

Pantheon Report

Generated at 2018-10-02 12:50:51 (UTC).
Data path: AWS India 2 on `ens5` (*local*) → Saudi Arabia on `enp2s0` (*remote*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

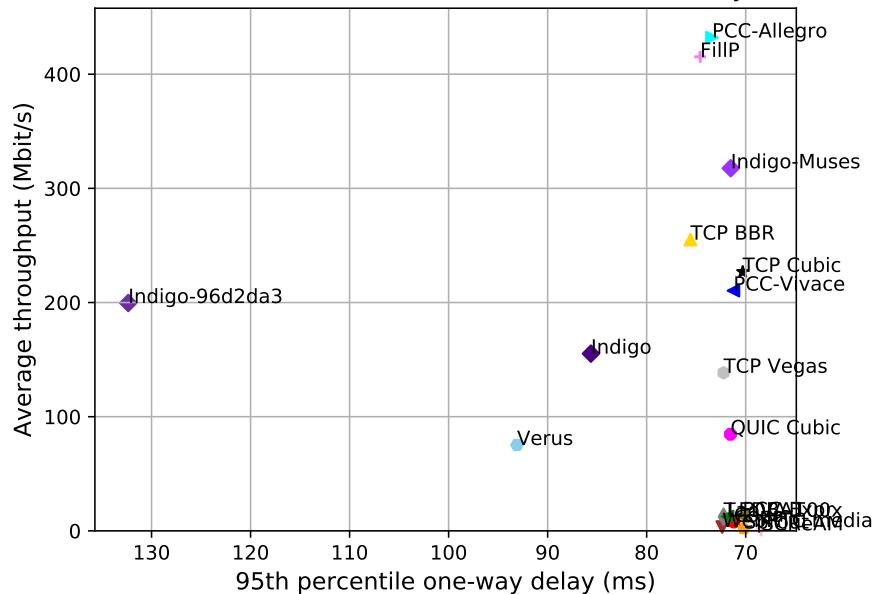
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

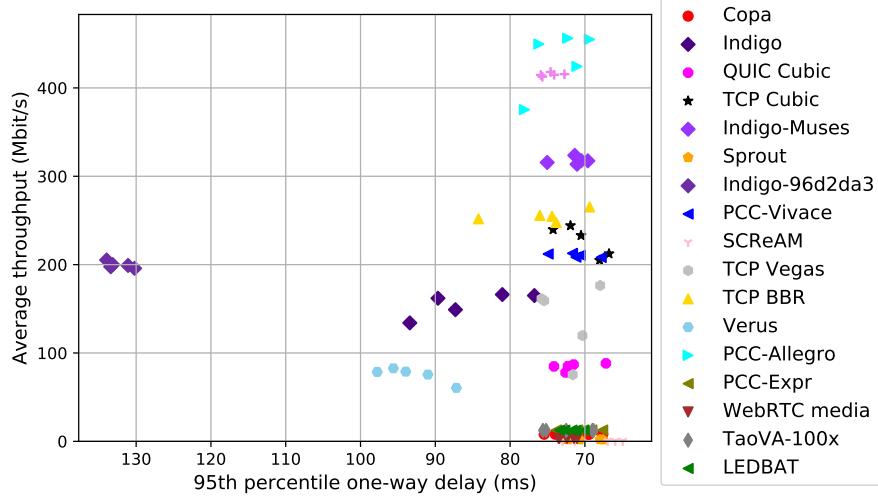
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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

test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
3 flows with 10s interval between flows



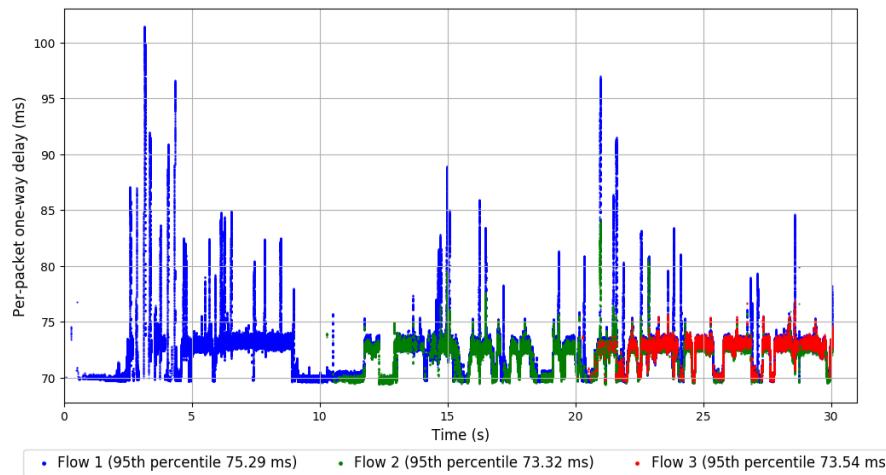
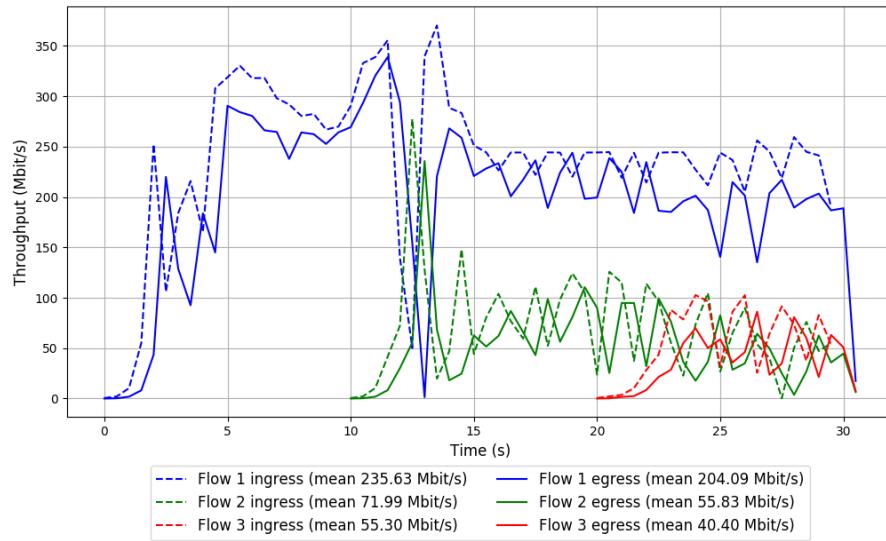
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	213.73	40.88	42.43	76.66	72.29	72.66	12.52	21.63	20.55
Copa	5	0.01	9.93	4.39	71.71	71.42	70.41	97.13	63.53	71.37
TCP Cubic	5	127.17	114.73	69.85	70.60	69.79	69.18	1.31	1.23	1.33
FillP	5	284.41	146.07	102.37	74.68	74.47	74.36	16.18	21.87	25.47
Indigo	5	86.64	72.44	64.42	86.14	85.02	83.97	12.02	16.31	29.71
Indigo-96d2da3	5	117.82	94.48	60.91	132.45	134.25	124.85	41.14	45.93	47.92
LEDBAT	5	8.07	5.50	2.62	72.17	70.85	69.79	0.00	0.00	0.00
Indigo-Muses	5	287.70	30.93	31.82	71.86	71.07	72.14	31.61	46.43	53.19
PCC-Allegro	5	360.94	97.00	20.34	72.80	73.63	73.59	6.09	2.49	1.98
PCC-Expr	5	8.80	4.26	3.80	70.32	70.33	70.36	33.87	36.44	29.56
QUIC Cubic	5	51.76	37.62	24.36	70.78	71.91	72.92	0.01	0.02	0.08
SCReAM	5	0.22	0.22	0.22	68.19	68.38	68.55	0.00	0.00	0.00
Sprout	5	1.04	1.03	0.98	70.20	70.04	69.40	0.00	0.04	0.00
TaoVA-100x	5	7.49	4.50	5.75	74.70	69.05	68.40	35.72	46.68	62.22
TCP Vegas	5	69.12	62.54	83.24	71.09	72.05	72.56	1.38	2.15	3.02
Verus	5	41.28	40.41	29.61	94.03	91.17	75.31	48.60	45.86	37.19
PCC-Vivace	5	182.78	35.99	11.15	71.09	72.00	71.80	1.26	0.70	0.82
WebRTC media	5	1.84	1.14	0.39	72.02	71.85	72.68	0.01	0.00	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-02 10:26:56
End at: 2018-10-02 10:27:26
Local clock offset: 1.325 ms
Remote clock offset: -35.343 ms

# Below is generated by plot.py at 2018-10-02 12:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.74 Mbit/s
95th percentile per-packet one-way delay: 74.395 ms
Loss rate: 15.64%
-- Flow 1:
Average throughput: 204.09 Mbit/s
95th percentile per-packet one-way delay: 75.291 ms
Loss rate: 13.38%
-- Flow 2:
Average throughput: 55.83 Mbit/s
95th percentile per-packet one-way delay: 73.318 ms
Loss rate: 22.43%
-- Flow 3:
Average throughput: 40.40 Mbit/s
95th percentile per-packet one-way delay: 73.538 ms
Loss rate: 26.92%
```

Run 1: Report of TCP BBR — Data Link

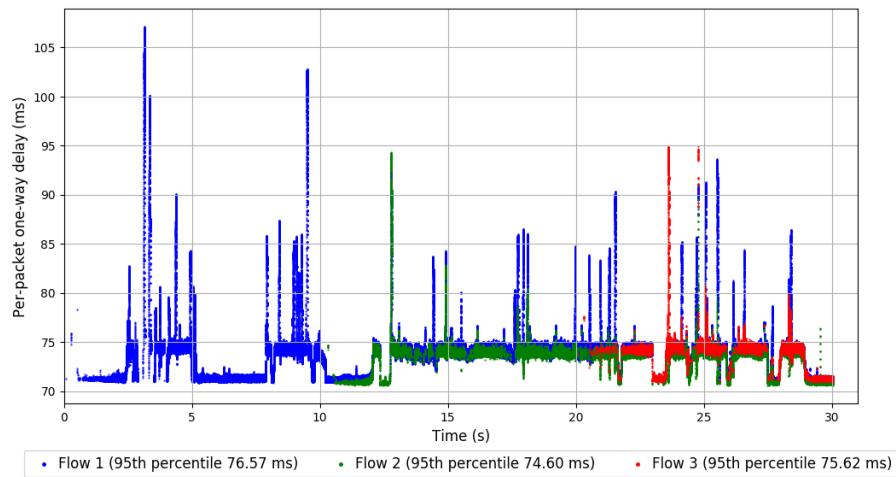
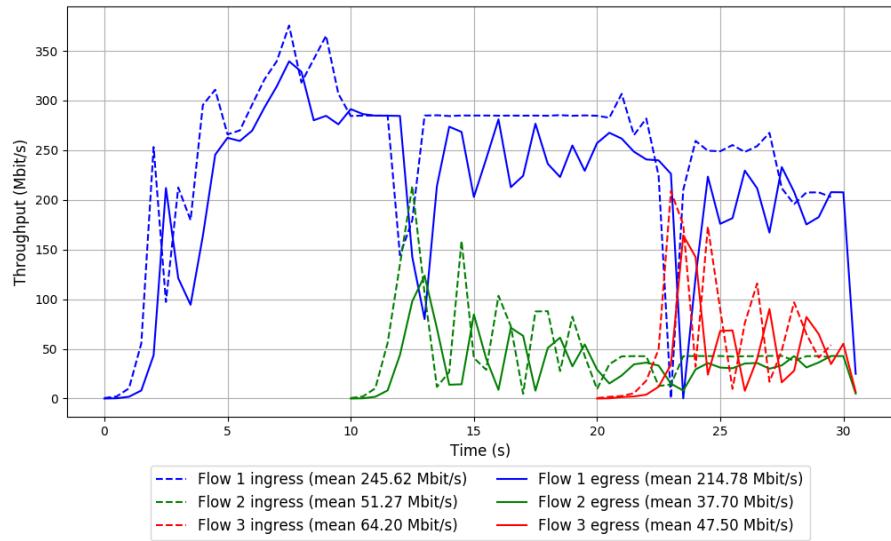


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-02 10:58:36
End at: 2018-10-02 10:59:06
Local clock offset: 1.396 ms
Remote clock offset: -34.101 ms

# Below is generated by plot.py at 2018-10-02 12:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.68 Mbit/s
95th percentile per-packet one-way delay: 76.030 ms
Loss rate: 15.09%
-- Flow 1:
Average throughput: 214.78 Mbit/s
95th percentile per-packet one-way delay: 76.566 ms
Loss rate: 12.55%
-- Flow 2:
Average throughput: 37.70 Mbit/s
95th percentile per-packet one-way delay: 74.596 ms
Loss rate: 26.48%
-- Flow 3:
Average throughput: 47.50 Mbit/s
95th percentile per-packet one-way delay: 75.616 ms
Loss rate: 26.04%
```

Run 2: Report of TCP BBR — Data Link

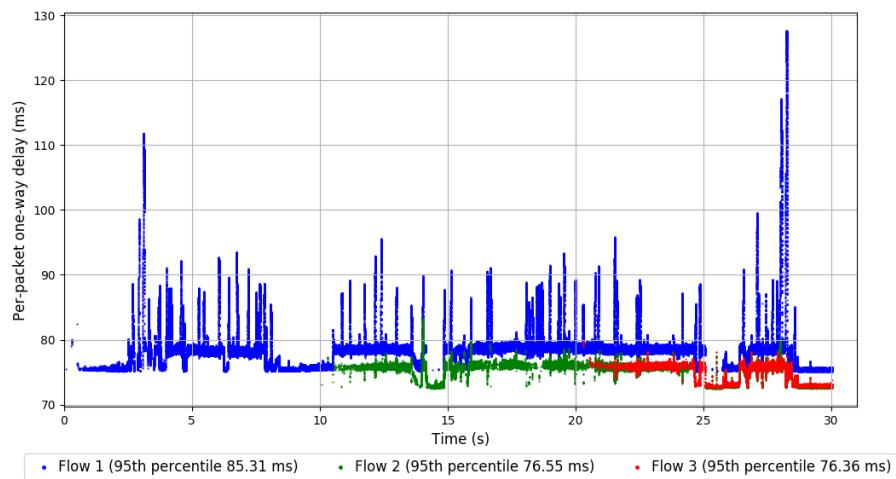
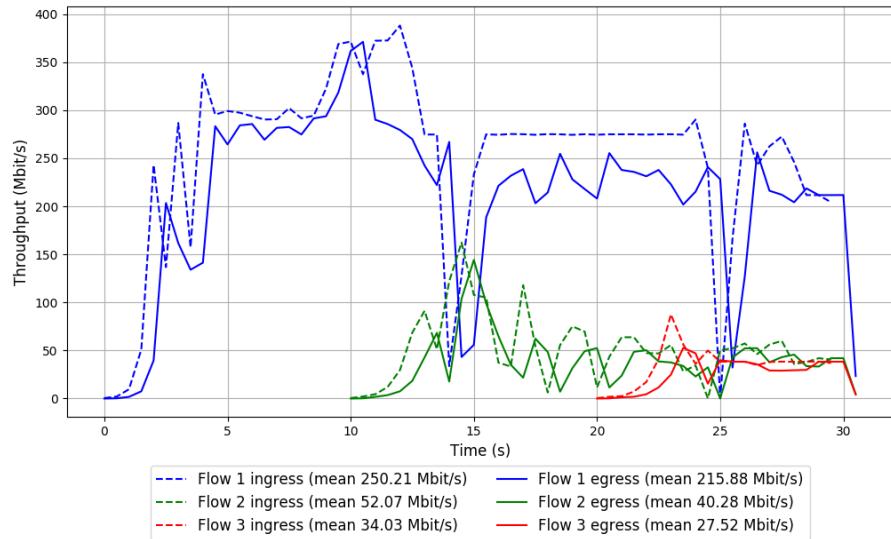


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-02 11:24:42
End at: 2018-10-02 11:25:12
Local clock offset: -0.608 ms
Remote clock offset: -34.734 ms

# Below is generated by plot.py at 2018-10-02 12:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.85 Mbit/s
95th percentile per-packet one-way delay: 84.231 ms
Loss rate: 14.98%
-- Flow 1:
Average throughput: 215.88 Mbit/s
95th percentile per-packet one-way delay: 85.314 ms
Loss rate: 13.73%
-- Flow 2:
Average throughput: 40.28 Mbit/s
95th percentile per-packet one-way delay: 76.554 ms
Loss rate: 22.64%
-- Flow 3:
Average throughput: 27.52 Mbit/s
95th percentile per-packet one-way delay: 76.364 ms
Loss rate: 19.15%
```

Run 3: Report of TCP BBR — Data Link

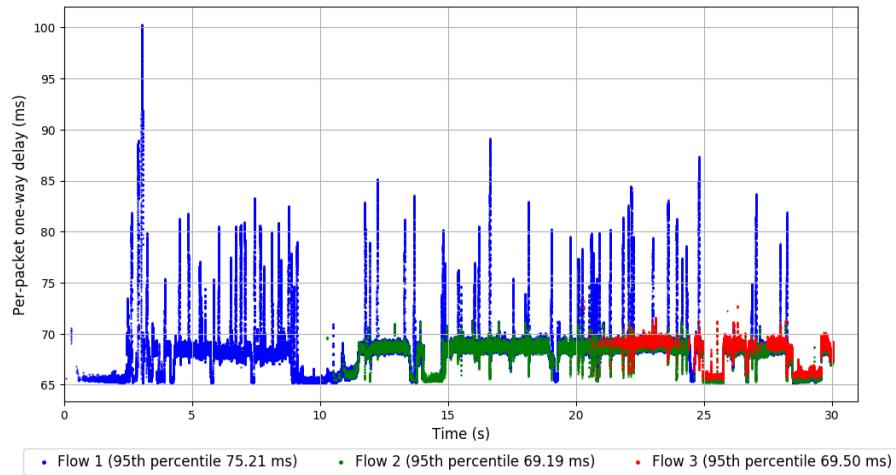
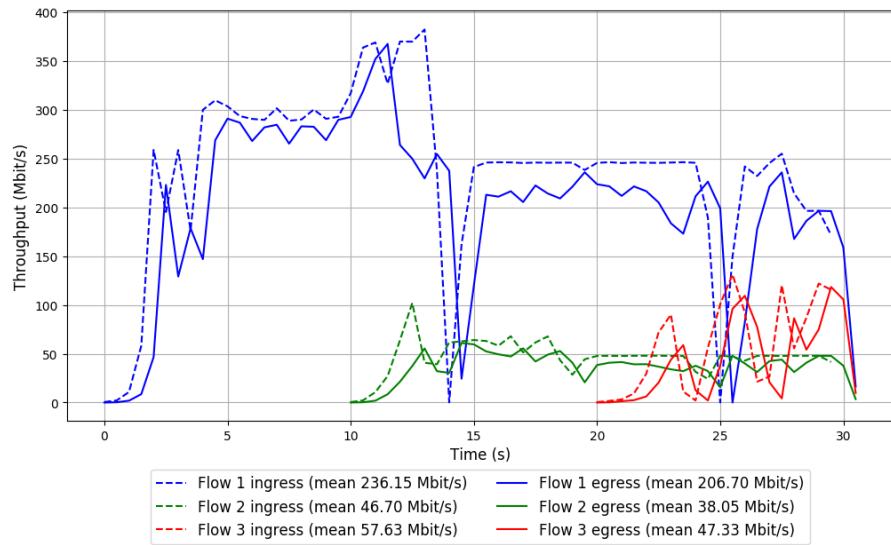


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-02 11:50:49
End at: 2018-10-02 11:51:19
Local clock offset: 2.242 ms
Remote clock offset: -39.163 ms

# Below is generated by plot.py at 2018-10-02 12:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 247.77 Mbit/s
95th percentile per-packet one-way delay: 73.841 ms
Loss rate: 13.48%
-- Flow 1:
Average throughput: 206.70 Mbit/s
95th percentile per-packet one-way delay: 75.210 ms
Loss rate: 12.46%
-- Flow 2:
Average throughput: 38.05 Mbit/s
95th percentile per-packet one-way delay: 69.194 ms
Loss rate: 18.51%
-- Flow 3:
Average throughput: 47.33 Mbit/s
95th percentile per-packet one-way delay: 69.498 ms
Loss rate: 17.86%
```

Run 4: Report of TCP BBR — Data Link

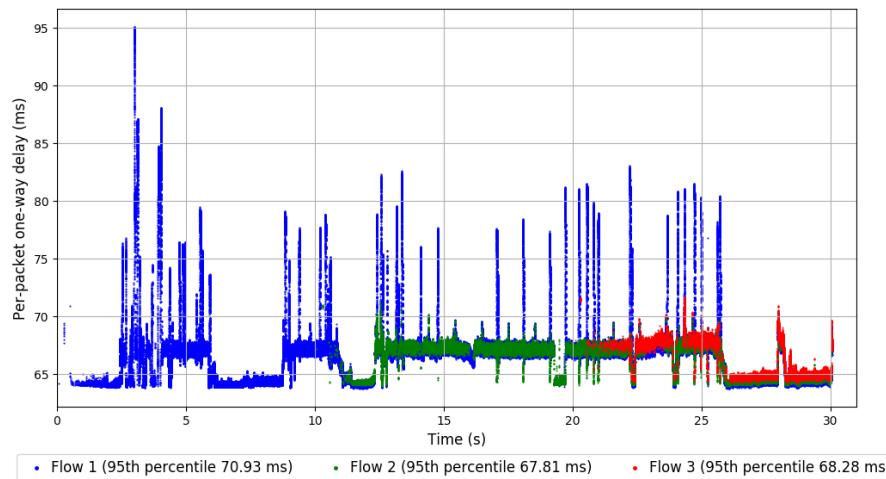
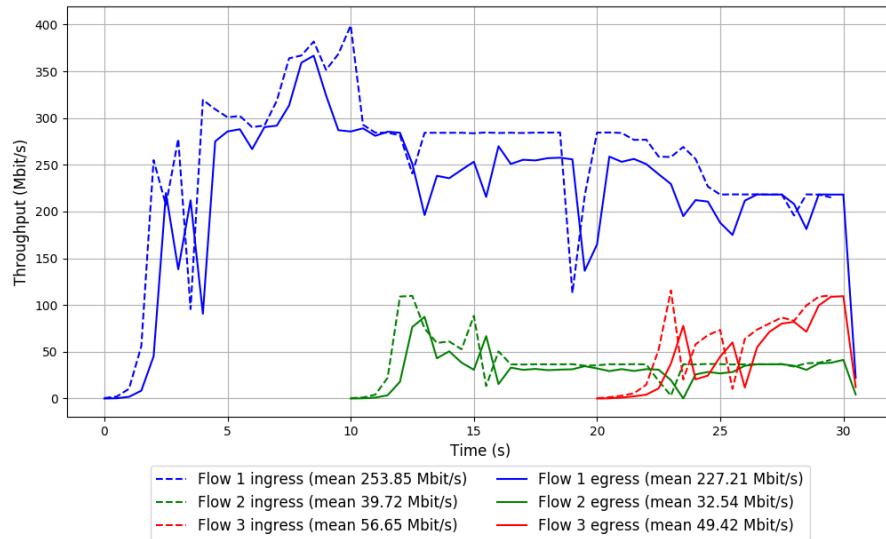


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-02 12:22:38
End at: 2018-10-02 12:23:08
Local clock offset: 2.528 ms
Remote clock offset: -39.569 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 265.31 Mbit/s
95th percentile per-packet one-way delay: 69.365 ms
Loss rate: 11.30%
-- Flow 1:
Average throughput: 227.21 Mbit/s
95th percentile per-packet one-way delay: 70.931 ms
Loss rate: 10.49%
-- Flow 2:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 67.806 ms
Loss rate: 18.08%
-- Flow 3:
Average throughput: 49.42 Mbit/s
95th percentile per-packet one-way delay: 68.277 ms
Loss rate: 12.76%
```

Run 5: Report of TCP BBR — Data Link

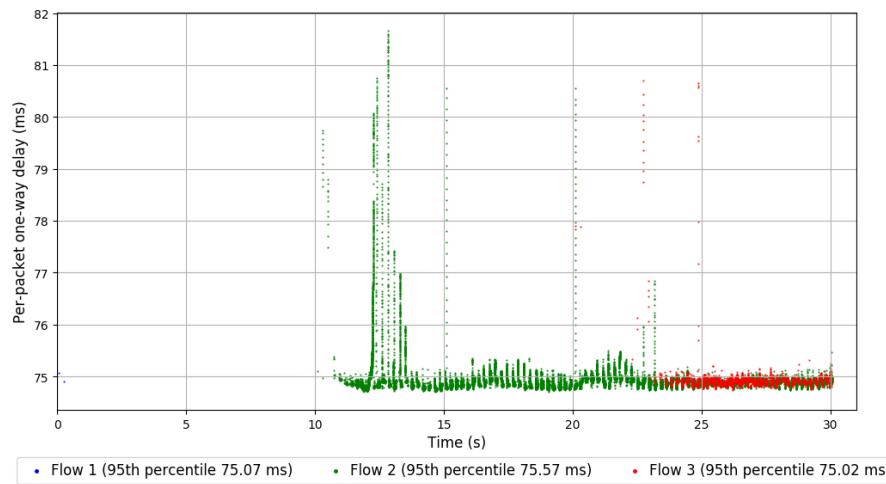
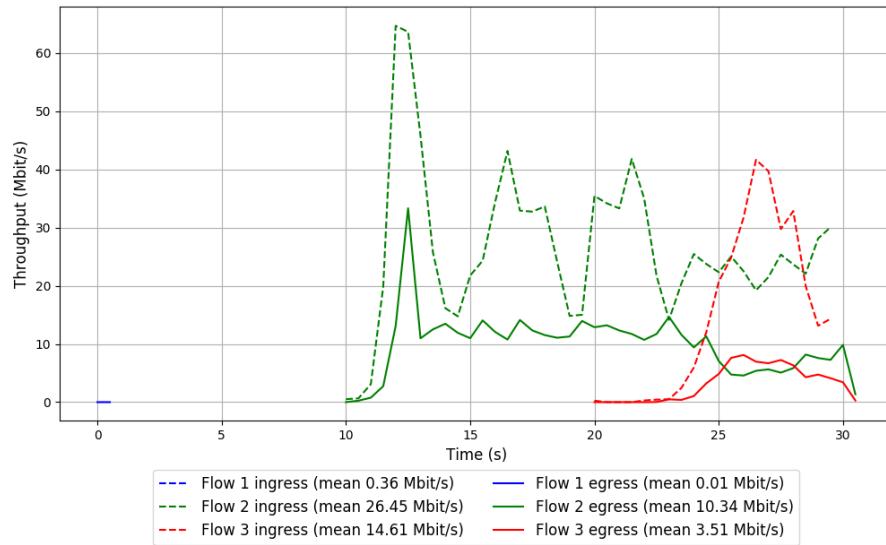


Run 1: Statistics of Copa

```
Start at: 2018-10-02 10:18:32
End at: 2018-10-02 10:19:02
Local clock offset: -4.478 ms
Remote clock offset: -35.889 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.05 Mbit/s
95th percentile per-packet one-way delay: 75.435 ms
Loss rate: 64.15%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 75.068 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 75.572 ms
Loss rate: 60.89%
-- Flow 3:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 75.019 ms
Loss rate: 75.98%
```

Run 1: Report of Copa — Data Link

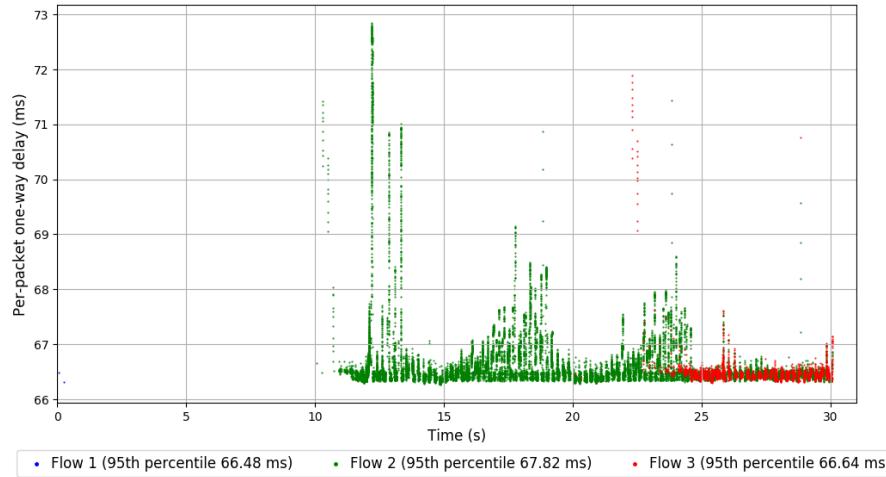
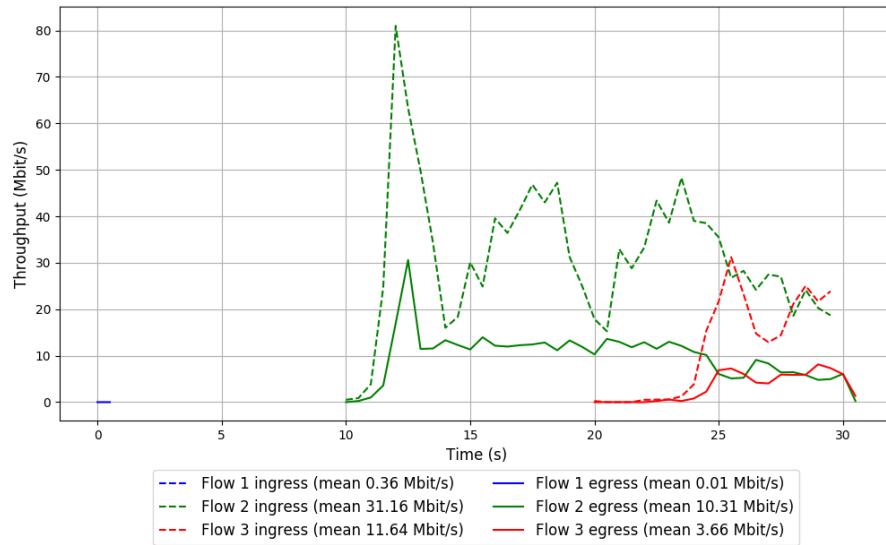


Run 2: Statistics of Copa

```
Start at: 2018-10-02 10:50:15
End at: 2018-10-02 10:50:45
Local clock offset: 0.107 ms
Remote clock offset: -39.926 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.09 Mbit/s
95th percentile per-packet one-way delay: 67.613 ms
Loss rate: 67.17%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 66.480 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 10.31 Mbit/s
95th percentile per-packet one-way delay: 67.822 ms
Loss rate: 66.91%
-- Flow 3:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 66.640 ms
Loss rate: 68.56%
```

Run 2: Report of Copa — Data Link

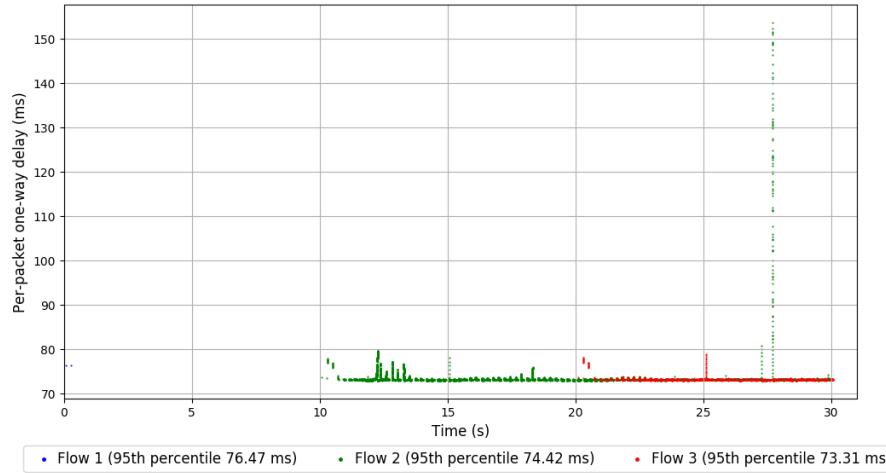
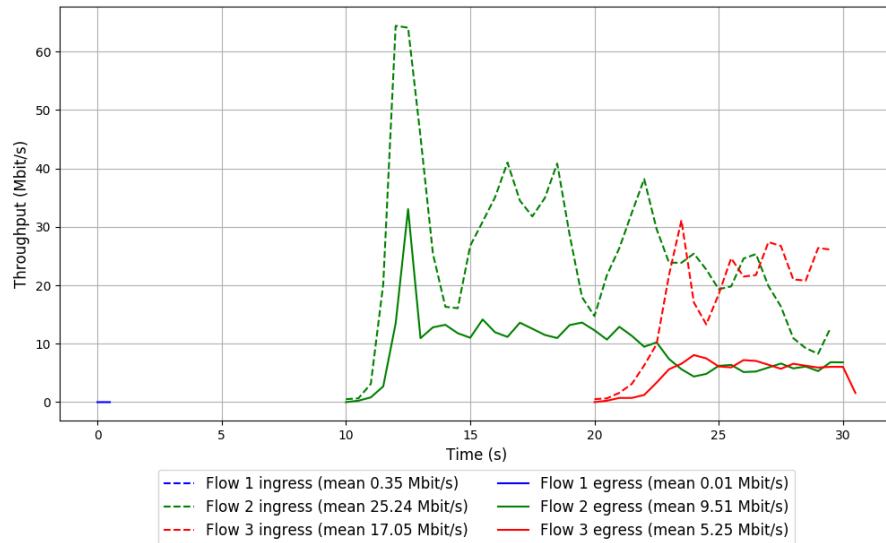


Run 3: Statistics of Copa

```
Start at: 2018-10-02 11:16:18
End at: 2018-10-02 11:16:48
Local clock offset: -0.637 ms
Remote clock offset: -34.279 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.06 Mbit/s
95th percentile per-packet one-way delay: 73.965 ms
Loss rate: 64.05%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 76.470 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 9.51 Mbit/s
95th percentile per-packet one-way delay: 74.423 ms
Loss rate: 62.31%
-- Flow 3:
Average throughput: 5.25 Mbit/s
95th percentile per-packet one-way delay: 73.307 ms
Loss rate: 69.19%
```

Run 3: Report of Copa — Data Link

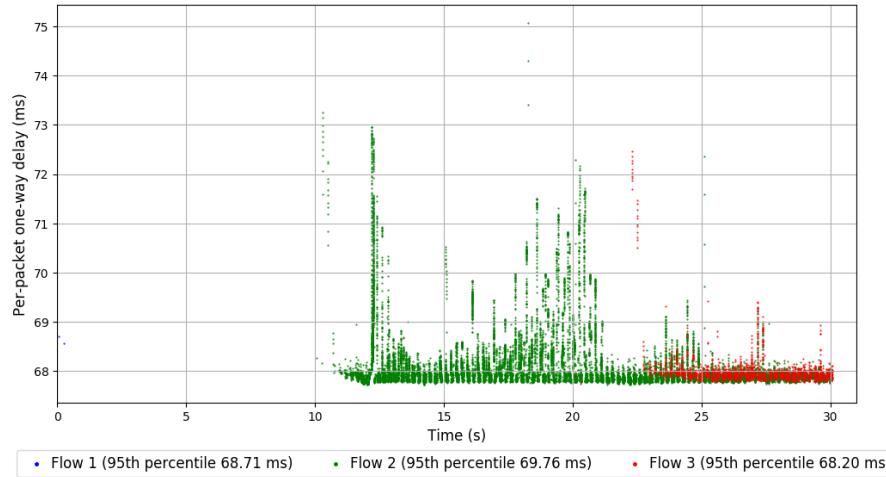
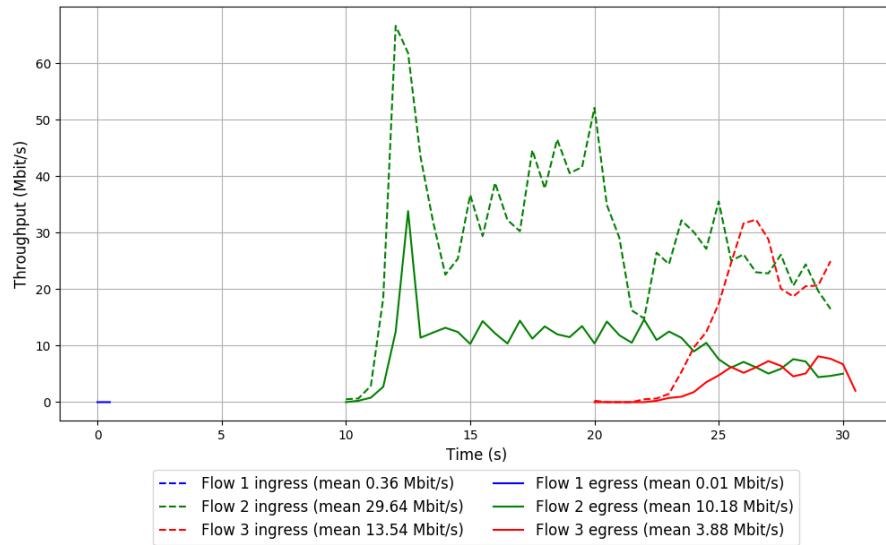


Run 4: Statistics of Copa

```
Start at: 2018-10-02 11:42:22
End at: 2018-10-02 11:42:52
Local clock offset: 2.579 ms
Remote clock offset: -36.243 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.05 Mbit/s
95th percentile per-packet one-way delay: 69.587 ms
Loss rate: 66.70%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 68.713 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 10.18 Mbit/s
95th percentile per-packet one-way delay: 69.760 ms
Loss rate: 65.64%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 68.200 ms
Loss rate: 71.33%
```

Run 4: Report of Copa — Data Link

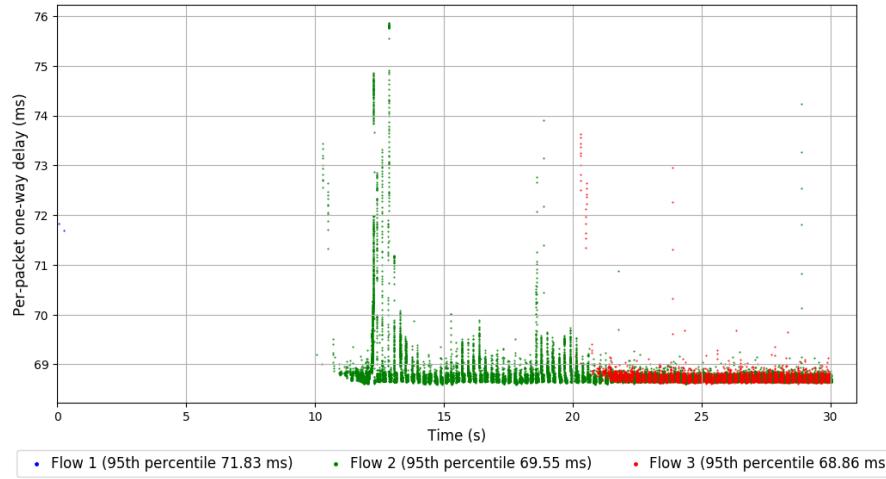
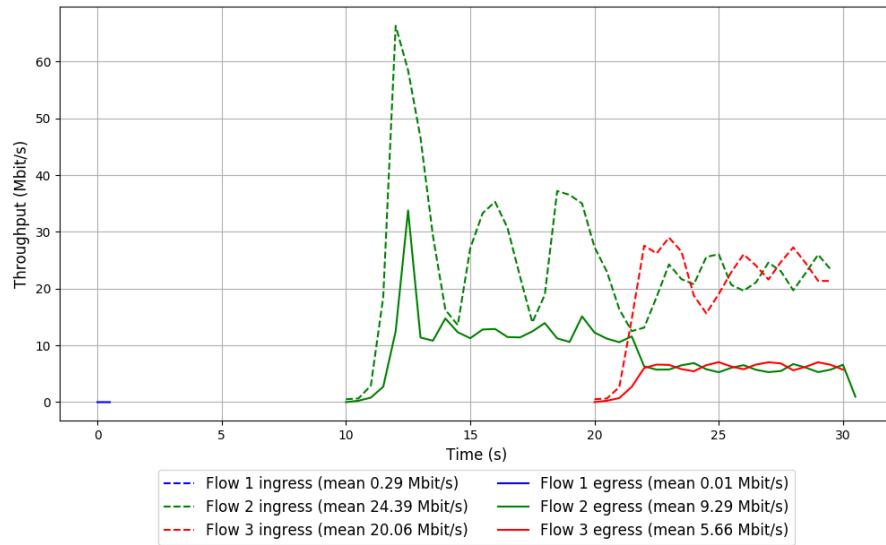


Run 5: Statistics of Copa

