

## Pantheon Report

Generated at 2018-10-03 11:22:58 (UTC).  
Data path: GCE London on `ens4 (local)` → GCE Iowa on `ens4 (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.google.com` and have been applied to correct the timestamps in logs.

System info:

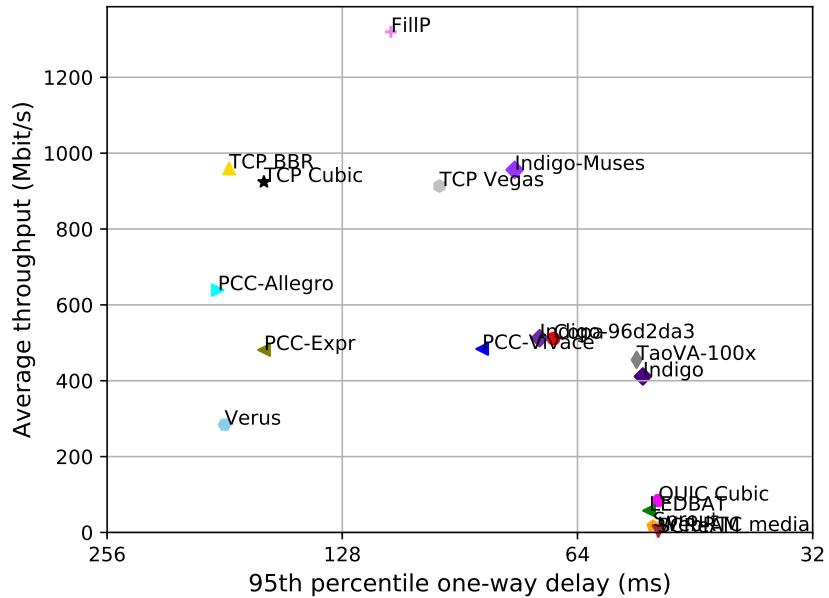
```
Linux 4.15.0-1019-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

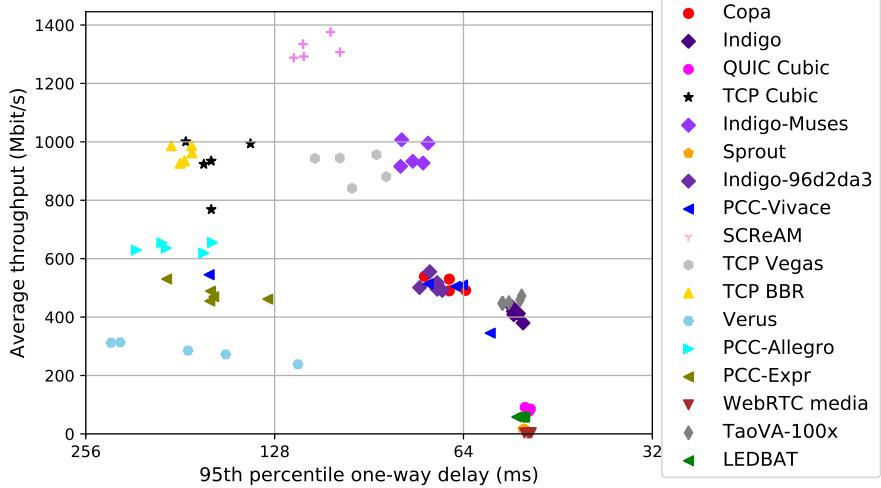
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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 GCE London to GCE Iowa, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



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



4

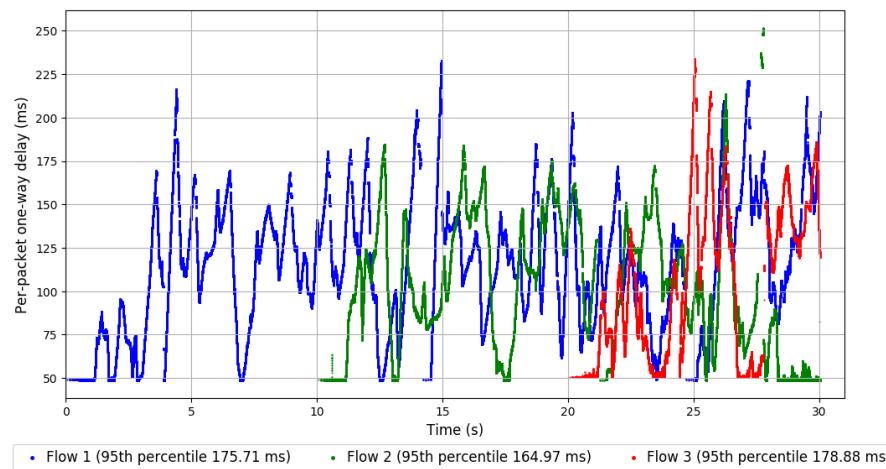
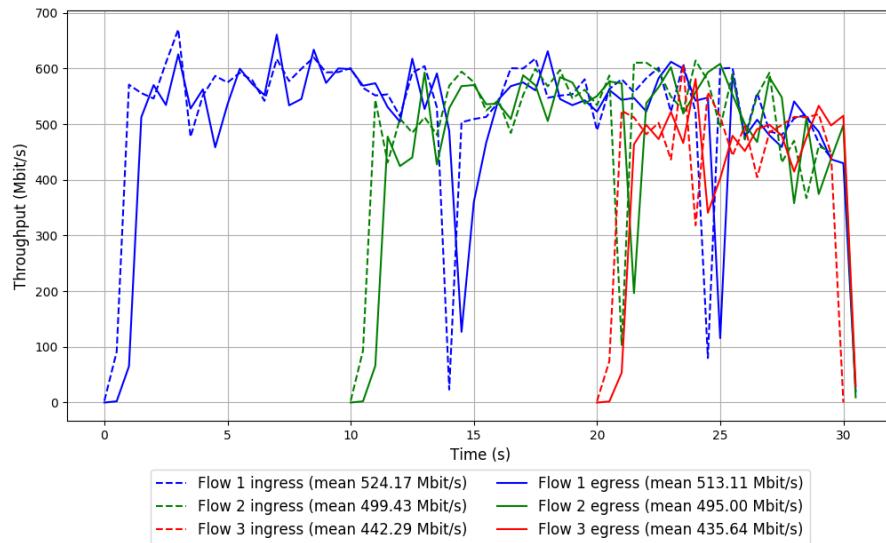
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	505.91	462.58	438.81	180.32	174.13	174.42	1.36	1.07	2.59
Copa	5	267.04	258.26	215.75	66.77	67.19	84.76	0.00	0.01	0.05
TCP Cubic	5	459.61	469.11	456.59	119.36	151.28	144.48	0.13	0.39	0.72
FillP	5	726.45	630.59	521.40	112.91	112.67	90.58	0.57	0.65	0.46
Indigo	5	218.31	200.99	182.10	52.75	53.09	51.52	0.00	0.00	0.00
Indigo-96d2da3	5	262.39	258.17	239.66	72.34	71.13	70.48	0.02	0.08	0.05
LEDBAT	5	36.91	24.88	12.39	51.99	51.13	50.73	0.00	0.00	0.00
Indigo-Muses	5	524.48	459.54	387.59	79.62	76.07	70.40	0.02	0.00	0.12
PCC-Allegro	5	351.81	305.46	254.49	190.10	165.48	136.69	1.60	2.37	0.43
PCC-Expr	5	272.45	229.67	168.92	158.31	126.85	90.36	6.23	0.44	0.91
QUIC Cubic	5	46.86	37.68	37.53	50.14	49.80	49.89	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	50.30	49.97	50.12	0.00	0.00	0.00
Sprout	5	8.17	8.15	7.75	51.10	51.01	50.45	0.00	0.00	0.00
TaoVA-100x	5	234.48	224.51	213.72	53.42	53.49	54.28	0.08	0.10	0.22
TCP Vegas	5	470.25	466.02	398.58	85.56	93.73	111.63	0.06	0.15	0.28
Verus	5	157.77	134.64	113.57	135.74	149.19	136.05	0.74	3.68	0.07
PCC-Vivace	5	294.27	216.00	138.56	75.99	77.01	83.94	0.04	0.11	0.05
WebRTC media	5	2.00	1.27	0.50	50.03	50.36	50.05	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-03 06:52:01
End at: 2018-10-03 06:52:31
Local clock offset: -0.039 ms
Remote clock offset: -0.235 ms

# Below is generated by plot.py at 2018-10-03 09:33:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 987.42 Mbit/s
95th percentile per-packet one-way delay: 173.635 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 513.11 Mbit/s
95th percentile per-packet one-way delay: 175.705 ms
Loss rate: 2.18%
-- Flow 2:
Average throughput: 495.00 Mbit/s
95th percentile per-packet one-way delay: 164.975 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 435.64 Mbit/s
95th percentile per-packet one-way delay: 178.881 ms
Loss rate: 2.02%
```

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

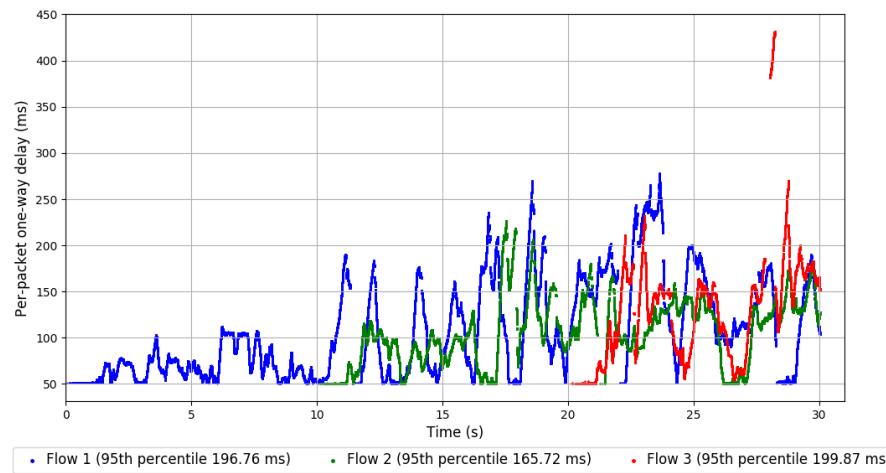
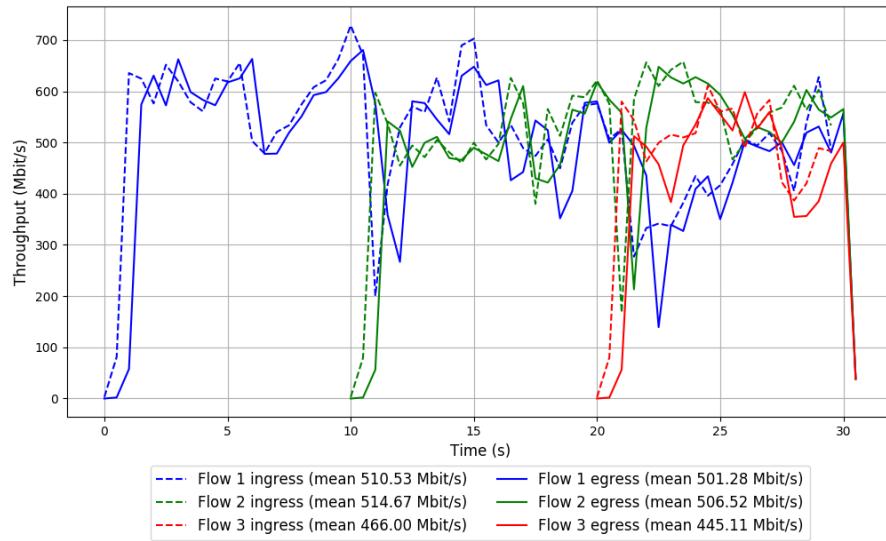


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-03 07:22:29
End at: 2018-10-03 07:22:59
Local clock offset: -0.381 ms
Remote clock offset: 0.156 ms

# Below is generated by plot.py at 2018-10-03 09:33:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 986.54 Mbit/s
95th percentile per-packet one-way delay: 187.028 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 501.28 Mbit/s
95th percentile per-packet one-way delay: 196.759 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 506.52 Mbit/s
95th percentile per-packet one-way delay: 165.725 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 445.11 Mbit/s
95th percentile per-packet one-way delay: 199.868 ms
Loss rate: 4.48%
```

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

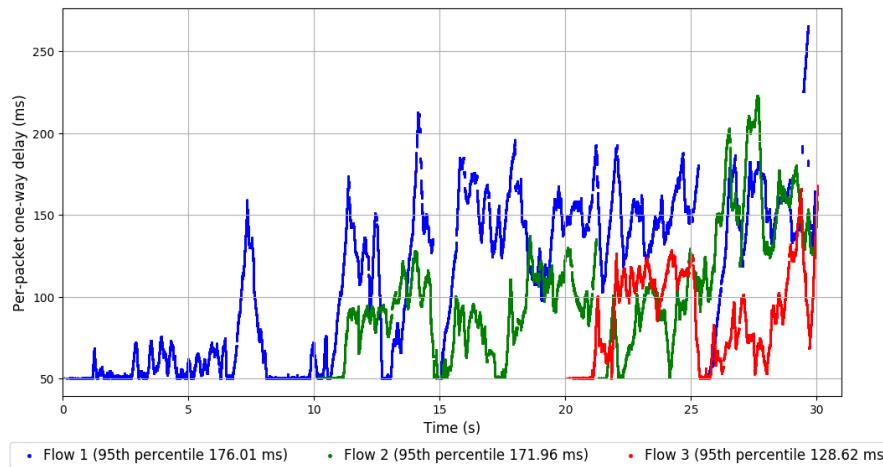
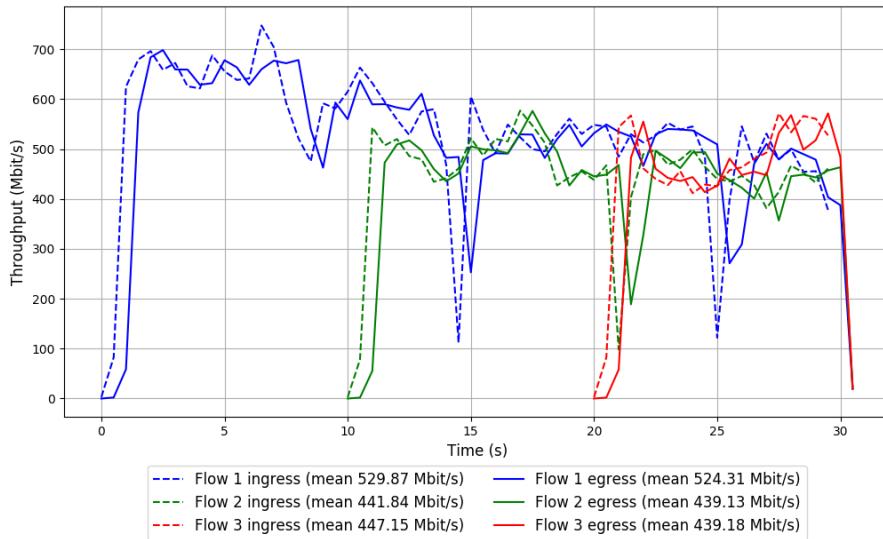


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-03 07:53:01
End at: 2018-10-03 07:53:31
Local clock offset: -0.163 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2018-10-03 09:33:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 962.39 Mbit/s
95th percentile per-packet one-way delay: 173.351 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 524.31 Mbit/s
95th percentile per-packet one-way delay: 176.009 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 439.13 Mbit/s
95th percentile per-packet one-way delay: 171.959 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 439.18 Mbit/s
95th percentile per-packet one-way delay: 128.617 ms
Loss rate: 1.78%
```

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

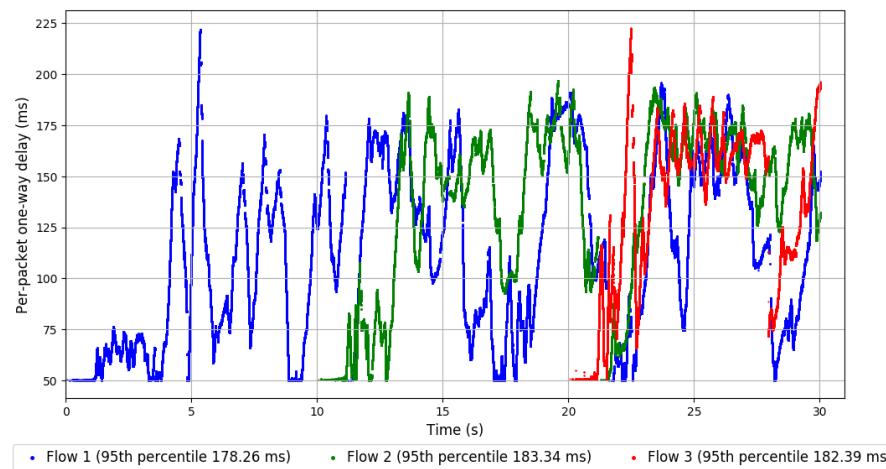
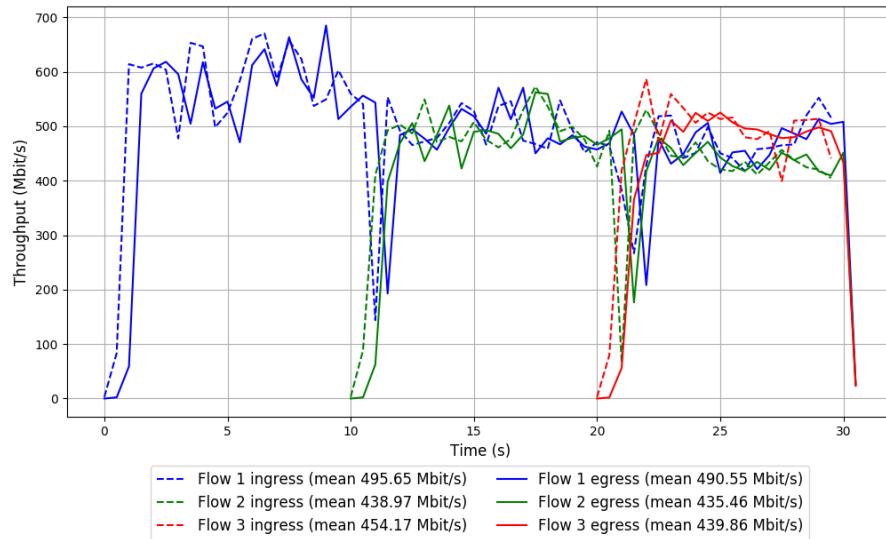


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-03 08:23:18
End at: 2018-10-03 08:23:48
Local clock offset: -0.209 ms
Remote clock offset: 0.147 ms

# Below is generated by plot.py at 2018-10-03 09:33:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 926.68 Mbit/s
95th percentile per-packet one-way delay: 181.099 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 490.55 Mbit/s
95th percentile per-packet one-way delay: 178.265 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 435.46 Mbit/s
95th percentile per-packet one-way delay: 183.337 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 439.86 Mbit/s
95th percentile per-packet one-way delay: 182.387 ms
Loss rate: 3.13%
```

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

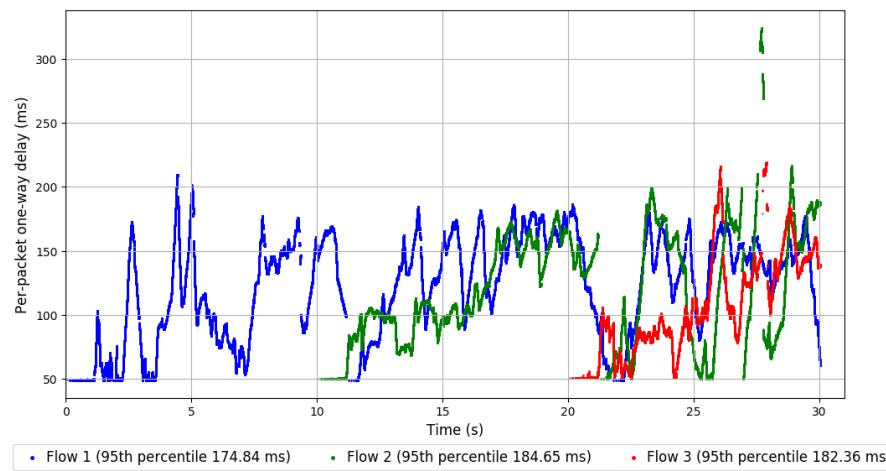
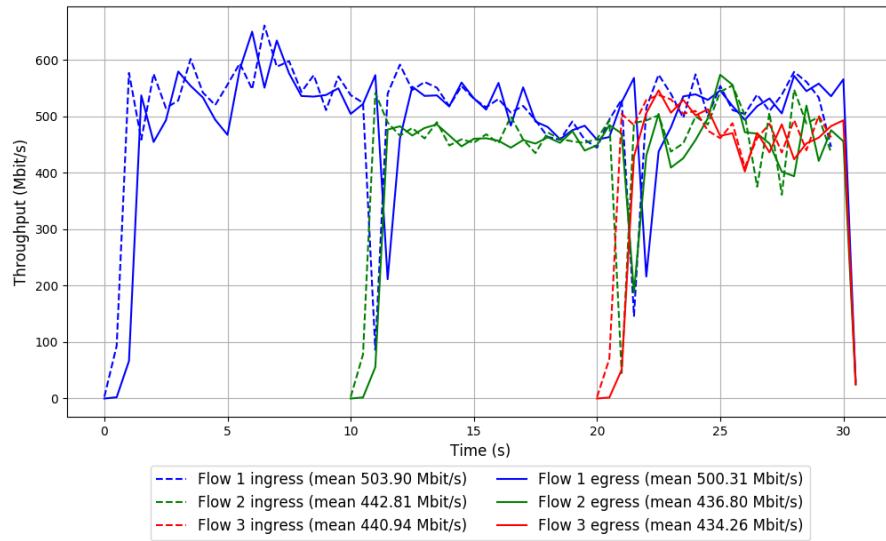


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-03 08:53:06
End at: 2018-10-03 08:53:36
Local clock offset: -0.156 ms
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2018-10-03 09:33:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.50 Mbit/s
95th percentile per-packet one-way delay: 178.229 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 500.31 Mbit/s
95th percentile per-packet one-way delay: 174.838 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 436.80 Mbit/s
95th percentile per-packet one-way delay: 184.646 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 434.26 Mbit/s
95th percentile per-packet one-way delay: 182.363 ms
Loss rate: 1.52%
```

### Run 5: Report of TCP BBR — Data Link

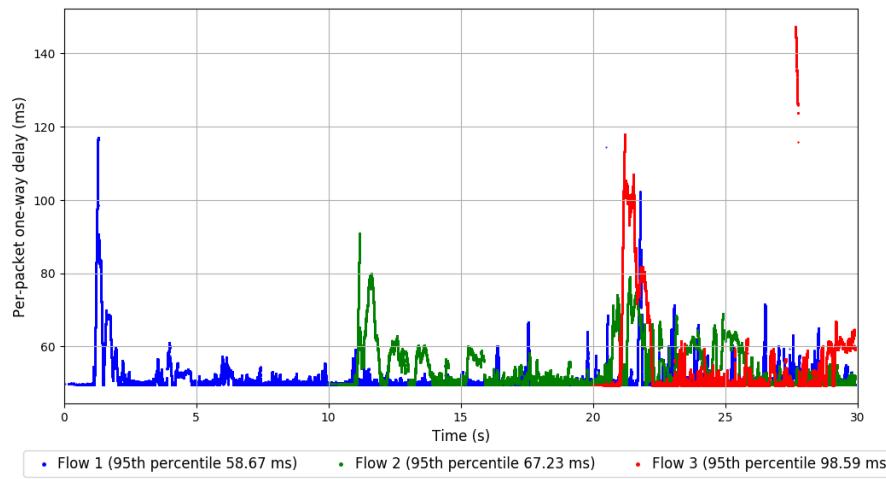
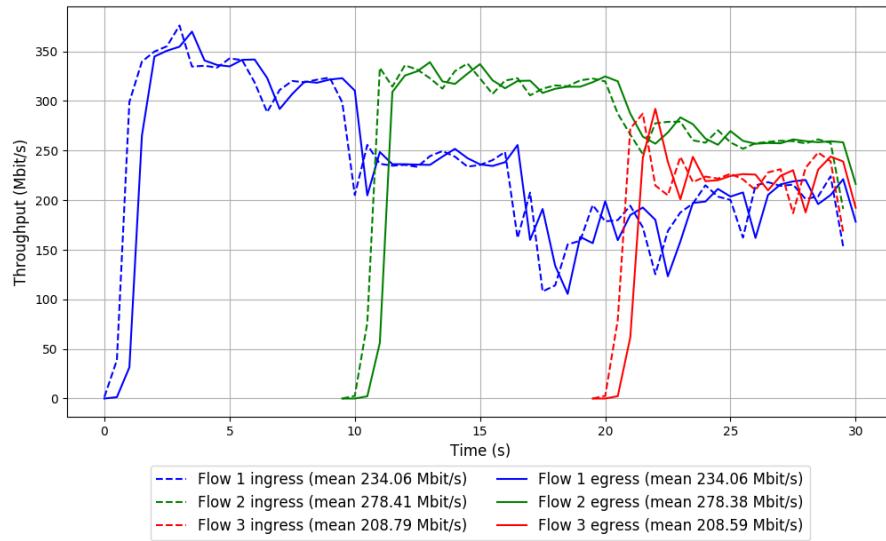


Run 1: Statistics of Copa

```
Start at: 2018-10-03 06:41:09
End at: 2018-10-03 06:41:39
Local clock offset: -0.092 ms
Remote clock offset: -0.393 ms

# Below is generated by plot.py at 2018-10-03 09:33:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 489.84 Mbit/s
95th percentile per-packet one-way delay: 67.422 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 234.06 Mbit/s
95th percentile per-packet one-way delay: 58.669 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 278.38 Mbit/s
95th percentile per-packet one-way delay: 67.228 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 208.59 Mbit/s
95th percentile per-packet one-way delay: 98.592 ms
Loss rate: 0.10%
```

Run 1: Report of Copa — Data Link

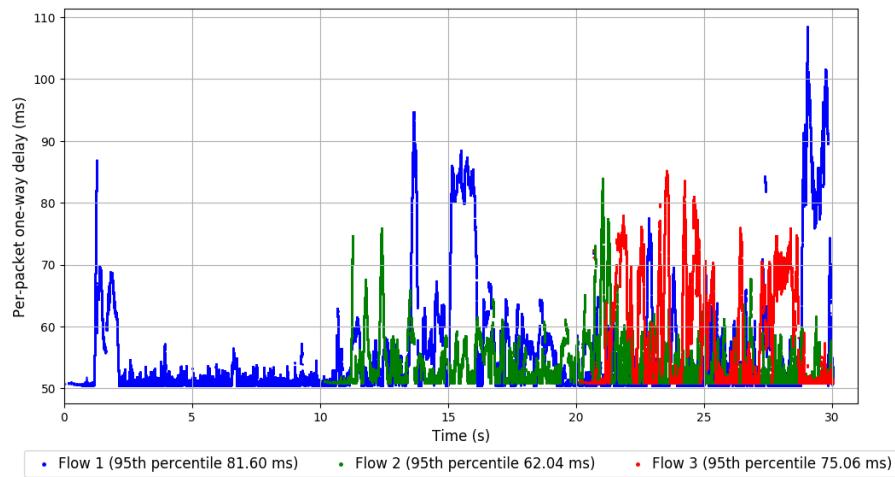
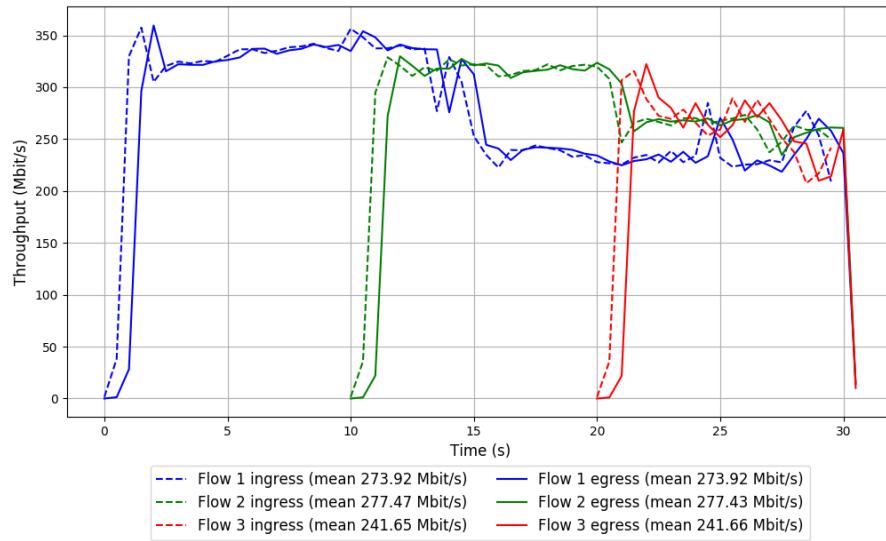


Run 2: Statistics of Copa

```
Start at: 2018-10-03 07:11:31
End at: 2018-10-03 07:12:01
Local clock offset: -0.397 ms
Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2018-10-03 09:33:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 539.01 Mbit/s
95th percentile per-packet one-way delay: 73.867 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 273.92 Mbit/s
95th percentile per-packet one-way delay: 81.601 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 277.43 Mbit/s
95th percentile per-packet one-way delay: 62.044 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 241.66 Mbit/s
95th percentile per-packet one-way delay: 75.057 ms
Loss rate: 0.00%
```

## Run 2: Report of Copa — Data Link

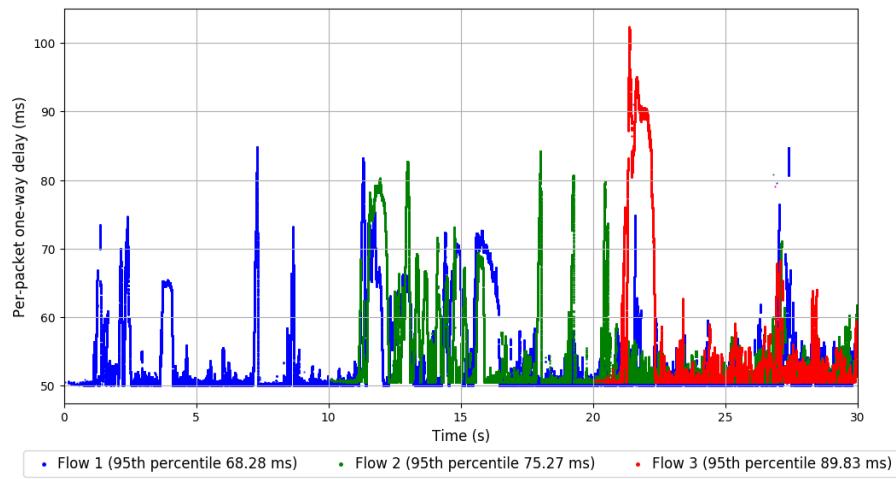
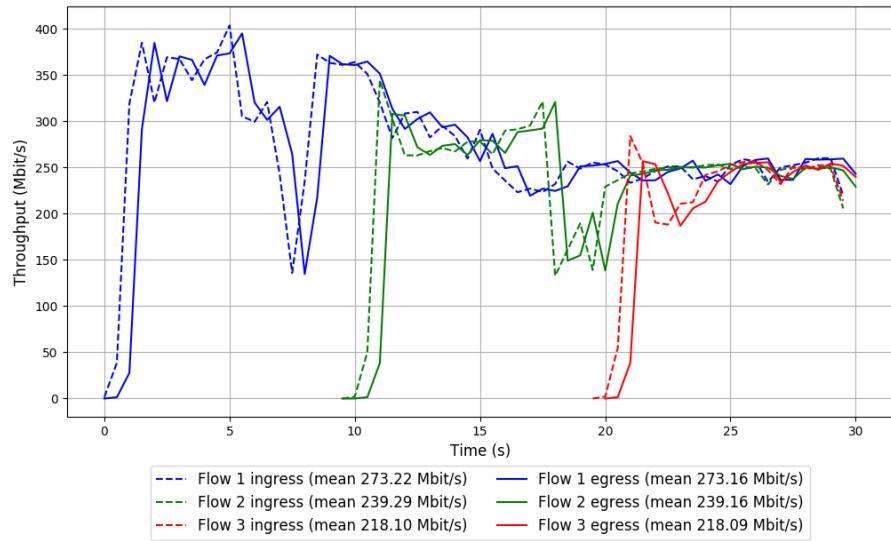


Run 3: Statistics of Copa

```
Start at: 2018-10-03 07:42:12
End at: 2018-10-03 07:42:42
Local clock offset: -0.505 ms
Remote clock offset: 0.066 ms

# Below is generated by plot.py at 2018-10-03 09:33:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 505.41 Mbit/s
95th percentile per-packet one-way delay: 71.189 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 273.16 Mbit/s
95th percentile per-packet one-way delay: 68.275 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 239.16 Mbit/s
95th percentile per-packet one-way delay: 75.270 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 218.09 Mbit/s
95th percentile per-packet one-way delay: 89.830 ms
Loss rate: 0.00%
```

### Run 3: Report of Copa — Data Link

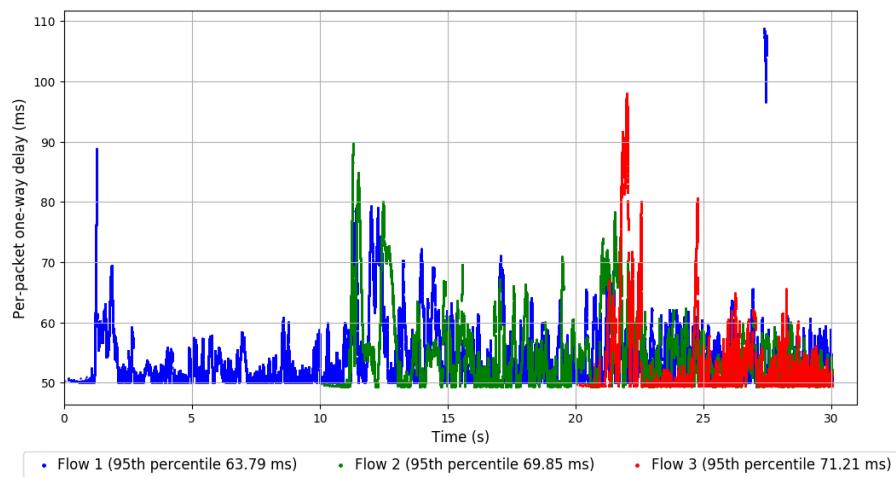
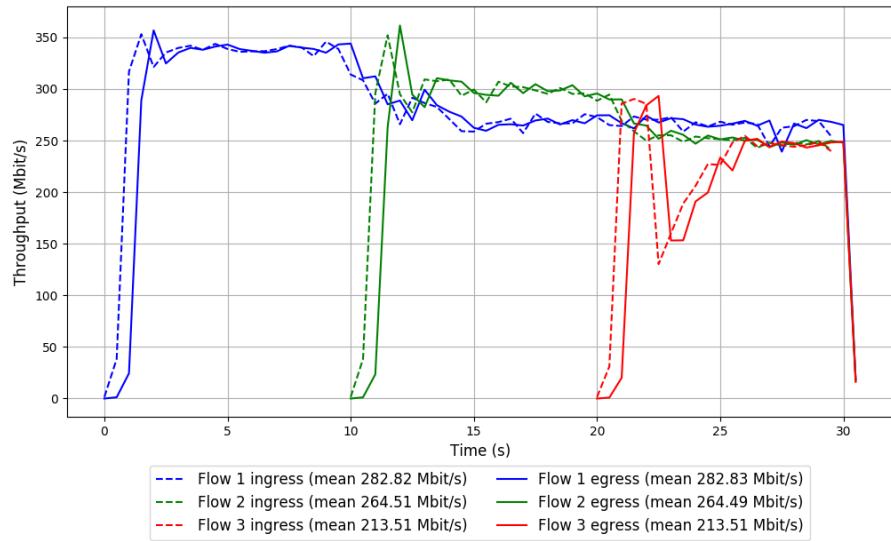


Run 4: Statistics of Copa

```
Start at: 2018-10-03 08:12:13
End at: 2018-10-03 08:12:43
Local clock offset: -0.174 ms
Remote clock offset: 0.088 ms

# Below is generated by plot.py at 2018-10-03 09:48:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.91 Mbit/s
95th percentile per-packet one-way delay: 67.419 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 282.83 Mbit/s
95th percentile per-packet one-way delay: 63.788 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 264.49 Mbit/s
95th percentile per-packet one-way delay: 69.847 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.51 Mbit/s
95th percentile per-packet one-way delay: 71.207 ms
Loss rate: 0.00%
```

## Run 4: Report of Copa — Data Link

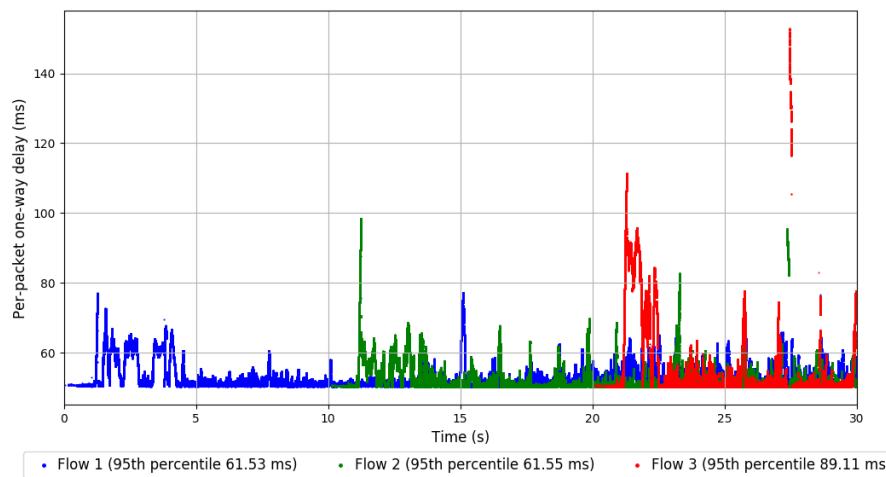
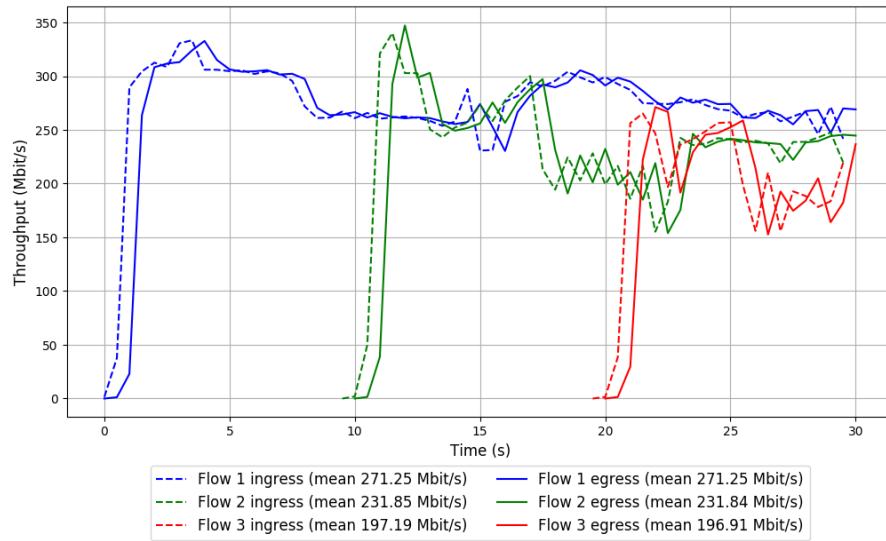


