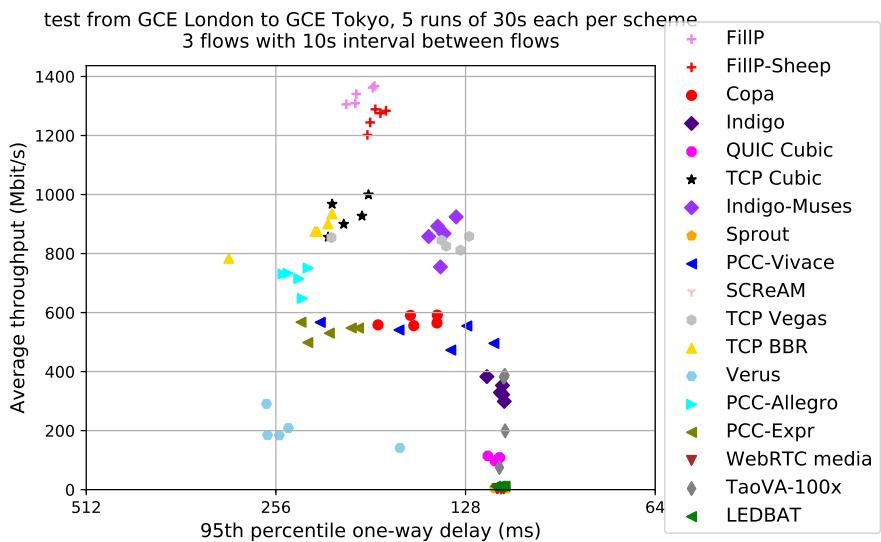
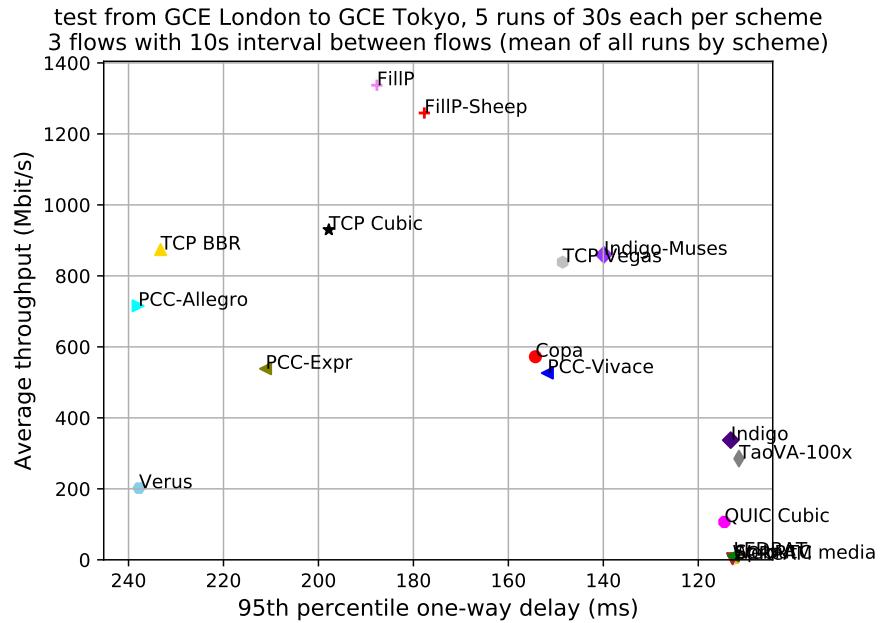


Pantheon Report

Generated at 2018-09-07 17:55:16 (UTC).
Data path: GCE London on `ens4` (*remote*) → GCE Tokyo on `ens4` (*local*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

```
System info:  
Linux 4.15.0-1018-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  
net.ipv4.tcp_mem = 190986 254651 381972  
  
Git summary:  
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c  
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834  
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe  
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4  
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d  
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf  
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3  
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952  
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
```



4

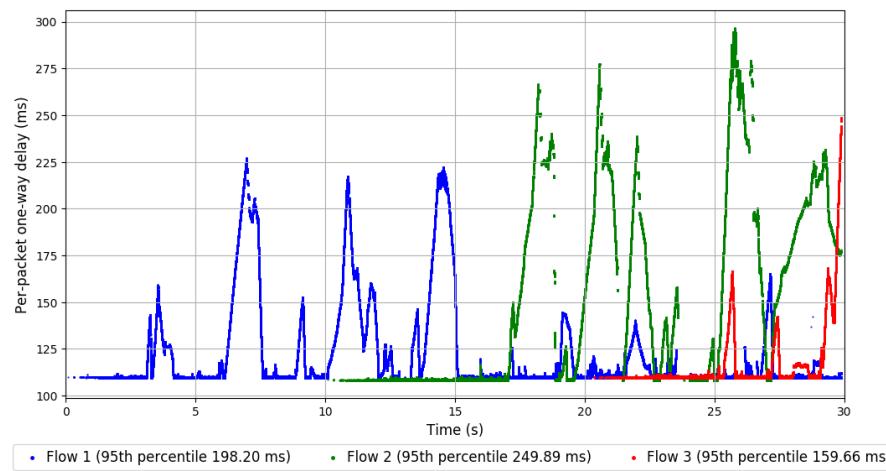
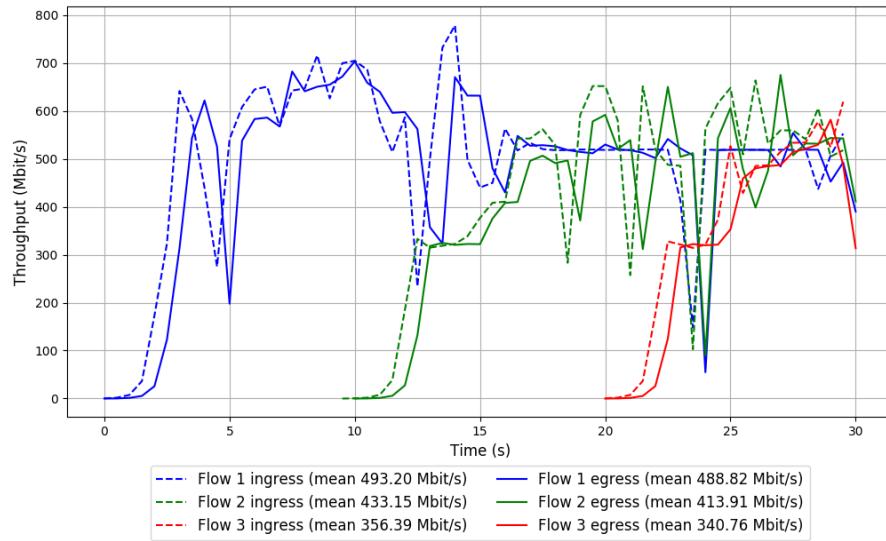
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	478.64	435.65	324.90	232.85	230.07	161.76	2.89	3.89	4.50
Copa	5	310.46	286.54	219.07	149.15	148.20	173.75	0.77	1.26	3.13
TCP Cubic	5	515.11	468.86	316.27	187.03	202.93	167.78	0.94	1.62	4.18
FillP	5	728.73	644.30	554.31	186.95	187.80	177.63	5.03	5.07	4.17
FillP-Sheep	5	696.98	611.62	479.45	175.29	180.46	134.50	2.54	3.98	2.83
Indigo	5	179.98	160.39	155.15	111.70	113.79	112.64	0.75	1.22	2.57
LEDBAT	5	7.53	4.95	2.40	111.75	112.44	113.17	1.48	2.25	4.52
Indigo-Muses	5	508.19	421.08	224.63	139.30	143.29	130.00	0.80	1.47	4.39
PCC-Allegro	5	408.76	334.00	266.52	240.80	194.45	200.68	7.12	4.95	3.86
PCC-Expr	5	298.01	269.30	190.43	216.81	171.69	195.12	3.20	2.22	4.10
QUIC Cubic	5	56.71	50.07	50.42	111.88	114.15	112.63	1.02	1.91	2.10
SCReAM	5	0.17	0.22	0.22	112.45	111.29	110.69	0.73	1.24	2.21
Sprout	5	2.38	2.03	1.96	112.12	111.11	111.60	1.02	1.19	3.02
TaoVA-100x	5	125.81	153.90	174.61	110.92	111.20	111.28	0.77	1.38	2.82
TCP Vegas	5	493.38	366.61	311.41	147.57	127.87	150.56	0.64	1.20	3.26
Verus	5	93.85	134.96	58.47	192.69	214.24	175.37	3.73	3.63	5.42
PCC-Vivace	5	322.68	245.18	126.68	128.12	165.02	145.66	0.75	1.50	4.65
WebRTC media	5	1.77	1.10	0.39	112.23	112.14	112.32	0.88	1.43	4.32

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-07 12:36:49
End at: 2018-09-07 12:37:19
Local clock offset: -1.156 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2018-09-07 15:51:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 875.34 Mbit/s
95th percentile per-packet one-way delay: 221.871 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 488.82 Mbit/s
95th percentile per-packet one-way delay: 198.199 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 413.91 Mbit/s
95th percentile per-packet one-way delay: 249.891 ms
Loss rate: 5.49%
-- Flow 3:
Average throughput: 340.76 Mbit/s
95th percentile per-packet one-way delay: 159.662 ms
Loss rate: 6.50%
```

Run 1: Report of TCP BBR — Data Link

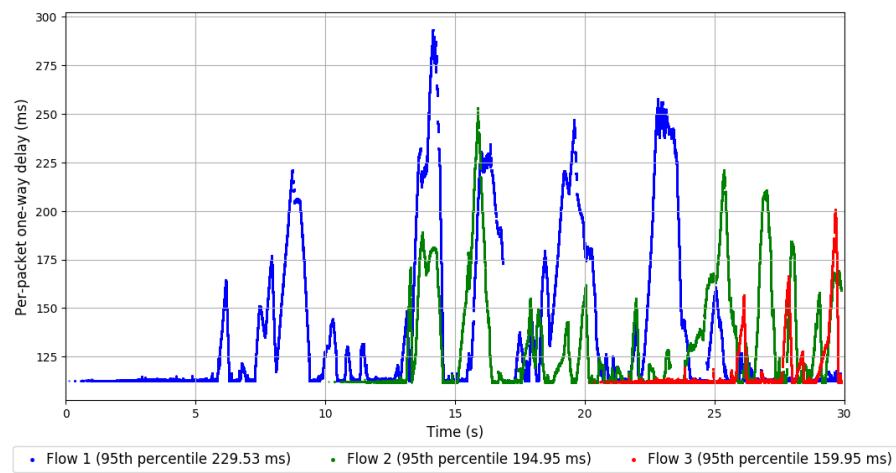
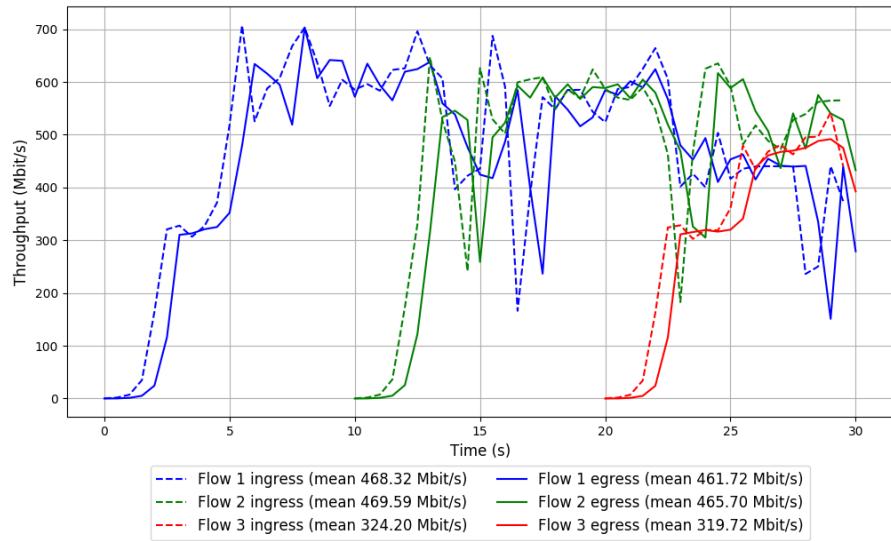


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-07 13:09:58
End at: 2018-09-07 13:10:28
Local clock offset: 0.144 ms
Remote clock offset: -0.371 ms

# Below is generated by plot.py at 2018-09-07 15:51:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 874.67 Mbit/s
95th percentile per-packet one-way delay: 220.066 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 461.72 Mbit/s
95th percentile per-packet one-way delay: 229.528 ms
Loss rate: 2.30%
-- Flow 2:
Average throughput: 465.70 Mbit/s
95th percentile per-packet one-way delay: 194.951 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 319.72 Mbit/s
95th percentile per-packet one-way delay: 159.951 ms
Loss rate: 3.58%
```

Run 2: Report of TCP BBR — Data Link

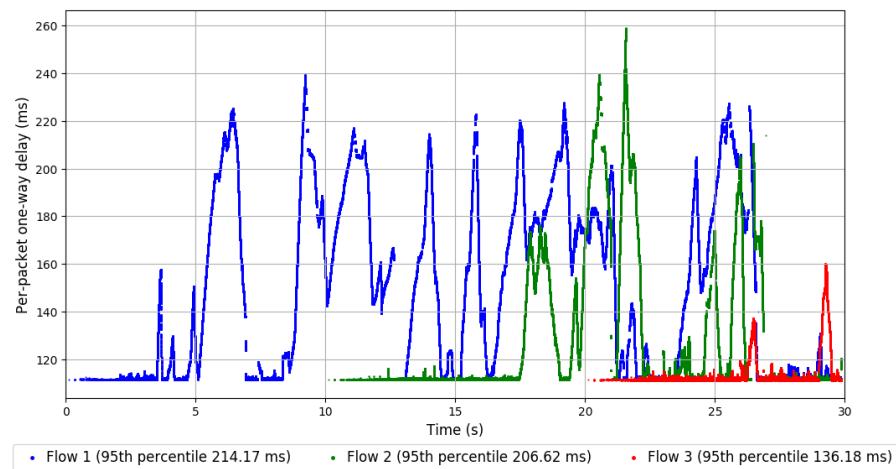
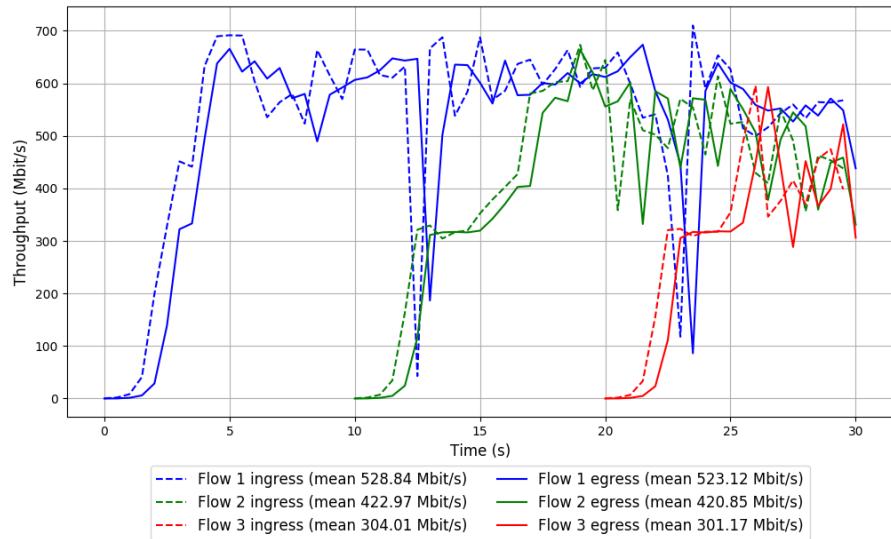


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-07 13:43:38
End at: 2018-09-07 13:44:08
Local clock offset: 0.066 ms
Remote clock offset: 0.312 ms

# Below is generated by plot.py at 2018-09-07 15:52:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 900.92 Mbit/s
95th percentile per-packet one-way delay: 211.691 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 523.12 Mbit/s
95th percentile per-packet one-way delay: 214.171 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 420.85 Mbit/s
95th percentile per-packet one-way delay: 206.615 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 301.17 Mbit/s
95th percentile per-packet one-way delay: 136.179 ms
Loss rate: 3.16%
```

Run 3: Report of TCP BBR — Data Link

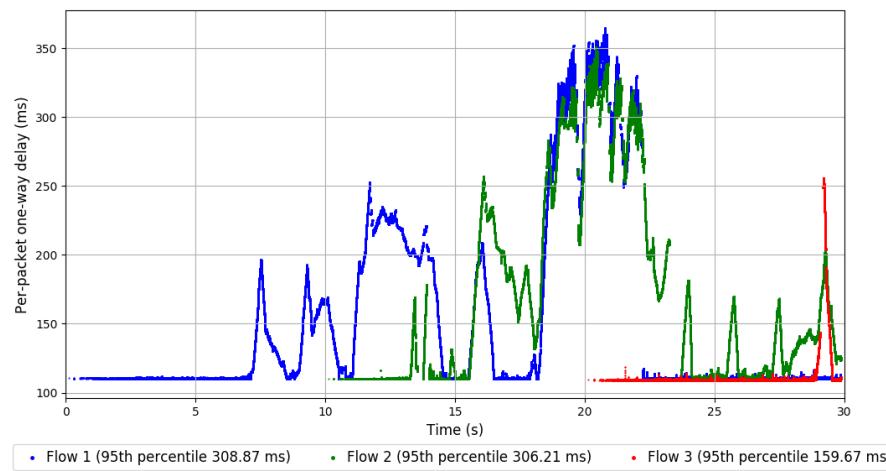
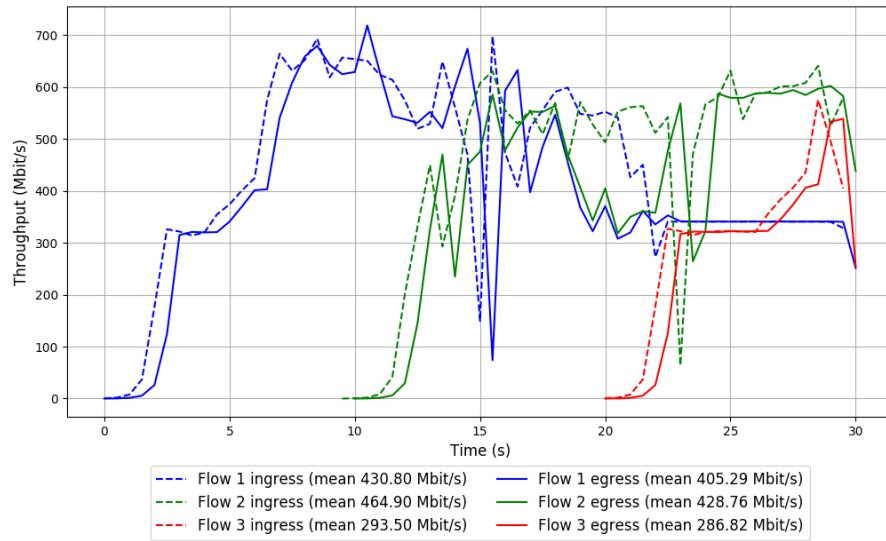


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-07 14:16:33
End at: 2018-09-07 14:17:03
Local clock offset: -0.469 ms
Remote clock offset: 0.279 ms

# Below is generated by plot.py at 2018-09-07 15:52:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 783.97 Mbit/s
95th percentile per-packet one-way delay: 303.983 ms
Loss rate: 7.17%
-- Flow 1:
Average throughput: 405.29 Mbit/s
95th percentile per-packet one-way delay: 308.870 ms
Loss rate: 6.62%
-- Flow 2:
Average throughput: 428.76 Mbit/s
95th percentile per-packet one-way delay: 306.206 ms
Loss rate: 8.80%
-- Flow 3:
Average throughput: 286.82 Mbit/s
95th percentile per-packet one-way delay: 159.666 ms
Loss rate: 4.45%
```

Run 4: Report of TCP BBR — Data Link

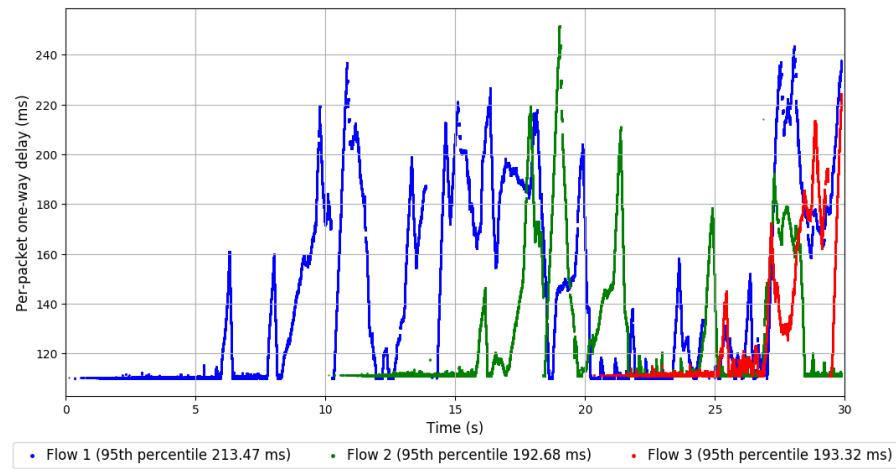
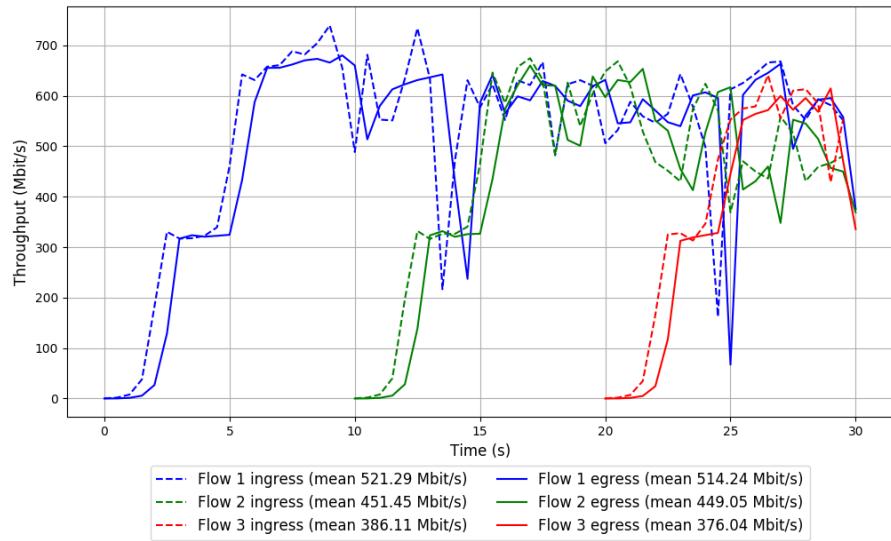


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-07 14:50:03
End at: 2018-09-07 14:50:33
Local clock offset: -0.054 ms
Remote clock offset: -0.383 ms

# Below is generated by plot.py at 2018-09-07 15:53:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.24 Mbit/s
95th percentile per-packet one-way delay: 208.606 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 514.24 Mbit/s
95th percentile per-packet one-way delay: 213.472 ms
Loss rate: 2.08%
-- Flow 2:
Average throughput: 449.05 Mbit/s
95th percentile per-packet one-way delay: 192.678 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 376.04 Mbit/s
95th percentile per-packet one-way delay: 193.323 ms
Loss rate: 4.80%
```

Run 5: Report of TCP BBR — Data Link

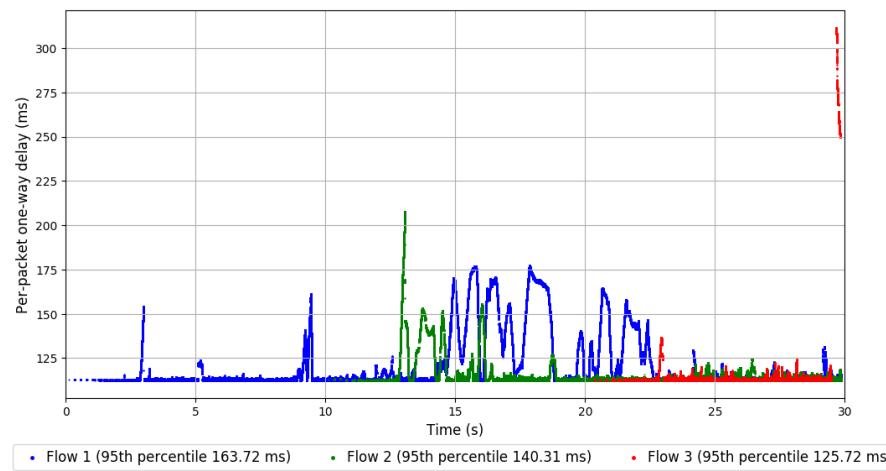
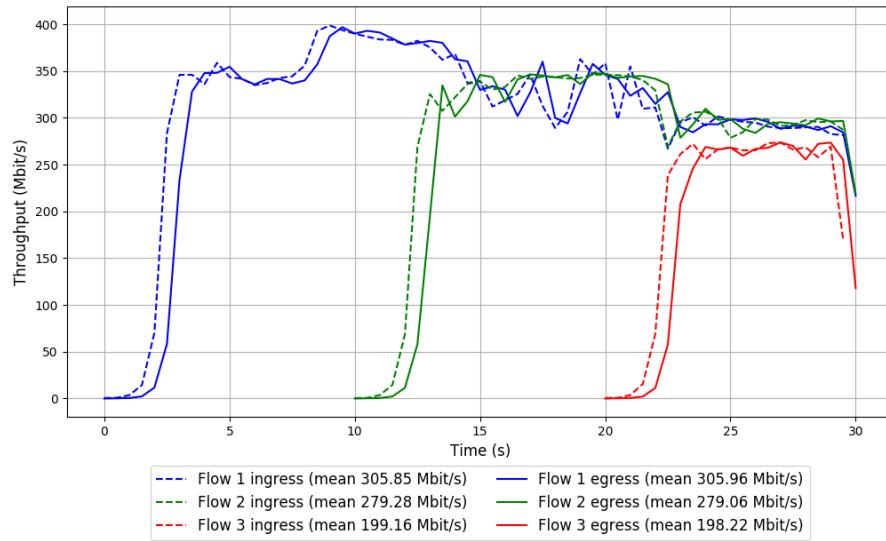


Run 1: Statistics of Copa

```
Start at: 2018-09-07 12:51:51
End at: 2018-09-07 12:52:21
Local clock offset: 0.326 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-09-07 15:54:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 555.71 Mbit/s
95th percentile per-packet one-way delay: 154.661 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 305.96 Mbit/s
95th percentile per-packet one-way delay: 163.716 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 279.06 Mbit/s
95th percentile per-packet one-way delay: 140.312 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 198.22 Mbit/s
95th percentile per-packet one-way delay: 125.717 ms
Loss rate: 3.02%
```

Run 1: Report of Copa — Data Link

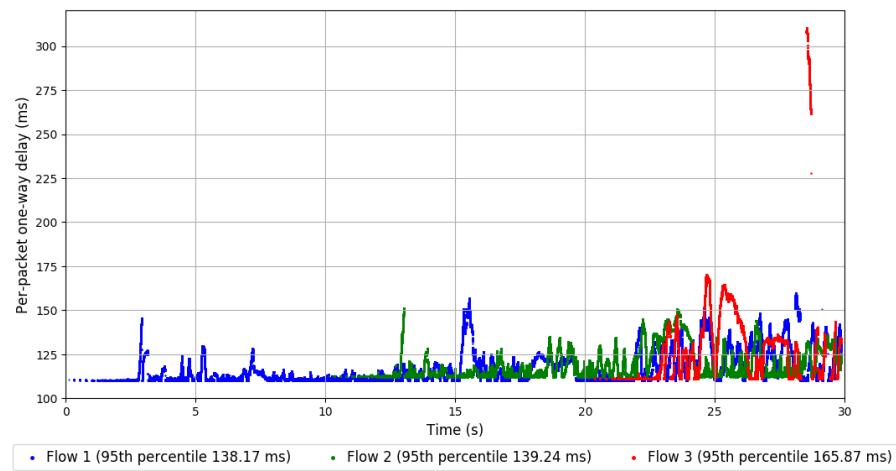
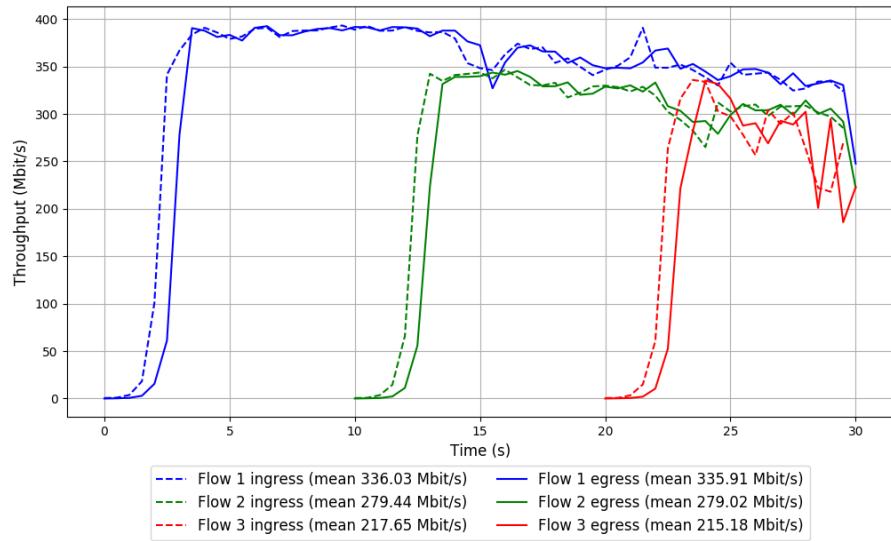


Run 2: Statistics of Copa

```
Start at: 2018-09-07 13:25:22
End at: 2018-09-07 13:25:52
Local clock offset: -0.714 ms
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2018-09-07 15:55:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 591.42 Mbit/s
95th percentile per-packet one-way delay: 141.935 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 335.91 Mbit/s
95th percentile per-packet one-way delay: 138.174 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 279.02 Mbit/s
95th percentile per-packet one-way delay: 139.244 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 215.18 Mbit/s
95th percentile per-packet one-way delay: 165.873 ms
Loss rate: 3.35%
```

Run 2: Report of Copa — Data Link

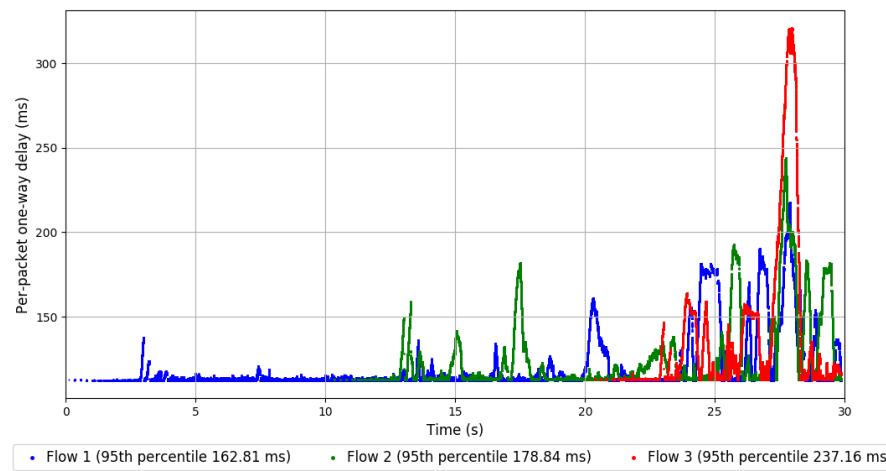
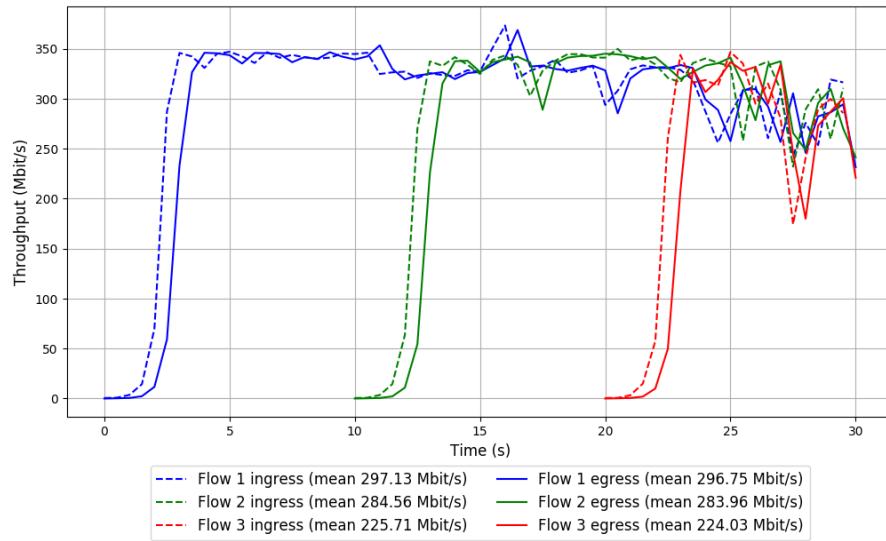


Run 3: Statistics of Copa

```
Start at: 2018-09-07 13:58:41
End at: 2018-09-07 13:59:11
Local clock offset: 0.177 ms
Remote clock offset: 0.283 ms

# Below is generated by plot.py at 2018-09-07 15:55:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 558.44 Mbit/s
95th percentile per-packet one-way delay: 176.266 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 296.75 Mbit/s
95th percentile per-packet one-way delay: 162.810 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 283.96 Mbit/s
95th percentile per-packet one-way delay: 178.845 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 224.03 Mbit/s
95th percentile per-packet one-way delay: 237.155 ms
Loss rate: 2.98%
```

Run 3: Report of Copa — Data Link

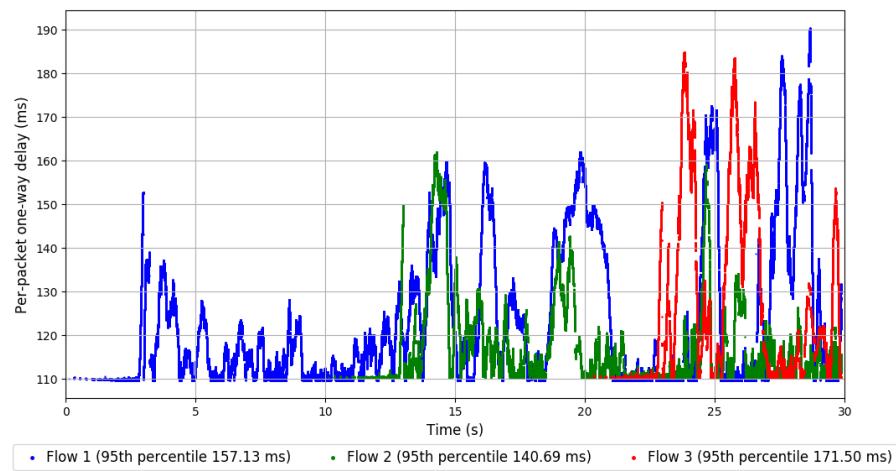
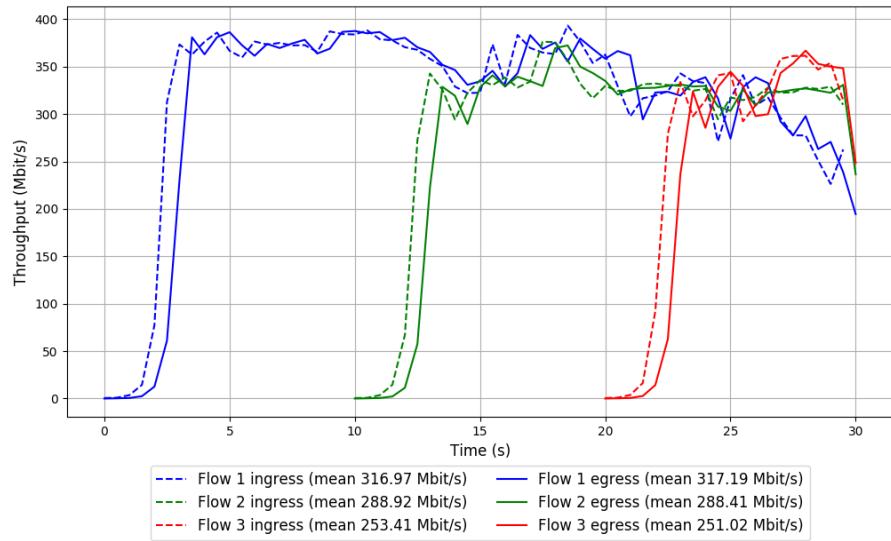


Run 4: Statistics of Copa

```
Start at: 2018-09-07 14:31:56
End at: 2018-09-07 14:32:26
Local clock offset: -0.27 ms
Remote clock offset: 0.265 ms

# Below is generated by plot.py at 2018-09-07 16:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 590.64 Mbit/s
95th percentile per-packet one-way delay: 156.559 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 317.19 Mbit/s
95th percentile per-packet one-way delay: 157.131 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 288.41 Mbit/s
95th percentile per-packet one-way delay: 140.691 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 251.02 Mbit/s
95th percentile per-packet one-way delay: 171.499 ms
Loss rate: 3.11%
```

Run 4: Report of Copa — Data Link

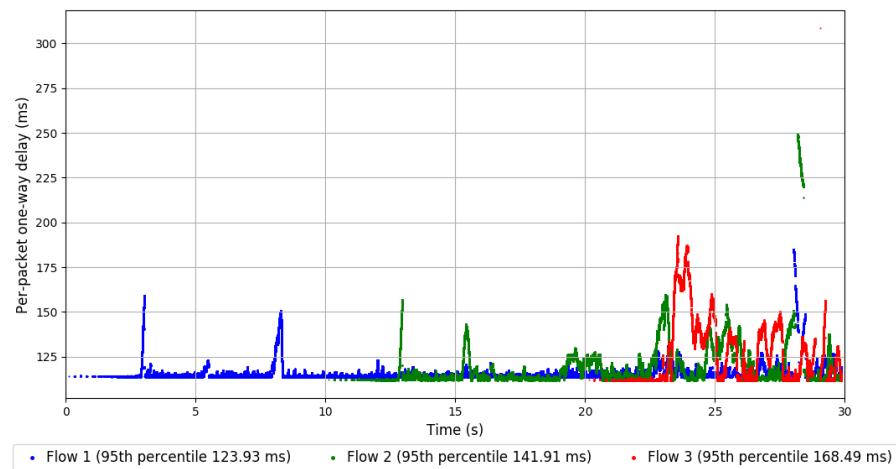
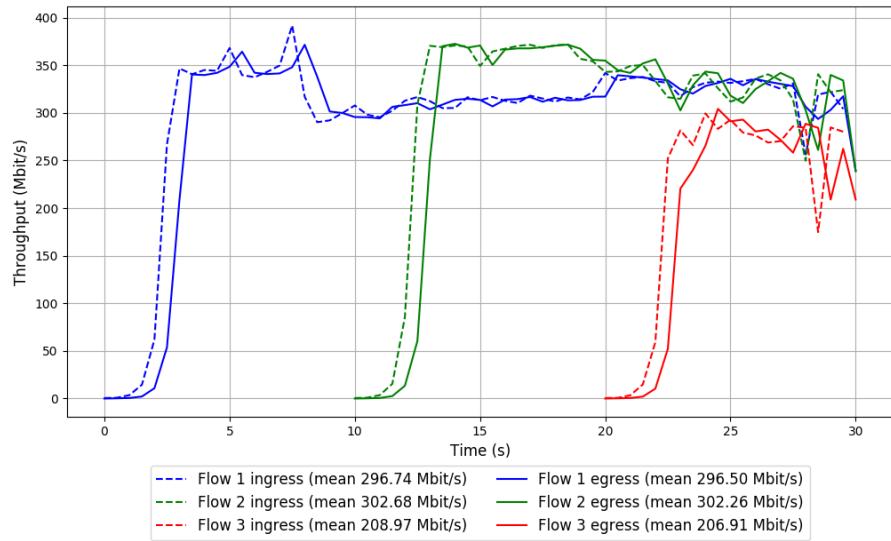


Run 5: Statistics of Copa

