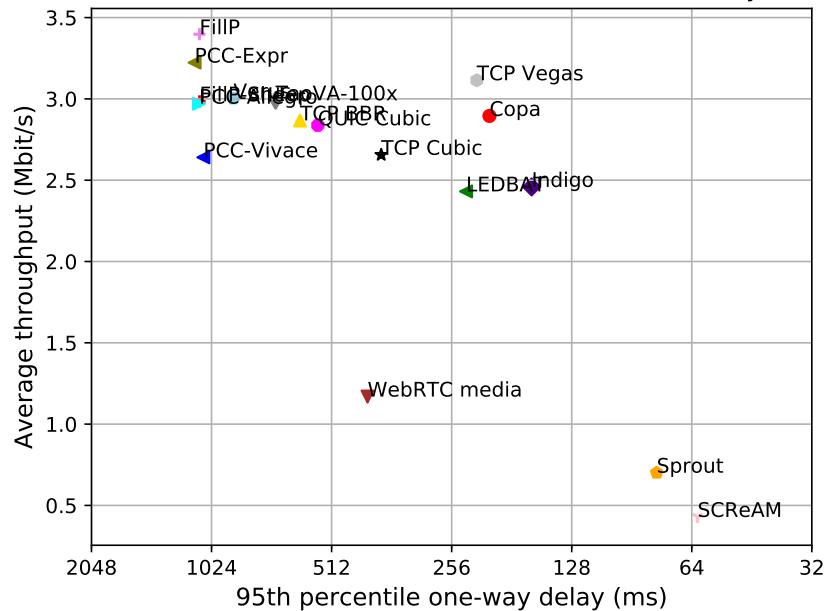


Pantheon Report

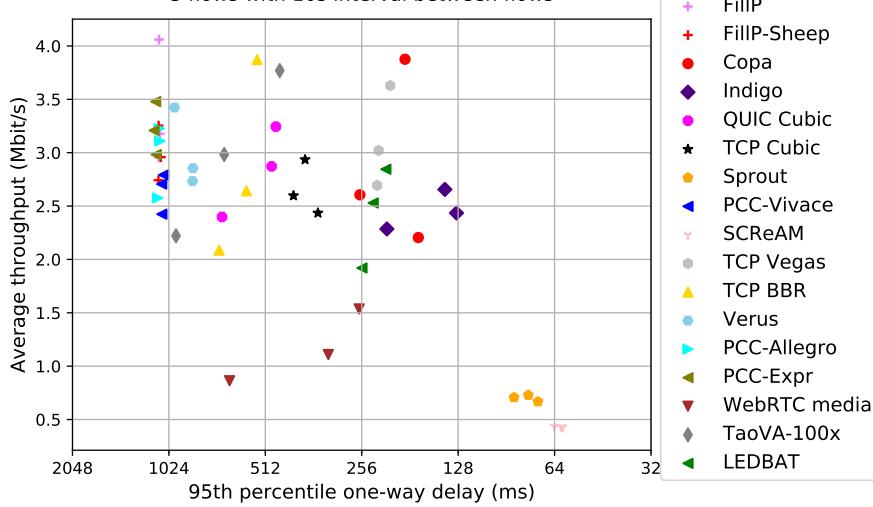
Generated at 2018-08-01 07:10:20 (UTC).
Data path: AWS India 1 Ethernet (*local*) → India ppp0 ppp0 (*remote*).
Repeated the test of 17 congestion control schemes 3 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

```
Git summary:  
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce  
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834  
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe  
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4  
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d  
third_party/libutp @ b3465b942e2826f2b179aab4a906ce6bb7cf3cf  
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 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



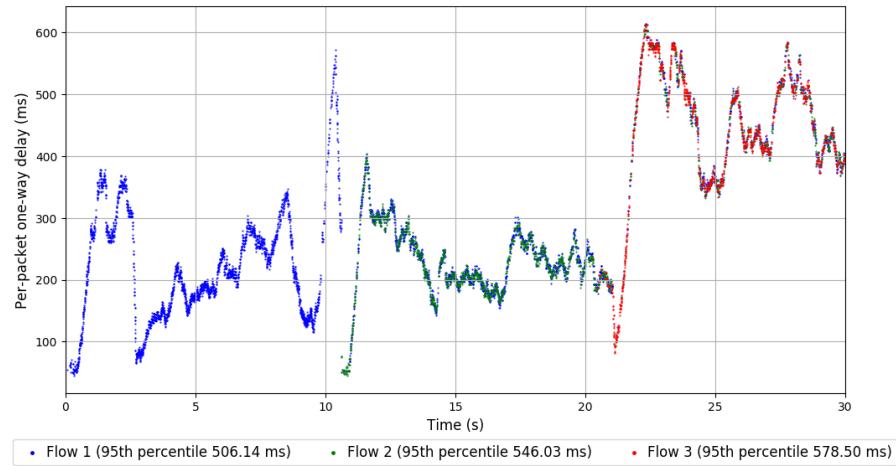
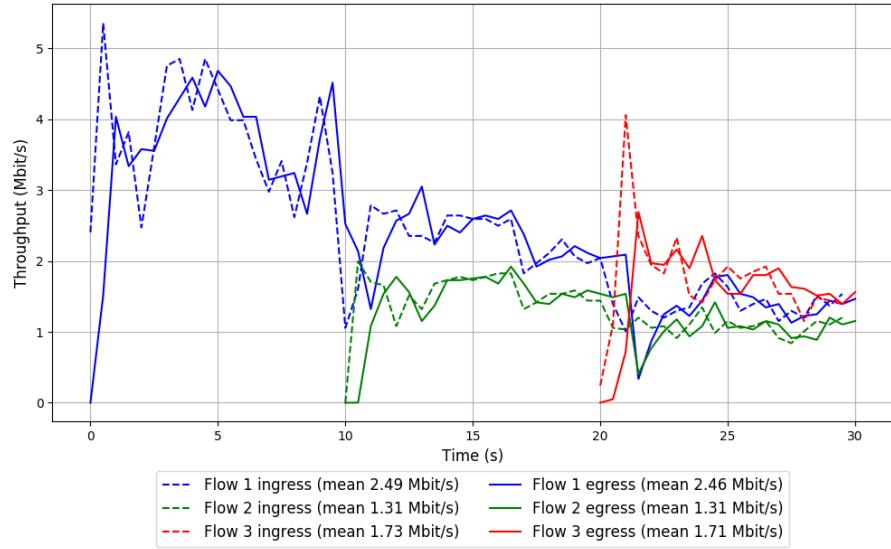
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	1.80	0.93	1.40	598.22	650.22	601.36	1.41	2.42	3.82
Copa		1.85	1.18	0.80	175.15	224.27	227.80	0.21	0.43	1.12