Run 5: Statistics of Copa

```
Start at: 2018-10-03 08:42:35
End at: 2018-10-03 08:43:05
Local clock offset: -0.137 ms
Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2018-10-03 09:48:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.42 Mbit/s
95th percentile per-packet one-way delay: 63.490 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 271.25 Mbit/s
95th percentile per-packet one-way delay: 61.527 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 231.84 Mbit/s
95th percentile per-packet one-way delay: 61.548 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 196.91 Mbit/s
95th percentile per-packet one-way delay: 89.112 ms
Loss rate: 0.14%
```

## Run 5: Report of Copa — Data Link

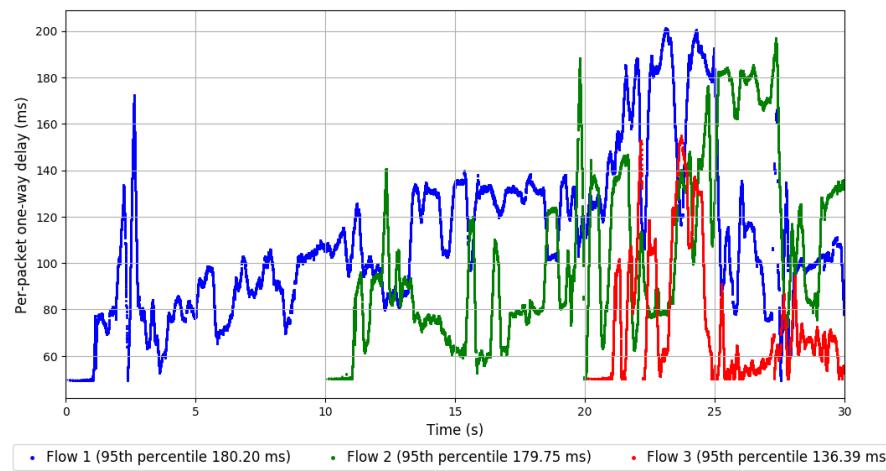
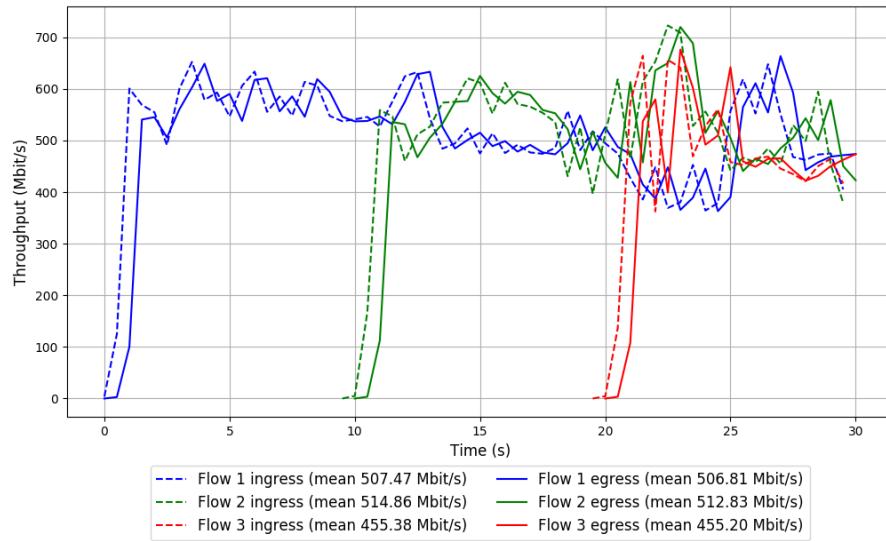


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-03 06:44:39
End at: 2018-10-03 06:45:09
Local clock offset: -0.061 ms
Remote clock offset: -0.417 ms

# Below is generated by plot.py at 2018-10-03 09:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1000.43 Mbit/s
95th percentile per-packet one-way delay: 177.391 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 506.81 Mbit/s
95th percentile per-packet one-way delay: 180.201 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 512.83 Mbit/s
95th percentile per-packet one-way delay: 179.751 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 455.20 Mbit/s
95th percentile per-packet one-way delay: 136.394 ms
Loss rate: 0.05%
```

Run 1: Report of TCP Cubic — Data Link

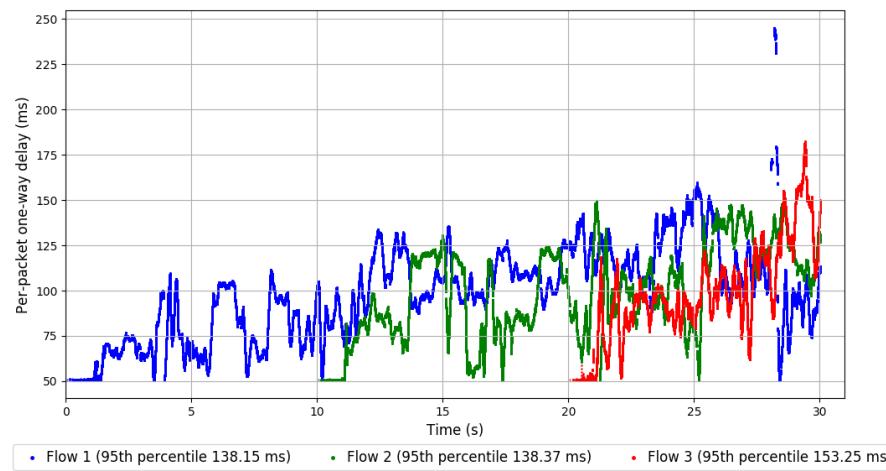
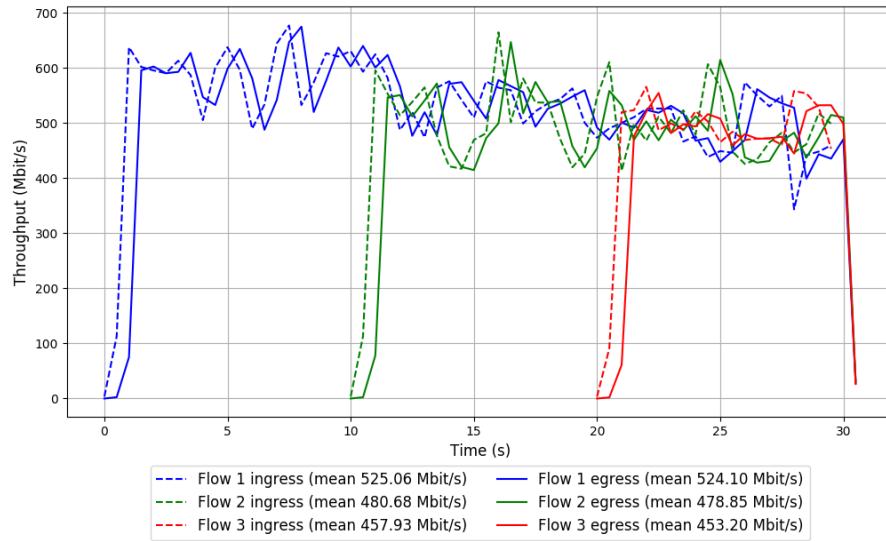


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-03 07:15:06
End at: 2018-10-03 07:15:36
Local clock offset: -0.047 ms
Remote clock offset: 0.124 ms

# Below is generated by plot.py at 2018-10-03 09:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 993.66 Mbit/s
95th percentile per-packet one-way delay: 139.870 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 524.10 Mbit/s
95th percentile per-packet one-way delay: 138.152 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 478.85 Mbit/s
95th percentile per-packet one-way delay: 138.372 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 453.20 Mbit/s
95th percentile per-packet one-way delay: 153.246 ms
Loss rate: 1.03%
```

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

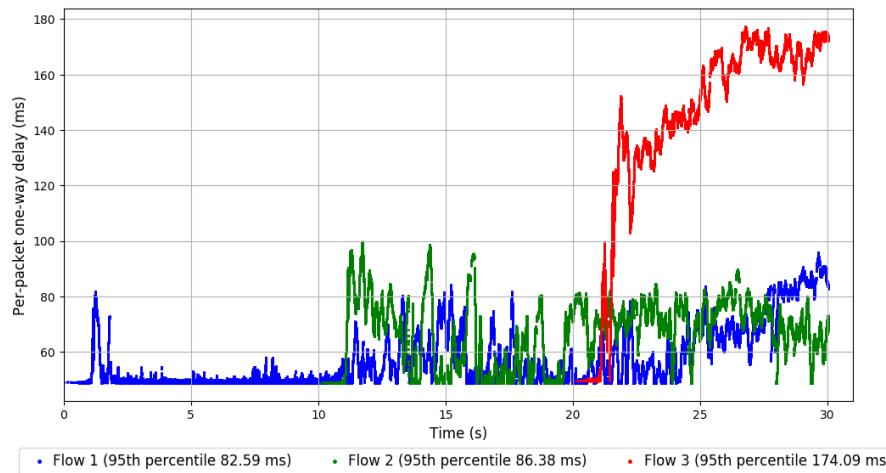
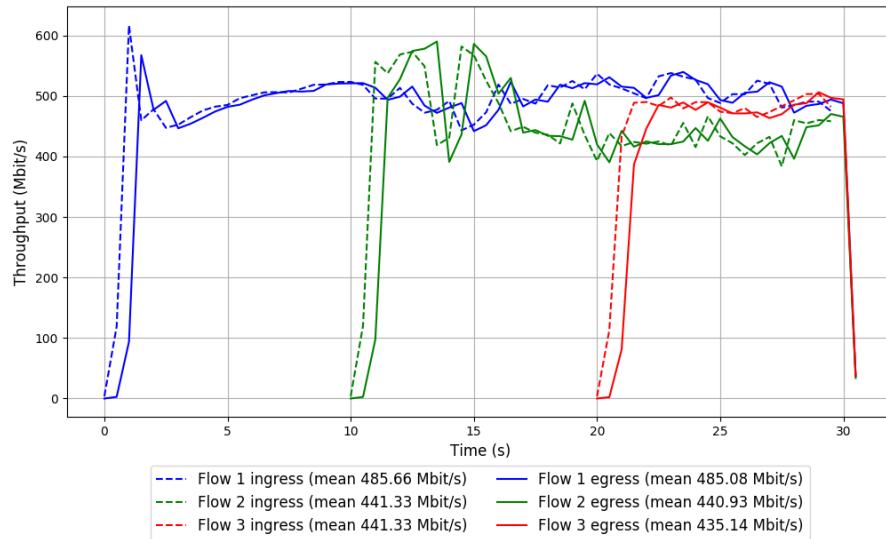


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-03 07:45:44
End at: 2018-10-03 07:46:14
Local clock offset: -0.082 ms
Remote clock offset: 0.072 ms

# Below is generated by plot.py at 2018-10-03 09:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 923.44 Mbit/s
95th percentile per-packet one-way delay: 166.032 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 485.08 Mbit/s
95th percentile per-packet one-way delay: 82.590 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 440.93 Mbit/s
95th percentile per-packet one-way delay: 86.381 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 435.14 Mbit/s
95th percentile per-packet one-way delay: 174.094 ms
Loss rate: 1.38%
```

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

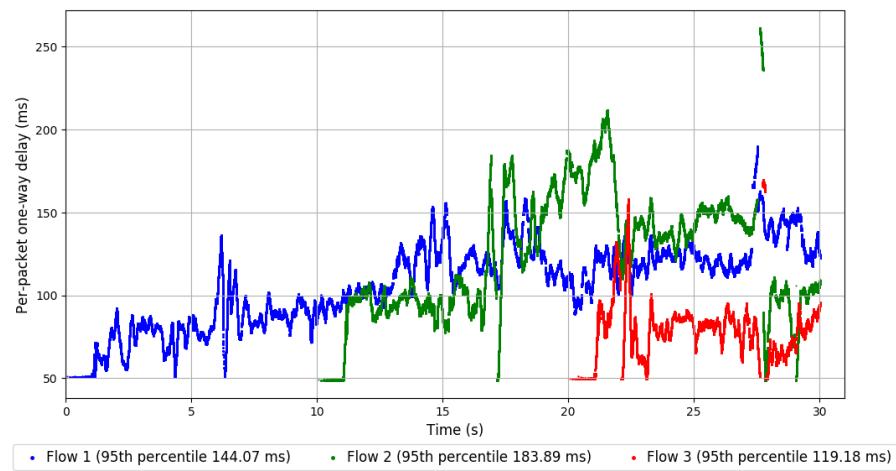
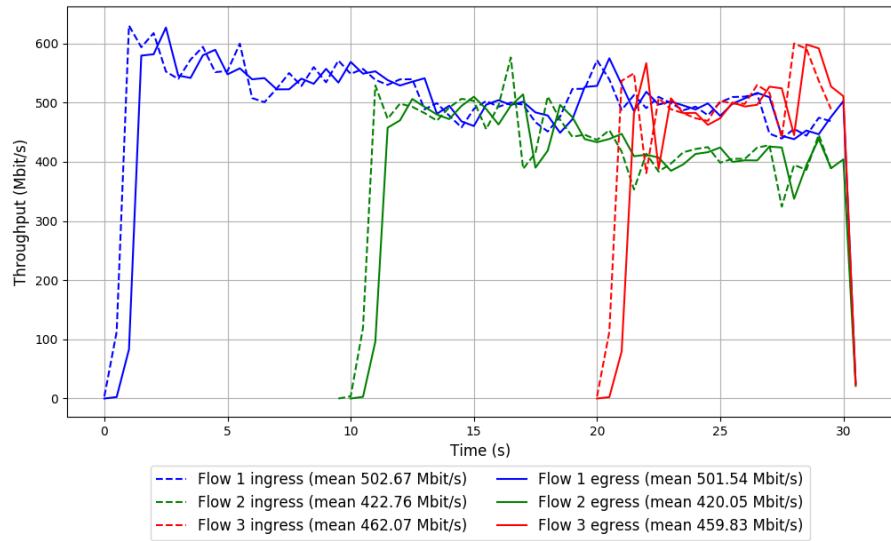


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-03 08:15:49
End at: 2018-10-03 08:16:19
Local clock offset: -0.163 ms
Remote clock offset: 0.161 ms

# Below is generated by plot.py at 2018-10-03 09:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 934.38 Mbit/s
95th percentile per-packet one-way delay: 161.549 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 501.54 Mbit/s
95th percentile per-packet one-way delay: 144.072 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 420.05 Mbit/s
95th percentile per-packet one-way delay: 183.890 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 459.83 Mbit/s
95th percentile per-packet one-way delay: 119.177 ms
Loss rate: 0.47%
```

Run 4: Report of TCP Cubic — Data Link

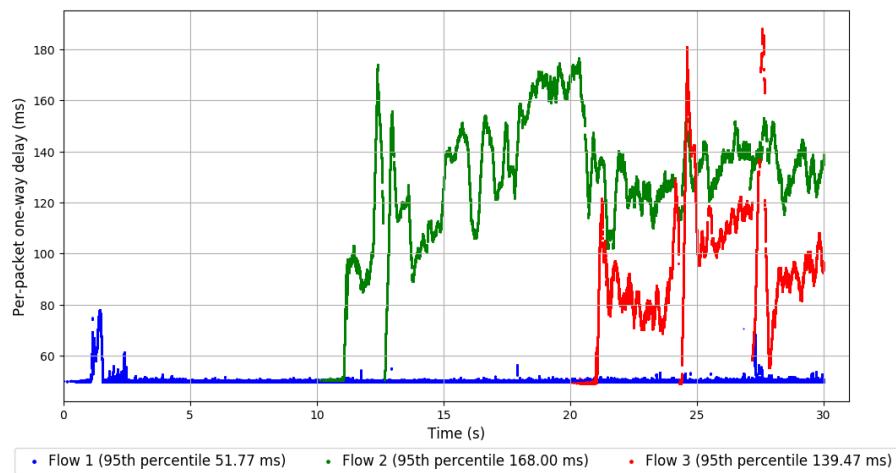
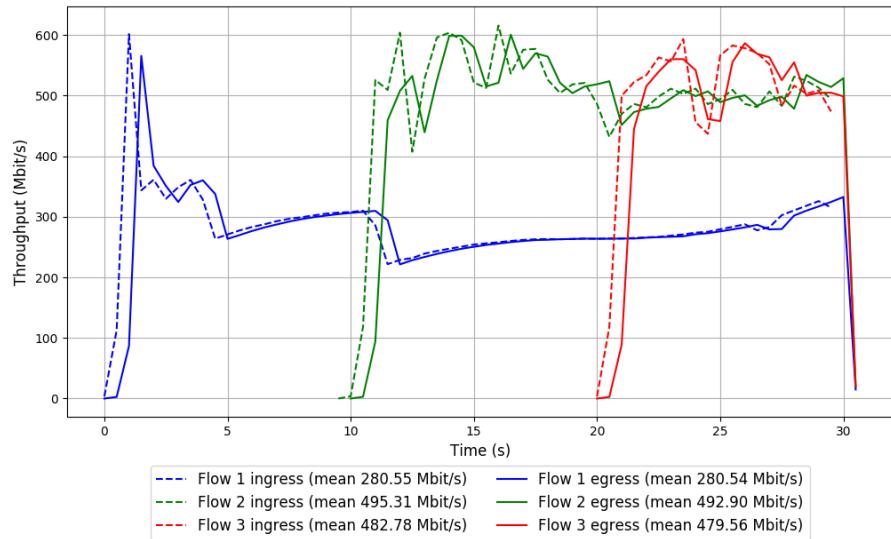


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-03 08:46:04
End at: 2018-10-03 08:46:34
Local clock offset: 0.21 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-10-03 09:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.50 Mbit/s
95th percentile per-packet one-way delay: 161.521 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 280.54 Mbit/s
95th percentile per-packet one-way delay: 51.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 492.90 Mbit/s
95th percentile per-packet one-way delay: 167.996 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 479.56 Mbit/s
95th percentile per-packet one-way delay: 139.474 ms
Loss rate: 0.65%
```

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

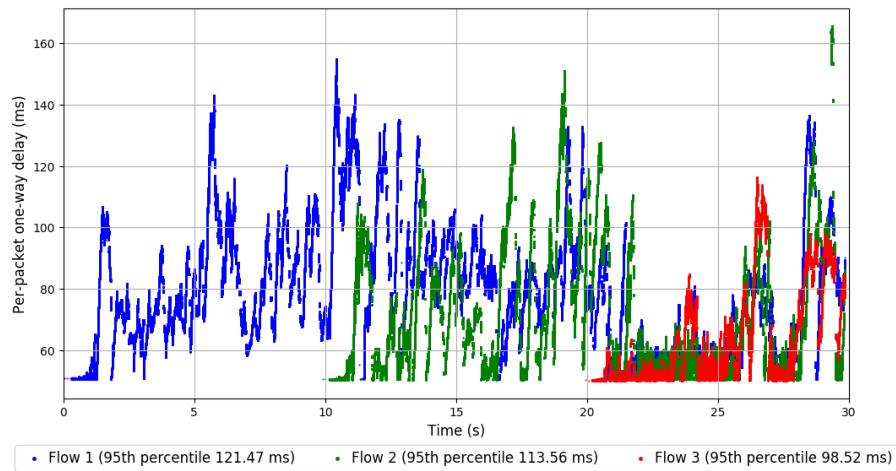
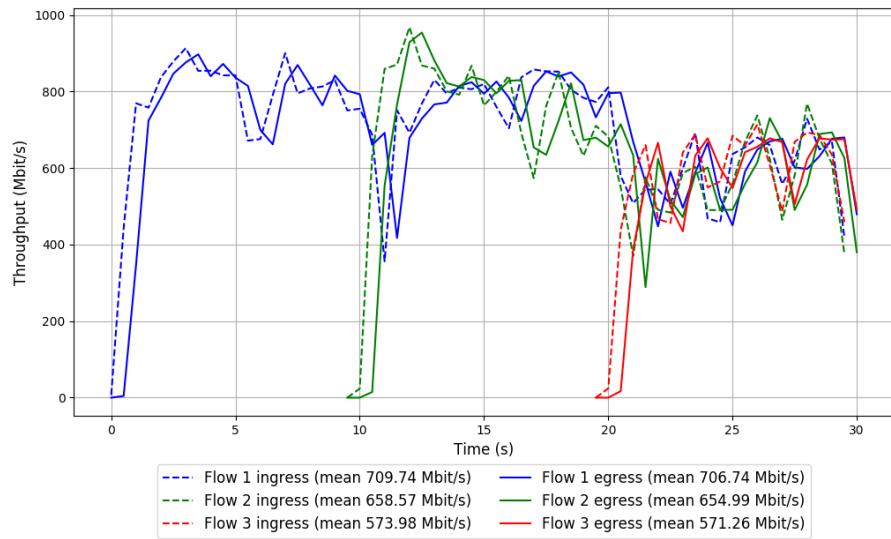


```
Run 1: Statistics of FillP

Start at: 2018-10-03 06:58:23
End at: 2018-10-03 06:58:53
Local clock offset: -0.064 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-10-03 09:59:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1334.57 Mbit/s
95th percentile per-packet one-way delay: 115.319 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 706.74 Mbit/s
95th percentile per-packet one-way delay: 121.465 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 654.99 Mbit/s
95th percentile per-packet one-way delay: 113.559 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 571.26 Mbit/s
95th percentile per-packet one-way delay: 98.515 ms
Loss rate: 0.49%
```

## Run 1: Report of FillP — Data Link

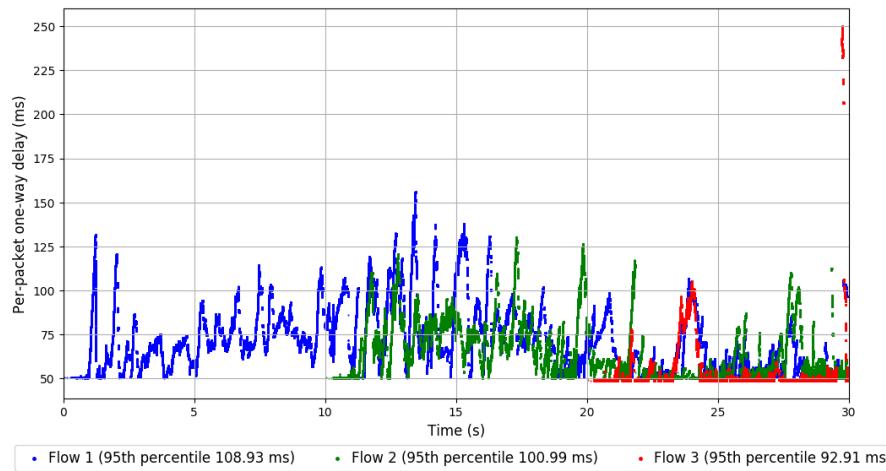
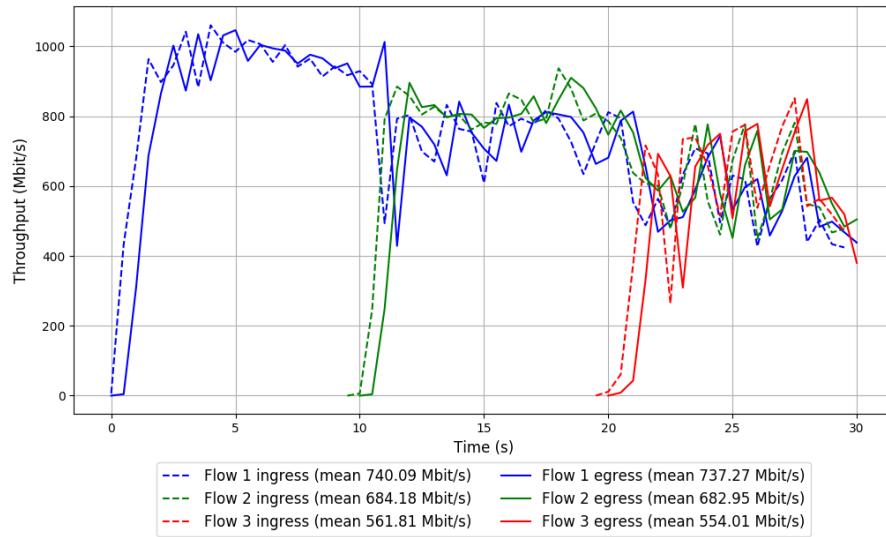


Run 2: Statistics of FillP

```
Start at: 2018-10-03 07:28:52
End at: 2018-10-03 07:29:22
Local clock offset: -0.069 ms
Remote clock offset: 0.071 ms

# Below is generated by plot.py at 2018-10-03 10:14:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1376.04 Mbit/s
95th percentile per-packet one-way delay: 104.258 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 737.27 Mbit/s
95th percentile per-packet one-way delay: 108.927 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 682.95 Mbit/s
95th percentile per-packet one-way delay: 100.994 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 554.01 Mbit/s
95th percentile per-packet one-way delay: 92.914 ms
Loss rate: 1.39%
```

## Run 2: Report of FillP — Data Link

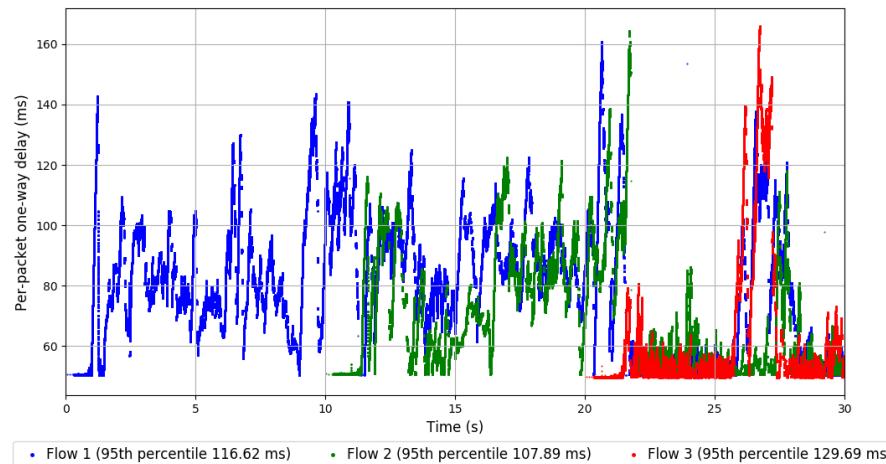
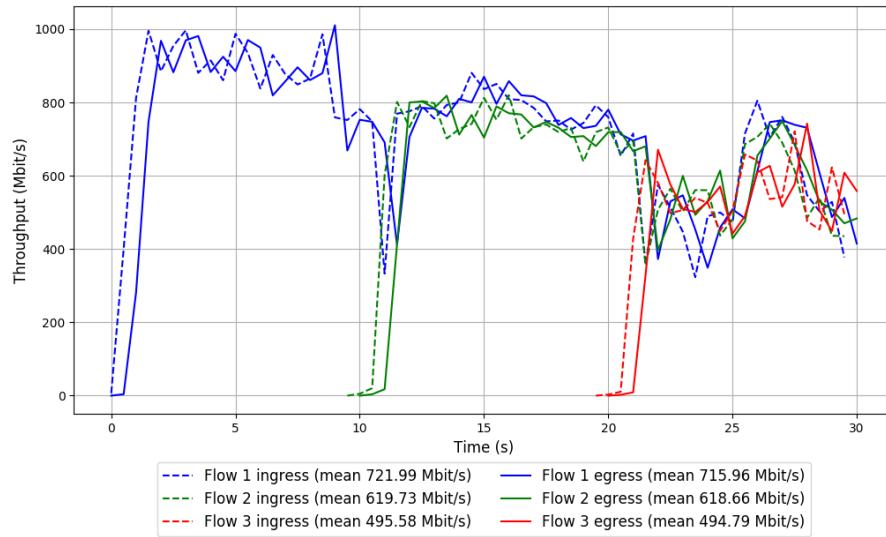


Run 3: Statistics of FillP

```
Start at: 2018-10-03 07:59:14
End at: 2018-10-03 07:59:44
Local clock offset: -0.16 ms
Remote clock offset: 0.043 ms

# Below is generated by plot.py at 2018-10-03 10:14:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1292.11 Mbit/s
95th percentile per-packet one-way delay: 115.003 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 715.96 Mbit/s
95th percentile per-packet one-way delay: 116.617 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 618.66 Mbit/s
95th percentile per-packet one-way delay: 107.888 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 494.79 Mbit/s
95th percentile per-packet one-way delay: 129.694 ms
Loss rate: 0.15%
```

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

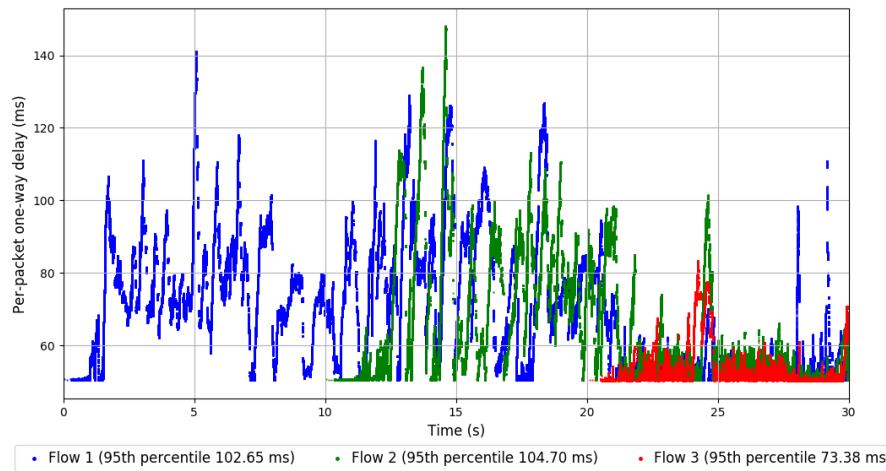
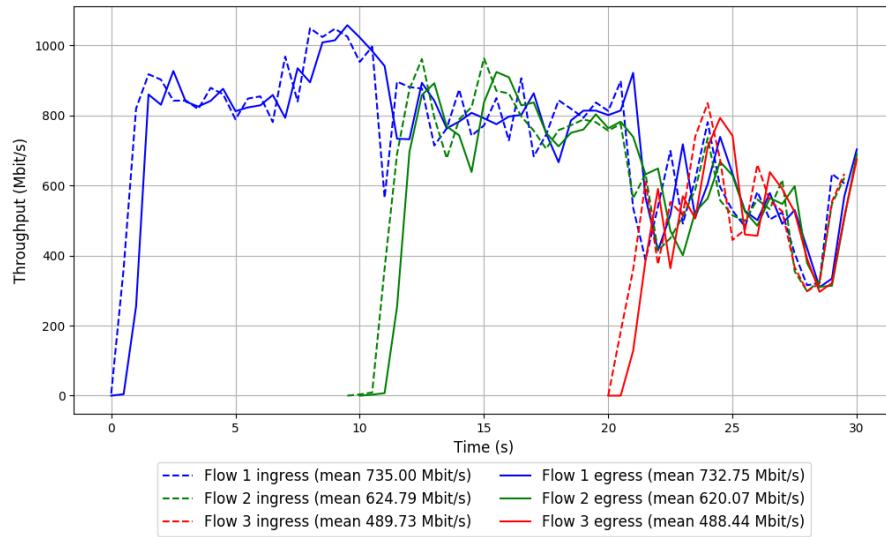


Run 4: Statistics of FillP

```
Start at: 2018-10-03 08:29:33
End at: 2018-10-03 08:30:03
Local clock offset: -0.17 ms
Remote clock offset: 0.174 ms

# Below is generated by plot.py at 2018-10-03 10:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1307.04 Mbit/s
95th percentile per-packet one-way delay: 100.701 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 732.75 Mbit/s
95th percentile per-packet one-way delay: 102.649 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 620.07 Mbit/s
95th percentile per-packet one-way delay: 104.705 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 488.44 Mbit/s
95th percentile per-packet one-way delay: 73.383 ms
Loss rate: 0.26%
```

## Run 4: Report of FillP — Data Link

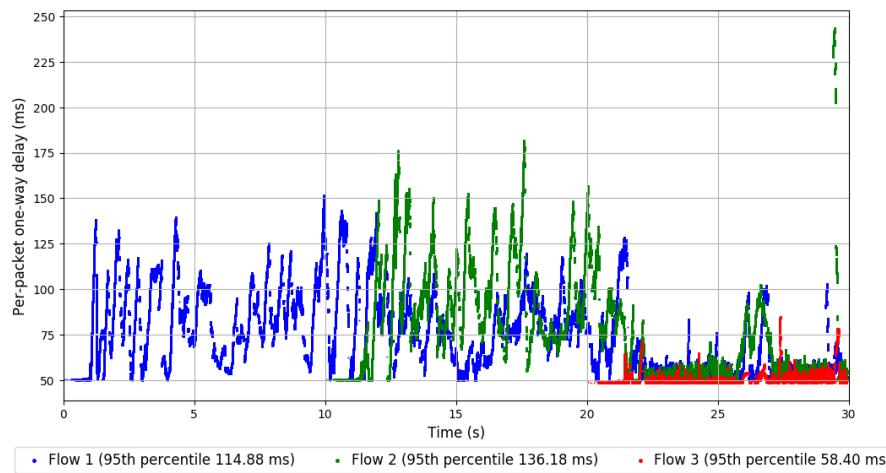
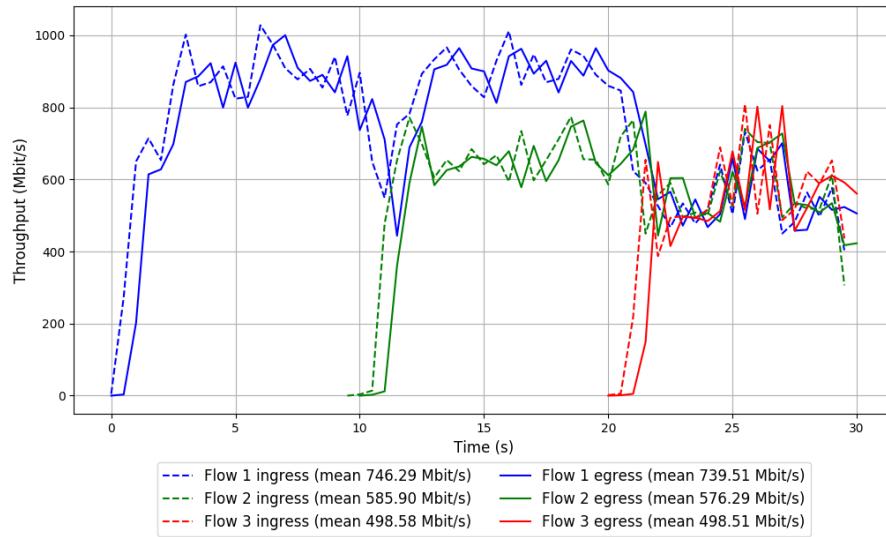


```
Run 5: Statistics of FillP
```

```
Start at: 2018-10-03 08:59:25
End at: 2018-10-03 08:59:55
Local clock offset: -0.139 ms
Remote clock offset: -0.188 ms

# Below is generated by plot.py at 2018-10-03 10:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1288.07 Mbit/s
95th percentile per-packet one-way delay: 119.289 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 739.51 Mbit/s
95th percentile per-packet one-way delay: 114.881 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 576.29 Mbit/s
95th percentile per-packet one-way delay: 136.179 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 498.51 Mbit/s
95th percentile per-packet one-way delay: 58.399 ms
Loss rate: 0.00%
```

## Run 5: Report of FillP — Data Link

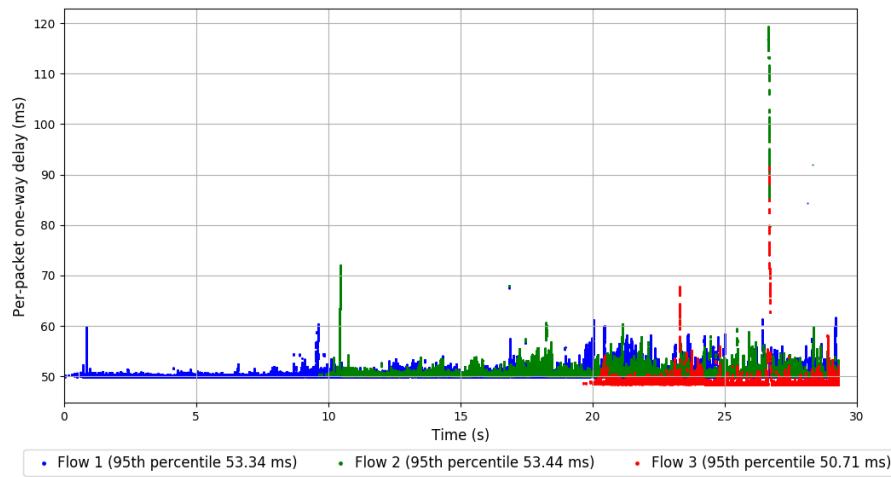
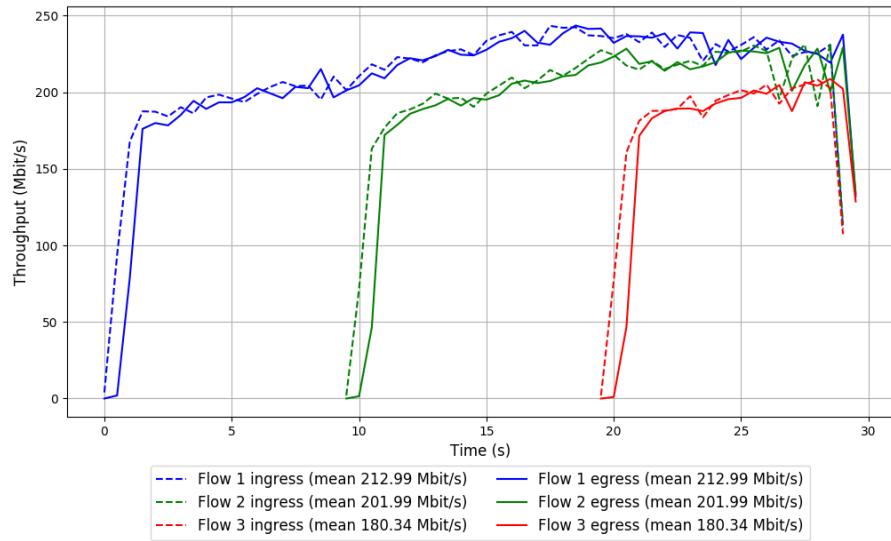


Run 1: Statistics of Indigo

