

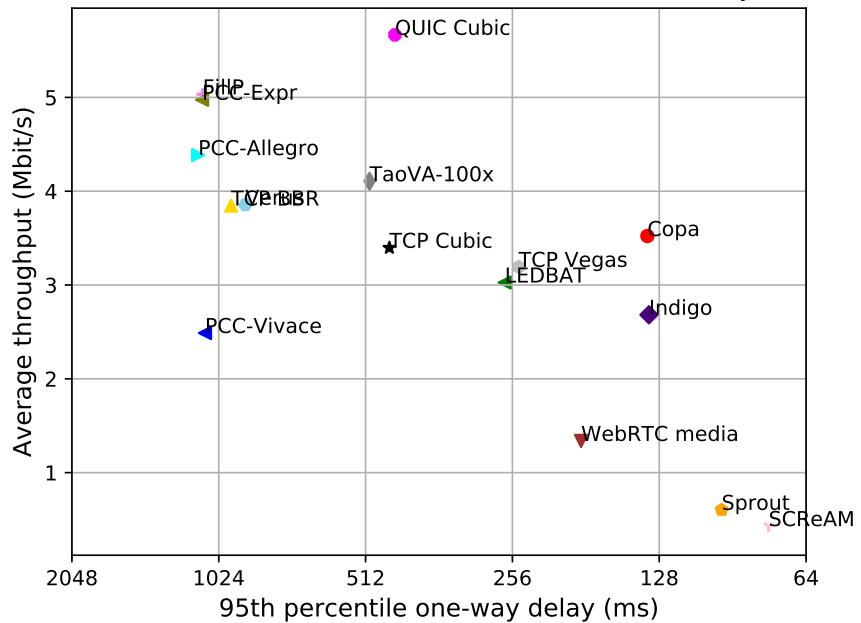
Pantheon Report

Generated at 2018-05-30 15:17:59 (UTC).
Data path: AWS India 1 Ethernet (*local*) → India ppp0 ppp0 (*remote*).
Repeated the test of 16 congestion control schemes 3 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

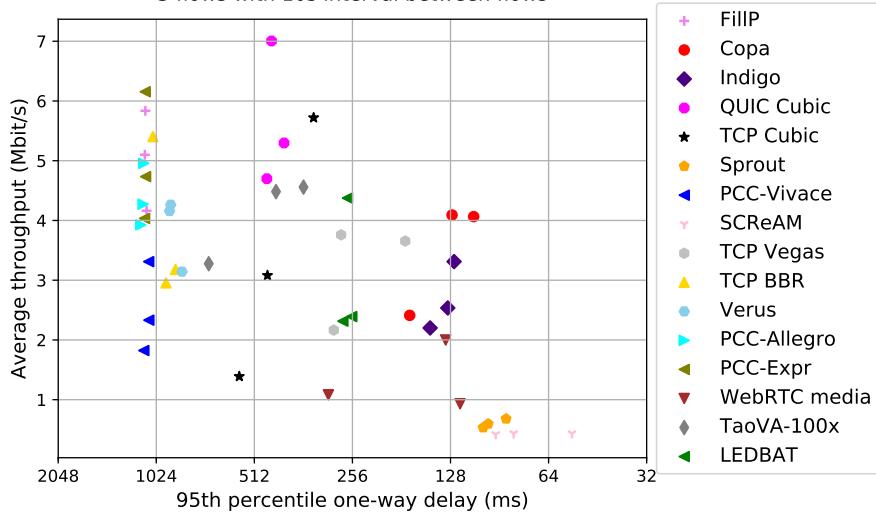
Git summary:

```
branch: master @ 227fdf9a3757f17b88537cceed5743a33037a3d2
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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 @ c838669682f0c19f6baf92afc9a596a406d48c1f
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS India 1 to India ppp0, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS India 1 to India ppp0, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows



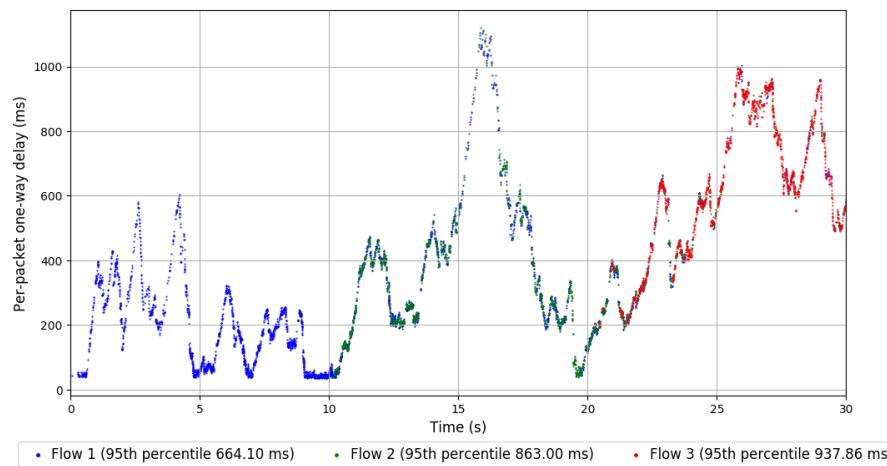
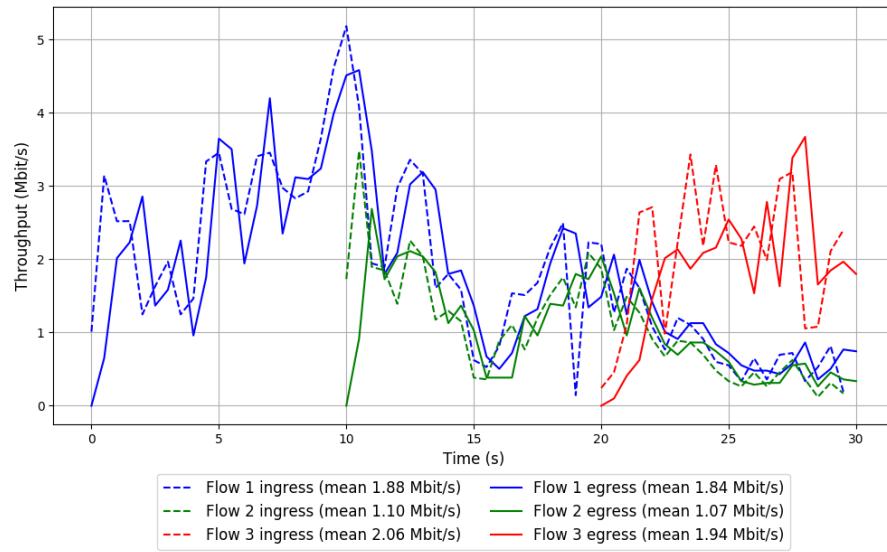
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	2.51	1.39	1.29	857.95	964.23	1020.31	2.72	6.96	7.62
Copa		1.95	1.63	1.47	130.03	136.19	139.96	0.10	0.16	0.63
TCP Cubic		2.31	1.13	1.06	436.80	469.82	472.19	0.64	1.05	3.12
FillP		3.59	1.70	1.25	1102.62	1099.71	1110.82	51.25	34.51	53.91
Indigo		1.23	1.24	1.94	138.04	142.67	129.76	0.02	0.14	0.31
LEDBAT		1.92	1.18	0.99	254.24	311.16	283.97	0.54	0.77	1.37
PCC-Allegro		2.82	1.72	1.47	1097.01	1145.70	1275.44	33.57	73.46	96.70
PCC-Expr		2.70	2.50	2.13	1099.92	1106.43	1120.38	38.95	51.69	74.77
QUIC Cubic		4.06	1.85	1.21	428.83	506.50	479.85	0.78	2.06	4.01
SCReAM		0.22	0.22	0.21	72.98	78.53	75.09	0.04	0.00	0.12
Sprout		0.31	0.28	0.32	82.78	108.94	106.10	0.00	0.05	0.70
TaoVA-100x		2.45	1.69	1.64	399.18	548.02	598.96	0.75	1.45	4.45
TCP Vegas		1.62	1.61	1.52	215.19	329.09	291.67	0.19	0.72	0.87
Verus		2.97	0.80	1.21	829.37	894.62	1024.16	4.47	5.99	10.92
PCC-Vivace		1.48	1.09	0.96	1086.30	1096.98	1103.17	20.15	29.59	39.01
WebRTC media		0.71	0.40	0.22	133.37	179.21	241.06	0.07	0.04	0.63

Run 1: Statistics of TCP BBR

```
Start at: 2018-05-30 14:38:03
End at: 2018-05-30 14:38:33
Local clock offset: 0.307 ms
Remote clock offset: -7.304 ms

# Below is generated by plot.py at 2018-05-30 15:17:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 893.795 ms
Loss rate: 2.83%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 664.098 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 862.995 ms
Loss rate: 2.22%
-- Flow 3:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 937.860 ms
Loss rate: 7.54%
```

Run 1: Report of TCP BBR — Data Link

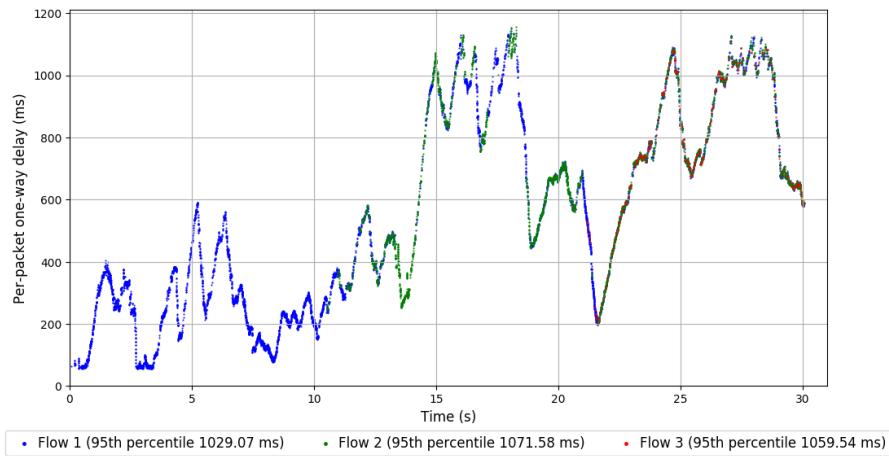
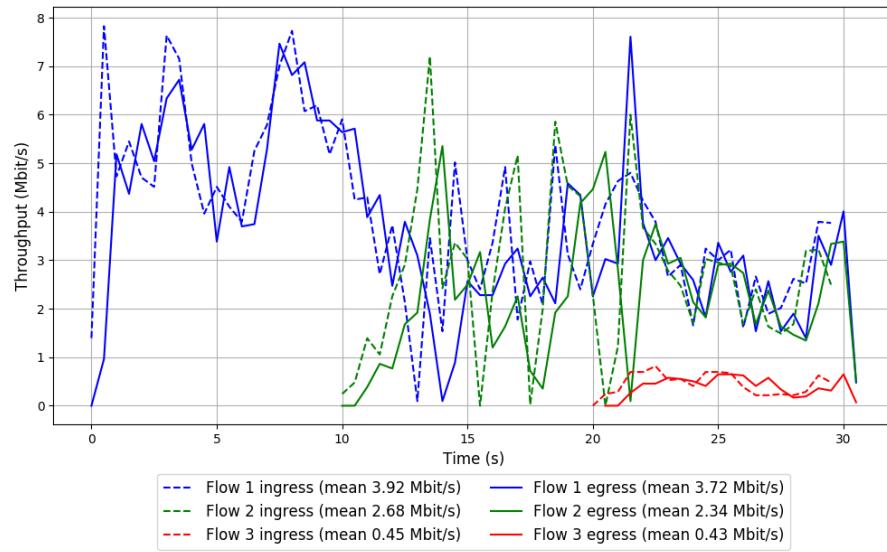


Run 2: Statistics of TCP BBR

```
Start at: 2018-05-30 14:55:44
End at: 2018-05-30 14:56:14
Local clock offset: 1.178 ms
Remote clock offset: 2.453 ms

# Below is generated by plot.py at 2018-05-30 15:17:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 1048.139 ms
Loss rate: 7.69%
-- Flow 1:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 1029.072 ms
Loss rate: 5.06%
-- Flow 2:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 1071.580 ms
Loss rate: 13.41%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1059.538 ms
Loss rate: 8.31%
```

Run 2: Report of TCP BBR — Data Link

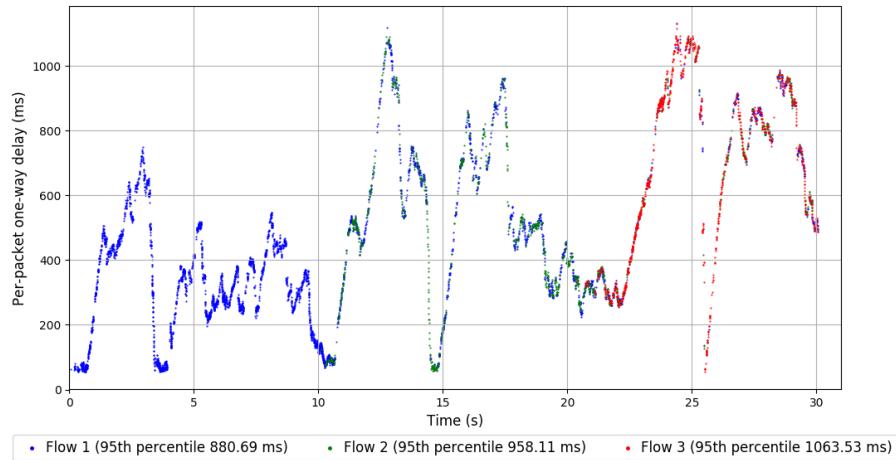
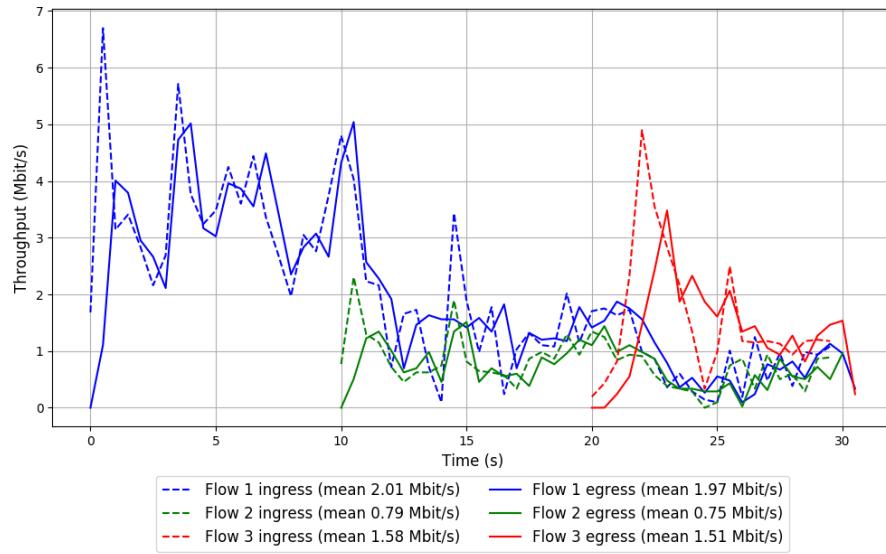


Run 3: Statistics of TCP BBR

```
Start at: 2018-05-30 15:14:04
End at: 2018-05-30 15:14:34
Local clock offset: 1.094 ms
Remote clock offset: 10.211 ms

# Below is generated by plot.py at 2018-05-30 15:17:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 955.944 ms
Loss rate: 3.27%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 880.686 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 958.105 ms
Loss rate: 5.25%
-- Flow 3:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 1063.526 ms
Loss rate: 7.01%
```

Run 3: Report of TCP BBR — Data Link

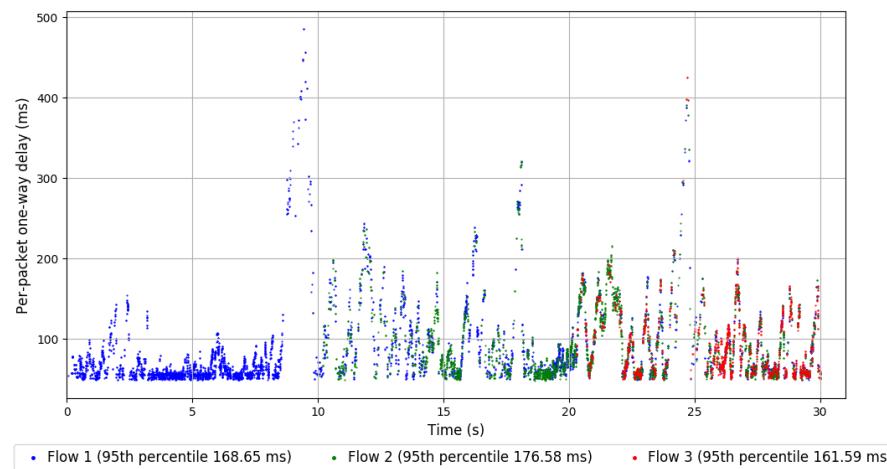
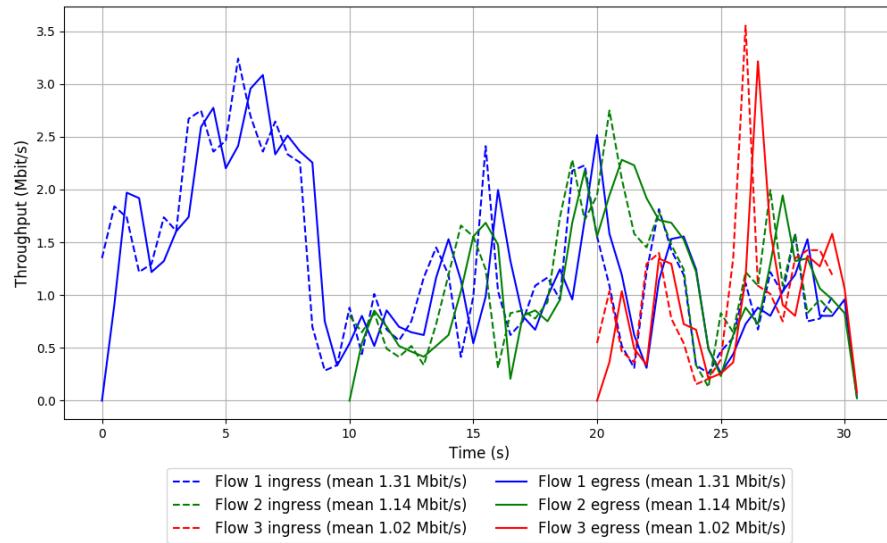


Run 1: Statistics of Copa

```
Start at: 2018-05-30 14:23:50
End at: 2018-05-30 14:24:20
Local clock offset: -0.34 ms
Remote clock offset: 11.95 ms

