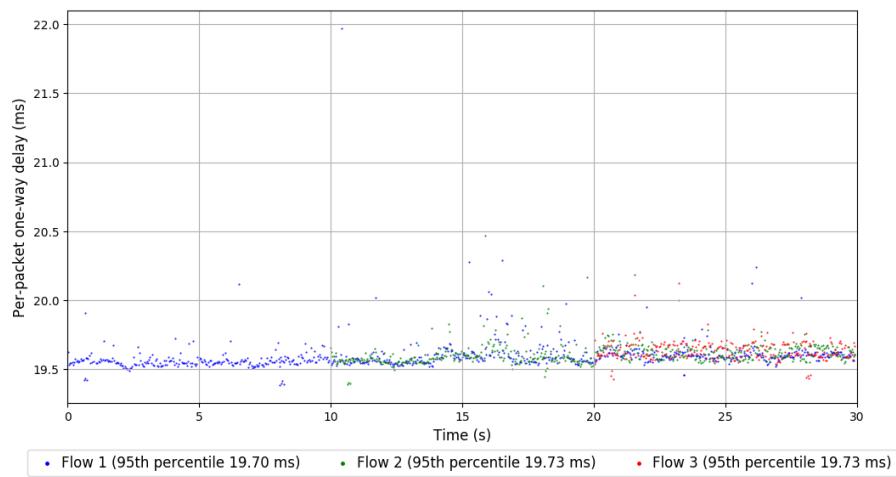
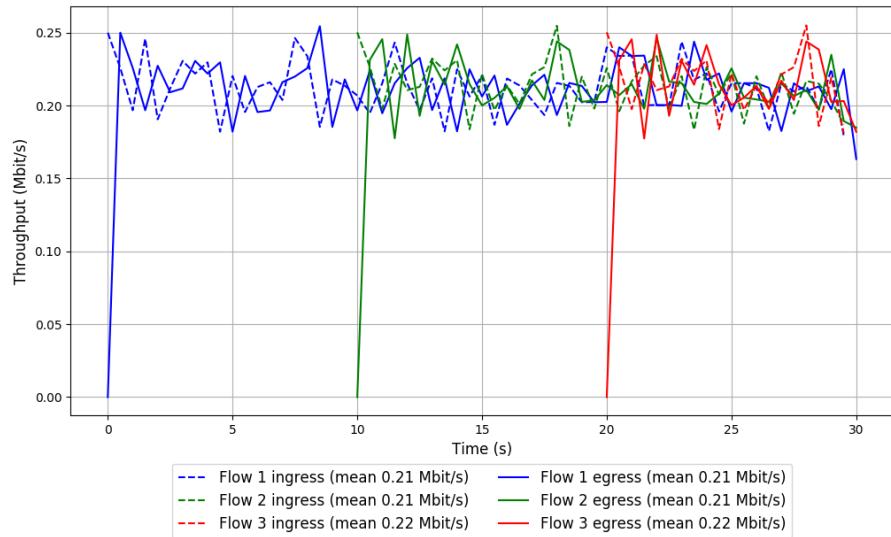


Run 5: Statistics of SCReAM

```
Start at: 2018-10-26 11:10:29
End at: 2018-10-26 11:10:59
Local clock offset: 1.679 ms
Remote clock offset: -3.242 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 19.716 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.705 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.725 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.728 ms
Loss rate: 0.35%
```

Run 5: Report of SCReAM — Data Link

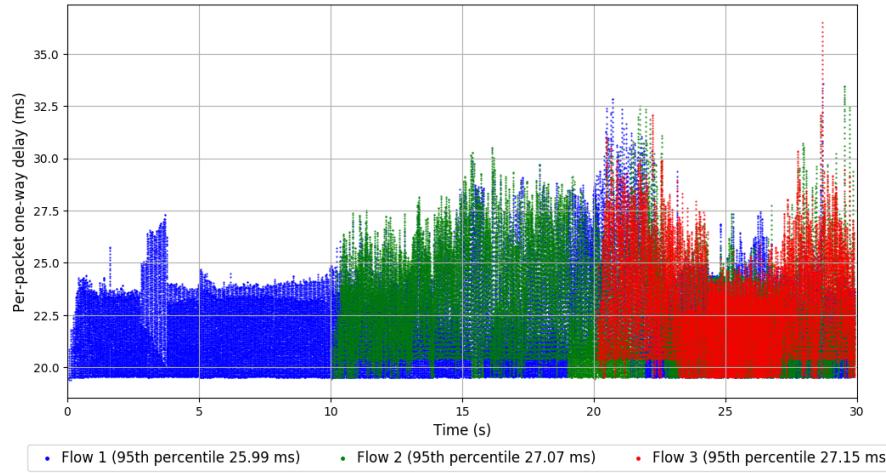
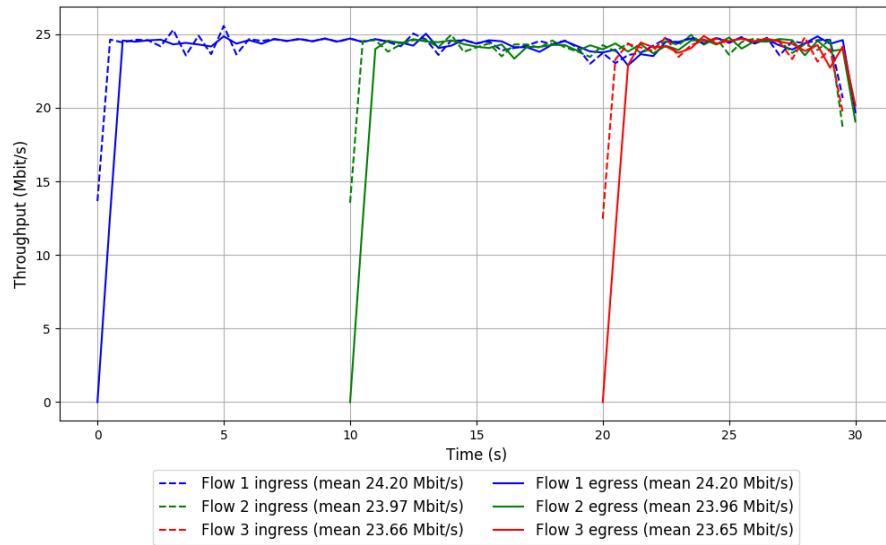


Run 1: Statistics of Sprout

```
Start at: 2018-10-26 09:47:09
End at: 2018-10-26 09:47:39
Local clock offset: 0.239 ms
Remote clock offset: -3.746 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.93 Mbit/s
95th percentile per-packet one-way delay: 26.701 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.20 Mbit/s
95th percentile per-packet one-way delay: 25.992 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 23.96 Mbit/s
95th percentile per-packet one-way delay: 27.075 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.65 Mbit/s
95th percentile per-packet one-way delay: 27.147 ms
Loss rate: 0.21%
```

Run 1: Report of Sprout — Data Link

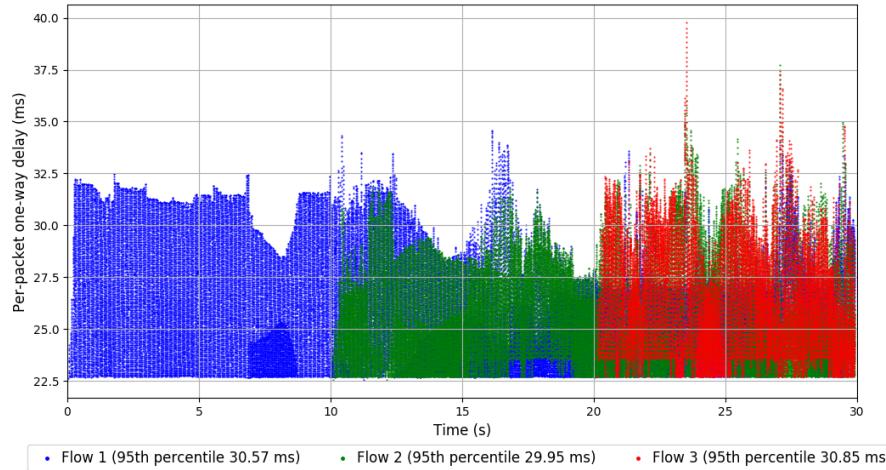
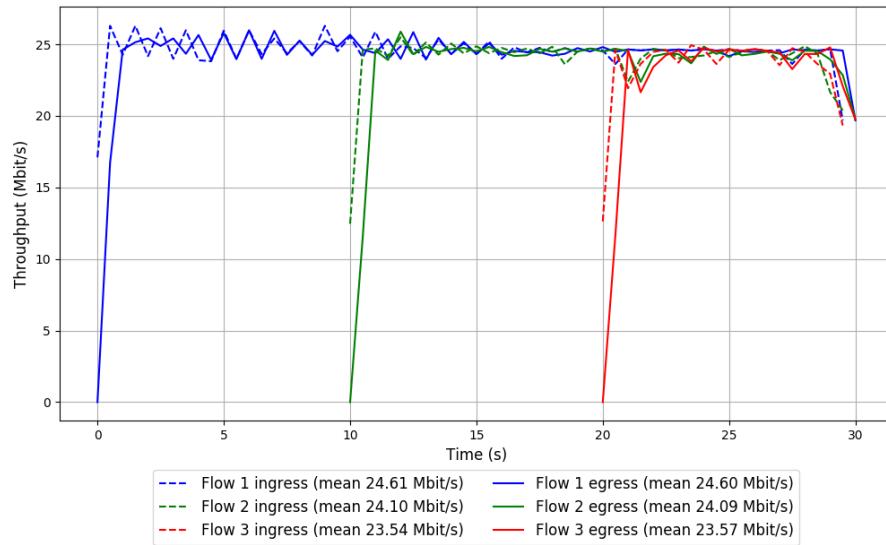


Run 2: Statistics of Sprout

```
Start at: 2018-10-26 10:09:34
End at: 2018-10-26 10:10:04
Local clock offset: 2.401 ms
Remote clock offset: -4.049 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.38 Mbit/s
95th percentile per-packet one-way delay: 30.463 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 24.60 Mbit/s
95th percentile per-packet one-way delay: 30.575 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 24.09 Mbit/s
95th percentile per-packet one-way delay: 29.949 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.57 Mbit/s
95th percentile per-packet one-way delay: 30.853 ms
Loss rate: 0.27%
```

Run 2: Report of Sprout — Data Link

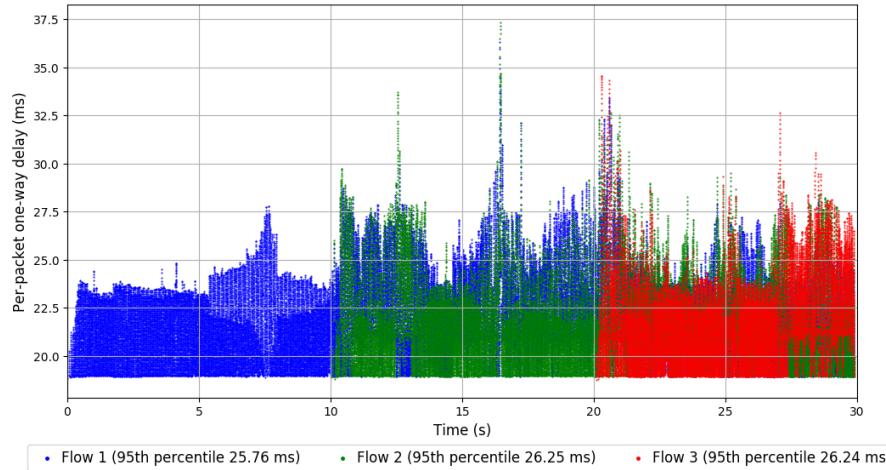
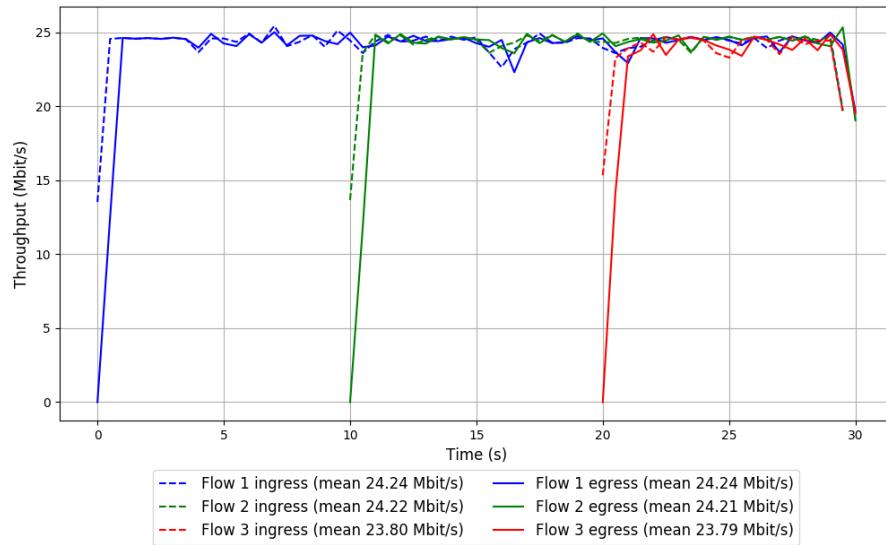