```
Start at: 2018-10-02 12:14:11
End at: 2018-10-02 12:14:41
Local clock offset: -0.499 ms
Remote clock offset: -38.183 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.05 Mbit/s
95th percentile per-packet one-way delay: 69.398 ms
Loss rate: 64.77%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 71.825 ms
Loss rate: 96.71%
-- Flow 2:
Average throughput: 9.29 Mbit/s
95th percentile per-packet one-way delay: 69.547 ms
Loss rate: 61.92%
-- Flow 3:
Average throughput: 5.66 Mbit/s
95th percentile per-packet one-way delay: 68.861 ms
Loss rate: 71.79%
```

Run 5: Report of Copa — Data Link

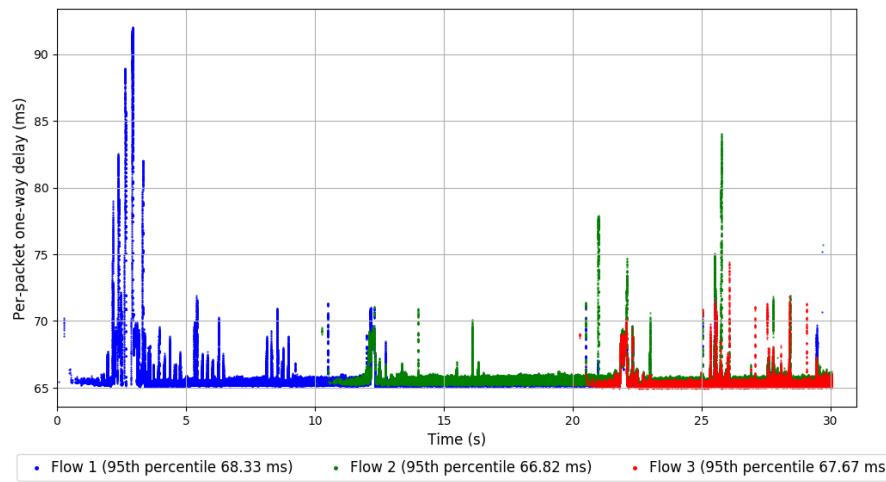
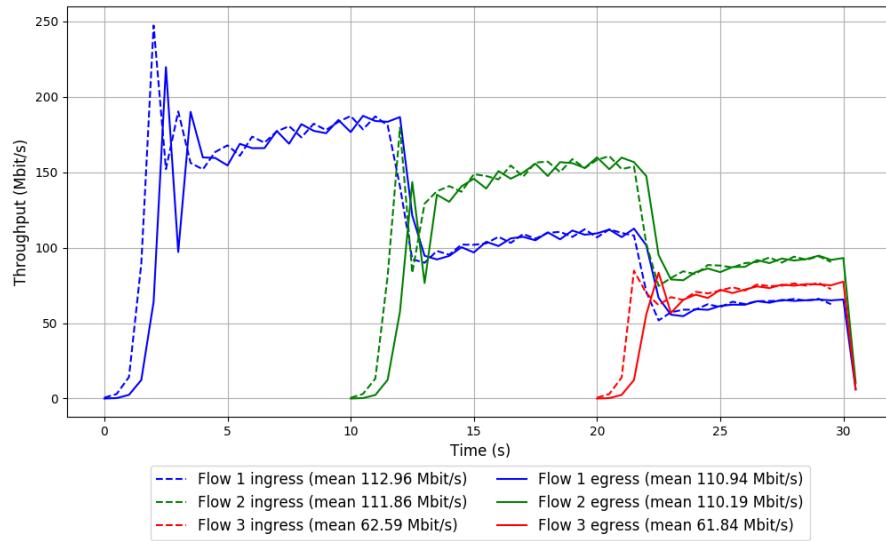


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-02 10:23:50
End at: 2018-10-02 10:24:20
Local clock offset: 0.833 ms
Remote clock offset: -40.26 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 204.95 Mbit/s
95th percentile per-packet one-way delay: 68.040 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 110.94 Mbit/s
95th percentile per-packet one-way delay: 68.333 ms
Loss rate: 1.80%
-- Flow 2:
Average throughput: 110.19 Mbit/s
95th percentile per-packet one-way delay: 66.822 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 61.84 Mbit/s
95th percentile per-packet one-way delay: 67.667 ms
Loss rate: 1.20%
```

Run 1: Report of TCP Cubic — Data Link

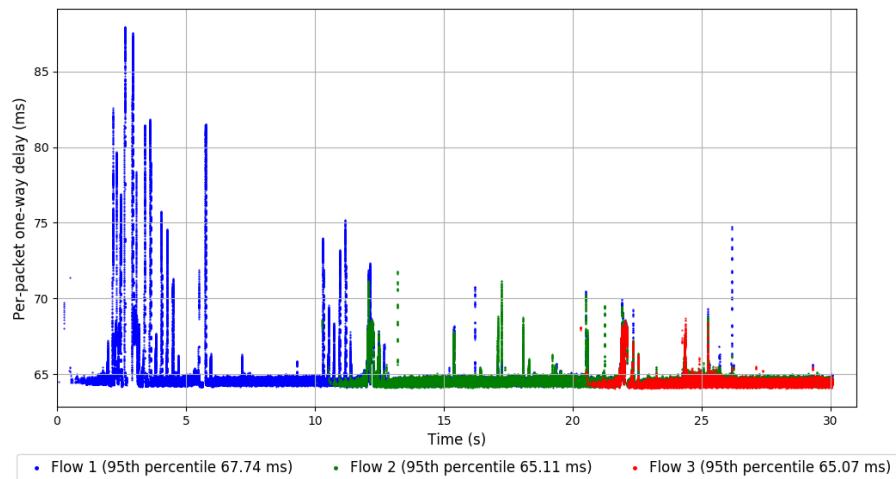
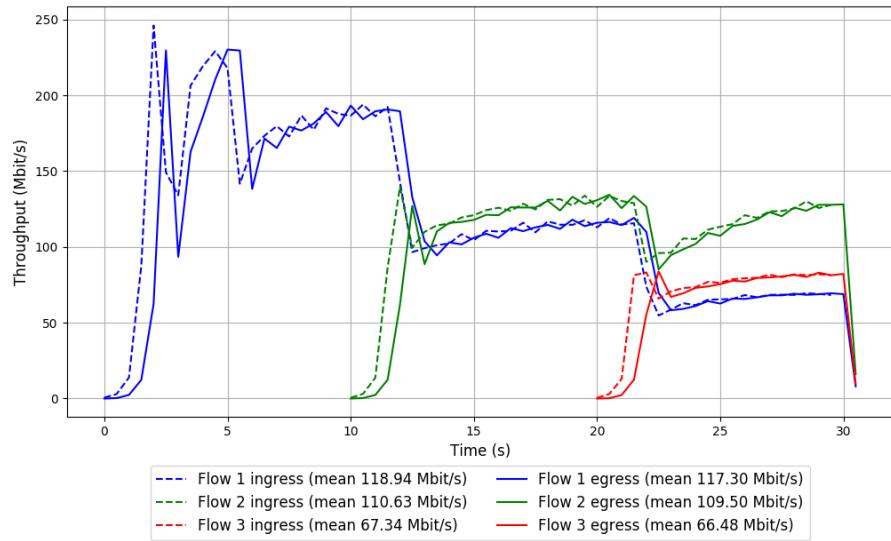


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-02 10:55:32
End at: 2018-10-02 10:56:02
Local clock offset: 2.368 ms
Remote clock offset: -39.844 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.36 Mbit/s
95th percentile per-packet one-way delay: 66.776 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 117.30 Mbit/s
95th percentile per-packet one-way delay: 67.736 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 109.50 Mbit/s
95th percentile per-packet one-way delay: 65.113 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 66.48 Mbit/s
95th percentile per-packet one-way delay: 65.068 ms
Loss rate: 1.28%
```

Run 2: Report of TCP Cubic — Data Link

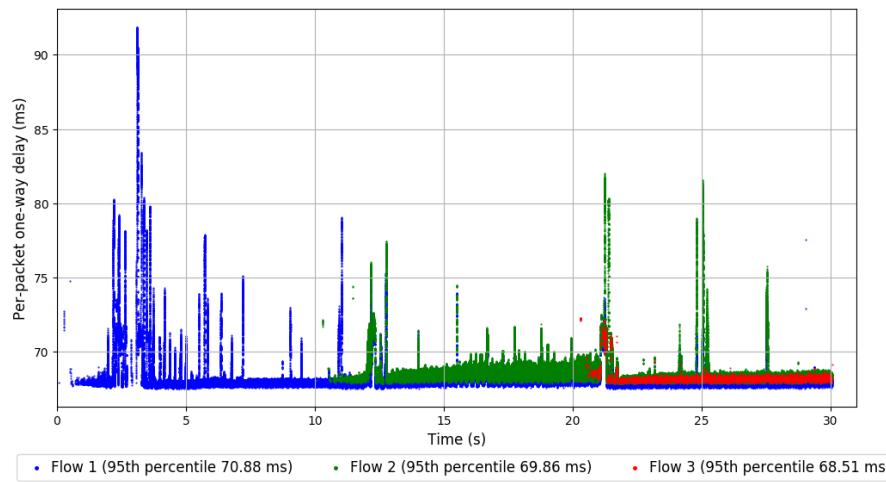
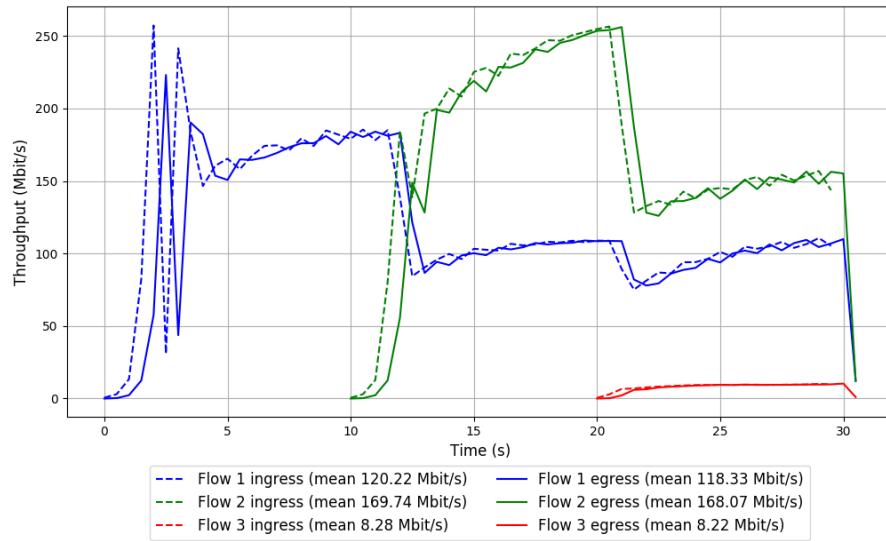


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-02 11:21:35
End at: 2018-10-02 11:22:05
Local clock offset: 1.985 ms
Remote clock offset: -36.778 ms

# Below is generated by plot.py at 2018-10-02 12:32:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.01 Mbit/s
95th percentile per-packet one-way delay: 70.515 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 118.33 Mbit/s
95th percentile per-packet one-way delay: 70.881 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 168.07 Mbit/s
95th percentile per-packet one-way delay: 69.862 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 68.510 ms
Loss rate: 0.65%
```

Run 3: Report of TCP Cubic — Data Link

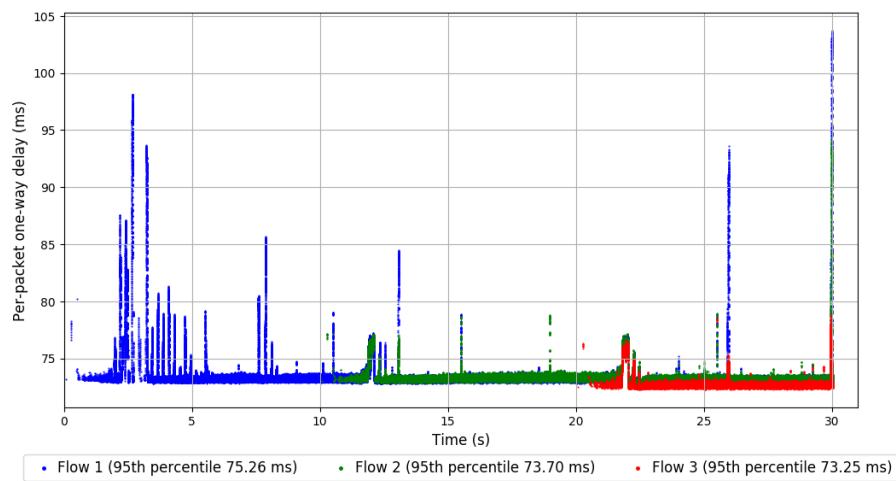
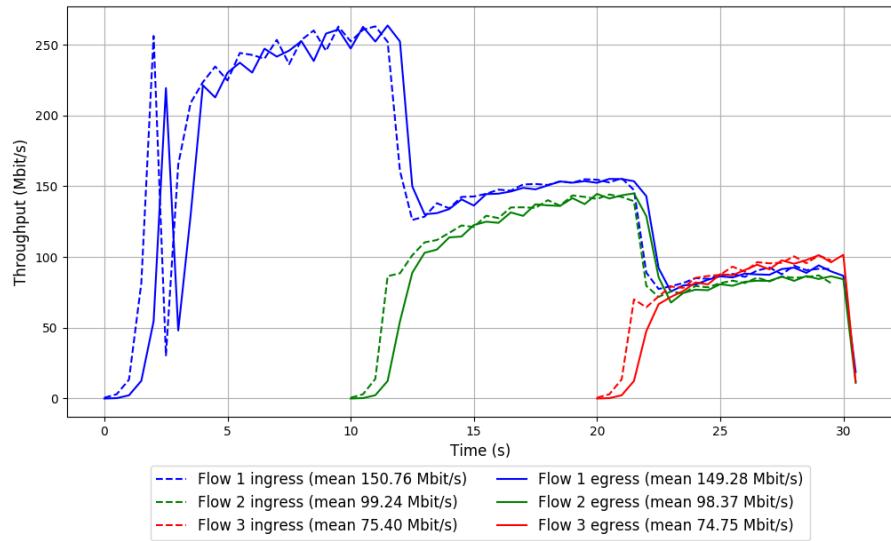


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-02 11:47:41
End at: 2018-10-02 11:48:11
Local clock offset: -0.391 ms
Remote clock offset: -34.271 ms

# Below is generated by plot.py at 2018-10-02 12:34:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.73 Mbit/s
95th percentile per-packet one-way delay: 74.252 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 149.28 Mbit/s
95th percentile per-packet one-way delay: 75.260 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 98.37 Mbit/s
95th percentile per-packet one-way delay: 73.696 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 74.75 Mbit/s
95th percentile per-packet one-way delay: 73.254 ms
Loss rate: 0.86%
```

Run 4: Report of TCP Cubic — Data Link

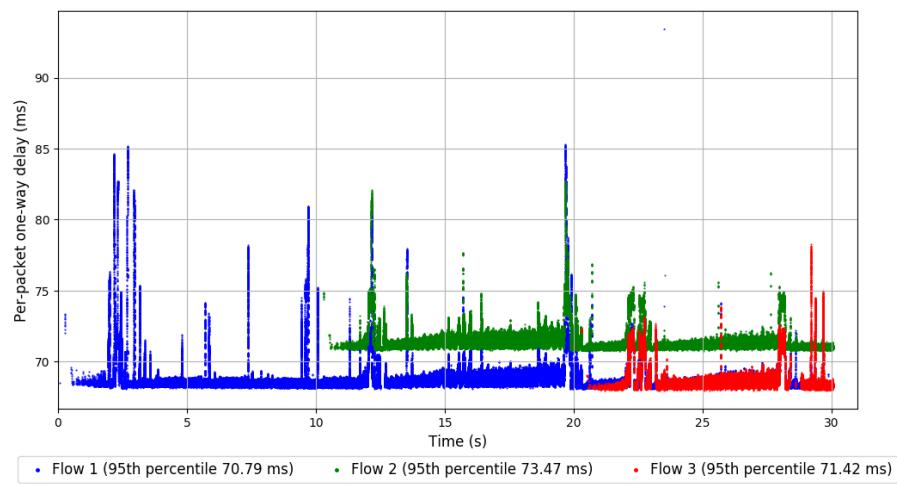
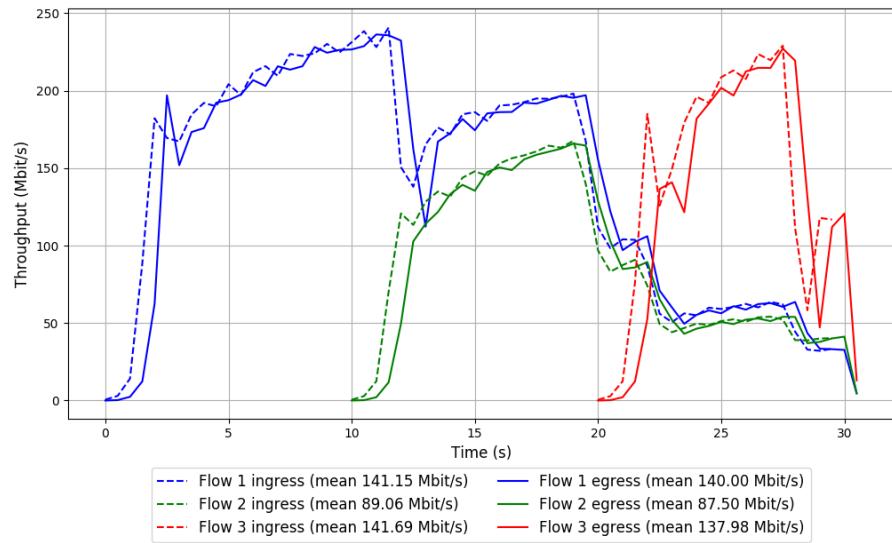


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-02 12:19:30
End at: 2018-10-02 12:20:00
Local clock offset: 2.299 ms
Remote clock offset: -35.833 ms

# Below is generated by plot.py at 2018-10-02 12:34:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.17 Mbit/s
95th percentile per-packet one-way delay: 71.927 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 140.00 Mbit/s
95th percentile per-packet one-way delay: 70.791 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 87.50 Mbit/s
95th percentile per-packet one-way delay: 73.466 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 137.98 Mbit/s
95th percentile per-packet one-way delay: 71.418 ms
Loss rate: 2.64%
```

Run 5: Report of TCP Cubic — Data Link

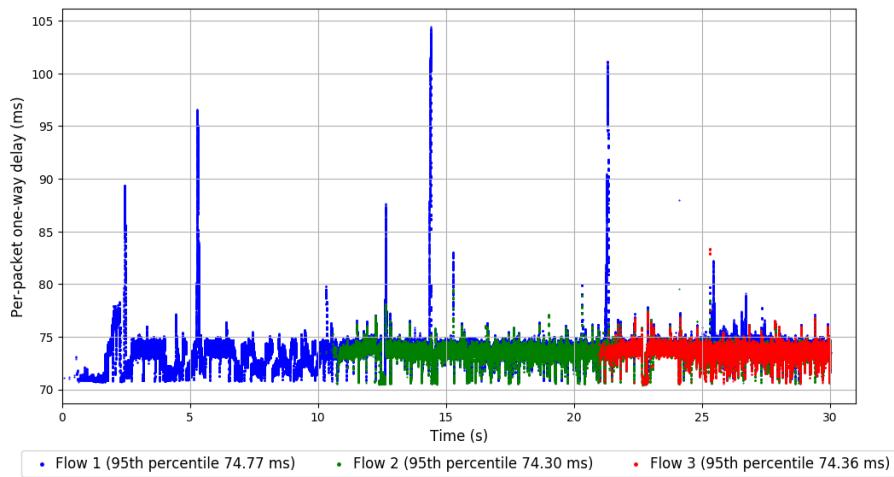
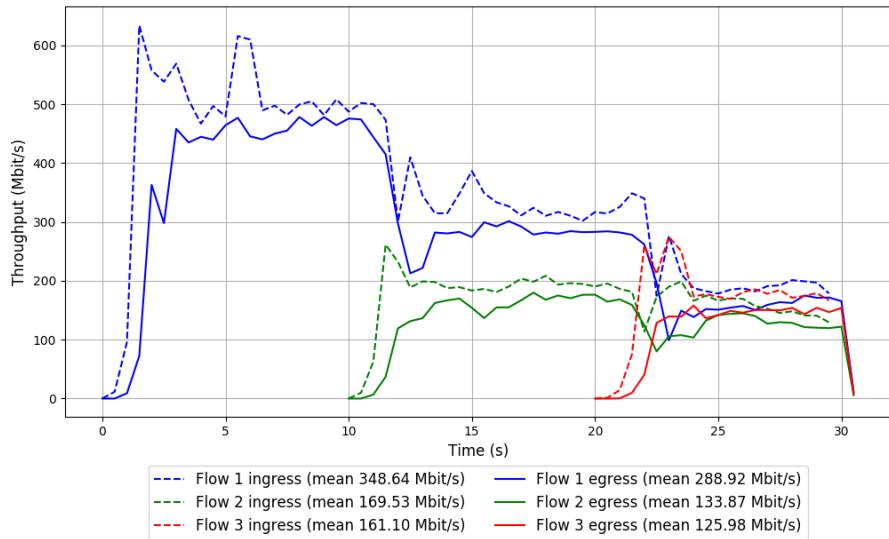


```
Run 1: Statistics of FillP

Start at: 2018-10-02 10:09:56
End at: 2018-10-02 10:10:26
Local clock offset: 0.397 ms
Remote clock offset: -34.69 ms

# Below is generated by plot.py at 2018-10-02 12:38:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.03 Mbit/s
95th percentile per-packet one-way delay: 74.590 ms
Loss rate: 18.80%
-- Flow 1:
Average throughput: 288.92 Mbit/s
95th percentile per-packet one-way delay: 74.770 ms
Loss rate: 17.12%
-- Flow 2:
Average throughput: 133.87 Mbit/s
95th percentile per-packet one-way delay: 74.295 ms
Loss rate: 21.03%
-- Flow 3:
Average throughput: 125.98 Mbit/s
95th percentile per-packet one-way delay: 74.360 ms
Loss rate: 24.98%
```

Run 1: Report of FillP — Data Link

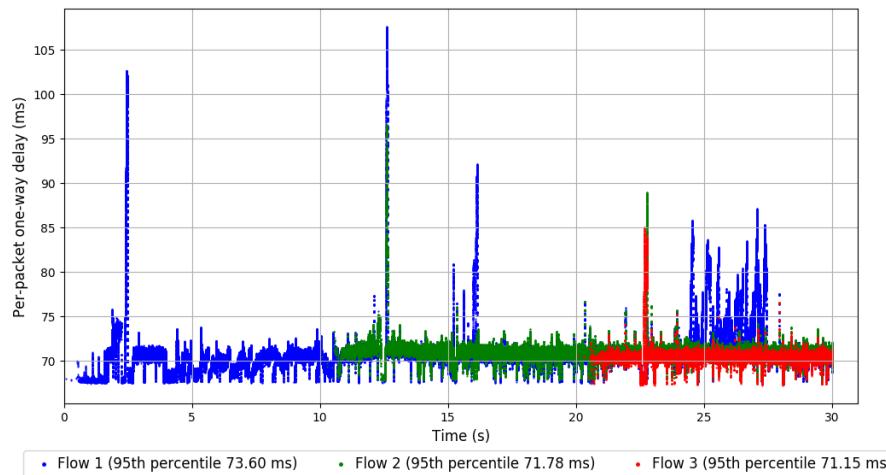
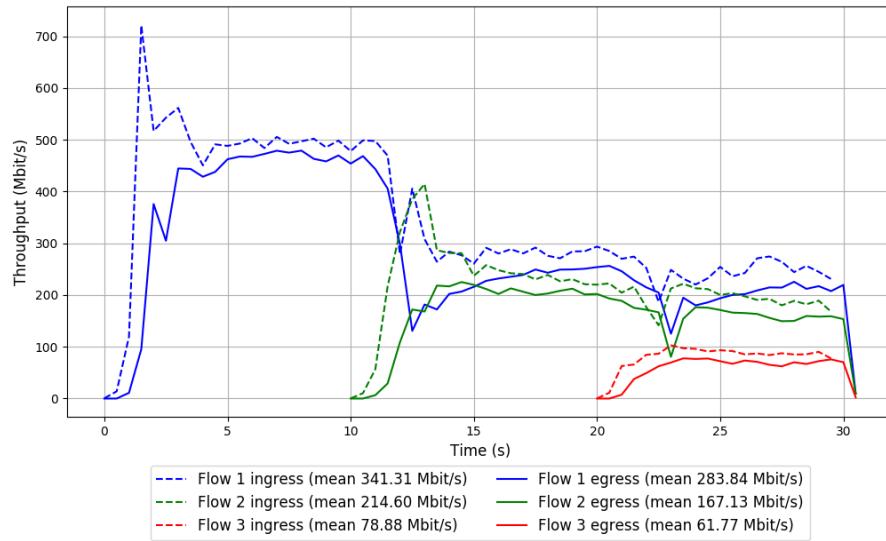


Run 2: Statistics of FillP

```
Start at: 2018-10-02 10:41:34
End at: 2018-10-02 10:42:04
Local clock offset: 1.436 ms
Remote clock offset: -37.059 ms

# Below is generated by plot.py at 2018-10-02 12:38:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 415.56 Mbit/s
95th percentile per-packet one-way delay: 72.732 ms
Loss rate: 18.56%
-- Flow 1:
Average throughput: 283.84 Mbit/s
95th percentile per-packet one-way delay: 73.596 ms
Loss rate: 16.83%
-- Flow 2:
Average throughput: 167.13 Mbit/s
95th percentile per-packet one-way delay: 71.780 ms
Loss rate: 22.13%
-- Flow 3:
Average throughput: 61.77 Mbit/s
95th percentile per-packet one-way delay: 71.149 ms
Loss rate: 21.69%
```

Run 2: Report of FillP — Data Link

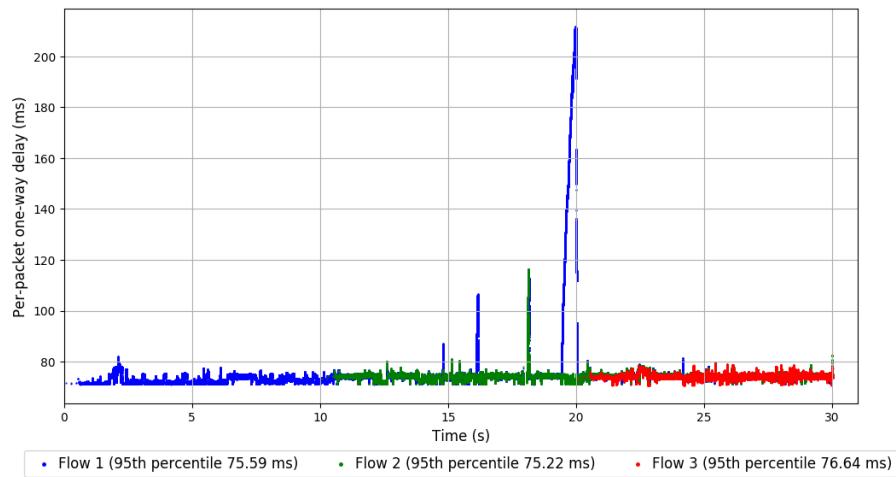
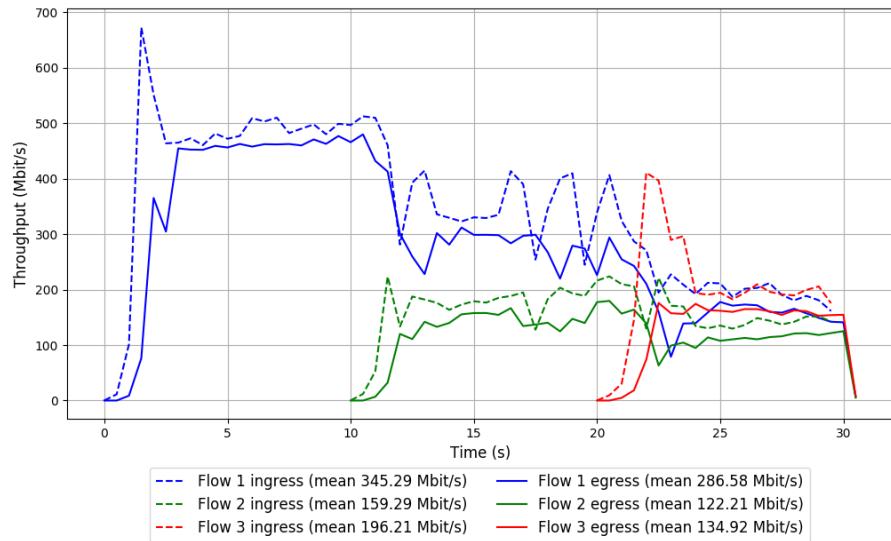


Run 3: Statistics of FillP

```
Start at: 2018-10-02 11:07:37
End at: 2018-10-02 11:08:07
Local clock offset: -0.014 ms
Remote clock offset: -35.273 ms

# Below is generated by plot.py at 2018-10-02 12:38:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 412.66 Mbit/s
95th percentile per-packet one-way delay: 75.684 ms
Loss rate: 20.07%
-- Flow 1:
Average throughput: 286.58 Mbit/s
95th percentile per-packet one-way delay: 75.590 ms
Loss rate: 16.99%
-- Flow 2:
Average throughput: 122.21 Mbit/s
95th percentile per-packet one-way delay: 75.215 ms
Loss rate: 23.27%
-- Flow 3:
Average throughput: 134.92 Mbit/s
95th percentile per-packet one-way delay: 76.637 ms
Loss rate: 31.20%
```

Run 3: Report of FillP — Data Link

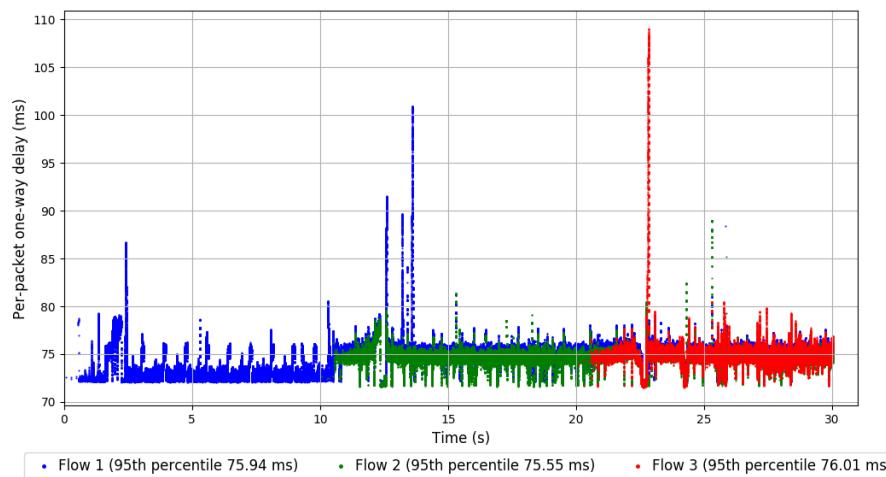
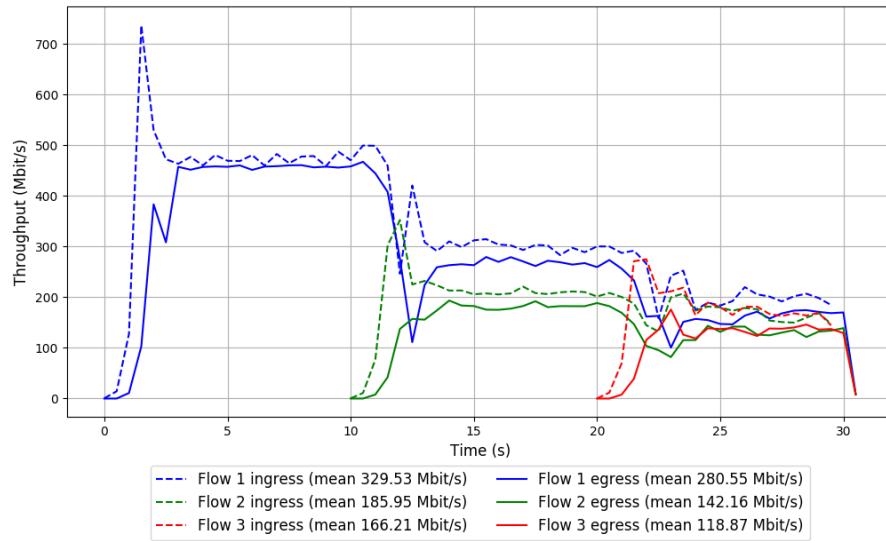


Run 4: Statistics of FillP

```
Start at: 2018-10-02 11:33:42
End at: 2018-10-02 11:34:12
Local clock offset: 0.369 ms
Remote clock offset: -34.596 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 414.63 Mbit/s
95th percentile per-packet one-way delay: 75.895 ms
Loss rate: 18.45%
-- Flow 1:
Average throughput: 280.55 Mbit/s
95th percentile per-packet one-way delay: 75.944 ms
Loss rate: 14.86%
-- Flow 2:
Average throughput: 142.16 Mbit/s
95th percentile per-packet one-way delay: 75.545 ms
Loss rate: 23.54%
-- Flow 3:
Average throughput: 118.87 Mbit/s
95th percentile per-packet one-way delay: 76.010 ms
Loss rate: 28.48%
```

Run 4: Report of FillP — Data Link

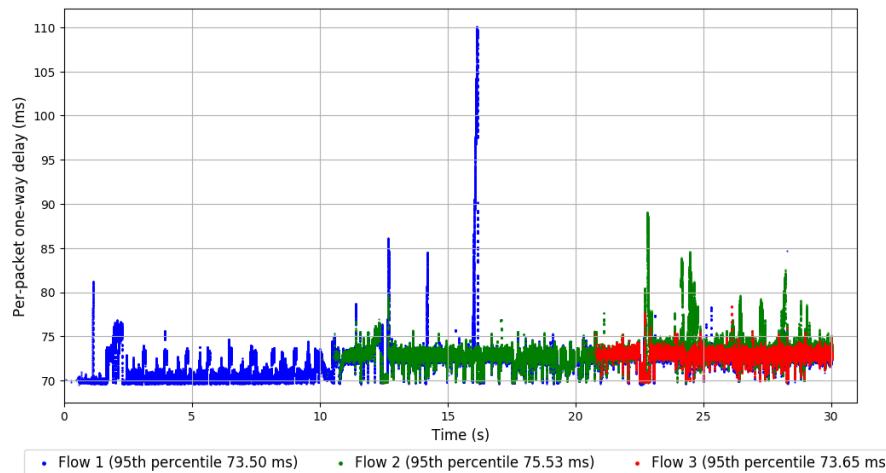
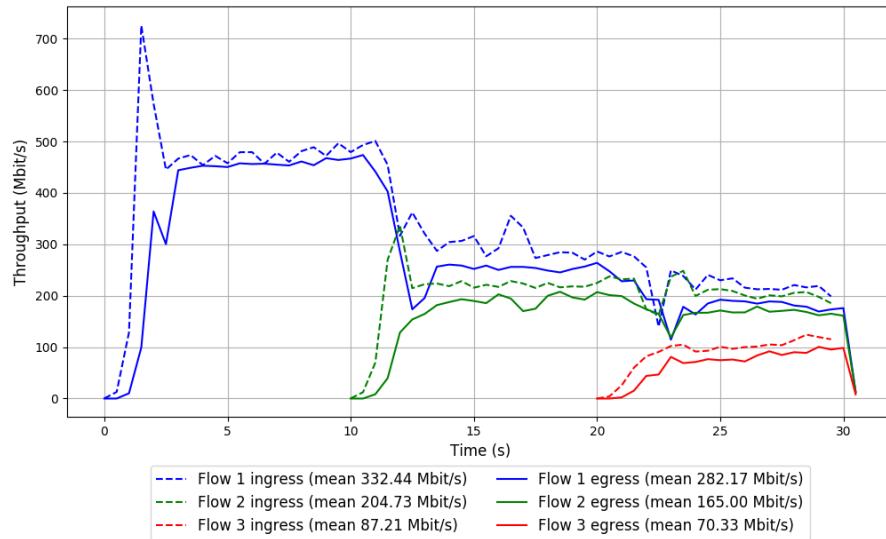


Run 5: Statistics of FillP

```
Start at: 2018-10-02 11:59:49
End at: 2018-10-02 12:00:19
Local clock offset: 3.138 ms
Remote clock offset: -33.476 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 414.84 Mbit/s
95th percentile per-packet one-way delay: 74.112 ms
Loss rate: 16.63%
-- Flow 1:
Average throughput: 282.17 Mbit/s
95th percentile per-packet one-way delay: 73.505 ms
Loss rate: 15.11%
-- Flow 2:
Average throughput: 165.00 Mbit/s
95th percentile per-packet one-way delay: 75.525 ms
Loss rate: 19.40%
-- Flow 3:
Average throughput: 70.33 Mbit/s
95th percentile per-packet one-way delay: 73.653 ms
Loss rate: 21.00%
```