# Below is generated by plot.py at 2018-05-30 15:17:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 170.816 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 168.646 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 176.578 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 161.593 ms
Loss rate: 0.77%
```

Run 1: Report of Copa — Data Link

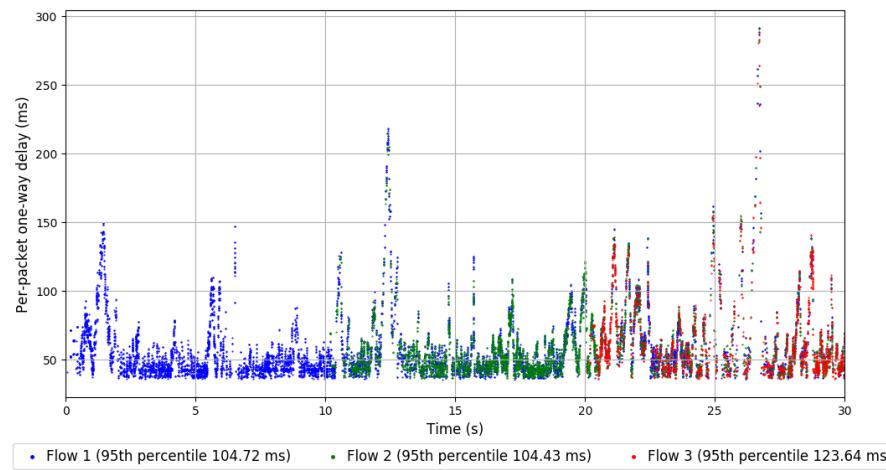
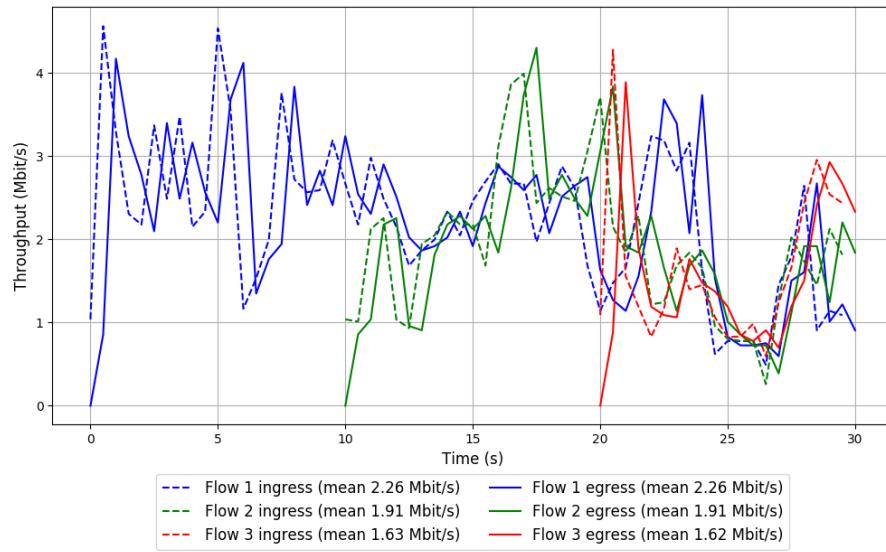


Run 2: Statistics of Copa

```
Start at: 2018-05-30 14:41:20
End at: 2018-05-30 14:41:50
Local clock offset: -1.002 ms
Remote clock offset: -9.145 ms

# Below is generated by plot.py at 2018-05-30 15:17:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 108.691 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 104.716 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 104.426 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 123.637 ms
Loss rate: 1.05%
```

Run 2: Report of Copa — Data Link

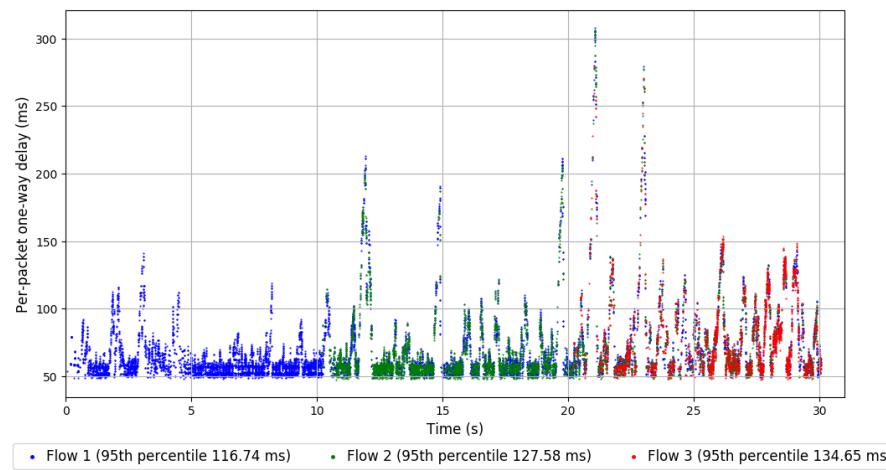
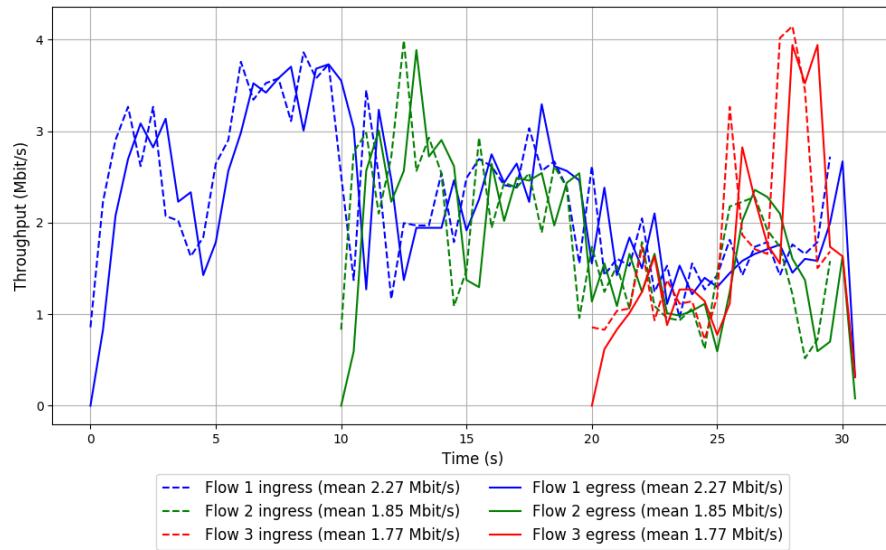


Run 3: Statistics of Copa

```
Start at: 2018-05-30 14:59:12
End at: 2018-05-30 14:59:42
Local clock offset: 3.428 ms
Remote clock offset: -4.568 ms

# Below is generated by plot.py at 2018-05-30 15:17:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 126.620 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 116.739 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 127.577 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 134.647 ms
Loss rate: 0.07%
```

Run 3: Report of Copa — Data Link

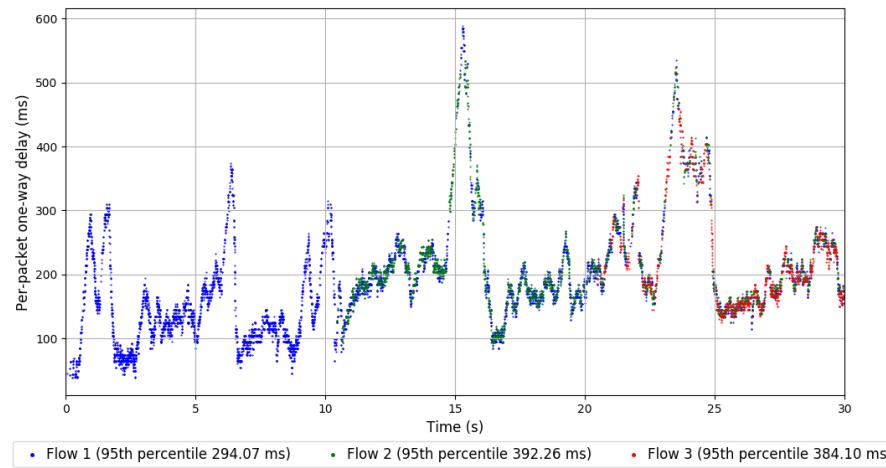
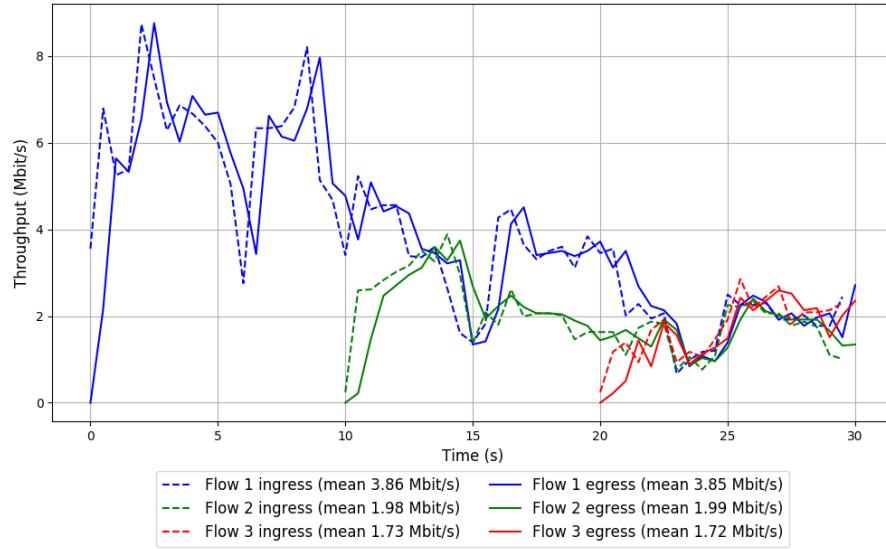


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-05-30 14:39:09
End at: 2018-05-30 14:39:39
Local clock offset: -0.03 ms
Remote clock offset: -8.405 ms

# Below is generated by plot.py at 2018-05-30 15:17:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 336.825 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 294.074 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 392.258 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 384.103 ms
Loss rate: 3.20%
```

Run 1: Report of TCP Cubic — Data Link

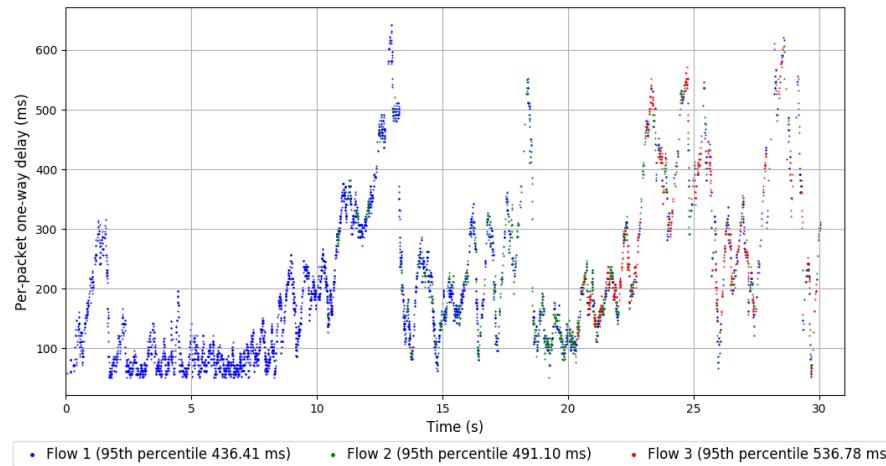
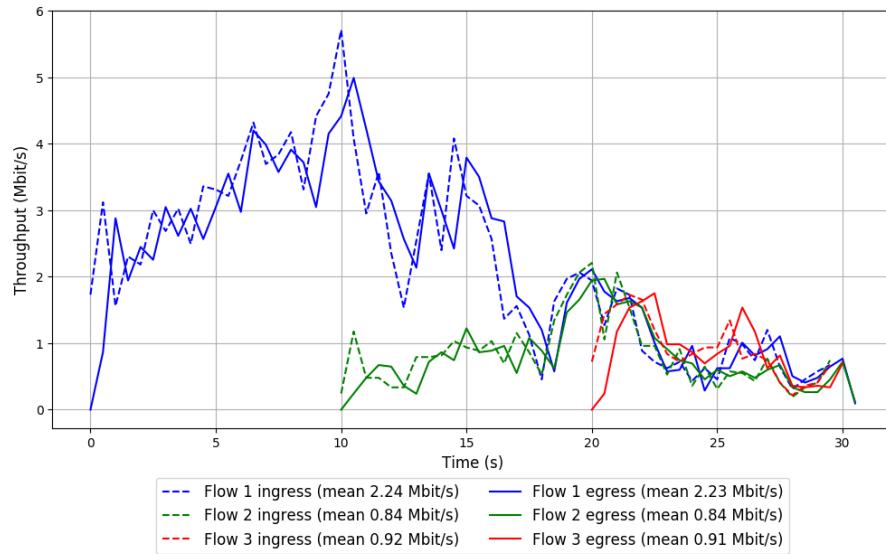


Run 2: Statistics of TCP Cubic

```
Start at: 2018-05-30 14:56:57
End at: 2018-05-30 14:57:27
Local clock offset: 2.41 ms
Remote clock offset: -3.234 ms

# Below is generated by plot.py at 2018-05-30 15:17:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 466.639 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 436.409 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 491.102 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 536.779 ms
Loss rate: 2.48%
```

Run 2: Report of TCP Cubic — Data Link

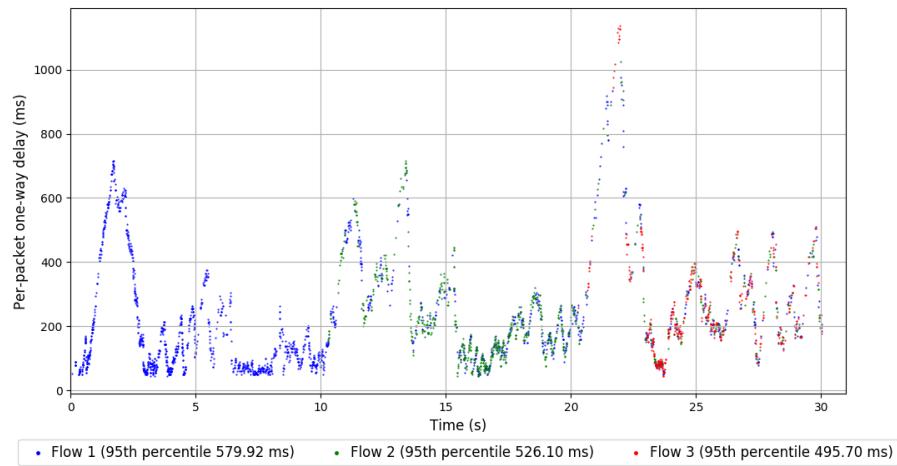
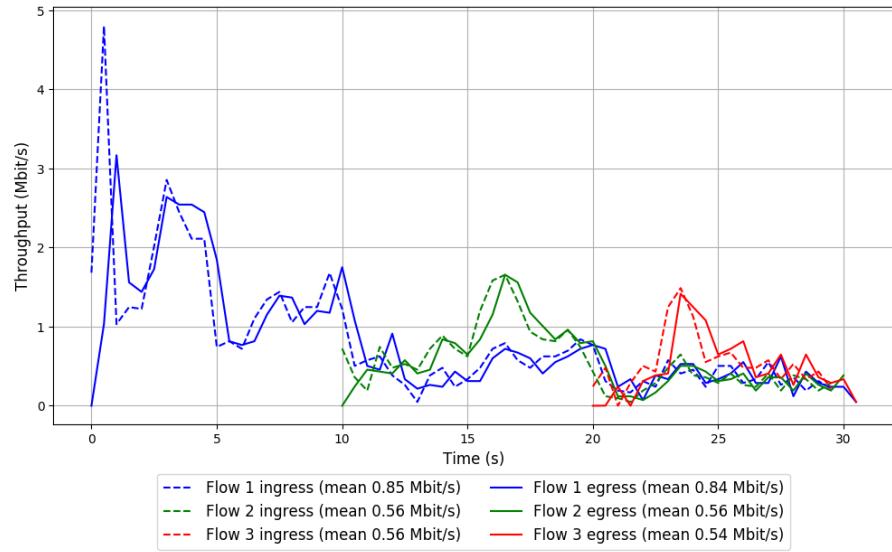


Run 3: Statistics of TCP Cubic

```
Start at: 2018-05-30 15:15:12
End at: 2018-05-30 15:15:42
Local clock offset: 0.008 ms
Remote clock offset: -2.155 ms

# Below is generated by plot.py at 2018-05-30 15:17:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 569.485 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 579.925 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 526.097 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 495.701 ms
Loss rate: 3.69%
```

Run 3: Report of TCP Cubic — Data Link

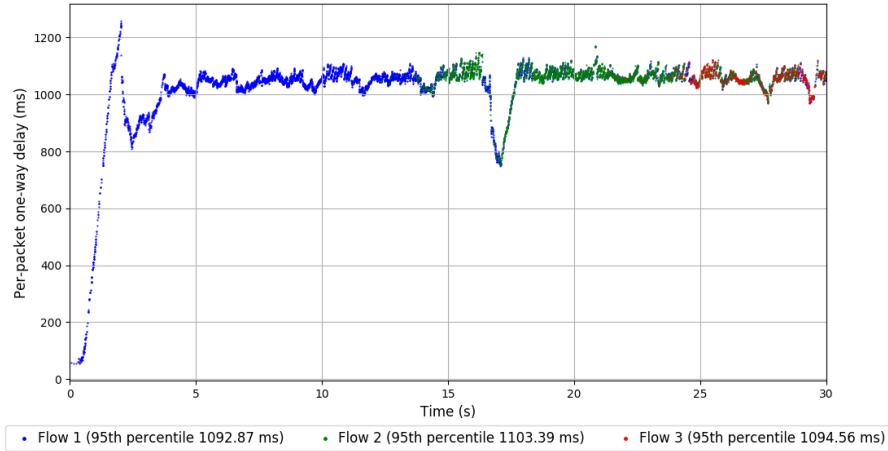
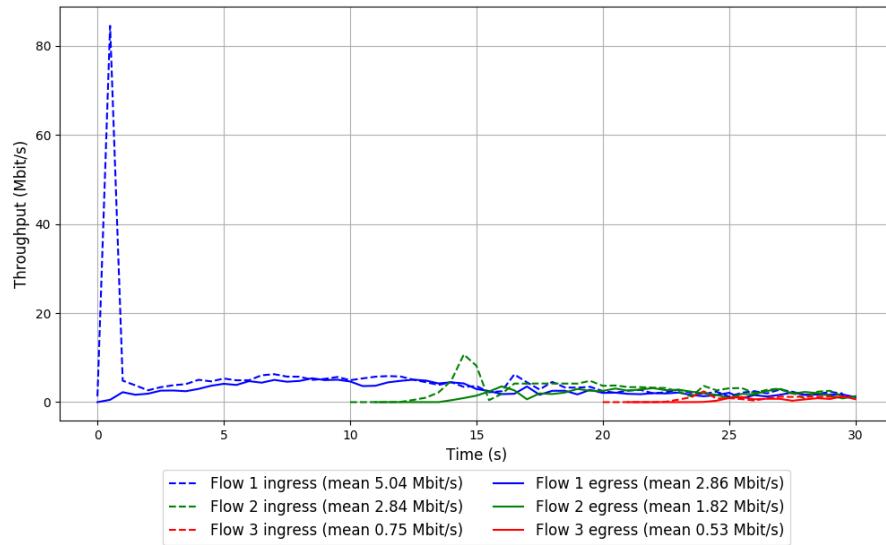


```
Run 1: Statistics of FillP

Start at: 2018-05-30 14:26:03
End at: 2018-05-30 14:26:33
Local clock offset: 1.848 ms
Remote clock offset: 13.855 ms

# Below is generated by plot.py at 2018-05-30 15:17:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.16 Mbit/s
95th percentile per-packet one-way delay: 1096.574 ms
Loss rate: 42.07%
-- Flow 1:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 1092.866 ms
Loss rate: 43.30%
-- Flow 2:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 1103.393 ms
Loss rate: 39.16%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 1094.561 ms
Loss rate: 39.15%
```

Run 1: Report of FillP — Data Link

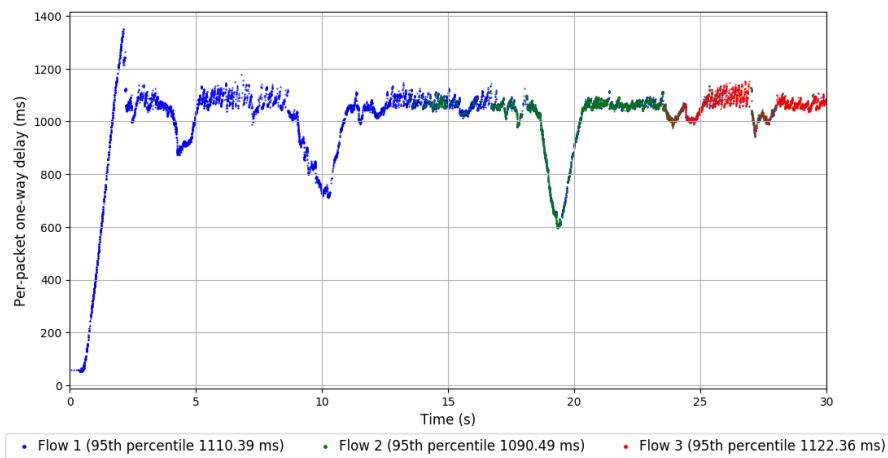
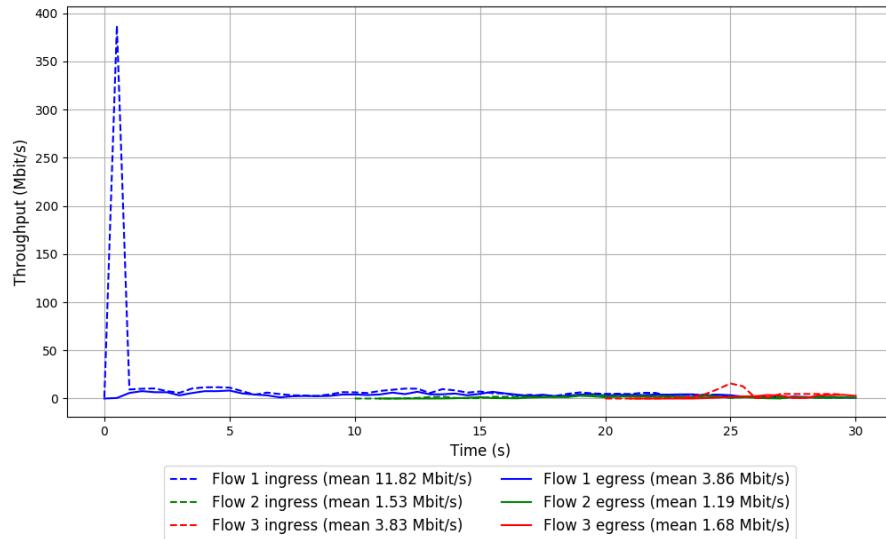