```
Start at: 2018-09-07 15:05:39
End at: 2018-09-07 15:06:09
Local clock offset: -0.22 ms
Remote clock offset: 0.331 ms

# Below is generated by plot.py at 2018-09-07 16:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.79 Mbit/s
95th percentile per-packet one-way delay: 142.088 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 296.50 Mbit/s
95th percentile per-packet one-way delay: 123.934 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 302.26 Mbit/s
95th percentile per-packet one-way delay: 141.912 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 206.91 Mbit/s
95th percentile per-packet one-way delay: 168.494 ms
Loss rate: 3.20%
```

Run 5: Report of Copa — Data Link

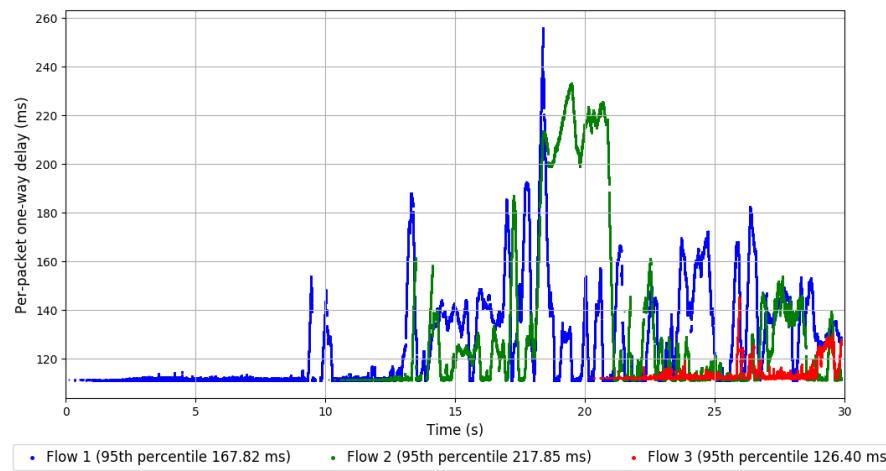
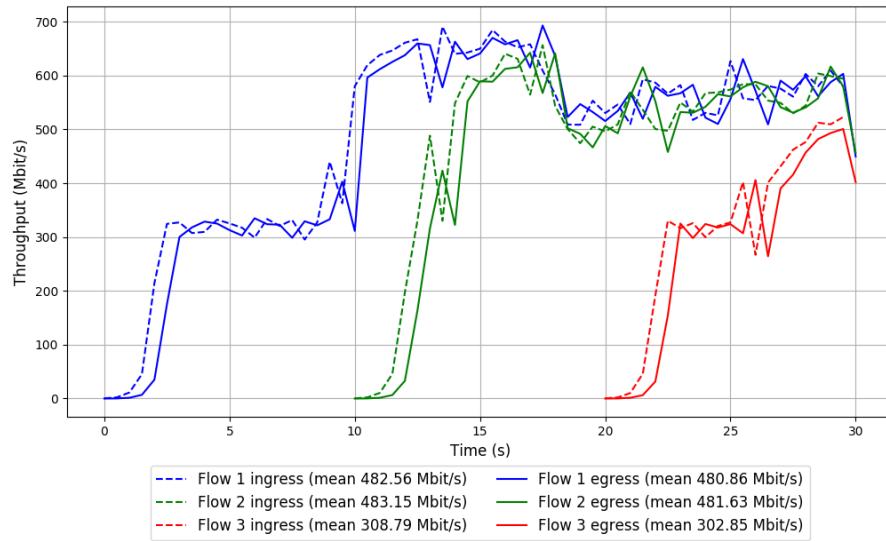


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-07 13:03:09
End at: 2018-09-07 13:03:39
Local clock offset: -0.123 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-09-07 16:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 899.64 Mbit/s
95th percentile per-packet one-way delay: 199.791 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 480.86 Mbit/s
95th percentile per-packet one-way delay: 167.824 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 481.63 Mbit/s
95th percentile per-packet one-way delay: 217.853 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 302.85 Mbit/s
95th percentile per-packet one-way delay: 126.397 ms
Loss rate: 4.13%
```

Run 1: Report of TCP Cubic — Data Link

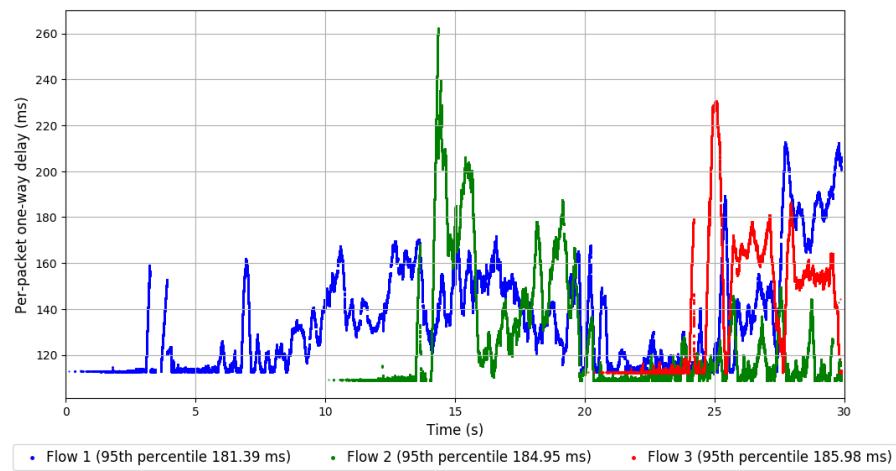
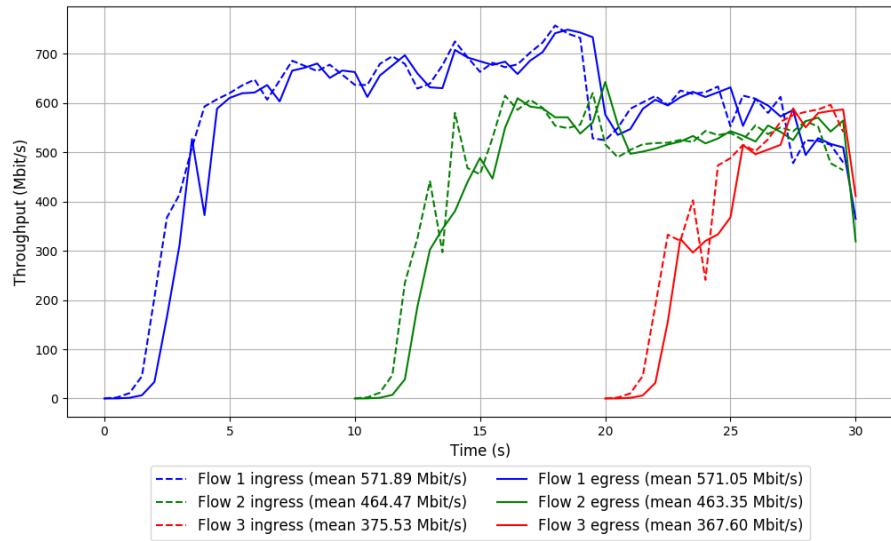


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-07 13:36:51
End at: 2018-09-07 13:37:21
Local clock offset: -0.042 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2018-09-07 16:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 999.11 Mbit/s
95th percentile per-packet one-way delay: 182.530 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 571.05 Mbit/s
95th percentile per-packet one-way delay: 181.388 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 463.35 Mbit/s
95th percentile per-packet one-way delay: 184.952 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 367.60 Mbit/s
95th percentile per-packet one-way delay: 185.981 ms
Loss rate: 4.31%
```

Run 2: Report of TCP Cubic — Data Link

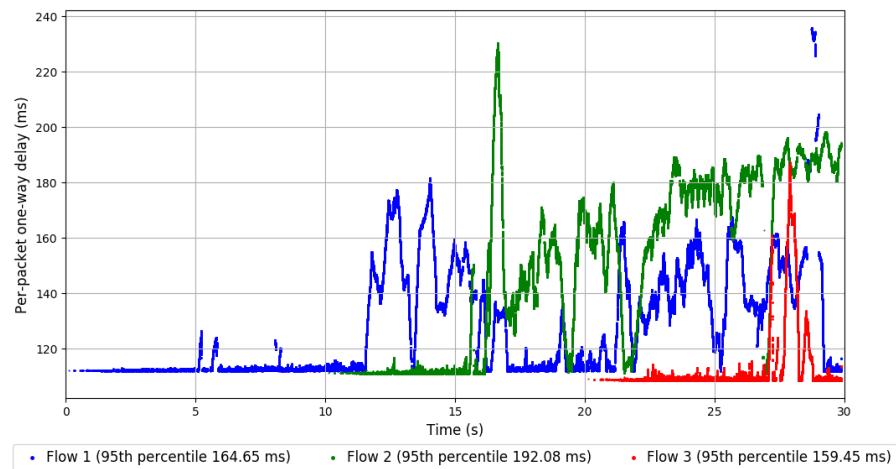
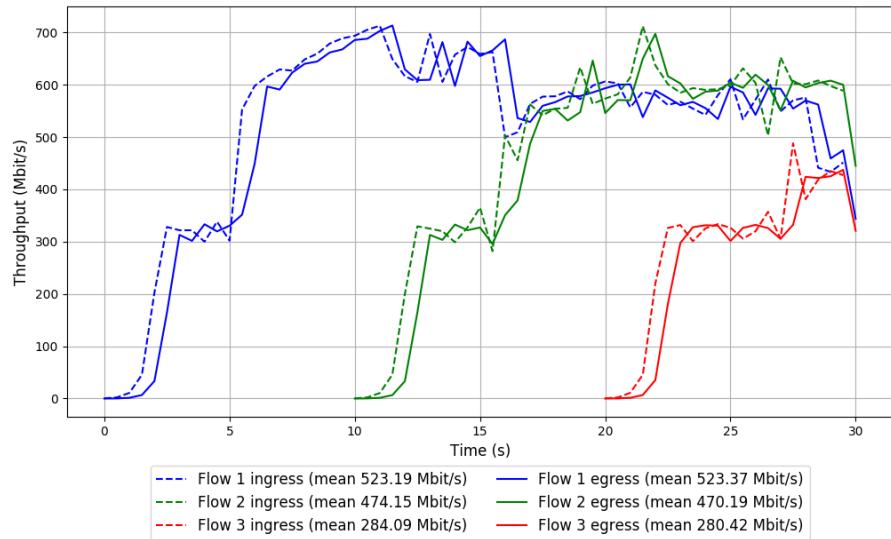


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-07 14:09:50
End at: 2018-09-07 14:10:20
Local clock offset: -0.865 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-09-07 16:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 927.16 Mbit/s
95th percentile per-packet one-way delay: 186.888 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 523.37 Mbit/s
95th percentile per-packet one-way delay: 164.650 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 470.19 Mbit/s
95th percentile per-packet one-way delay: 192.082 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 280.42 Mbit/s
95th percentile per-packet one-way delay: 159.448 ms
Loss rate: 3.49%
```

Run 3: Report of TCP Cubic — Data Link

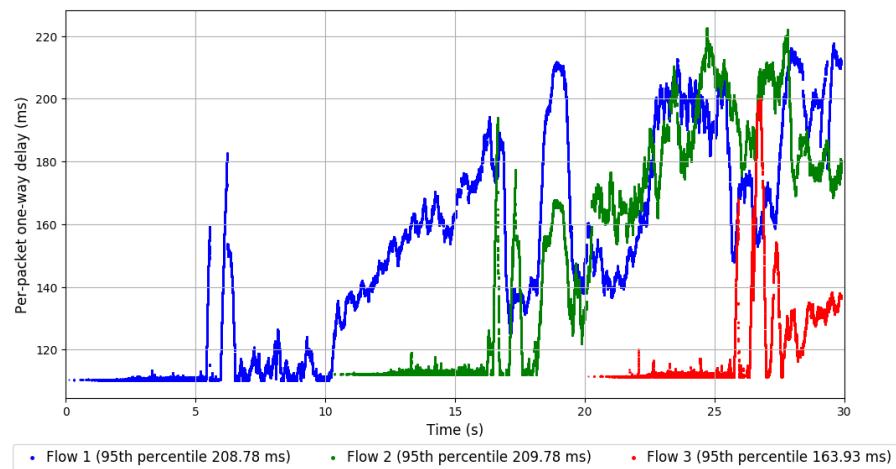
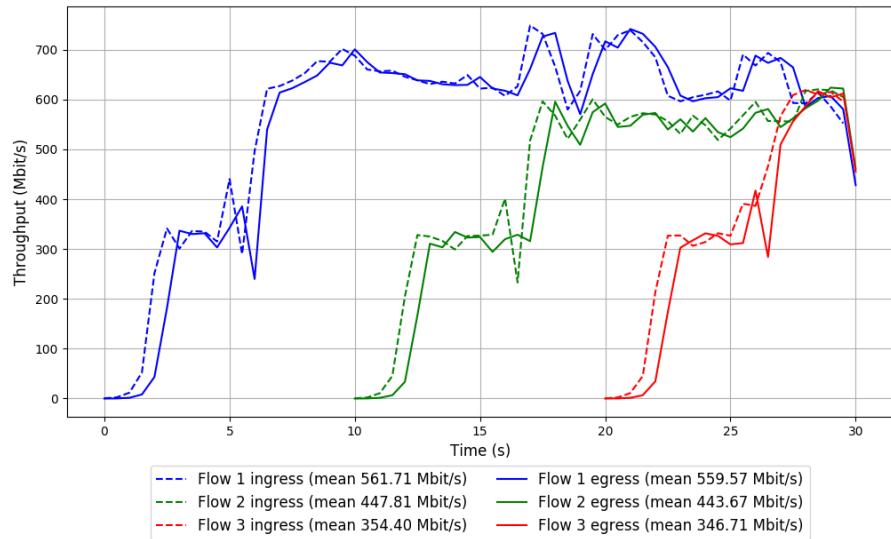


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-07 14:43:12
End at: 2018-09-07 14:43:42
Local clock offset: -0.177 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2018-09-07 16:11:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 967.54 Mbit/s
95th percentile per-packet one-way delay: 208.410 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 559.57 Mbit/s
95th percentile per-packet one-way delay: 208.778 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 443.67 Mbit/s
95th percentile per-packet one-way delay: 209.785 ms
Loss rate: 2.03%
-- Flow 3:
Average throughput: 346.71 Mbit/s
95th percentile per-packet one-way delay: 163.925 ms
Loss rate: 4.35%
```

Run 4: Report of TCP Cubic — Data Link

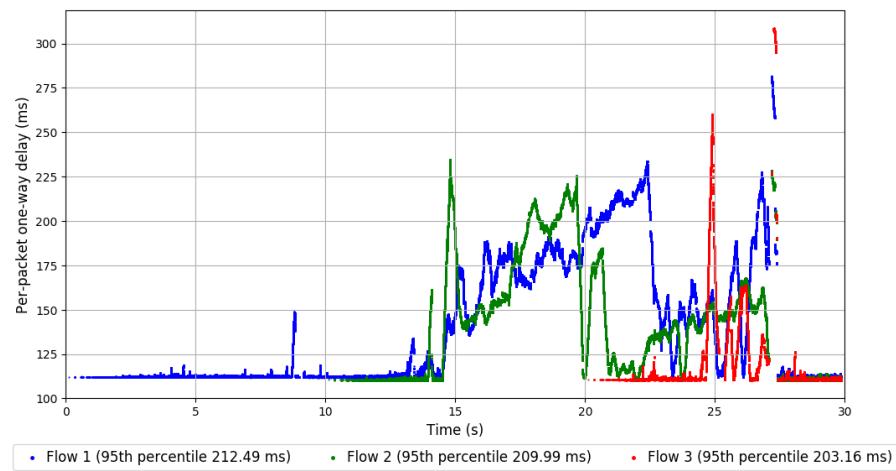
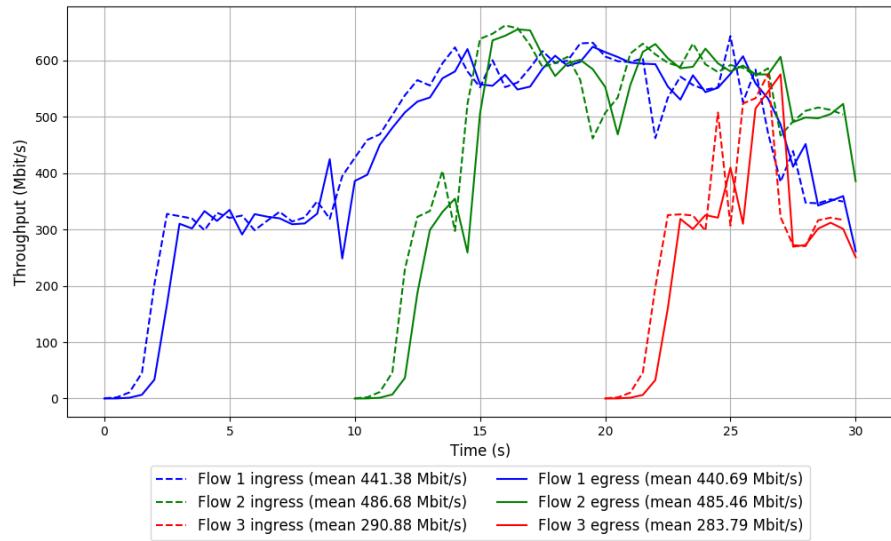


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-07 15:16:49
End at: 2018-09-07 15:17:19
Local clock offset: -0.354 ms
Remote clock offset: 0.331 ms

# Below is generated by plot.py at 2018-09-07 16:11:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 855.79 Mbit/s
95th percentile per-packet one-way delay: 211.450 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 440.69 Mbit/s
95th percentile per-packet one-way delay: 212.488 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 485.46 Mbit/s
95th percentile per-packet one-way delay: 209.989 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 283.79 Mbit/s
95th percentile per-packet one-way delay: 203.160 ms
Loss rate: 4.62%
```

Run 5: Report of TCP Cubic — Data Link

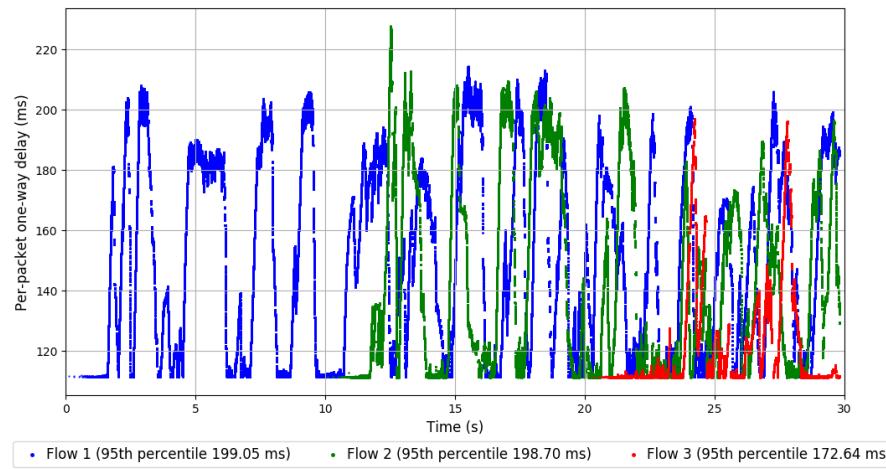
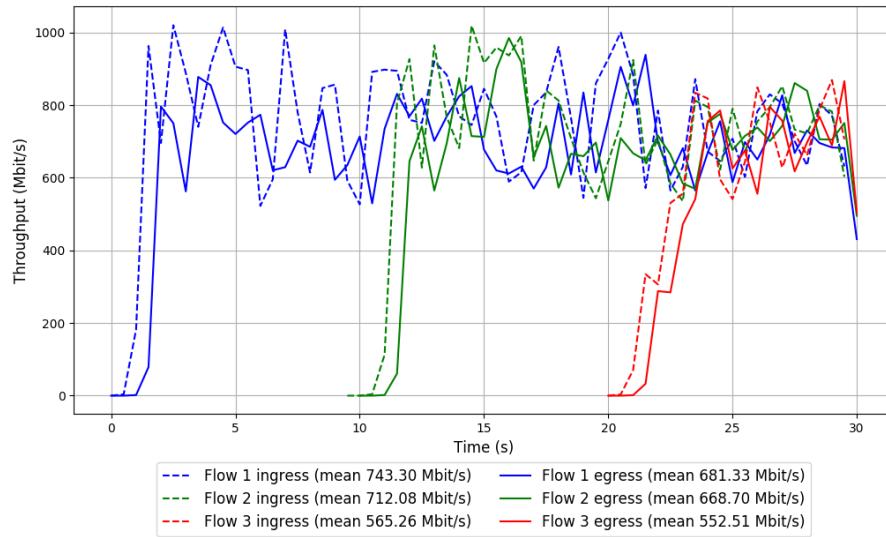


Run 1: Statistics of FillP

```
Start at: 2018-09-07 12:39:01
End at: 2018-09-07 12:39:31
Local clock offset: 0.354 ms
Remote clock offset: 0.343 ms

# Below is generated by plot.py at 2018-09-07 16:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1305.53 Mbit/s
95th percentile per-packet one-way delay: 197.933 ms
Loss rate: 7.77%
-- Flow 1:
Average throughput: 681.33 Mbit/s
95th percentile per-packet one-way delay: 199.047 ms
Loss rate: 9.02%
-- Flow 2:
Average throughput: 668.70 Mbit/s
95th percentile per-packet one-way delay: 198.703 ms
Loss rate: 7.14%
-- Flow 3:
Average throughput: 552.51 Mbit/s
95th percentile per-packet one-way delay: 172.639 ms
Loss rate: 4.44%
```

Run 1: Report of FillP — Data Link

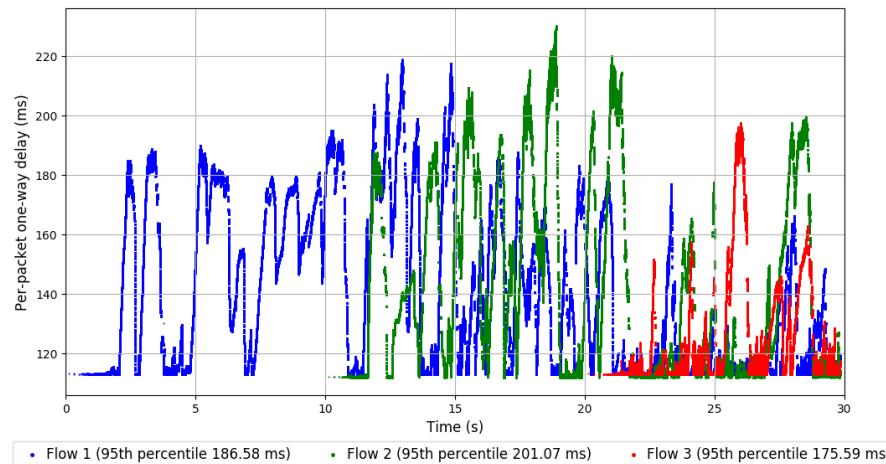
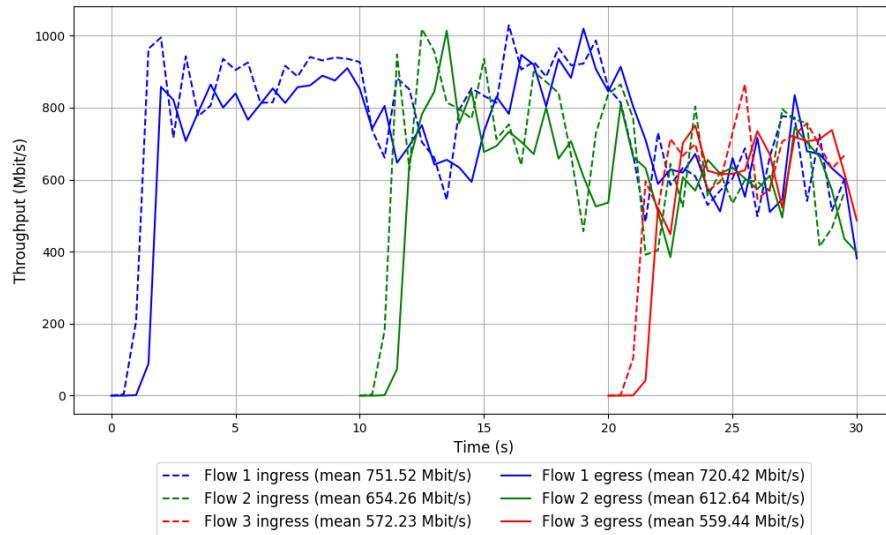


Run 2: Statistics of FillP

```
Start at: 2018-09-07 13:12:09
End at: 2018-09-07 13:12:39
Local clock offset: 1.155 ms
Remote clock offset: 0.386 ms

# Below is generated by plot.py at 2018-09-07 16:35:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1309.43 Mbit/s
95th percentile per-packet one-way delay: 191.518 ms
Loss rate: 5.61%
-- Flow 1:
Average throughput: 720.42 Mbit/s
95th percentile per-packet one-way delay: 186.582 ms
Loss rate: 4.86%
-- Flow 2:
Average throughput: 612.64 Mbit/s
95th percentile per-packet one-way delay: 201.073 ms
Loss rate: 7.42%
-- Flow 3:
Average throughput: 559.44 Mbit/s
95th percentile per-packet one-way delay: 175.587 ms
Loss rate: 4.44%
```

Run 2: Report of FillP — Data Link

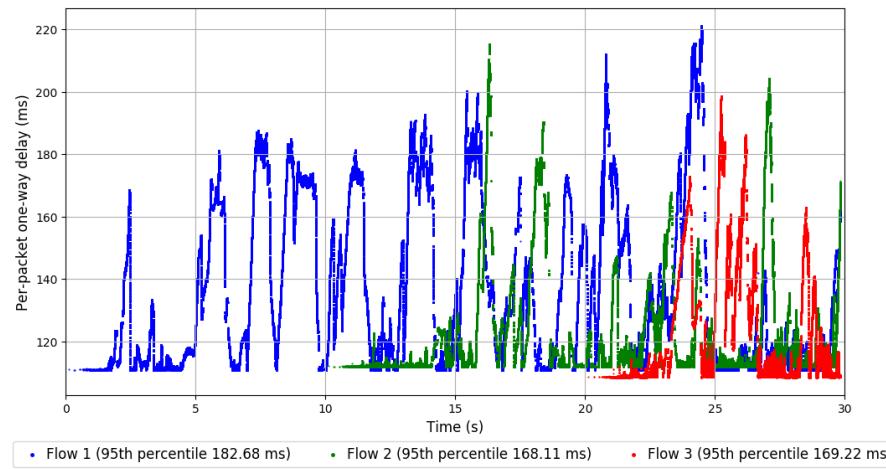
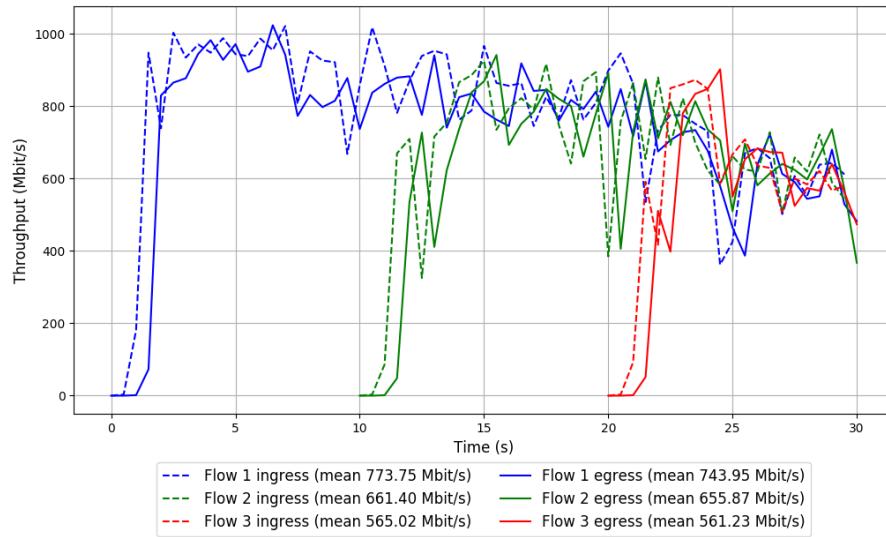


Run 3: Statistics of FillP

```
Start at: 2018-09-07 13:45:54
End at: 2018-09-07 13:46:24
Local clock offset: -0.743 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-09-07 16:37:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1362.24 Mbit/s
95th percentile per-packet one-way delay: 179.737 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 743.95 Mbit/s
95th percentile per-packet one-way delay: 182.679 ms
Loss rate: 4.56%
-- Flow 2:
Average throughput: 655.87 Mbit/s
95th percentile per-packet one-way delay: 168.107 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 561.23 Mbit/s
95th percentile per-packet one-way delay: 169.220 ms
Loss rate: 2.88%
```

Run 3: Report of FillP — Data Link

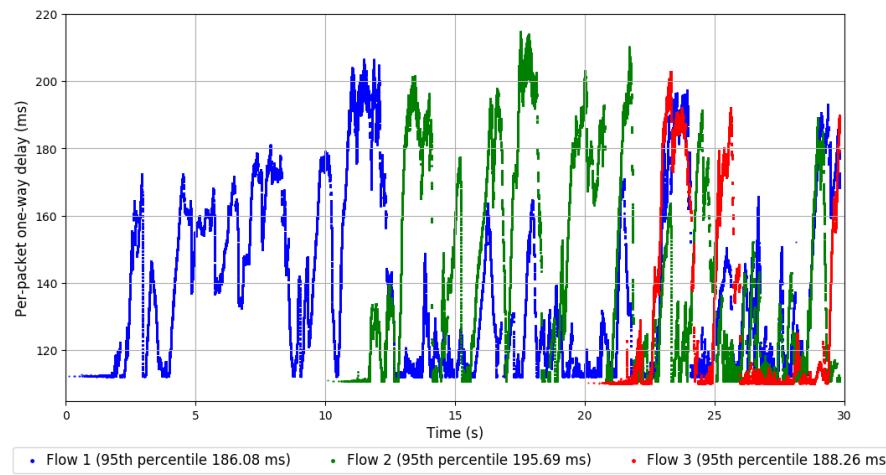
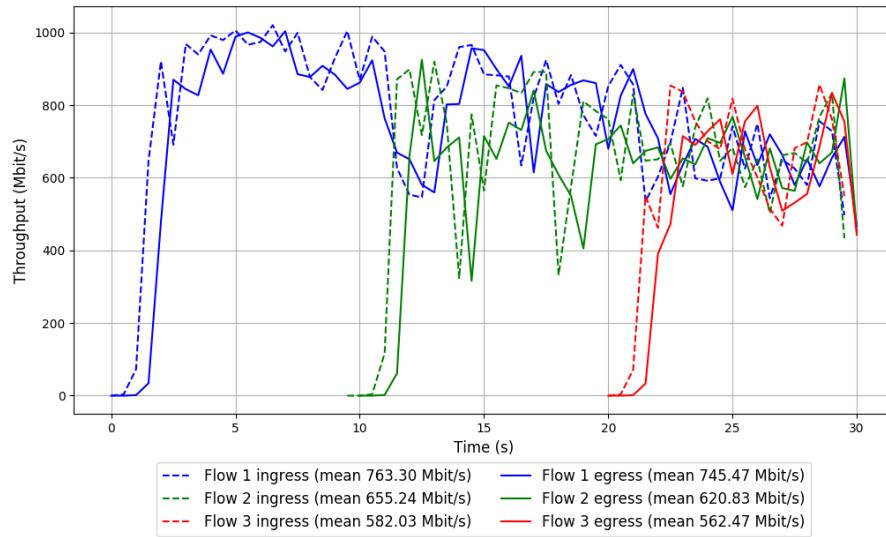


Run 4: Statistics of FillP

```
Start at: 2018-09-07 14:18:40
End at: 2018-09-07 14:19:10
Local clock offset: -0.479 ms
Remote clock offset: -0.443 ms

# Below is generated by plot.py at 2018-09-07 16:37:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1340.85 Mbit/s
95th percentile per-packet one-way delay: 190.821 ms
Loss rate: 4.42%
-- Flow 1:
Average throughput: 745.47 Mbit/s
95th percentile per-packet one-way delay: 186.079 ms
Loss rate: 3.04%
-- Flow 2:
Average throughput: 620.83 Mbit/s
95th percentile per-packet one-way delay: 195.689 ms
Loss rate: 6.32%
-- Flow 3:
Average throughput: 562.47 Mbit/s
95th percentile per-packet one-way delay: 188.264 ms
Loss rate: 5.54%
```

Run 4: Report of FillP — Data Link

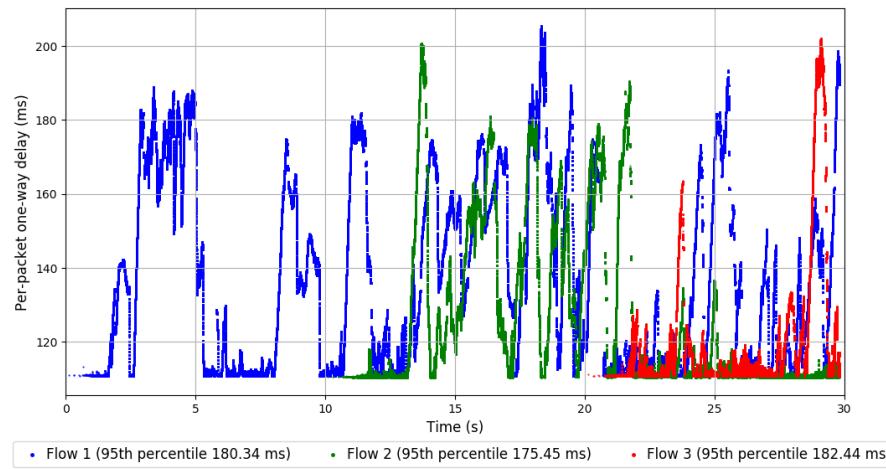
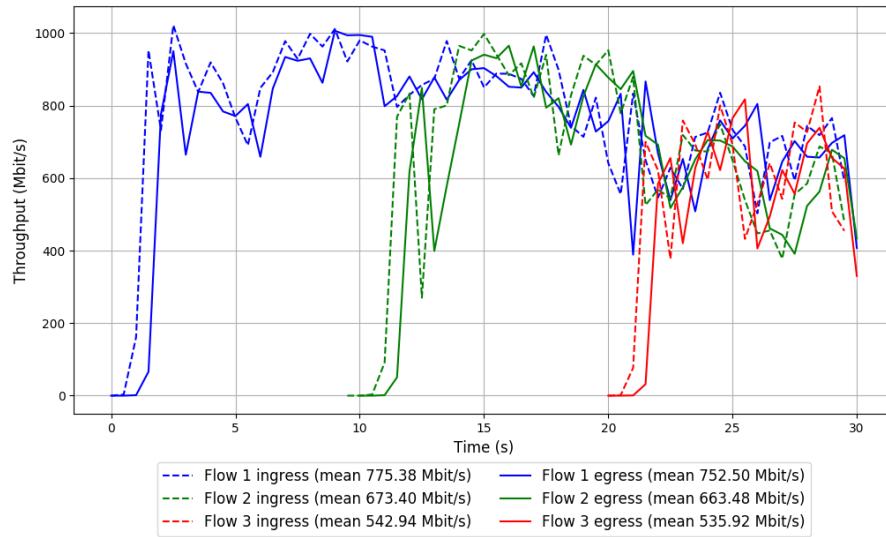


Run 5: Statistics of FillP

```
Start at: 2018-09-07 14:52:19
End at: 2018-09-07 14:52:49
Local clock offset: -0.325 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2018-09-07 16:37:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1367.68 Mbit/s
95th percentile per-packet one-way delay: 178.478 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 752.50 Mbit/s
95th percentile per-packet one-way delay: 180.339 ms
Loss rate: 3.68%
-- Flow 2:
Average throughput: 663.48 Mbit/s
95th percentile per-packet one-way delay: 175.446 ms
Loss rate: 2.52%
-- Flow 3:
Average throughput: 535.92 Mbit/s
95th percentile per-packet one-way delay: 182.435 ms
Loss rate: 3.53%
```

Run 5: Report of FillP — Data Link

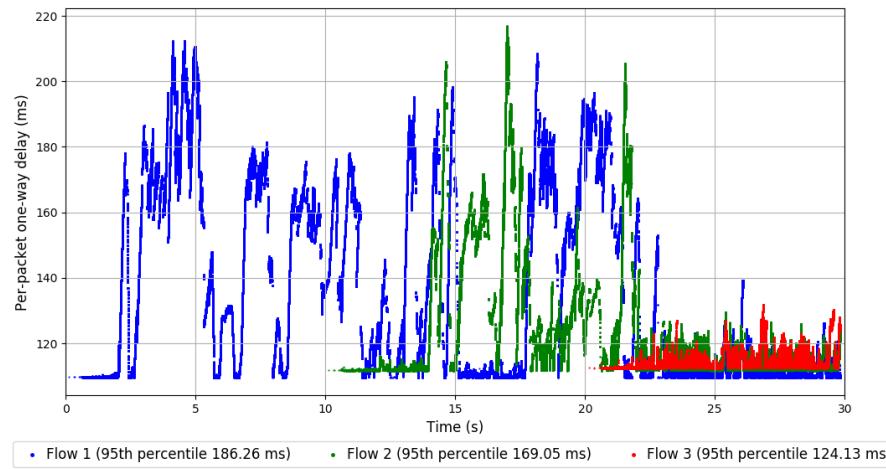
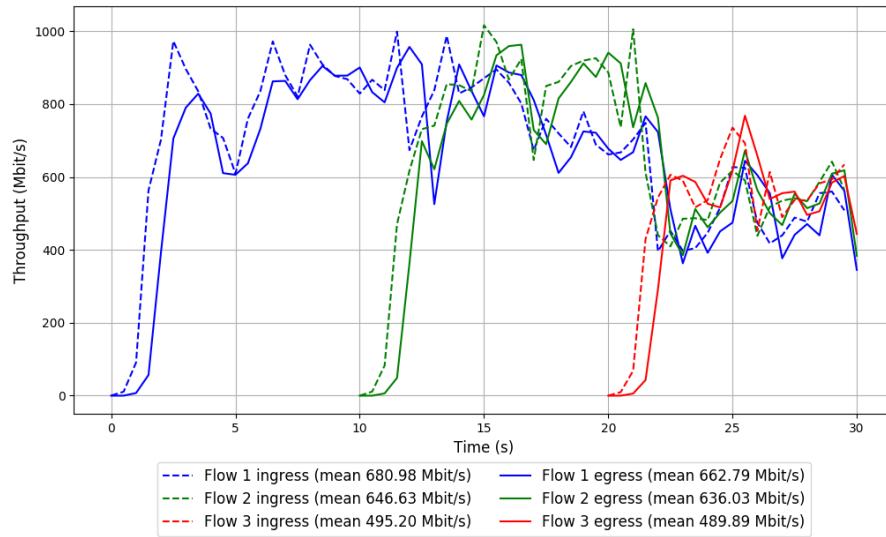


