

Pantheon Report

Generated at 2018-10-26 06:02:41 (UTC).

Data path: AWS California 1 on `ens5` (*local*) → Stanford on `eno1` (*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 `time.stanford.edu` and have been applied to correct the timestamps in logs.

System info:

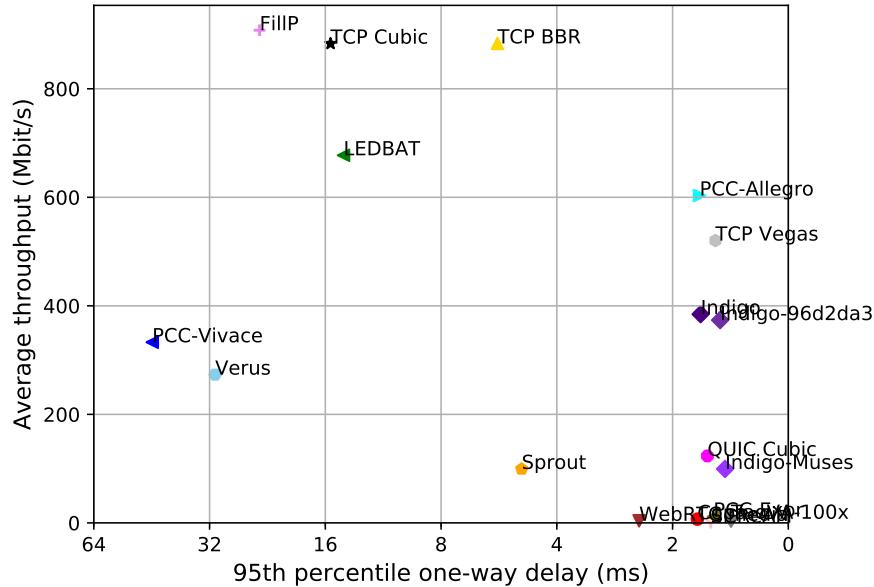
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

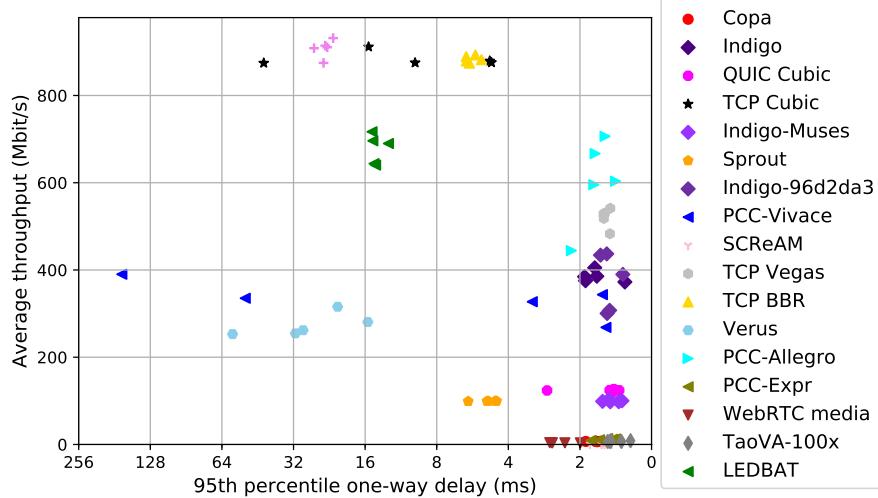
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows



4

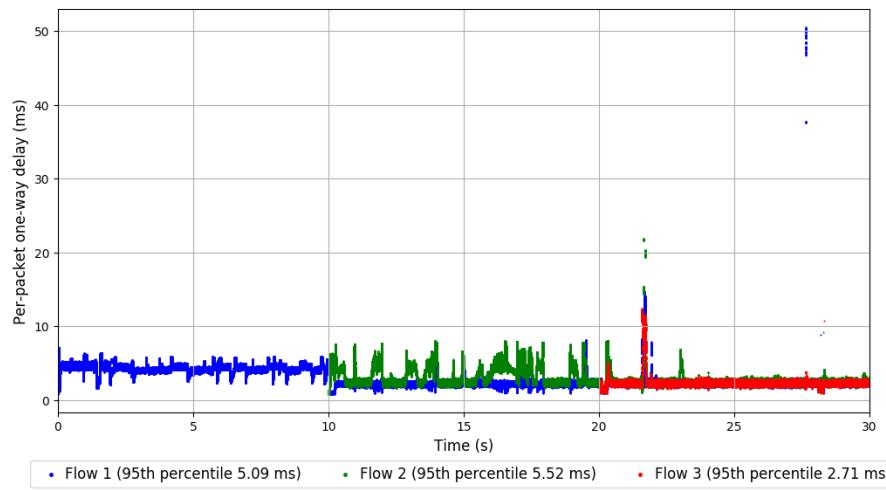
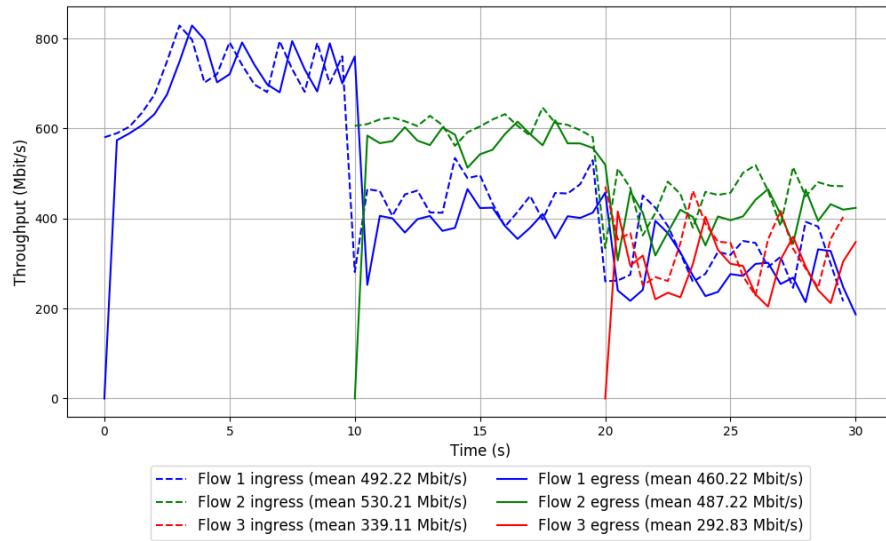
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	493.62	439.10	298.38	5.58	6.08	3.04	5.43	8.91	13.29
Copa	5	0.00	7.43	6.97	1.27	1.56	1.57	98.45	45.42	42.00
TCP Cubic	5	520.99	387.25	313.25	19.45	2.19	2.22	0.07	0.06	0.07
FillP	5	562.83	354.89	329.65	23.95	13.90	27.31	14.38	24.17	27.60
Indigo	5	199.08	189.72	184.61	1.33	1.51	1.90	0.00	0.00	0.00
Indigo-96d2da3	5	197.76	177.85	175.58	1.21	1.13	1.09	0.00	0.00	0.00
LEDBAT	5	388.35	304.88	272.55	15.75	7.47	6.94	0.14	0.32	0.33
Indigo-Muses	5	49.78	49.56	50.98	1.10	1.10	1.04	0.00	0.00	0.00
PCC-Allegro	5	297.62	440.70	38.50	1.35	1.65	1.79	0.03	0.06	0.07
PCC-Expr	5	6.28	5.66	4.71	1.30	1.28	1.27	77.80	78.77	79.40
QUIC Cubic	5	65.49	62.29	50.51	1.34	2.32	3.44	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	1.35	1.33	1.31	0.00	0.00	0.00
Sprout	5	49.89	49.85	49.39	4.86	4.97	5.11	0.09	0.10	0.24
TaoVA-100x	5	0.00	5.96	10.91	1.17	1.02	0.93	95.92	49.68	75.27
TCP Vegas	5	253.26	270.53	260.88	1.38	1.19	1.25	0.01	0.01	0.02
Verus	5	151.45	121.59	124.83	17.30	36.05	58.66	3.28	6.56	6.14
PCC-Vivace	5	169.51	153.08	186.46	12.90	3.79	41.55	0.05	0.19	1.42
WebRTC media	5	1.99	1.37	0.49	2.40	2.37	2.69	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-26 02:56:14
End at: 2018-10-26 02:56:44
Local clock offset: 0.456 ms
Remote clock offset: -2.244 ms

# Below is generated by plot.py at 2018-10-26 05:24:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 882.19 Mbit/s
95th percentile per-packet one-way delay: 5.188 ms
Loss rate: 7.93%
-- Flow 1:
Average throughput: 460.22 Mbit/s
95th percentile per-packet one-way delay: 5.095 ms
Loss rate: 6.50%
-- Flow 2:
Average throughput: 487.22 Mbit/s
95th percentile per-packet one-way delay: 5.522 ms
Loss rate: 8.10%
-- Flow 3:
Average throughput: 292.83 Mbit/s
95th percentile per-packet one-way delay: 2.707 ms
Loss rate: 13.65%
```

Run 1: Report of TCP BBR — Data Link

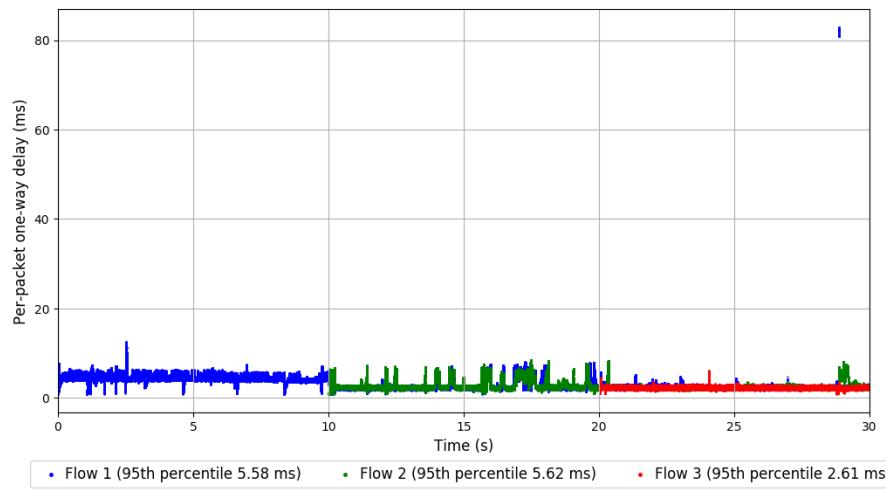
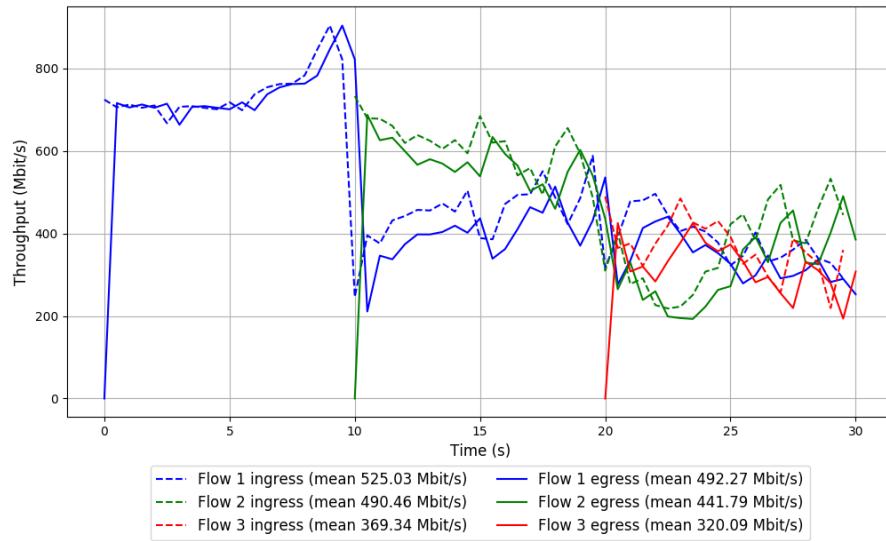


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-26 03:23:50
End at: 2018-10-26 03:24:20
Local clock offset: 0.466 ms
Remote clock offset: -5.688 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 893.01 Mbit/s
95th percentile per-packet one-way delay: 5.503 ms
Loss rate: 8.36%
-- Flow 1:
Average throughput: 492.27 Mbit/s
95th percentile per-packet one-way delay: 5.579 ms
Loss rate: 6.23%
-- Flow 2:
Average throughput: 441.79 Mbit/s
95th percentile per-packet one-way delay: 5.615 ms
Loss rate: 9.92%
-- Flow 3:
Average throughput: 320.09 Mbit/s
95th percentile per-packet one-way delay: 2.610 ms
Loss rate: 13.33%
```

Run 2: Report of TCP BBR — Data Link

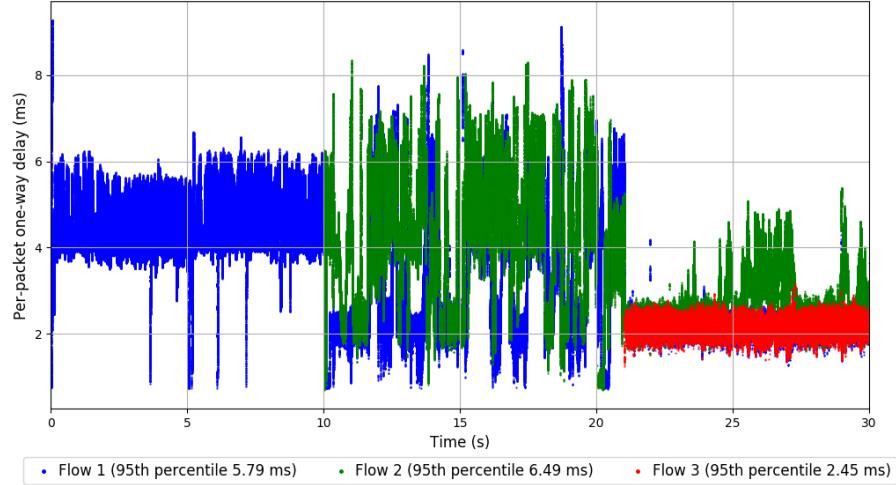
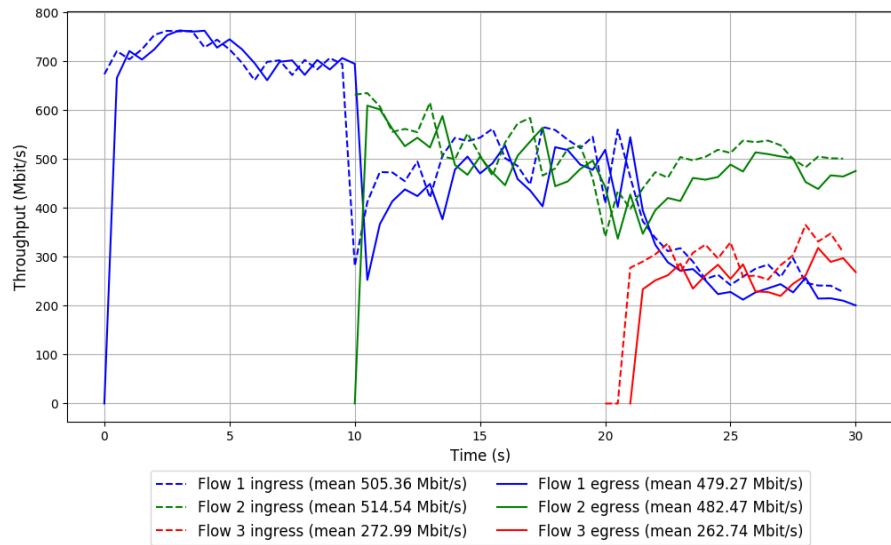


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-26 03:51:21
End at: 2018-10-26 03:51:51
Local clock offset: -2.906 ms
Remote clock offset: -7.76 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.23 Mbit/s
95th percentile per-packet one-way delay: 6.004 ms
Loss rate: 6.35%
-- Flow 1:
Average throughput: 479.27 Mbit/s
95th percentile per-packet one-way delay: 5.793 ms
Loss rate: 5.16%
-- Flow 2:
Average throughput: 482.47 Mbit/s
95th percentile per-packet one-way delay: 6.488 ms
Loss rate: 6.23%
-- Flow 3:
Average throughput: 262.74 Mbit/s
95th percentile per-packet one-way delay: 2.450 ms
Loss rate: 13.43%
```

Run 3: Report of TCP BBR — Data Link

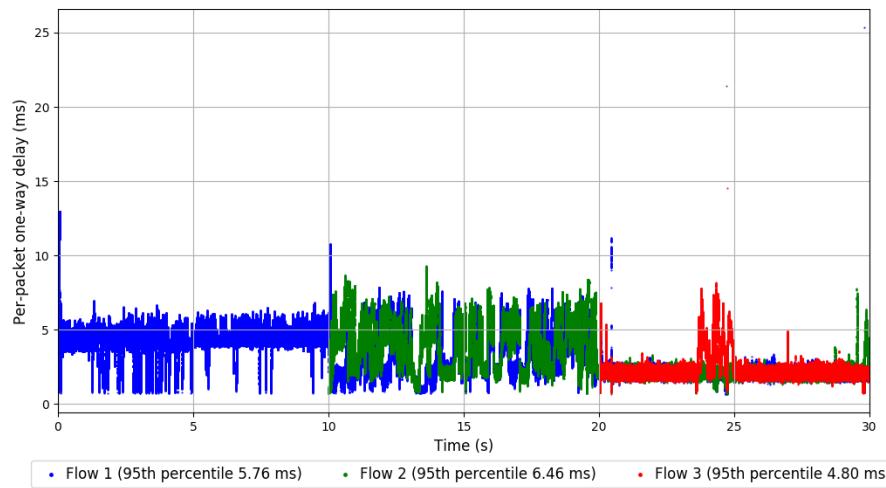
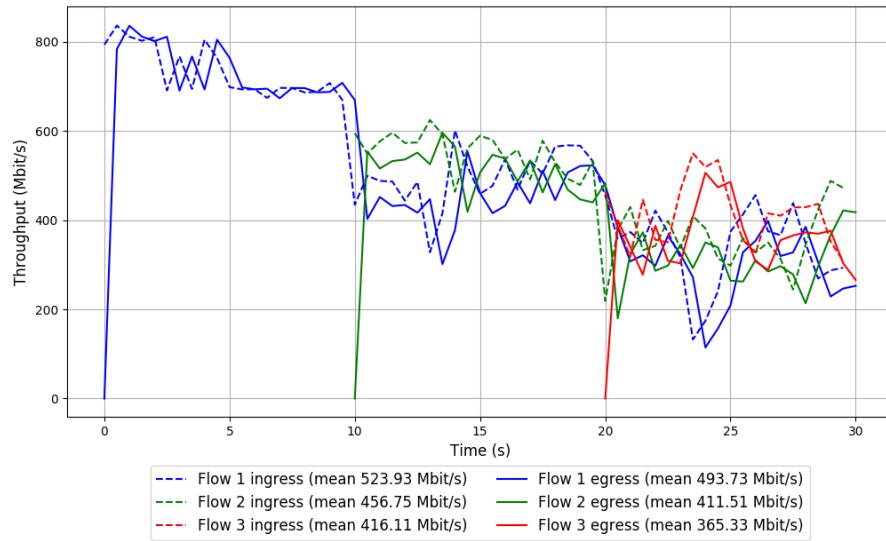


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-26 04:18:45
End at: 2018-10-26 04:19:15
Local clock offset: -2.836 ms
Remote clock offset: 5.887 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 889.23 Mbit/s
95th percentile per-packet one-way delay: 6.013 ms
Loss rate: 7.98%
-- Flow 1:
Average throughput: 493.73 Mbit/s
95th percentile per-packet one-way delay: 5.756 ms
Loss rate: 5.76%
-- Flow 2:
Average throughput: 411.51 Mbit/s
95th percentile per-packet one-way delay: 6.455 ms
Loss rate: 9.90%
-- Flow 3:
Average throughput: 365.33 Mbit/s
95th percentile per-packet one-way delay: 4.800 ms
Loss rate: 12.20%
```

Run 4: Report of TCP BBR — Data Link

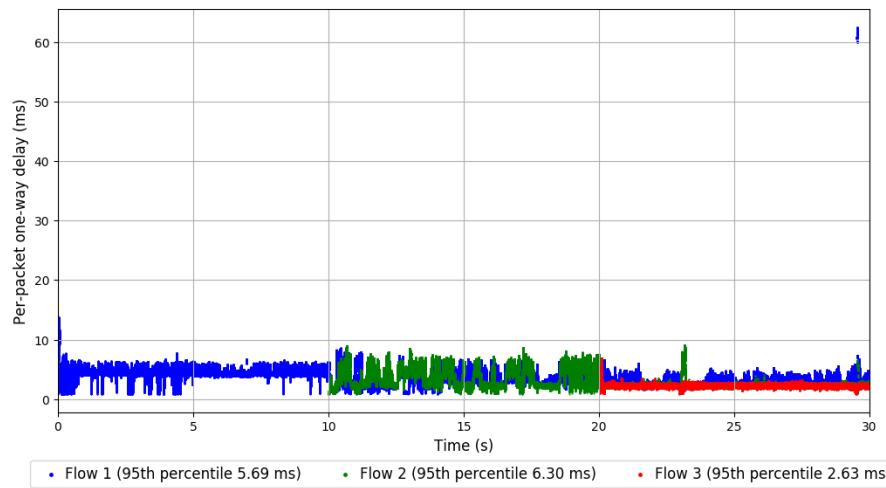
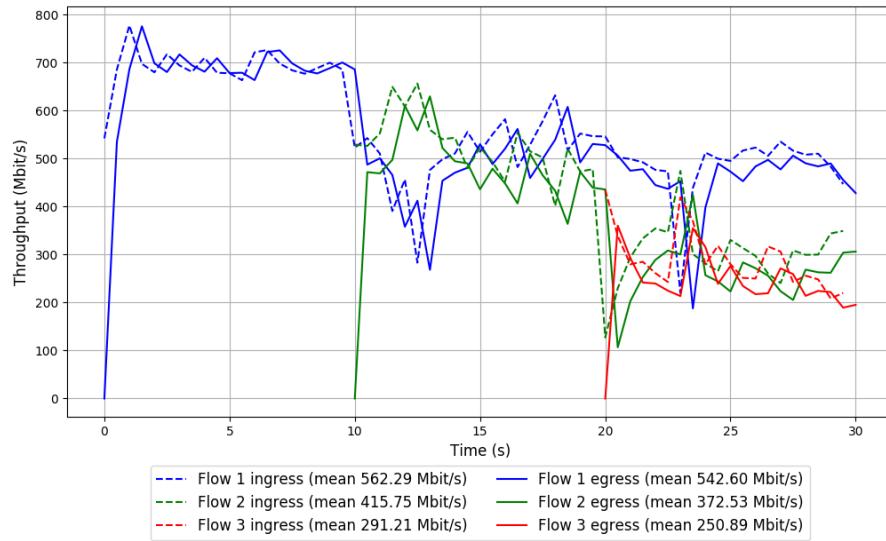


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-26 04:46:16
End at: 2018-10-26 04:46:46
Local clock offset: 0.038 ms
Remote clock offset: 4.805 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 874.26 Mbit/s
95th percentile per-packet one-way delay: 5.827 ms
Loss rate: 6.61%
-- Flow 1:
Average throughput: 542.60 Mbit/s
95th percentile per-packet one-way delay: 5.694 ms
Loss rate: 3.50%
-- Flow 2:
Average throughput: 372.53 Mbit/s
95th percentile per-packet one-way delay: 6.297 ms
Loss rate: 10.39%
-- Flow 3:
Average throughput: 250.89 Mbit/s
95th percentile per-packet one-way delay: 2.635 ms
Loss rate: 13.85%
```

Run 5: Report of TCP BBR — Data Link

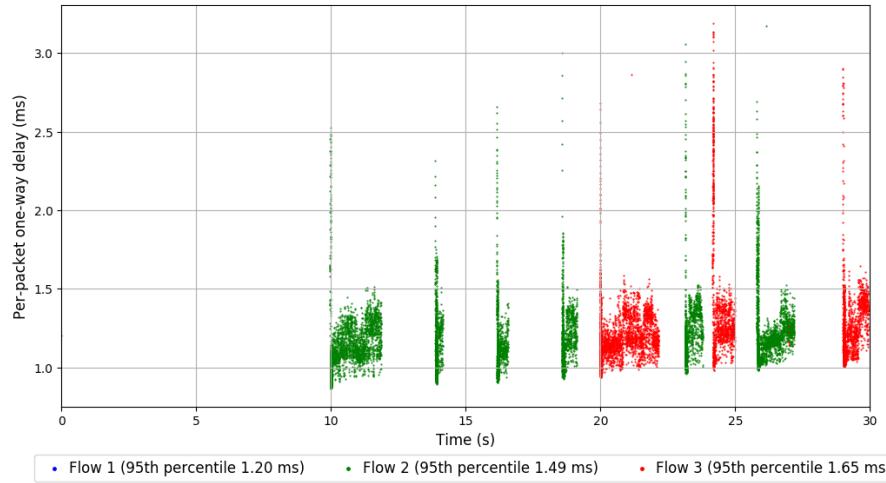
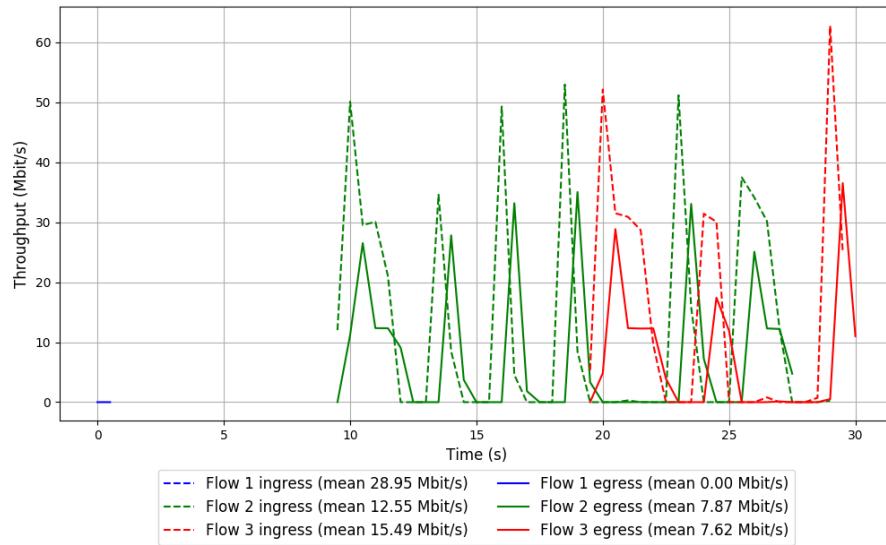


Run 1: Statistics of Copa

```
Start at: 2018-10-26 02:50:07
End at: 2018-10-26 02:50:37
Local clock offset: 0.387 ms
Remote clock offset: -0.283 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.06 Mbit/s
95th percentile per-packet one-way delay: 1.540 ms
Loss rate: 46.57%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.204 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 1.492 ms
Loss rate: 43.84%
-- Flow 3:
Average throughput: 7.62 Mbit/s
95th percentile per-packet one-way delay: 1.654 ms
Loss rate: 50.81%
```

Run 1: Report of Copa — Data Link

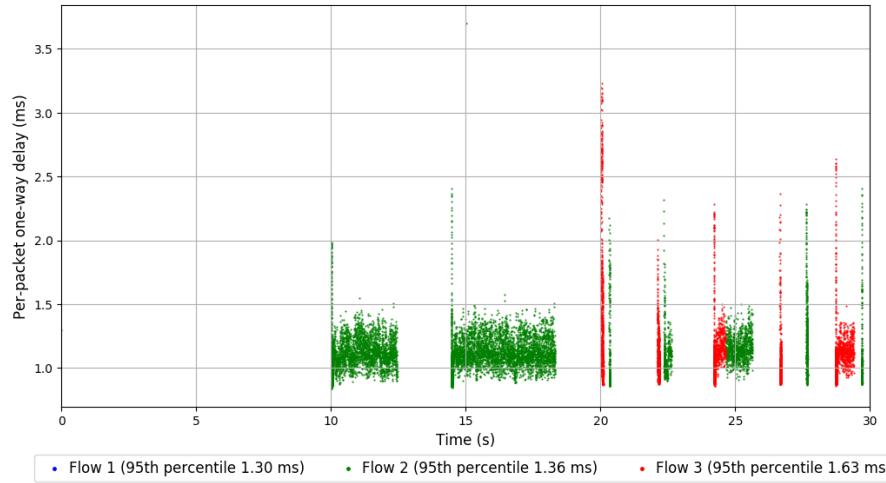
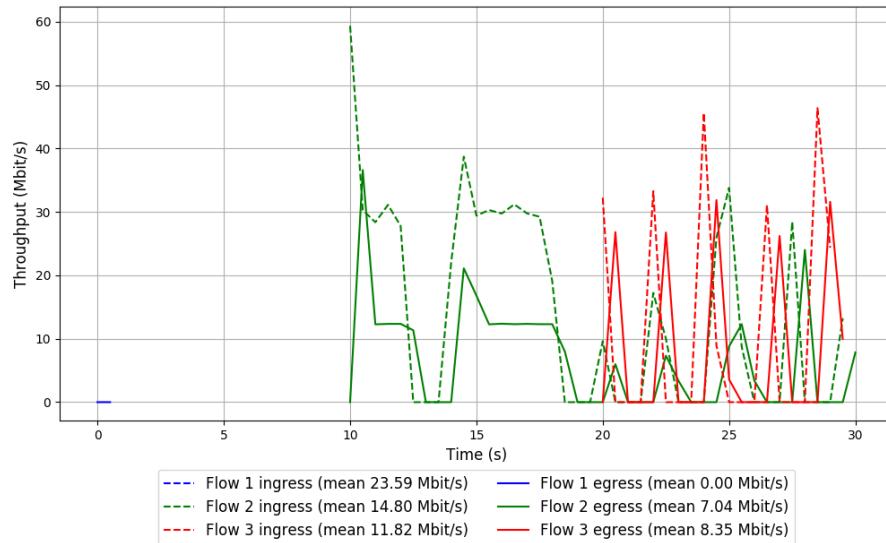


Run 2: Statistics of Copa

```
Start at: 2018-10-26 03:17:49
End at: 2018-10-26 03:18:19
Local clock offset: 0.46 ms
Remote clock offset: -5.147 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 1.405 ms
Loss rate: 46.06%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.296 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 7.04 Mbit/s
95th percentile per-packet one-way delay: 1.360 ms
Loss rate: 52.41%
-- Flow 3:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 1.626 ms
Loss rate: 29.33%
```

Run 2: Report of Copa — Data Link

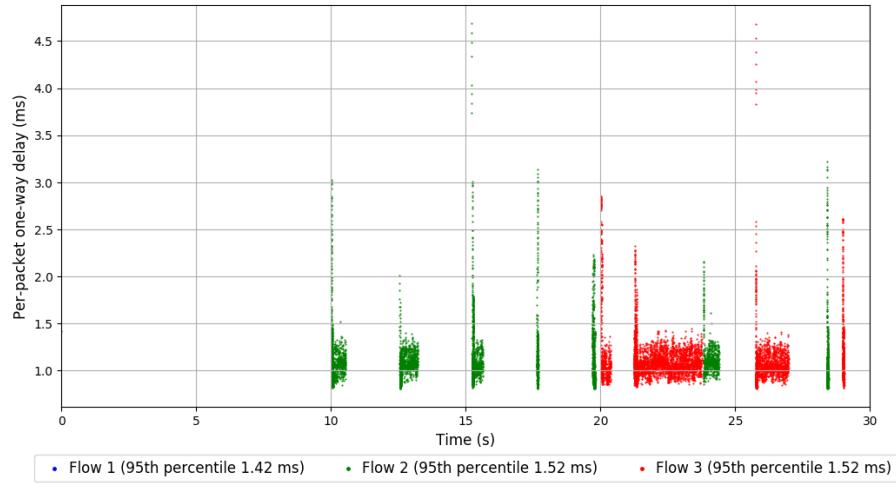
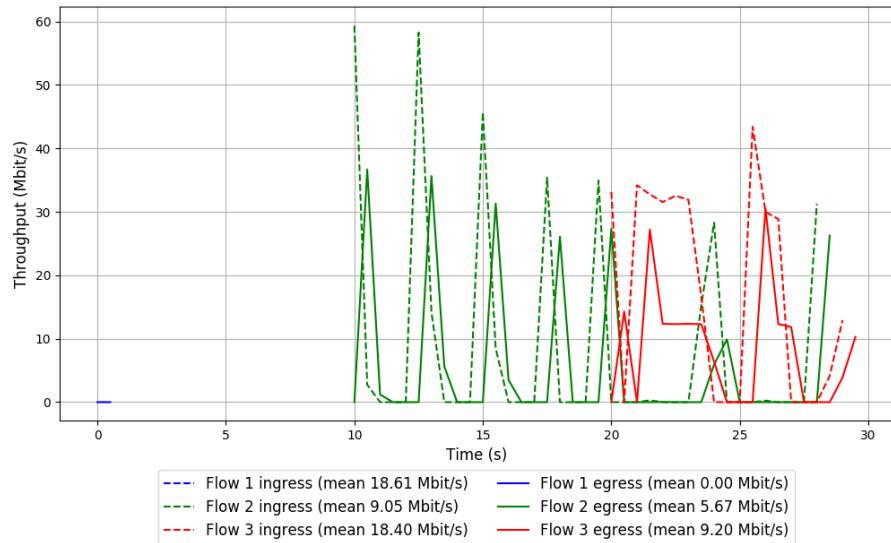


Run 3: Statistics of Copa

```
Start at: 2018-10-26 03:45:18
End at: 2018-10-26 03:45:48
Local clock offset: -2.376 ms
Remote clock offset: -7.21 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 1.516 ms
Loss rate: 43.66%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.416 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 1.516 ms
Loss rate: 37.33%
-- Flow 3:
Average throughput: 9.20 Mbit/s
95th percentile per-packet one-way delay: 1.521 ms
Loss rate: 50.01%
```

Run 3: Report of Copa — Data Link

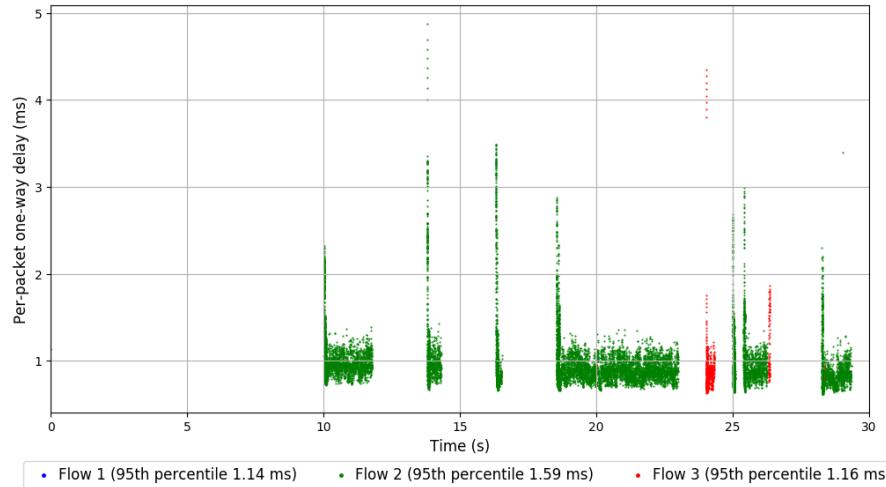
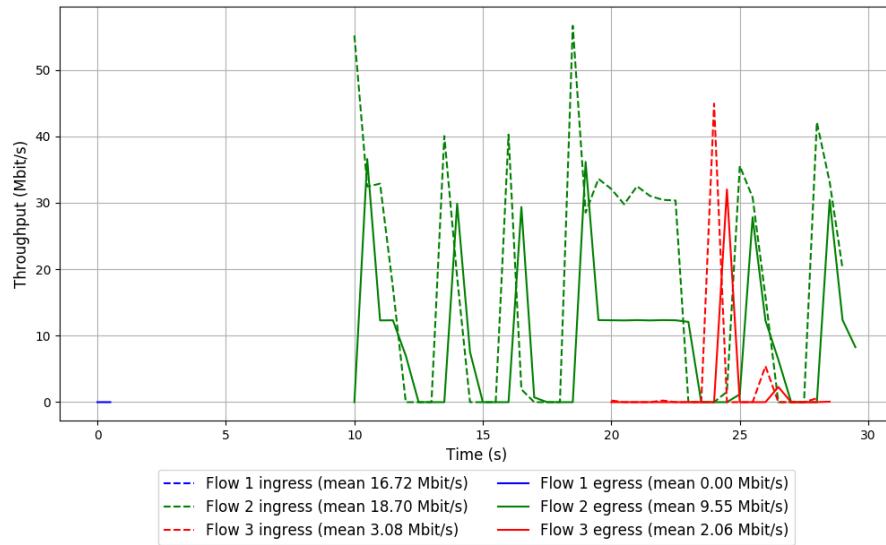


Run 4: Statistics of Copa

```
Start at: 2018-10-26 04:12:46
End at: 2018-10-26 04:13:16
Local clock offset: -2.884 ms
Remote clock offset: 4.503 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.87 Mbit/s
95th percentile per-packet one-way delay: 1.557 ms
Loss rate: 47.91%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 97.92%
-- Flow 2:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 1.588 ms
Loss rate: 48.95%
-- Flow 3:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 33.14%
```

Run 4: Report of Copa — Data Link

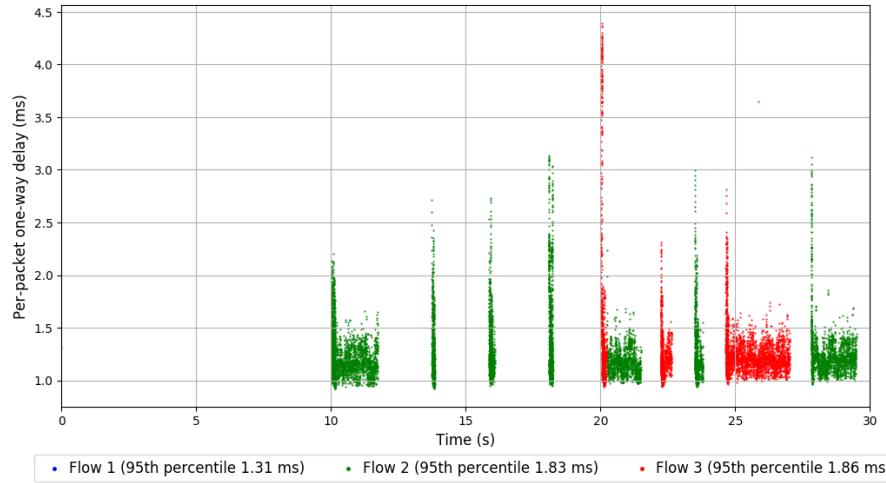
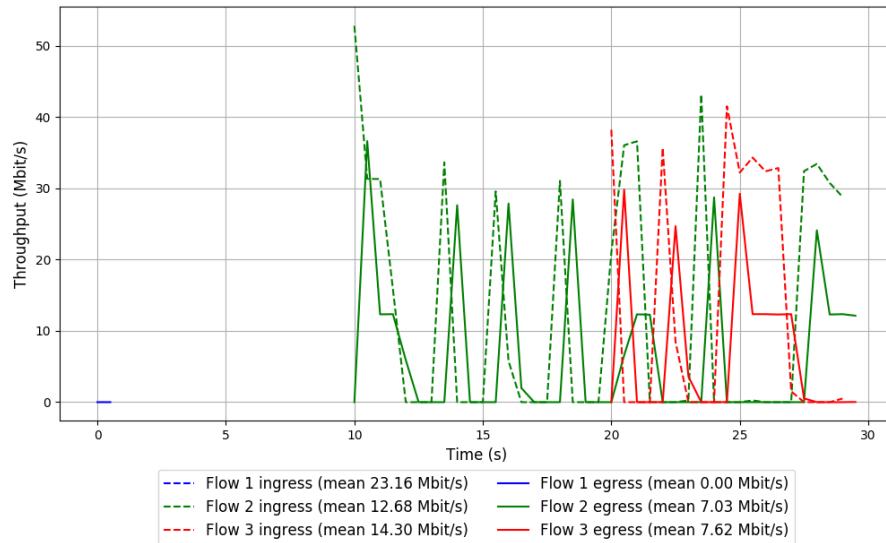


Run 5: Statistics of Copa