TCP Cubic		1.56	1.07	1.19	332.94	400.72	425.77	0.60	1.87	2.53
FillP		2.47	1.00	1.04	1095.99	1095.86	1109.83	50.97	36.14	55.22
FillP-Sheep		1.75	1.18	1.47	1068.64	1095.79	1118.21	13.54	26.62	55.76
Indigo		1.22	1.13	1.50	126.38	206.10	260.89	0.21	0.27	0.79
LEDBAT		1.58	0.77	1.04	227.43	247.38	242.45	0.41	0.74	2.37
PCC-Allegro		1.61	1.52	1.18	1077.87	1087.11	1187.66	20.65	31.27	94.79
PCC-Expr		2.10	1.47	0.70	1119.58	1135.73	1135.32	57.29	79.47	86.31
QUIC Cubic		1.69	1.18	1.16	530.27	558.17	597.74	1.33	2.41	4.99
SCReAM		0.21	0.21	0.22	61.88	65.14	62.41	0.12	0.19	0.35
Sprout		0.33	0.37	0.37	78.71	80.51	77.81	0.01	0.06	0.43
TaoVA-100x		1.78	1.28	1.10	609.81	775.58	748.46	1.31	7.80	6.35
TCP Vegas		1.67	1.52	1.32	213.23	229.69	221.96	0.19	0.31	0.64
Verus		1.94	1.40	0.48	923.43	795.14	934.26	7.06	3.94	5.89
PCC-Vivace		1.47	1.20	1.17	1062.79	1071.84	1093.36	9.09	15.40	31.74
WebRTC media		0.56	0.42	0.20	509.86	327.97	267.30	1.30	0.32	1.14

Run 1: Statistics of TCP BBR

```
Start at: 2018-08-01 06:16:05
End at: 2018-08-01 06:16:35
Local clock offset: 0.974 ms
Remote clock offset: -7.533 ms

