

Pantheon Report

Generated at 2018-08-09 08:14:03 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia ppp0 ppp0 (*remote*).

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

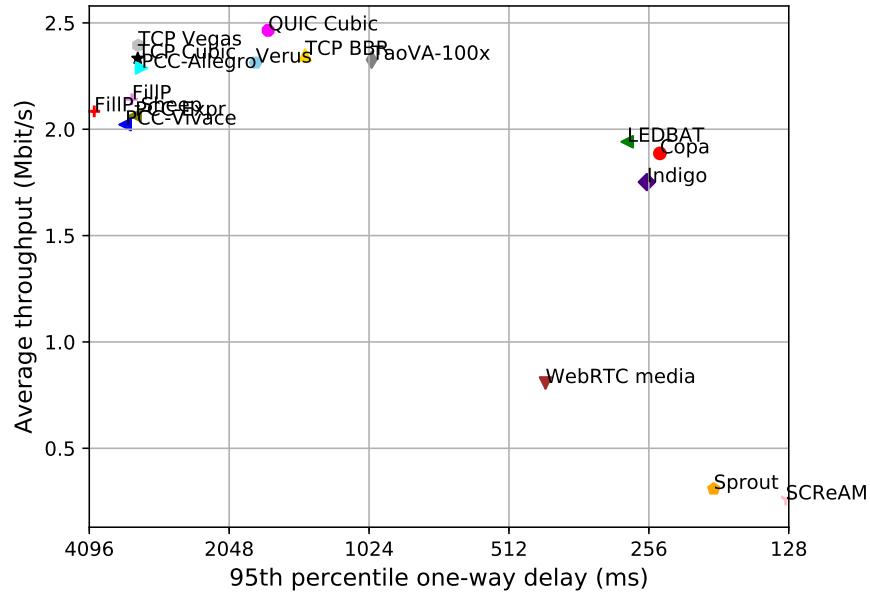
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

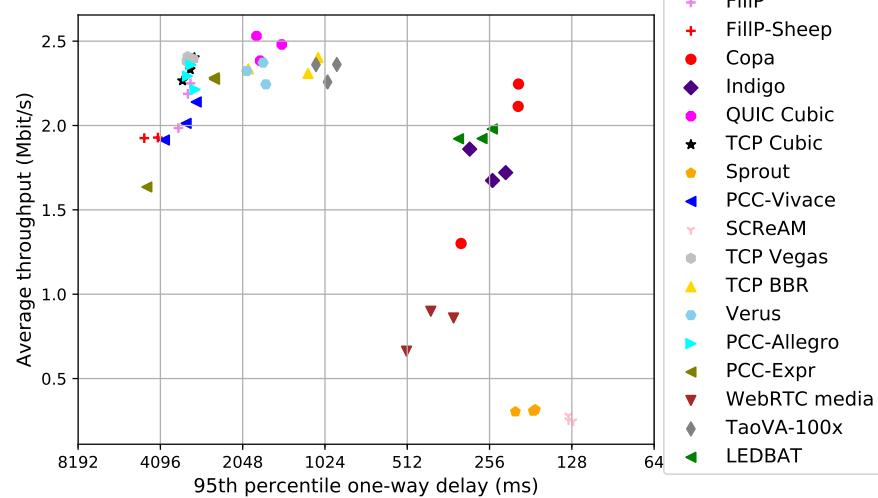
Git summary:

```
branch: master @ 7772df3413f4b07ba0096dfdd8e9d4c6dca623e3
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
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 @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows



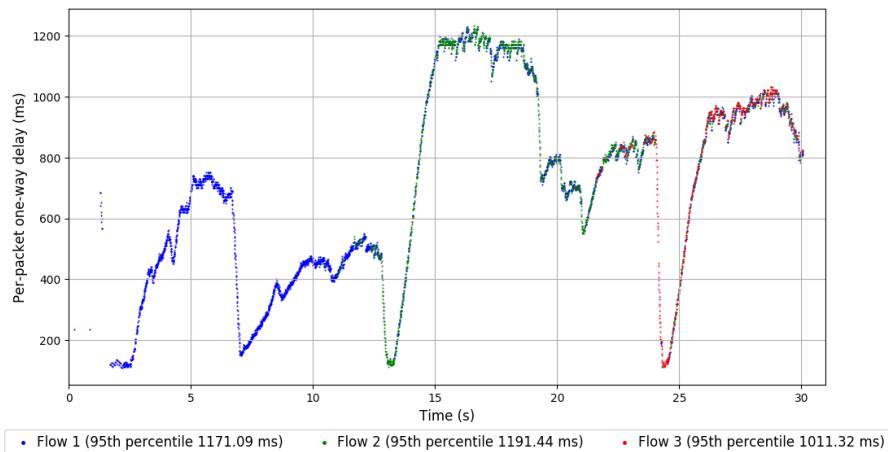
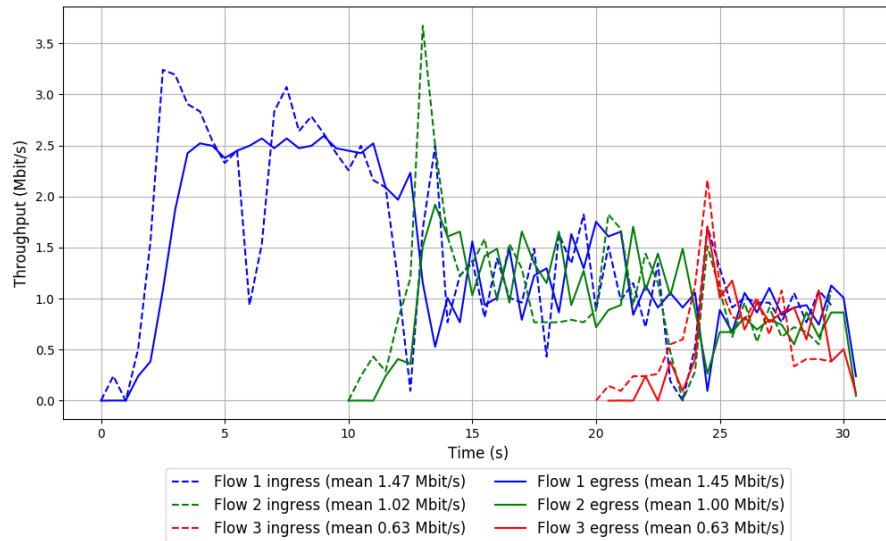
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	1.50	0.87	0.88	1368.60	1409.27	1308.68	2.01	4.06	9.72
Copa		1.16	0.78	0.61	238.78	244.87	244.77	0.10	0.29	0.79
TCP Cubic		2.24	0.15	0.06	3223.84	3068.42	3179.29	12.17	36.32	54.28
FillP		1.75	0.71	0.04	3286.54	3320.71	3276.39	85.57	65.02	86.00
FillP-Sheep		1.40	1.14	0.05	3929.47	3688.85	3750.49	35.86	61.38	98.26
Indigo		1.03	0.72	0.76	237.25	257.42	373.71	0.16	0.38	0.43
LEDBAT		1.39	0.64	0.37	268.73	318.50	435.11	0.24	0.56	4.63
PCC-Allegro		1.54	0.95	0.49	3123.95	3164.12	3137.05	63.31	66.73	41.17
PCC-Expr		2.06	0.00	0.00	3263.67	2977.02	3280.65	63.13	51.98	55.49
QUIC Cubic		1.84	0.77	0.33	1625.98	1735.74	1847.30	4.20	9.06	23.89
SCReAM		0.08	0.17	0.18	126.36	130.88	130.81	0.09	0.19	0.34
Sprout		0.14	0.16	0.17	227.10	175.48	175.37	0.78	0.14	0.64
TaoVA-100x		1.31	1.03	0.99	560.28	1116.65	1210.35	0.52	1.45	2.36
TCP Vegas		1.87	0.83	0.06	3146.25	3184.26	3132.23	11.91	39.69	49.35
Verus		2.30	0.01	0.01	1795.90	1697.60	1718.09	3.86	3.25	6.67
PCC-Vivace		1.20	1.23	0.00	3417.80	3444.36	3428.23	16.14	22.96	10.65
WebRTC media		0.37	0.36	0.09	352.52	430.20	547.59	0.13	0.10	0.99

Run 1: Statistics of TCP BBR

```
Start at: 2018-08-09 07:27:03
End at: 2018-08-09 07:27:33
Local clock offset: -5.943 ms
Remote clock offset: 1.1 ms

# Below is generated by plot.py at 2018-08-09 08:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 1181.077 ms
Loss rate: 2.38%
-- Flow 1:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 1171.093 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 1191.445 ms
Loss rate: 3.20%
-- Flow 3:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 1011.321 ms
Loss rate: 4.63%
```

Run 1: Report of TCP BBR — Data Link

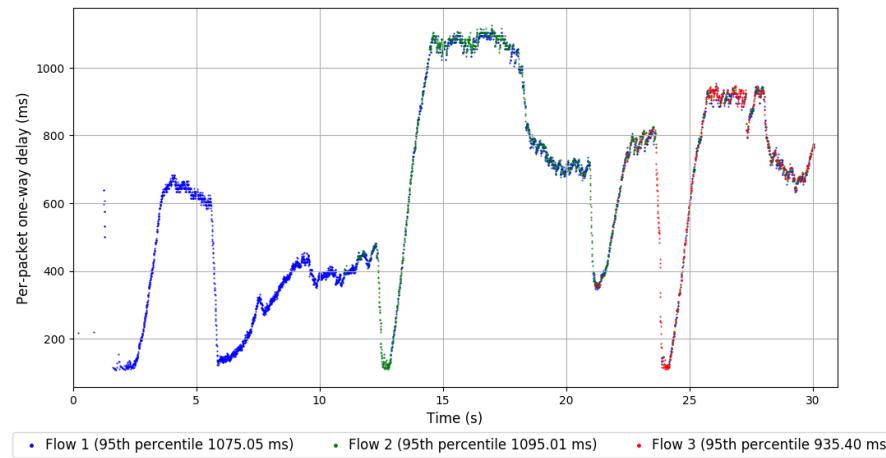
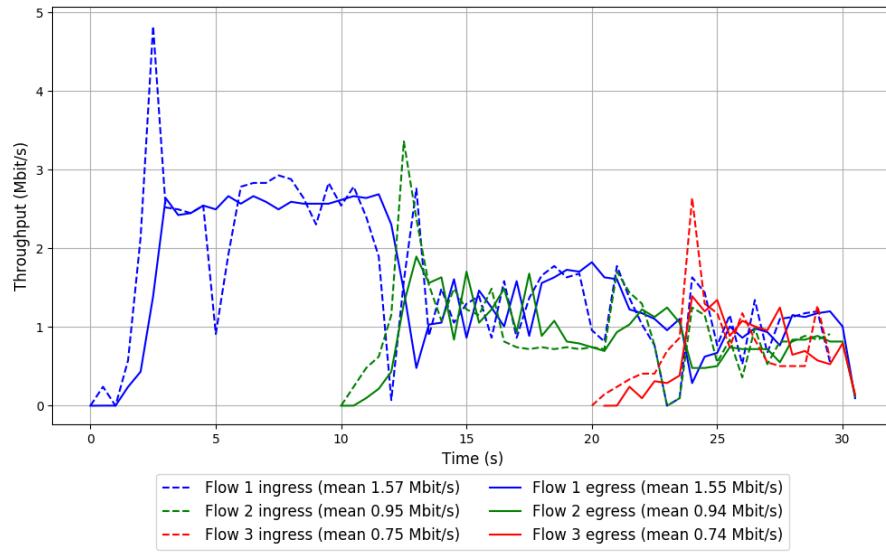


Run 2: Statistics of TCP BBR

```
Start at: 2018-08-09 07:47:25
End at: 2018-08-09 07:47:55
Local clock offset: -8.461 ms
Remote clock offset: 0.79 ms

# Below is generated by plot.py at 2018-08-09 08:13:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 1084.861 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 1075.046 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 1095.006 ms
Loss rate: 3.09%
-- Flow 3:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 935.399 ms
Loss rate: 7.24%
```

Run 2: Report of TCP BBR — Data Link

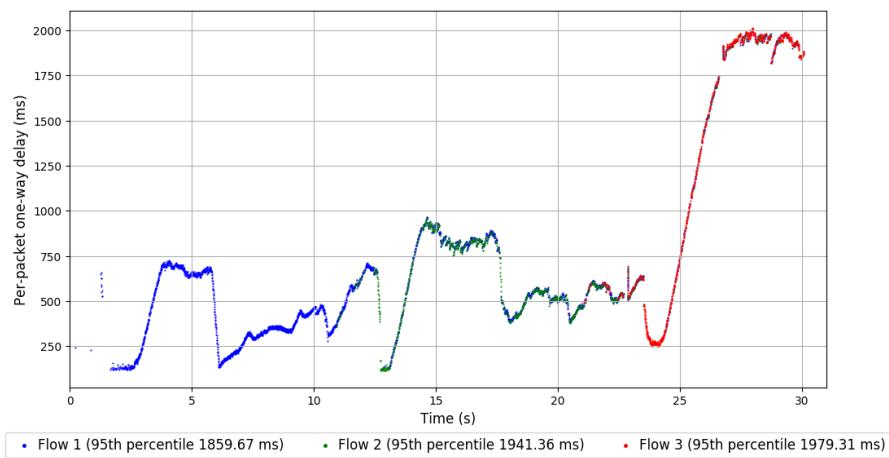
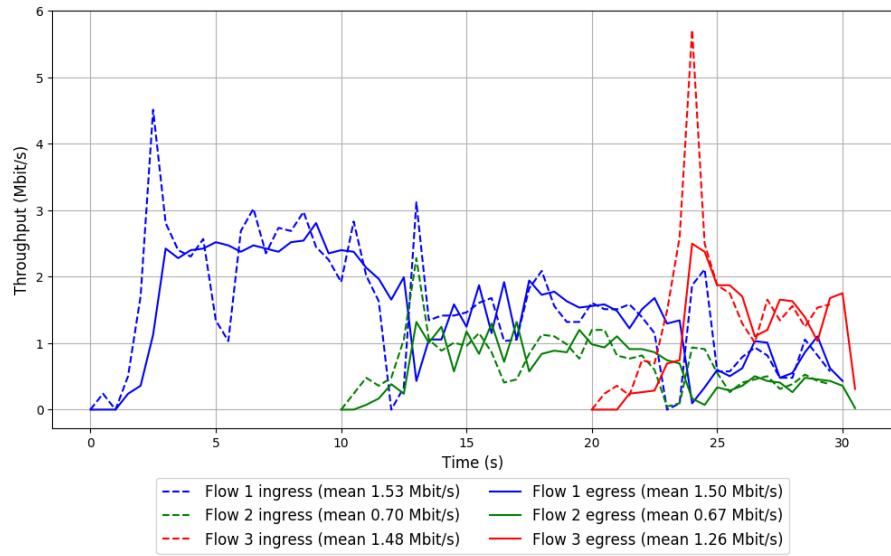


Run 3: Statistics of TCP BBR

```
Start at: 2018-08-09 08:07:48
End at: 2018-08-09 08:08:18
Local clock offset: -7.018 ms
Remote clock offset: 6.398 ms

# Below is generated by plot.py at 2018-08-09 08:13:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 1952.184 ms
Loss rate: 6.49%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 1859.673 ms
Loss rate: 3.20%
-- Flow 2:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 1941.356 ms
Loss rate: 5.89%
-- Flow 3:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 1979.309 ms
Loss rate: 17.30%
```

Run 3: Report of TCP BBR — Data Link

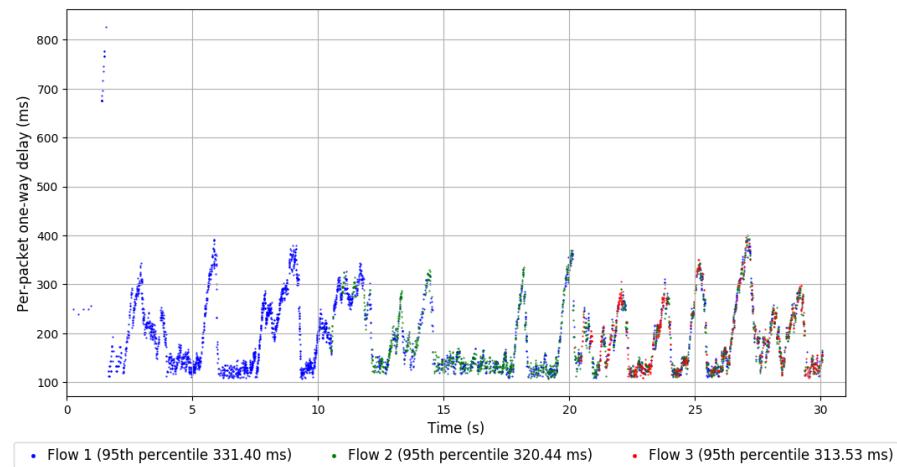
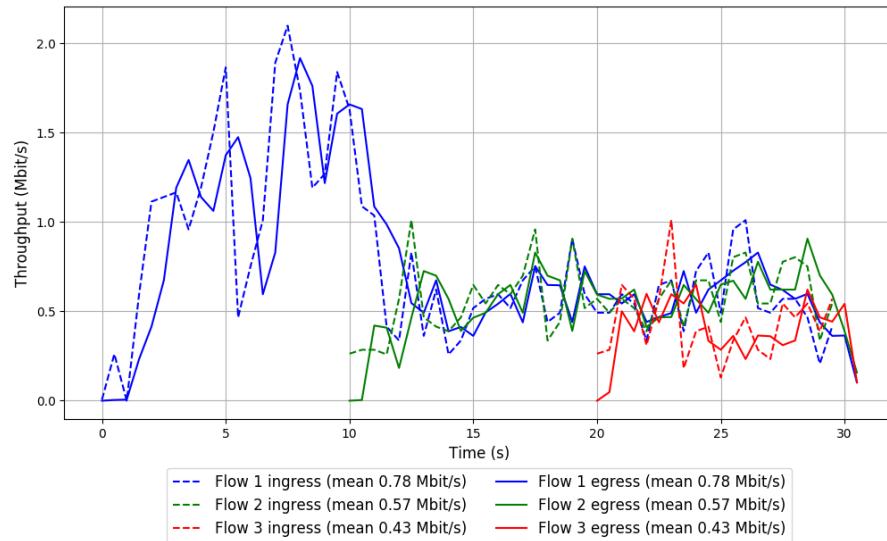


Run 1: Statistics of Copa

```
Start at: 2018-08-09 07:30:38
End at: 2018-08-09 07:31:08
Local clock offset: -7.297 ms
Remote clock offset: 5.362 ms

# Below is generated by plot.py at 2018-08-09 08:13:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 325.374 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 331.400 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 320.437 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 313.532 ms
Loss rate: 0.90%
```

Run 1: Report of Copa — Data Link

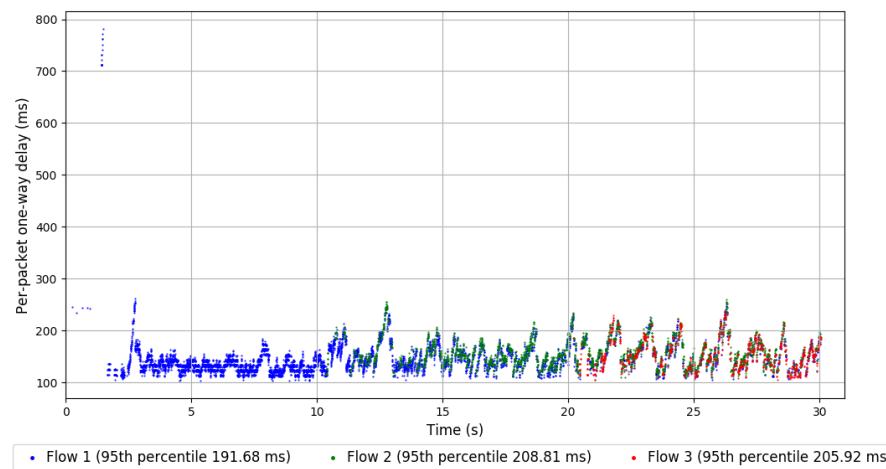
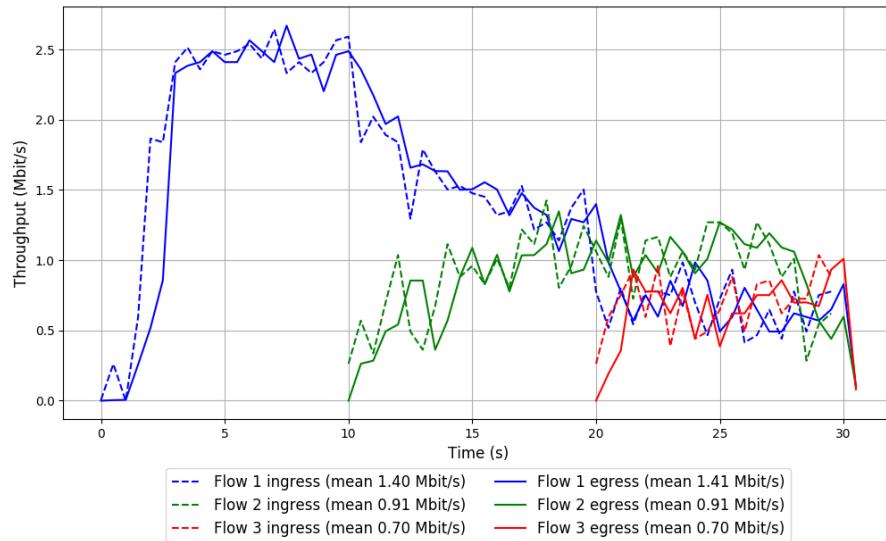


Run 2: Statistics of Copa