```
Start at: 2018-10-26 04:40:16
End at: 2018-10-26 04:40:46
Local clock offset: -0.737 ms
Remote clock offset: 4.853 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 1.838 ms
Loss rate: 45.31%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.307 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 1.830 ms
Loss rate: 44.55%
-- Flow 3:
Average throughput: 7.62 Mbit/s
95th percentile per-packet one-way delay: 1.862 ms
Loss rate: 46.73%
```

Run 5: Report of Copa — Data Link

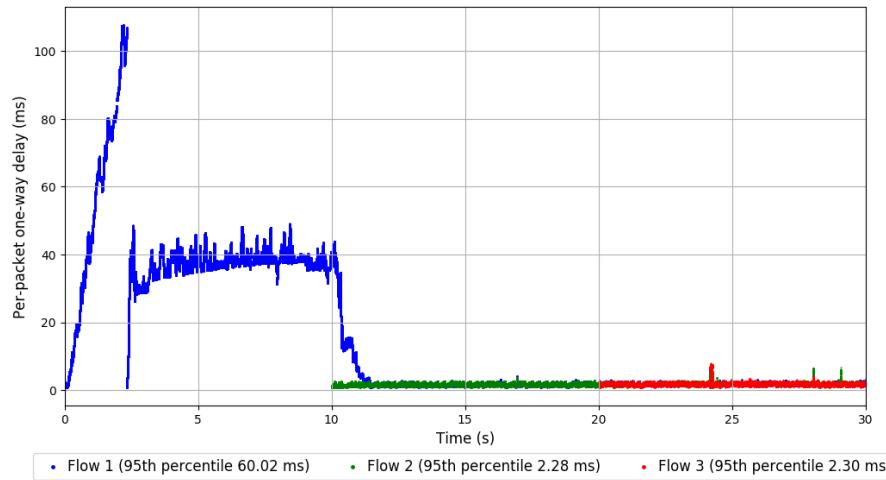
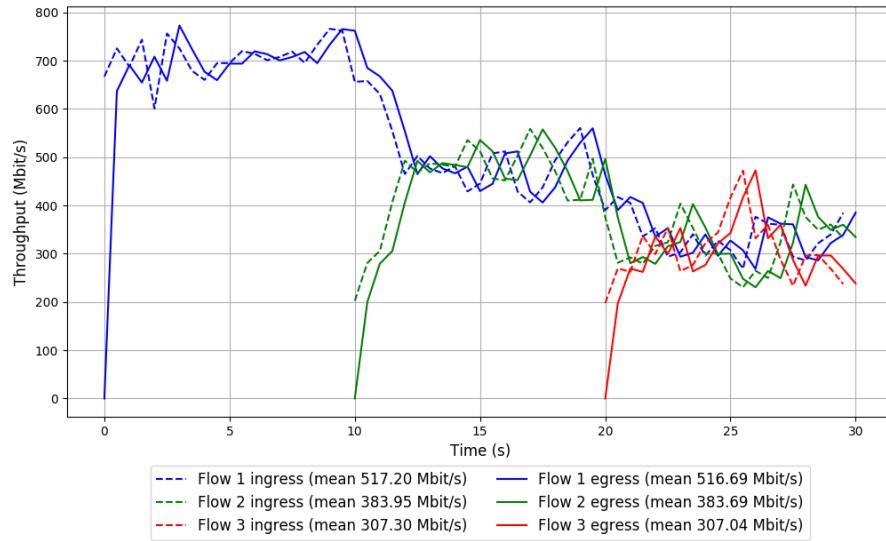


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-26 03:08:46
End at: 2018-10-26 03:09:16
Local clock offset: 0.453 ms
Remote clock offset: -4.244 ms

# Below is generated by plot.py at 2018-10-26 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 874.41 Mbit/s
95th percentile per-packet one-way delay: 42.698 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 516.69 Mbit/s
95th percentile per-packet one-way delay: 60.016 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 383.69 Mbit/s
95th percentile per-packet one-way delay: 2.280 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 307.04 Mbit/s
95th percentile per-packet one-way delay: 2.296 ms
Loss rate: 0.08%
```

Run 1: Report of TCP Cubic — Data Link

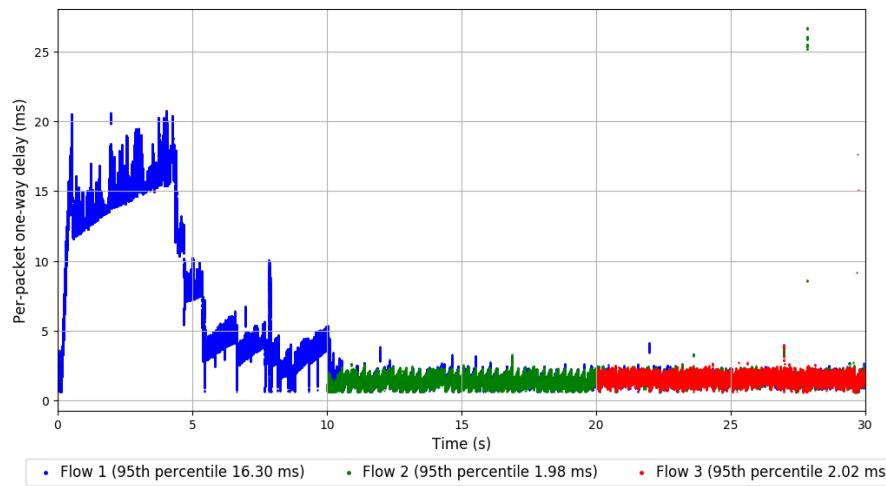
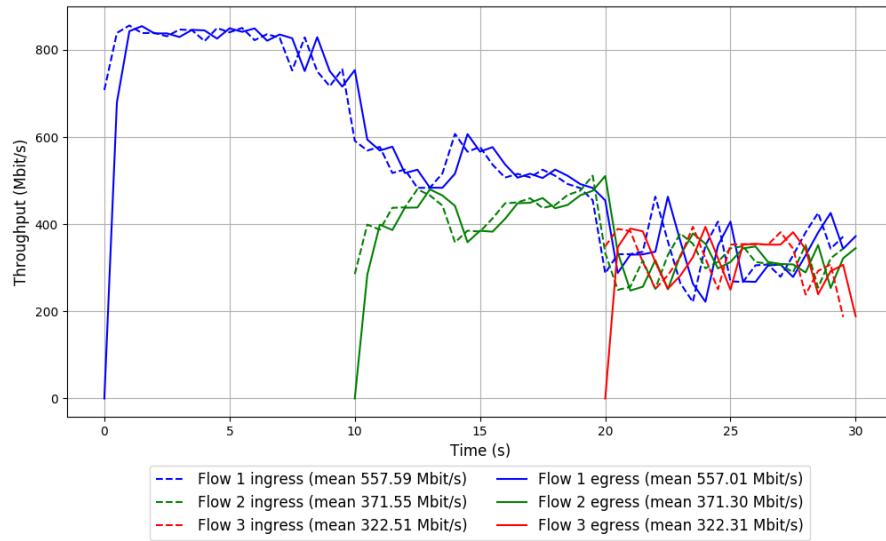


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-26 03:36:20
End at: 2018-10-26 03:36:50
Local clock offset: -0.86 ms
Remote clock offset: -6.595 ms

# Below is generated by plot.py at 2018-10-26 05:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 911.47 Mbit/s
95th percentile per-packet one-way delay: 15.480 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 557.01 Mbit/s
95th percentile per-packet one-way delay: 16.296 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 371.30 Mbit/s
95th percentile per-packet one-way delay: 1.980 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 322.31 Mbit/s
95th percentile per-packet one-way delay: 2.019 ms
Loss rate: 0.06%
```

Run 2: Report of TCP Cubic — Data Link

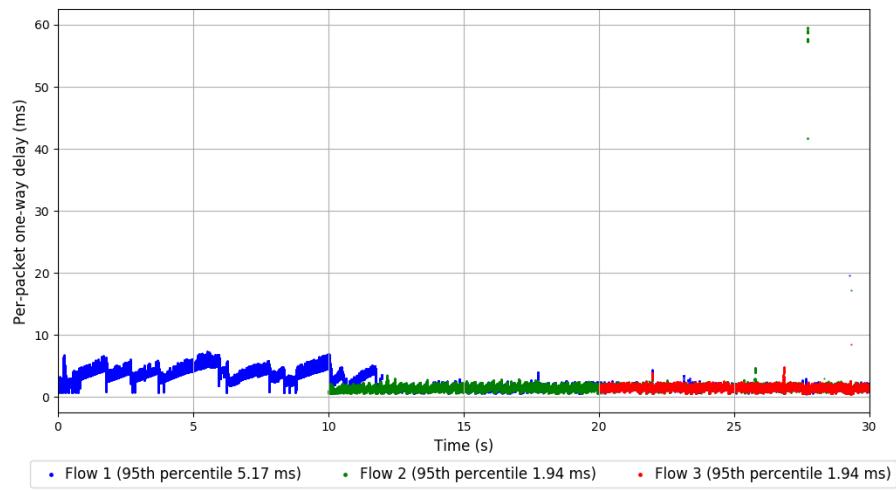
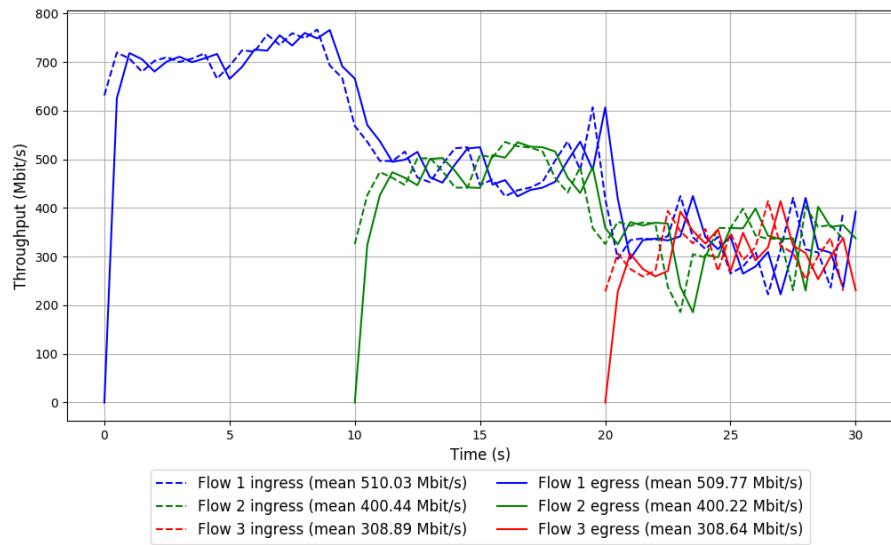


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-26 04:03:51
End at: 2018-10-26 04:04:21
Local clock offset: -3.285 ms
Remote clock offset: 1.171 ms

# Below is generated by plot.py at 2018-10-26 05:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.14 Mbit/s
95th percentile per-packet one-way delay: 4.790 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 509.77 Mbit/s
95th percentile per-packet one-way delay: 5.173 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 400.22 Mbit/s
95th percentile per-packet one-way delay: 1.941 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 308.64 Mbit/s
95th percentile per-packet one-way delay: 1.936 ms
Loss rate: 0.07%
```

Run 3: Report of TCP Cubic — Data Link

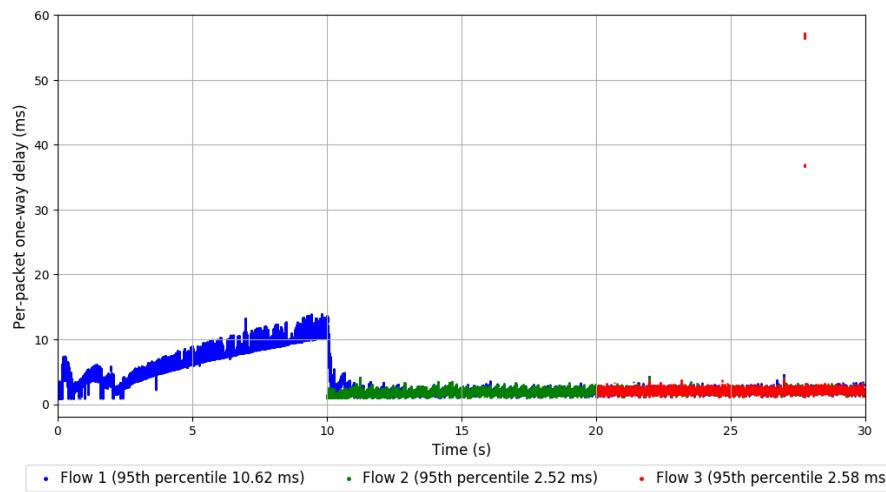
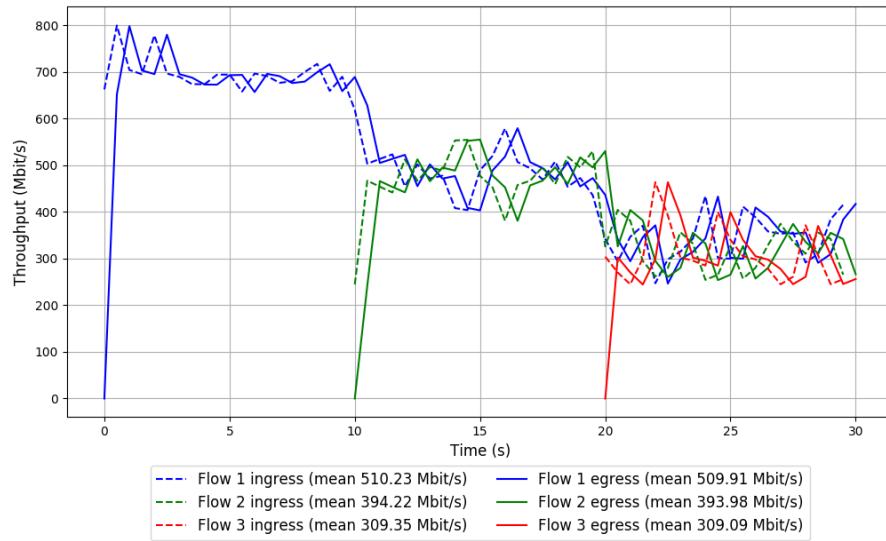


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-26 04:31:22
End at: 2018-10-26 04:31:52
Local clock offset: -2.967 ms
Remote clock offset: 6.098 ms

# Below is generated by plot.py at 2018-10-26 05:32:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 875.10 Mbit/s
95th percentile per-packet one-way delay: 9.865 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 509.91 Mbit/s
95th percentile per-packet one-way delay: 10.621 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 393.98 Mbit/s
95th percentile per-packet one-way delay: 2.515 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 309.09 Mbit/s
95th percentile per-packet one-way delay: 2.578 ms
Loss rate: 0.07%
```

Run 4: Report of TCP Cubic — Data Link

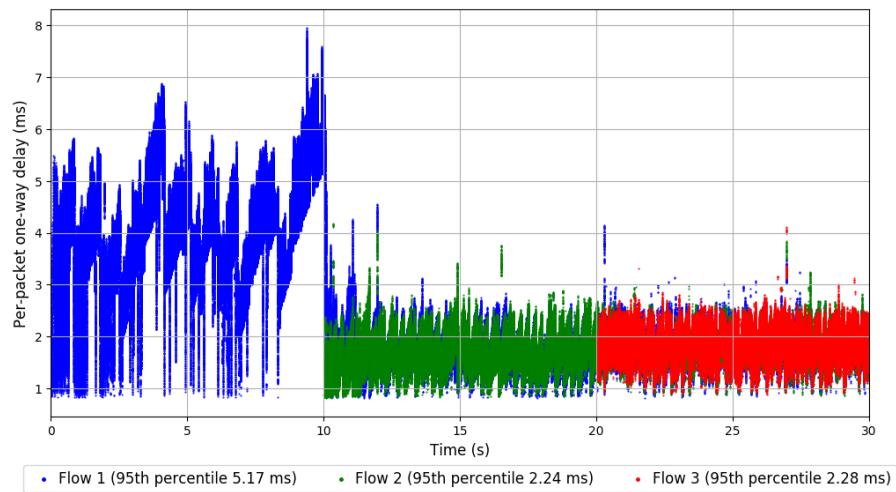
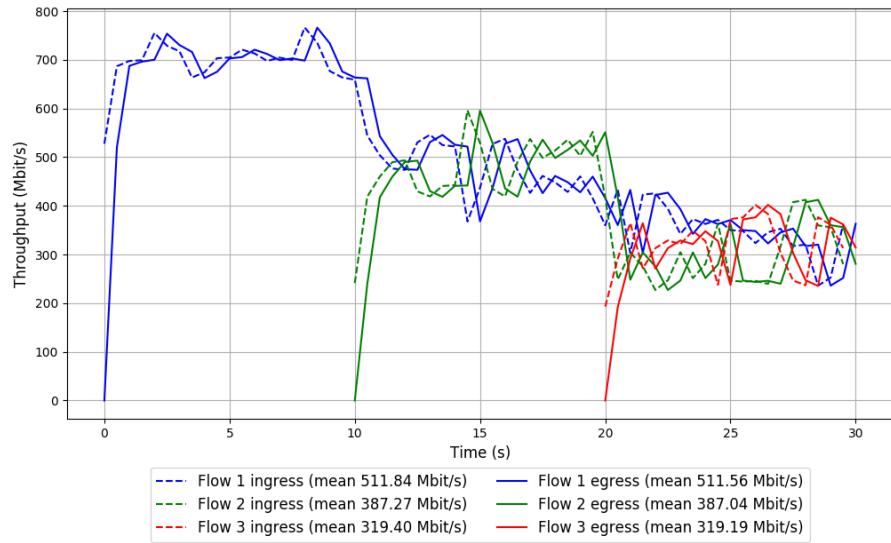


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-26 04:58:50
End at: 2018-10-26 04:59:20
Local clock offset: 0.823 ms
Remote clock offset: 5.32 ms

# Below is generated by plot.py at 2018-10-26 05:32:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 875.54 Mbit/s
95th percentile per-packet one-way delay: 4.710 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 511.56 Mbit/s
95th percentile per-packet one-way delay: 5.167 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 387.04 Mbit/s
95th percentile per-packet one-way delay: 2.244 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 319.19 Mbit/s
95th percentile per-packet one-way delay: 2.284 ms
Loss rate: 0.06%
```

Run 5: Report of TCP Cubic — Data Link

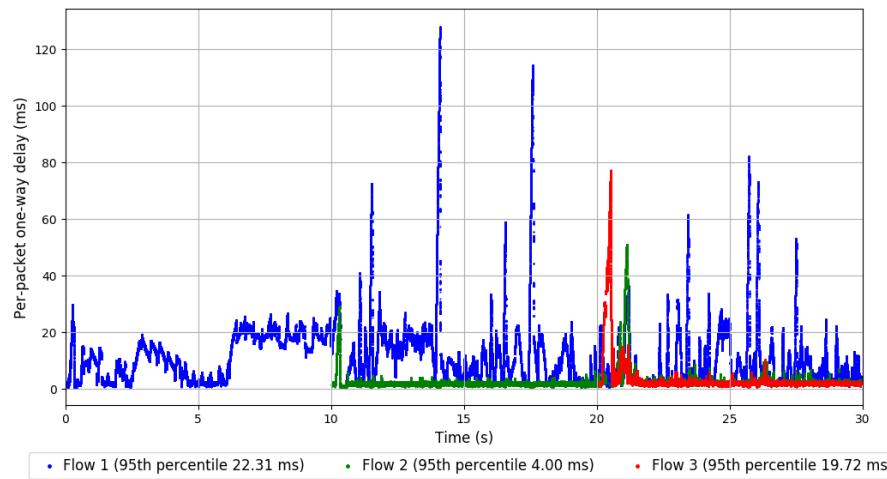
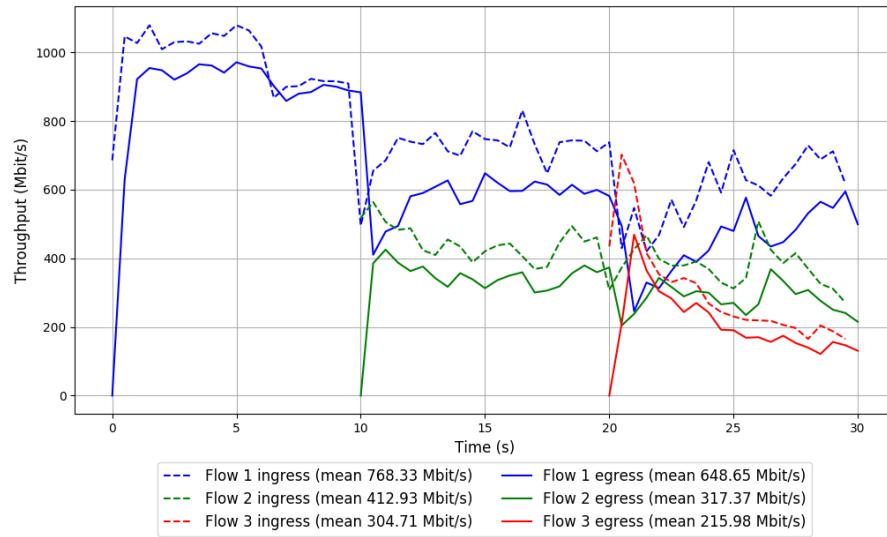


```
Run 1: Statistics of FillP

Start at: 2018-10-26 03:01:20
End at: 2018-10-26 03:01:50
Local clock offset: 0.514 ms
Remote clock offset: -3.341 ms

# Below is generated by plot.py at 2018-10-26 05:38:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 931.58 Mbit/s
95th percentile per-packet one-way delay: 21.802 ms
Loss rate: 18.59%
-- Flow 1:
Average throughput: 648.65 Mbit/s
95th percentile per-packet one-way delay: 22.311 ms
Loss rate: 15.58%
-- Flow 2:
Average throughput: 317.37 Mbit/s
95th percentile per-packet one-way delay: 4.001 ms
Loss rate: 23.13%
-- Flow 3:
Average throughput: 215.98 Mbit/s
95th percentile per-packet one-way delay: 19.717 ms
Loss rate: 29.12%
```

Run 1: Report of FillP — Data Link

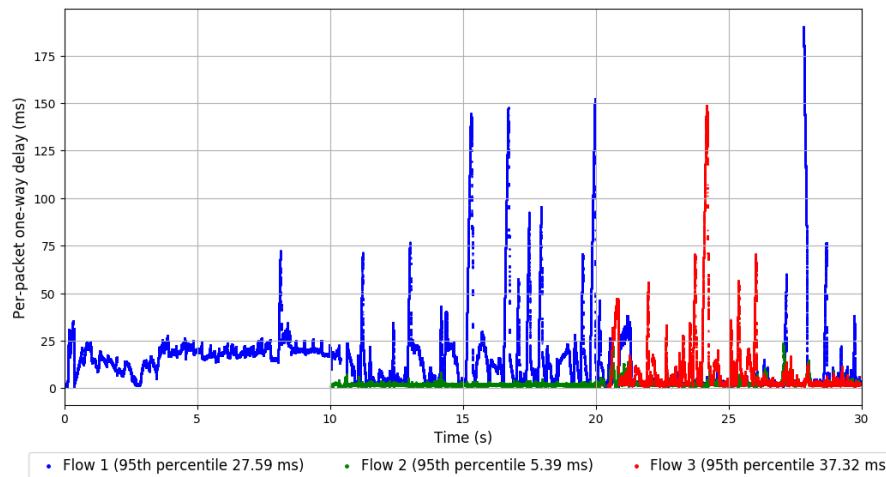
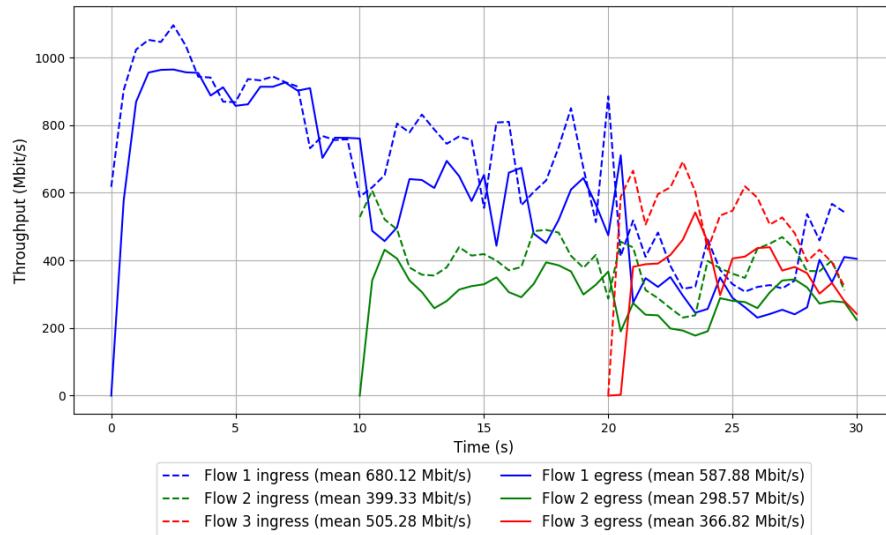


Run 2: Statistics of FillP

```
Start at: 2018-10-26 03:28:57
End at: 2018-10-26 03:29:27
Local clock offset: 0.526 ms
Remote clock offset: -6.081 ms

# Below is generated by plot.py at 2018-10-26 05:38:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 908.44 Mbit/s
95th percentile per-packet one-way delay: 26.237 ms
Loss rate: 18.43%
-- Flow 1:
Average throughput: 587.88 Mbit/s
95th percentile per-packet one-way delay: 27.587 ms
Loss rate: 13.56%
-- Flow 2:
Average throughput: 298.57 Mbit/s
95th percentile per-packet one-way delay: 5.386 ms
Loss rate: 25.23%
-- Flow 3:
Average throughput: 366.82 Mbit/s
95th percentile per-packet one-way delay: 37.323 ms
Loss rate: 27.37%
```

Run 2: Report of FillP — Data Link

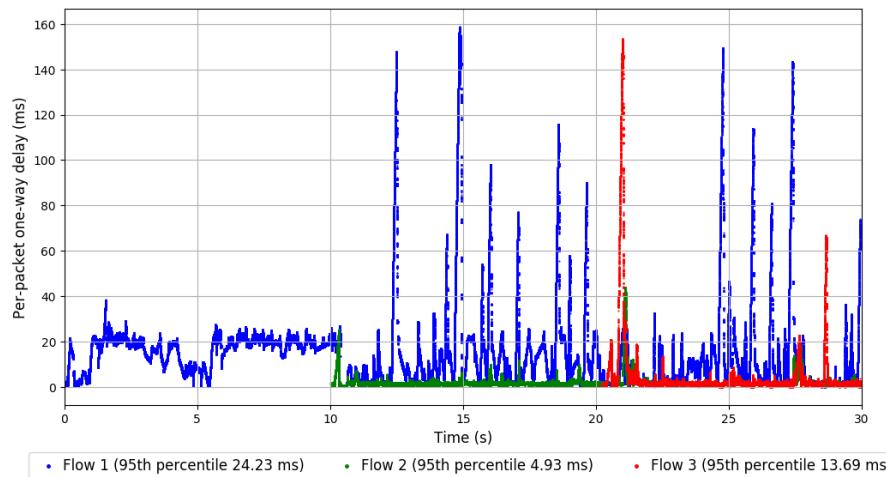
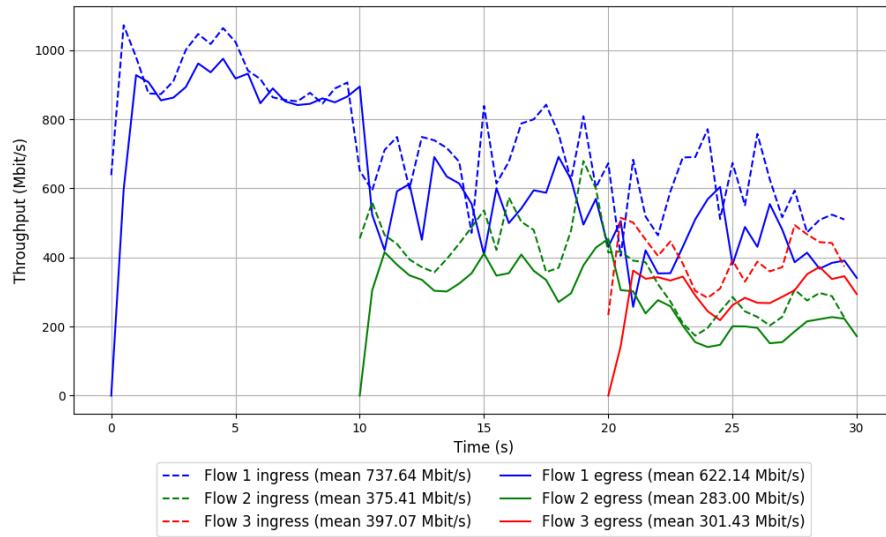


```
Run 3: Statistics of FillP

Start at: 2018-10-26 03:56:24
End at: 2018-10-26 03:56:54
Local clock offset: -3.202 ms
Remote clock offset: -4.302 ms

# Below is generated by plot.py at 2018-10-26 05:38:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.52 Mbit/s
95th percentile per-packet one-way delay: 23.088 ms
Loss rate: 18.65%
-- Flow 1:
Average throughput: 622.14 Mbit/s
95th percentile per-packet one-way delay: 24.227 ms
Loss rate: 15.66%
-- Flow 2:
Average throughput: 283.00 Mbit/s
95th percentile per-packet one-way delay: 4.930 ms
Loss rate: 24.62%
-- Flow 3:
Average throughput: 301.43 Mbit/s
95th percentile per-packet one-way delay: 13.691 ms
Loss rate: 24.08%
```

Run 3: Report of FillP — Data Link

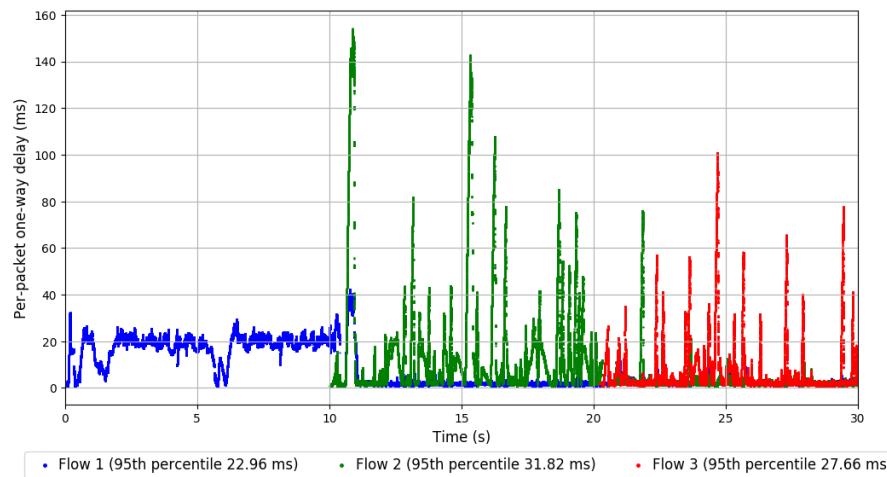
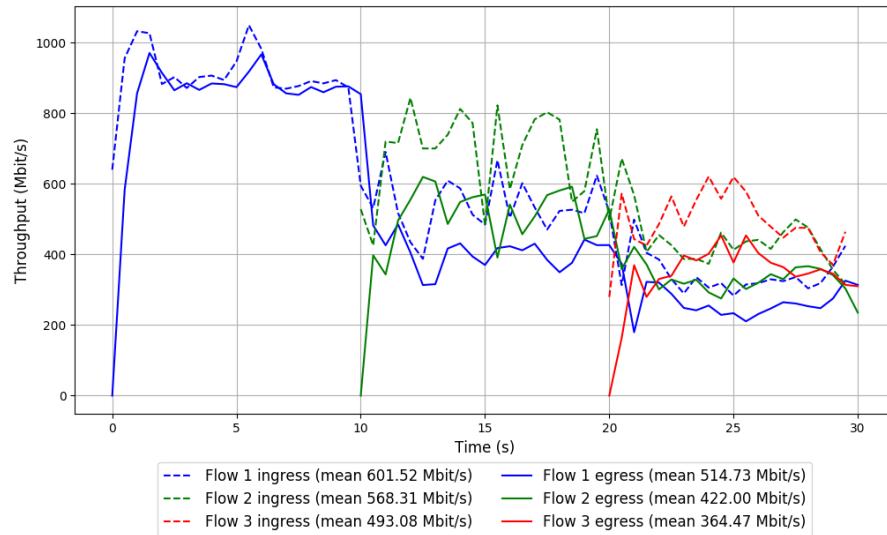


```
Run 4: Statistics of FillP
```

```
Start at: 2018-10-26 04:23:52
End at: 2018-10-26 04:24:22
Local clock offset: -2.872 ms
Remote clock offset: 6.77 ms

# Below is generated by plot.py at 2018-10-26 05:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 914.22 Mbit/s
95th percentile per-packet one-way delay: 23.536 ms
Loss rate: 20.05%
-- Flow 1:
Average throughput: 514.73 Mbit/s
95th percentile per-packet one-way delay: 22.958 ms
Loss rate: 14.43%
-- Flow 2:
Average throughput: 422.00 Mbit/s
95th percentile per-packet one-way delay: 31.815 ms
Loss rate: 25.74%
-- Flow 3:
Average throughput: 364.47 Mbit/s
95th percentile per-packet one-way delay: 27.661 ms
Loss rate: 27.57%
```

Run 4: Report of FillP — Data Link

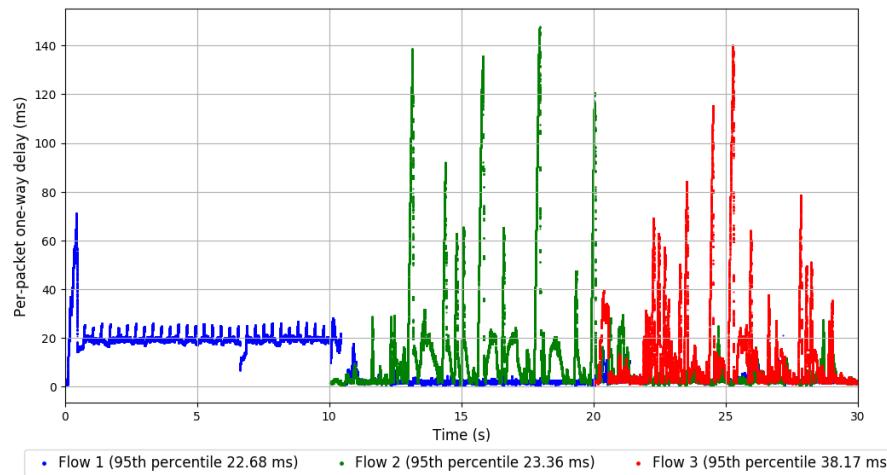
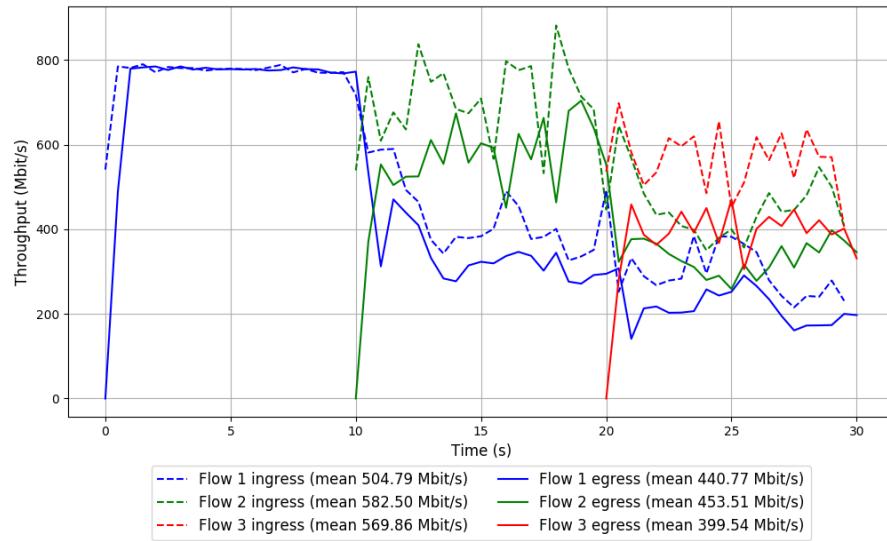


```
Run 5: Statistics of FillP
```

```
Start at: 2018-10-26 04:51:21
End at: 2018-10-26 04:51:51
Local clock offset: 0.449 ms
Remote clock offset: 4.909 ms

# Below is generated by plot.py at 2018-10-26 05:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 874.74 Mbit/s
95th percentile per-packet one-way delay: 23.926 ms
Loss rate: 19.08%
-- Flow 1:
Average throughput: 440.77 Mbit/s
95th percentile per-packet one-way delay: 22.676 ms
Loss rate: 12.68%
-- Flow 2:
Average throughput: 453.51 Mbit/s
95th percentile per-packet one-way delay: 23.356 ms
Loss rate: 22.14%
-- Flow 3:
Average throughput: 399.54 Mbit/s
95th percentile per-packet one-way delay: 38.167 ms
Loss rate: 29.88%
```