Run 2: Statistics of FillP

```
Start at: 2018-05-30 14:43:32
End at: 2018-05-30 14:44:02
Local clock offset: -0.706 ms
Remote clock offset: 4.699 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.10 Mbit/s
95th percentile per-packet one-way delay: 1110.358 ms
Loss rate: 63.89%
-- Flow 1:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 1110.387 ms
Loss rate: 67.37%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1090.495 ms
Loss rate: 26.31%
-- Flow 3:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 1122.364 ms
Loss rate: 61.70%
```

Run 2: Report of FillP — Data Link

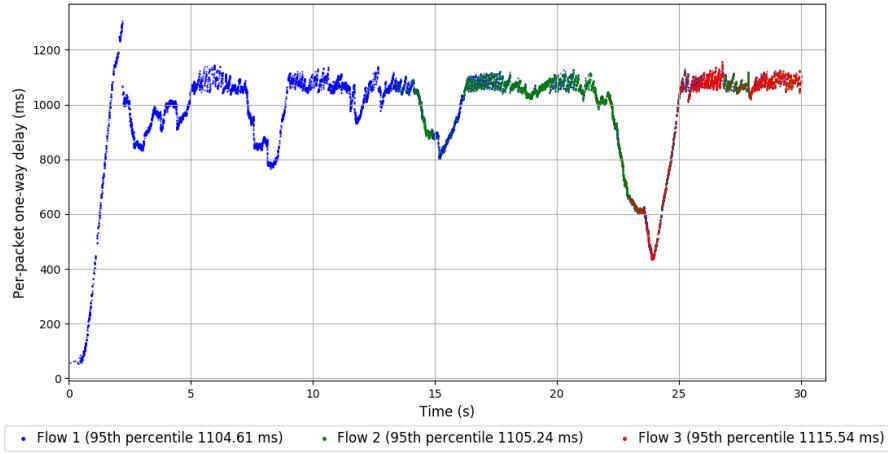
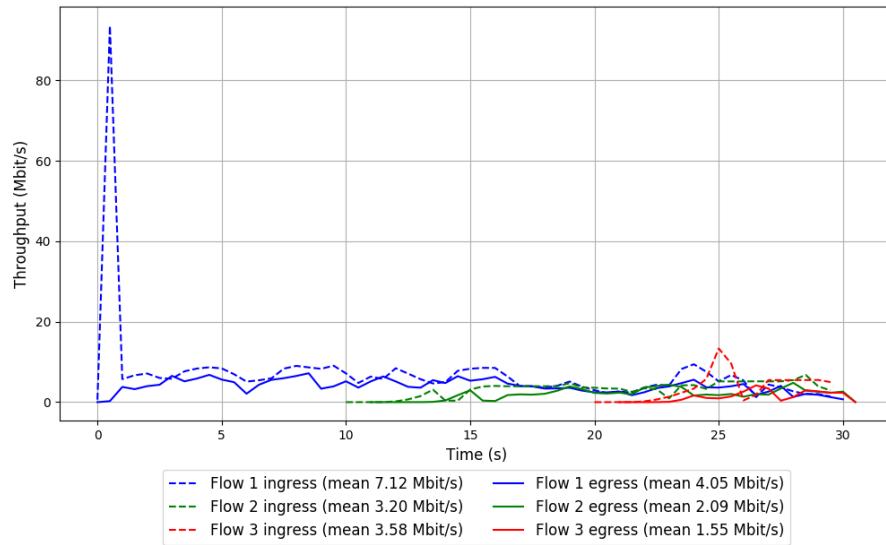


Run 3: Statistics of FillP

```
Start at: 2018-05-30 15:01:29
End at: 2018-05-30 15:01:59
Local clock offset: -1.928 ms
Remote clock offset: -8.964 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 1106.365 ms
Loss rate: 44.10%
-- Flow 1:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 1104.612 ms
Loss rate: 43.09%
-- Flow 2:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 1105.239 ms
Loss rate: 38.07%
-- Flow 3:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 1115.541 ms
Loss rate: 60.88%
```

Run 3: Report of FillP — Data Link

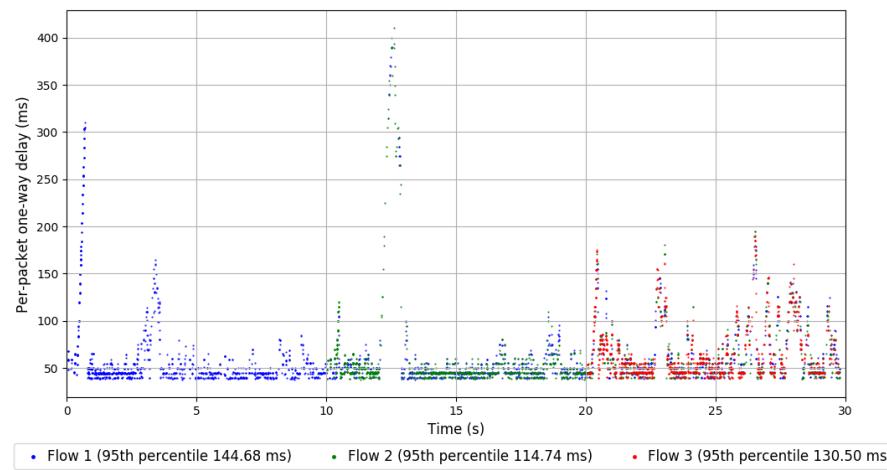
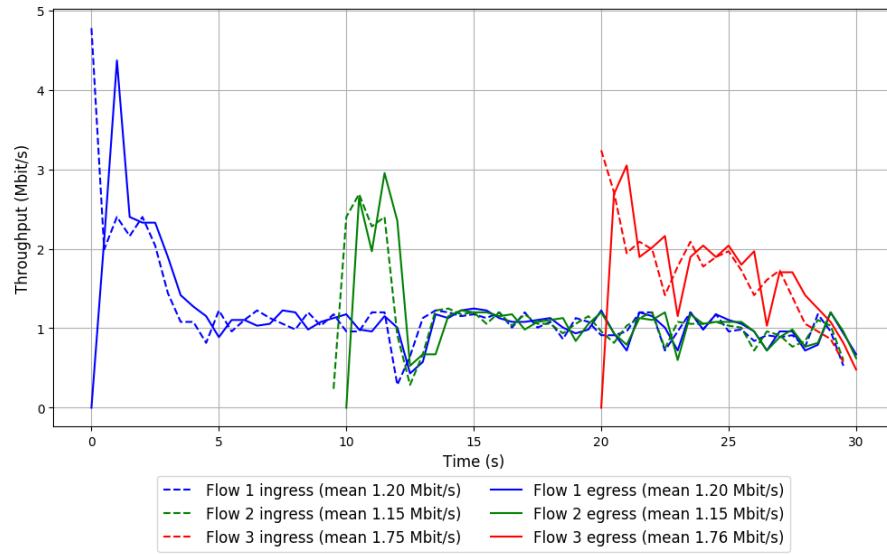


Run 1: Statistics of Indigo

```
Start at: 2018-05-30 14:30:25
End at: 2018-05-30 14:30:55
Local clock offset: -0.414 ms
Remote clock offset: -5.135 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 130.496 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 144.679 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 114.740 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 130.496 ms
Loss rate: 0.42%
```

Run 1: Report of Indigo — Data Link

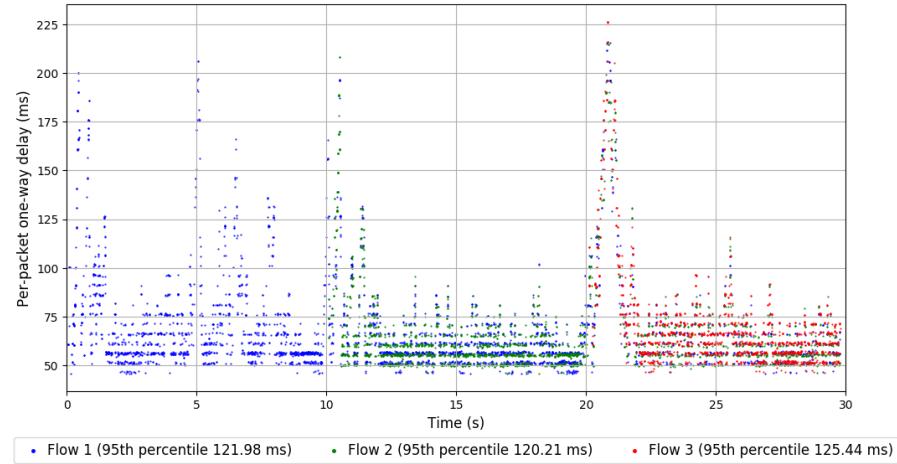
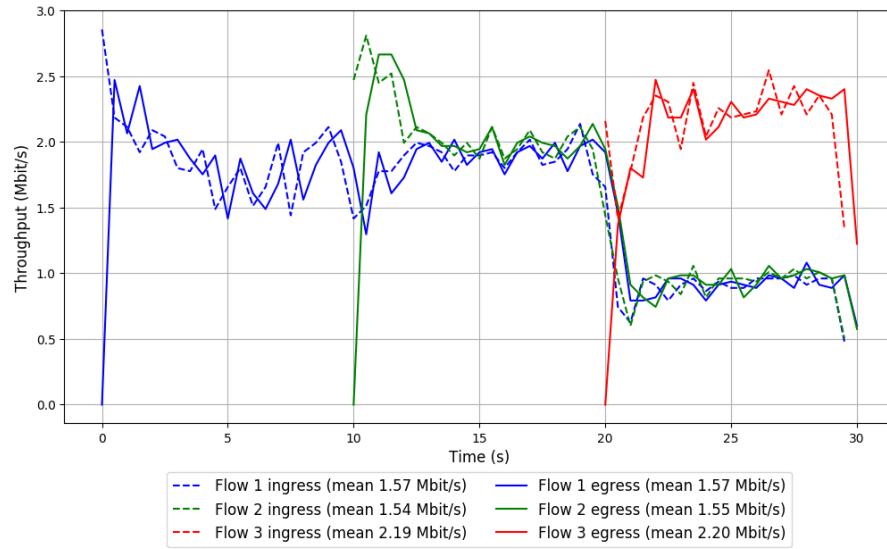


Run 2: Statistics of Indigo

```
Start at: 2018-05-30 14:47:54
End at: 2018-05-30 14:48:24
Local clock offset: -2.058 ms
Remote clock offset: -9.359 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 124.804 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 121.980 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 120.206 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 125.440 ms
Loss rate: 0.50%
```

Run 2: Report of Indigo — Data Link

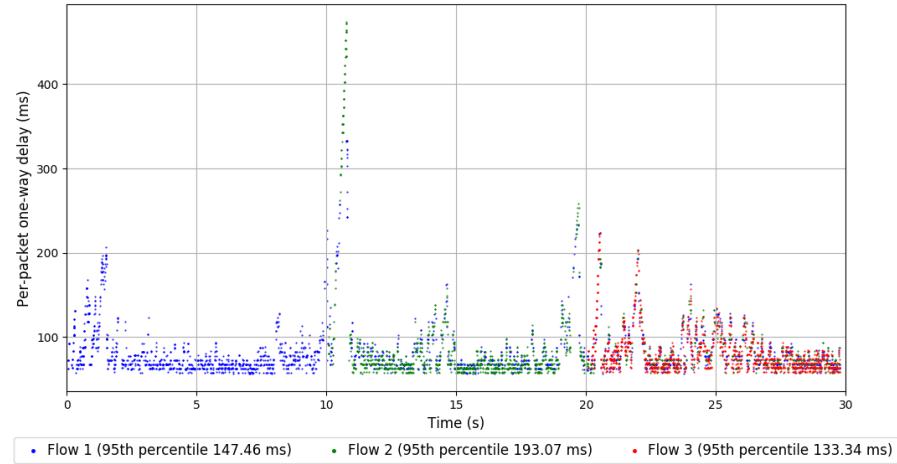
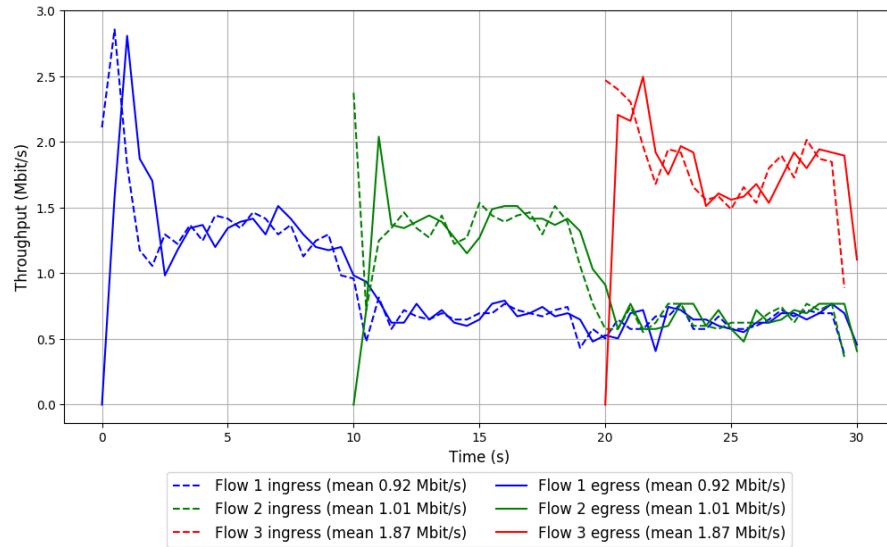


Run 3: Statistics of Indigo

```
Start at: 2018-05-30 15:06:04
End at: 2018-05-30 15:06:34
Local clock offset: -2.115 ms
Remote clock offset: 3.187 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 147.815 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 147.462 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 193.067 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 133.339 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

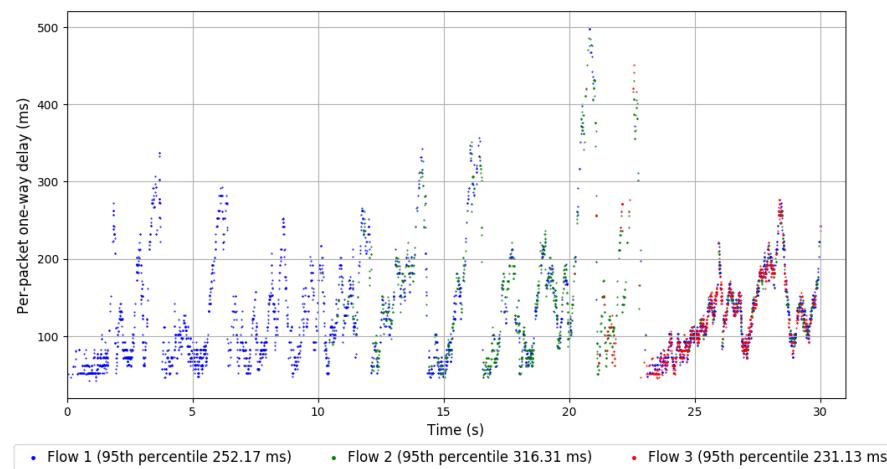
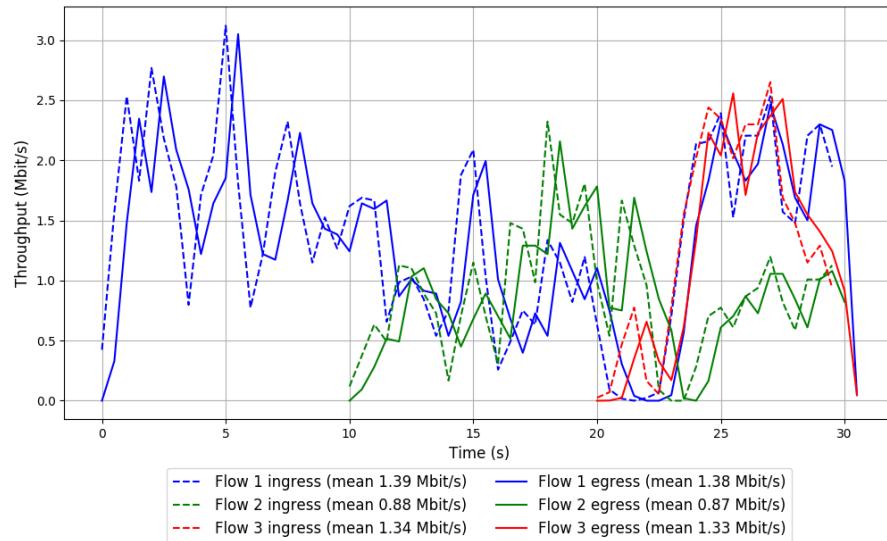


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-05-30 14:27:08
End at: 2018-05-30 14:27:38
Local clock offset: -1.72 ms
Remote clock offset: 2.729 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 257.208 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 252.167 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 316.311 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 231.134 ms
Loss rate: 1.77%
```

Run 1: Report of LEDBAT — Data Link

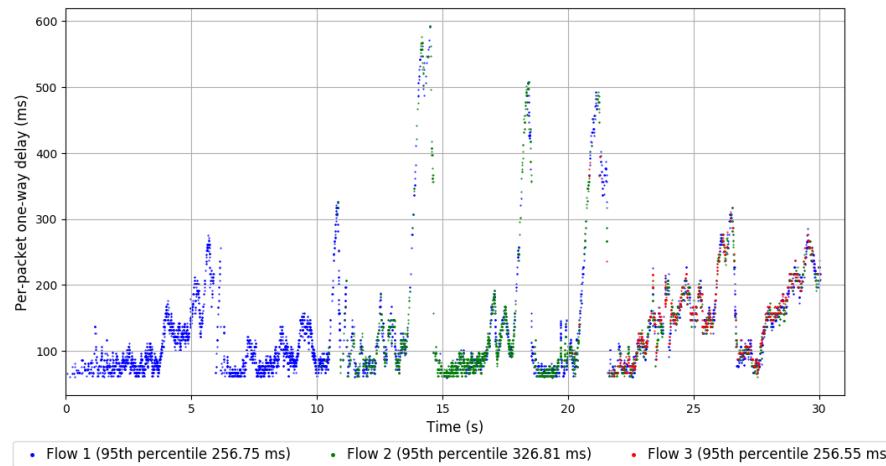
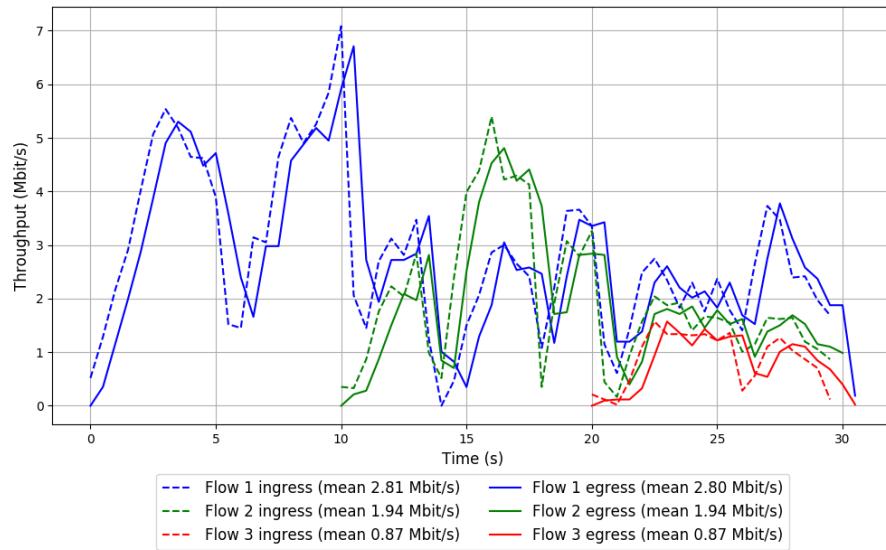