# Below is generated by plot.py at 2018-08-01 07:09:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 543.157 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 506.141 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 546.033 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 578.505 ms
Loss rate: 3.41%
```

Run 1: Report of TCP BBR — Data Link

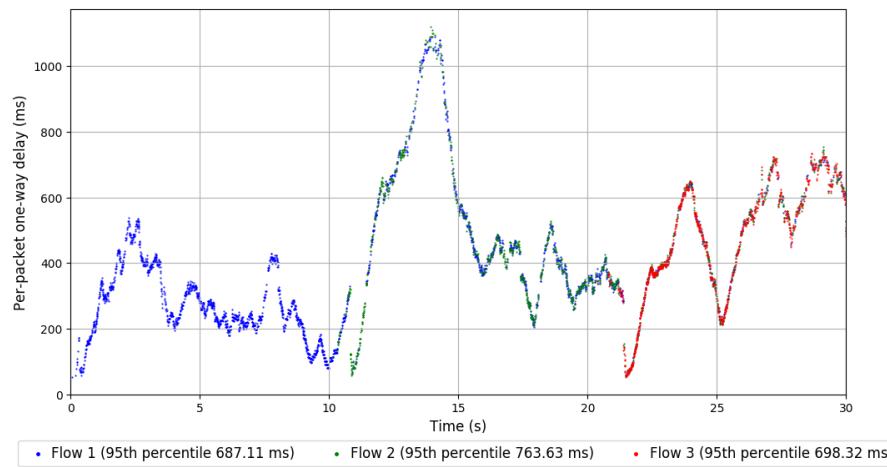
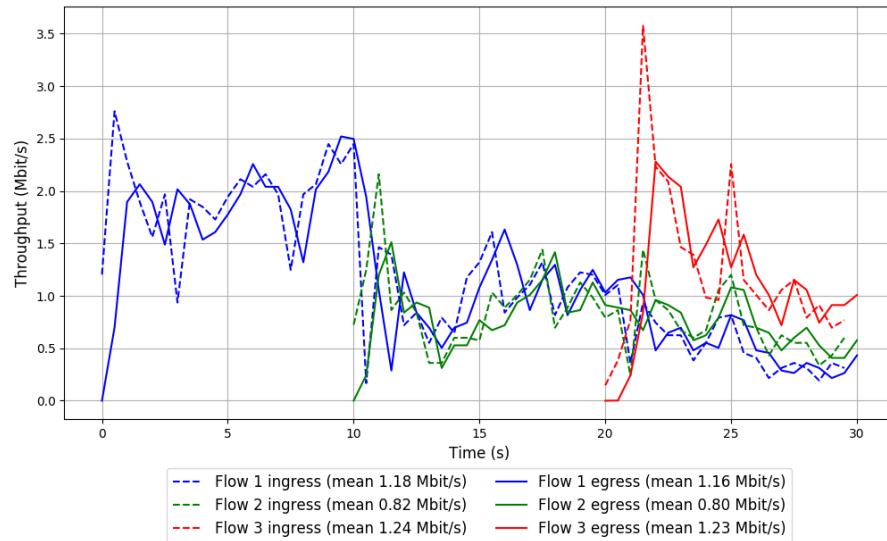


Run 2: Statistics of TCP BBR

```
Start at: 2018-08-01 06:34:50
End at: 2018-08-01 06:35:20
Local clock offset: 0.89 ms
Remote clock offset: -0.324 ms

# Below is generated by plot.py at 2018-08-01 07:09:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 713.481 ms
Loss rate: 2.67%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 687.112 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 763.628 ms
Loss rate: 3.58%
-- Flow 3:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 698.324 ms
Loss rate: 4.28%
```

Run 2: Report of TCP BBR — Data Link

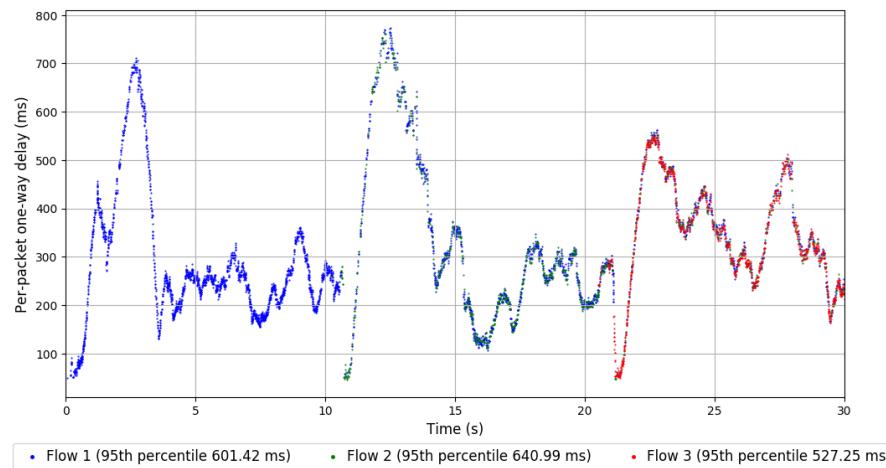
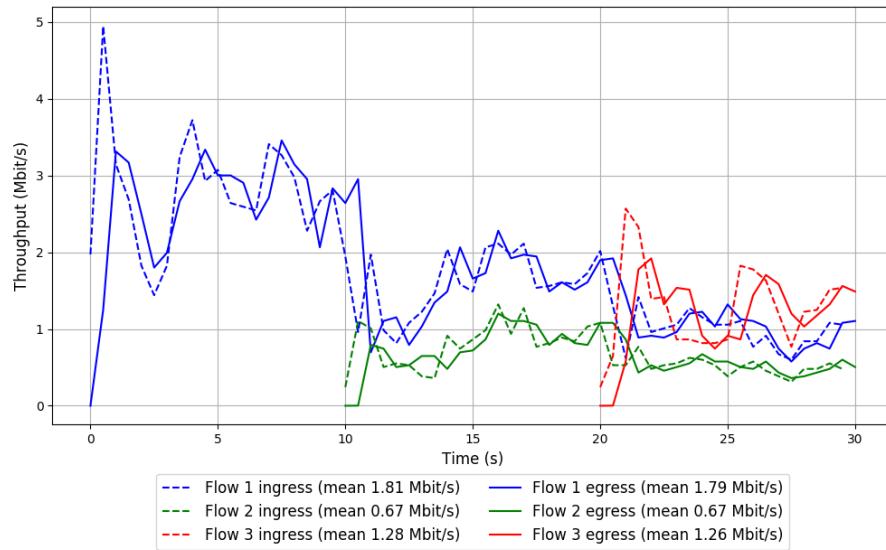


Run 3: Statistics of TCP BBR