Run 5: Report of FillP — Data Link

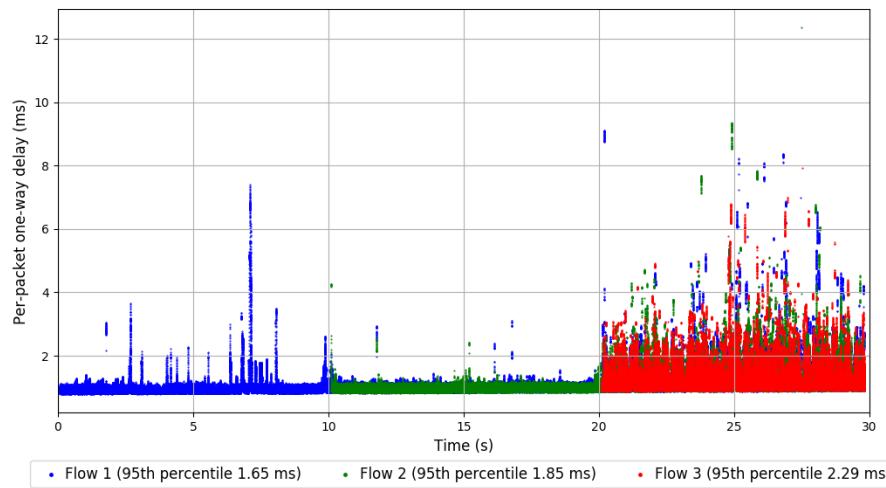
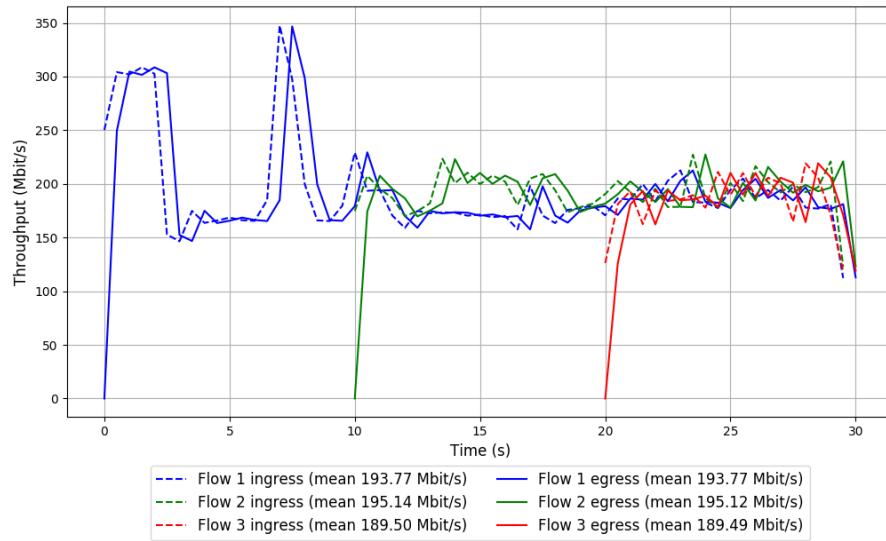


Run 1: Statistics of Indigo

```
Start at: 2018-10-26 02:59:44
End at: 2018-10-26 03:00:14
Local clock offset: 0.497 ms
Remote clock offset: -3.005 ms

# Below is generated by plot.py at 2018-10-26 05:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.61 Mbit/s
95th percentile per-packet one-way delay: 1.871 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 193.77 Mbit/s
95th percentile per-packet one-way delay: 1.654 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.12 Mbit/s
95th percentile per-packet one-way delay: 1.848 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 189.49 Mbit/s
95th percentile per-packet one-way delay: 2.293 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

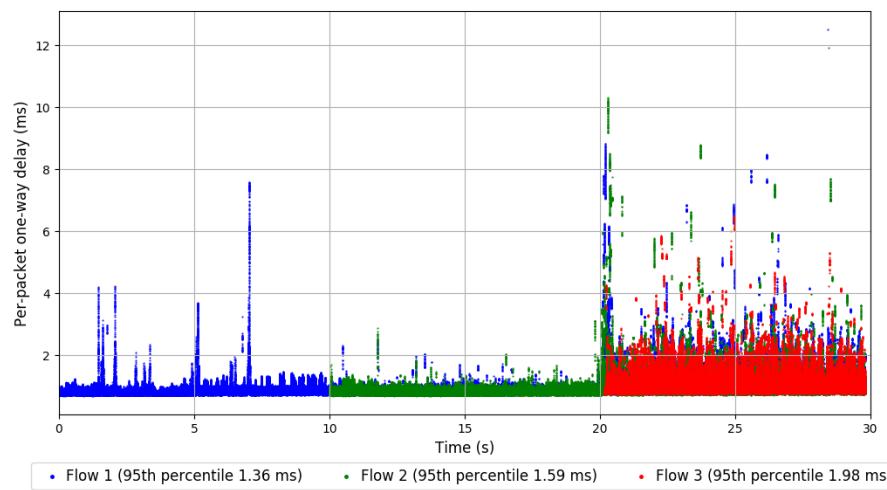
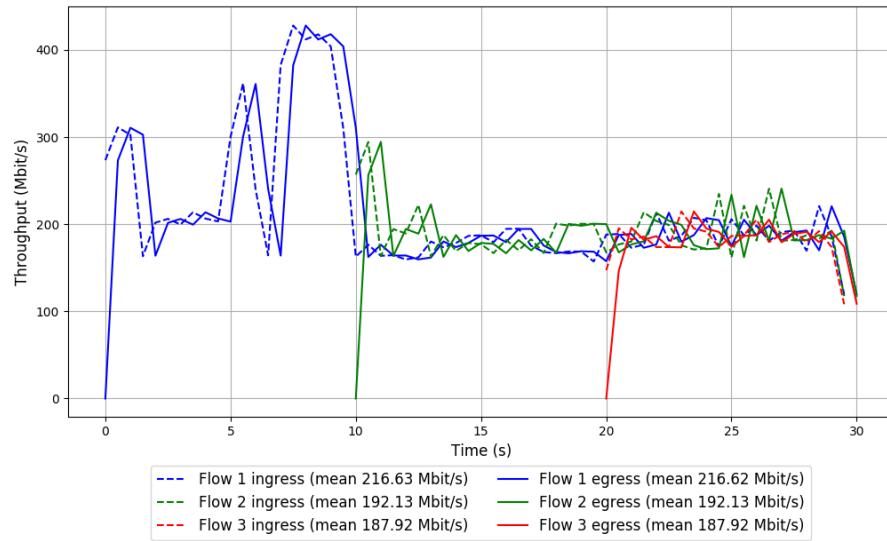


Run 2: Statistics of Indigo

```
Start at: 2018-10-26 03:27:21
End at: 2018-10-26 03:27:51
Local clock offset: 0.533 ms
Remote clock offset: -6.032 ms

# Below is generated by plot.py at 2018-10-26 05:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.02 Mbit/s
95th percentile per-packet one-way delay: 1.587 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 216.62 Mbit/s
95th percentile per-packet one-way delay: 1.363 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 192.13 Mbit/s
95th percentile per-packet one-way delay: 1.595 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 187.92 Mbit/s
95th percentile per-packet one-way delay: 1.984 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link

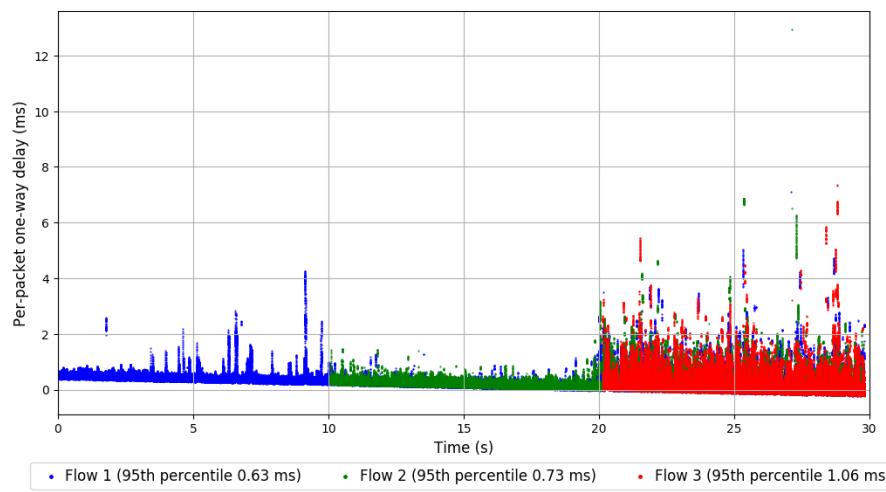
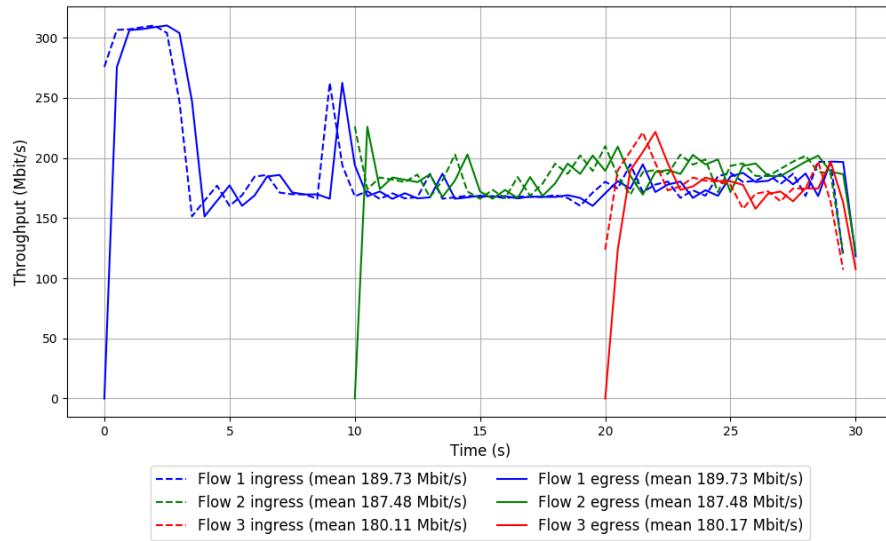


Run 3: Statistics of Indigo

```
Start at: 2018-10-26 03:54:49
End at: 2018-10-26 03:55:19
Local clock offset: -3.106 ms
Remote clock offset: -6.25 ms

# Below is generated by plot.py at 2018-10-26 05:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.53 Mbit/s
95th percentile per-packet one-way delay: 0.745 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.73 Mbit/s
95th percentile per-packet one-way delay: 0.628 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 187.48 Mbit/s
95th percentile per-packet one-way delay: 0.731 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 180.17 Mbit/s
95th percentile per-packet one-way delay: 1.065 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

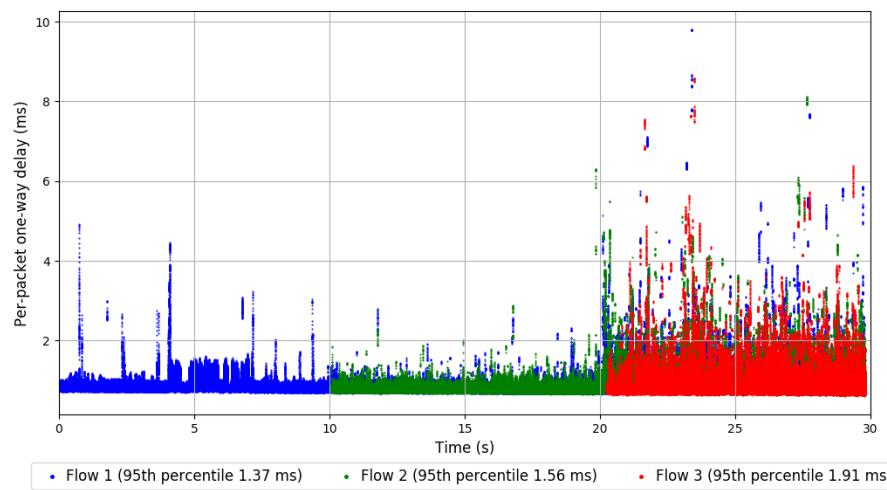
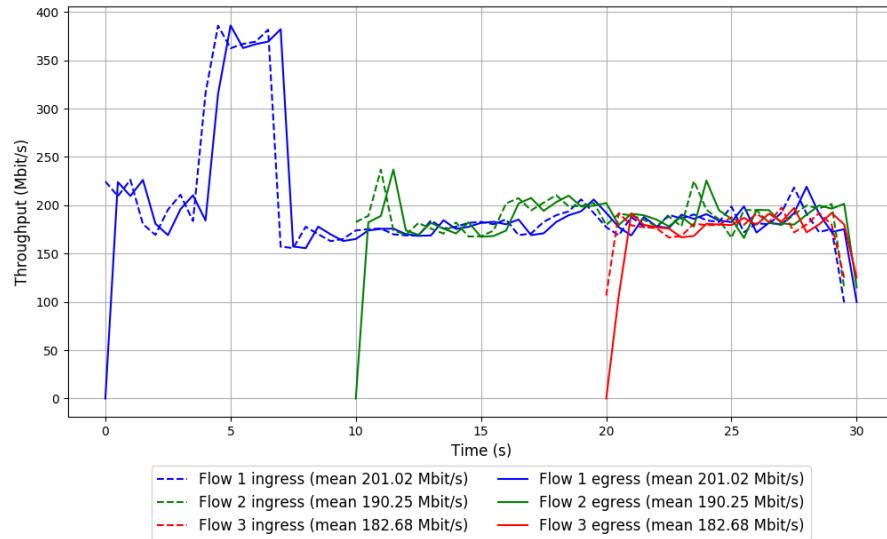


Run 4: Statistics of Indigo

```
Start at: 2018-10-26 04:22:17
End at: 2018-10-26 04:22:47
Local clock offset: -2.85 ms
Remote clock offset: 6.519 ms

# Below is generated by plot.py at 2018-10-26 05:38:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.59 Mbit/s
95th percentile per-packet one-way delay: 1.529 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 201.02 Mbit/s
95th percentile per-packet one-way delay: 1.374 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 190.25 Mbit/s
95th percentile per-packet one-way delay: 1.564 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 182.68 Mbit/s
95th percentile per-packet one-way delay: 1.905 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

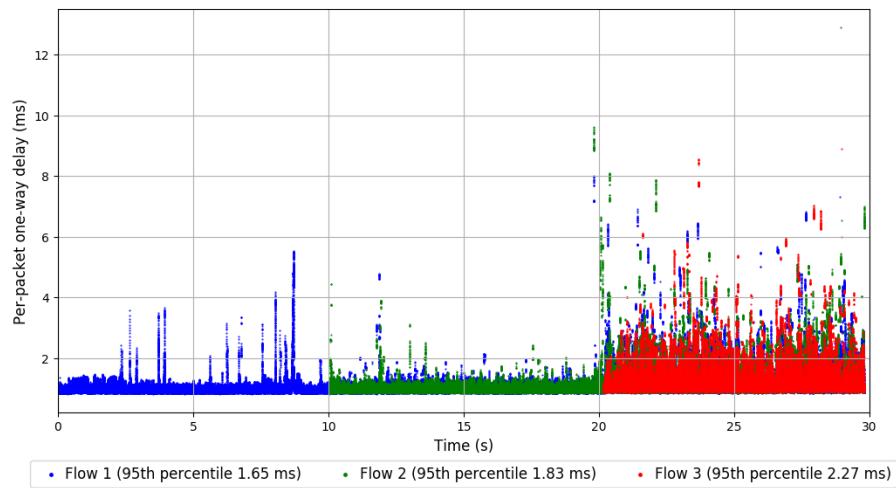
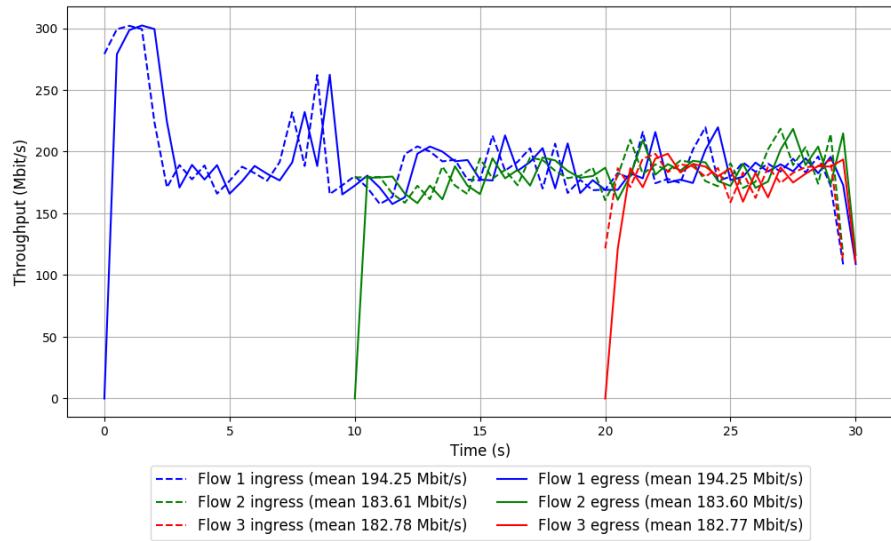


Run 5: Statistics of Indigo

```
Start at: 2018-10-26 04:49:46
End at: 2018-10-26 04:50:16
Local clock offset: 0.341 ms
Remote clock offset: 4.919 ms

# Below is generated by plot.py at 2018-10-26 05:38:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.32 Mbit/s
95th percentile per-packet one-way delay: 1.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 194.25 Mbit/s
95th percentile per-packet one-way delay: 1.650 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 183.60 Mbit/s
95th percentile per-packet one-way delay: 1.832 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 182.77 Mbit/s
95th percentile per-packet one-way delay: 2.267 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link

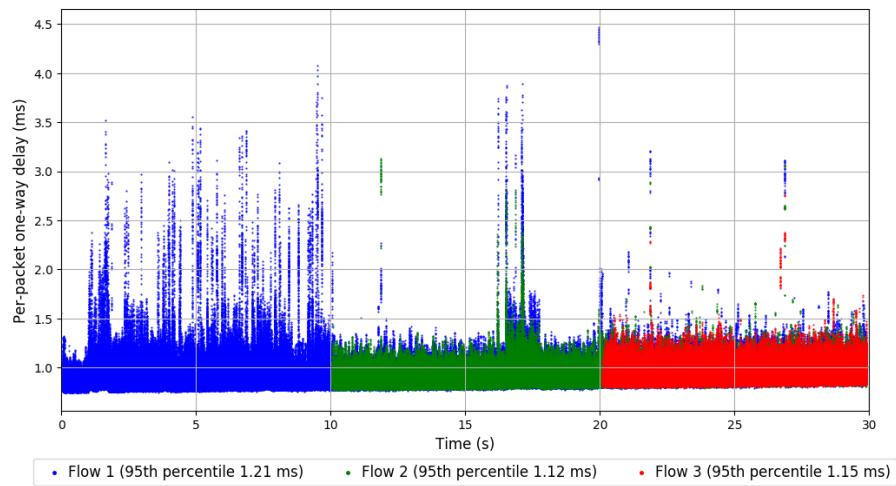
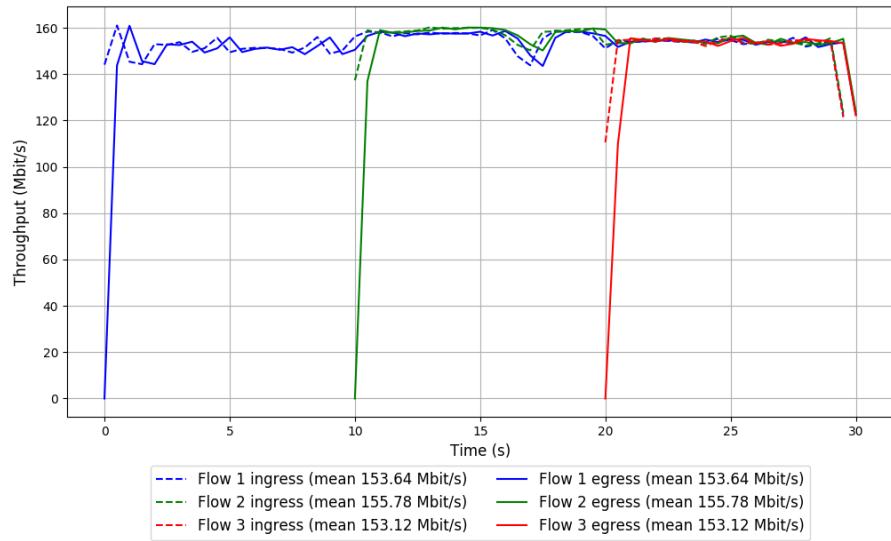


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-10-26 03:03:12
End at: 2018-10-26 03:03:42
Local clock offset: 0.5 ms
Remote clock offset: -3.585 ms

# Below is generated by plot.py at 2018-10-26 05:40:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 307.50 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 153.64 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 155.78 Mbit/s
95th percentile per-packet one-way delay: 1.123 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 153.12 Mbit/s
95th percentile per-packet one-way delay: 1.151 ms
Loss rate: 0.00%
```

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

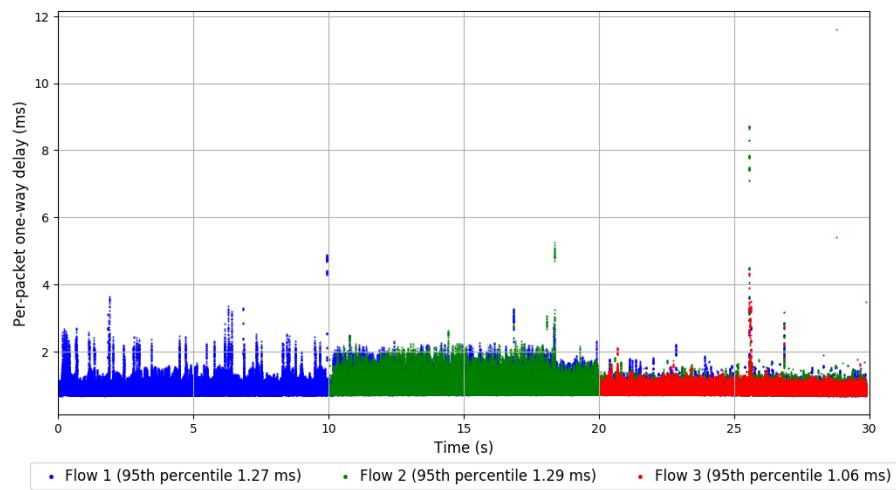
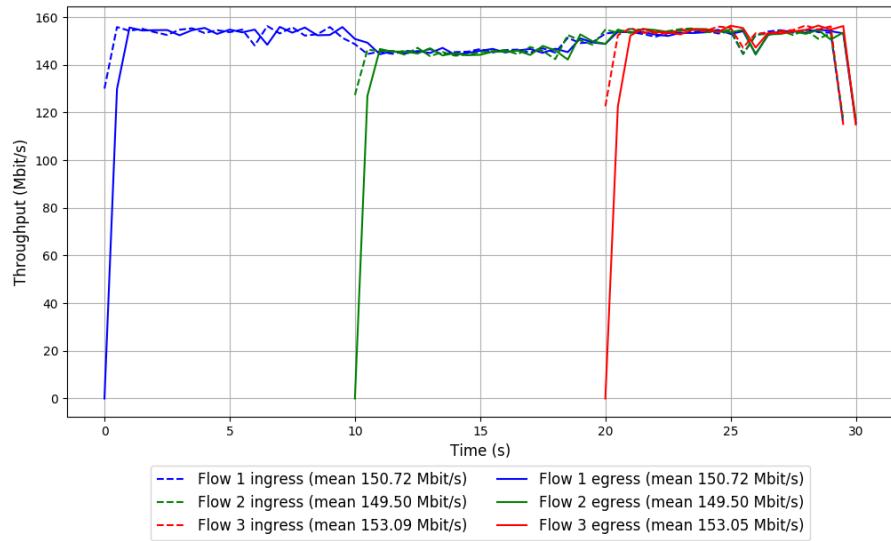


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 03:30:48
End at: 2018-10-26 03:31:18
Local clock offset: 0.54 ms
Remote clock offset: -6.296 ms

# Below is generated by plot.py at 2018-10-26 05:40:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.37 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.72 Mbit/s
95th percentile per-packet one-way delay: 1.272 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 149.50 Mbit/s
95th percentile per-packet one-way delay: 1.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 153.05 Mbit/s
95th percentile per-packet one-way delay: 1.056 ms
Loss rate: 0.00%
```

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

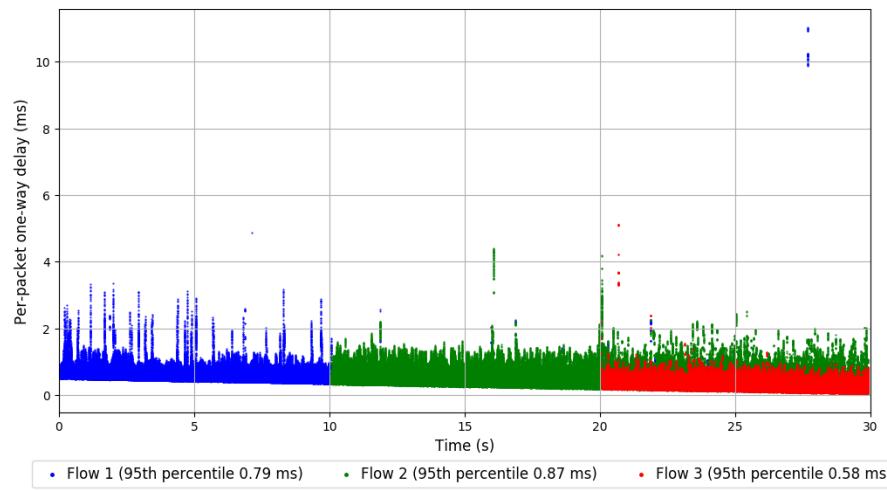
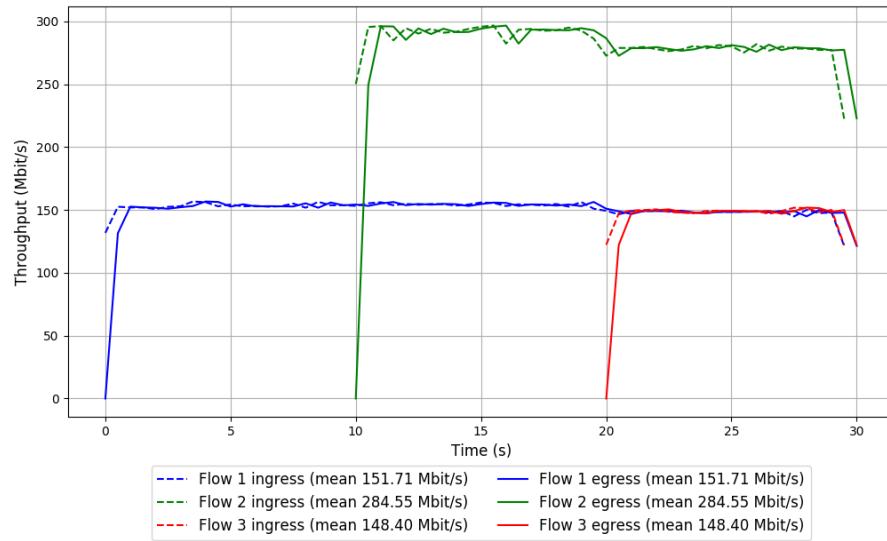


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 03:58:15
End at: 2018-10-26 03:58:45
Local clock offset: -3.317 ms
Remote clock offset: -2.649 ms

# Below is generated by plot.py at 2018-10-26 05:41:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.86 Mbit/s
95th percentile per-packet one-way delay: 0.802 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.71 Mbit/s
95th percentile per-packet one-way delay: 0.787 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 284.55 Mbit/s
95th percentile per-packet one-way delay: 0.867 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 148.40 Mbit/s
95th percentile per-packet one-way delay: 0.583 ms
Loss rate: 0.00%
```

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

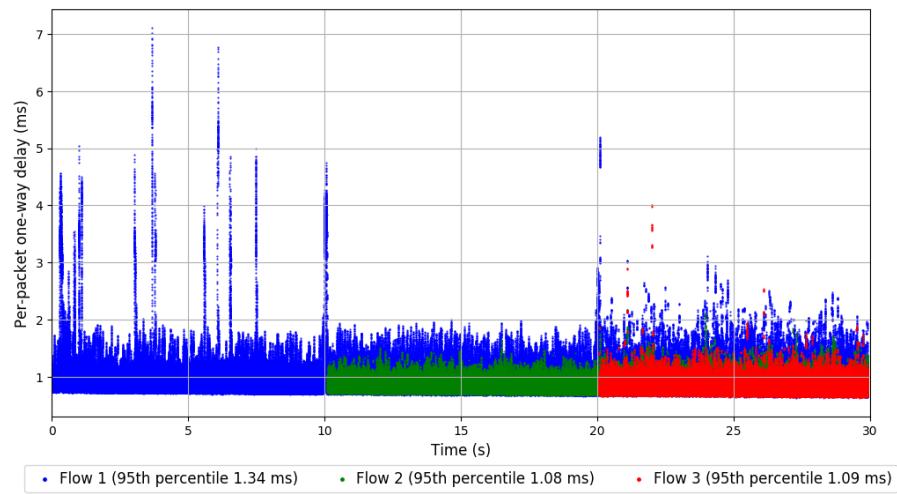
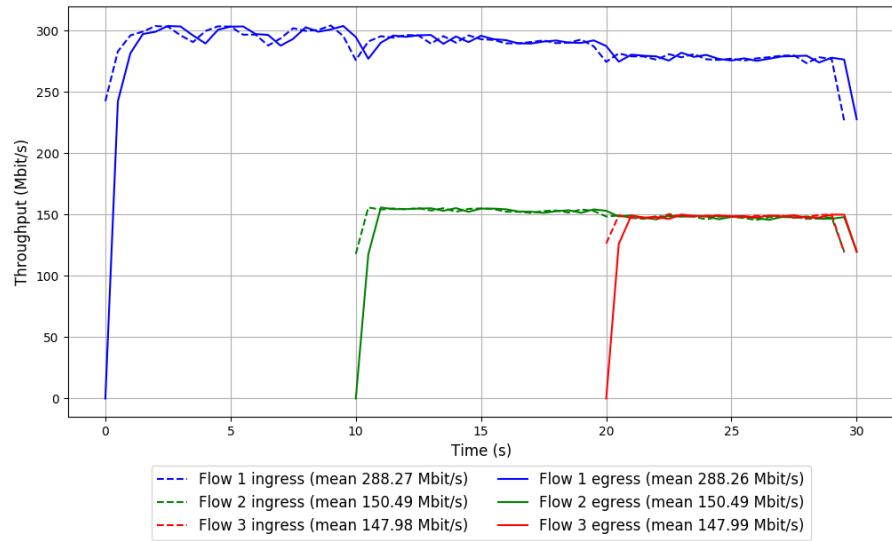


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 04:25:44
End at: 2018-10-26 04:26:14
Local clock offset: -2.895 ms
Remote clock offset: 7.113 ms

# Below is generated by plot.py at 2018-10-26 05:42:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.90 Mbit/s
95th percentile per-packet one-way delay: 1.251 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 288.26 Mbit/s
95th percentile per-packet one-way delay: 1.337 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 150.49 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 147.99 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.00%
```

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

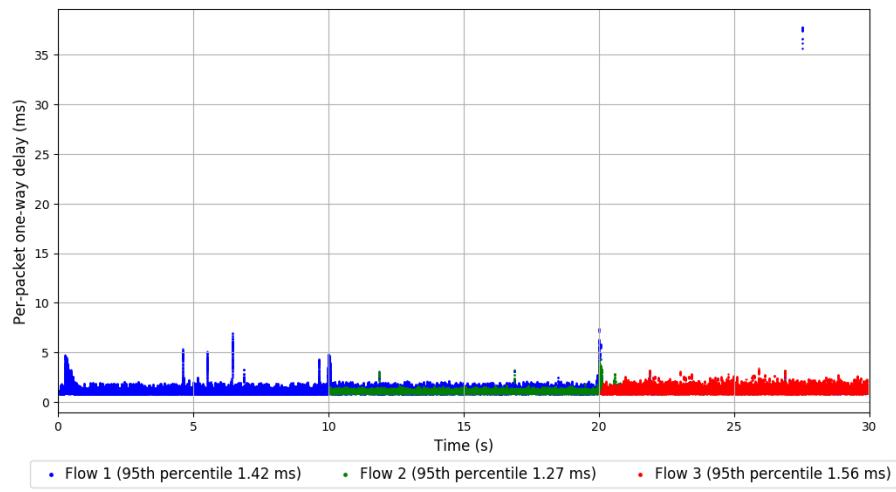
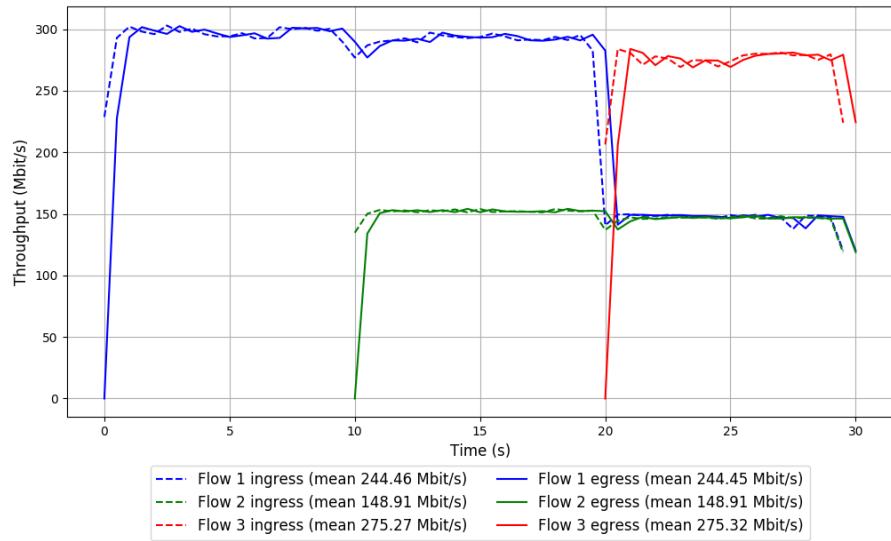


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 04:53:12
End at: 2018-10-26 04:53:42
Local clock offset: 0.552 ms
Remote clock offset: 5.041 ms

# Below is generated by plot.py at 2018-10-26 05:42:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.99 Mbit/s
95th percentile per-packet one-way delay: 1.426 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 244.45 Mbit/s
95th percentile per-packet one-way delay: 1.420 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 148.91 Mbit/s
95th percentile per-packet one-way delay: 1.270 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 275.32 Mbit/s
95th percentile per-packet one-way delay: 1.564 ms
Loss rate: 0.01%
```

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

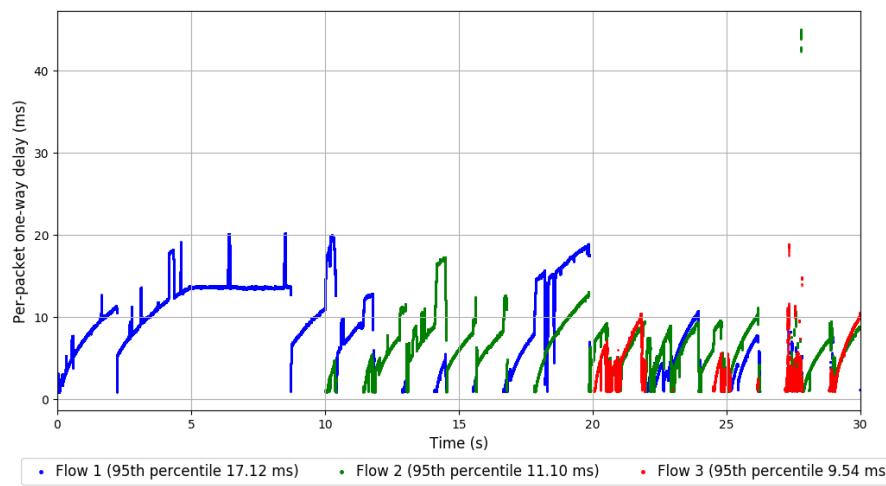
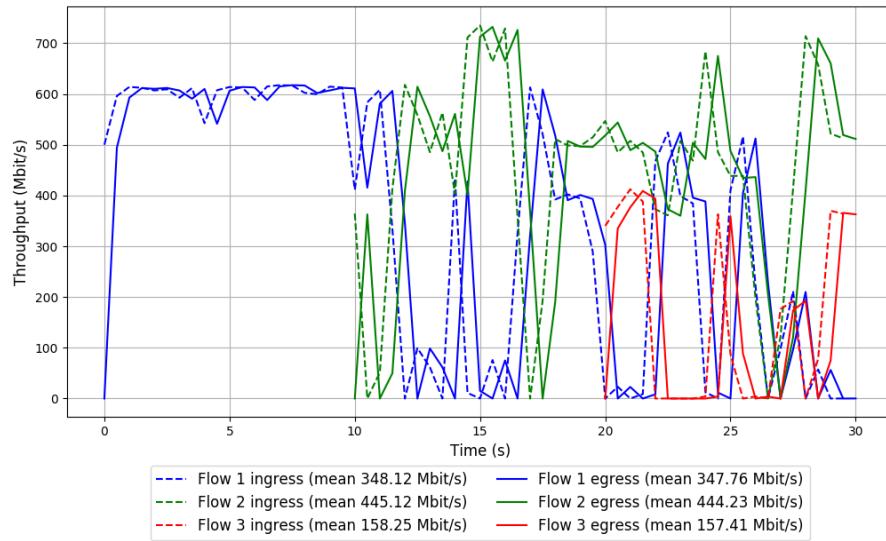


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-10-26 02:53:03
End at: 2018-10-26 02:53:33
Local clock offset: 0.428 ms
Remote clock offset: -1.339 ms

# Below is generated by plot.py at 2018-10-26 05:46:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.10 Mbit/s
95th percentile per-packet one-way delay: 14.853 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 347.76 Mbit/s
95th percentile per-packet one-way delay: 17.120 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 444.23 Mbit/s
95th percentile per-packet one-way delay: 11.101 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 157.41 Mbit/s
95th percentile per-packet one-way delay: 9.542 ms
Loss rate: 0.53%
```

Run 1: Report of LEDBAT — Data Link

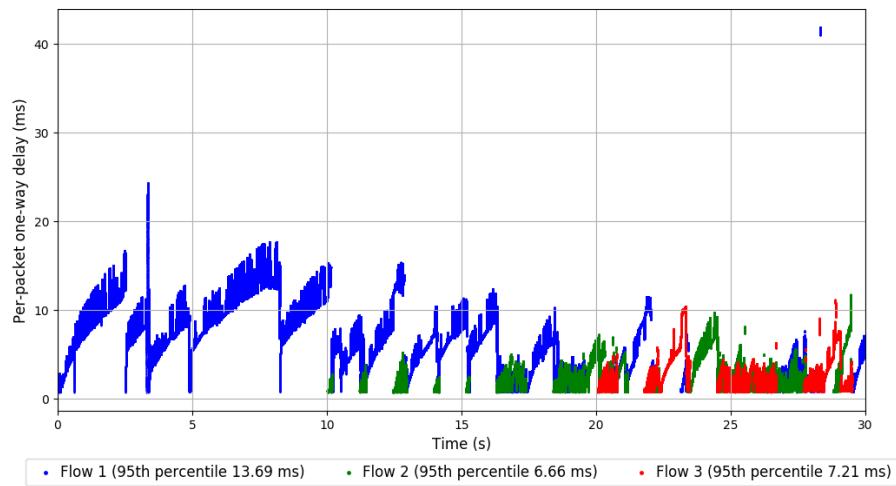
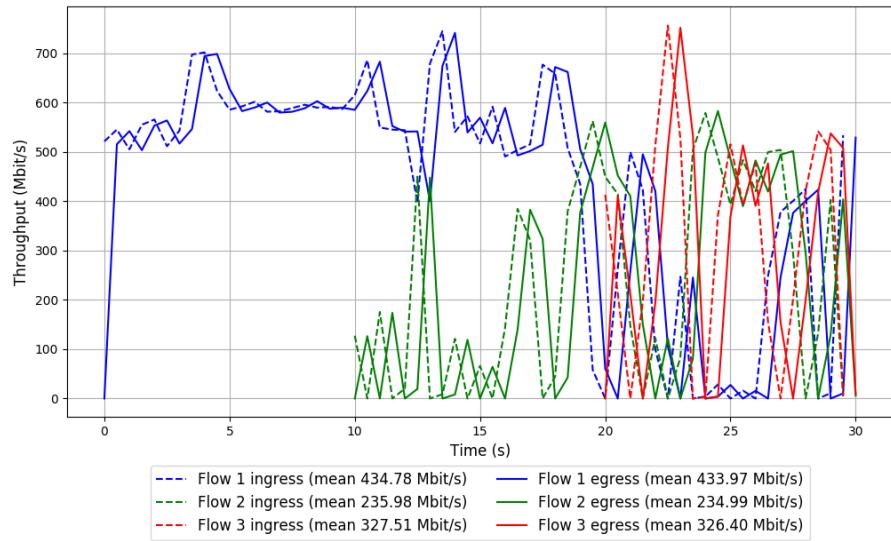


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-26 03:20:40
End at: 2018-10-26 03:21:10
Local clock offset: 0.484 ms
Remote clock offset: -5.444 ms

# Below is generated by plot.py at 2018-10-26 05:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 689.95 Mbit/s
95th percentile per-packet one-way delay: 12.776 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 433.97 Mbit/s
95th percentile per-packet one-way delay: 13.687 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 234.99 Mbit/s
95th percentile per-packet one-way delay: 6.658 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 326.40 Mbit/s
95th percentile per-packet one-way delay: 7.215 ms
Loss rate: 0.34%
```