Run 2: Statistics of LEDBAT

```
Start at: 2018-05-30 14:44:37
End at: 2018-05-30 14:45:07
Local clock offset: -1.578 ms
Remote clock offset: 11.32 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 265.184 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 256.747 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 326.811 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 256.552 ms
Loss rate: 0.41%
```

Run 2: Report of LEDBAT — Data Link

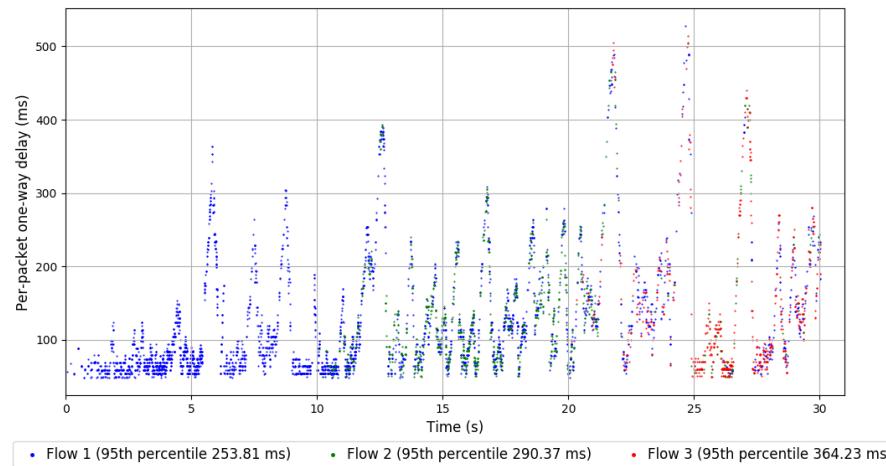
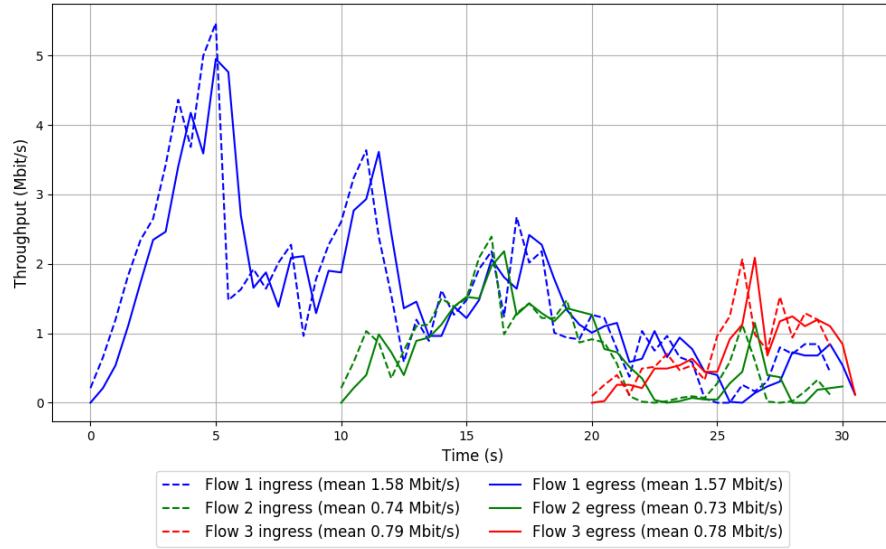


Run 3: Statistics of LEDBAT

```
Start at: 2018-05-30 15:02:38
End at: 2018-05-30 15:03:08
Local clock offset: -1.724 ms
Remote clock offset: -7.293 ms

# Below is generated by plot.py at 2018-05-30 15:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 273.930 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 253.807 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 290.367 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 364.232 ms
Loss rate: 1.94%
```

Run 3: Report of LEDBAT — Data Link

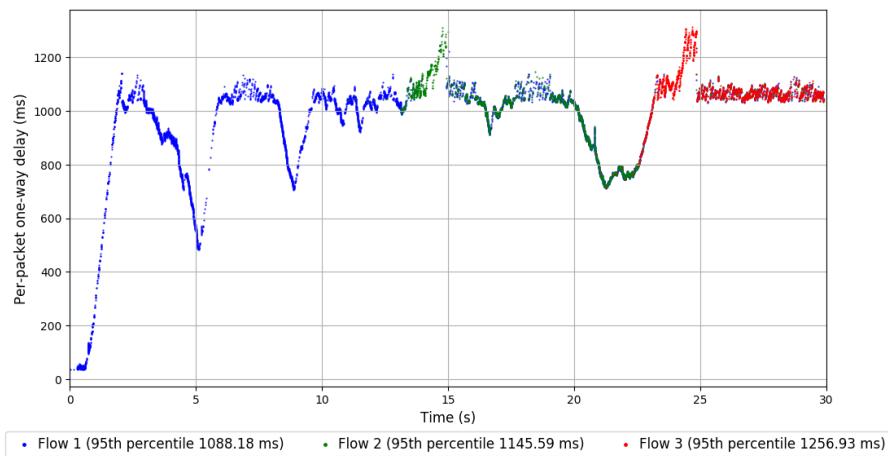
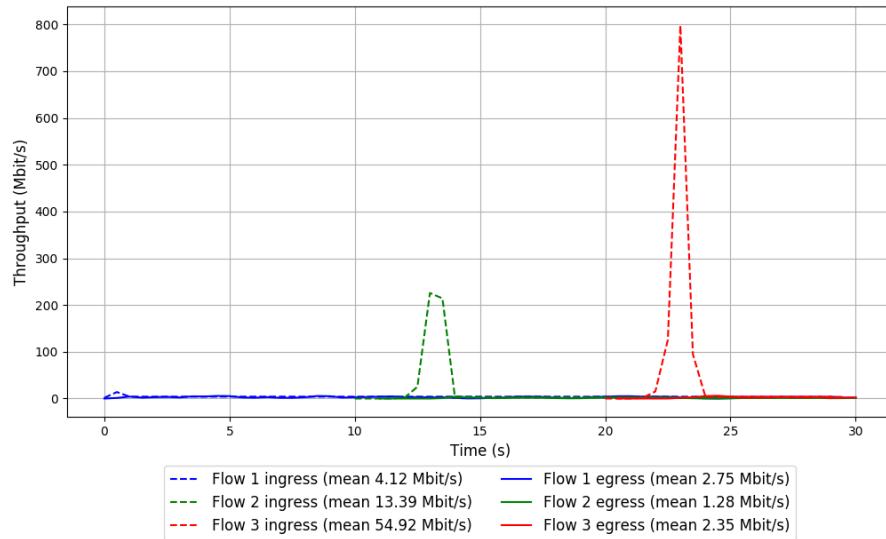


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-05-30 14:33:42
End at: 2018-05-30 14:34:12
Local clock offset: -1.451 ms
Remote clock offset: -6.627 ms

# Below is generated by plot.py at 2018-05-30 15:17:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 1124.391 ms
Loss rate: 86.29%
-- Flow 1:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 1088.183 ms
Loss rate: 33.18%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 1145.591 ms
Loss rate: 90.95%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 1256.934 ms
Loss rate: 96.08%
```

Run 1: Report of PCC-Allegro — Data Link

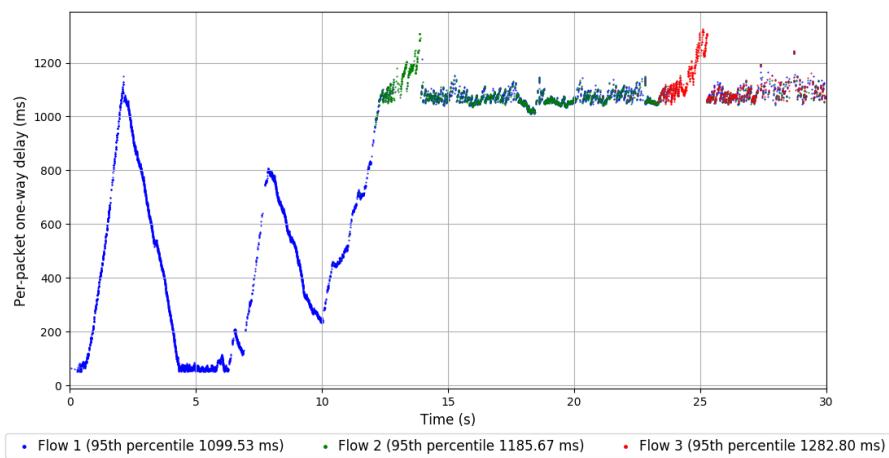
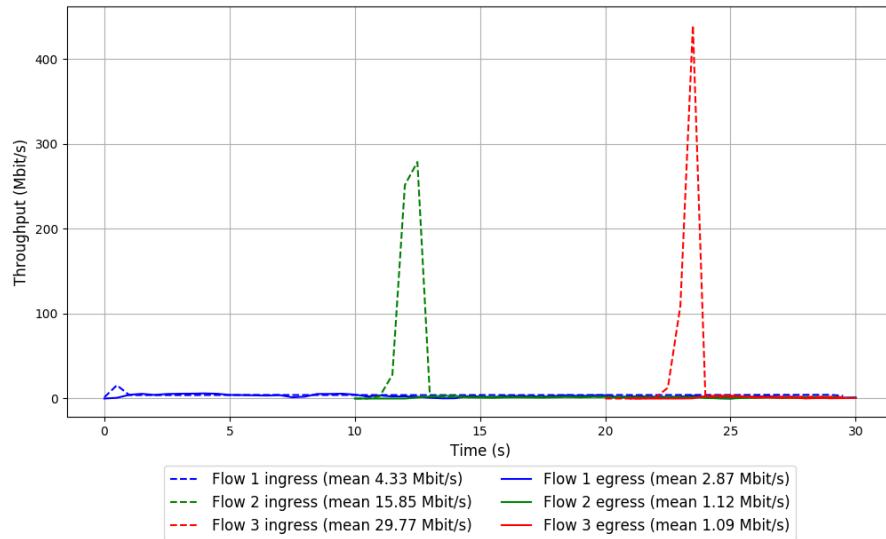


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-05-30 14:51:14
End at: 2018-05-30 14:51:44
Local clock offset: -2.688 ms
Remote clock offset: -6.602 ms

# Below is generated by plot.py at 2018-05-30 15:17:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 1142.228 ms
Loss rate: 84.10%
-- Flow 1:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 1099.529 ms
Loss rate: 33.68%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 1185.674 ms
Loss rate: 93.05%
-- Flow 3:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 1282.799 ms
Loss rate: 96.71%
```

Run 2: Report of PCC-Allegro — Data Link

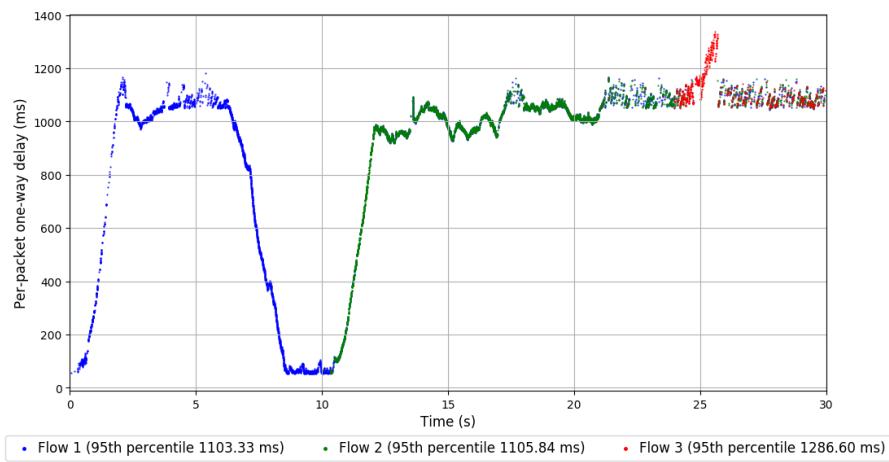
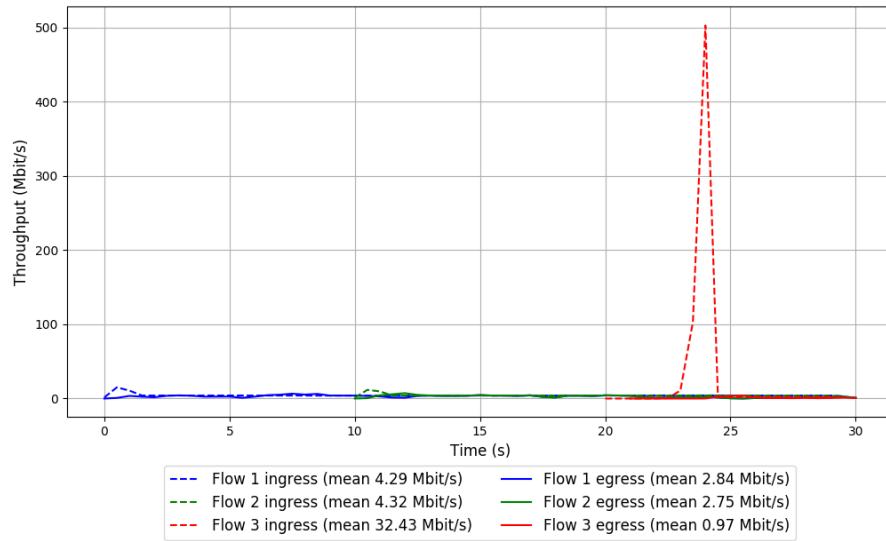


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-05-30 15:09:27
End at: 2018-05-30 15:09:57
Local clock offset: 0.176 ms
Remote clock offset: 5.337 ms

# Below is generated by plot.py at 2018-05-30 15:17:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 1118.695 ms
Loss rate: 72.25%
-- Flow 1:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 1103.331 ms
Loss rate: 33.85%
-- Flow 2:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 1105.836 ms
Loss rate: 36.37%
-- Flow 3:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 1286.600 ms
Loss rate: 97.31%
```

Run 3: Report of PCC-Allegro — Data Link

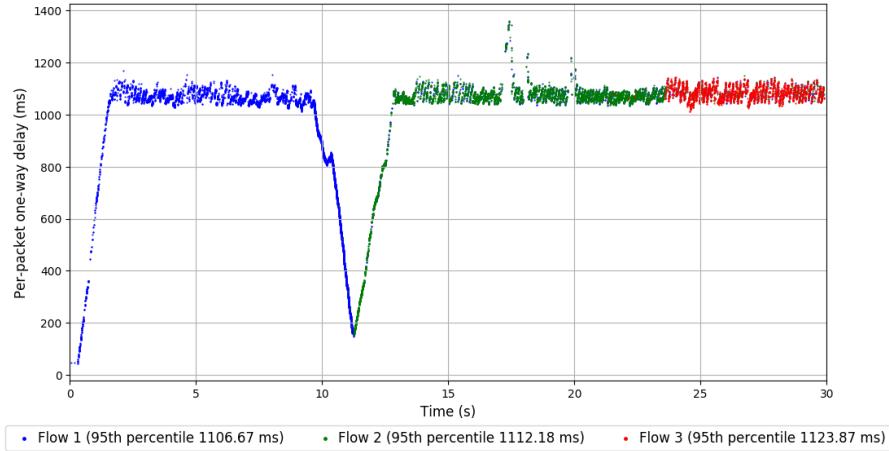
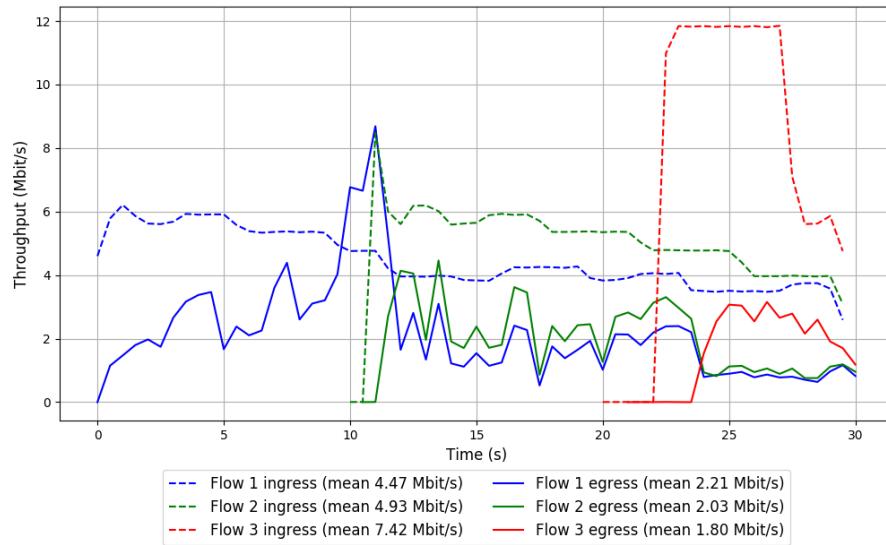


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-05-30 14:24:57
End at: 2018-05-30 14:25:27
Local clock offset: 2.135 ms
Remote clock offset: 5.324 ms

# Below is generated by plot.py at 2018-05-30 15:17:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 1112.530 ms
Loss rate: 60.50%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 1106.669 ms
Loss rate: 50.70%
-- Flow 2:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 1112.184 ms
Loss rate: 60.13%
-- Flow 3:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 1123.867 ms
Loss rate: 78.90%
```

Run 1: Report of PCC-Expr — Data Link

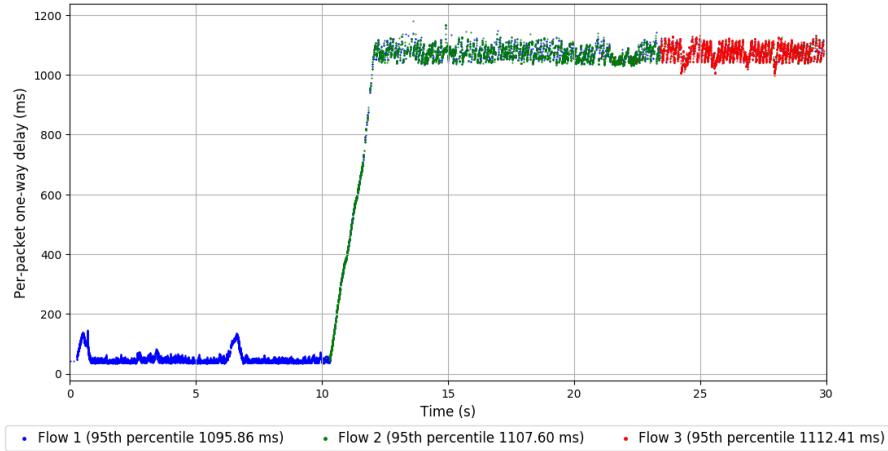
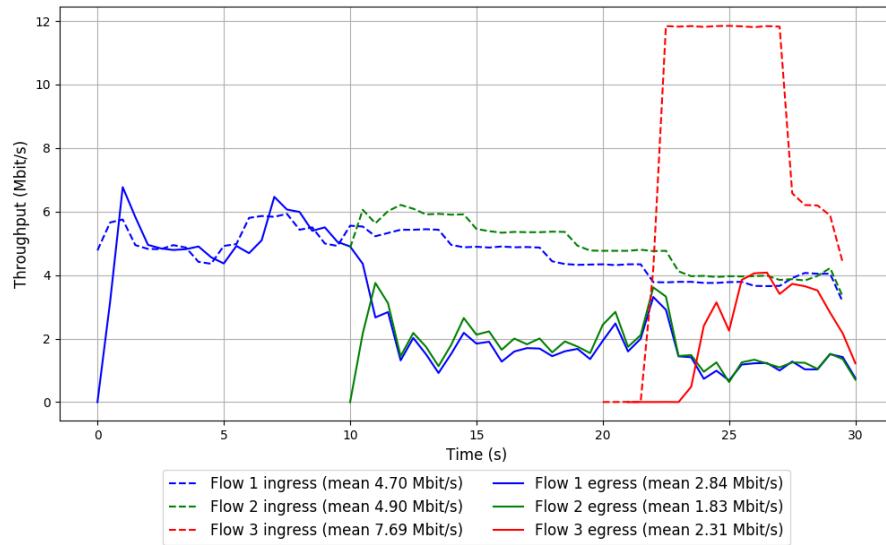