Run 3: Statistics of Sprout

```
Start at: 2018-10-26 10:32:04
End at: 2018-10-26 10:32:34
Local clock offset: 0.738 ms
Remote clock offset: -1.681 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.17 Mbit/s
95th percentile per-packet one-way delay: 26.006 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 24.24 Mbit/s
95th percentile per-packet one-way delay: 25.764 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 24.21 Mbit/s
95th percentile per-packet one-way delay: 26.246 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 23.79 Mbit/s
95th percentile per-packet one-way delay: 26.242 ms
Loss rate: 0.42%
```

Run 3: Report of Sprout — Data Link

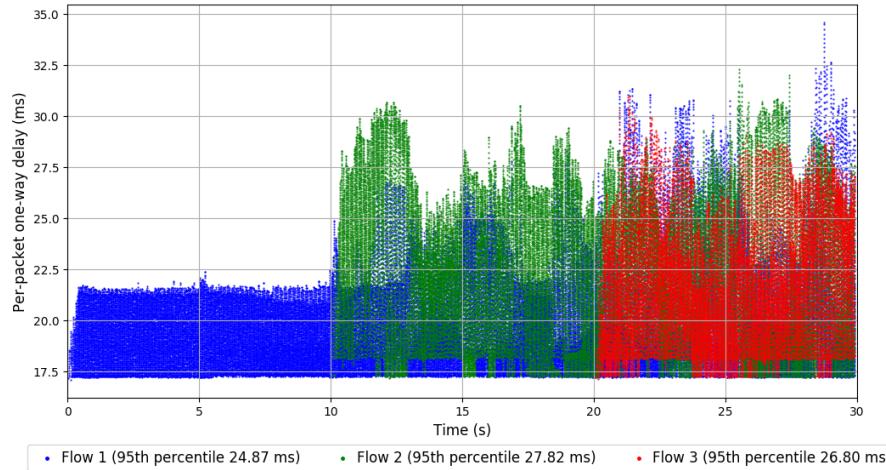
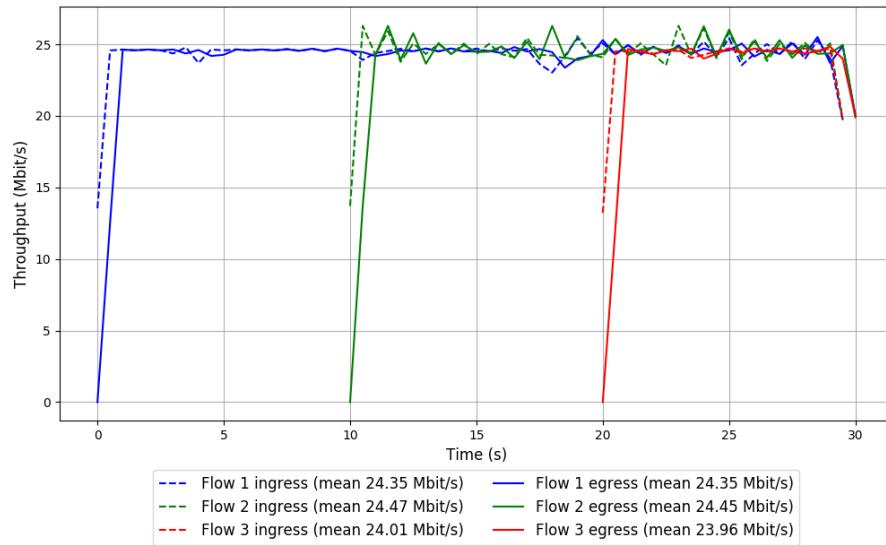


Run 4: Statistics of Sprout

```
Start at: 2018-10-26 10:54:30
End at: 2018-10-26 10:55:00
Local clock offset: 1.608 ms
Remote clock offset: -2.56 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 26.825 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 24.866 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 27.815 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 23.96 Mbit/s
95th percentile per-packet one-way delay: 26.805 ms
Loss rate: 0.32%
```

Run 4: Report of Sprout — Data Link

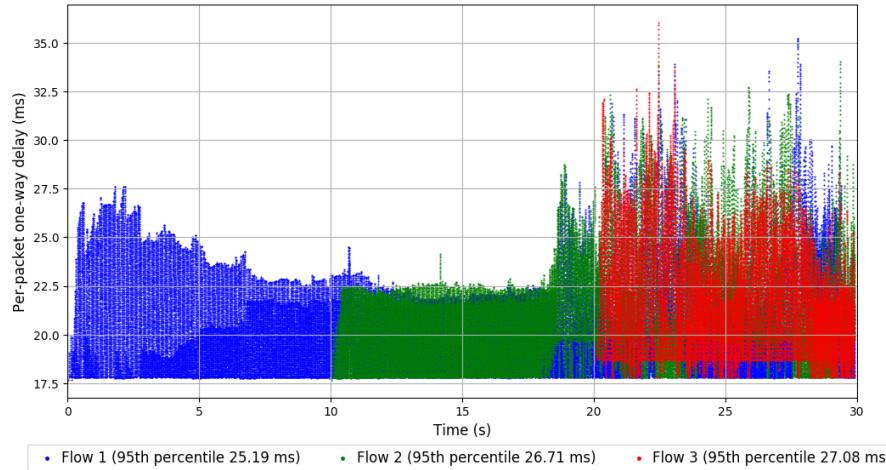
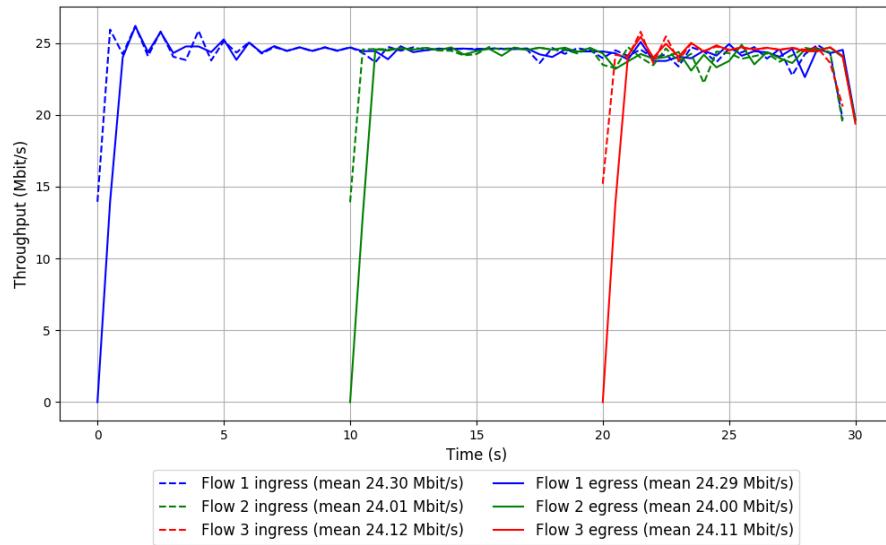


Run 5: Statistics of Sprout

```
Start at: 2018-10-26 11:16:30
End at: 2018-10-26 11:17:00
Local clock offset: -0.044 ms
Remote clock offset: -2.855 ms

# Below is generated by plot.py at 2018-10-26 11:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.21 Mbit/s
95th percentile per-packet one-way delay: 26.181 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 25.186 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 24.00 Mbit/s
95th percentile per-packet one-way delay: 26.711 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 24.11 Mbit/s
95th percentile per-packet one-way delay: 27.079 ms
Loss rate: 0.41%
```

Run 5: Report of Sprout — Data Link

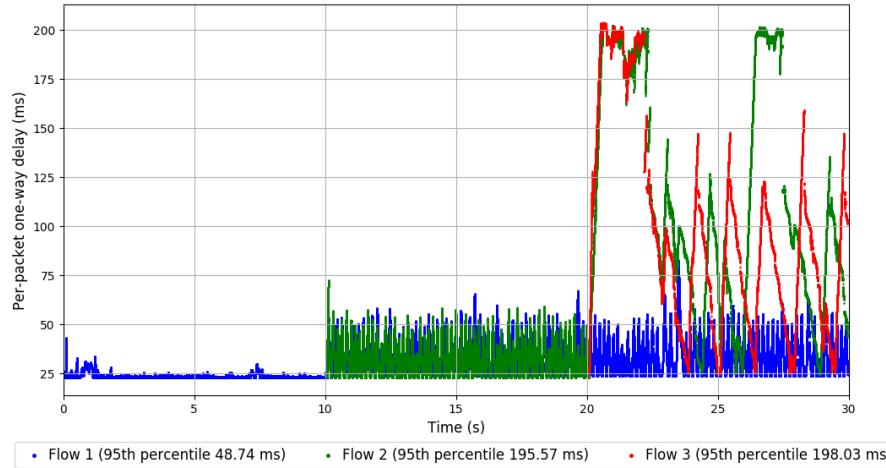
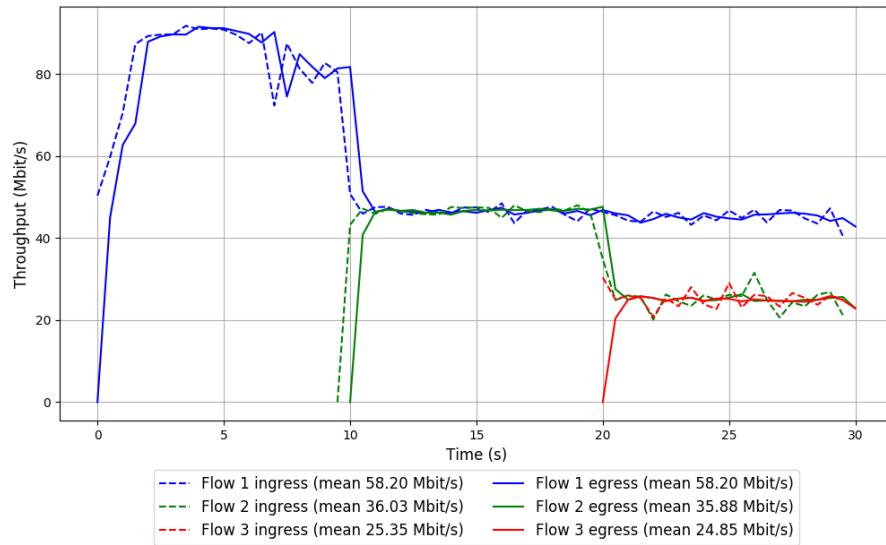


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-26 09:55:38
End at: 2018-10-26 09:56:08
Local clock offset: 2.874 ms
Remote clock offset: -4.678 ms

# Below is generated by plot.py at 2018-10-26 11:41:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.36 Mbit/s
95th percentile per-packet one-way delay: 133.063 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 58.20 Mbit/s
95th percentile per-packet one-way delay: 48.736 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 35.88 Mbit/s
95th percentile per-packet one-way delay: 195.569 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 24.85 Mbit/s
95th percentile per-packet one-way delay: 198.031 ms
Loss rate: 2.26%
```

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

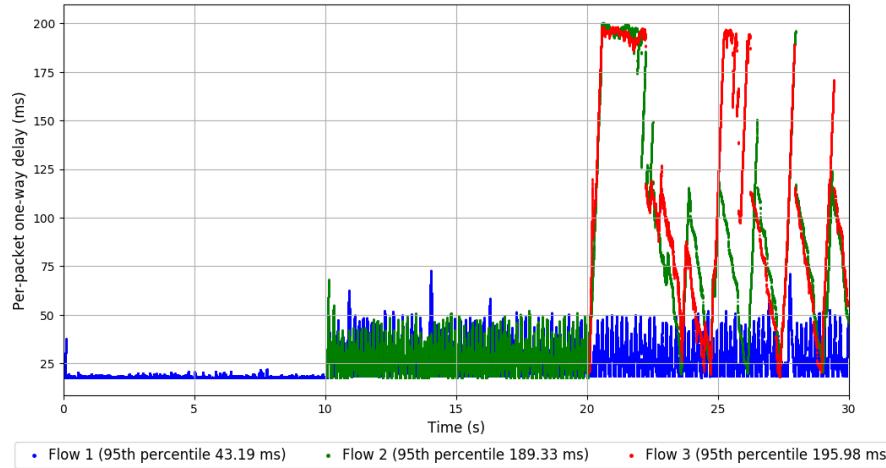
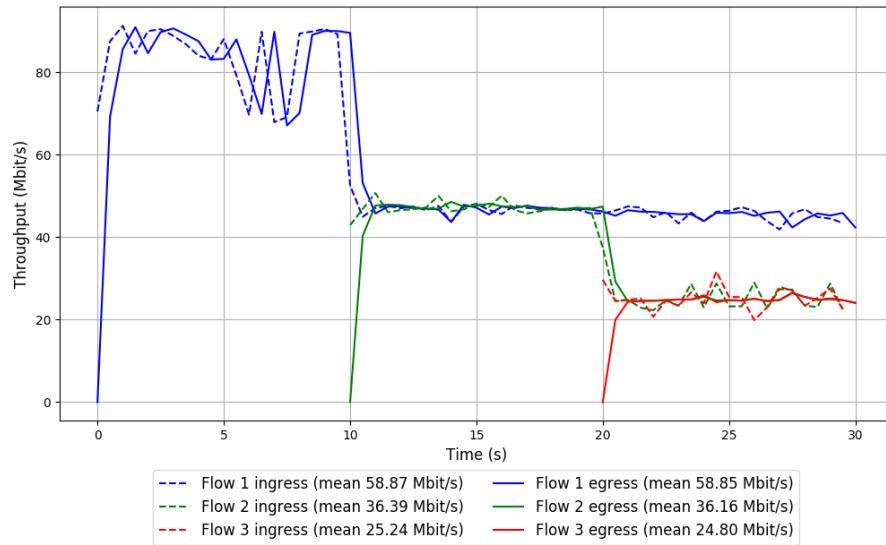


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-26 10:18:04
End at: 2018-10-26 10:18:34
Local clock offset: -0.426 ms
Remote clock offset: -1.805 ms

# Below is generated by plot.py at 2018-10-26 11:41:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.16 Mbit/s
95th percentile per-packet one-way delay: 122.022 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 58.85 Mbit/s
95th percentile per-packet one-way delay: 43.185 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 189.331 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 195.984 ms
Loss rate: 2.00%
```