```
Start at: 2018-10-03 06:48:22
End at: 2018-10-03 06:48:52
Local clock offset: 0.322 ms
Remote clock offset: -0.417 ms

# Below is generated by plot.py at 2018-10-03 10:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.29 Mbit/s
95th percentile per-packet one-way delay: 53.218 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.99 Mbit/s
95th percentile per-packet one-way delay: 53.335 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 201.99 Mbit/s
95th percentile per-packet one-way delay: 53.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 180.34 Mbit/s
95th percentile per-packet one-way delay: 50.708 ms
Loss rate: 0.00%
```

## Run 1: Report of Indigo — Data Link

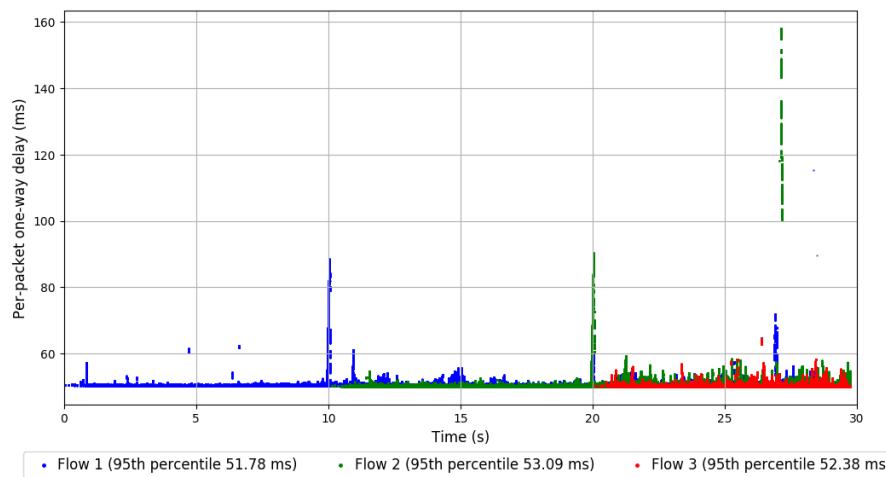
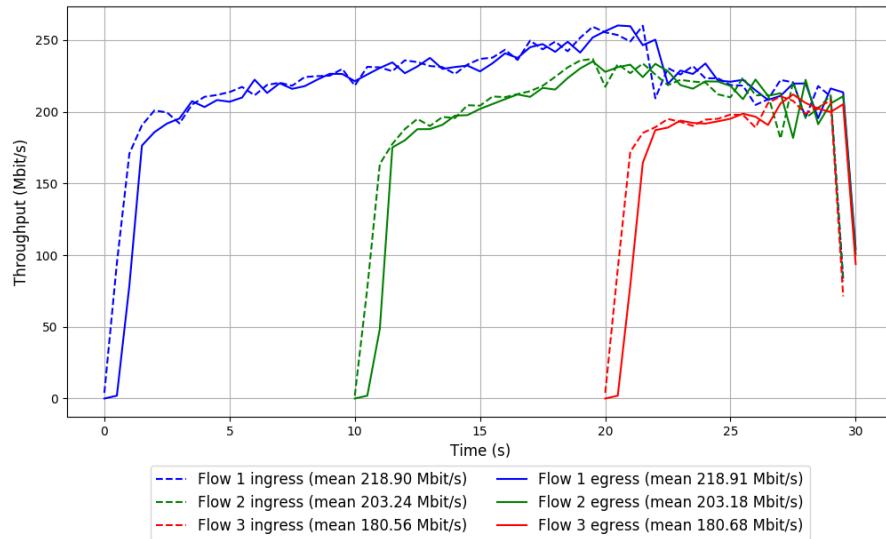


Run 2: Statistics of Indigo

```
Start at: 2018-10-03 07:18:49
End at: 2018-10-03 07:19:19
Local clock offset: -0.042 ms
Remote clock offset: 0.153 ms

# Below is generated by plot.py at 2018-10-03 10:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 412.01 Mbit/s
95th percentile per-packet one-way delay: 52.310 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 218.91 Mbit/s
95th percentile per-packet one-way delay: 51.781 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 203.18 Mbit/s
95th percentile per-packet one-way delay: 53.093 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 180.68 Mbit/s
95th percentile per-packet one-way delay: 52.377 ms
Loss rate: 0.00%
```

## Run 2: Report of Indigo — Data Link

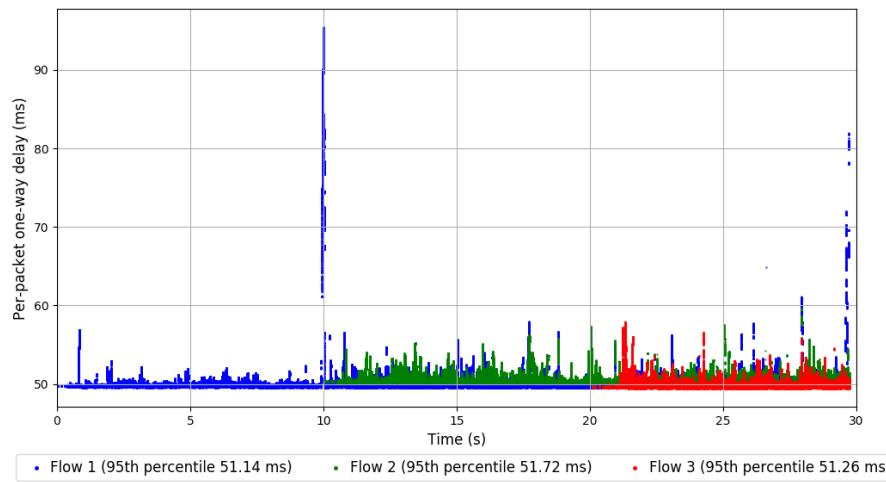
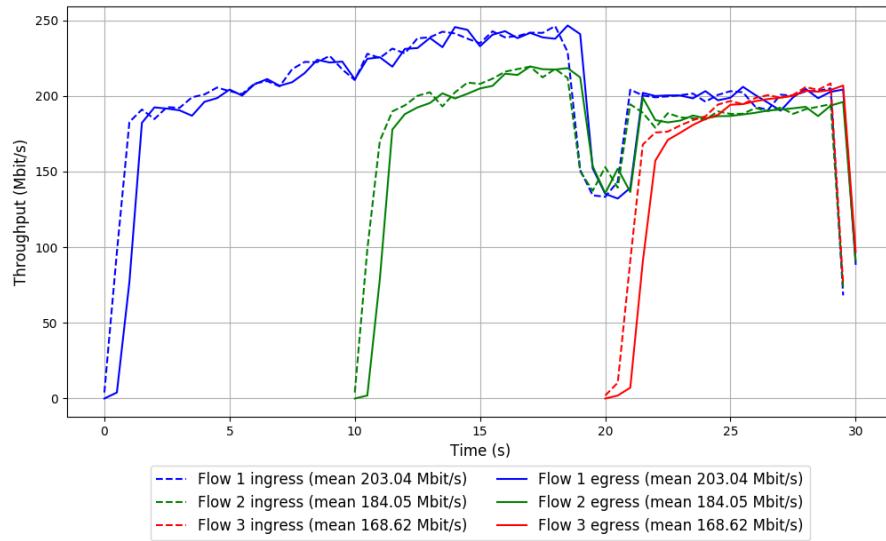


Run 3: Statistics of Indigo

```
Start at: 2018-10-03 07:49:24
End at: 2018-10-03 07:49:54
Local clock offset: -0.147 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2018-10-03 10:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.81 Mbit/s
95th percentile per-packet one-way delay: 51.434 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 203.04 Mbit/s
95th percentile per-packet one-way delay: 51.140 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 184.05 Mbit/s
95th percentile per-packet one-way delay: 51.716 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 168.62 Mbit/s
95th percentile per-packet one-way delay: 51.256 ms
Loss rate: 0.00%
```

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

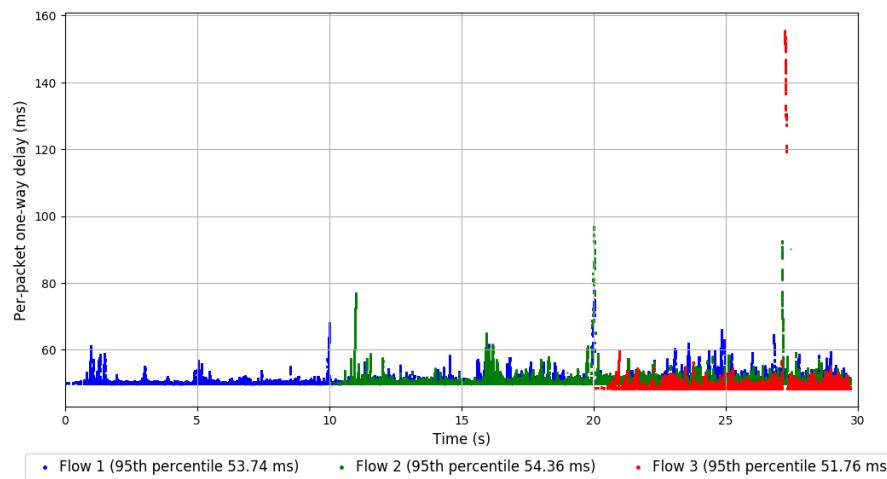
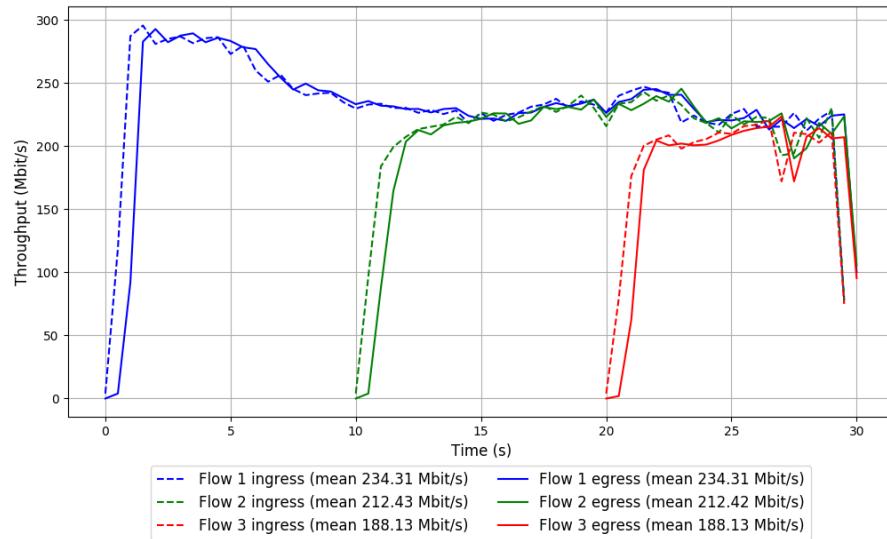


Run 4: Statistics of Indigo

```
Start at: 2018-10-03 08:19:33
End at: 2018-10-03 08:20:03
Local clock offset: 0.191 ms
Remote clock offset: 0.197 ms

# Below is generated by plot.py at 2018-10-03 10:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.40 Mbit/s
95th percentile per-packet one-way delay: 53.642 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 234.31 Mbit/s
95th percentile per-packet one-way delay: 53.745 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.42 Mbit/s
95th percentile per-packet one-way delay: 54.358 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 188.13 Mbit/s
95th percentile per-packet one-way delay: 51.762 ms
Loss rate: 0.00%
```

## Run 4: Report of Indigo — Data Link

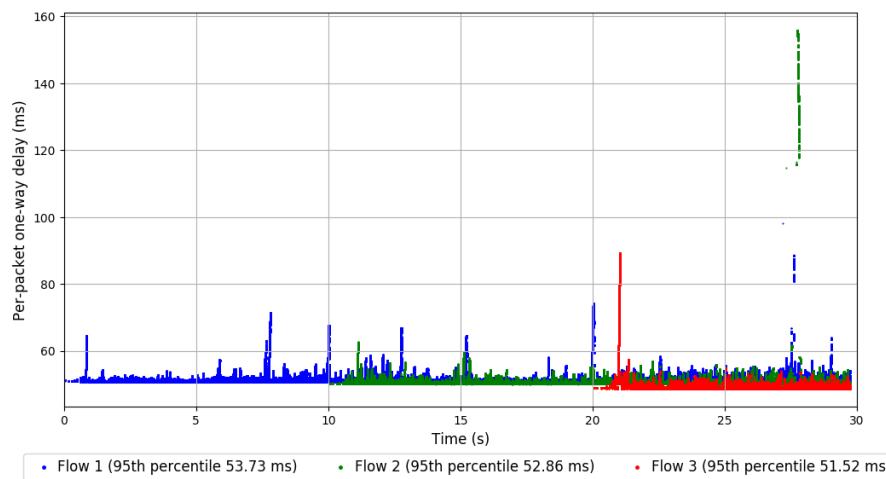
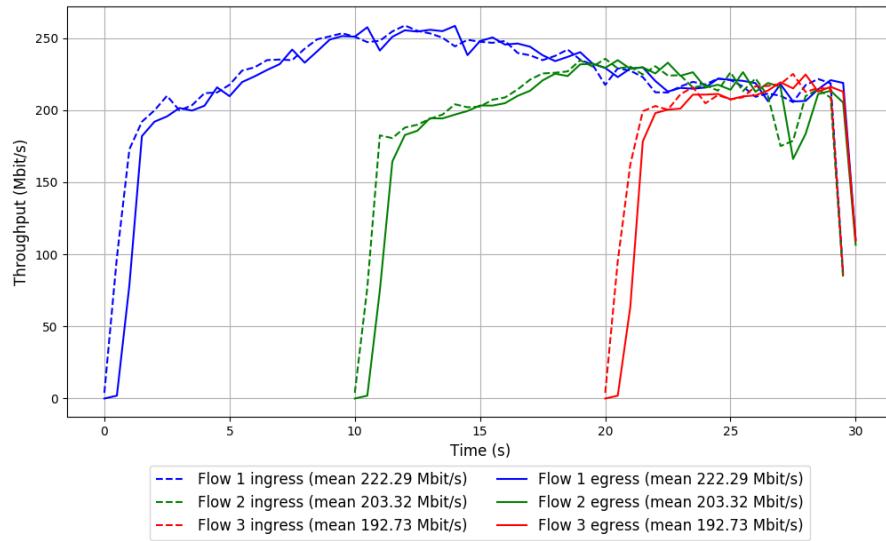


Run 5: Statistics of Indigo

```
Start at: 2018-10-03 08:49:26
End at: 2018-10-03 08:49:56
Local clock offset: -0.157 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2018-10-03 10:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.73 Mbit/s
95th percentile per-packet one-way delay: 53.302 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 222.29 Mbit/s
95th percentile per-packet one-way delay: 53.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 203.32 Mbit/s
95th percentile per-packet one-way delay: 52.857 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 192.73 Mbit/s
95th percentile per-packet one-way delay: 51.517 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link

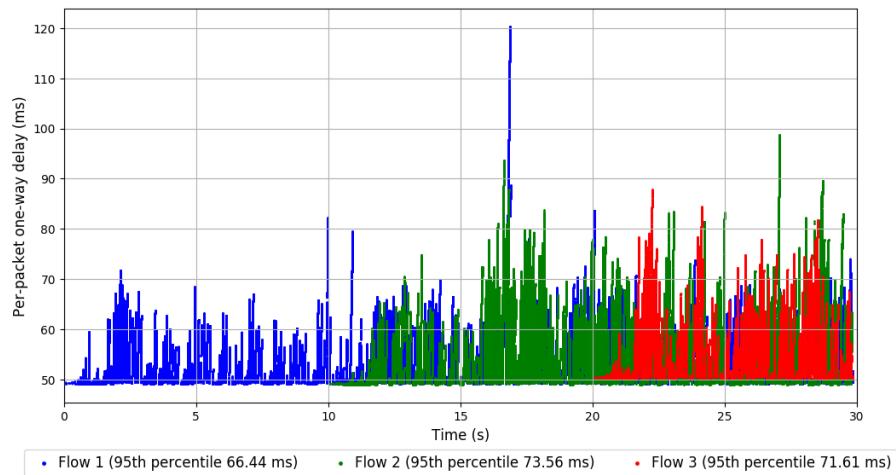
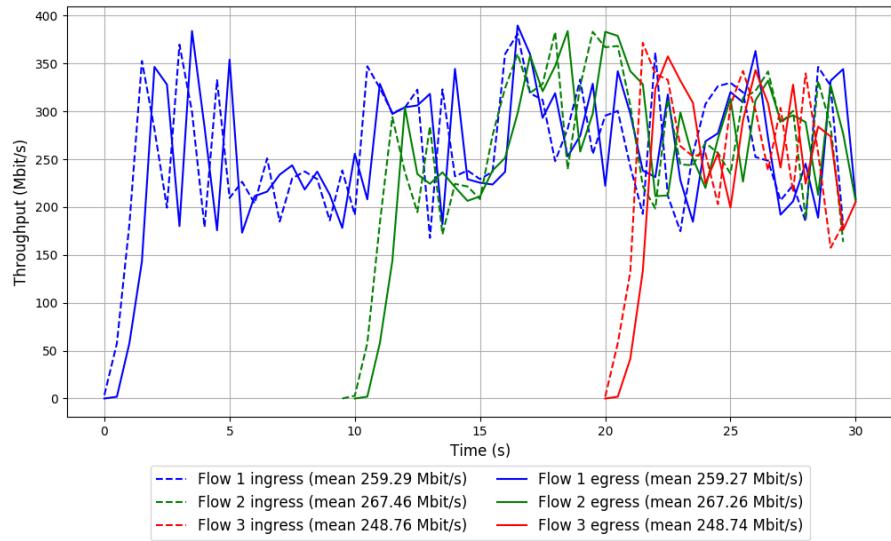


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-10-03 06:43:03
End at: 2018-10-03 06:43:33
Local clock offset: 0.287 ms
Remote clock offset: -0.421 ms

# Below is generated by plot.py at 2018-10-03 10:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.18 Mbit/s
95th percentile per-packet one-way delay: 70.494 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 259.27 Mbit/s
95th percentile per-packet one-way delay: 66.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 267.26 Mbit/s
95th percentile per-packet one-way delay: 73.558 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.74 Mbit/s
95th percentile per-packet one-way delay: 71.609 ms
Loss rate: 0.00%
```

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

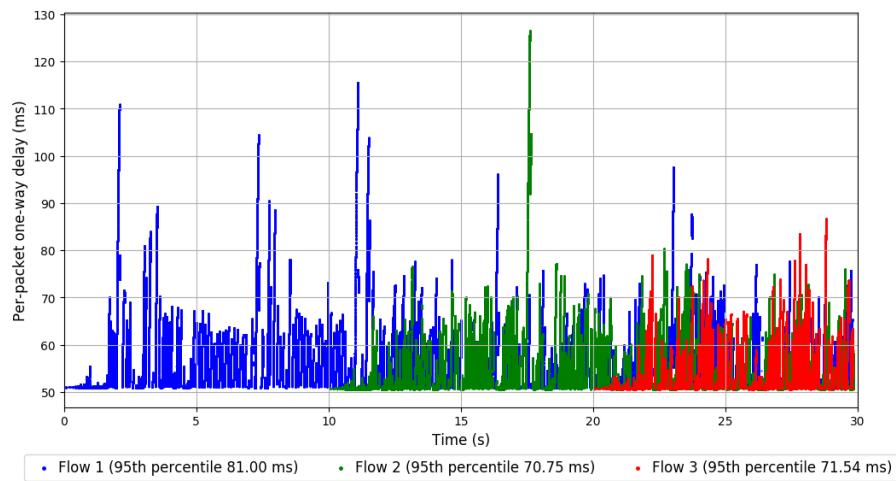
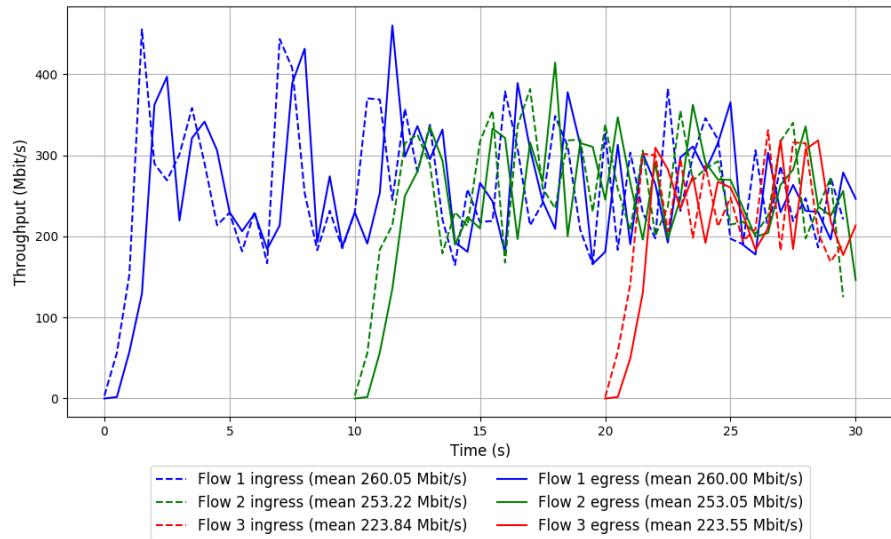


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-03 07:13:30
End at: 2018-10-03 07:14:00
Local clock offset: -0.398 ms
Remote clock offset: 0.131 ms

# Below is generated by plot.py at 2018-10-03 10:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 501.25 Mbit/s
95th percentile per-packet one-way delay: 75.195 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 260.00 Mbit/s
95th percentile per-packet one-way delay: 80.999 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 253.05 Mbit/s
95th percentile per-packet one-way delay: 70.752 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 223.55 Mbit/s
95th percentile per-packet one-way delay: 71.537 ms
Loss rate: 0.00%
```

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

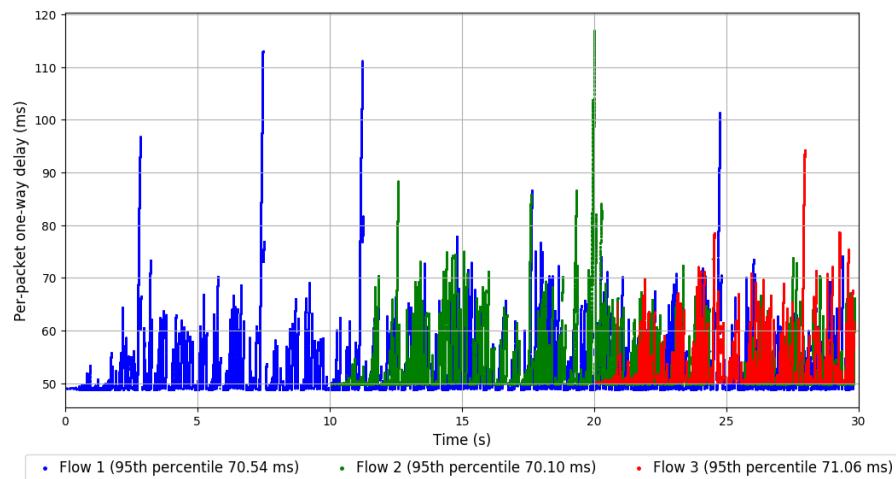
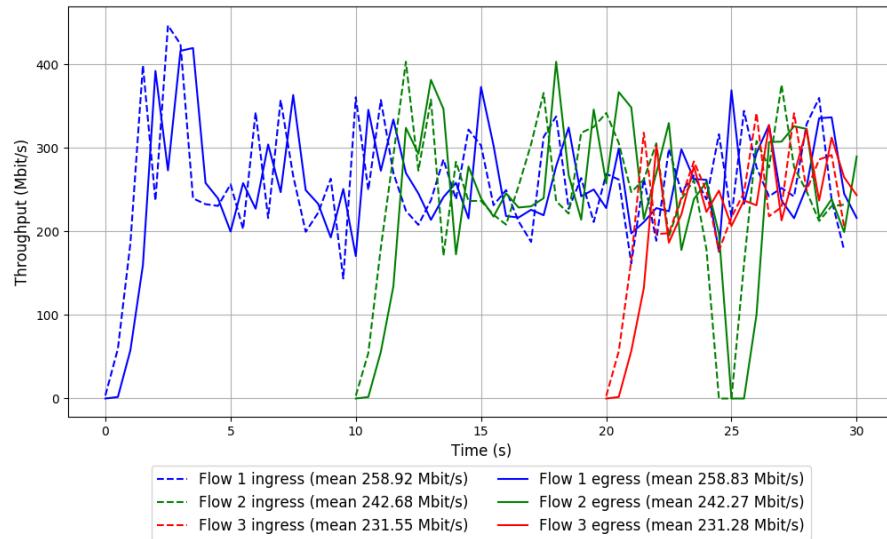


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-03 07:44:09
End at: 2018-10-03 07:44:39
Local clock offset: -0.154 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2018-10-03 10:18:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.30 Mbit/s
95th percentile per-packet one-way delay: 70.471 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 258.83 Mbit/s
95th percentile per-packet one-way delay: 70.543 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 242.27 Mbit/s
95th percentile per-packet one-way delay: 70.096 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 231.28 Mbit/s
95th percentile per-packet one-way delay: 71.055 ms
Loss rate: 0.00%
```

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

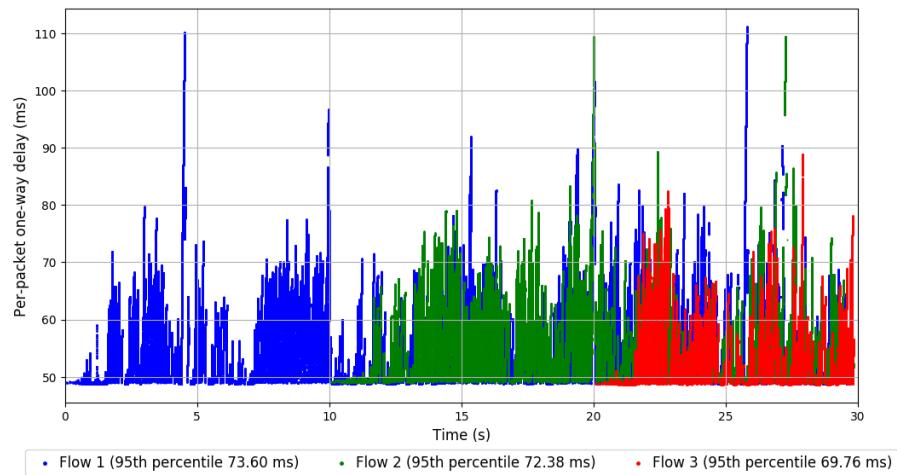
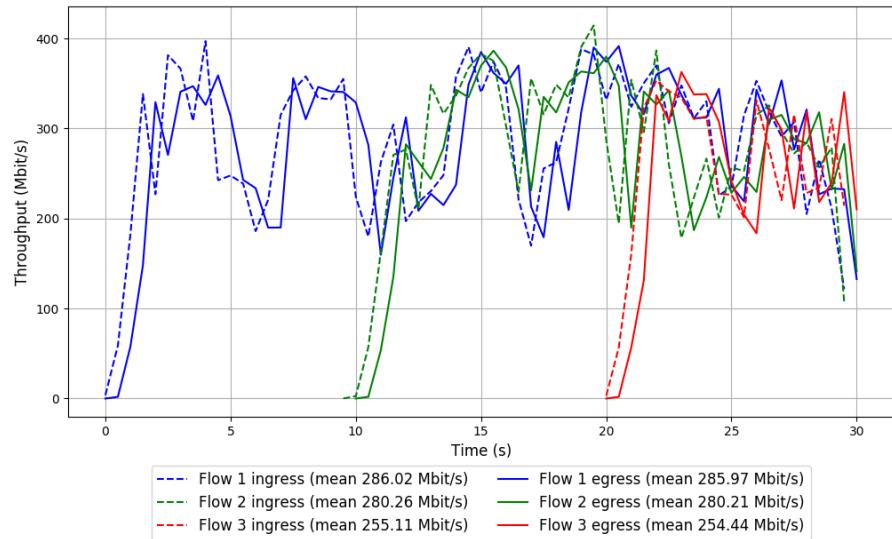


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-03 08:14:11
End at: 2018-10-03 08:14:41
Local clock offset: -0.189 ms
Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2018-10-03 10:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 555.13 Mbit/s
95th percentile per-packet one-way delay: 72.438 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 285.97 Mbit/s
95th percentile per-packet one-way delay: 73.604 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 280.21 Mbit/s
95th percentile per-packet one-way delay: 72.384 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 254.44 Mbit/s
95th percentile per-packet one-way delay: 69.759 ms
Loss rate: 0.24%
```

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

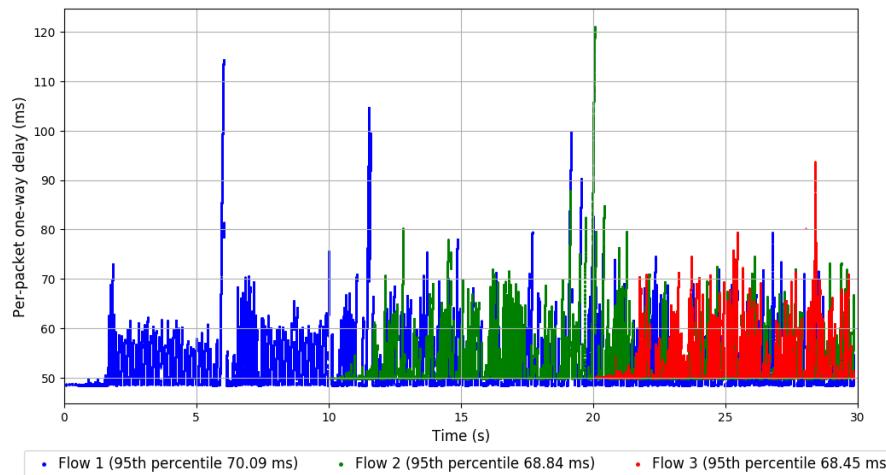
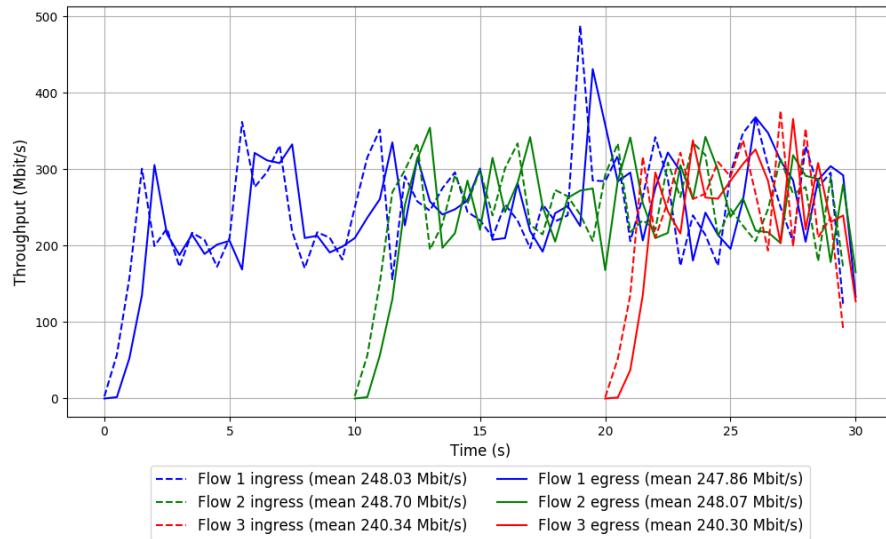


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-03 08:44:30
End at: 2018-10-03 08:45:00
Local clock offset: 0.192 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-10-03 10:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.25 Mbit/s
95th percentile per-packet one-way delay: 69.202 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 247.86 Mbit/s
95th percentile per-packet one-way delay: 70.090 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 248.07 Mbit/s
95th percentile per-packet one-way delay: 68.838 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 240.30 Mbit/s
95th percentile per-packet one-way delay: 68.454 ms
Loss rate: 0.01%
```

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

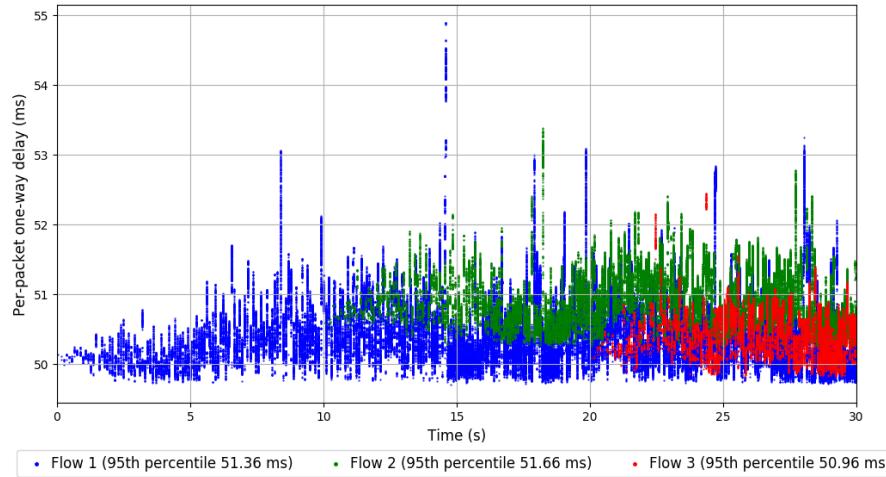
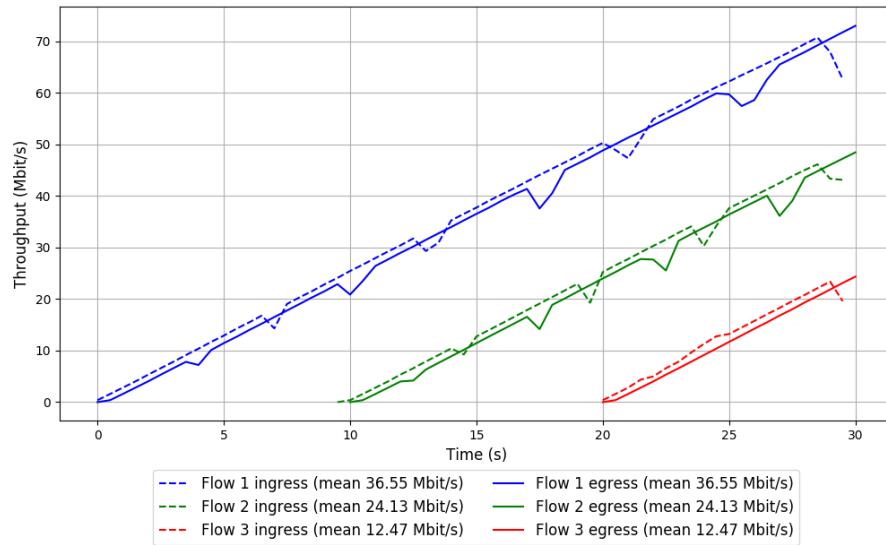


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-10-03 06:38:02
End at: 2018-10-03 06:38:32
Local clock offset: 0.304 ms
Remote clock offset: -0.392 ms

# Below is generated by plot.py at 2018-10-03 10:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.73 Mbit/s
95th percentile per-packet one-way delay: 51.500 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.55 Mbit/s
95th percentile per-packet one-way delay: 51.362 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.13 Mbit/s
95th percentile per-packet one-way delay: 51.657 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 50.960 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

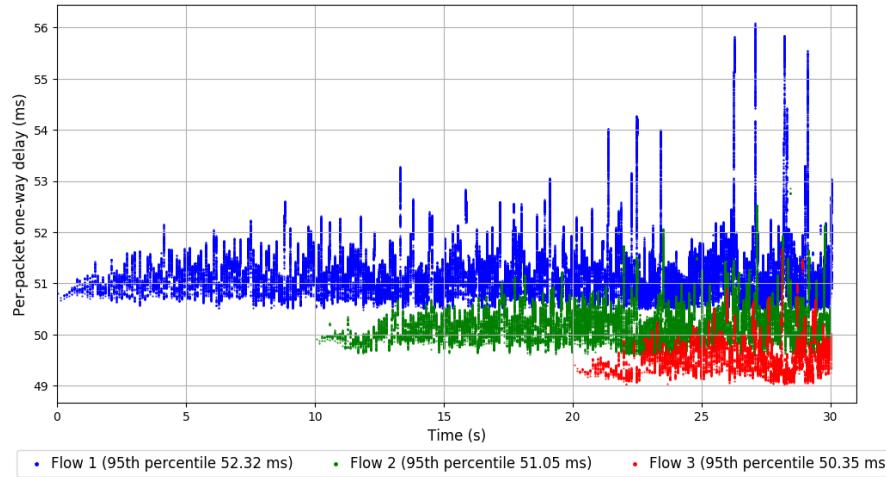
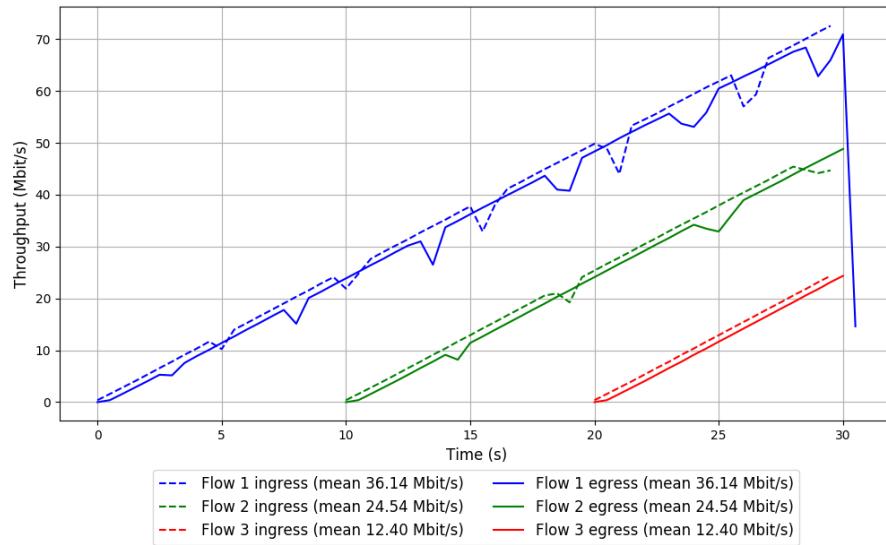


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-03 07:08:22
End at: 2018-10-03 07:08:52
Local clock offset: -0.066 ms
Remote clock offset: 0.096 ms

# Below is generated by plot.py at 2018-10-03 10:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.54 Mbit/s
95th percentile per-packet one-way delay: 52.052 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.14 Mbit/s
95th percentile per-packet one-way delay: 52.321 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.54 Mbit/s
95th percentile per-packet one-way delay: 51.051 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.40 Mbit/s
95th percentile per-packet one-way delay: 50.355 ms
Loss rate: 0.00%
```