Run 1: Statistics of FillP-Sheep

```
Start at: 2018-09-07 12:49:38
End at: 2018-09-07 12:50:08
Local clock offset: -0.127 ms
Remote clock offset: -0.396 ms

# Below is generated by plot.py at 2018-09-07 16:37:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1244.35 Mbit/s
95th percentile per-packet one-way delay: 181.376 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 662.79 Mbit/s
95th percentile per-packet one-way delay: 186.261 ms
Loss rate: 3.38%
-- Flow 2:
Average throughput: 636.03 Mbit/s
95th percentile per-packet one-way delay: 169.050 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 489.89 Mbit/s
95th percentile per-packet one-way delay: 124.129 ms
Loss rate: 3.29%
```

Run 1: Report of FillP-Sheep — Data Link

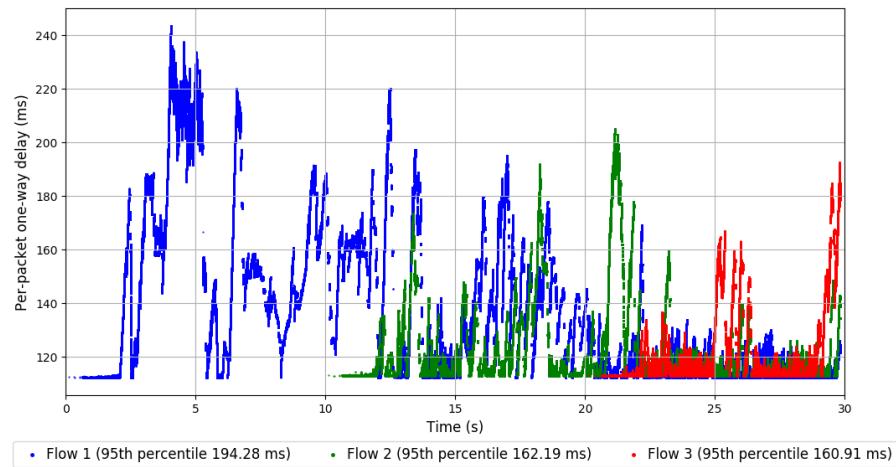
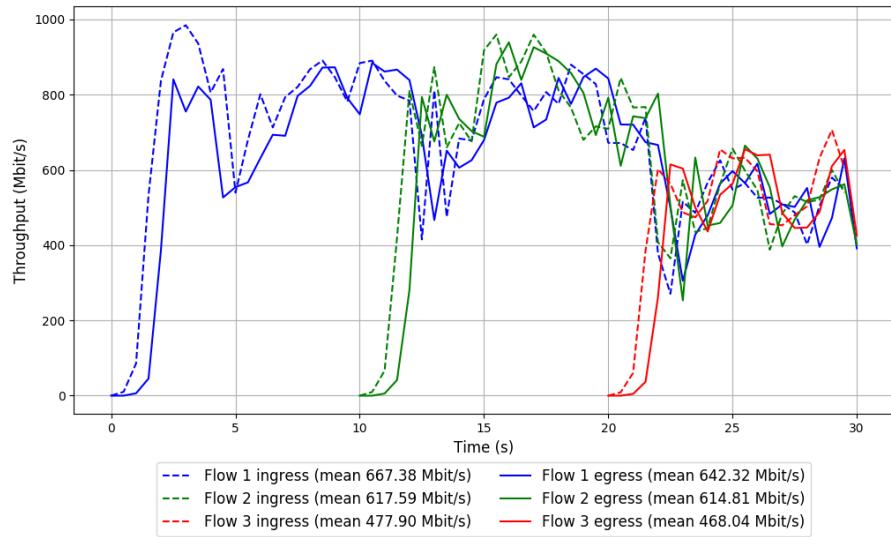


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-07 13:23:09
End at: 2018-09-07 13:23:39
Local clock offset: 1.147 ms
Remote clock offset: -0.367 ms

# Below is generated by plot.py at 2018-09-07 16:37:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1202.10 Mbit/s
95th percentile per-packet one-way delay: 183.213 ms
Loss rate: 3.48%
-- Flow 1:
Average throughput: 642.32 Mbit/s
95th percentile per-packet one-way delay: 194.284 ms
Loss rate: 4.47%
-- Flow 2:
Average throughput: 614.81 Mbit/s
95th percentile per-packet one-way delay: 162.192 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 468.04 Mbit/s
95th percentile per-packet one-way delay: 160.914 ms
Loss rate: 4.28%
```

Run 2: Report of FillP-Sheep — Data Link

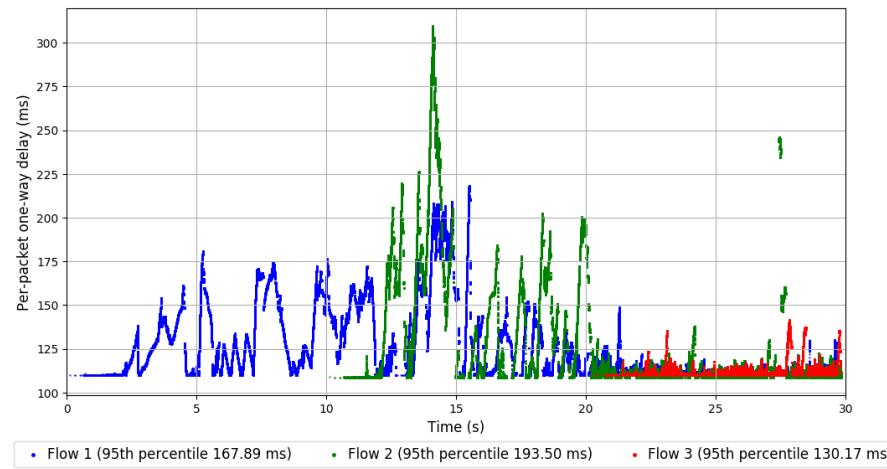
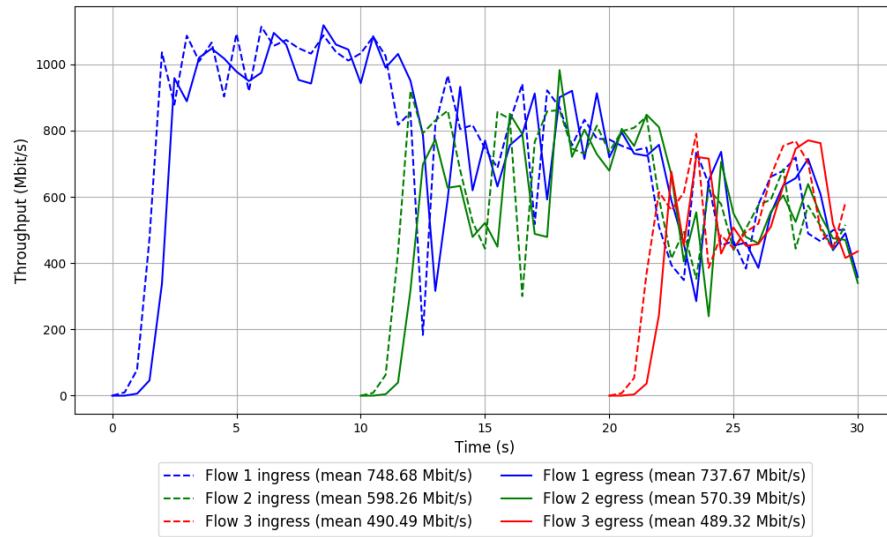


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-07 13:56:25
End at: 2018-09-07 13:56:55
Local clock offset: -1.241 ms
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2018-09-07 16:38:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1275.70 Mbit/s
95th percentile per-packet one-way delay: 174.727 ms
Loss rate: 3.33%
-- Flow 1:
Average throughput: 737.67 Mbit/s
95th percentile per-packet one-way delay: 167.886 ms
Loss rate: 2.21%
-- Flow 2:
Average throughput: 570.39 Mbit/s
95th percentile per-packet one-way delay: 193.504 ms
Loss rate: 5.71%
-- Flow 3:
Average throughput: 489.32 Mbit/s
95th percentile per-packet one-way delay: 130.170 ms
Loss rate: 2.70%
```

Run 3: Report of FillP-Sheep — Data Link

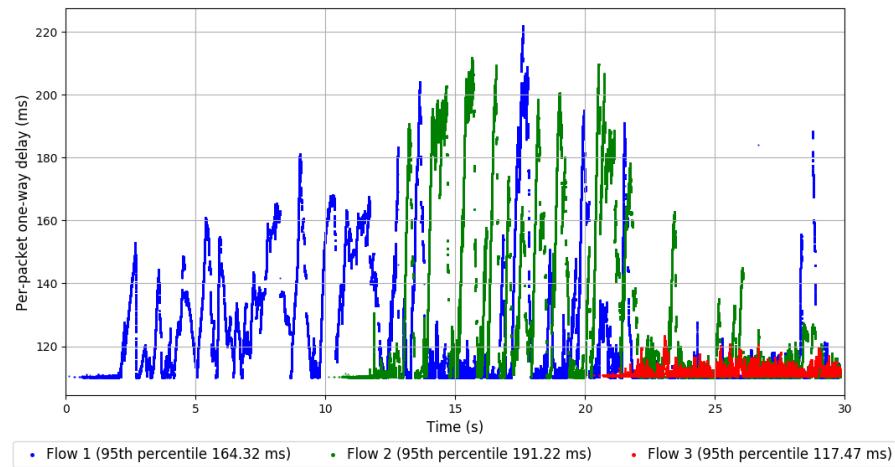
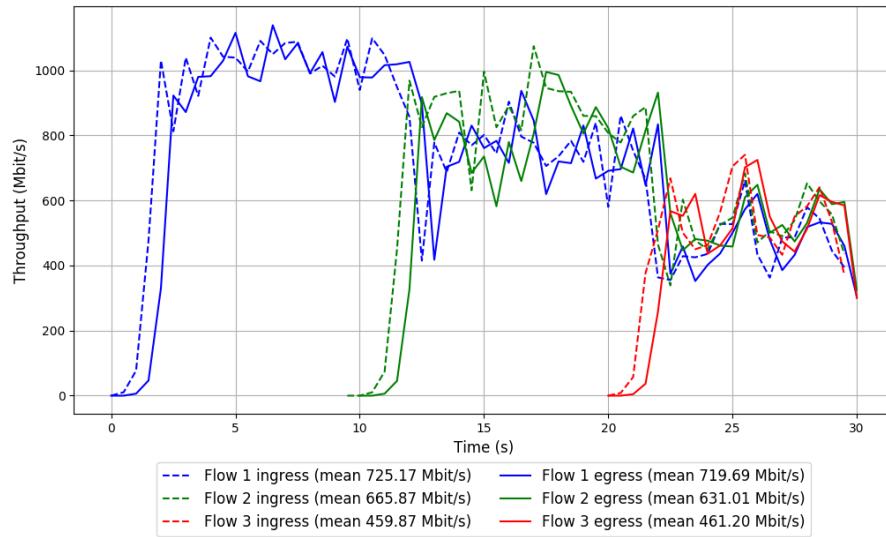


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-07 14:29:41
End at: 2018-09-07 14:30:11
Local clock offset: -0.153 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-09-07 16:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1288.70 Mbit/s
95th percentile per-packet one-way delay: 177.976 ms
Loss rate: 3.19%
-- Flow 1:
Average throughput: 719.69 Mbit/s
95th percentile per-packet one-way delay: 164.325 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 631.01 Mbit/s
95th percentile per-packet one-way delay: 191.218 ms
Loss rate: 6.29%
-- Flow 3:
Average throughput: 461.20 Mbit/s
95th percentile per-packet one-way delay: 117.469 ms
Loss rate: 1.98%
```

Run 4: Report of FillP-Sheep — Data Link

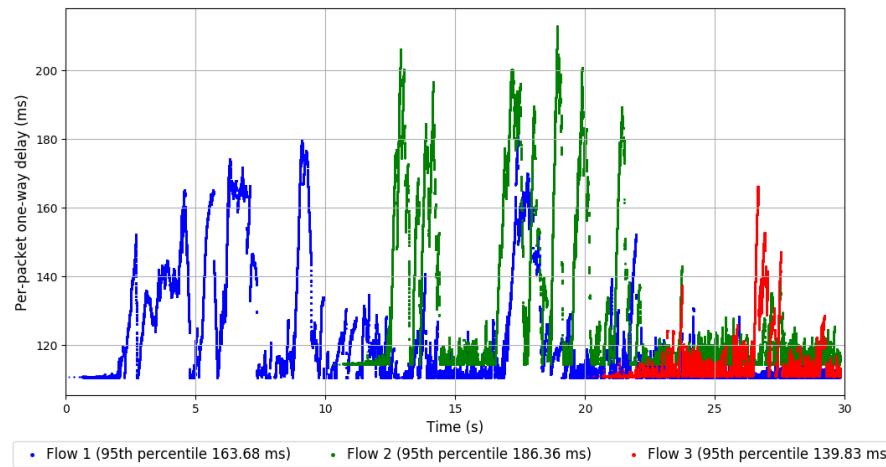
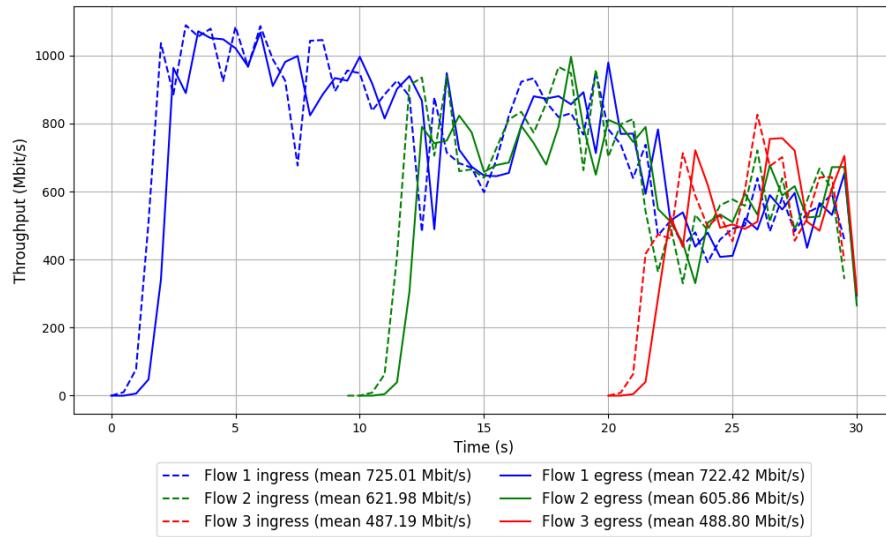


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-07 15:03:24
End at: 2018-09-07 15:03:54
Local clock offset: -0.136 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1283.89 Mbit/s
95th percentile per-packet one-way delay: 171.188 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 722.42 Mbit/s
95th percentile per-packet one-way delay: 163.678 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 605.86 Mbit/s
95th percentile per-packet one-way delay: 186.359 ms
Loss rate: 3.62%
-- Flow 3:
Average throughput: 488.80 Mbit/s
95th percentile per-packet one-way delay: 139.829 ms
Loss rate: 1.92%
```

Run 5: Report of FillP-Sheep — Data Link

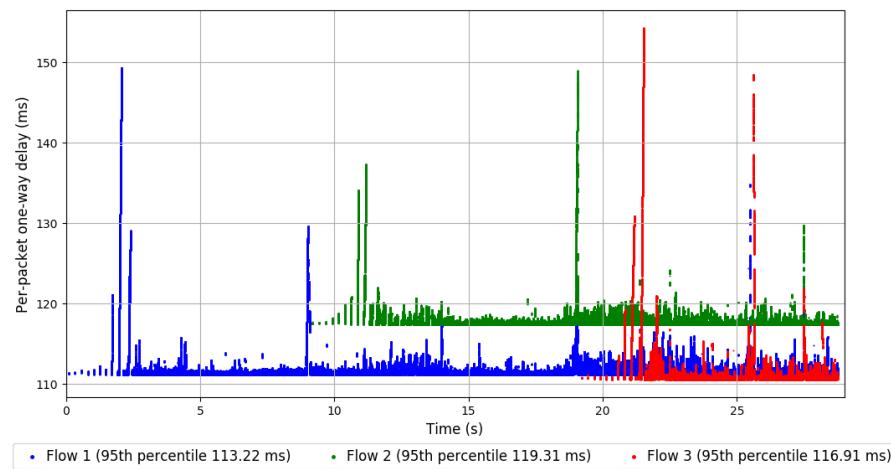
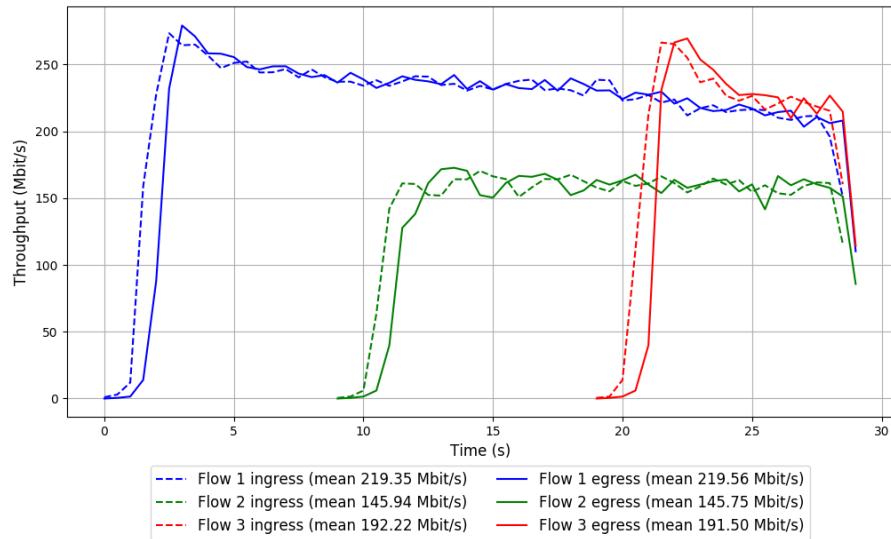


Run 1: Statistics of Indigo

```
Start at: 2018-09-07 13:01:14
End at: 2018-09-07 13:01:44
Local clock offset: 0.01 ms
Remote clock offset: -0.35 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.96 Mbit/s
95th percentile per-packet one-way delay: 118.418 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 219.56 Mbit/s
95th percentile per-packet one-way delay: 113.225 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 145.75 Mbit/s
95th percentile per-packet one-way delay: 119.305 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 191.50 Mbit/s
95th percentile per-packet one-way delay: 116.907 ms
Loss rate: 2.59%
```

Run 1: Report of Indigo — Data Link

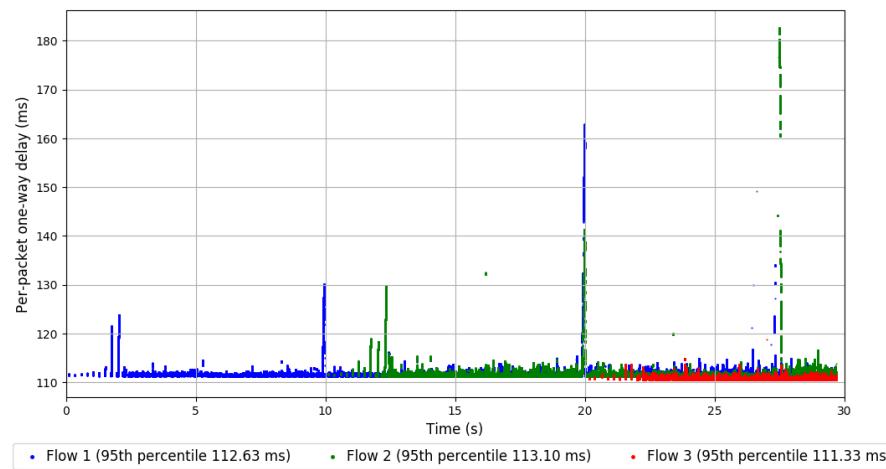
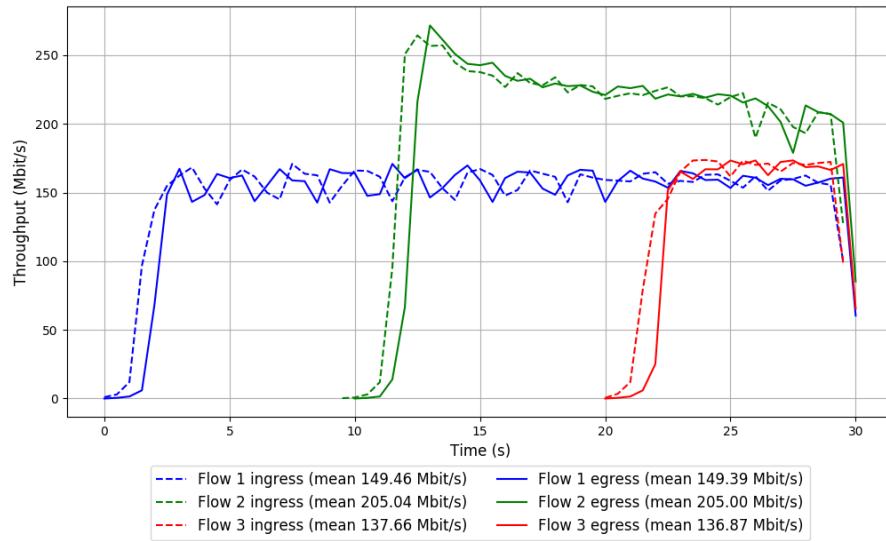


Run 2: Statistics of Indigo

```
Start at: 2018-09-07 13:35:00
End at: 2018-09-07 13:35:30
Local clock offset: -0.135 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.26 Mbit/s
95th percentile per-packet one-way delay: 112.671 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 149.39 Mbit/s
95th percentile per-packet one-way delay: 112.630 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 205.00 Mbit/s
95th percentile per-packet one-way delay: 113.100 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 136.87 Mbit/s
95th percentile per-packet one-way delay: 111.326 ms
Loss rate: 2.83%
```

Run 2: Report of Indigo — Data Link

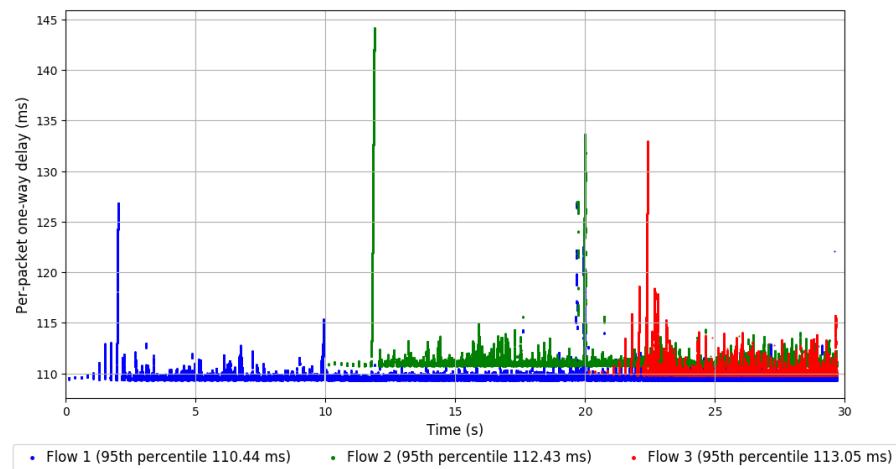
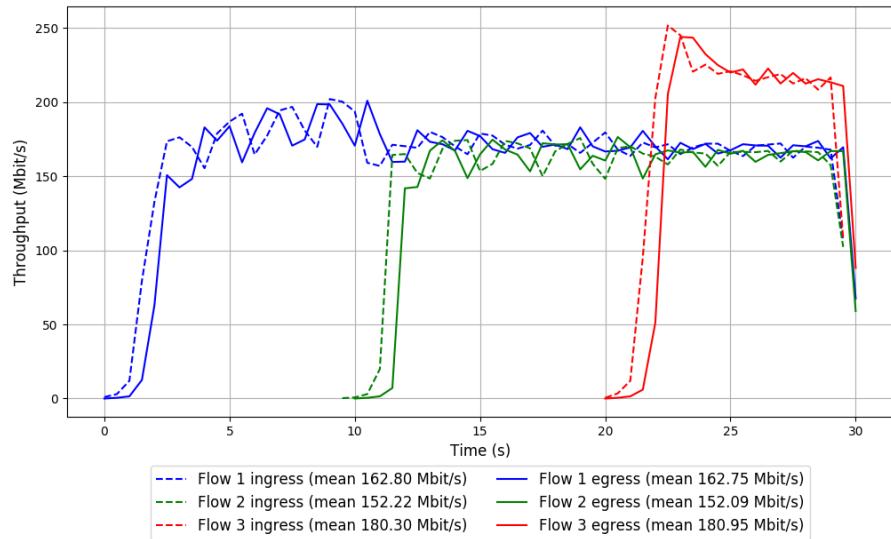


Run 3: Statistics of Indigo

```
Start at: 2018-09-07 14:08:00
End at: 2018-09-07 14:08:30
Local clock offset: -1.552 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.85 Mbit/s
95th percentile per-packet one-way delay: 111.781 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 162.75 Mbit/s
95th percentile per-packet one-way delay: 110.438 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 152.09 Mbit/s
95th percentile per-packet one-way delay: 112.426 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 180.95 Mbit/s
95th percentile per-packet one-way delay: 113.051 ms
Loss rate: 1.94%
```

Run 3: Report of Indigo — Data Link

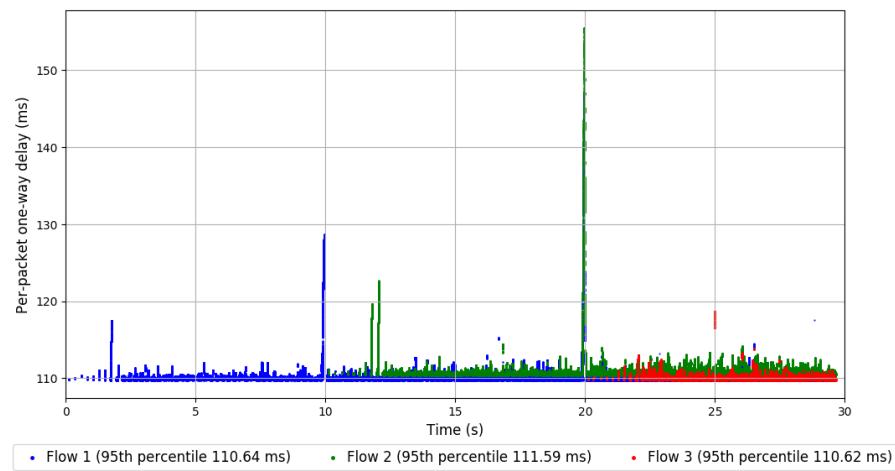
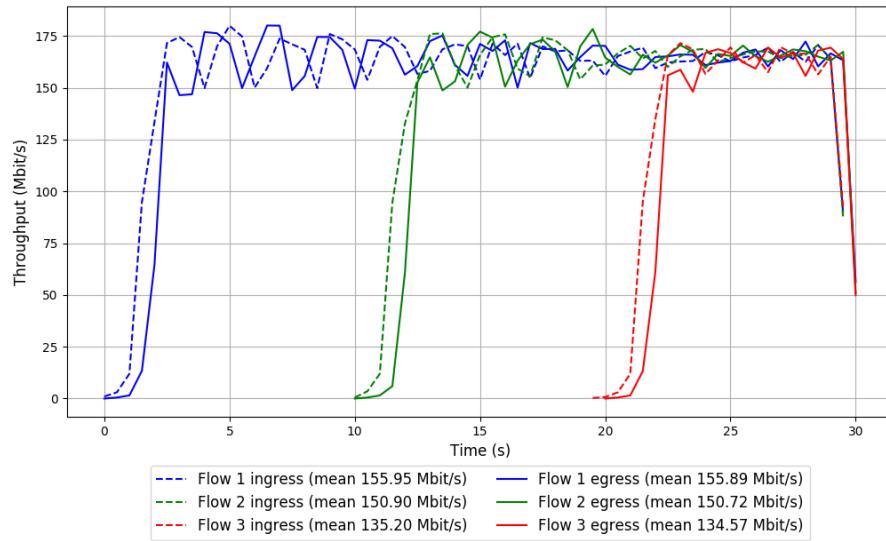


Run 4: Statistics of Indigo

```
Start at: 2018-09-07 14:41:23
End at: 2018-09-07 14:41:53
Local clock offset: -0.832 ms
Remote clock offset: -0.403 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.99 Mbit/s
95th percentile per-packet one-way delay: 111.100 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 155.89 Mbit/s
95th percentile per-packet one-way delay: 110.643 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 150.72 Mbit/s
95th percentile per-packet one-way delay: 111.595 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 134.57 Mbit/s
95th percentile per-packet one-way delay: 110.616 ms
Loss rate: 2.73%
```

Run 4: Report of Indigo — Data Link

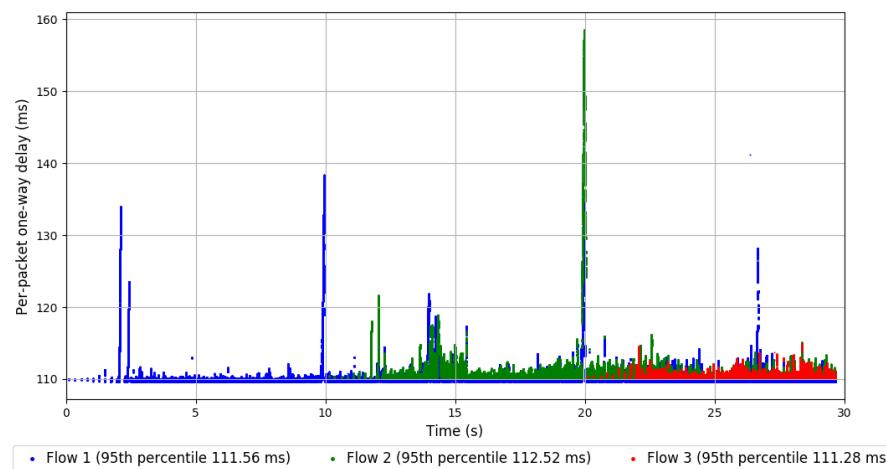
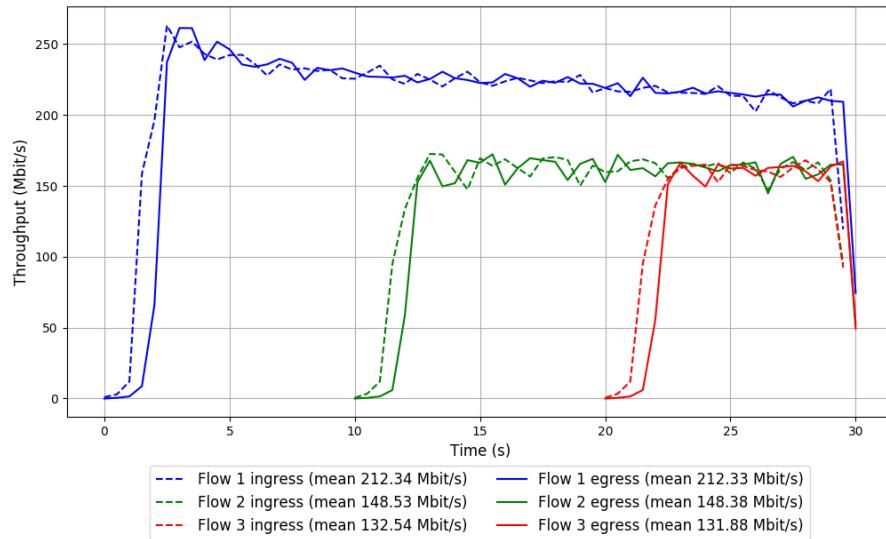


Run 5: Statistics of Indigo

```
Start at: 2018-09-07 15:14:55
End at: 2018-09-07 15:15:25
Local clock offset: -0.788 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 353.01 Mbit/s
95th percentile per-packet one-way delay: 111.847 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 212.33 Mbit/s
95th percentile per-packet one-way delay: 111.555 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 148.38 Mbit/s
95th percentile per-packet one-way delay: 112.520 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 131.88 Mbit/s
95th percentile per-packet one-way delay: 111.282 ms
Loss rate: 2.76%
```

Run 5: Report of Indigo — Data Link

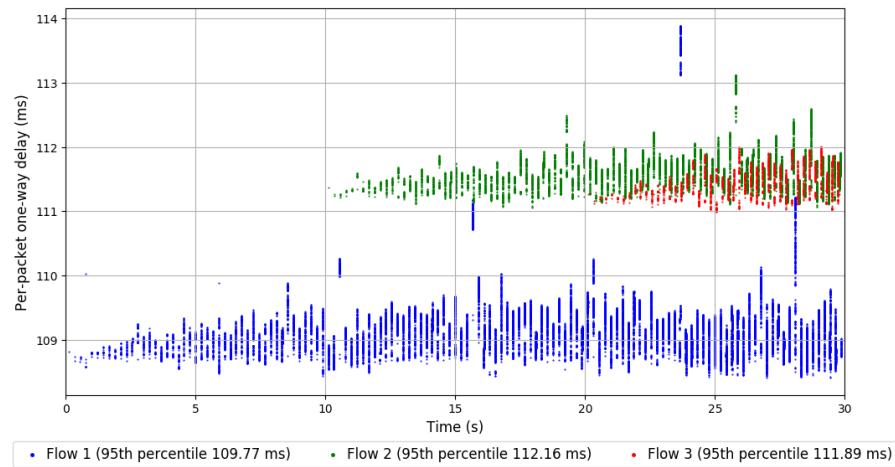
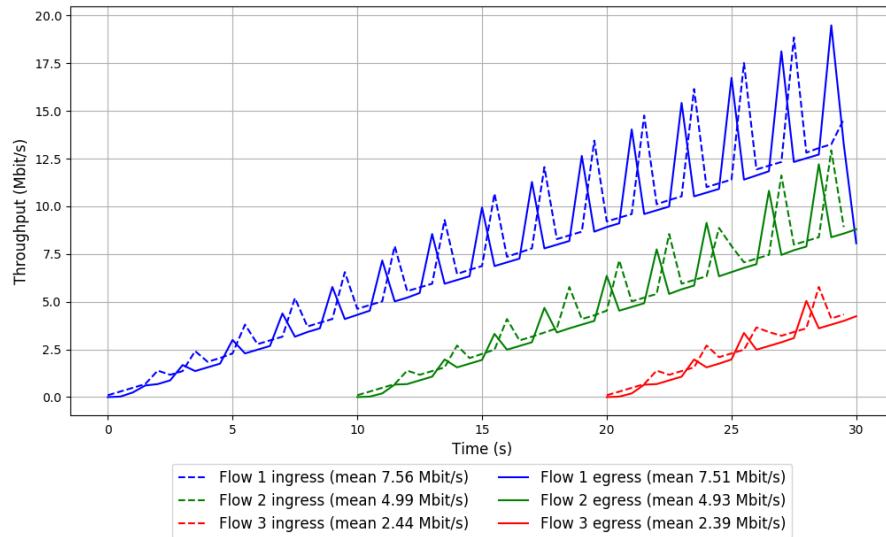


Run 1: Statistics of LEDBAT

```
Start at: 2018-09-07 13:06:41
End at: 2018-09-07 13:07:11
Local clock offset: -0.74 ms
Remote clock offset: 0.376 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.55 Mbit/s
95th percentile per-packet one-way delay: 111.864 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 109.773 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 112.158 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 111.886 ms
Loss rate: 4.56%
```

Run 1: Report of LEDBAT — Data Link

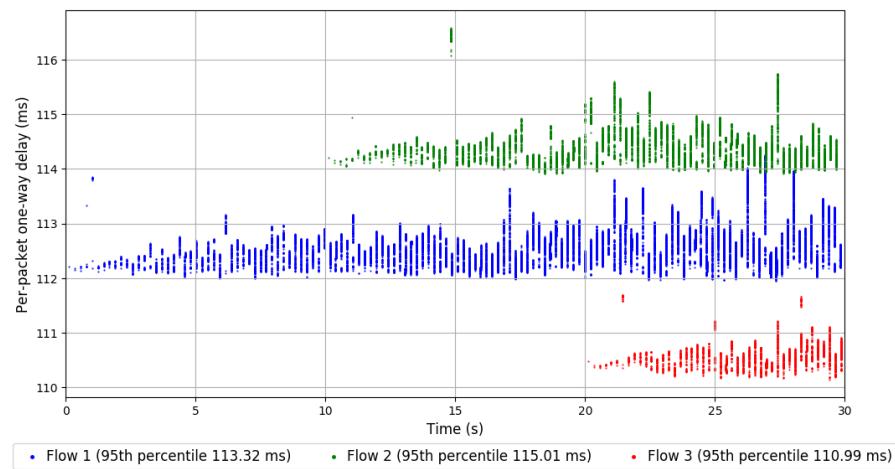
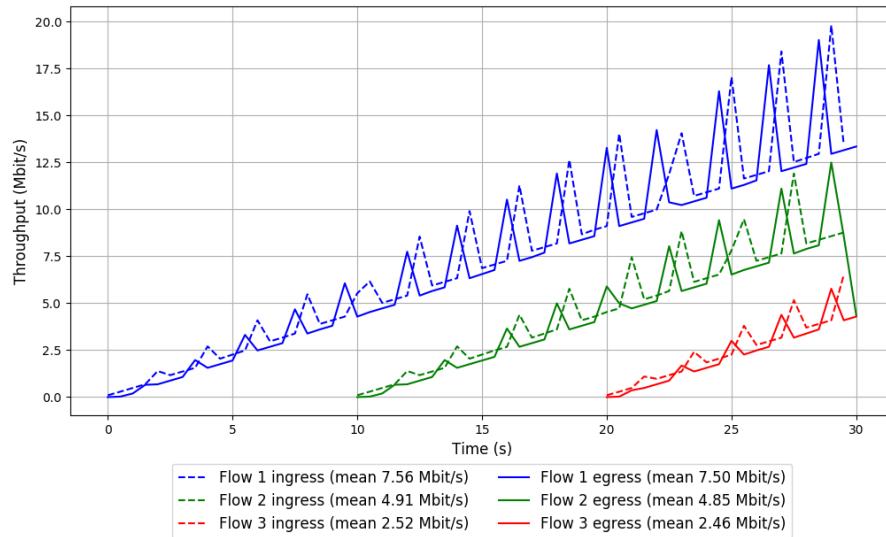