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

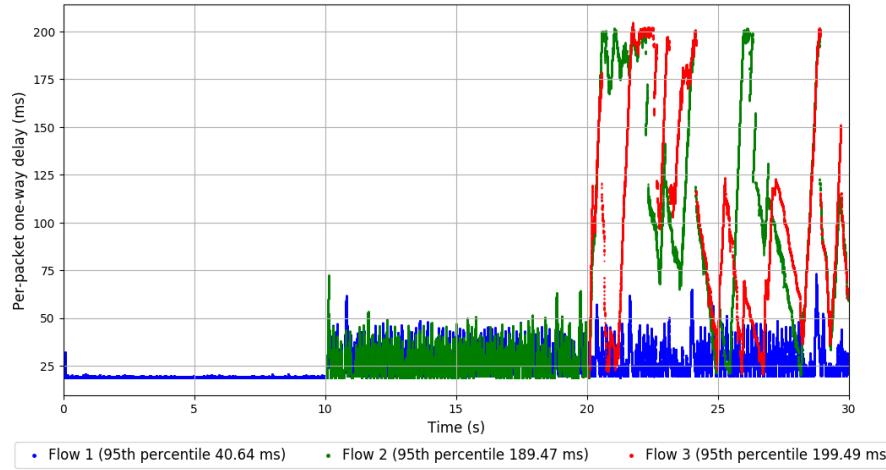
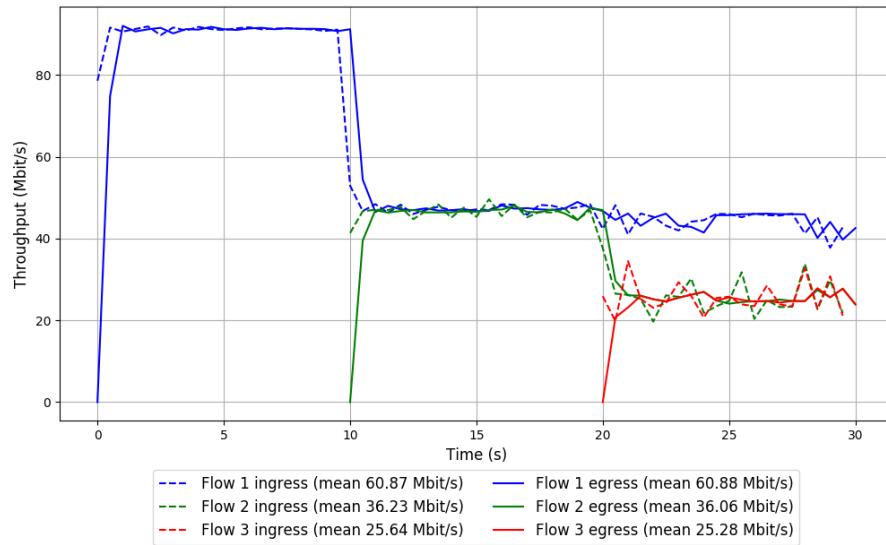


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-26 10:40:39
End at: 2018-10-26 10:41:09
Local clock offset: 3.201 ms
Remote clock offset: -2.167 ms

# Below is generated by plot.py at 2018-10-26 11:41:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 141.275 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 60.88 Mbit/s
95th percentile per-packet one-way delay: 40.644 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 36.06 Mbit/s
95th percentile per-packet one-way delay: 189.466 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 25.28 Mbit/s
95th percentile per-packet one-way delay: 199.492 ms
Loss rate: 1.68%
```

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

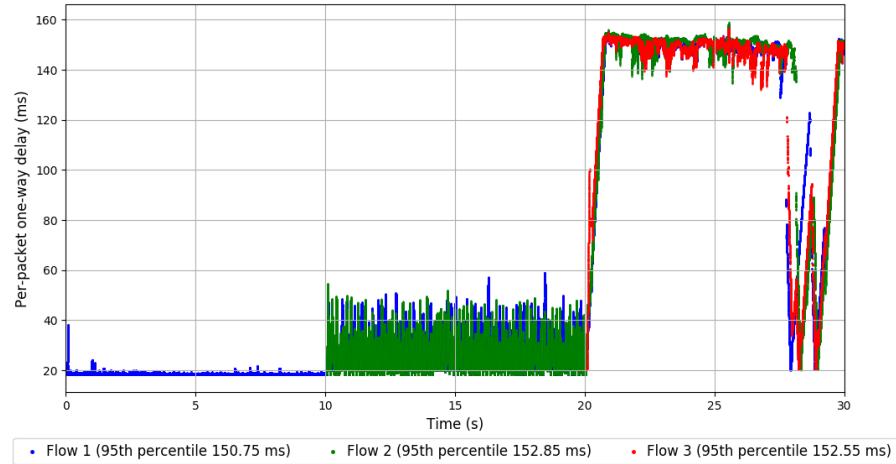
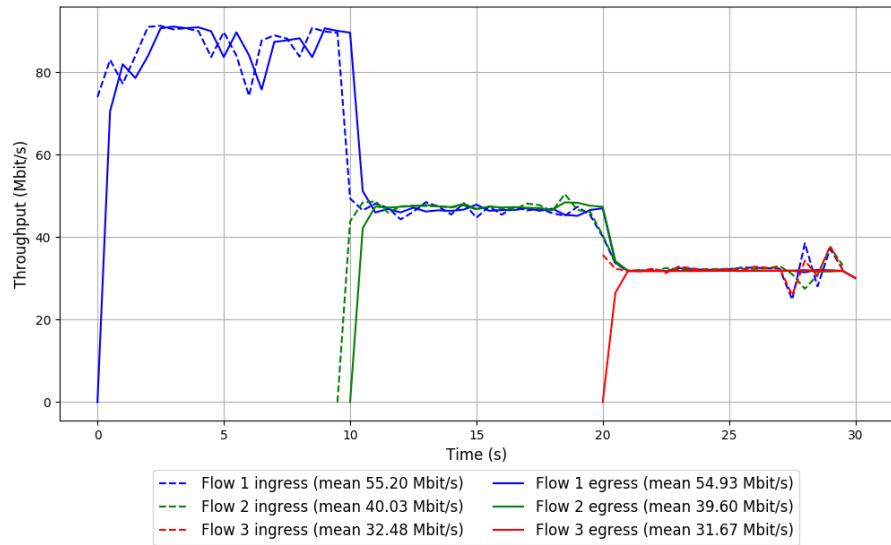


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-26 11:02:58
End at: 2018-10-26 11:03:28
Local clock offset: 1.743 ms
Remote clock offset: -3.016 ms

# Below is generated by plot.py at 2018-10-26 11:41:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 151.911 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 54.93 Mbit/s
95th percentile per-packet one-way delay: 150.749 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 39.60 Mbit/s
95th percentile per-packet one-way delay: 152.855 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 31.67 Mbit/s
95th percentile per-packet one-way delay: 152.553 ms
Loss rate: 2.78%
```

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

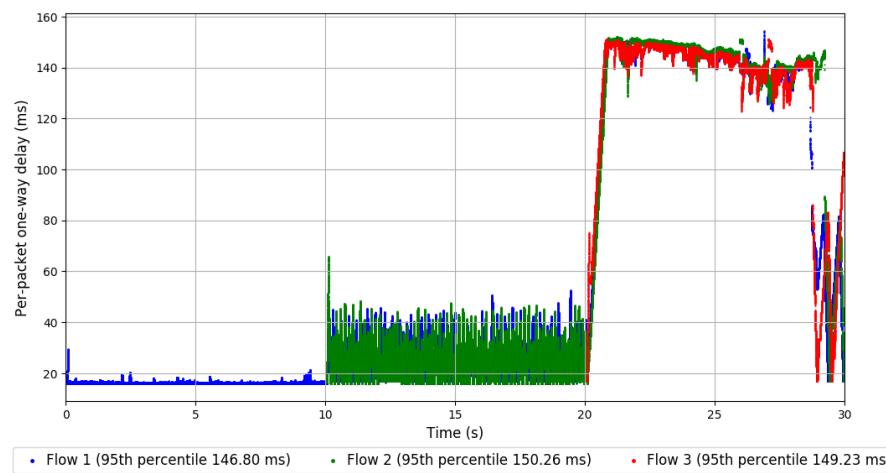
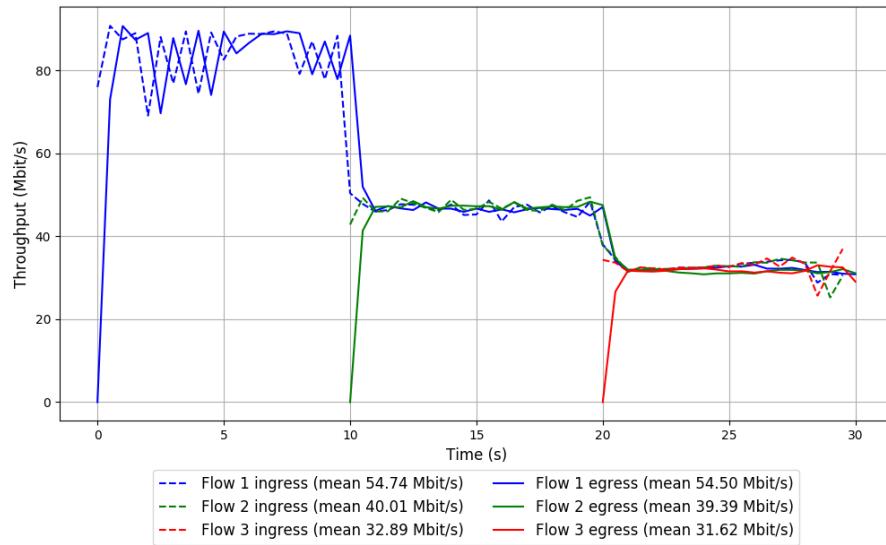


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-26 11:24:55
End at: 2018-10-26 11:25:25
Local clock offset: -1.368 ms
Remote clock offset: -2.225 ms