## Run 2: Report of LEDBAT — Data Link

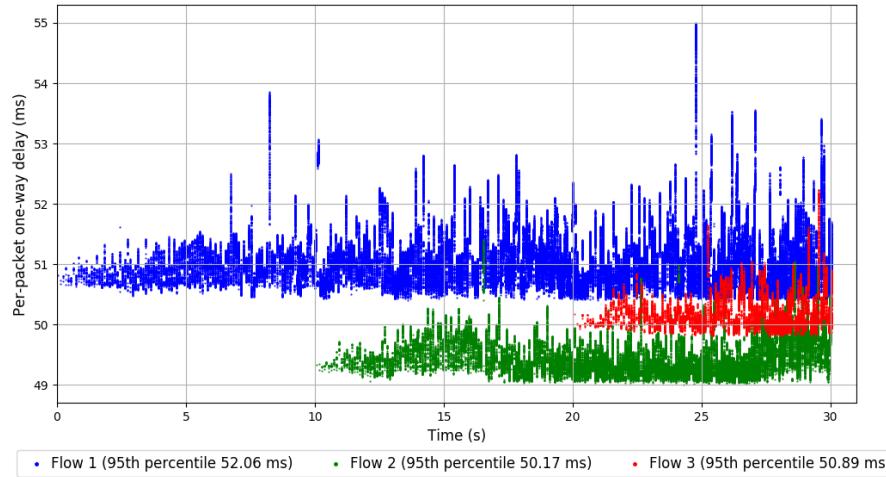
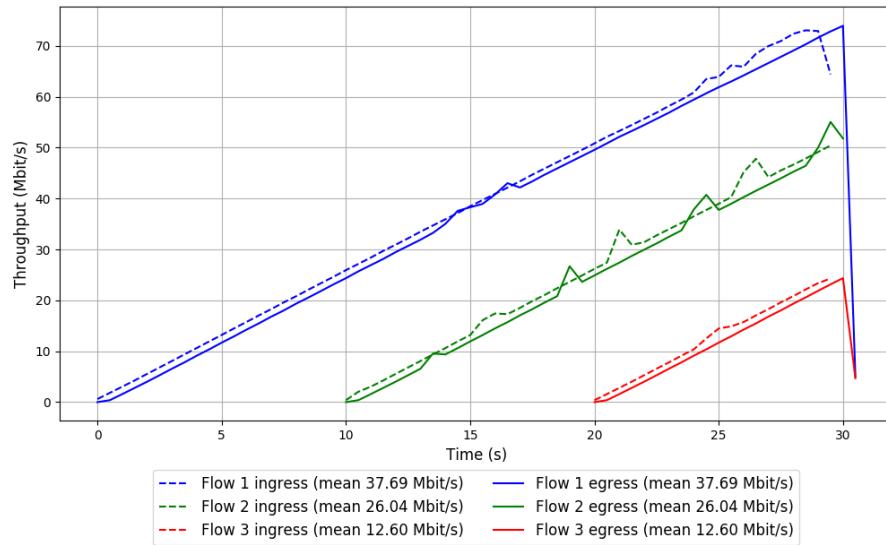


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-03 07:39:04
End at: 2018-10-03 07:39:34
Local clock offset: -0.483 ms
Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2018-10-03 10:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 51.842 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.69 Mbit/s
95th percentile per-packet one-way delay: 52.056 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.04 Mbit/s
95th percentile per-packet one-way delay: 50.174 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 50.891 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

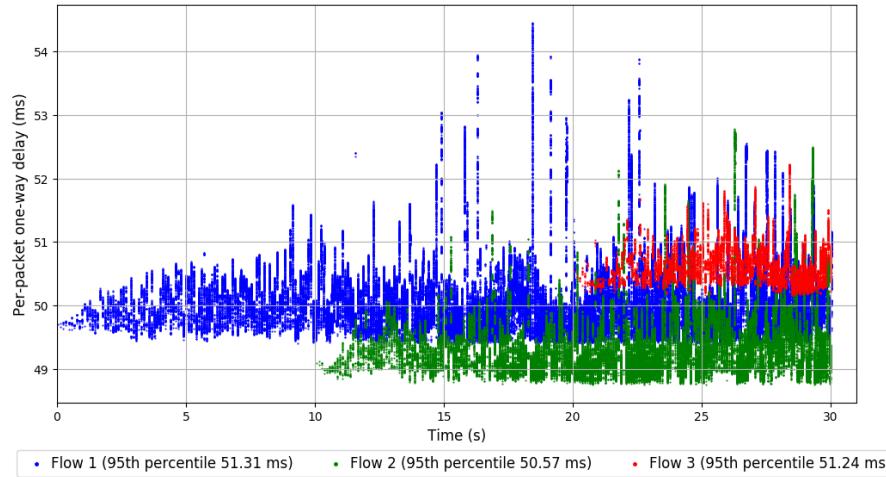
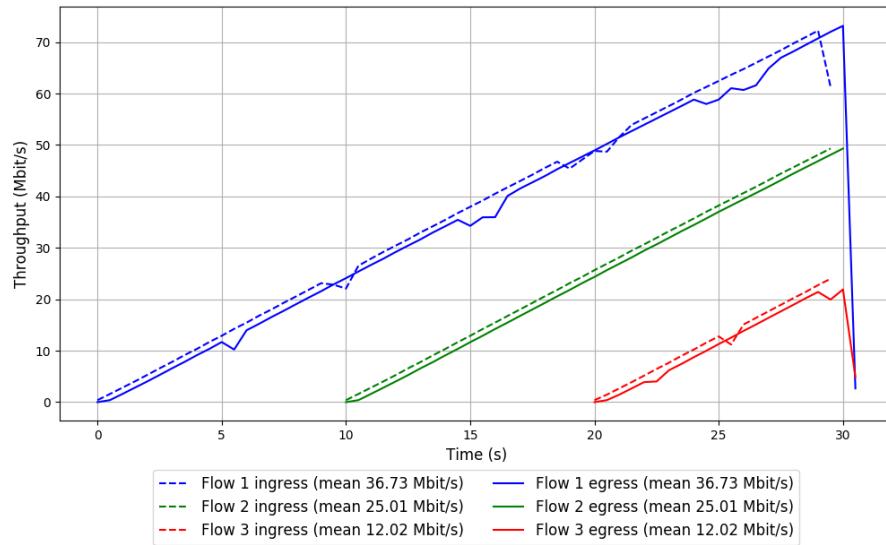


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-03 08:09:05
End at: 2018-10-03 08:09:35
Local clock offset: -0.194 ms
Remote clock offset: 0.106 ms

# Below is generated by plot.py at 2018-10-03 10:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.34 Mbit/s
95th percentile per-packet one-way delay: 51.132 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.73 Mbit/s
95th percentile per-packet one-way delay: 51.309 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.01 Mbit/s
95th percentile per-packet one-way delay: 50.571 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.02 Mbit/s
95th percentile per-packet one-way delay: 51.242 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

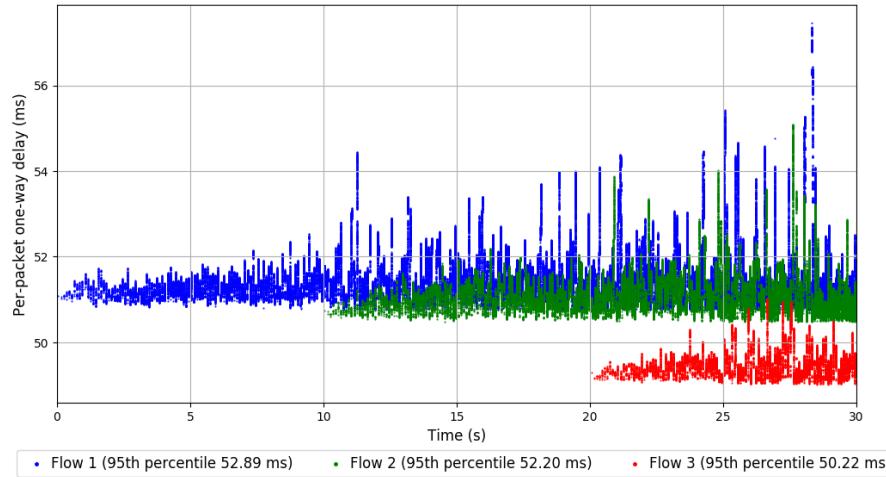
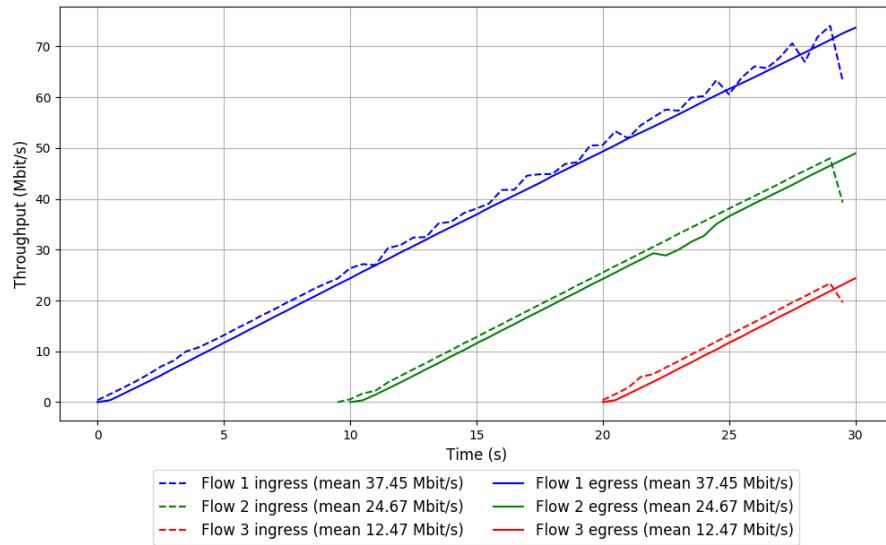


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-03 08:39:29
End at: 2018-10-03 08:39:59
Local clock offset: -0.517 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-10-03 10:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.99 Mbit/s
95th percentile per-packet one-way delay: 52.638 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.45 Mbit/s
95th percentile per-packet one-way delay: 52.889 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.67 Mbit/s
95th percentile per-packet one-way delay: 52.198 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 50.216 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

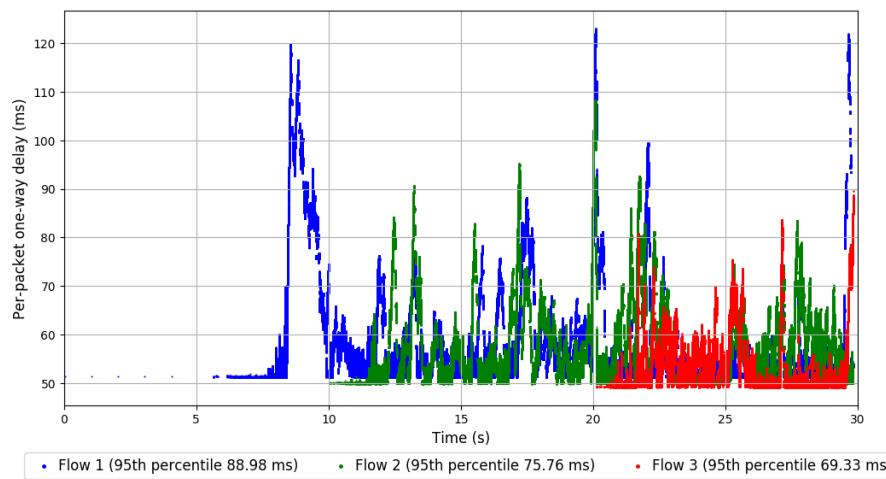
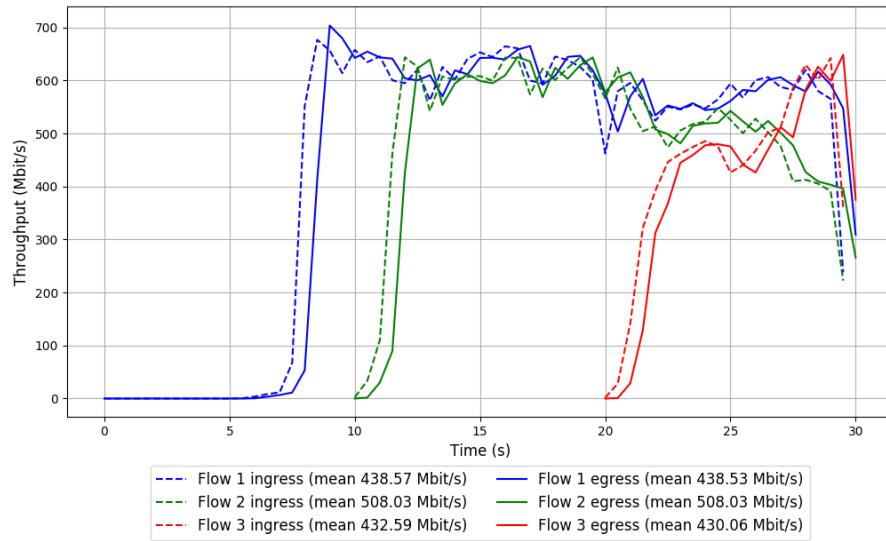


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-03 06:36:07
End at: 2018-10-03 06:36:37
Local clock offset: -0.446 ms
Remote clock offset: -0.373 ms

# Below is generated by plot.py at 2018-10-03 10:30:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 916.07 Mbit/s
95th percentile per-packet one-way delay: 80.621 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 438.53 Mbit/s
95th percentile per-packet one-way delay: 88.980 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 508.03 Mbit/s
95th percentile per-packet one-way delay: 75.761 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 430.06 Mbit/s
95th percentile per-packet one-way delay: 69.330 ms
Loss rate: 0.56%
```

Run 1: Report of Indigo-Muses — Data Link

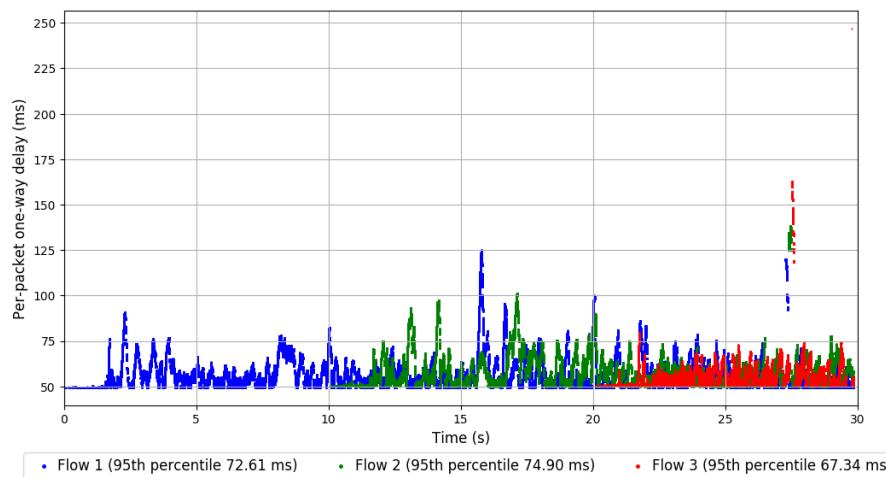
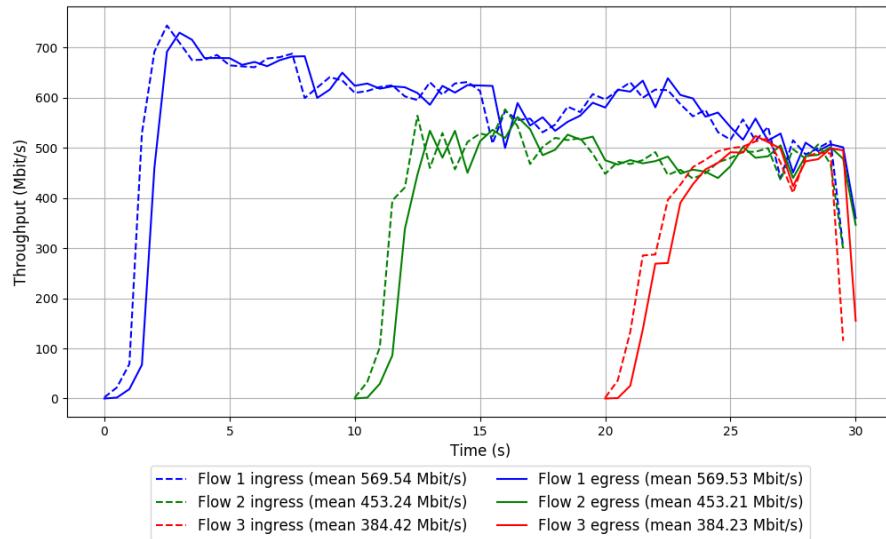


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-03 07:06:24
End at: 2018-10-03 07:06:54
Local clock offset: -0.054 ms
Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2018-10-03 10:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 995.60 Mbit/s
95th percentile per-packet one-way delay: 72.887 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 569.53 Mbit/s
95th percentile per-packet one-way delay: 72.607 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 453.21 Mbit/s
95th percentile per-packet one-way delay: 74.896 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 384.23 Mbit/s
95th percentile per-packet one-way delay: 67.337 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-Muses — Data Link

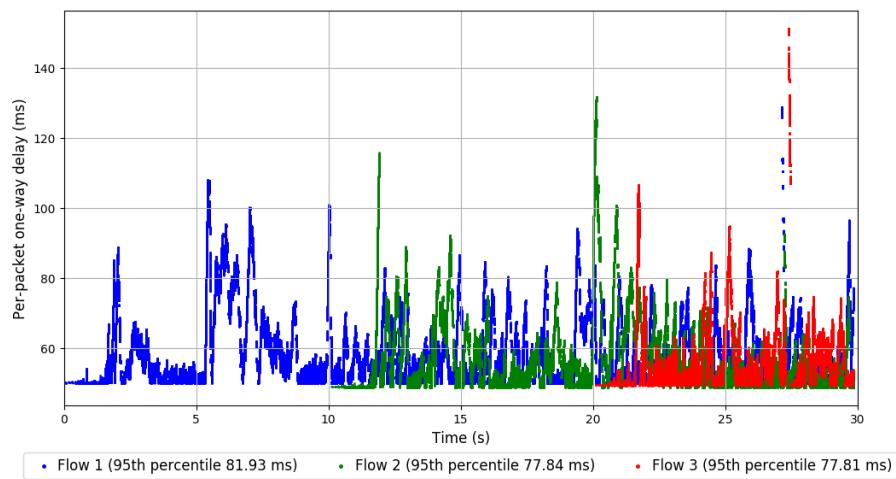
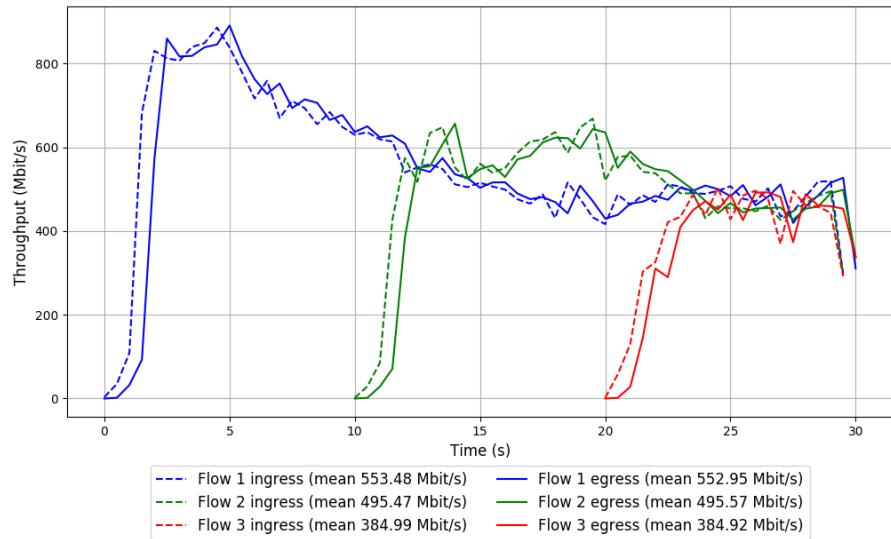


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-03 07:37:04
End at: 2018-10-03 07:37:34
Local clock offset: -0.118 ms
Remote clock offset: 0.027 ms

# Below is generated by plot.py at 2018-10-03 10:32:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1007.06 Mbit/s
95th percentile per-packet one-way delay: 80.295 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 552.95 Mbit/s
95th percentile per-packet one-way delay: 81.932 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 495.57 Mbit/s
95th percentile per-packet one-way delay: 77.842 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 384.92 Mbit/s
95th percentile per-packet one-way delay: 77.806 ms
Loss rate: 0.00%
```

### Run 3: Report of Indigo-Muses — Data Link

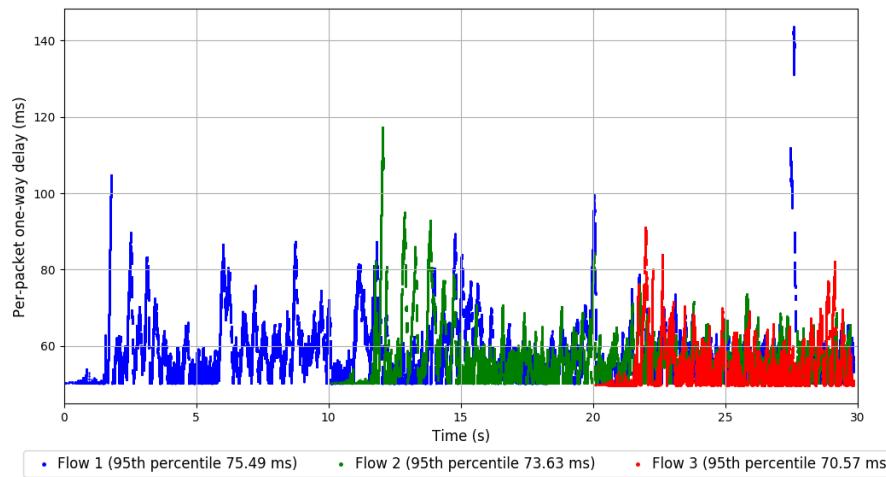
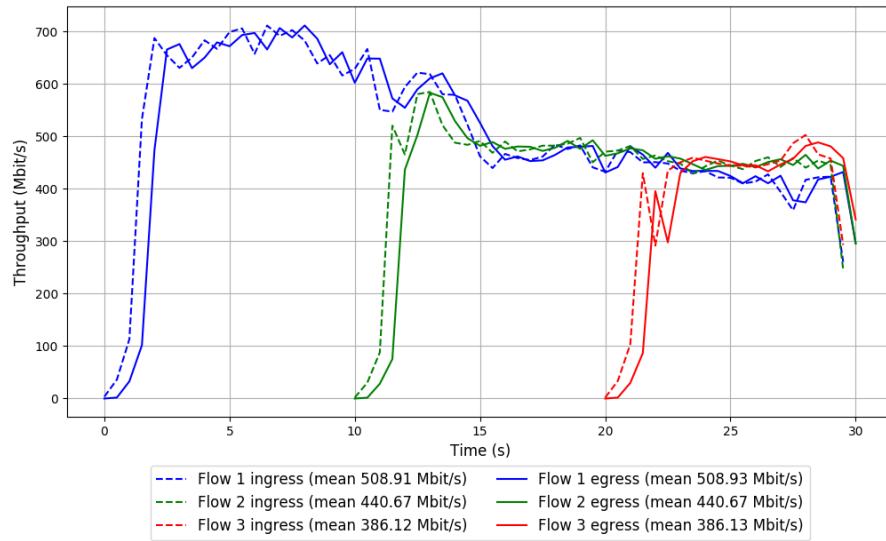


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-03 08:07:10
End at: 2018-10-03 08:07:40
Local clock offset: -0.176 ms
Remote clock offset: 0.095 ms

# Below is generated by plot.py at 2018-10-03 10:32:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 927.47 Mbit/s
95th percentile per-packet one-way delay: 74.237 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 508.93 Mbit/s
95th percentile per-packet one-way delay: 75.493 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 440.67 Mbit/s
95th percentile per-packet one-way delay: 73.626 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 386.13 Mbit/s
95th percentile per-packet one-way delay: 70.571 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-Muses — Data Link

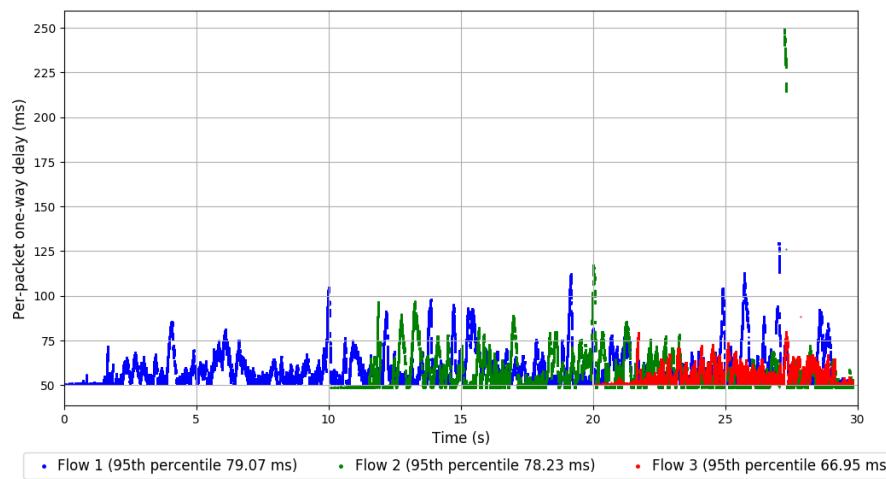
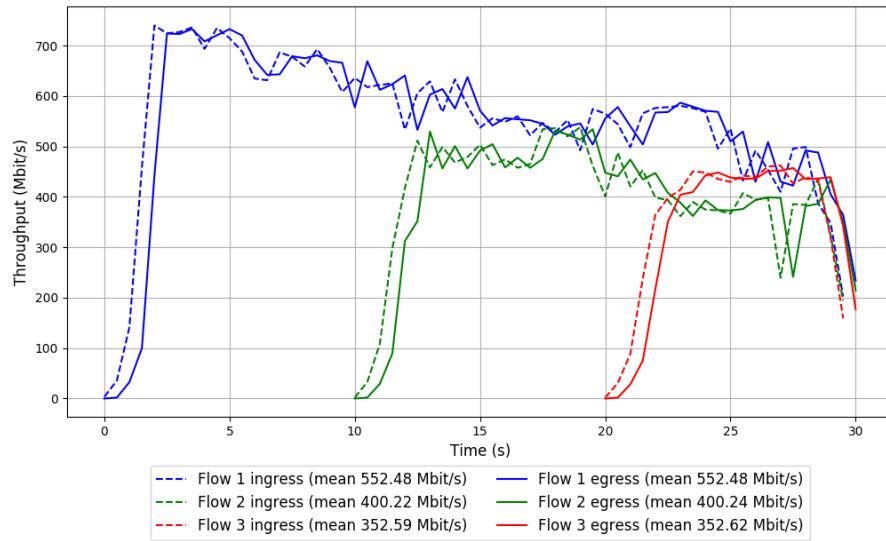


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-03 08:37:34
End at: 2018-10-03 08:38:04
Local clock offset: -0.142 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2018-10-03 10:32:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 933.31 Mbit/s
95th percentile per-packet one-way delay: 77.095 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 552.48 Mbit/s
95th percentile per-packet one-way delay: 79.068 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 400.24 Mbit/s
95th percentile per-packet one-way delay: 78.231 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 352.62 Mbit/s
95th percentile per-packet one-way delay: 66.951 ms
Loss rate: 0.03%
```

Run 5: Report of Indigo-Muses — Data Link

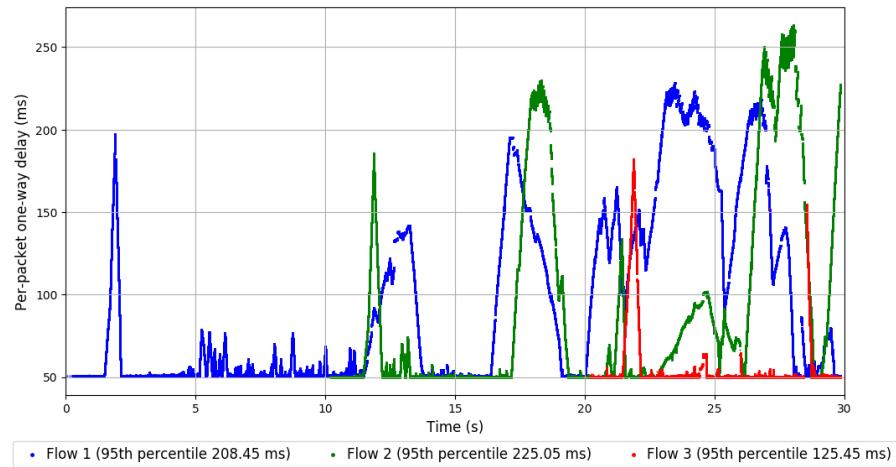
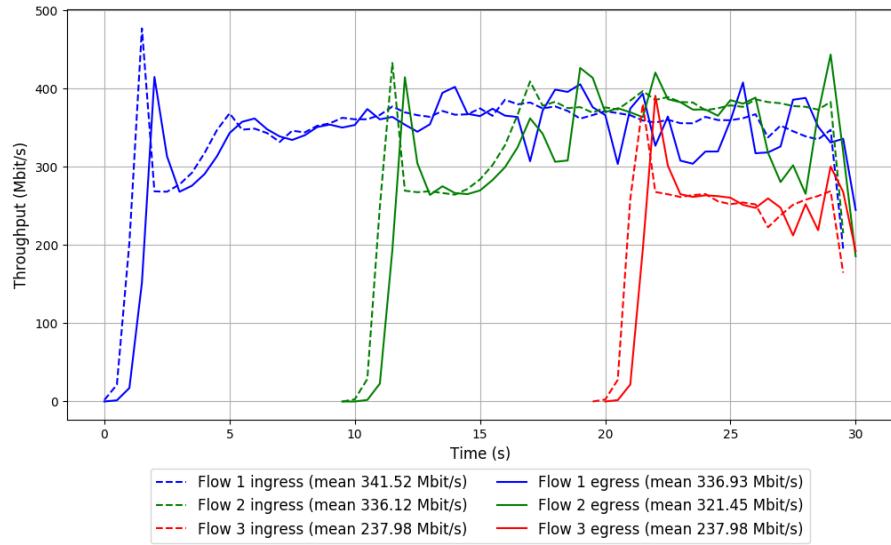


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-03 06:39:18
End at: 2018-10-03 06:39:48
Local clock offset: -0.413 ms
Remote clock offset: -0.405 ms

# Below is generated by plot.py at 2018-10-03 10:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 629.66 Mbit/s
95th percentile per-packet one-way delay: 212.672 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 336.93 Mbit/s
95th percentile per-packet one-way delay: 208.448 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 321.45 Mbit/s
95th percentile per-packet one-way delay: 225.053 ms
Loss rate: 4.36%
-- Flow 3:
Average throughput: 237.98 Mbit/s
95th percentile per-packet one-way delay: 125.450 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link

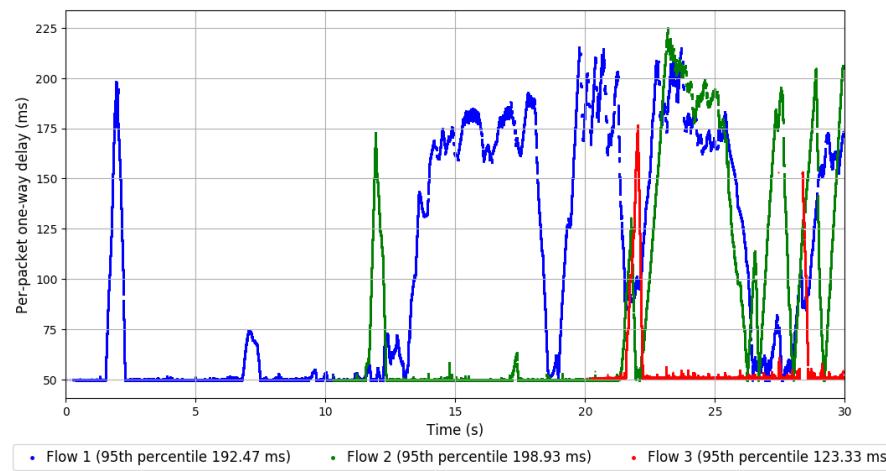
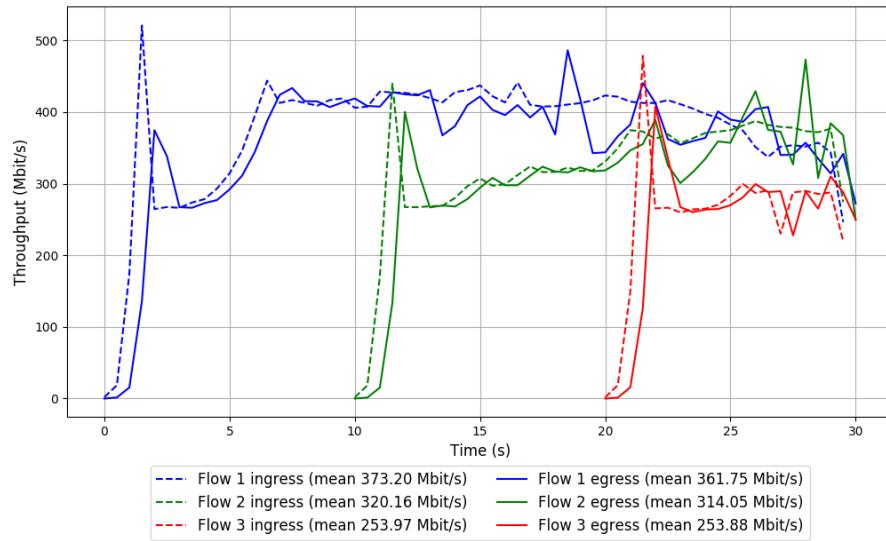


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-03 07:09:38
End at: 2018-10-03 07:10:08
Local clock offset: -0.035 ms
Remote clock offset: 0.056 ms

# Below is generated by plot.py at 2018-10-03 10:39:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 654.22 Mbit/s
95th percentile per-packet one-way delay: 193.628 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 361.75 Mbit/s
95th percentile per-packet one-way delay: 192.467 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 314.05 Mbit/s
95th percentile per-packet one-way delay: 198.927 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 253.88 Mbit/s
95th percentile per-packet one-way delay: 123.326 ms
Loss rate: 0.01%
```

## Run 2: Report of PCC-Allegro — Data Link

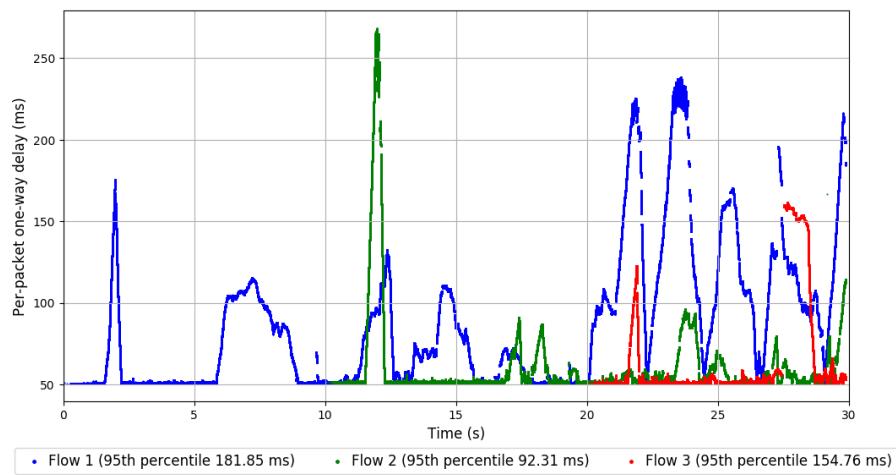
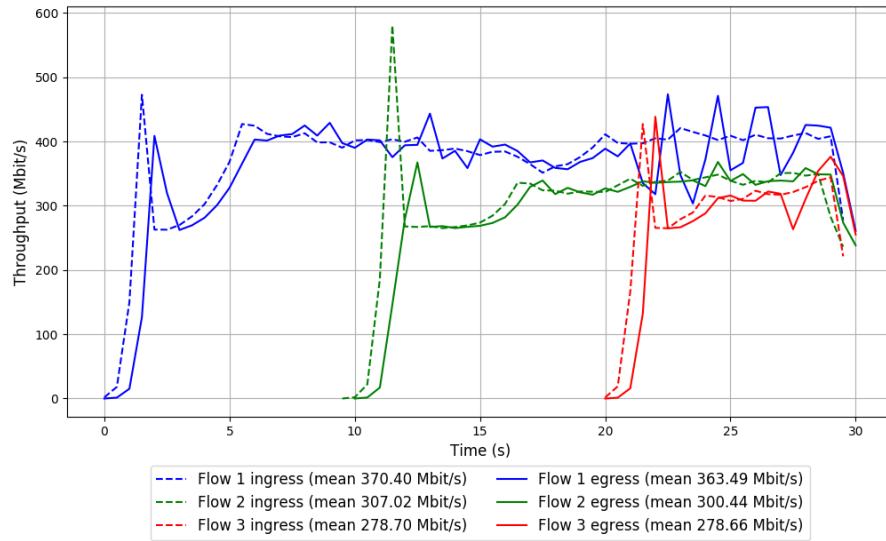