Run 2: Statistics of PCC-Expr

```
Start at: 2018-05-30 14:42:26
End at: 2018-05-30 14:42:56
Local clock offset: 0.34 ms
Remote clock offset: -9.197 ms

# Below is generated by plot.py at 2018-05-30 15:17:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.73 Mbit/s
95th percentile per-packet one-way delay: 1104.507 ms
Loss rate: 54.94%
-- Flow 1:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 1095.857 ms
Loss rate: 39.67%
-- Flow 2:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 1107.599 ms
Loss rate: 62.80%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 1112.406 ms
Loss rate: 73.13%
```

Run 2: Report of PCC-Expr — Data Link

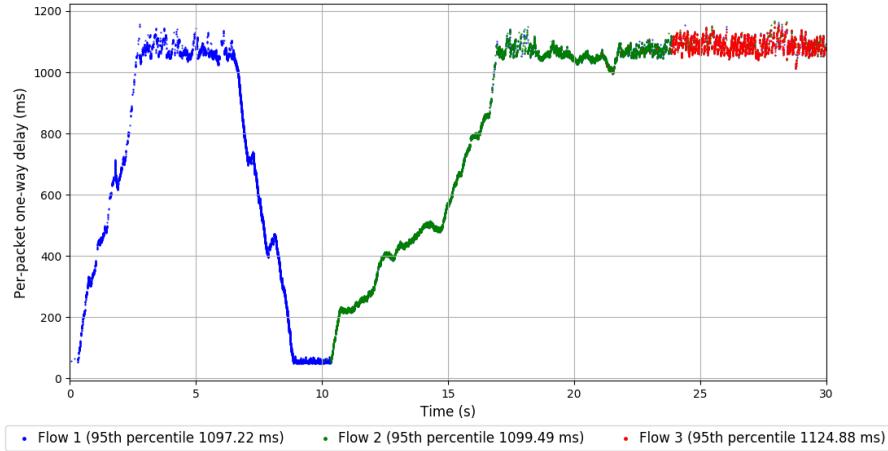
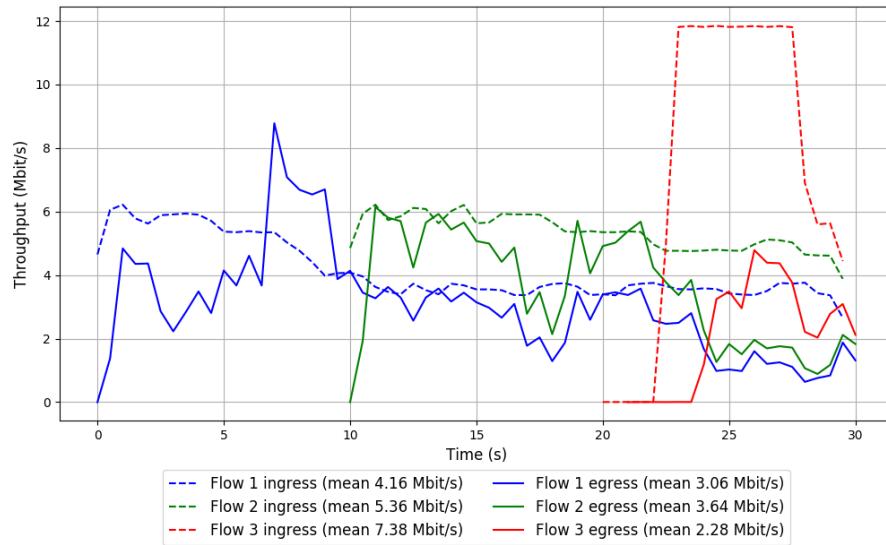


Run 3: Statistics of PCC-Expr

```
Start at: 2018-05-30 15:00:20
End at: 2018-05-30 15:00:50
Local clock offset: -1.626 ms
Remote clock offset: -8.811 ms

# Below is generated by plot.py at 2018-05-30 15:17:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 1107.355 ms
Loss rate: 39.45%
-- Flow 1:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 1097.221 ms
Loss rate: 26.48%
-- Flow 2:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 1099.494 ms
Loss rate: 32.14%
-- Flow 3:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 1124.880 ms
Loss rate: 72.27%
```

Run 3: Report of PCC-Expr — Data Link

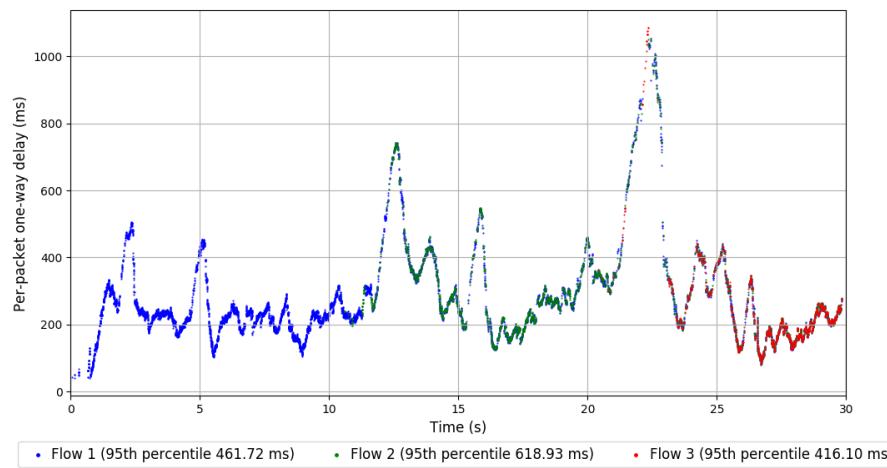
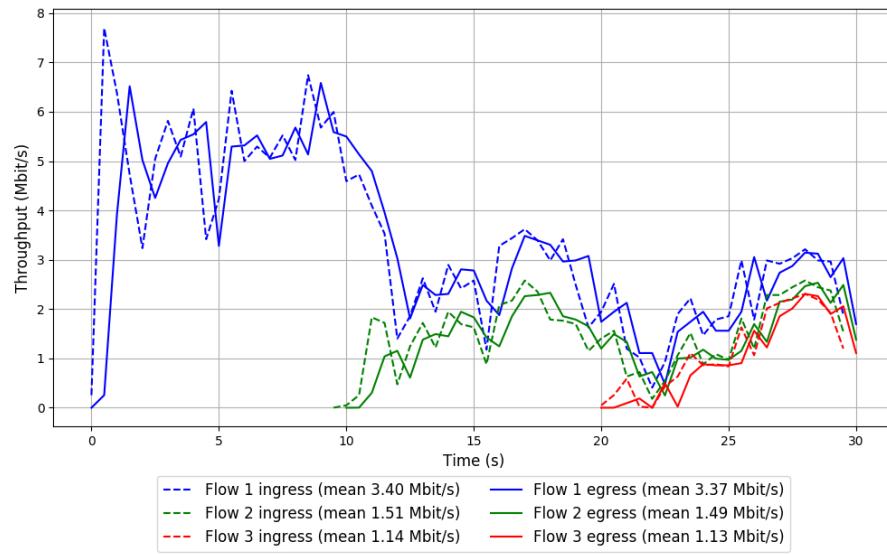


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-05-30 14:34:47
End at: 2018-05-30 14:35:17
Local clock offset: -0.154 ms
Remote clock offset: -3.979 ms

# Below is generated by plot.py at 2018-05-30 15:17:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 468.748 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 461.719 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 618.928 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 416.101 ms
Loss rate: 4.86%
```

Run 1: Report of QUIC Cubic — Data Link

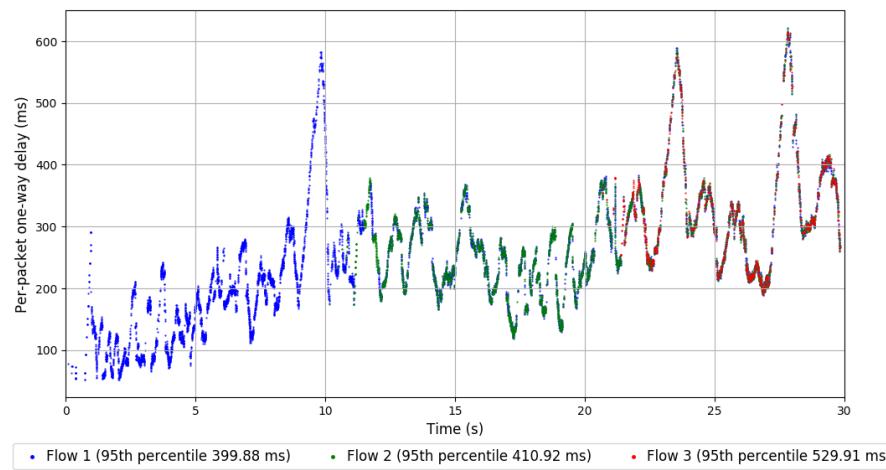
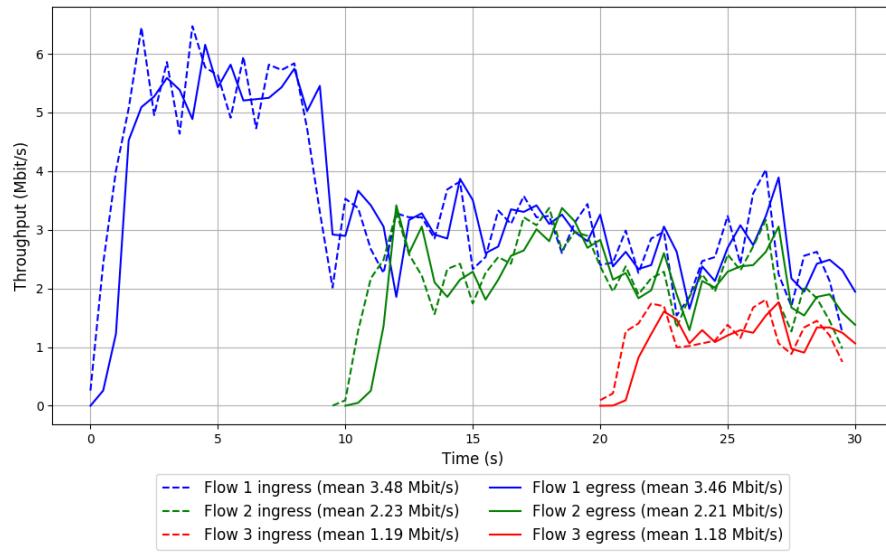


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-05-30 14:52:21
End at: 2018-05-30 14:52:51
Local clock offset: -1.613 ms
Remote clock offset: -7.868 ms

# Below is generated by plot.py at 2018-05-30 15:17:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 414.953 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 399.879 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 410.917 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 529.914 ms
Loss rate: 3.21%
```

Run 2: Report of QUIC Cubic — Data Link

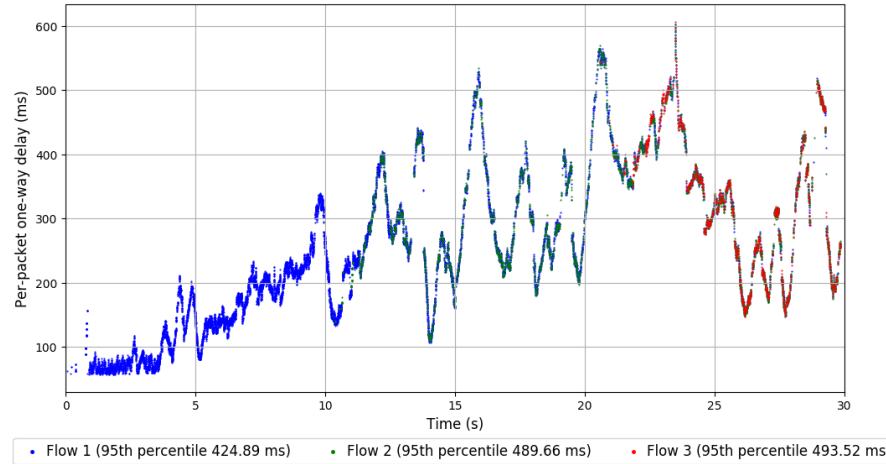
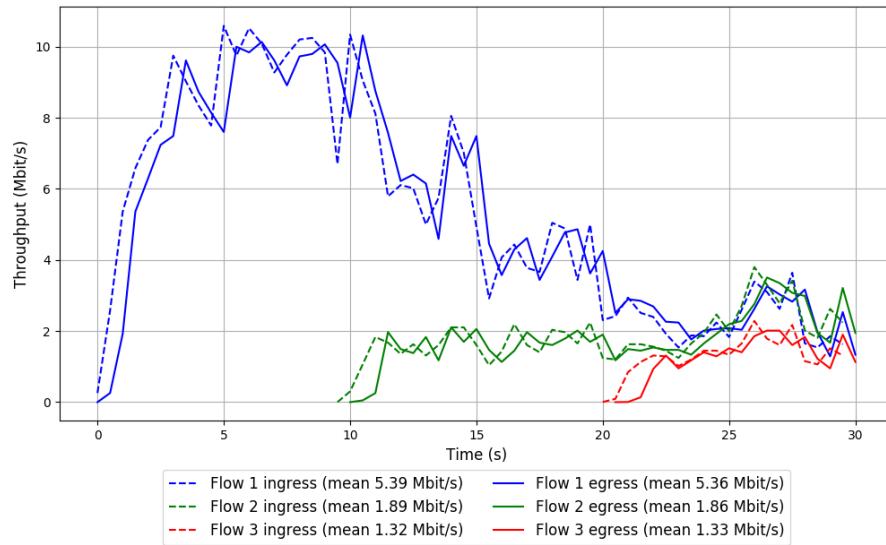


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-05-30 15:10:35
End at: 2018-05-30 15:11:05
Local clock offset: 3.564 ms
Remote clock offset: 11.47 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 453.478 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 5.36 Mbit/s
95th percentile per-packet one-way delay: 424.891 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 489.659 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 493.522 ms
Loss rate: 3.97%
```

Run 3: Report of QUIC Cubic — Data Link

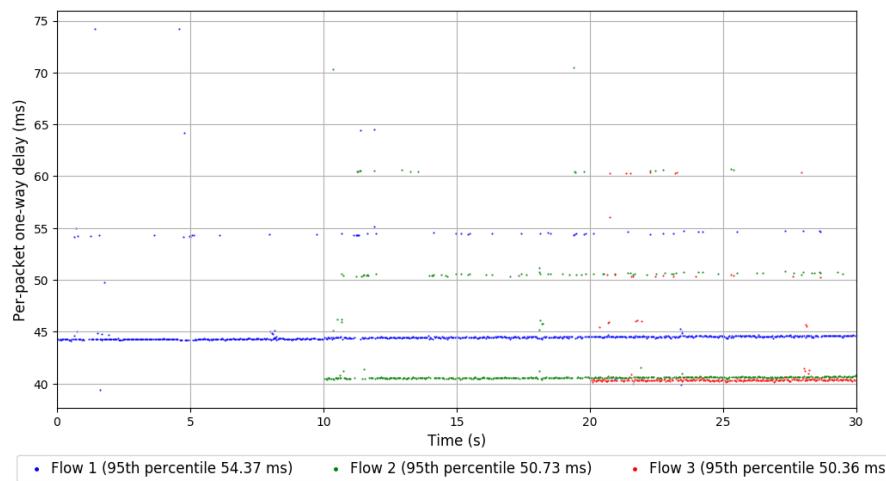
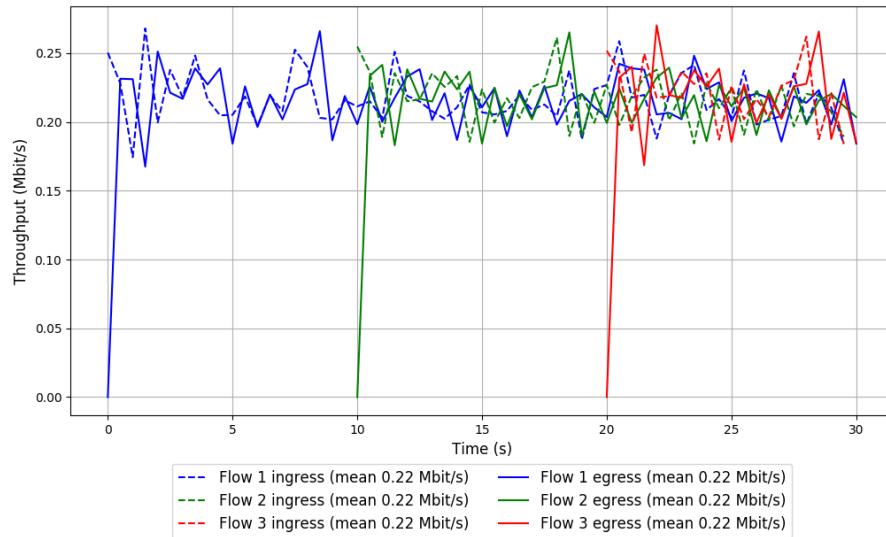


Run 1: Statistics of SCReAM

```
Start at: 2018-05-30 14:40:15
End at: 2018-05-30 14:40:45
Local clock offset: -1.985 ms
Remote clock offset: -8.545 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 54.236 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 54.369 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.726 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.356 ms
Loss rate: 0.35%
```

Run 1: Report of SCReAM — Data Link

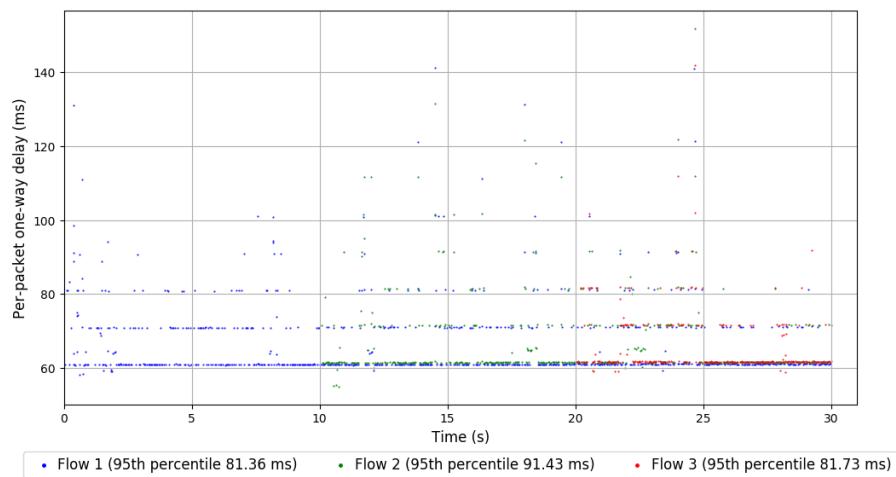
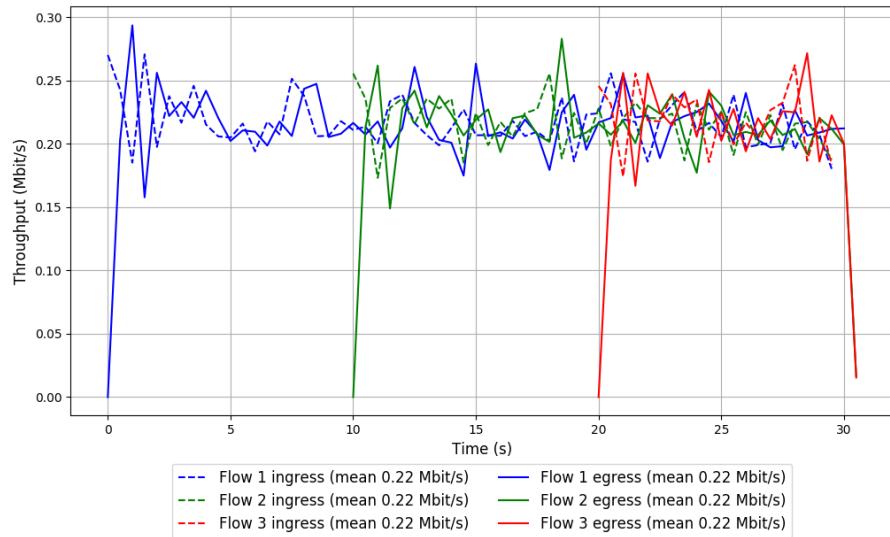


Run 2: Statistics of SCReAM