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-07 13:40:27
End at: 2018-09-07 13:40:57
Local clock offset: 1.171 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.49 Mbit/s
95th percentile per-packet one-way delay: 114.615 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 113.319 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 4.85 Mbit/s
95th percentile per-packet one-way delay: 115.009 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 110.989 ms
Loss rate: 4.42%
```

Run 2: Report of LEDBAT — Data Link

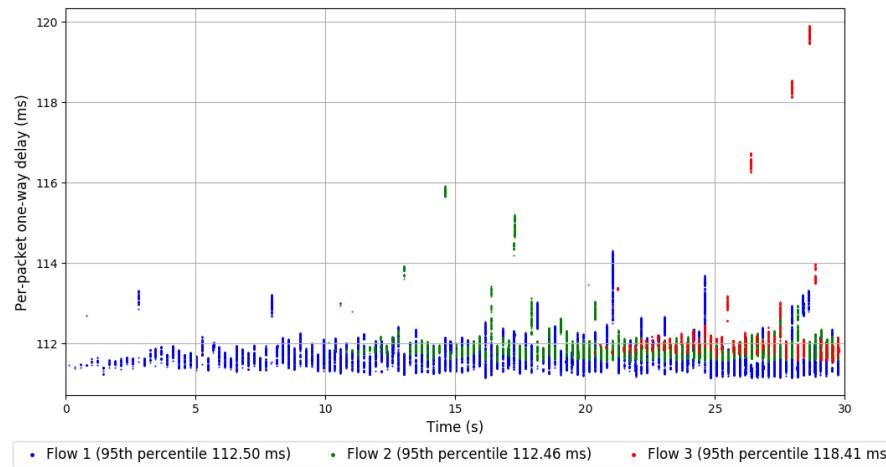
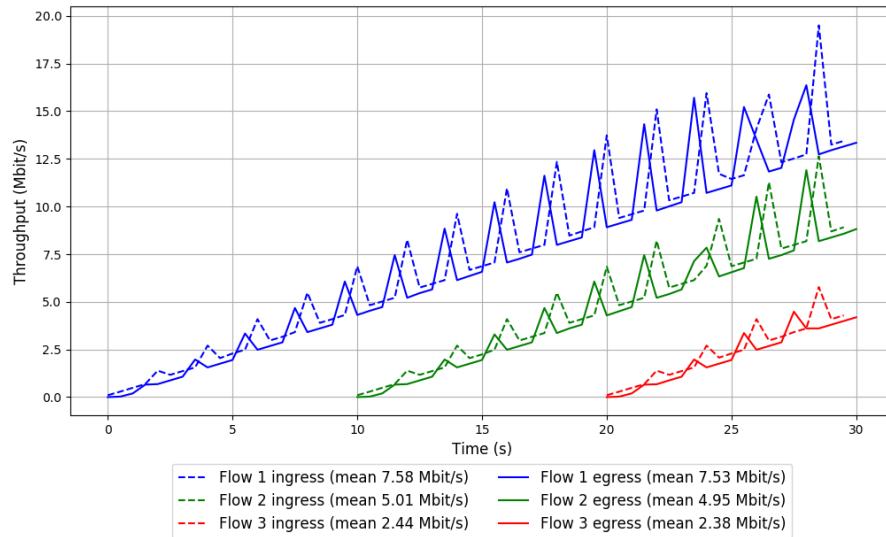


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-07 14:13:22
End at: 2018-09-07 14:13:52
Local clock offset: 0.181 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.57 Mbit/s
95th percentile per-packet one-way delay: 112.645 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 112.500 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 4.95 Mbit/s
95th percentile per-packet one-way delay: 112.464 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 118.413 ms
Loss rate: 4.52%
```

Run 3: Report of LEDBAT — Data Link

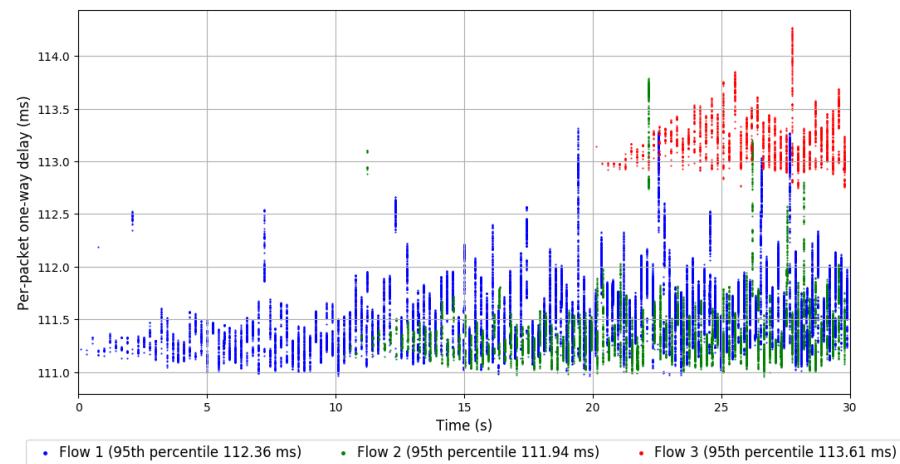
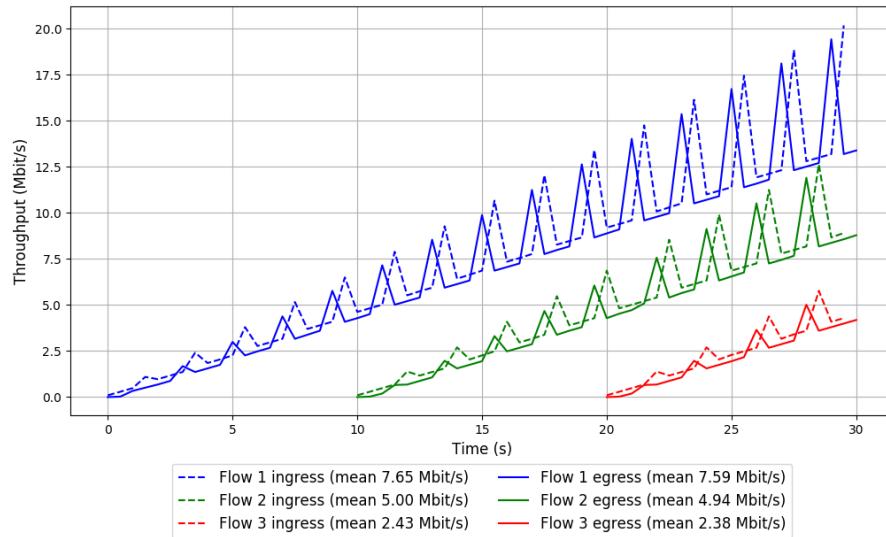


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-07 14:46:46
End at: 2018-09-07 14:47:16
Local clock offset: 0.106 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 113.106 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 112.359 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 111.938 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 113.605 ms
Loss rate: 4.52%
```

Run 4: Report of LEDBAT — Data Link

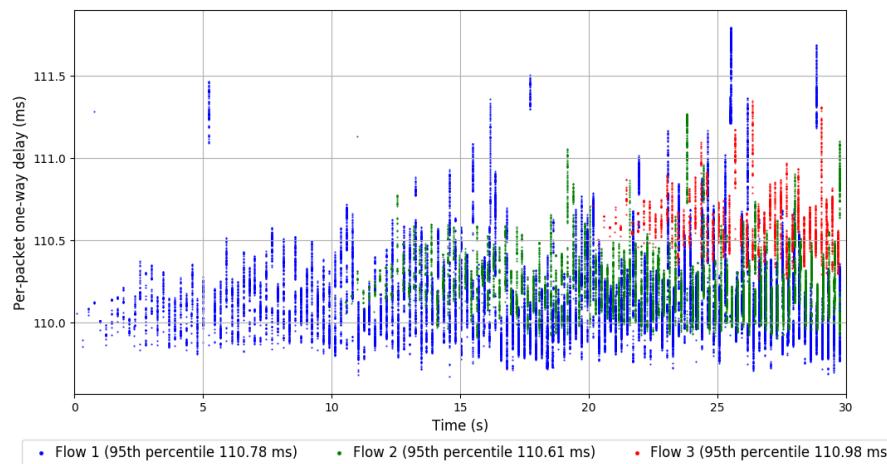
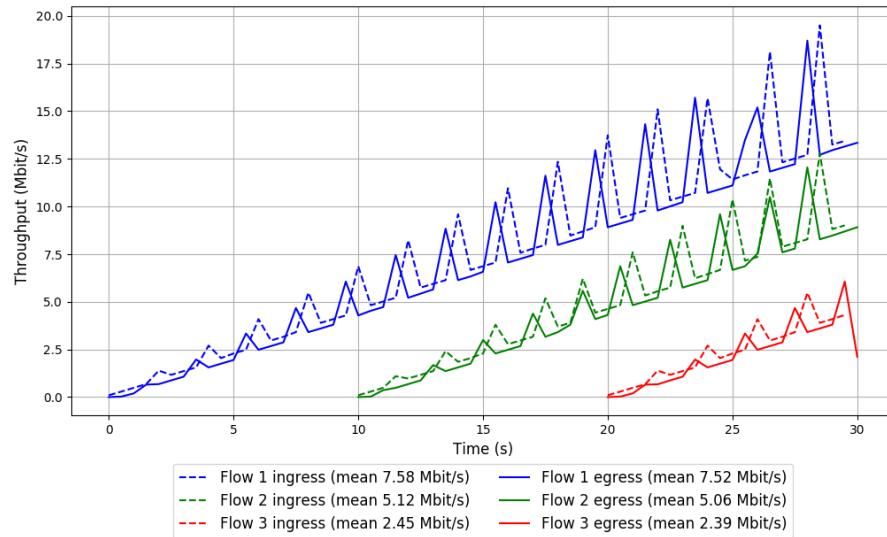


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-07 15:20:17
End at: 2018-09-07 15:20:47
Local clock offset: -0.745 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.64 Mbit/s
95th percentile per-packet one-way delay: 110.781 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 110.781 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 5.06 Mbit/s
95th percentile per-packet one-way delay: 110.611 ms
Loss rate: 2.23%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 110.976 ms
Loss rate: 4.57%
```

Run 5: Report of LEDBAT — Data Link

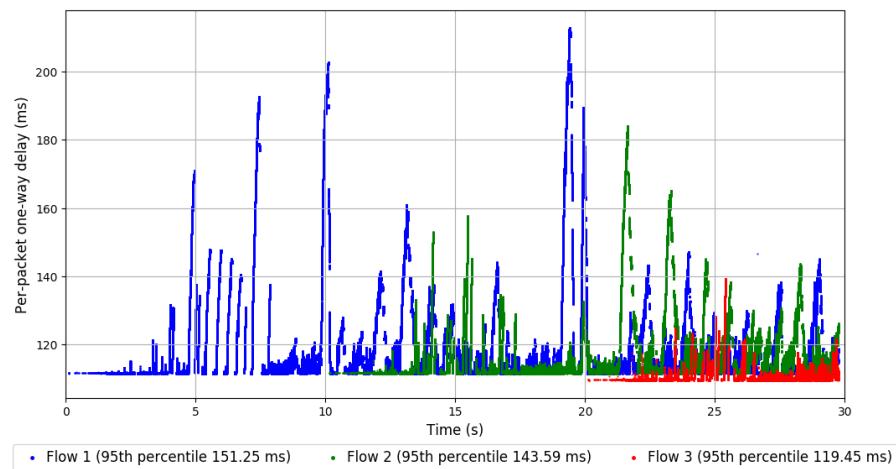
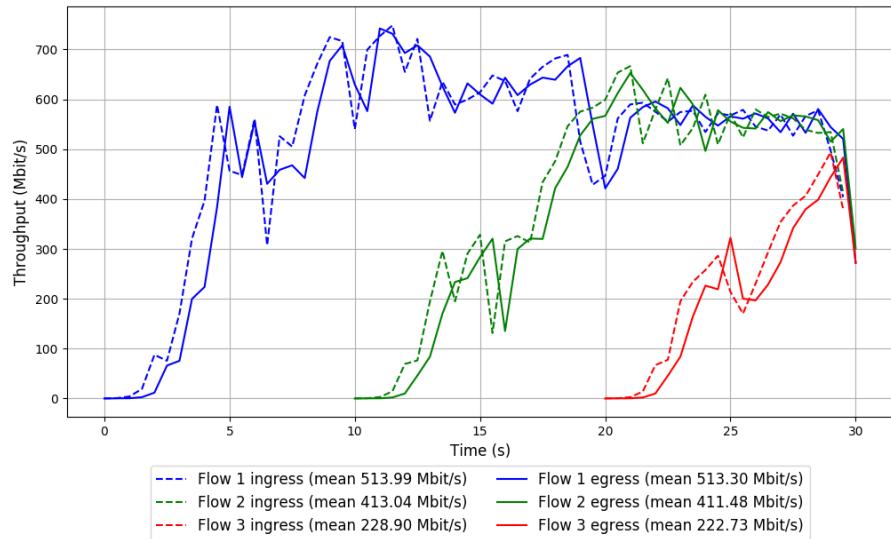


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-07 12:54:05
End at: 2018-09-07 12:54:35
Local clock offset: -0.578 ms
Remote clock offset: 0.014 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.80 Mbit/s
95th percentile per-packet one-way delay: 146.478 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 513.30 Mbit/s
95th percentile per-packet one-way delay: 151.248 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 411.48 Mbit/s
95th percentile per-packet one-way delay: 143.589 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 222.73 Mbit/s
95th percentile per-packet one-way delay: 119.451 ms
Loss rate: 4.87%
```

Run 1: Report of Indigo-Muses — Data Link

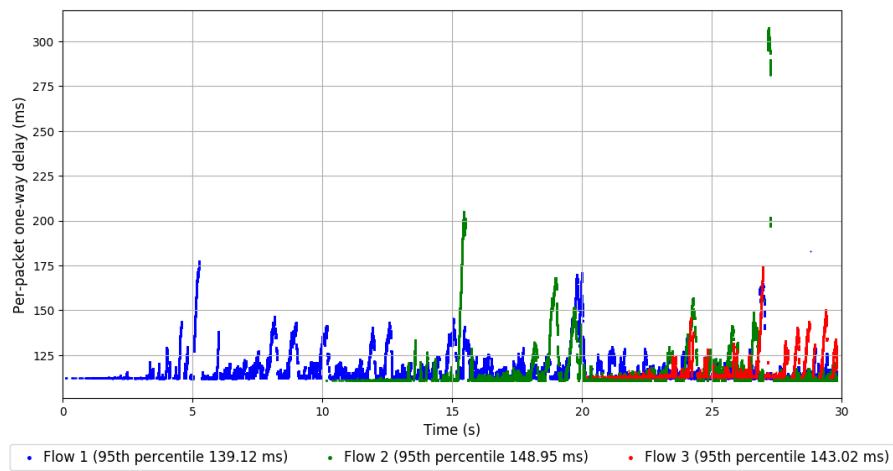
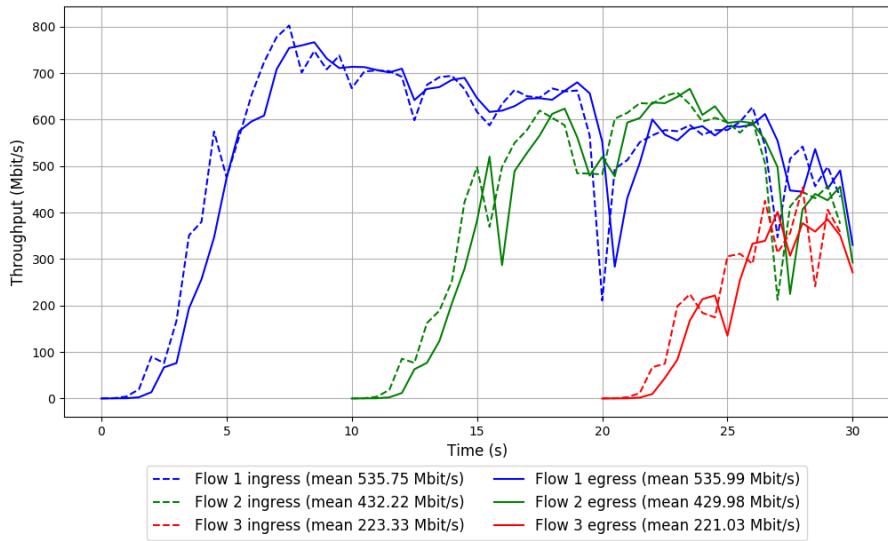


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-07 13:27:39
End at: 2018-09-07 13:28:09
Local clock offset: 0.028 ms
Remote clock offset: -0.374 ms

# Below is generated by plot.py at 2018-09-07 17:03:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 892.46 Mbit/s
95th percentile per-packet one-way delay: 141.717 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 535.99 Mbit/s
95th percentile per-packet one-way delay: 139.125 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 429.98 Mbit/s
95th percentile per-packet one-way delay: 148.948 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 221.03 Mbit/s
95th percentile per-packet one-way delay: 143.020 ms
Loss rate: 3.25%
```

Run 2: Report of Indigo-Muses — Data Link

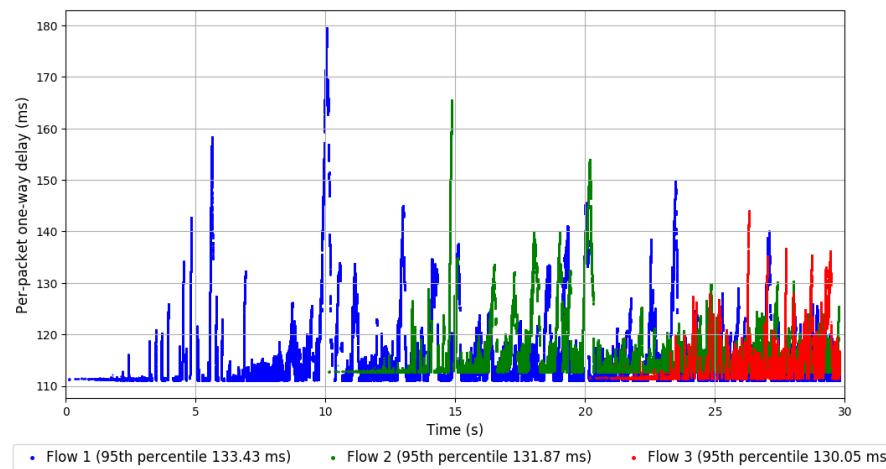
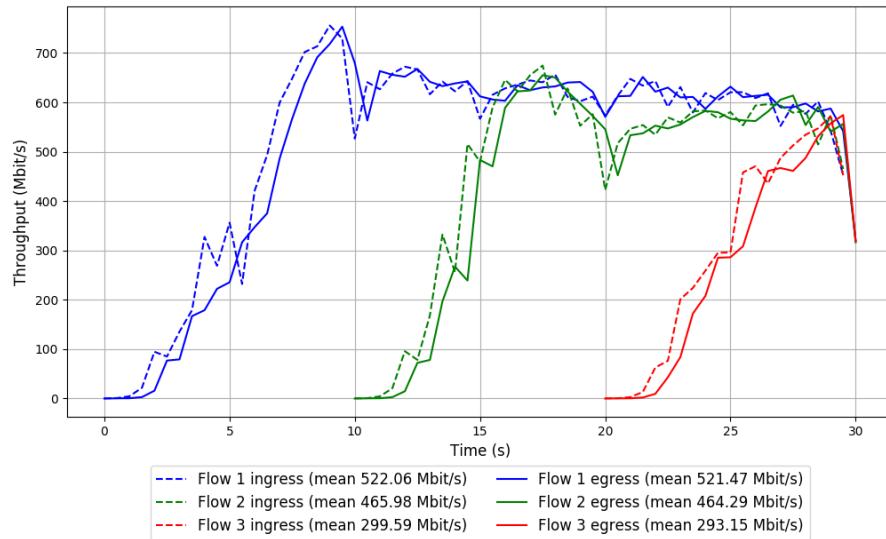


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-07 14:00:54
End at: 2018-09-07 14:01:24
Local clock offset: 0.484 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-09-07 17:04:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 924.24 Mbit/s
95th percentile per-packet one-way delay: 132.477 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 521.47 Mbit/s
95th percentile per-packet one-way delay: 133.425 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 464.29 Mbit/s
95th percentile per-packet one-way delay: 131.867 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 293.15 Mbit/s
95th percentile per-packet one-way delay: 130.049 ms
Loss rate: 4.37%
```

Run 3: Report of Indigo-Muses — Data Link

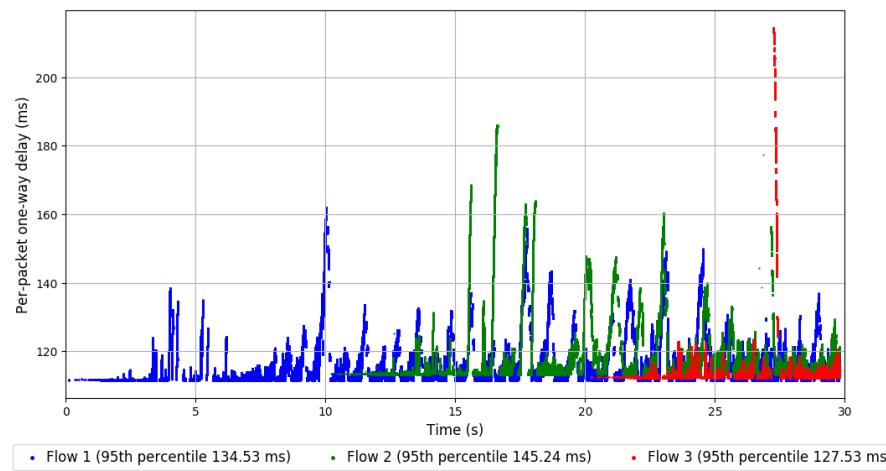
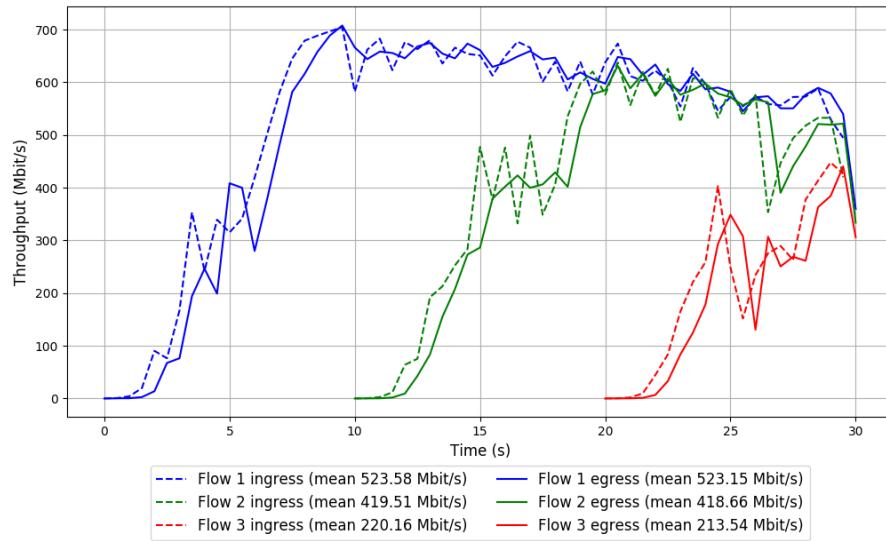


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-07 14:34:15
End at: 2018-09-07 14:34:45
Local clock offset: 1.296 ms
Remote clock offset: 0.319 ms

# Below is generated by plot.py at 2018-09-07 17:04:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 868.09 Mbit/s
95th percentile per-packet one-way delay: 138.488 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 523.15 Mbit/s
95th percentile per-packet one-way delay: 134.526 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 418.66 Mbit/s
95th percentile per-packet one-way delay: 145.239 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 213.54 Mbit/s
95th percentile per-packet one-way delay: 127.527 ms
Loss rate: 5.23%
```

Run 4: Report of Indigo-Muses — Data Link

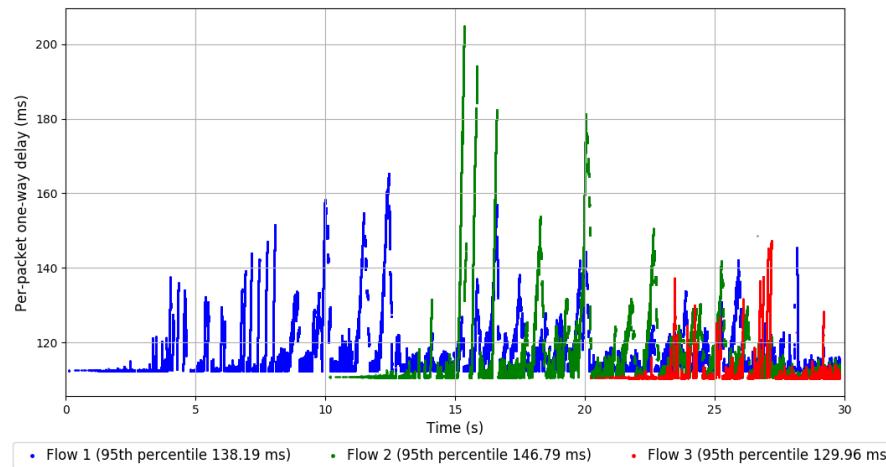
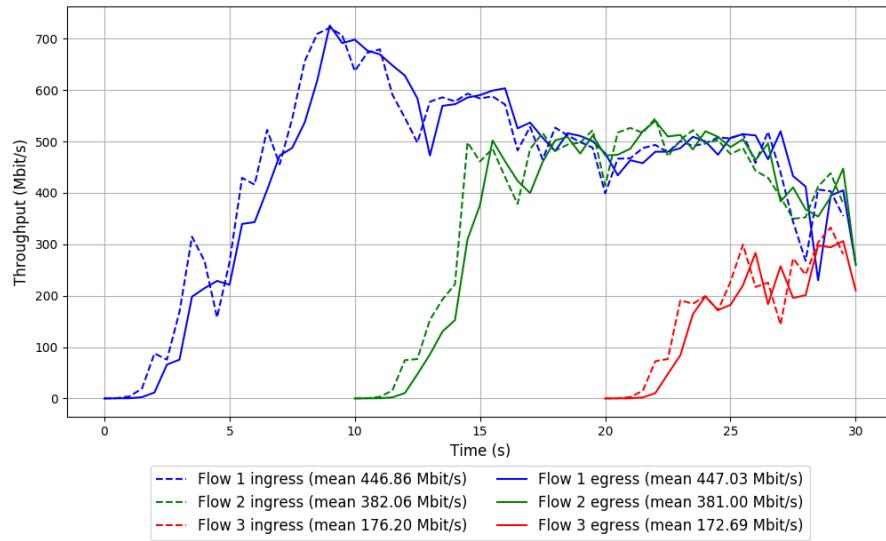


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-07 15:07:54
End at: 2018-09-07 15:08:24
Local clock offset: 0.368 ms
Remote clock offset: 0.373 ms

# Below is generated by plot.py at 2018-09-07 17:04:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 754.79 Mbit/s
95th percentile per-packet one-way delay: 140.281 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 447.03 Mbit/s
95th percentile per-packet one-way delay: 138.190 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 381.00 Mbit/s
95th percentile per-packet one-way delay: 146.788 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 172.69 Mbit/s
95th percentile per-packet one-way delay: 129.959 ms
Loss rate: 4.21%
```

Run 5: Report of Indigo-Muses — Data Link

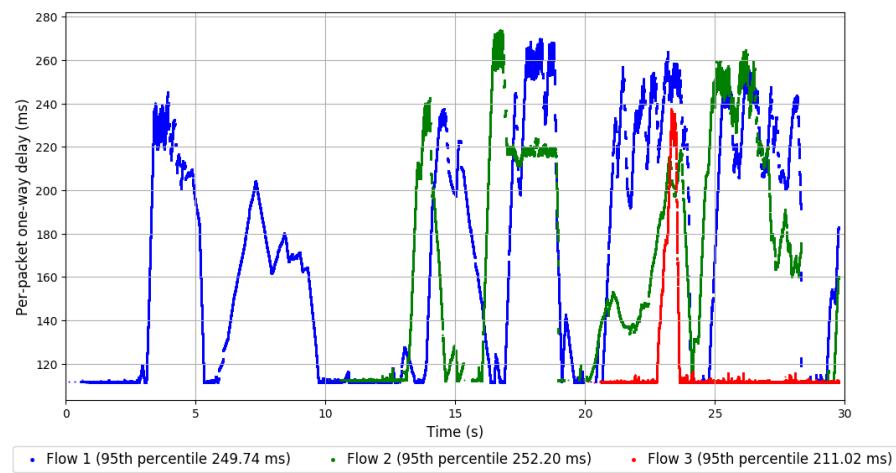
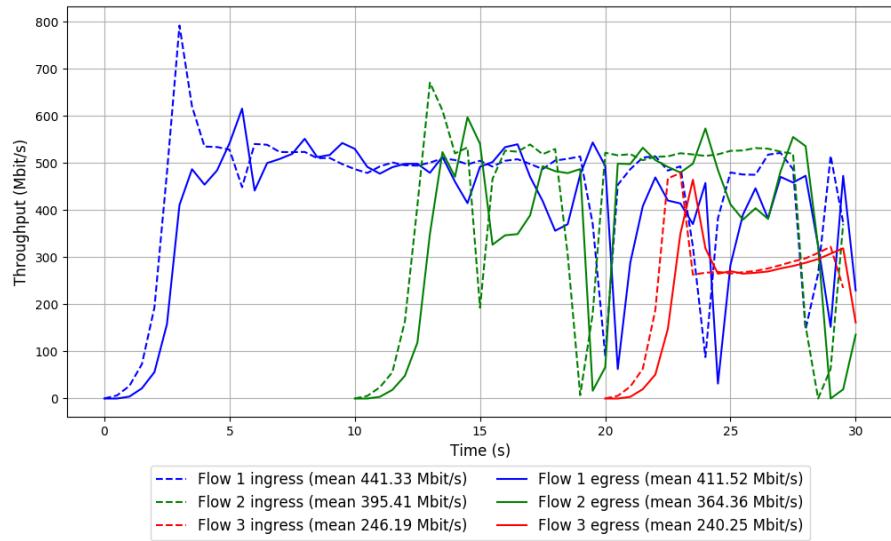


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-09-07 12:59:03
End at: 2018-09-07 12:59:33
Local clock offset: 0.013 ms
Remote clock offset: -0.362 ms

# Below is generated by plot.py at 2018-09-07 17:13:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 730.79 Mbit/s
95th percentile per-packet one-way delay: 249.424 ms
Loss rate: 7.64%
-- Flow 1:
Average throughput: 411.52 Mbit/s
95th percentile per-packet one-way delay: 249.742 ms
Loss rate: 7.45%
-- Flow 2:
Average throughput: 364.36 Mbit/s
95th percentile per-packet one-way delay: 252.197 ms
Loss rate: 8.89%
-- Flow 3:
Average throughput: 240.25 Mbit/s
95th percentile per-packet one-way delay: 211.016 ms
Loss rate: 4.61%
```

Run 1: Report of PCC-Allegro — Data Link

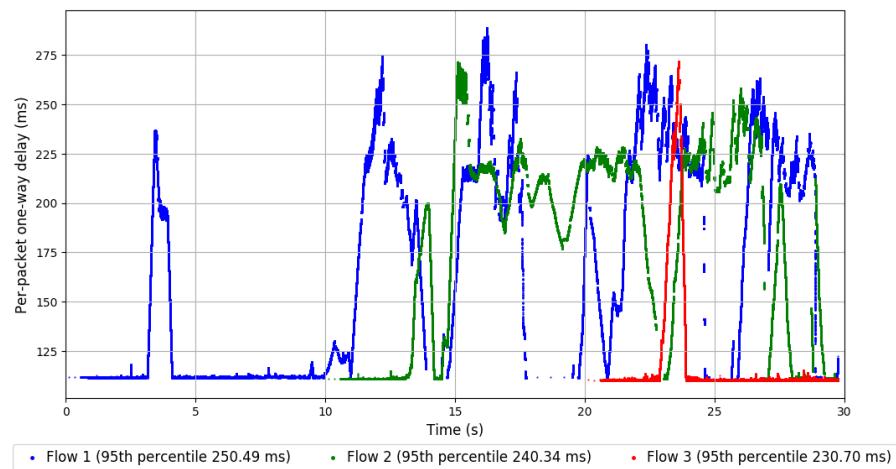
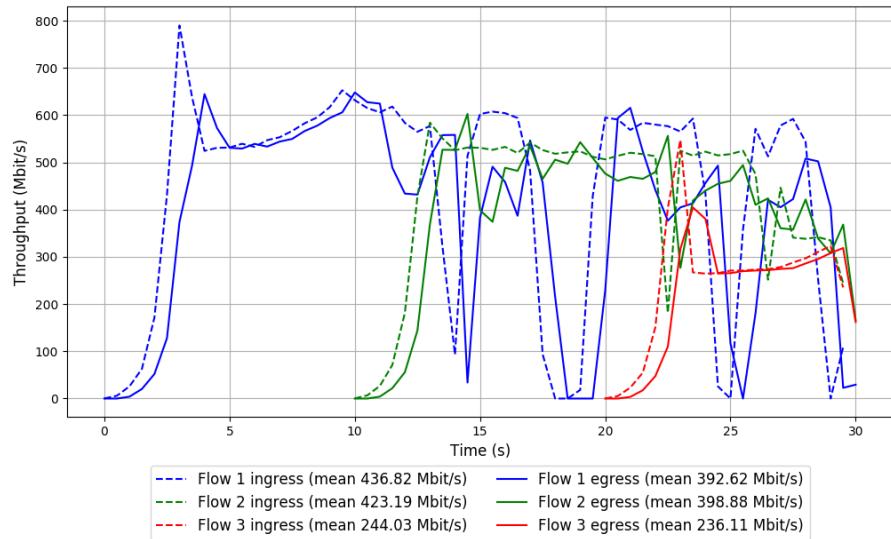


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-07 13:32:48
End at: 2018-09-07 13:33:18
Local clock offset: -0.252 ms
Remote clock offset: -0.313 ms

# Below is generated by plot.py at 2018-09-07 17:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 733.42 Mbit/s
95th percentile per-packet one-way delay: 245.095 ms
Loss rate: 8.85%
-- Flow 1:
Average throughput: 392.62 Mbit/s
95th percentile per-packet one-way delay: 250.491 ms
Loss rate: 10.79%
-- Flow 2:
Average throughput: 398.88 Mbit/s
95th percentile per-packet one-way delay: 240.335 ms
Loss rate: 6.82%
-- Flow 3:
Average throughput: 236.11 Mbit/s
95th percentile per-packet one-way delay: 230.699 ms
Loss rate: 5.42%
```

Run 2: Report of PCC-Allegro — Data Link

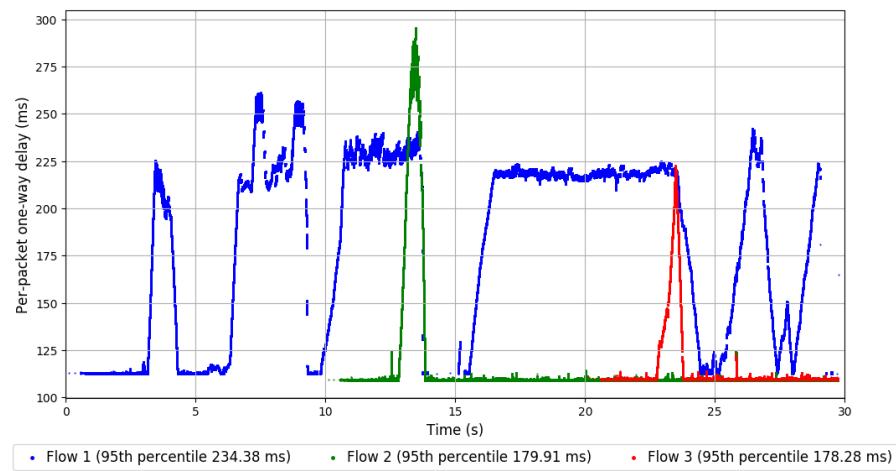
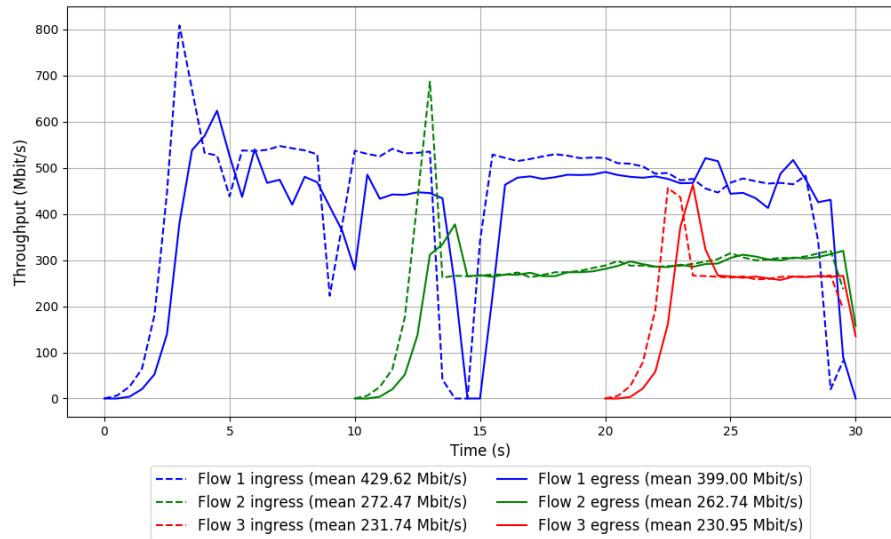


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-09-07 14:05:55
End at: 2018-09-07 14:06:25
Local clock offset: -0.173 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-09-07 17:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 647.79 Mbit/s
95th percentile per-packet one-way delay: 232.414 ms
Loss rate: 6.05%
-- Flow 1:
Average throughput: 399.00 Mbit/s
95th percentile per-packet one-way delay: 234.377 ms
Loss rate: 7.25%
-- Flow 2:
Average throughput: 262.74 Mbit/s
95th percentile per-packet one-way delay: 179.909 ms
Loss rate: 4.68%
-- Flow 3:
Average throughput: 230.95 Mbit/s
95th percentile per-packet one-way delay: 178.282 ms
Loss rate: 2.62%
```