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-03 07:40:20
End at: 2018-10-03 07:40:50
Local clock offset: -0.477 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2018-10-03 10:42:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 655.16 Mbit/s
95th percentile per-packet one-way delay: 160.788 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 363.49 Mbit/s
95th percentile per-packet one-way delay: 181.849 ms
Loss rate: 1.86%
-- Flow 2:
Average throughput: 300.44 Mbit/s
95th percentile per-packet one-way delay: 92.308 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 278.66 Mbit/s
95th percentile per-packet one-way delay: 154.758 ms
Loss rate: 0.02%
```

### Run 3: Report of PCC-Allegro — Data Link

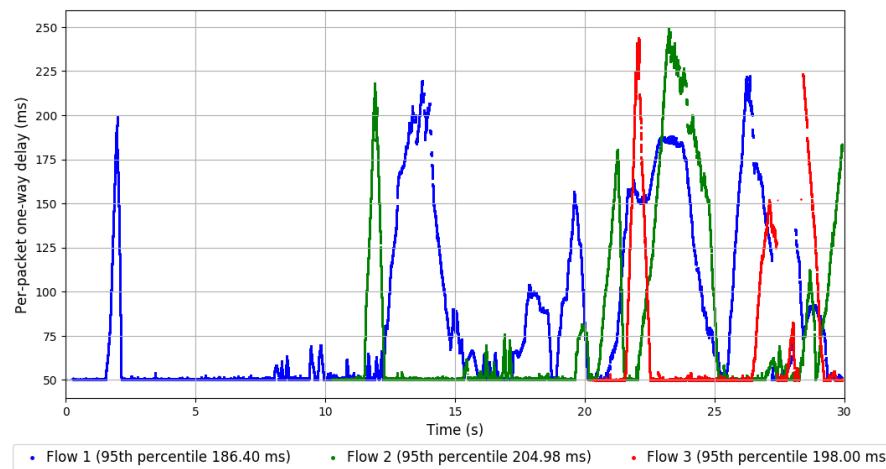
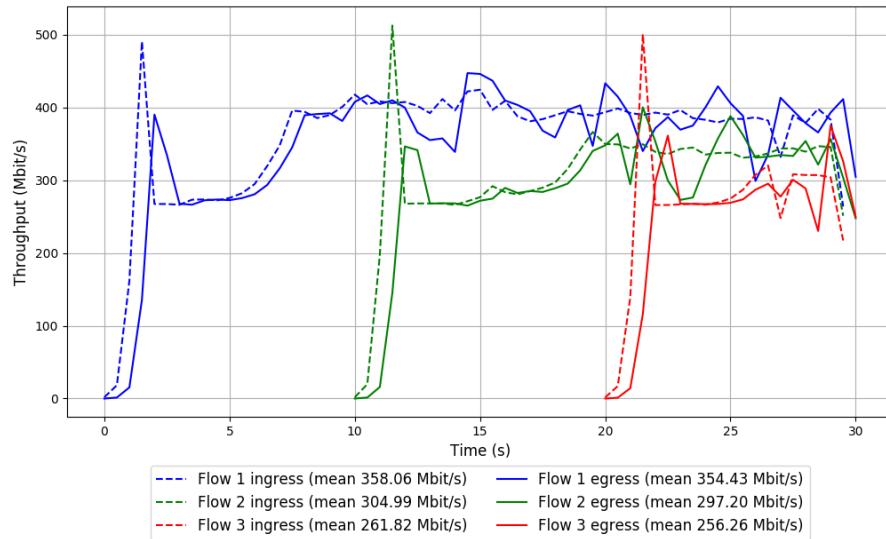


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-03 08:10:21
End at: 2018-10-03 08:10:51
Local clock offset: 0.208 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-10-03 10:52:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 636.29 Mbit/s
95th percentile per-packet one-way delay: 190.513 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 354.43 Mbit/s
95th percentile per-packet one-way delay: 186.396 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 297.20 Mbit/s
95th percentile per-packet one-way delay: 204.979 ms
Loss rate: 2.54%
-- Flow 3:
Average throughput: 256.26 Mbit/s
95th percentile per-packet one-way delay: 198.002 ms
Loss rate: 2.12%
```

Run 4: Report of PCC-Allegro — Data Link

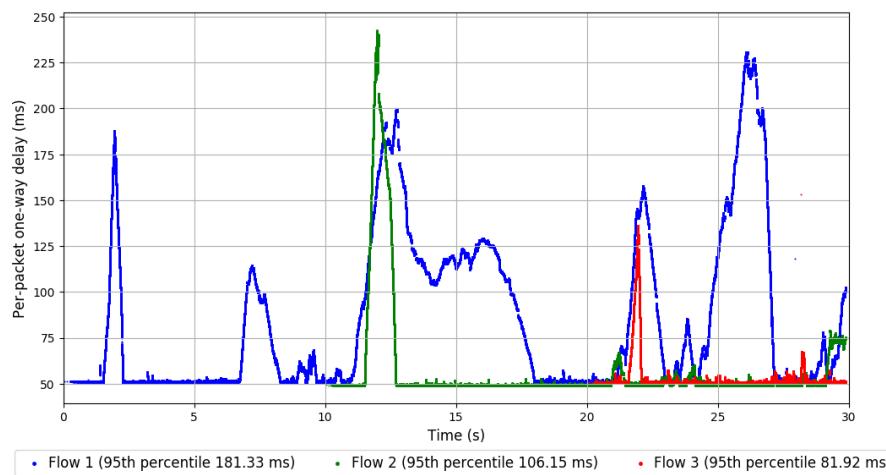
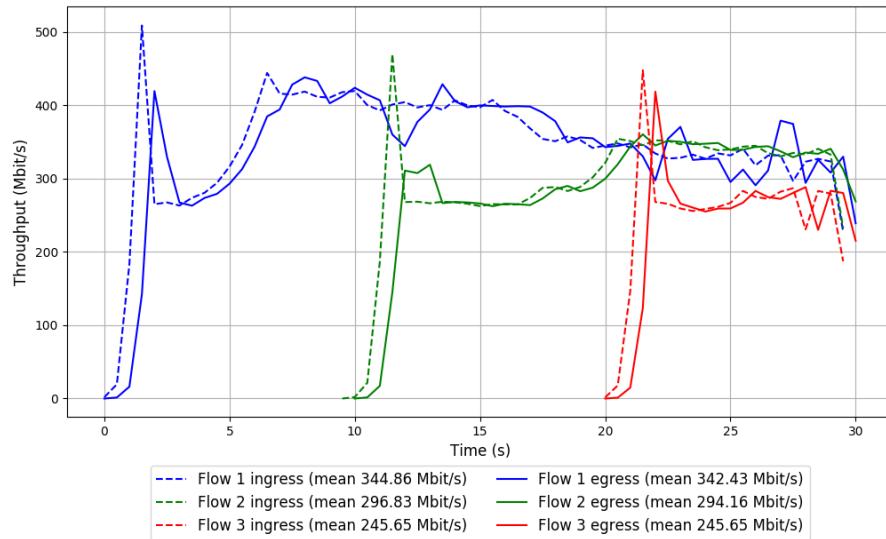


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-03 08:40:45
End at: 2018-10-03 08:41:15
Local clock offset: -0.545 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-10-03 10:52:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 619.07 Mbit/s
95th percentile per-packet one-way delay: 166.061 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 342.43 Mbit/s
95th percentile per-packet one-way delay: 181.333 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 294.16 Mbit/s
95th percentile per-packet one-way delay: 106.147 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 245.65 Mbit/s
95th percentile per-packet one-way delay: 81.921 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Allegro — Data Link

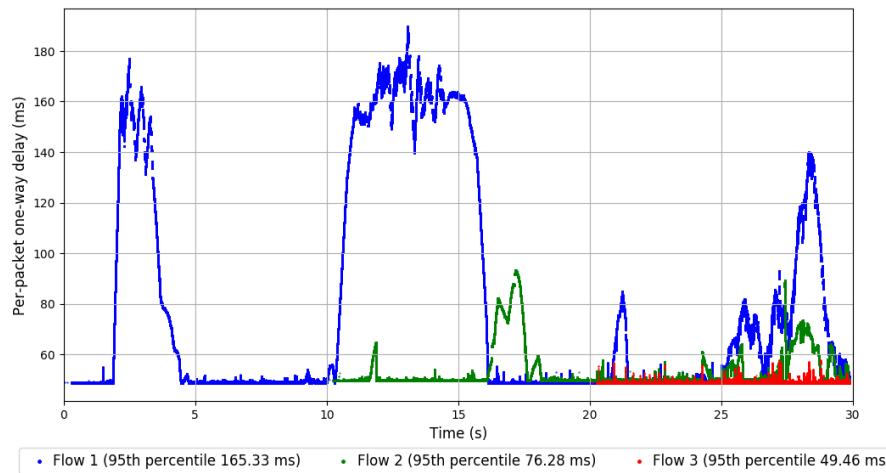
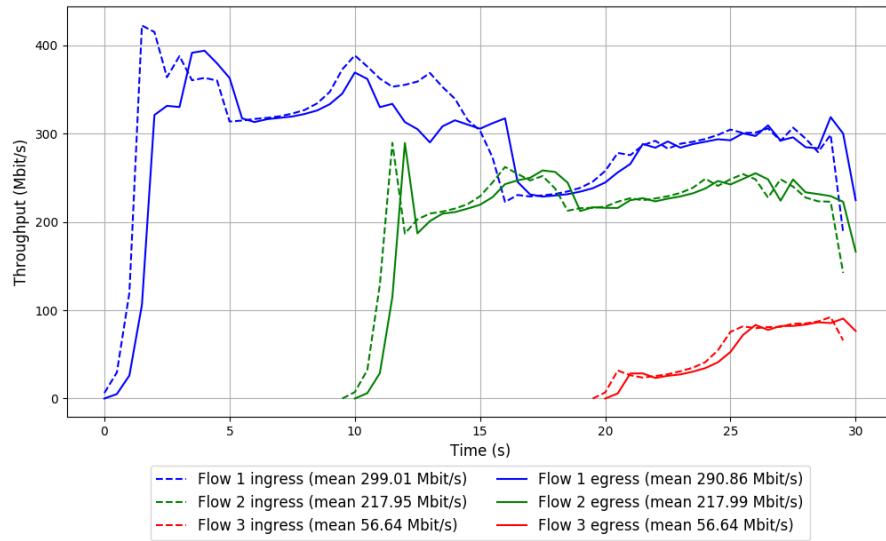


Run 1: Statistics of PCC-Expr

```
Start at: 2018-10-03 06:34:16
End at: 2018-10-03 06:34:46
Local clock offset: -0.067 ms
Remote clock offset: -0.396 ms

# Below is generated by plot.py at 2018-10-03 10:52:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 454.84 Mbit/s
95th percentile per-packet one-way delay: 162.401 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 290.86 Mbit/s
95th percentile per-packet one-way delay: 165.330 ms
Loss rate: 2.72%
-- Flow 2:
Average throughput: 217.99 Mbit/s
95th percentile per-packet one-way delay: 76.277 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.64 Mbit/s
95th percentile per-packet one-way delay: 49.458 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Expr — Data Link

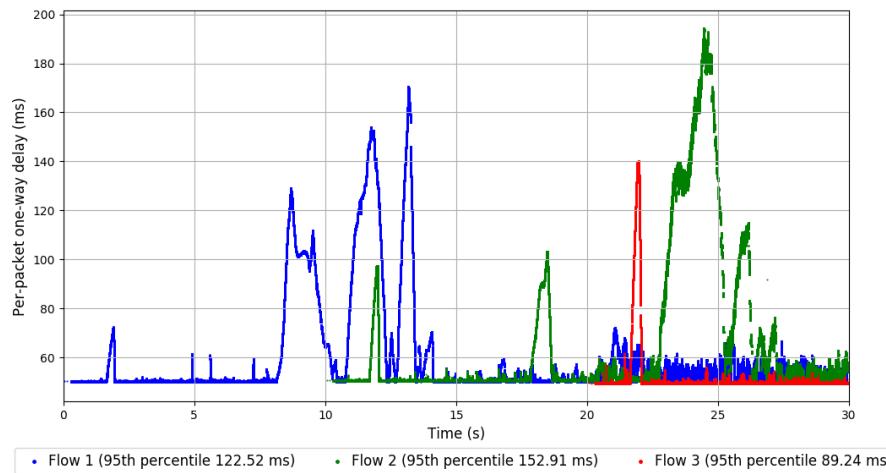
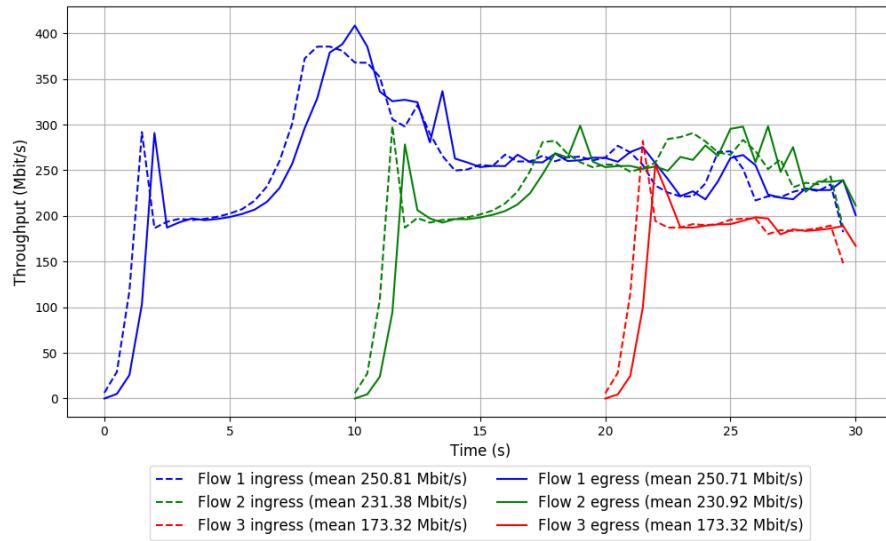


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-03 07:04:33
End at: 2018-10-03 07:05:03
Local clock offset: -0.016 ms
Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2018-10-03 10:52:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.46 Mbit/s
95th percentile per-packet one-way delay: 131.282 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 250.71 Mbit/s
95th percentile per-packet one-way delay: 122.522 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 230.92 Mbit/s
95th percentile per-packet one-way delay: 152.914 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 173.32 Mbit/s
95th percentile per-packet one-way delay: 89.236 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Expr — Data Link

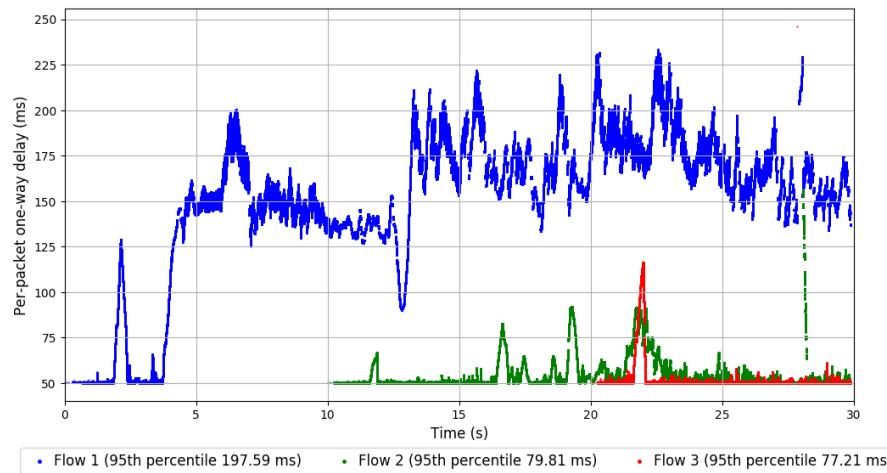
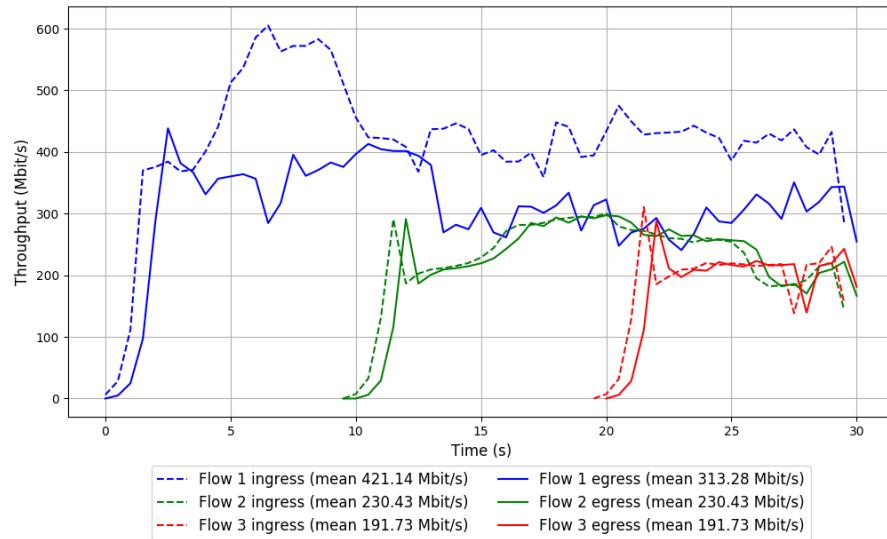


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-03 07:35:04
End at: 2018-10-03 07:35:34
Local clock offset: -0.109 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2018-10-03 10:52:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.24 Mbit/s
95th percentile per-packet one-way delay: 190.305 ms
Loss rate: 16.90%
-- Flow 1:
Average throughput: 313.28 Mbit/s
95th percentile per-packet one-way delay: 197.586 ms
Loss rate: 25.61%
-- Flow 2:
Average throughput: 230.43 Mbit/s
95th percentile per-packet one-way delay: 79.809 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 191.73 Mbit/s
95th percentile per-packet one-way delay: 77.210 ms
Loss rate: 0.00%
```

### Run 3: Report of PCC-Expr — Data Link

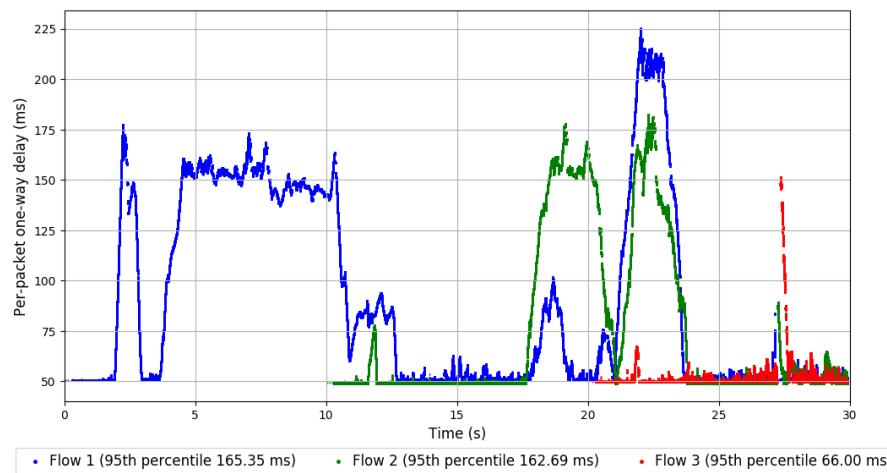
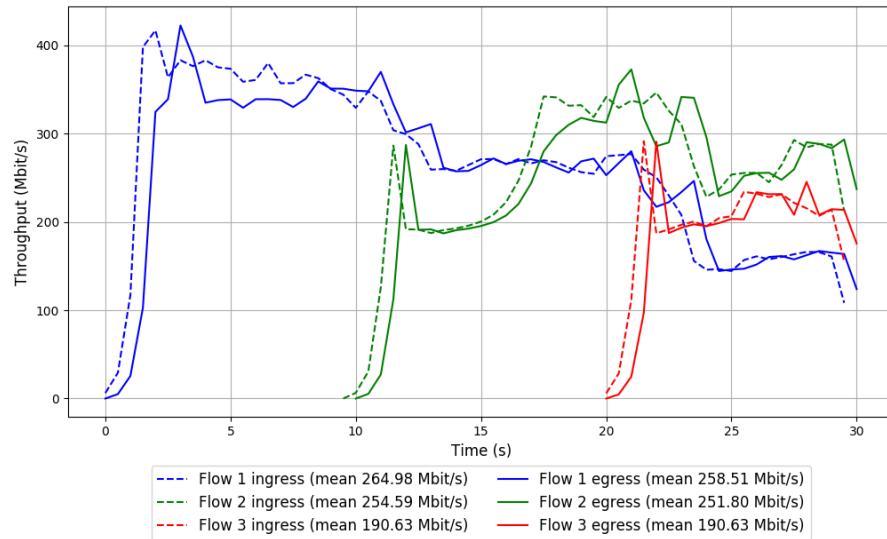


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-03 08:05:15
End at: 2018-10-03 08:05:45
Local clock offset: -0.517 ms
Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2018-10-03 10:54:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 488.99 Mbit/s
95th percentile per-packet one-way delay: 162.013 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 258.51 Mbit/s
95th percentile per-packet one-way delay: 165.355 ms
Loss rate: 2.44%
-- Flow 2:
Average throughput: 251.80 Mbit/s
95th percentile per-packet one-way delay: 162.692 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 190.63 Mbit/s
95th percentile per-packet one-way delay: 65.997 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Expr — Data Link

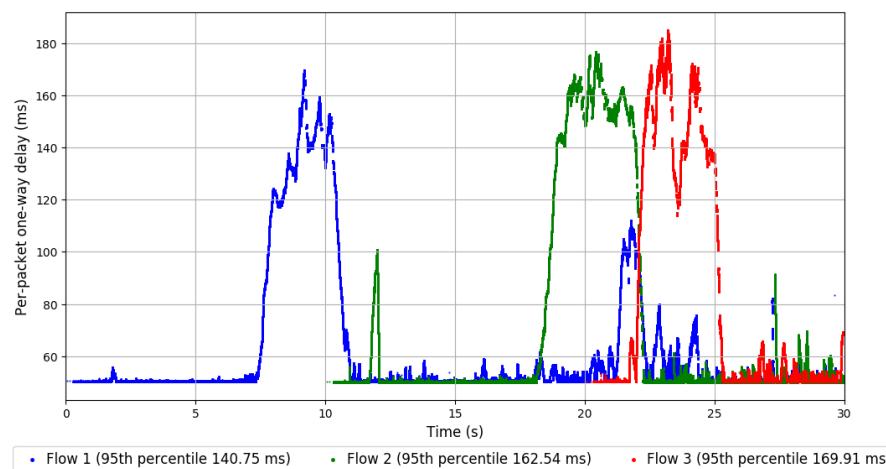
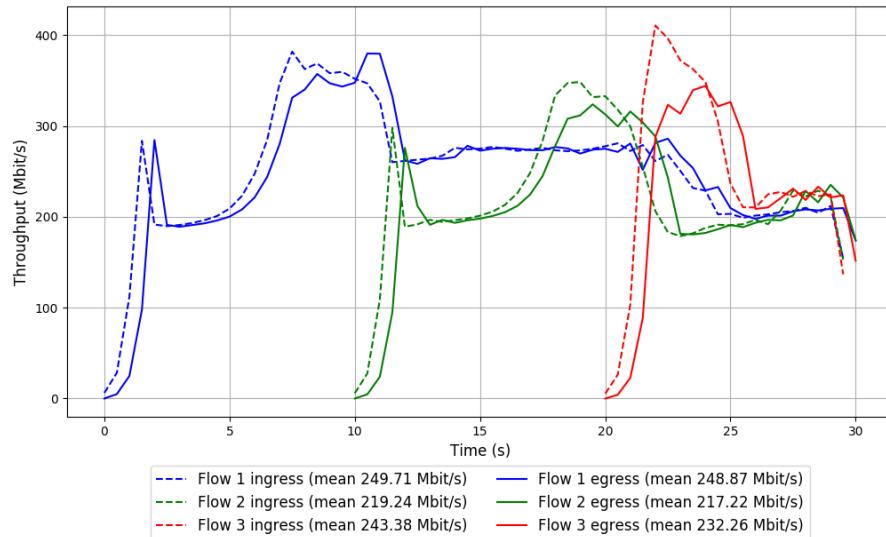


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-03 08:35:42
End at: 2018-10-03 08:36:12
Local clock offset: -0.141 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.97 Mbit/s
95th percentile per-packet one-way delay: 160.102 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 248.87 Mbit/s
95th percentile per-packet one-way delay: 140.749 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 217.22 Mbit/s
95th percentile per-packet one-way delay: 162.538 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 232.26 Mbit/s
95th percentile per-packet one-way delay: 169.910 ms
Loss rate: 4.57%
```

Run 5: Report of PCC-Expr — Data Link

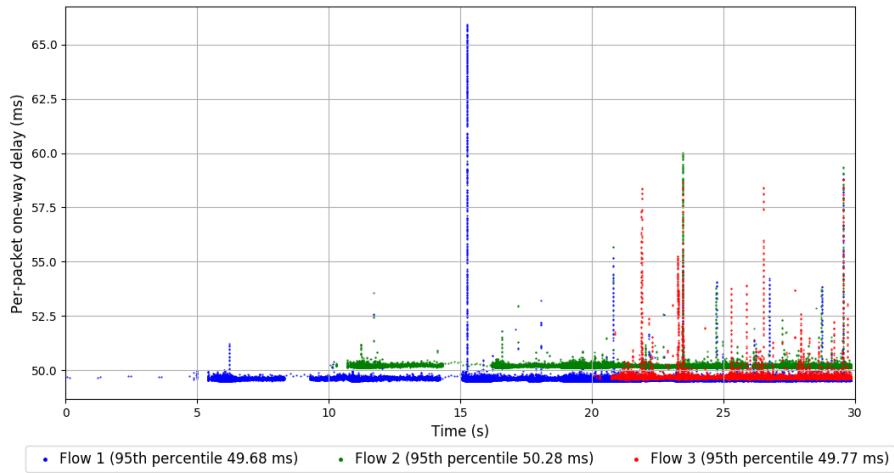
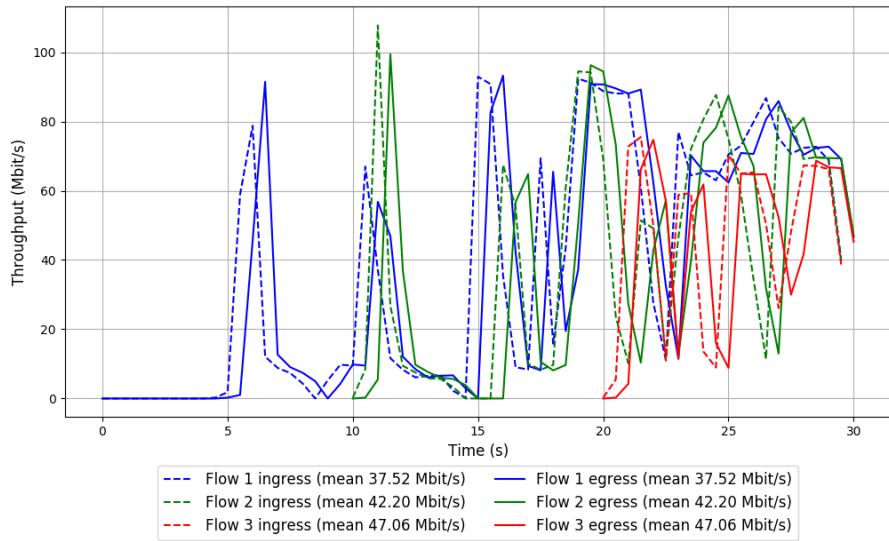


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-03 06:31:26
End at: 2018-10-03 06:31:56
Local clock offset: -0.088 ms
Remote clock offset: -0.392 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.99 Mbit/s
95th percentile per-packet one-way delay: 50.239 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.52 Mbit/s
95th percentile per-packet one-way delay: 49.682 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.20 Mbit/s
95th percentile per-packet one-way delay: 50.276 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.06 Mbit/s
95th percentile per-packet one-way delay: 49.767 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

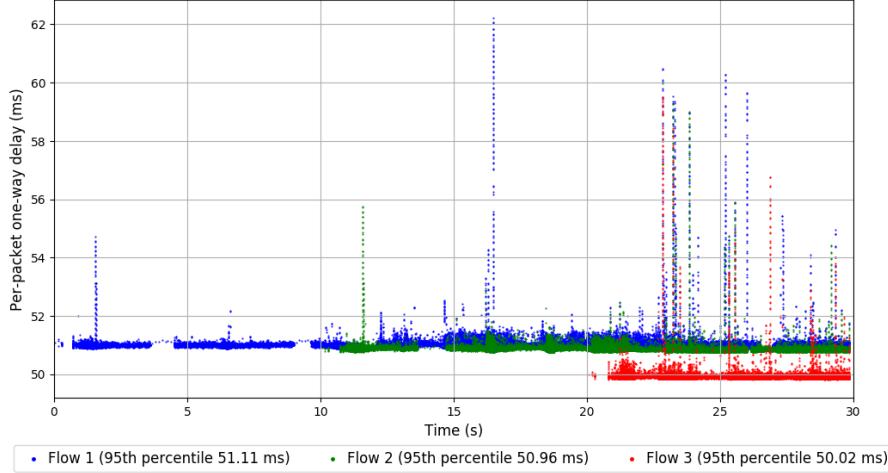
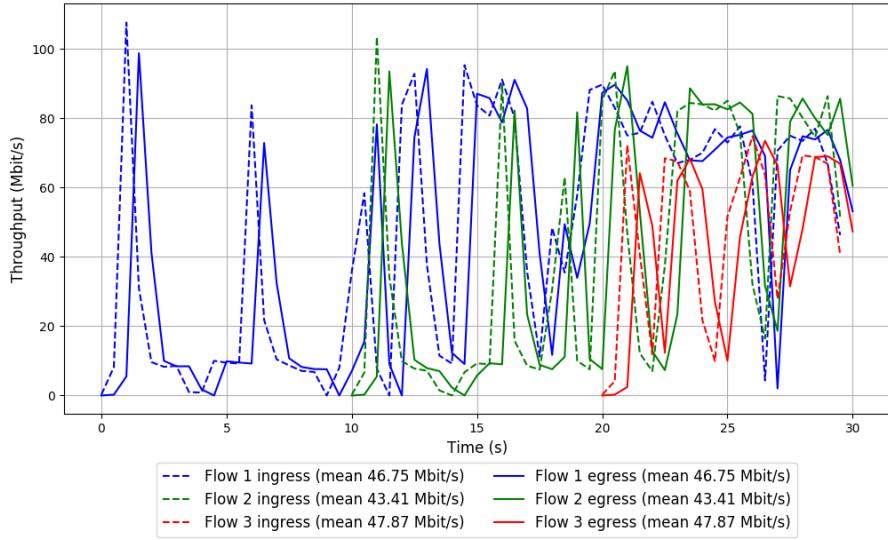


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-03 07:01:37
End at: 2018-10-03 07:02:07
Local clock offset: -0.383 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.27 Mbit/s
95th percentile per-packet one-way delay: 51.064 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.75 Mbit/s
95th percentile per-packet one-way delay: 51.106 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.41 Mbit/s
95th percentile per-packet one-way delay: 50.960 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.87 Mbit/s
95th percentile per-packet one-way delay: 50.020 ms
Loss rate: 0.00%
```

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

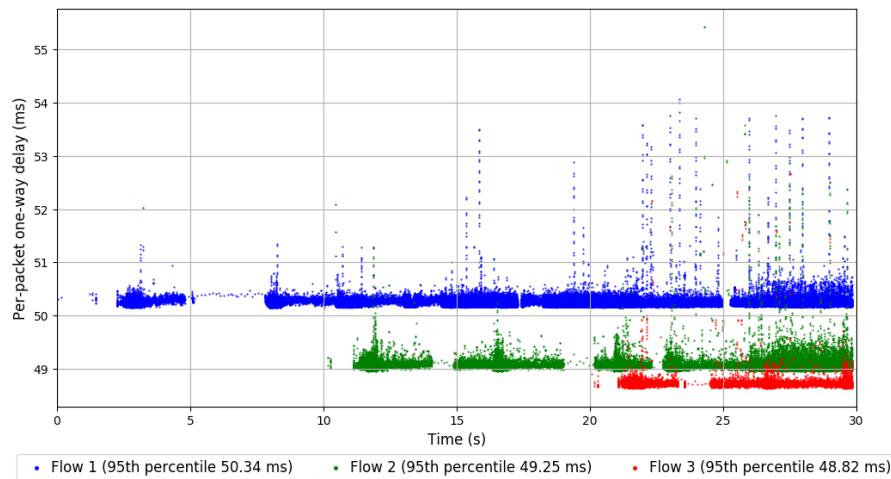
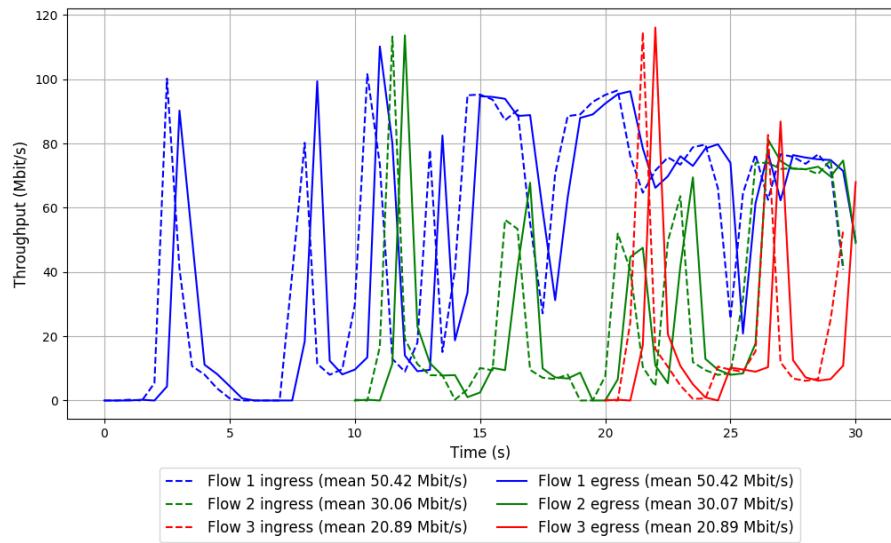


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-03 07:32:10
End at: 2018-10-03 07:32:40
Local clock offset: -0.094 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.25 Mbit/s
95th percentile per-packet one-way delay: 50.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.42 Mbit/s
95th percentile per-packet one-way delay: 50.344 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 49.253 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.89 Mbit/s
95th percentile per-packet one-way delay: 48.817 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

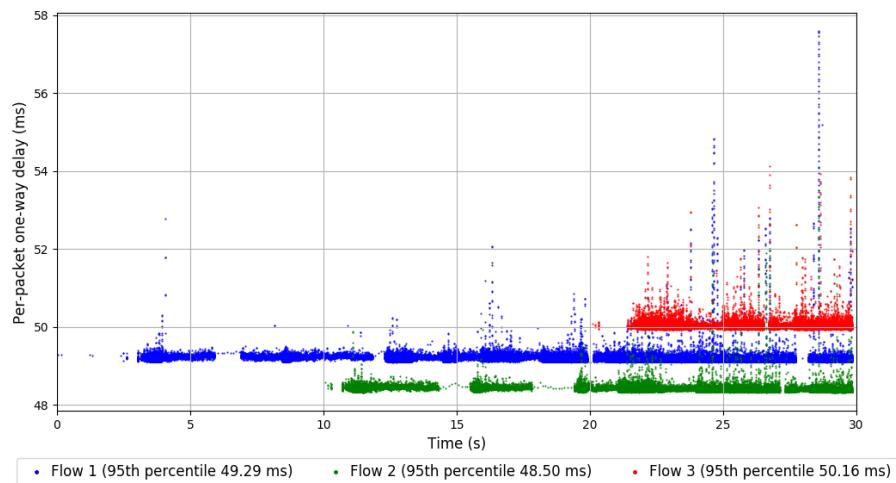
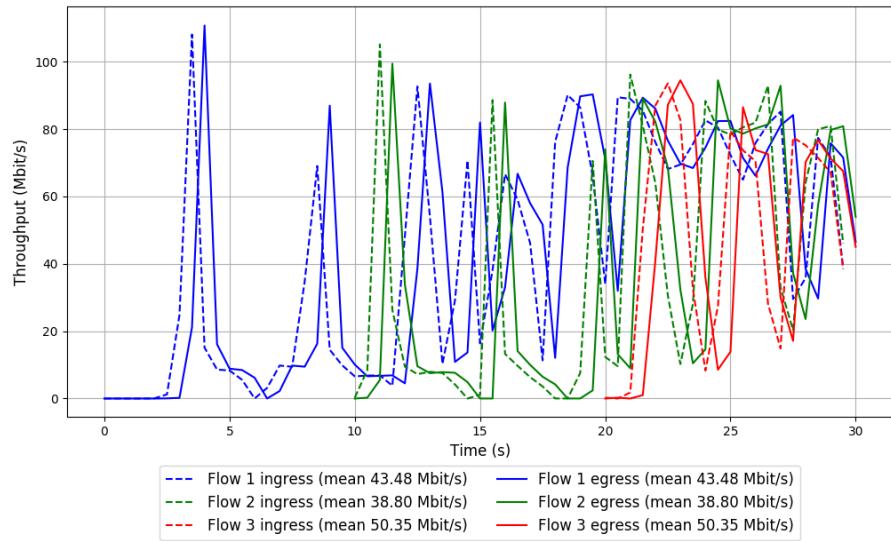


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-03 08:02:27
End at: 2018-10-03 08:02:57
Local clock offset: 0.197 ms
Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.69 Mbit/s
95th percentile per-packet one-way delay: 50.034 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.48 Mbit/s
95th percentile per-packet one-way delay: 49.291 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.80 Mbit/s
95th percentile per-packet one-way delay: 48.504 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.35 Mbit/s
95th percentile per-packet one-way delay: 50.158 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

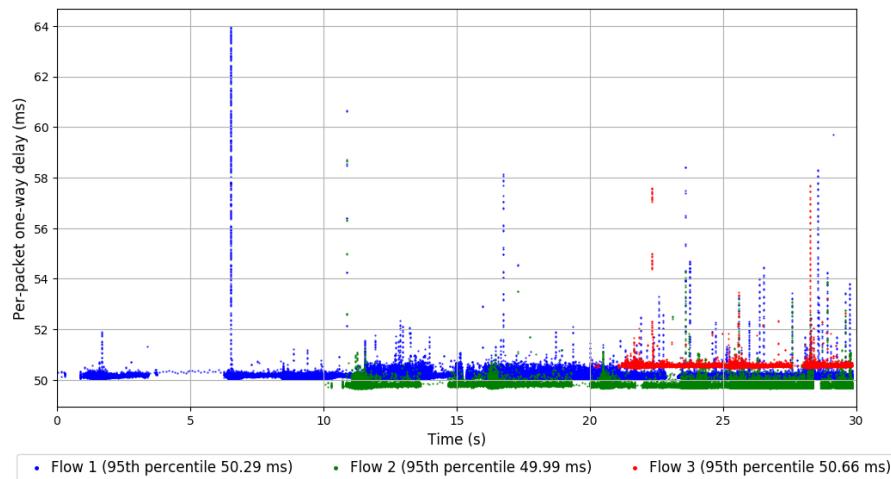
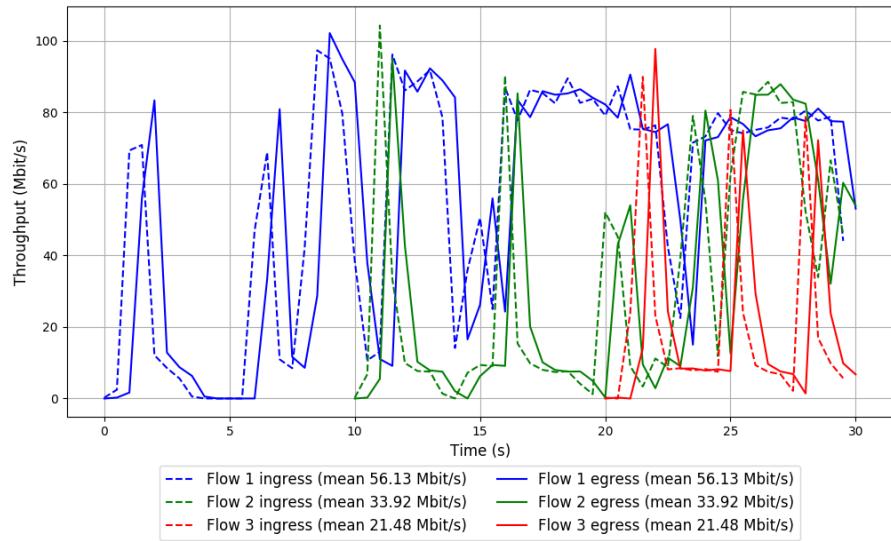