# Below is generated by plot.py at 2018-10-26 11:41:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.23 Mbit/s
95th percentile per-packet one-way delay: 148.955 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 146.799 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 39.39 Mbit/s
95th percentile per-packet one-way delay: 150.259 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 31.62 Mbit/s
95th percentile per-packet one-way delay: 149.233 ms
Loss rate: 4.08%
```

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

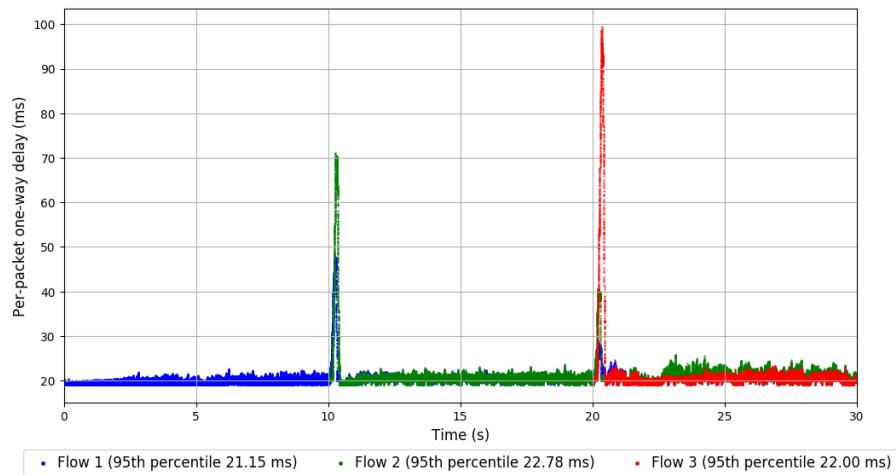
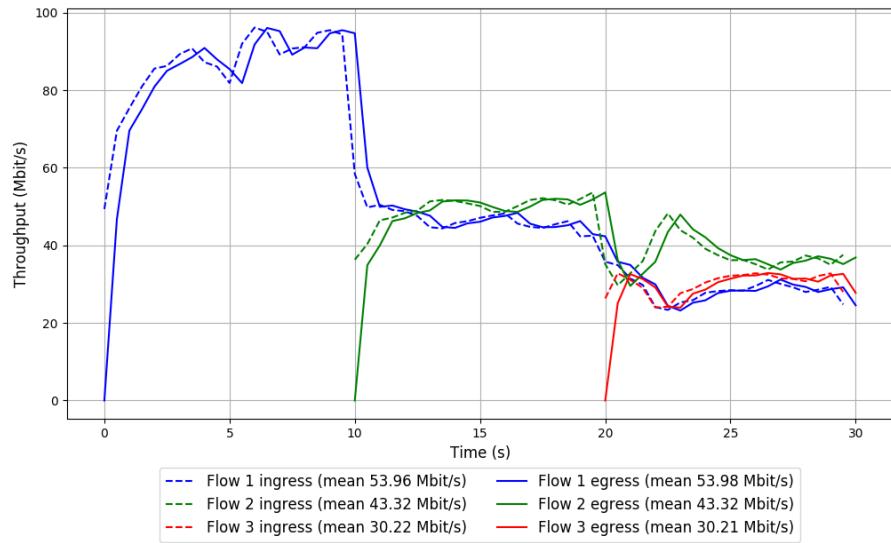


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-26 09:36:57
End at: 2018-10-26 09:37:27
Local clock offset: -1.027 ms
Remote clock offset: -4.512 ms

# Below is generated by plot.py at 2018-10-26 11:41:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.84 Mbit/s
95th percentile per-packet one-way delay: 21.953 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 53.98 Mbit/s
95th percentile per-packet one-way delay: 21.146 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 43.32 Mbit/s
95th percentile per-packet one-way delay: 22.782 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 30.21 Mbit/s
95th percentile per-packet one-way delay: 21.998 ms
Loss rate: 0.27%
```

Run 1: Report of TCP Vegas — Data Link

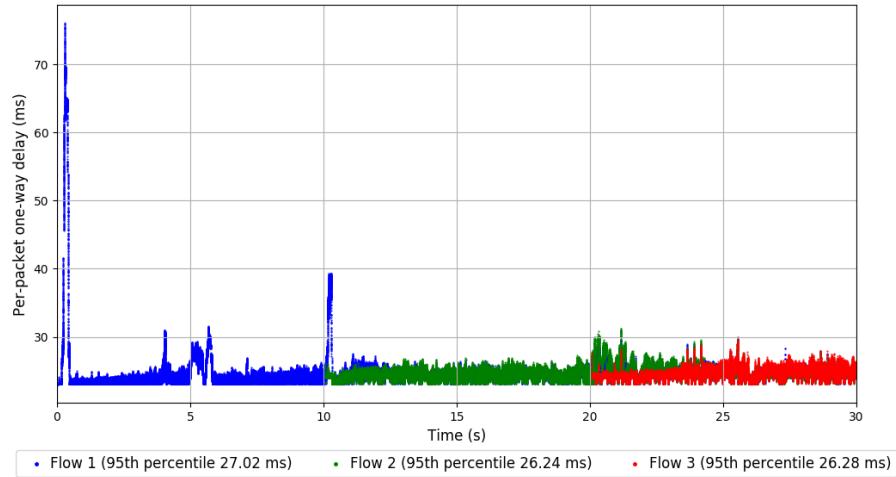
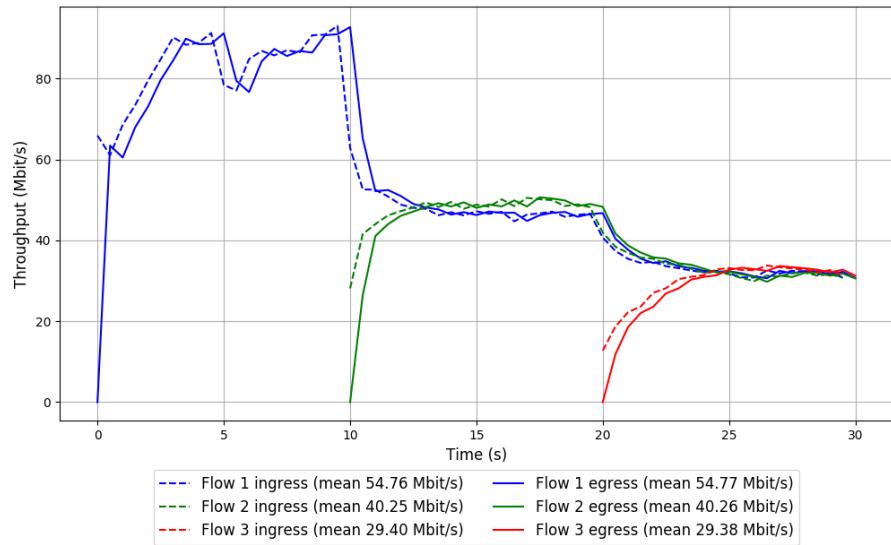


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-26 09:59:32
End at: 2018-10-26 10:00:02
Local clock offset: 2.821 ms
Remote clock offset: -4.672 ms

# Below is generated by plot.py at 2018-10-26 11:41:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.33 Mbit/s
95th percentile per-packet one-way delay: 26.567 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 54.77 Mbit/s
95th percentile per-packet one-way delay: 27.015 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 26.244 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: 26.279 ms
Loss rate: 0.29%
```

Run 2: Report of TCP Vegas — Data Link

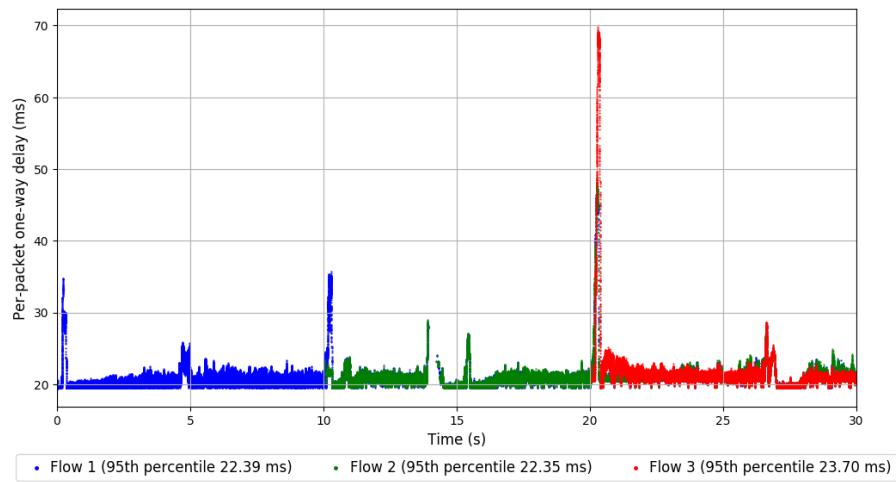
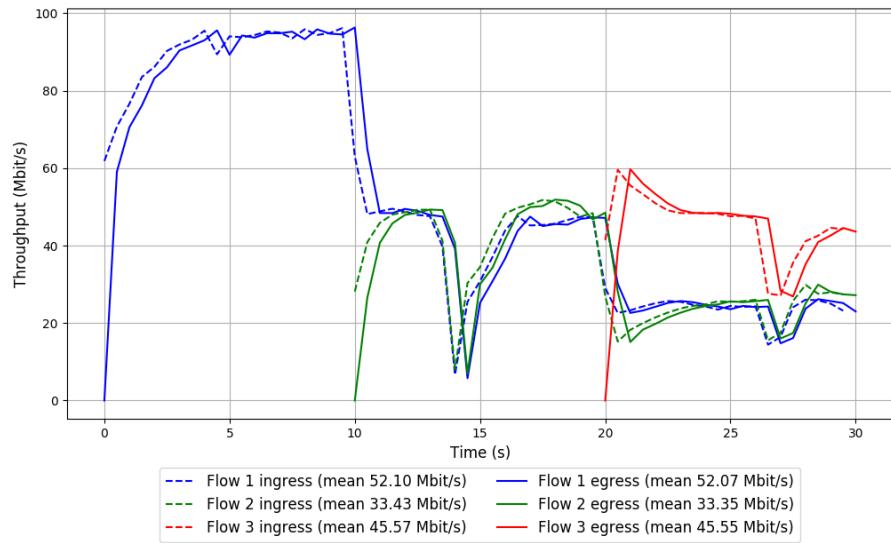


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-26 10:21:55
End at: 2018-10-26 10:22:25
Local clock offset: 1.822 ms
Remote clock offset: -1.237 ms

# Below is generated by plot.py at 2018-10-26 11:41:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 22.707 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 52.07 Mbit/s
95th percentile per-packet one-way delay: 22.392 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 22.346 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 45.55 Mbit/s
95th percentile per-packet one-way delay: 23.702 ms
Loss rate: 0.31%
```

Run 3: Report of TCP Vegas — Data Link

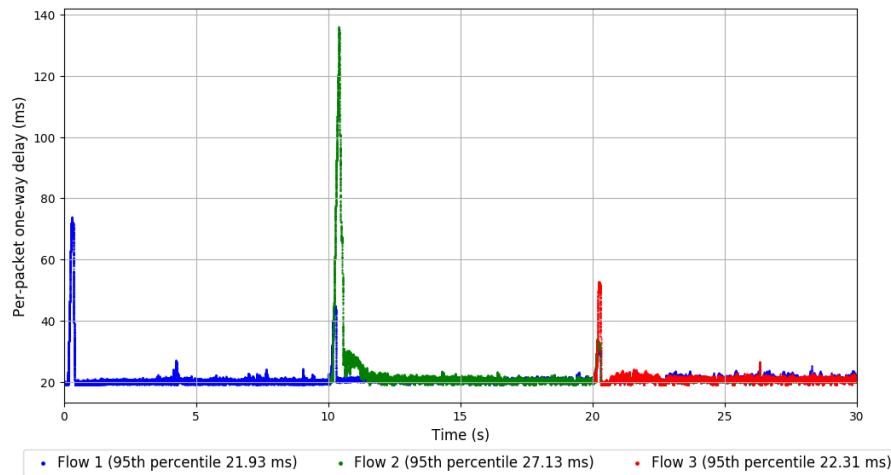
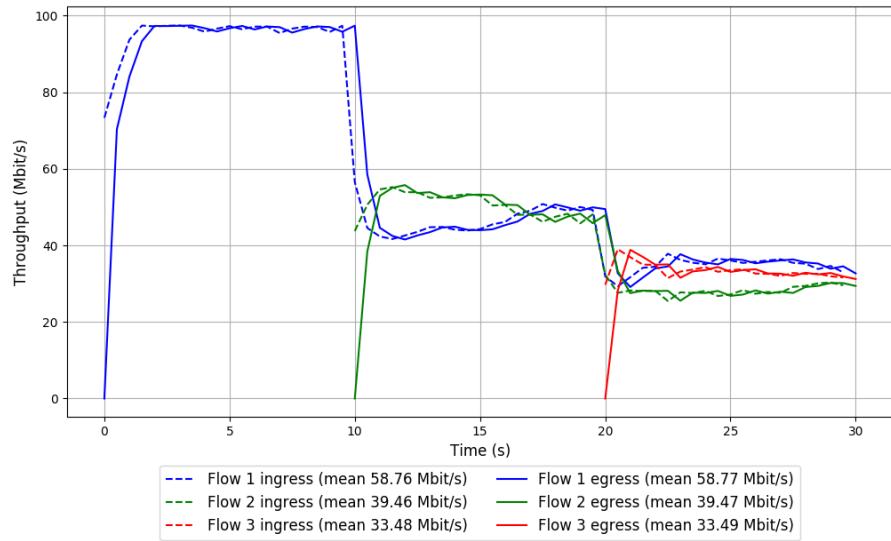


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-26 10:44:35
End at: 2018-10-26 10:45:05
Local clock offset: 3.45 ms
Remote clock offset: -2.488 ms