Run 5: Report of FillP — Data Link

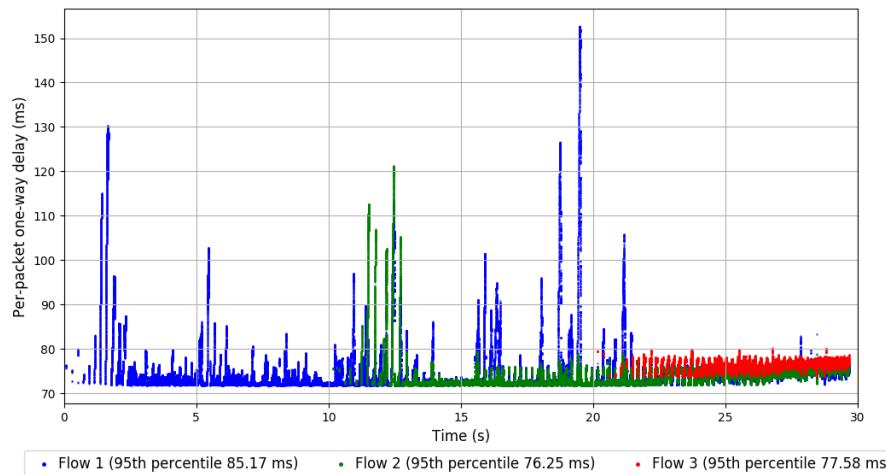
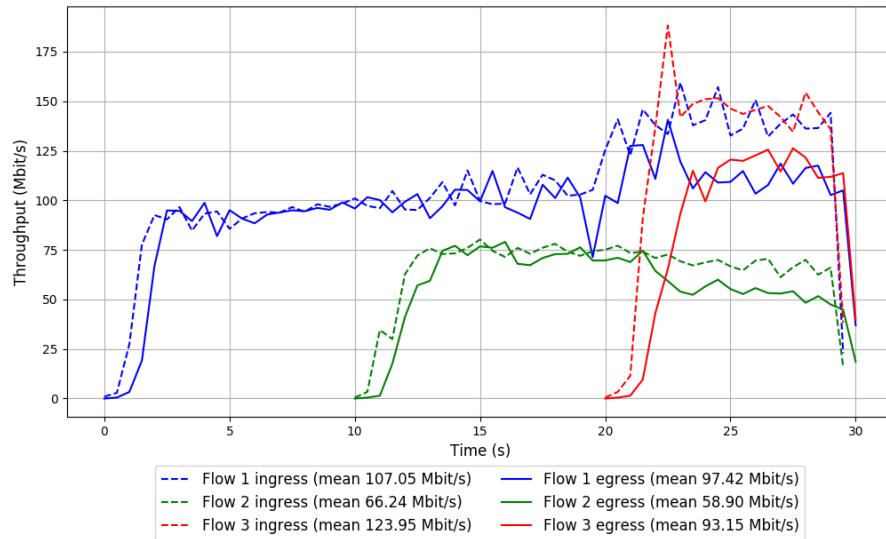


Run 1: Statistics of Indigo

```
Start at: 2018-10-02 10:14:12
End at: 2018-10-02 10:14:42
Local clock offset: -2.196 ms
Remote clock offset: -36.509 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 166.13 Mbit/s
95th percentile per-packet one-way delay: 81.037 ms
Loss rate: 12.79%
-- Flow 1:
Average throughput: 97.42 Mbit/s
95th percentile per-packet one-way delay: 85.165 ms
Loss rate: 9.00%
-- Flow 2:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 76.248 ms
Loss rate: 11.08%
-- Flow 3:
Average throughput: 93.15 Mbit/s
95th percentile per-packet one-way delay: 77.576 ms
Loss rate: 24.86%
```

Run 1: Report of Indigo — Data Link

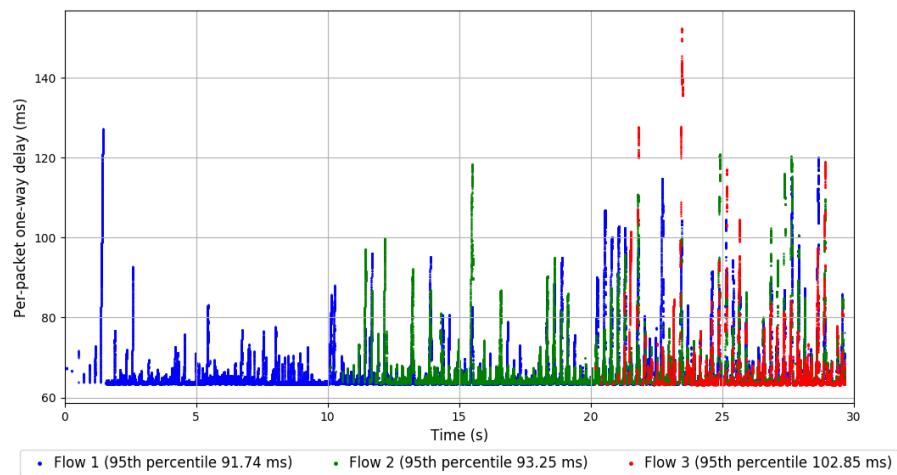
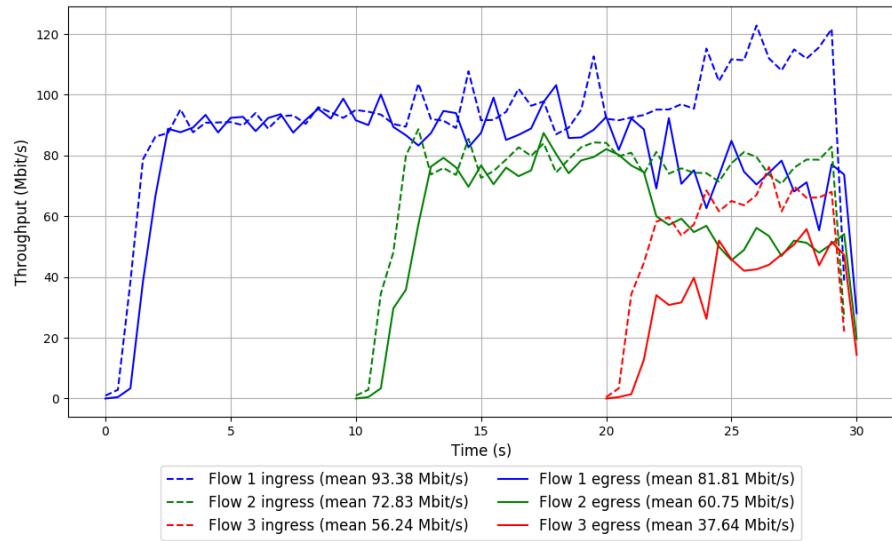


Run 2: Statistics of Indigo

```
Start at: 2018-10-02 10:45:53
End at: 2018-10-02 10:46:23
Local clock offset: 1.665 ms
Remote clock offset: -41.194 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.05 Mbit/s
95th percentile per-packet one-way delay: 93.411 ms
Loss rate: 15.98%
-- Flow 1:
Average throughput: 81.81 Mbit/s
95th percentile per-packet one-way delay: 91.738 ms
Loss rate: 12.37%
-- Flow 2:
Average throughput: 60.75 Mbit/s
95th percentile per-packet one-way delay: 93.249 ms
Loss rate: 16.60%
-- Flow 3:
Average throughput: 37.64 Mbit/s
95th percentile per-packet one-way delay: 102.852 ms
Loss rate: 33.07%
```

Run 2: Report of Indigo — Data Link

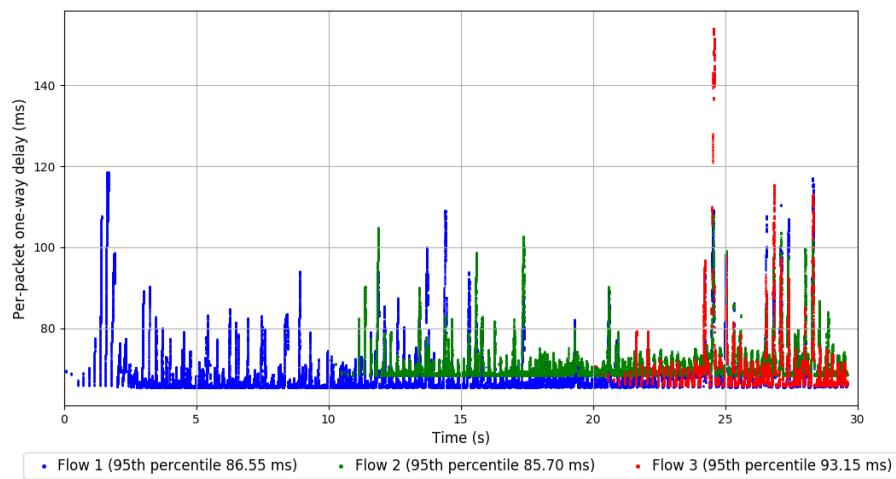
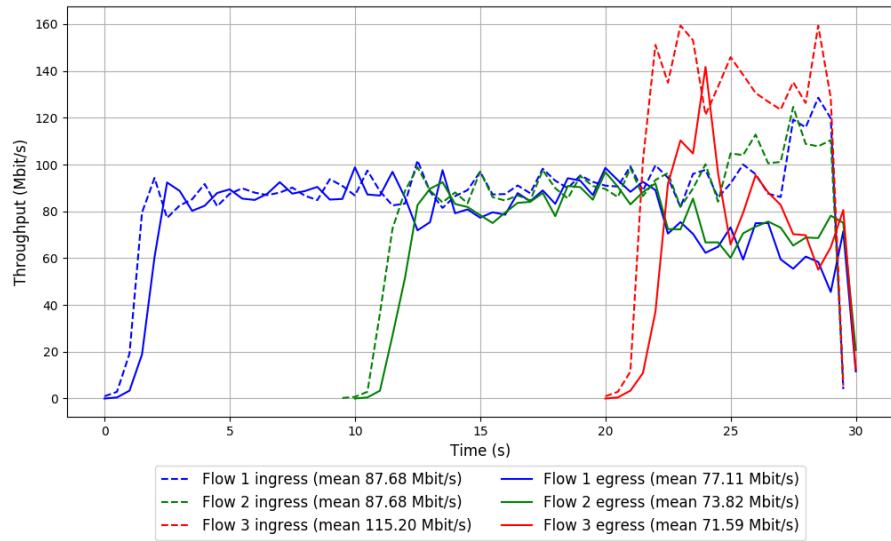


Run 3: Statistics of Indigo

```
Start at: 2018-10-02 11:11:53
End at: 2018-10-02 11:12:23
Local clock offset: 2.176 ms
Remote clock offset: -39.0 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.02 Mbit/s
95th percentile per-packet one-way delay: 87.311 ms
Loss rate: 18.49%
-- Flow 1:
Average throughput: 77.11 Mbit/s
95th percentile per-packet one-way delay: 86.551 ms
Loss rate: 12.07%
-- Flow 2:
Average throughput: 73.82 Mbit/s
95th percentile per-packet one-way delay: 85.705 ms
Loss rate: 15.82%
-- Flow 3:
Average throughput: 71.59 Mbit/s
95th percentile per-packet one-way delay: 93.148 ms
Loss rate: 37.86%
```

Run 3: Report of Indigo — Data Link

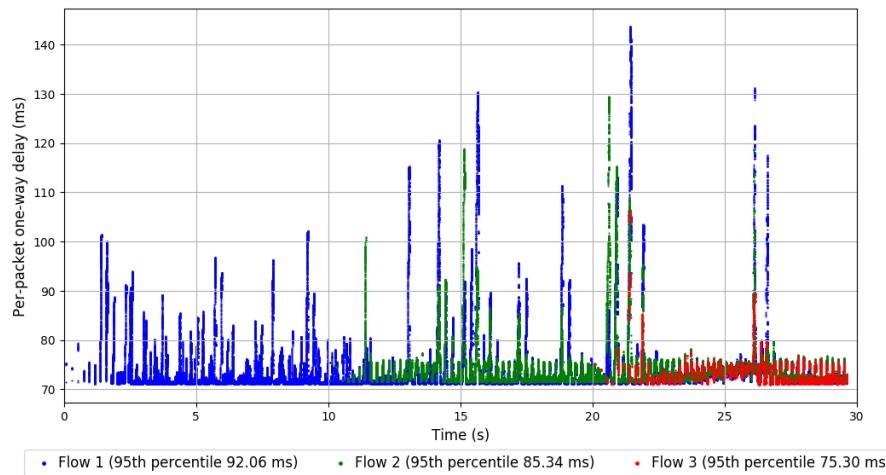
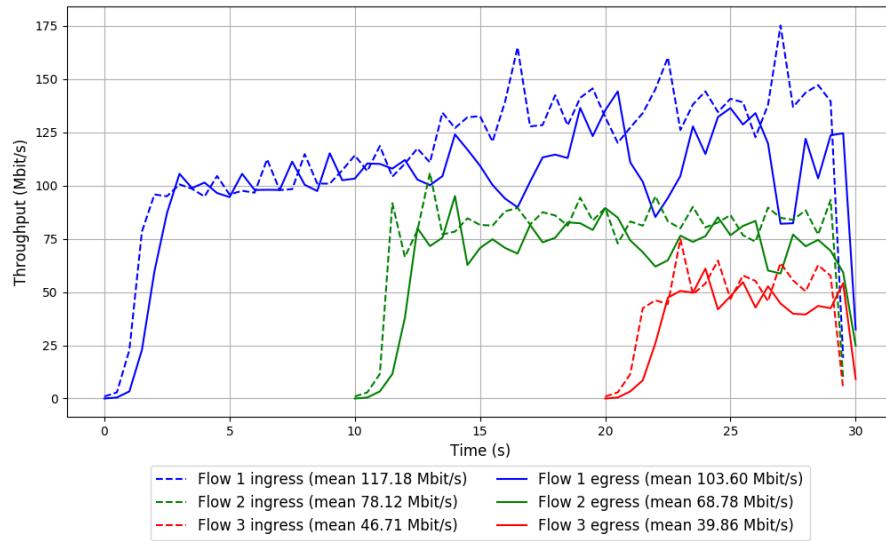


Run 4: Statistics of Indigo

```
Start at: 2018-10-02 11:37:58
End at: 2018-10-02 11:38:29
Local clock offset: 2.454 ms
Remote clock offset: -33.089 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.94 Mbit/s
95th percentile per-packet one-way delay: 89.641 ms
Loss rate: 11.95%
-- Flow 1:
Average throughput: 103.60 Mbit/s
95th percentile per-packet one-way delay: 92.060 ms
Loss rate: 11.59%
-- Flow 2:
Average throughput: 68.78 Mbit/s
95th percentile per-packet one-way delay: 85.336 ms
Loss rate: 11.96%
-- Flow 3:
Average throughput: 39.86 Mbit/s
95th percentile per-packet one-way delay: 75.303 ms
Loss rate: 14.67%
```

Run 4: Report of Indigo — Data Link

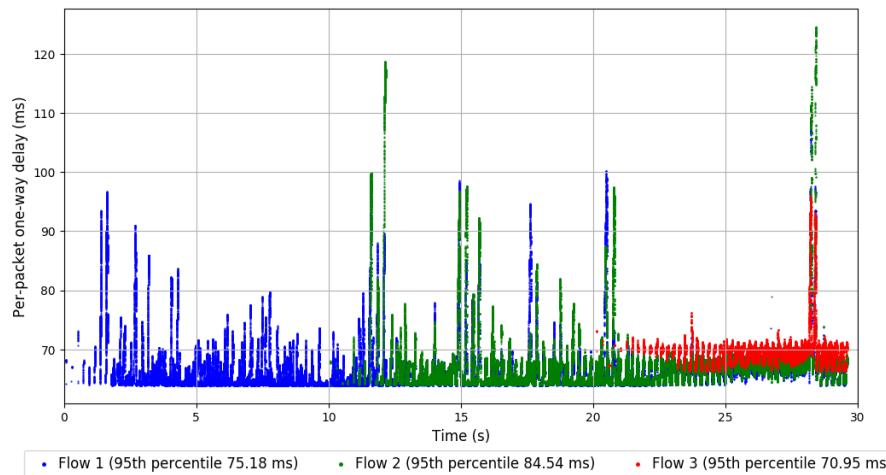
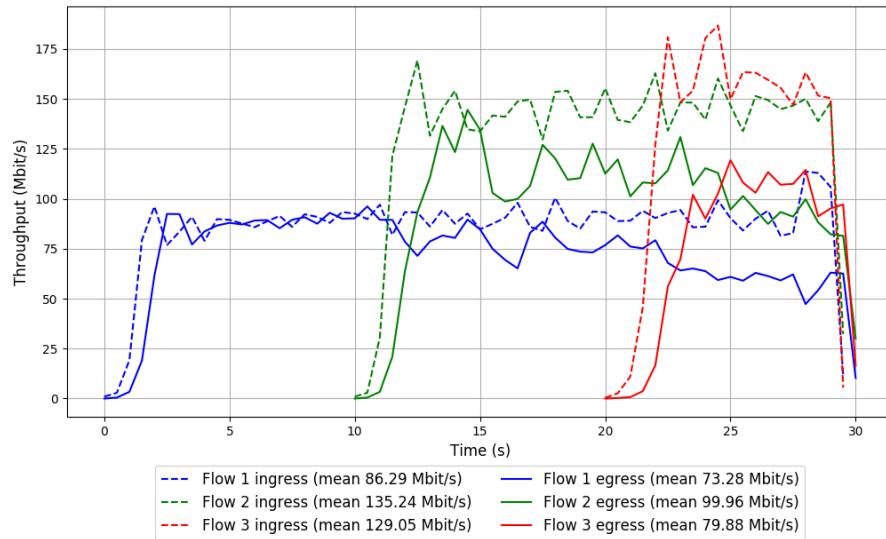


Run 5: Statistics of Indigo

```
Start at: 2018-10-02 12:04:06
End at: 2018-10-02 12:04:36
Local clock offset: 3.286 ms
Remote clock offset: -39.24 ms

# Below is generated by plot.py at 2018-10-02 12:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.00 Mbit/s
95th percentile per-packet one-way delay: 76.747 ms
Loss rate: 23.99%
-- Flow 1:
Average throughput: 73.28 Mbit/s
95th percentile per-packet one-way delay: 75.178 ms
Loss rate: 15.07%
-- Flow 2:
Average throughput: 99.96 Mbit/s
95th percentile per-packet one-way delay: 84.540 ms
Loss rate: 26.07%
-- Flow 3:
Average throughput: 79.88 Mbit/s
95th percentile per-packet one-way delay: 70.955 ms
Loss rate: 38.10%
```

Run 5: Report of Indigo — Data Link

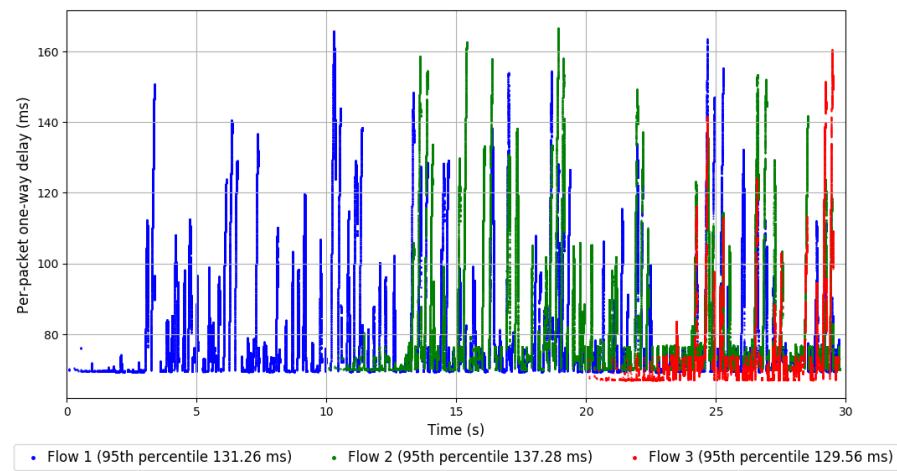
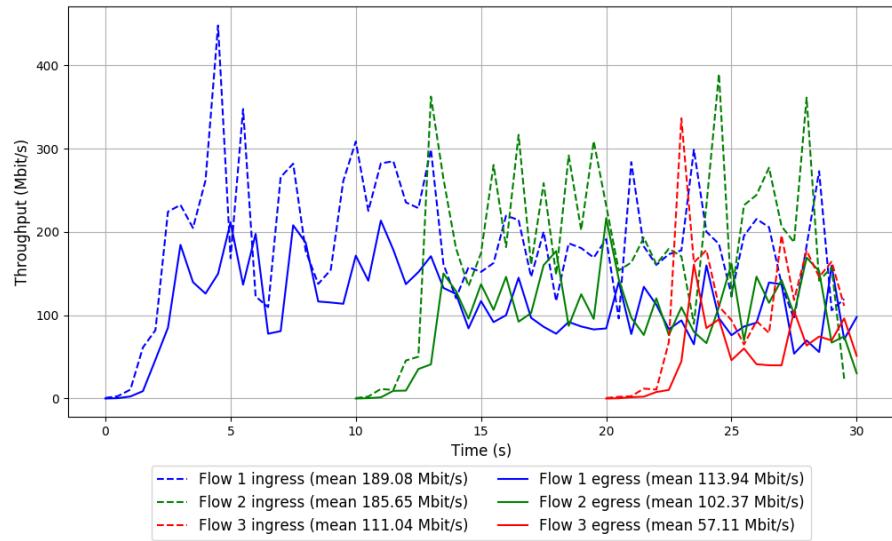


Run 1: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 10:29:49
End at: 2018-10-02 10:30:19
Local clock offset: 0.183 ms
Remote clock offset: -39.02 ms

# Below is generated by plot.py at 2018-10-02 12:39:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.05 Mbit/s
95th percentile per-packet one-way delay: 133.141 ms
Loss rate: 42.45%
-- Flow 1:
Average throughput: 113.94 Mbit/s
95th percentile per-packet one-way delay: 131.264 ms
Loss rate: 39.73%
-- Flow 2:
Average throughput: 102.37 Mbit/s
95th percentile per-packet one-way delay: 137.285 ms
Loss rate: 44.85%
-- Flow 3:
Average throughput: 57.11 Mbit/s
95th percentile per-packet one-way delay: 129.563 ms
Loss rate: 48.54%
```

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

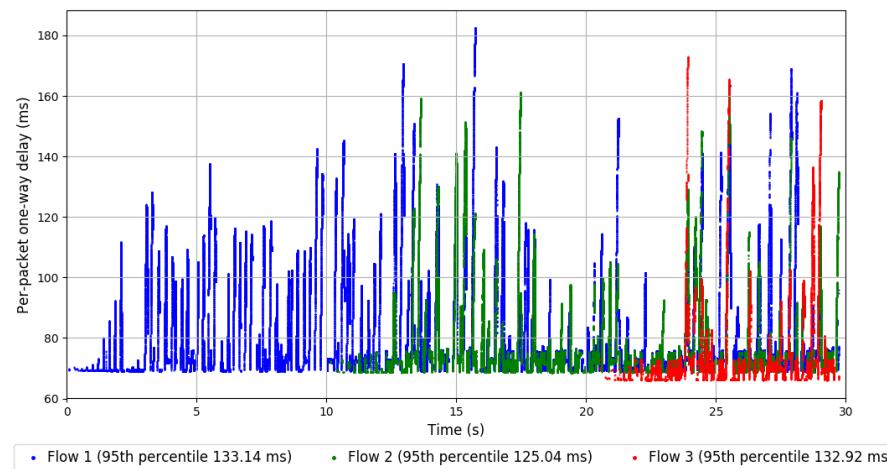
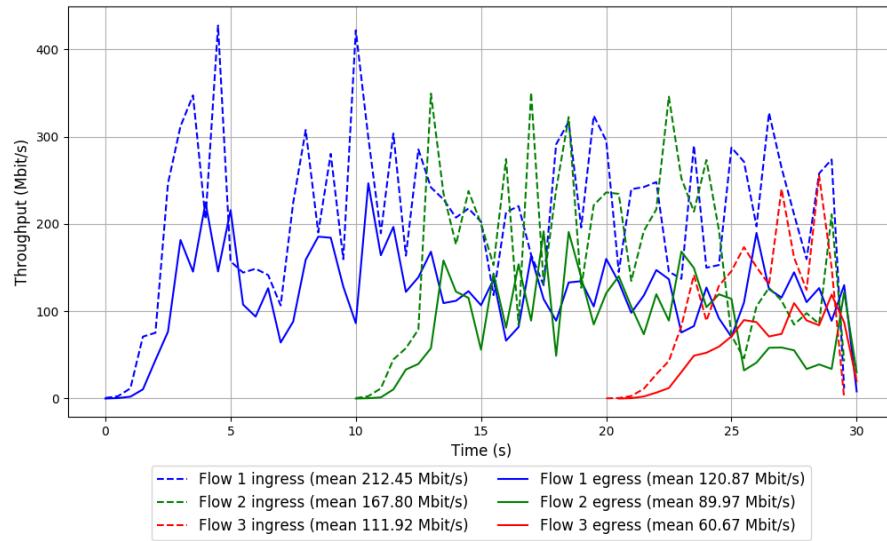


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 11:01:30
End at: 2018-10-02 11:02:00
Local clock offset: 0.831 ms
Remote clock offset: -39.439 ms

# Below is generated by plot.py at 2018-10-02 12:39:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 199.08 Mbit/s
95th percentile per-packet one-way delay: 131.081 ms
Loss rate: 44.38%
-- Flow 1:
Average throughput: 120.87 Mbit/s
95th percentile per-packet one-way delay: 133.138 ms
Loss rate: 43.08%
-- Flow 2:
Average throughput: 89.97 Mbit/s
95th percentile per-packet one-way delay: 125.041 ms
Loss rate: 46.39%
-- Flow 3:
Average throughput: 60.67 Mbit/s
95th percentile per-packet one-way delay: 132.922 ms
Loss rate: 45.86%
```

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

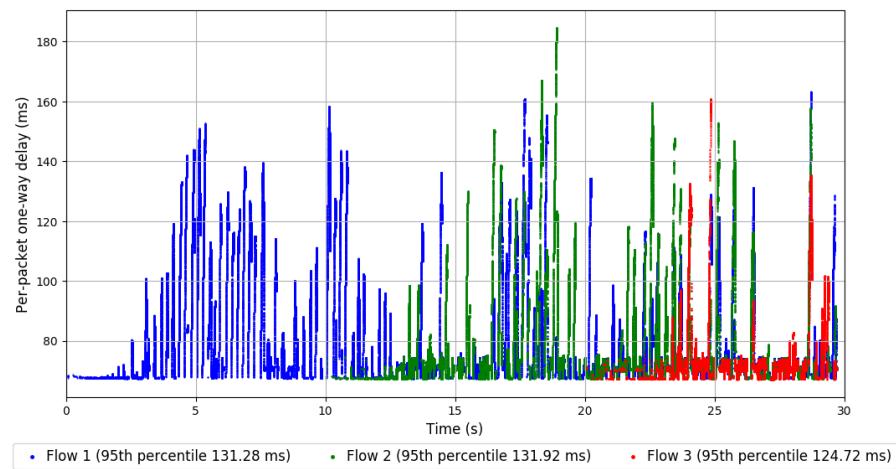
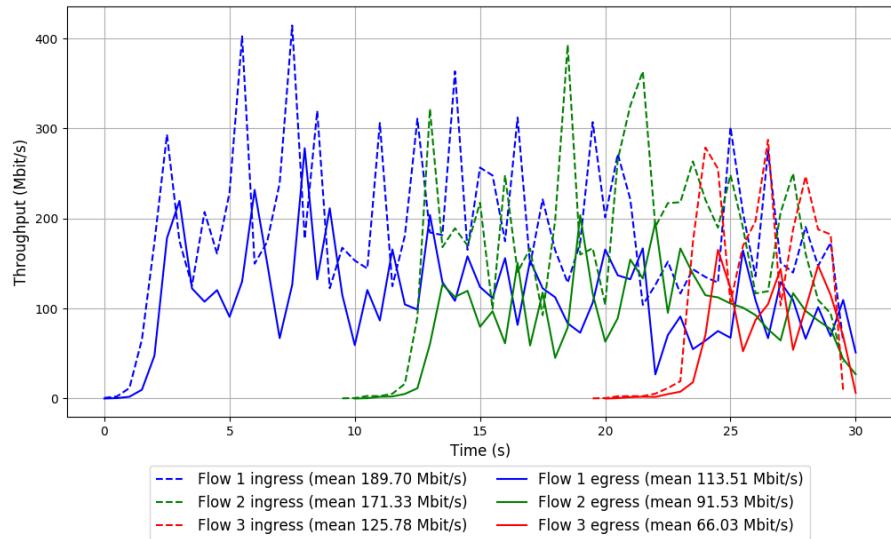


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 11:27:35
End at: 2018-10-02 11:28:05
Local clock offset: -0.415 ms
Remote clock offset: -39.884 ms

# Below is generated by plot.py at 2018-10-02 12:40:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 195.81 Mbit/s
95th percentile per-packet one-way delay: 130.208 ms
Loss rate: 43.15%
-- Flow 1:
Average throughput: 113.51 Mbit/s
95th percentile per-packet one-way delay: 131.276 ms
Loss rate: 40.16%
-- Flow 2:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 131.920 ms
Loss rate: 46.57%
-- Flow 3:
Average throughput: 66.03 Mbit/s
95th percentile per-packet one-way delay: 124.724 ms
Loss rate: 47.51%
```

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

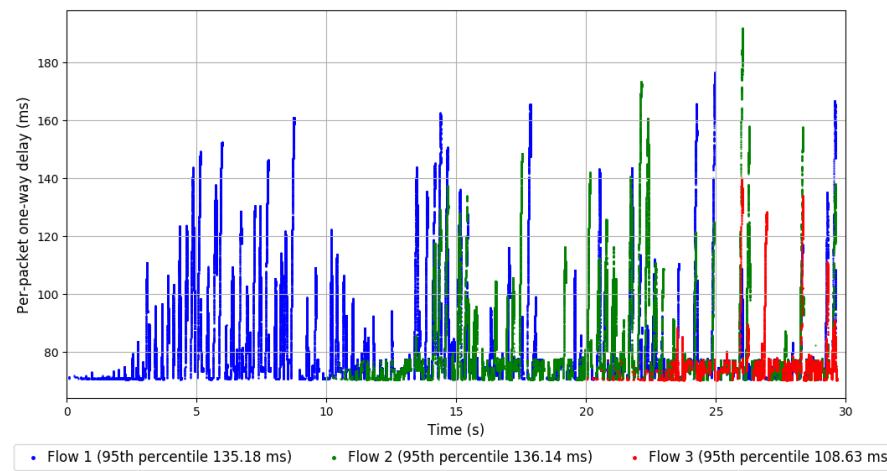
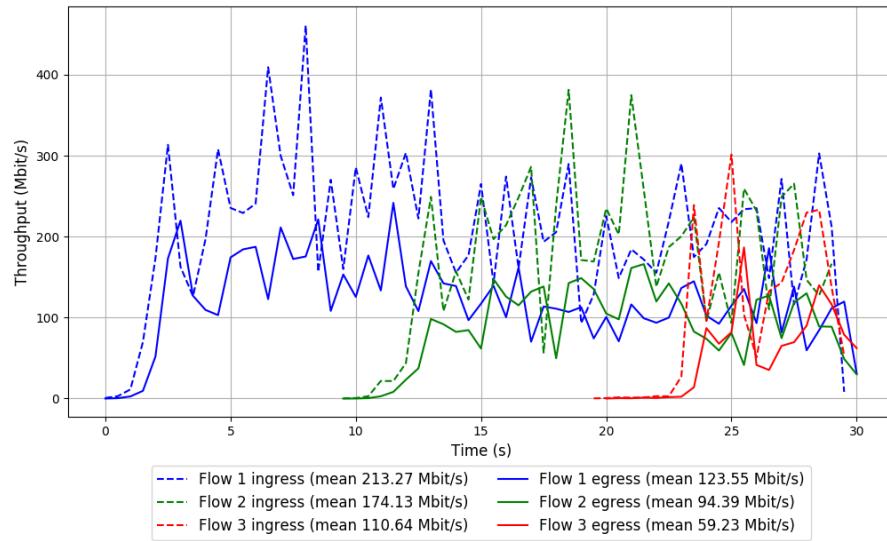


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 11:53:42
End at: 2018-10-02 11:54:12
Local clock offset: 1.115 ms
Remote clock offset: -34.737 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.20 Mbit/s
95th percentile per-packet one-way delay: 133.945 ms
Loss rate: 43.63%
-- Flow 1:
Average throughput: 123.55 Mbit/s
95th percentile per-packet one-way delay: 135.178 ms
Loss rate: 42.05%
-- Flow 2:
Average throughput: 94.39 Mbit/s
95th percentile per-packet one-way delay: 136.136 ms
Loss rate: 45.66%
-- Flow 3:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 108.632 ms
Loss rate: 46.46%
```

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

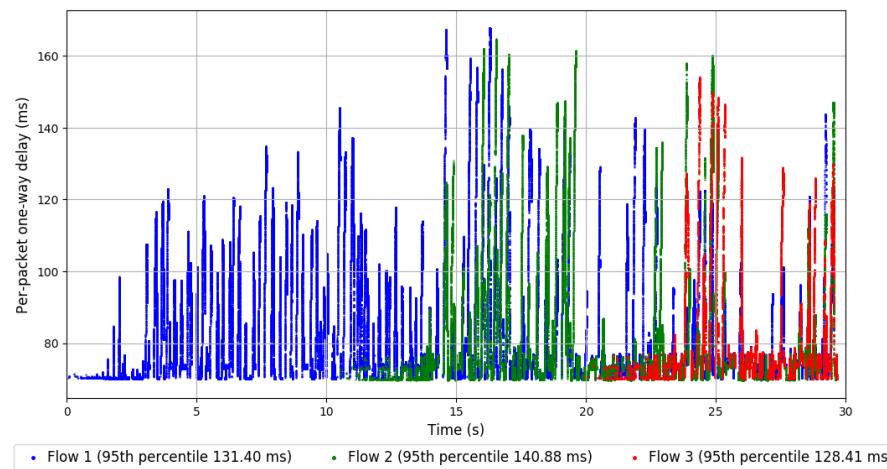
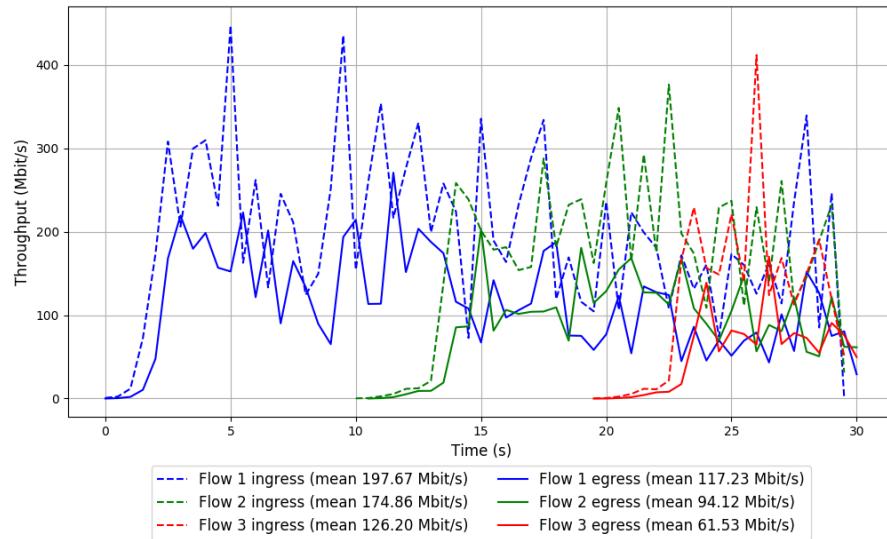


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 12:25:33
End at: 2018-10-02 12:26:03
Local clock offset: -0.082 ms
Remote clock offset: -36.225 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.68 Mbit/s
95th percentile per-packet one-way delay: 133.399 ms
Loss rate: 43.69%
-- Flow 1:
Average throughput: 117.23 Mbit/s
95th percentile per-packet one-way delay: 131.397 ms
Loss rate: 40.69%
-- Flow 2:
Average throughput: 94.12 Mbit/s
95th percentile per-packet one-way delay: 140.879 ms
Loss rate: 46.18%
-- Flow 3:
Average throughput: 61.53 Mbit/s
95th percentile per-packet one-way delay: 128.413 ms
Loss rate: 51.24%
```

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

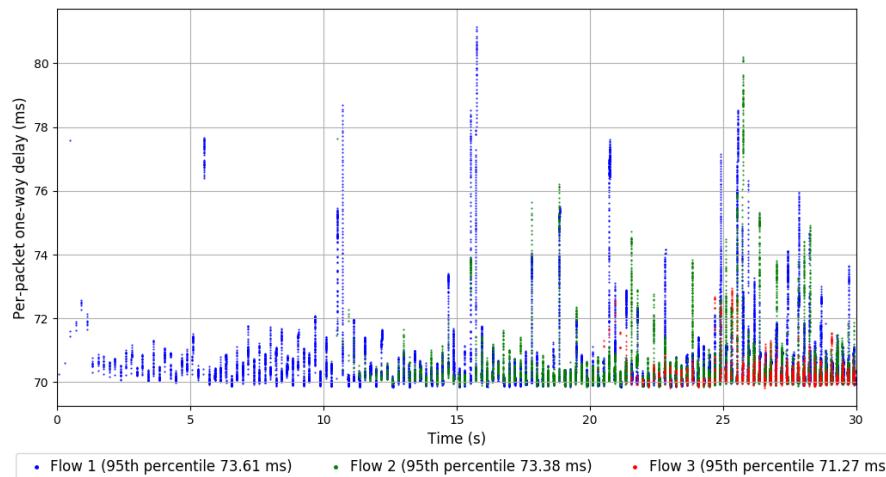
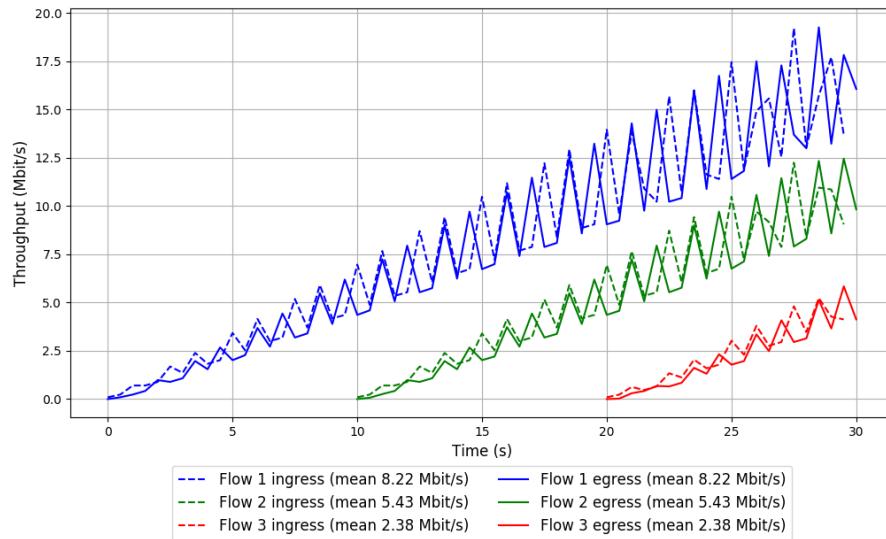


Run 1: Statistics of LEDBAT

```
Start at: 2018-10-02 10:12:53
End at: 2018-10-02 10:13:23
Local clock offset: 0.913 ms
Remote clock offset: -34.856 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 73.403 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 73.608 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.43 Mbit/s
95th percentile per-packet one-way delay: 73.384 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 71.274 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