Run 3: Report of PCC-Allegro — Data Link

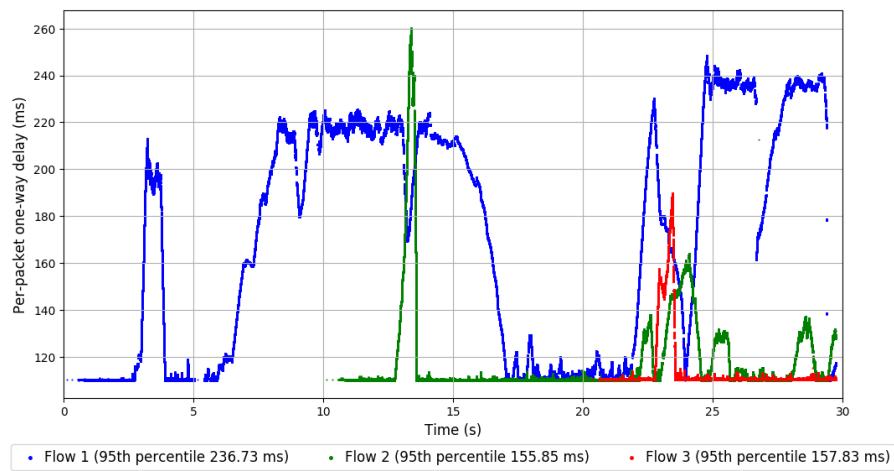
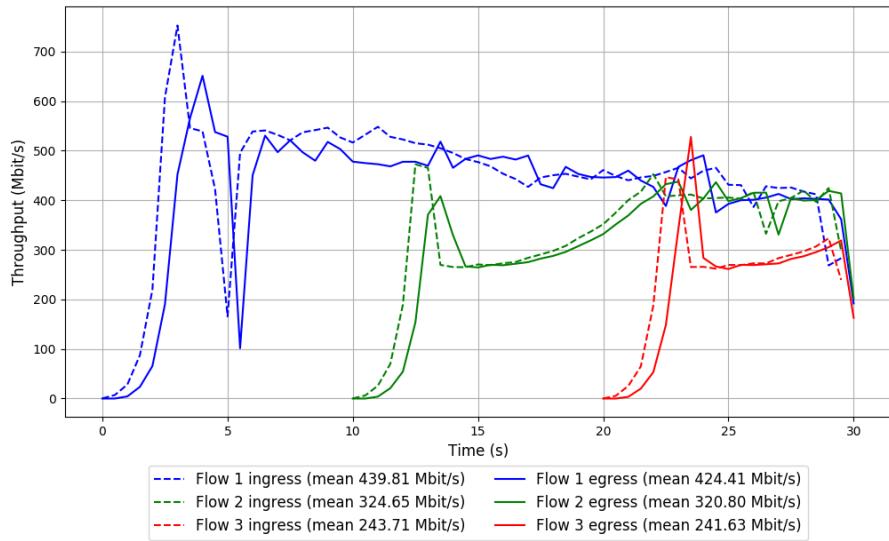


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-07 14:39:13
End at: 2018-09-07 14:39:43
Local clock offset: -0.245 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2018-09-07 17:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 715.11 Mbit/s
95th percentile per-packet one-way delay: 235.411 ms
Loss rate: 3.53%
-- Flow 1:
Average throughput: 424.41 Mbit/s
95th percentile per-packet one-way delay: 236.732 ms
Loss rate: 4.22%
-- Flow 2:
Average throughput: 320.80 Mbit/s
95th percentile per-packet one-way delay: 155.846 ms
Loss rate: 2.29%
-- Flow 3:
Average throughput: 241.63 Mbit/s
95th percentile per-packet one-way delay: 157.833 ms
Loss rate: 3.12%
```

Run 4: Report of PCC-Allegro — Data Link

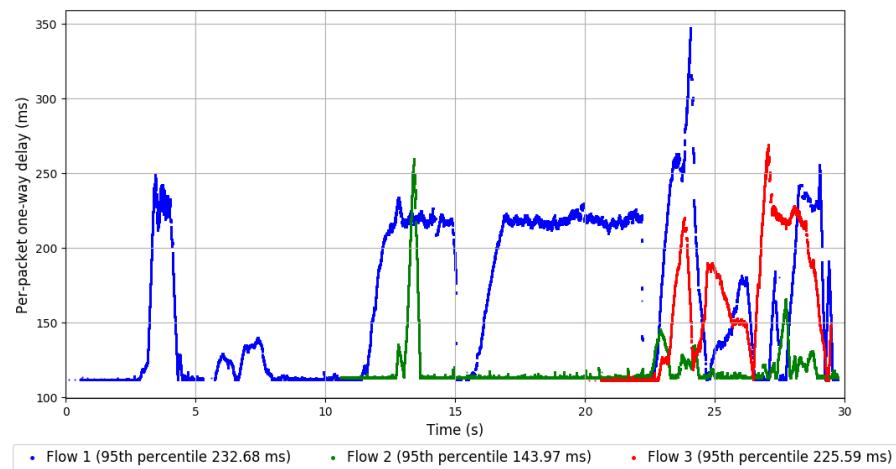
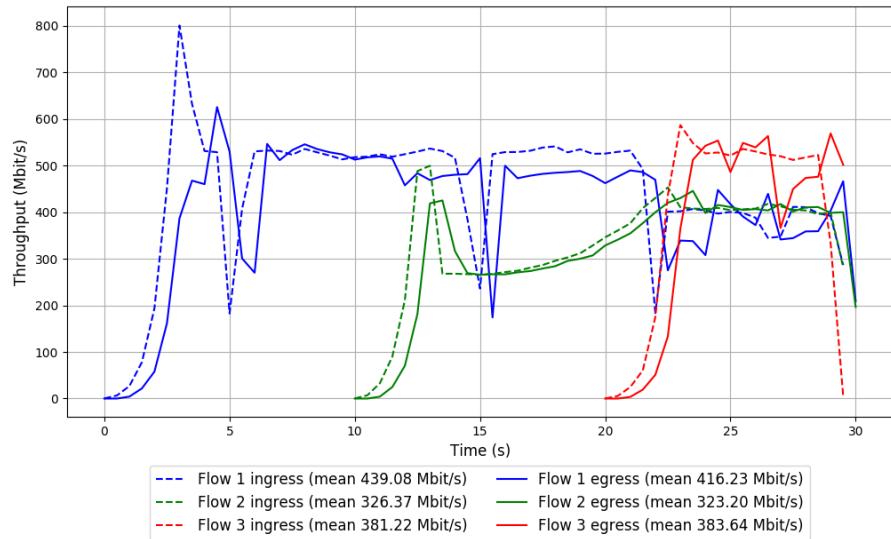


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-07 15:12:41
End at: 2018-09-07 15:13:11
Local clock offset: 0.918 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-09-07 17:29:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.92 Mbit/s
95th percentile per-packet one-way delay: 227.533 ms
Loss rate: 4.47%
-- Flow 1:
Average throughput: 416.23 Mbit/s
95th percentile per-packet one-way delay: 232.679 ms
Loss rate: 5.91%
-- Flow 2:
Average throughput: 323.20 Mbit/s
95th percentile per-packet one-way delay: 143.967 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 383.64 Mbit/s
95th percentile per-packet one-way delay: 225.591 ms
Loss rate: 3.51%
```

Run 5: Report of PCC-Allegro — Data Link

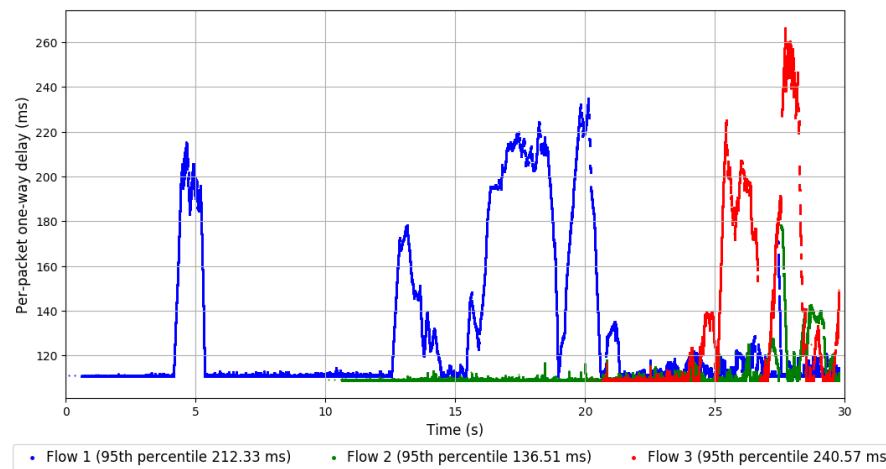
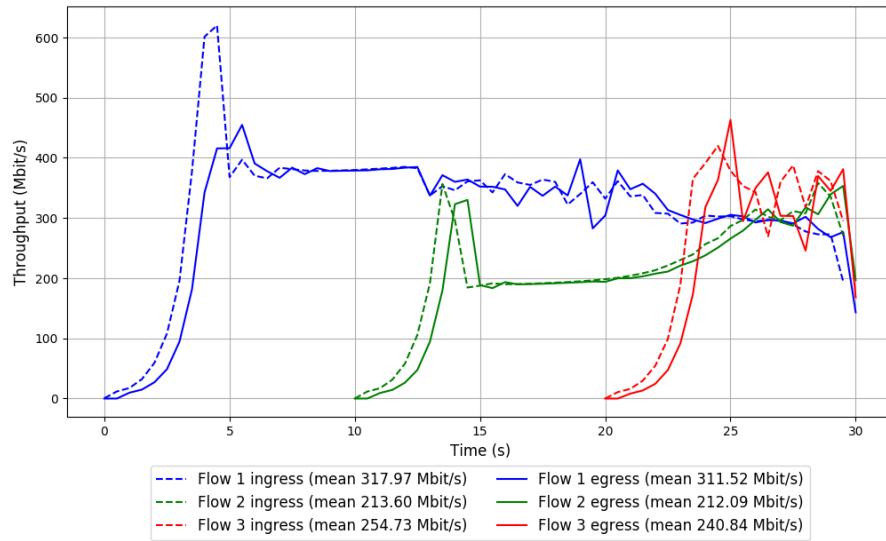


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-07 12:44:09
End at: 2018-09-07 12:44:39
Local clock offset: -0.358 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-09-07 17:29:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.25 Mbit/s
95th percentile per-packet one-way delay: 210.608 ms
Loss rate: 3.25%
-- Flow 1:
Average throughput: 311.52 Mbit/s
95th percentile per-packet one-way delay: 212.334 ms
Loss rate: 2.75%
-- Flow 2:
Average throughput: 212.09 Mbit/s
95th percentile per-packet one-way delay: 136.514 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 240.84 Mbit/s
95th percentile per-packet one-way delay: 240.574 ms
Loss rate: 7.58%
```

Run 1: Report of PCC-Expr — Data Link

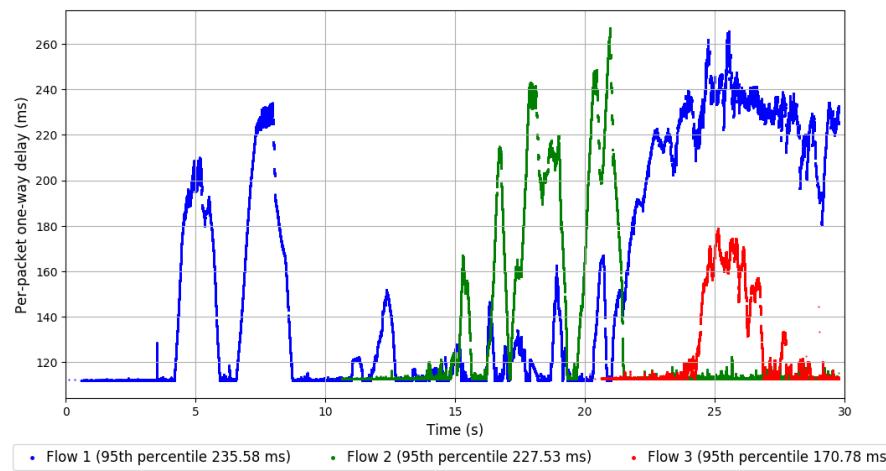
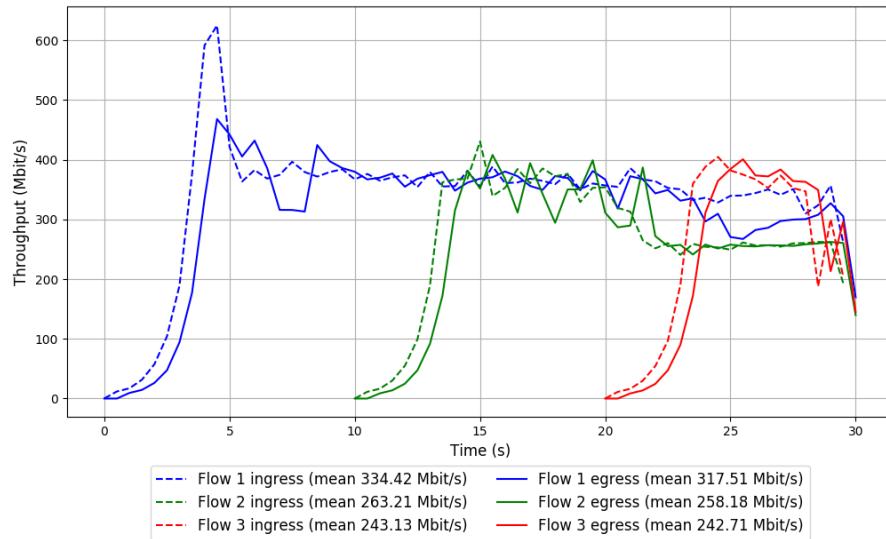


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-07 13:17:37
End at: 2018-09-07 13:18:07
Local clock offset: 0.174 ms
Remote clock offset: -0.368 ms

# Below is generated by plot.py at 2018-09-07 17:29:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.37 Mbit/s
95th percentile per-packet one-way delay: 233.557 ms
Loss rate: 4.50%
-- Flow 1:
Average throughput: 317.51 Mbit/s
95th percentile per-packet one-way delay: 235.582 ms
Loss rate: 5.77%
-- Flow 2:
Average throughput: 258.18 Mbit/s
95th percentile per-packet one-way delay: 227.534 ms
Loss rate: 3.01%
-- Flow 3:
Average throughput: 242.71 Mbit/s
95th percentile per-packet one-way delay: 170.782 ms
Loss rate: 2.45%
```

Run 2: Report of PCC-Expr — Data Link

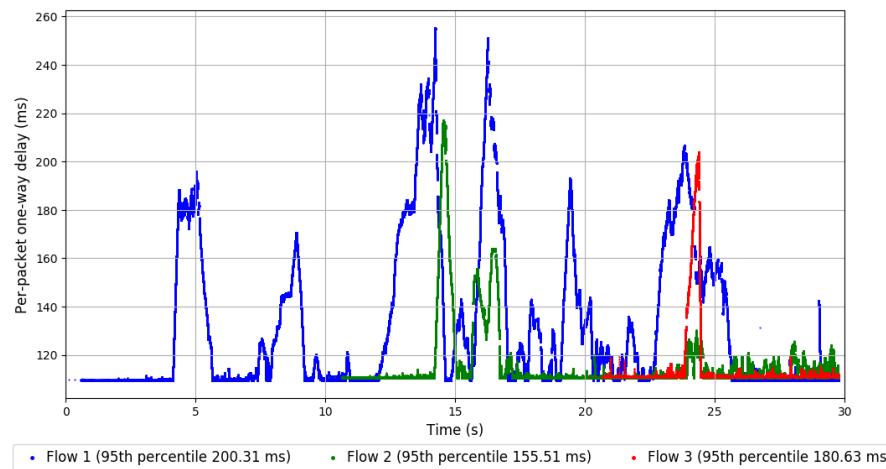
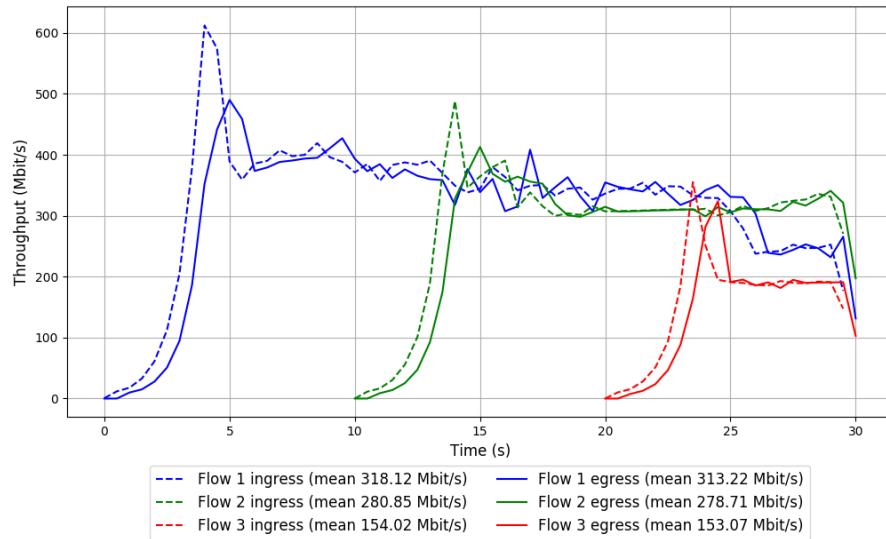


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-07 13:50:51
End at: 2018-09-07 13:51:21
Local clock offset: 0.064 ms
Remote clock offset: 0.293 ms

# Below is generated by plot.py at 2018-09-07 17:29:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.59 Mbit/s
95th percentile per-packet one-way delay: 189.305 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 313.22 Mbit/s
95th percentile per-packet one-way delay: 200.305 ms
Loss rate: 2.27%
-- Flow 2:
Average throughput: 278.71 Mbit/s
95th percentile per-packet one-way delay: 155.515 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 153.07 Mbit/s
95th percentile per-packet one-way delay: 180.633 ms
Loss rate: 2.86%
```

Run 3: Report of PCC-Expr — Data Link

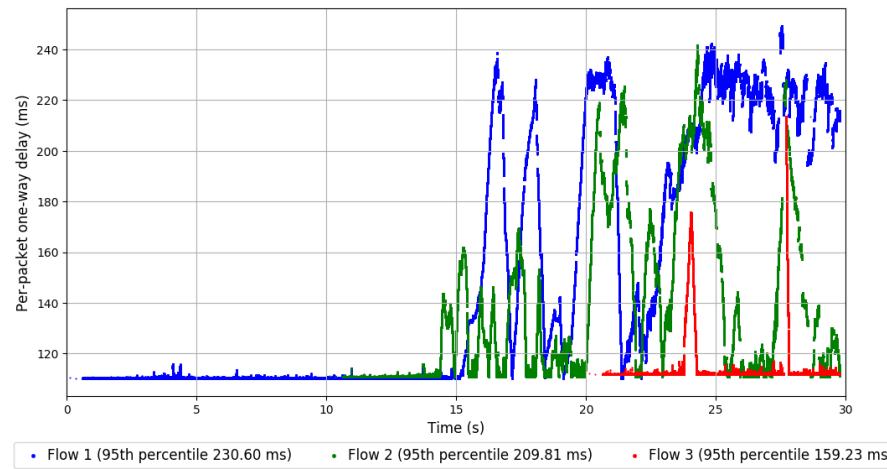
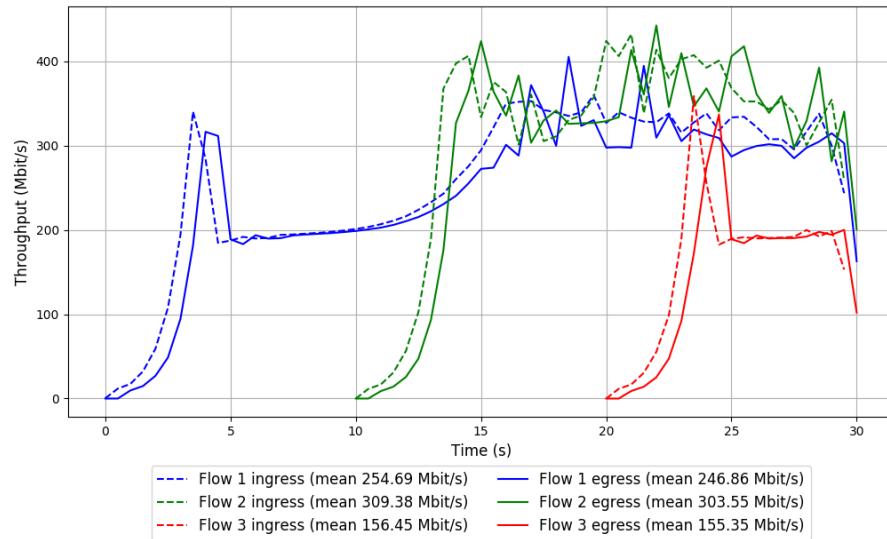


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-07 14:24:10
End at: 2018-09-07 14:24:40
Local clock offset: -0.817 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-09-07 17:32:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 498.46 Mbit/s
95th percentile per-packet one-way delay: 227.857 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 246.86 Mbit/s
95th percentile per-packet one-way delay: 230.600 ms
Loss rate: 3.80%
-- Flow 2:
Average throughput: 303.55 Mbit/s
95th percentile per-packet one-way delay: 209.808 ms
Loss rate: 2.99%
-- Flow 3:
Average throughput: 155.35 Mbit/s
95th percentile per-packet one-way delay: 159.231 ms
Loss rate: 3.01%
```

Run 4: Report of PCC-Expr — Data Link

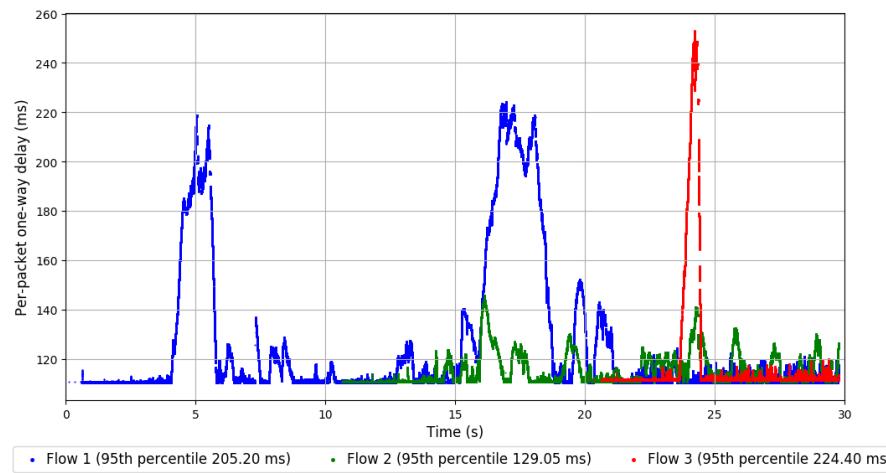
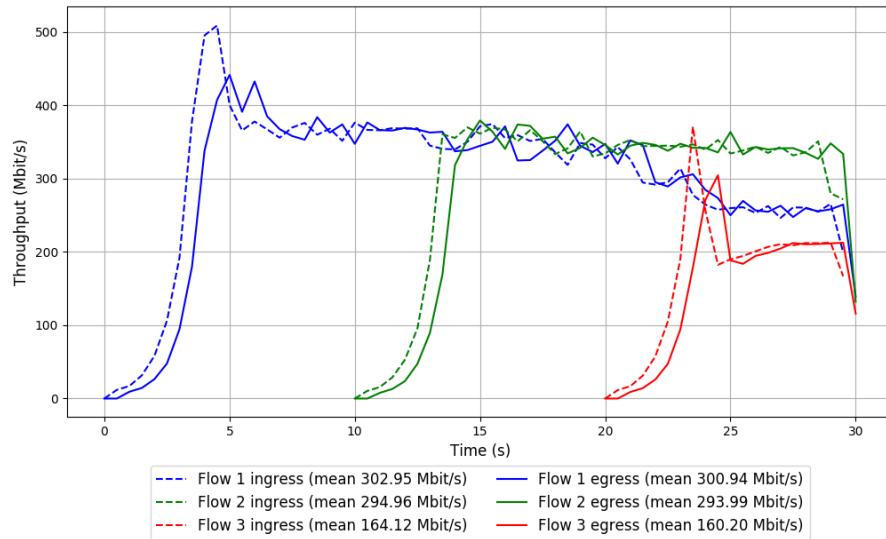


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-07 14:57:50
End at: 2018-09-07 14:58:20
Local clock offset: -0.136 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.78 Mbit/s
95th percentile per-packet one-way delay: 194.376 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 300.94 Mbit/s
95th percentile per-packet one-way delay: 205.204 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 293.99 Mbit/s
95th percentile per-packet one-way delay: 129.054 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 160.20 Mbit/s
95th percentile per-packet one-way delay: 224.403 ms
Loss rate: 4.60%
```

Run 5: Report of PCC-Expr — Data Link

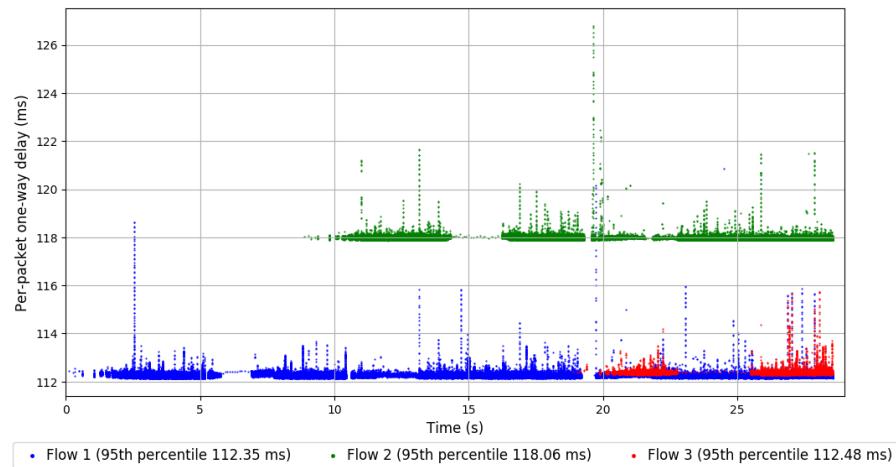
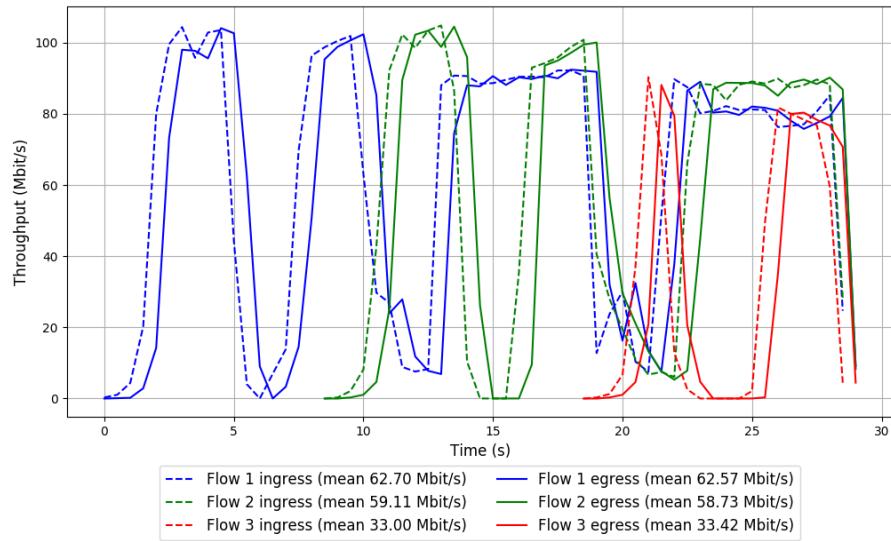


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-09-07 13:05:18
End at: 2018-09-07 13:05:48
Local clock offset: 0.964 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.53 Mbit/s
95th percentile per-packet one-way delay: 118.005 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 62.57 Mbit/s
95th percentile per-packet one-way delay: 112.353 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 58.73 Mbit/s
95th percentile per-packet one-way delay: 118.057 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 33.42 Mbit/s
95th percentile per-packet one-way delay: 112.479 ms
Loss rate: 1.02%
```

Run 1: Report of QUIC Cubic — Data Link

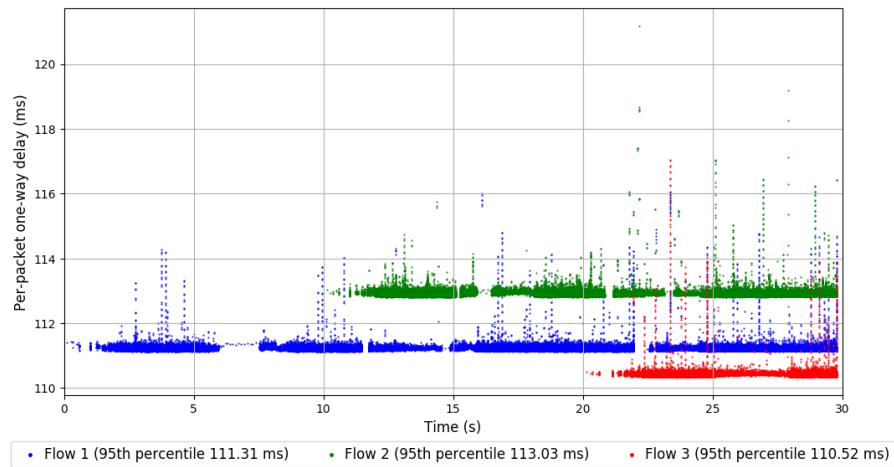
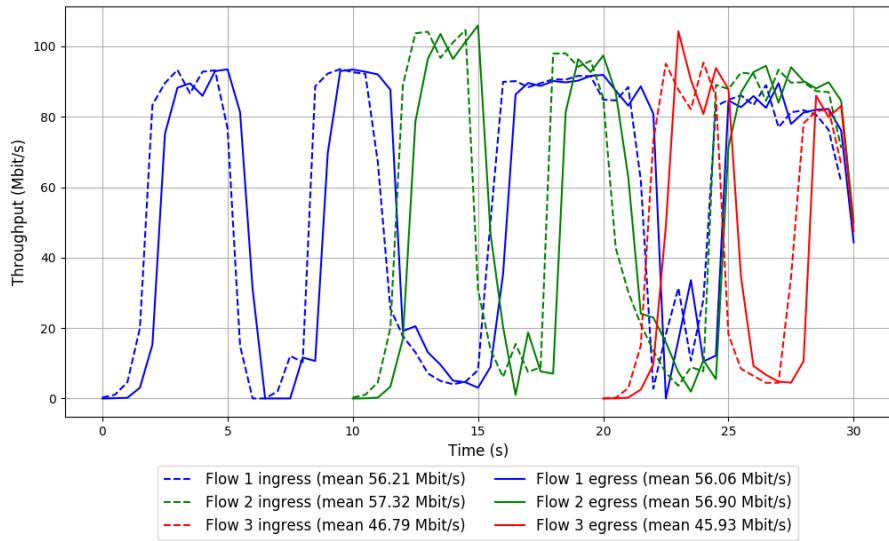


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-07 13:39:04
End at: 2018-09-07 13:39:34
Local clock offset: 1.052 ms
Remote clock offset: -0.399 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.66 Mbit/s
95th percentile per-packet one-way delay: 112.969 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 56.06 Mbit/s
95th percentile per-packet one-way delay: 111.310 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 56.90 Mbit/s
95th percentile per-packet one-way delay: 113.031 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 45.93 Mbit/s
95th percentile per-packet one-way delay: 110.516 ms
Loss rate: 3.99%
```

Run 2: Report of QUIC Cubic — Data Link

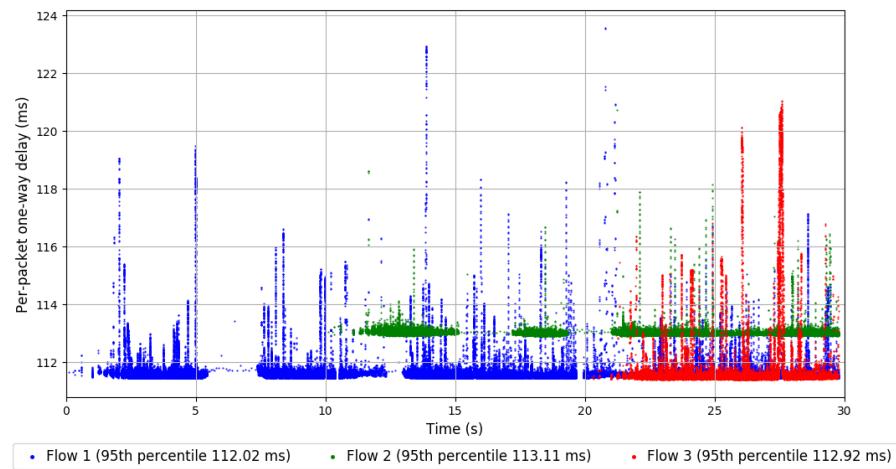
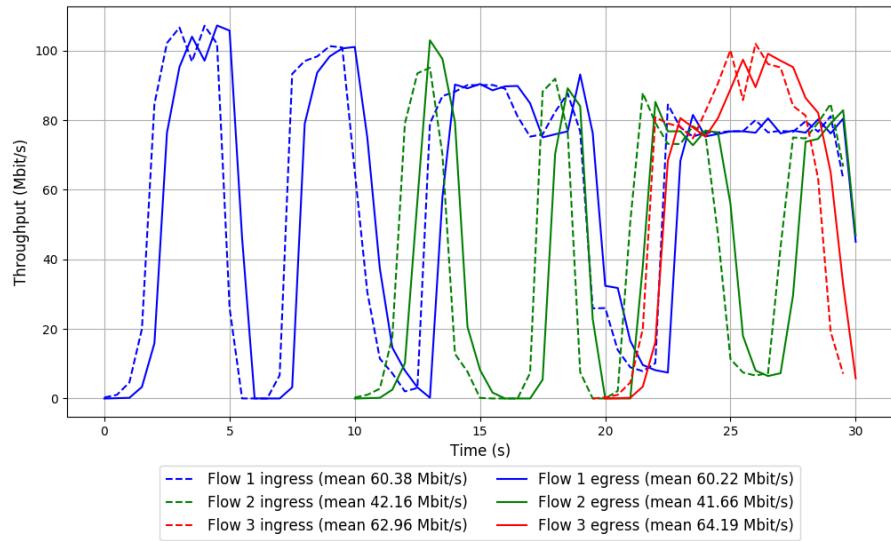


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-07 14:12:00
End at: 2018-09-07 14:12:30
Local clock offset: 0.065 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.75 Mbit/s
95th percentile per-packet one-way delay: 113.058 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 60.22 Mbit/s
95th percentile per-packet one-way delay: 112.016 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 41.66 Mbit/s
95th percentile per-packet one-way delay: 113.107 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 64.19 Mbit/s
95th percentile per-packet one-way delay: 112.921 ms
Loss rate: 0.31%
```

Run 3: Report of QUIC Cubic — Data Link

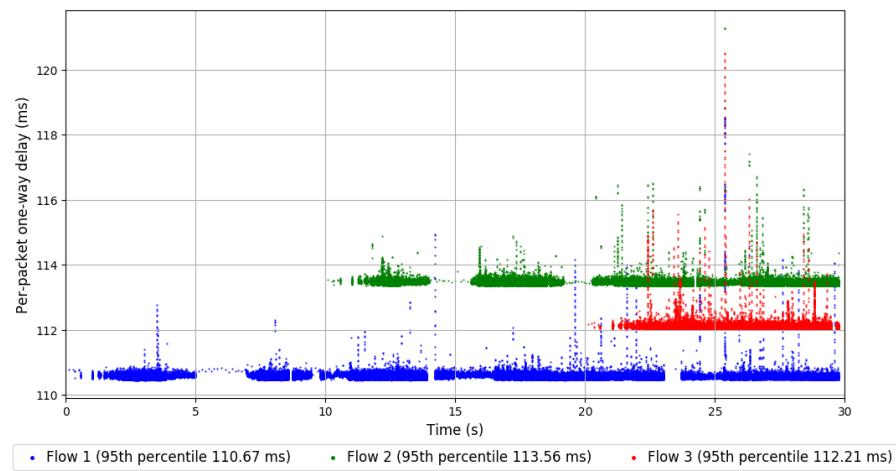
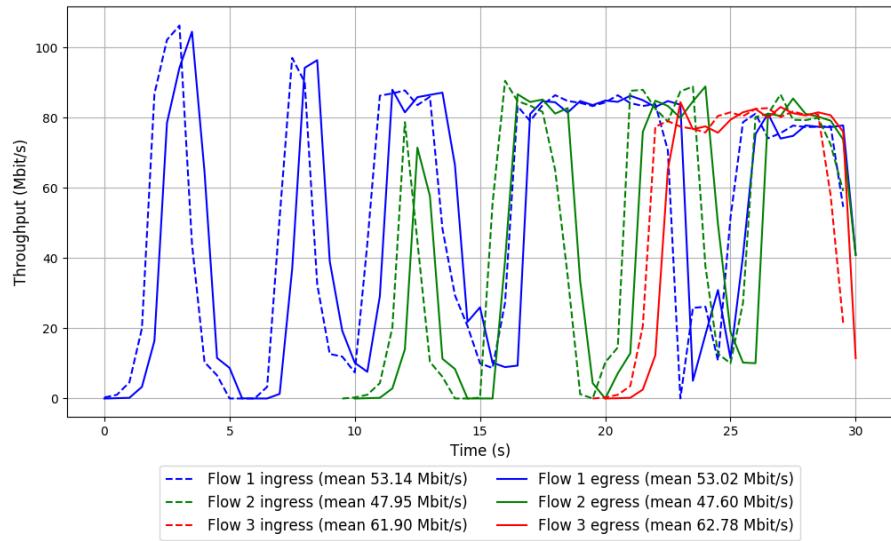