# Below is generated by plot.py at 2018-10-26 11:41:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.16 Mbit/s
95th percentile per-packet one-way delay: 22.554 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 58.77 Mbit/s
95th percentile per-packet one-way delay: 21.934 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.47 Mbit/s
95th percentile per-packet one-way delay: 27.134 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 33.49 Mbit/s
95th percentile per-packet one-way delay: 22.312 ms
Loss rate: 0.25%
```

Run 4: Report of TCP Vegas — Data Link

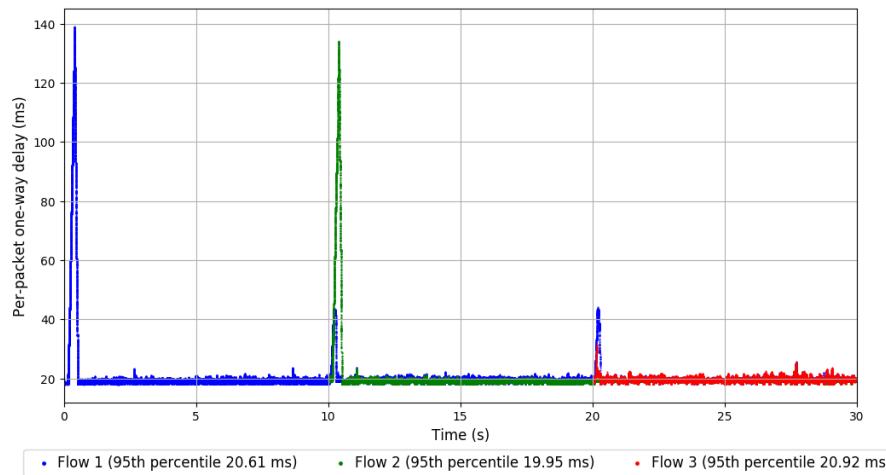
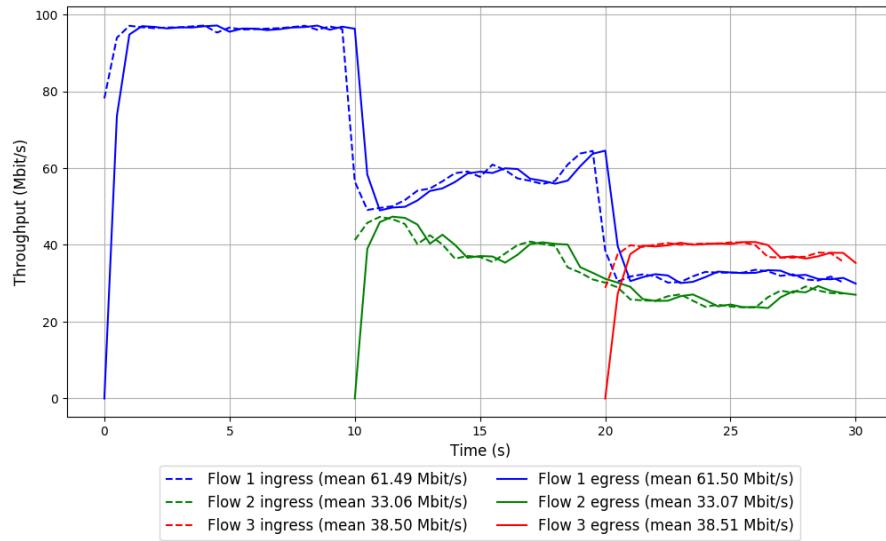


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-26 11:06:51
End at: 2018-10-26 11:07:21
Local clock offset: 1.453 ms
Remote clock offset: -2.324 ms

# Below is generated by plot.py at 2018-10-26 11:41:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 20.626 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 61.50 Mbit/s
95th percentile per-packet one-way delay: 20.615 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 33.07 Mbit/s
95th percentile per-packet one-way delay: 19.947 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 38.51 Mbit/s
95th percentile per-packet one-way delay: 20.922 ms
Loss rate: 0.23%
```

Run 5: Report of TCP Vegas — Data Link

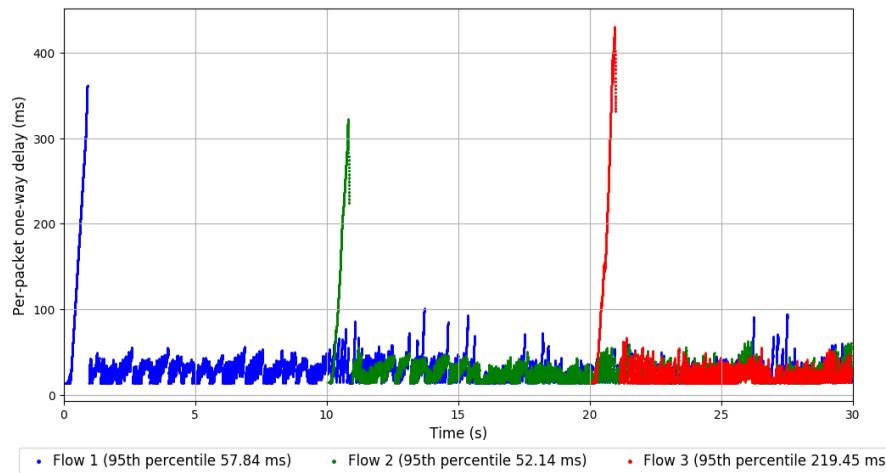
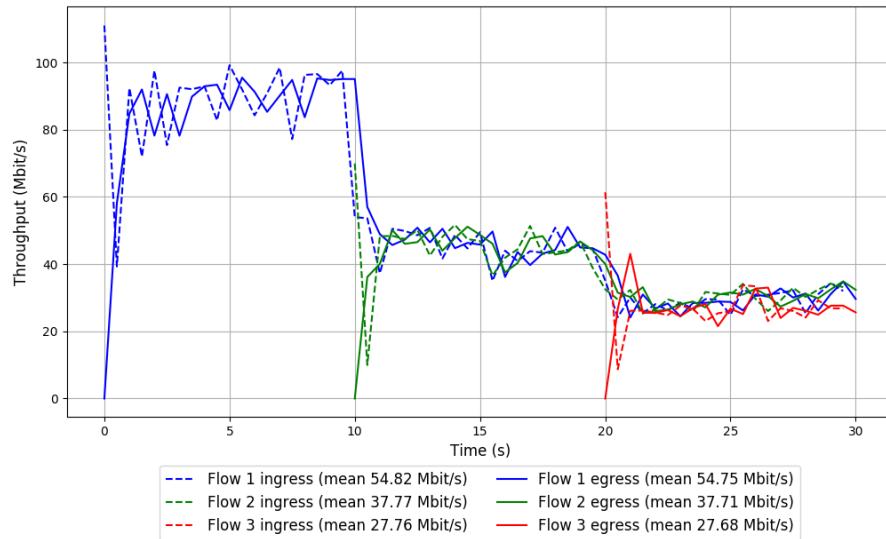


Run 1: Statistics of Verus

```
Start at: 2018-10-26 09:43:10
End at: 2018-10-26 09:43:40
Local clock offset: 2.593 ms
Remote clock offset: 4.043 ms

# Below is generated by plot.py at 2018-10-26 11:41:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.02 Mbit/s
95th percentile per-packet one-way delay: 62.174 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 54.75 Mbit/s
95th percentile per-packet one-way delay: 57.835 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 37.71 Mbit/s
95th percentile per-packet one-way delay: 52.142 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 27.68 Mbit/s
95th percentile per-packet one-way delay: 219.453 ms
Loss rate: 0.54%
```

Run 1: Report of Verus — Data Link

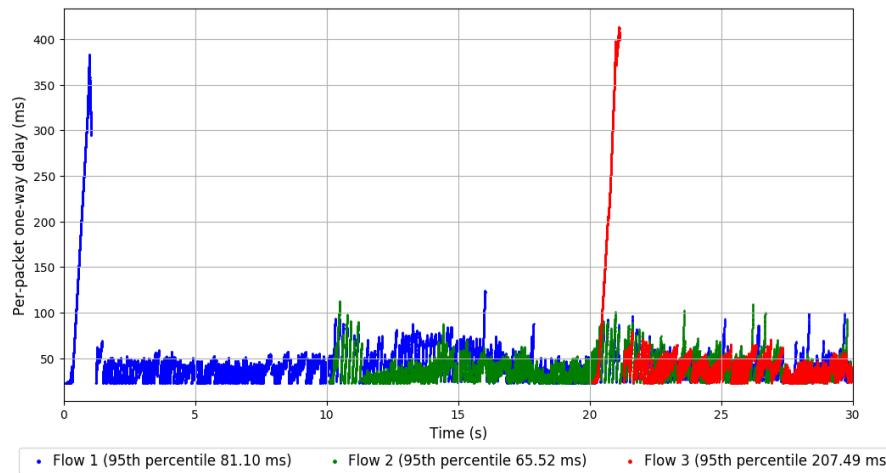
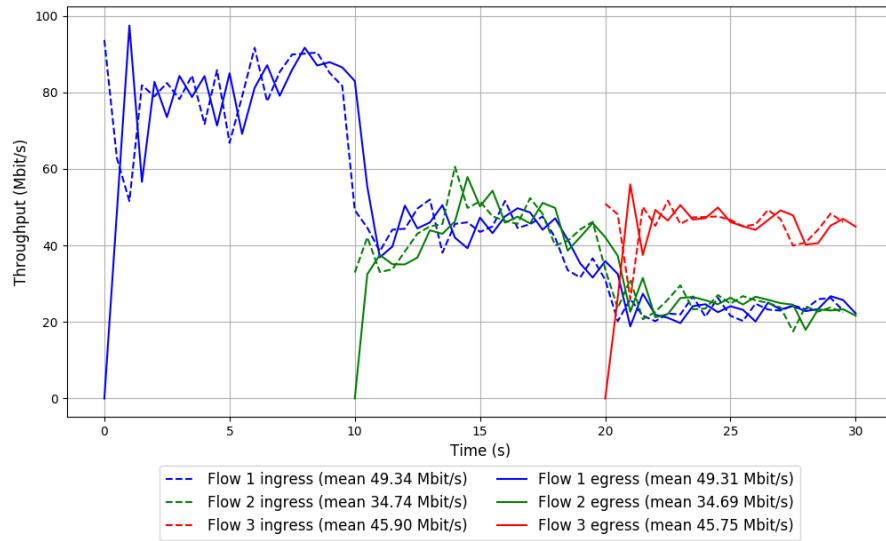


Run 2: Statistics of Verus

```
Start at: 2018-10-26 10:05:42
End at: 2018-10-26 10:06:12
Local clock offset: 3.174 ms
Remote clock offset: -3.752 ms

# Below is generated by plot.py at 2018-10-26 11:42:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.53 Mbit/s
95th percentile per-packet one-way delay: 79.157 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 49.31 Mbit/s
95th percentile per-packet one-way delay: 81.099 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 34.69 Mbit/s
95th percentile per-packet one-way delay: 65.516 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 45.75 Mbit/s
95th percentile per-packet one-way delay: 207.492 ms
Loss rate: 0.63%
```

Run 2: Report of Verus — Data Link

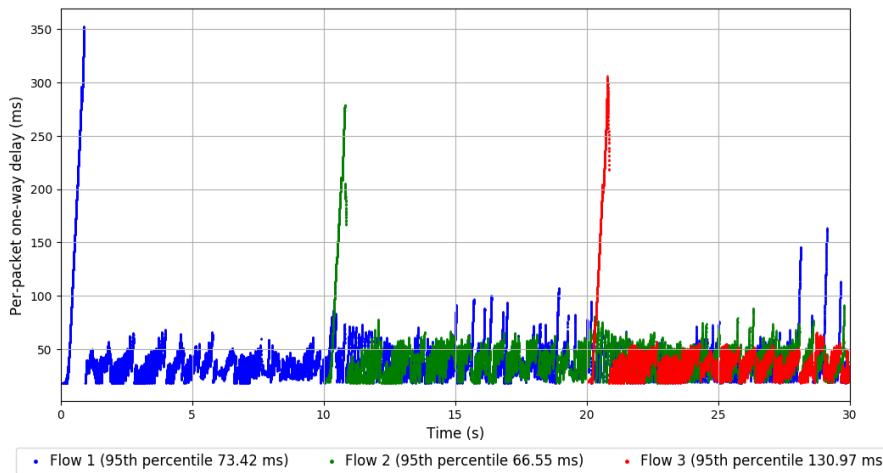
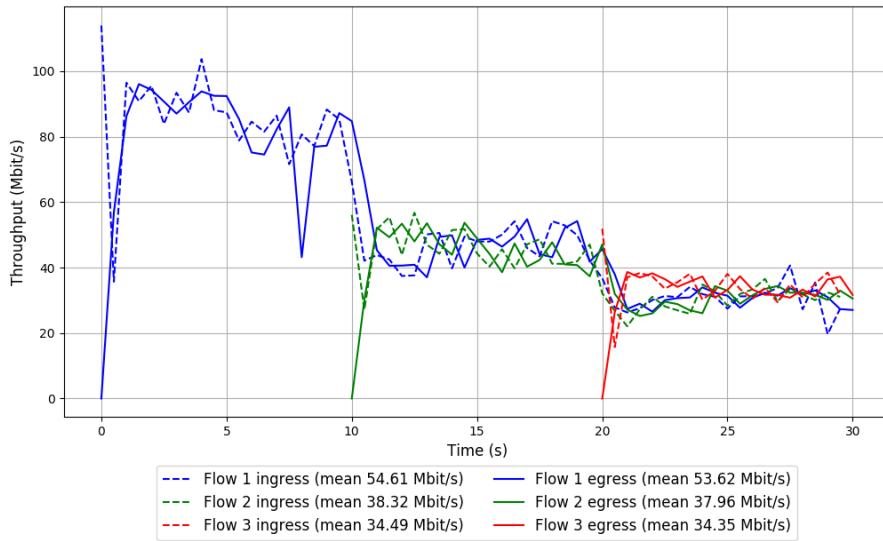