Run 2: Report of LEDBAT — Data Link

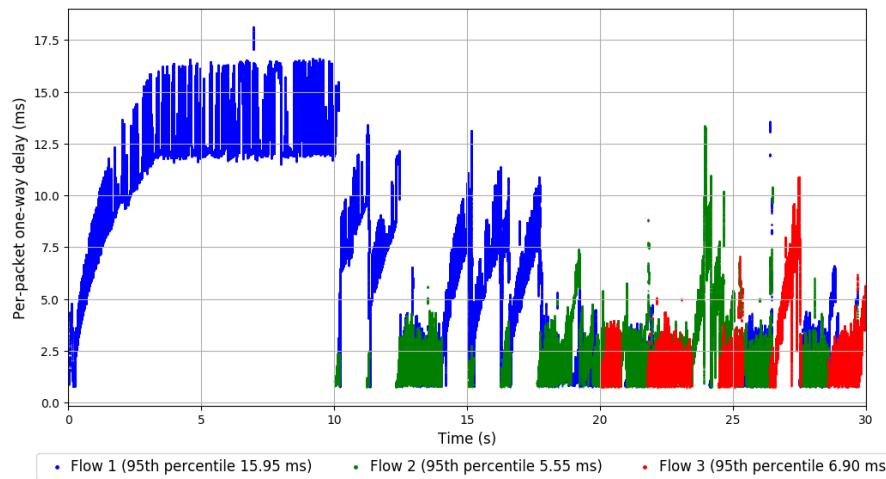
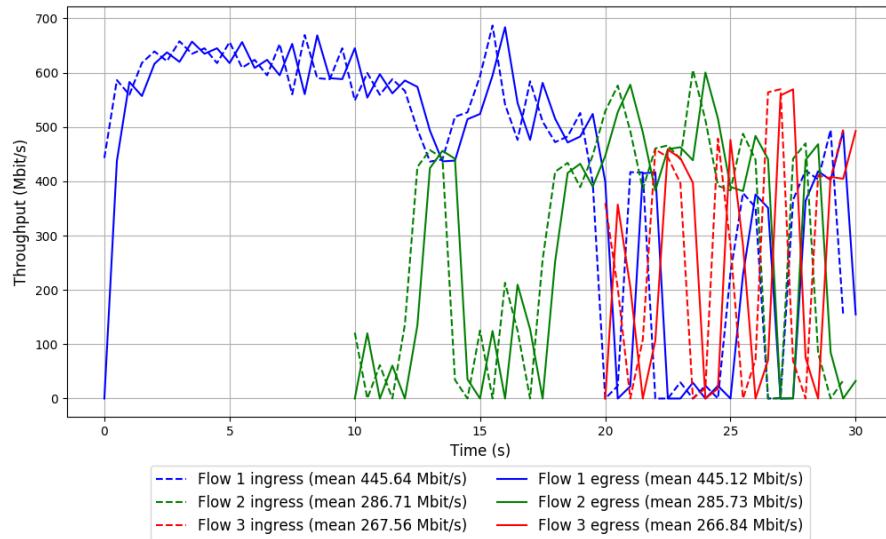


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-26 03:48:10
End at: 2018-10-26 03:48:40
Local clock offset: -2.621 ms
Remote clock offset: -7.442 ms

# Below is generated by plot.py at 2018-10-26 05:46:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.92 Mbit/s
95th percentile per-packet one-way delay: 14.971 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 445.12 Mbit/s
95th percentile per-packet one-way delay: 15.949 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 285.73 Mbit/s
95th percentile per-packet one-way delay: 5.549 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 266.84 Mbit/s
95th percentile per-packet one-way delay: 6.898 ms
Loss rate: 0.27%
```

Run 3: Report of LEDBAT — Data Link

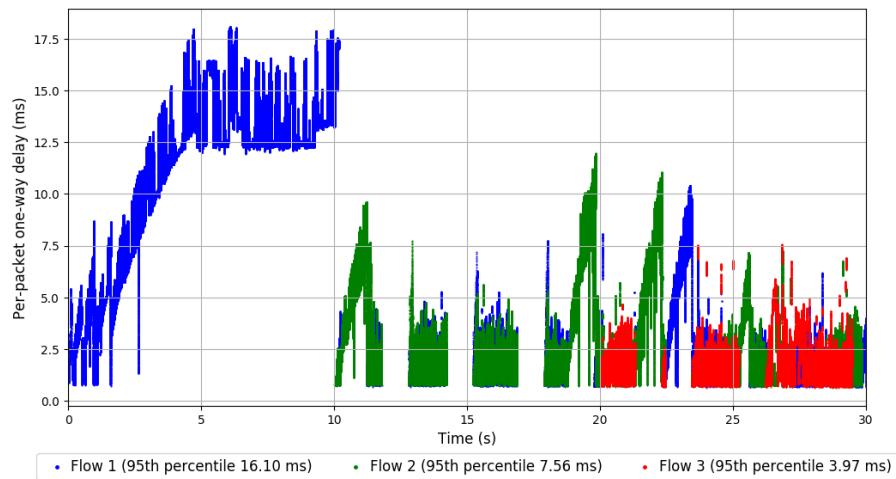
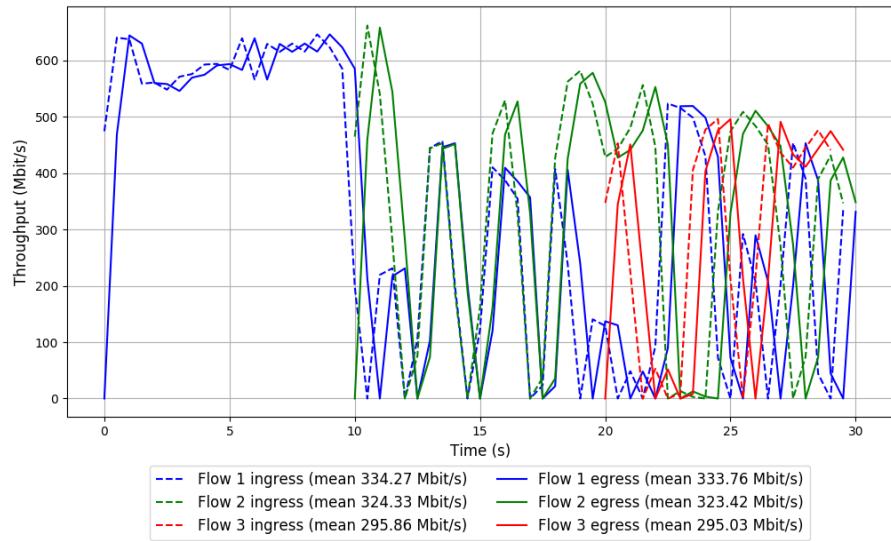


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-26 04:15:39
End at: 2018-10-26 04:16:09
Local clock offset: -2.86 ms
Remote clock offset: 5.243 ms

# Below is generated by plot.py at 2018-10-26 05:48:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 640.37 Mbit/s
95th percentile per-packet one-way delay: 14.461 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 333.76 Mbit/s
95th percentile per-packet one-way delay: 16.100 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 323.42 Mbit/s
95th percentile per-packet one-way delay: 7.564 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 295.03 Mbit/s
95th percentile per-packet one-way delay: 3.973 ms
Loss rate: 0.27%
```

Run 4: Report of LEDBAT — Data Link

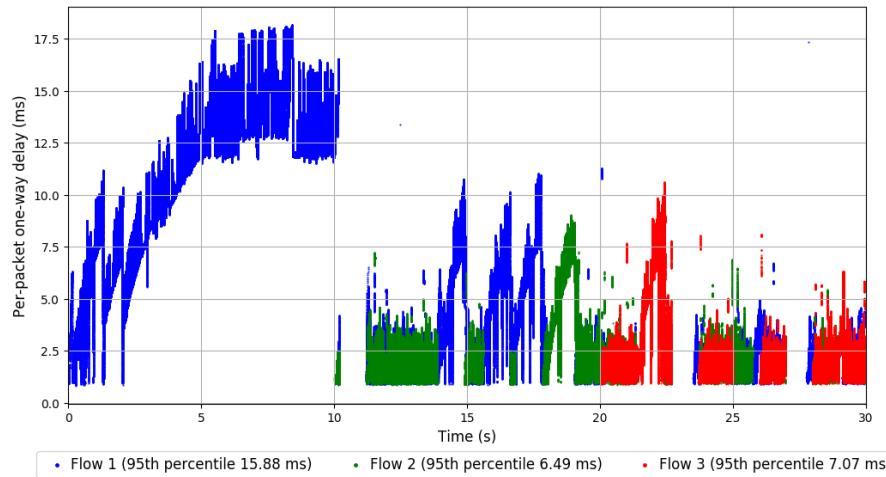
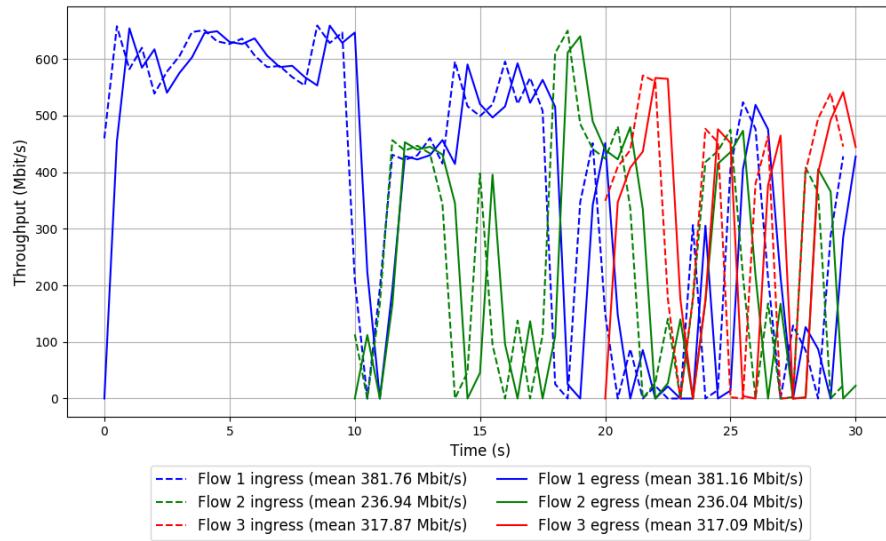


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-26 04:43:10
End at: 2018-10-26 04:43:40
Local clock offset: -0.294 ms
Remote clock offset: 4.816 ms

# Below is generated by plot.py at 2018-10-26 05:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.83 Mbit/s
95th percentile per-packet one-way delay: 14.682 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 381.16 Mbit/s
95th percentile per-packet one-way delay: 15.877 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 236.04 Mbit/s
95th percentile per-packet one-way delay: 6.494 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 317.09 Mbit/s
95th percentile per-packet one-way delay: 7.073 ms
Loss rate: 0.24%
```

Run 5: Report of LEDBAT — Data Link

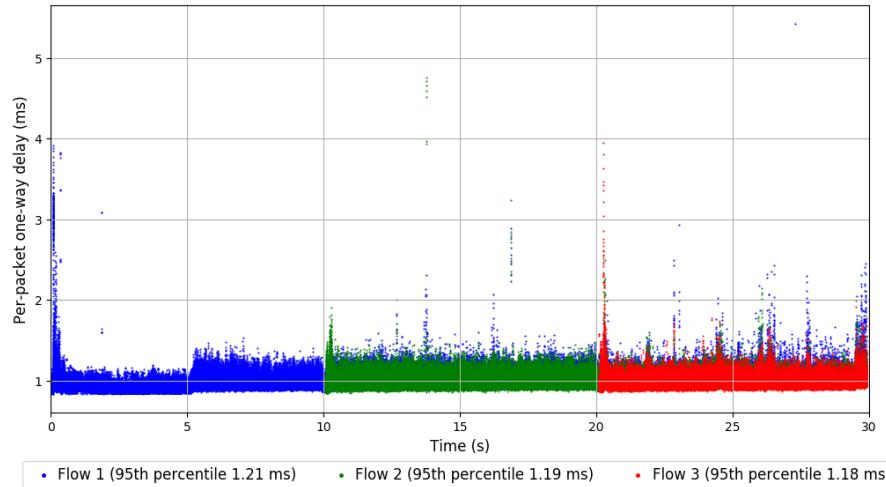
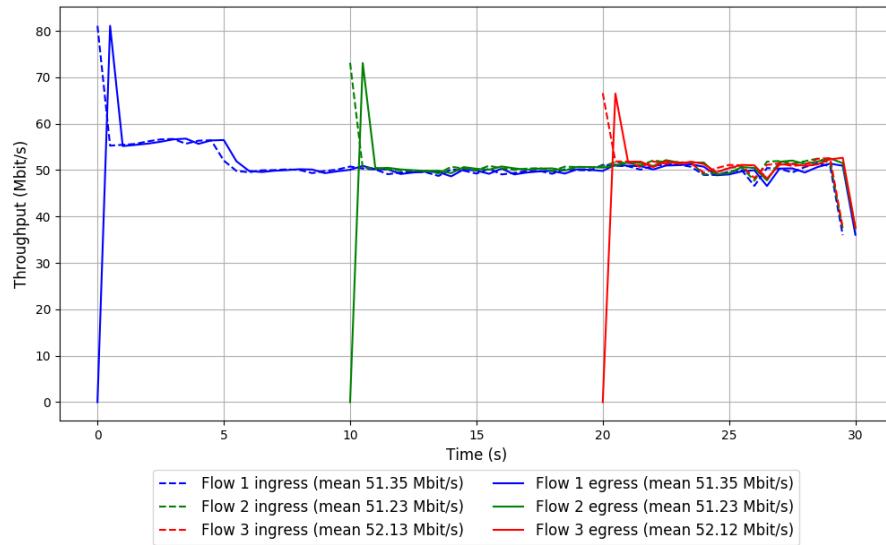


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-26 03:06:01
End at: 2018-10-26 03:06:31
Local clock offset: 0.474 ms
Remote clock offset: -3.9 ms

# Below is generated by plot.py at 2018-10-26 05:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.52 Mbit/s
95th percentile per-packet one-way delay: 1.200 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.35 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.23 Mbit/s
95th percentile per-packet one-way delay: 1.191 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.12 Mbit/s
95th percentile per-packet one-way delay: 1.177 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

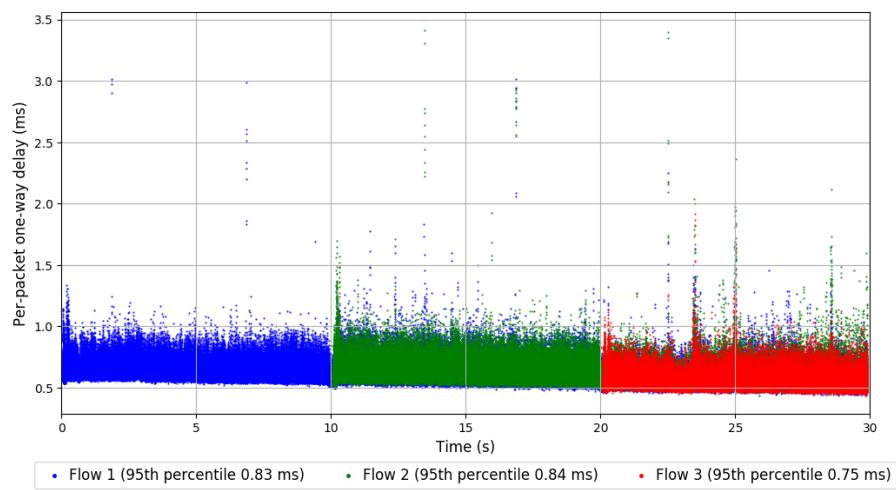
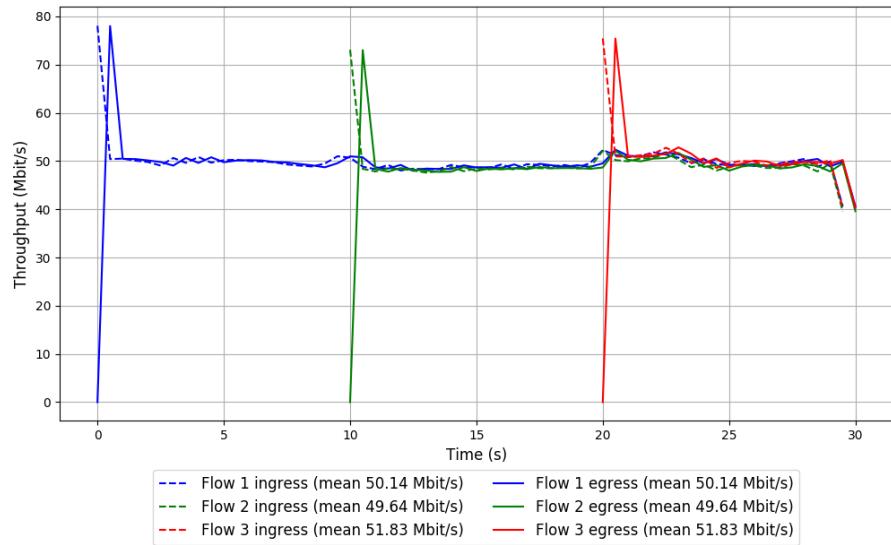


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-26 03:33:35
End at: 2018-10-26 03:34:05
Local clock offset: -0.067 ms
Remote clock offset: -6.432 ms

# Below is generated by plot.py at 2018-10-26 05:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.17 Mbit/s
95th percentile per-packet one-way delay: 0.826 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.14 Mbit/s
95th percentile per-packet one-way delay: 0.835 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 49.64 Mbit/s
95th percentile per-packet one-way delay: 0.839 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.83 Mbit/s
95th percentile per-packet one-way delay: 0.749 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-Muses — Data Link

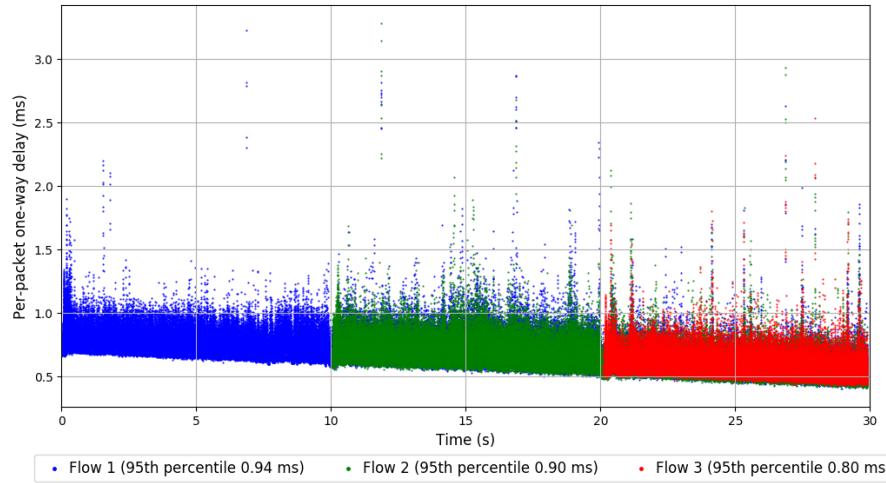
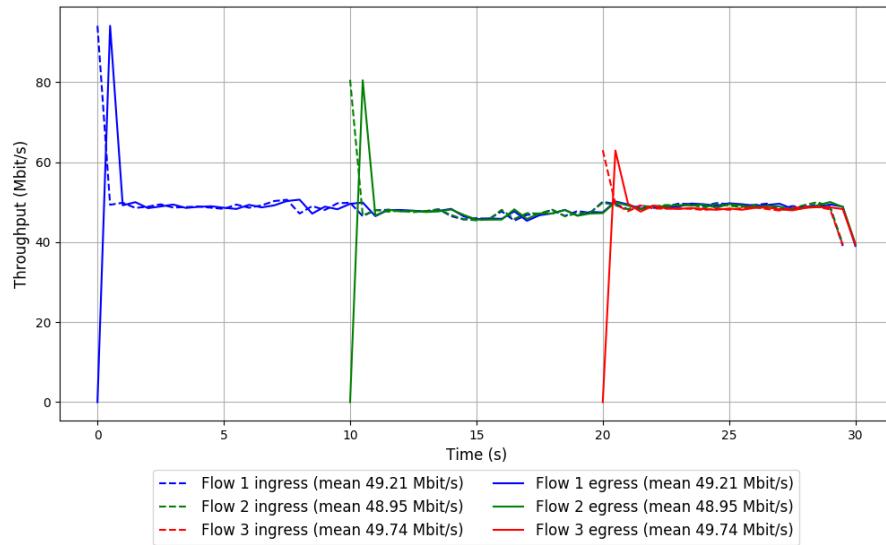


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-26 04:01:06
End at: 2018-10-26 04:01:36
Local clock offset: -3.44 ms
Remote clock offset: -0.323 ms

# Below is generated by plot.py at 2018-10-26 05:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.04 Mbit/s
95th percentile per-packet one-way delay: 0.917 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.21 Mbit/s
95th percentile per-packet one-way delay: 0.945 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.95 Mbit/s
95th percentile per-packet one-way delay: 0.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.74 Mbit/s
95th percentile per-packet one-way delay: 0.804 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-Muses — Data Link

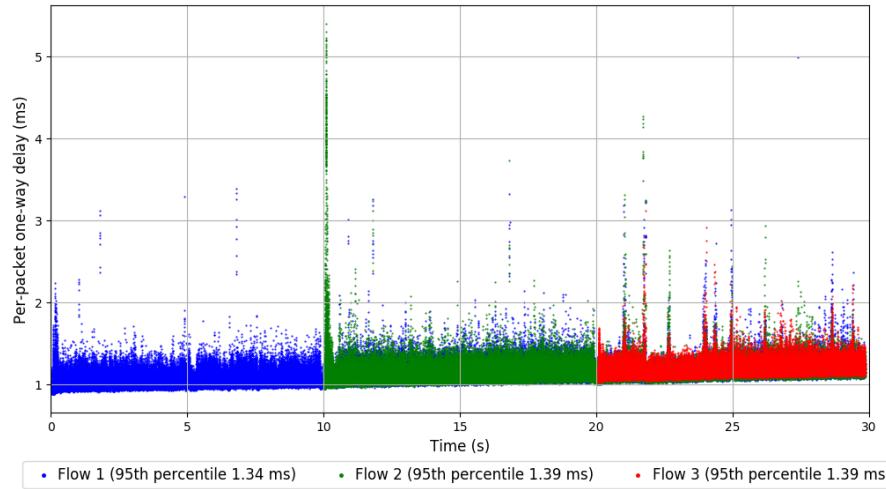
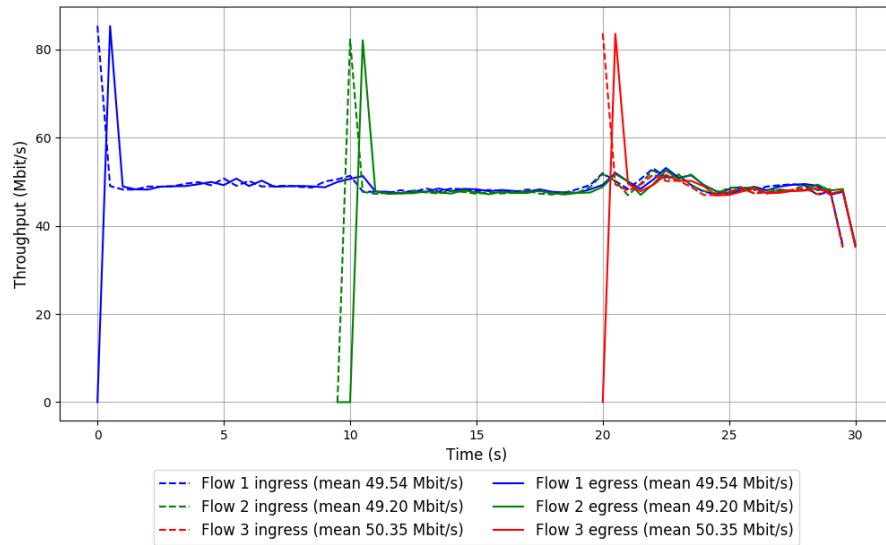


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-26 04:28:36
End at: 2018-10-26 04:29:06
Local clock offset: -2.923 ms
Remote clock offset: 7.095 ms

# Below is generated by plot.py at 2018-10-26 05:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.86 Mbit/s
95th percentile per-packet one-way delay: 1.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.54 Mbit/s
95th percentile per-packet one-way delay: 1.345 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 49.20 Mbit/s
95th percentile per-packet one-way delay: 1.387 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.35 Mbit/s
95th percentile per-packet one-way delay: 1.390 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-Muses — Data Link

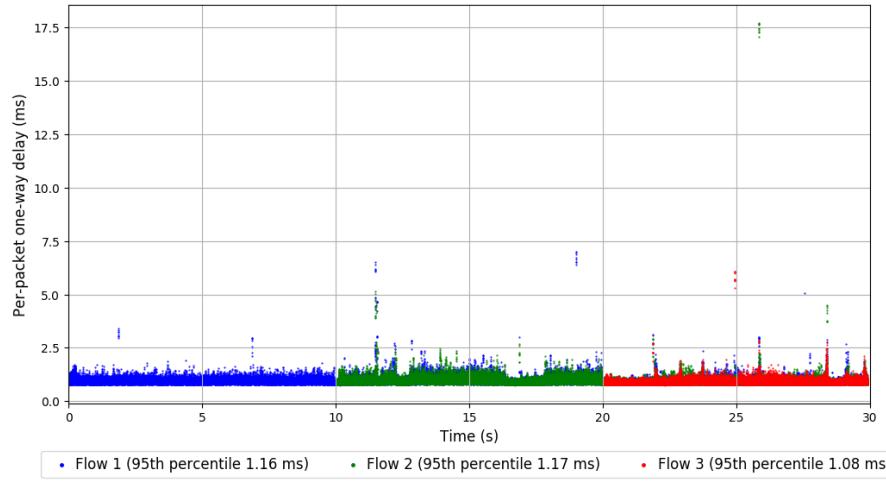
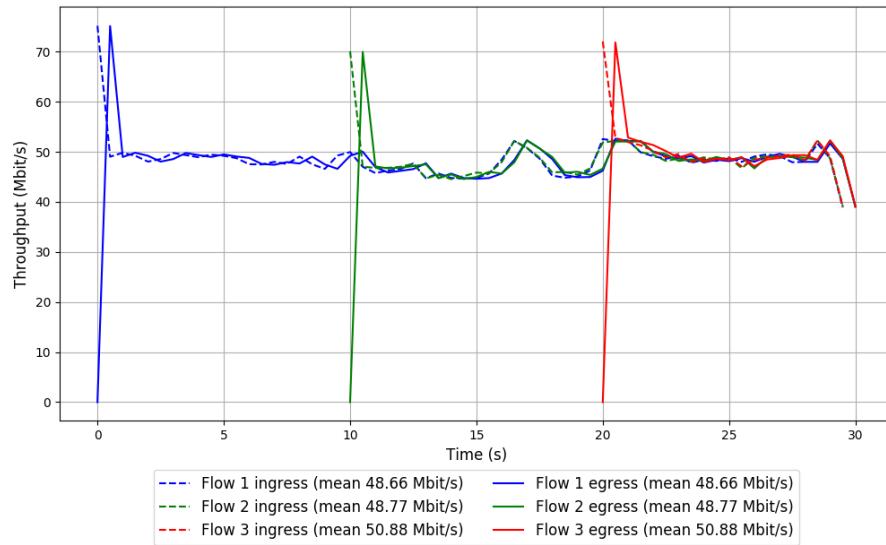


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-26 04:56:05
End at: 2018-10-26 04:56:35
Local clock offset: 0.708 ms
Remote clock offset: 5.116 ms

# Below is generated by plot.py at 2018-10-26 05:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.82 Mbit/s
95th percentile per-packet one-way delay: 1.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.66 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.77 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 50.88 Mbit/s
95th percentile per-packet one-way delay: 1.082 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-Muses — Data Link

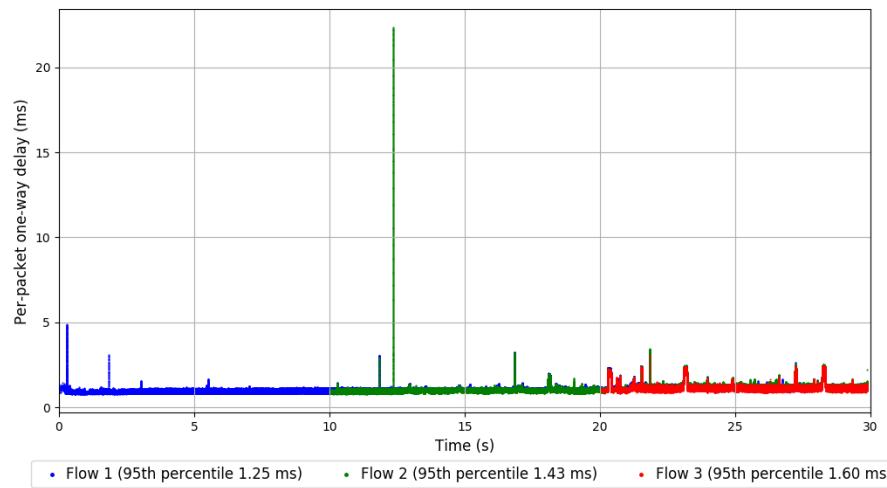
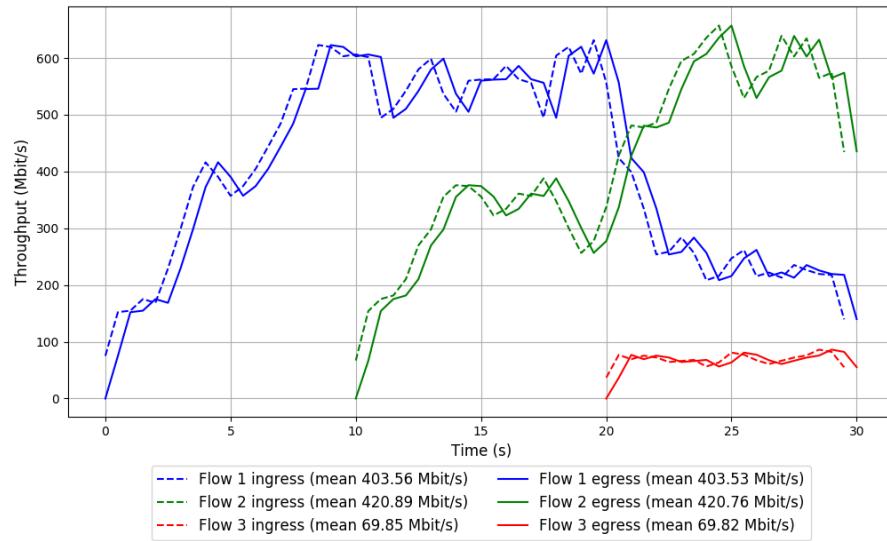


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-10-26 03:14:40
End at: 2018-10-26 03:15:10
Local clock offset: 0.437 ms
Remote clock offset: -4.918 ms

# Below is generated by plot.py at 2018-10-26 05:52:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 706.31 Mbit/s
95th percentile per-packet one-way delay: 1.298 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 403.53 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 420.76 Mbit/s
95th percentile per-packet one-way delay: 1.428 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 69.82 Mbit/s
95th percentile per-packet one-way delay: 1.605 ms
Loss rate: 0.04%
```

Run 1: Report of PCC-Allegro — Data Link

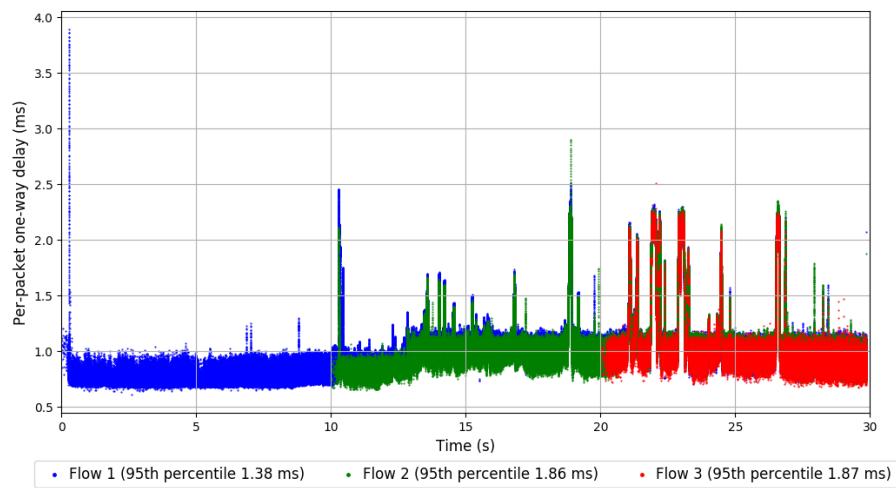
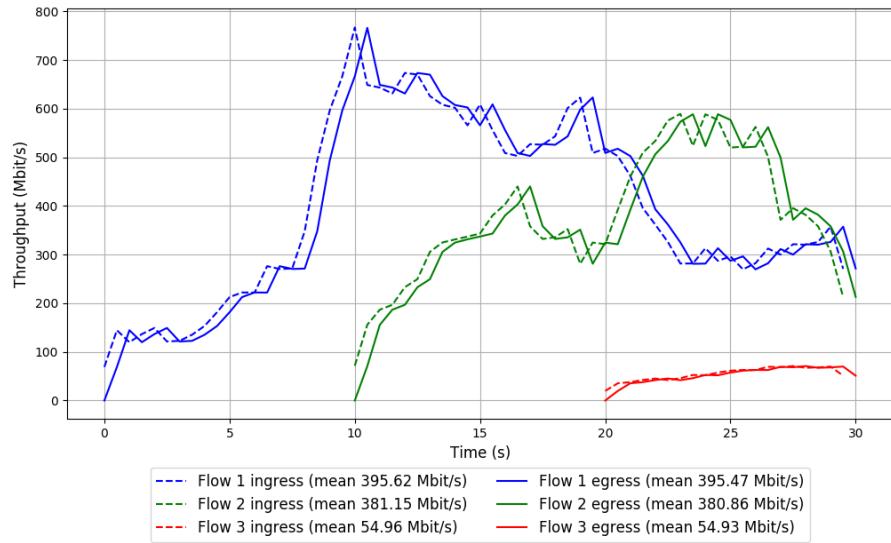


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-26 03:42:13
End at: 2018-10-26 03:42:43
Local clock offset: -1.992 ms
Remote clock offset: -7.101 ms

# Below is generated by plot.py at 2018-10-26 05:52:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 666.87 Mbit/s
95th percentile per-packet one-way delay: 1.576 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 395.47 Mbit/s
95th percentile per-packet one-way delay: 1.379 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 380.86 Mbit/s
95th percentile per-packet one-way delay: 1.864 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 54.93 Mbit/s
95th percentile per-packet one-way delay: 1.867 ms
Loss rate: 0.07%
```

Run 2: Report of PCC-Allegro — Data Link

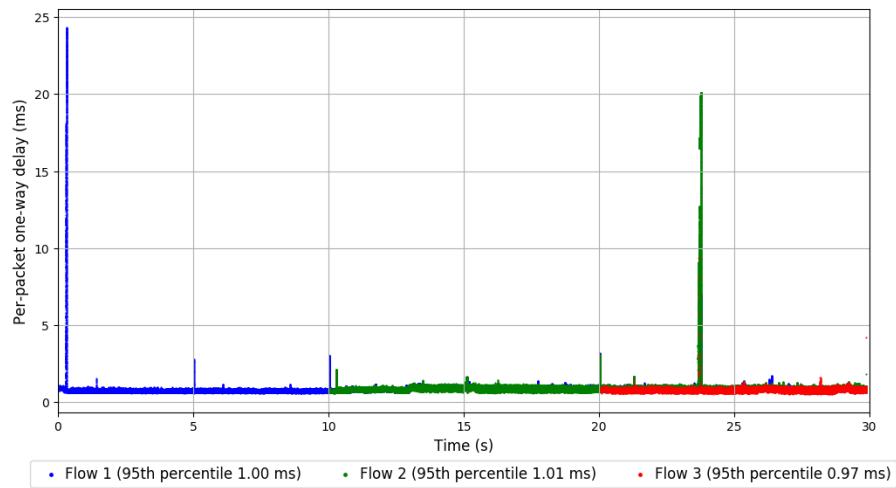
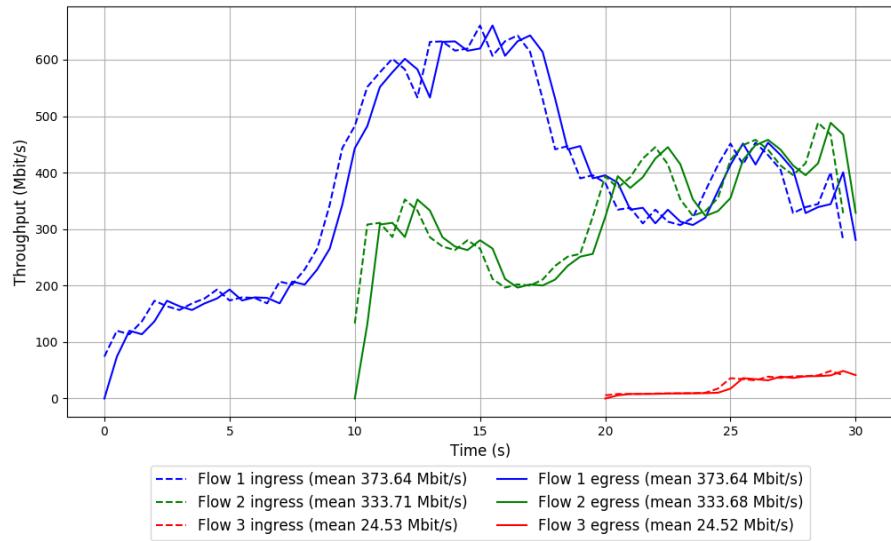


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-26 04:09:42
End at: 2018-10-26 04:10:12
Local clock offset: -2.946 ms
Remote clock offset: 3.546 ms

# Below is generated by plot.py at 2018-10-26 05:52:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 603.53 Mbit/s
95th percentile per-packet one-way delay: 1.007 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 373.64 Mbit/s
95th percentile per-packet one-way delay: 1.005 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 333.68 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 24.52 Mbit/s
95th percentile per-packet one-way delay: 0.966 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Allegro — Data Link

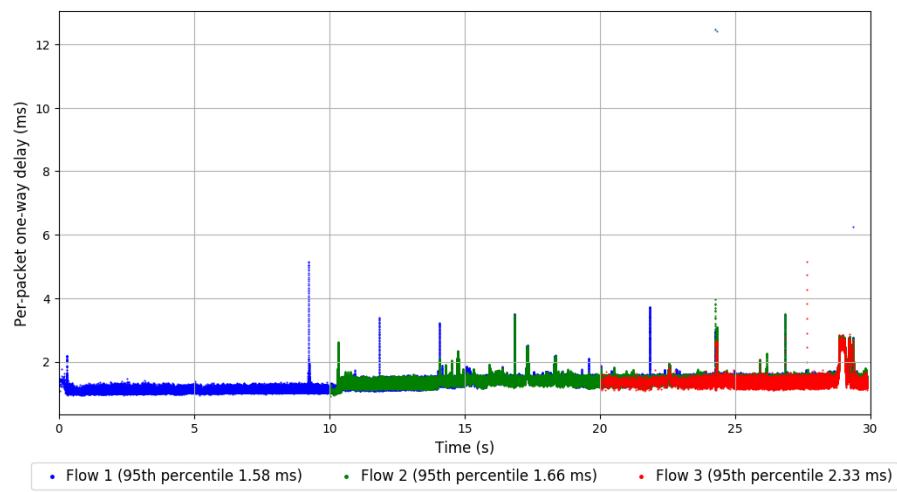
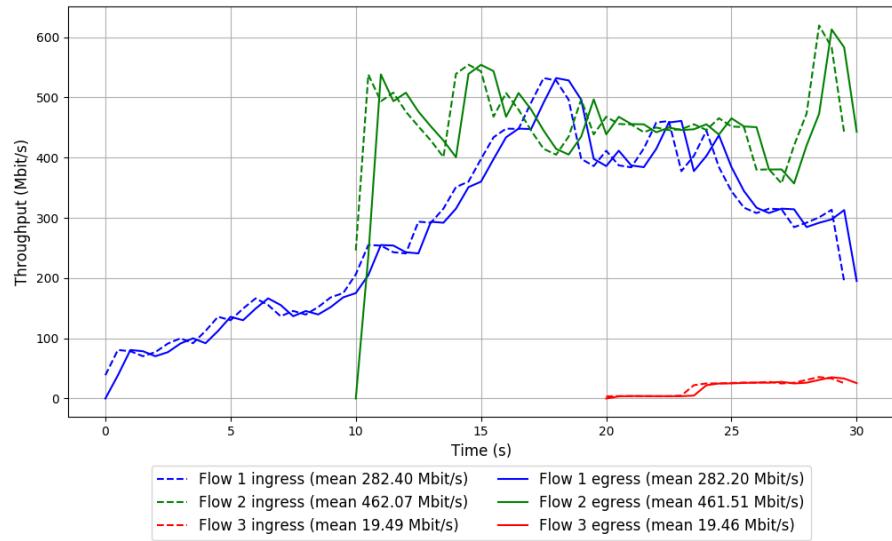


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-26 04:37:13
End at: 2018-10-26 04:37:43
Local clock offset: -1.312 ms
Remote clock offset: 5.161 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 595.46 Mbit/s
95th percentile per-packet one-way delay: 1.611 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 282.20 Mbit/s
95th percentile per-packet one-way delay: 1.576 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 461.51 Mbit/s
95th percentile per-packet one-way delay: 1.658 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 19.46 Mbit/s
95th percentile per-packet one-way delay: 2.334 ms
Loss rate: 0.17%
```