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-03 08:32:47
End at: 2018-10-03 08:33:17
Local clock offset: -0.174 ms
Remote clock offset: 0.131 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.69 Mbit/s
95th percentile per-packet one-way delay: 50.555 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.13 Mbit/s
95th percentile per-packet one-way delay: 50.289 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.92 Mbit/s
95th percentile per-packet one-way delay: 49.989 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.48 Mbit/s
95th percentile per-packet one-way delay: 50.664 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

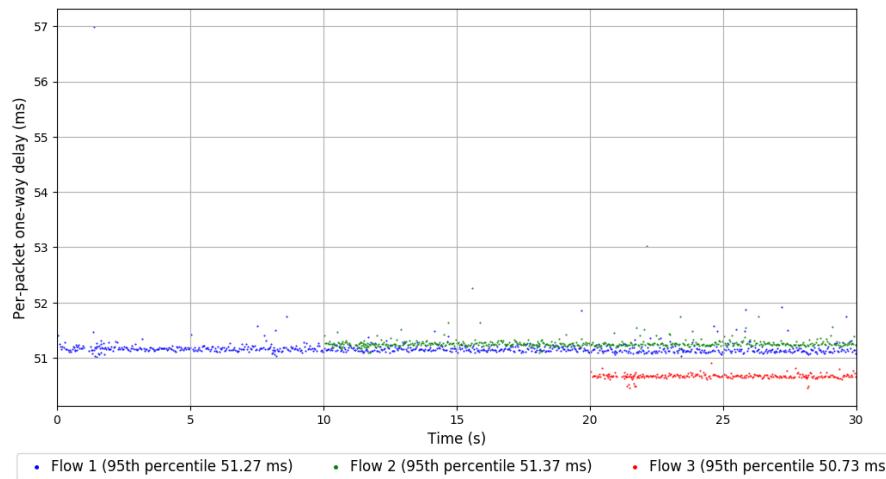
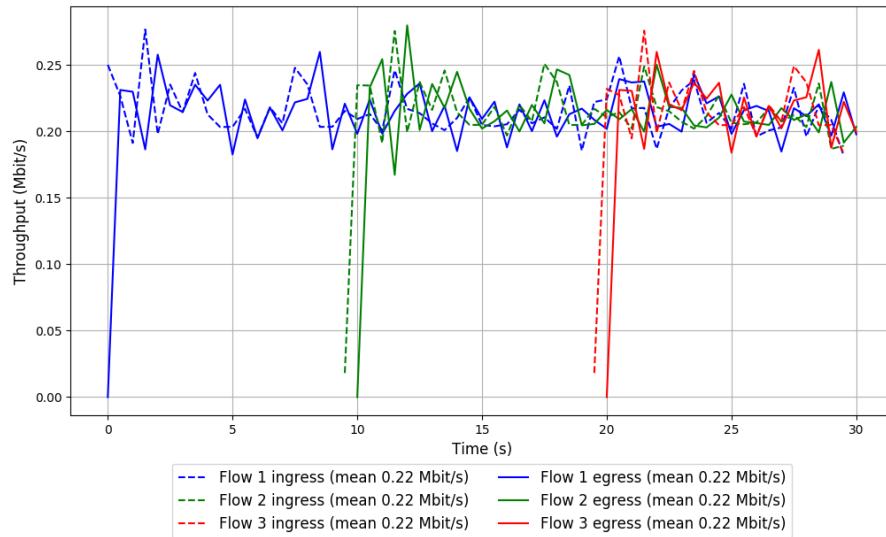


```
Run 1: Statistics of SCReAM

Start at: 2018-10-03 06:57:13
End at: 2018-10-03 06:57:43
Local clock offset: -0.363 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.313 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.275 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.368 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.730 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

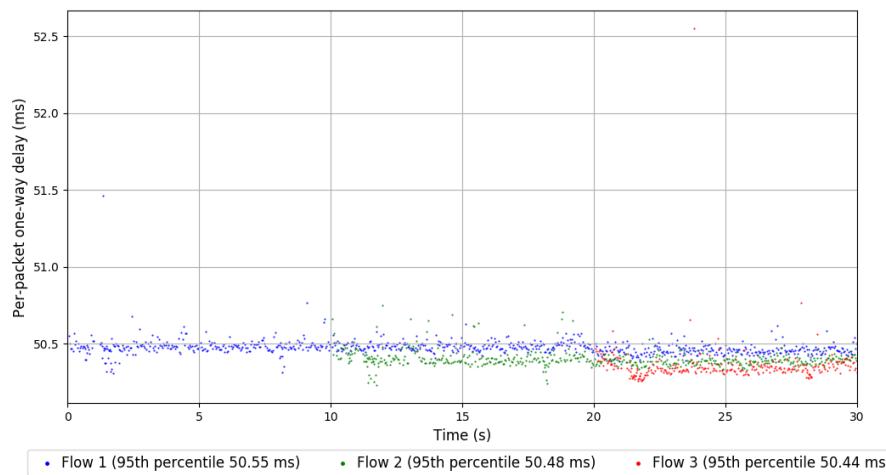
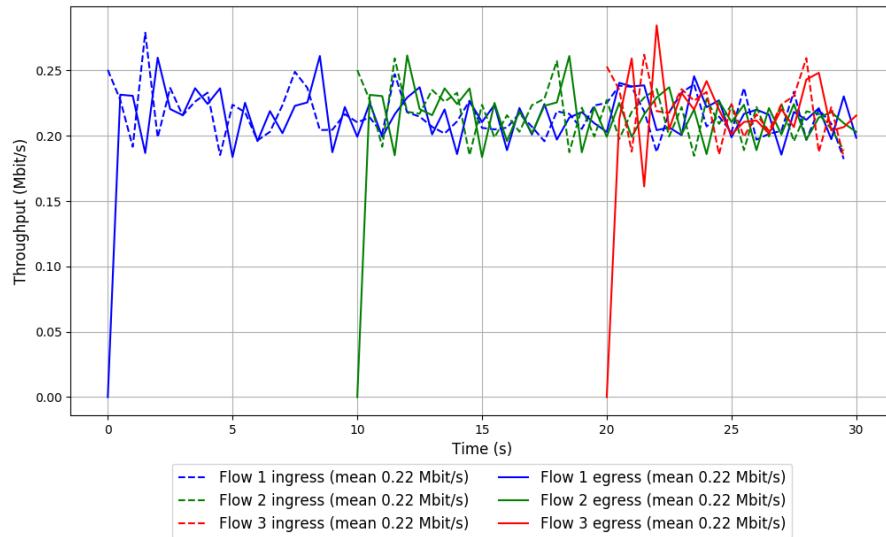


Run 2: Statistics of SCReAM

```
Start at: 2018-10-03 07:27:42
End at: 2018-10-03 07:28:12
Local clock offset: -0.064 ms
Remote clock offset: 0.081 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.529 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.545 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.481 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.435 ms
Loss rate: 0.00%
```

## Run 2: Report of SCReAM — Data Link

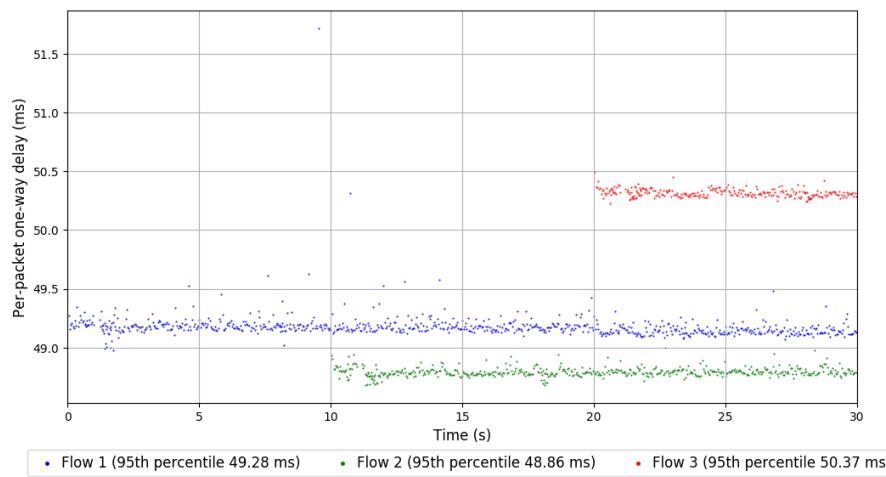
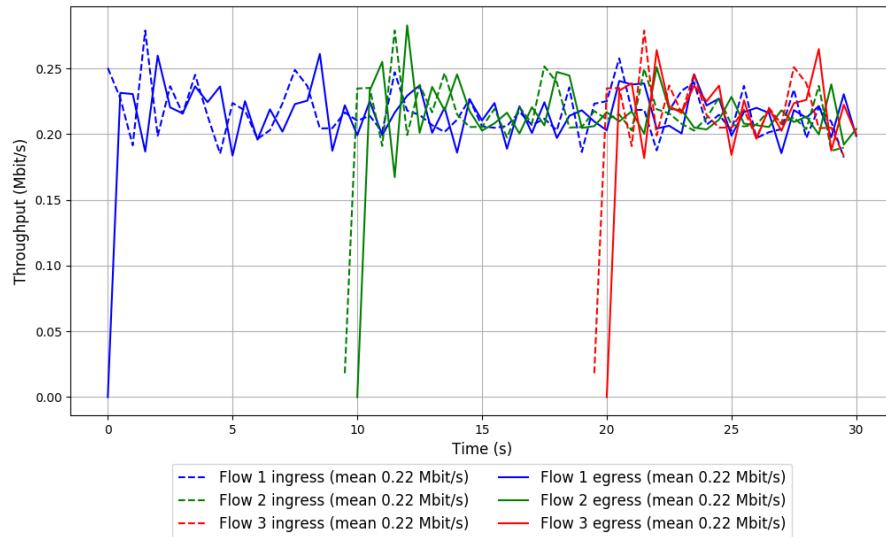


Run 3: Statistics of SCReAM

```
Start at: 2018-10-03 07:58:04
End at: 2018-10-03 07:58:34
Local clock offset: -0.101 ms
Remote clock offset: 0.016 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.331 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.283 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 48.863 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.372 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

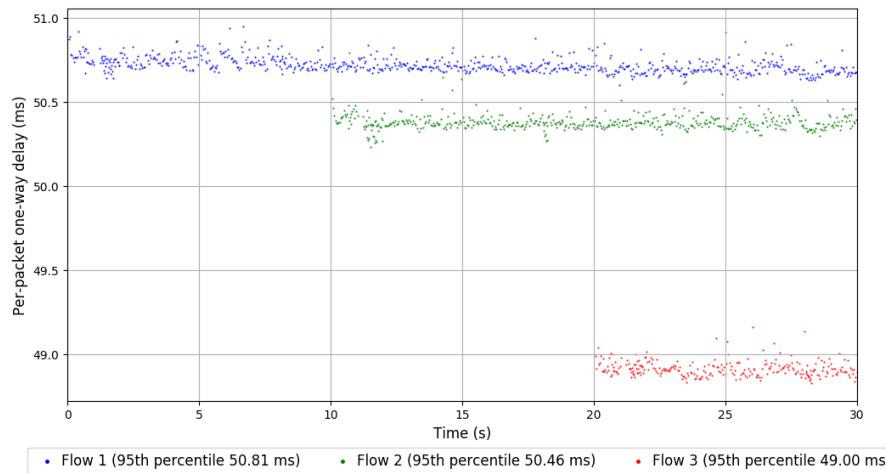
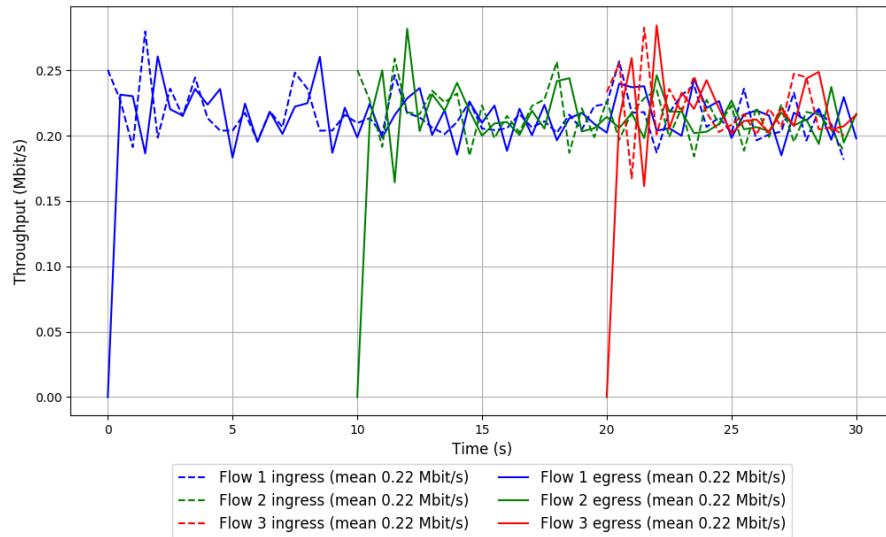


Run 4: Statistics of SCReAM

```
Start at: 2018-10-03 08:28:23
End at: 2018-10-03 08:28:53
Local clock offset: -0.136 ms
Remote clock offset: 0.185 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.785 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.813 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.458 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.000 ms
Loss rate: 0.00%
```

## Run 4: Report of SCReAM — Data Link

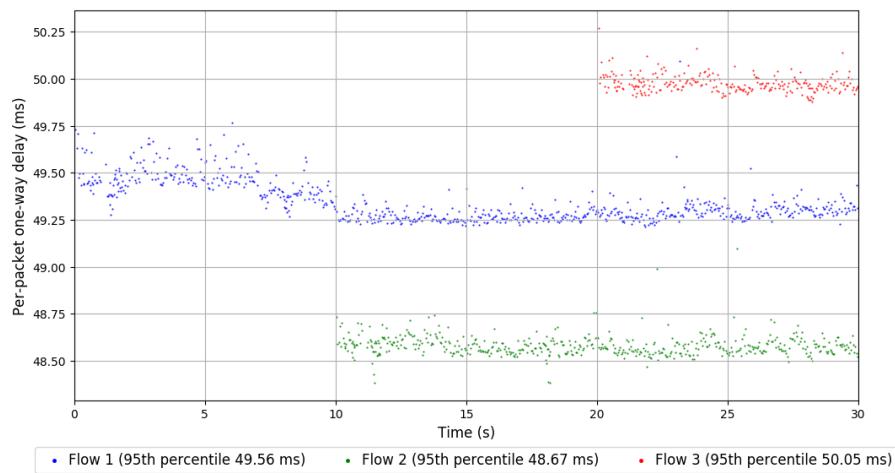
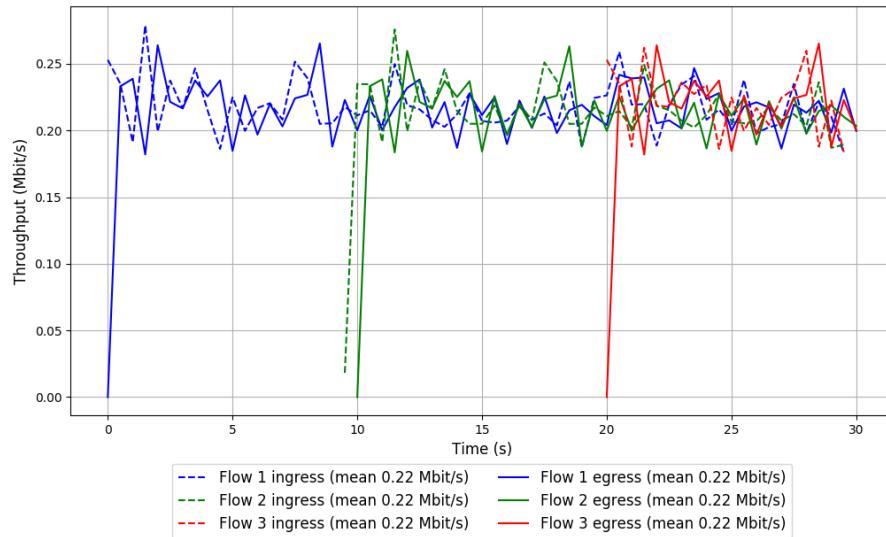


Run 5: Statistics of SCReAM

```
Start at: 2018-10-03 08:58:15
End at: 2018-10-03 08:58:45
Local clock offset: 0.178 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 49.994 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.562 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 48.670 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.053 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

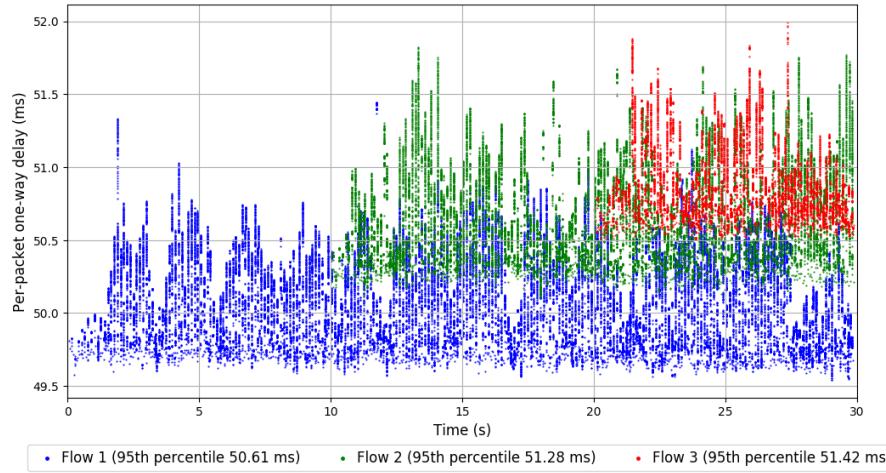
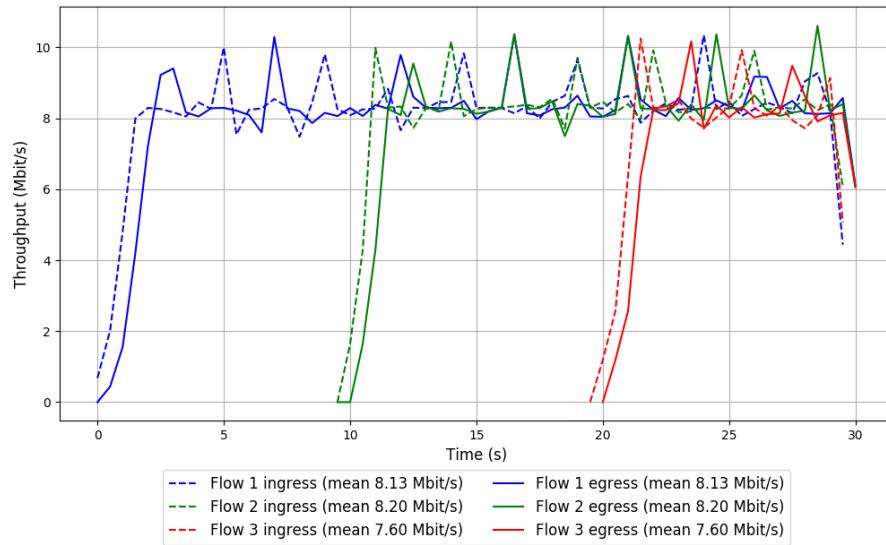


Run 1: Statistics of Sprout

```
Start at: 2018-10-03 06:54:05
End at: 2018-10-03 06:54:35
Local clock offset: -0.001 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-10-03 10:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.11 Mbit/s
95th percentile per-packet one-way delay: 51.185 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 50.612 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 51.276 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 51.417 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

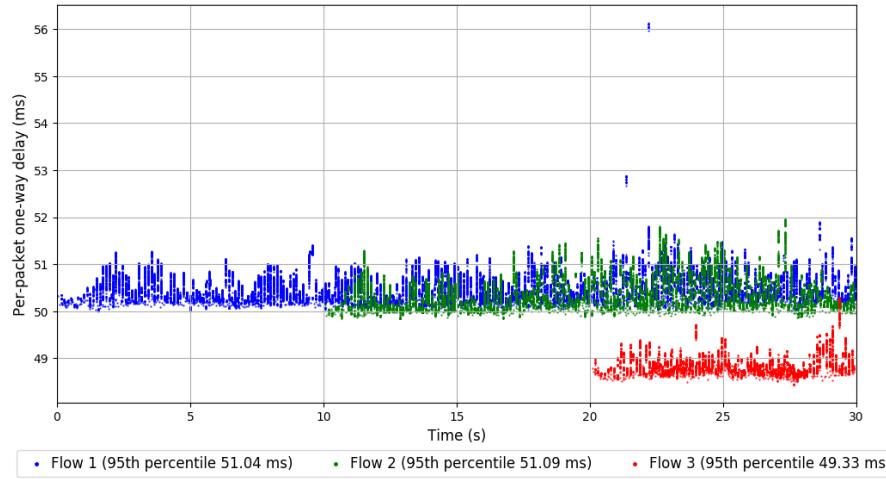
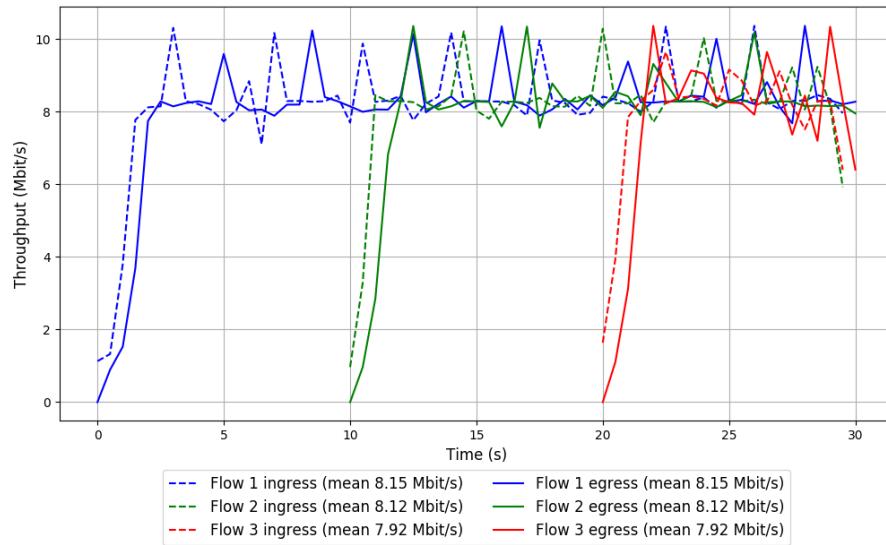


Run 2: Statistics of Sprout

```
Start at: 2018-10-03 07:24:32
End at: 2018-10-03 07:25:02
Local clock offset: 0.317 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-10-03 10:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.15 Mbit/s
95th percentile per-packet one-way delay: 51.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 51.040 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 51.088 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 49.325 ms
Loss rate: 0.00%
```

## Run 2: Report of Sprout — Data Link

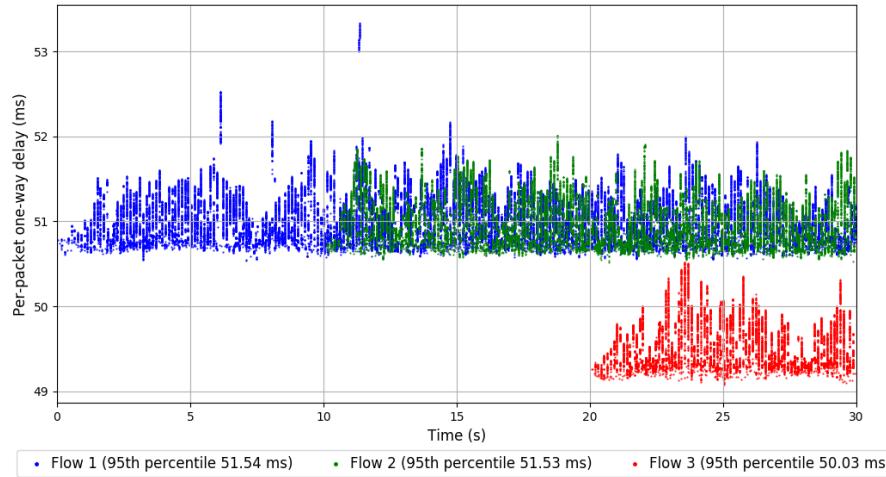
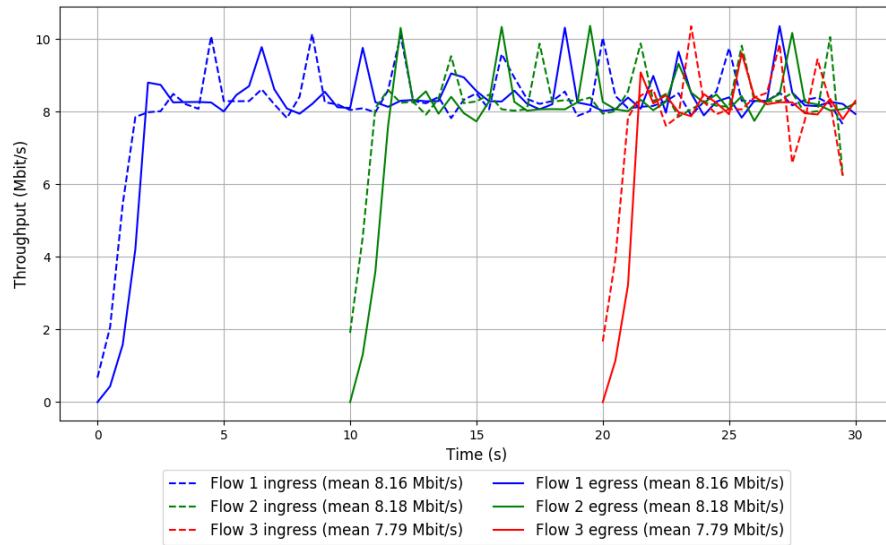


Run 3: Statistics of Sprout

```
Start at: 2018-10-03 07:55:01
End at: 2018-10-03 07:55:31
Local clock offset: -0.458 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2018-10-03 10:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.17 Mbit/s
95th percentile per-packet one-way delay: 51.502 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 51.536 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.18 Mbit/s
95th percentile per-packet one-way delay: 51.526 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 50.031 ms
Loss rate: 0.00%
```

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

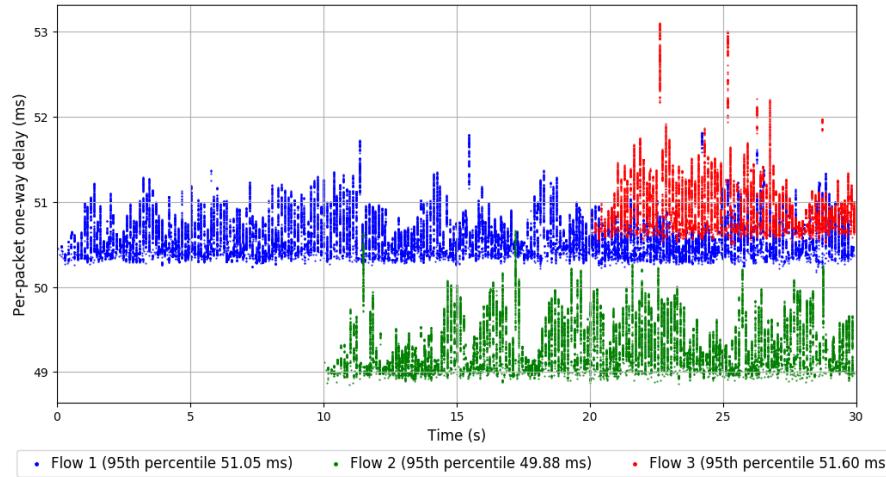
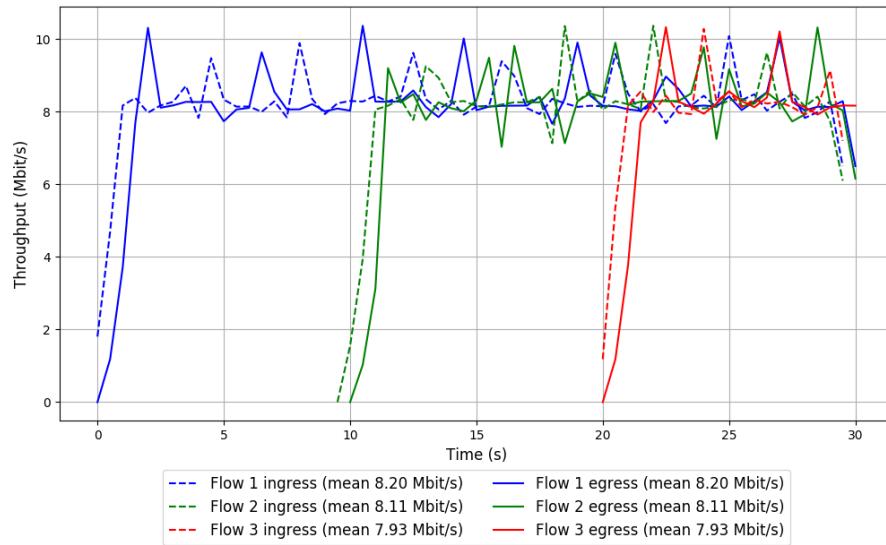


Run 4: Statistics of Sprout

```
Start at: 2018-10-03 08:25:17
End at: 2018-10-03 08:25:47
Local clock offset: -0.205 ms
Remote clock offset: 0.178 ms

# Below is generated by plot.py at 2018-10-03 10:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.20 Mbit/s
95th percentile per-packet one-way delay: 51.162 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 51.047 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.11 Mbit/s
95th percentile per-packet one-way delay: 49.877 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.93 Mbit/s
95th percentile per-packet one-way delay: 51.601 ms
Loss rate: 0.00%
```

## Run 4: Report of Sprout — Data Link

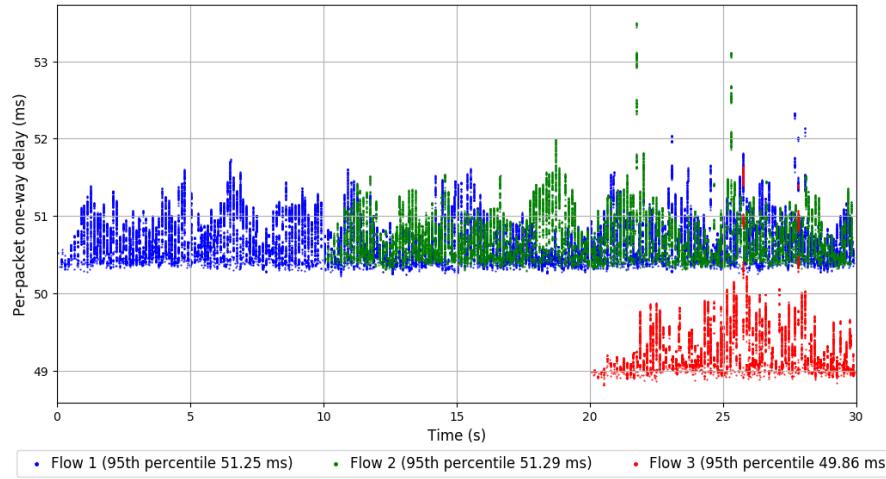
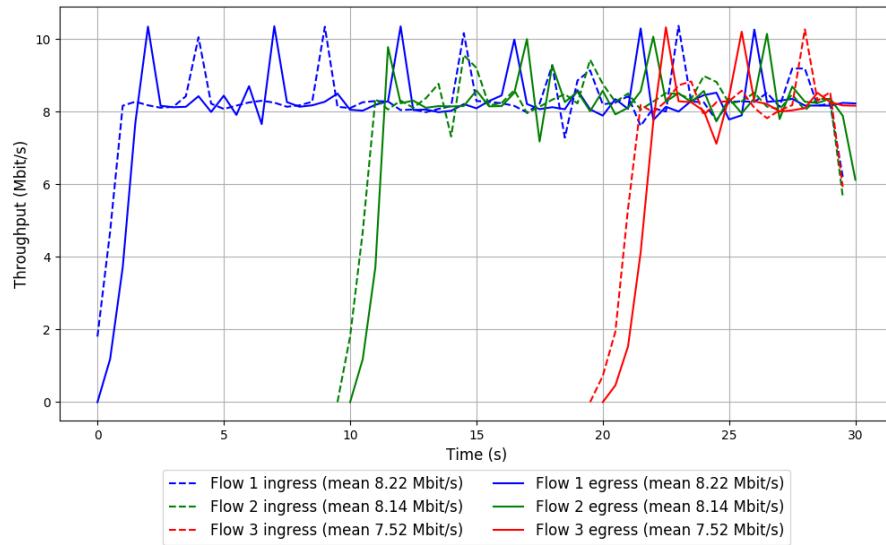


Run 5: Statistics of Sprout

```
Start at: 2018-10-03 08:55:05
End at: 2018-10-03 08:55:35
Local clock offset: -0.176 ms
Remote clock offset: -0.133 ms

# Below is generated by plot.py at 2018-10-03 10:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.12 Mbit/s
95th percentile per-packet one-way delay: 51.236 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 51.246 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 51.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 49.859 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

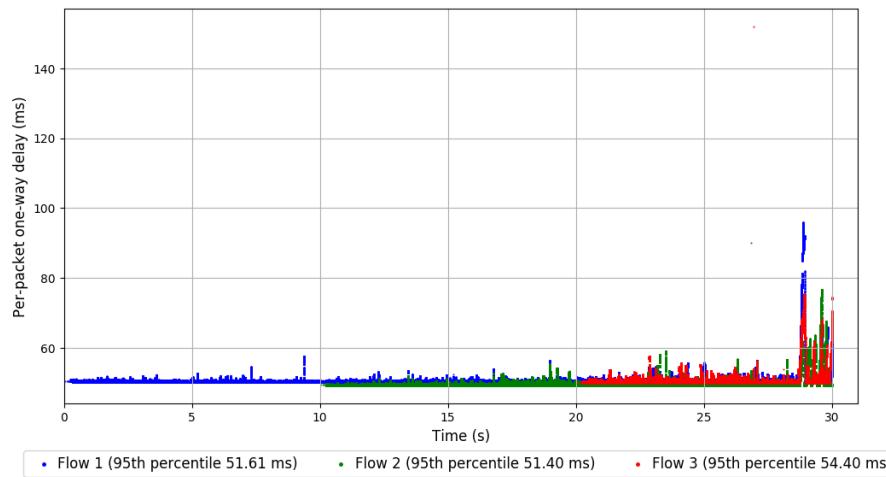
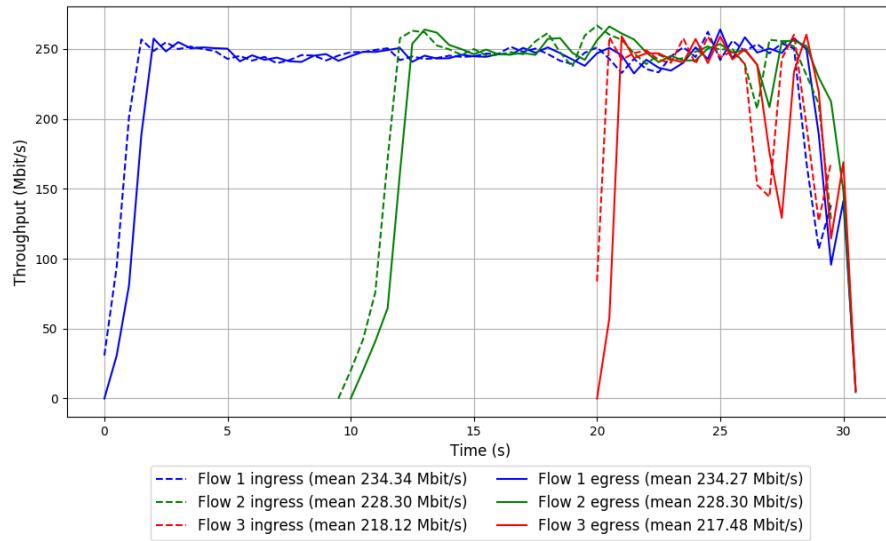


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-03 06:50:10
End at: 2018-10-03 06:50:40
Local clock offset: 0.324 ms
Remote clock offset: -0.335 ms

# Below is generated by plot.py at 2018-10-03 11:03:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 458.68 Mbit/s
95th percentile per-packet one-way delay: 52.015 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 234.27 Mbit/s
95th percentile per-packet one-way delay: 51.610 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 228.30 Mbit/s
95th percentile per-packet one-way delay: 51.396 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 217.48 Mbit/s
95th percentile per-packet one-way delay: 54.404 ms
Loss rate: 0.23%
```