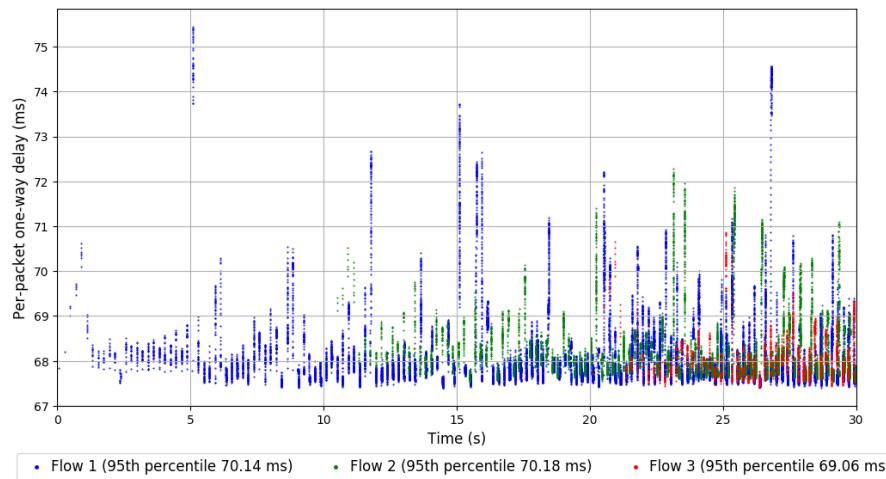
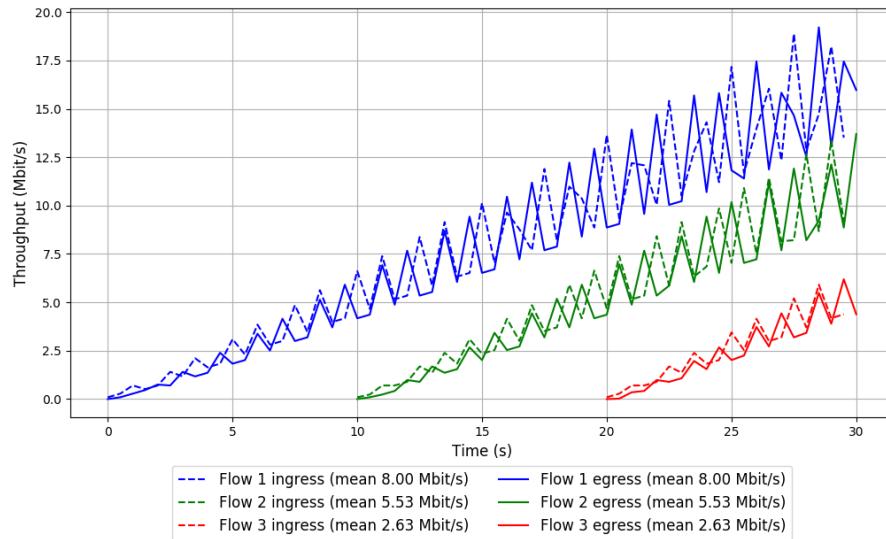


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-02 10:44:33
End at: 2018-10-02 10:45:03
Local clock offset: 1.838 ms
Remote clock offset: -36.799 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 70.102 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 70.138 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.53 Mbit/s
95th percentile per-packet one-way delay: 70.180 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 69.063 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

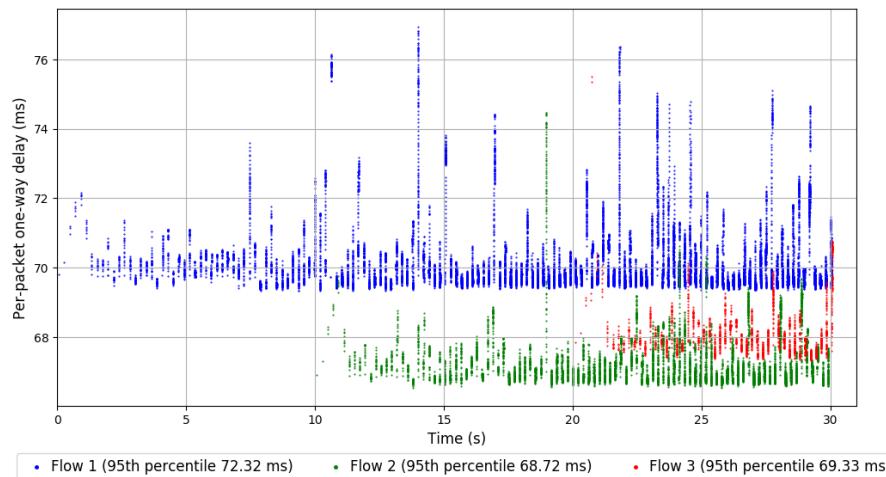
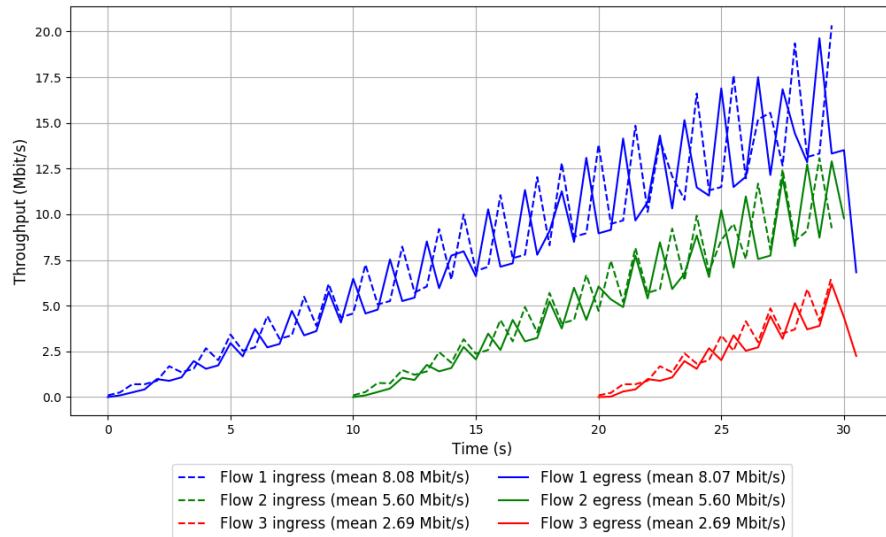


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-02 11:10:34
End at: 2018-10-02 11:11:04
Local clock offset: -0.511 ms
Remote clock offset: -40.027 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 71.732 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 72.317 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 68.721 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 69.331 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

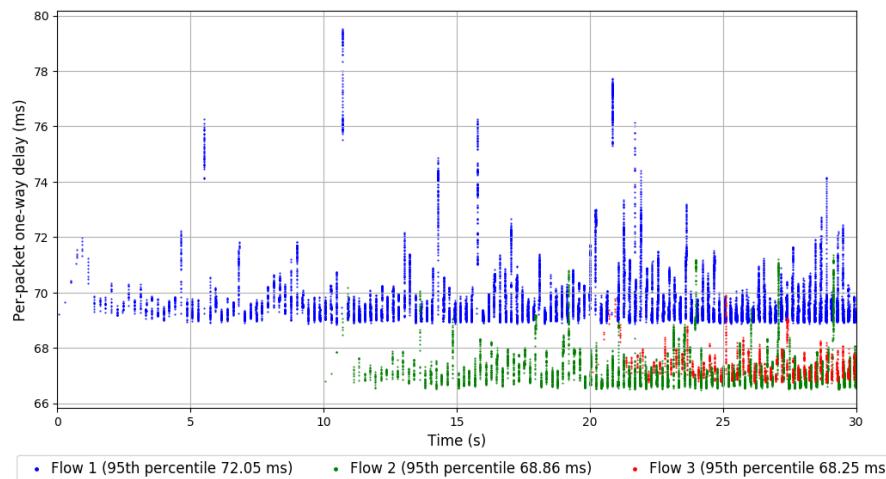
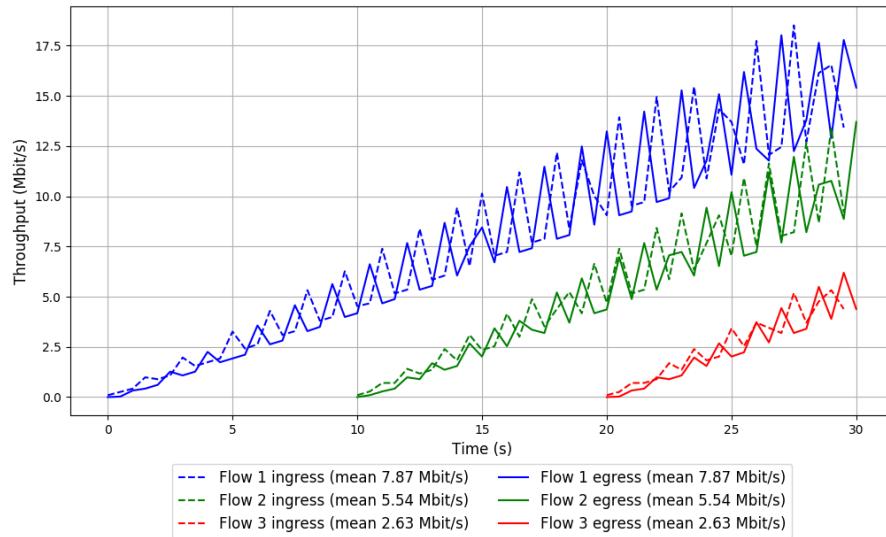


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-02 11:36:39
End at: 2018-10-02 11:37:09
Local clock offset: 0.151 ms
Remote clock offset: -40.031 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.41 Mbit/s
95th percentile per-packet one-way delay: 71.224 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 72.050 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 68.856 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 68.247 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

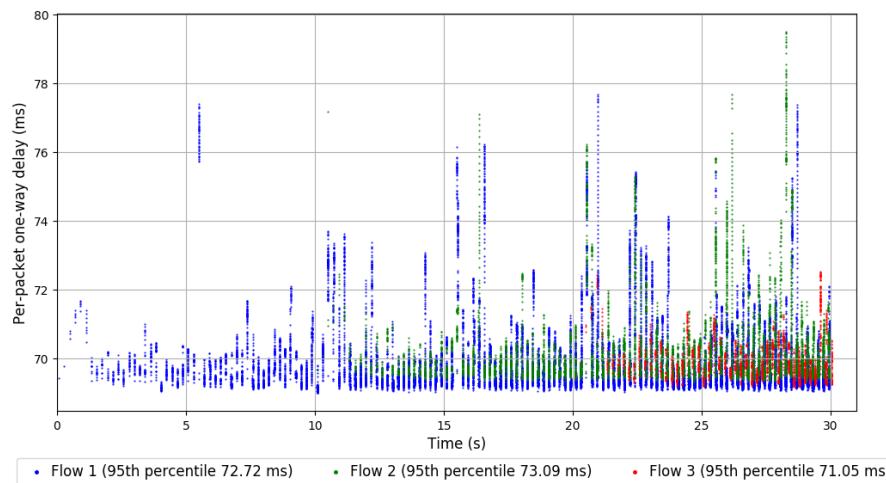
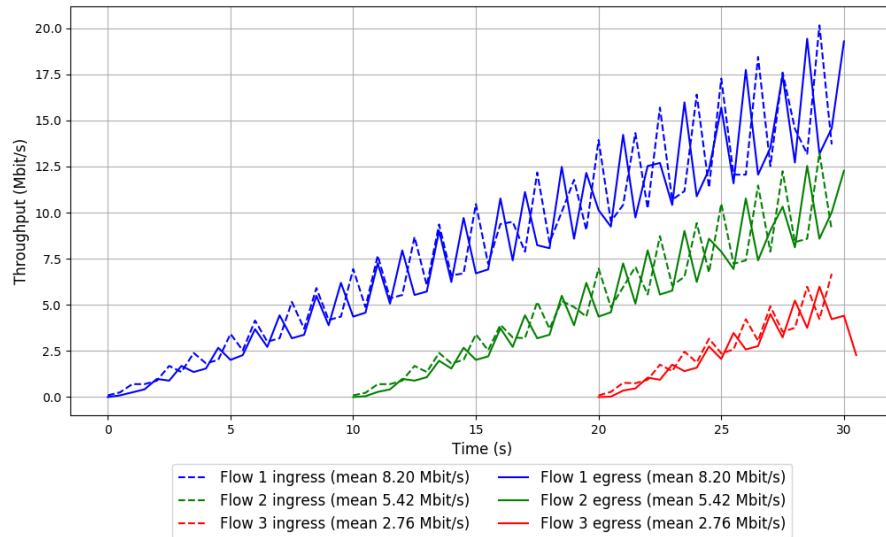


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-02 12:02:46
End at: 2018-10-02 12:03:16
Local clock offset: 0.641 ms
Remote clock offset: -36.638 ms

# Below is generated by plot.py at 2018-10-02 12:41:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 72.682 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 72.721 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 73.086 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 71.048 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

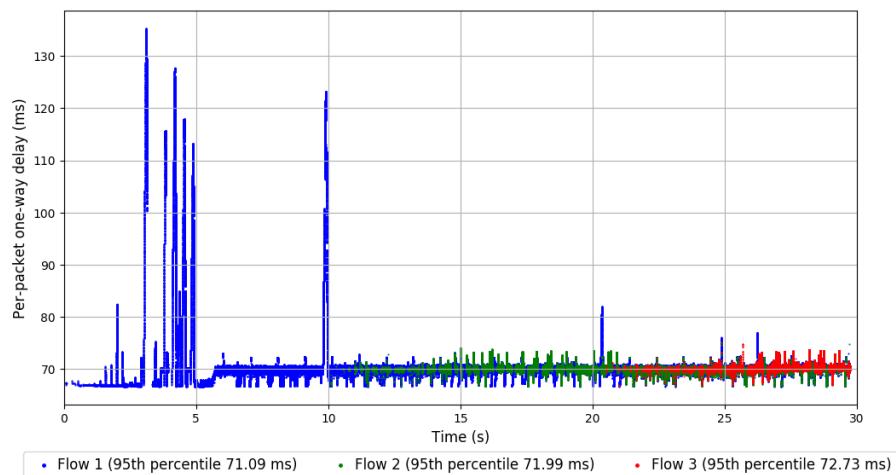
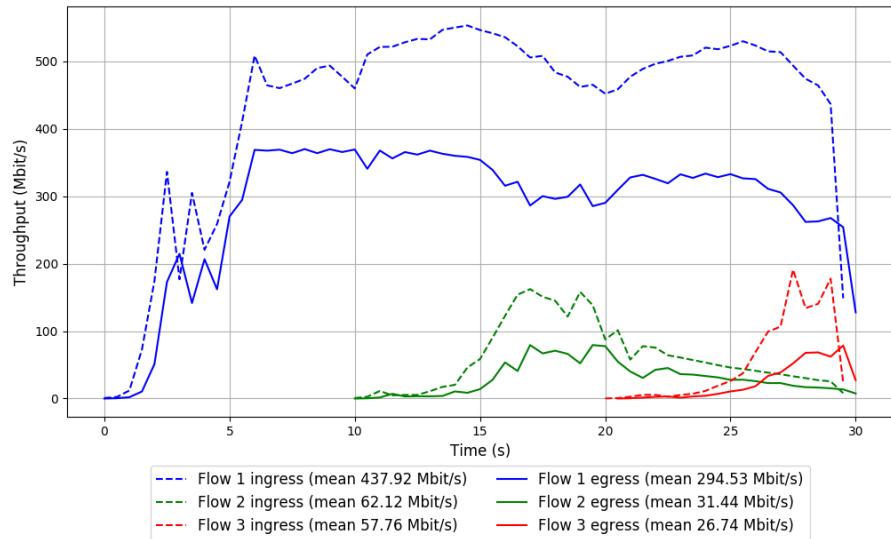


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-02 10:08:18
End at: 2018-10-02 10:08:48
Local clock offset: -1.052 ms
Remote clock offset: -39.813 ms

# Below is generated by plot.py at 2018-10-02 12:43:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.67 Mbit/s
95th percentile per-packet one-way delay: 71.354 ms
Loss rate: 34.87%
-- Flow 1:
Average throughput: 294.53 Mbit/s
95th percentile per-packet one-way delay: 71.086 ms
Loss rate: 32.74%
-- Flow 2:
Average throughput: 31.44 Mbit/s
95th percentile per-packet one-way delay: 71.989 ms
Loss rate: 49.37%
-- Flow 3:
Average throughput: 26.74 Mbit/s
95th percentile per-packet one-way delay: 72.731 ms
Loss rate: 53.71%
```

Run 1: Report of Indigo-Muses — Data Link

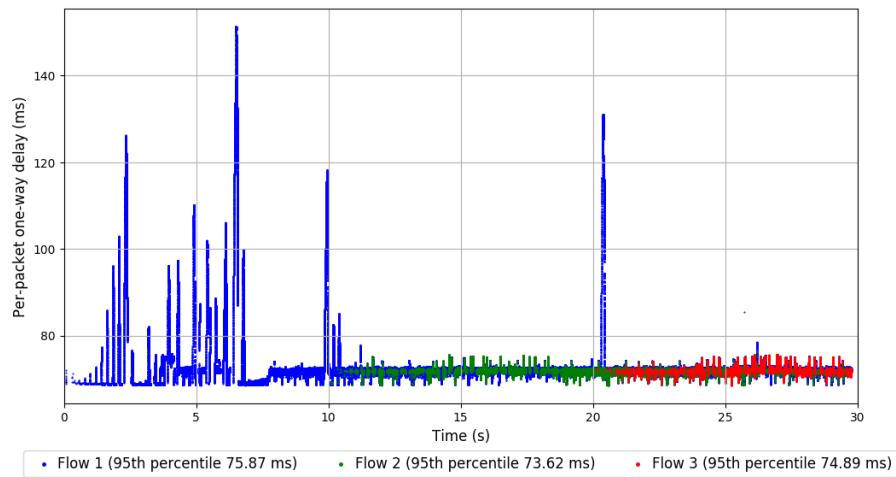
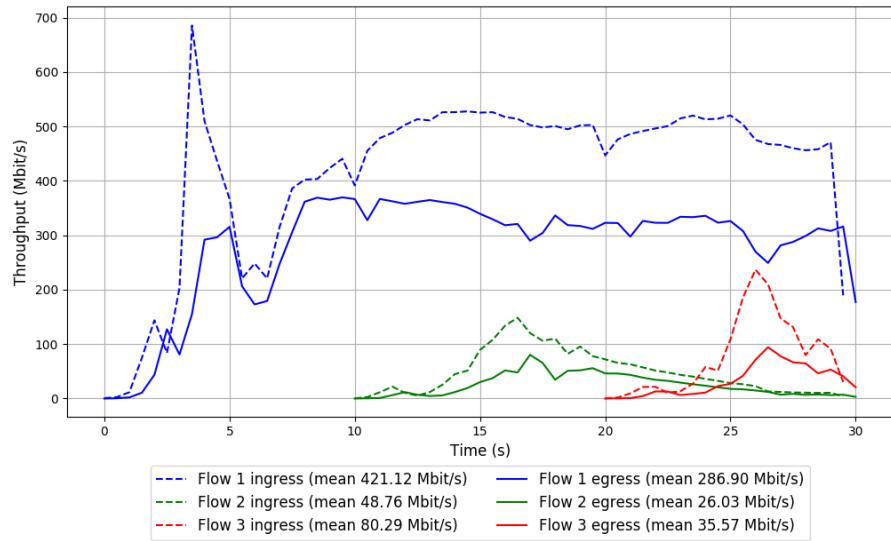


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-02 10:34:19
End at: 2018-10-02 10:34:49
Local clock offset: 3.201 ms
Remote clock offset: -34.472 ms

# Below is generated by plot.py at 2018-10-02 12:43:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.64 Mbit/s
95th percentile per-packet one-way delay: 75.042 ms
Loss rate: 34.15%
-- Flow 1:
Average throughput: 286.90 Mbit/s
95th percentile per-packet one-way delay: 75.867 ms
Loss rate: 31.87%
-- Flow 2:
Average throughput: 26.03 Mbit/s
95th percentile per-packet one-way delay: 73.621 ms
Loss rate: 46.62%
-- Flow 3:
Average throughput: 35.57 Mbit/s
95th percentile per-packet one-way delay: 74.885 ms
Loss rate: 55.72%
```

Run 2: Report of Indigo-Muses — Data Link

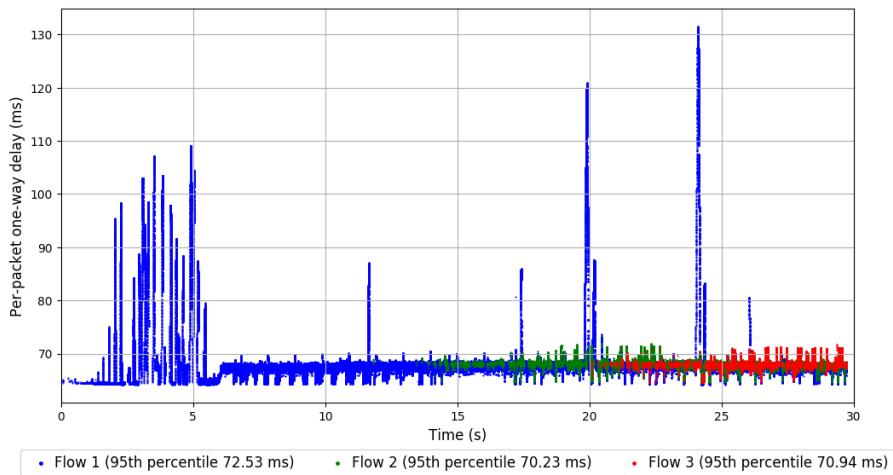
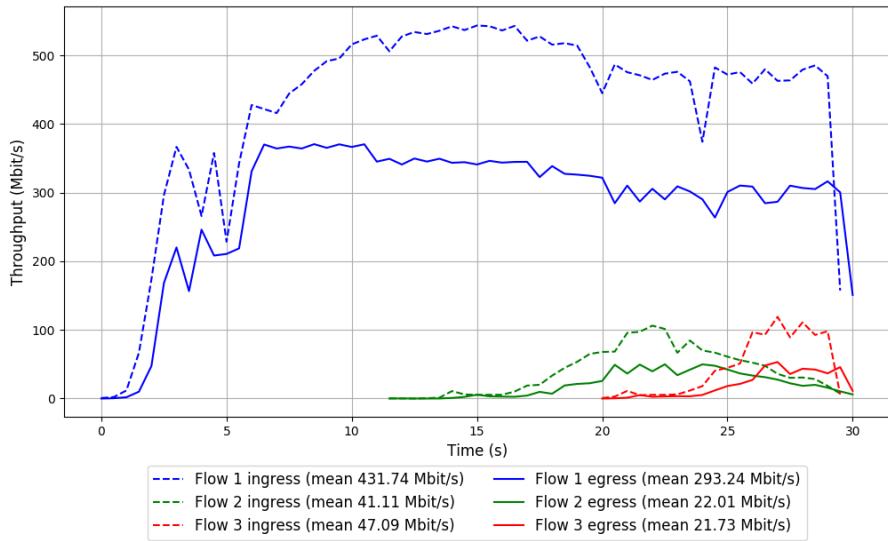


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-02 11:06:00
End at: 2018-10-02 11:06:30
Local clock offset: 2.631 ms
Remote clock offset: -39.26 ms

# Below is generated by plot.py at 2018-10-02 12:43:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.60 Mbit/s
95th percentile per-packet one-way delay: 71.049 ms
Loss rate: 33.54%
-- Flow 1:
Average throughput: 293.24 Mbit/s
95th percentile per-packet one-way delay: 72.528 ms
Loss rate: 32.07%
-- Flow 2:
Average throughput: 22.01 Mbit/s
95th percentile per-packet one-way delay: 70.229 ms
Loss rate: 46.45%
-- Flow 3:
Average throughput: 21.73 Mbit/s
95th percentile per-packet one-way delay: 70.937 ms
Loss rate: 53.86%
```

Run 3: Report of Indigo-Muses — Data Link

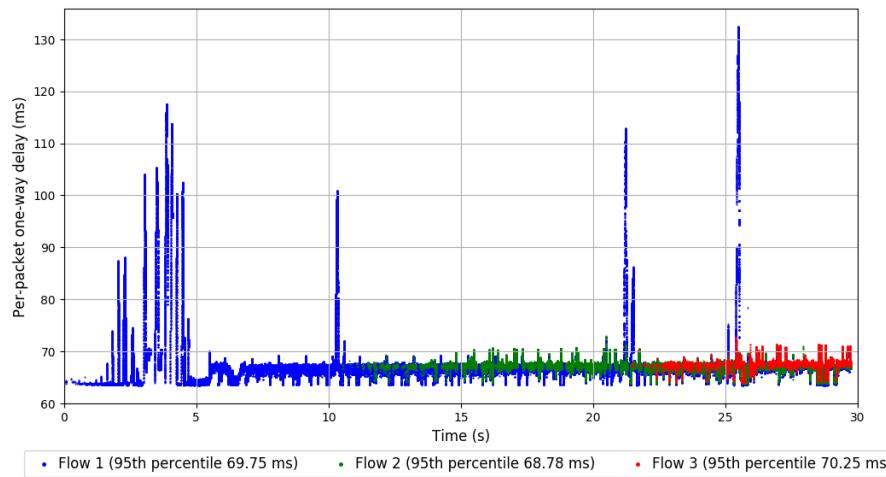
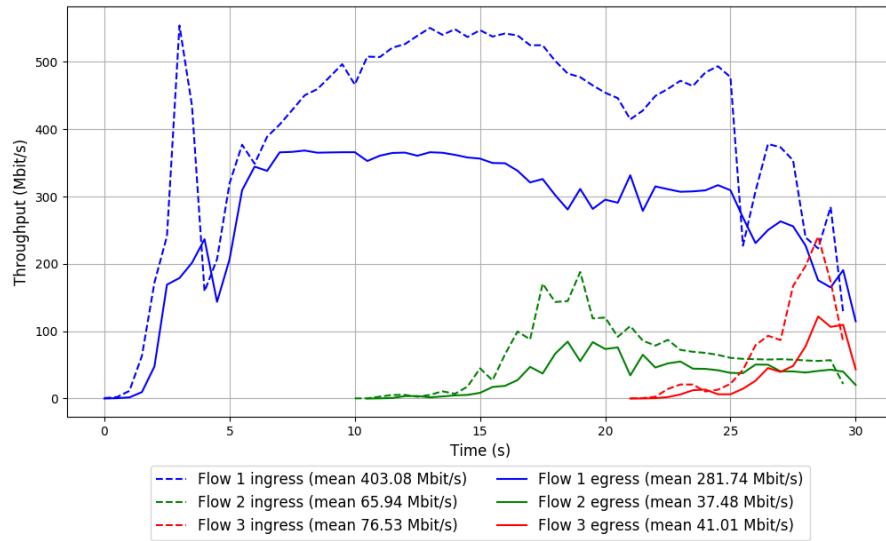


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-02 11:32:05
End at: 2018-10-02 11:32:35
Local clock offset: -1.158 ms
Remote clock offset: -44.133 ms

# Below is generated by plot.py at 2018-10-02 12:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.47 Mbit/s
95th percentile per-packet one-way delay: 69.607 ms
Loss rate: 32.04%
-- Flow 1:
Average throughput: 281.74 Mbit/s
95th percentile per-packet one-way delay: 69.746 ms
Loss rate: 30.09%
-- Flow 2:
Average throughput: 37.48 Mbit/s
95th percentile per-packet one-way delay: 68.780 ms
Loss rate: 43.16%
-- Flow 3:
Average throughput: 41.01 Mbit/s
95th percentile per-packet one-way delay: 70.247 ms
Loss rate: 46.42%
```

Run 4: Report of Indigo-Muses — Data Link

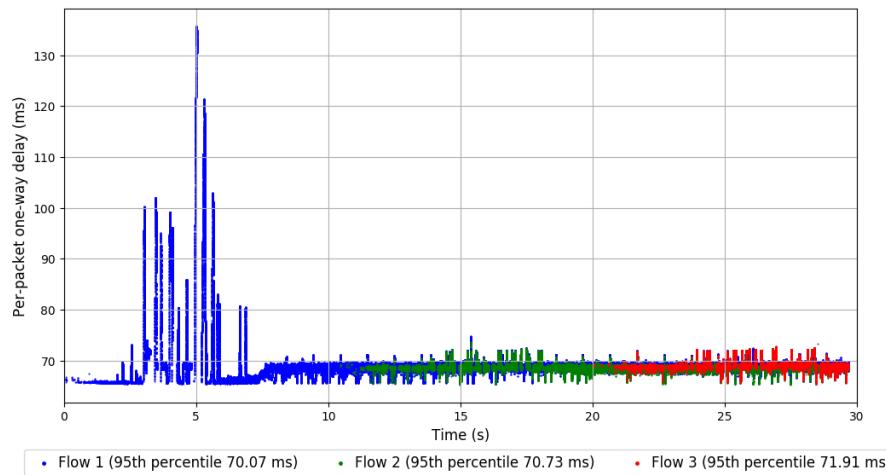
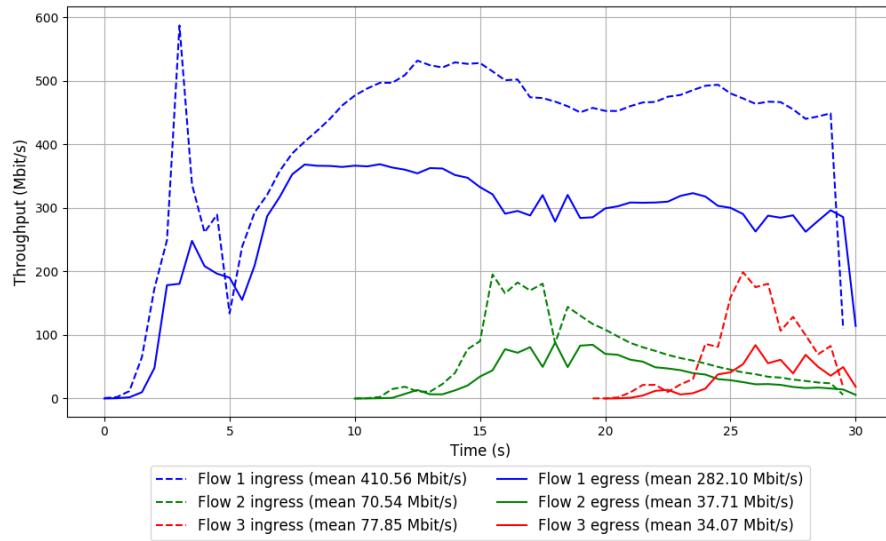


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-02 11:58:10
End at: 2018-10-02 11:58:40
Local clock offset: 1.565 ms
Remote clock offset: -39.515 ms

# Below is generated by plot.py at 2018-10-02 12:44:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.68 Mbit/s
95th percentile per-packet one-way delay: 70.498 ms
Loss rate: 34.05%
-- Flow 1:
Average throughput: 282.10 Mbit/s
95th percentile per-packet one-way delay: 70.073 ms
Loss rate: 31.28%
-- Flow 2:
Average throughput: 37.71 Mbit/s
95th percentile per-packet one-way delay: 70.727 ms
Loss rate: 46.55%
-- Flow 3:
Average throughput: 34.07 Mbit/s
95th percentile per-packet one-way delay: 71.905 ms
Loss rate: 56.24%
```

Run 5: Report of Indigo-Muses — Data Link

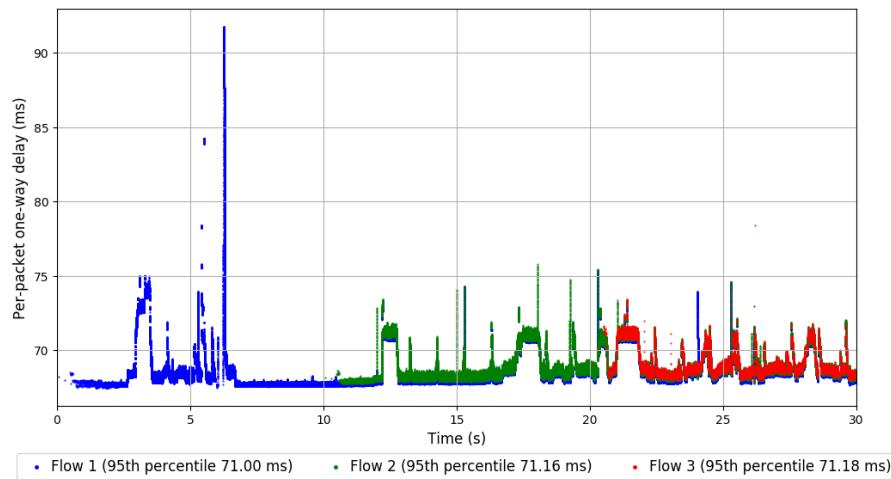
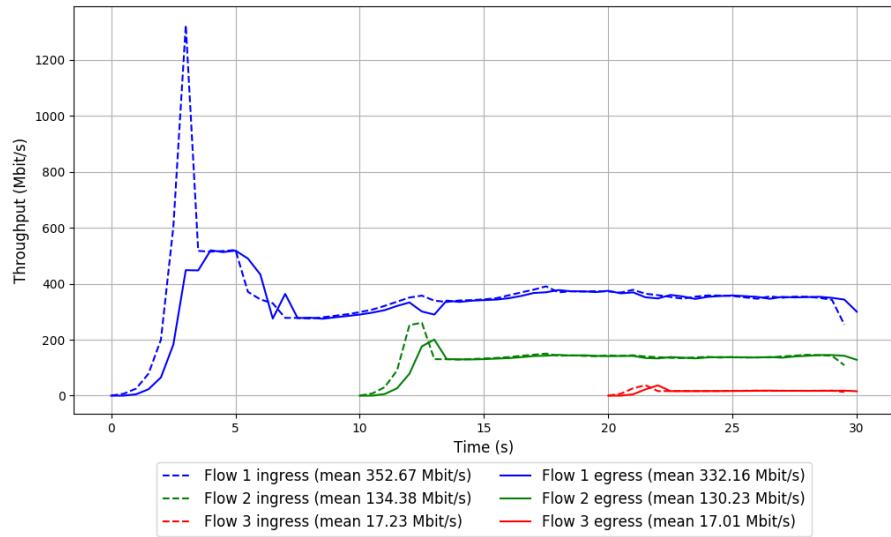


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-02 10:25:21
End at: 2018-10-02 10:25:51
Local clock offset: -1.002 ms
Remote clock offset: -39.51 ms

# Below is generated by plot.py at 2018-10-02 12:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 424.36 Mbit/s
95th percentile per-packet one-way delay: 71.064 ms
Loss rate: 5.21%
-- Flow 1:
Average throughput: 332.16 Mbit/s
95th percentile per-packet one-way delay: 70.999 ms
Loss rate: 5.82%
-- Flow 2:
Average throughput: 130.23 Mbit/s
95th percentile per-packet one-way delay: 71.160 ms
Loss rate: 3.09%
-- Flow 3:
Average throughput: 17.01 Mbit/s
95th percentile per-packet one-way delay: 71.176 ms
Loss rate: 1.27%
```

Run 1: Report of PCC-Allegro — Data Link

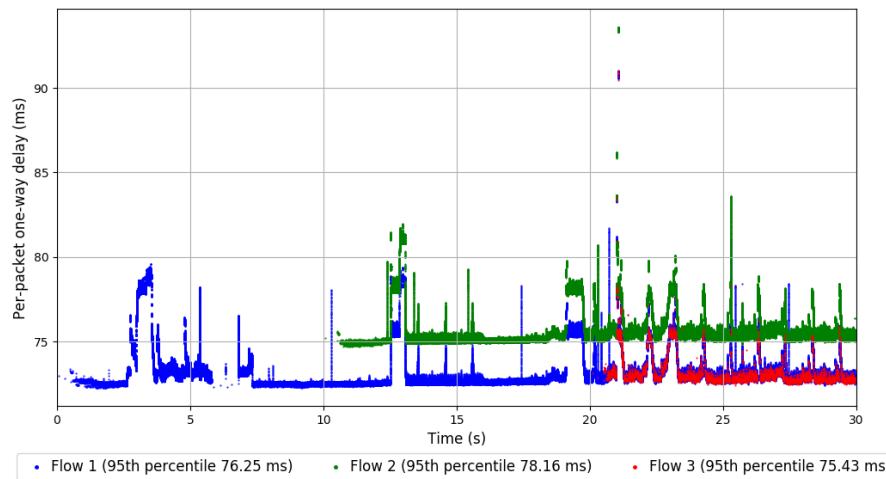
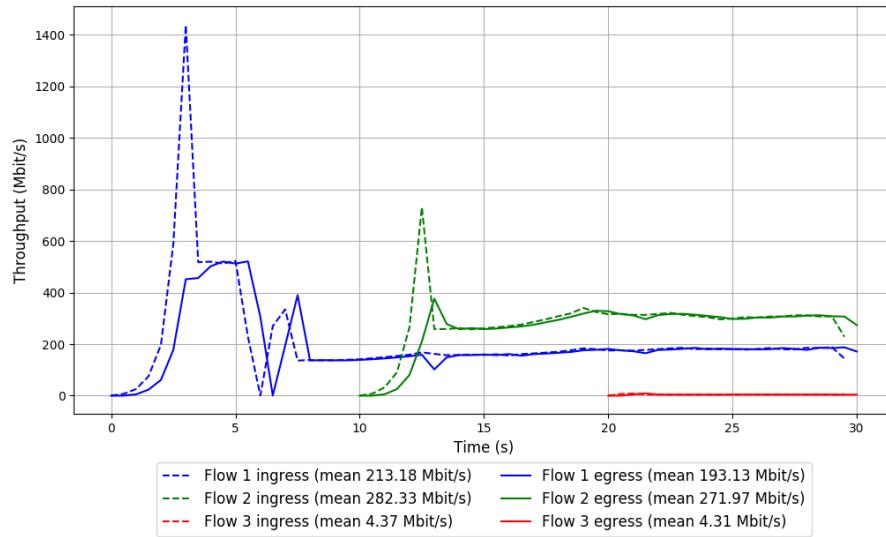


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-02 10:57:04
End at: 2018-10-02 10:57:34
Local clock offset: 0.124 ms
Remote clock offset: -33.852 ms

# Below is generated by plot.py at 2018-10-02 12:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.41 Mbit/s
95th percentile per-packet one-way delay: 78.085 ms
Loss rate: 6.70%
-- Flow 1:
Average throughput: 193.13 Mbit/s
95th percentile per-packet one-way delay: 76.250 ms
Loss rate: 9.41%
-- Flow 2:
Average throughput: 271.97 Mbit/s
95th percentile per-packet one-way delay: 78.164 ms
Loss rate: 3.67%
-- Flow 3:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 75.428 ms
Loss rate: 1.22%
```

Run 2: Report of PCC-Allegro — Data Link

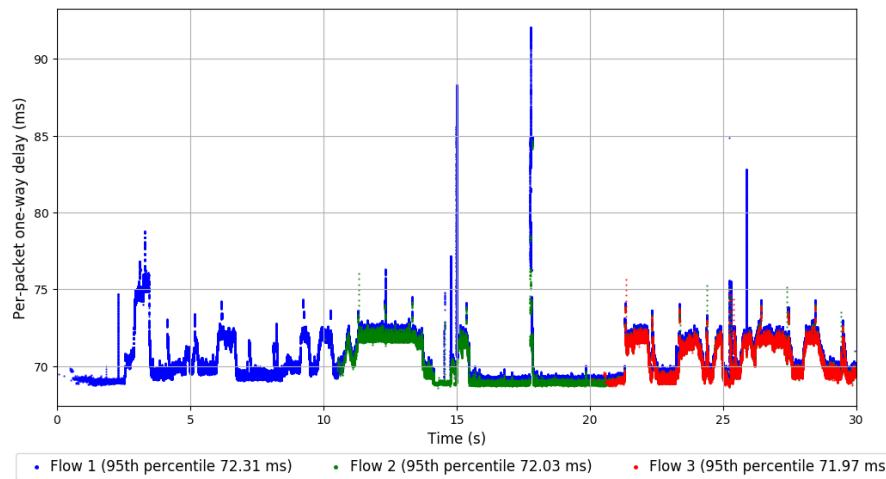
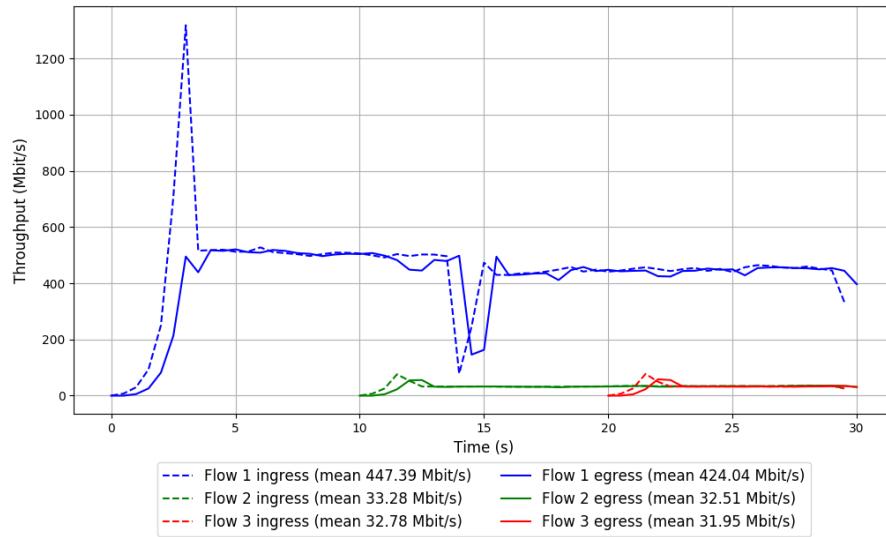


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-02 11:23:06
End at: 2018-10-02 11:23:36
Local clock offset: 0.923 ms
Remote clock offset: -37.042 ms

# Below is generated by plot.py at 2018-10-02 12:47:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 456.19 Mbit/s
95th percentile per-packet one-way delay: 72.297 ms
Loss rate: 5.02%
-- Flow 1:
Average throughput: 424.04 Mbit/s
95th percentile per-packet one-way delay: 72.312 ms
Loss rate: 5.21%
-- Flow 2:
Average throughput: 32.51 Mbit/s
95th percentile per-packet one-way delay: 72.027 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 31.95 Mbit/s
95th percentile per-packet one-way delay: 71.970 ms
Loss rate: 2.50%
```