Run 3: Statistics of Verus

```
Start at: 2018-10-26 10:28:02
End at: 2018-10-26 10:28:32
Local clock offset: 0.843 ms
Remote clock offset: -0.81 ms

# Below is generated by plot.py at 2018-10-26 11:42:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.28 Mbit/s
95th percentile per-packet one-way delay: 73.002 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 53.62 Mbit/s
95th percentile per-packet one-way delay: 73.417 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 37.96 Mbit/s
95th percentile per-packet one-way delay: 66.553 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 34.35 Mbit/s
95th percentile per-packet one-way delay: 130.967 ms
Loss rate: 0.64%
```

Run 3: Report of Verus — Data Link

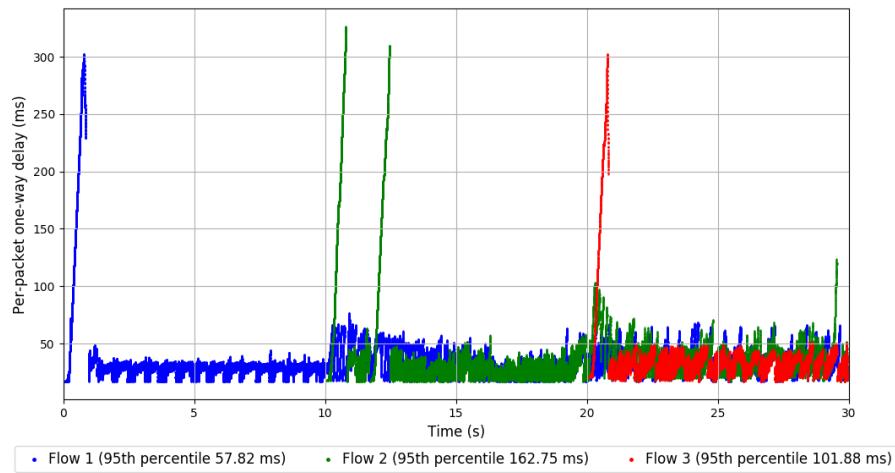
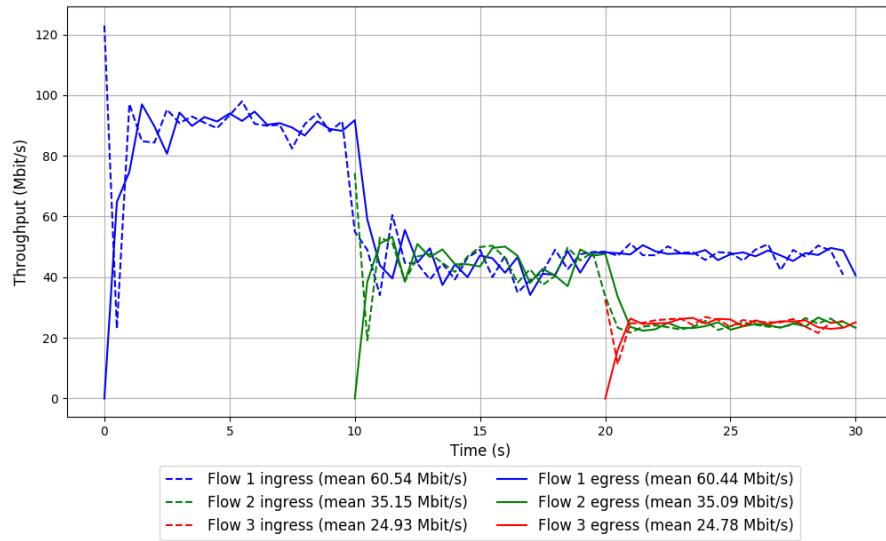


Run 4: Statistics of Verus

```
Start at: 2018-10-26 10:50:42
End at: 2018-10-26 10:51:12
Local clock offset: 2.639 ms
Remote clock offset: -1.427 ms

# Below is generated by plot.py at 2018-10-26 11:42:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.01 Mbit/s
95th percentile per-packet one-way delay: 65.098 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 60.44 Mbit/s
95th percentile per-packet one-way delay: 57.820 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 35.09 Mbit/s
95th percentile per-packet one-way delay: 162.753 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 24.78 Mbit/s
95th percentile per-packet one-way delay: 101.880 ms
Loss rate: 0.81%
```

Run 4: Report of Verus — Data Link

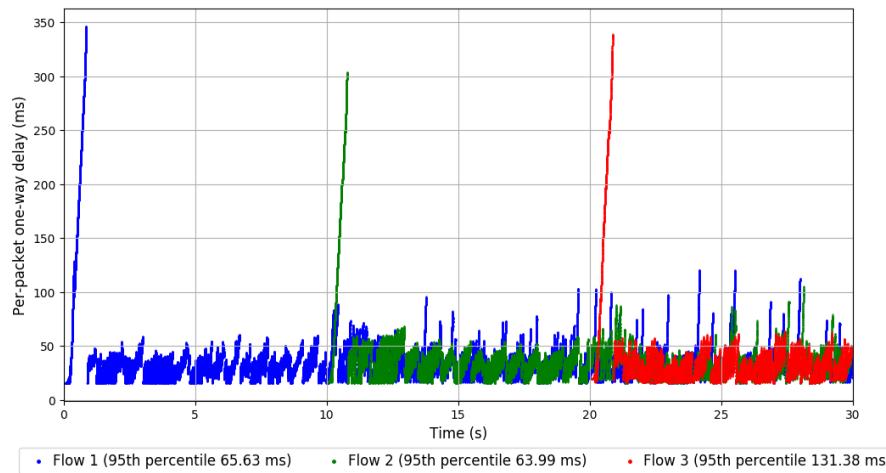
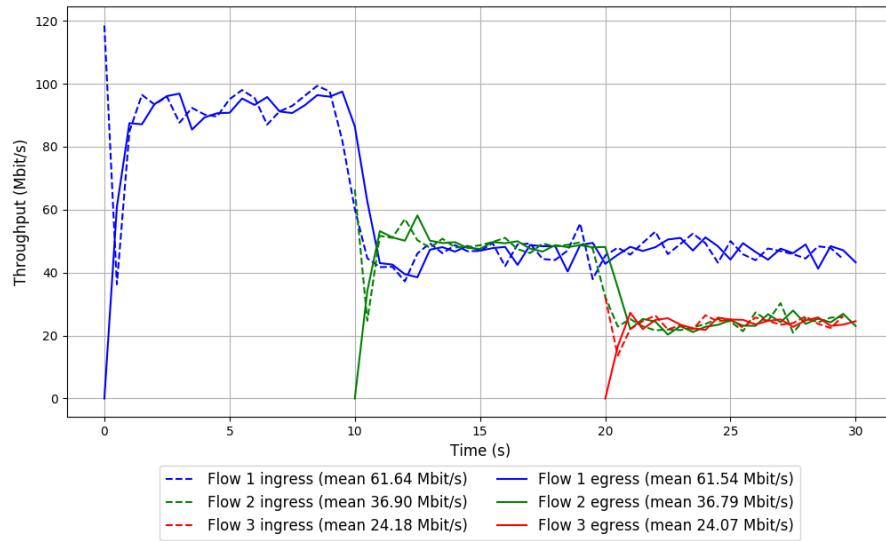


Run 5: Statistics of Verus

```
Start at: 2018-10-26 11:12:49
End at: 2018-10-26 11:13:19
Local clock offset: -0.67 ms
Remote clock offset: -1.703 ms

# Below is generated by plot.py at 2018-10-26 11:42:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 66.103 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 61.54 Mbit/s
95th percentile per-packet one-way delay: 65.630 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 36.79 Mbit/s
95th percentile per-packet one-way delay: 63.991 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 24.07 Mbit/s
95th percentile per-packet one-way delay: 131.379 ms
Loss rate: 0.72%
```

Run 5: Report of Verus — Data Link

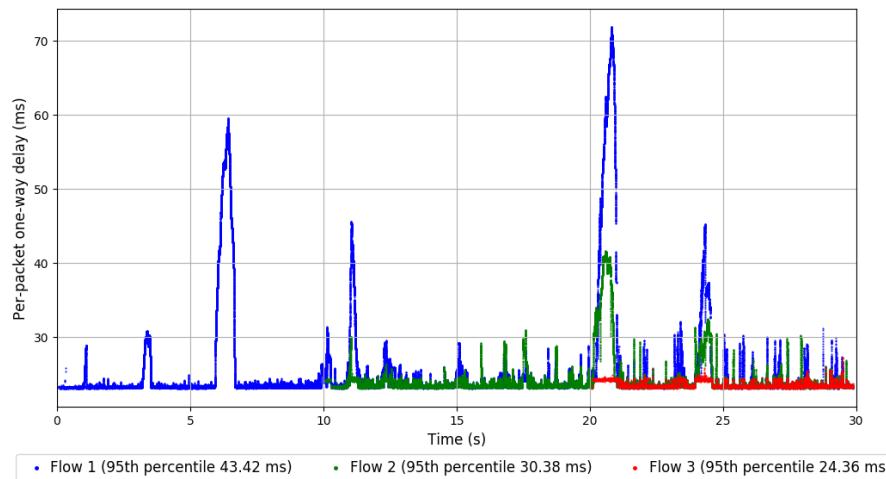
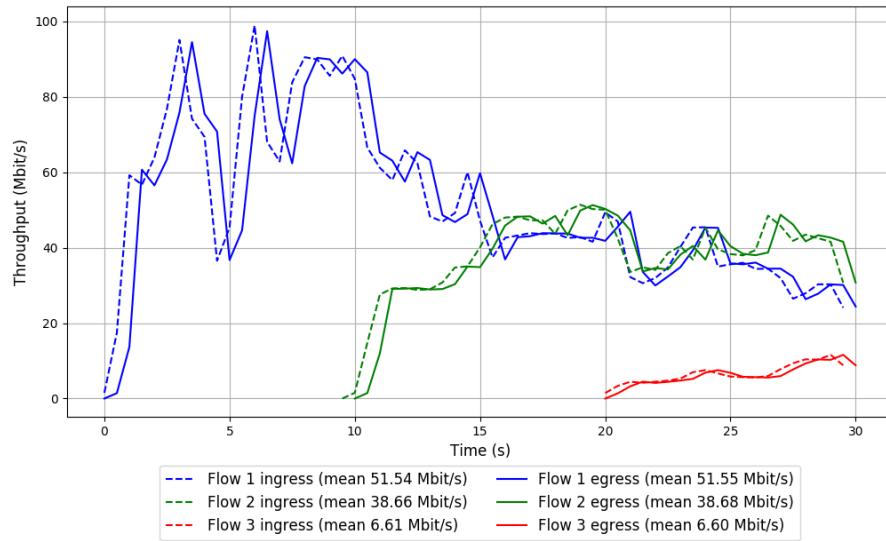


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-10-26 09:45:52
End at: 2018-10-26 09:46:22
Local clock offset: 2.612 ms
Remote clock offset: -5.131 ms