```
Start at: 2018-08-09 07:51:01
End at: 2018-08-09 07:51:31
Local clock offset: -7.808 ms
Remote clock offset: 0.961 ms

# Below is generated by plot.py at 2018-08-09 08:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 200.618 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 191.684 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 208.814 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 205.920 ms
Loss rate: 1.10%
```

Run 2: Report of Copa — Data Link

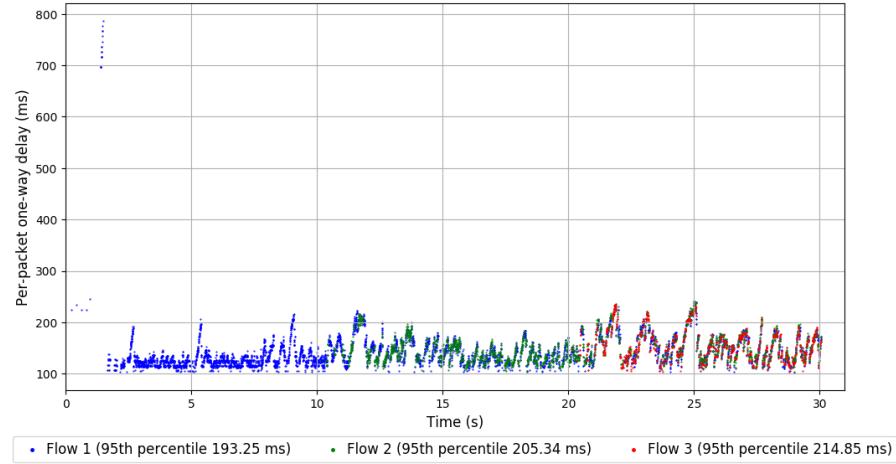
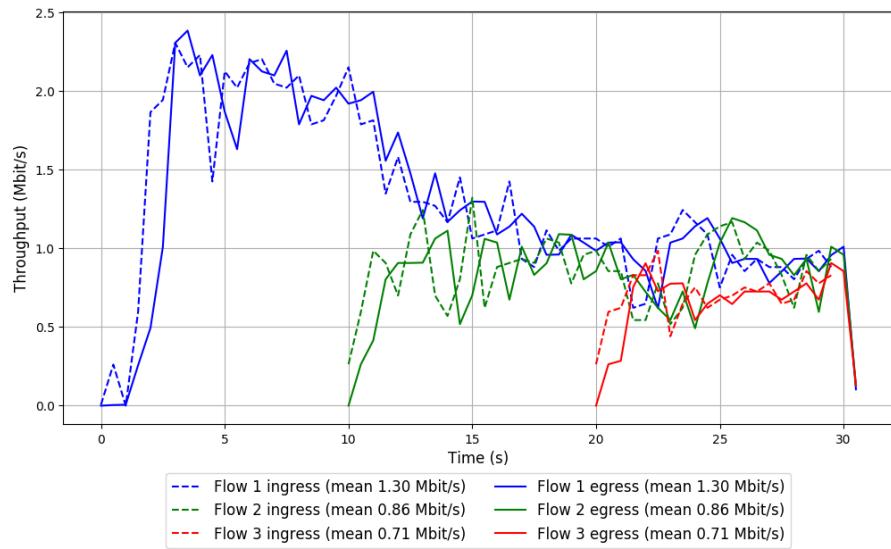


Run 3: Statistics of Copa

```
Start at: 2018-08-09 08:11:24
End at: 2018-08-09 08:11:54
Local clock offset: -7.041 ms
Remote clock offset: 1.588 ms

# Below is generated by plot.py at 2018-08-09 08:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 201.155 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 193.248 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 205.344 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 214.849 ms
Loss rate: 0.37%
```

Run 3: Report of Copa — Data Link

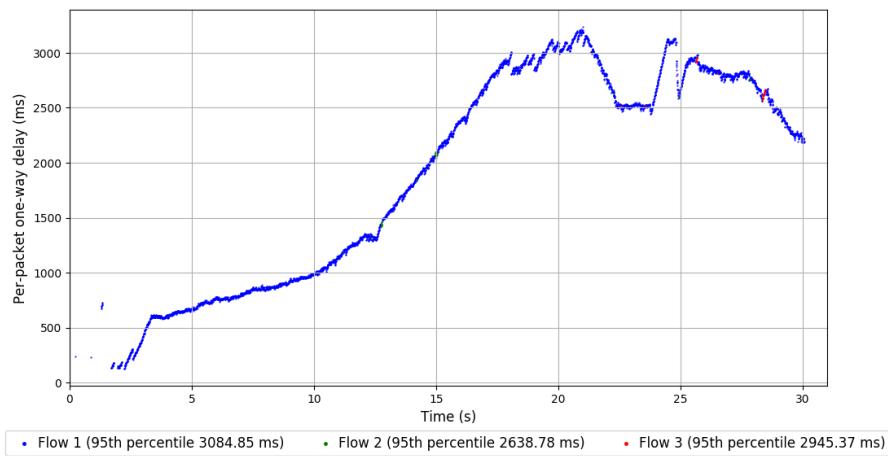
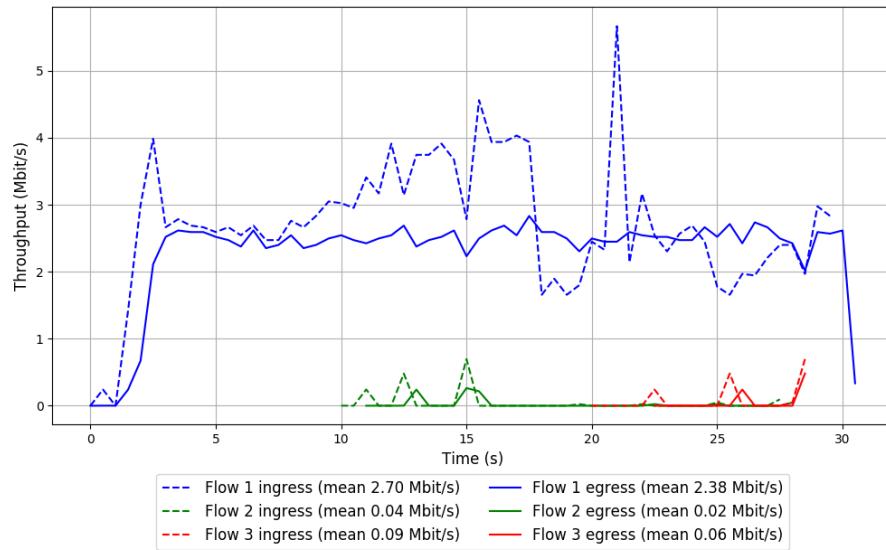


Run 1: Statistics of TCP Cubic

```
Start at: 2018-08-09 07:22:15
End at: 2018-08-09 07:22:45
Local clock offset: -5.298 ms
Remote clock offset: 0.365 ms

# Below is generated by plot.py at 2018-08-09 08:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 3075.868 ms
Loss rate: 12.95%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 3084.848 ms
Loss rate: 12.25%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 2638.781 ms
Loss rate: 49.07%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 2945.373 ms
Loss rate: 50.57%
```

Run 1: Report of TCP Cubic — Data Link

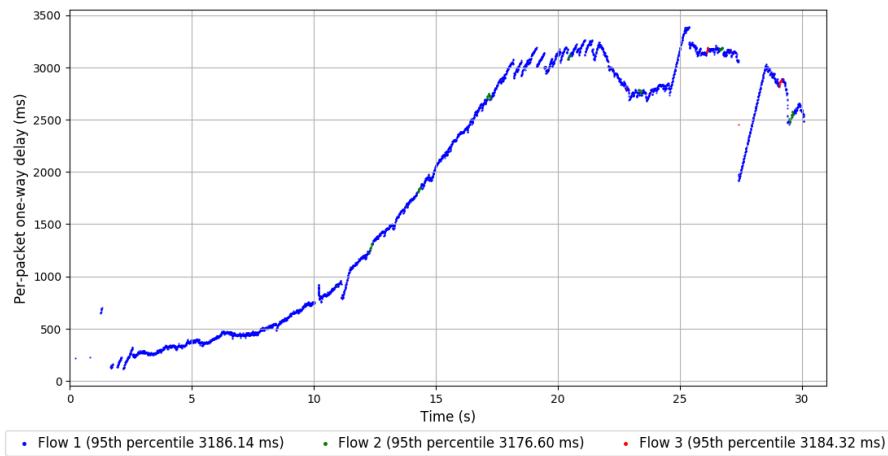
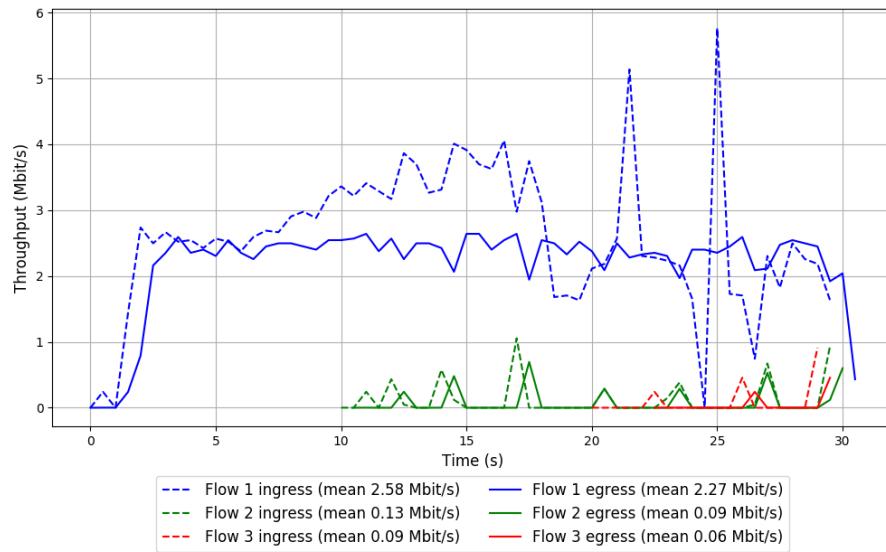


Run 2: Statistics of TCP Cubic

```
Start at: 2018-08-09 07:42:38
End at: 2018-08-09 07:43:08
Local clock offset: -8.562 ms
Remote clock offset: 5.491 ms

# Below is generated by plot.py at 2018-08-09 08:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 3186.143 ms
Loss rate: 13.55%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 3186.143 ms
Loss rate: 12.43%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 3176.597 ms
Loss rate: 34.43%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 3184.318 ms
Loss rate: 56.46%
```

Run 2: Report of TCP Cubic — Data Link

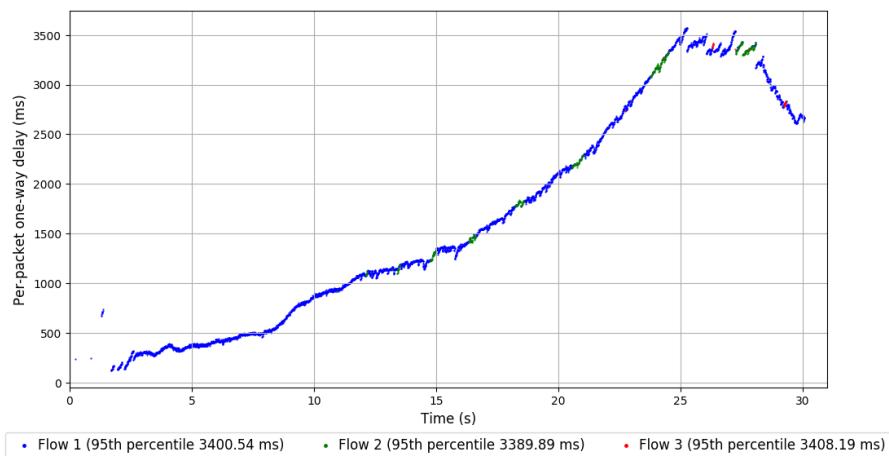
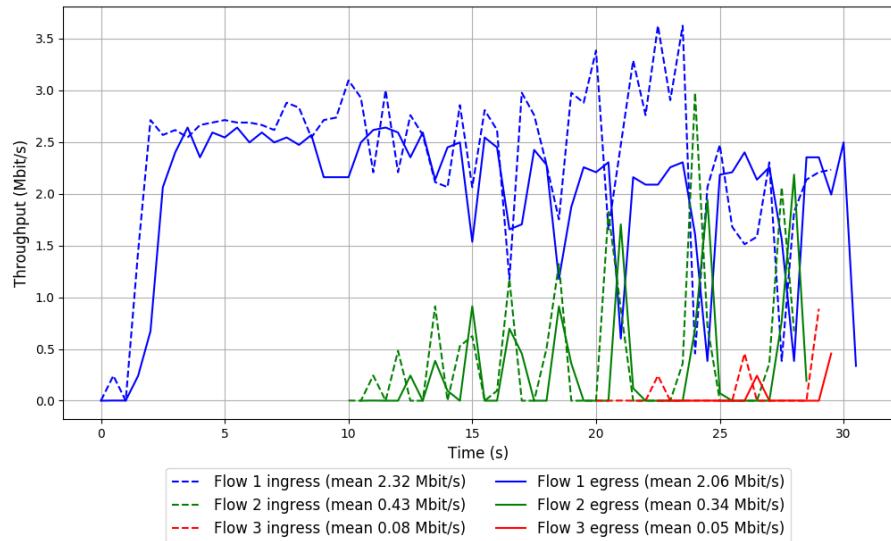


Run 3: Statistics of TCP Cubic

```
Start at: 2018-08-09 08:03:00
End at: 2018-08-09 08:03:31
Local clock offset: -7.042 ms
Remote clock offset: 1.439 ms

# Below is generated by plot.py at 2018-08-09 08:13:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 3400.464 ms
Loss rate: 13.66%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 3400.537 ms
Loss rate: 11.84%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 3389.893 ms
Loss rate: 25.45%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3408.192 ms
Loss rate: 55.80%
```

Run 3: Report of TCP Cubic — Data Link

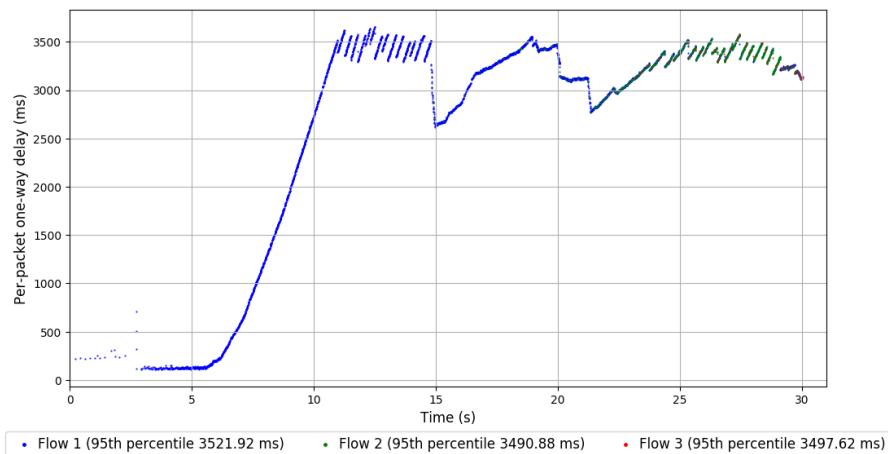
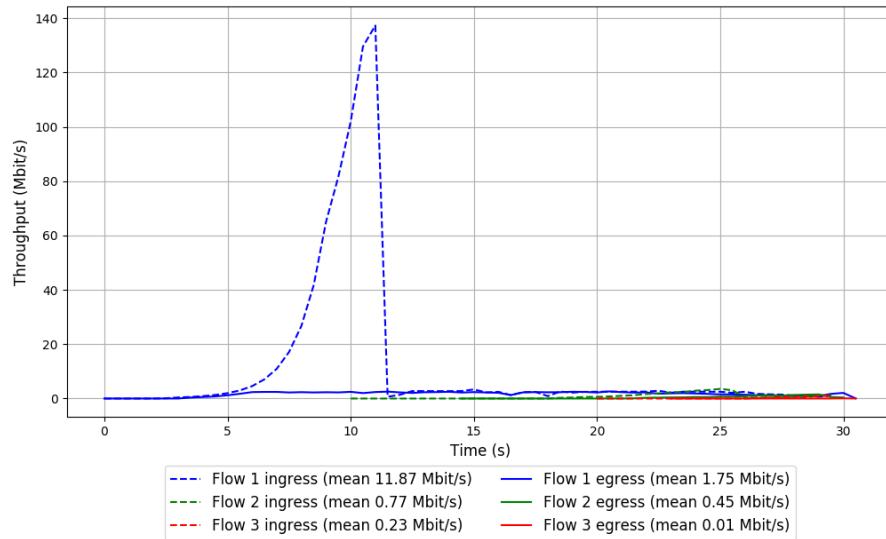


```
Run 1: Statistics of FillP

Start at: 2018-08-09 07:16:11
End at: 2018-08-09 07:16:41
Local clock offset: -2.635 ms
Remote clock offset: 0.35 ms

# Below is generated by plot.py at 2018-08-09 08:13:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 3518.569 ms
Loss rate: 84.14%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 3521.920 ms
Loss rate: 85.30%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 3490.882 ms
Loss rate: 55.42%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3497.616 ms
Loss rate: 96.31%
```

Run 1: Report of FillP — Data Link

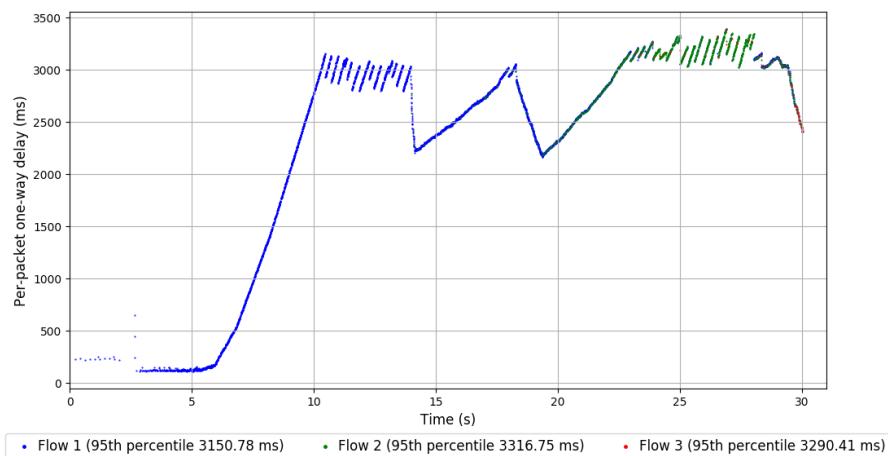
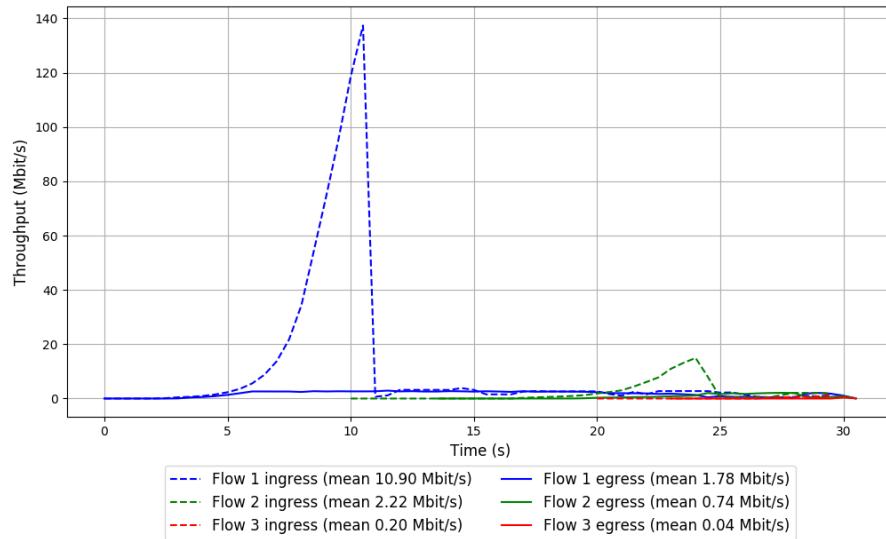


Run 2: Statistics of FillP

```
Start at: 2018-08-09 07:36:38
End at: 2018-08-09 07:37:08
Local clock offset: -8.053 ms
Remote clock offset: 5.45 ms