Run 3: Report of PCC-Allegro — Data Link

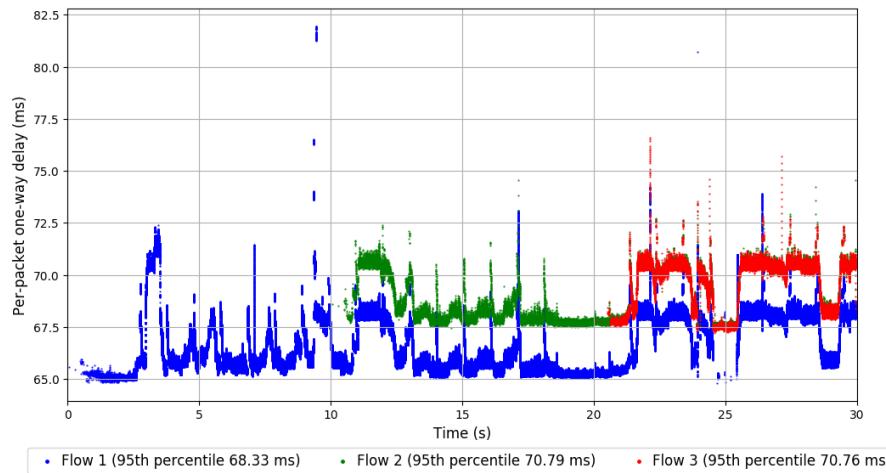
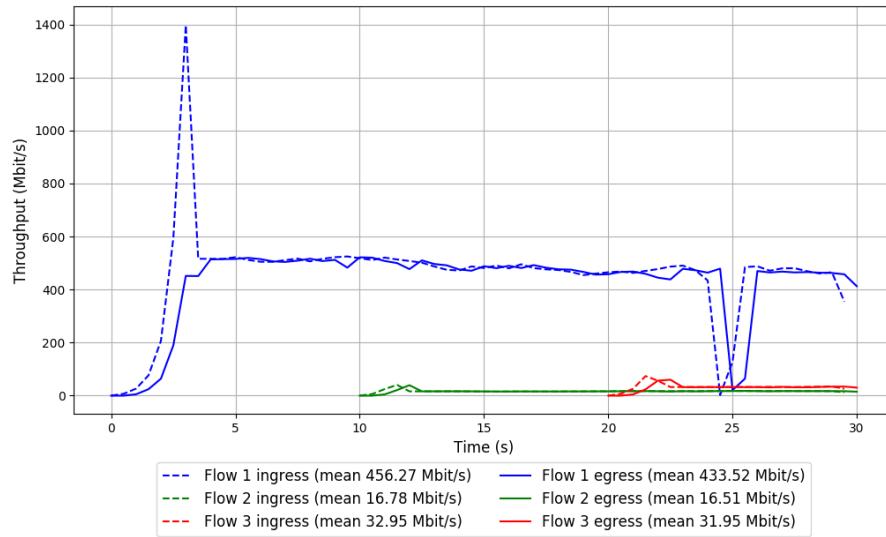


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-02 11:49:13
End at: 2018-10-02 11:49:43
Local clock offset: 1.61 ms
Remote clock offset: -39.829 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 454.95 Mbit/s
95th percentile per-packet one-way delay: 69.401 ms
Loss rate: 4.86%
-- Flow 1:
Average throughput: 433.52 Mbit/s
95th percentile per-packet one-way delay: 68.328 ms
Loss rate: 4.98%
-- Flow 2:
Average throughput: 16.51 Mbit/s
95th percentile per-packet one-way delay: 70.790 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 31.95 Mbit/s
95th percentile per-packet one-way delay: 70.761 ms
Loss rate: 3.03%
```

Run 4: Report of PCC-Allegro — Data Link

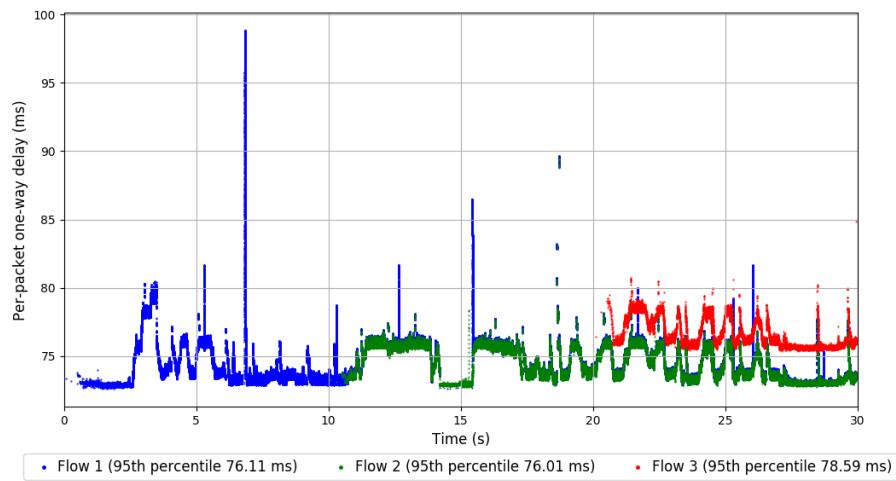
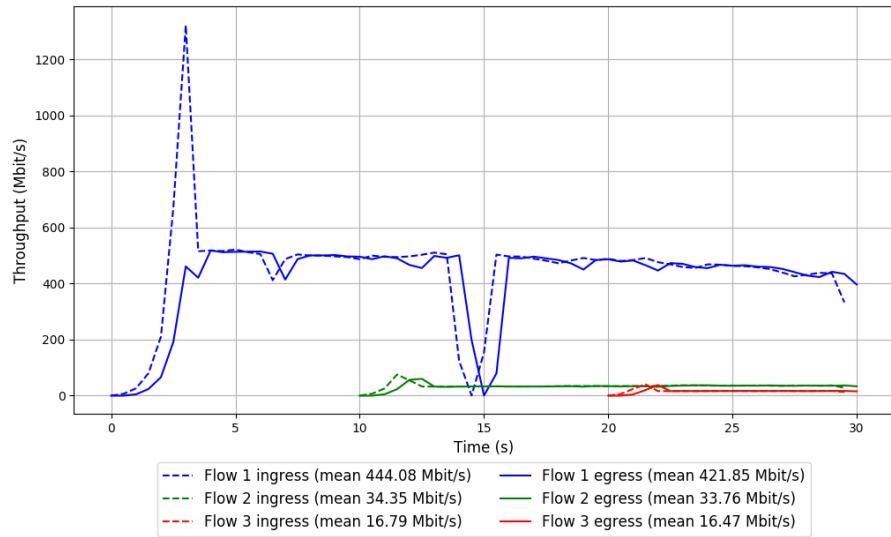


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-02 12:21:02
End at: 2018-10-02 12:21:32
Local clock offset: 0.005 ms
Remote clock offset: -33.287 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 449.59 Mbit/s
95th percentile per-packet one-way delay: 76.151 ms
Loss rate: 4.81%
-- Flow 1:
Average throughput: 421.85 Mbit/s
95th percentile per-packet one-way delay: 76.107 ms
Loss rate: 5.01%
-- Flow 2:
Average throughput: 33.76 Mbit/s
95th percentile per-packet one-way delay: 76.014 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 16.47 Mbit/s
95th percentile per-packet one-way delay: 78.591 ms
Loss rate: 1.87%
```

Run 5: Report of PCC-Allegro — Data Link

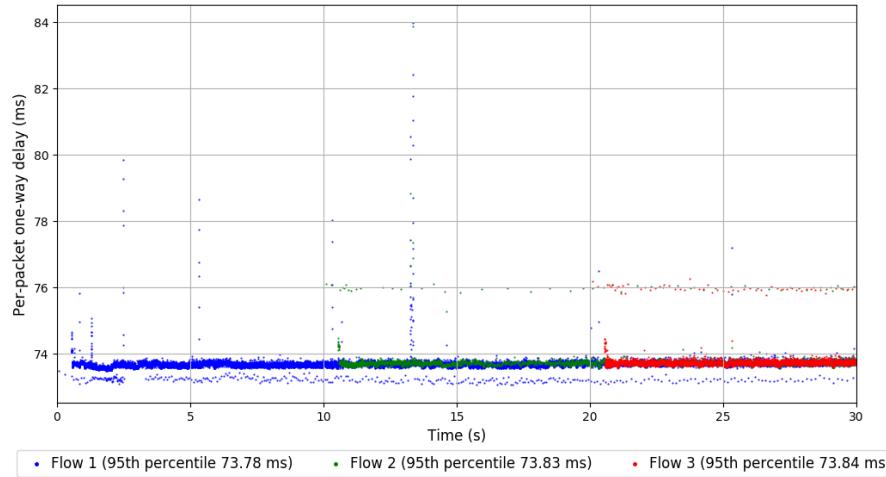
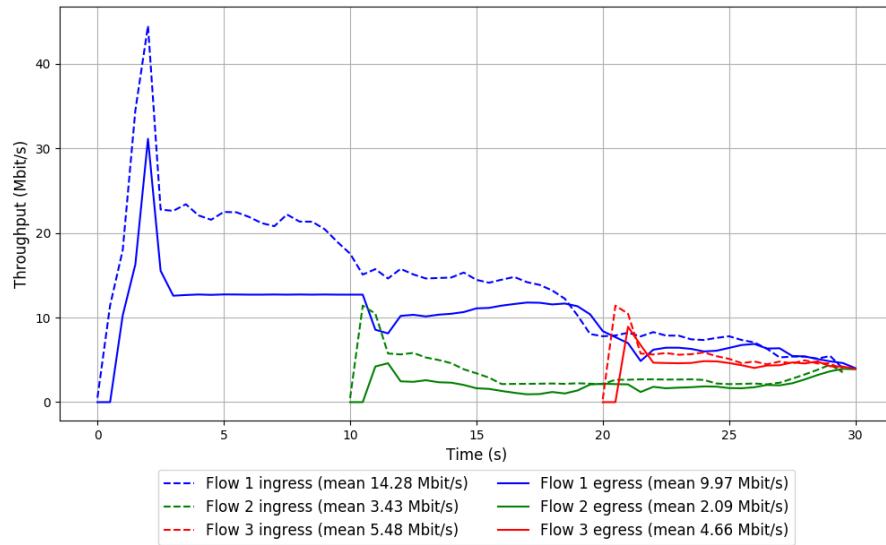


Run 1: Statistics of PCC-Expr

```
Start at: 2018-10-02 10:21:13
End at: 2018-10-02 10:21:43
Local clock offset: -1.006 ms
Remote clock offset: -33.67 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.90 Mbit/s
95th percentile per-packet one-way delay: 73.793 ms
Loss rate: 29.80%
-- Flow 1:
Average throughput: 9.97 Mbit/s
95th percentile per-packet one-way delay: 73.779 ms
Loss rate: 30.18%
-- Flow 2:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 73.834 ms
Loss rate: 39.10%
-- Flow 3:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 73.842 ms
Loss rate: 15.01%
```

Run 1: Report of PCC-Expr — Data Link

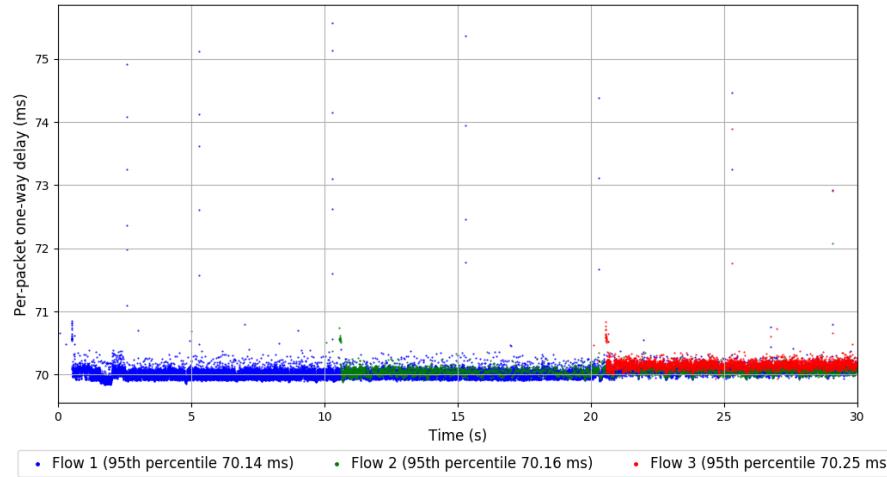
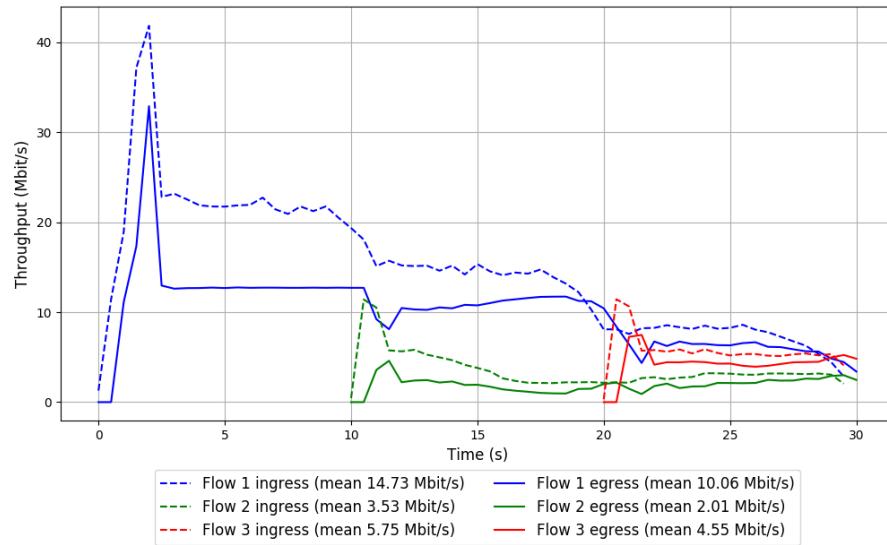


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-02 10:52:55
End at: 2018-10-02 10:53:25
Local clock offset: 1.735 ms
Remote clock offset: -34.732 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.90 Mbit/s
95th percentile per-packet one-way delay: 70.193 ms
Loss rate: 32.04%
-- Flow 1:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 70.136 ms
Loss rate: 31.70%
-- Flow 2:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 70.160 ms
Loss rate: 43.18%
-- Flow 3:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 70.254 ms
Loss rate: 20.86%
```

Run 2: Report of PCC-Expr — Data Link

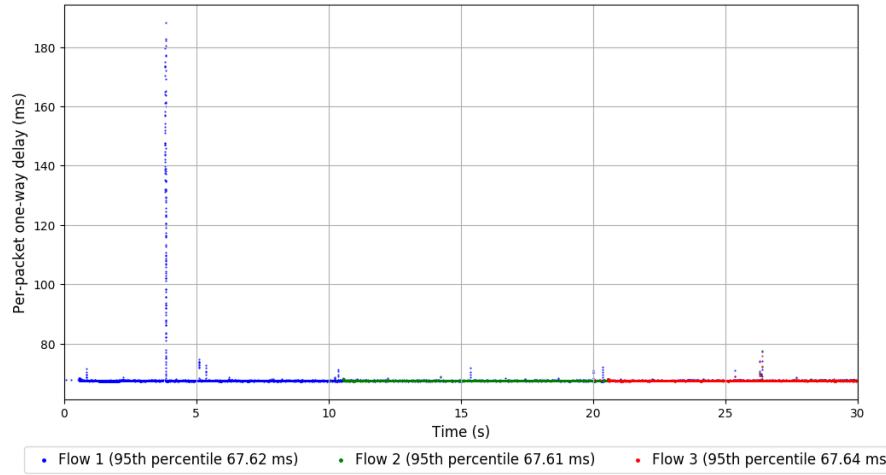
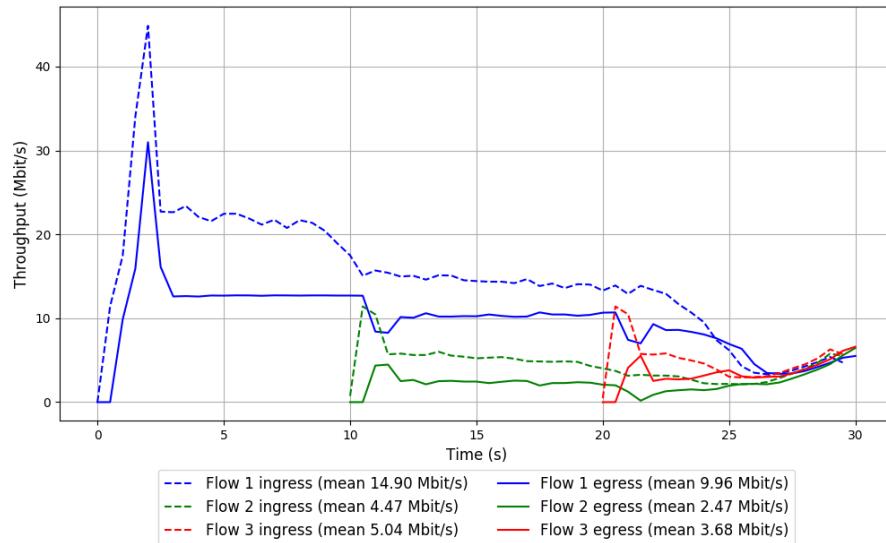


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-02 11:18:57
End at: 2018-10-02 11:19:27
Local clock offset: -0.415 ms
Remote clock offset: -39.756 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 67.625 ms
Loss rate: 34.41%
-- Flow 1:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 67.625 ms
Loss rate: 33.16%
-- Flow 2:
Average throughput: 2.47 Mbit/s
95th percentile per-packet one-way delay: 67.613 ms
Loss rate: 44.81%
-- Flow 3:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 67.639 ms
Loss rate: 27.05%
```

Run 3: Report of PCC-Expr — Data Link

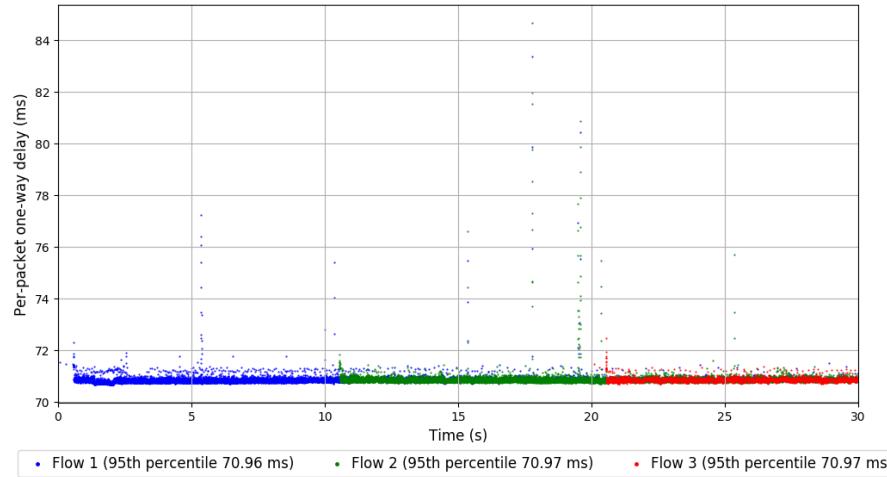
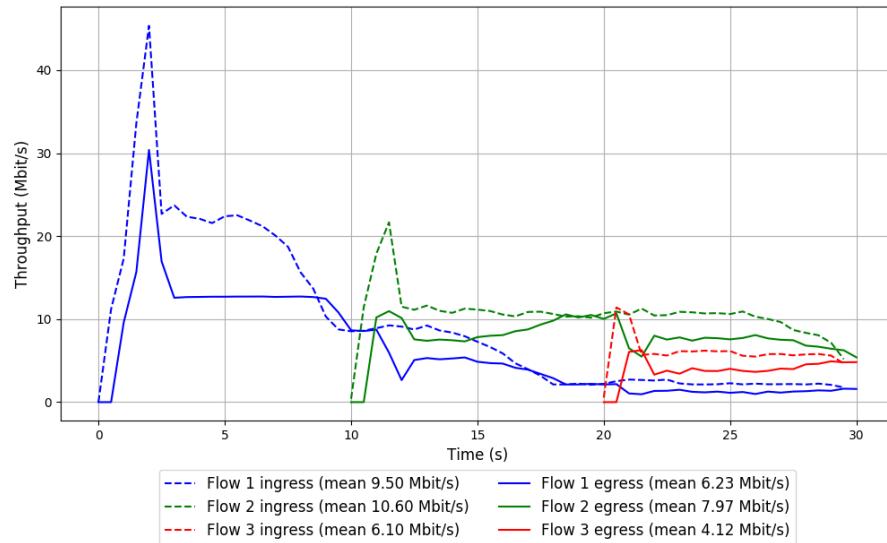


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-02 11:45:03
End at: 2018-10-02 11:45:33
Local clock offset: 0.08 ms
Remote clock offset: -35.803 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.89 Mbit/s
95th percentile per-packet one-way delay: 70.965 ms
Loss rate: 30.57%
-- Flow 1:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 70.964 ms
Loss rate: 34.43%
-- Flow 2:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 70.966 ms
Loss rate: 24.82%
-- Flow 3:
Average throughput: 4.12 Mbit/s
95th percentile per-packet one-way delay: 70.968 ms
Loss rate: 32.45%
```

Run 4: Report of PCC-Expr — Data Link

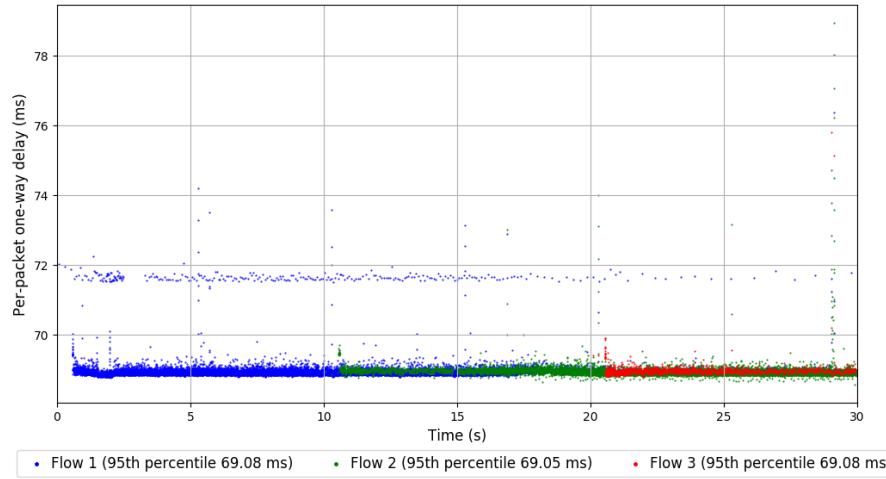
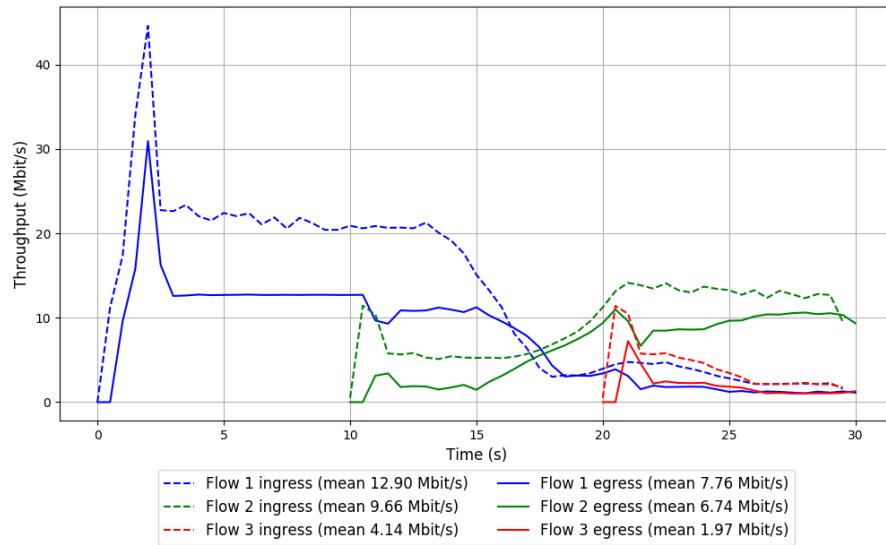


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-02 12:16:52
End at: 2018-10-02 12:17:22
Local clock offset: 1.232 ms
Remote clock offset: -36.177 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.89 Mbit/s
95th percentile per-packet one-way delay: 69.069 ms
Loss rate: 37.72%
-- Flow 1:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 69.081 ms
Loss rate: 39.87%
-- Flow 2:
Average throughput: 6.74 Mbit/s
95th percentile per-packet one-way delay: 69.054 ms
Loss rate: 30.27%
-- Flow 3:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 69.084 ms
Loss rate: 52.42%
```

Run 5: Report of PCC-Expr — Data Link

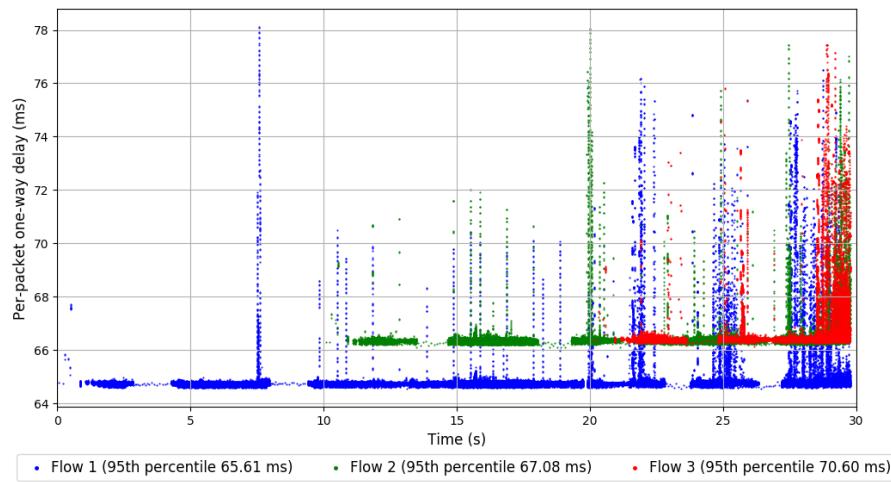
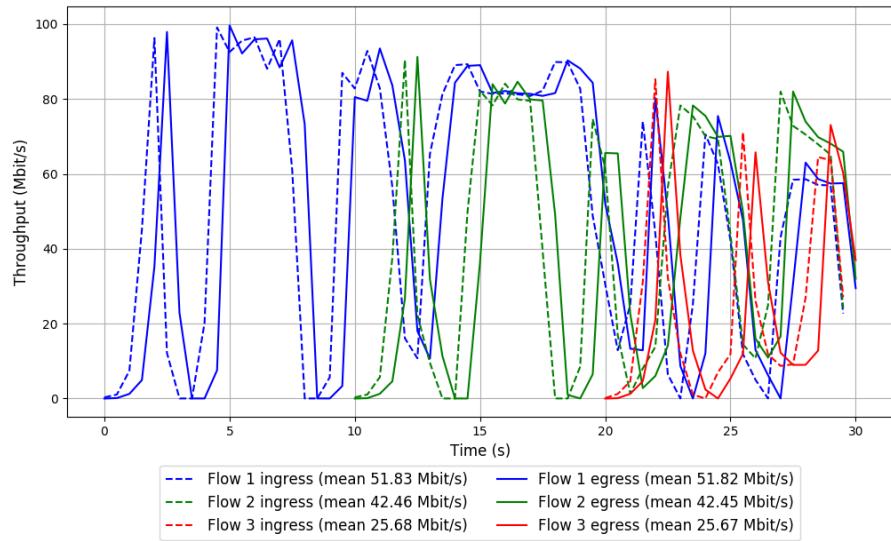


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-10-02 10:05:19
End at: 2018-10-02 10:05:49
Local clock offset: 1.268 ms
Remote clock offset: -40.16 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 67.190 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 51.82 Mbit/s
95th percentile per-packet one-way delay: 65.606 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.45 Mbit/s
95th percentile per-packet one-way delay: 67.076 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 25.67 Mbit/s
95th percentile per-packet one-way delay: 70.603 ms
Loss rate: 0.09%
```

Run 1: Report of QUIC Cubic — Data Link

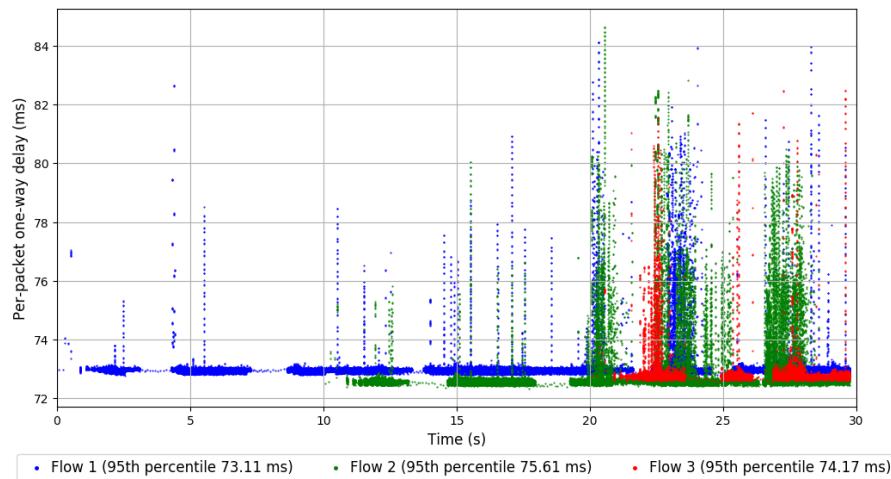
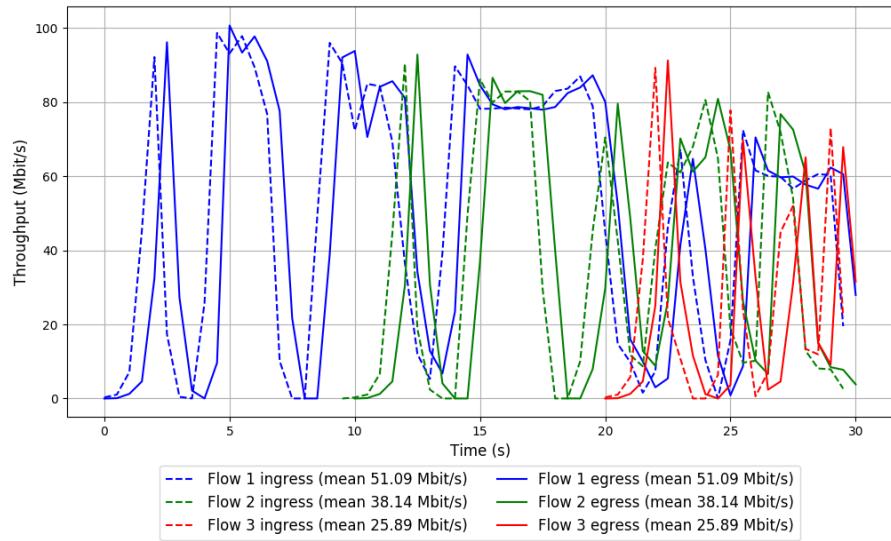


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-02 10:31:21
End at: 2018-10-02 10:31:51
Local clock offset: -0.988 ms
Remote clock offset: -34.449 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.80 Mbit/s
95th percentile per-packet one-way delay: 74.136 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.09 Mbit/s
95th percentile per-packet one-way delay: 73.107 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.14 Mbit/s
95th percentile per-packet one-way delay: 75.613 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.89 Mbit/s
95th percentile per-packet one-way delay: 74.173 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link

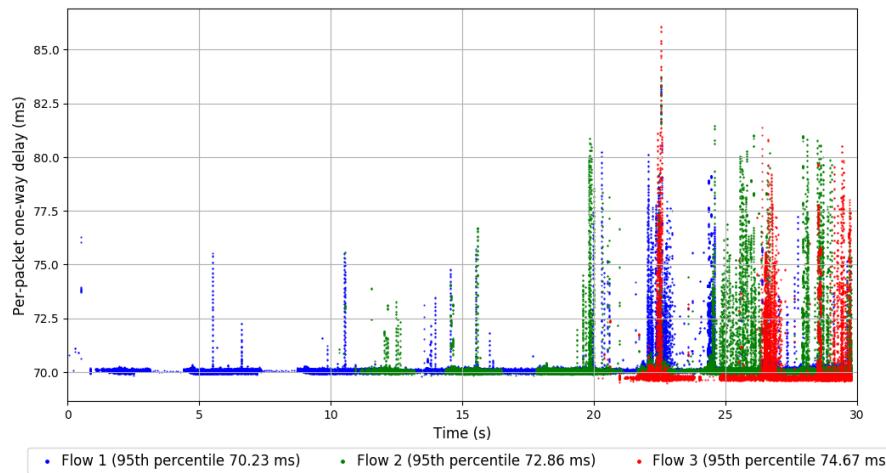
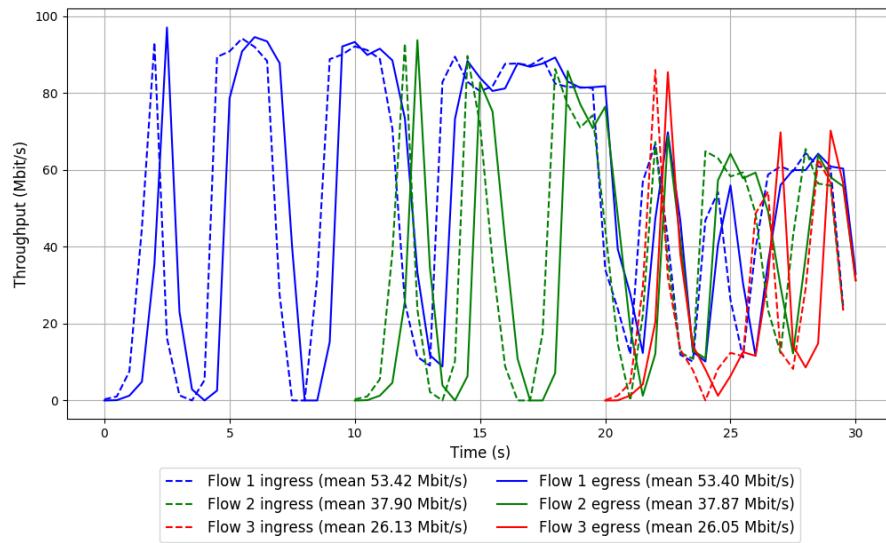


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-02 11:03:02
End at: 2018-10-02 11:03:32
Local clock offset: -0.171 ms
Remote clock offset: -36.654 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.91 Mbit/s
95th percentile per-packet one-way delay: 71.513 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 53.40 Mbit/s
95th percentile per-packet one-way delay: 70.232 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.87 Mbit/s
95th percentile per-packet one-way delay: 72.863 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 26.05 Mbit/s
95th percentile per-packet one-way delay: 74.667 ms
Loss rate: 0.32%
```

Run 3: Report of QUIC Cubic — Data Link

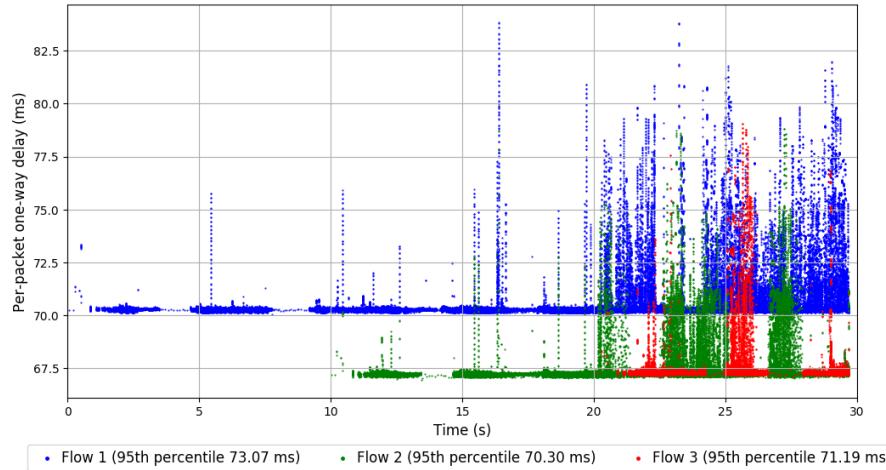
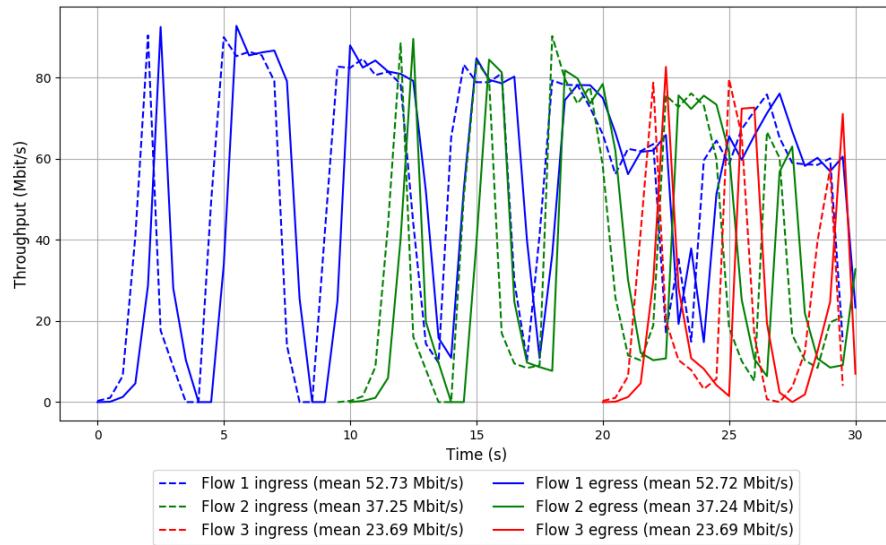