```
Start at: 2018-05-30 14:58:05
End at: 2018-05-30 14:58:35
Local clock offset: 1.273 ms
Remote clock offset: -0.687 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 81.894 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.363 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.427 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.735 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

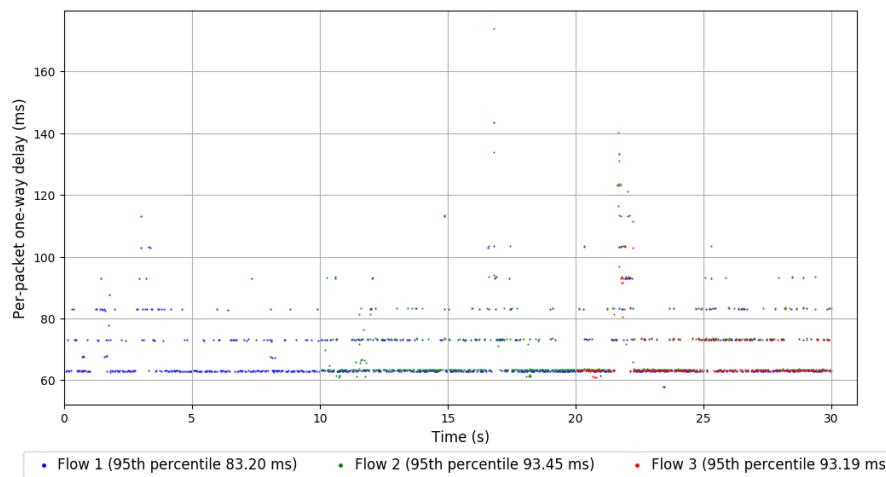
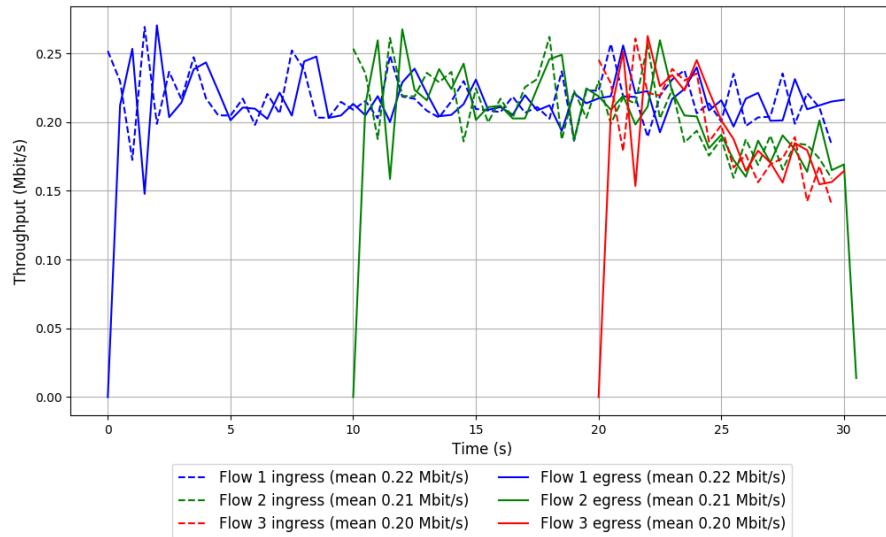


Run 3: Statistics of SCReAM

```
Start at: 2018-05-30 15:16:19
End at: 2018-05-30 15:16:49
Local clock offset: -2.393 ms
Remote clock offset: 7.531 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 92.998 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.205 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 93.446 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 93.191 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

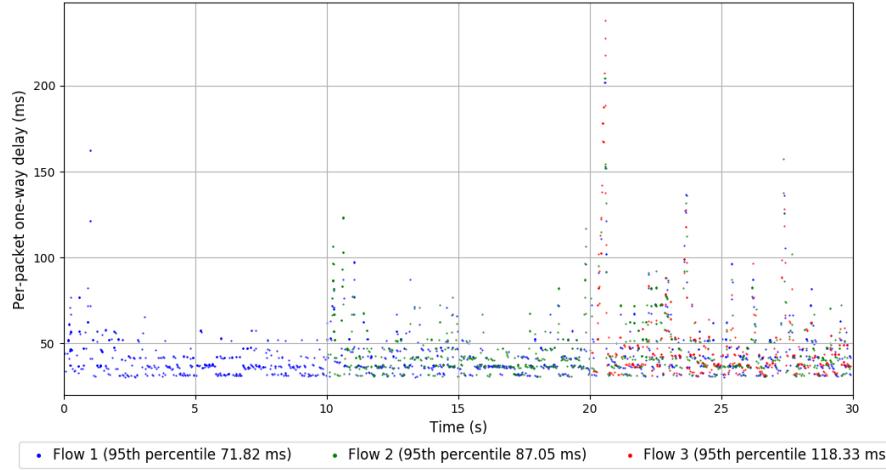
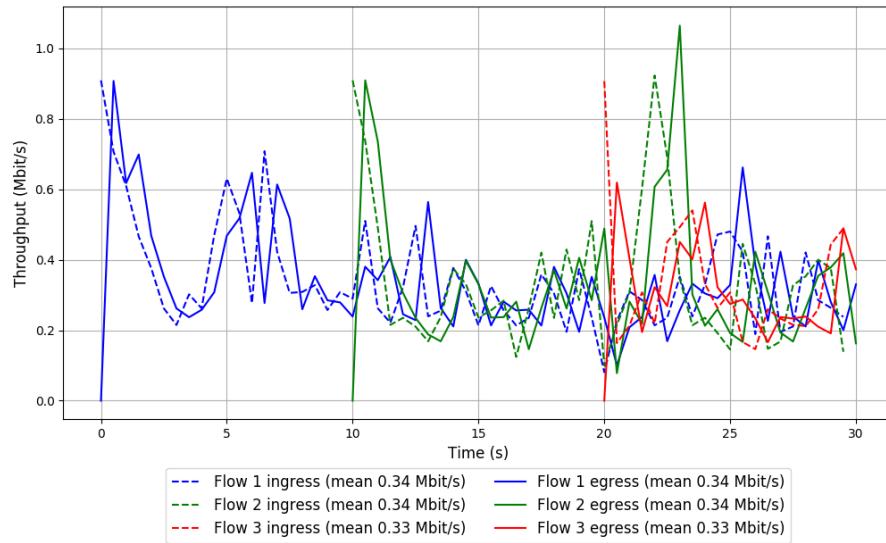


Run 1: Statistics of Sprout

```
Start at: 2018-05-30 14:36:58
End at: 2018-05-30 14:37:28
Local clock offset: -2.965 ms
Remote clock offset: -15.128 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 86.415 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 71.820 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 87.054 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 118.325 ms
Loss rate: 2.11%
```

Run 1: Report of Sprout — Data Link

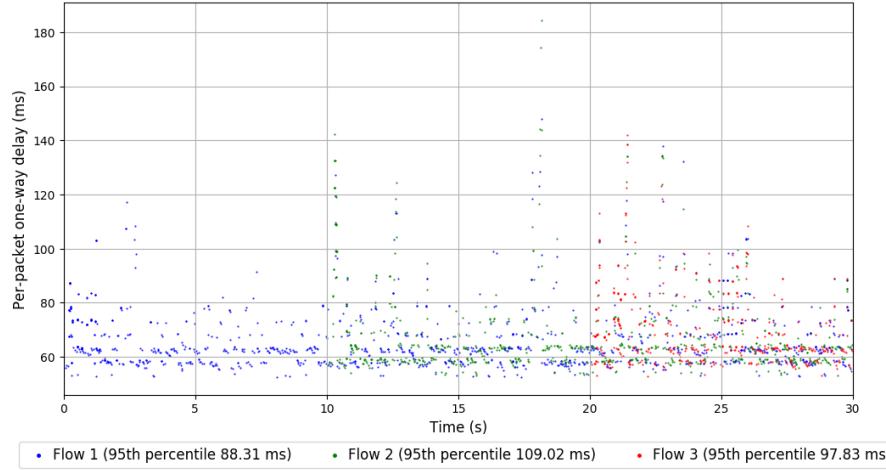
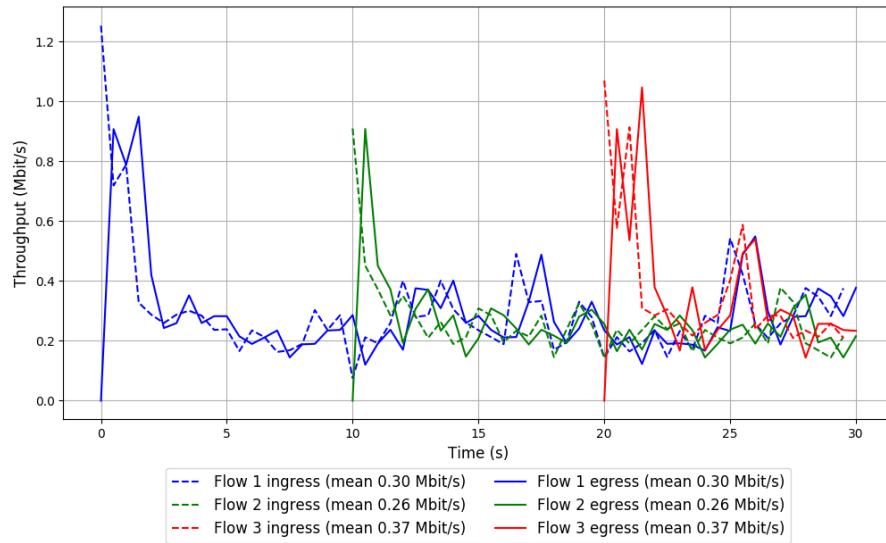


Run 2: Statistics of Sprout

```
Start at: 2018-05-30 14:54:36
End at: 2018-05-30 14:55:06
Local clock offset: -0.732 ms
Remote clock offset: -2.65 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 98.067 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 88.308 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 109.015 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 97.825 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

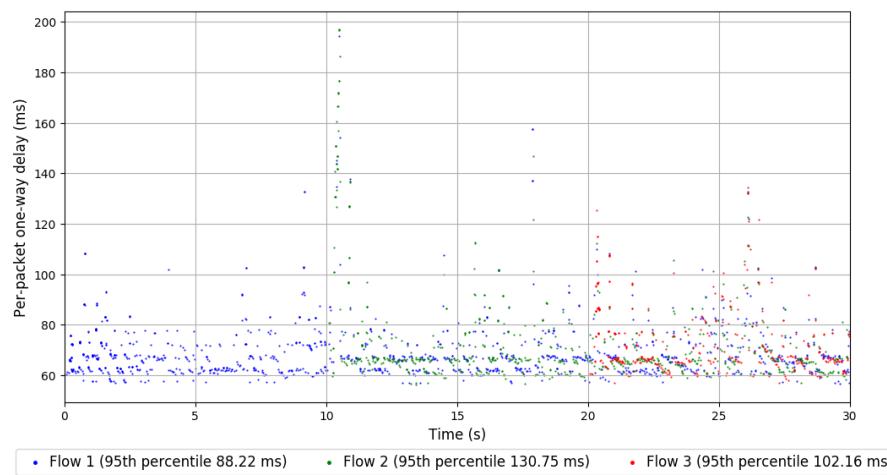
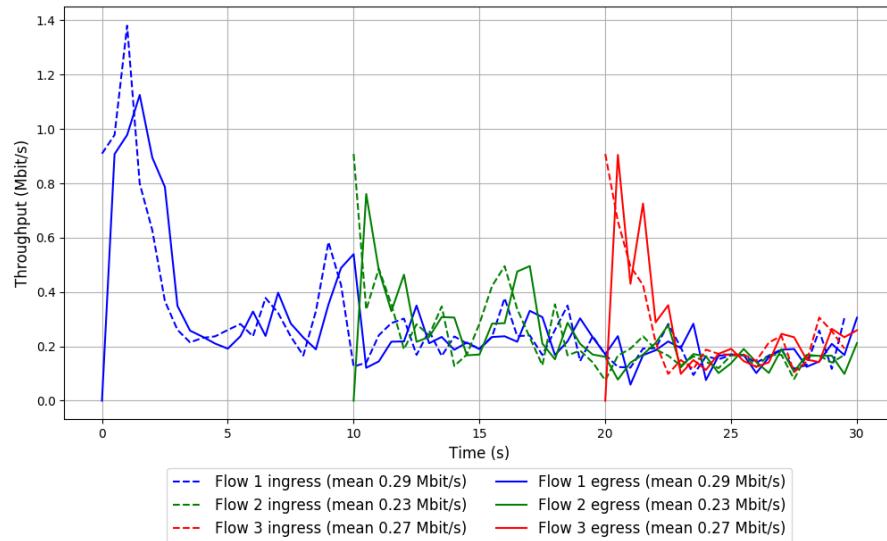


Run 3: Statistics of Sprout

```
Start at: 2018-05-30 15:12:51
End at: 2018-05-30 15:13:21
Local clock offset: -1.908 ms
Remote clock offset: 8.328 ms

# Below is generated by plot.py at 2018-05-30 15:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 101.579 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 88.223 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 130.754 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 102.160 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

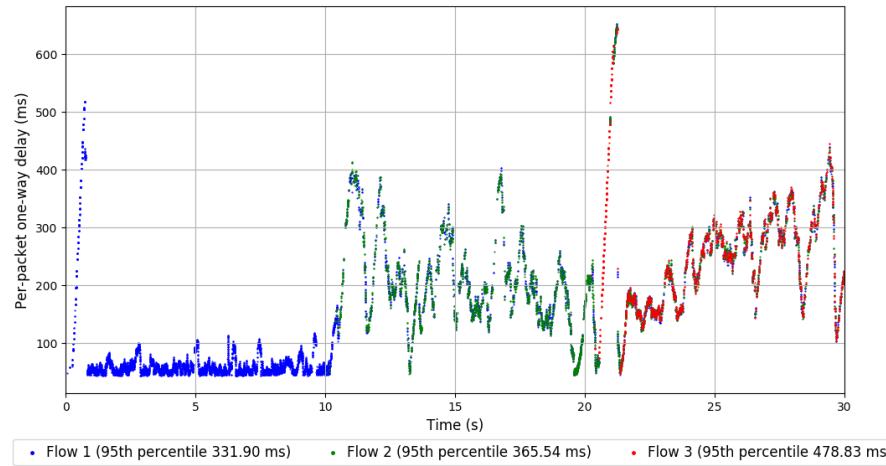
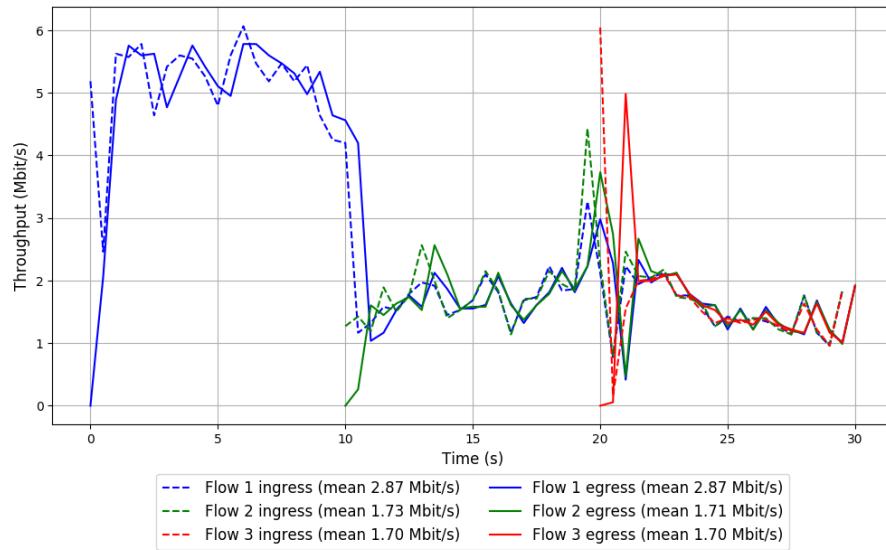


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-05-30 14:29:19
End at: 2018-05-30 14:29:49
Local clock offset: -1.842 ms
Remote clock offset: 2.018 ms

# Below is generated by plot.py at 2018-05-30 15:17:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.56 Mbit/s
95th percentile per-packet one-way delay: 361.746 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 331.899 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 365.543 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 478.831 ms
Loss rate: 2.15%
```

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

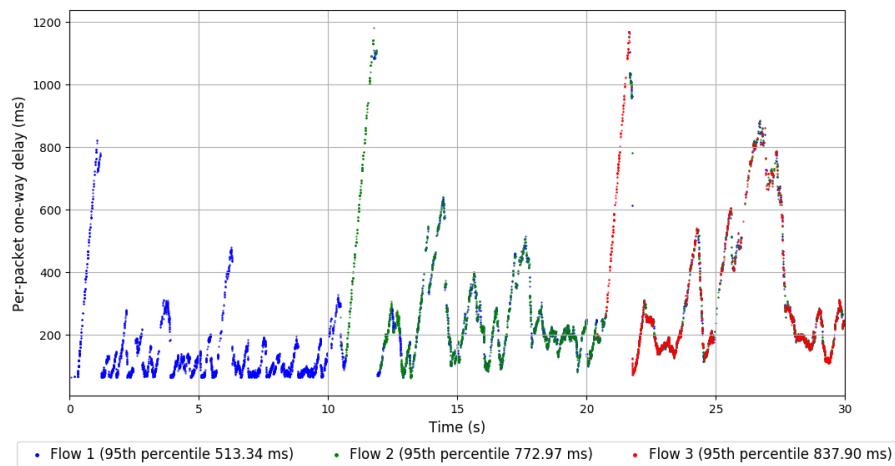
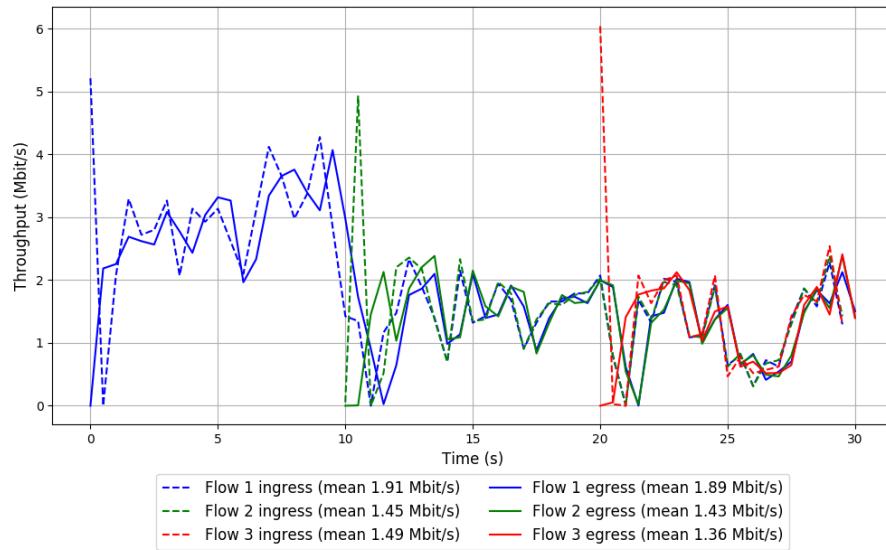


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-05-30 14:46:48
End at: 2018-05-30 14:47:18
Local clock offset: -2.108 ms
Remote clock offset: 2.475 ms