Run 4: Report of PCC-Allegro — Data Link

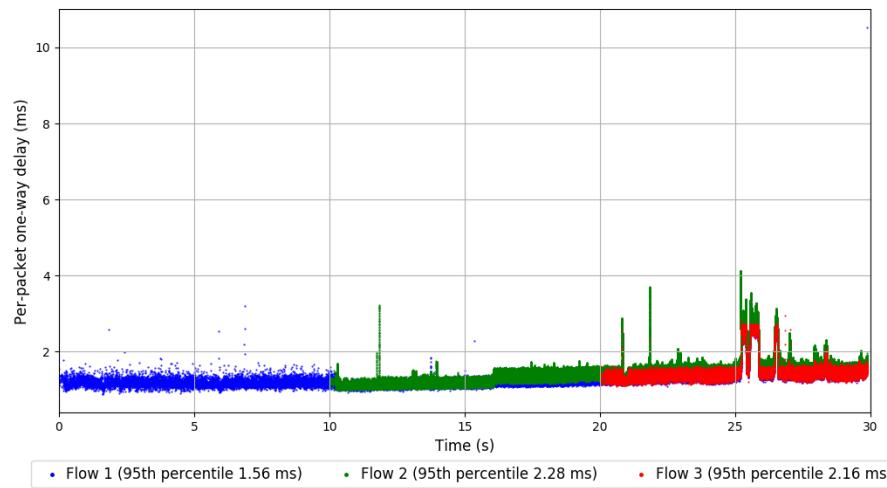
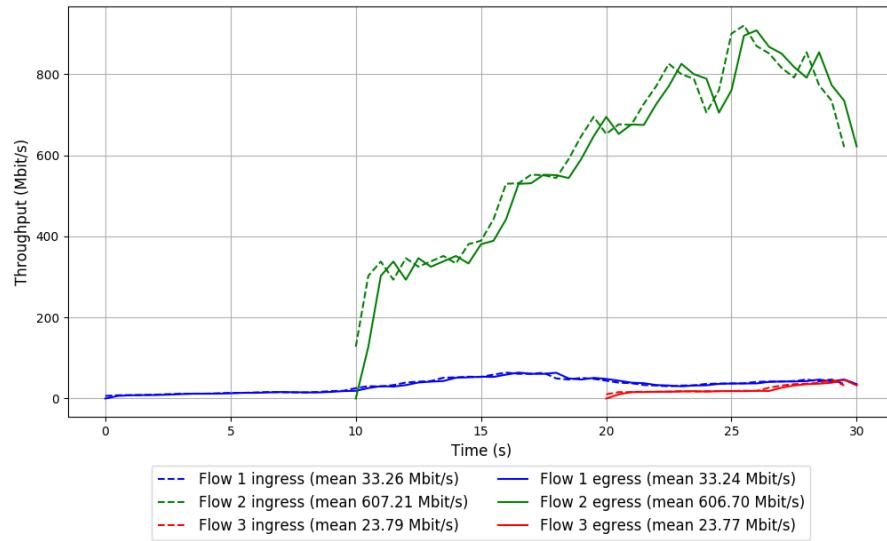


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-26 05:04:34
End at: 2018-10-26 05:05:04
Local clock offset: 1.253 ms
Remote clock offset: 3.871 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 444.33 Mbit/s
95th percentile per-packet one-way delay: 2.173 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 33.24 Mbit/s
95th percentile per-packet one-way delay: 1.565 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 606.70 Mbit/s
95th percentile per-packet one-way delay: 2.278 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 23.77 Mbit/s
95th percentile per-packet one-way delay: 2.158 ms
Loss rate: 0.08%
```

Run 5: Report of PCC-Allegro — Data Link

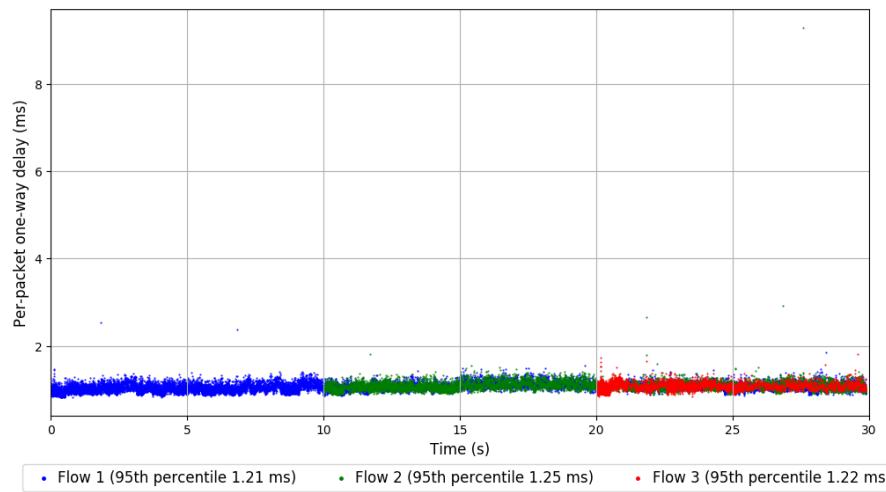
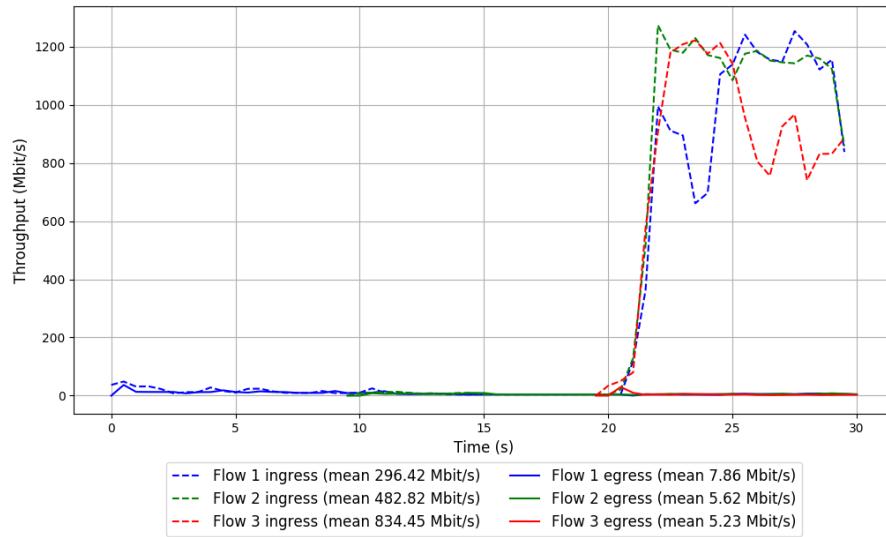


Run 1: Statistics of PCC-Expr

```
Start at: 2018-10-26 03:11:52
End at: 2018-10-26 03:12:22
Local clock offset: 0.453 ms
Remote clock offset: -4.582 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.33 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 98.51%
-- Flow 1:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 1.212 ms
Loss rate: 97.35%
-- Flow 2:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 1.247 ms
Loss rate: 98.84%
-- Flow 3:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 1.219 ms
Loss rate: 99.37%
```

Run 1: Report of PCC-Expr — Data Link

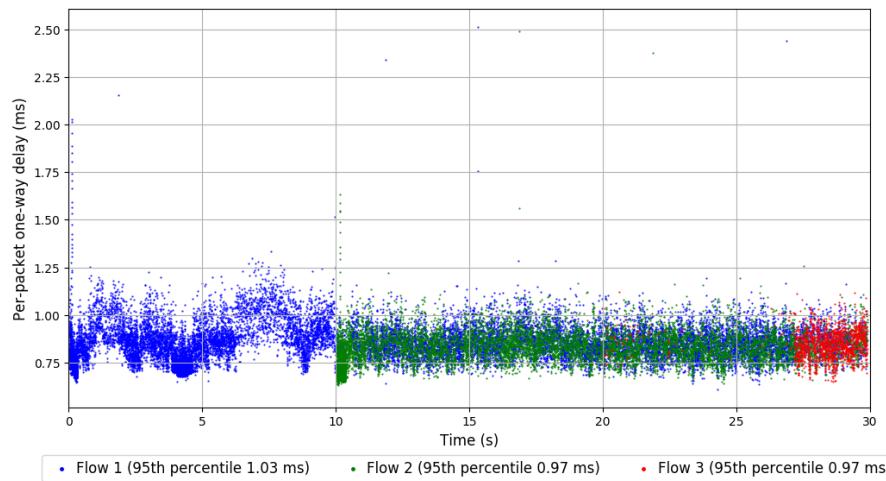
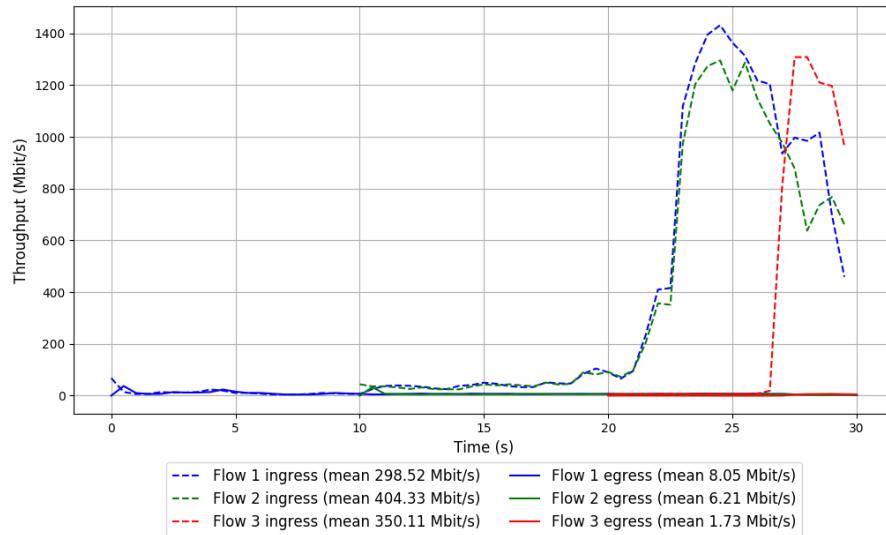


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-26 03:39:27
End at: 2018-10-26 03:39:57
Local clock offset: -1.545 ms
Remote clock offset: -6.872 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 98.13%
-- Flow 1:
Average throughput: 8.05 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 97.30%
-- Flow 2:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 98.46%
-- Flow 3:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 99.50%
```

Run 2: Report of PCC-Expr — Data Link

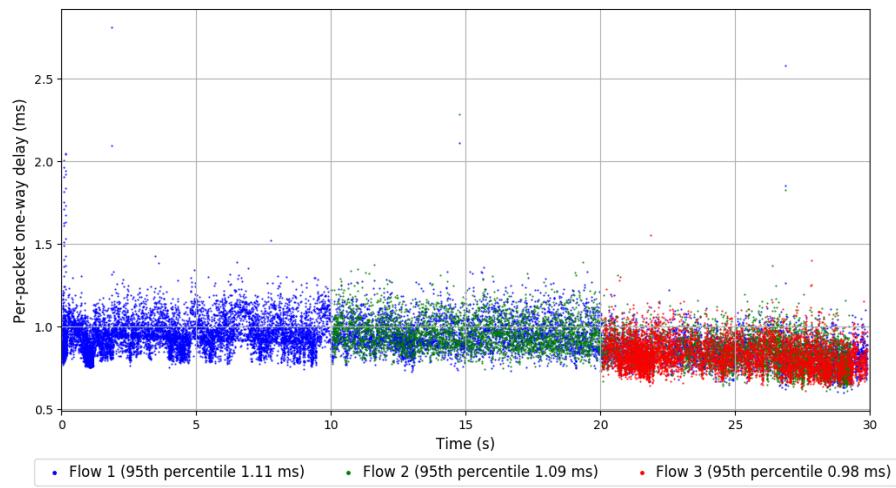
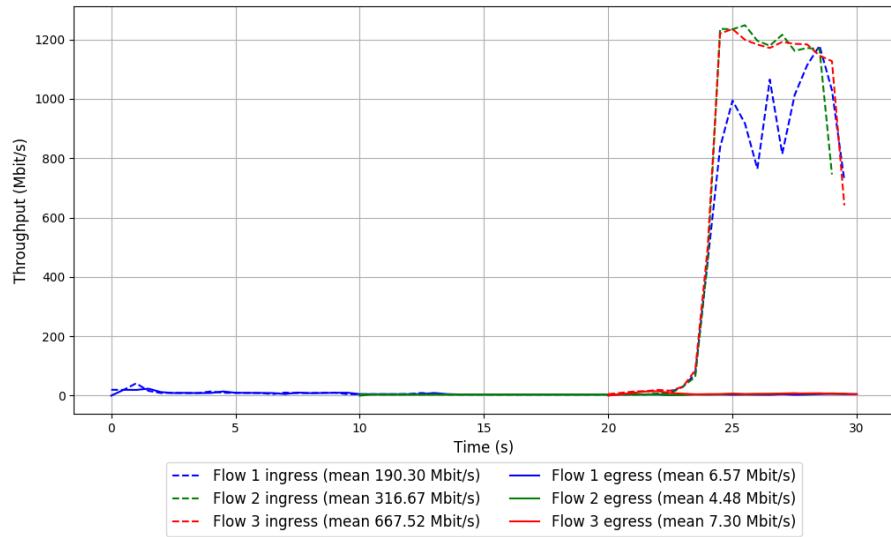


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-26 04:06:57
End at: 2018-10-26 04:07:27
Local clock offset: -3.081 ms
Remote clock offset: 2.654 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.87 Mbit/s
95th percentile per-packet one-way delay: 1.093 ms
Loss rate: 98.07%
-- Flow 1:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 1.112 ms
Loss rate: 96.55%
-- Flow 2:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 1.086 ms
Loss rate: 98.59%
-- Flow 3:
Average throughput: 7.30 Mbit/s
95th percentile per-packet one-way delay: 0.980 ms
Loss rate: 98.91%
```

Run 3: Report of PCC-Expr — Data Link

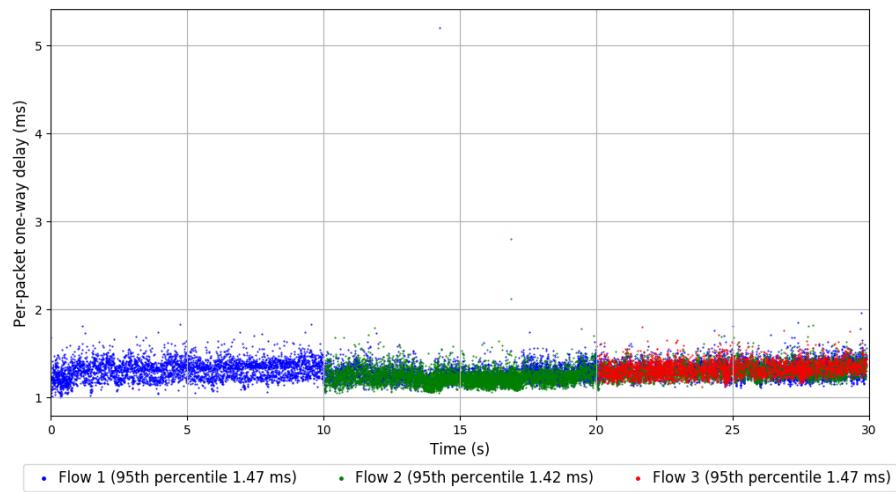
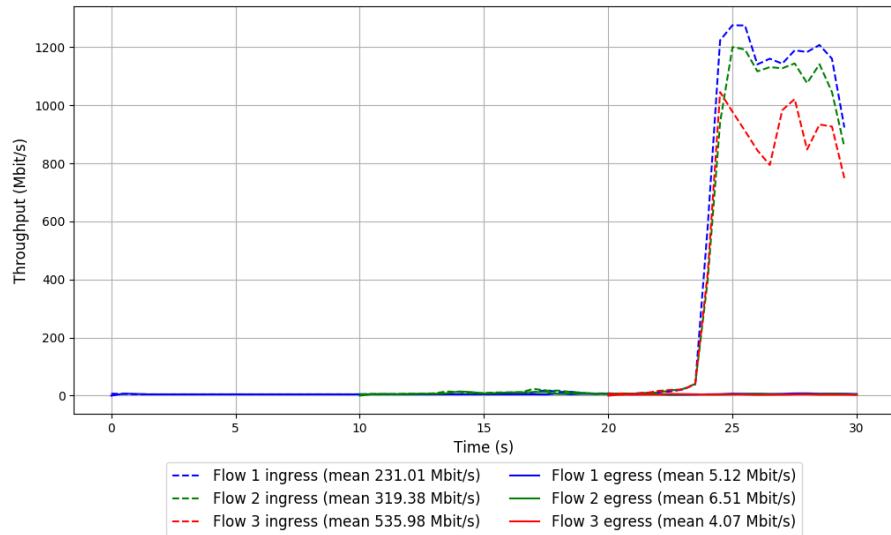


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-26 04:34:28
End at: 2018-10-26 04:34:58
Local clock offset: -1.999 ms
Remote clock offset: 5.462 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.79 Mbit/s
95th percentile per-packet one-way delay: 1.452 ms
Loss rate: 98.26%
-- Flow 1:
Average throughput: 5.12 Mbit/s
95th percentile per-packet one-way delay: 1.468 ms
Loss rate: 97.79%
-- Flow 2:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 1.420 ms
Loss rate: 97.96%
-- Flow 3:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 1.471 ms
Loss rate: 99.24%
```

Run 4: Report of PCC-Expr — Data Link

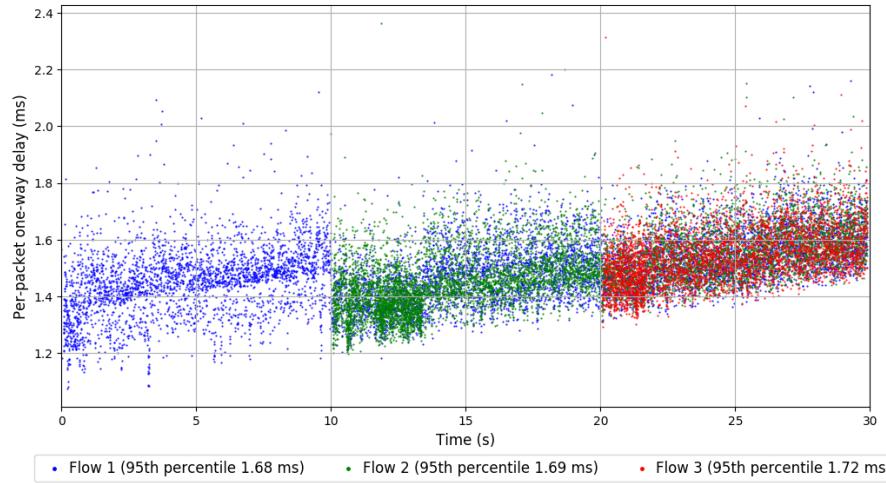
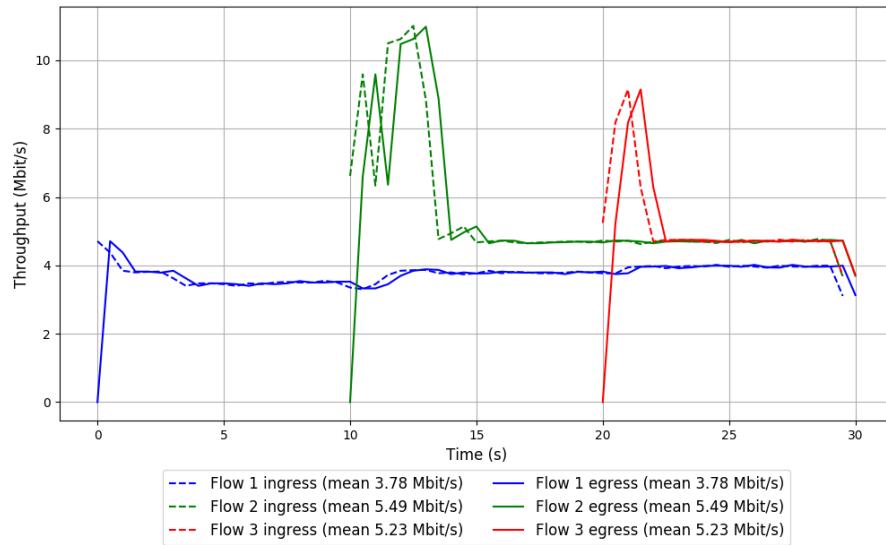


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-26 05:01:56
End at: 2018-10-26 05:02:26
Local clock offset: 0.948 ms
Remote clock offset: 5.383 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.16 Mbit/s
95th percentile per-packet one-way delay: 1.694 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 1.682 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 1.691 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 1.715 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Expr — Data Link

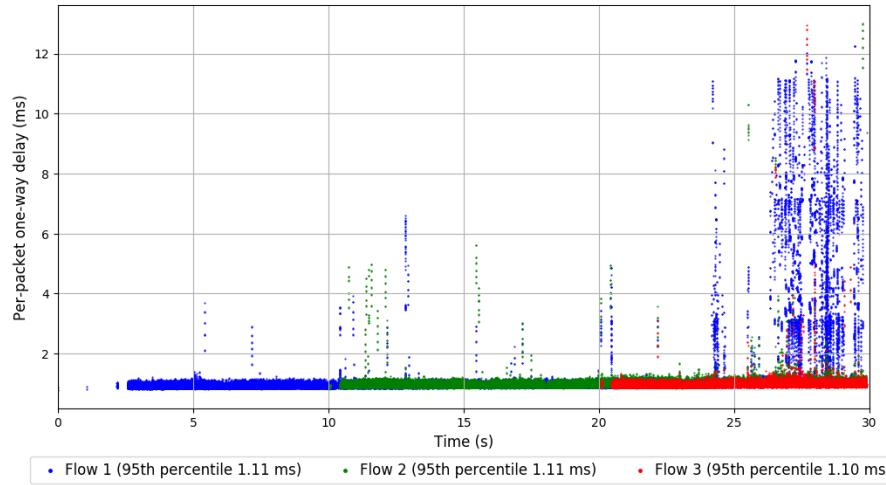
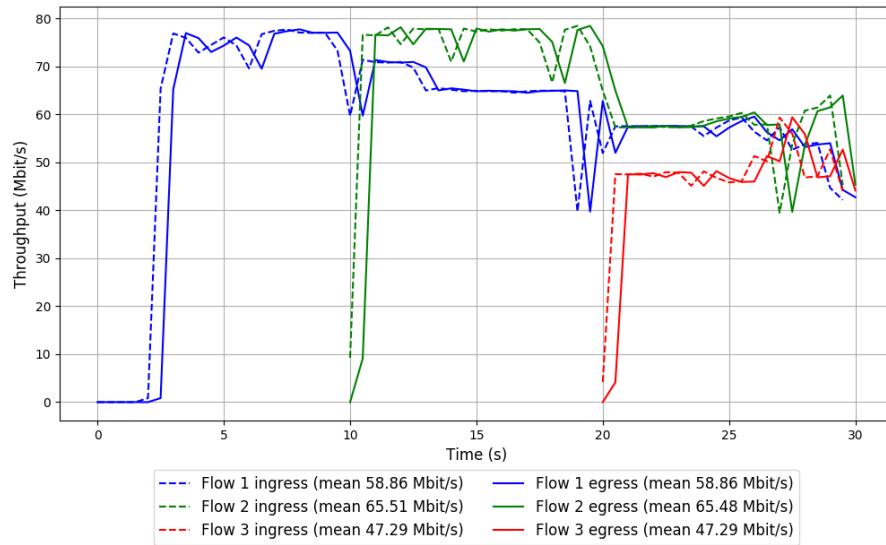


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-10-26 03:07:23
End at: 2018-10-26 03:07:53
Local clock offset: 0.458 ms
Remote clock offset: -4.093 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.89 Mbit/s
95th percentile per-packet one-way delay: 1.110 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.86 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.48 Mbit/s
95th percentile per-packet one-way delay: 1.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

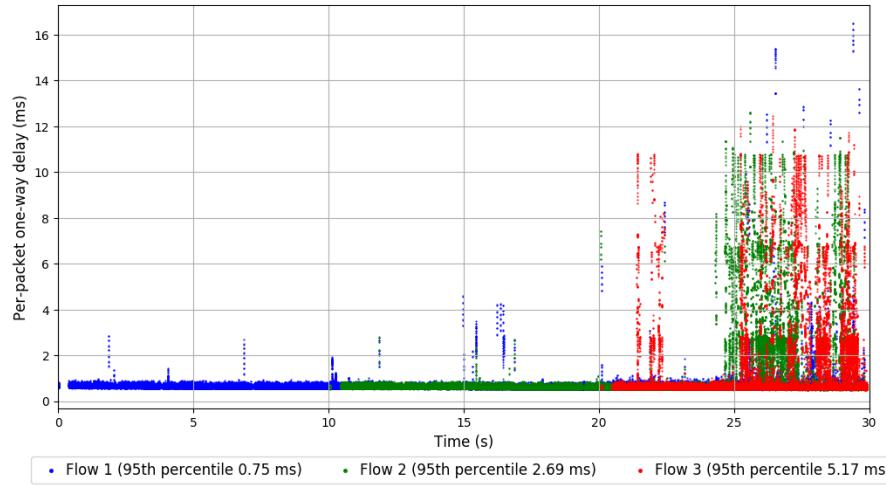
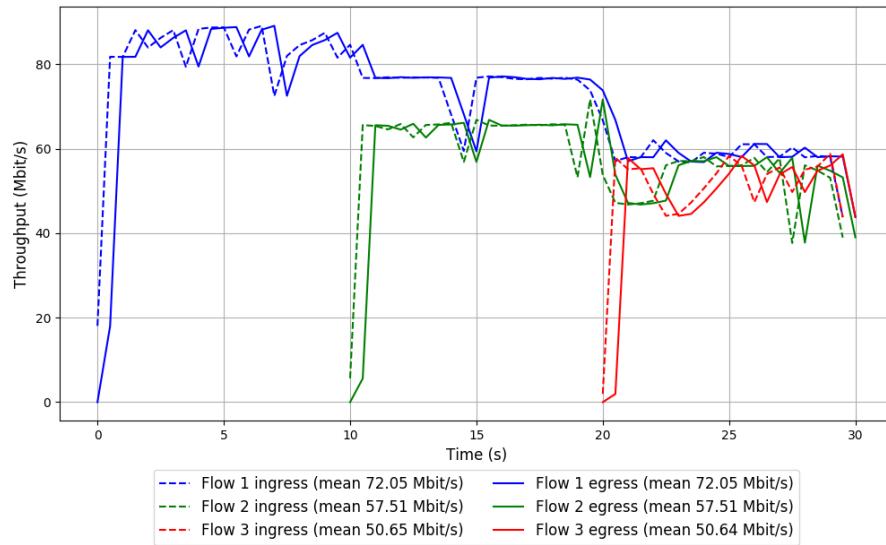


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-26 03:34:57
End at: 2018-10-26 03:35:27
Local clock offset: -0.469 ms
Remote clock offset: -6.505 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.90 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.05 Mbit/s
95th percentile per-packet one-way delay: 0.754 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.51 Mbit/s
95th percentile per-packet one-way delay: 2.695 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.64 Mbit/s
95th percentile per-packet one-way delay: 5.173 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link

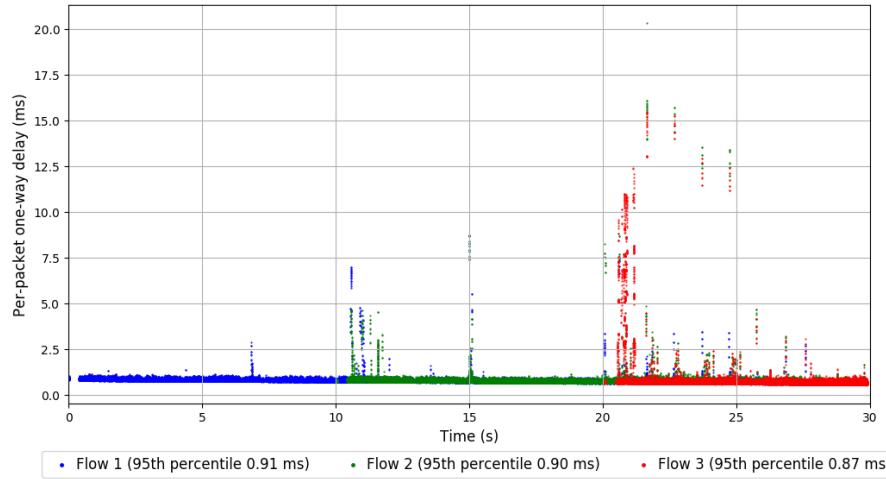
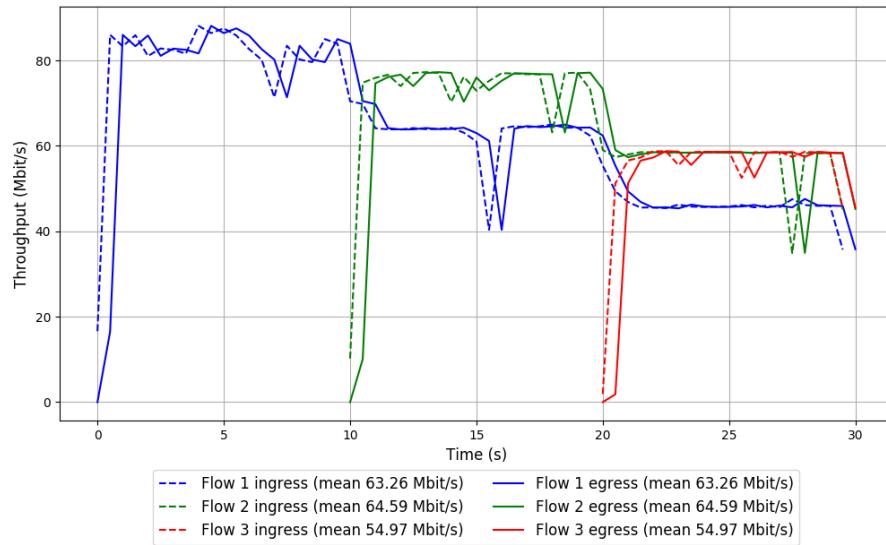


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-26 04:02:28
End at: 2018-10-26 04:02:58
Local clock offset: -3.391 ms
Remote clock offset: 0.574 ms

# Below is generated by plot.py at 2018-10-26 05:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 124.25 Mbit/s
95th percentile per-packet one-way delay: 0.904 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.26 Mbit/s
95th percentile per-packet one-way delay: 0.912 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.59 Mbit/s
95th percentile per-packet one-way delay: 0.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.97 Mbit/s
95th percentile per-packet one-way delay: 0.867 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

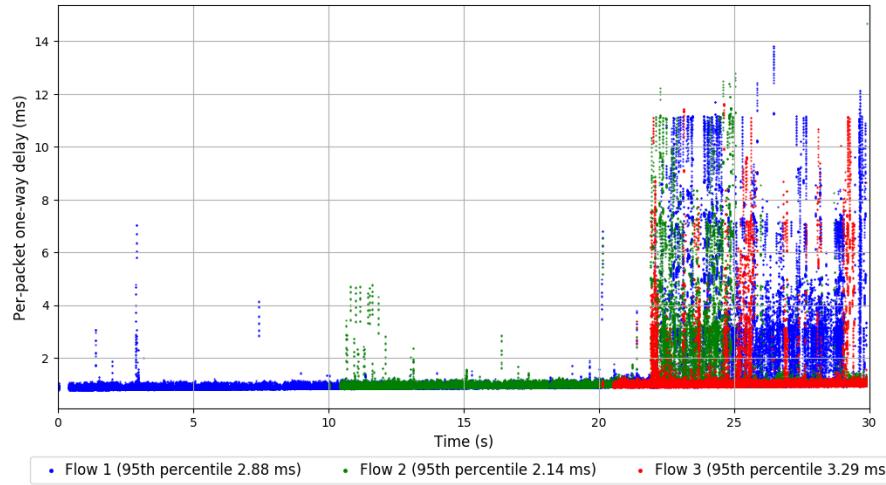
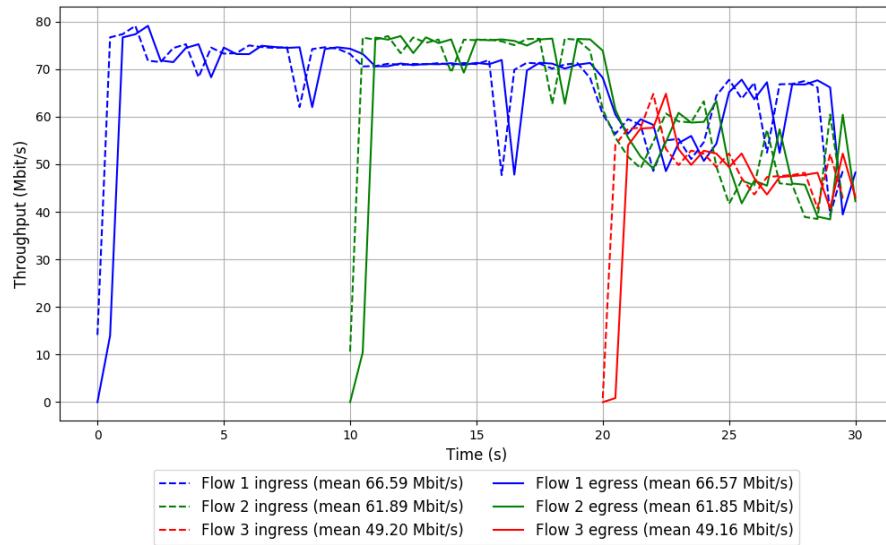


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-26 04:29:58
End at: 2018-10-26 04:30:28
Local clock offset: -2.942 ms
Remote clock offset: 6.498 ms

# Below is generated by plot.py at 2018-10-26 05:54:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.76 Mbit/s
95th percentile per-packet one-way delay: 2.749 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 66.57 Mbit/s
95th percentile per-packet one-way delay: 2.880 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 61.85 Mbit/s
95th percentile per-packet one-way delay: 2.141 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.16 Mbit/s
95th percentile per-packet one-way delay: 3.291 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

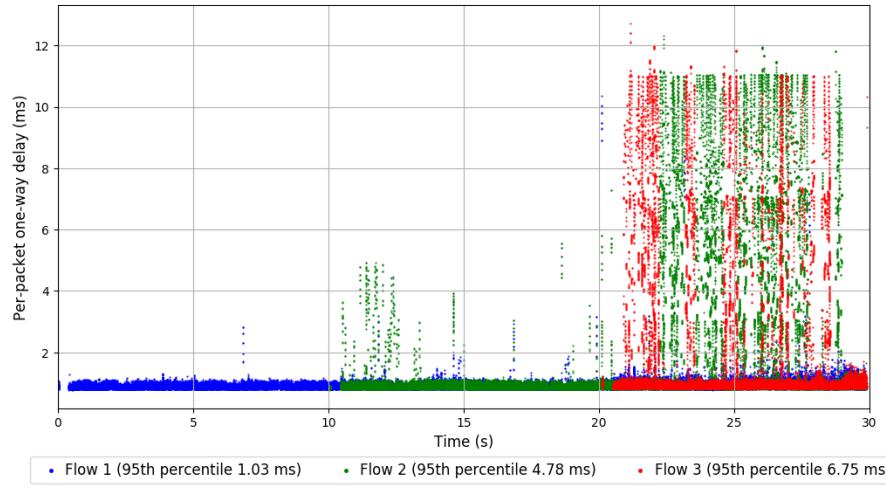
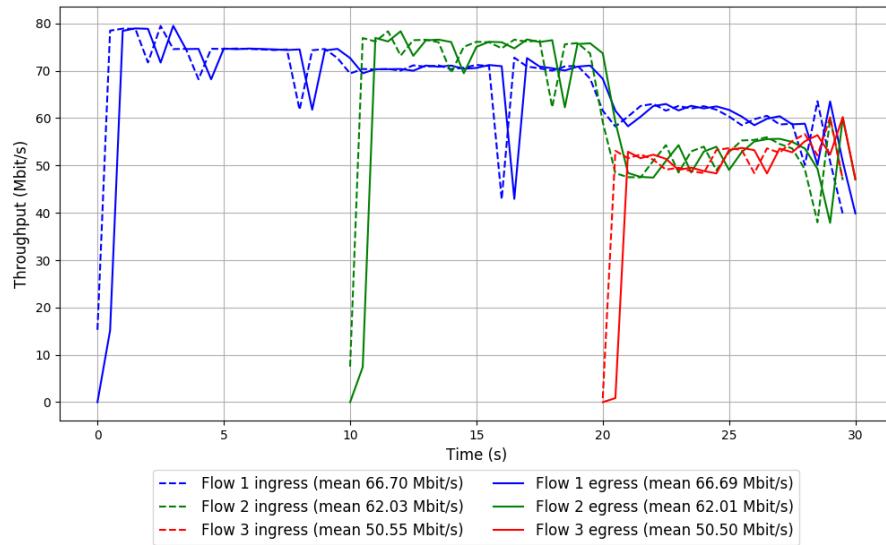