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

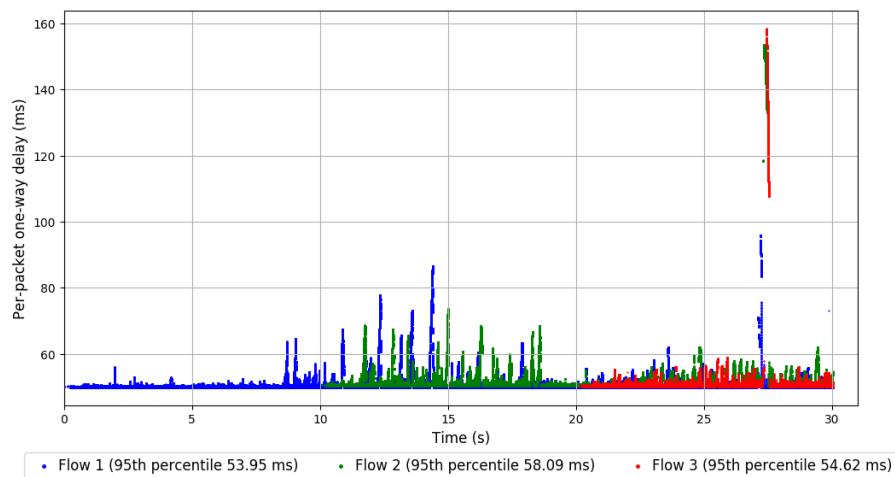
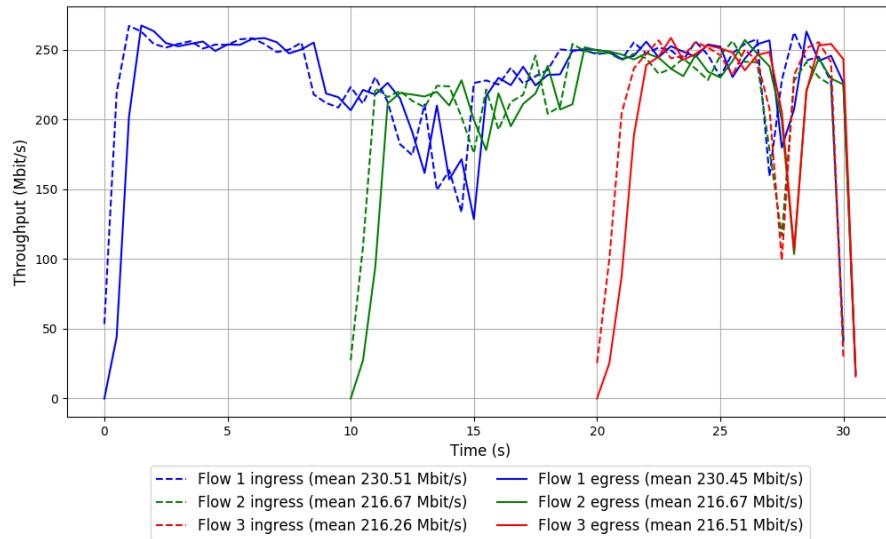


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-03 07:20:38
End at: 2018-10-03 07:21:08
Local clock offset: 0.289 ms
Remote clock offset: 0.166 ms

# Below is generated by plot.py at 2018-10-03 11:03:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 446.72 Mbit/s
95th percentile per-packet one-way delay: 55.562 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 230.45 Mbit/s
95th percentile per-packet one-way delay: 53.948 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 216.67 Mbit/s
95th percentile per-packet one-way delay: 58.089 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 216.51 Mbit/s
95th percentile per-packet one-way delay: 54.622 ms
Loss rate: 0.88%
```

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

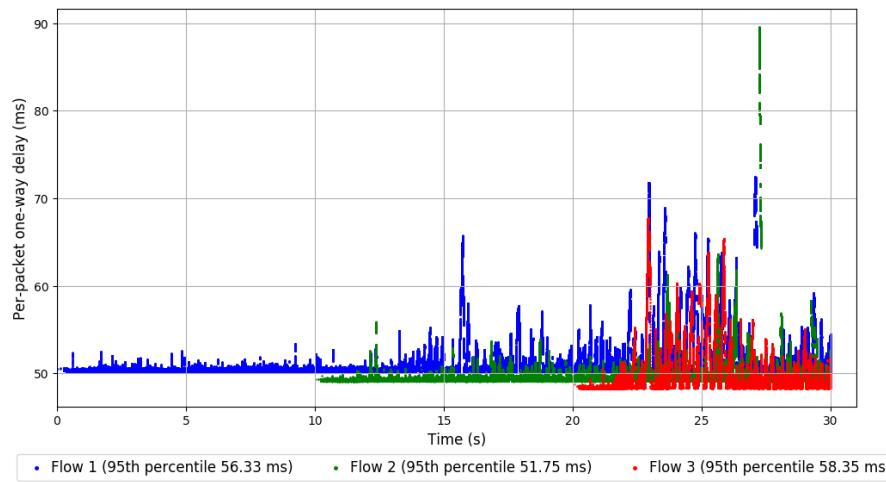
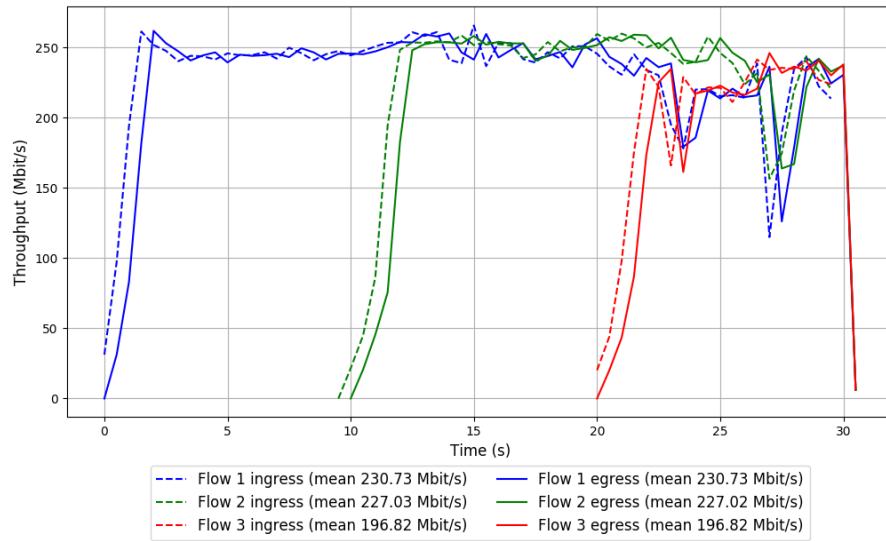


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-03 07:51:10
End at: 2018-10-03 07:51:40
Local clock offset: 0.215 ms
Remote clock offset: 0.021 ms

# Below is generated by plot.py at 2018-10-03 11:03:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 447.45 Mbit/s
95th percentile per-packet one-way delay: 55.382 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 230.73 Mbit/s
95th percentile per-packet one-way delay: 56.327 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 227.02 Mbit/s
95th percentile per-packet one-way delay: 51.747 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 196.82 Mbit/s
95th percentile per-packet one-way delay: 58.353 ms
Loss rate: 0.00%
```

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

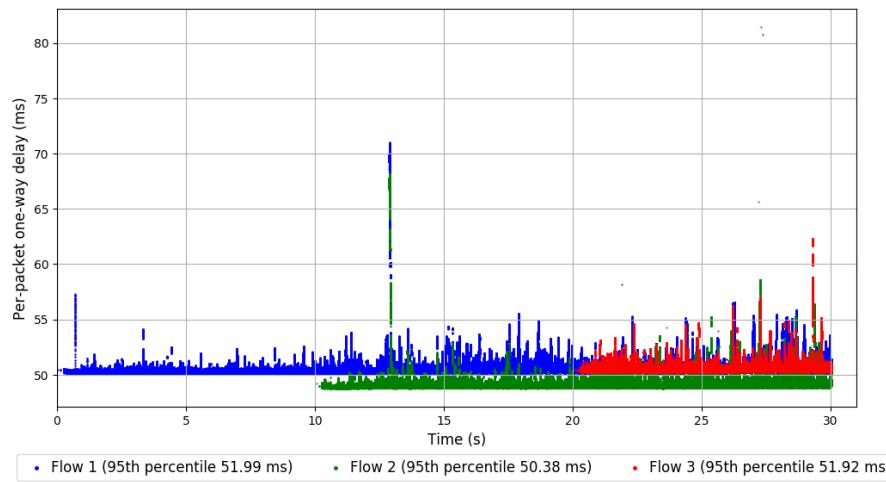
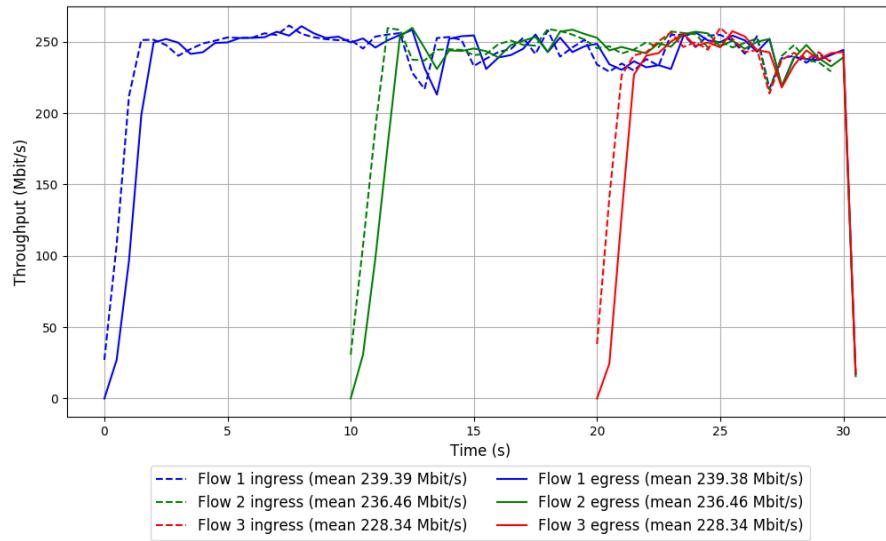


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-03 08:21:23
End at: 2018-10-03 08:21:53
Local clock offset: -0.219 ms
Remote clock offset: 0.158 ms

# Below is generated by plot.py at 2018-10-03 11:06:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 472.68 Mbit/s
95th percentile per-packet one-way delay: 51.695 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 239.38 Mbit/s
95th percentile per-packet one-way delay: 51.989 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 236.46 Mbit/s
95th percentile per-packet one-way delay: 50.378 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 228.34 Mbit/s
95th percentile per-packet one-way delay: 51.920 ms
Loss rate: 0.00%
```

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

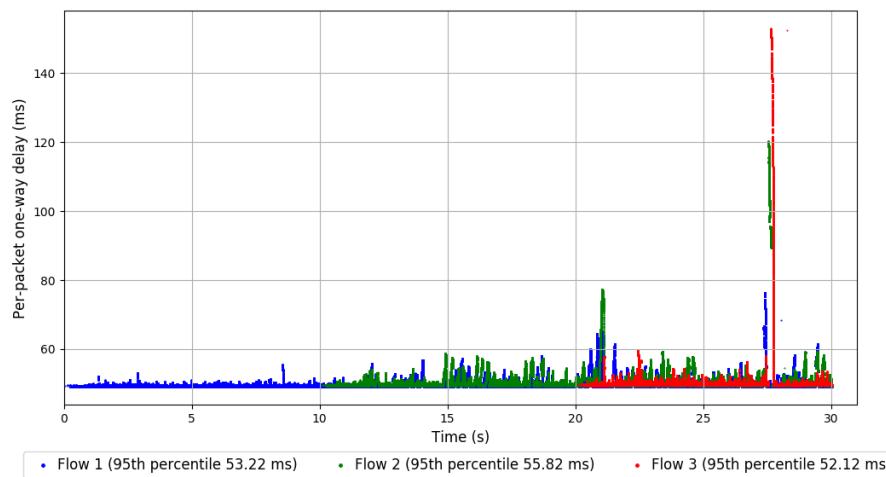
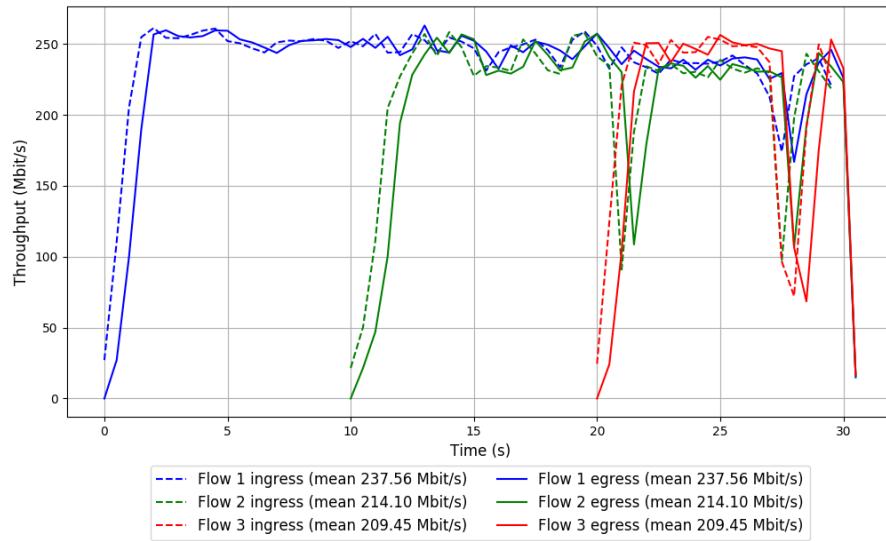


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-03 08:51:15
End at: 2018-10-03 08:51:45
Local clock offset: 0.219 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2018-10-03 11:06:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 449.76 Mbit/s
95th percentile per-packet one-way delay: 54.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 237.56 Mbit/s
95th percentile per-packet one-way delay: 53.215 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 214.10 Mbit/s
95th percentile per-packet one-way delay: 55.824 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 209.45 Mbit/s
95th percentile per-packet one-way delay: 52.121 ms
Loss rate: 0.00%
```

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

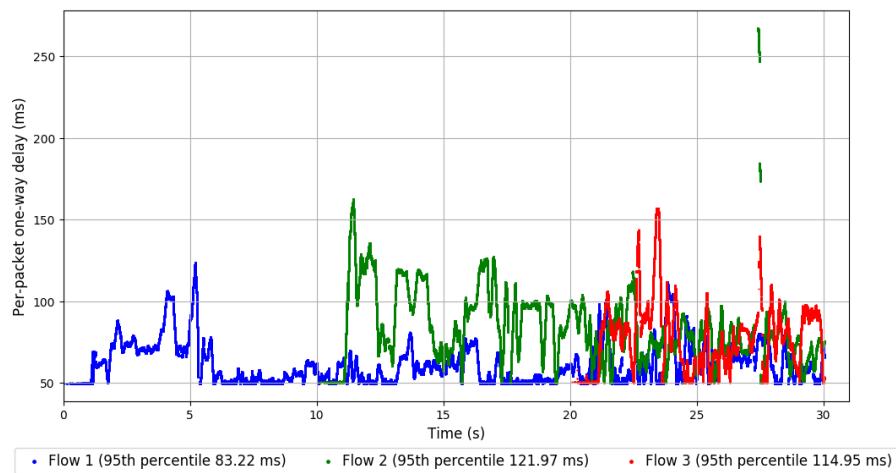
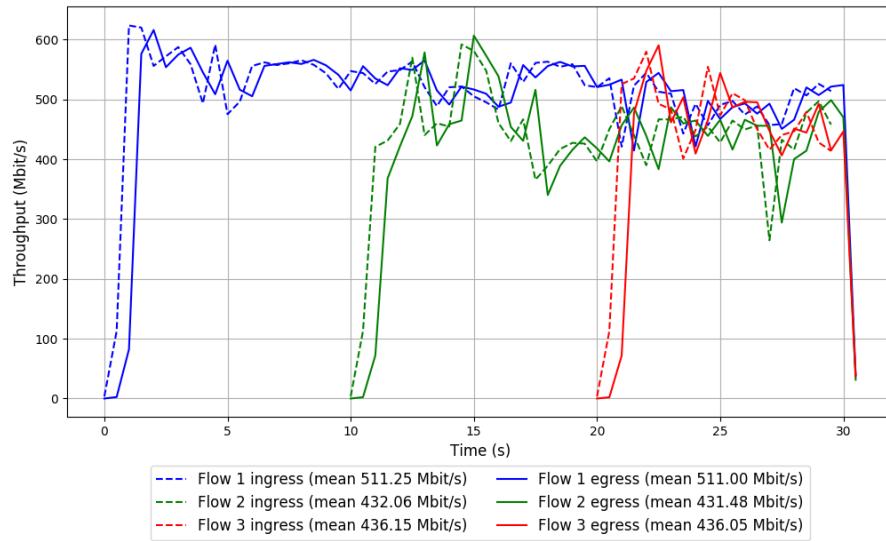


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-03 06:55:16
End at: 2018-10-03 06:55:46
Local clock offset: -0.062 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2018-10-03 11:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 943.33 Mbit/s
95th percentile per-packet one-way delay: 110.401 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 511.00 Mbit/s
95th percentile per-packet one-way delay: 83.222 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 431.48 Mbit/s
95th percentile per-packet one-way delay: 121.972 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 436.05 Mbit/s
95th percentile per-packet one-way delay: 114.951 ms
Loss rate: 0.03%
```

Run 1: Report of TCP Vegas — Data Link

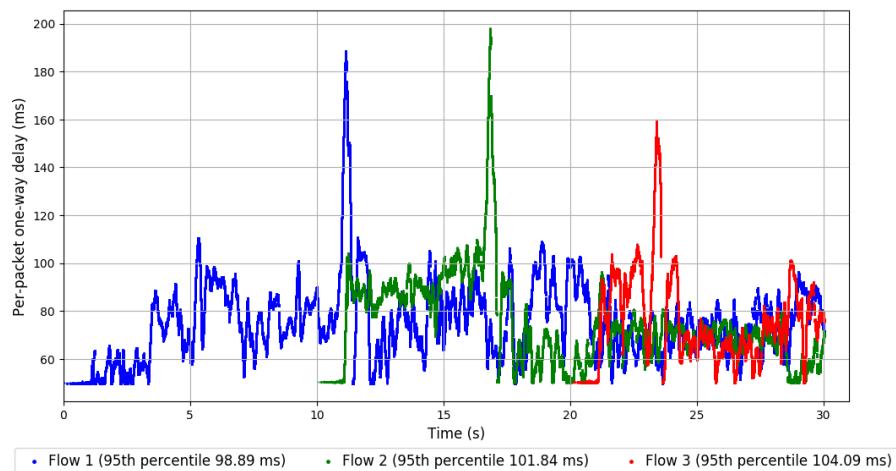
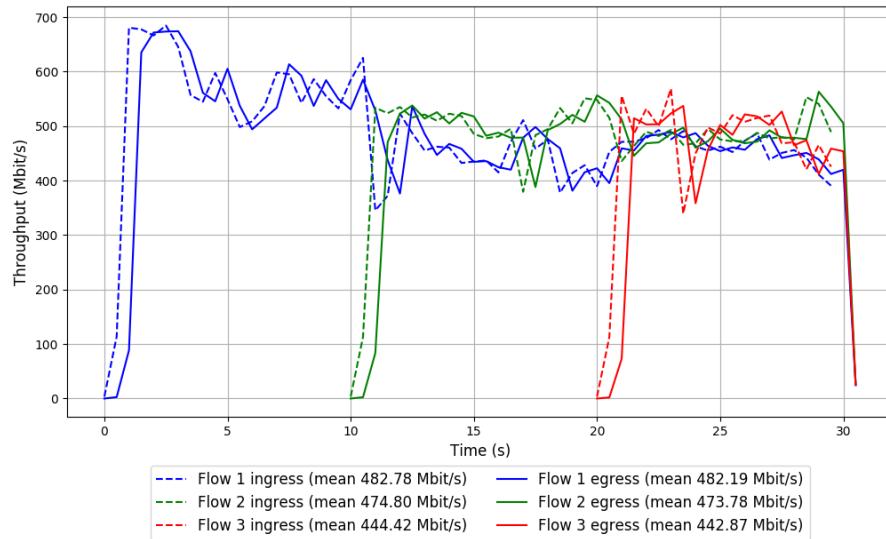


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-03 07:25:44
End at: 2018-10-03 07:26:14
Local clock offset: -0.032 ms
Remote clock offset: 0.123 ms

# Below is generated by plot.py at 2018-10-03 11:11:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 944.72 Mbit/s
95th percentile per-packet one-way delay: 100.780 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 482.19 Mbit/s
95th percentile per-packet one-way delay: 98.890 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 473.78 Mbit/s
95th percentile per-packet one-way delay: 101.836 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 442.87 Mbit/s
95th percentile per-packet one-way delay: 104.086 ms
Loss rate: 0.34%
```

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

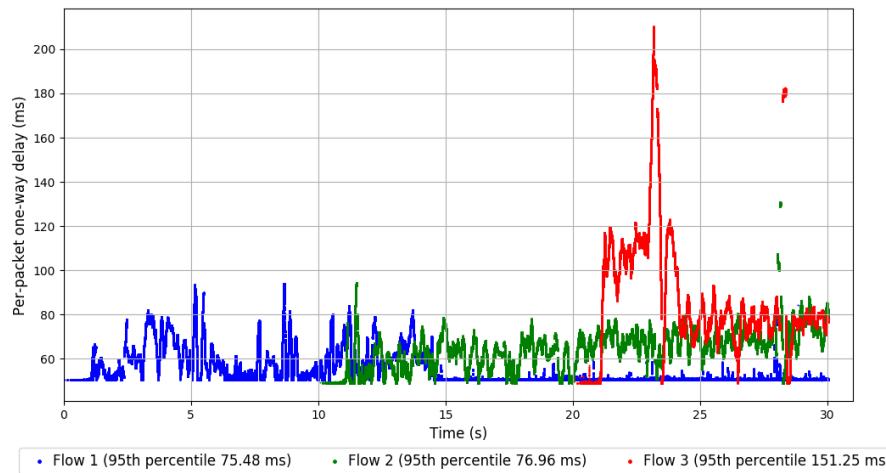
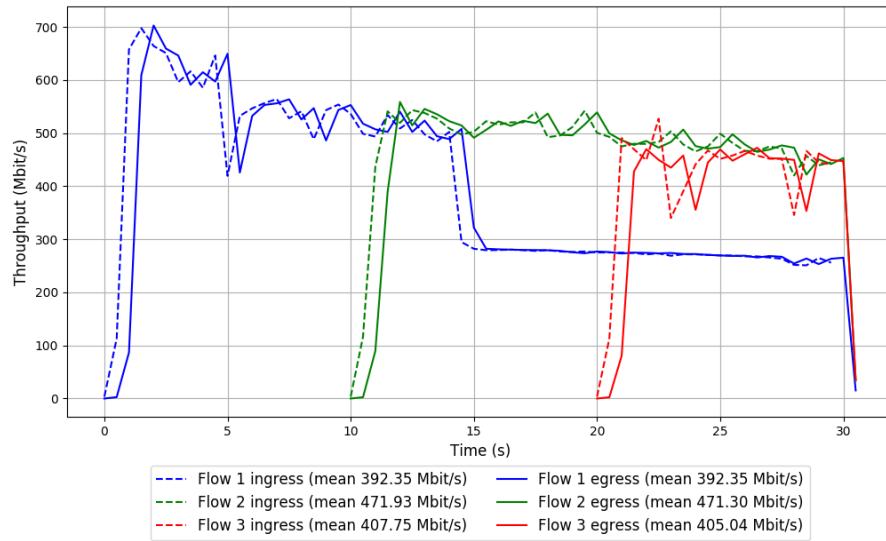


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-03 07:56:12
End at: 2018-10-03 07:56:42
Local clock offset: -0.195 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2018-10-03 11:11:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 840.97 Mbit/s
95th percentile per-packet one-way delay: 96.374 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 392.35 Mbit/s
95th percentile per-packet one-way delay: 75.485 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 471.30 Mbit/s
95th percentile per-packet one-way delay: 76.959 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 405.04 Mbit/s
95th percentile per-packet one-way delay: 151.254 ms
Loss rate: 0.65%
```

Run 3: Report of TCP Vegas — Data Link

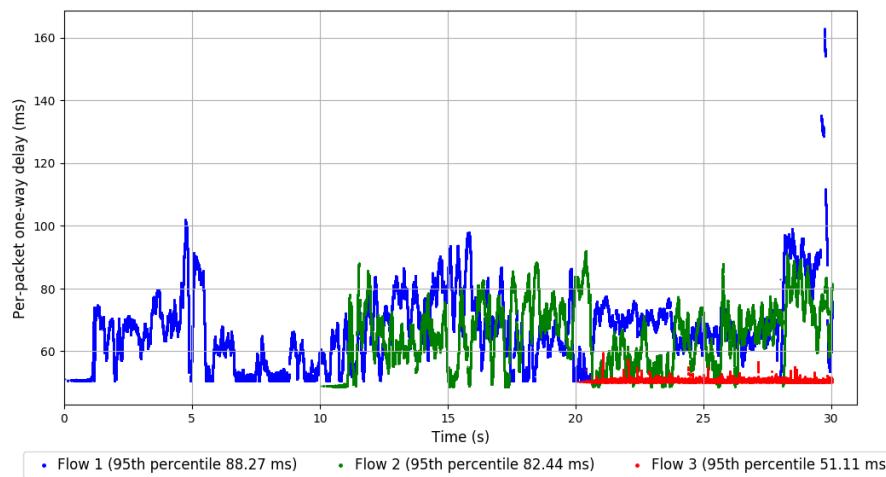
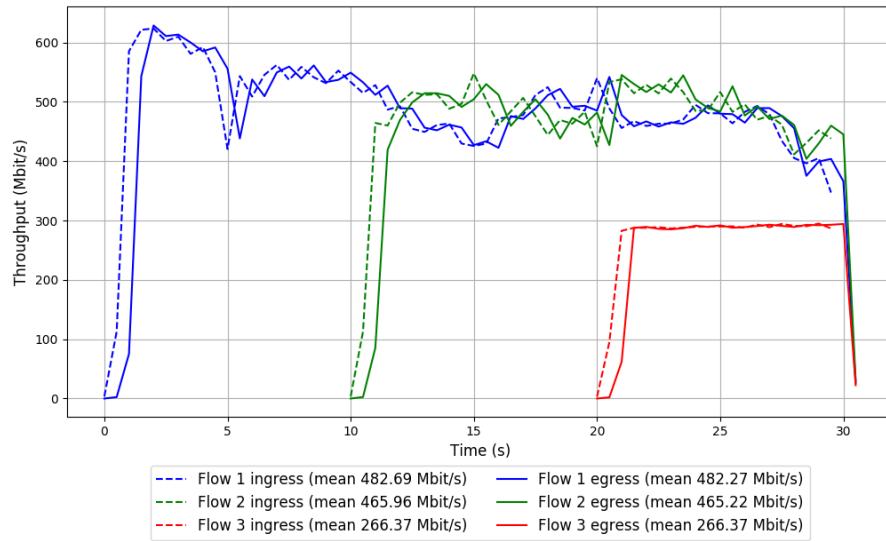


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-03 08:26:29
End at: 2018-10-03 08:26:59
Local clock offset: -0.173 ms
Remote clock offset: 0.194 ms

# Below is generated by plot.py at 2018-10-03 11:19:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 880.71 Mbit/s
95th percentile per-packet one-way delay: 84.989 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 482.27 Mbit/s
95th percentile per-packet one-way delay: 88.266 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 465.22 Mbit/s
95th percentile per-packet one-way delay: 82.439 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 266.37 Mbit/s
95th percentile per-packet one-way delay: 51.109 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link

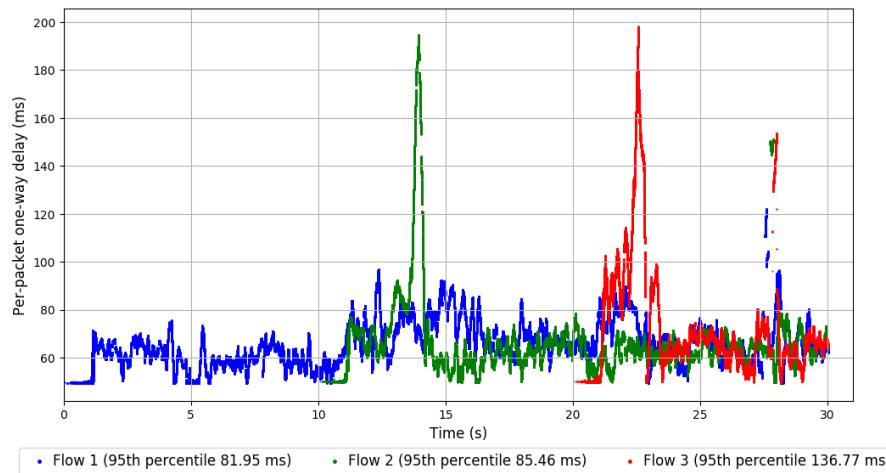
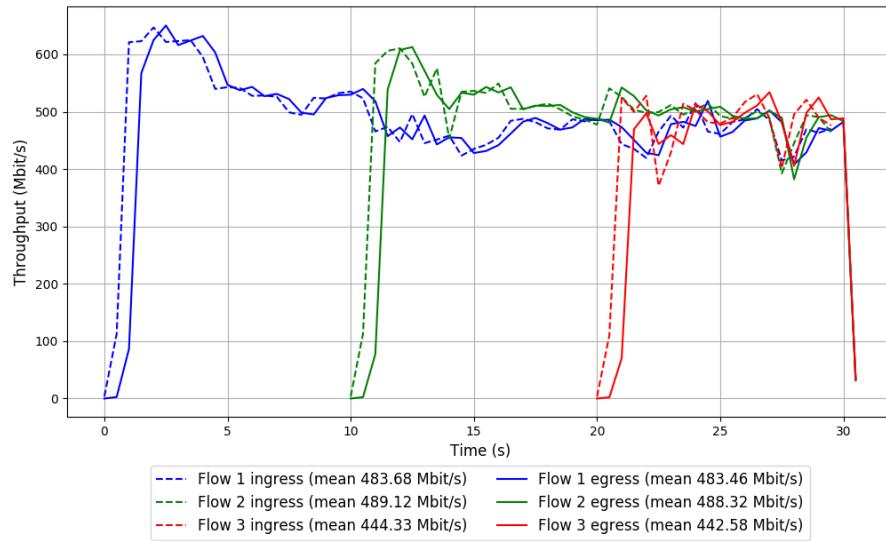


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-03 08:56:17
End at: 2018-10-03 08:56:47
Local clock offset: -0.52 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-10-03 11:21:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 955.84 Mbit/s
95th percentile per-packet one-way delay: 88.100 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 483.46 Mbit/s
95th percentile per-packet one-way delay: 81.950 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 488.32 Mbit/s
95th percentile per-packet one-way delay: 85.462 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 442.58 Mbit/s
95th percentile per-packet one-way delay: 136.773 ms
Loss rate: 0.38%
```

Run 5: Report of TCP Vegas — Data Link

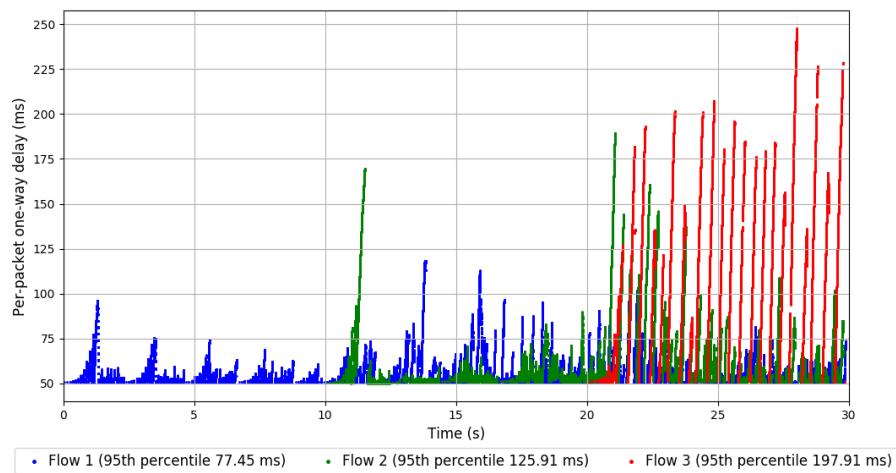
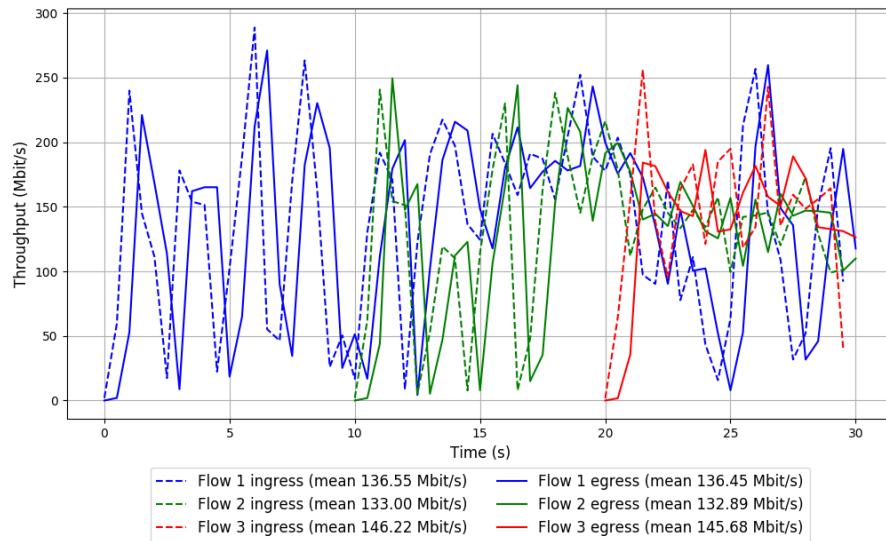


Run 1: Statistics of Verus

```
Start at: 2018-10-03 06:32:41
End at: 2018-10-03 06:33:11
Local clock offset: -0.4 ms
Remote clock offset: -0.369 ms

# Below is generated by plot.py at 2018-10-03 11:21:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.13 Mbit/s
95th percentile per-packet one-way delay: 153.174 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 136.45 Mbit/s
95th percentile per-packet one-way delay: 77.446 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 132.89 Mbit/s
95th percentile per-packet one-way delay: 125.907 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 145.68 Mbit/s
95th percentile per-packet one-way delay: 197.913 ms
Loss rate: 0.37%
```

## Run 1: Report of Verus — Data Link

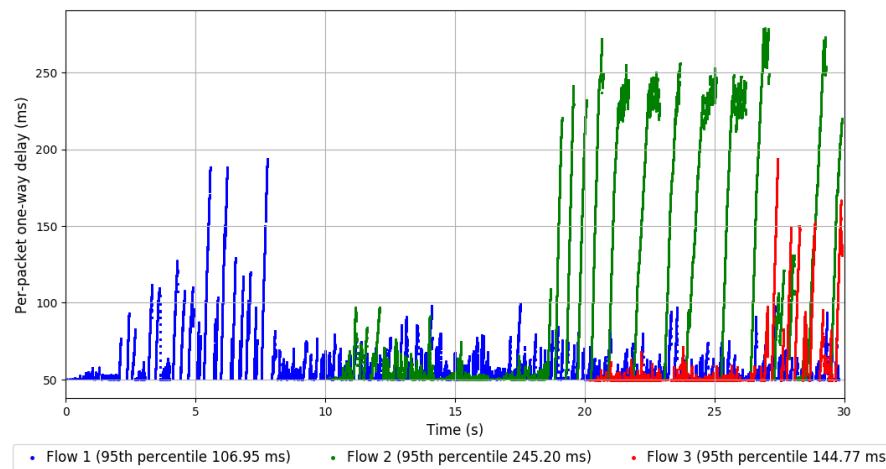
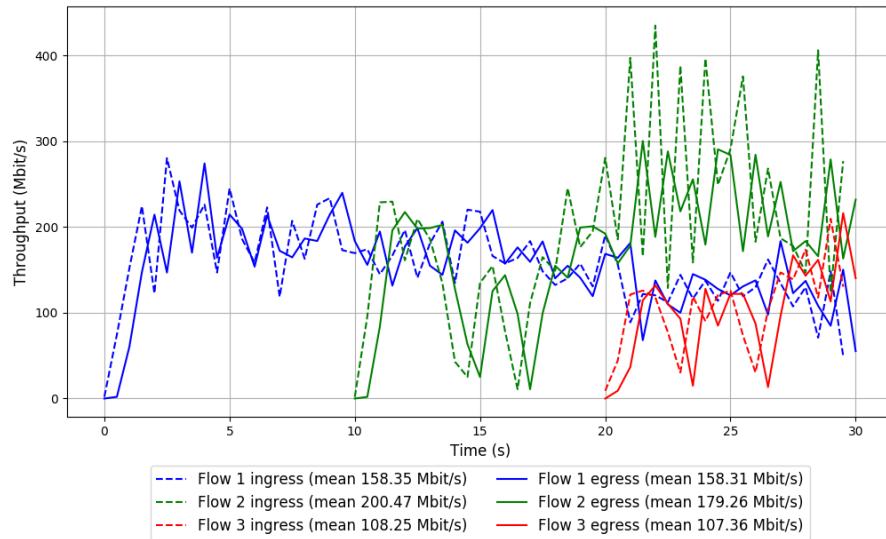


Run 2: Statistics of Verus

```
Start at: 2018-10-03 07:02:53
End at: 2018-10-03 07:03:23
Local clock offset: -0.048 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-10-03 11:21:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.08 Mbit/s
95th percentile per-packet one-way delay: 233.349 ms
Loss rate: 4.33%
-- Flow 1:
Average throughput: 158.31 Mbit/s
95th percentile per-packet one-way delay: 106.951 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 179.26 Mbit/s
95th percentile per-packet one-way delay: 245.201 ms
Loss rate: 10.58%
-- Flow 3:
Average throughput: 107.36 Mbit/s
95th percentile per-packet one-way delay: 144.768 ms
Loss rate: 0.00%
```

## Run 2: Report of Verus — Data Link

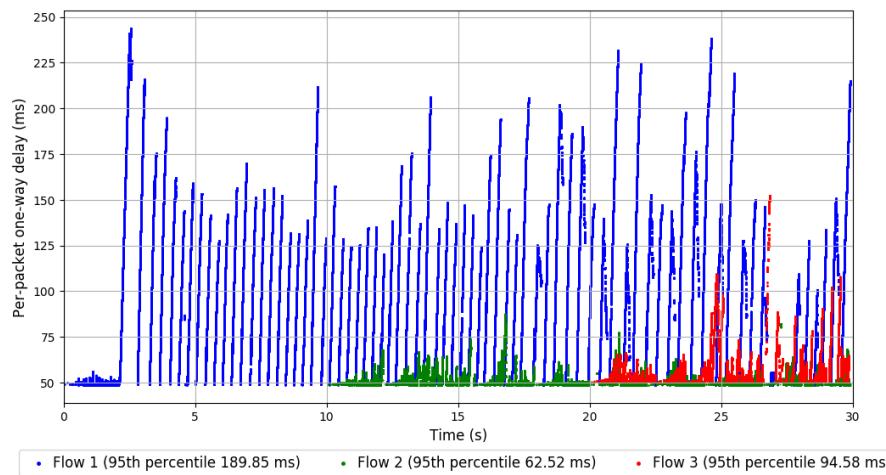
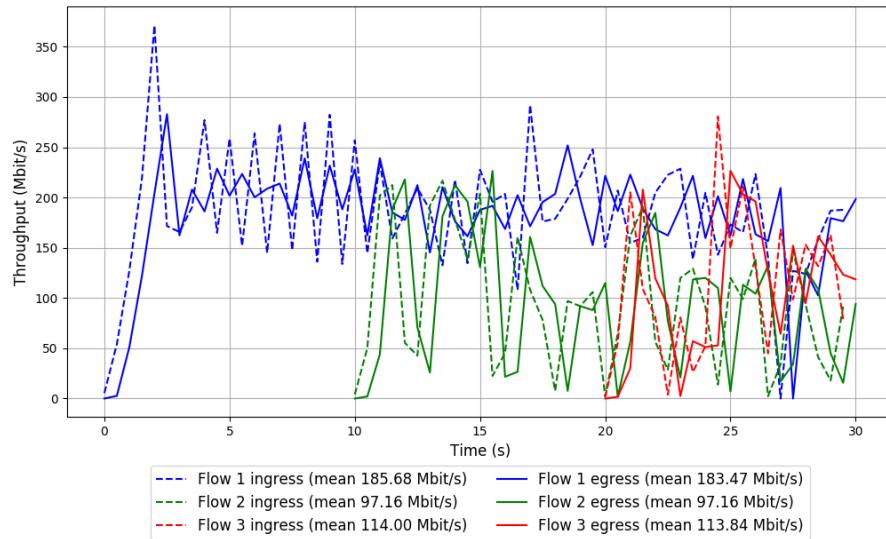