# Below is generated by plot.py at 2018-05-30 15:17:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 706.772 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 513.339 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 772.966 ms
Loss rate: 2.60%
-- Flow 3:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 837.899 ms
Loss rate: 10.07%
```

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

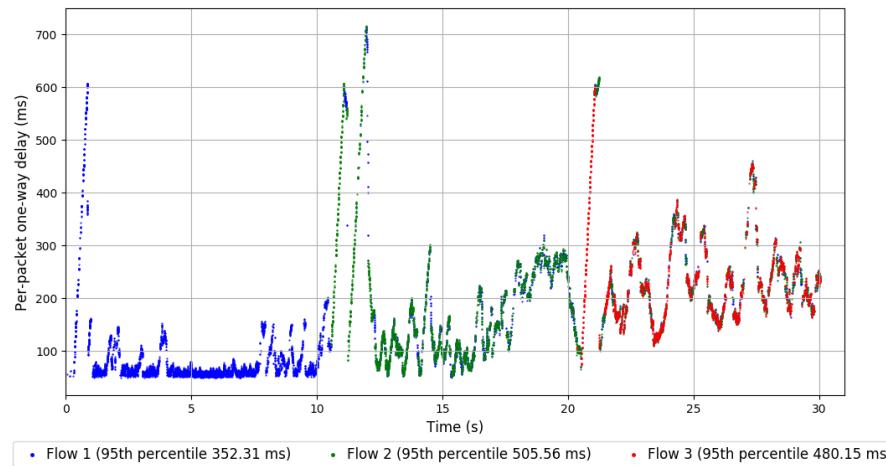
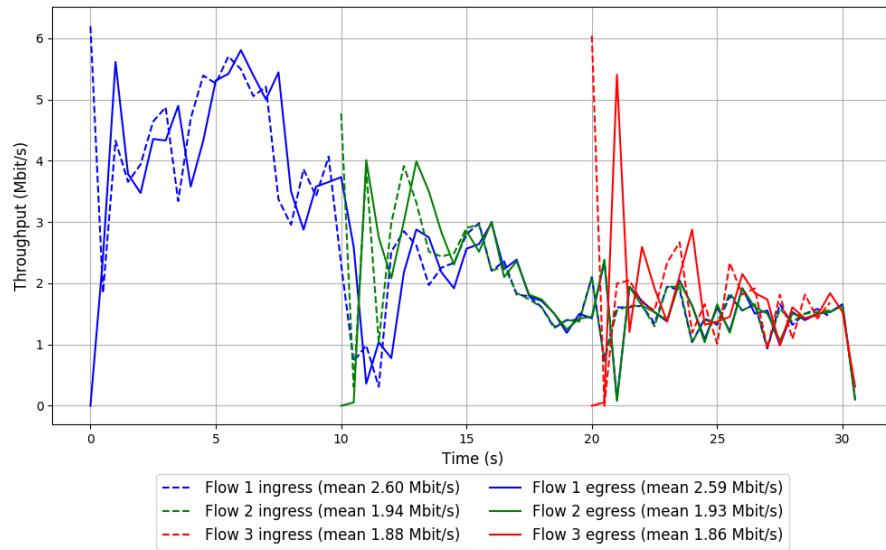


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-05-30 15:04:55
End at: 2018-05-30 15:05:25
Local clock offset: 3.16 ms
Remote clock offset: 1.949 ms

# Below is generated by plot.py at 2018-05-30 15:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 439.322 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 352.305 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 505.555 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 480.149 ms
Loss rate: 1.13%
```

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

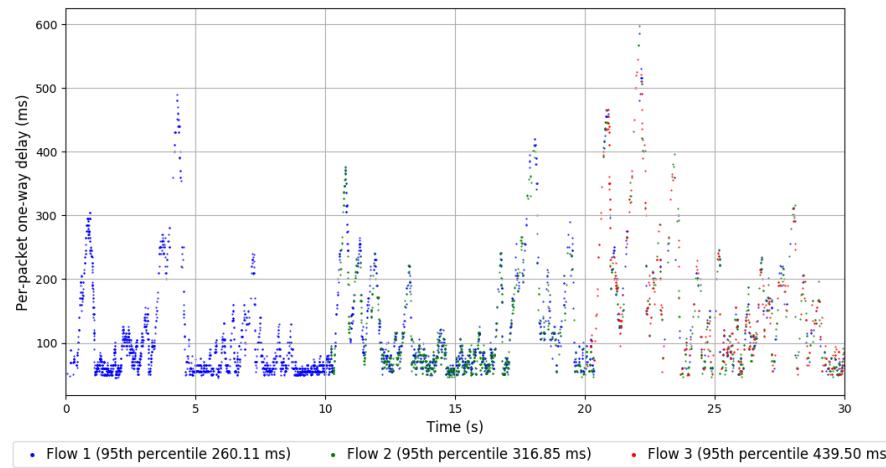
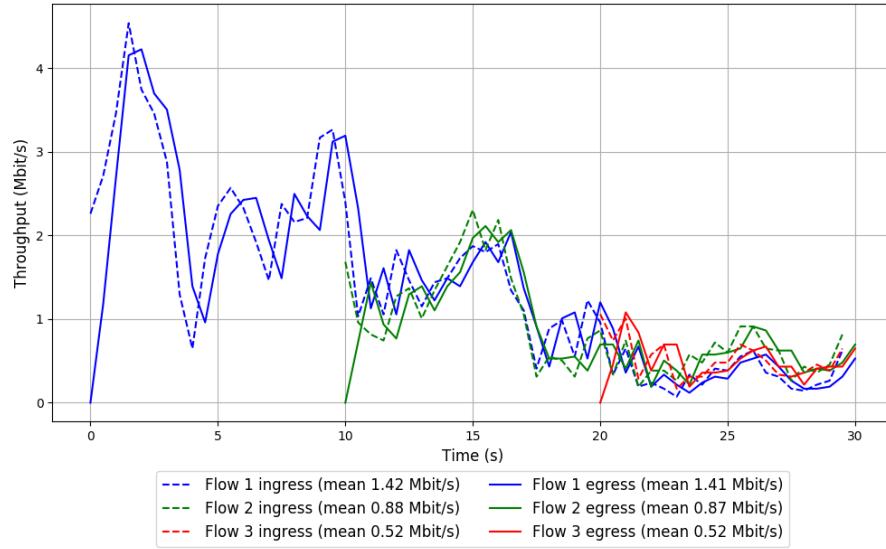


Run 1: Statistics of TCP Vegas

```
Start at: 2018-05-30 14:31:31
End at: 2018-05-30 14:32:01
Local clock offset: -0.106 ms
Remote clock offset: 4.417 ms

# Below is generated by plot.py at 2018-05-30 15:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 292.049 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 260.110 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 316.847 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 439.497 ms
Loss rate: 1.61%
```

Run 1: Report of TCP Vegas — Data Link

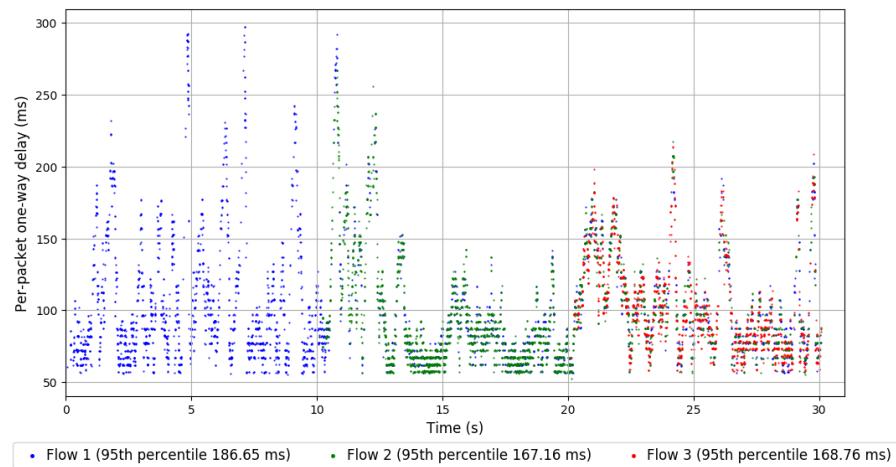
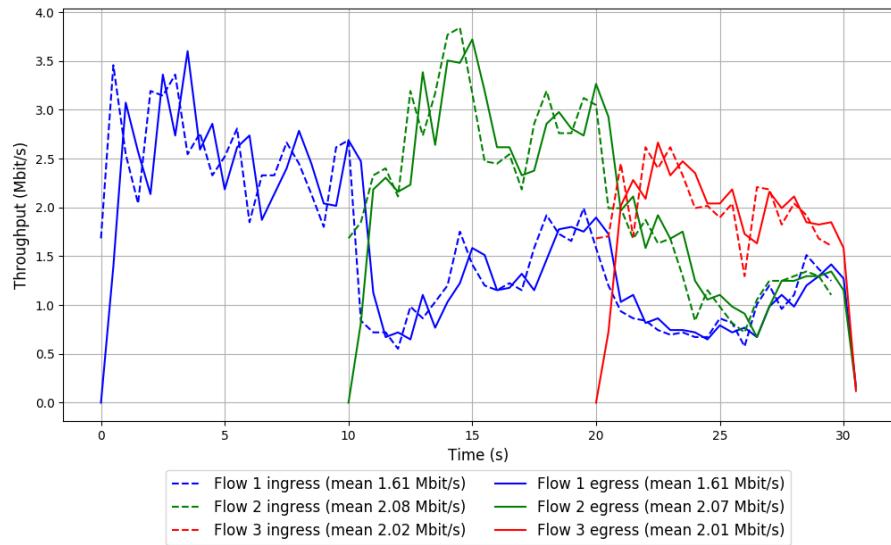


Run 2: Statistics of TCP Vegas

```
Start at: 2018-05-30 14:48:59
End at: 2018-05-30 14:49:29
Local clock offset: -1.85 ms
Remote clock offset: -3.239 ms

# Below is generated by plot.py at 2018-05-30 15:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 176.258 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 186.646 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 167.163 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 168.762 ms
Loss rate: 0.42%
```

Run 2: Report of TCP Vegas — Data Link

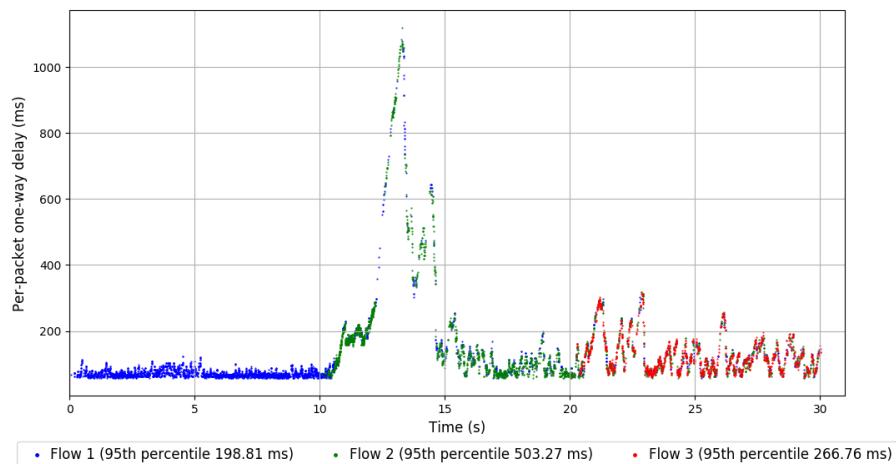
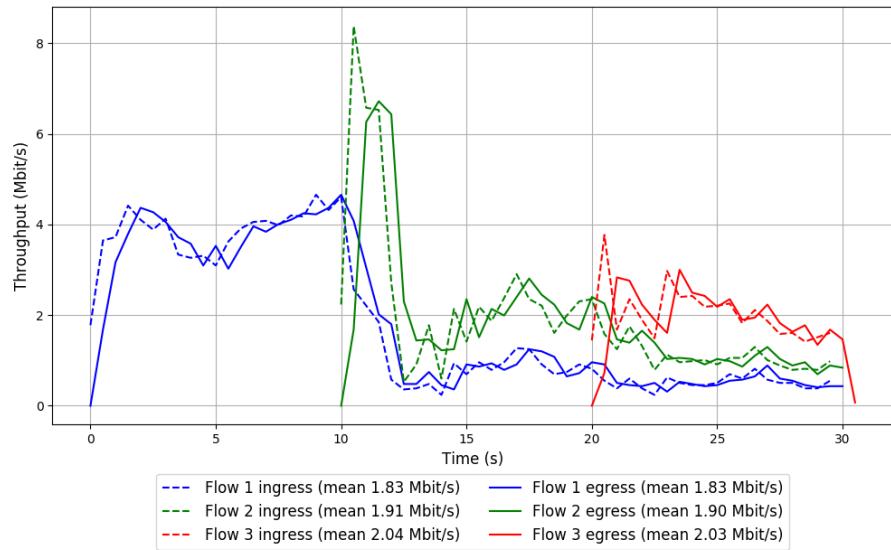


Run 3: Statistics of TCP Vegas

```
Start at: 2018-05-30 15:07:12
End at: 2018-05-30 15:07:42
Local clock offset: -0.798 ms
Remote clock offset: 8.788 ms

# Below is generated by plot.py at 2018-05-30 15:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 277.305 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 198.815 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 503.273 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 266.756 ms
Loss rate: 0.59%
```

Run 3: Report of TCP Vegas — Data Link

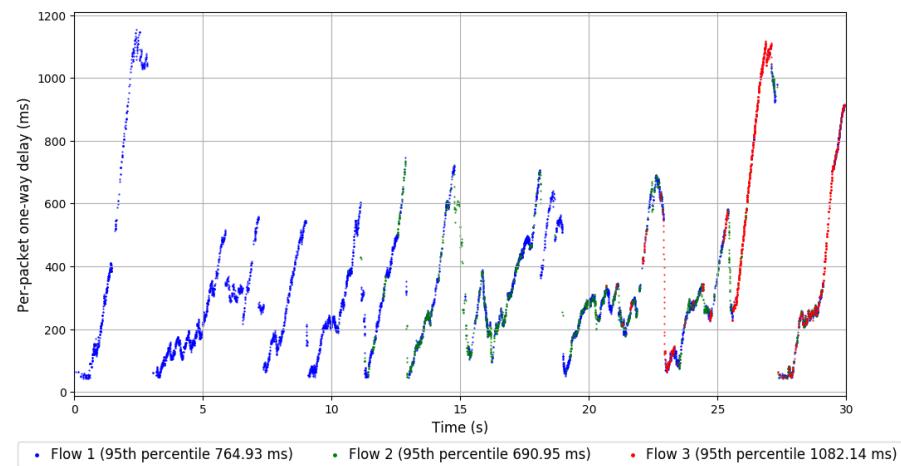
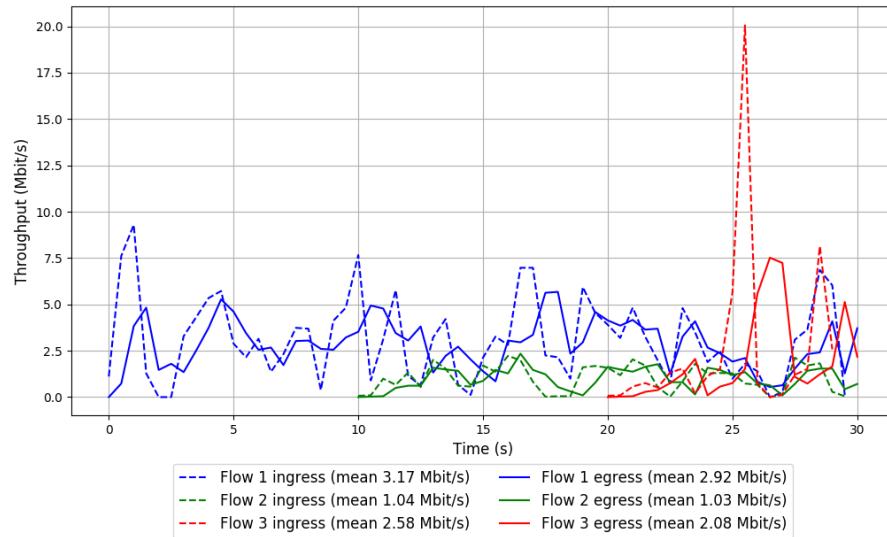


Run 1: Statistics of Verus

```
Start at: 2018-05-30 14:32:36
End at: 2018-05-30 14:33:06
Local clock offset: 0.083 ms
Remote clock offset: 1.982 ms

# Below is generated by plot.py at 2018-05-30 15:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 924.617 ms
Loss rate: 7.62%
-- Flow 1:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 764.935 ms
Loss rate: 6.77%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 690.945 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 1082.137 ms
Loss rate: 16.14%
```

Run 1: Report of Verus — Data Link

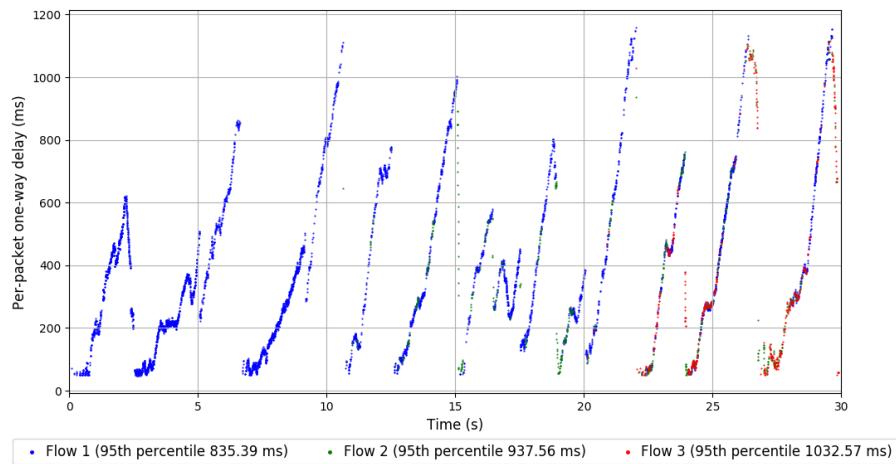
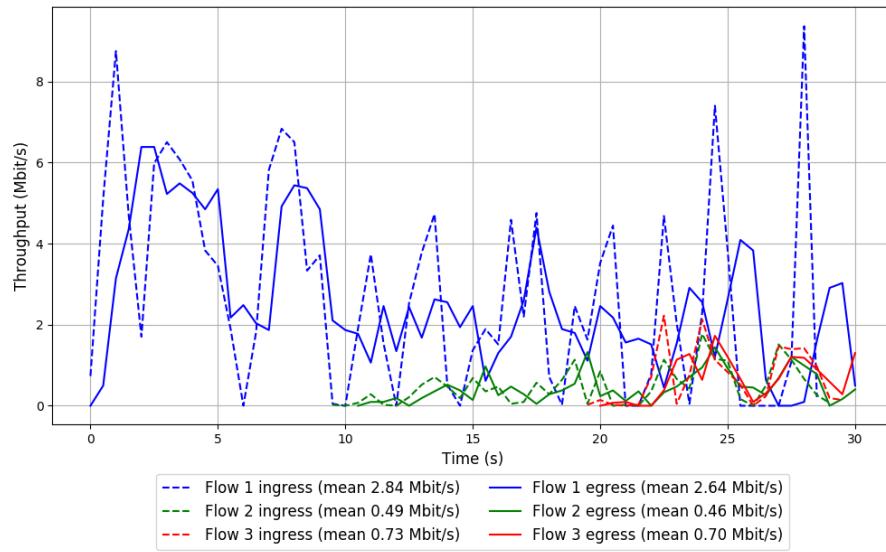


Run 2: Statistics of Verus

```
Start at: 2018-05-30 14:50:06
End at: 2018-05-30 14:50:36
Local clock offset: -0.118 ms
Remote clock offset: -8.386 ms

# Below is generated by plot.py at 2018-05-30 15:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 853.712 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 835.394 ms
Loss rate: 3.72%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 937.561 ms
Loss rate: 4.19%
-- Flow 3:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 1032.565 ms
Loss rate: 4.61%
```