# Below is generated by plot.py at 2018-08-09 08:13:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 3249.717 ms
Loss rate: 82.50%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 3150.781 ms
Loss rate: 83.72%
-- Flow 2:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 3316.752 ms
Loss rate: 73.23%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 3290.415 ms
Loss rate: 87.85%
```

Run 2: Report of FillP — Data Link

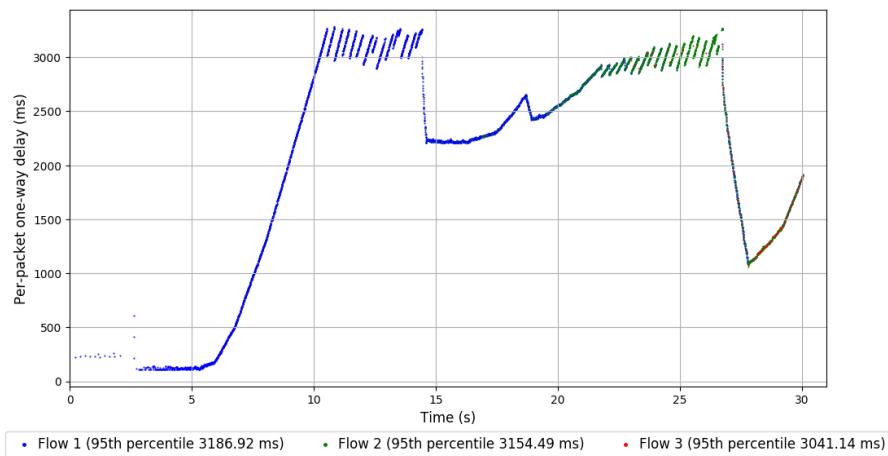
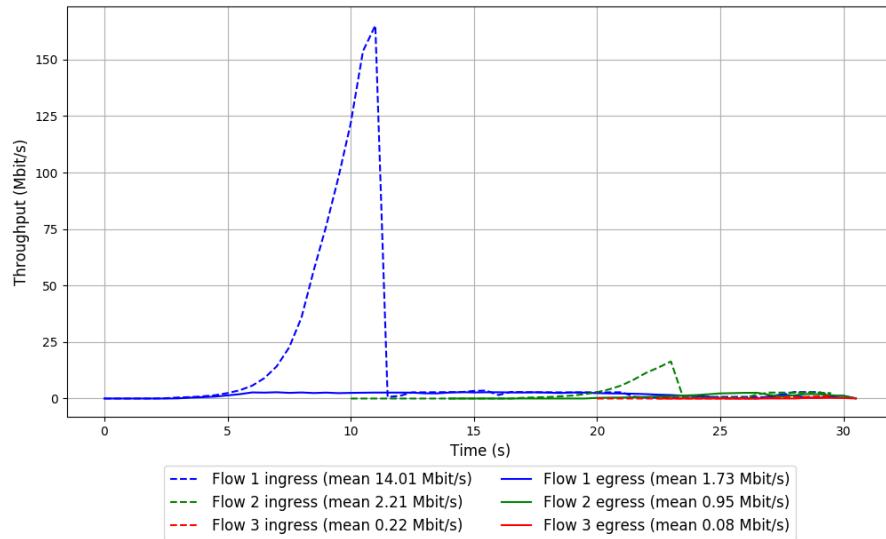


```
Run 3: Statistics of FillP
```

```
Start at: 2018-08-09 07:57:01
End at: 2018-08-09 07:57:31
Local clock offset: -7.25 ms
Remote clock offset: 5.973 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 3178.041 ms
Loss rate: 85.60%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 3186.916 ms
Loss rate: 87.68%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 3154.486 ms
Loss rate: 66.41%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3041.140 ms
Loss rate: 73.84%
```

Run 3: Report of FillP — Data Link

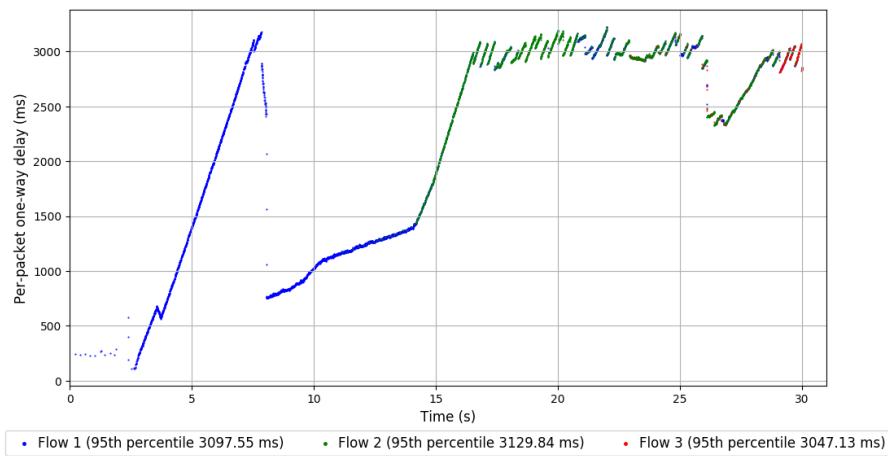
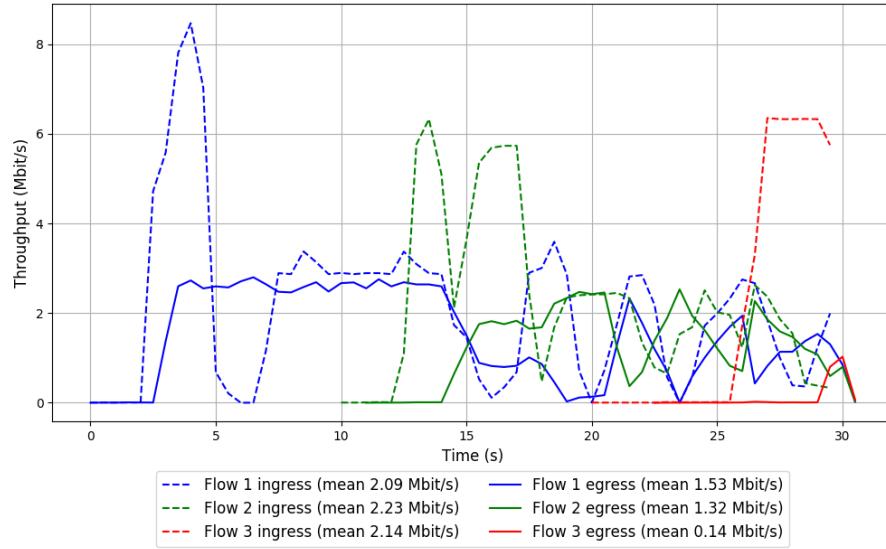


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-08-09 07:29:26
End at: 2018-08-09 07:29:56
Local clock offset: -6.943 ms
Remote clock offset: 5.508 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 3113.946 ms
Loss rate: 44.31%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 3097.547 ms
Loss rate: 27.08%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 3129.836 ms
Loss rate: 44.15%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3047.134 ms
Loss rate: 95.31%
```

Run 1: Report of FillP-Sheep — Data Link

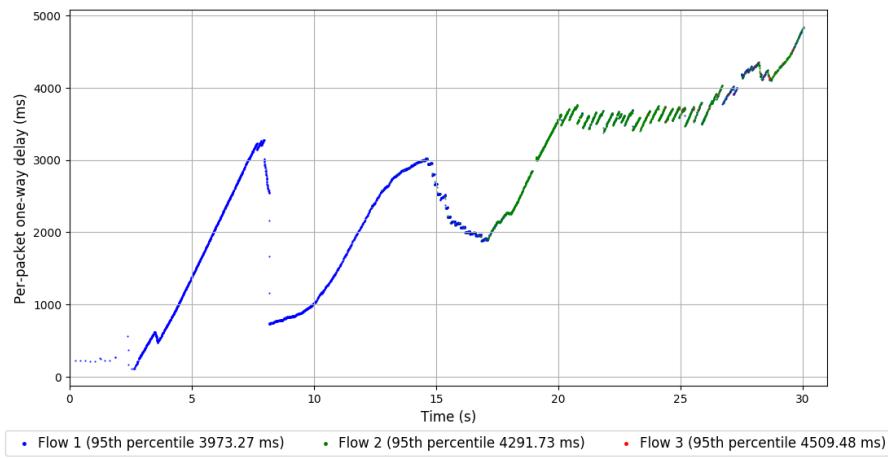
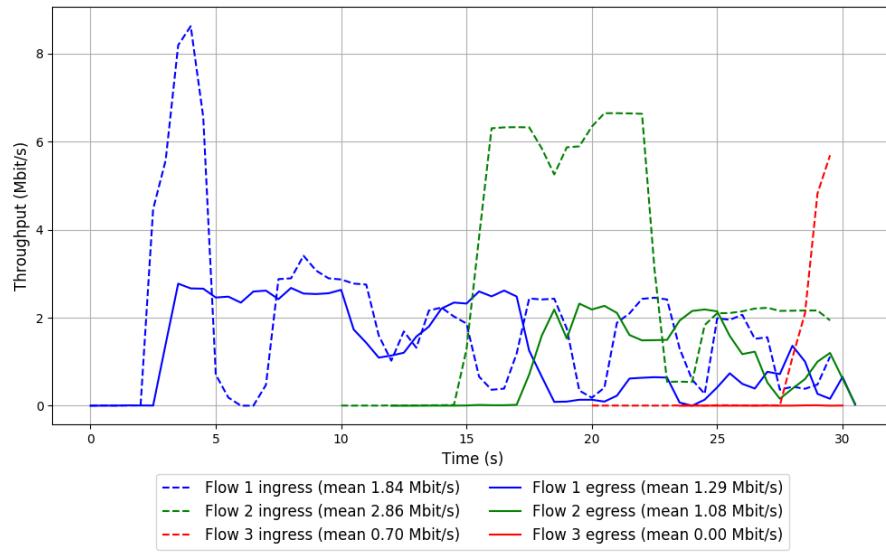


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-08-09 07:49:49
End at: 2018-08-09 07:50:19
Local clock offset: -7.991 ms
Remote clock offset: 0.956 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 4184.301 ms
Loss rate: 51.74%
-- Flow 1:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 3973.270 ms
Loss rate: 30.21%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 4291.725 ms
Loss rate: 66.71%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4509.485 ms
Loss rate: 99.67%
```

Run 2: Report of FillP-Sheep — Data Link

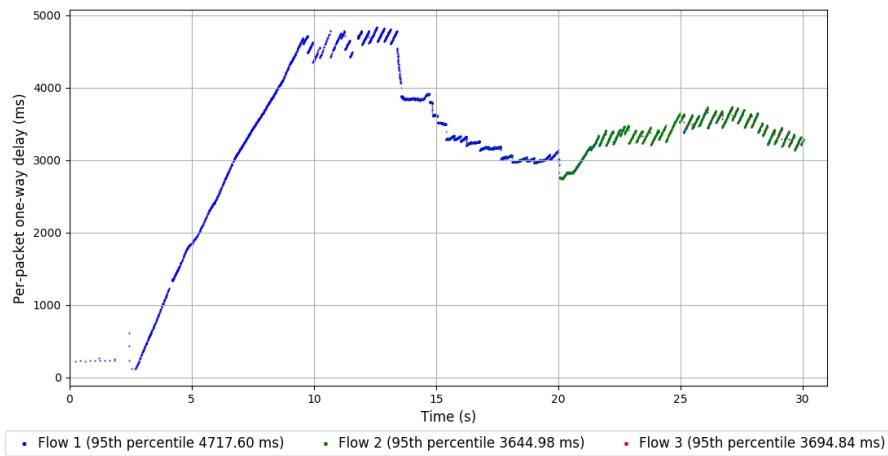
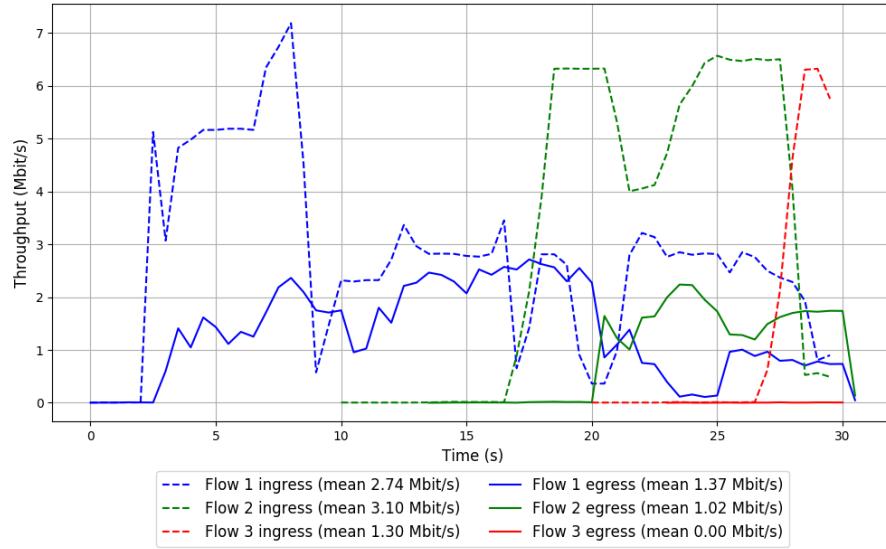


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-08-09 08:10:12
End at: 2018-08-09 08:10:42
Local clock offset: -7.105 ms
Remote clock offset: 6.35 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 4690.792 ms
Loss rate: 63.43%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 4717.600 ms
Loss rate: 50.29%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 3644.976 ms
Loss rate: 73.28%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3694.844 ms
Loss rate: 99.80%
```

Run 3: Report of FillP-Sheep — Data Link

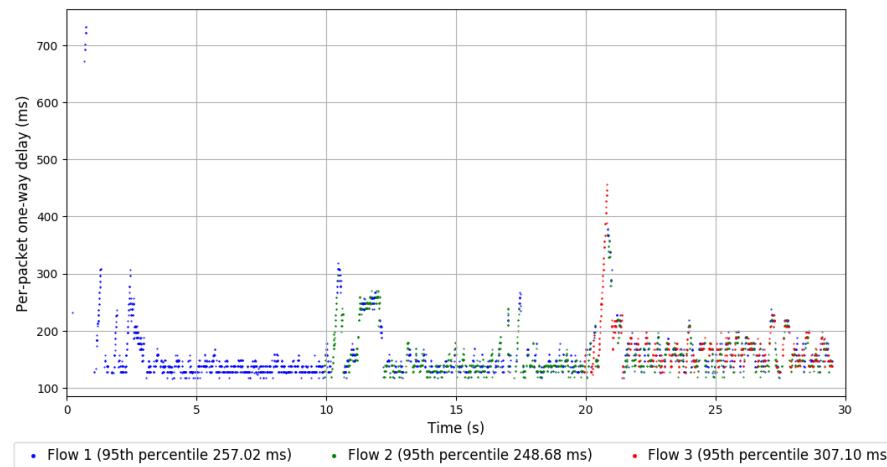
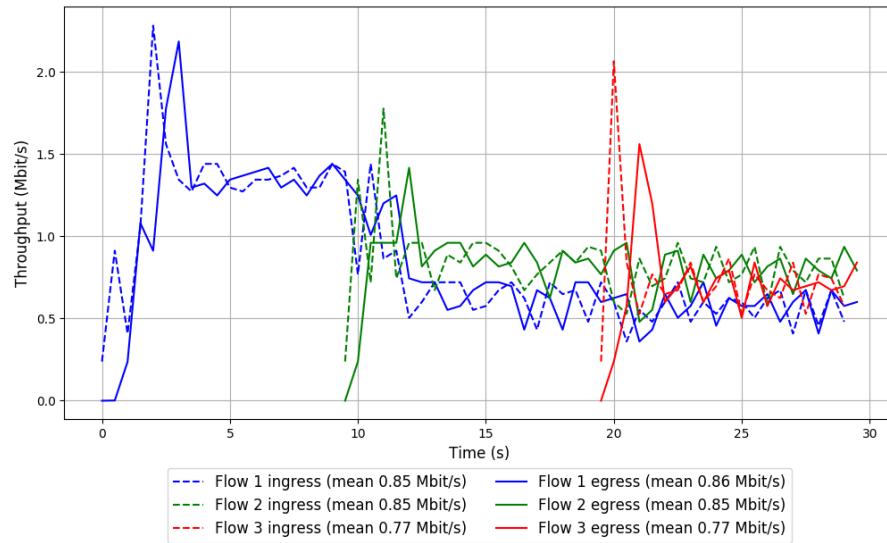


Run 1: Statistics of Indigo

```
Start at: 2018-08-09 07:20:58
End at: 2018-08-09 07:21:28
Local clock offset: -4.913 ms
Remote clock offset: 5.4 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 249.702 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 257.016 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 248.683 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 307.102 ms
Loss rate: 0.16%
```

Run 1: Report of Indigo — Data Link

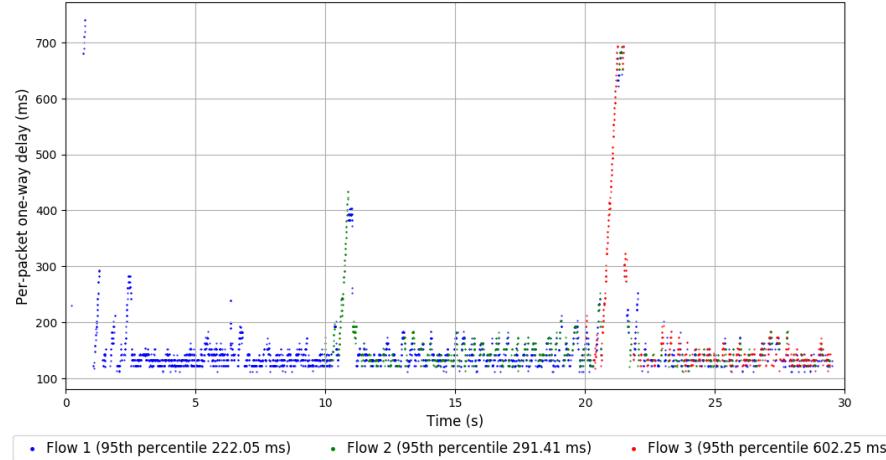
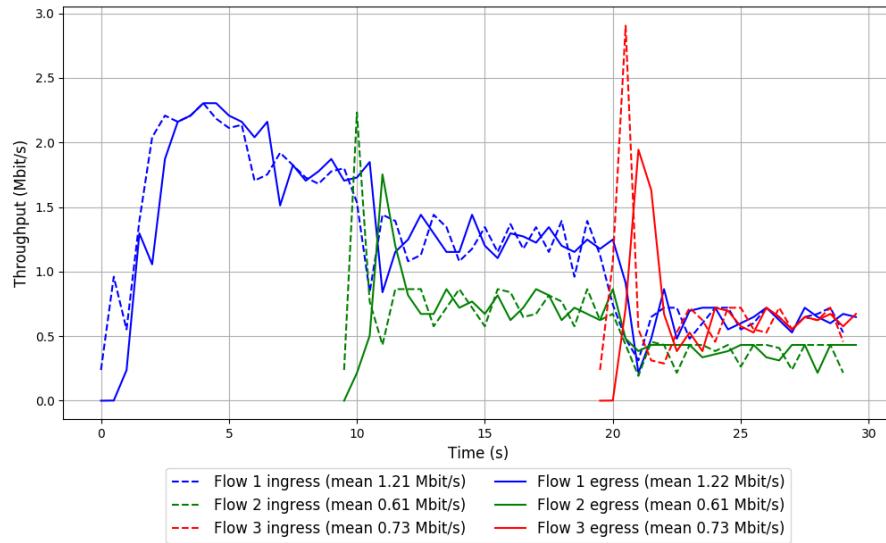


Run 2: Statistics of Indigo

```
Start at: 2018-08-09 07:41:26
End at: 2018-08-09 07:41:56
Local clock offset: -8.508 ms
Remote clock offset: 5.448 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 302.585 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 222.050 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 291.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 602.248 ms
Loss rate: 0.34%
```

Run 2: Report of Indigo — Data Link

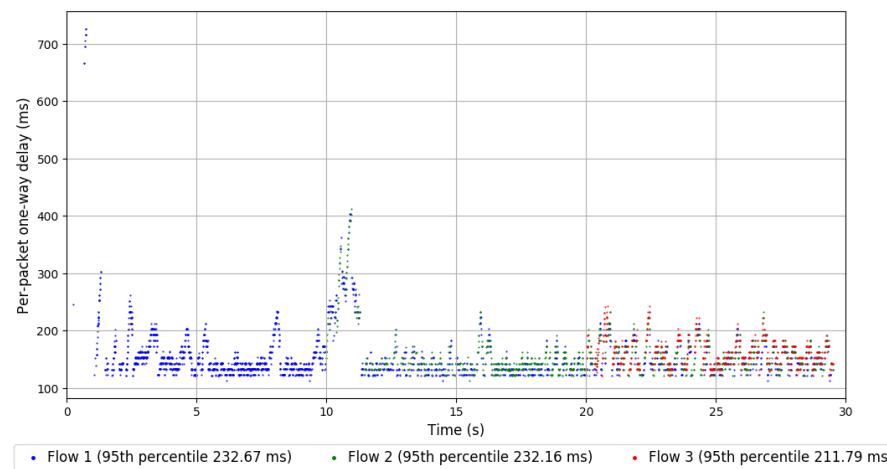
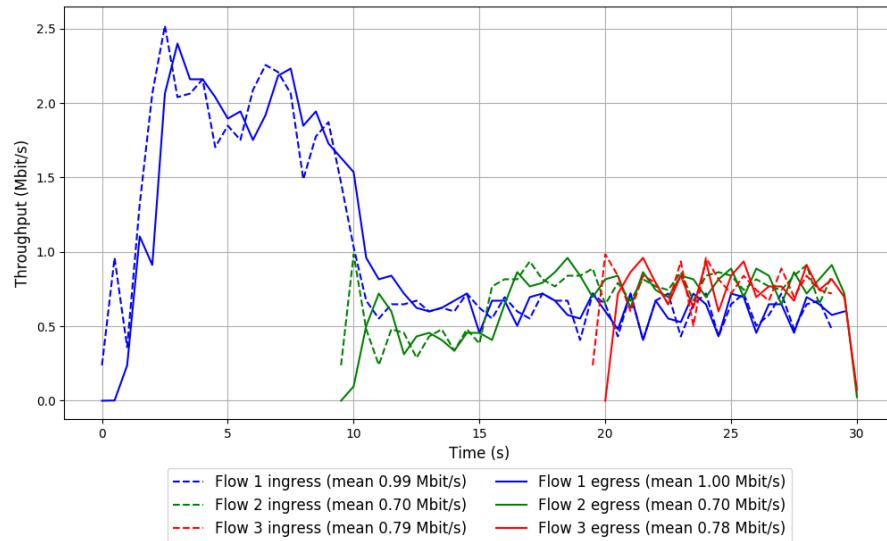