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-07 14:45:24
End at: 2018-09-07 14:45:54
Local clock offset: 0.422 ms
Remote clock offset: -0.401 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.06 Mbit/s
95th percentile per-packet one-way delay: 113.500 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 53.02 Mbit/s
95th percentile per-packet one-way delay: 110.671 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 47.60 Mbit/s
95th percentile per-packet one-way delay: 113.563 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 62.78 Mbit/s
95th percentile per-packet one-way delay: 112.212 ms
Loss rate: 0.82%
```

Run 4: Report of QUIC Cubic — Data Link

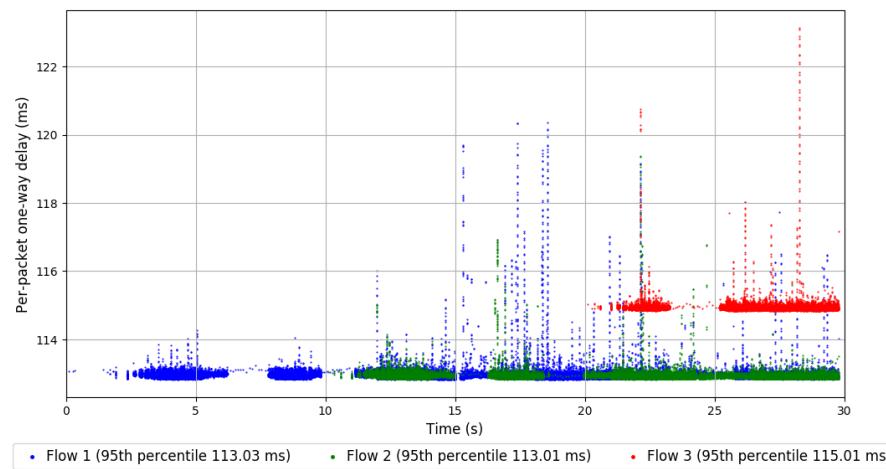
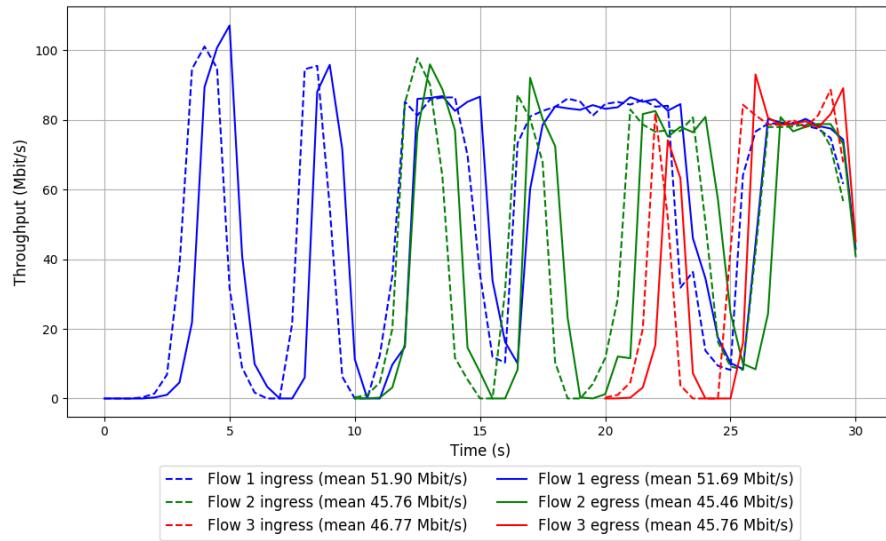


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-07 15:18:55
End at: 2018-09-07 15:19:25
Local clock offset: 0.512 ms
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.69 Mbit/s
95th percentile per-packet one-way delay: 114.923 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 51.69 Mbit/s
95th percentile per-packet one-way delay: 113.032 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 45.46 Mbit/s
95th percentile per-packet one-way delay: 113.010 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 45.76 Mbit/s
95th percentile per-packet one-way delay: 115.006 ms
Loss rate: 4.38%
```

Run 5: Report of QUIC Cubic — Data Link

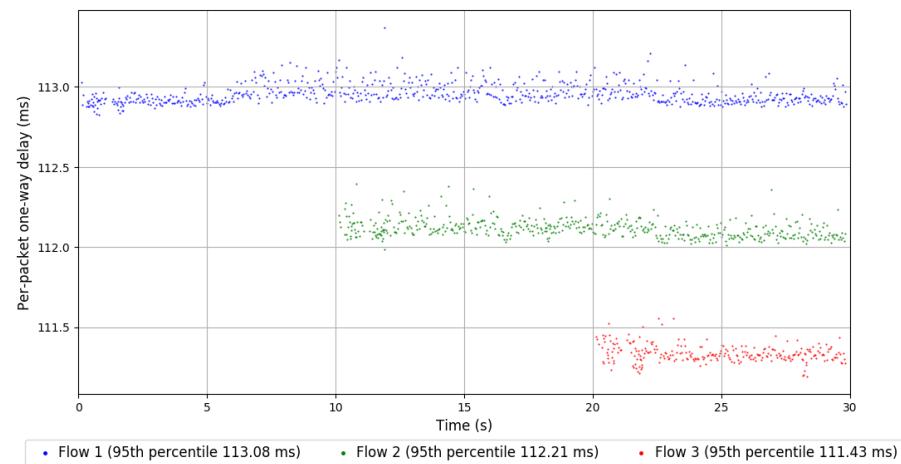
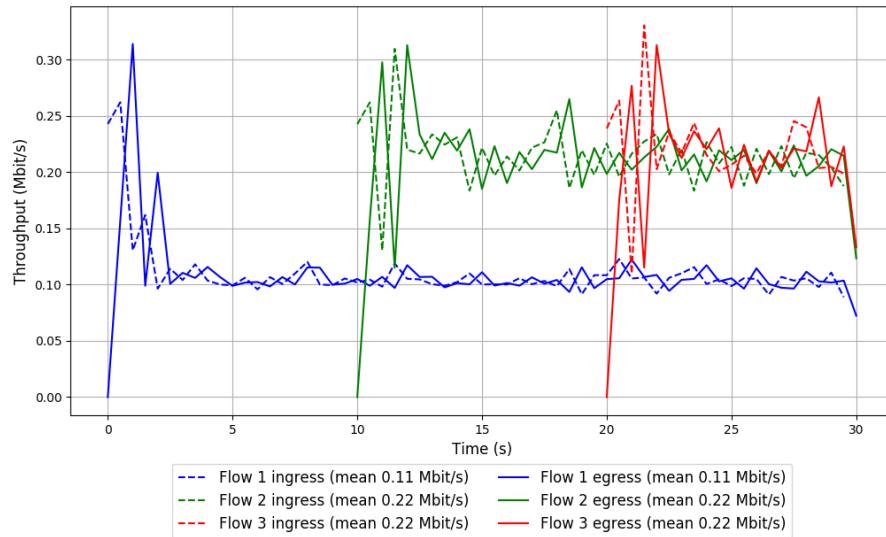


Run 1: Statistics of SCReAM

```
Start at: 2018-09-07 12:42:55
End at: 2018-09-07 12:43:25
Local clock offset: 0.648 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 113.042 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 113.078 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.214 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.432 ms
Loss rate: 2.21%
```

Run 1: Report of SCReAM — Data Link

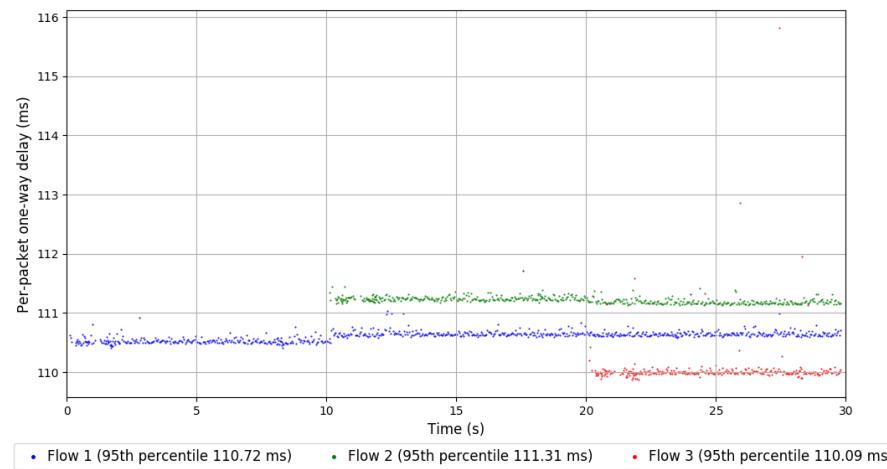
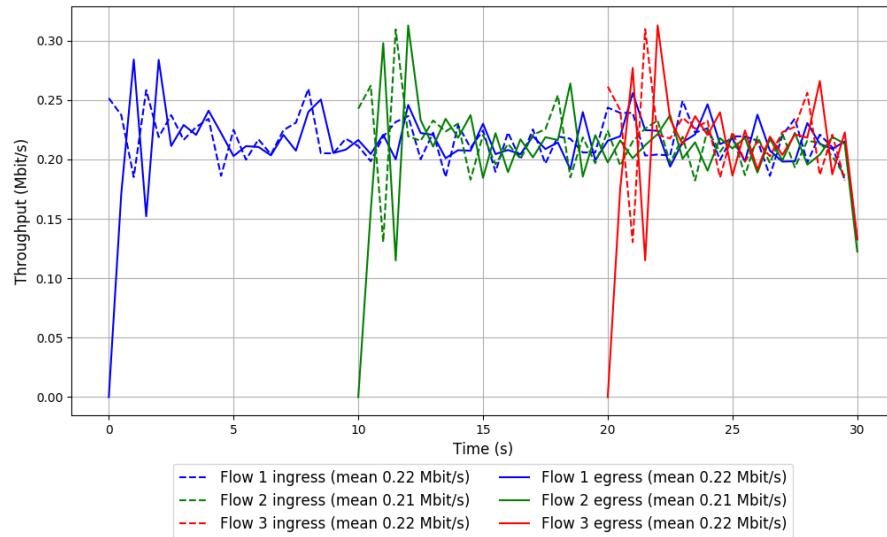


Run 2: Statistics of SCReAM

```
Start at: 2018-09-07 13:16:22
End at: 2018-09-07 13:16:52
Local clock offset: -0.721 ms
Remote clock offset: 0.345 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.270 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.723 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 111.312 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.092 ms
Loss rate: 2.21%
```

Run 2: Report of SCReAM — Data Link

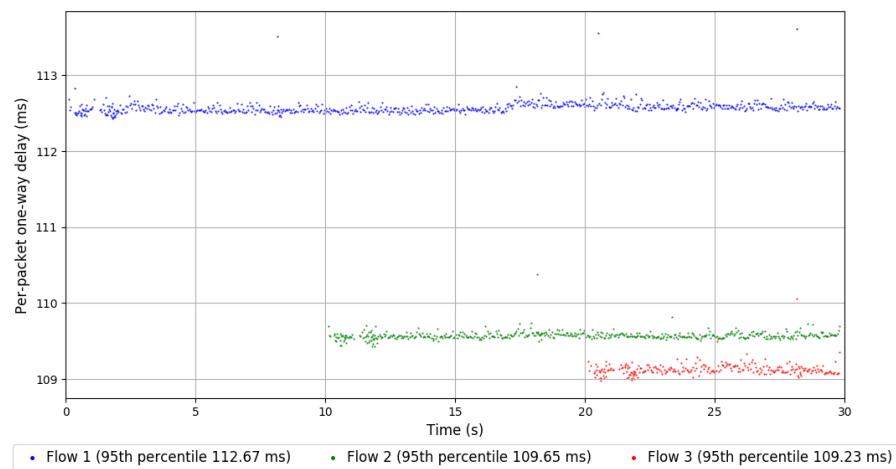
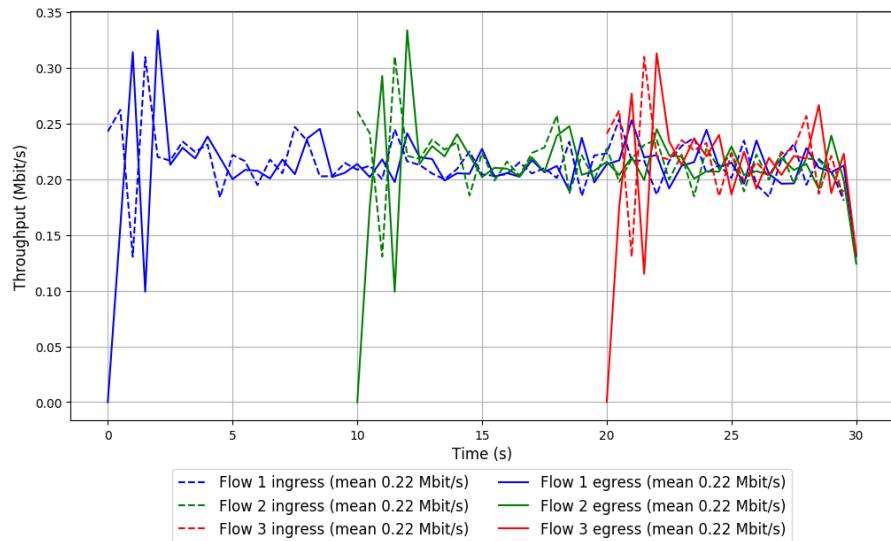


Run 3: Statistics of SCReAM

```
Start at: 2018-09-07 13:49:37
End at: 2018-09-07 13:50:07
Local clock offset: -0.026 ms
Remote clock offset: 0.32 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.632 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.667 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.647 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.232 ms
Loss rate: 2.21%
```

Run 3: Report of SCReAM — Data Link

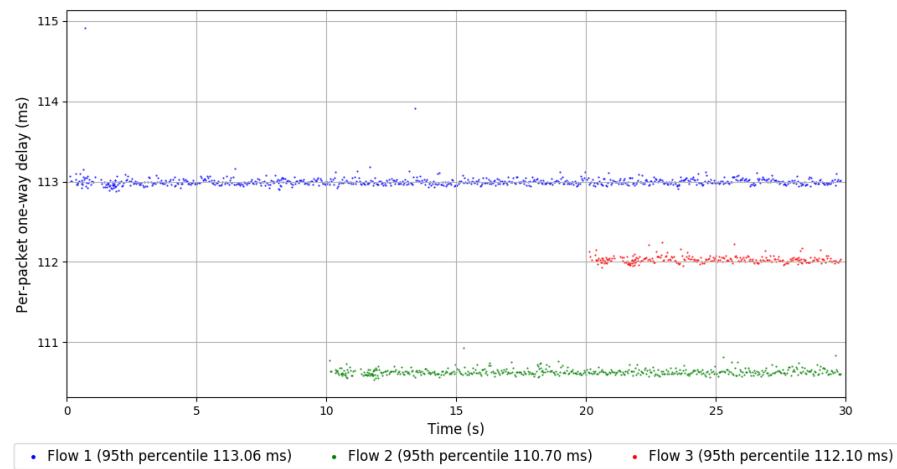
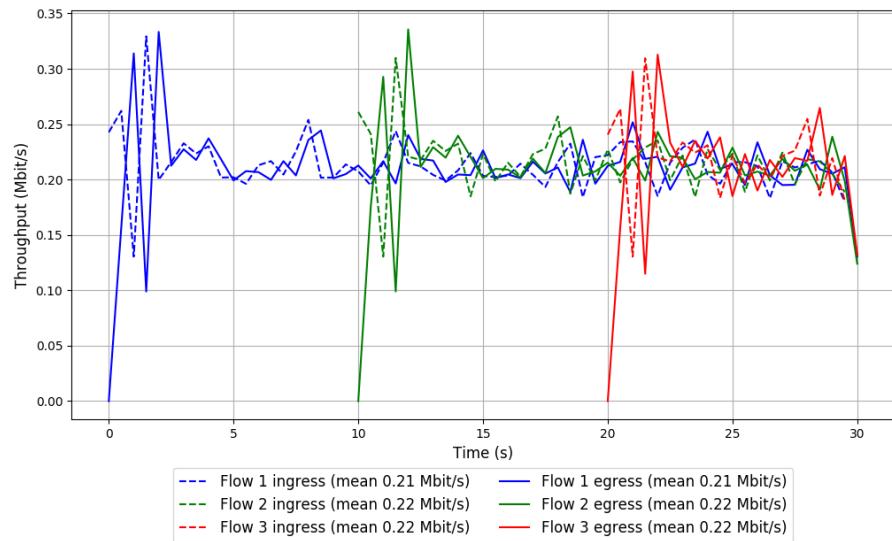


Run 4: Statistics of SCReAM

```
Start at: 2018-09-07 14:22:55
End at: 2018-09-07 14:23:25
Local clock offset: -0.2 ms
Remote clock offset: -0.421 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 113.049 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.064 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.704 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.096 ms
Loss rate: 2.21%
```

Run 4: Report of SCReAM — Data Link

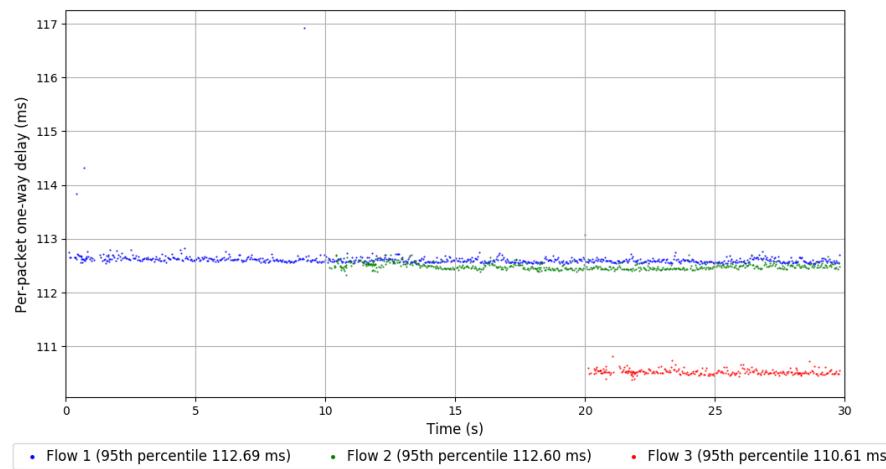
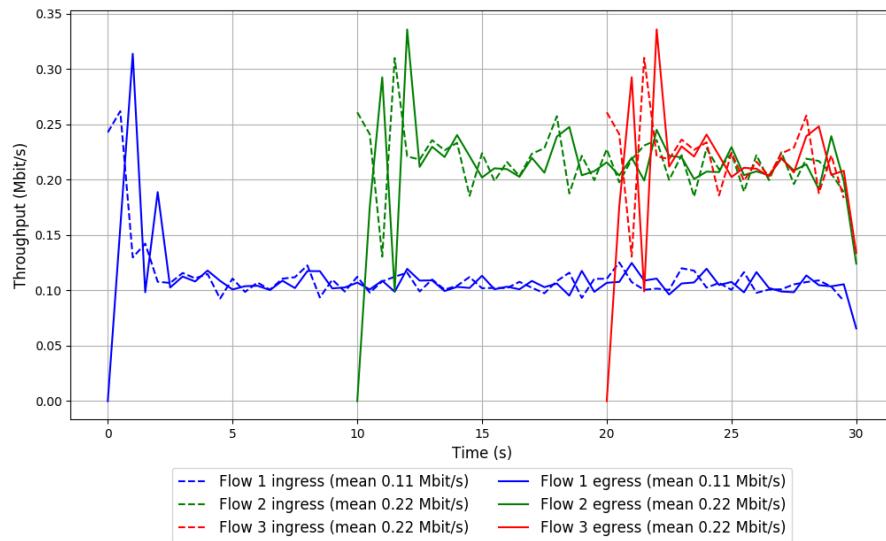


Run 5: Statistics of SCReAM

```
Start at: 2018-09-07 14:56:35
End at: 2018-09-07 14:57:05
Local clock offset: -0.12 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 112.671 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 112.694 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.597 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.608 ms
Loss rate: 2.22%
```

Run 5: Report of SCReAM — Data Link

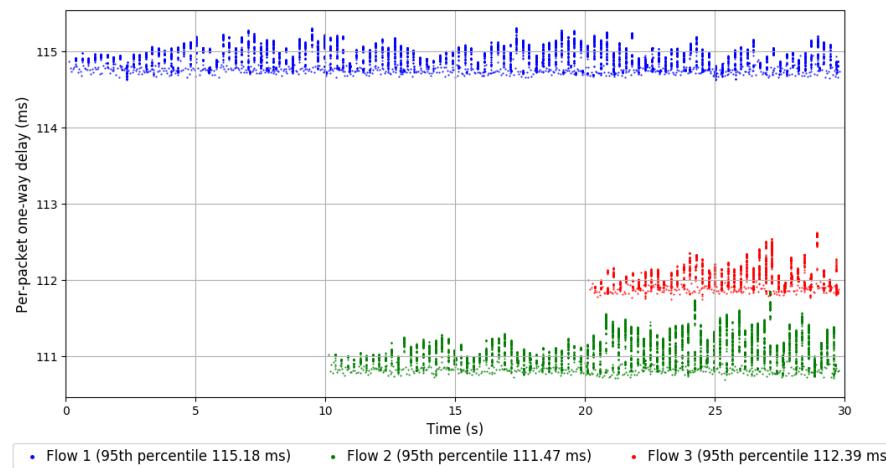
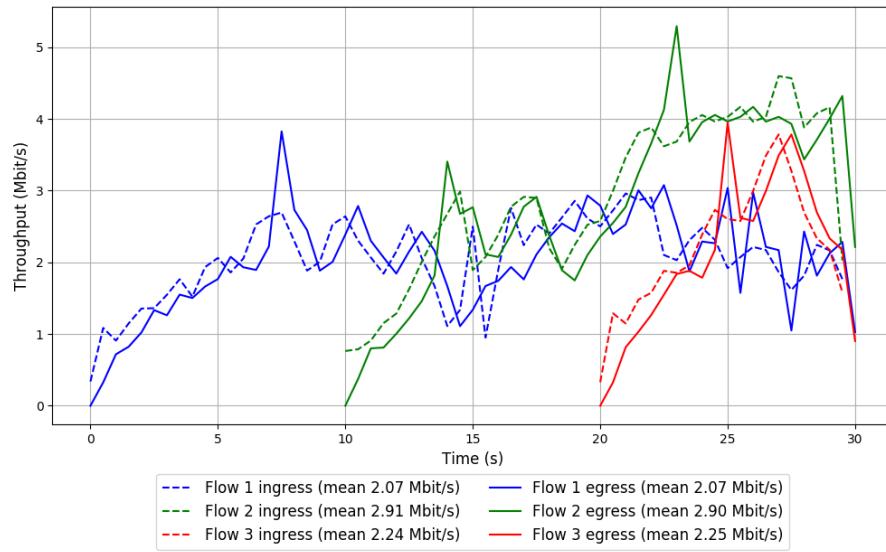


Run 1: Statistics of Sprout

```
Start at: 2018-09-07 12:46:19
End at: 2018-09-07 12:46:49
Local clock offset: 0.511 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2018-09-07 17:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.73 Mbit/s
95th percentile per-packet one-way delay: 115.124 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 115.179 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 111.465 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 112.387 ms
Loss rate: 1.55%
```

Run 1: Report of Sprout — Data Link

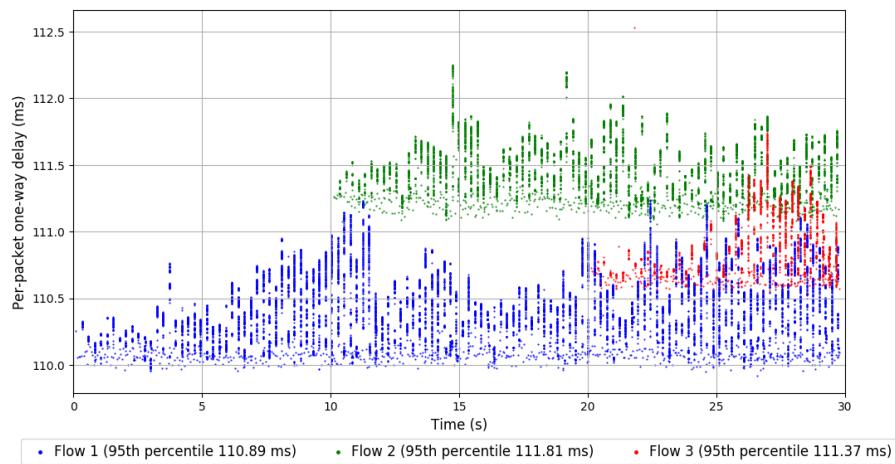
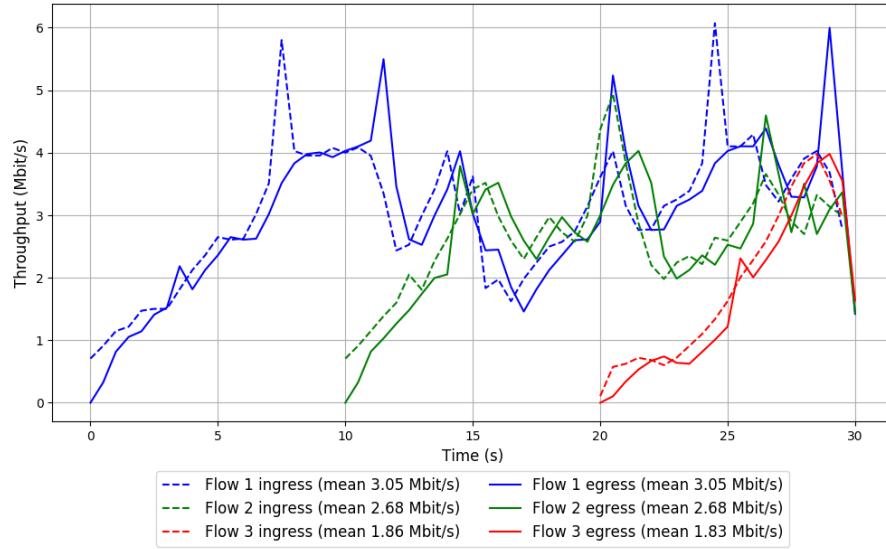


Run 2: Statistics of Sprout

```
Start at: 2018-09-07 13:19:50
End at: 2018-09-07 13:20:20
Local clock offset: -0.068 ms
Remote clock offset: -0.342 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 111.678 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 110.887 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 2.68 Mbit/s
95th percentile per-packet one-way delay: 111.814 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 111.367 ms
Loss rate: 3.68%
```

Run 2: Report of Sprout — Data Link

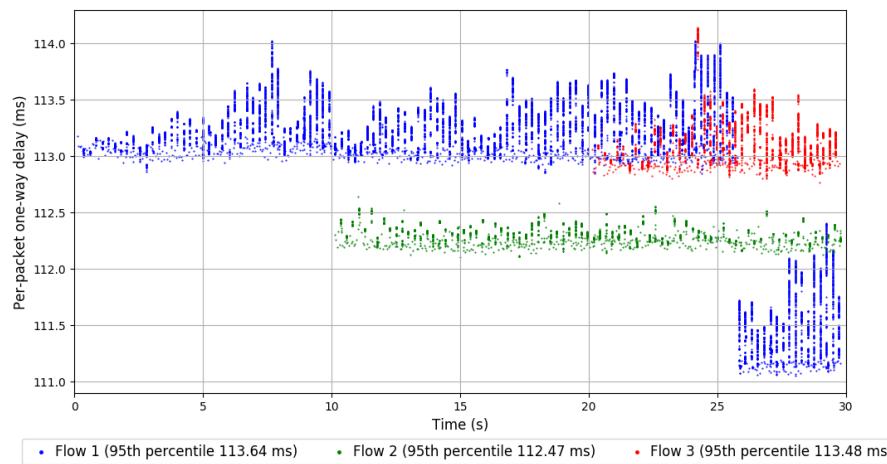
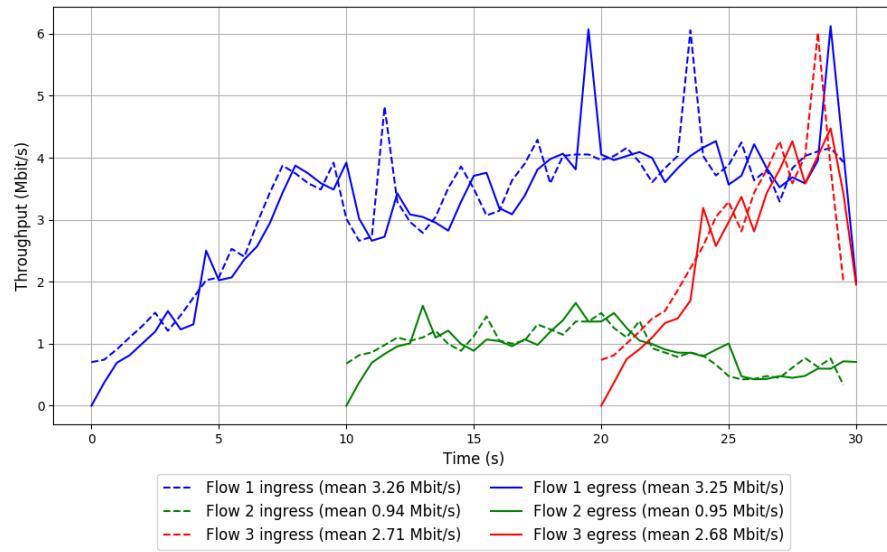


Run 3: Statistics of Sprout

```
Start at: 2018-09-07 13:53:03
End at: 2018-09-07 13:53:33
Local clock offset: 1.092 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 113.604 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 113.641 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 112.468 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 2.68 Mbit/s
95th percentile per-packet one-way delay: 113.478 ms
Loss rate: 3.74%
```

Run 3: Report of Sprout — Data Link

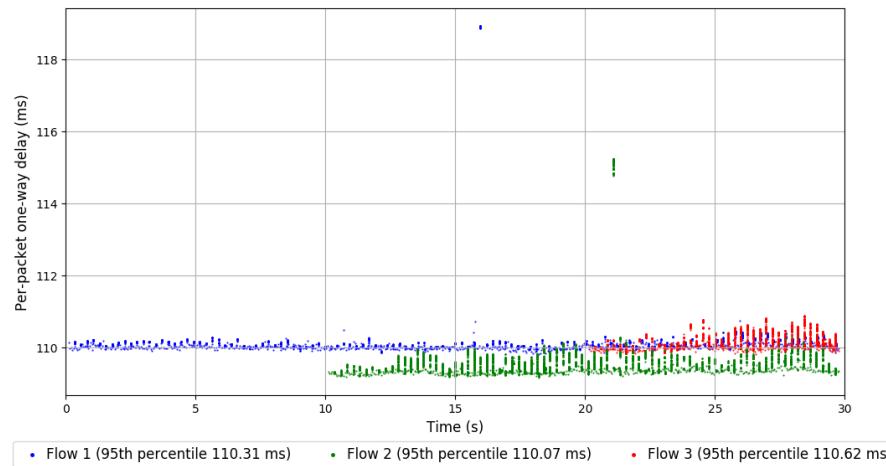
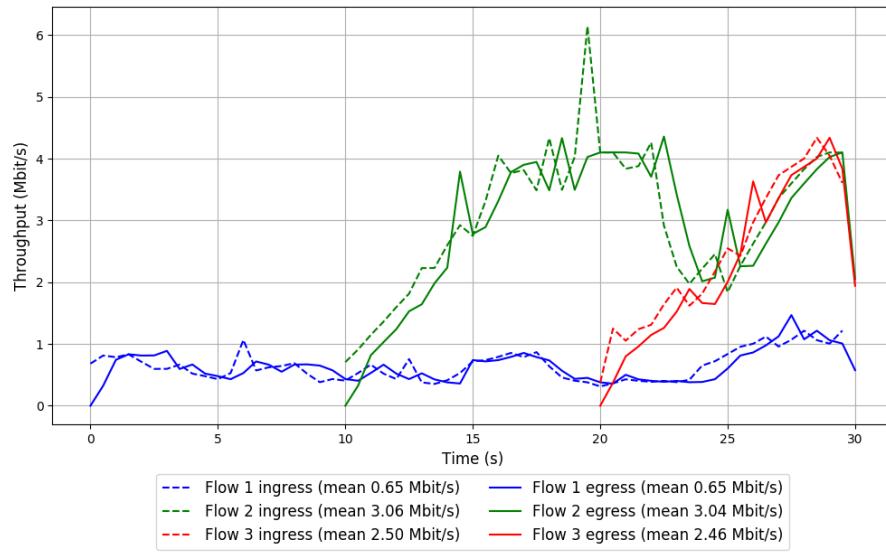


Run 4: Statistics of Sprout

```
Start at: 2018-09-07 14:26:19
End at: 2018-09-07 14:26:49
Local clock offset: -0.8 ms
Remote clock offset: 0.265 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 110.445 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 110.307 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 110.066 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 110.621 ms
Loss rate: 3.81%
```

Run 4: Report of Sprout — Data Link

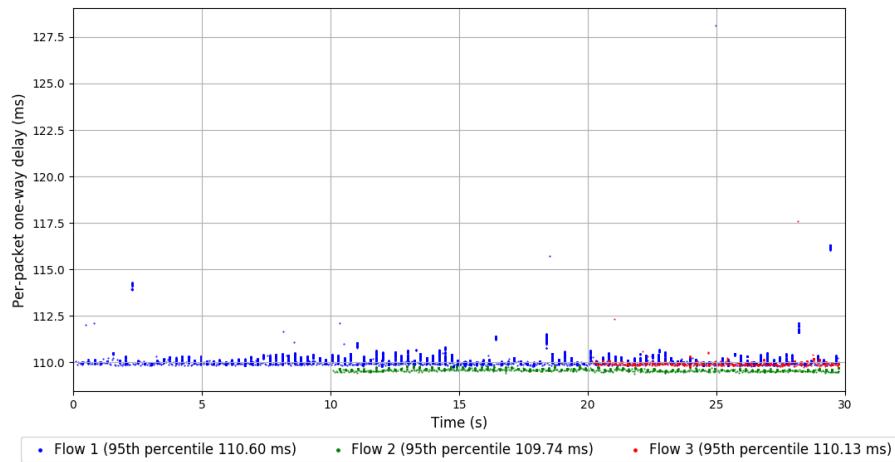
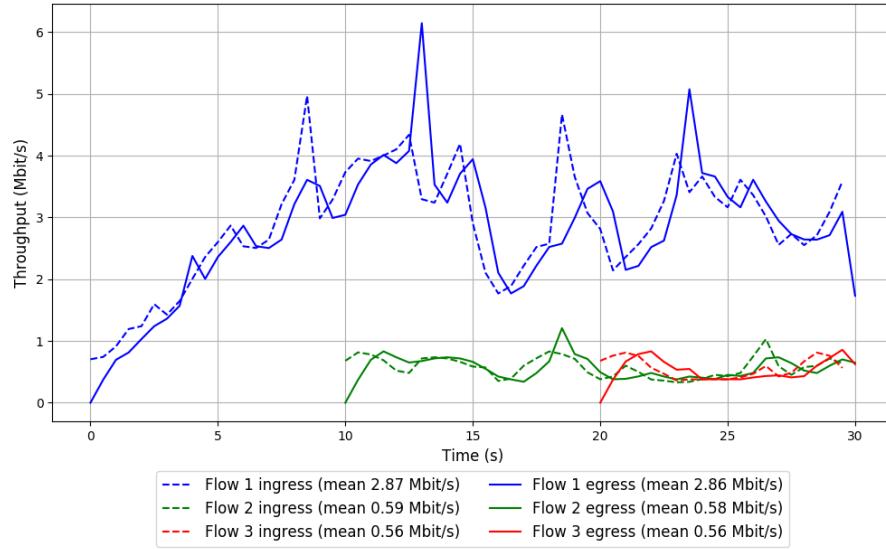


Run 5: Statistics of Sprout

```
Start at: 2018-09-07 15:00:02
End at: 2018-09-07 15:00:32
Local clock offset: -1.51 ms
Remote clock offset: -0.36 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 110.522 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 110.600 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 109.740 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 110.126 ms
Loss rate: 2.34%
```

Run 5: Report of Sprout — Data Link

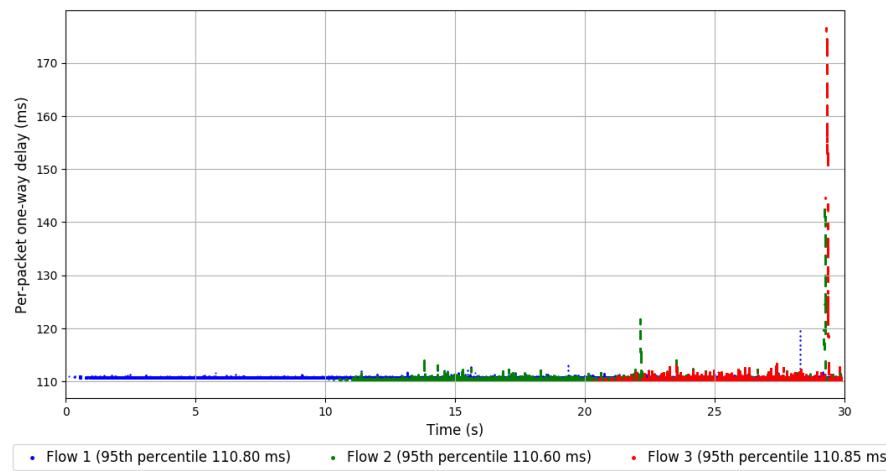
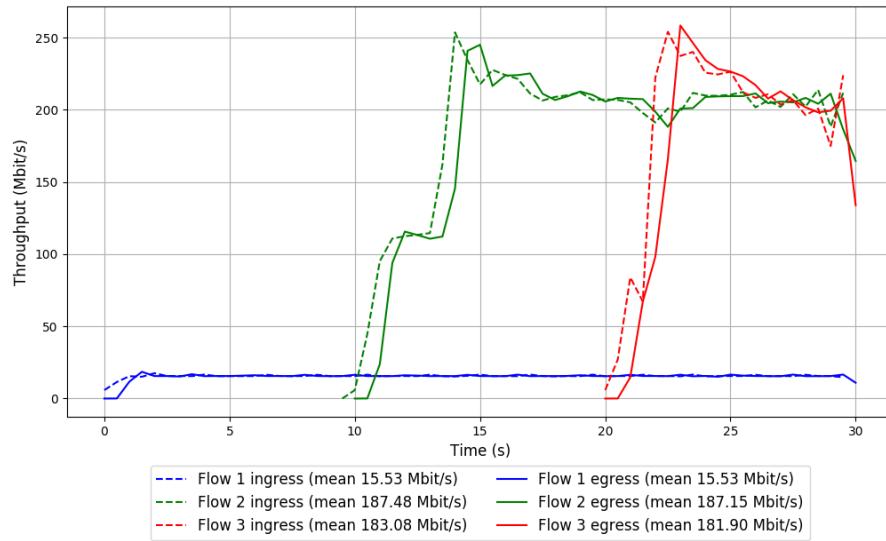