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-02 11:29:07
End at: 2018-10-02 11:29:37
Local clock offset: 0.121 ms
Remote clock offset: -39.448 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.13 Mbit/s
95th percentile per-packet one-way delay: 72.263 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.72 Mbit/s
95th percentile per-packet one-way delay: 73.074 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 37.24 Mbit/s
95th percentile per-packet one-way delay: 70.304 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.69 Mbit/s
95th percentile per-packet one-way delay: 71.191 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

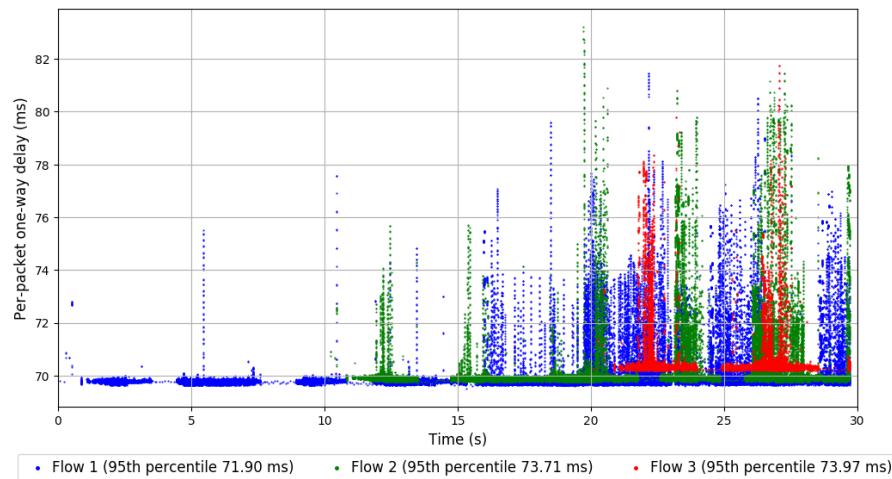
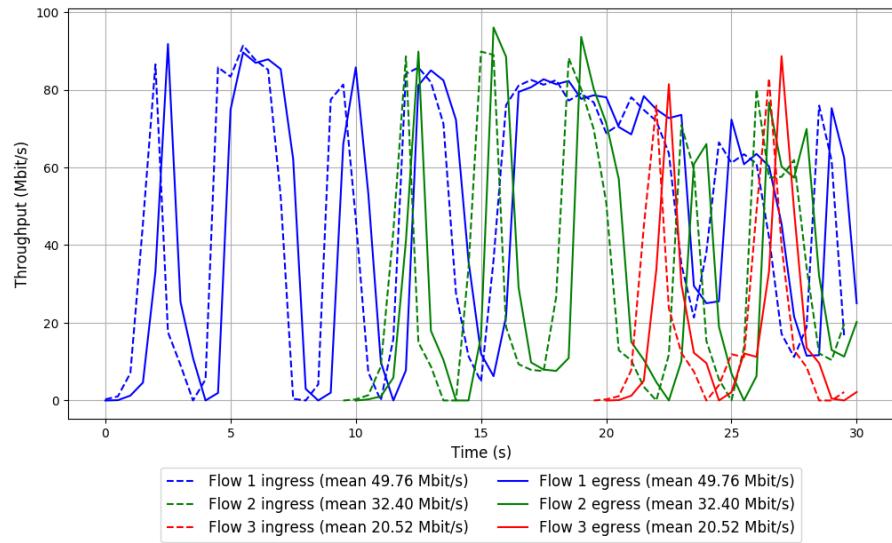


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-02 11:55:14
End at: 2018-10-02 11:55:44
Local clock offset: 3.201 ms
Remote clock offset: -33.489 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.95 Mbit/s
95th percentile per-packet one-way delay: 72.588 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.76 Mbit/s
95th percentile per-packet one-way delay: 71.899 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 73.711 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.52 Mbit/s
95th percentile per-packet one-way delay: 73.971 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

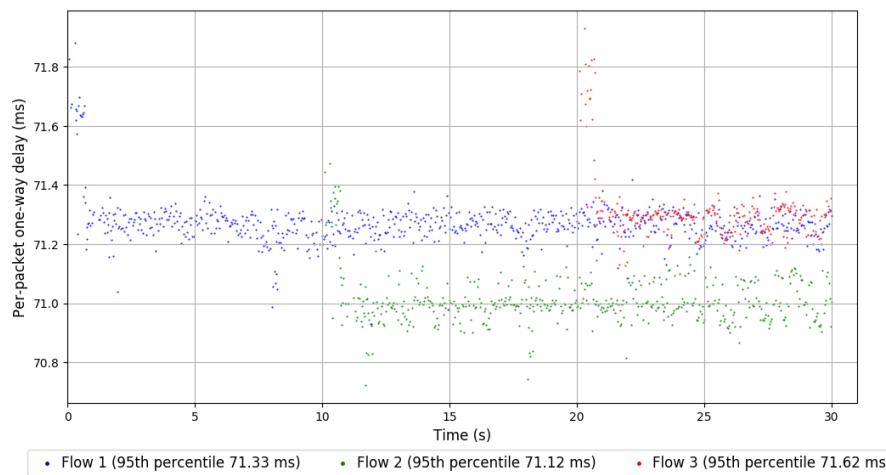
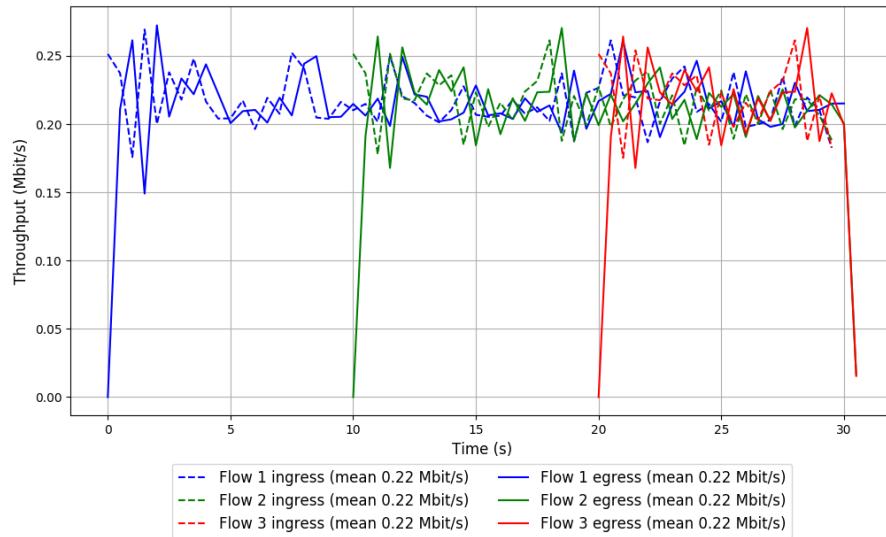


```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 10:22:33
End at: 2018-10-02 10:23:03
Local clock offset: -1.273 ms
Remote clock offset: -36.388 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 71.336 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 71.330 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 71.120 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 71.622 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

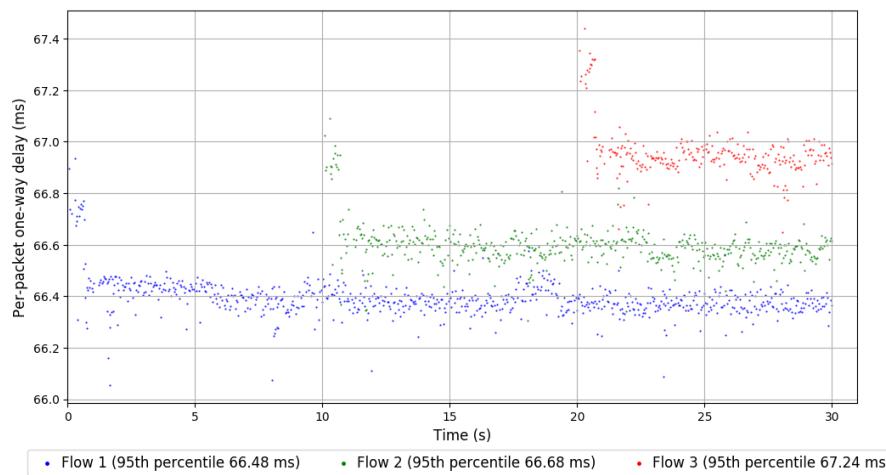
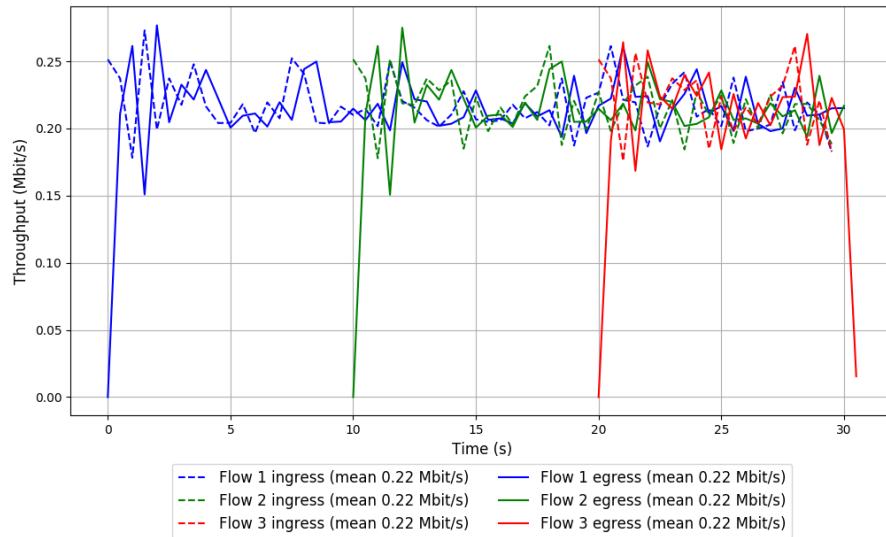


Run 2: Statistics of SCReAM

```
Start at: 2018-10-02 10:54:15
End at: 2018-10-02 10:54:45
Local clock offset: 1.709 ms
Remote clock offset: -38.368 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 66.971 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.684 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.237 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

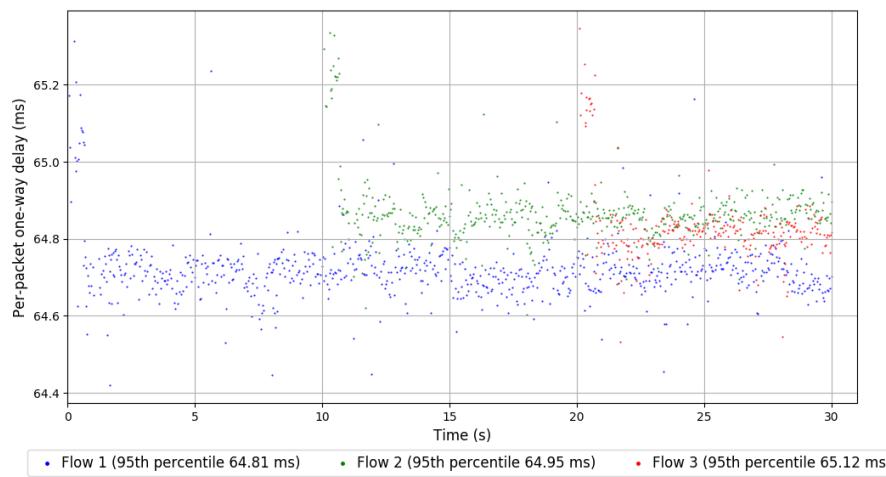
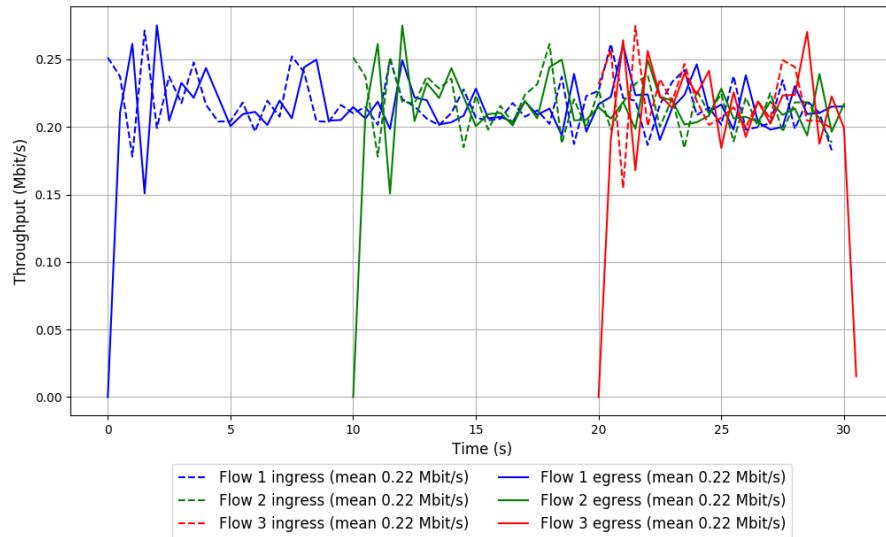


Run 3: Statistics of SCReAM

```
Start at: 2018-10-02 11:20:18
End at: 2018-10-02 11:20:48
Local clock offset: 2.481 ms
Remote clock offset: -39.667 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 64.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.805 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.120 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

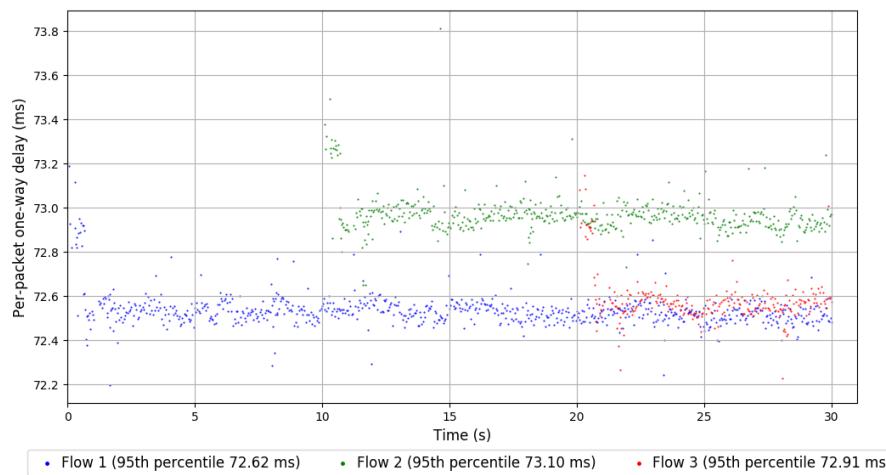
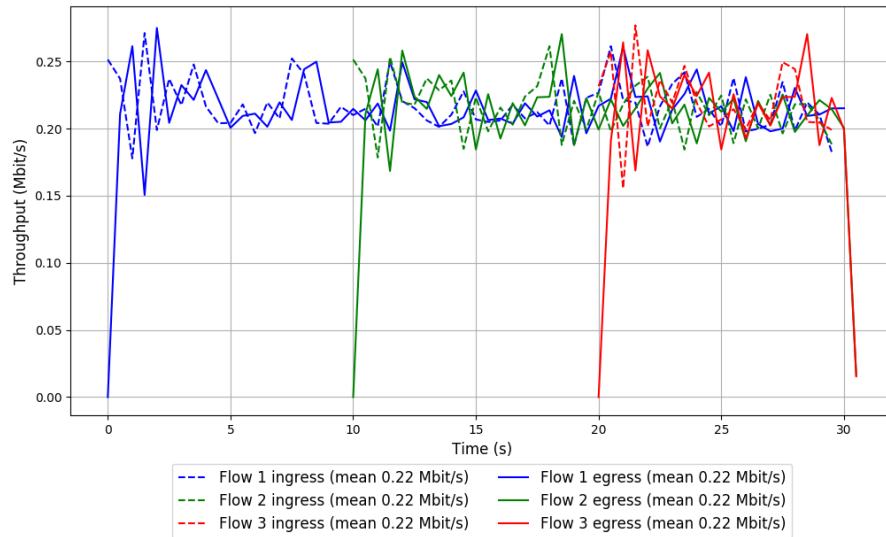


Run 4: Statistics of SCReAM

```
Start at: 2018-10-02 11:46:24
End at: 2018-10-02 11:46:54
Local clock offset: -0.286 ms
Remote clock offset: -34.536 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 73.013 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 72.616 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 73.100 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 72.909 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

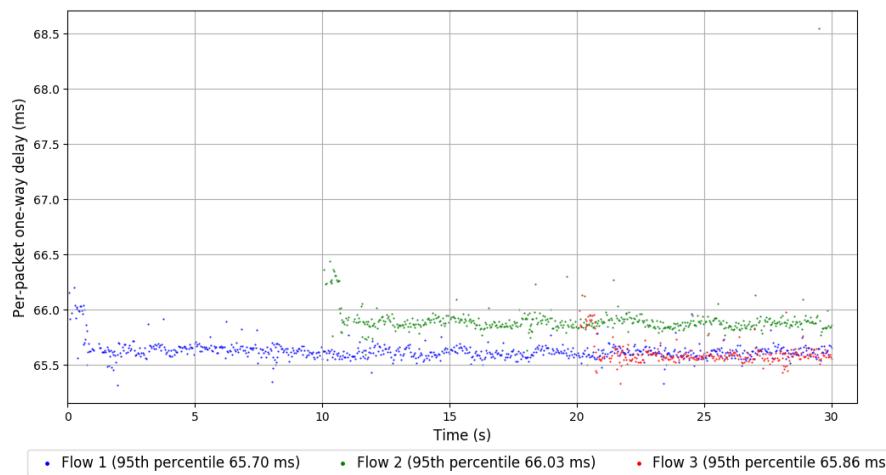
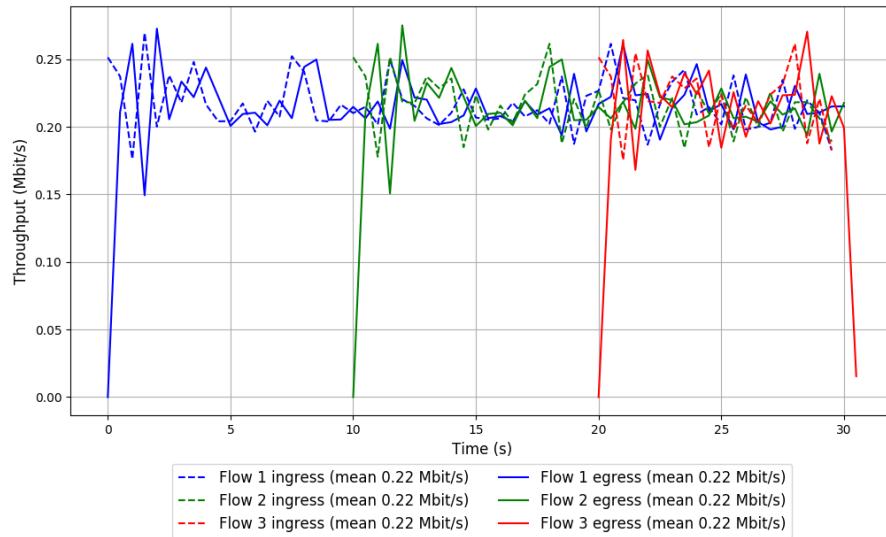


Run 5: Statistics of SCReAM

```
Start at: 2018-10-02 12:18:13
End at: 2018-10-02 12:18:43
Local clock offset: 1.361 ms
Remote clock offset: -39.151 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 65.948 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.703 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.032 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.858 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

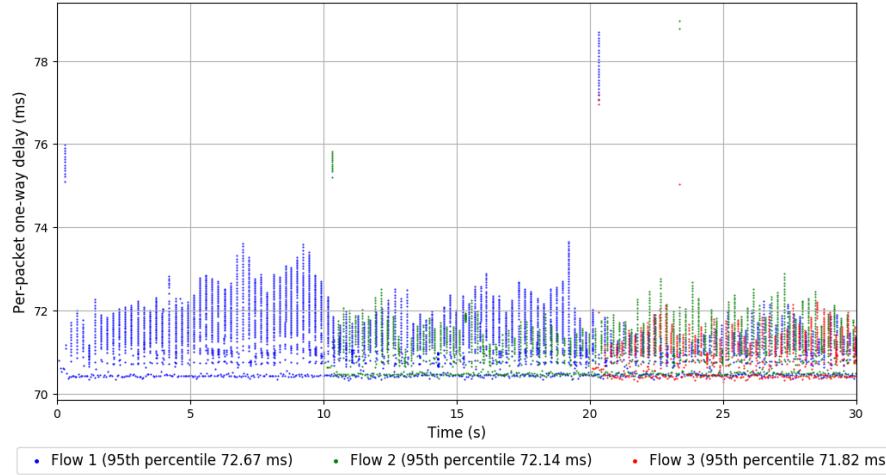
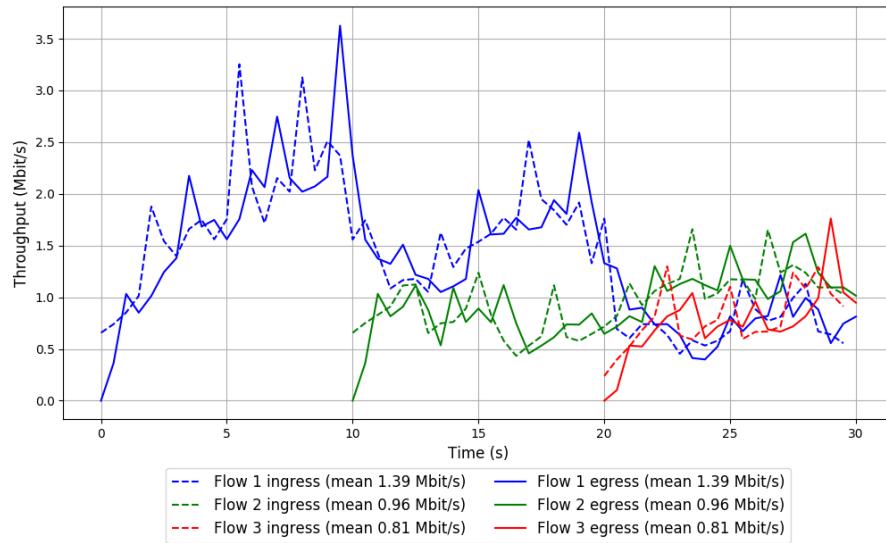


Run 1: Statistics of Sprout

```
Start at: 2018-10-02 10:11:34
End at: 2018-10-02 10:12:04
Local clock offset: 0.108 ms
Remote clock offset: -34.957 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 72.490 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 72.671 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 72.144 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 71.821 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

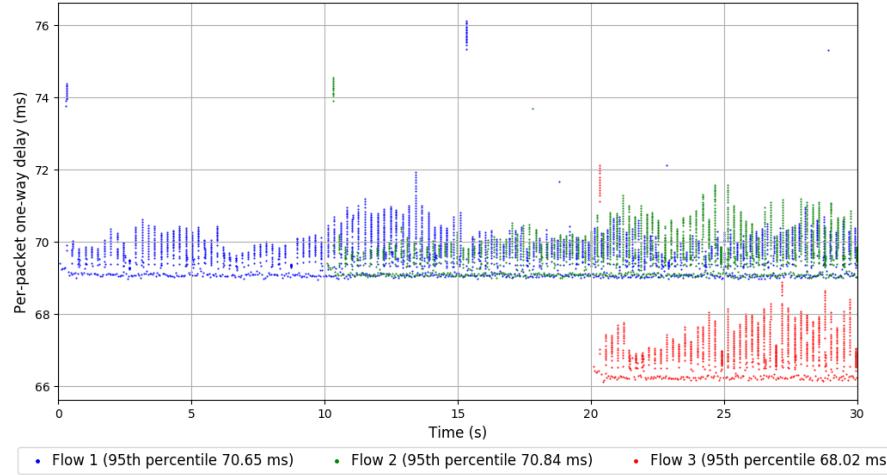
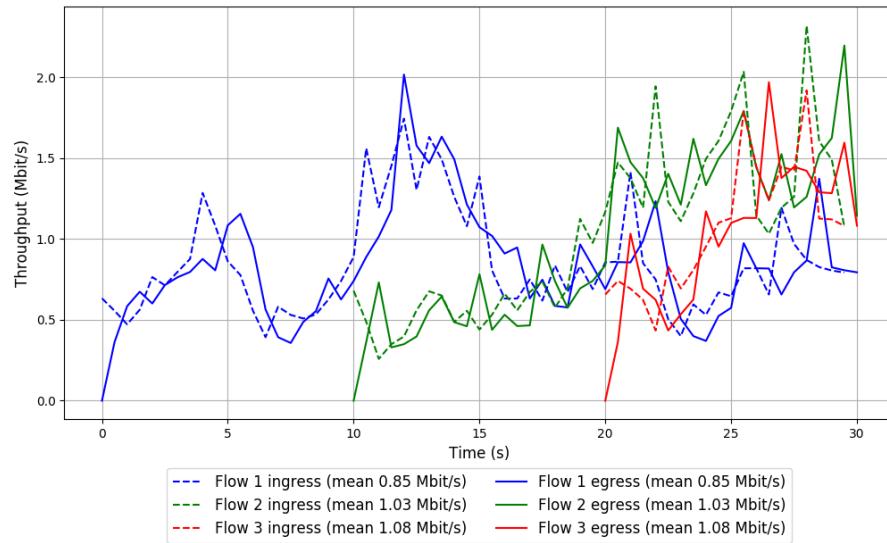


Run 2: Statistics of Sprout

```
Start at: 2018-10-02 10:43:15
End at: 2018-10-02 10:43:45
Local clock offset: -1.42 ms
Remote clock offset: -41.393 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 70.696 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 70.647 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 70.837 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 68.024 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

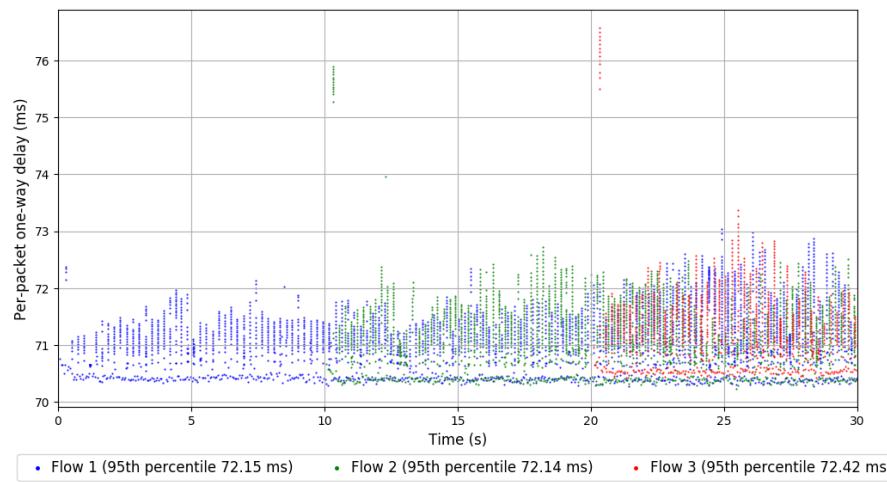
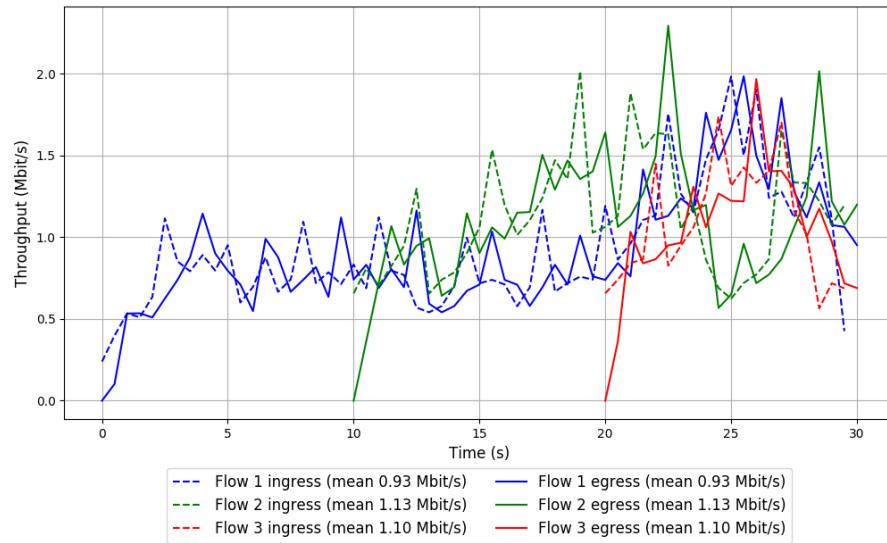


Run 3: Statistics of Sprout

```
Start at: 2018-10-02 11:09:16
End at: 2018-10-02 11:09:46
Local clock offset: 0.889 ms
Remote clock offset: -35.063 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 72.197 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 72.150 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 72.143 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 72.416 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

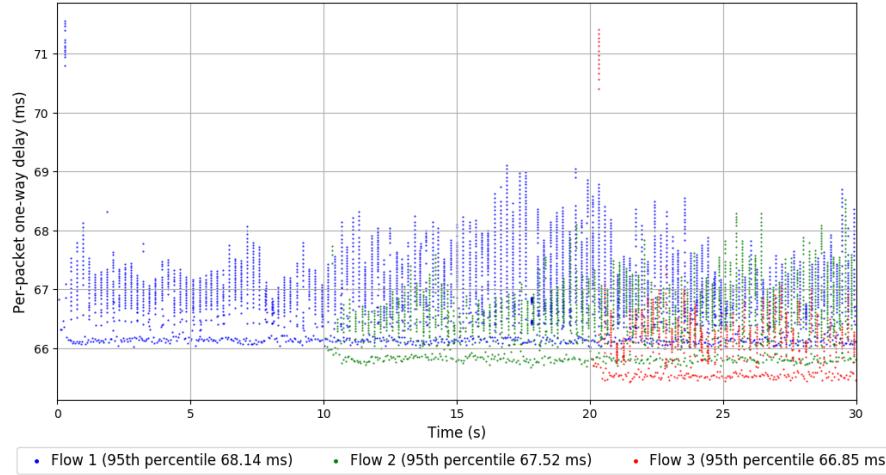
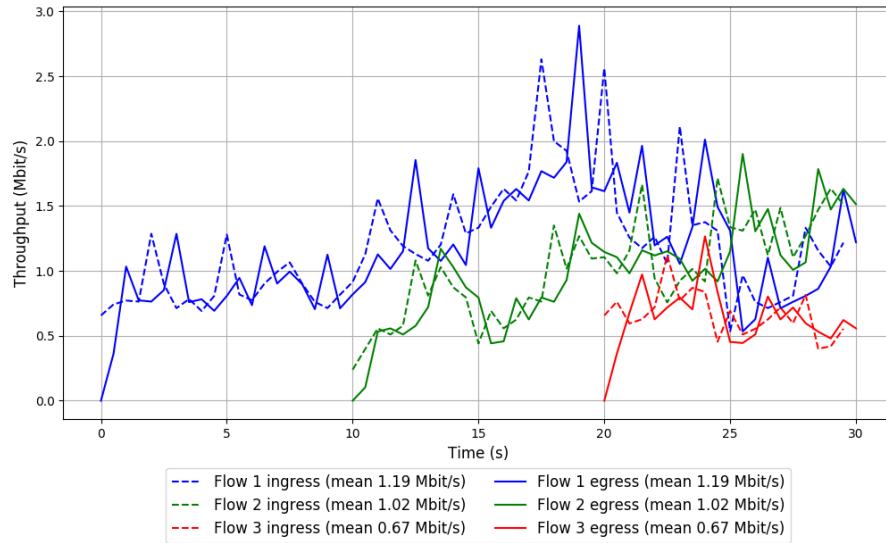


Run 4: Statistics of Sprout

```
Start at: 2018-10-02 11:35:21
End at: 2018-10-02 11:35:51
Local clock offset: 1.936 ms
Remote clock offset: -38.76 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 67.978 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 68.144 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 67.519 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 66.846 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

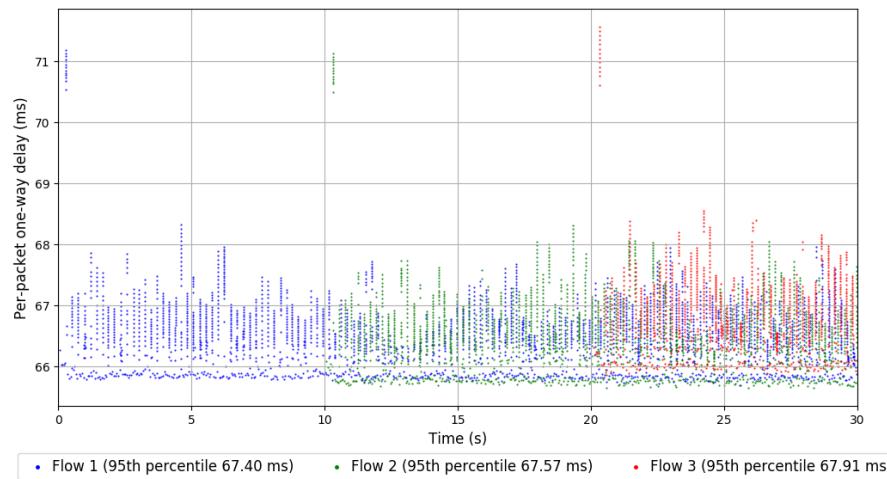
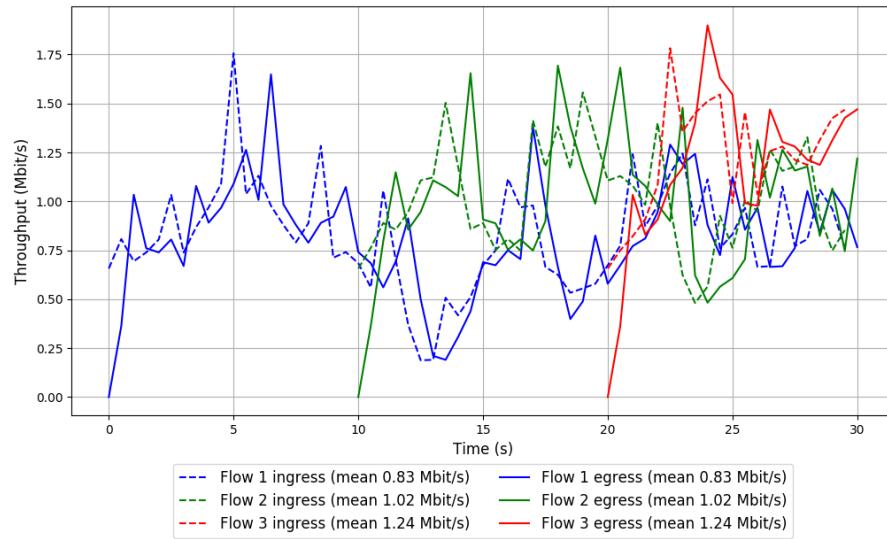


Run 5: Statistics of Sprout

```
Start at: 2018-10-02 12:01:28
End at: 2018-10-02 12:01:58
Local clock offset: 2.11 ms
Remote clock offset: -38.538 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 67.598 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 67.400 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 67.572 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 67.911 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

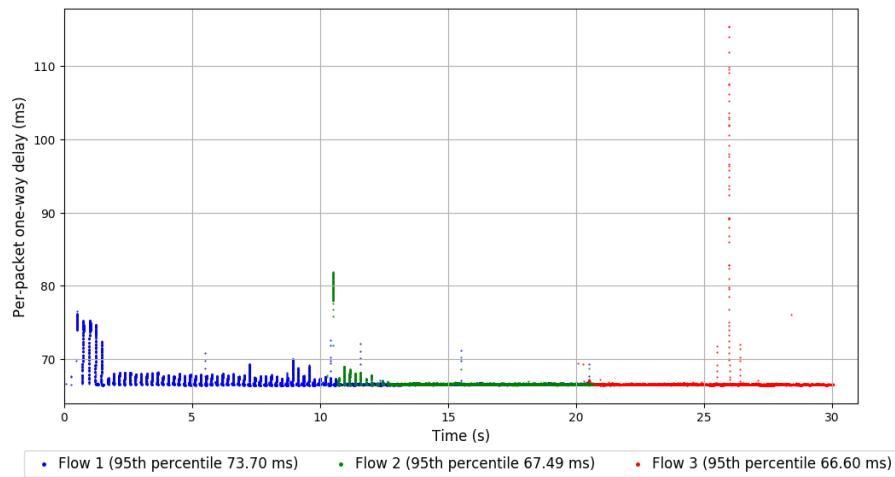
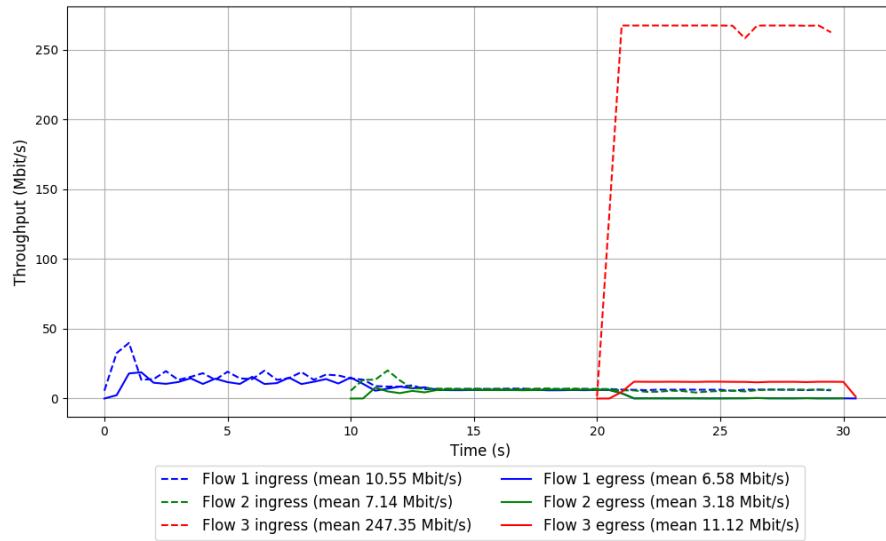