Run 3: Statistics of Indigo

```
Start at: 2018-08-09 08:01:49
End at: 2018-08-09 08:02:19
Local clock offset: -7.079 ms
Remote clock offset: 6.332 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 223.440 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 232.671 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 232.161 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 211.786 ms
Loss rate: 0.80%
```

Run 3: Report of Indigo — Data Link

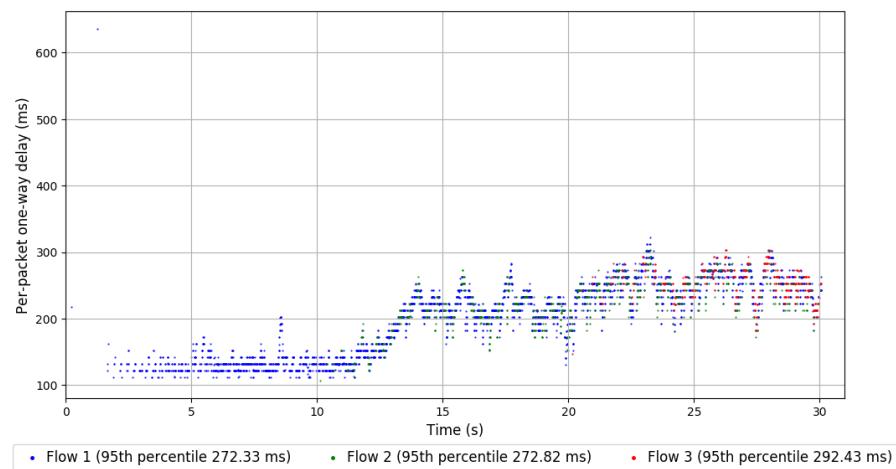
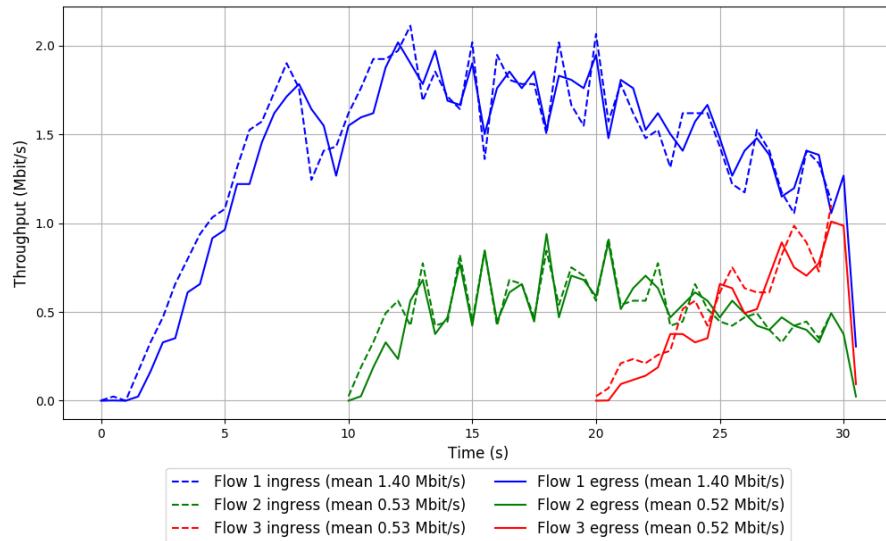


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-08-09 07:13:47
End at: 2018-08-09 07:14:17
Local clock offset: -2.573 ms
Remote clock offset: 0.252 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 272.756 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 272.333 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 272.822 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 292.429 ms
Loss rate: 3.34%
```

Run 1: Report of LEDBAT — Data Link

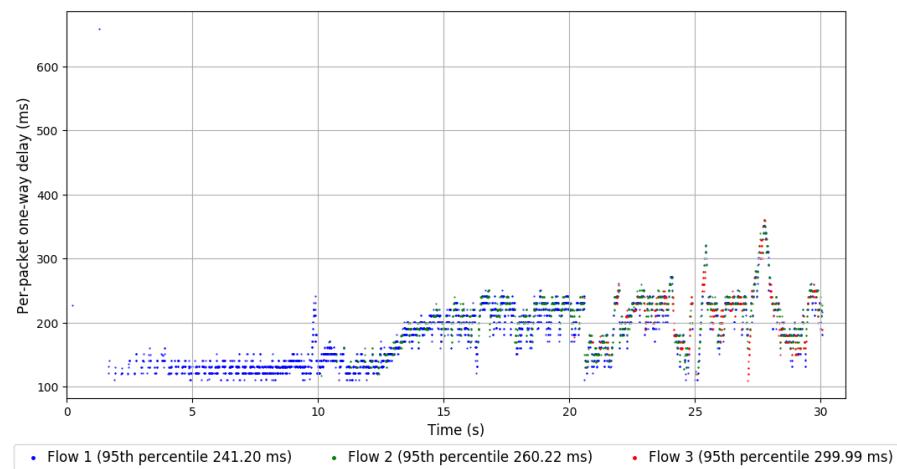
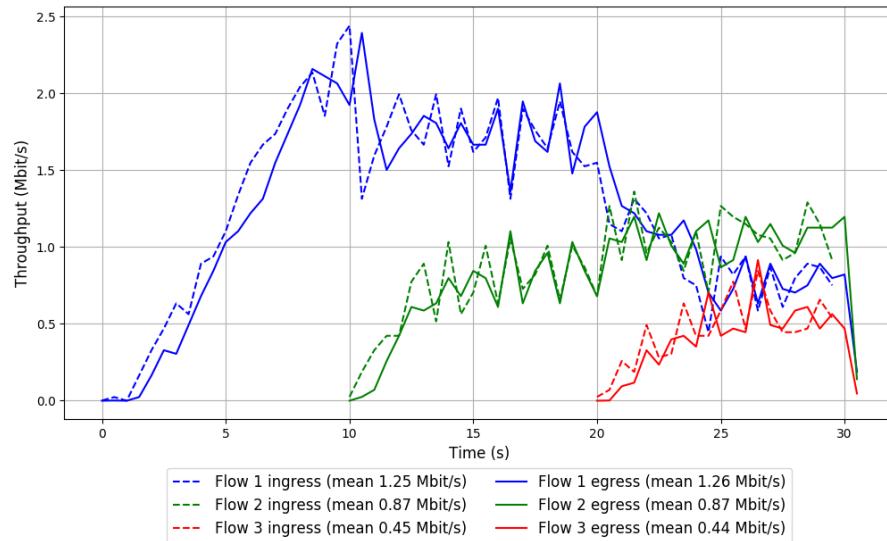


Run 2: Statistics of LEDBAT

```
Start at: 2018-08-09 07:34:14
End at: 2018-08-09 07:34:44
Local clock offset: -7.759 ms
Remote clock offset: 0.575 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 250.073 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 241.199 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 260.217 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 299.994 ms
Loss rate: 3.42%
```

Run 2: Report of LEDBAT — Data Link

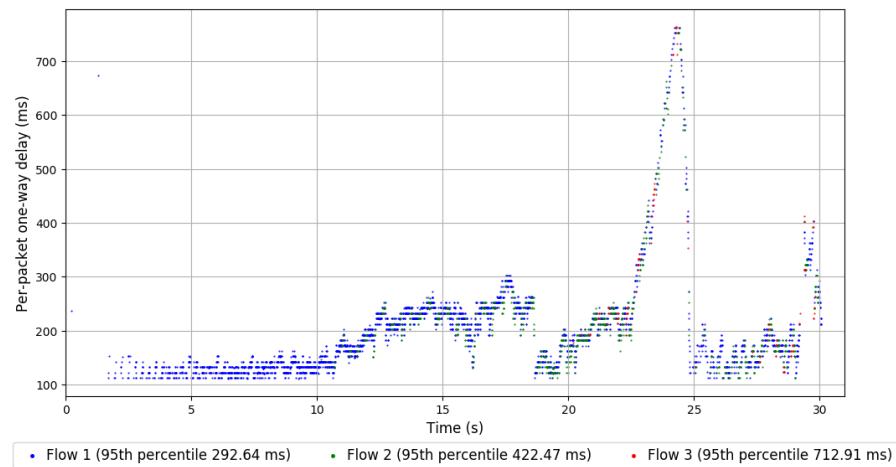
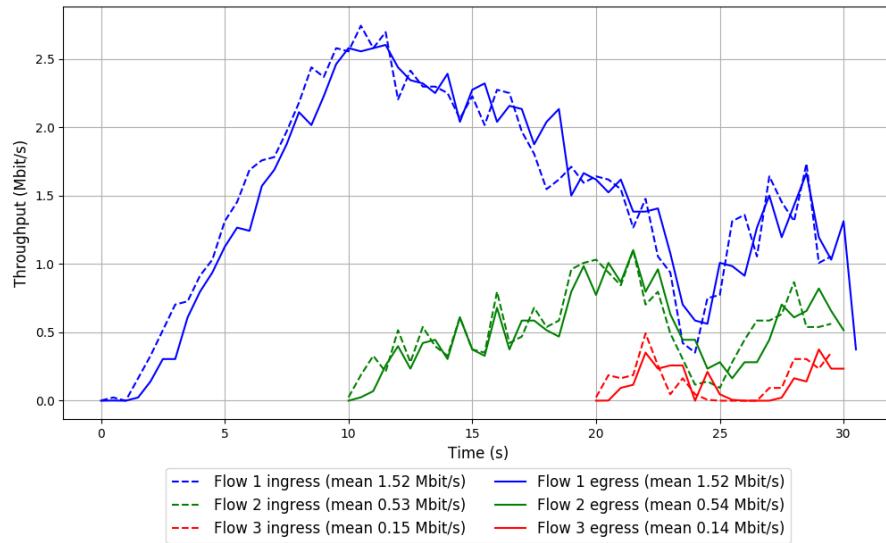


Run 3: Statistics of LEDBAT

```
Start at: 2018-08-09 07:54:37
End at: 2018-08-09 07:55:07
Local clock offset: -7.44 ms
Remote clock offset: 1.188 ms

# Below is generated by plot.py at 2018-08-09 08:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 332.516 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 292.644 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 422.466 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 712.909 ms
Loss rate: 7.13%
```

Run 3: Report of LEDBAT — Data Link

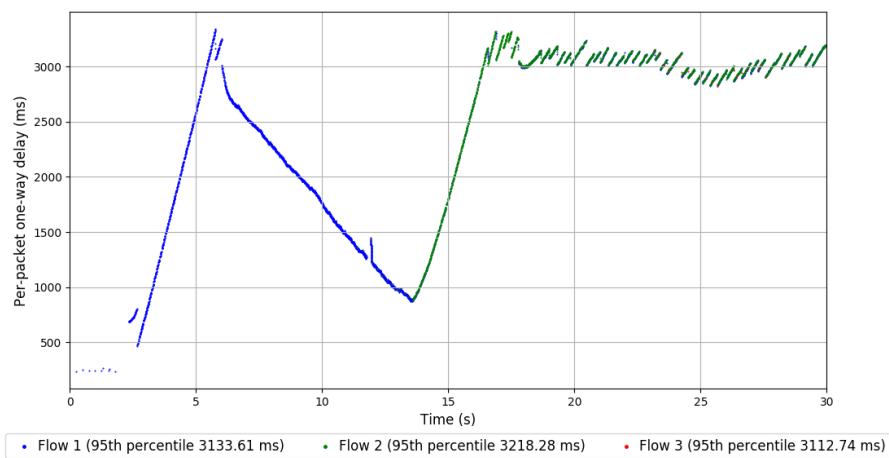
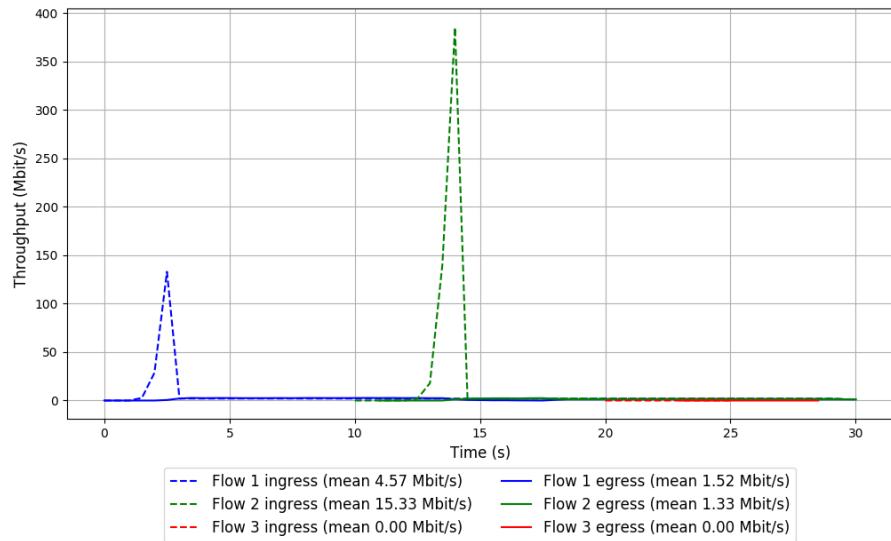


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-08-09 07:23:27
End at: 2018-08-09 07:23:57
Local clock offset: -5.561 ms
Remote clock offset: 5.42 ms

# Below is generated by plot.py at 2018-08-09 08:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 3168.358 ms
Loss rate: 84.10%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 3133.608 ms
Loss rate: 66.81%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 3218.275 ms
Loss rate: 91.85%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3112.745 ms
Loss rate: 4.60%
```

Run 1: Report of PCC-Allegro — Data Link

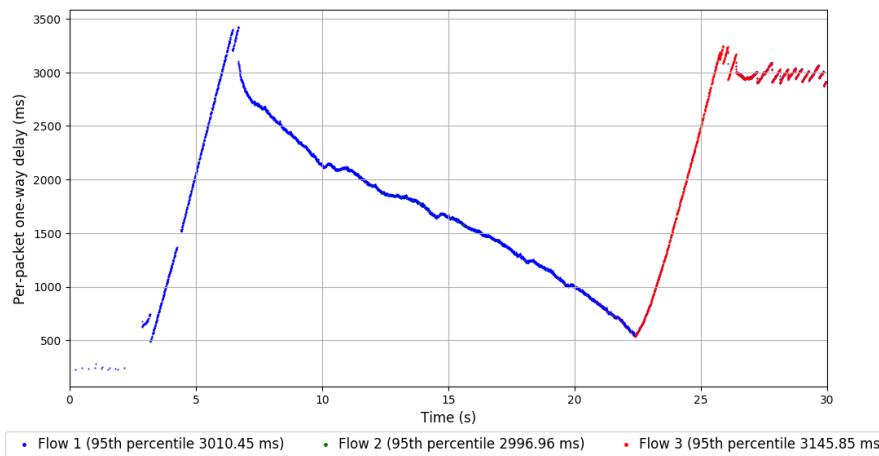
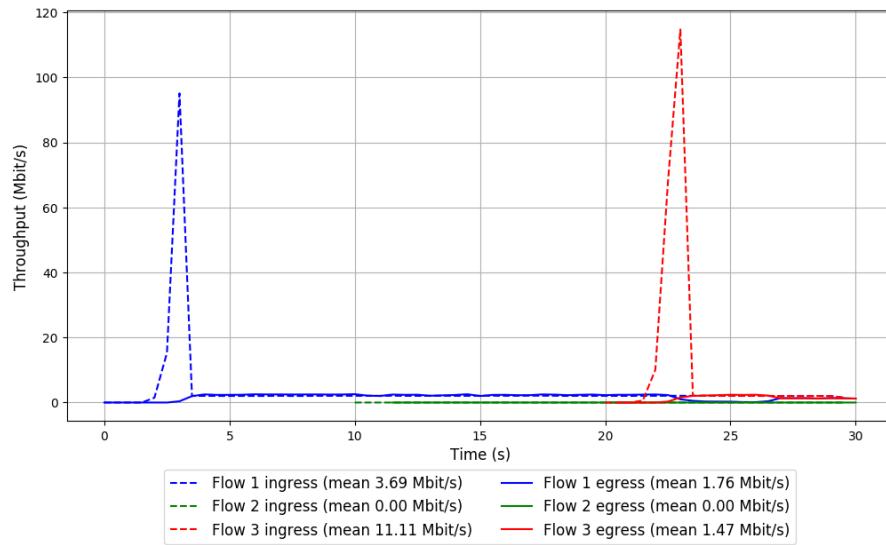


```
Run 2: Statistics of PCC-Allegro
```

```
Start at: 2018-08-09 07:43:49
End at: 2018-08-09 07:44:19
Local clock offset: -8.634 ms
Remote clock offset: 0.714 ms

# Below is generated by plot.py at 2018-08-09 08:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 3057.734 ms
Loss rate: 70.05%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 3010.451 ms
Loss rate: 52.40%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2996.956 ms
Loss rate: 10.63%
-- Flow 3:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 3145.854 ms
Loss rate: 87.84%
```

Run 2: Report of PCC-Allegro — Data Link

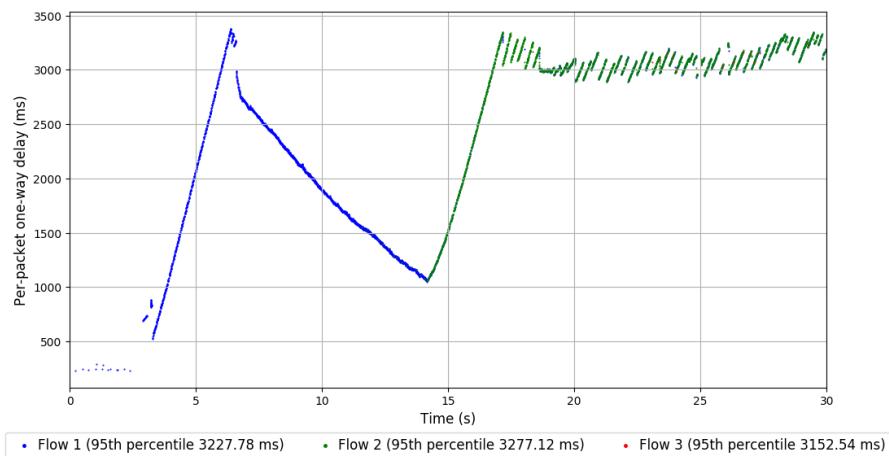
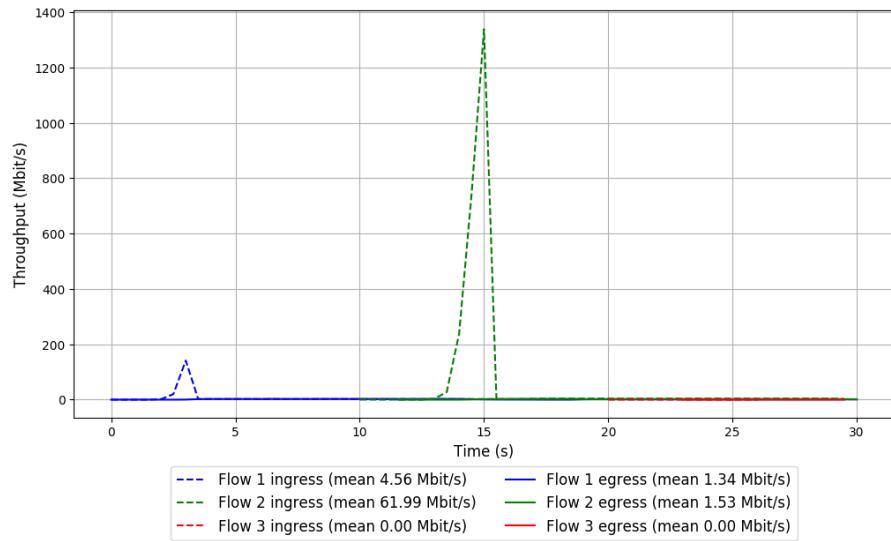