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-26 04:57:27
End at: 2018-10-26 04:57:57
Local clock offset: 0.774 ms
Remote clock offset: 5.22 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 124.44 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.69 Mbit/s
95th percentile per-packet one-way delay: 1.027 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.01 Mbit/s
95th percentile per-packet one-way delay: 4.784 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.50 Mbit/s
95th percentile per-packet one-way delay: 6.745 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

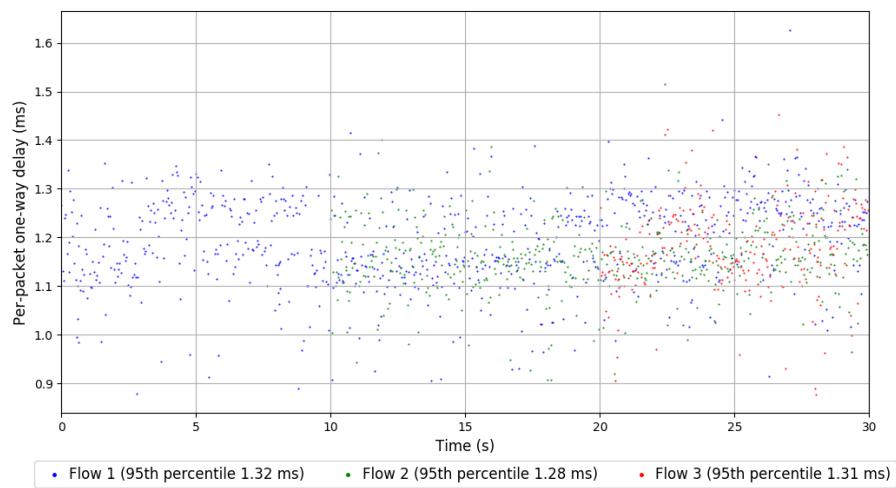
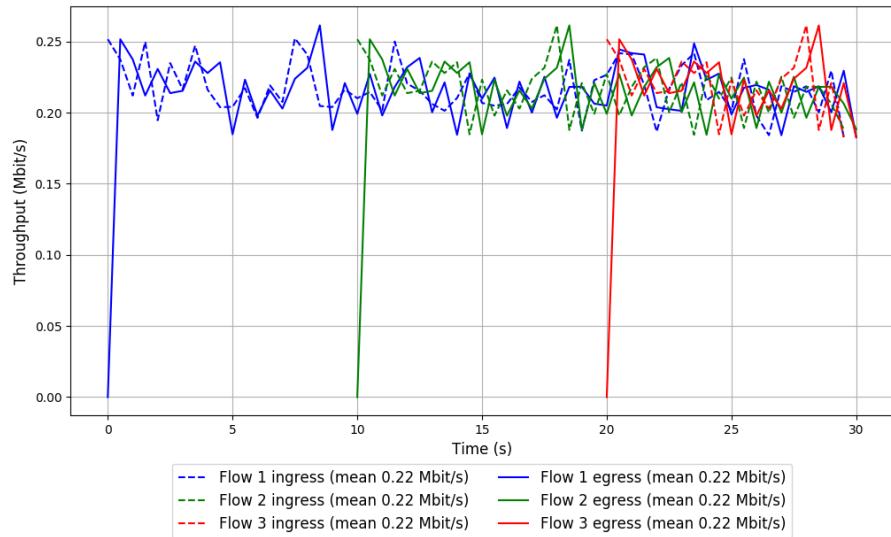


```
Run 1: Statistics of SCReAM

Start at: 2018-10-26 03:10:33
End at: 2018-10-26 03:11:03
Local clock offset: 0.459 ms
Remote clock offset: -4.502 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.313 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.322 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.281 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.315 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

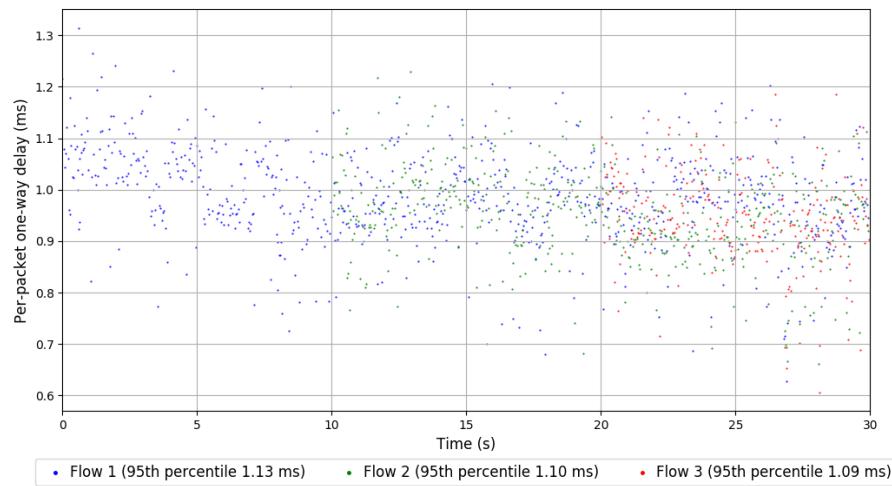
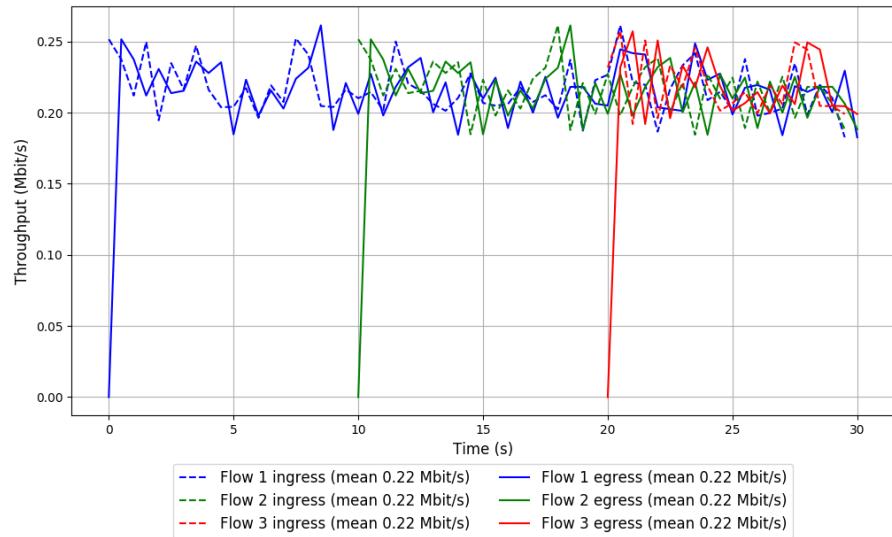


Run 2: Statistics of SCReAM

```
Start at: 2018-10-26 03:38:09
End at: 2018-10-26 03:38:39
Local clock offset: -1.313 ms
Remote clock offset: -6.817 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.088 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

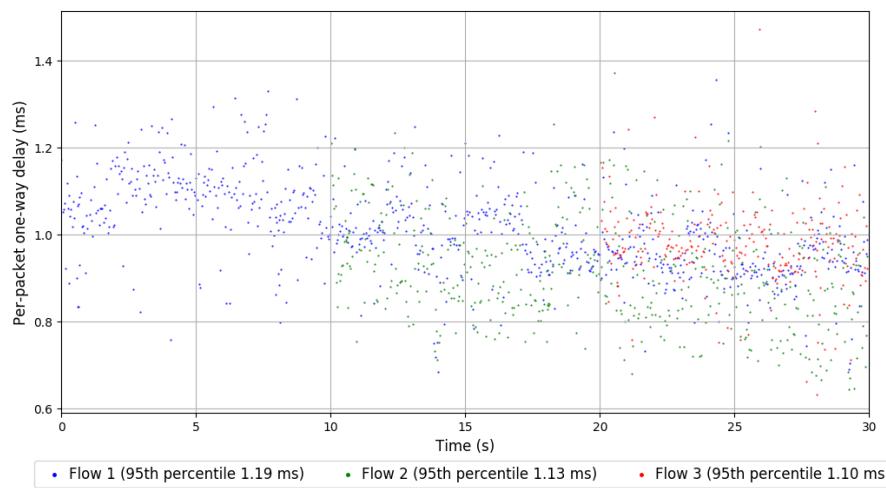
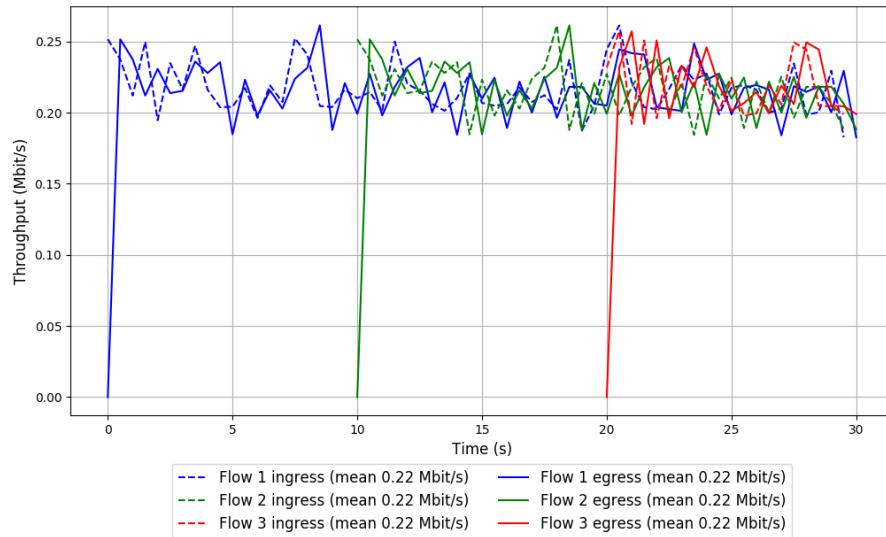


Run 3: Statistics of SCReAM

```
Start at: 2018-10-26 04:05:38
End at: 2018-10-26 04:06:08
Local clock offset: -3.154 ms
Remote clock offset: 2.075 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.163 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.188 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

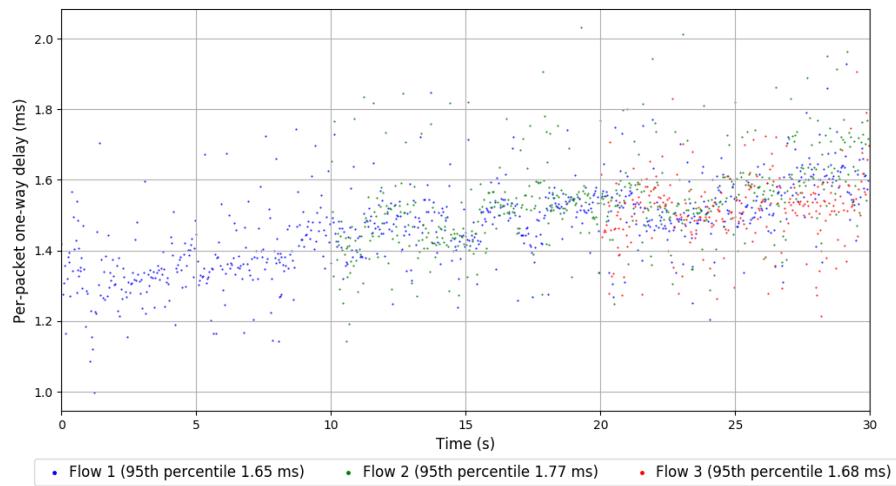
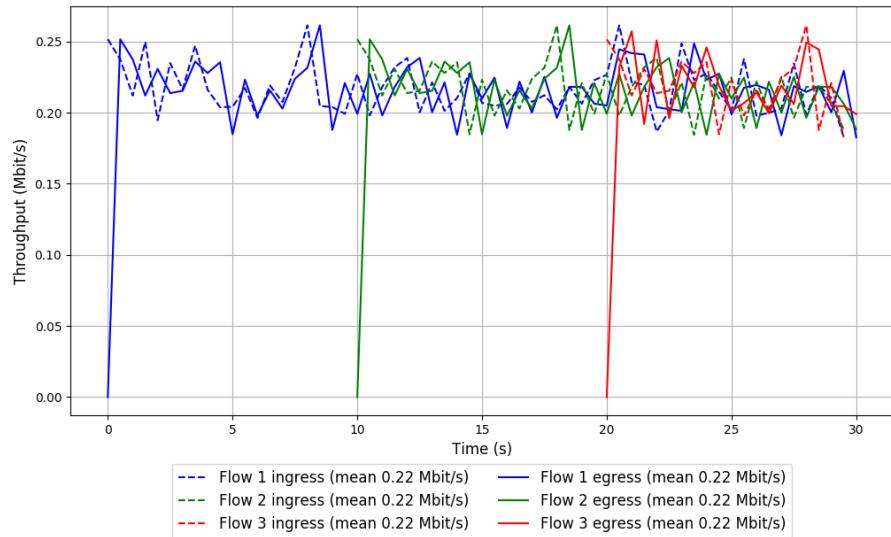


Run 4: Statistics of SCReAM

```
Start at: 2018-10-26 04:33:09
End at: 2018-10-26 04:33:39
Local clock offset: -2.413 ms
Remote clock offset: 5.679 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.718 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.646 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.770 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.681 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

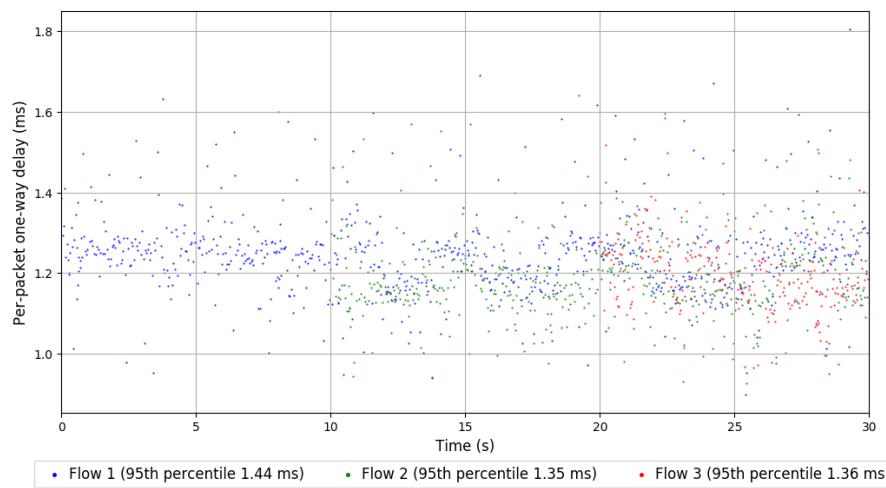
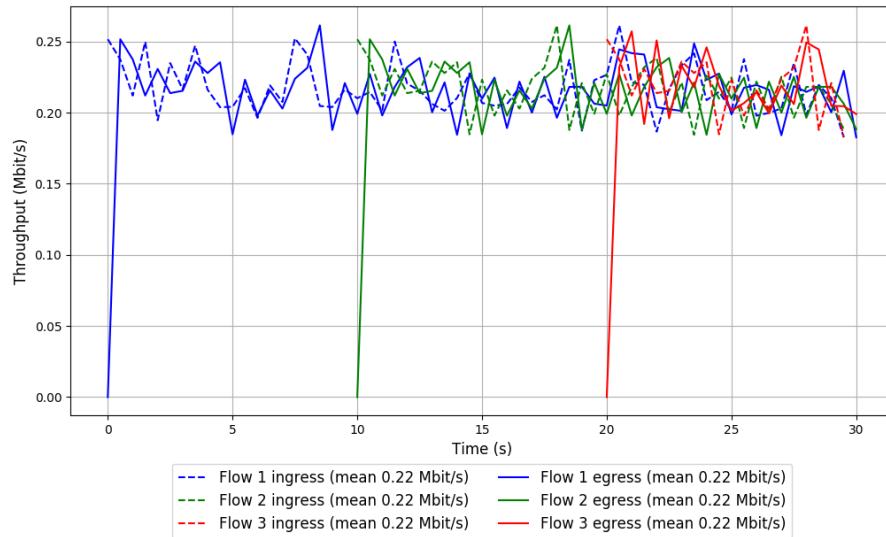


Run 5: Statistics of SCReAM

```
Start at: 2018-10-26 05:00:37
End at: 2018-10-26 05:01:07
Local clock offset: 0.902 ms
Remote clock offset: 5.397 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.396 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.444 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.348 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.359 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

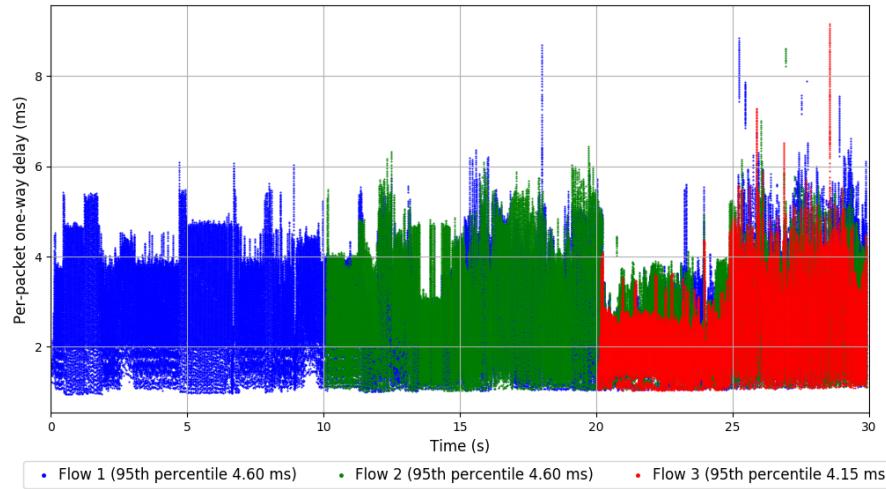
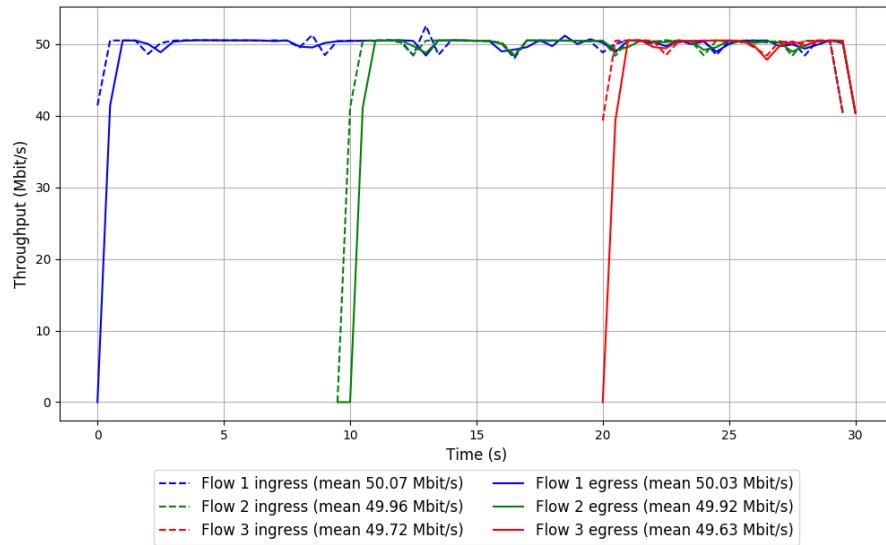


Run 1: Statistics of Sprout

```
Start at: 2018-10-26 02:54:53
End at: 2018-10-26 02:55:23
Local clock offset: 0.434 ms
Remote clock offset: -1.794 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.67 Mbit/s
95th percentile per-packet one-way delay: 4.544 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 50.03 Mbit/s
95th percentile per-packet one-way delay: 4.597 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 49.92 Mbit/s
95th percentile per-packet one-way delay: 4.599 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 49.63 Mbit/s
95th percentile per-packet one-way delay: 4.146 ms
Loss rate: 0.14%
```

Run 1: Report of Sprout — Data Link

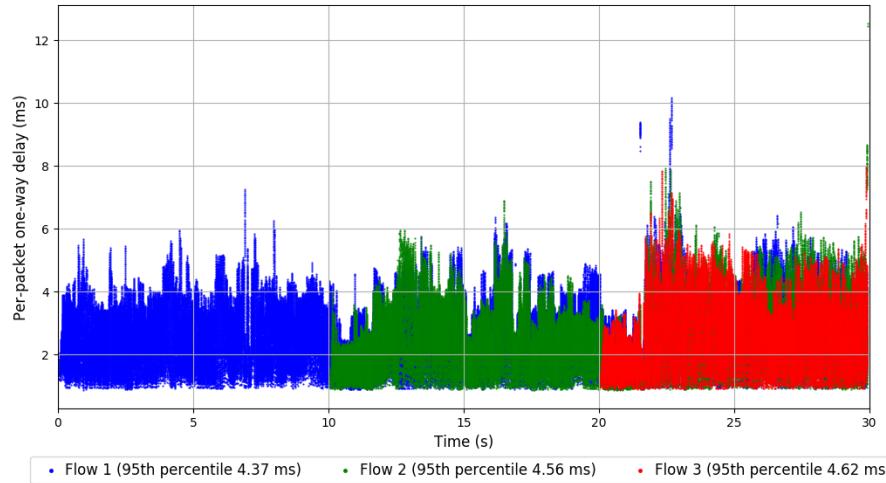
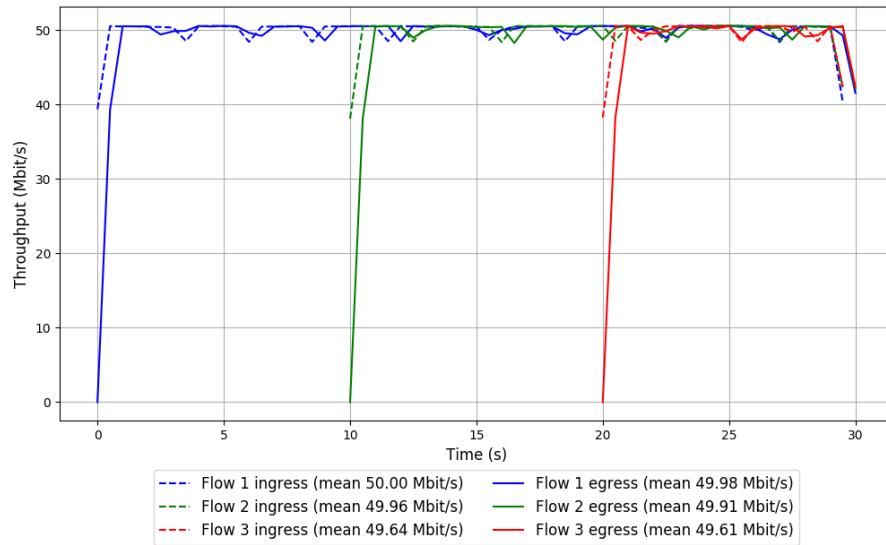


Run 2: Statistics of Sprout

```
Start at: 2018-10-26 03:22:29
End at: 2018-10-26 03:22:59
Local clock offset: 0.486 ms
Remote clock offset: -5.539 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.56 Mbit/s
95th percentile per-packet one-way delay: 4.480 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 49.98 Mbit/s
95th percentile per-packet one-way delay: 4.367 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 49.91 Mbit/s
95th percentile per-packet one-way delay: 4.562 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 49.61 Mbit/s
95th percentile per-packet one-way delay: 4.615 ms
Loss rate: 0.03%
```

Run 2: Report of Sprout — Data Link

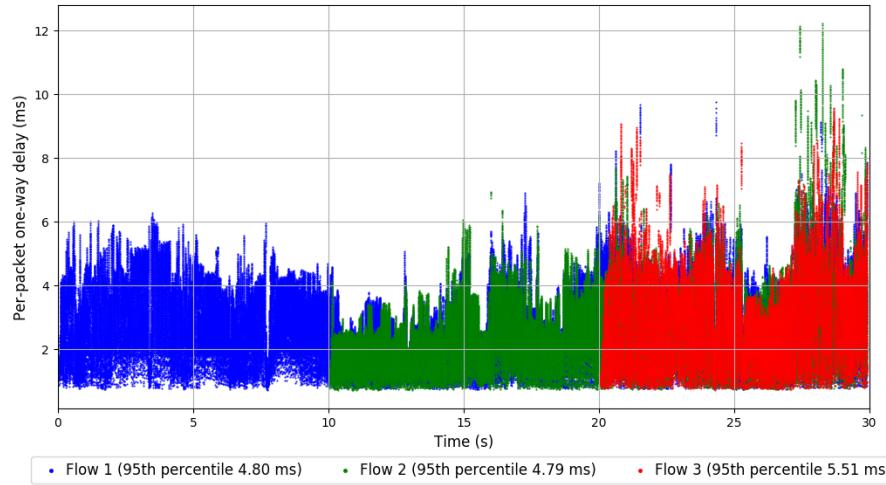
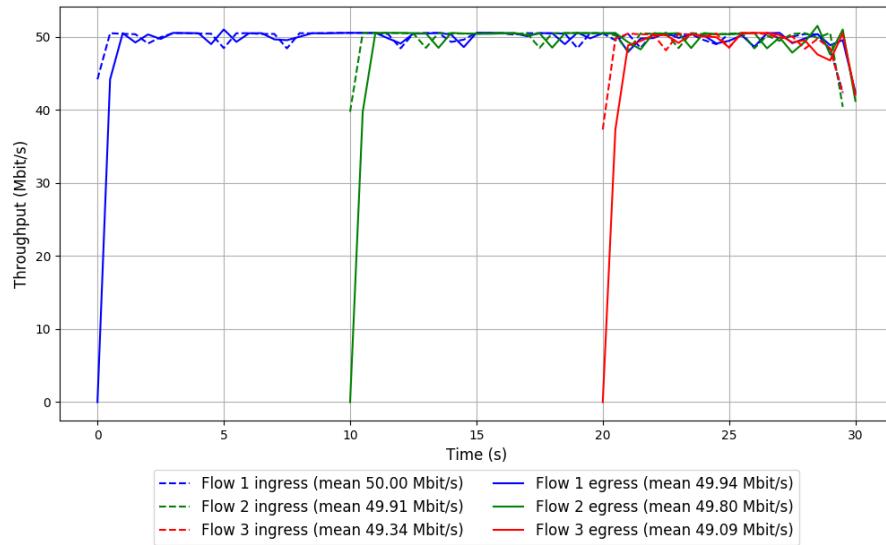


Run 3: Statistics of Sprout

```
Start at: 2018-10-26 03:50:00
End at: 2018-10-26 03:50:30
Local clock offset: -2.777 ms
Remote clock offset: -7.654 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.29 Mbit/s
95th percentile per-packet one-way delay: 4.917 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 49.94 Mbit/s
95th percentile per-packet one-way delay: 4.796 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 49.80 Mbit/s
95th percentile per-packet one-way delay: 4.791 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 49.09 Mbit/s
95th percentile per-packet one-way delay: 5.508 ms
Loss rate: 0.46%
```

Run 3: Report of Sprout — Data Link

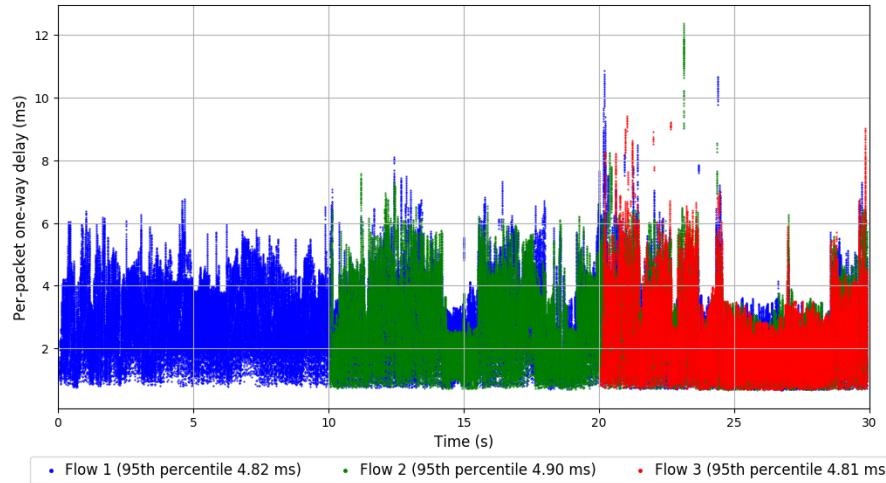
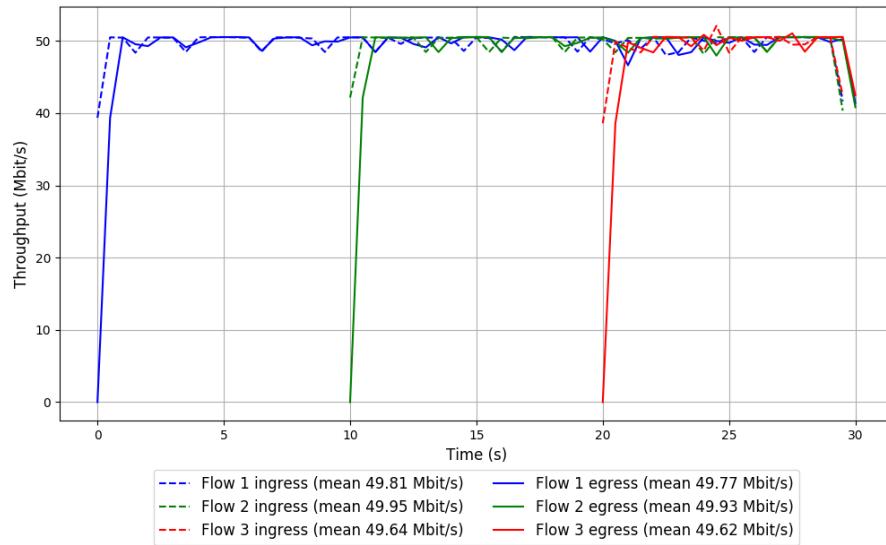


Run 4: Statistics of Sprout

```
Start at: 2018-10-26 04:17:25
End at: 2018-10-26 04:17:55
Local clock offset: -2.844 ms
Remote clock offset: 5.612 ms

# Below is generated by plot.py at 2018-10-26 05:54:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.37 Mbit/s
95th percentile per-packet one-way delay: 4.847 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 49.77 Mbit/s
95th percentile per-packet one-way delay: 4.822 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 4.900 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 49.62 Mbit/s
95th percentile per-packet one-way delay: 4.809 ms
Loss rate: 0.02%
```

Run 4: Report of Sprout — Data Link

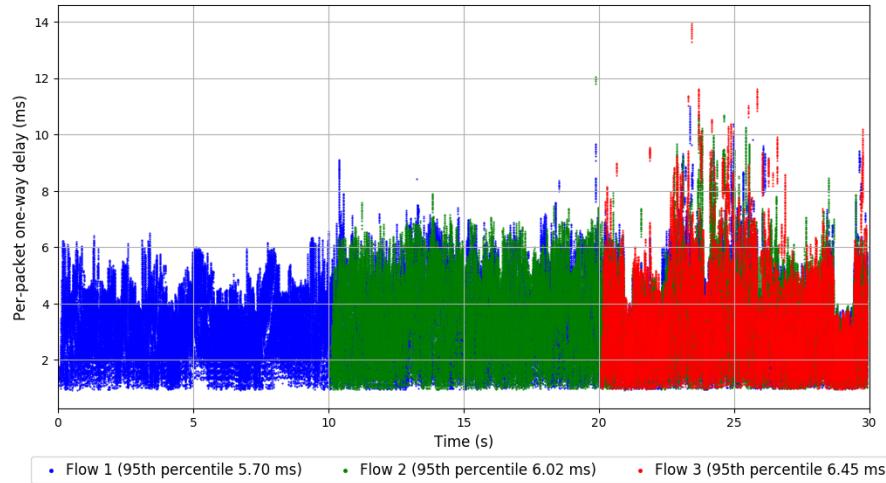
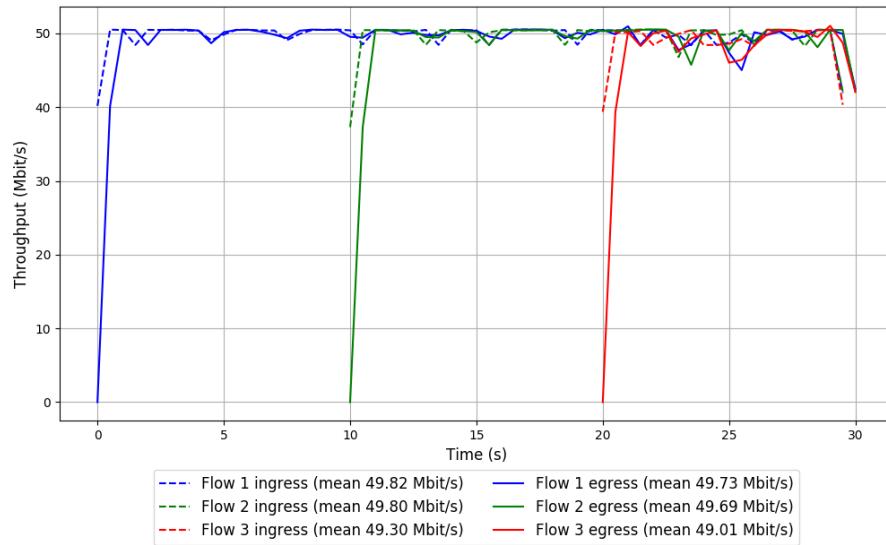


Run 5: Statistics of Sprout

```
Start at: 2018-10-26 04:44:55
End at: 2018-10-26 04:45:25
Local clock offset: -0.115 ms
Remote clock offset: 4.807 ms

# Below is generated by plot.py at 2018-10-26 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.97 Mbit/s
95th percentile per-packet one-way delay: 5.900 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 49.73 Mbit/s
95th percentile per-packet one-way delay: 5.698 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 49.69 Mbit/s
95th percentile per-packet one-way delay: 6.021 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 49.01 Mbit/s
95th percentile per-packet one-way delay: 6.453 ms
Loss rate: 0.56%
```

Run 5: Report of Sprout — Data Link

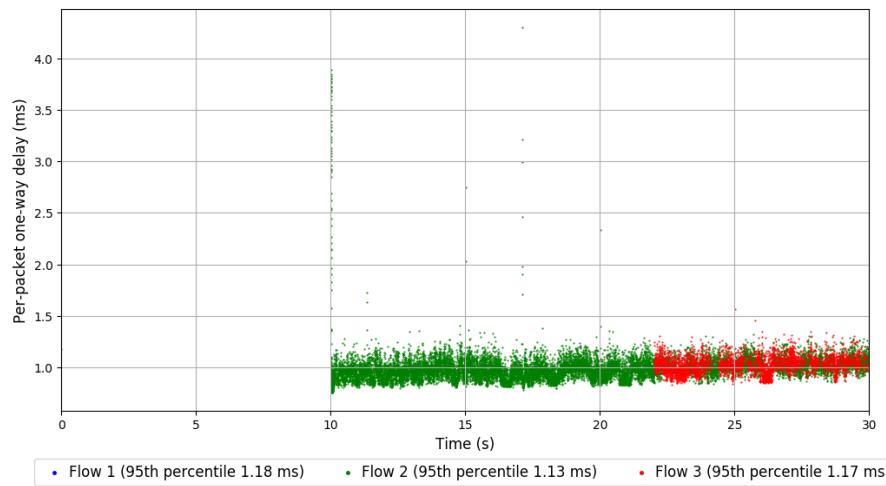
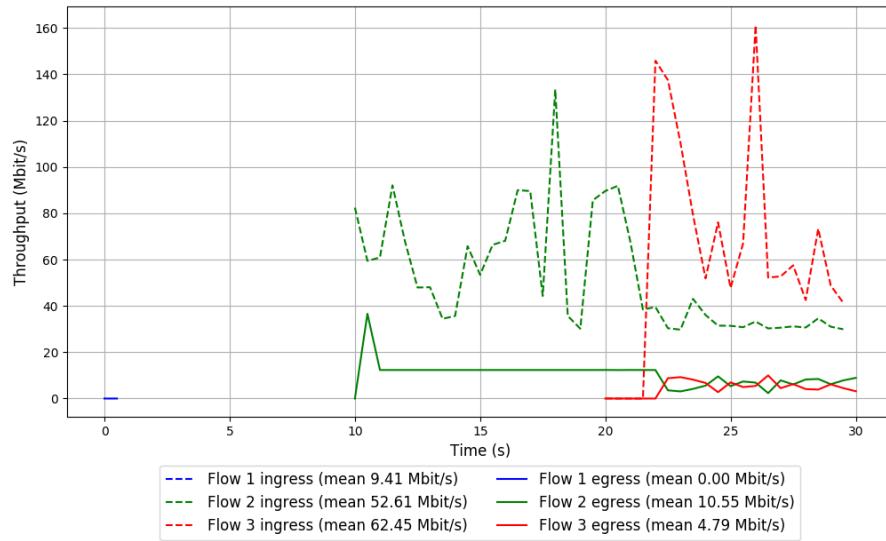


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-26 03:04:41
End at: 2018-10-26 03:05:11
Local clock offset: 0.496 ms
Remote clock offset: -3.794 ms

# Below is generated by plot.py at 2018-10-26 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 1.140 ms
Loss rate: 84.56%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.182 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 10.55 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 79.96%
-- Flow 3:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 1.165 ms
Loss rate: 92.33%
```