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-02 10:19:51
End at: 2018-10-02 10:20:21
Local clock offset: -0.284 ms
Remote clock offset: -40.116 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 68.871 ms
Loss rate: 87.30%
-- Flow 1:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 73.702 ms
Loss rate: 37.62%
-- Flow 2:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 67.492 ms
Loss rate: 55.61%
-- Flow 3:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 66.603 ms
Loss rate: 95.51%
```

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

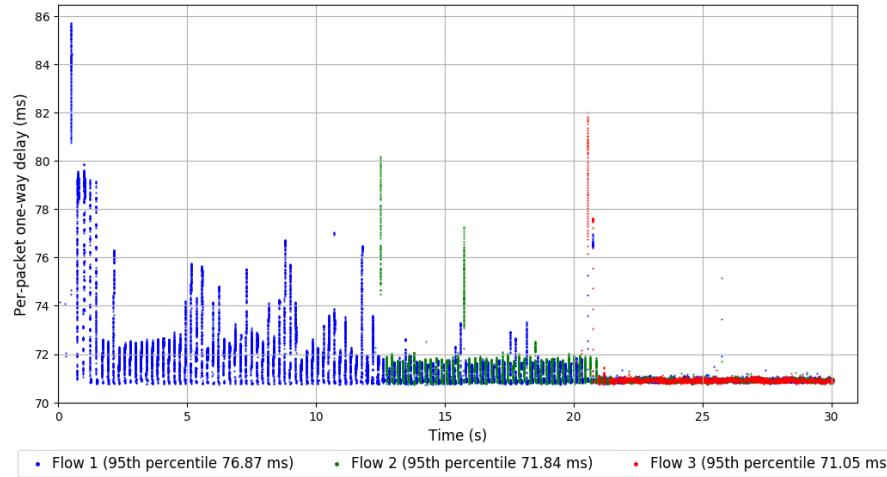
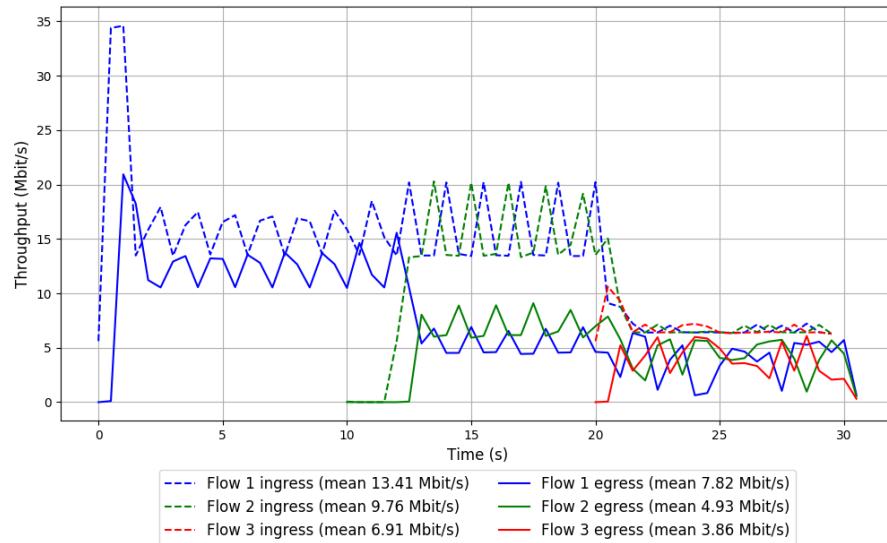


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-02 10:51:34
End at: 2018-10-02 10:52:04
Local clock offset: -1.353 ms
Remote clock offset: -36.985 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 75.614 ms
Loss rate: 44.23%
-- Flow 1:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 76.866 ms
Loss rate: 41.71%
-- Flow 2:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 71.838 ms
Loss rate: 49.48%
-- Flow 3:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 71.051 ms
Loss rate: 44.09%
```

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

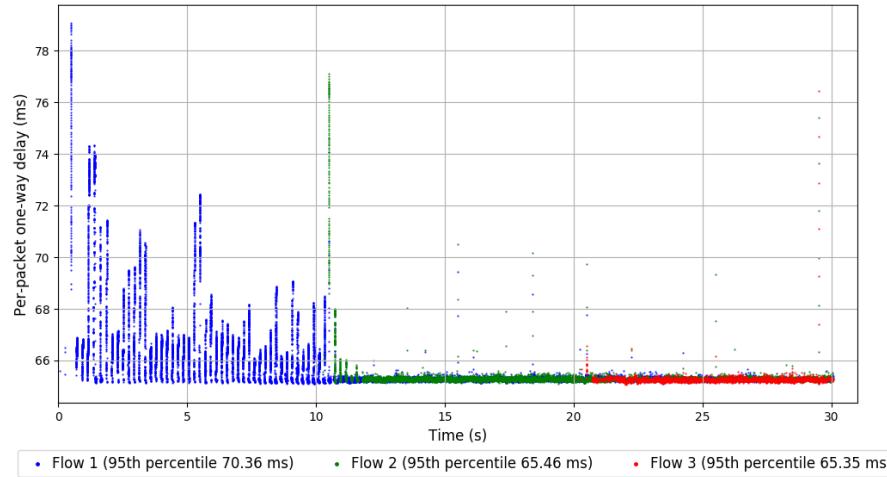
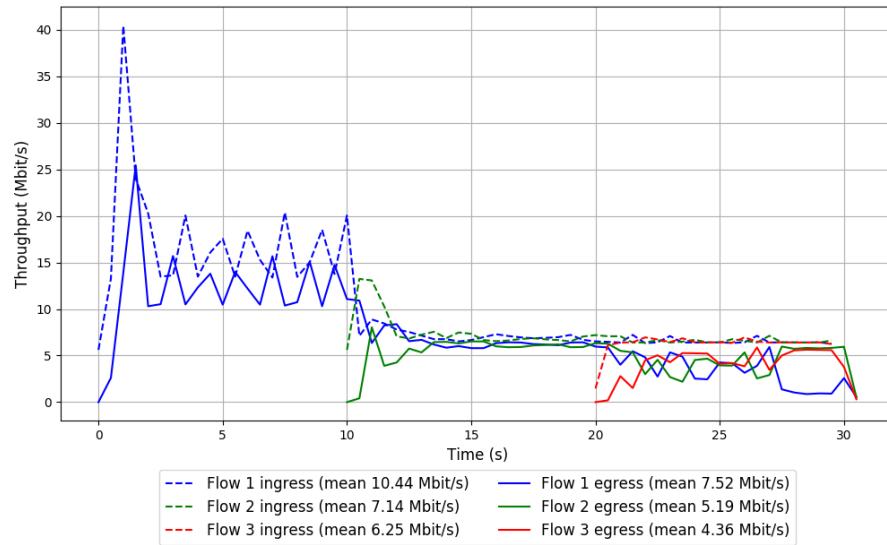


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-02 11:17:37
End at: 2018-10-02 11:18:07
Local clock offset: 1.415 ms
Remote clock offset: -40.189 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 68.990 ms
Loss rate: 28.08%
-- Flow 1:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 70.357 ms
Loss rate: 27.98%
-- Flow 2:
Average throughput: 5.19 Mbit/s
95th percentile per-packet one-way delay: 65.462 ms
Loss rate: 27.34%
-- Flow 3:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 65.347 ms
Loss rate: 30.26%
```

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

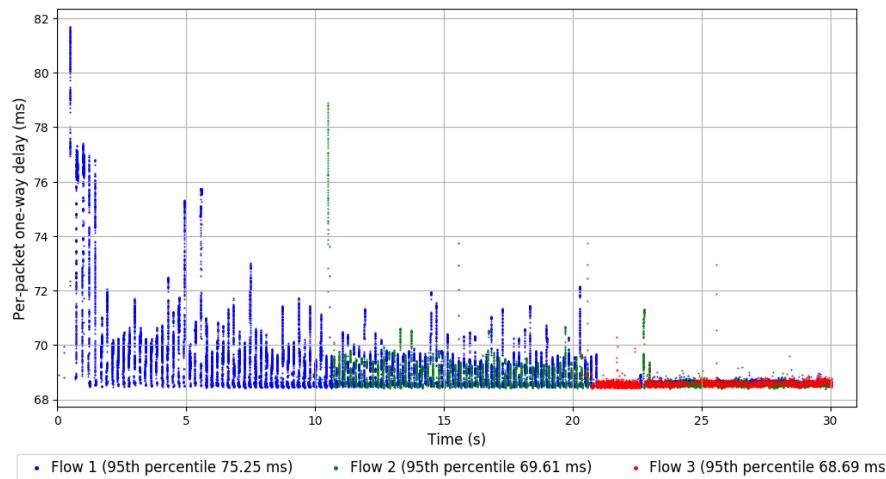
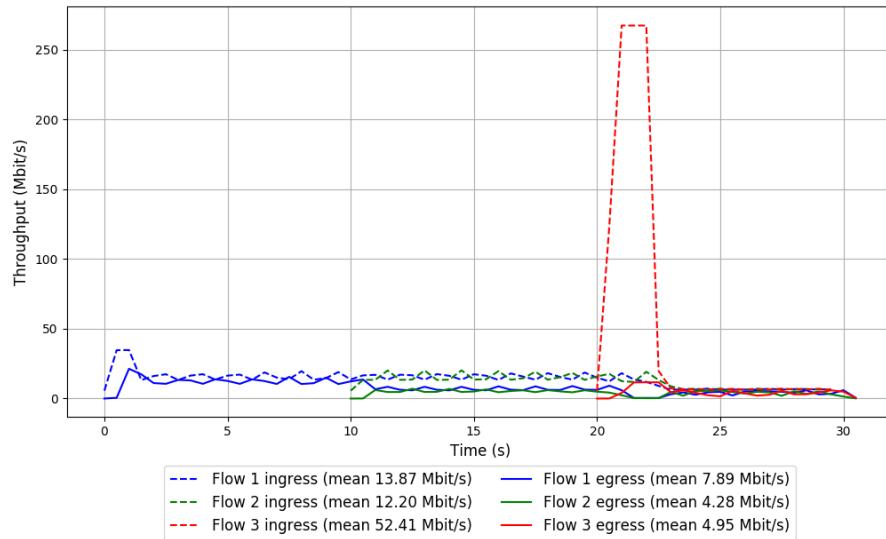


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-02 11:43:41
End at: 2018-10-02 11:44:11
Local clock offset: -0.618 ms
Remote clock offset: -38.765 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 72.491 ms
Loss rate: 68.57%
-- Flow 1:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 75.248 ms
Loss rate: 43.11%
-- Flow 2:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 69.610 ms
Loss rate: 64.94%
-- Flow 3:
Average throughput: 4.95 Mbit/s
95th percentile per-packet one-way delay: 68.687 ms
Loss rate: 90.55%
```

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

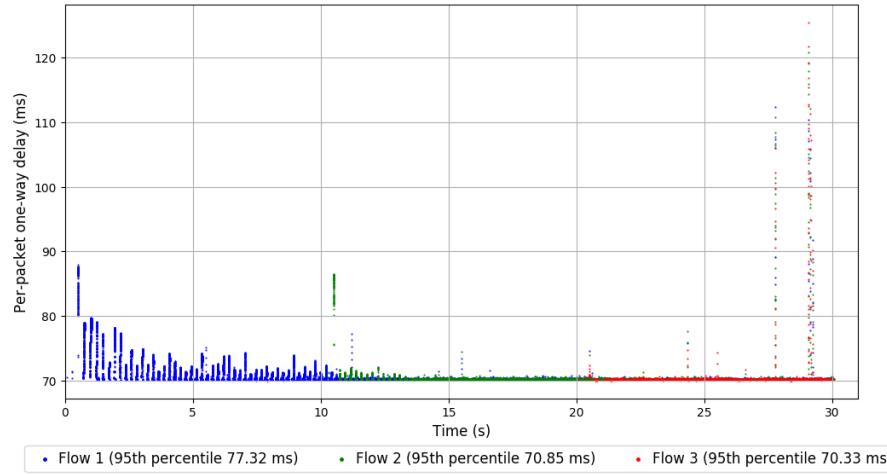
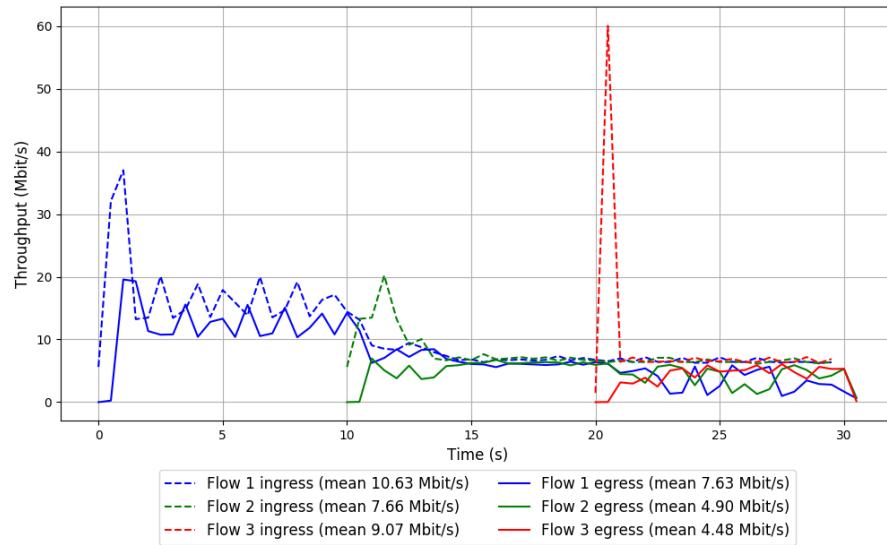


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-02 12:15:31
End at: 2018-10-02 12:16:01
Local clock offset: 0.966 ms
Remote clock offset: -35.245 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 75.193 ms
Loss rate: 33.93%
-- Flow 1:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 77.320 ms
Loss rate: 28.18%
-- Flow 2:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 70.853 ms
Loss rate: 36.02%
-- Flow 3:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 70.327 ms
Loss rate: 50.68%
```

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

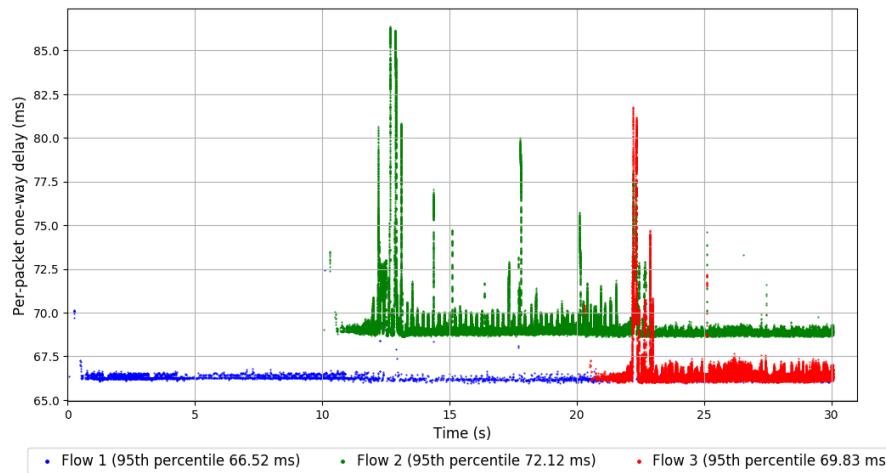
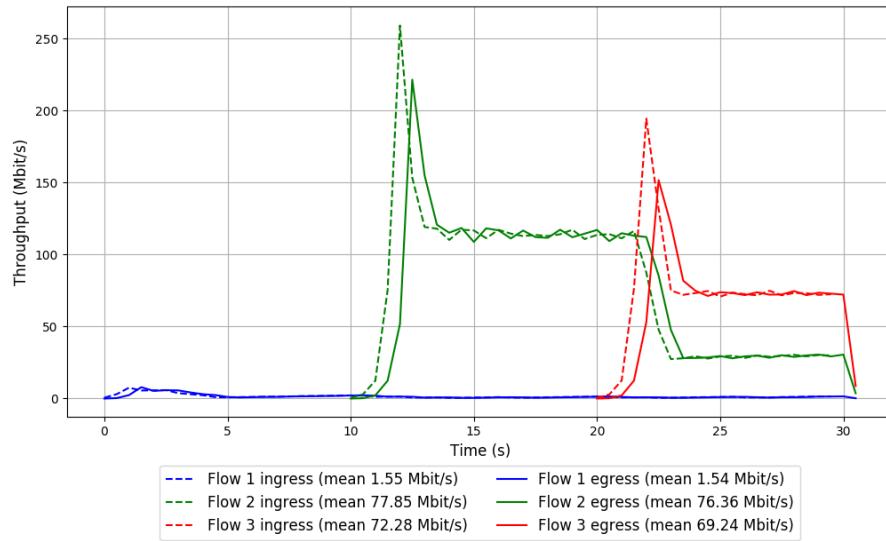


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-02 10:17:09
End at: 2018-10-02 10:17:39
Local clock offset: 0.792 ms
Remote clock offset: -39.023 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.41 Mbit/s
95th percentile per-packet one-way delay: 71.630 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 66.523 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 76.36 Mbit/s
95th percentile per-packet one-way delay: 72.116 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 69.24 Mbit/s
95th percentile per-packet one-way delay: 69.833 ms
Loss rate: 4.20%
```

Run 1: Report of TCP Vegas — Data Link

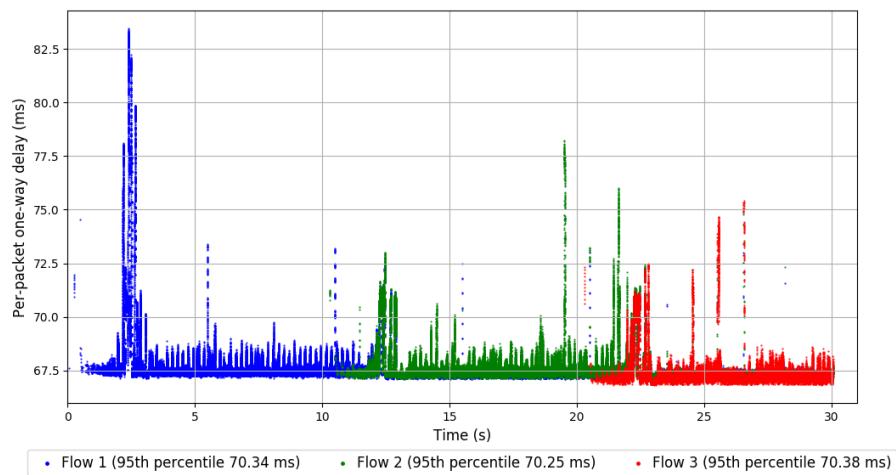
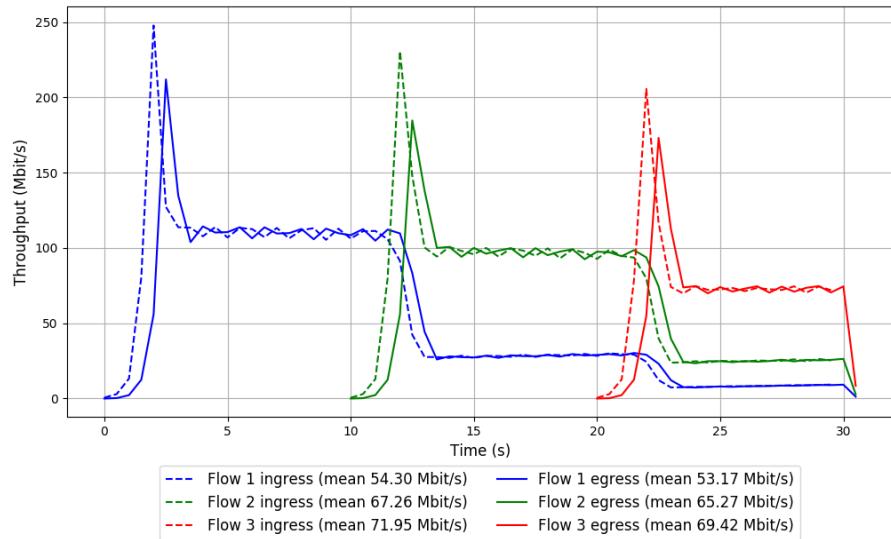


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-02 10:48:50
End at: 2018-10-02 10:49:20
Local clock offset: 0.043 ms
Remote clock offset: -39.264 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.73 Mbit/s
95th percentile per-packet one-way delay: 70.325 ms
Loss rate: 2.67%
-- Flow 1:
Average throughput: 53.17 Mbit/s
95th percentile per-packet one-way delay: 70.338 ms
Loss rate: 2.07%
-- Flow 2:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 70.255 ms
Loss rate: 2.95%
-- Flow 3:
Average throughput: 69.42 Mbit/s
95th percentile per-packet one-way delay: 70.375 ms
Loss rate: 3.51%
```

Run 2: Report of TCP Vegas — Data Link

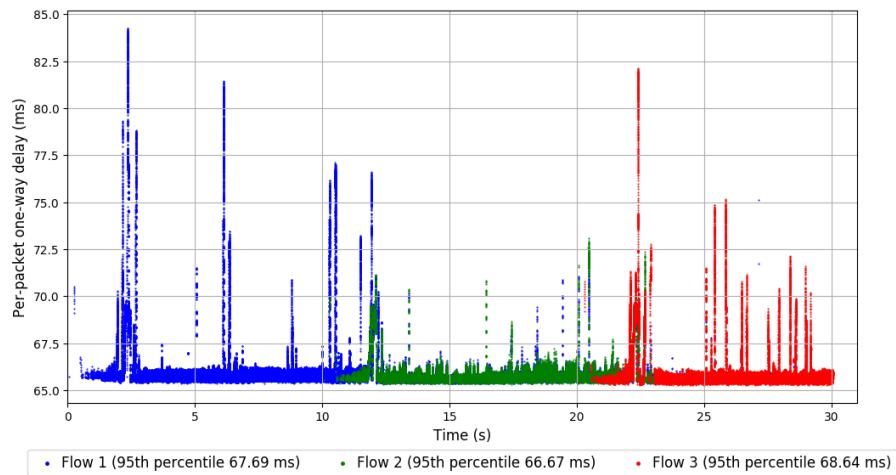
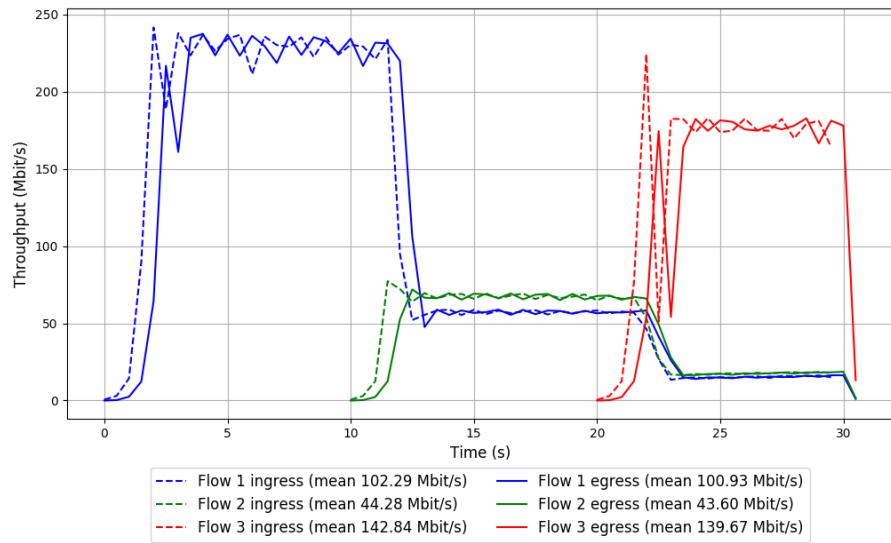


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-02 11:14:49
End at: 2018-10-02 11:15:19
Local clock offset: 1.921 ms
Remote clock offset: -39.325 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 176.39 Mbit/s
95th percentile per-packet one-way delay: 67.957 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 100.93 Mbit/s
95th percentile per-packet one-way delay: 67.689 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 43.60 Mbit/s
95th percentile per-packet one-way delay: 66.674 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 139.67 Mbit/s
95th percentile per-packet one-way delay: 68.635 ms
Loss rate: 2.22%
```

Run 3: Report of TCP Vegas — Data Link

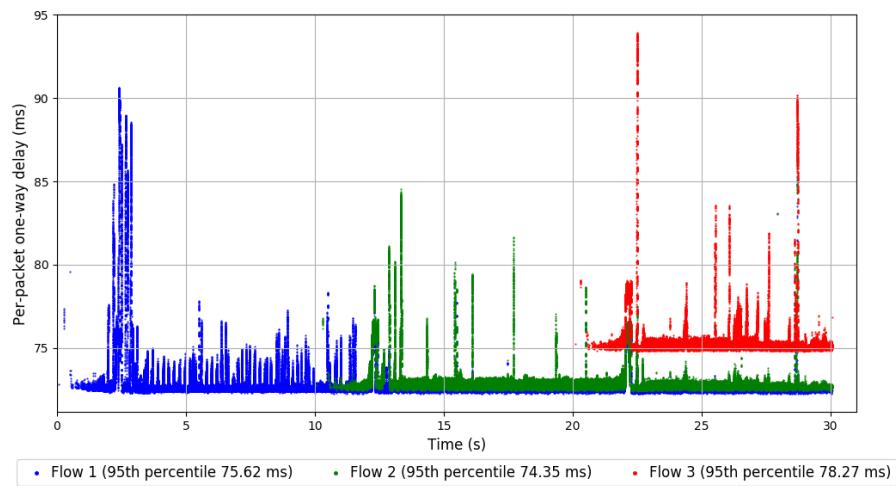
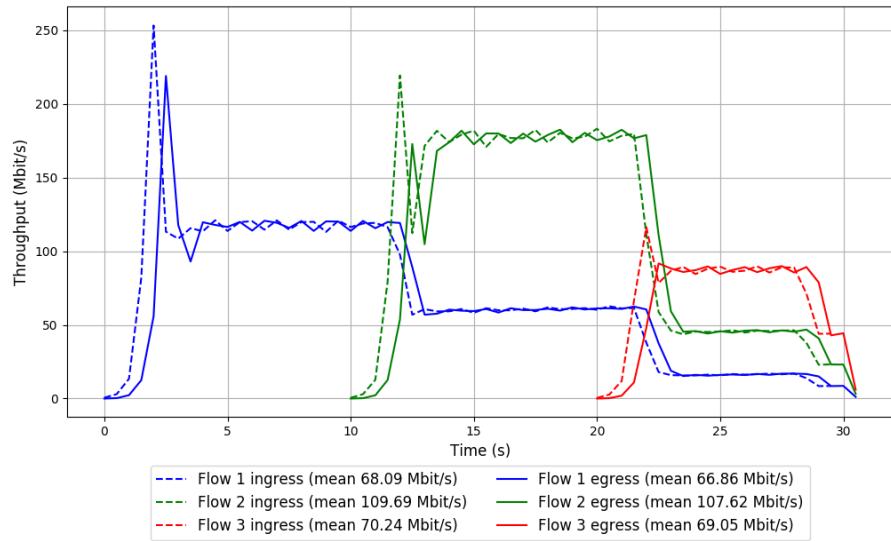


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-02 11:40:54
End at: 2018-10-02 11:41:24
Local clock offset: -0.2 ms
Remote clock offset: -34.354 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.48 Mbit/s
95th percentile per-packet one-way delay: 75.792 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 66.86 Mbit/s
95th percentile per-packet one-way delay: 75.619 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 107.62 Mbit/s
95th percentile per-packet one-way delay: 74.347 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 69.05 Mbit/s
95th percentile per-packet one-way delay: 78.266 ms
Loss rate: 1.70%
```

Run 4: Report of TCP Vegas — Data Link

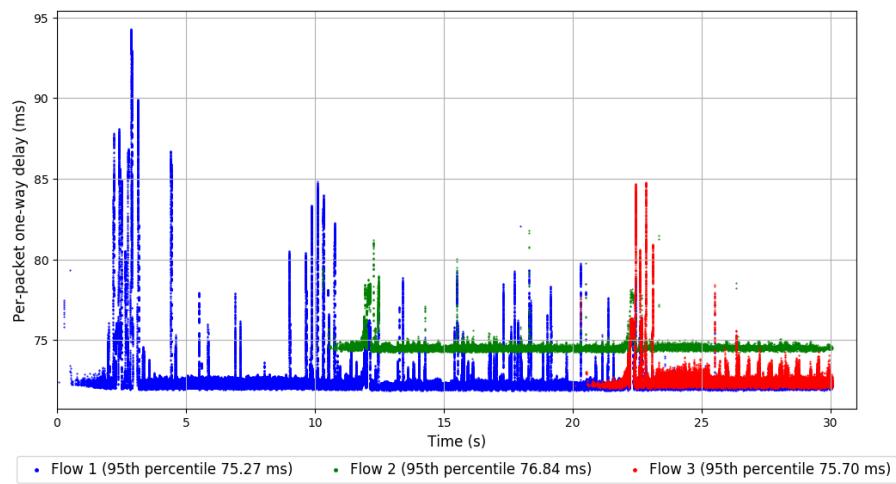
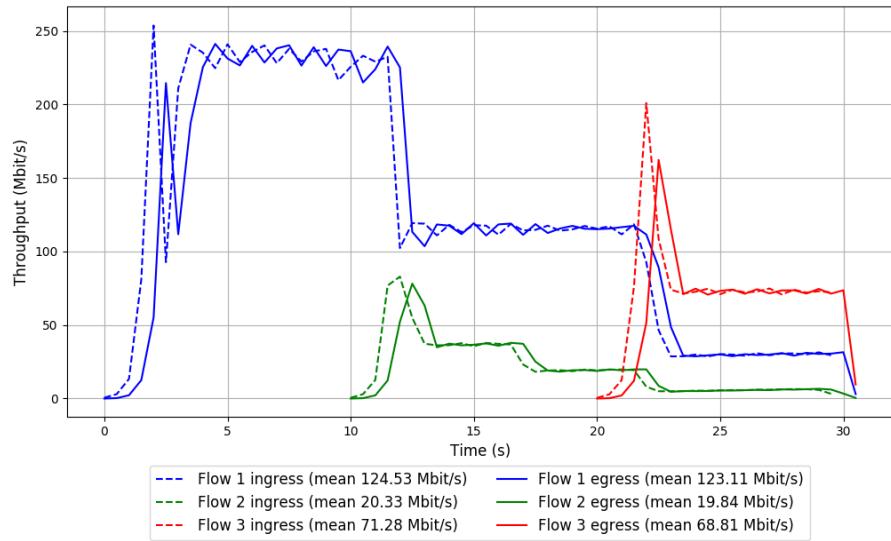


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-02 12:12:42
End at: 2018-10-02 12:13:12
Local clock offset: 0.392 ms
Remote clock offset: -34.019 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 159.18 Mbit/s
95th percentile per-packet one-way delay: 75.445 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 123.11 Mbit/s
95th percentile per-packet one-way delay: 75.267 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 19.84 Mbit/s
95th percentile per-packet one-way delay: 76.843 ms
Loss rate: 2.45%
-- Flow 3:
Average throughput: 68.81 Mbit/s
95th percentile per-packet one-way delay: 75.697 ms
Loss rate: 3.47%
```

Run 5: Report of TCP Vegas — Data Link

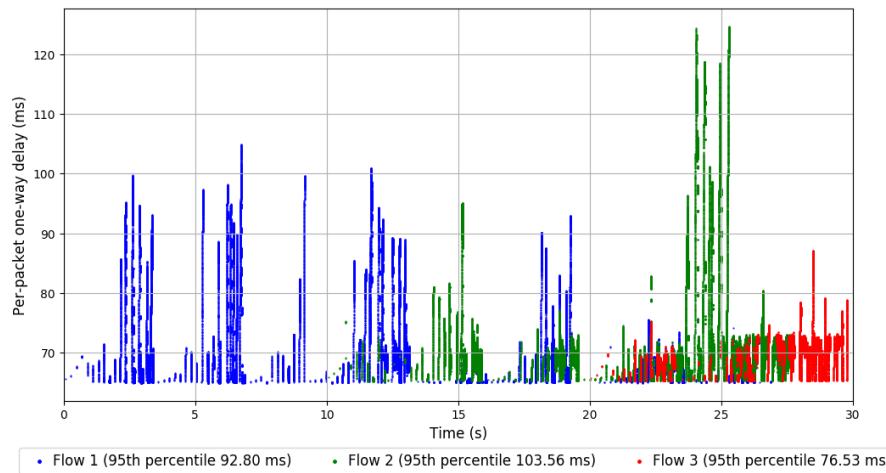
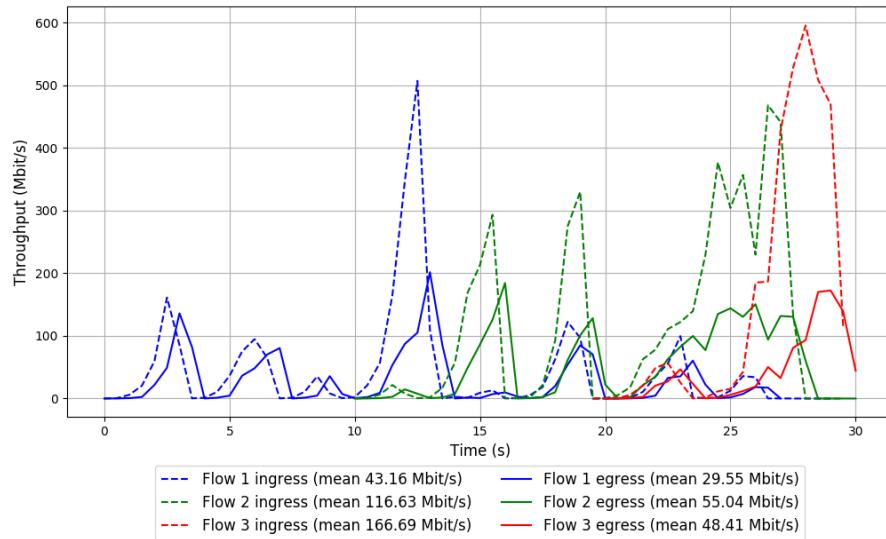


Run 1: Statistics of Verus

```
Start at: 2018-10-02 10:15:43
End at: 2018-10-02 10:16:13
Local clock offset: 1.005 ms
Remote clock offset: -39.803 ms

# Below is generated by plot.py at 2018-10-02 12:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.91 Mbit/s
95th percentile per-packet one-way delay: 93.950 ms
Loss rate: 54.60%
-- Flow 1:
Average throughput: 29.55 Mbit/s
95th percentile per-packet one-way delay: 92.797 ms
Loss rate: 36.75%
-- Flow 2:
Average throughput: 55.04 Mbit/s
95th percentile per-packet one-way delay: 103.562 ms
Loss rate: 52.81%
-- Flow 3:
Average throughput: 48.41 Mbit/s
95th percentile per-packet one-way delay: 76.526 ms
Loss rate: 70.93%
```

Run 1: Report of Verus — Data Link

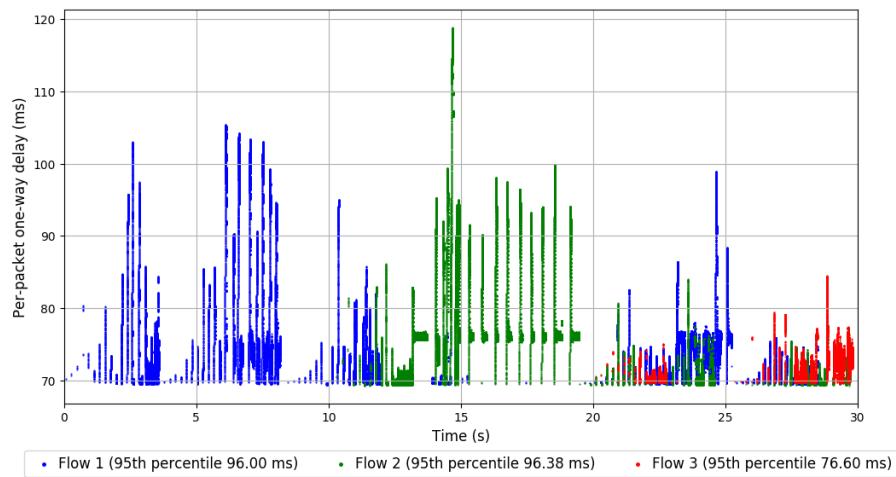
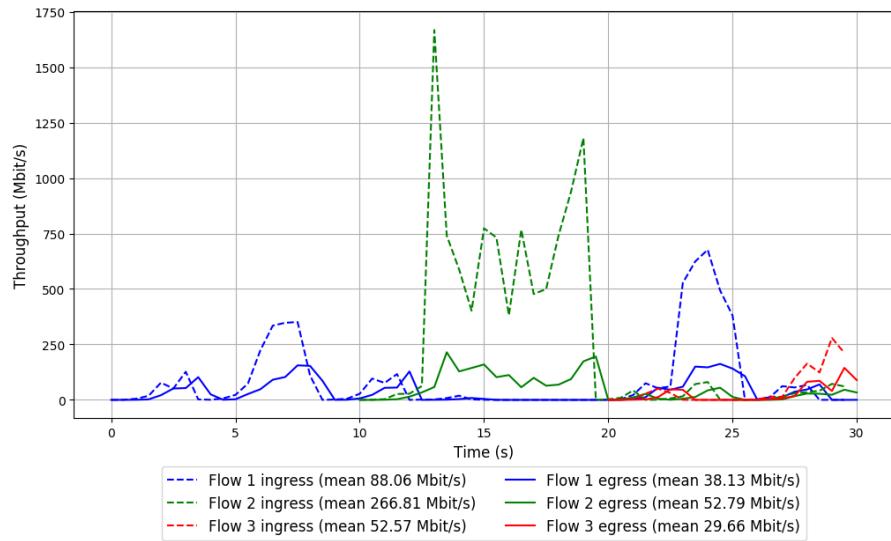


Run 2: Statistics of Verus

```
Start at: 2018-10-02 10:47:21
End at: 2018-10-02 10:47:51
Local clock offset: -0.5 ms
Remote clock offset: -37.157 ms

# Below is generated by plot.py at 2018-10-02 12:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.65 Mbit/s
95th percentile per-packet one-way delay: 95.606 ms
Loss rate: 70.64%
-- Flow 1:
Average throughput: 38.13 Mbit/s
95th percentile per-packet one-way delay: 95.997 ms
Loss rate: 56.69%
-- Flow 2:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 96.384 ms
Loss rate: 80.21%
-- Flow 3:
Average throughput: 29.66 Mbit/s
95th percentile per-packet one-way delay: 76.604 ms
Loss rate: 43.56%
```

Run 2: Report of Verus — Data Link

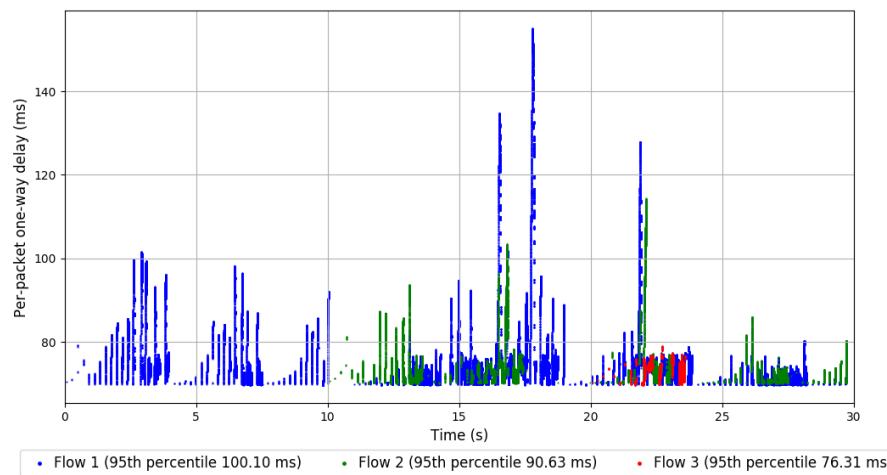
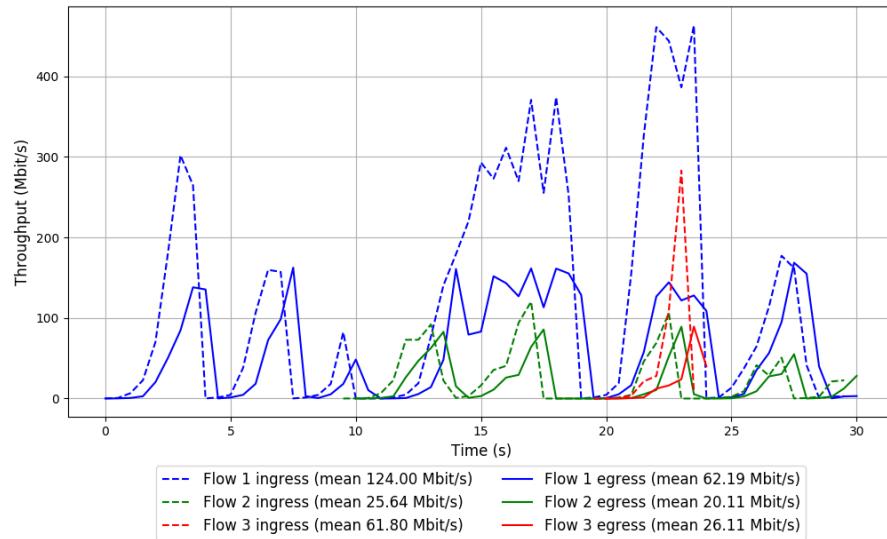