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-08-09 08:04:12
End at: 2018-08-09 08:04:42
Local clock offset: -7.031 ms
Remote clock offset: 1.46 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 3259.151 ms
Loss rate: 95.02%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 3227.782 ms
Loss rate: 70.71%
-- Flow 2:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 3277.122 ms
Loss rate: 97.71%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3152.539 ms
Loss rate: 31.07%
```

Run 3: Report of PCC-Allegro — Data Link

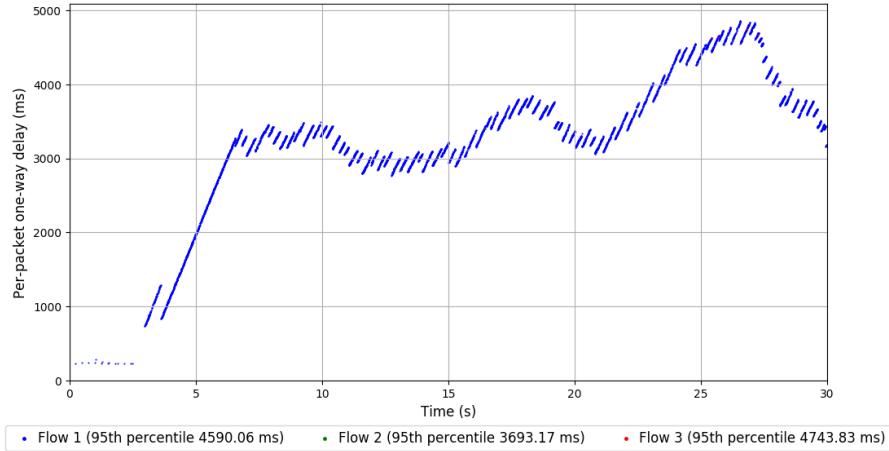
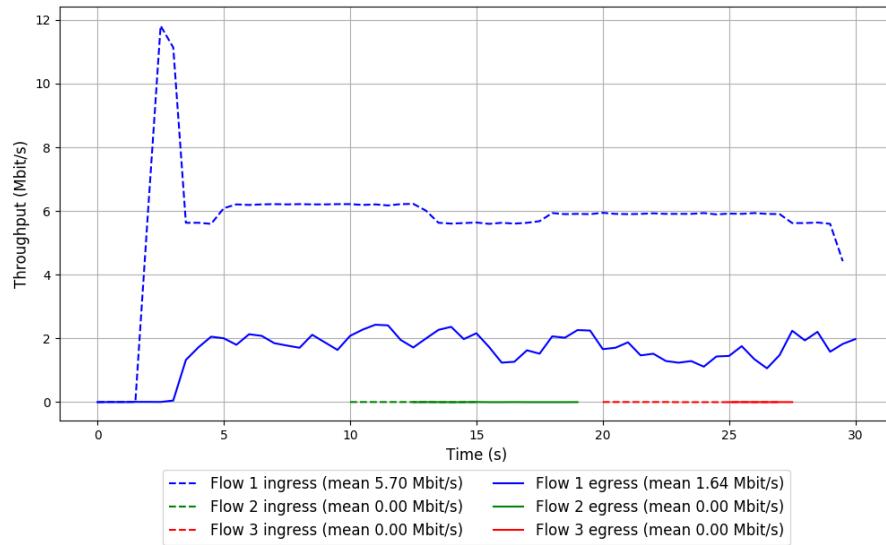


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-08-09 07:14:59
End at: 2018-08-09 07:15:29
Local clock offset: -2.565 ms
Remote clock offset: 0.311 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 4591.956 ms
Loss rate: 71.47%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 4590.065 ms
Loss rate: 71.47%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3693.167 ms
Loss rate: 61.85%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4743.826 ms
Loss rate: 76.30%
```

Run 1: Report of PCC-Expr — Data Link

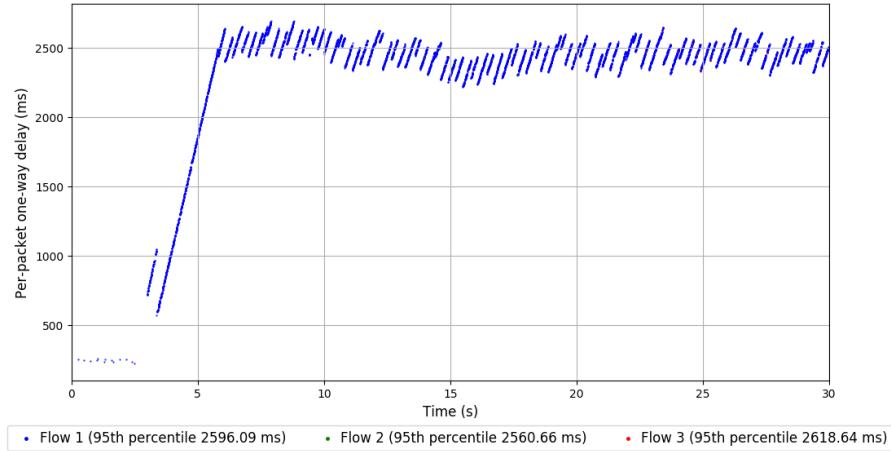
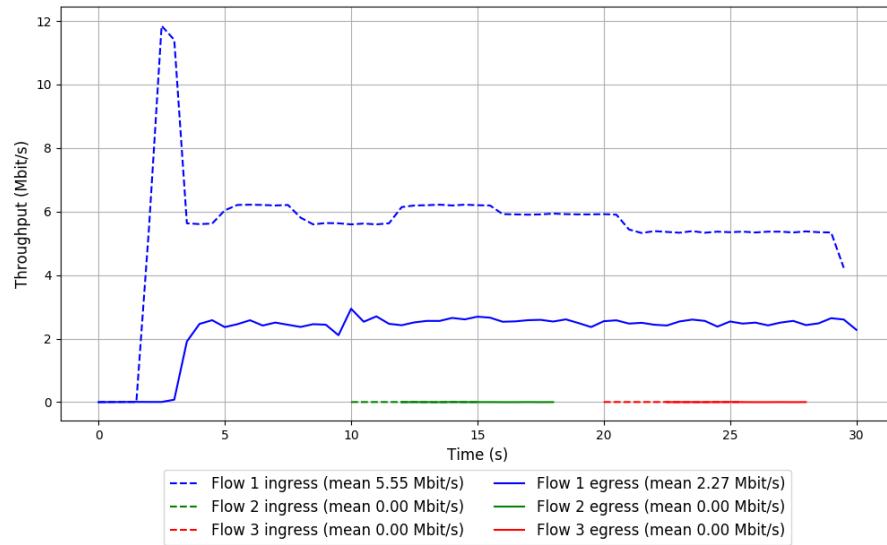


Run 2: Statistics of PCC-Expr

```
Start at: 2018-08-09 07:35:26
End at: 2018-08-09 07:35:56
Local clock offset: -7.938 ms
Remote clock offset: 5.379 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 2596.094 ms
Loss rate: 59.27%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 2596.094 ms
Loss rate: 59.27%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2560.663 ms
Loss rate: 47.20%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2618.636 ms
Loss rate: 50.57%
```

Run 2: Report of PCC-Expr — Data Link

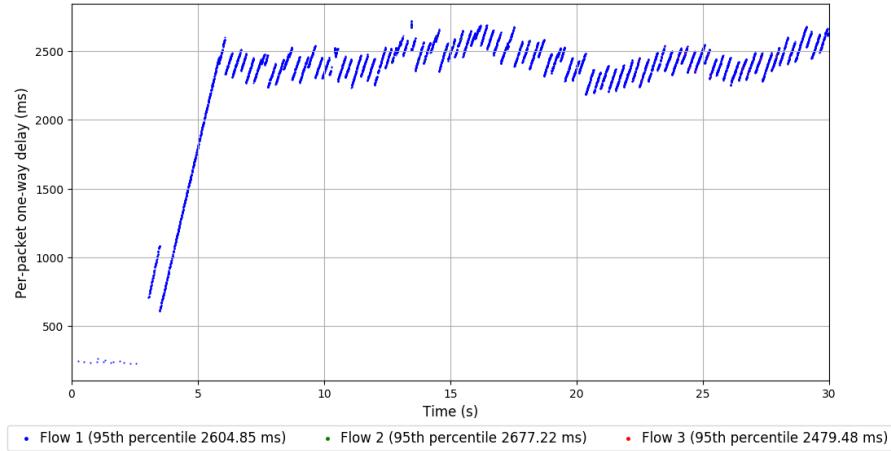
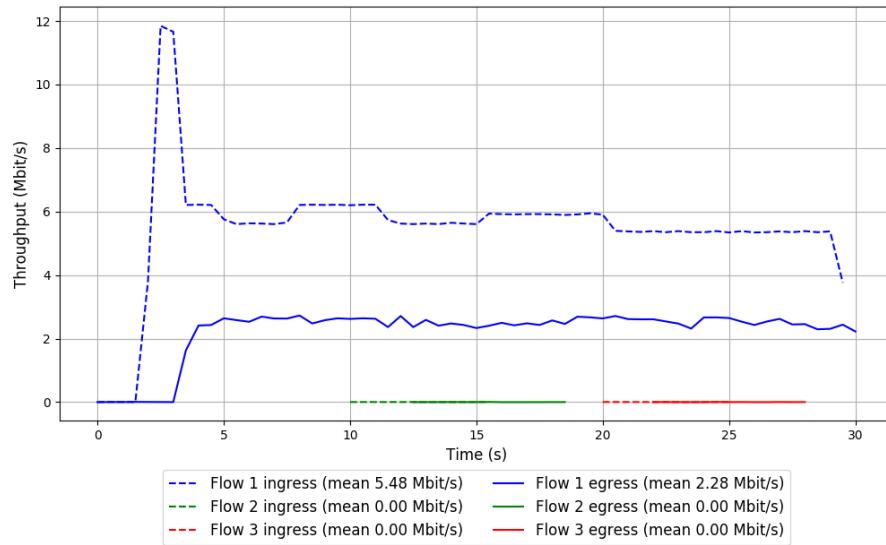


Run 3: Statistics of PCC-Expr

```
Start at: 2018-08-09 07:55:49
End at: 2018-08-09 07:56:19
Local clock offset: -7.378 ms
Remote clock offset: 1.125 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 2604.870 ms
Loss rate: 58.64%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 2604.849 ms
Loss rate: 58.65%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2677.224 ms
Loss rate: 46.88%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2479.479 ms
Loss rate: 39.59%
```

Run 3: Report of PCC-Expr — Data Link

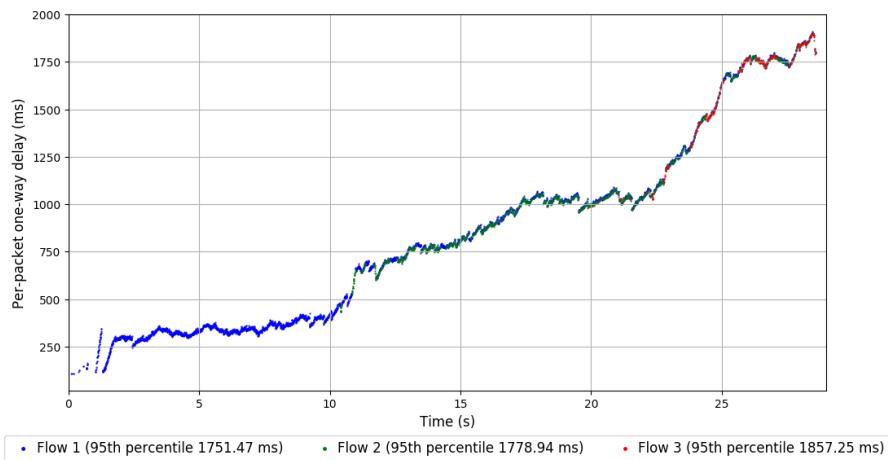
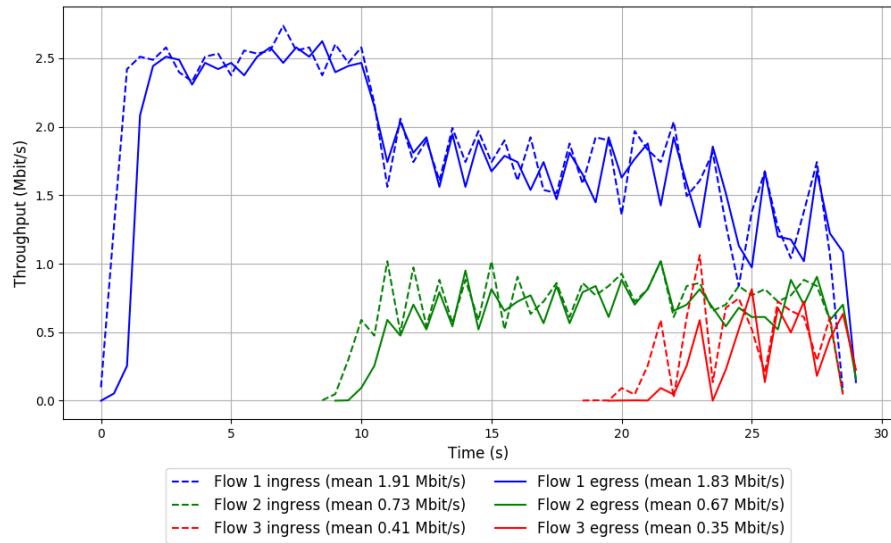


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-09 07:18:35
End at: 2018-08-09 07:19:05
Local clock offset: -3.95 ms
Remote clock offset: 0.327 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 1768.084 ms
Loss rate: 6.52%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 1751.474 ms
Loss rate: 4.51%
-- Flow 2:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 1778.938 ms
Loss rate: 9.60%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 1857.250 ms
Loss rate: 23.17%
```

Run 1: Report of QUIC Cubic — Data Link

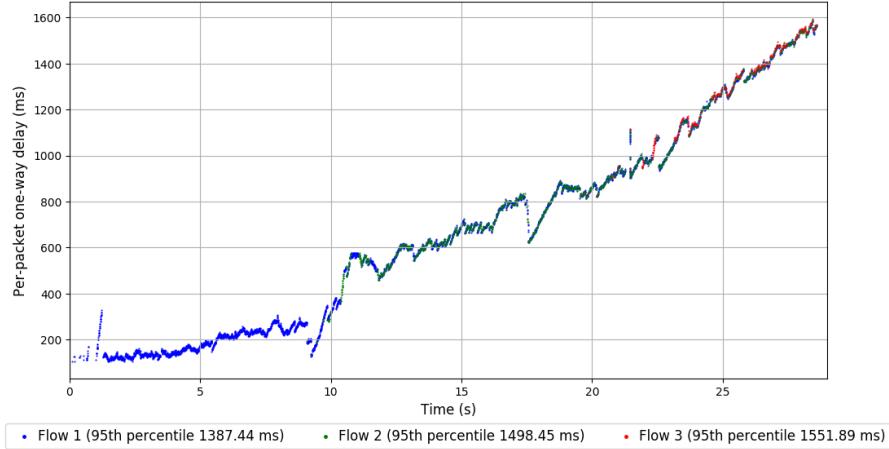
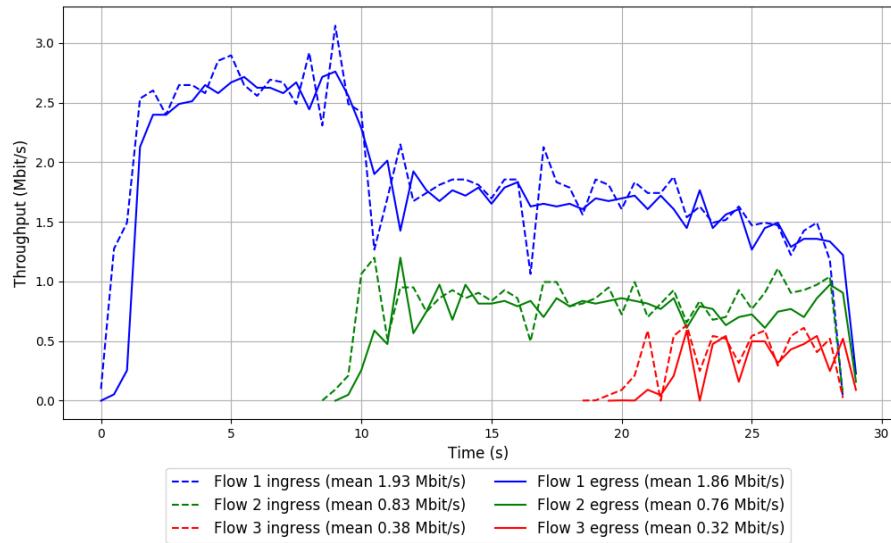


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-08-09 07:39:02
End at: 2018-08-09 07:39:32
Local clock offset: -8.225 ms
Remote clock offset: 0.435 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 1473.616 ms
Loss rate: 5.63%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 1387.442 ms
Loss rate: 3.62%
-- Flow 2:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 1498.454 ms
Loss rate: 8.99%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 1551.891 ms
Loss rate: 21.15%
```

Run 2: Report of QUIC Cubic — Data Link

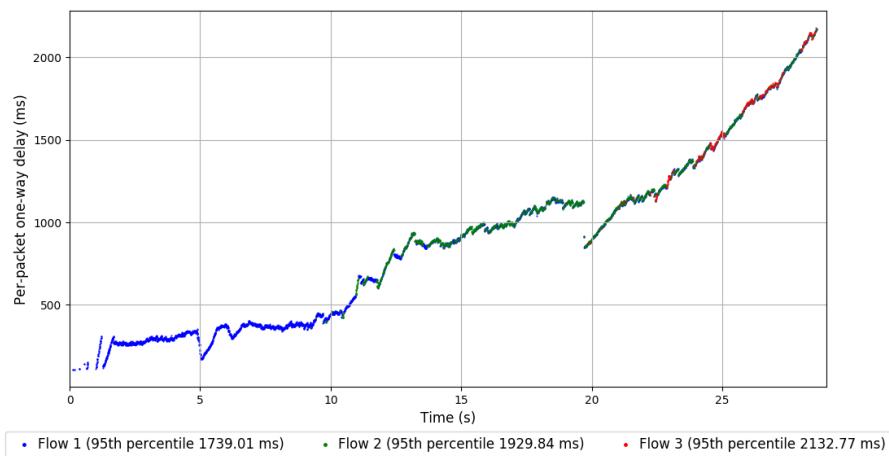
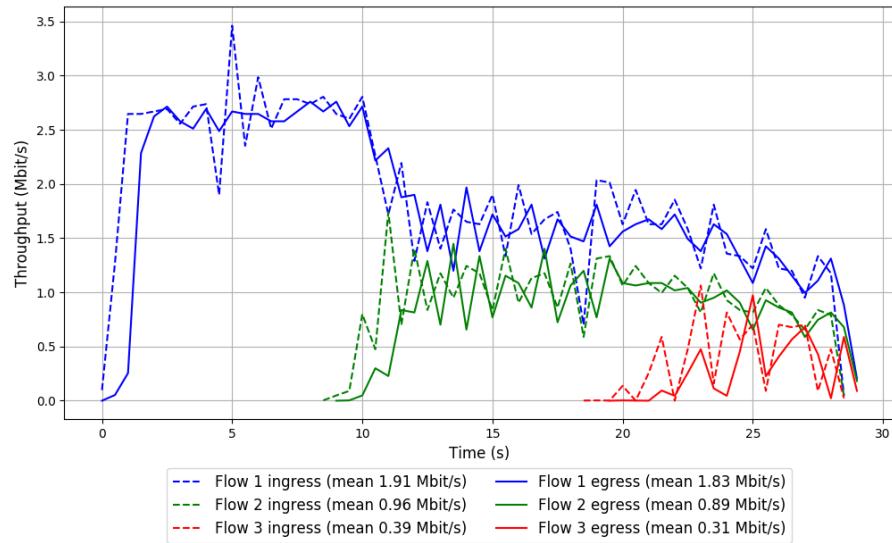