Run 2: Report of Verus — Data Link

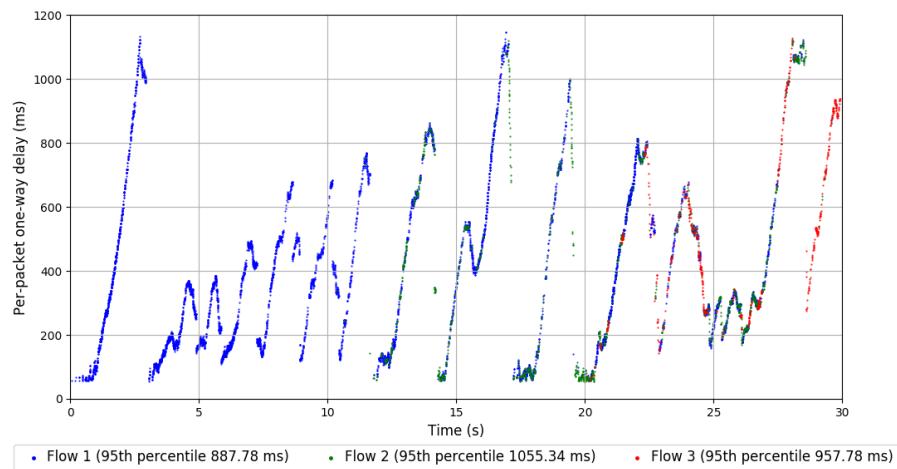
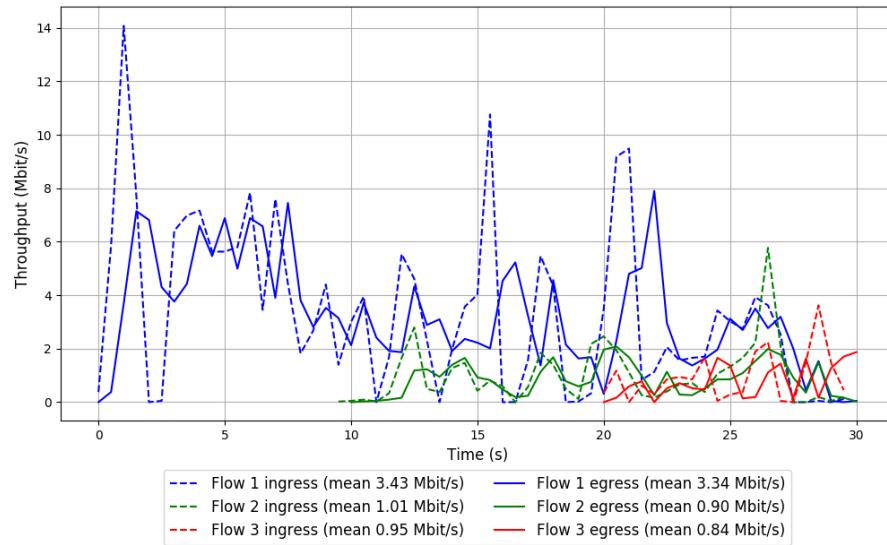


Run 3: Statistics of Verus

```
Start at: 2018-05-30 15:08:19
End at: 2018-05-30 15:08:49
Local clock offset: -0.981 ms
Remote clock offset: 5.025 ms

# Below is generated by plot.py at 2018-05-30 15:17:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.16 Mbit/s
95th percentile per-packet one-way delay: 932.195 ms
Loss rate: 4.98%
-- Flow 1:
Average throughput: 3.34 Mbit/s
95th percentile per-packet one-way delay: 887.783 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 1055.339 ms
Loss rate: 12.23%
-- Flow 3:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 957.783 ms
Loss rate: 12.01%
```

Run 3: Report of Verus — Data Link

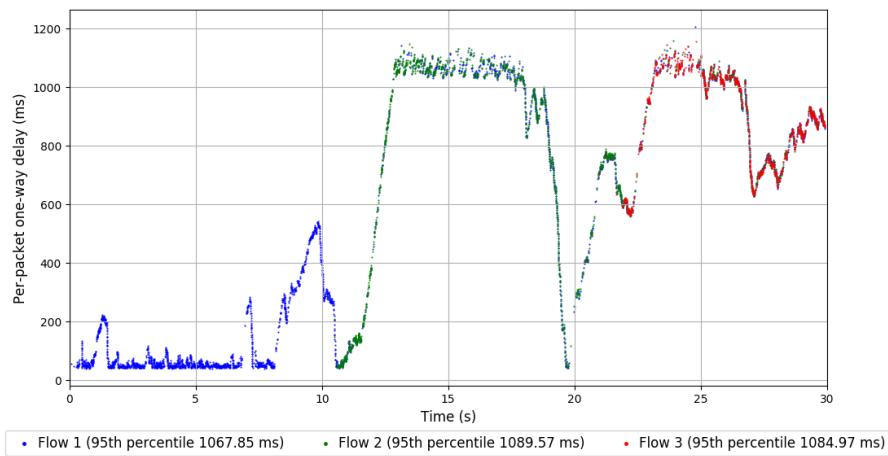
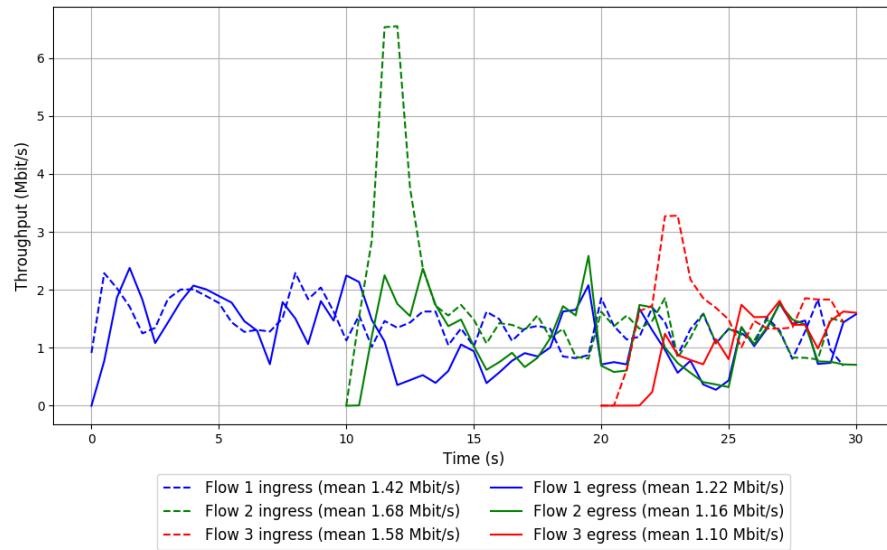


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-05-30 14:28:14
End at: 2018-05-30 14:28:44
Local clock offset: -1.756 ms
Remote clock offset: -0.22 ms

# Below is generated by plot.py at 2018-05-30 15:17:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 1079.547 ms
Loss rate: 23.84%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 1067.846 ms
Loss rate: 14.33%
-- Flow 2:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 1089.565 ms
Loss rate: 31.63%
-- Flow 3:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 1084.969 ms
Loss rate: 32.98%
```

Run 1: Report of PCC-Vivace — Data Link

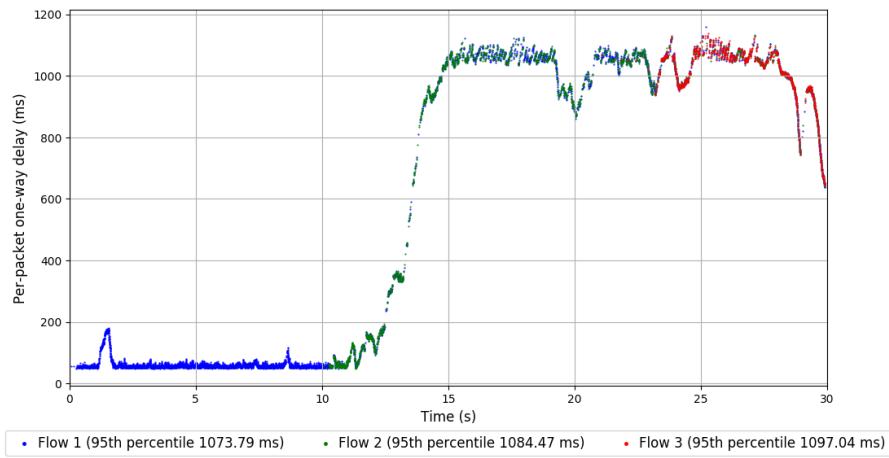
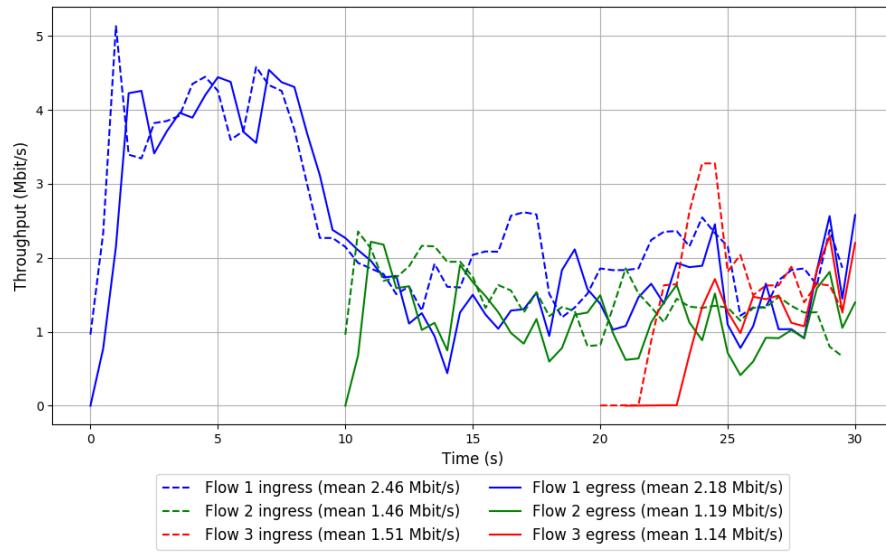


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-05-30 14:45:43
End at: 2018-05-30 14:46:13
Local clock offset: -1.461 ms
Remote clock offset: 1.091 ms

# Below is generated by plot.py at 2018-05-30 15:17:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 1080.662 ms
Loss rate: 15.80%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 1073.790 ms
Loss rate: 11.30%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1084.469 ms
Loss rate: 18.80%
-- Flow 3:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 1097.035 ms
Loss rate: 32.18%
```

Run 2: Report of PCC-Vivace — Data Link

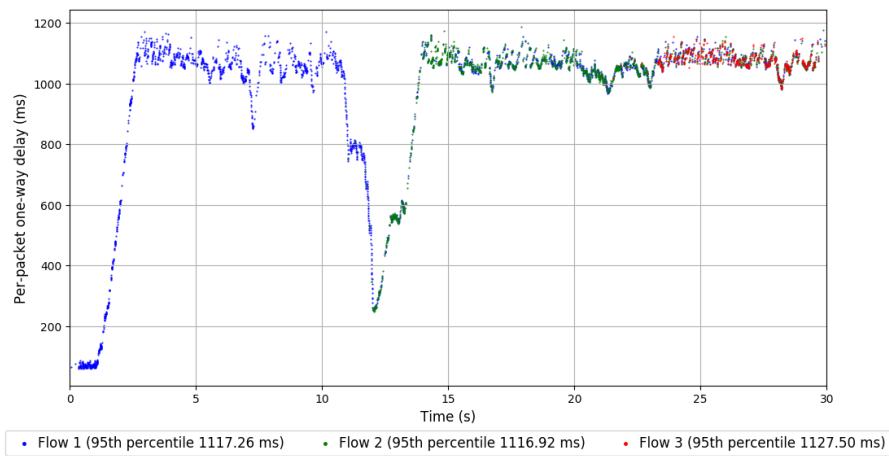
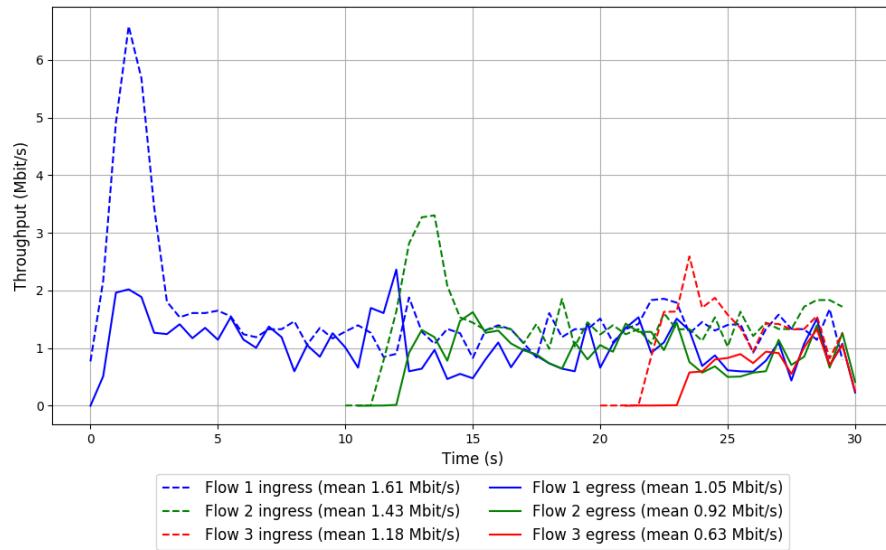


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-05-30 15:03:47
End at: 2018-05-30 15:04:17
Local clock offset: -1.879 ms
Remote clock offset: 2.435 ms

# Below is generated by plot.py at 2018-05-30 15:17:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 1118.452 ms
Loss rate: 38.21%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 1117.256 ms
Loss rate: 34.81%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 1116.916 ms
Loss rate: 38.35%
-- Flow 3:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 1127.503 ms
Loss rate: 51.86%
```

Run 3: Report of PCC-Vivace — Data Link

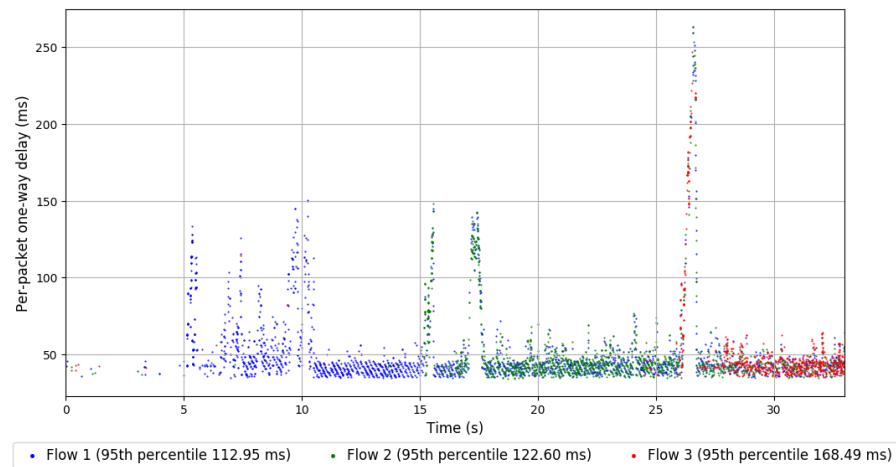
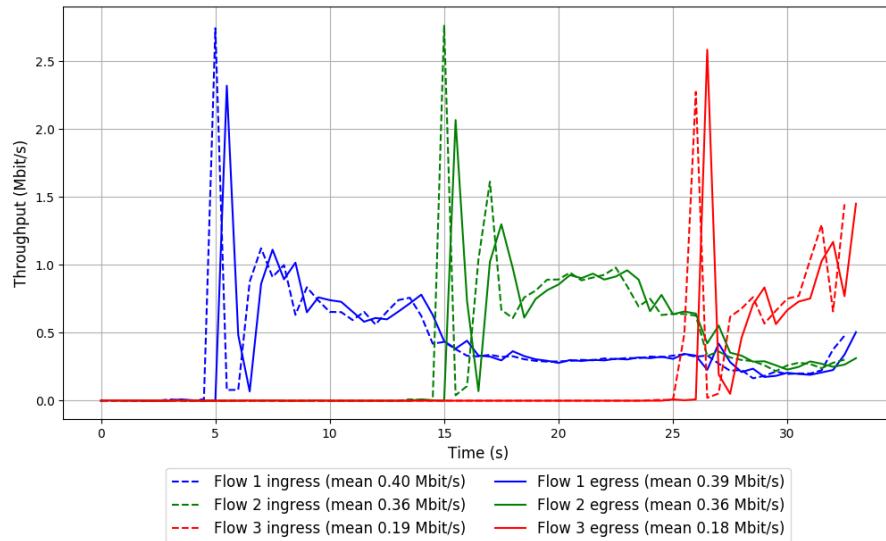


Run 1: Statistics of WebRTC media

```
Start at: 2018-05-30 14:35:53
End at: 2018-05-30 14:36:23
Local clock offset: -0.258 ms
Remote clock offset: -7.325 ms

# Below is generated by plot.py at 2018-05-30 15:17:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 119.605 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 112.950 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 122.600 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 168.485 ms
Loss rate: 0.96%
```

Run 1: Report of WebRTC media — Data Link

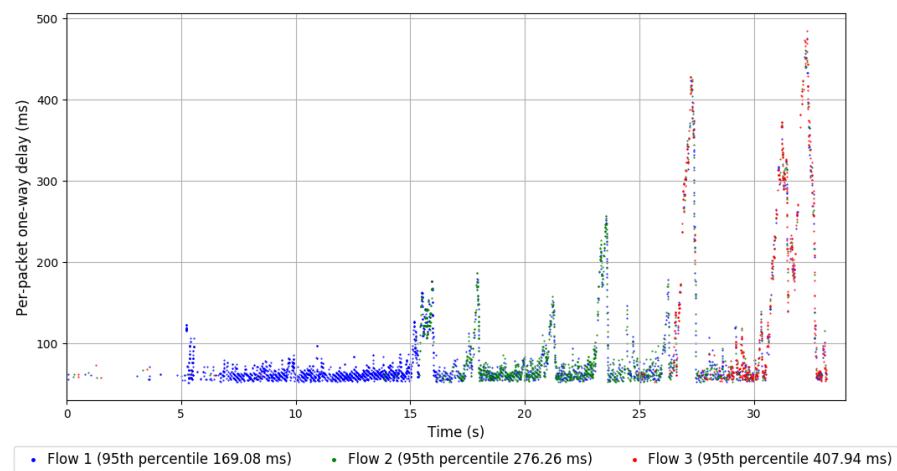
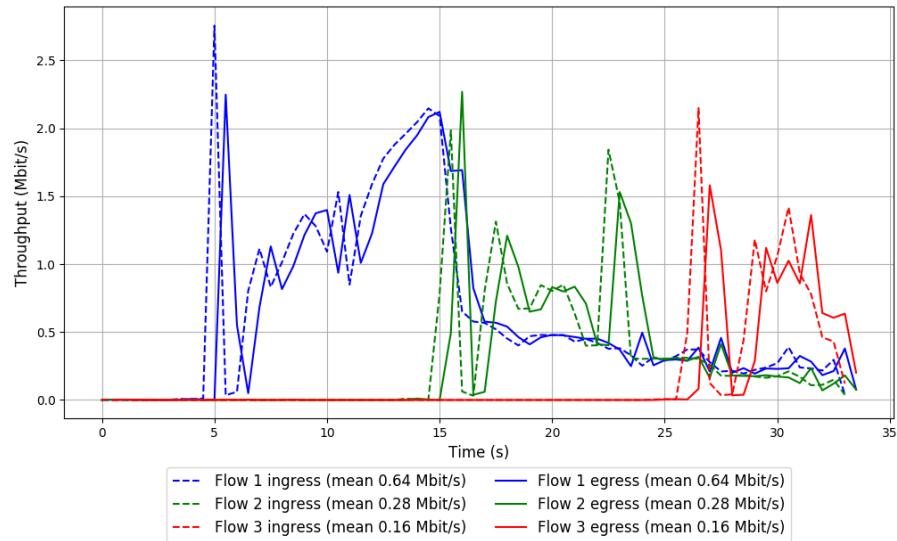


Run 2: Statistics of WebRTC media

```
Start at: 2018-05-30 14:53:29
End at: 2018-05-30 14:53:59
Local clock offset: -2.124 ms
Remote clock offset: -5.863 ms

# Below is generated by plot.py at 2018-05-30 15:17:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 303.366 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 169.079 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 276.256 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 407.939 ms
Loss rate: 0.30%
```

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

```
Start at: 2018-05-30 15:11:43
End at: 2018-05-30 15:12:13
Local clock offset: -0.271 ms
Remote clock offset: 14.911 ms

# Below is generated by plot.py at 2018-05-30 15:17:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 132.453 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 118.066 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 138.775 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 146.747 ms
Loss rate: 0.62%
```

Run 3: Report of WebRTC media — Data Link