Run 3: Statistics of Verus

```
Start at: 2018-10-02 11:13:23
End at: 2018-10-02 11:13:53
Local clock offset: 1.752 ms
Remote clock offset: -34.958 ms

# Below is generated by plot.py at 2018-10-02 12:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 97.762 ms
Loss rate: 47.10%
-- Flow 1:
Average throughput: 62.19 Mbit/s
95th percentile per-packet one-way delay: 100.102 ms
Loss rate: 49.84%
-- Flow 2:
Average throughput: 20.11 Mbit/s
95th percentile per-packet one-way delay: 90.629 ms
Loss rate: 21.55%
-- Flow 3:
Average throughput: 26.11 Mbit/s
95th percentile per-packet one-way delay: 76.314 ms
Loss rate: 59.52%
```

Run 3: Report of Verus — Data Link

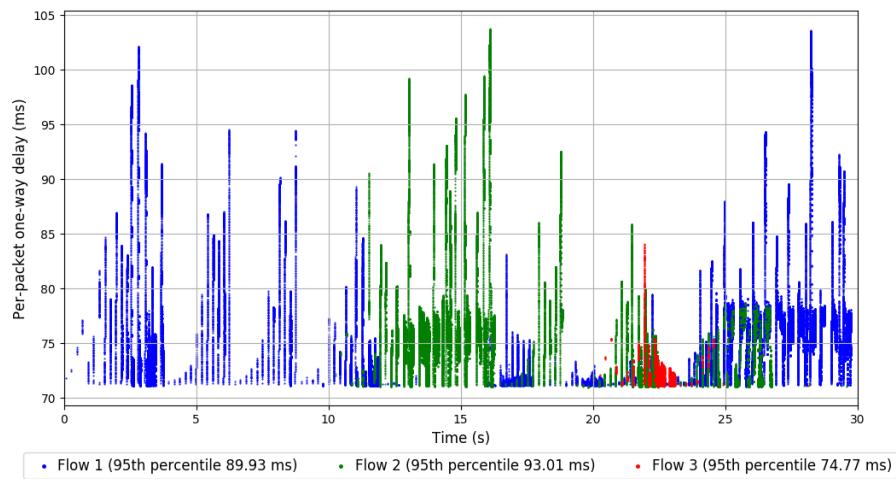
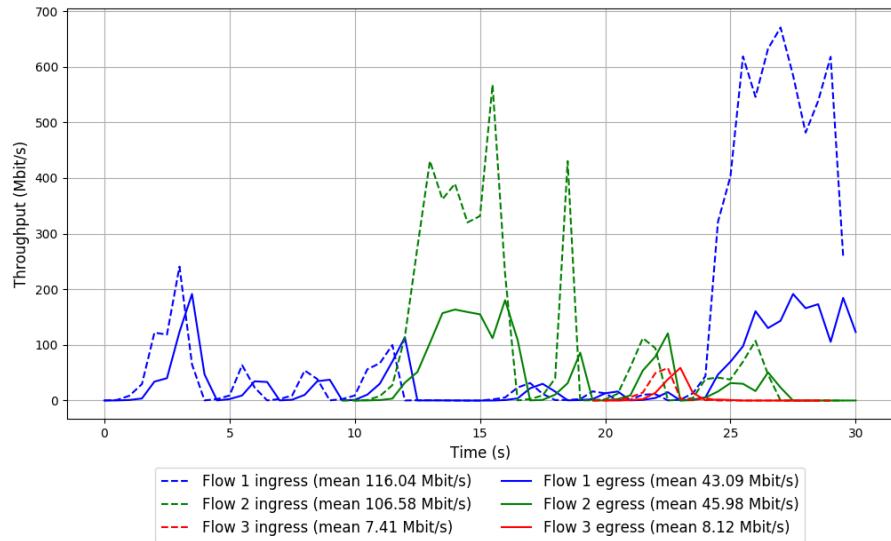


Run 4: Statistics of Verus

```
Start at: 2018-10-02 11:39:29
End at: 2018-10-02 11:39:59
Local clock offset: -0.395 ms
Remote clock offset: -36.079 ms

# Below is generated by plot.py at 2018-10-02 12:49:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.58 Mbit/s
95th percentile per-packet one-way delay: 90.997 ms
Loss rate: 59.91%
-- Flow 1:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 89.928 ms
Loss rate: 62.86%
-- Flow 2:
Average throughput: 45.98 Mbit/s
95th percentile per-packet one-way delay: 93.014 ms
Loss rate: 56.86%
-- Flow 3:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 74.768 ms
Loss rate: 4.65%
```

Run 4: Report of Verus — Data Link

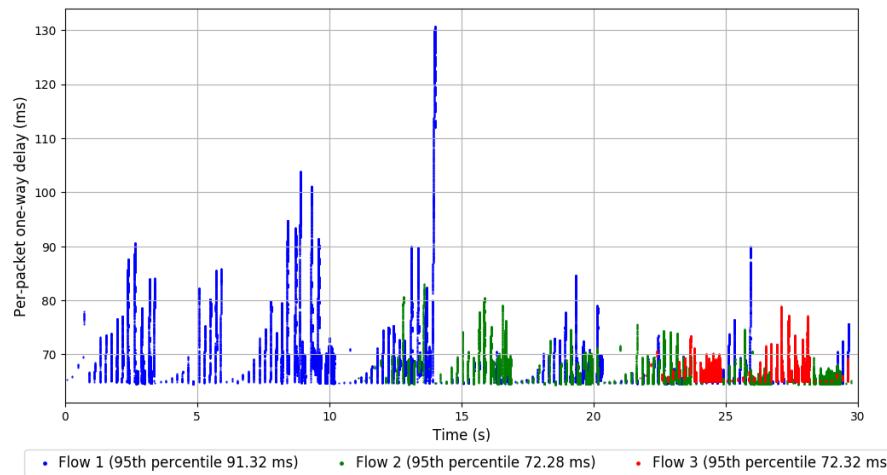
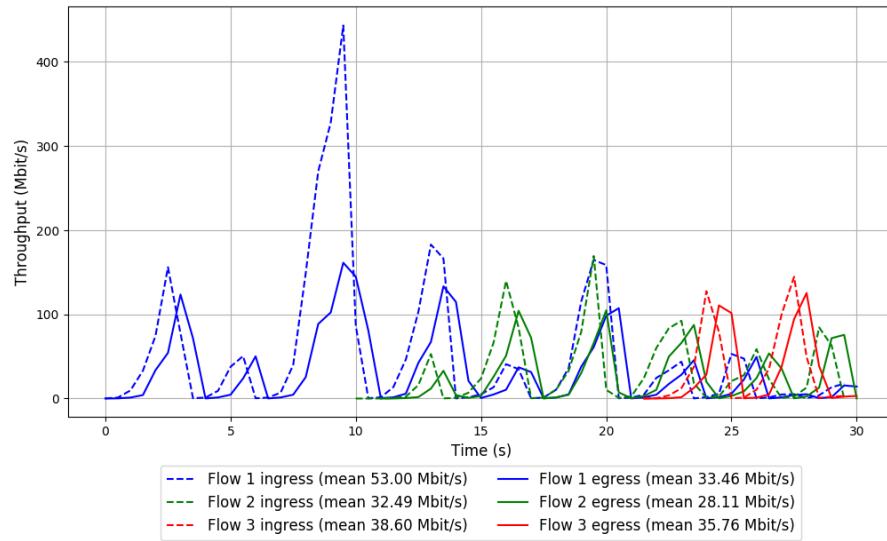


Run 5: Statistics of Verus

```
Start at: 2018-10-02 12:11:14
End at: 2018-10-02 12:11:44
Local clock offset: 2.818 ms
Remote clock offset: -39.146 ms

# Below is generated by plot.py at 2018-10-02 12:49:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.49 Mbit/s
95th percentile per-packet one-way delay: 87.186 ms
Loss rate: 28.45%
-- Flow 1:
Average throughput: 33.46 Mbit/s
95th percentile per-packet one-way delay: 91.324 ms
Loss rate: 36.86%
-- Flow 2:
Average throughput: 28.11 Mbit/s
95th percentile per-packet one-way delay: 72.281 ms
Loss rate: 17.88%
-- Flow 3:
Average throughput: 35.76 Mbit/s
95th percentile per-packet one-way delay: 72.320 ms
Loss rate: 7.31%
```

Run 5: Report of Verus — Data Link

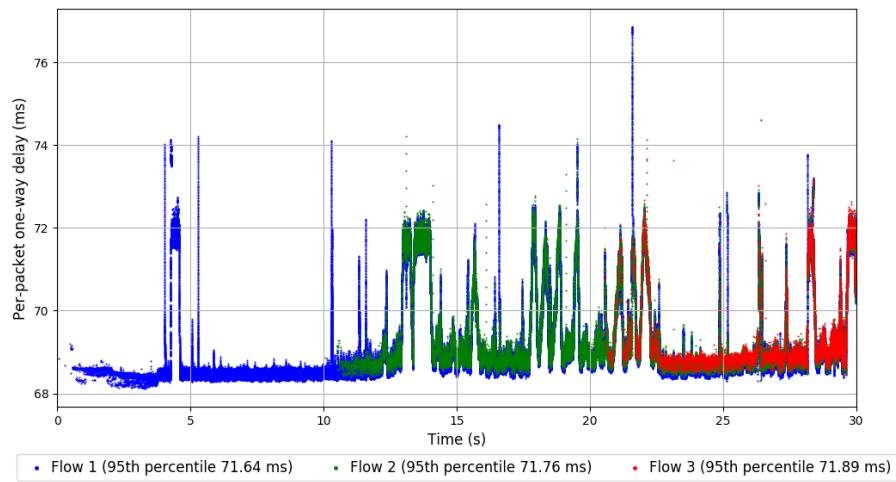
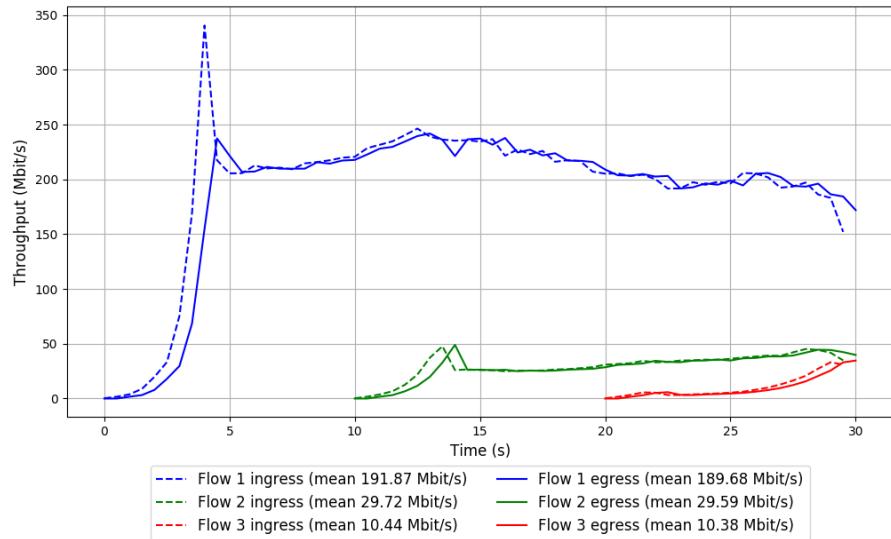


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-10-02 10:06:44
End at: 2018-10-02 10:07:14
Local clock offset: 0.169 ms
Remote clock offset: -36.993 ms

# Below is generated by plot.py at 2018-10-02 12:50:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.79 Mbit/s
95th percentile per-packet one-way delay: 71.659 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 189.68 Mbit/s
95th percentile per-packet one-way delay: 71.642 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 71.761 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 10.38 Mbit/s
95th percentile per-packet one-way delay: 71.889 ms
Loss rate: 0.51%
```

Run 1: Report of PCC-Vivace — Data Link

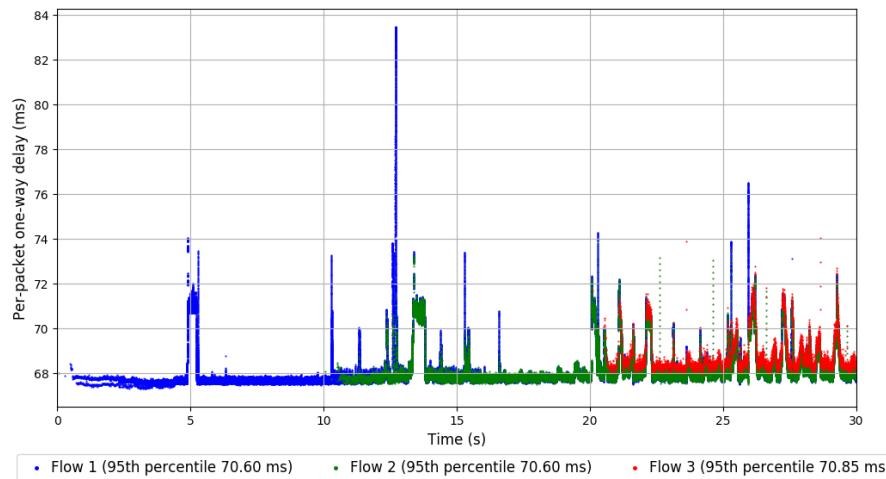
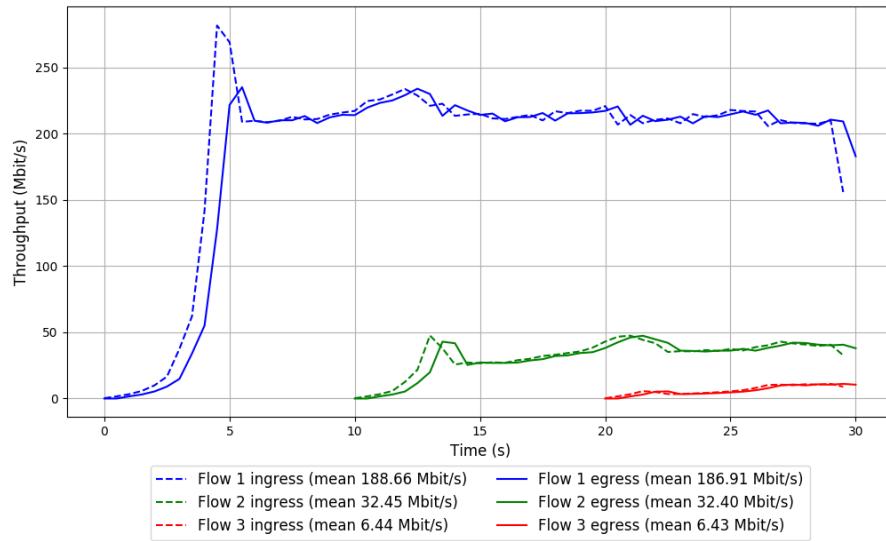


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-02 10:32:45
End at: 2018-10-02 10:33:15
Local clock offset: -0.567 ms
Remote clock offset: -39.077 ms

# Below is generated by plot.py at 2018-10-02 12:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.58 Mbit/s
95th percentile per-packet one-way delay: 70.606 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 186.91 Mbit/s
95th percentile per-packet one-way delay: 70.602 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 70.604 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 70.849 ms
Loss rate: 0.06%
```

Run 2: Report of PCC-Vivace — Data Link

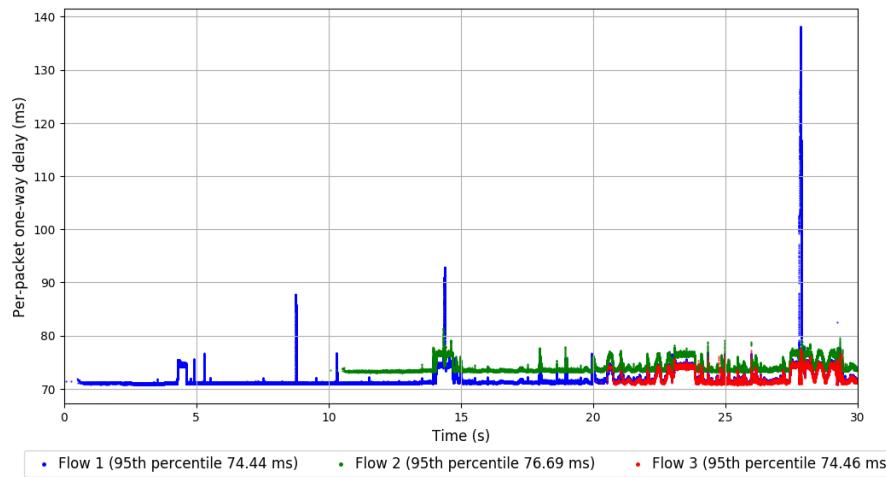
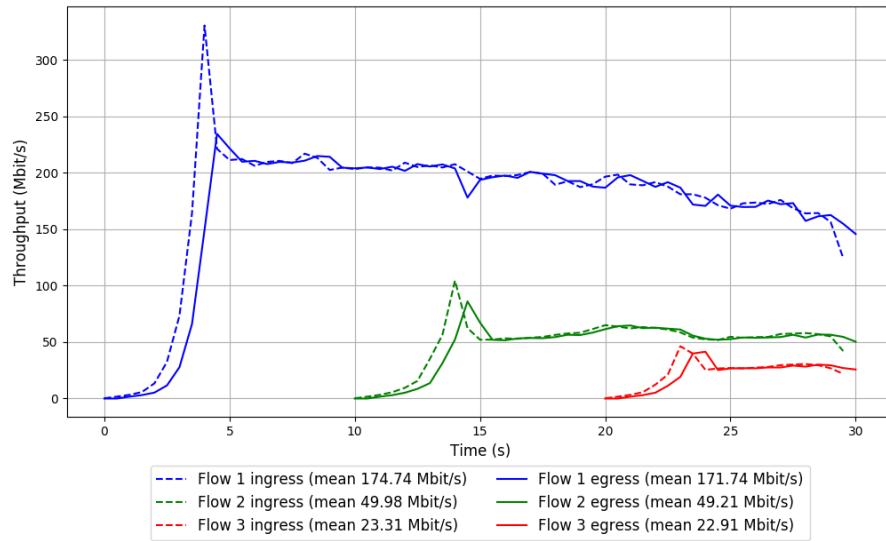


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-02 11:04:26
End at: 2018-10-02 11:04:56
Local clock offset: 0.868 ms
Remote clock offset: -34.762 ms

# Below is generated by plot.py at 2018-10-02 12:50:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.03 Mbit/s
95th percentile per-packet one-way delay: 74.914 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 171.74 Mbit/s
95th percentile per-packet one-way delay: 74.437 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 49.21 Mbit/s
95th percentile per-packet one-way delay: 76.686 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 22.91 Mbit/s
95th percentile per-packet one-way delay: 74.458 ms
Loss rate: 1.73%
```

Run 3: Report of PCC-Vivace — Data Link

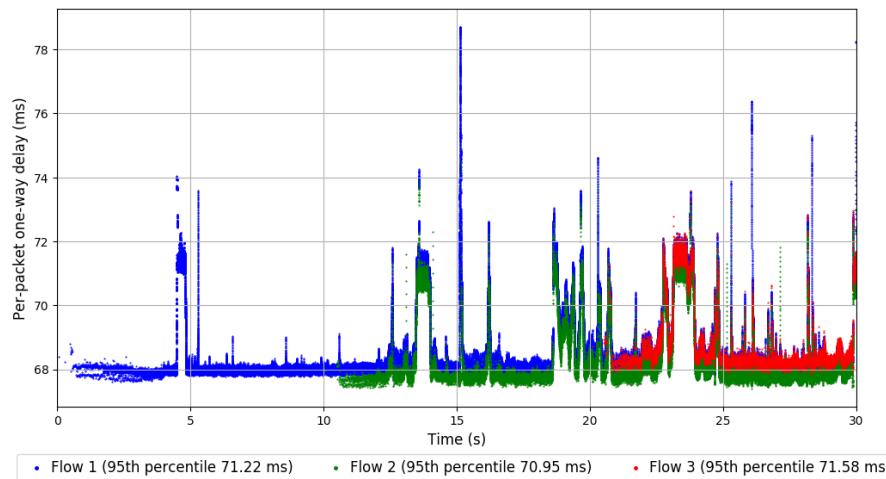
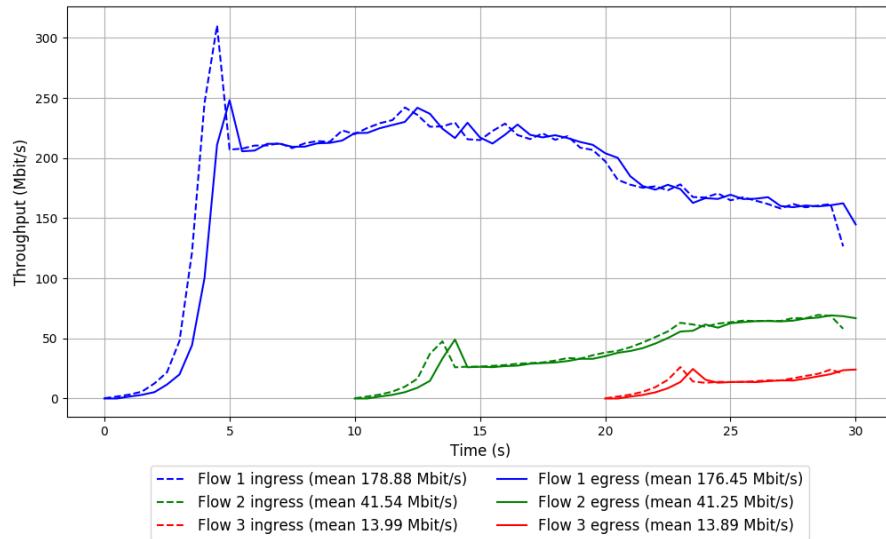


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-02 11:30:31
End at: 2018-10-02 11:31:01
Local clock offset: -0.554 ms
Remote clock offset: -39.574 ms

# Below is generated by plot.py at 2018-10-02 12:50:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.47 Mbit/s
95th percentile per-packet one-way delay: 71.200 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 176.45 Mbit/s
95th percentile per-packet one-way delay: 71.221 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 41.25 Mbit/s
95th percentile per-packet one-way delay: 70.946 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 13.89 Mbit/s
95th percentile per-packet one-way delay: 71.581 ms
Loss rate: 0.73%
```

Run 4: Report of PCC-Vivace — Data Link

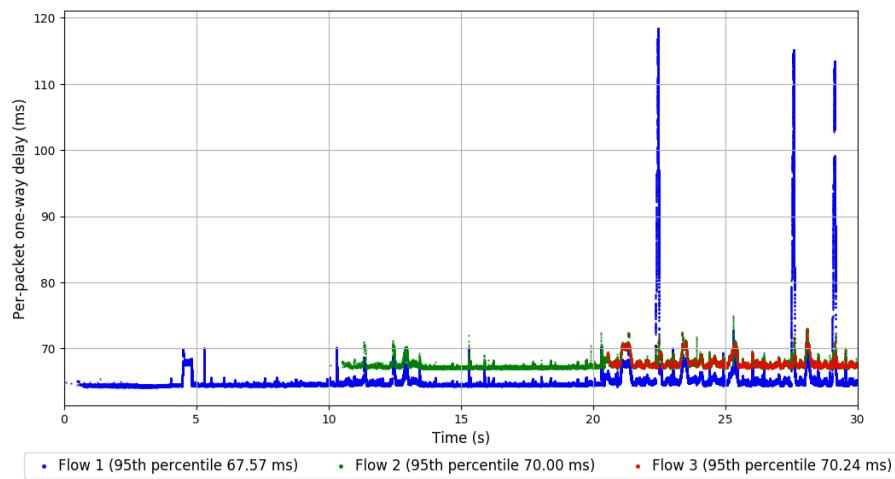
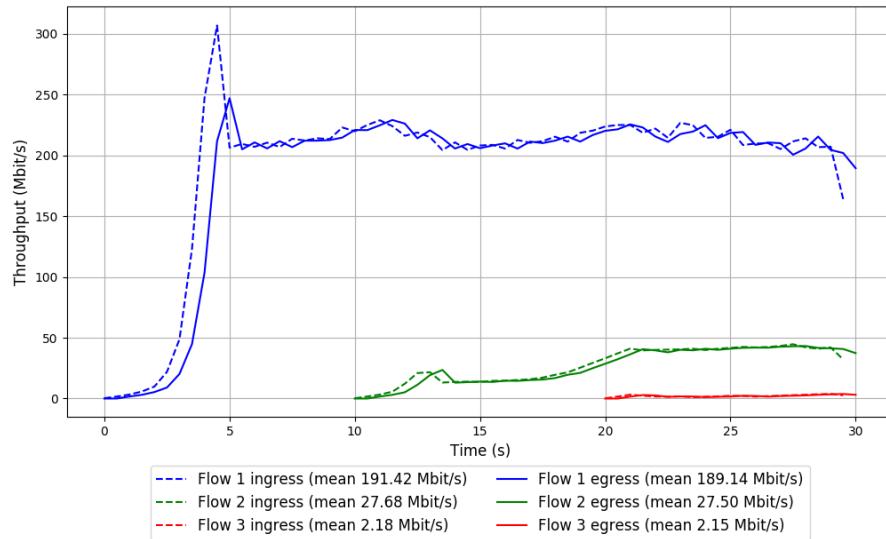


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-02 11:56:38
End at: 2018-10-02 11:57:08
Local clock offset: 3.058 ms
Remote clock offset: -38.808 ms

# Below is generated by plot.py at 2018-10-02 12:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.12 Mbit/s
95th percentile per-packet one-way delay: 67.822 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 189.14 Mbit/s
95th percentile per-packet one-way delay: 67.573 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 27.50 Mbit/s
95th percentile per-packet one-way delay: 70.000 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 70.244 ms
Loss rate: 1.09%
```

Run 5: Report of PCC-Vivace — Data Link

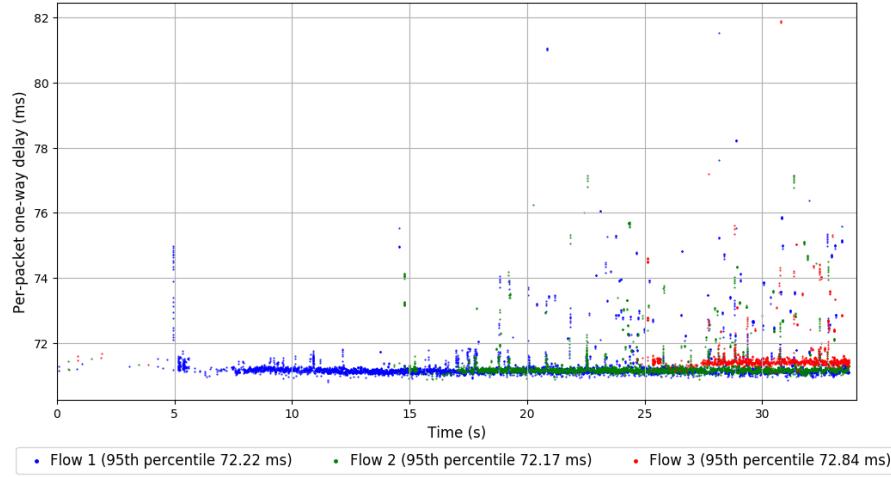
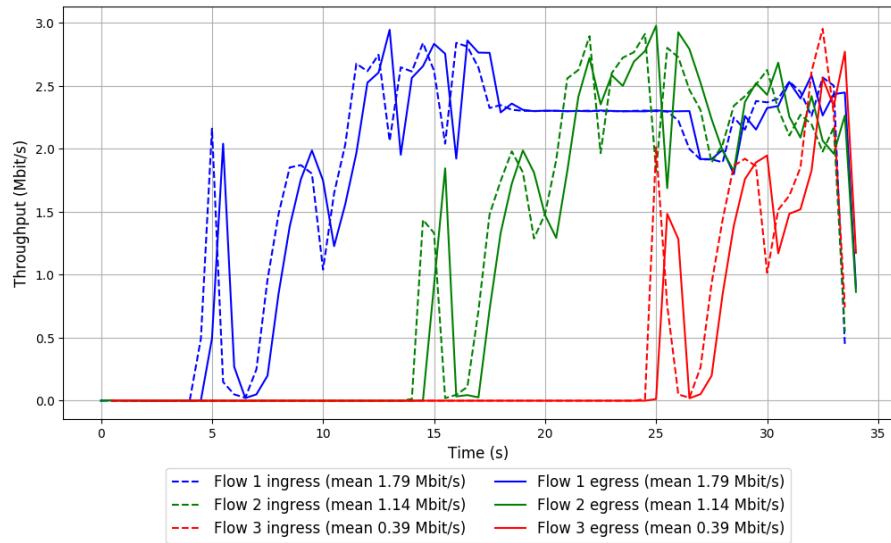


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-02 10:28:31
End at: 2018-10-02 10:29:01
Local clock offset: -0.019 ms
Remote clock offset: -34.865 ms

# Below is generated by plot.py at 2018-10-02 12:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 72.394 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 72.224 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 72.165 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 72.838 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

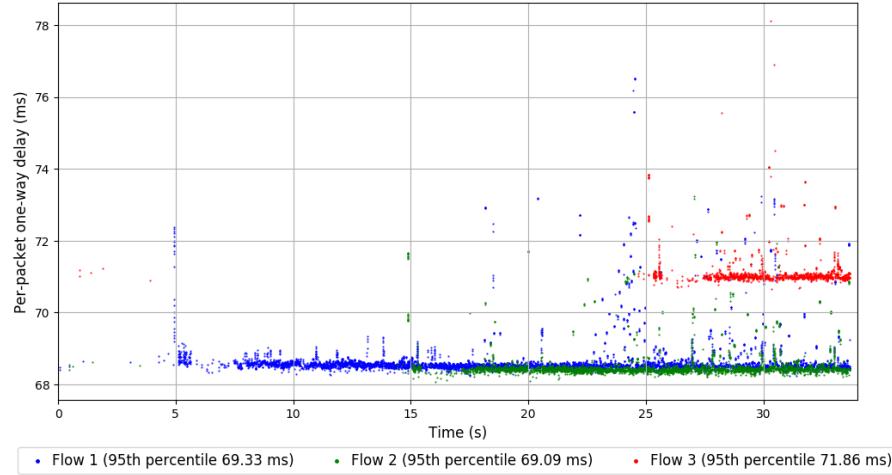
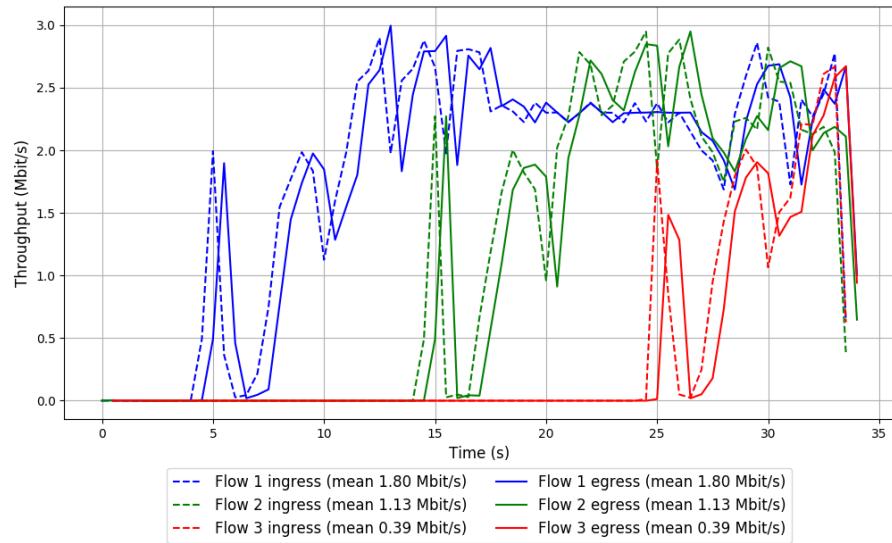


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-02 11:00:12
End at: 2018-10-02 11:00:42
Local clock offset: -1.143 ms
Remote clock offset: -39.227 ms

# Below is generated by plot.py at 2018-10-02 12:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 71.053 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 69.328 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 69.086 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 71.865 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

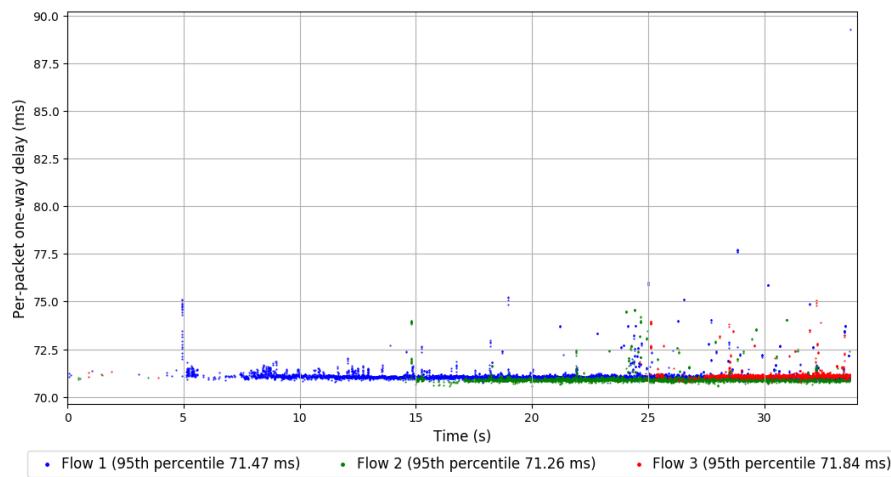
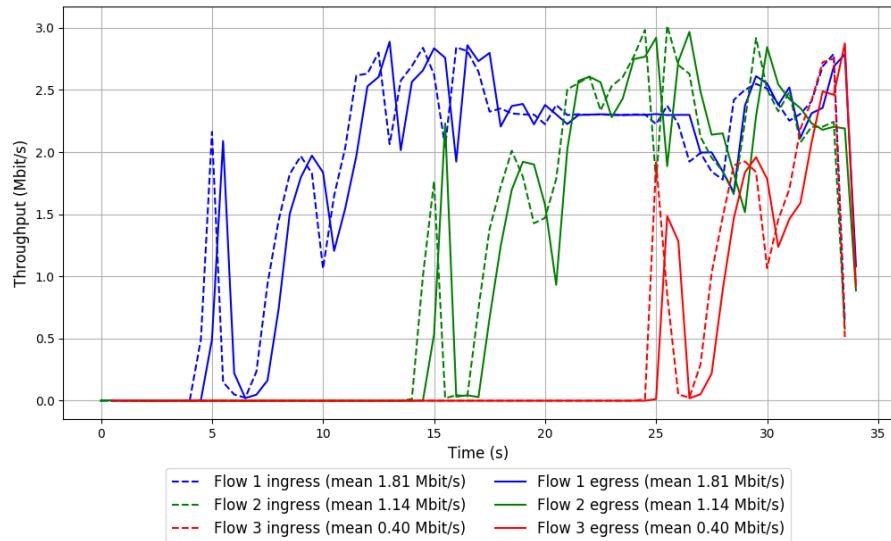


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-02 11:26:17
End at: 2018-10-02 11:26:47
Local clock offset: 0.951 ms
Remote clock offset: -34.759 ms

# Below is generated by plot.py at 2018-10-02 12:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 71.458 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 71.471 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 71.263 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 71.838 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

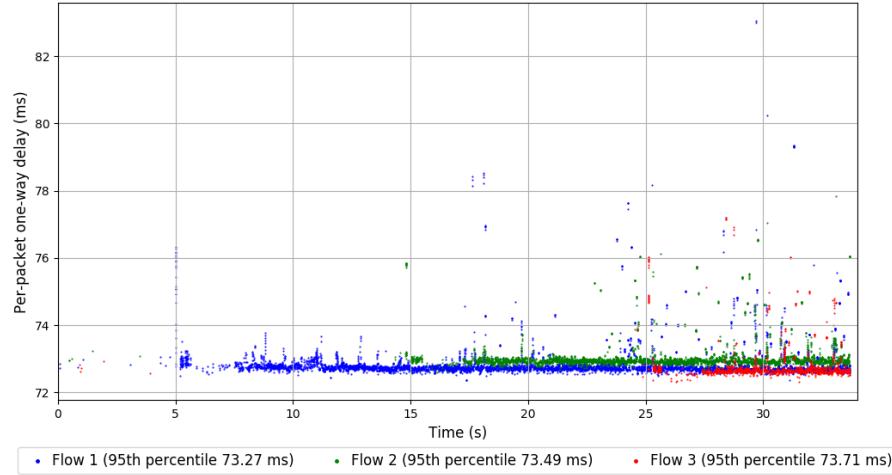
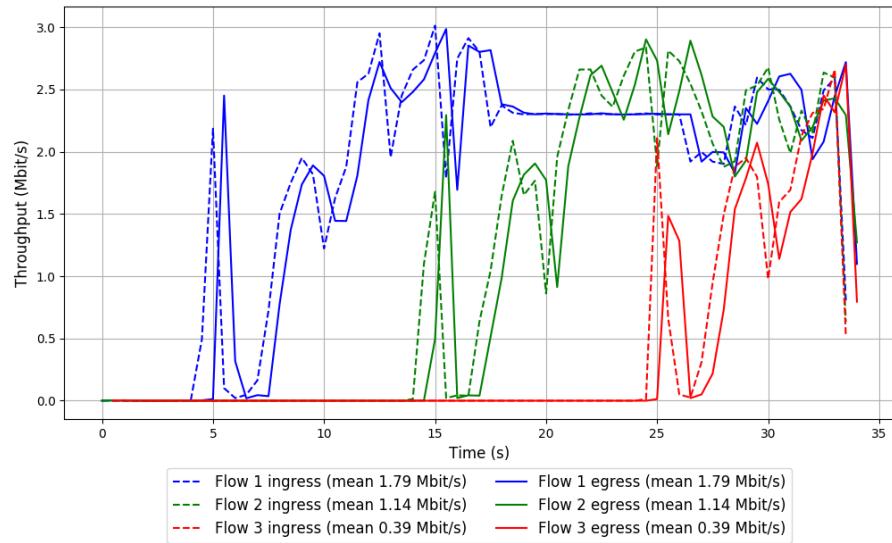


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-02 11:52:24
End at: 2018-10-02 11:52:54
Local clock offset: 1.299 ms
Remote clock offset: -32.736 ms

# Below is generated by plot.py at 2018-10-02 12:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 73.417 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 73.272 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 73.490 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 73.709 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-02 12:24:14
End at: 2018-10-02 12:24:44
Local clock offset: -0.599 ms
Remote clock offset: -34.078 ms

# Below is generated by plot.py at 2018-10-02 12:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 73.534 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 73.799 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 73.263 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 73.155 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