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-08-09 07:59:25
End at: 2018-08-09 07:59:55
Local clock offset: -7.191 ms
Remote clock offset: 1.364 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 1823.035 ms
Loss rate: 6.59%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 1739.013 ms
Loss rate: 4.47%
-- Flow 2:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 1929.838 ms
Loss rate: 8.59%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 2132.770 ms
Loss rate: 27.36%
```

Run 3: Report of QUIC Cubic — Data Link

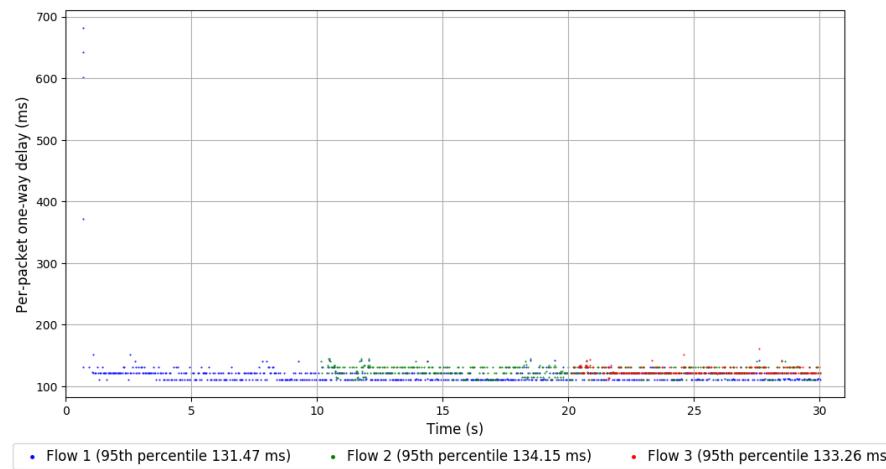
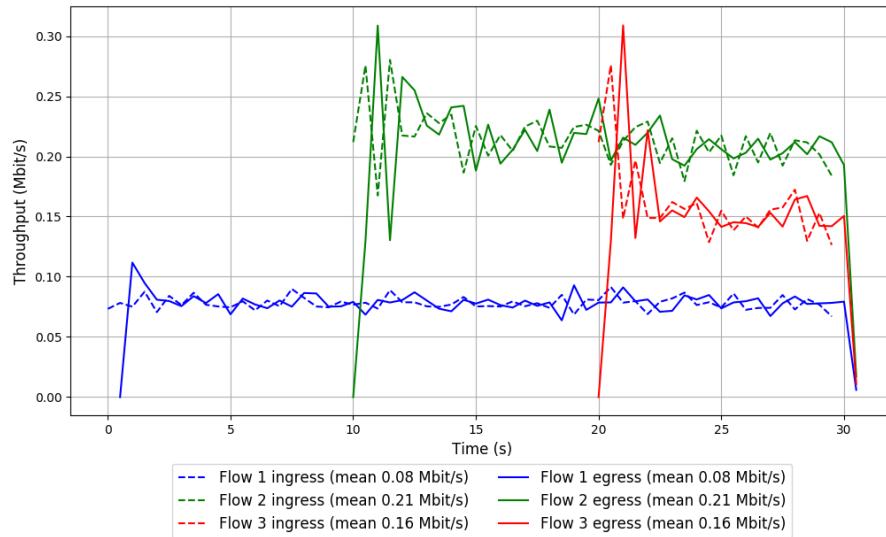


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-08-09 07:12:35
End at: 2018-08-09 07:13:05
Local clock offset: -2.596 ms
Remote clock offset: 5.151 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 131.584 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 131.472 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 134.147 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.260 ms
Loss rate: 0.33%
```

Run 1: Report of SCReAM — Data Link

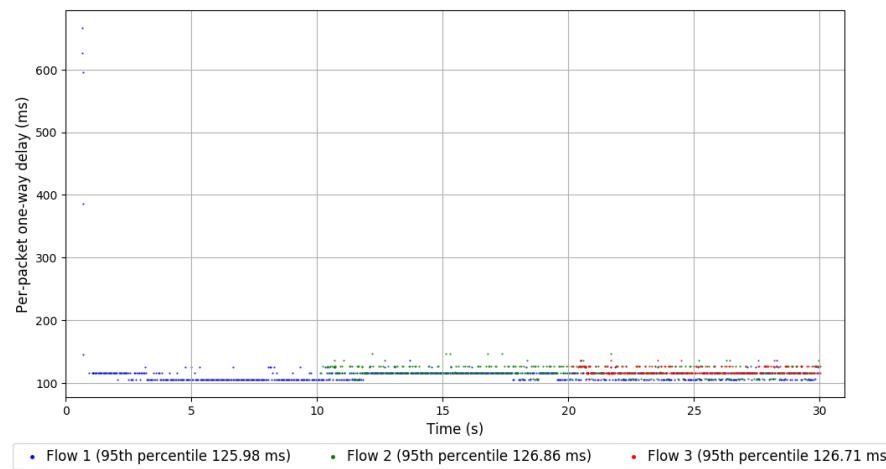
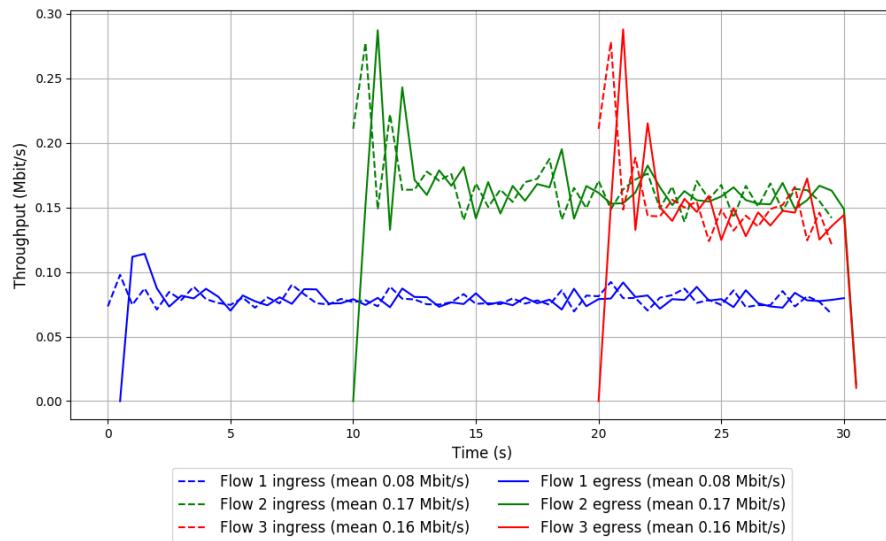


Run 2: Statistics of SCReAM

```
Start at: 2018-08-09 07:33:02
End at: 2018-08-09 07:33:32
Local clock offset: -7.579 ms
Remote clock offset: 0.493 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 126.731 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 125.978 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 126.859 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 126.710 ms
Loss rate: 0.33%
```

Run 2: Report of SCReAM — Data Link

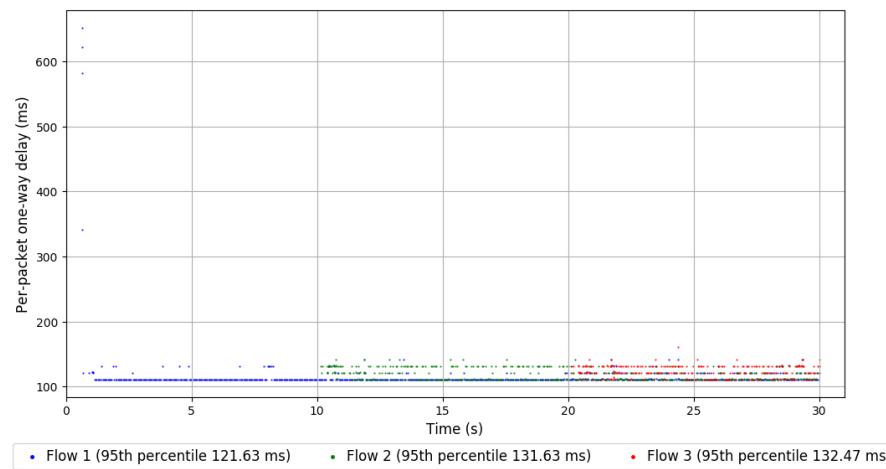
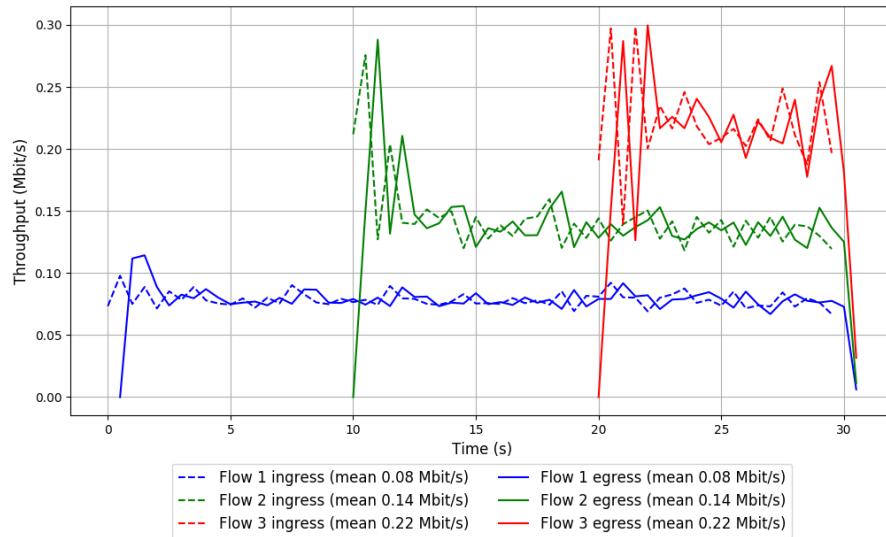


Run 3: Statistics of SCReAM

```
Start at: 2018-08-09 07:53:25
End at: 2018-08-09 07:53:55
Local clock offset: -7.522 ms
Remote clock offset: 6.0 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 131.555 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 121.634 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 131.630 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 132.468 ms
Loss rate: 0.35%
```

Run 3: Report of SCReAM — Data Link

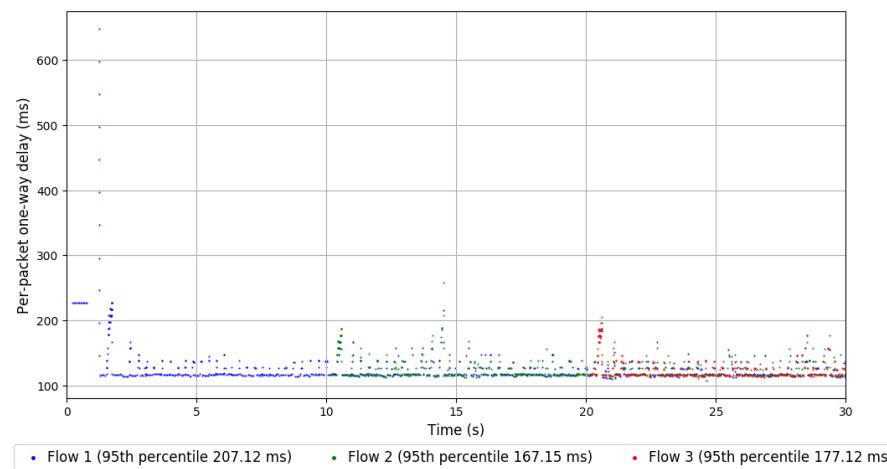
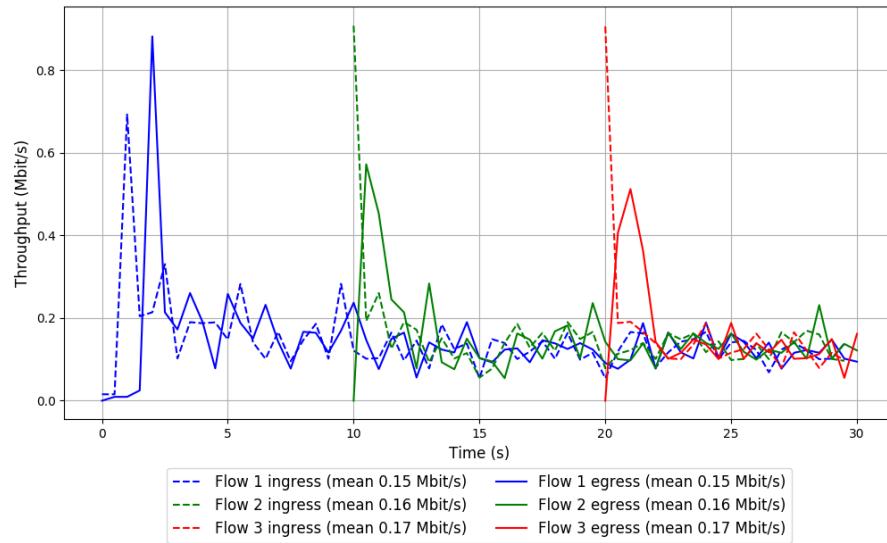


Run 1: Statistics of Sprout

```
Start at: 2018-08-09 07:19:47
End at: 2018-08-09 07:20:17
Local clock offset: -4.407 ms
Remote clock offset: 5.232 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 177.082 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 207.117 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 167.145 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 177.115 ms
Loss rate: 0.05%
```

Run 1: Report of Sprout — Data Link

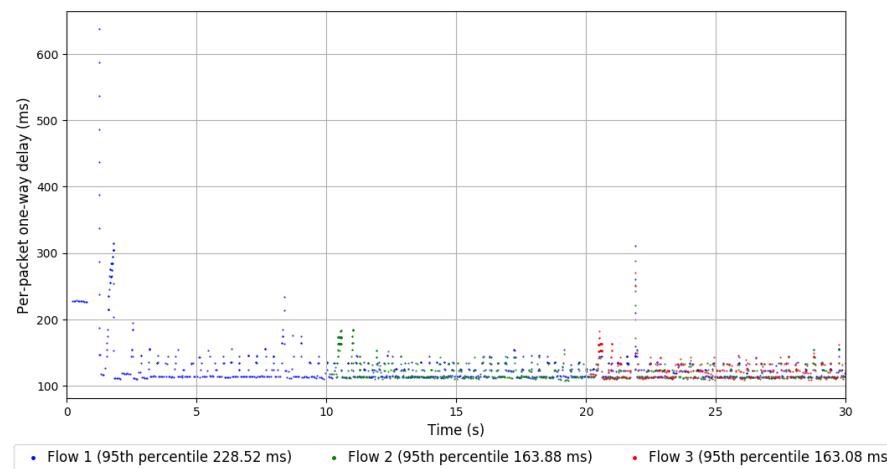
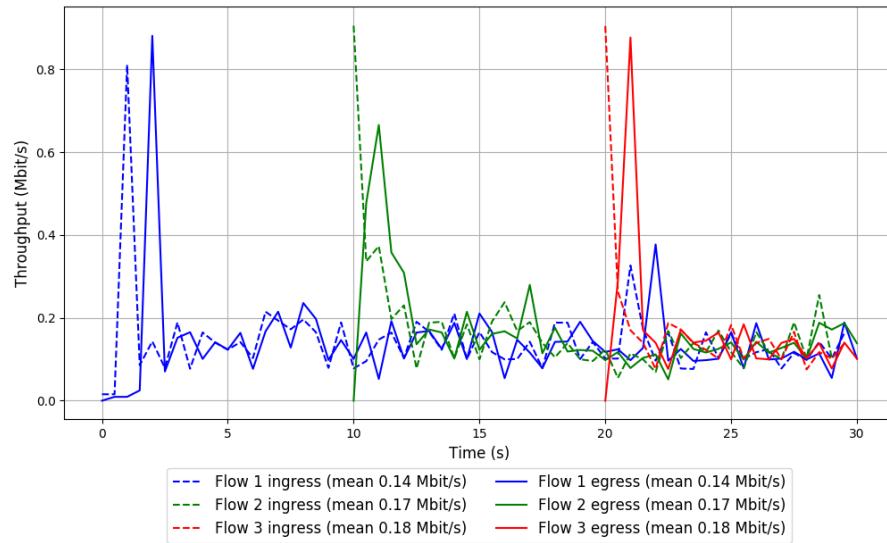


Run 2: Statistics of Sprout

```
Start at: 2018-08-09 07:40:14
End at: 2018-08-09 07:40:44
Local clock offset: -8.418 ms
Remote clock offset: 5.388 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 174.088 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 228.522 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 163.880 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 163.080 ms
Loss rate: 1.17%
```

Run 2: Report of Sprout — Data Link

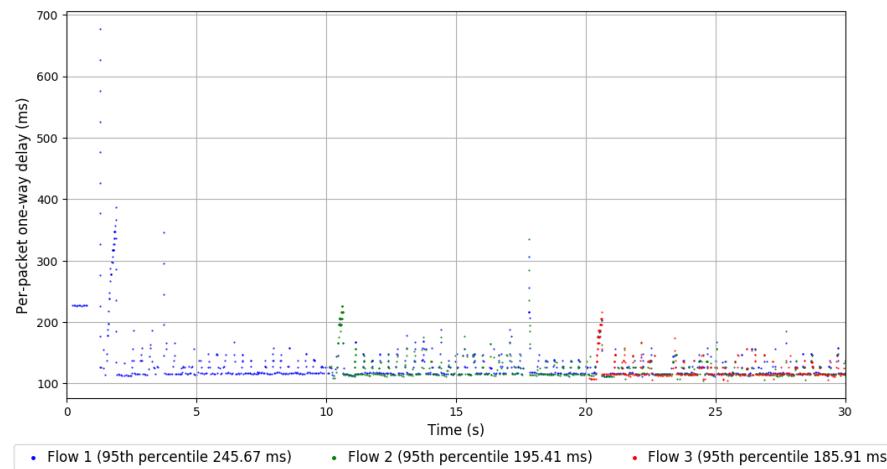
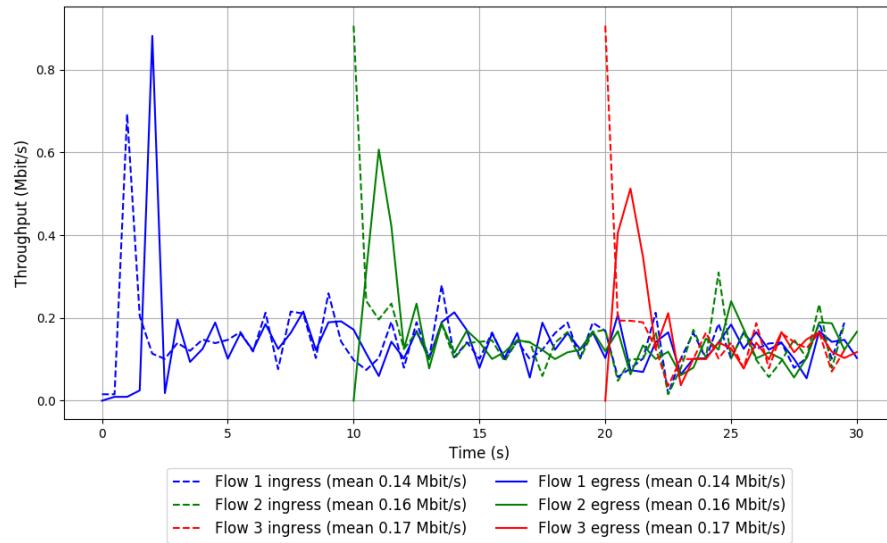


Run 3: Statistics of Sprout

```
Start at: 2018-08-09 08:00:37
End at: 2018-08-09 08:01:07
Local clock offset: -7.176 ms
Remote clock offset: 6.192 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 205.881 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 245.673 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 195.411 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 185.909 ms
Loss rate: 0.69%
```

Run 3: Report of Sprout — Data Link

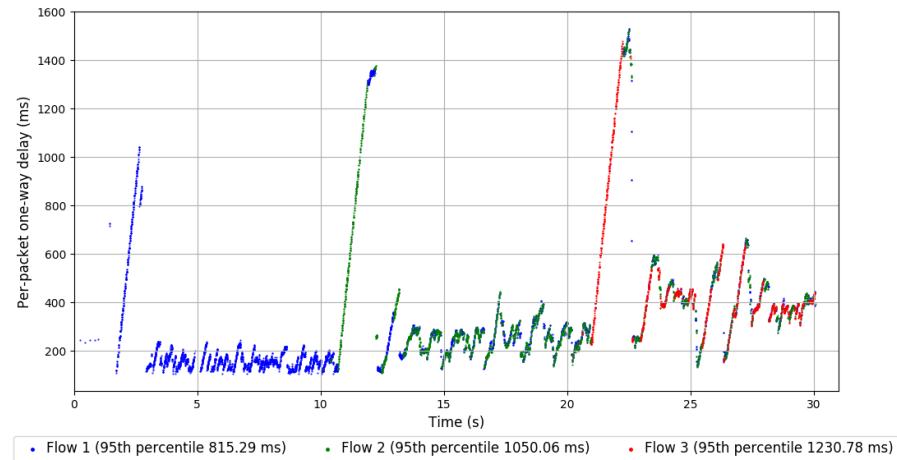
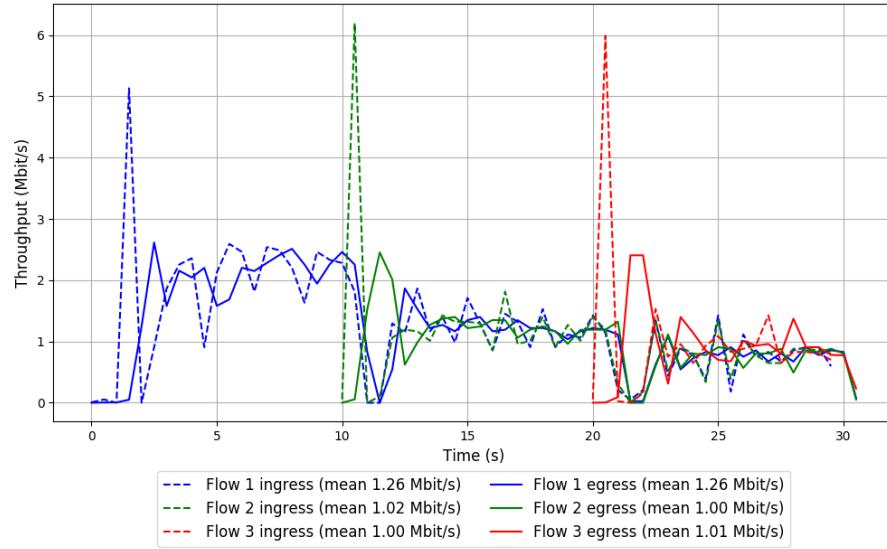