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-07 12:41:18
End at: 2018-09-07 12:41:48
Local clock offset: -0.161 ms
Remote clock offset: 0.373 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 199.40 Mbit/s
95th percentile per-packet one-way delay: 110.739 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 15.53 Mbit/s
95th percentile per-packet one-way delay: 110.796 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 187.15 Mbit/s
95th percentile per-packet one-way delay: 110.598 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 181.90 Mbit/s
95th percentile per-packet one-way delay: 110.848 ms
Loss rate: 2.84%
```

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

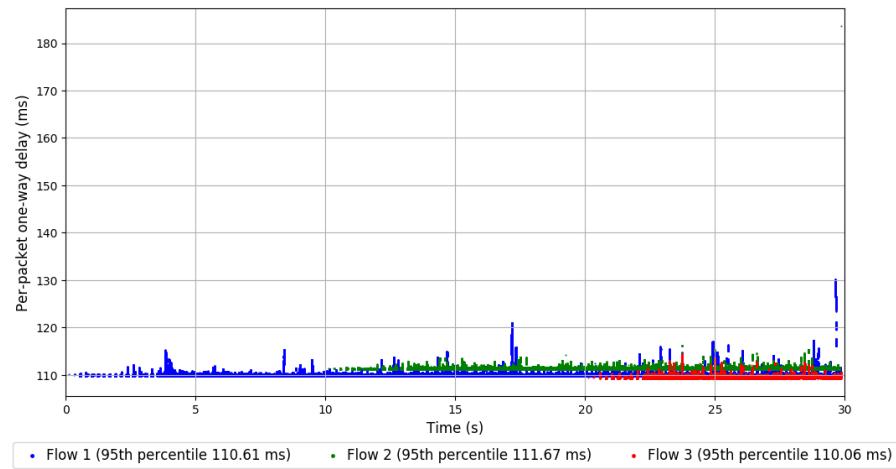
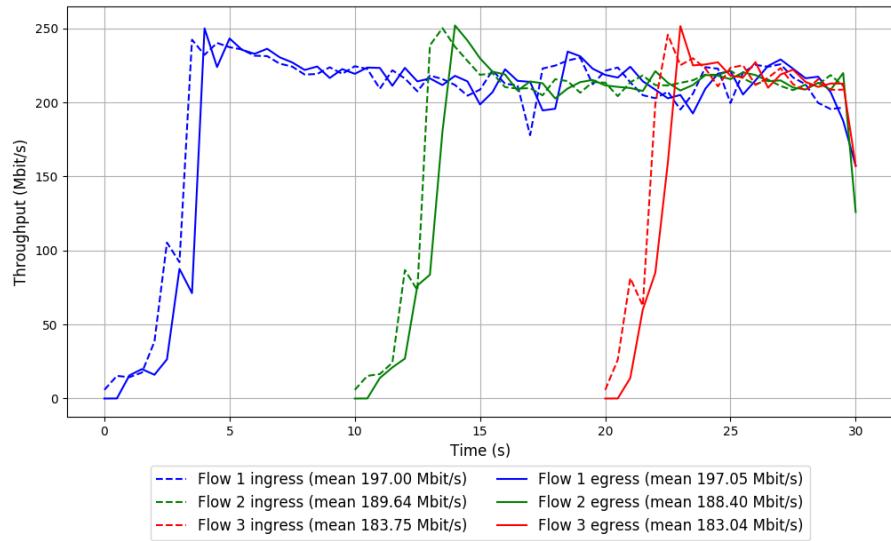


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-07 13:14:26
End at: 2018-09-07 13:14:56
Local clock offset: -0.717 ms
Remote clock offset: 0.346 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.04 Mbit/s
95th percentile per-packet one-way delay: 111.445 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 197.05 Mbit/s
95th percentile per-packet one-way delay: 110.606 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 188.40 Mbit/s
95th percentile per-packet one-way delay: 111.668 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 183.04 Mbit/s
95th percentile per-packet one-way delay: 110.065 ms
Loss rate: 2.60%
```

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

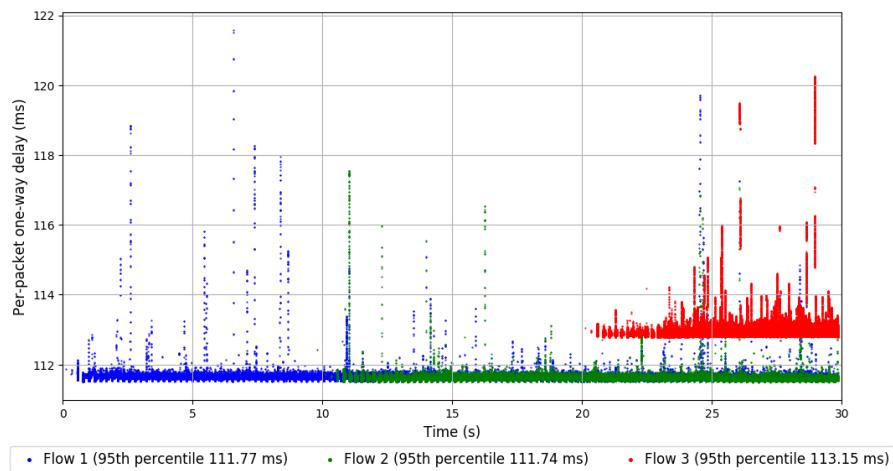
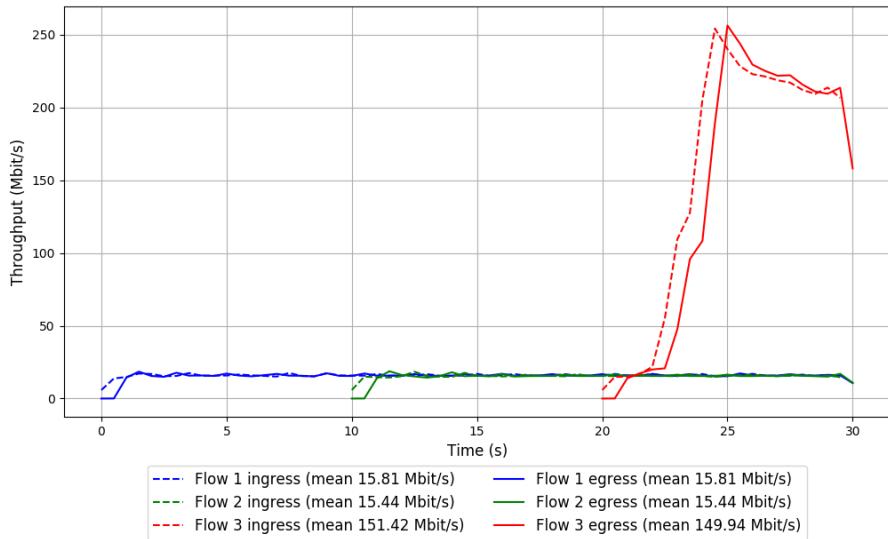


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-07 13:48:13
End at: 2018-09-07 13:48:43
Local clock offset: -0.231 ms
Remote clock offset: -0.434 ms

# Below is generated by plot.py at 2018-09-07 17:37:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.12 Mbit/s
95th percentile per-packet one-way delay: 113.097 ms
Loss rate: 2.42%
-- Flow 1:
Average throughput: 15.81 Mbit/s
95th percentile per-packet one-way delay: 111.771 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 15.44 Mbit/s
95th percentile per-packet one-way delay: 111.738 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 149.94 Mbit/s
95th percentile per-packet one-way delay: 113.151 ms
Loss rate: 3.21%
```

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

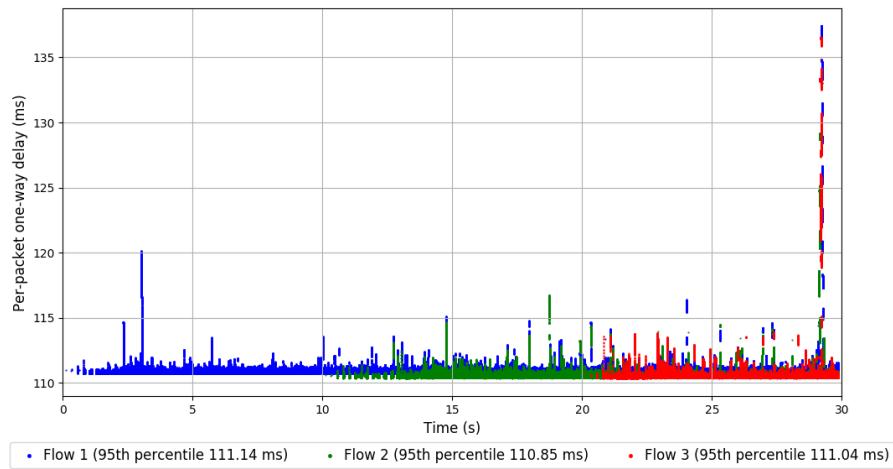
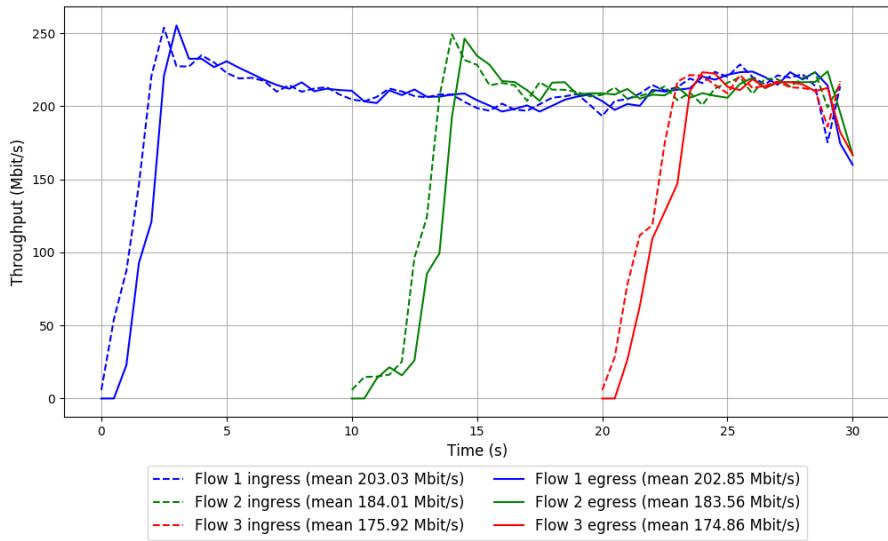


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-07 14:20:58
End at: 2018-09-07 14:21:28
Local clock offset: -0.388 ms
Remote clock offset: -0.449 ms

# Below is generated by plot.py at 2018-09-07 17:38:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.90 Mbit/s
95th percentile per-packet one-way delay: 111.095 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 202.85 Mbit/s
95th percentile per-packet one-way delay: 111.142 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 183.56 Mbit/s
95th percentile per-packet one-way delay: 110.853 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 174.86 Mbit/s
95th percentile per-packet one-way delay: 111.044 ms
Loss rate: 2.83%
```

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

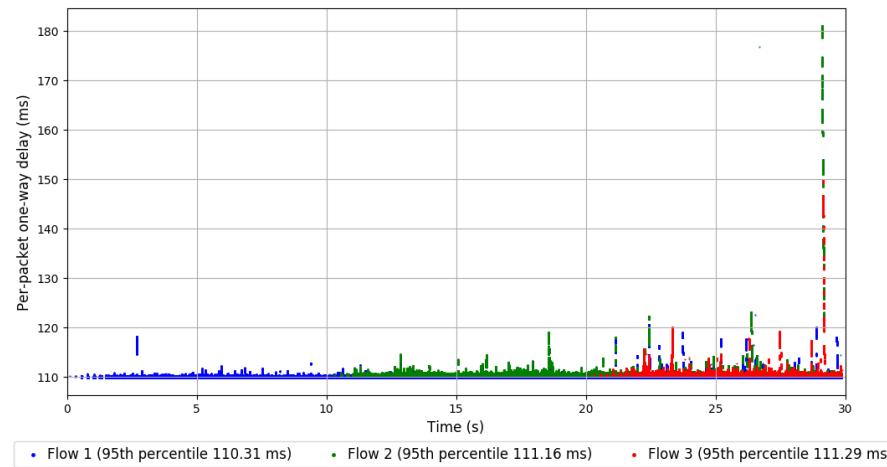
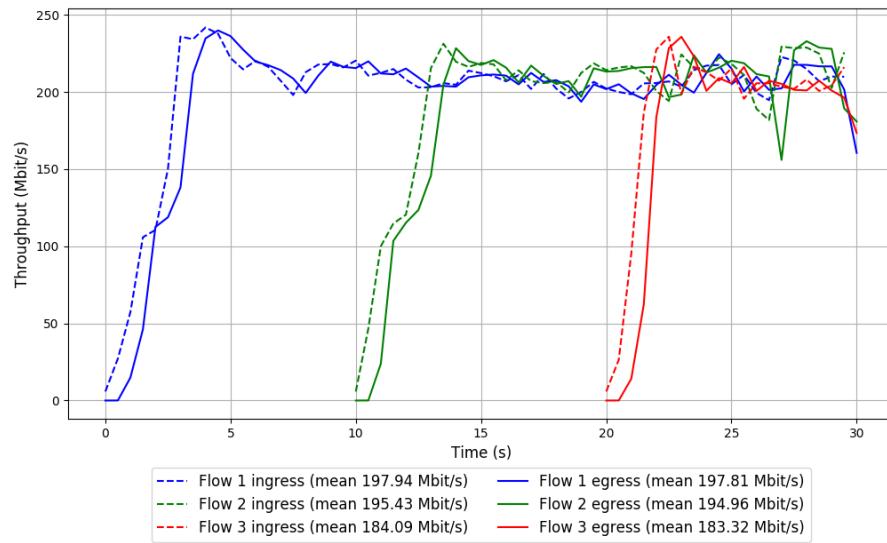


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-07 14:54:38
End at: 2018-09-07 14:55:08
Local clock offset: -0.179 ms
Remote clock offset: 0.316 ms

# Below is generated by plot.py at 2018-09-07 17:39:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.21 Mbit/s
95th percentile per-packet one-way delay: 110.838 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 197.81 Mbit/s
95th percentile per-packet one-way delay: 110.305 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 194.96 Mbit/s
95th percentile per-packet one-way delay: 111.159 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 183.32 Mbit/s
95th percentile per-packet one-way delay: 111.290 ms
Loss rate: 2.64%
```

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

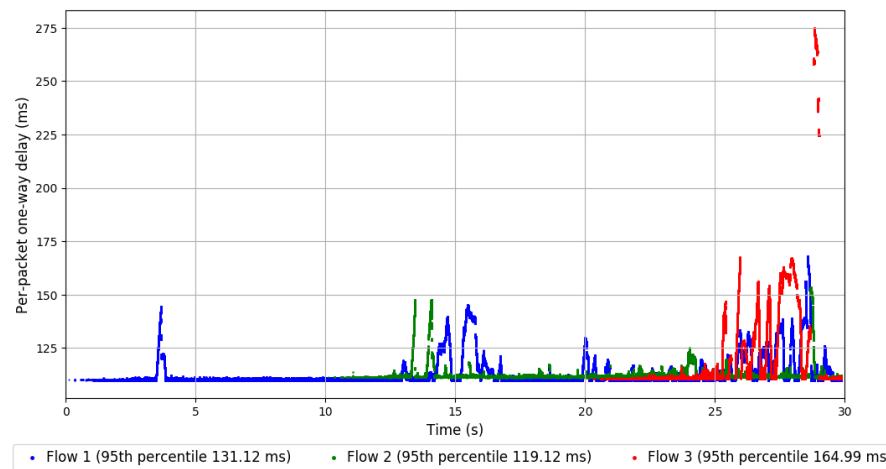
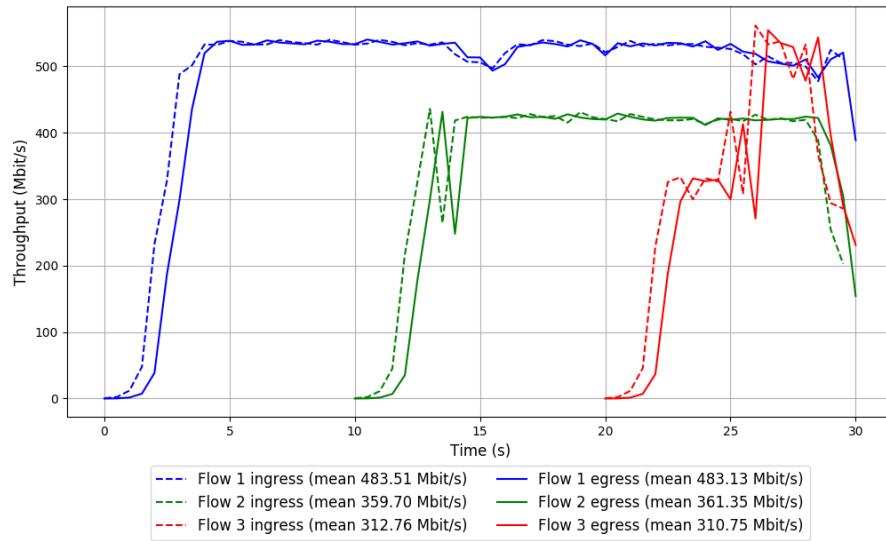


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-07 12:47:35
End at: 2018-09-07 12:48:05
Local clock offset: 0.47 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-09-07 17:43:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 824.78 Mbit/s
95th percentile per-packet one-way delay: 137.380 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 483.13 Mbit/s
95th percentile per-packet one-way delay: 131.119 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 361.35 Mbit/s
95th percentile per-packet one-way delay: 119.124 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 310.75 Mbit/s
95th percentile per-packet one-way delay: 164.993 ms
Loss rate: 2.84%
```

Run 1: Report of TCP Vegas — Data Link

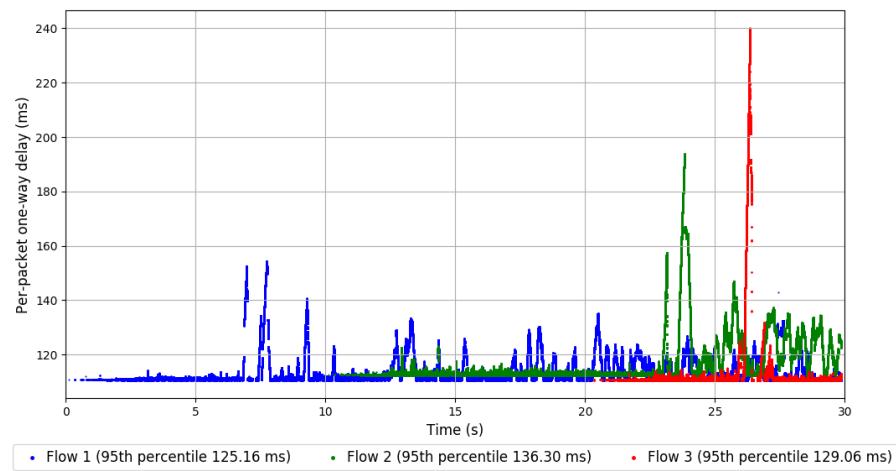
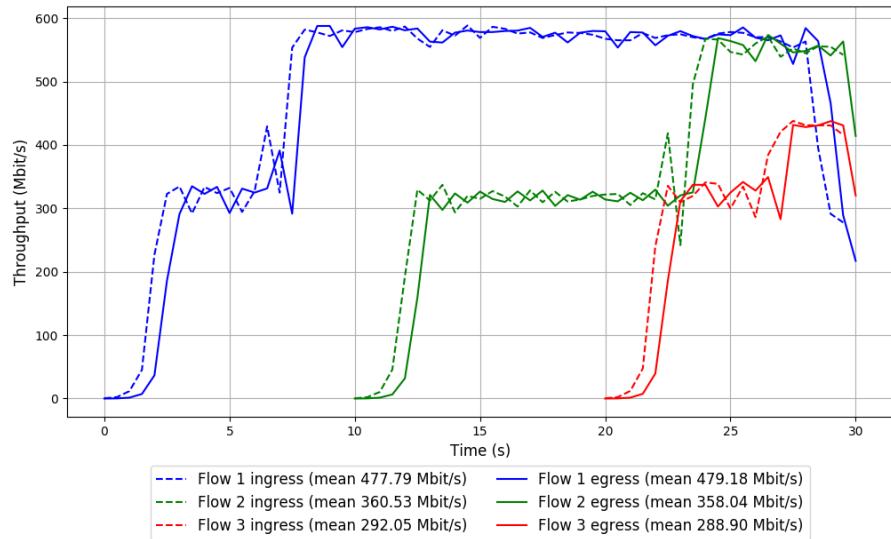


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-07 13:21:07
End at: 2018-09-07 13:21:37
Local clock offset: -0.179 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2018-09-07 17:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 811.36 Mbit/s
95th percentile per-packet one-way delay: 130.432 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 479.18 Mbit/s
95th percentile per-packet one-way delay: 125.157 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 358.04 Mbit/s
95th percentile per-packet one-way delay: 136.300 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 288.90 Mbit/s
95th percentile per-packet one-way delay: 129.062 ms
Loss rate: 3.24%
```

Run 2: Report of TCP Vegas — Data Link

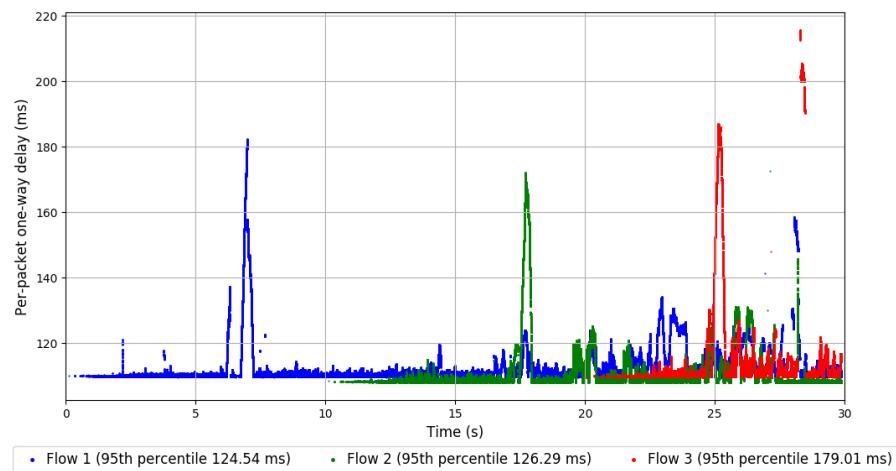
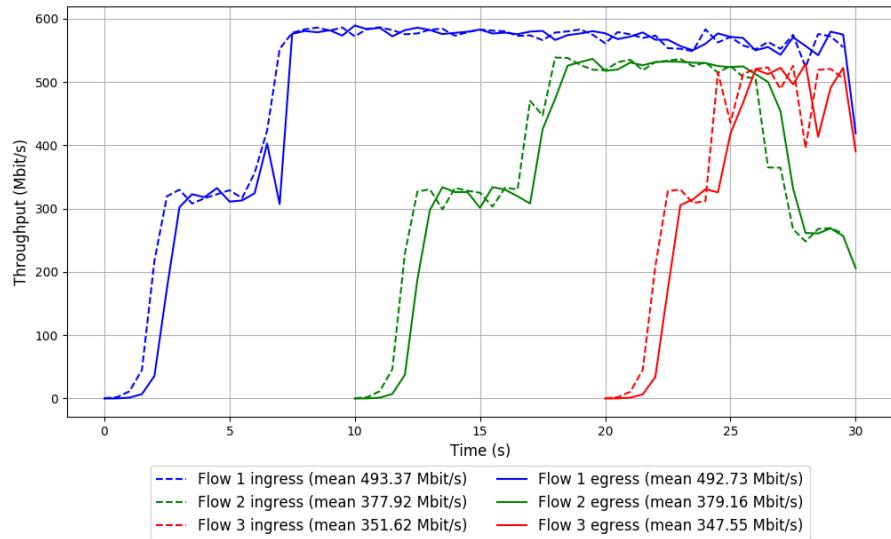


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-07 13:54:19
End at: 2018-09-07 13:54:49
Local clock offset: -1.07 ms
Remote clock offset: 0.29 ms

# Below is generated by plot.py at 2018-09-07 17:47:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 858.16 Mbit/s
95th percentile per-packet one-way delay: 126.327 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 492.73 Mbit/s
95th percentile per-packet one-way delay: 124.540 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 379.16 Mbit/s
95th percentile per-packet one-way delay: 126.287 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 347.55 Mbit/s
95th percentile per-packet one-way delay: 179.011 ms
Loss rate: 3.36%
```

Run 3: Report of TCP Vegas — Data Link

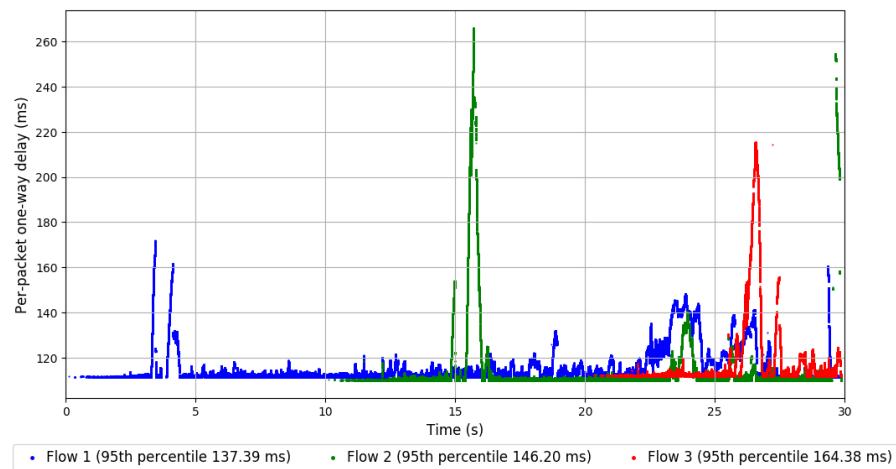
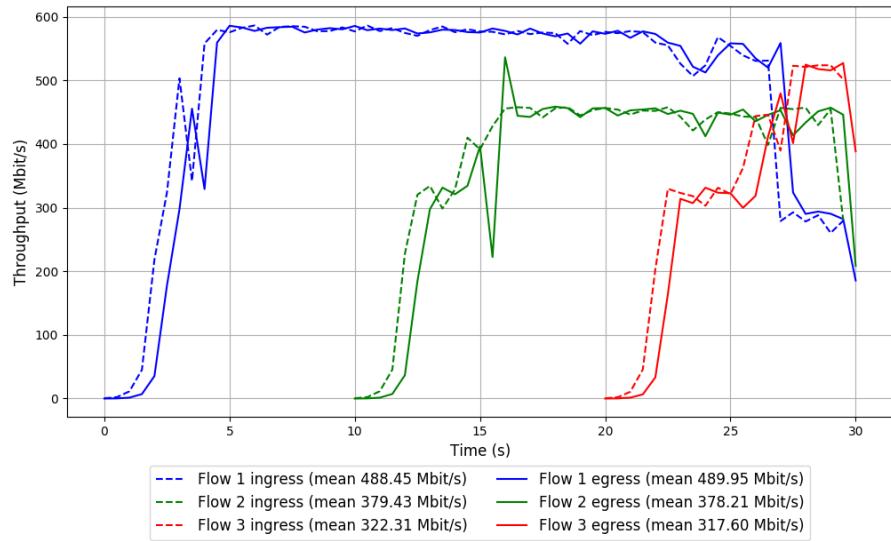


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-07 14:27:35
End at: 2018-09-07 14:28:05
Local clock offset: -0.27 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-09-07 17:49:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 844.98 Mbit/s
95th percentile per-packet one-way delay: 139.692 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 489.95 Mbit/s
95th percentile per-packet one-way delay: 137.391 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 378.21 Mbit/s
95th percentile per-packet one-way delay: 146.204 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 317.60 Mbit/s
95th percentile per-packet one-way delay: 164.378 ms
Loss rate: 3.66%
```

Run 4: Report of TCP Vegas — Data Link

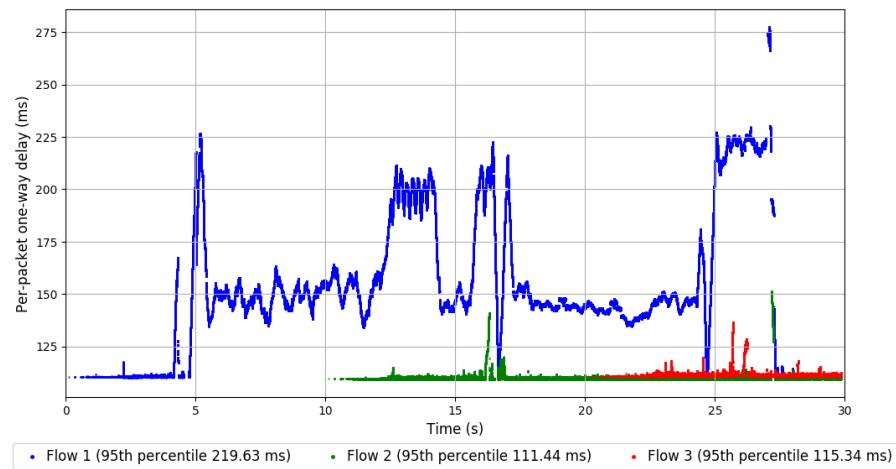
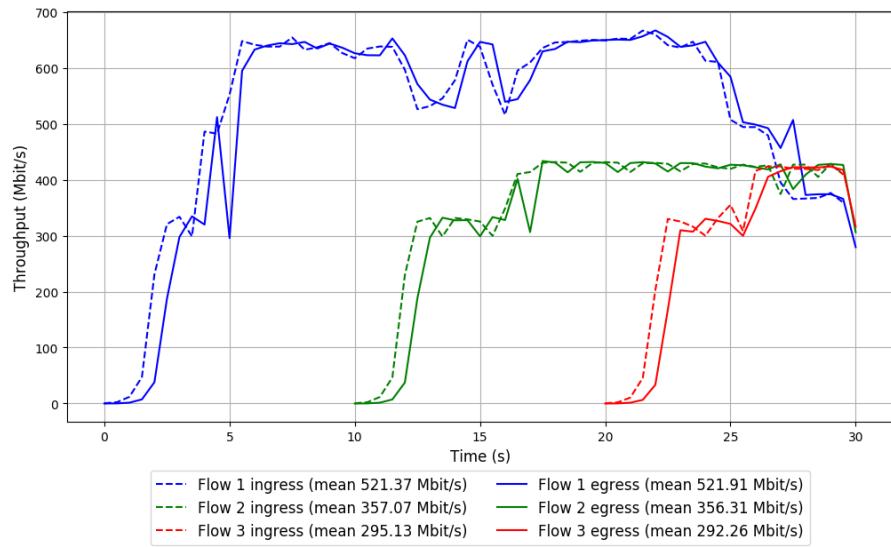


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-07 15:01:18
End at: 2018-09-07 15:01:48
Local clock offset: -0.345 ms
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2018-09-07 17:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 854.12 Mbit/s
95th percentile per-packet one-way delay: 208.997 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 521.91 Mbit/s
95th percentile per-packet one-way delay: 219.635 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 356.31 Mbit/s
95th percentile per-packet one-way delay: 111.445 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 292.26 Mbit/s
95th percentile per-packet one-way delay: 115.338 ms
Loss rate: 3.20%
```

Run 5: Report of TCP Vegas — Data Link

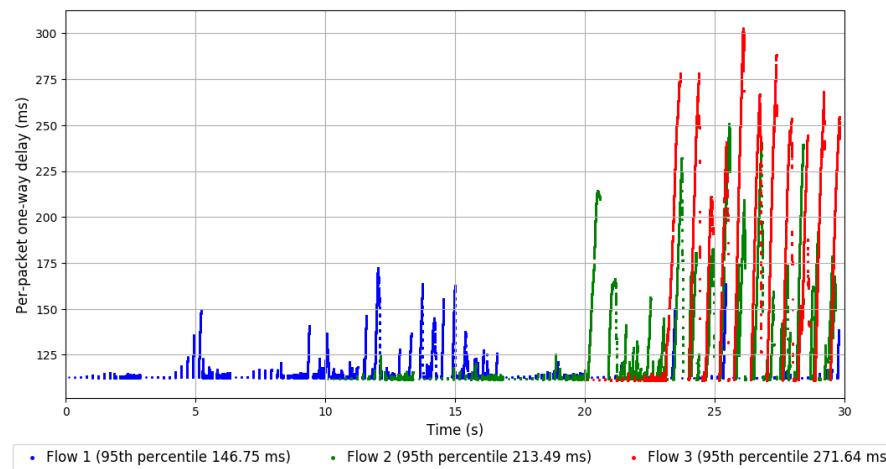
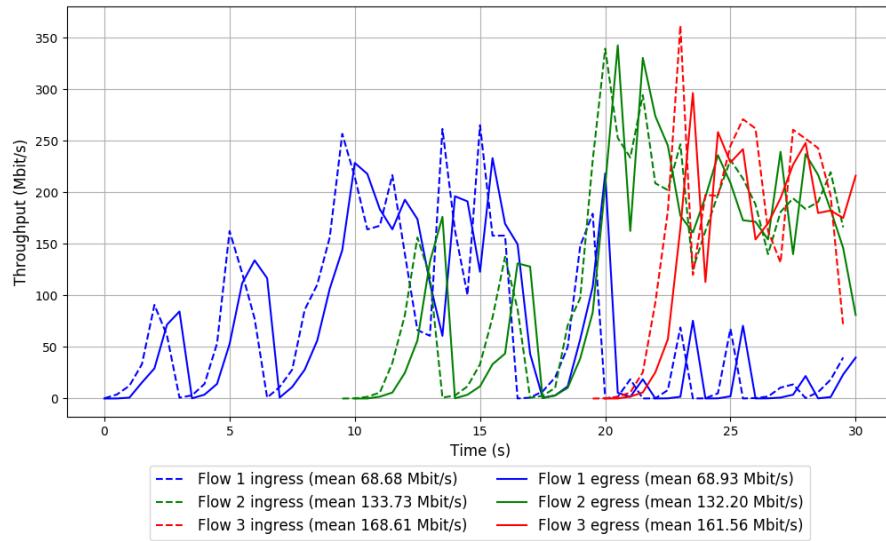


Run 1: Statistics of Verus

```
Start at: 2018-09-07 12:57:24
End at: 2018-09-07 12:57:54
Local clock offset: 0.006 ms
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2018-09-07 17:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.70 Mbit/s
95th percentile per-packet one-way delay: 244.591 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 68.93 Mbit/s
95th percentile per-packet one-way delay: 146.752 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 132.20 Mbit/s
95th percentile per-packet one-way delay: 213.487 ms
Loss rate: 3.11%
-- Flow 3:
Average throughput: 161.56 Mbit/s
95th percentile per-packet one-way delay: 271.643 ms
Loss rate: 4.22%
```

Run 1: Report of Verus — Data Link

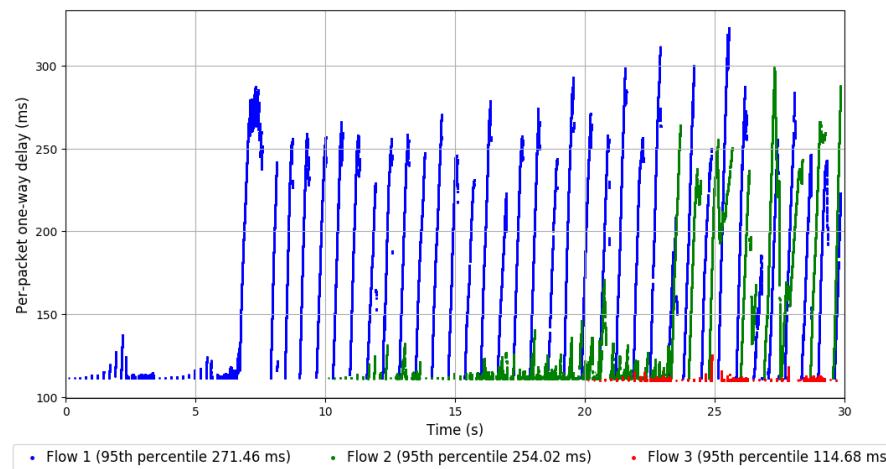
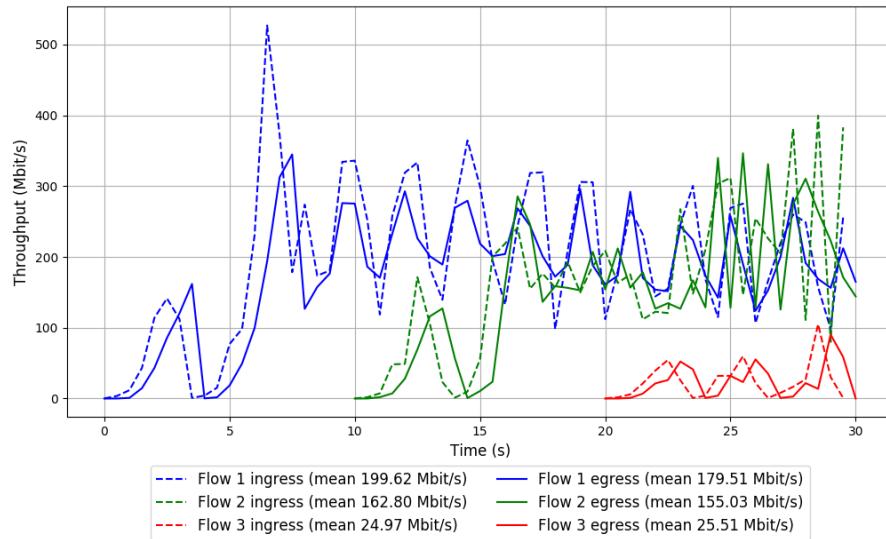


Run 2: Statistics of Verus

```
Start at: 2018-09-07 13:31:00
End at: 2018-09-07 13:31:30
Local clock offset: 0.539 ms
Remote clock offset: 0.027 ms

# Below is generated by plot.py at 2018-09-07 17:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.54 Mbit/s
95th percentile per-packet one-way delay: 264.978 ms
Loss rate: 8.30%
-- Flow 1:
Average throughput: 179.51 Mbit/s
95th percentile per-packet one-way delay: 271.462 ms
Loss rate: 10.09%
-- Flow 2:
Average throughput: 155.03 Mbit/s
95th percentile per-packet one-way delay: 254.024 ms
Loss rate: 5.62%
-- Flow 3:
Average throughput: 25.51 Mbit/s
95th percentile per-packet one-way delay: 114.681 ms
Loss rate: 0.15%
```

Run 2: Report of Verus — Data Link

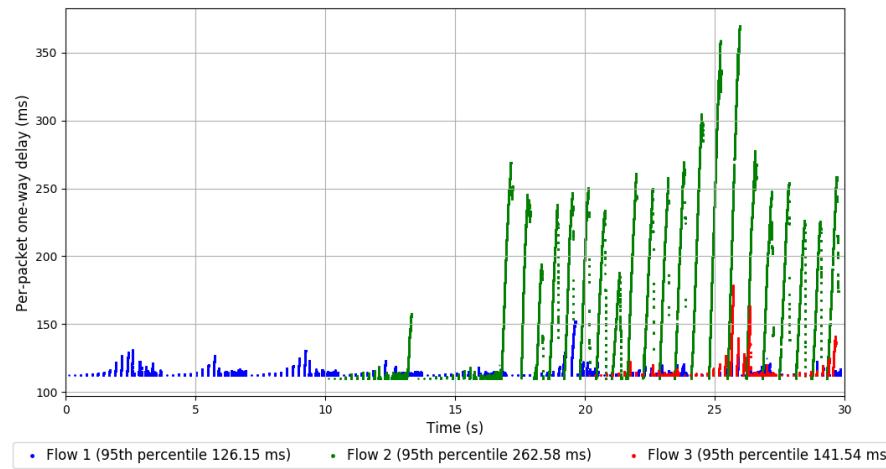
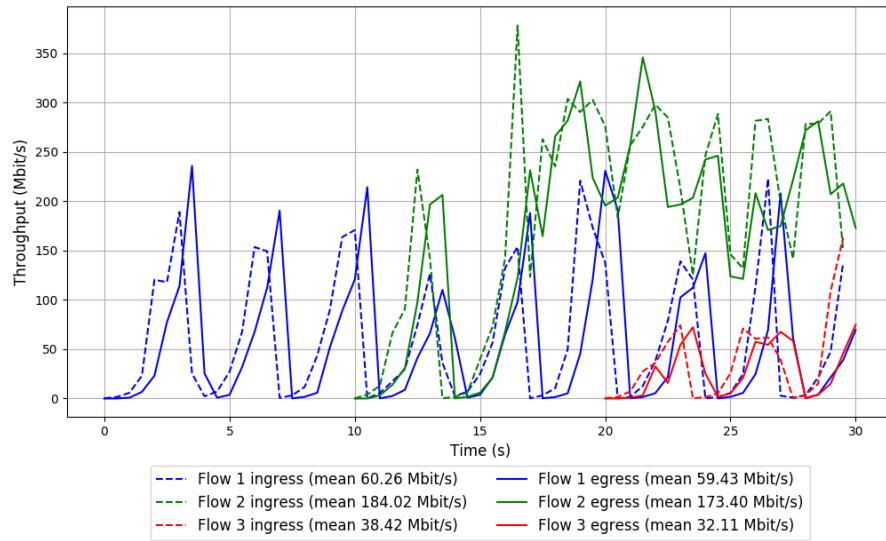