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

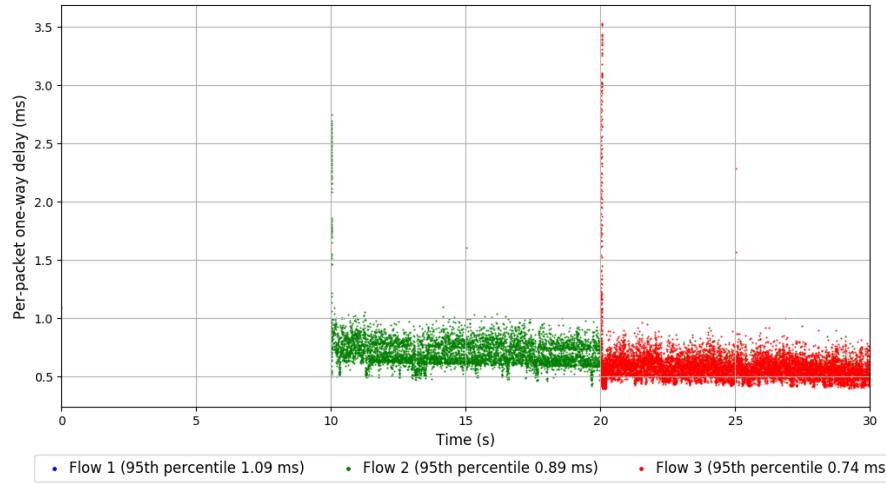
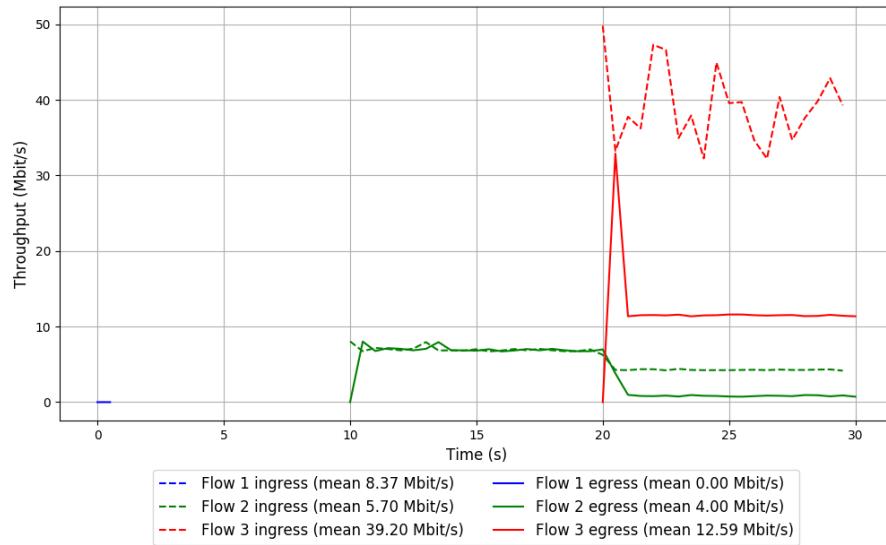


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-26 03:32:16
End at: 2018-10-26 03:32:46
Local clock offset: 0.413 ms
Remote clock offset: -6.328 ms

# Below is generated by plot.py at 2018-10-26 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 0.842 ms
Loss rate: 59.31%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.090 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 0.888 ms
Loss rate: 29.82%
-- Flow 3:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 0.742 ms
Loss rate: 67.89%
```

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

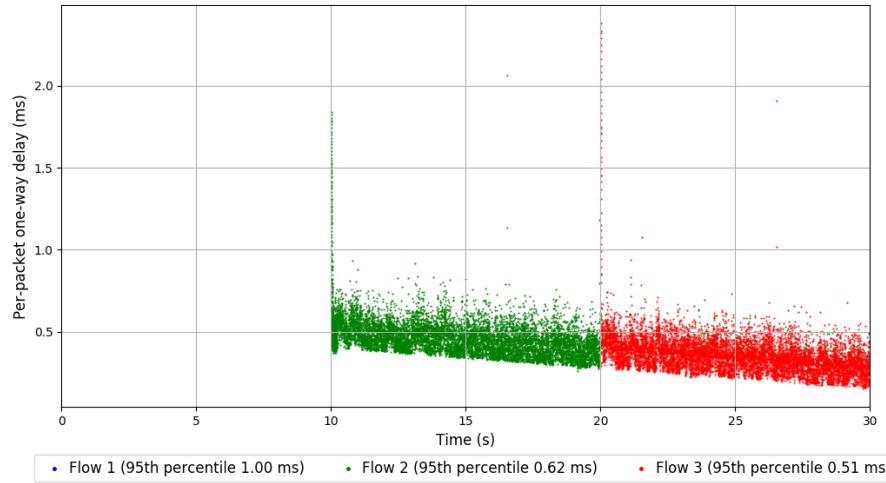
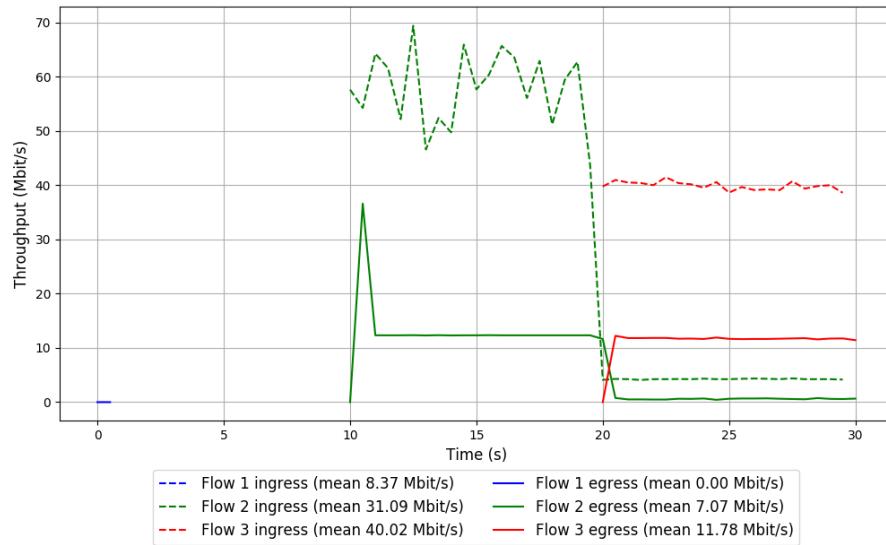


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-26 03:59:47
End at: 2018-10-26 04:00:17
Local clock offset: -3.363 ms
Remote clock offset: -1.39 ms

# Below is generated by plot.py at 2018-10-26 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 0.587 ms
Loss rate: 74.66%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.999 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 0.617 ms
Loss rate: 77.29%
-- Flow 3:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 0.512 ms
Loss rate: 70.57%
```

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

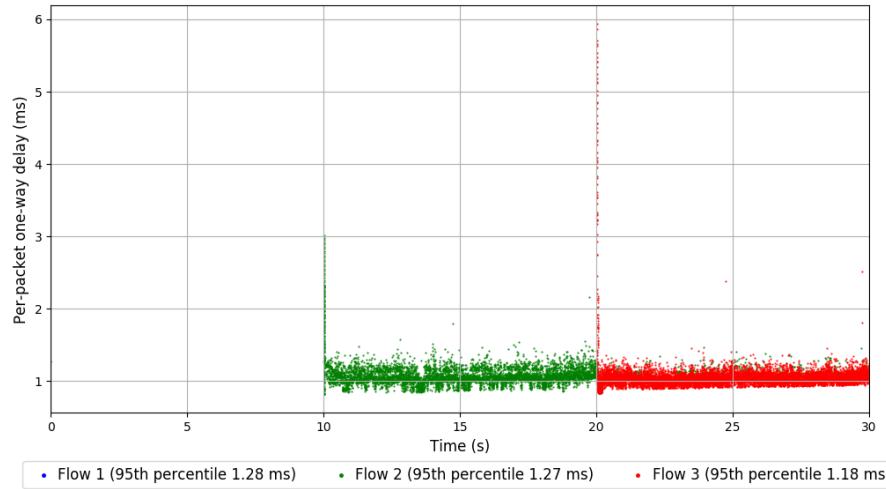
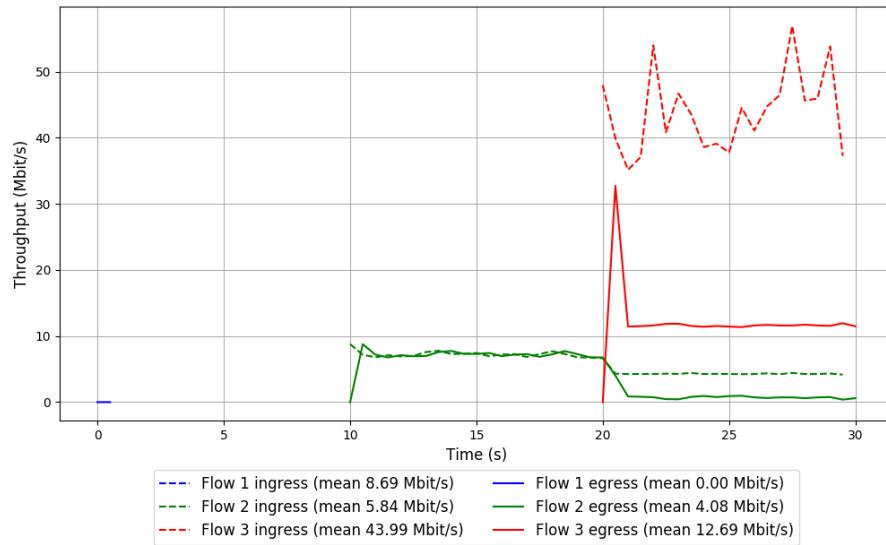


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-26 04:27:17
End at: 2018-10-26 04:27:47
Local clock offset: -2.914 ms
Remote clock offset: 7.433 ms

# Below is generated by plot.py at 2018-10-26 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 62.55%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.276 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 1.272 ms
Loss rate: 30.21%
-- Flow 3:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 1.175 ms
Loss rate: 71.15%
```

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

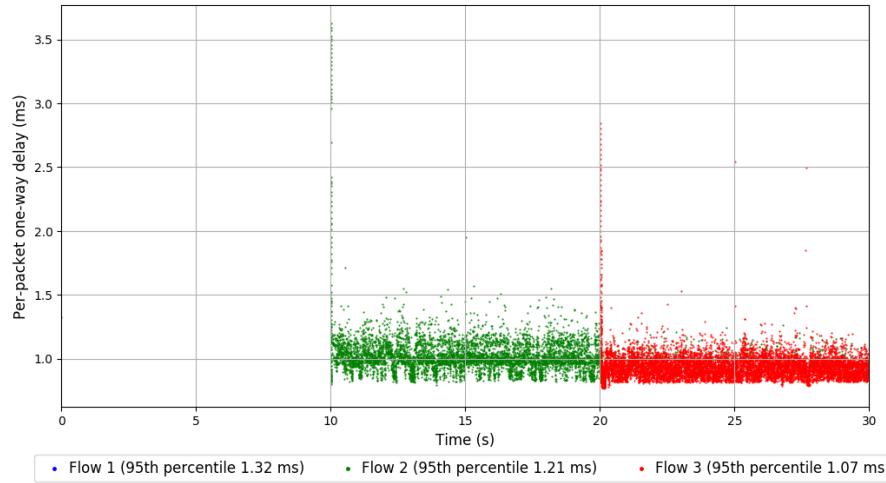
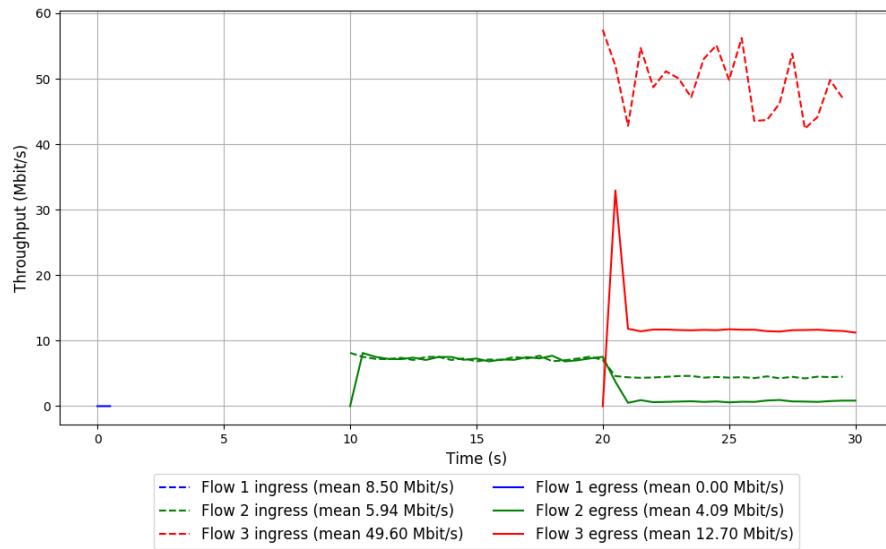


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-26 04:54:46
End at: 2018-10-26 04:55:16
Local clock offset: 0.636 ms
Remote clock offset: 5.039 ms

# Below is generated by plot.py at 2018-10-26 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 1.157 ms
Loss rate: 66.03%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.321 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 1.206 ms
Loss rate: 31.12%
-- Flow 3:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 1.074 ms
Loss rate: 74.40%
```

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

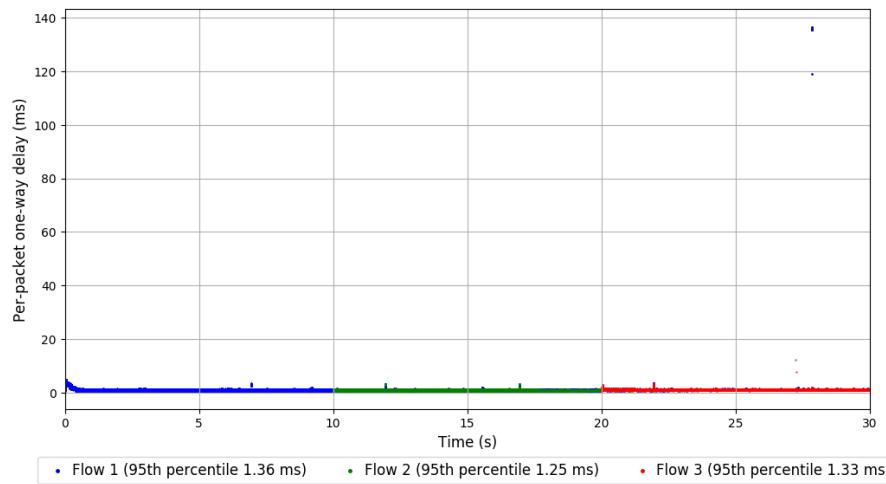
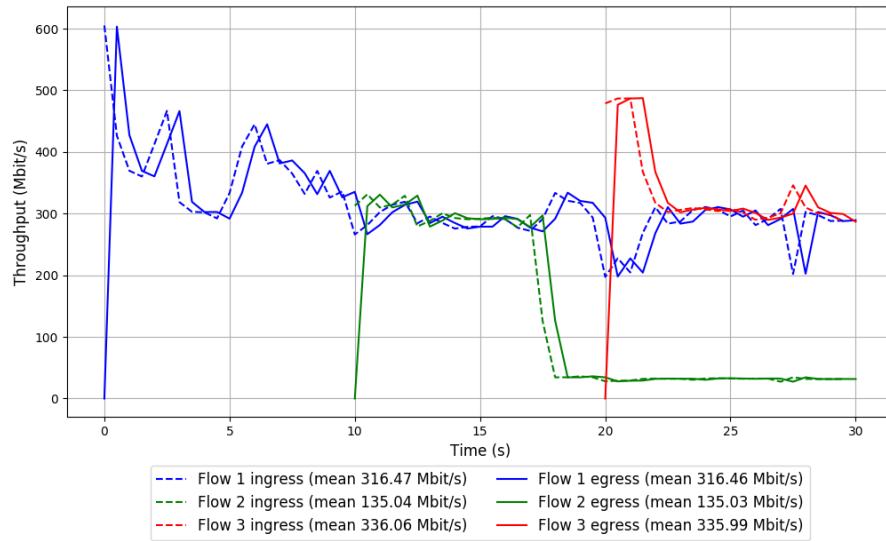


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-26 02:58:09
End at: 2018-10-26 02:58:39
Local clock offset: 0.485 ms
Remote clock offset: -2.68 ms

# Below is generated by plot.py at 2018-10-26 05:59:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.15 Mbit/s
95th percentile per-packet one-way delay: 1.333 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 316.46 Mbit/s
95th percentile per-packet one-way delay: 1.356 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 135.03 Mbit/s
95th percentile per-packet one-way delay: 1.251 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 335.99 Mbit/s
95th percentile per-packet one-way delay: 1.327 ms
Loss rate: 0.02%
```

Run 1: Report of TCP Vegas — Data Link

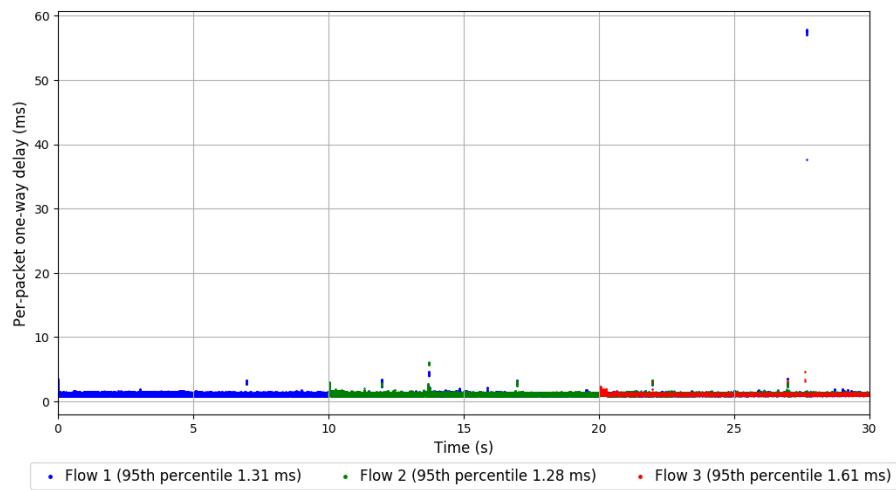
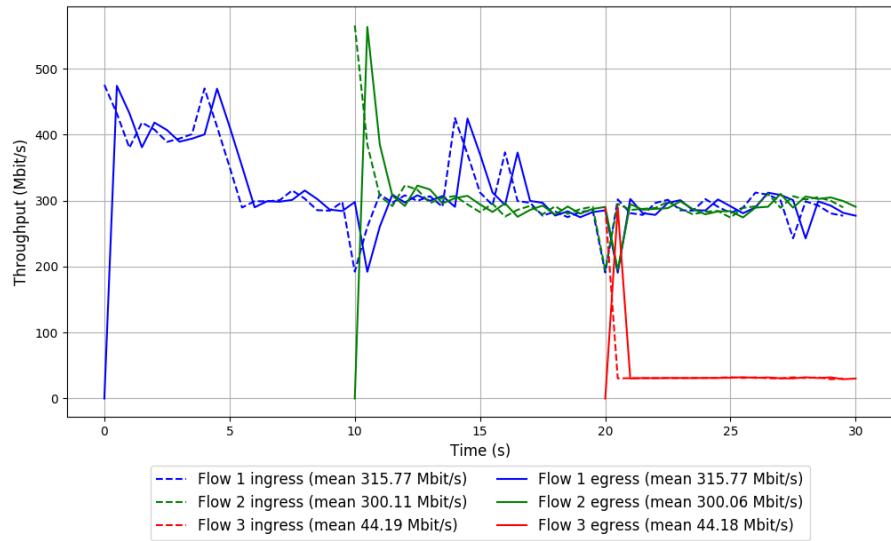


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-26 03:25:45
End at: 2018-10-26 03:26:15
Local clock offset: 0.485 ms
Remote clock offset: -5.813 ms

# Below is generated by plot.py at 2018-10-26 06:00:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.37 Mbit/s
95th percentile per-packet one-way delay: 1.306 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 315.77 Mbit/s
95th percentile per-packet one-way delay: 1.308 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 300.06 Mbit/s
95th percentile per-packet one-way delay: 1.284 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 44.18 Mbit/s
95th percentile per-packet one-way delay: 1.607 ms
Loss rate: 0.02%
```

Run 2: Report of TCP Vegas — Data Link

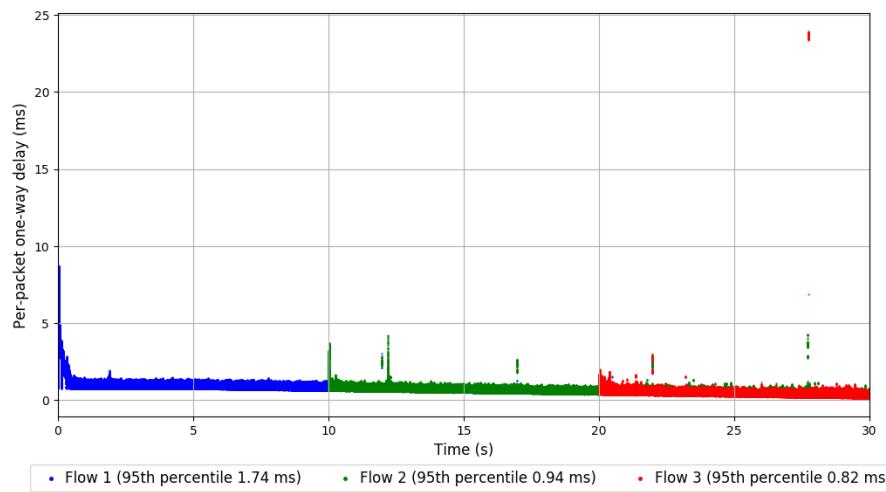
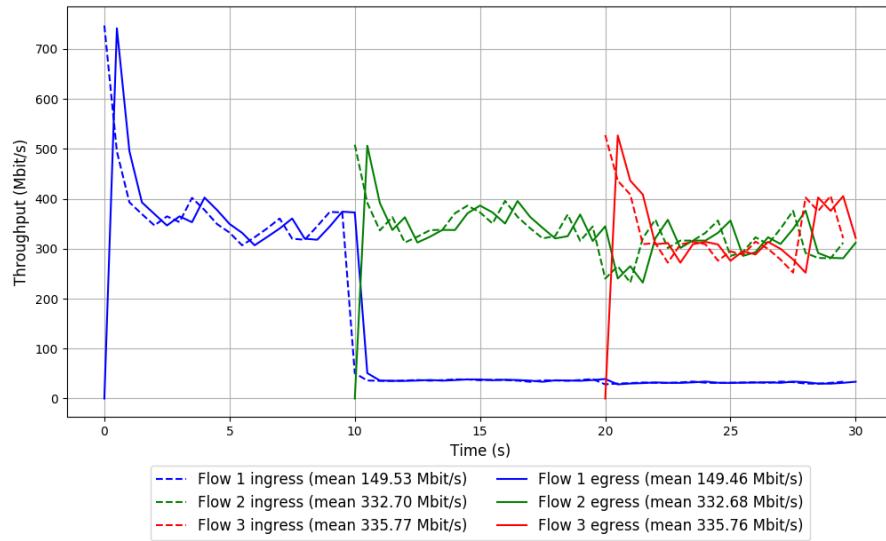


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-26 03:53:14
End at: 2018-10-26 03:53:44
Local clock offset: -3.002 ms
Remote clock offset: -7.841 ms

# Below is generated by plot.py at 2018-10-26 06:00:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 482.96 Mbit/s
95th percentile per-packet one-way delay: 1.163 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 149.46 Mbit/s
95th percentile per-packet one-way delay: 1.737 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 332.68 Mbit/s
95th percentile per-packet one-way delay: 0.937 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 335.76 Mbit/s
95th percentile per-packet one-way delay: 0.822 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link

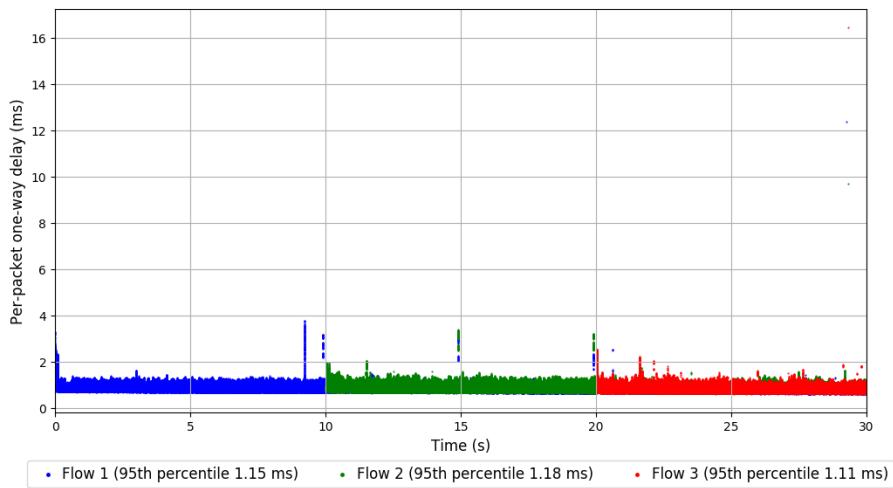
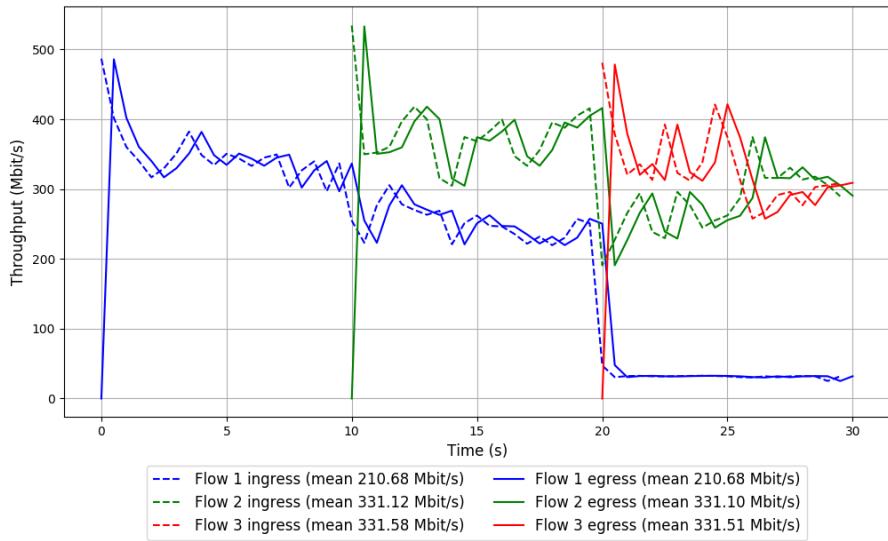


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-26 04:20:40
End at: 2018-10-26 04:21:10
Local clock offset: -2.851 ms
Remote clock offset: 6.226 ms

# Below is generated by plot.py at 2018-10-26 06:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 541.44 Mbit/s
95th percentile per-packet one-way delay: 1.153 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 210.68 Mbit/s
95th percentile per-packet one-way delay: 1.151 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 331.10 Mbit/s
95th percentile per-packet one-way delay: 1.175 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 331.51 Mbit/s
95th percentile per-packet one-way delay: 1.106 ms
Loss rate: 0.02%
```

Run 4: Report of TCP Vegas — Data Link

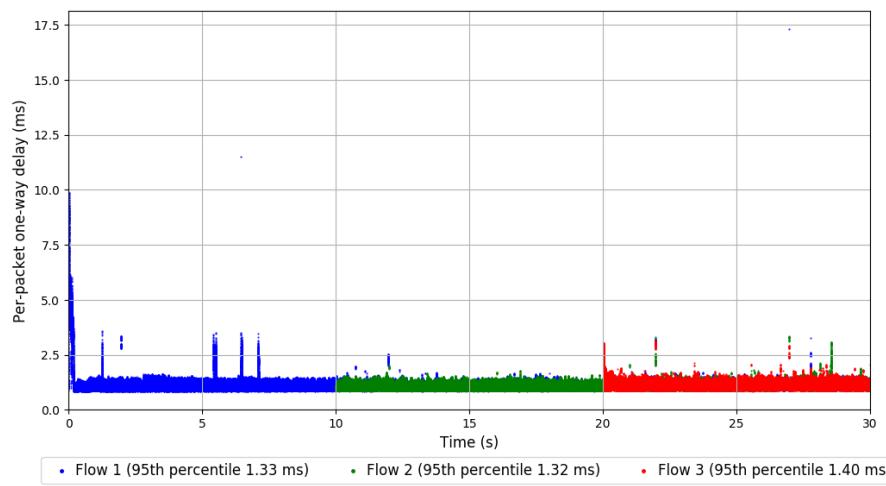
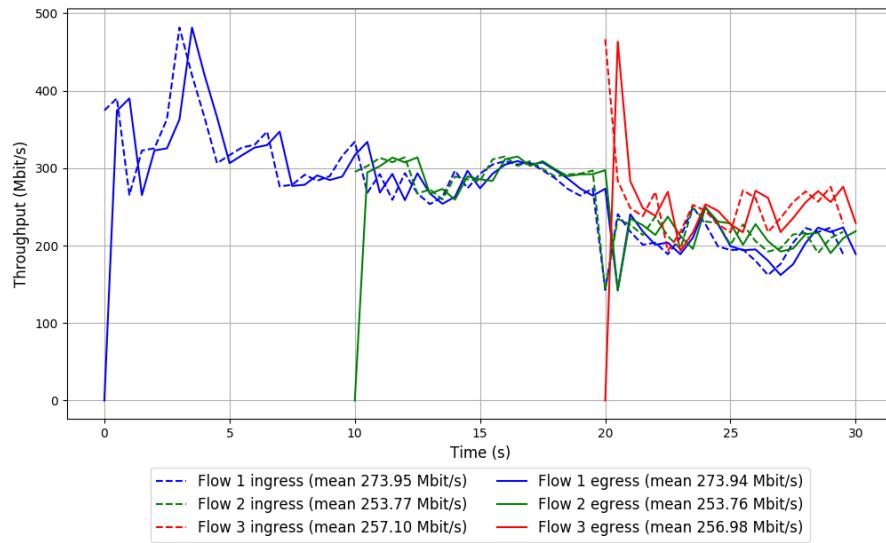


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-26 04:48:10
End at: 2018-10-26 04:48:40
Local clock offset: 0.225 ms
Remote clock offset: 4.866 ms

# Below is generated by plot.py at 2018-10-26 06:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 528.49 Mbit/s
95th percentile per-packet one-way delay: 1.341 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 273.94 Mbit/s
95th percentile per-packet one-way delay: 1.332 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 253.76 Mbit/s
95th percentile per-packet one-way delay: 1.321 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 256.98 Mbit/s
95th percentile per-packet one-way delay: 1.396 ms
Loss rate: 0.05%
```

Run 5: Report of TCP Vegas — Data Link

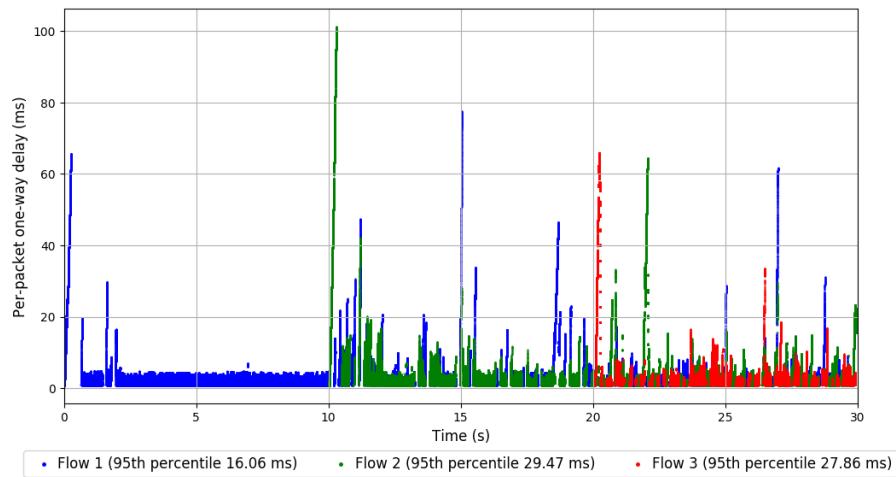
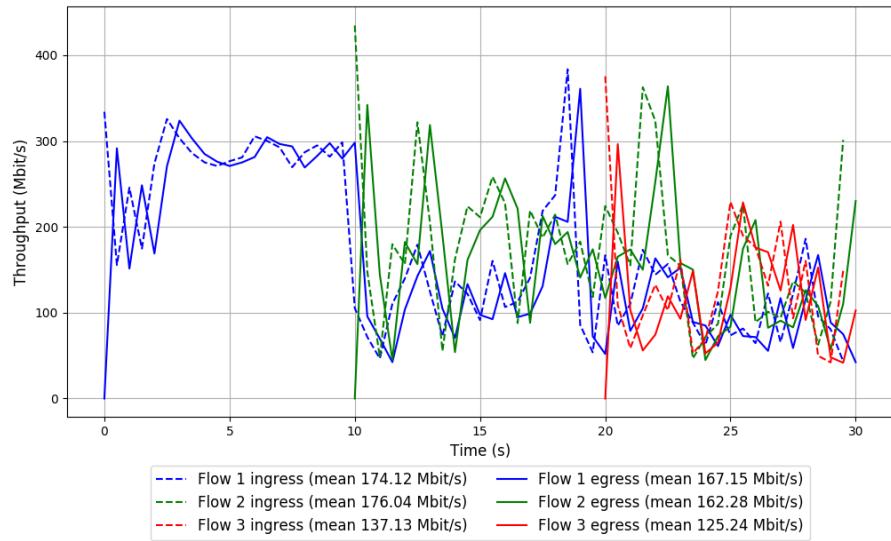


Run 1: Statistics of Verus

```
Start at: 2018-10-26 03:16:16
End at: 2018-10-26 03:16:46
Local clock offset: 0.448 ms
Remote clock offset: -5.076 ms

# Below is generated by plot.py at 2018-10-26 06:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.70 Mbit/s
95th percentile per-packet one-way delay: 20.878 ms
Loss rate: 5.96%
-- Flow 1:
Average throughput: 167.15 Mbit/s
95th percentile per-packet one-way delay: 16.056 ms
Loss rate: 4.01%
-- Flow 2:
Average throughput: 162.28 Mbit/s
95th percentile per-packet one-way delay: 29.467 ms
Loss rate: 7.81%
-- Flow 3:
Average throughput: 125.24 Mbit/s
95th percentile per-packet one-way delay: 27.856 ms
Loss rate: 8.65%
```

Run 1: Report of Verus — Data Link

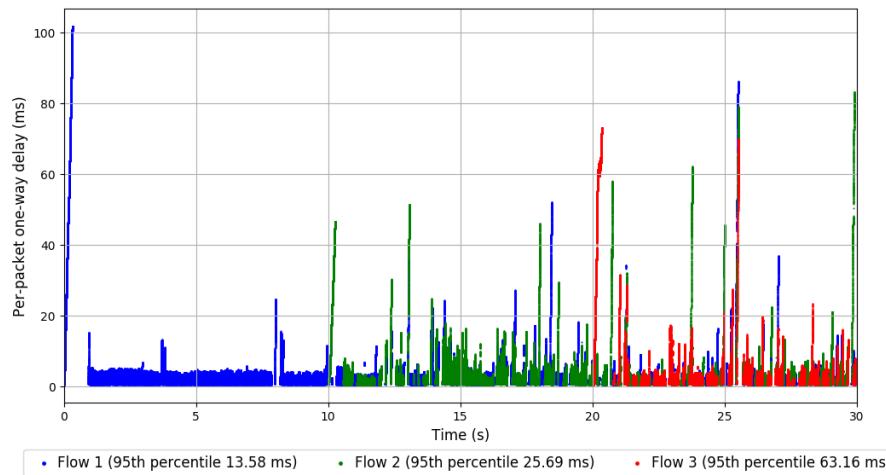
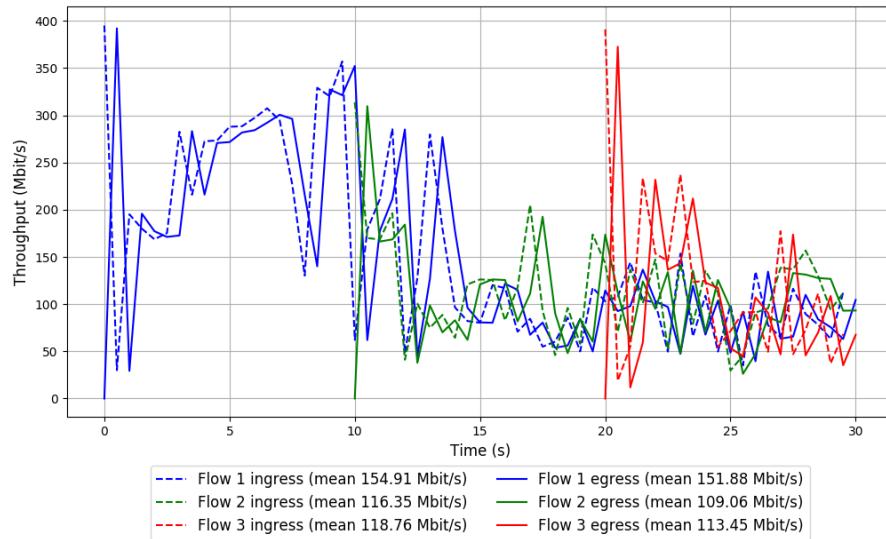


Run 2: Statistics of Verus

```
Start at: 2018-10-26 03:43:47
End at: 2018-10-26 03:44:18
Local clock offset: -2.165 ms
Remote clock offset: -7.251 ms

# Below is generated by plot.py at 2018-10-26 06:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.90 Mbit/s
95th percentile per-packet one-way delay: 29.167 ms
Loss rate: 3.43%
-- Flow 1:
Average throughput: 151.88 Mbit/s
95th percentile per-packet one-way delay: 13.581 ms
Loss rate: 1.96%
-- Flow 2:
Average throughput: 109.06 Mbit/s
95th percentile per-packet one-way delay: 25.691 ms
Loss rate: 5.88%
-- Flow 3:
Average throughput: 113.45 Mbit/s
95th percentile per-packet one-way delay: 63.155 ms
Loss rate: 4.45%
```

Run 2: Report of Verus — Data Link

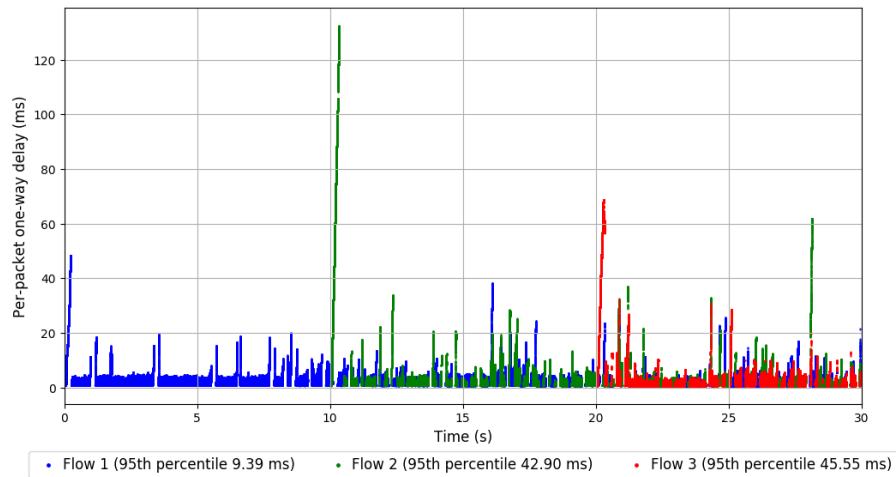
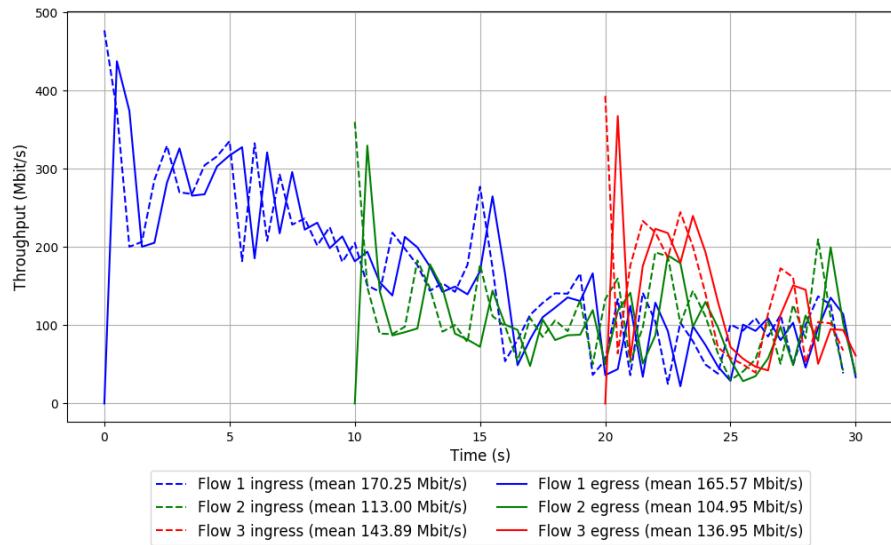