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-08-09 07:17:23
End at: 2018-08-09 07:17:53
Local clock offset: -3.421 ms
Remote clock offset: 0.328 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 1001.900 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 815.287 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 1050.061 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 1230.781 ms
Loss rate: 1.04%
```

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

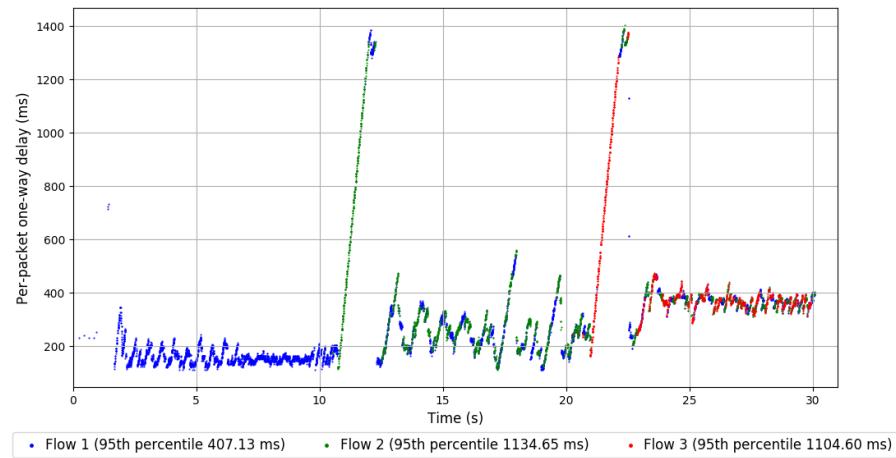
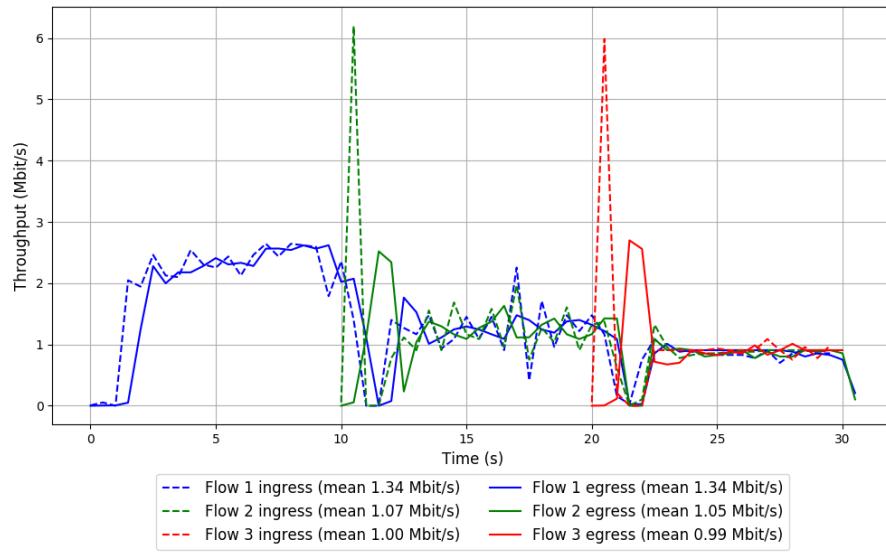


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-08-09 07:37:50
End at: 2018-08-09 07:38:20
Local clock offset: -8.146 ms
Remote clock offset: 5.377 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 926.526 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 407.129 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 1134.651 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 1104.603 ms
Loss rate: 3.77%
```

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

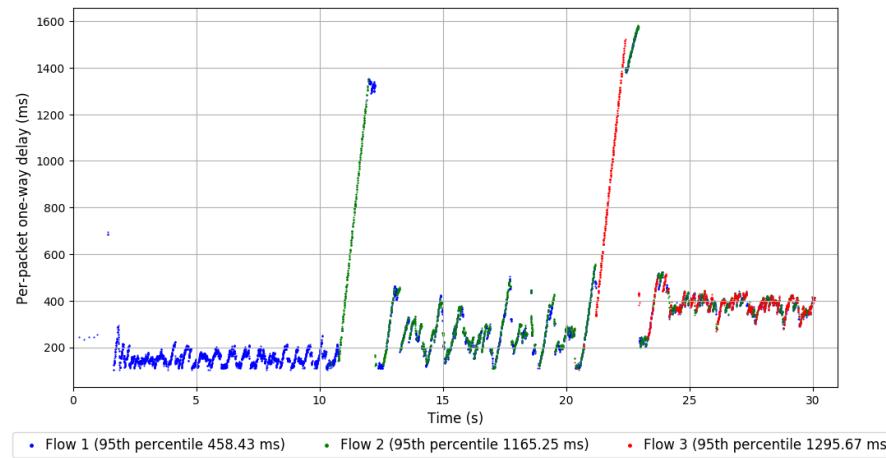
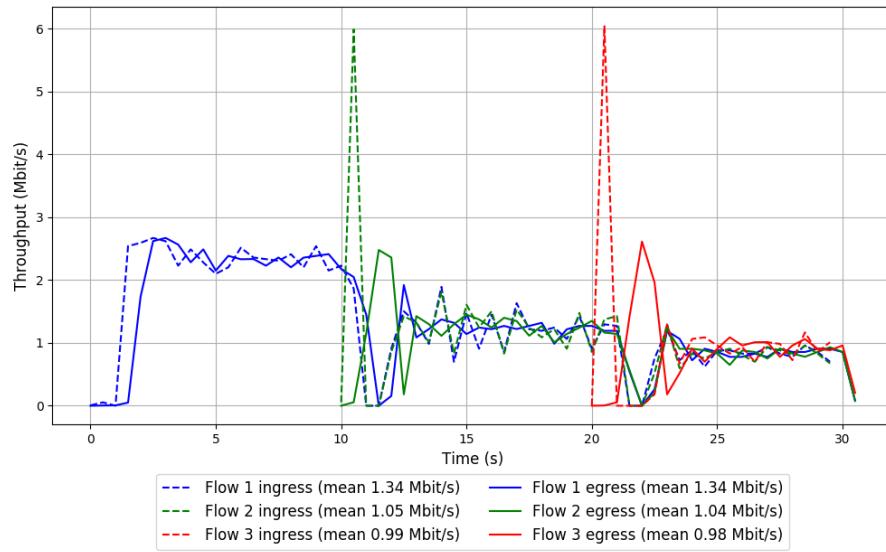


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-08-09 07:58:13
End at: 2018-08-09 07:58:43
Local clock offset: -7.245 ms
Remote clock offset: 1.244 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 1104.600 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 458.427 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 1165.253 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 1295.675 ms
Loss rate: 2.26%
```

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

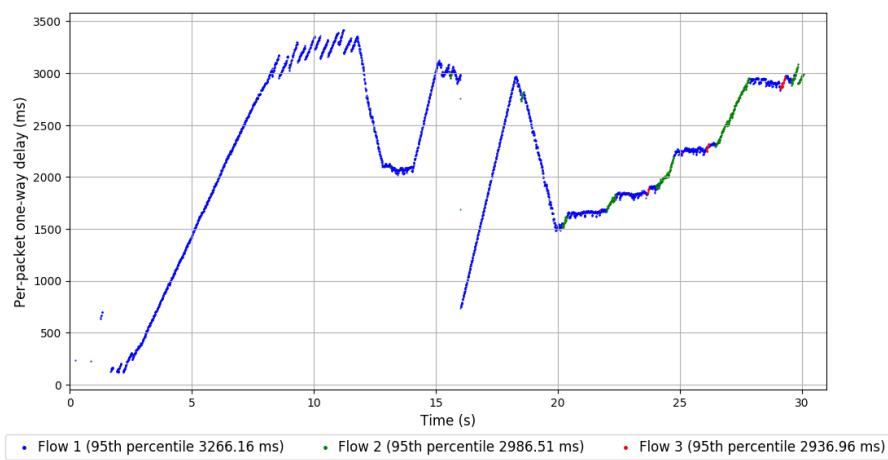
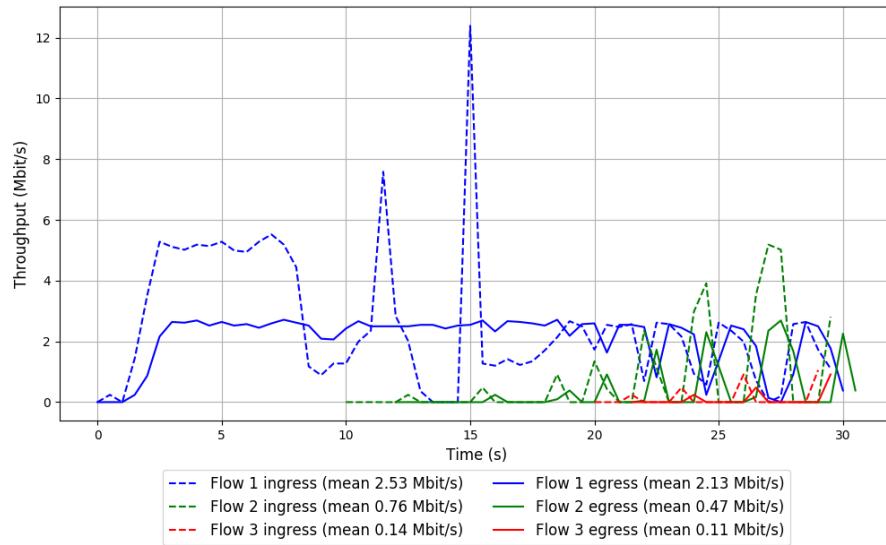


Run 1: Statistics of TCP Vegas

```
Start at: 2018-08-09 07:28:14
End at: 2018-08-09 07:28:44
Local clock offset: -6.553 ms
Remote clock offset: 0.706 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 3256.041 ms
Loss rate: 21.88%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 3266.159 ms
Loss rate: 16.76%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 2986.509 ms
Loss rate: 45.83%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 2936.959 ms
Loss rate: 39.20%
```

Run 1: Report of TCP Vegas — Data Link

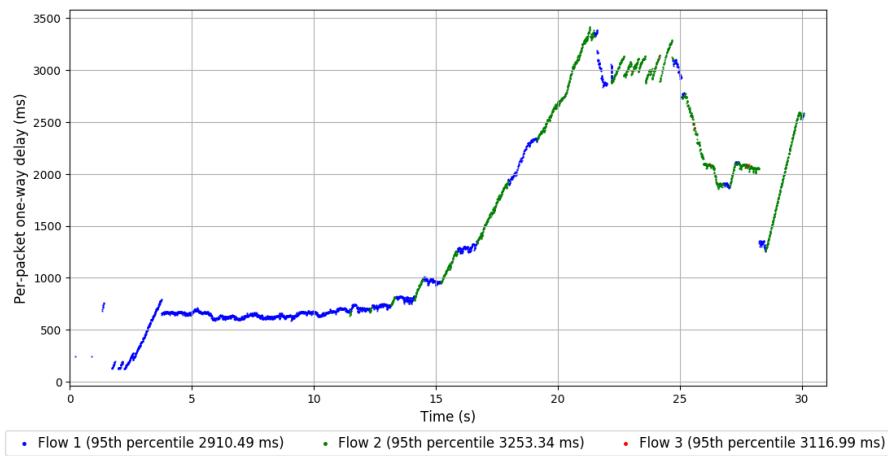
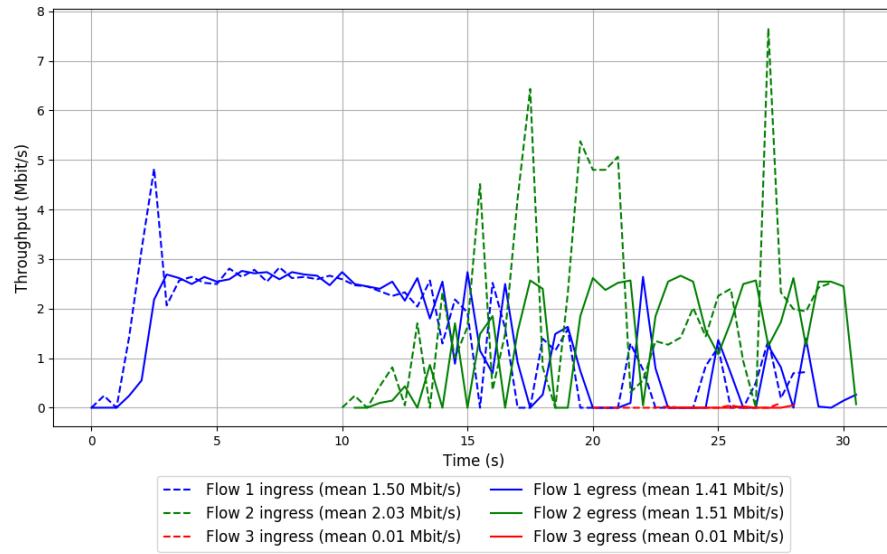


Run 2: Statistics of TCP Vegas

```
Start at: 2018-08-09 07:48:37
End at: 2018-08-09 07:49:07
Local clock offset: -8.193 ms
Remote clock offset: 5.749 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 3103.532 ms
Loss rate: 14.91%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 2910.491 ms
Loss rate: 2.61%
-- Flow 2:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 3253.340 ms
Loss rate: 27.90%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3116.994 ms
Loss rate: 54.29%
```

Run 2: Report of TCP Vegas — Data Link

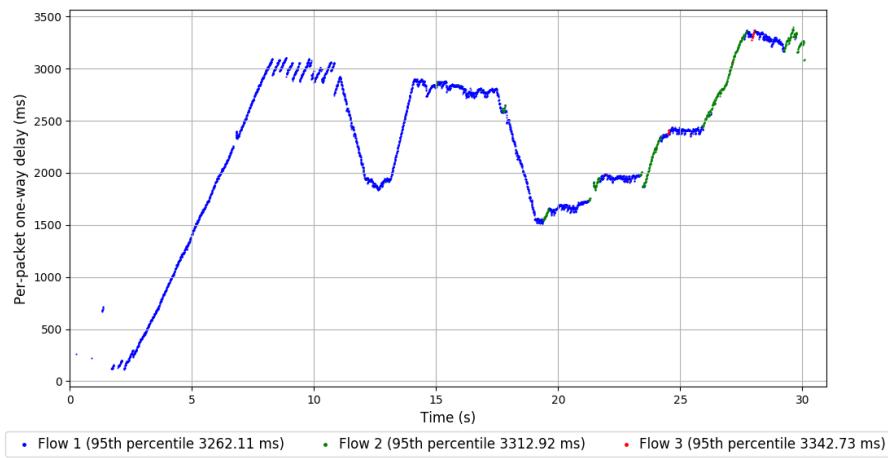
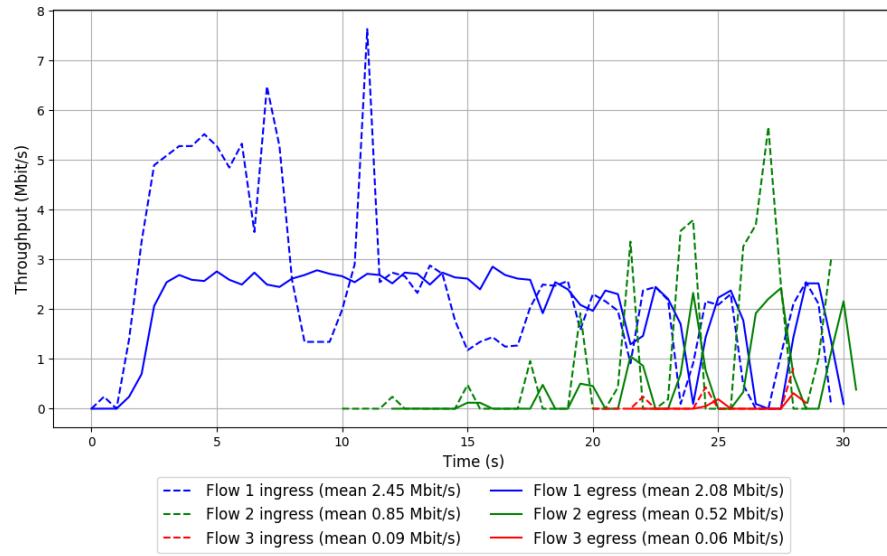


Run 3: Statistics of TCP Vegas

```
Start at: 2018-08-09 08:09:00
End at: 2018-08-09 08:09:30
Local clock offset: -7.041 ms
Remote clock offset: 6.367 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 3282.300 ms
Loss rate: 22.09%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 3262.108 ms
Loss rate: 16.36%
-- Flow 2:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 3312.922 ms
Loss rate: 45.34%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 3342.733 ms
Loss rate: 54.57%
```

Run 3: Report of TCP Vegas — Data Link

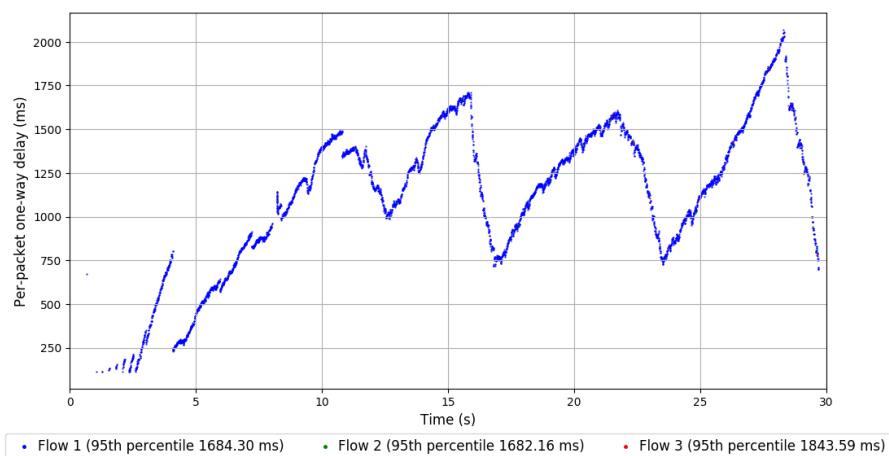
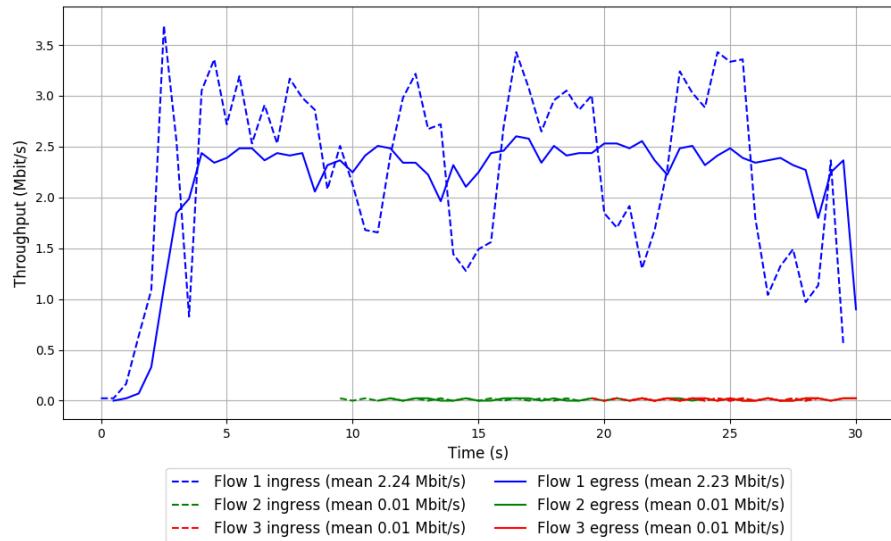


Run 1: Statistics of Verus

```
Start at: 2018-08-09 07:25:51
End at: 2018-08-09 07:26:21
Local clock offset: -5.843 ms
Remote clock offset: 0.867 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 1684.455 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 1684.301 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1682.165 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1843.588 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link

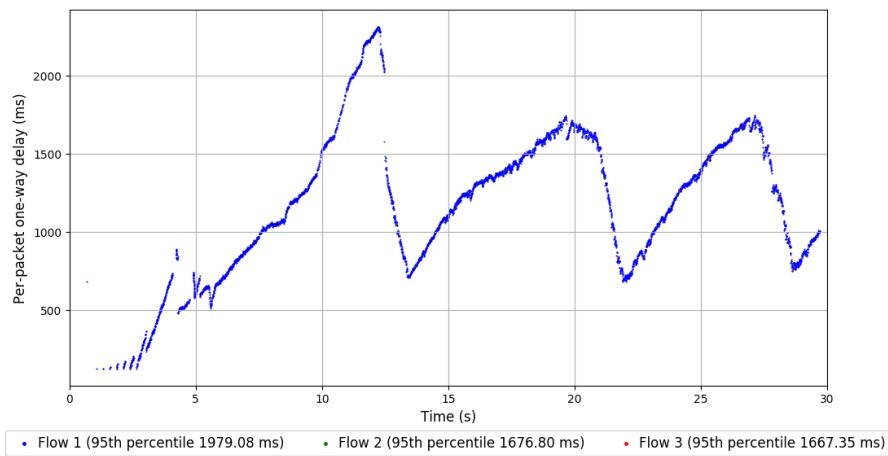
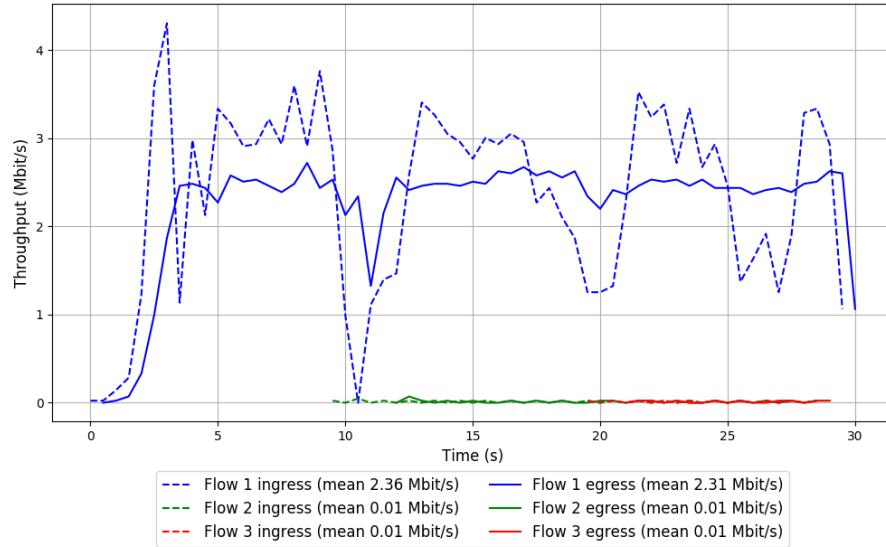