Run 3: Statistics of Verus

```
Start at: 2018-10-03 07:33:27
End at: 2018-10-03 07:33:57
Local clock offset: -0.065 ms
Remote clock offset: 0.082 ms

# Below is generated by plot.py at 2018-10-03 11:21:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 285.33 Mbit/s
95th percentile per-packet one-way delay: 175.904 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 183.47 Mbit/s
95th percentile per-packet one-way delay: 189.851 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 97.16 Mbit/s
95th percentile per-packet one-way delay: 62.525 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 113.84 Mbit/s
95th percentile per-packet one-way delay: 94.583 ms
Loss rate: 0.00%
```

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

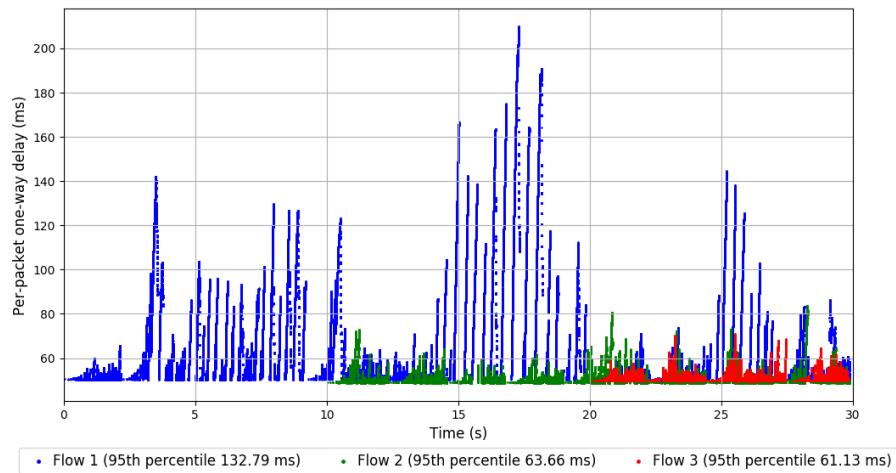
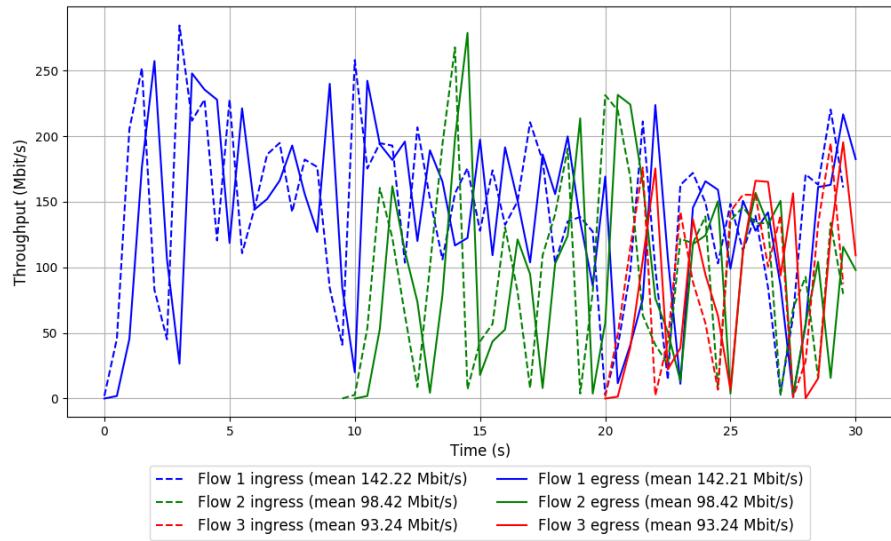


Run 4: Statistics of Verus

```
Start at: 2018-10-03 08:03:42
End at: 2018-10-03 08:04:12
Local clock offset: -0.181 ms
Remote clock offset: 0.095 ms

# Below is generated by plot.py at 2018-10-03 11:21:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 238.15 Mbit/s
95th percentile per-packet one-way delay: 117.494 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 142.21 Mbit/s
95th percentile per-packet one-way delay: 132.789 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 98.42 Mbit/s
95th percentile per-packet one-way delay: 63.657 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 93.24 Mbit/s
95th percentile per-packet one-way delay: 61.132 ms
Loss rate: 0.00%
```

Run 4: Report of Verus — Data Link

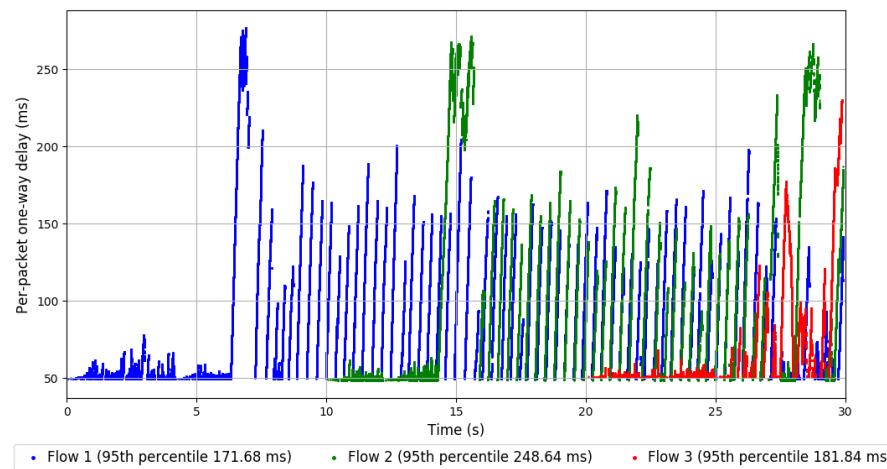
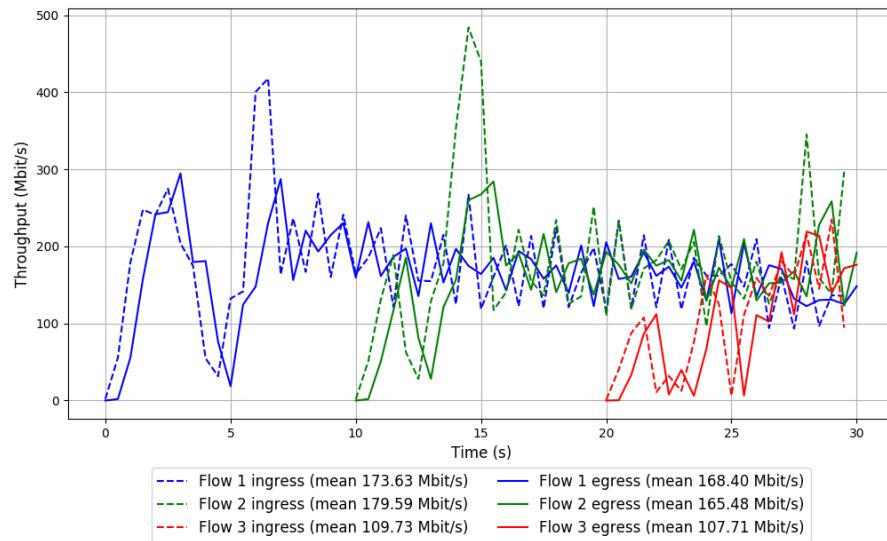


Run 5: Statistics of Verus

```
Start at: 2018-10-03 08:34:02
End at: 2018-10-03 08:34:32
Local clock offset: 0.157 ms
Remote clock offset: 0.1 ms

# Below is generated by plot.py at 2018-10-03 11:21:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.55 Mbit/s
95th percentile per-packet one-way delay: 225.607 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 168.40 Mbit/s
95th percentile per-packet one-way delay: 171.683 ms
Loss rate: 3.01%
-- Flow 2:
Average throughput: 165.48 Mbit/s
95th percentile per-packet one-way delay: 248.636 ms
Loss rate: 7.83%
-- Flow 3:
Average throughput: 107.71 Mbit/s
95th percentile per-packet one-way delay: 181.843 ms
Loss rate: 0.00%
```

## Run 5: Report of Verus — Data Link

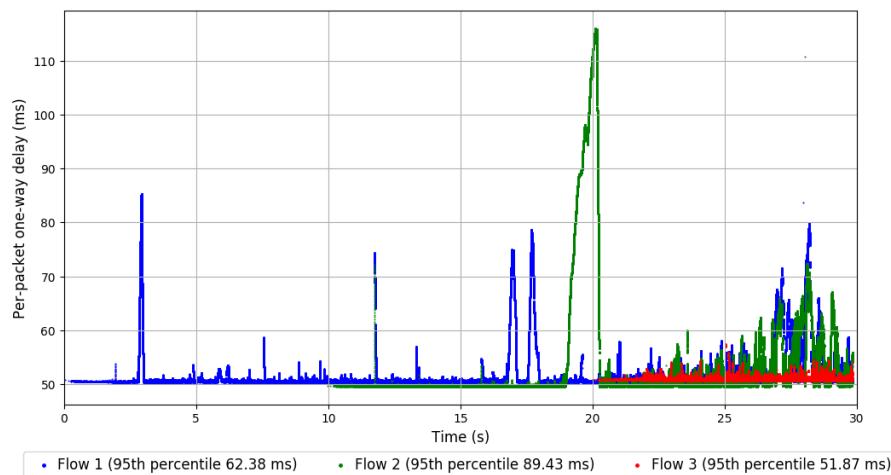
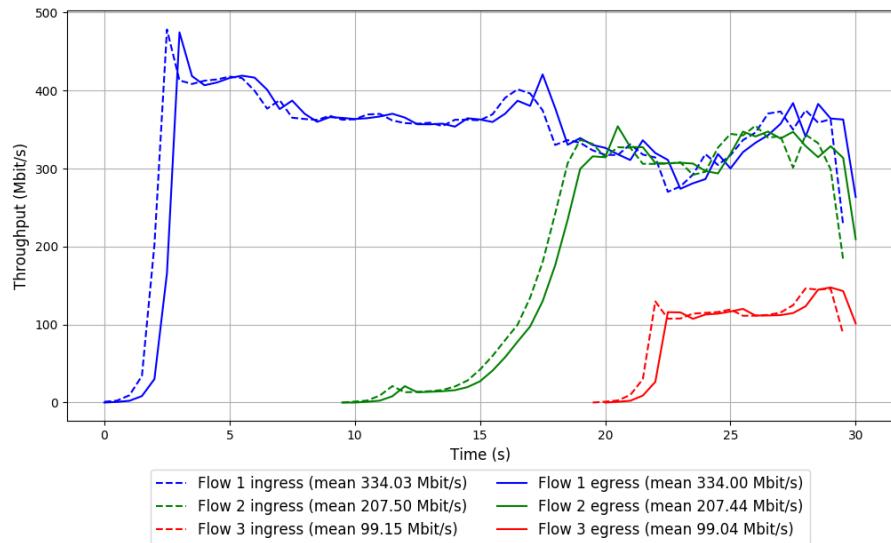


```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-03 06:46:39
End at: 2018-10-03 06:47:09
Local clock offset: -0.04 ms
Remote clock offset: -0.375 ms

# Below is generated by plot.py at 2018-10-03 11:21:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 505.03 Mbit/s
95th percentile per-packet one-way delay: 65.921 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 334.00 Mbit/s
95th percentile per-packet one-way delay: 62.380 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 207.44 Mbit/s
95th percentile per-packet one-way delay: 89.429 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 99.04 Mbit/s
95th percentile per-packet one-way delay: 51.866 ms
Loss rate: 0.10%
```

Run 1: Report of PCC-Vivace — Data Link

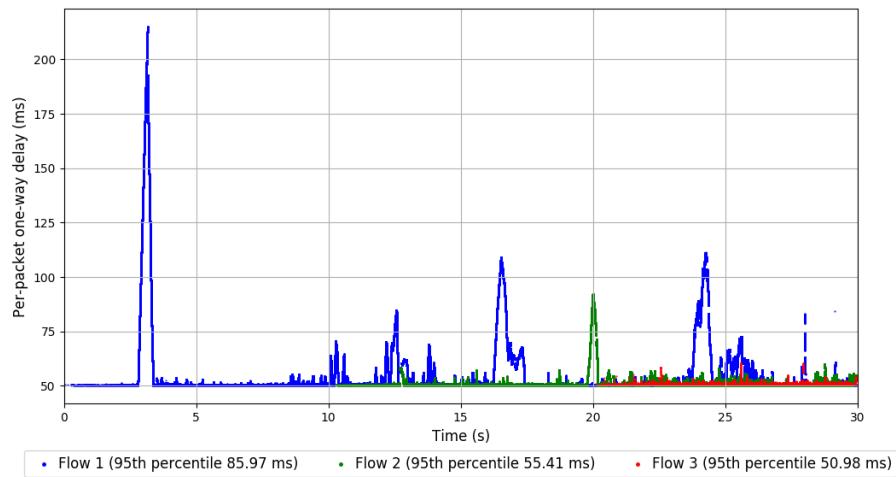
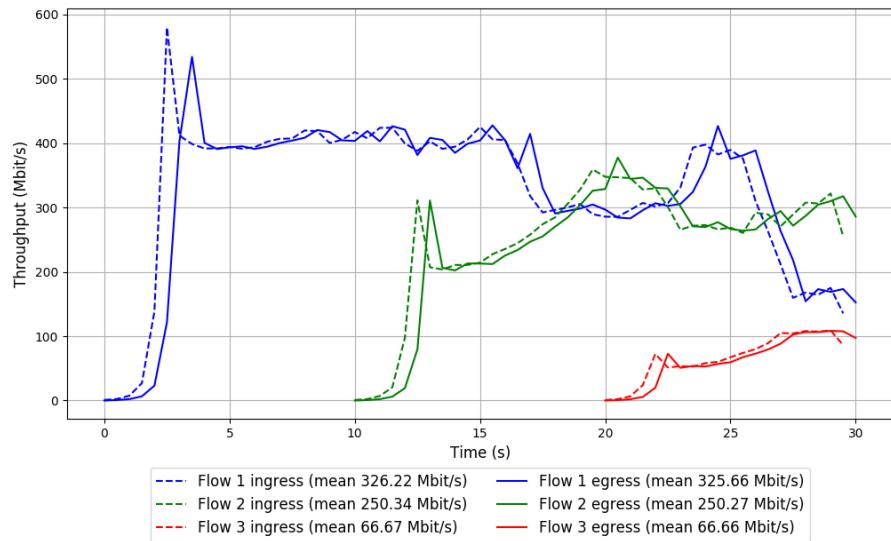


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-03 07:17:05
End at: 2018-10-03 07:17:35
Local clock offset: -0.041 ms
Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2018-10-03 11:21:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 513.91 Mbit/s
95th percentile per-packet one-way delay: 72.873 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 325.66 Mbit/s
95th percentile per-packet one-way delay: 85.969 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 250.27 Mbit/s
95th percentile per-packet one-way delay: 55.409 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 66.66 Mbit/s
95th percentile per-packet one-way delay: 50.977 ms
Loss rate: 0.01%
```

Run 2: Report of PCC-Vivace — Data Link

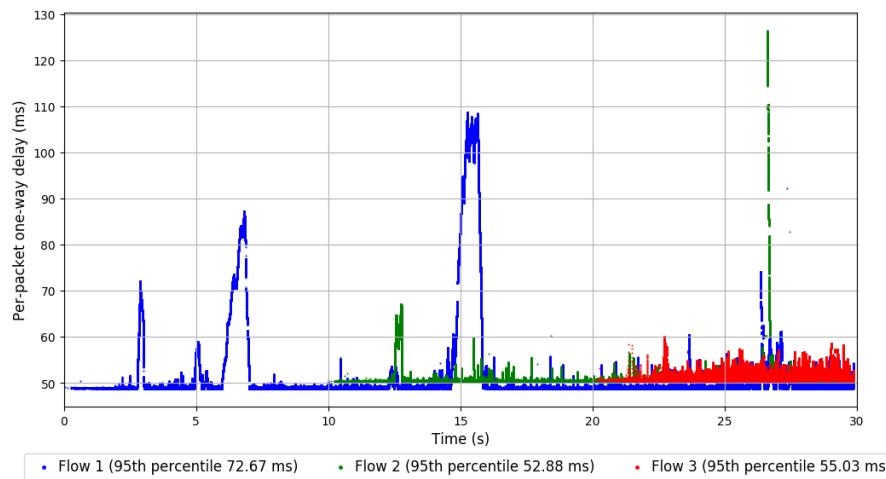
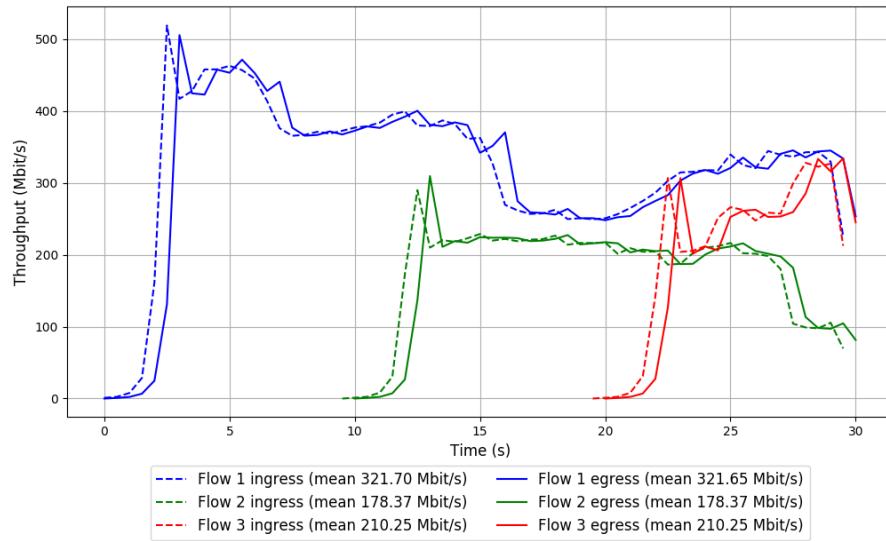


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-03 07:47:40
End at: 2018-10-03 07:48:10
Local clock offset: -0.141 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2018-10-03 11:22:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 509.91 Mbit/s
95th percentile per-packet one-way delay: 64.222 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 321.65 Mbit/s
95th percentile per-packet one-way delay: 72.668 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 178.37 Mbit/s
95th percentile per-packet one-way delay: 52.884 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 210.25 Mbit/s
95th percentile per-packet one-way delay: 55.028 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

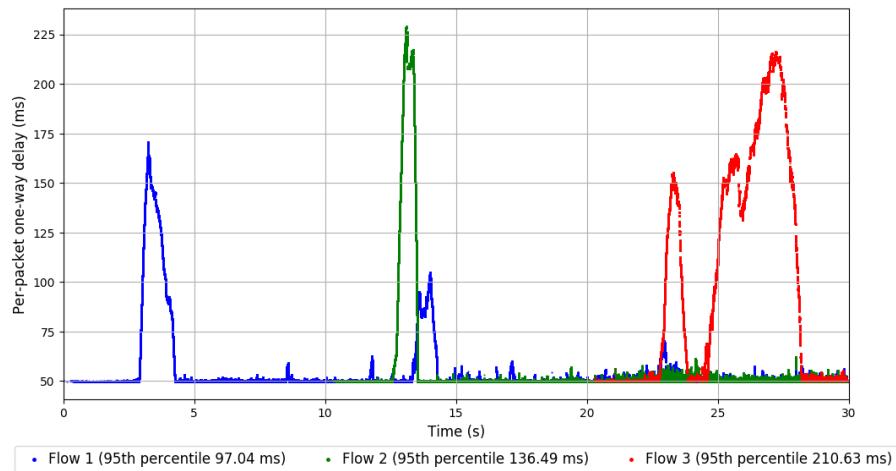
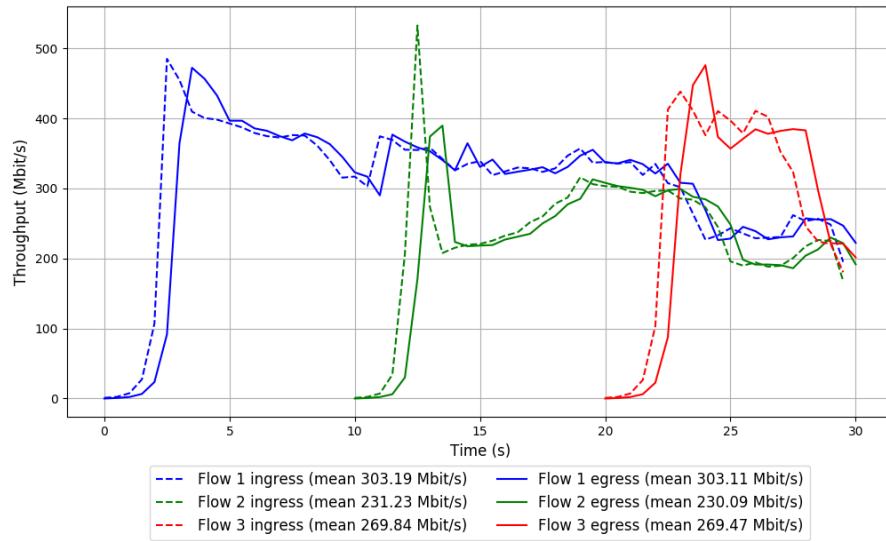


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-03 08:17:46
End at: 2018-10-03 08:18:16
Local clock offset: 0.197 ms
Remote clock offset: 0.169 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 545.01 Mbit/s
95th percentile per-packet one-way delay: 162.776 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 303.11 Mbit/s
95th percentile per-packet one-way delay: 97.042 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 230.09 Mbit/s
95th percentile per-packet one-way delay: 136.486 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 269.47 Mbit/s
95th percentile per-packet one-way delay: 210.632 ms
Loss rate: 0.14%
```

Run 4: Report of PCC-Vivace — Data Link

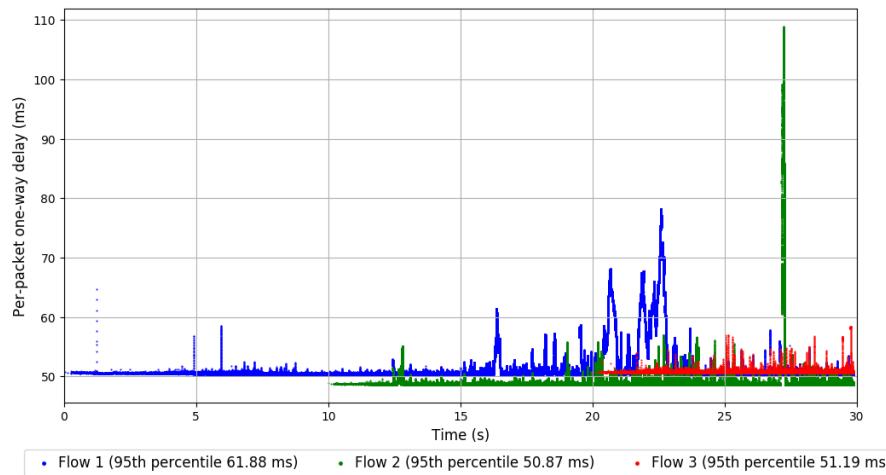
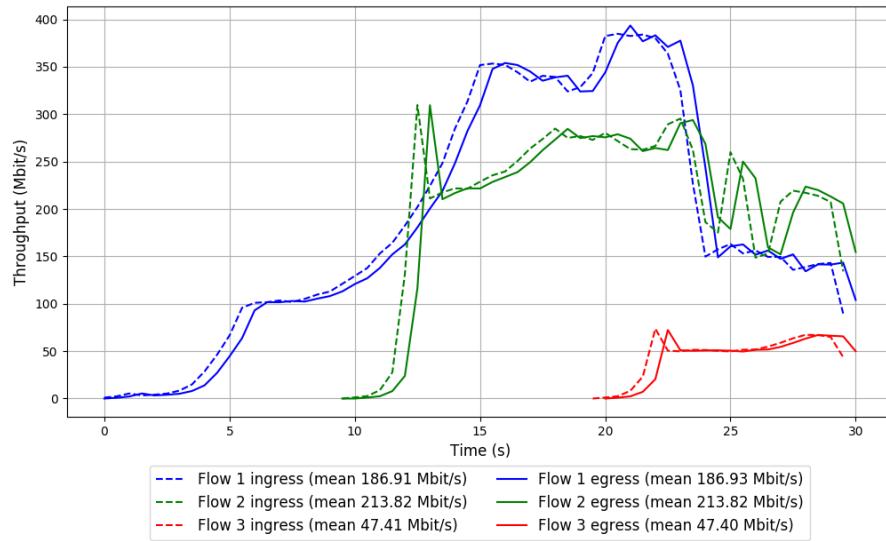


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-03 08:47:53
End at: 2018-10-03 08:48:23
Local clock offset: -0.117 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.13 Mbit/s
95th percentile per-packet one-way delay: 58.017 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 186.93 Mbit/s
95th percentile per-packet one-way delay: 61.883 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 213.82 Mbit/s
95th percentile per-packet one-way delay: 50.866 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.40 Mbit/s
95th percentile per-packet one-way delay: 51.188 ms
Loss rate: 0.02%
```

Run 5: Report of PCC-Vivace — Data Link

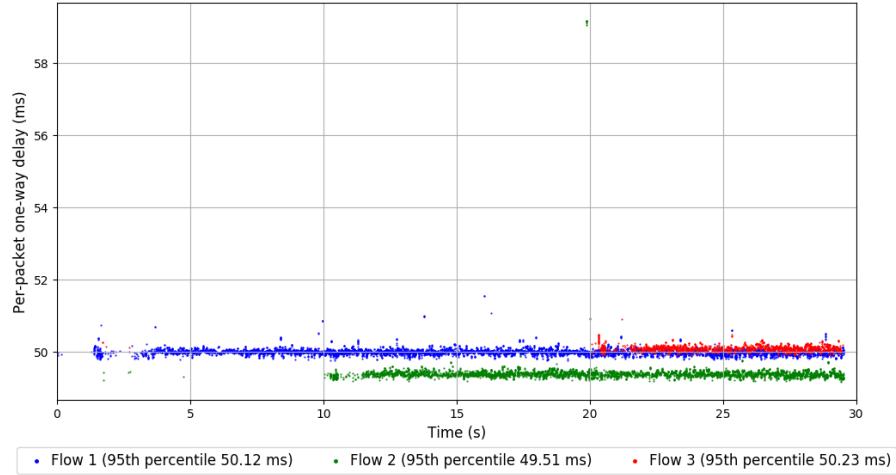
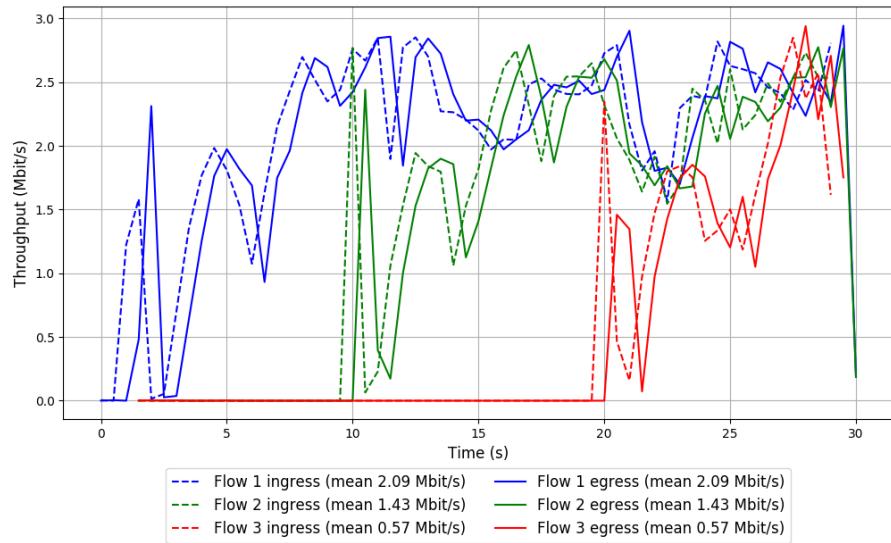


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-03 06:30:15
End at: 2018-10-03 06:30:45
Local clock offset: 0.276 ms
Remote clock offset: -0.356 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 50.142 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 50.122 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 49.510 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 50.230 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

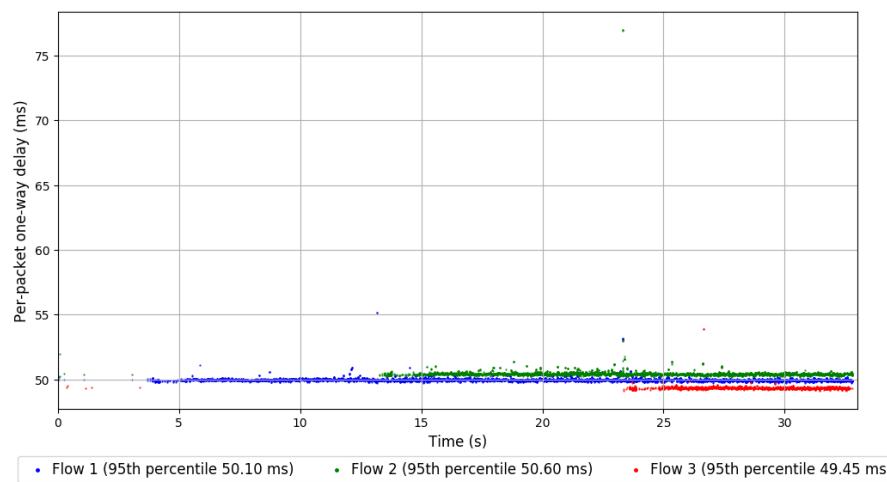
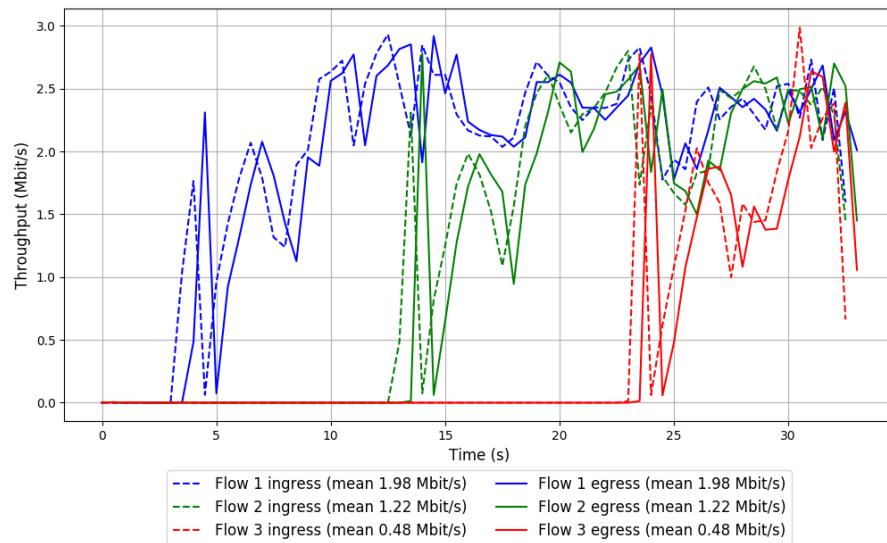


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-03 07:00:27
End at: 2018-10-03 07:00:57
Local clock offset: 0.329 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 50.510 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 50.105 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 50.601 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 49.452 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

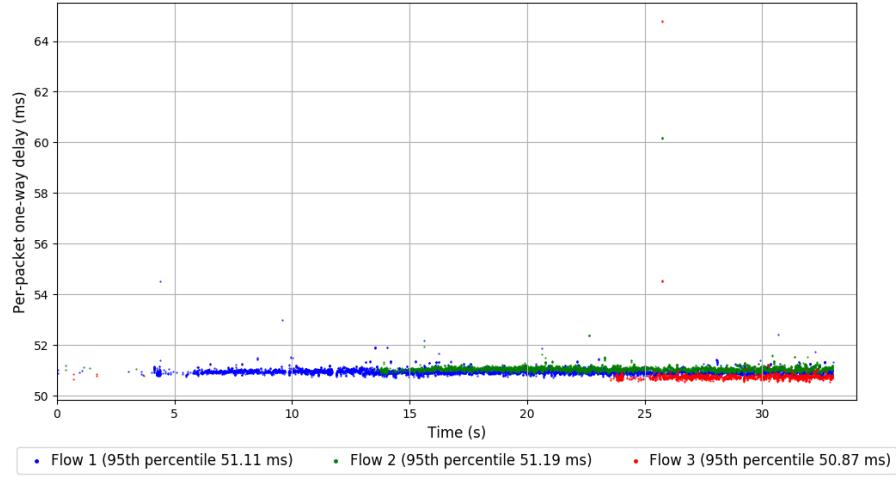
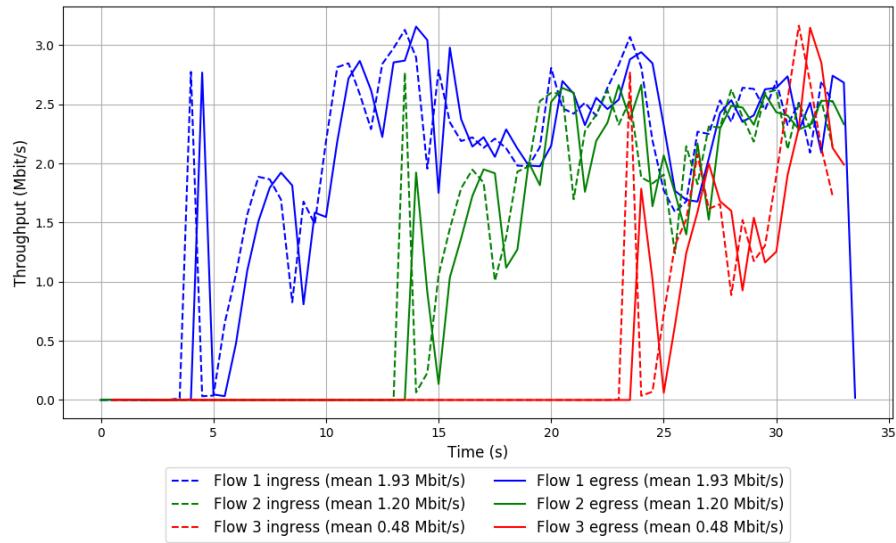


```
Run 3: Statistics of WebRTC media

Start at: 2018-10-03 07:31:00
End at: 2018-10-03 07:31:30
Local clock offset: -0.476 ms
Remote clock offset: 0.04 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 51.153 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 51.113 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 51.185 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 50.870 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

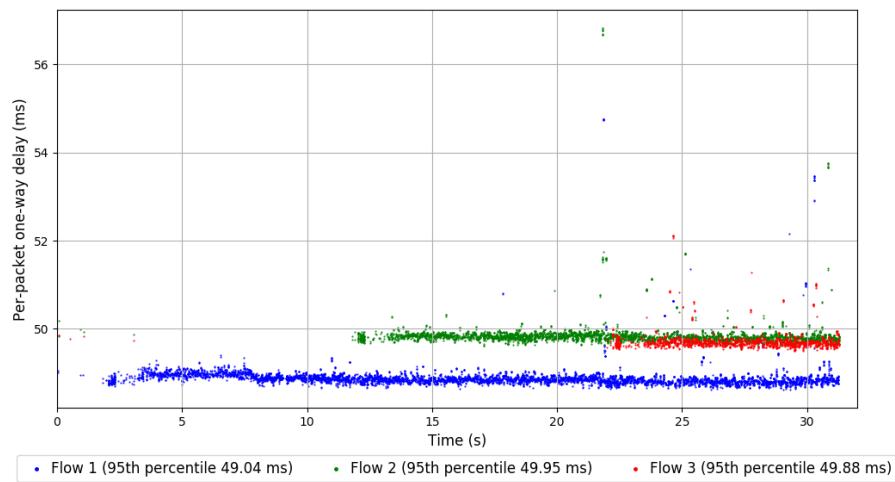
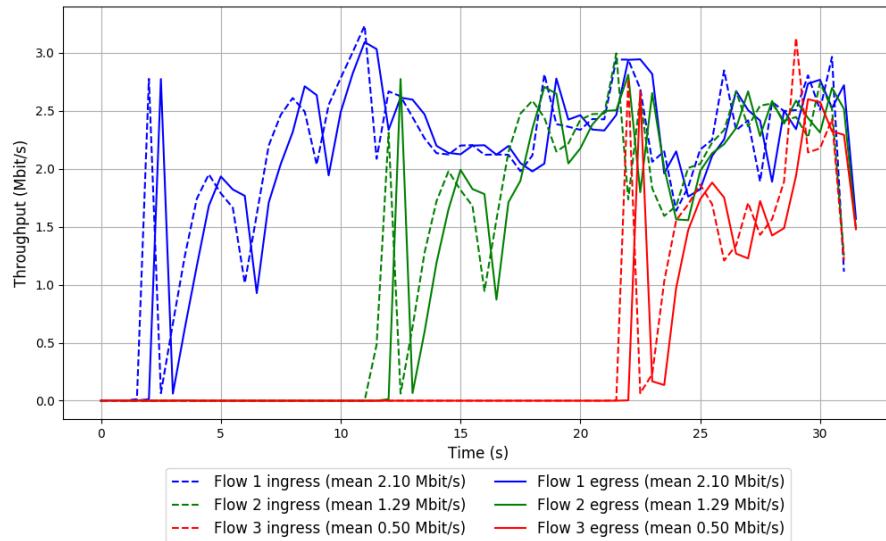


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-03 08:01:16
End at: 2018-10-03 08:01:46
Local clock offset: -0.146 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 49.899 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 49.041 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 49.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 49.881 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



```
Run 5: Statistics of WebRTC media

Start at: 2018-10-03 08:31:36
End at: 2018-10-03 08:32:06
Local clock offset: -0.191 ms
Remote clock offset: 0.151 ms

# Below is generated by plot.py at 2018-10-03 11:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 50.395 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 49.773 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 50.546 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 49.817 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