# Below is generated by plot.py at 2018-10-26 11:42:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.45 Mbit/s
95th percentile per-packet one-way delay: 37.694 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 51.55 Mbit/s
95th percentile per-packet one-way delay: 43.416 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.68 Mbit/s
95th percentile per-packet one-way delay: 30.379 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 6.60 Mbit/s
95th percentile per-packet one-way delay: 24.360 ms
Loss rate: 0.40%
```

Run 1: Report of PCC-Vivace — Data Link

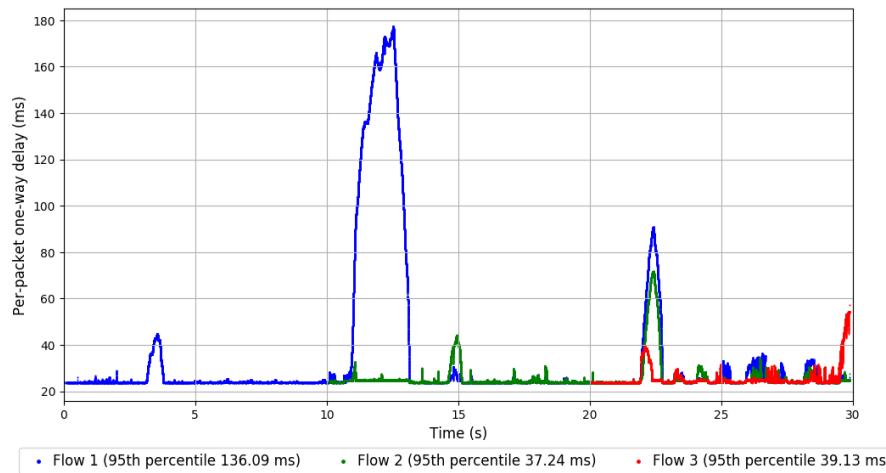
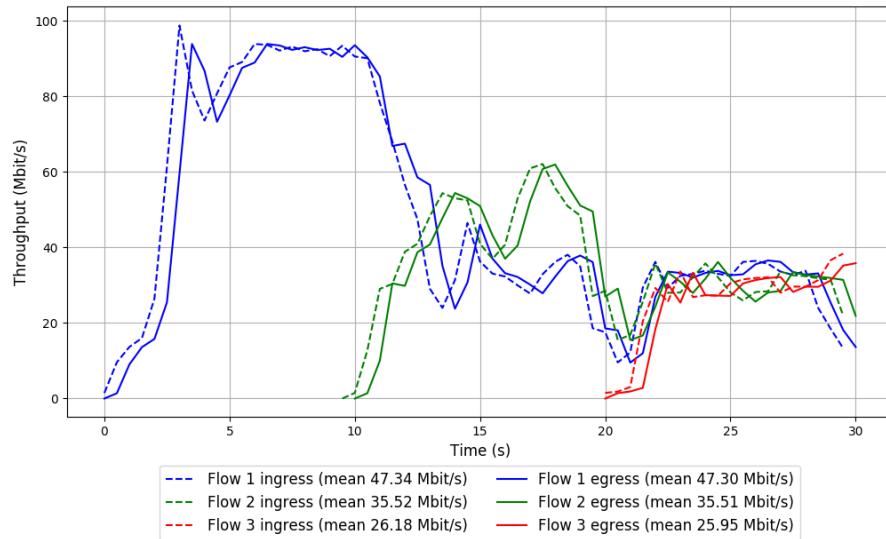


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-26 10:08:18
End at: 2018-10-26 10:08:48
Local clock offset: 3.157 ms
Remote clock offset: -4.427 ms

# Below is generated by plot.py at 2018-10-26 11:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.48 Mbit/s
95th percentile per-packet one-way delay: 87.879 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 136.095 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 35.51 Mbit/s
95th percentile per-packet one-way delay: 37.241 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 25.95 Mbit/s
95th percentile per-packet one-way delay: 39.133 ms
Loss rate: 1.09%
```

Run 2: Report of PCC-Vivace — Data Link

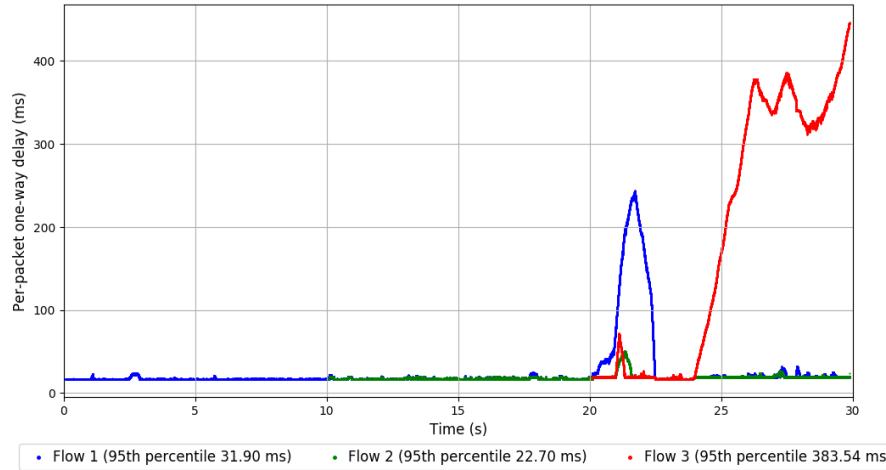
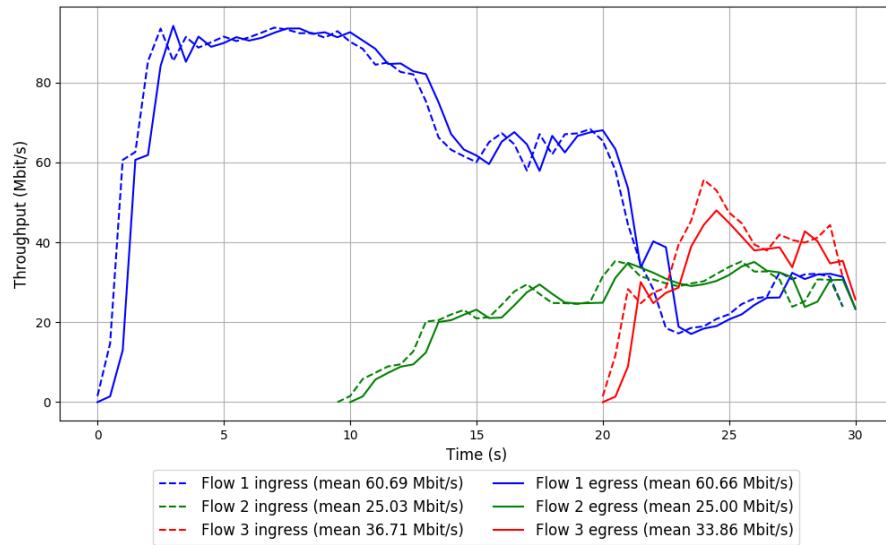


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-26 10:30:46
End at: 2018-10-26 10:31:16
Local clock offset: -2.105 ms
Remote clock offset: -2.515 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.43 Mbit/s
95th percentile per-packet one-way delay: 323.023 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 60.66 Mbit/s
95th percentile per-packet one-way delay: 31.898 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 22.701 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 33.86 Mbit/s
95th percentile per-packet one-way delay: 383.539 ms
Loss rate: 8.00%
```

Run 3: Report of PCC-Vivace — Data Link

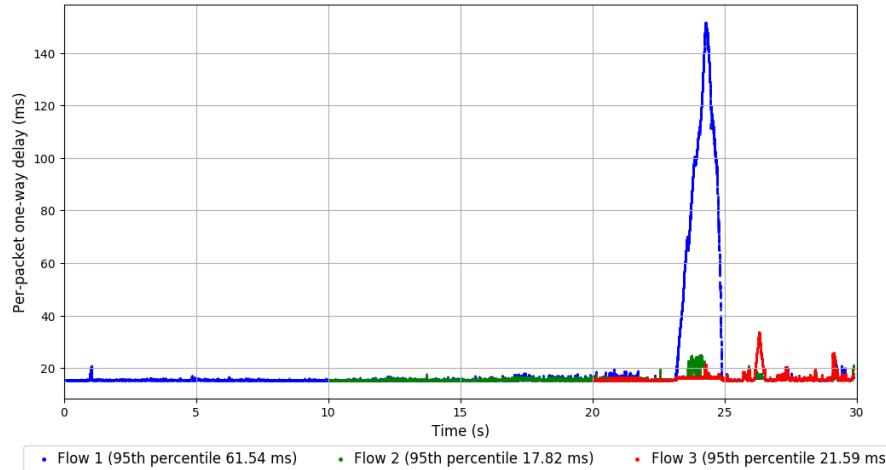
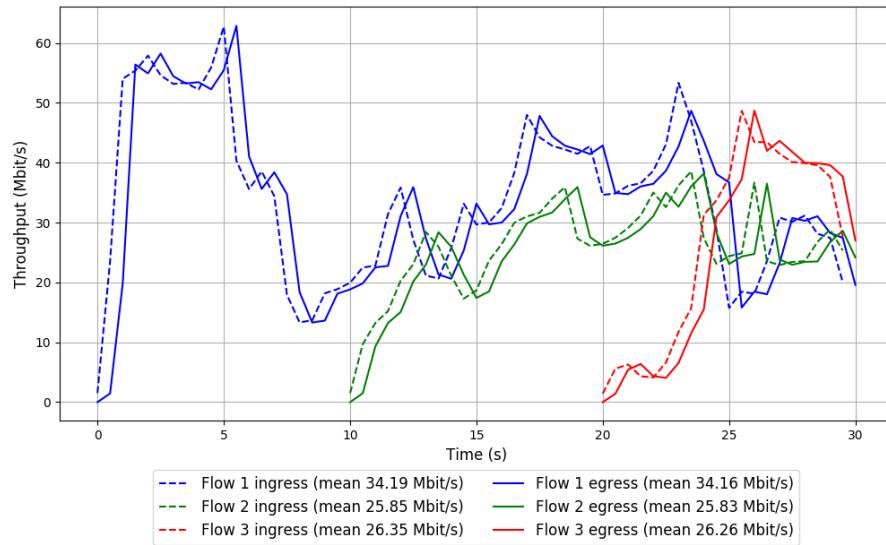


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-26 10:53:19
End at: 2018-10-26 10:53:49
Local clock offset: 1.008 ms
Remote clock offset: -1.395 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 22.414 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 34.16 Mbit/s
95th percentile per-packet one-way delay: 61.542 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 25.83 Mbit/s
95th percentile per-packet one-way delay: 17.817 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 26.26 Mbit/s
95th percentile per-packet one-way delay: 21.592 ms
Loss rate: 0.55%
```

Run 4: Report of PCC-Vivace — Data Link

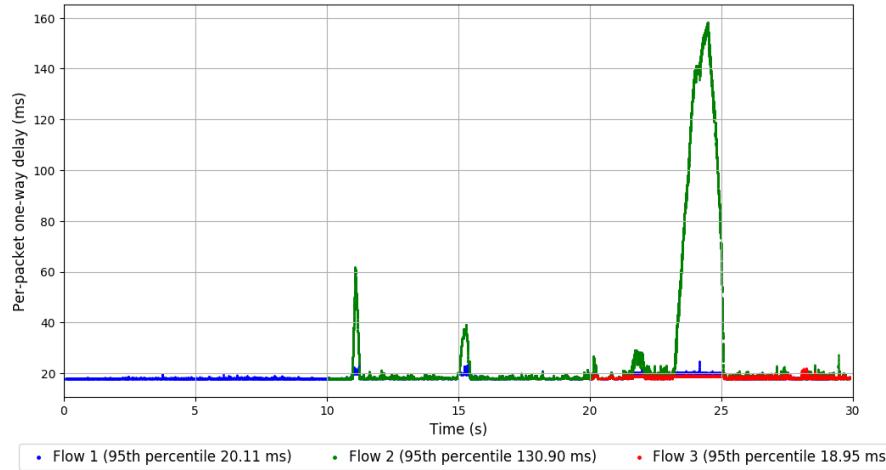
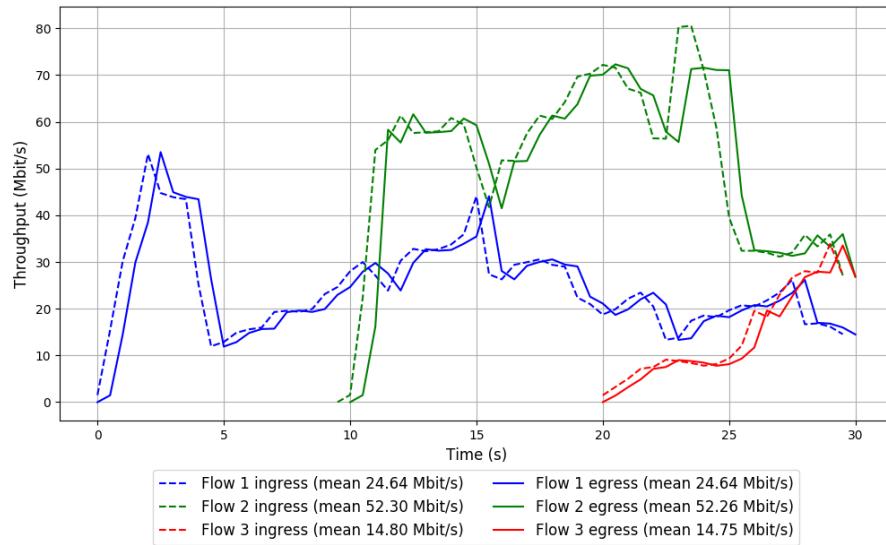