Run 3: Statistics of Verus

```
Start at: 2018-09-07 14:04:18
End at: 2018-09-07 14:04:48
Local clock offset: -0.308 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2018-09-07 17:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 184.17 Mbit/s
95th percentile per-packet one-way delay: 252.806 ms
Loss rate: 6.49%
-- Flow 1:
Average throughput: 59.43 Mbit/s
95th percentile per-packet one-way delay: 126.150 ms
Loss rate: 2.12%
-- Flow 2:
Average throughput: 173.40 Mbit/s
95th percentile per-packet one-way delay: 262.584 ms
Loss rate: 7.25%
-- Flow 3:
Average throughput: 32.11 Mbit/s
95th percentile per-packet one-way delay: 141.540 ms
Loss rate: 19.88%
```

Run 3: Report of Verus — Data Link

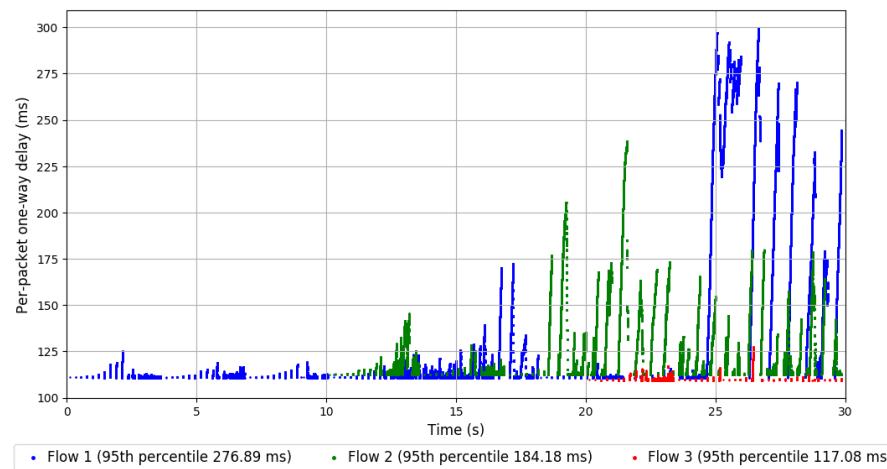
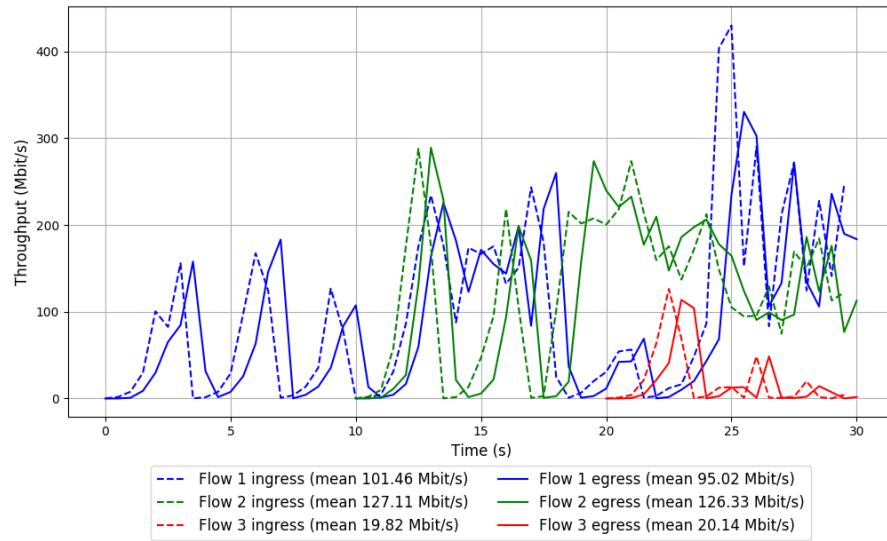


Run 4: Statistics of Verus

```
Start at: 2018-09-07 14:37:36
End at: 2018-09-07 14:38:06
Local clock offset: -0.281 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-09-07 17:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 185.37 Mbit/s
95th percentile per-packet one-way delay: 263.958 ms
Loss rate: 4.07%
-- Flow 1:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 276.890 ms
Loss rate: 6.26%
-- Flow 2:
Average throughput: 126.33 Mbit/s
95th percentile per-packet one-way delay: 184.175 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 20.14 Mbit/s
95th percentile per-packet one-way delay: 117.078 ms
Loss rate: 0.64%
```

Run 4: Report of Verus — Data Link

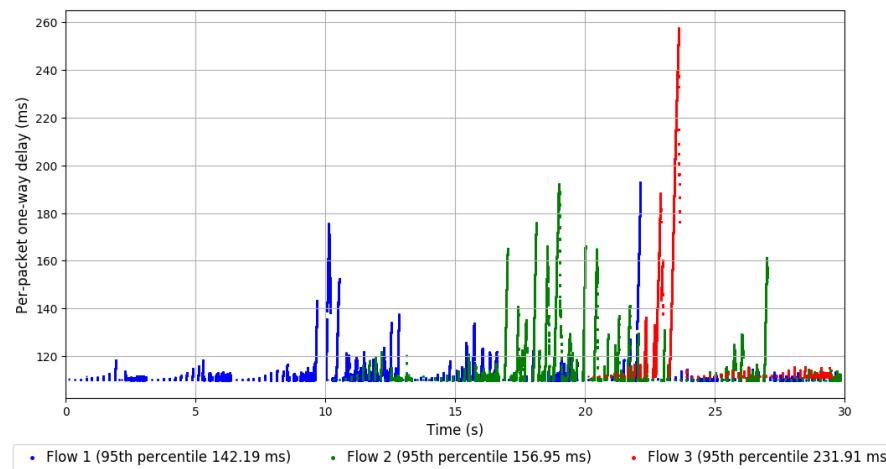
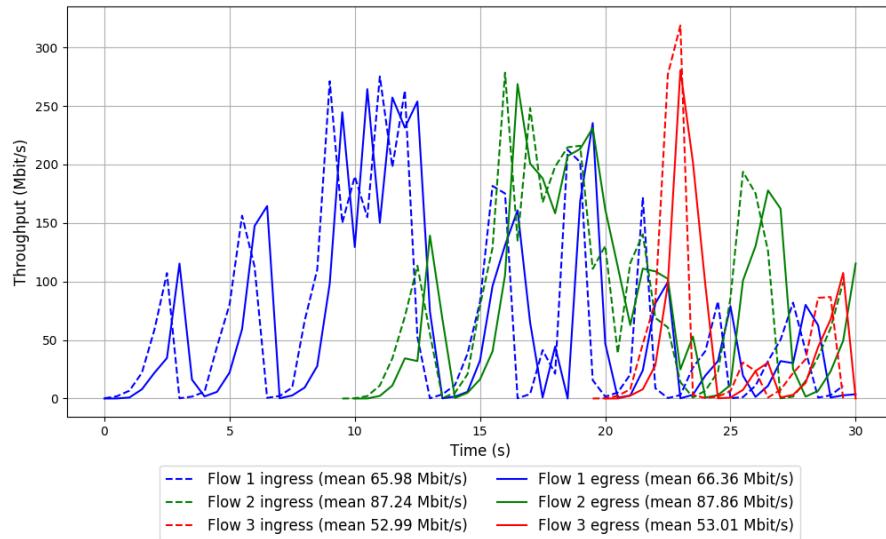


Run 5: Statistics of Verus

```
Start at: 2018-09-07 15:11:09
End at: 2018-09-07 15:11:39
Local clock offset: -0.615 ms
Remote clock offset: 0.336 ms

# Below is generated by plot.py at 2018-09-07 17:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.30 Mbit/s
95th percentile per-packet one-way delay: 162.687 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 66.36 Mbit/s
95th percentile per-packet one-way delay: 142.194 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 156.950 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 53.01 Mbit/s
95th percentile per-packet one-way delay: 231.913 ms
Loss rate: 2.22%
```

Run 5: Report of Verus — Data Link

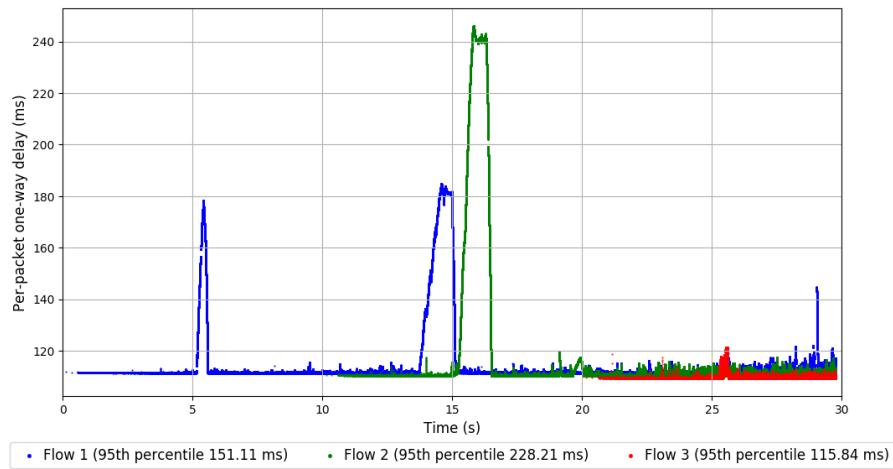
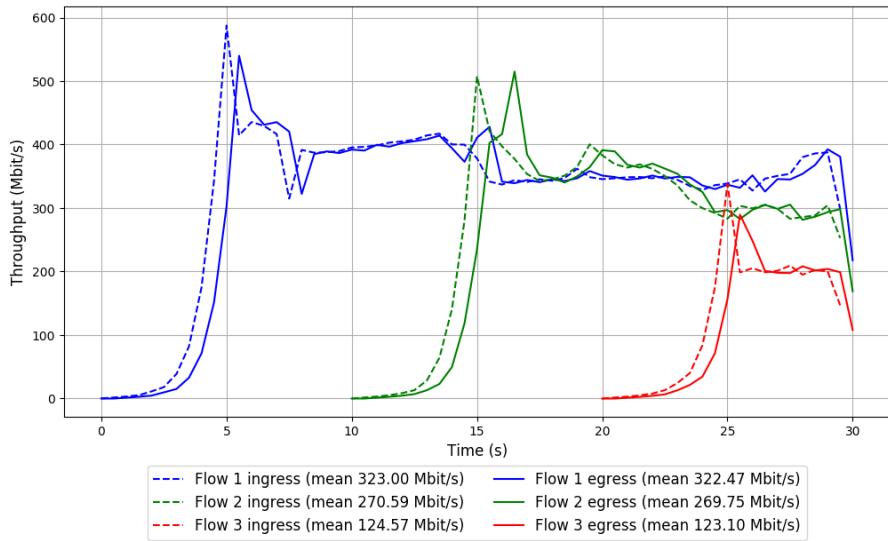


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-09-07 12:34:52
End at: 2018-09-07 12:35:22
Local clock offset: 0.163 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2018-09-07 17:54:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 540.98 Mbit/s
95th percentile per-packet one-way delay: 163.260 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 322.47 Mbit/s
95th percentile per-packet one-way delay: 151.113 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 269.75 Mbit/s
95th percentile per-packet one-way delay: 228.214 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 123.10 Mbit/s
95th percentile per-packet one-way delay: 115.838 ms
Loss rate: 3.38%
```

Run 1: Report of PCC-Vivace — Data Link

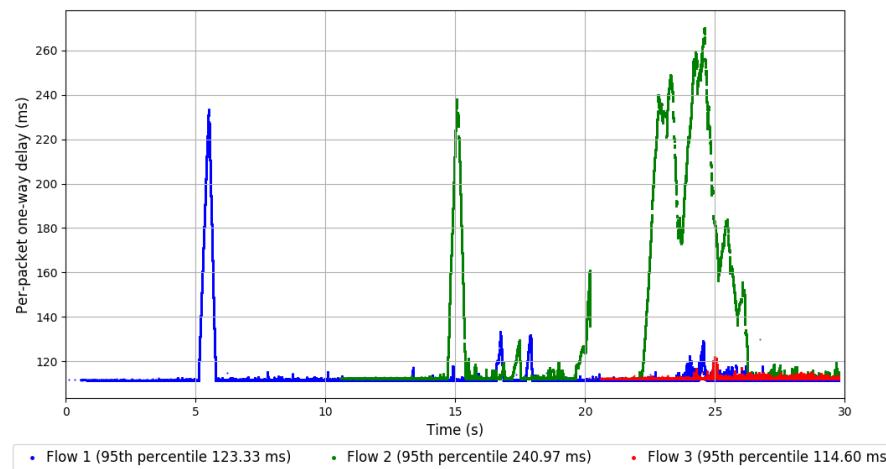
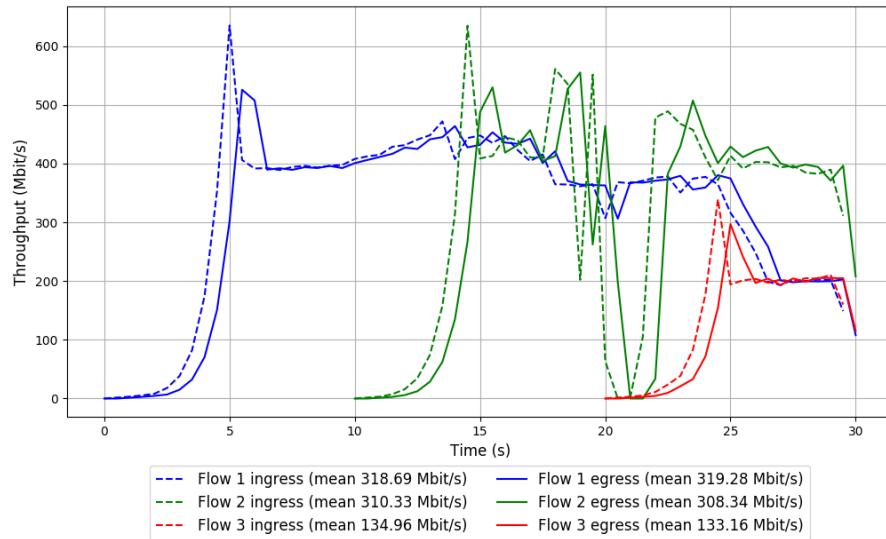


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-07 13:07:58
End at: 2018-09-07 13:08:28
Local clock offset: 0.089 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2018-09-07 17:54:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 566.82 Mbit/s
95th percentile per-packet one-way delay: 217.715 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 319.28 Mbit/s
95th percentile per-packet one-way delay: 123.328 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 308.34 Mbit/s
95th percentile per-packet one-way delay: 240.975 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 133.16 Mbit/s
95th percentile per-packet one-way delay: 114.602 ms
Loss rate: 3.58%
```

Run 2: Report of PCC-Vivace — Data Link

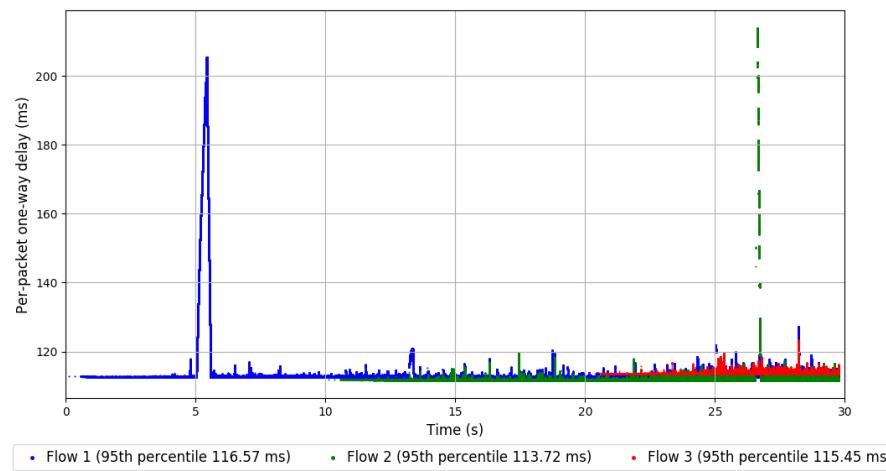
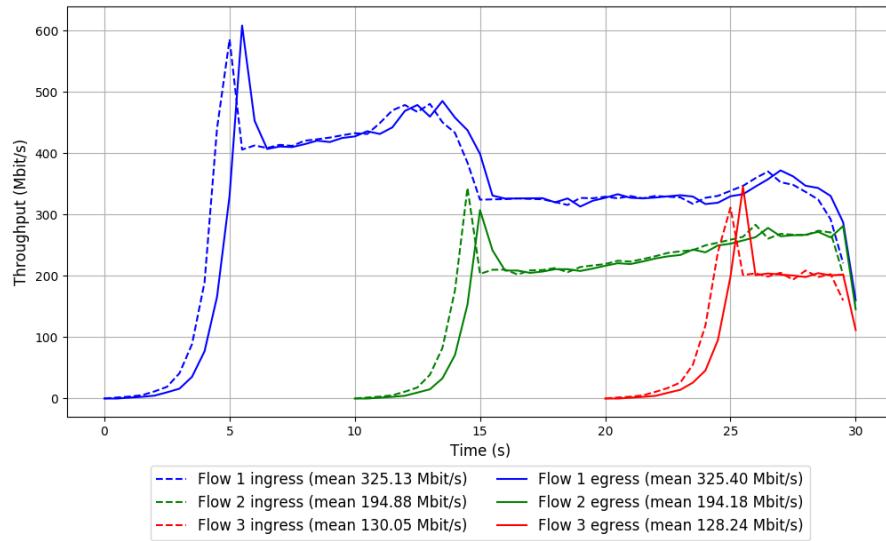


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-07 13:41:44
End at: 2018-09-07 13:42:14
Local clock offset: 0.519 ms
Remote clock offset: -0.382 ms

# Below is generated by plot.py at 2018-09-07 17:54:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.68 Mbit/s
95th percentile per-packet one-way delay: 115.434 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 325.40 Mbit/s
95th percentile per-packet one-way delay: 116.573 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 194.18 Mbit/s
95th percentile per-packet one-way delay: 113.719 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 128.24 Mbit/s
95th percentile per-packet one-way delay: 115.446 ms
Loss rate: 3.64%
```

Run 3: Report of PCC-Vivace — Data Link

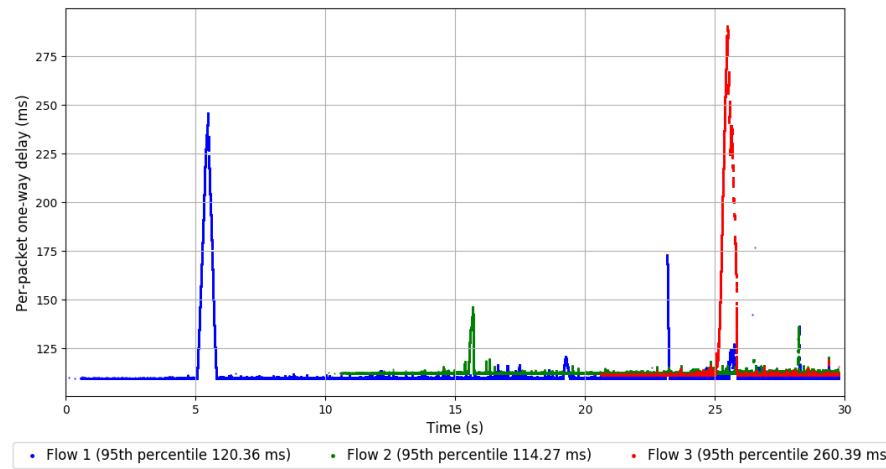
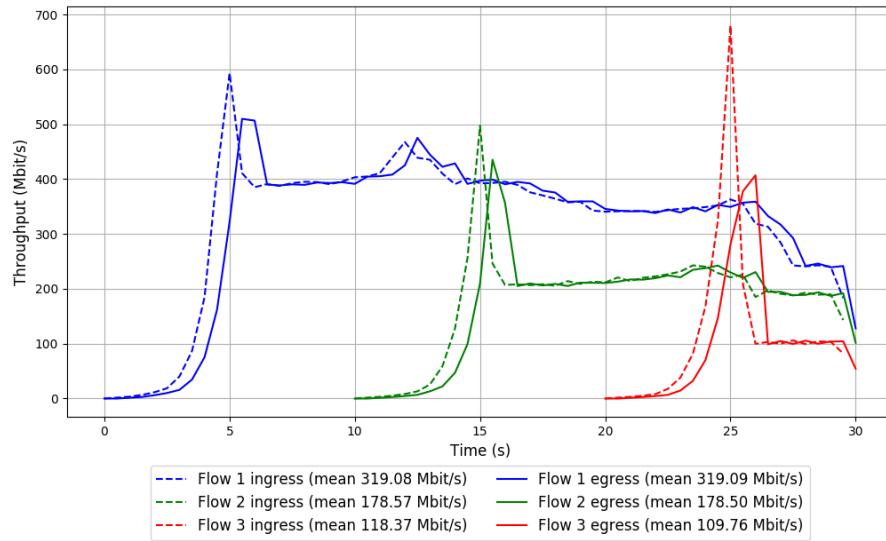


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-07 14:14:39
End at: 2018-09-07 14:15:09
Local clock offset: -0.316 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-09-07 17:55:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 472.96 Mbit/s
95th percentile per-packet one-way delay: 135.118 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 319.09 Mbit/s
95th percentile per-packet one-way delay: 120.355 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 178.50 Mbit/s
95th percentile per-packet one-way delay: 114.269 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 109.76 Mbit/s
95th percentile per-packet one-way delay: 260.391 ms
Loss rate: 9.36%
```

Run 4: Report of PCC-Vivace — Data Link

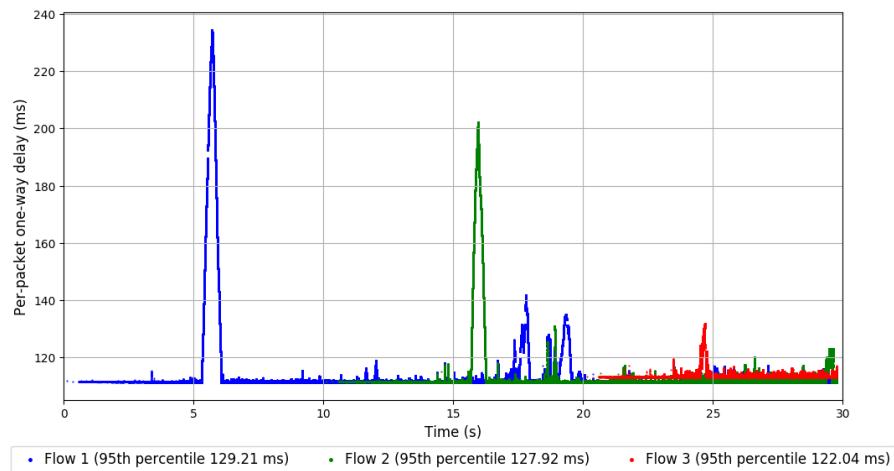
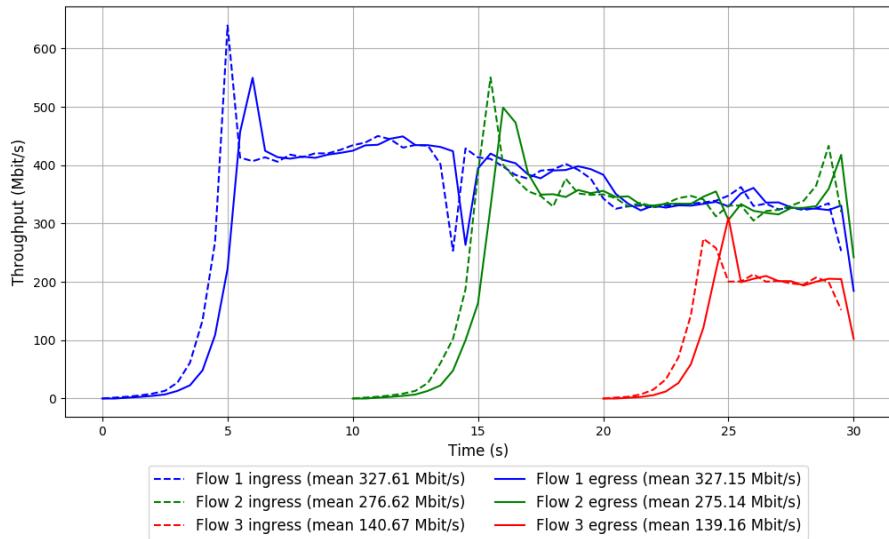


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-07 14:48:04
End at: 2018-09-07 14:48:34
Local clock offset: 0.113 ms
Remote clock offset: -0.416 ms

# Below is generated by plot.py at 2018-09-07 17:55:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 554.66 Mbit/s
95th percentile per-packet one-way delay: 127.420 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 327.15 Mbit/s
95th percentile per-packet one-way delay: 129.213 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 275.14 Mbit/s
95th percentile per-packet one-way delay: 127.918 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 139.16 Mbit/s
95th percentile per-packet one-way delay: 122.042 ms
Loss rate: 3.31%
```

Run 5: Report of PCC-Vivace — Data Link

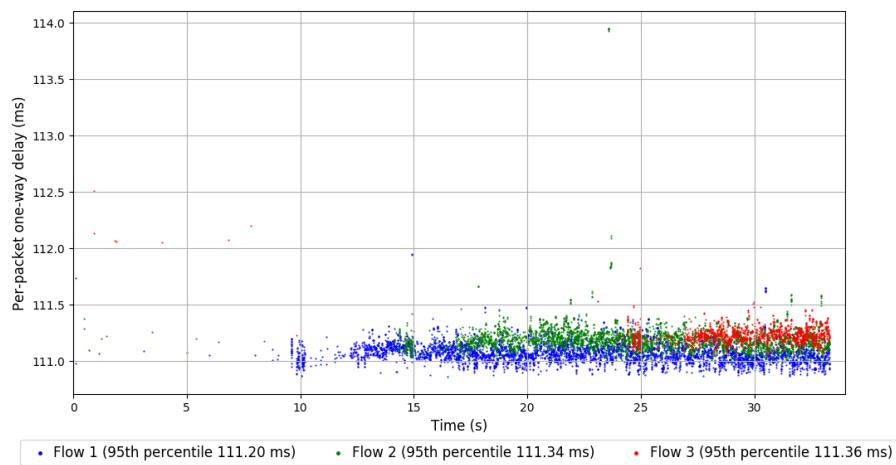
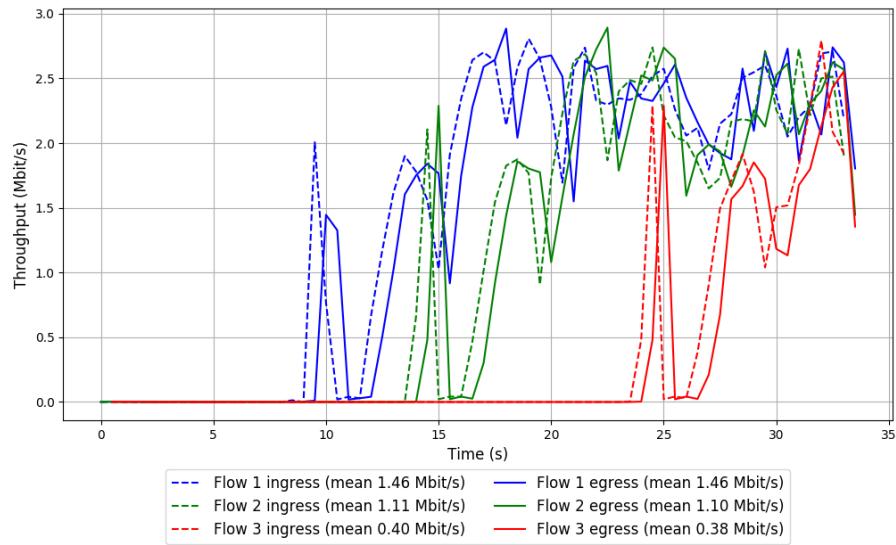


Run 1: Statistics of WebRTC media

```
Start at: 2018-09-07 12:56:08
End at: 2018-09-07 12:56:38
Local clock offset: -0.661 ms
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2018-09-07 17:55:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 111.304 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 111.204 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 111.336 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 111.361 ms
Loss rate: 4.10%
```

Run 1: Report of WebRTC media — Data Link

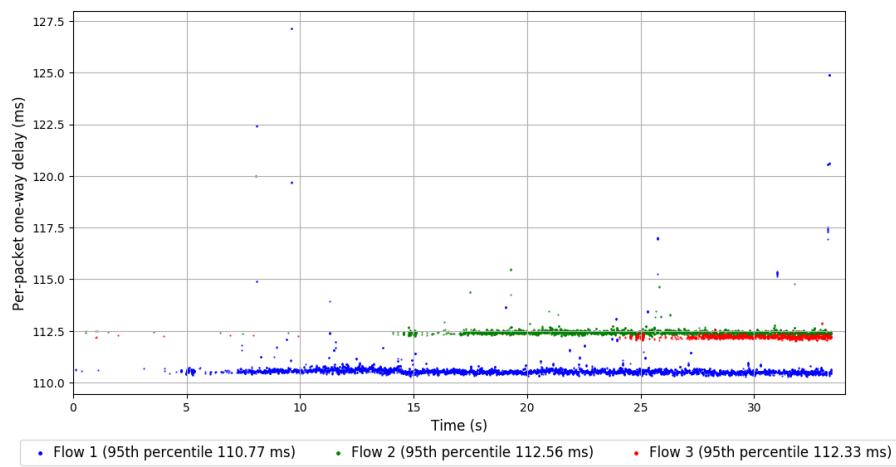
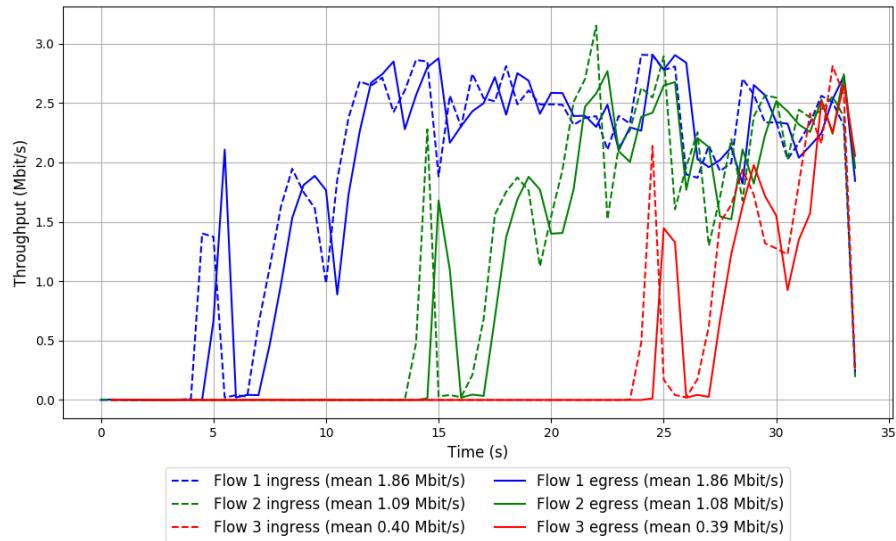


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-07 13:29:44
End at: 2018-09-07 13:30:14
Local clock offset: -0.261 ms
Remote clock offset: 0.38 ms

# Below is generated by plot.py at 2018-09-07 17:55:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 112.506 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 110.771 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 112.563 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 112.331 ms
Loss rate: 5.05%
```

Run 2: Report of WebRTC media — Data Link

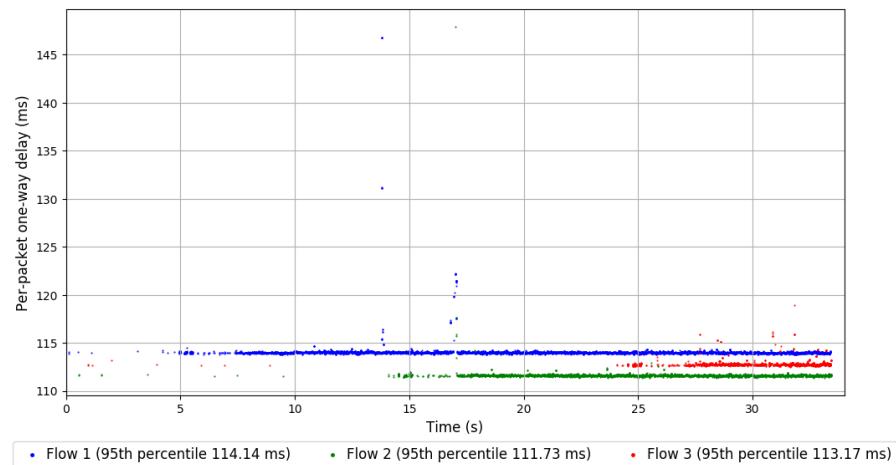
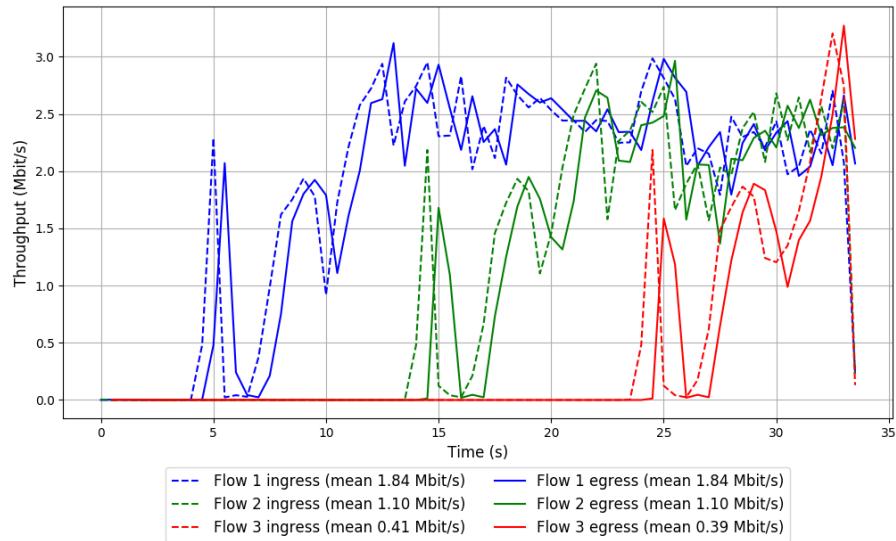


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-07 14:03:02
End at: 2018-09-07 14:03:32
Local clock offset: 1.077 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2018-09-07 17:55:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 114.103 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 114.138 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 111.728 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 113.175 ms
Loss rate: 4.42%
```

Run 3: Report of WebRTC media — Data Link

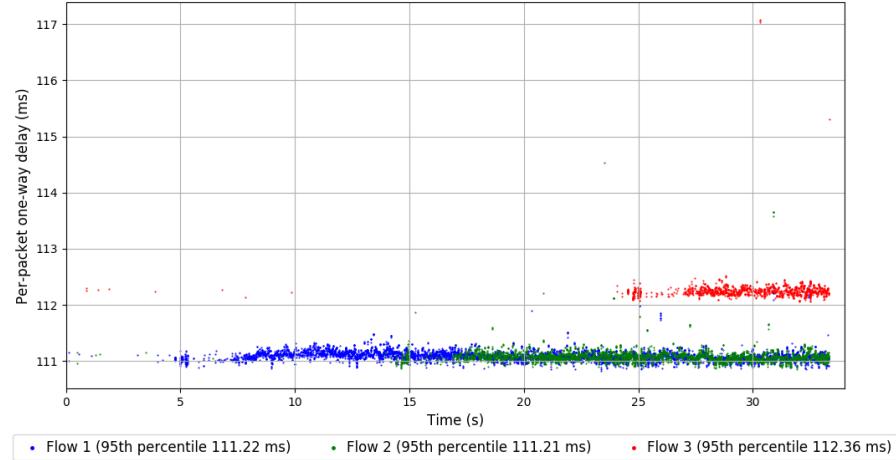
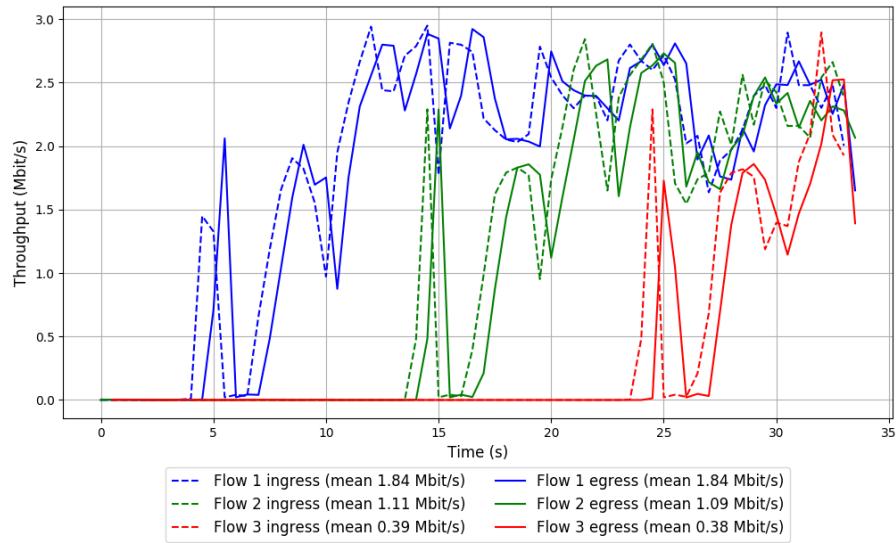


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-07 14:36:20
End at: 2018-09-07 14:36:50
Local clock offset: 0.577 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2018-09-07 17:55:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 112.244 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 111.215 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 111.206 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 112.365 ms
Loss rate: 3.99%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-07 15:09:53
End at: 2018-09-07 15:10:23
Local clock offset: 1.123 ms
Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2018-09-07 17:55:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 113.811 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 113.802 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 113.843 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 112.359 ms
Loss rate: 4.04%
```

Run 5: Report of WebRTC media — Data Link