Run 3: Statistics of Verus

```
Start at: 2018-10-26 04:11:15
End at: 2018-10-26 04:11:45
Local clock offset: -2.91 ms
Remote clock offset: 4.117 ms

# Below is generated by plot.py at 2018-10-26 06:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.70 Mbit/s
95th percentile per-packet one-way delay: 15.587 ms
Loss rate: 4.19%
-- Flow 1:
Average throughput: 165.57 Mbit/s
95th percentile per-packet one-way delay: 9.392 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 104.95 Mbit/s
95th percentile per-packet one-way delay: 42.904 ms
Loss rate: 7.12%
-- Flow 3:
Average throughput: 136.95 Mbit/s
95th percentile per-packet one-way delay: 45.545 ms
Loss rate: 4.83%
```

Run 3: Report of Verus — Data Link

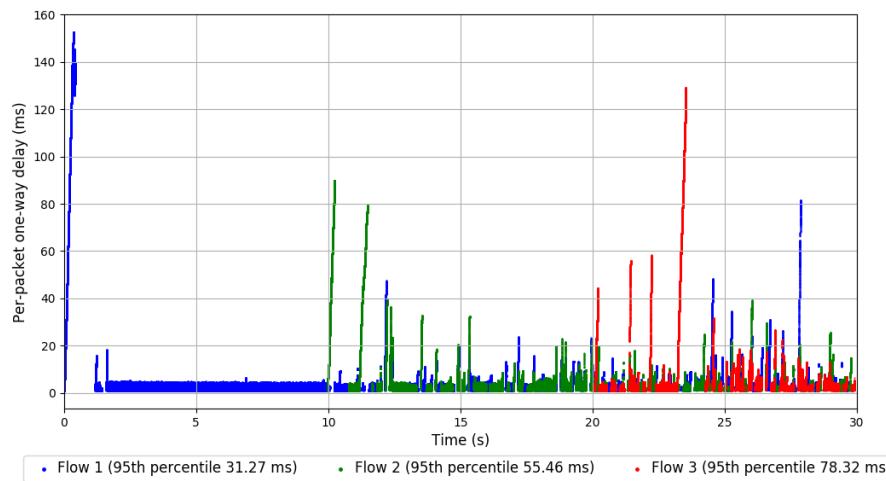
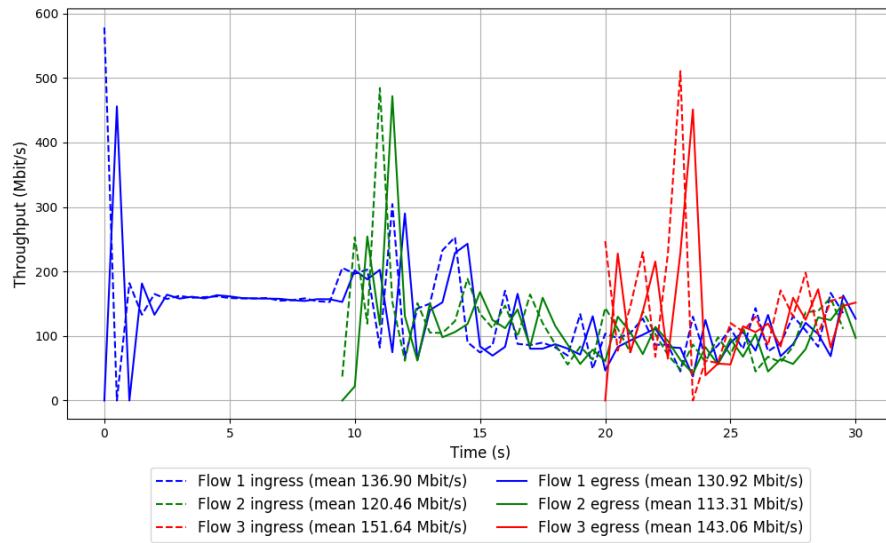


Run 4: Statistics of Verus

```
Start at: 2018-10-26 04:38:46
End at: 2018-10-26 04:39:16
Local clock offset: -0.969 ms
Remote clock offset: 5.031 ms

# Below is generated by plot.py at 2018-10-26 06:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 253.01 Mbit/s
95th percentile per-packet one-way delay: 57.722 ms
Loss rate: 5.06%
-- Flow 1:
Average throughput: 130.92 Mbit/s
95th percentile per-packet one-way delay: 31.269 ms
Loss rate: 4.36%
-- Flow 2:
Average throughput: 113.31 Mbit/s
95th percentile per-packet one-way delay: 55.464 ms
Loss rate: 5.87%
-- Flow 3:
Average throughput: 143.06 Mbit/s
95th percentile per-packet one-way delay: 78.322 ms
Loss rate: 5.66%
```

Run 4: Report of Verus — Data Link

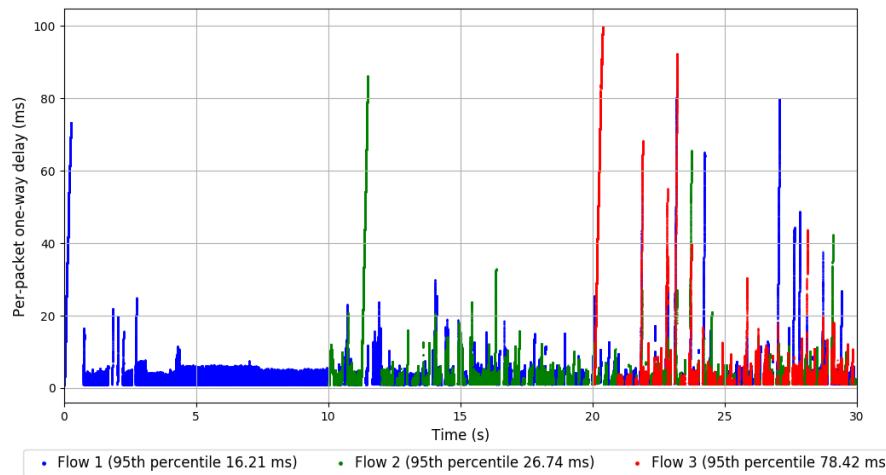
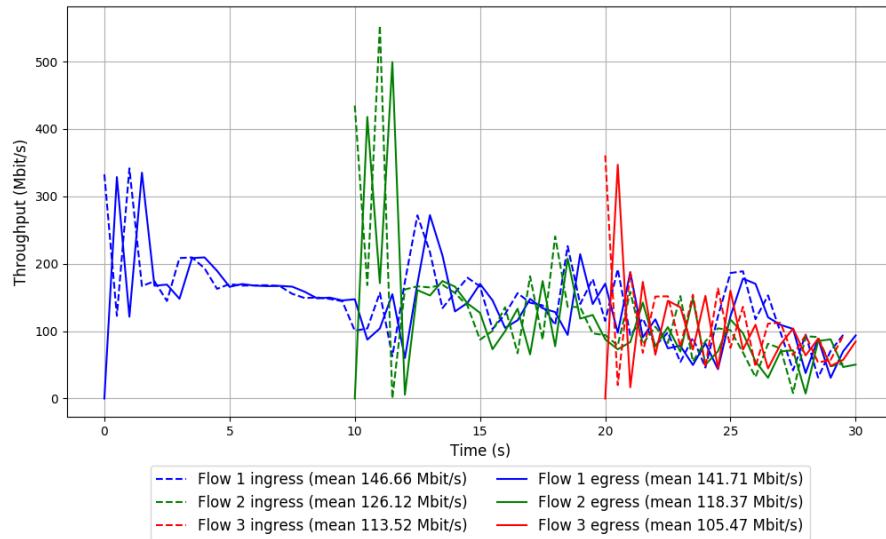


Run 5: Statistics of Verus

```
Start at: 2018-10-26 05:06:04
End at: 2018-10-26 05:06:34
Local clock offset: 1.401 ms
Remote clock offset: 3.166 ms

# Below is generated by plot.py at 2018-10-26 06:00:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.73 Mbit/s
95th percentile per-packet one-way delay: 31.429 ms
Loss rate: 4.76%
-- Flow 1:
Average throughput: 141.71 Mbit/s
95th percentile per-packet one-way delay: 16.215 ms
Loss rate: 3.37%
-- Flow 2:
Average throughput: 118.37 Mbit/s
95th percentile per-packet one-way delay: 26.741 ms
Loss rate: 6.14%
-- Flow 3:
Average throughput: 105.47 Mbit/s
95th percentile per-packet one-way delay: 78.417 ms
Loss rate: 7.09%
```

Run 5: Report of Verus — Data Link

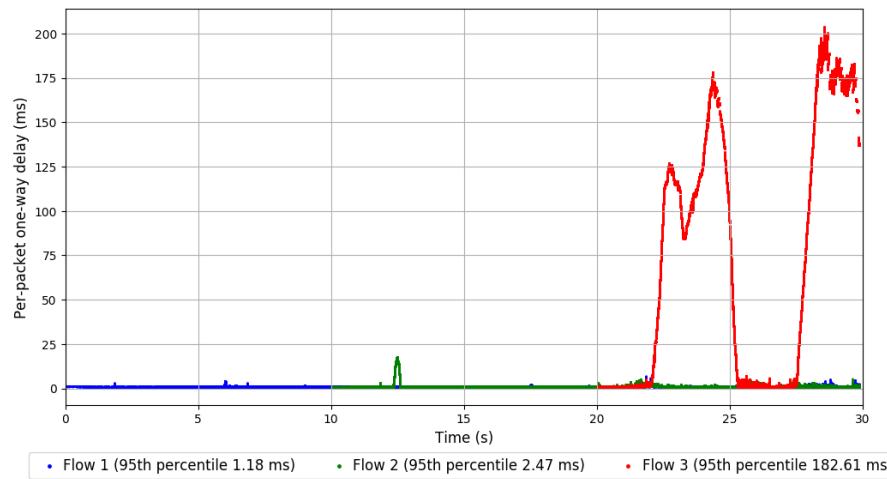
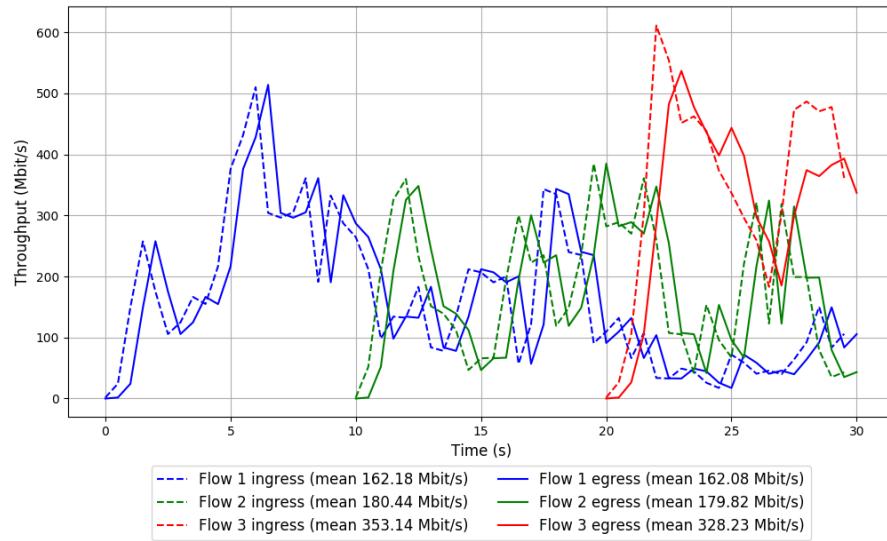


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-10-26 02:51:26
End at: 2018-10-26 02:51:56
Local clock offset: 0.426 ms
Remote clock offset: -0.793 ms

# Below is generated by plot.py at 2018-10-26 06:01:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.13 Mbit/s
95th percentile per-packet one-way delay: 168.656 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 162.08 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 179.82 Mbit/s
95th percentile per-packet one-way delay: 2.470 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 328.23 Mbit/s
95th percentile per-packet one-way delay: 182.613 ms
Loss rate: 7.05%
```

Run 1: Report of PCC-Vivace — Data Link

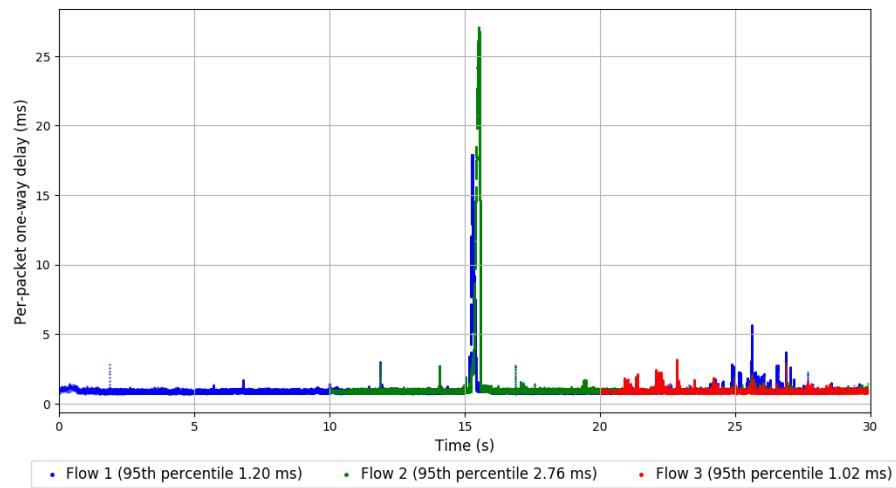
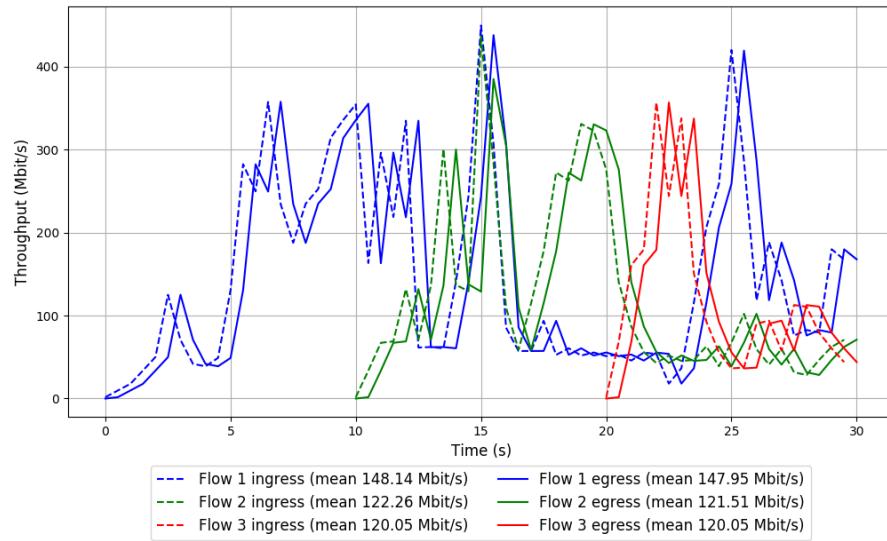


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-26 03:19:08
End at: 2018-10-26 03:19:38
Local clock offset: 0.468 ms
Remote clock offset: -5.345 ms

# Below is generated by plot.py at 2018-10-26 06:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.39 Mbit/s
95th percentile per-packet one-way delay: 1.275 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 147.95 Mbit/s
95th percentile per-packet one-way delay: 1.198 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 121.51 Mbit/s
95th percentile per-packet one-way delay: 2.757 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 120.05 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

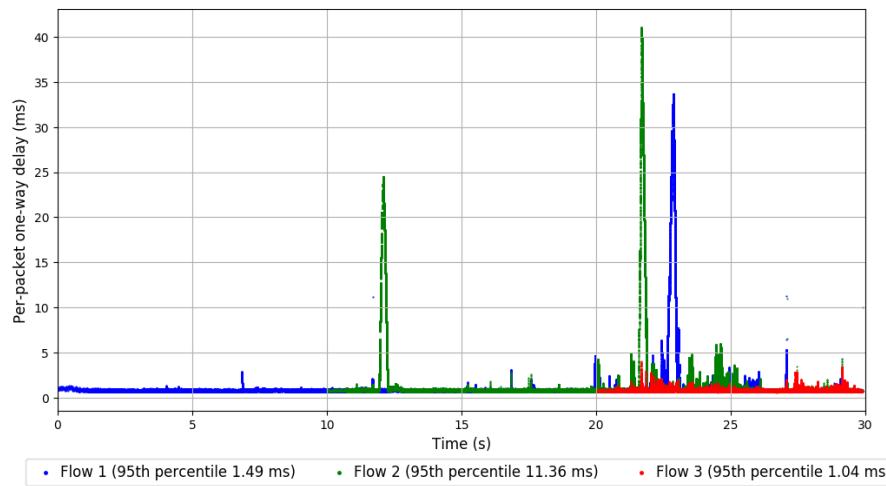
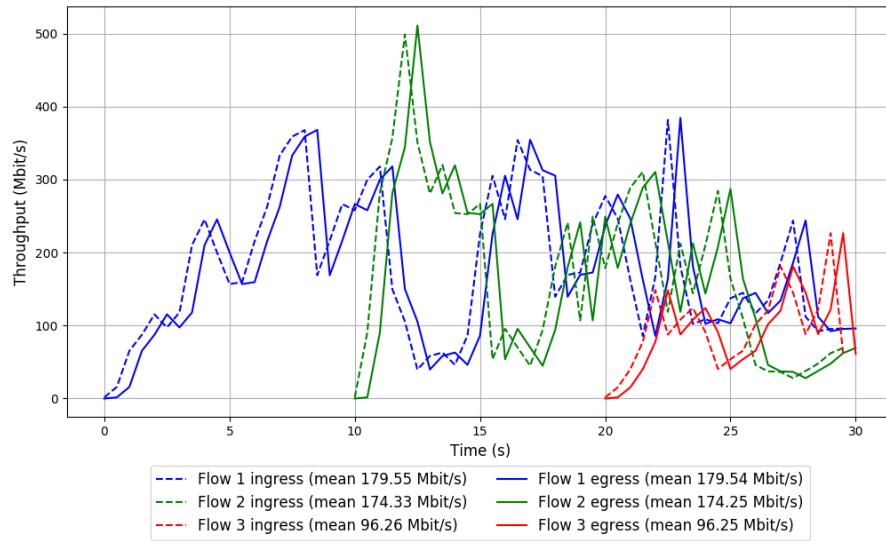


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-26 03:46:37
End at: 2018-10-26 03:47:07
Local clock offset: -2.483 ms
Remote clock offset: -7.425 ms

# Below is generated by plot.py at 2018-10-26 06:02:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.18 Mbit/s
95th percentile per-packet one-way delay: 3.174 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 179.54 Mbit/s
95th percentile per-packet one-way delay: 1.493 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 174.25 Mbit/s
95th percentile per-packet one-way delay: 11.357 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 96.25 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

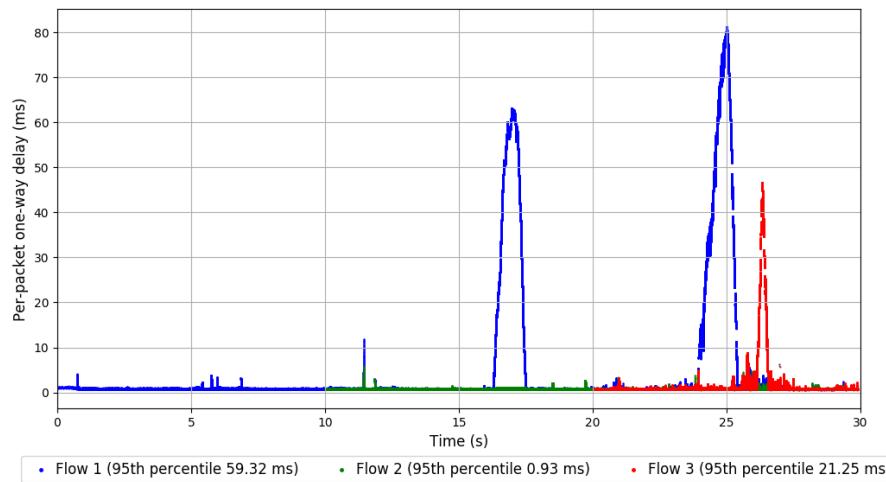
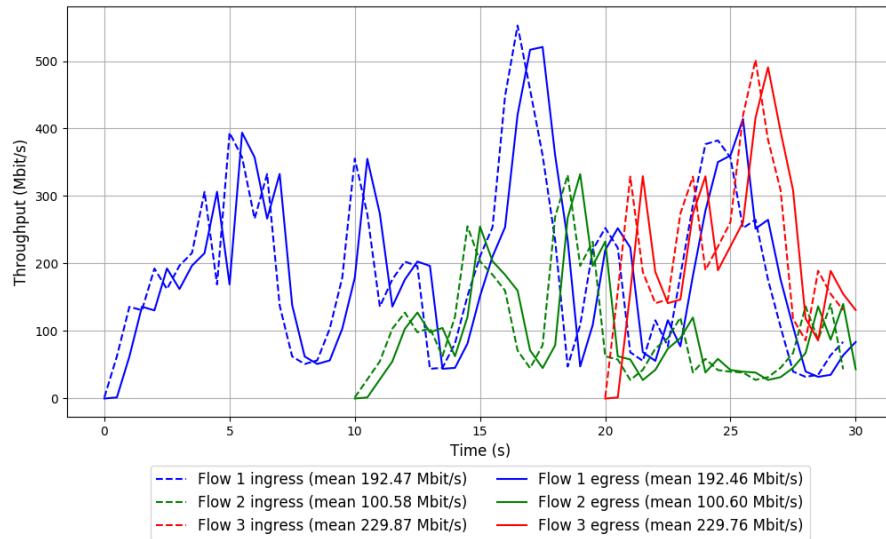


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-26 04:14:05
End at: 2018-10-26 04:14:35
Local clock offset: -2.844 ms
Remote clock offset: 4.887 ms

# Below is generated by plot.py at 2018-10-26 06:02:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 335.21 Mbit/s
95th percentile per-packet one-way delay: 51.077 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 192.46 Mbit/s
95th percentile per-packet one-way delay: 59.322 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 100.60 Mbit/s
95th percentile per-packet one-way delay: 0.932 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 229.76 Mbit/s
95th percentile per-packet one-way delay: 21.251 ms
Loss rate: 0.05%
```

Run 4: Report of PCC-Vivace — Data Link

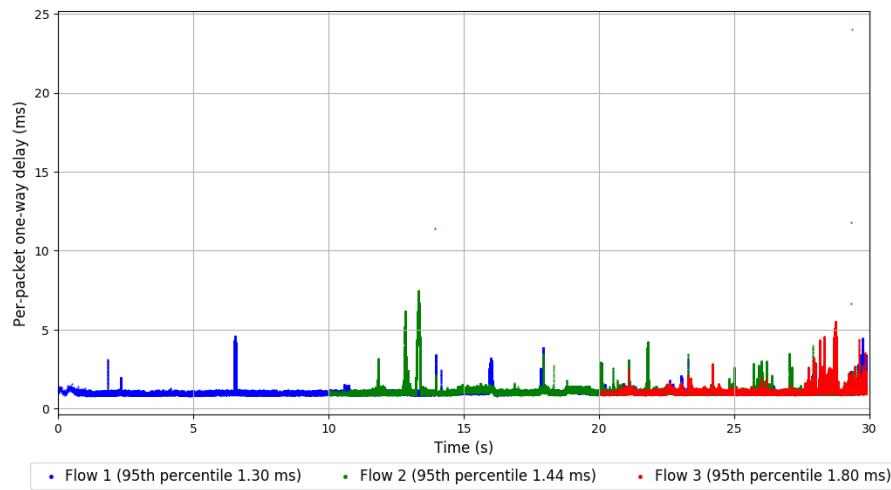
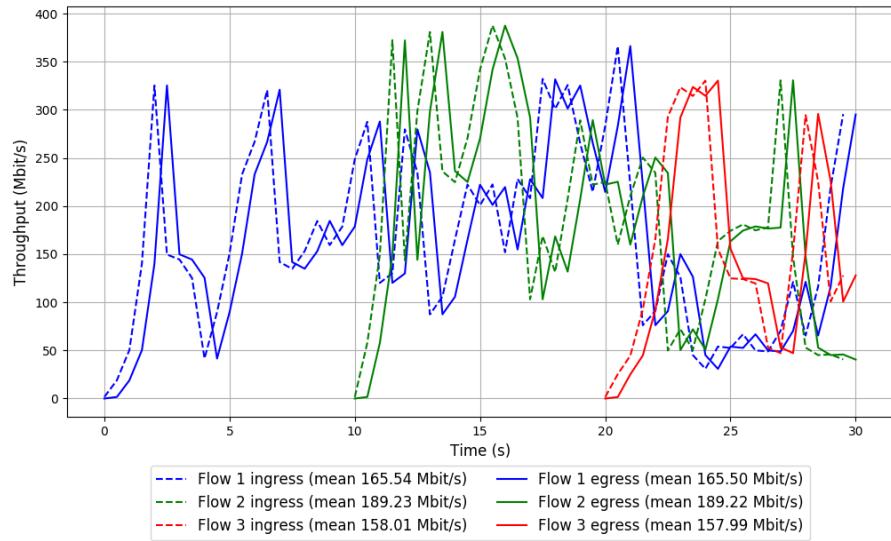


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-26 04:41:35
End at: 2018-10-26 04:42:05
Local clock offset: -0.515 ms
Remote clock offset: 4.81 ms

# Below is generated by plot.py at 2018-10-26 06:02:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.49 Mbit/s
95th percentile per-packet one-way delay: 1.374 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 165.50 Mbit/s
95th percentile per-packet one-way delay: 1.297 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 189.22 Mbit/s
95th percentile per-packet one-way delay: 1.443 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 157.99 Mbit/s
95th percentile per-packet one-way delay: 1.803 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

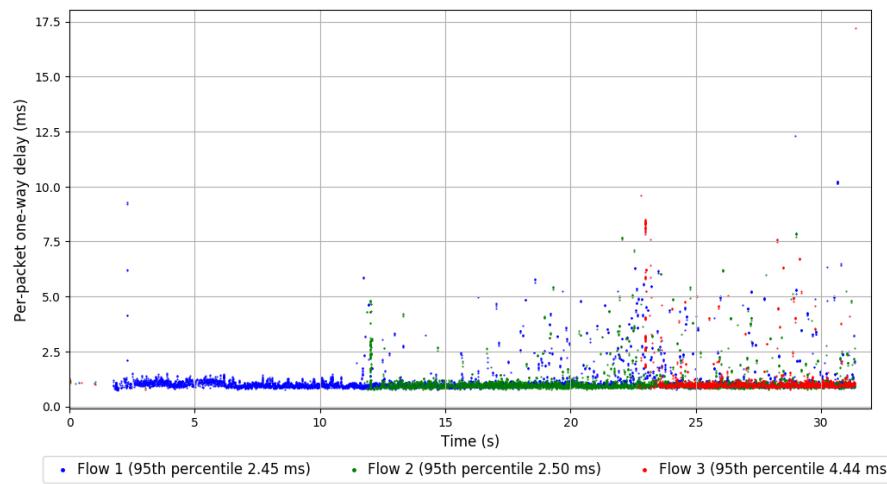
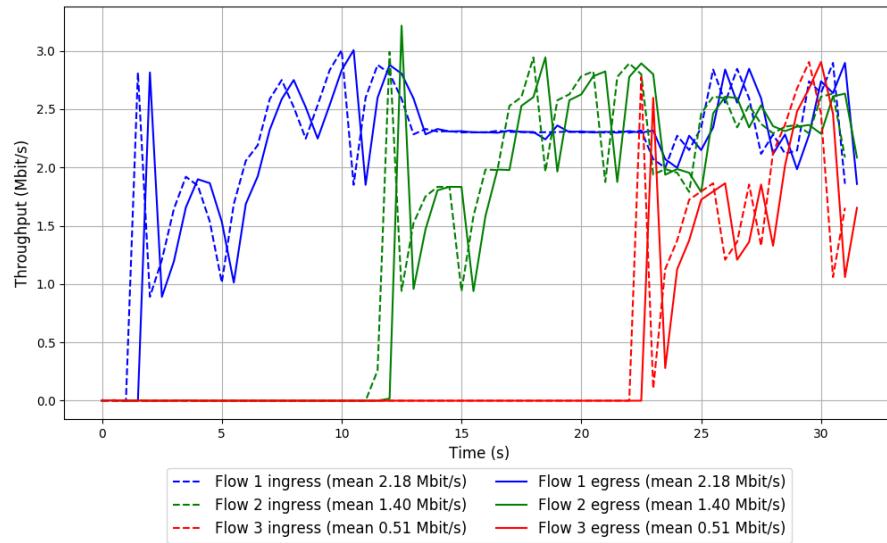


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-26 03:13:21
End at: 2018-10-26 03:13:51
Local clock offset: 0.443 ms
Remote clock offset: -4.81 ms

# Below is generated by plot.py at 2018-10-26 06:02:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 2.679 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 2.447 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 2.503 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 4.442 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

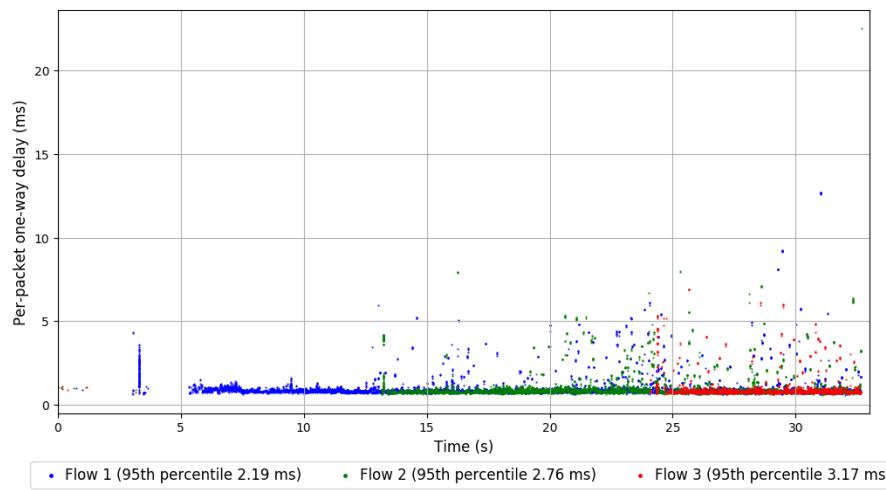
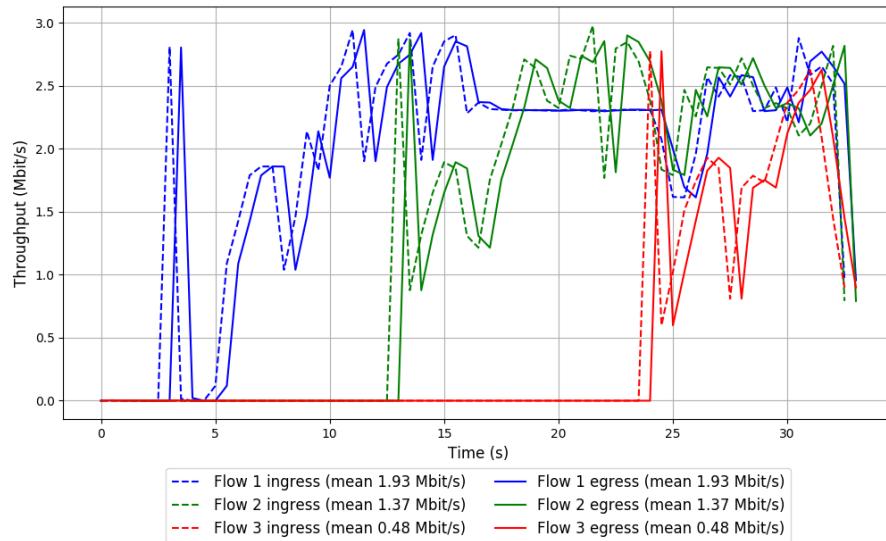


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-26 03:40:54
End at: 2018-10-26 03:41:24
Local clock offset: -1.774 ms
Remote clock offset: -6.961 ms

# Below is generated by plot.py at 2018-10-26 06:02:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 2.622 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 2.194 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 2.760 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 3.174 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

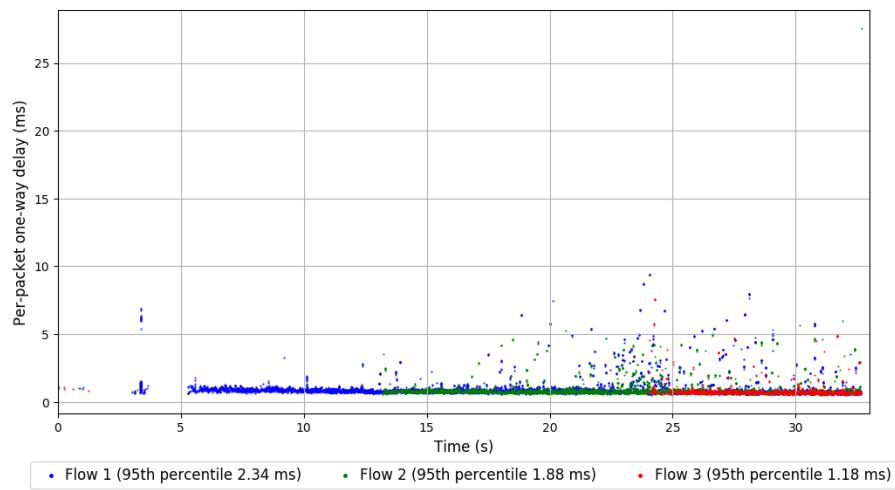
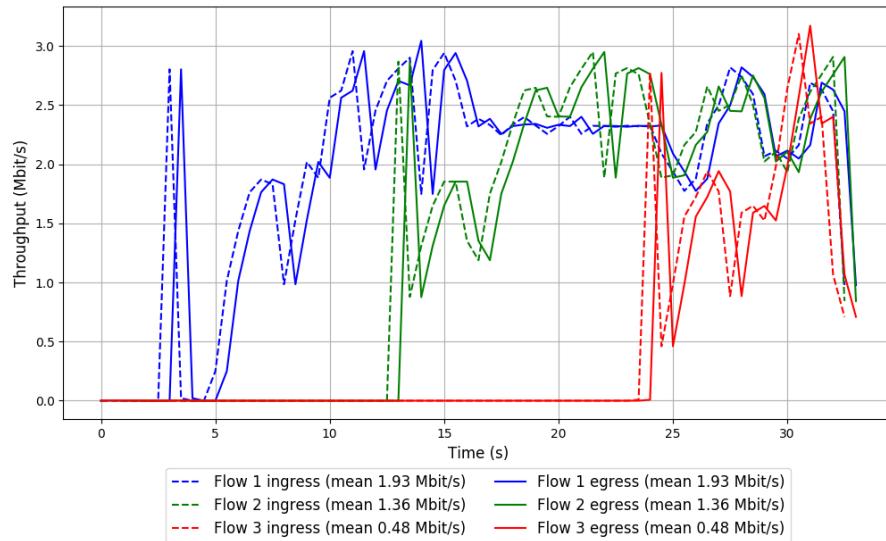


```
Run 3: Statistics of WebRTC media

Start at: 2018-10-26 04:08:23
End at: 2018-10-26 04:08:53
Local clock offset: -3.011 ms
Remote clock offset: 3.11 ms

# Below is generated by plot.py at 2018-10-26 06:02:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 1.989 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 2.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 1.884 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

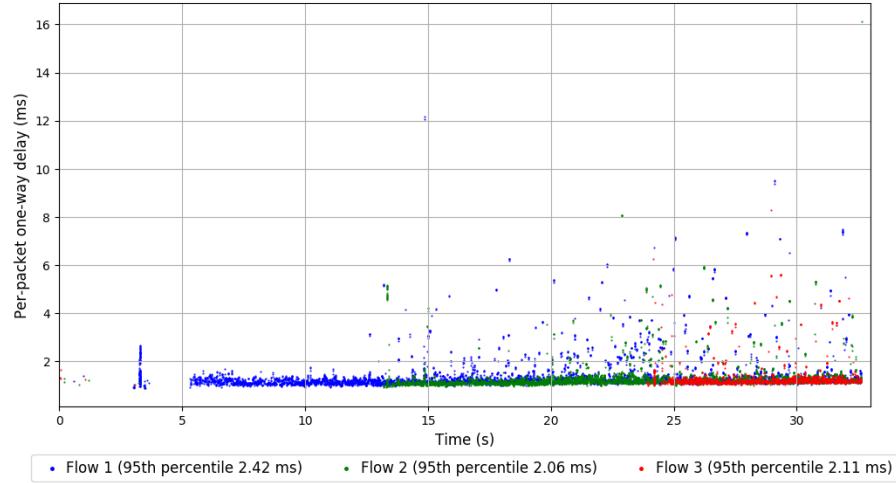
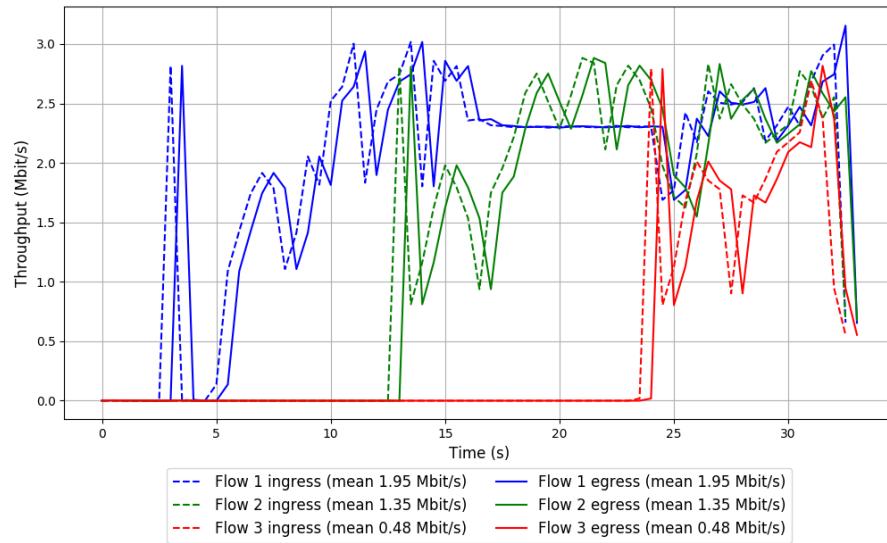


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-26 04:35:54
End at: 2018-10-26 04:36:24
Local clock offset: -1.598 ms
Remote clock offset: 5.234 ms

# Below is generated by plot.py at 2018-10-26 06:02:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 2.314 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 2.425 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 2.057 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 2.108 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



```
Run 5: Statistics of WebRTC media

Start at: 2018-10-26 05:03:15
End at: 2018-10-26 05:03:45
Local clock offset: 1.146 ms
Remote clock offset: 4.59 ms

# Below is generated by plot.py at 2018-10-26 06:02:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 2.614 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 2.586 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 2.644 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 2.530 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