Run 2: Statistics of Verus

```
Start at: 2018-08-09 07:46:13
End at: 2018-08-09 07:46:43
Local clock offset: -8.735 ms
Remote clock offset: 5.669 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 1979.082 ms
Loss rate: 4.26%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 1979.082 ms
Loss rate: 4.25%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1676.799 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1667.351 ms
Loss rate: 10.00%
```

Run 2: Report of Verus — Data Link

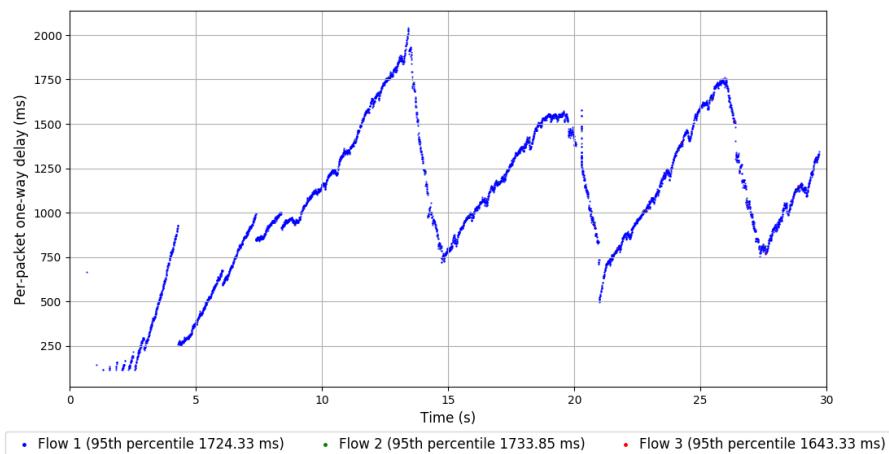
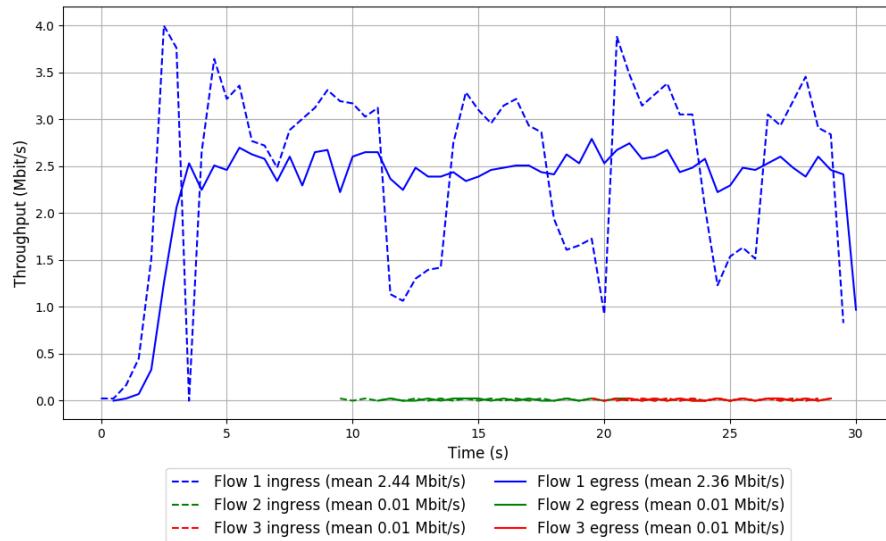


Run 3: Statistics of Verus

```
Start at: 2018-08-09 08:06:36
End at: 2018-08-09 08:07:06
Local clock offset: -7.016 ms
Remote clock offset: 1.43 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 1724.354 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 1724.330 ms
Loss rate: 5.11%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1733.850 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1643.327 ms
Loss rate: 10.00%
```

Run 3: Report of Verus — Data Link

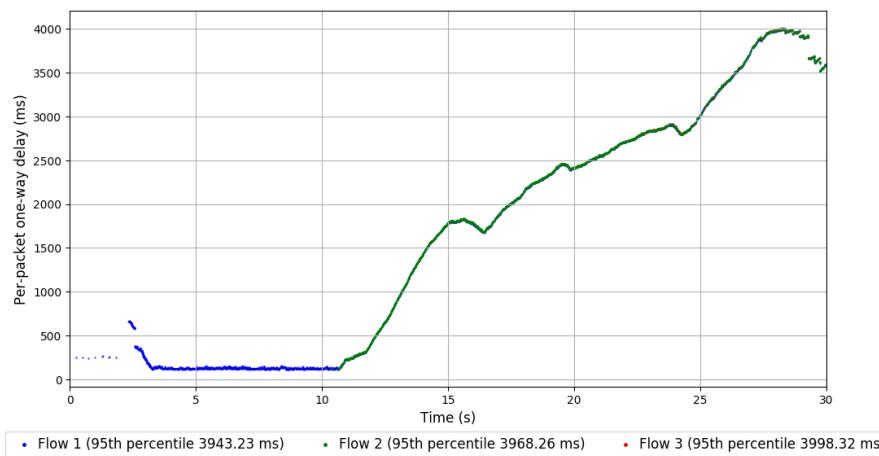
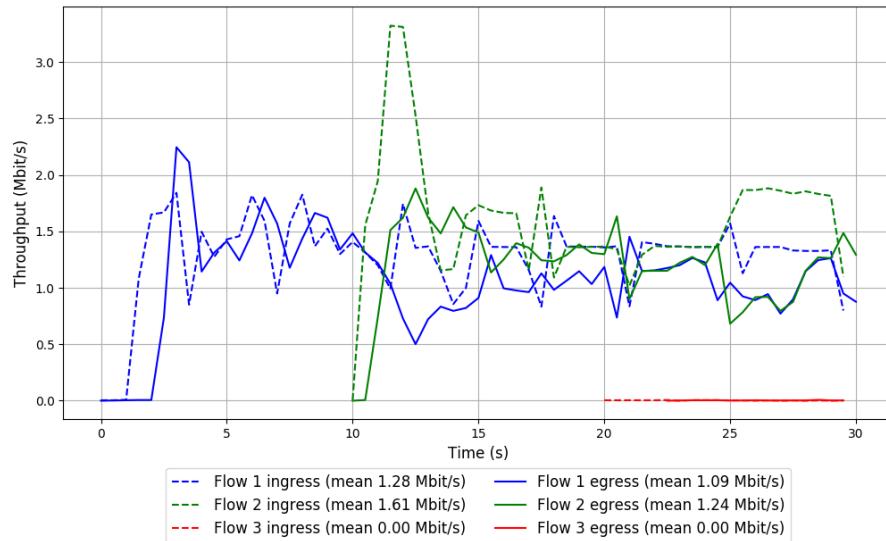


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-08-09 07:31:50
End at: 2018-08-09 07:32:20
Local clock offset: -7.416 ms
Remote clock offset: 5.348 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 3959.106 ms
Loss rate: 19.15%
-- Flow 1:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 3943.229 ms
Loss rate: 15.58%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 3968.256 ms
Loss rate: 23.43%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3998.322 ms
Loss rate: 20.44%
```

Run 1: Report of PCC-Vivace — Data Link

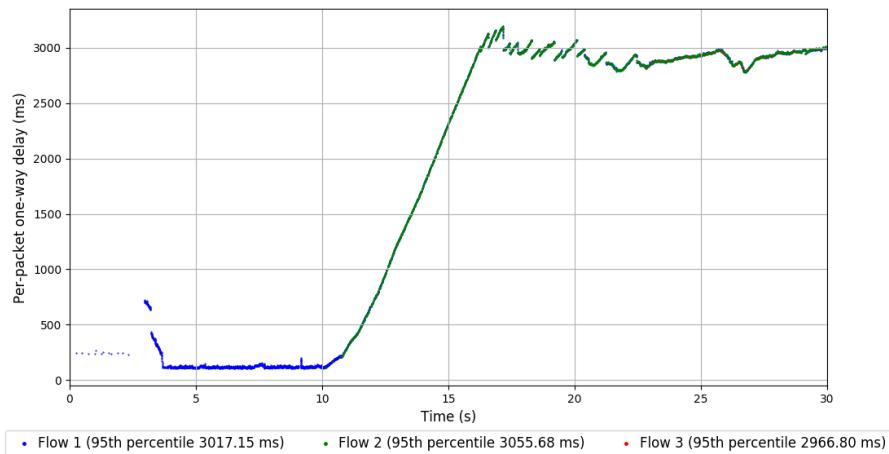
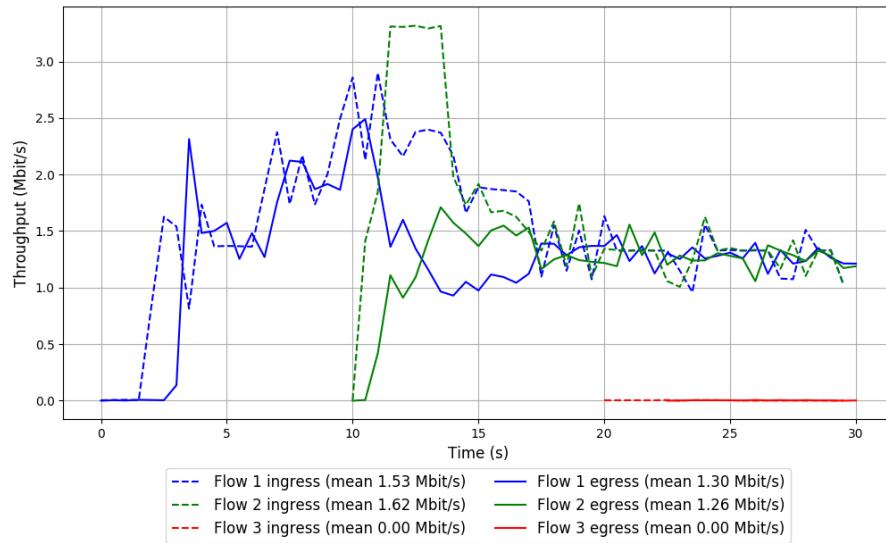


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-08-09 07:52:14
End at: 2018-08-09 07:52:44
Local clock offset: -7.72 ms
Remote clock offset: 1.109 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 3029.493 ms
Loss rate: 18.39%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 3017.147 ms
Loss rate: 15.64%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 3055.682 ms
Loss rate: 22.28%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2966.804 ms
Loss rate: 11.51%
```

Run 2: Report of PCC-Vivace — Data Link

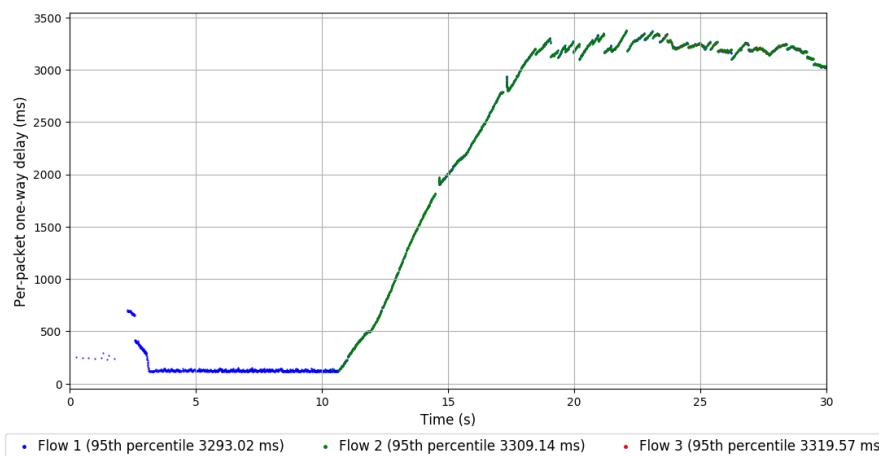
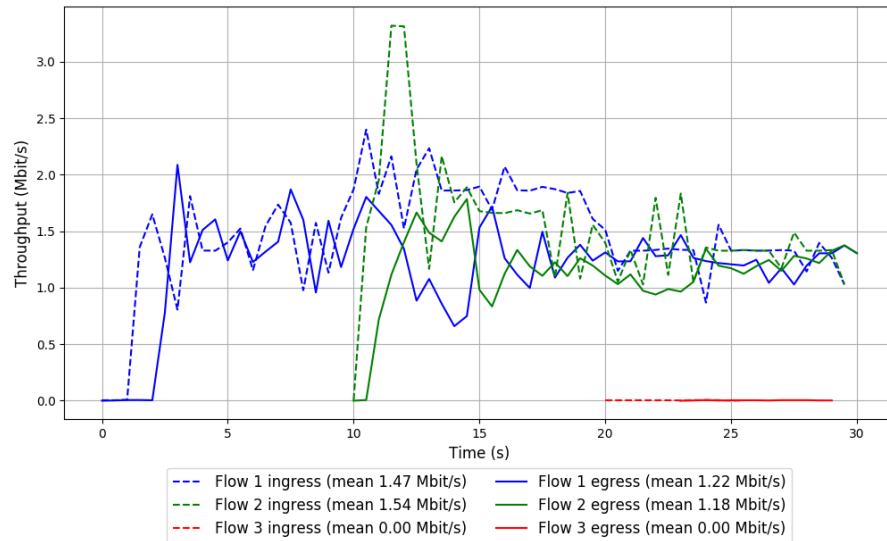


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-08-09 08:12:36
End at: 2018-08-09 08:13:06
Local clock offset: -7.052 ms
Remote clock offset: 6.423 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 3298.492 ms
Loss rate: 19.64%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 3293.024 ms
Loss rate: 17.20%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 3309.136 ms
Loss rate: 23.16%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3319.572 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

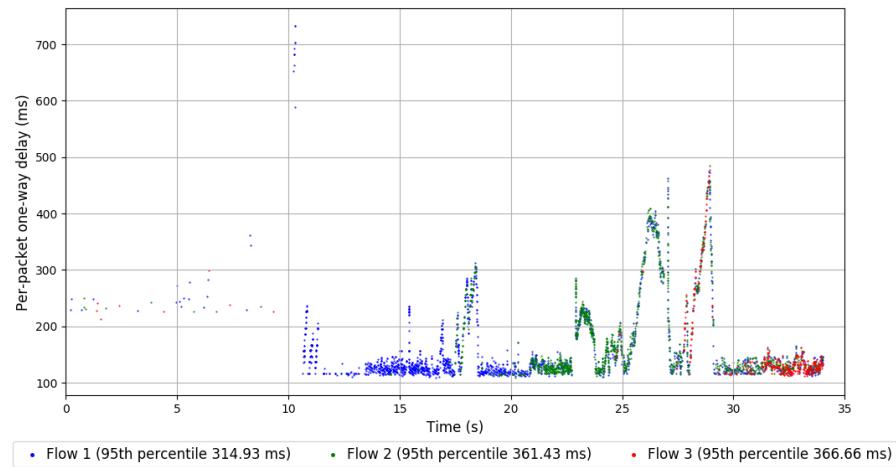
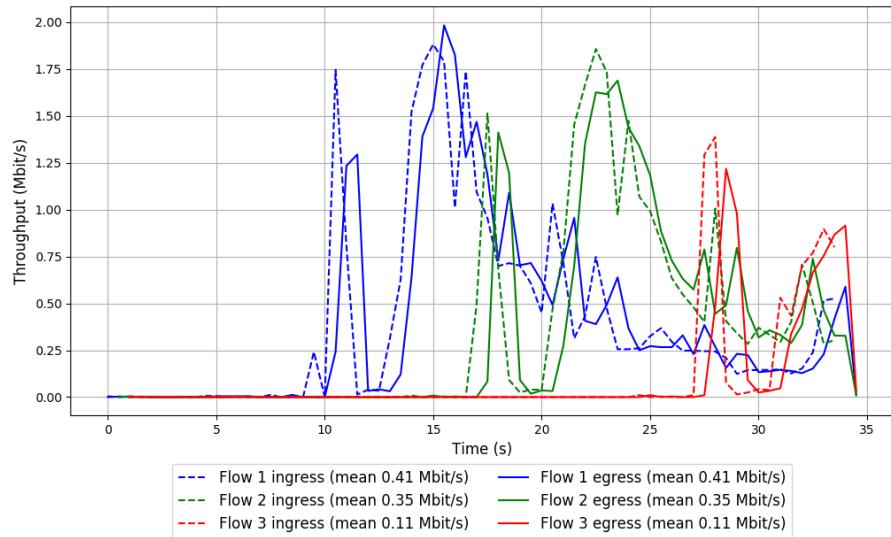


```
Run 1: Statistics of WebRTC media

Start at: 2018-08-09 07:24:39
End at: 2018-08-09 07:25:09
Local clock offset: -5.722 ms
Remote clock offset: 5.714 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 346.566 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 314.933 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 361.434 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 366.658 ms
Loss rate: 1.27%
```

Run 1: Report of WebRTC media — Data Link

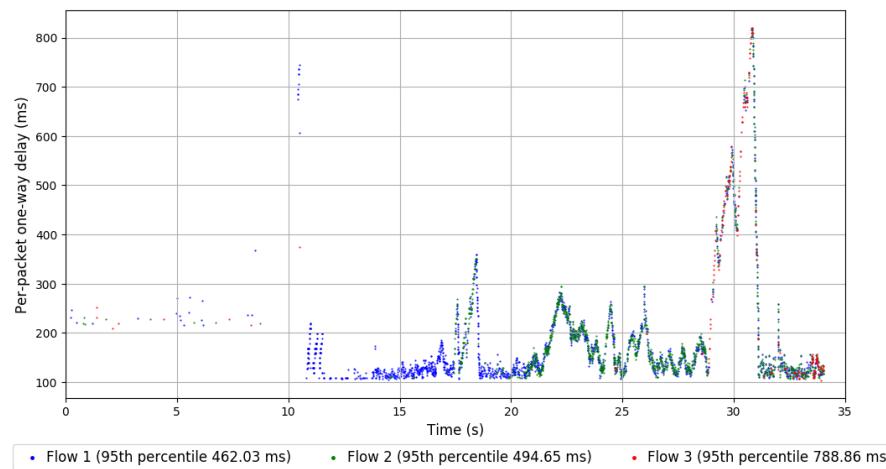
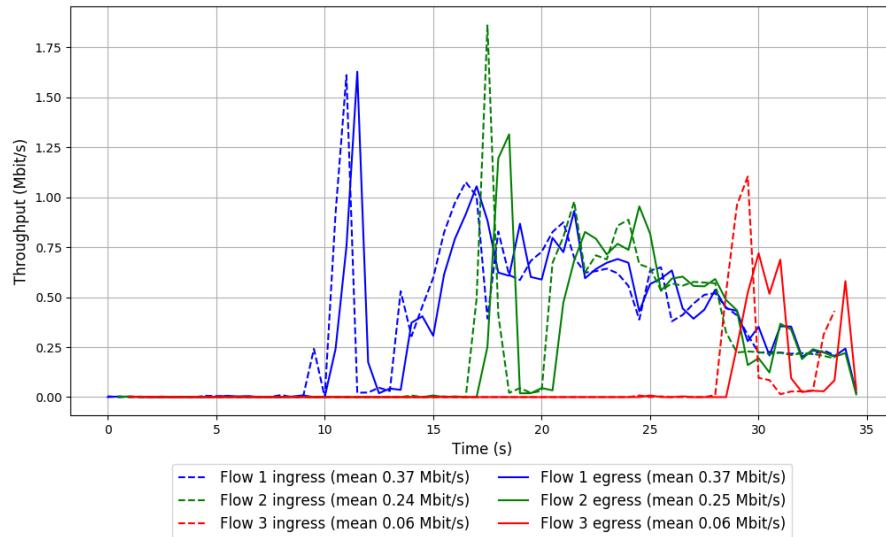


Run 2: Statistics of WebRTC media

```
Start at: 2018-08-09 07:45:02
End at: 2018-08-09 07:45:32
Local clock offset: -8.769 ms
Remote clock offset: 0.642 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 515.168 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 462.029 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 494.646 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 788.856 ms
Loss rate: 1.22%
```

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

```
Start at: 2018-08-09 08:05:25
End at: 2018-08-09 08:05:55
Local clock offset: -7.076 ms
Remote clock offset: 6.409 ms

# Below is generated by plot.py at 2018-08-09 08:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 419.913 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 280.583 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 434.510 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 487.264 ms
Loss rate: 0.47%
```

Run 3: Report of WebRTC media — Data Link