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-26 11:15:17
End at: 2018-10-26 11:15:47
Local clock offset: -0.525 ms
Remote clock offset: -3.548 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.27 Mbit/s
95th percentile per-packet one-way delay: 77.011 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 24.64 Mbit/s
95th percentile per-packet one-way delay: 20.110 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 52.26 Mbit/s
95th percentile per-packet one-way delay: 130.901 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 18.954 ms
Loss rate: 0.56%
```

Run 5: Report of PCC-Vivace — Data Link

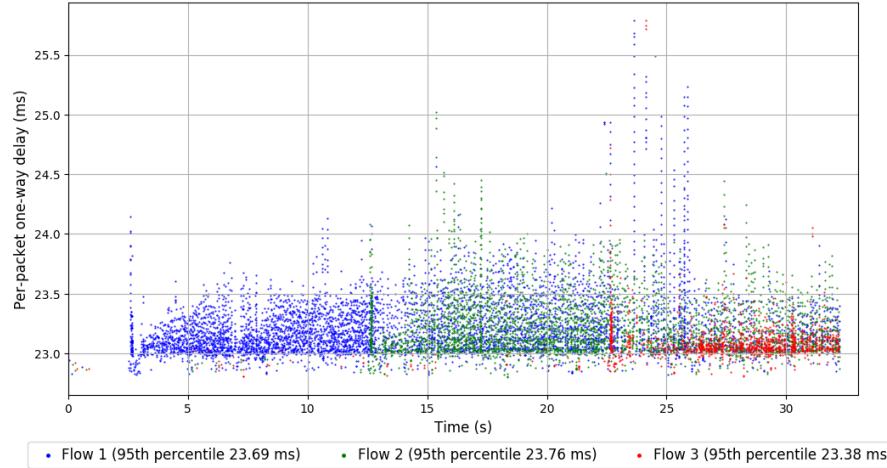
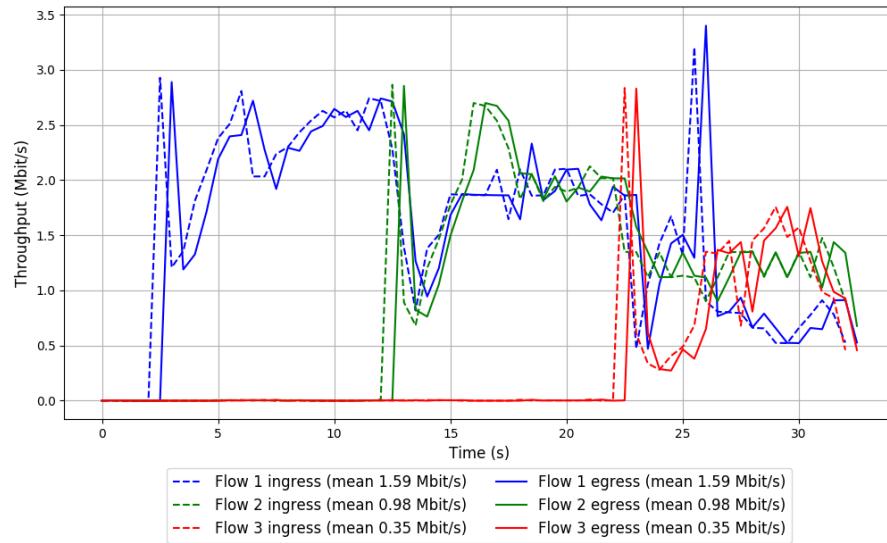


Run 1: Statistics of WebRTC media

```
Start at: 2018-10-26 09:53:17
End at: 2018-10-26 09:53:47
Local clock offset: 2.448 ms
Remote clock offset: -4.978 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 23.698 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 23.693 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 23.762 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 23.376 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

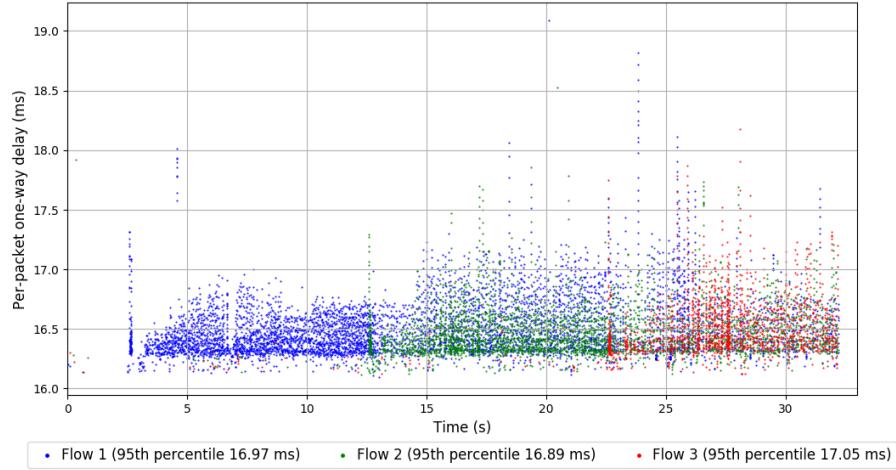
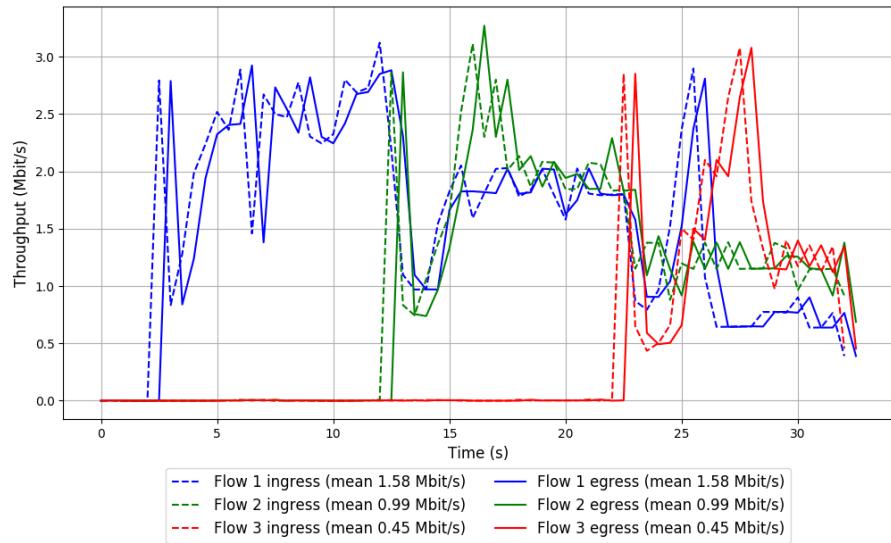


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-26 10:15:43
End at: 2018-10-26 10:16:13
Local clock offset: -0.677 ms
Remote clock offset: -0.586 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 16.963 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 16.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 16.890 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 17.049 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

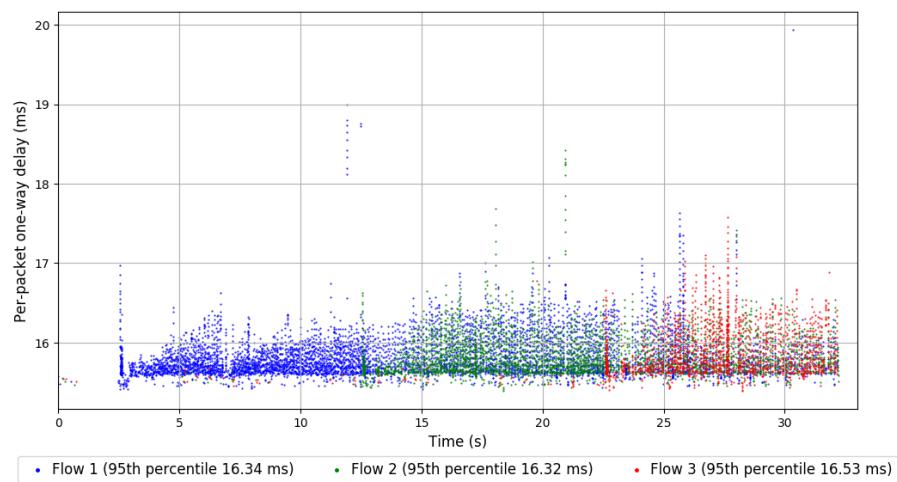
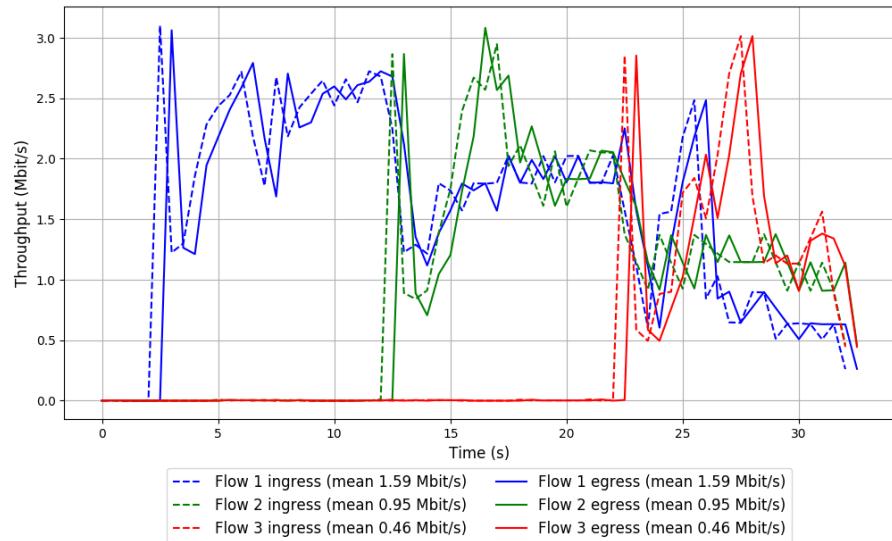


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-26 10:38:17
End at: 2018-10-26 10:38:47
Local clock offset: 0.882 ms
Remote clock offset: -1.237 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 16.366 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 16.340 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 16.323 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 16.528 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

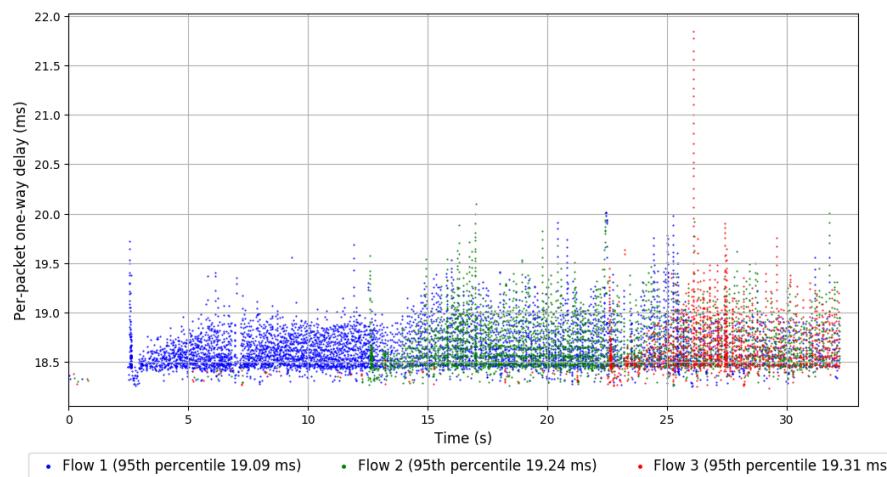
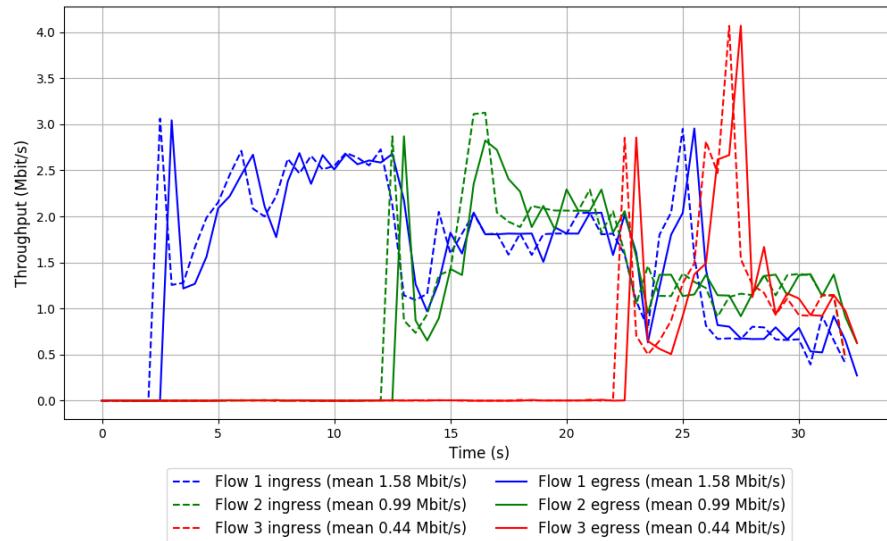


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-26 11:00:36
End at: 2018-10-26 11:01:06
Local clock offset: 2.63 ms
Remote clock offset: -2.535 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.99 Mbit/s
95th percentile per-packet one-way delay: 19.185 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 19.088 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 19.236 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 19.309 ms
Loss rate: 0.01%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-26 11:22:33
End at: 2018-10-26 11:23:03
Local clock offset: 1.076 ms
Remote clock offset: -2.637 ms

# Below is generated by plot.py at 2018-10-26 11:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 22.566 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 20.240 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 22.839 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 23.386 ms
Loss rate: 0.21%
```

Run 5: Report of WebRTC media — Data Link