```
Start at: 2018-08-01 06:53:36
End at: 2018-08-01 06:54:06
Local clock offset: 1.72 ms
Remote clock offset: -6.801 ms

# Below is generated by plot.py at 2018-08-01 07:09:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 586.528 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 601.420 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 640.994 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 527.252 ms
Loss rate: 3.76%
```

Run 3: Report of TCP BBR — Data Link

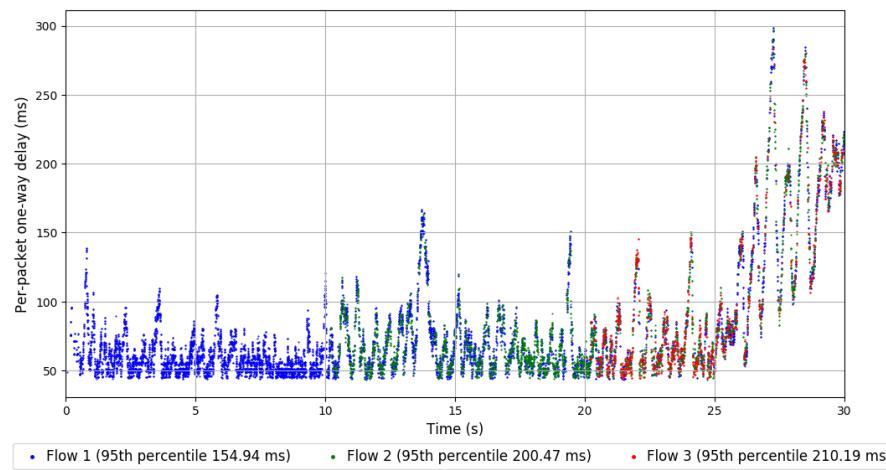
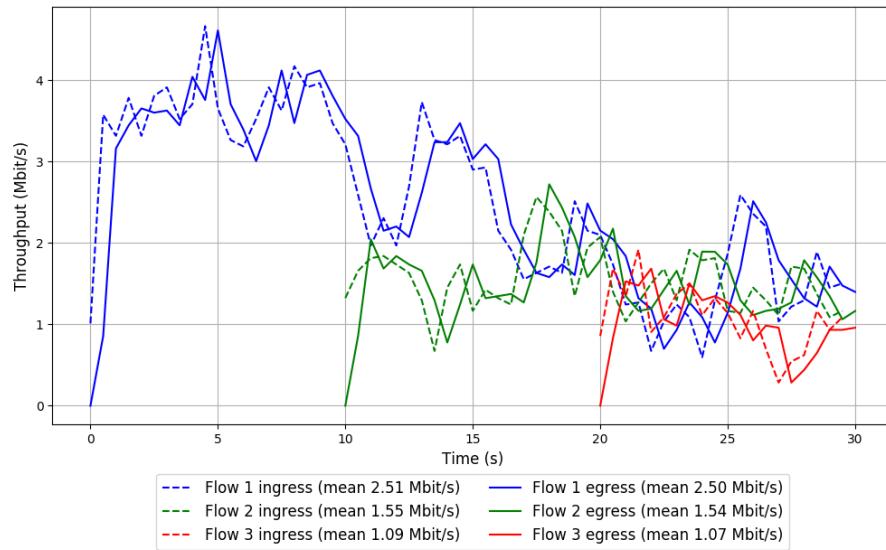


Run 1: Statistics of Copa

```
Start at: 2018-08-01 06:18:17
End at: 2018-08-01 06:18:47
Local clock offset: 2.826 ms
Remote clock offset: -7.387 ms

# Below is generated by plot.py at 2018-08-01 07:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 187.538 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 154.940 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 200.467 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 210.191 ms
Loss rate: 2.52%
```

Run 1: Report of Copa — Data Link

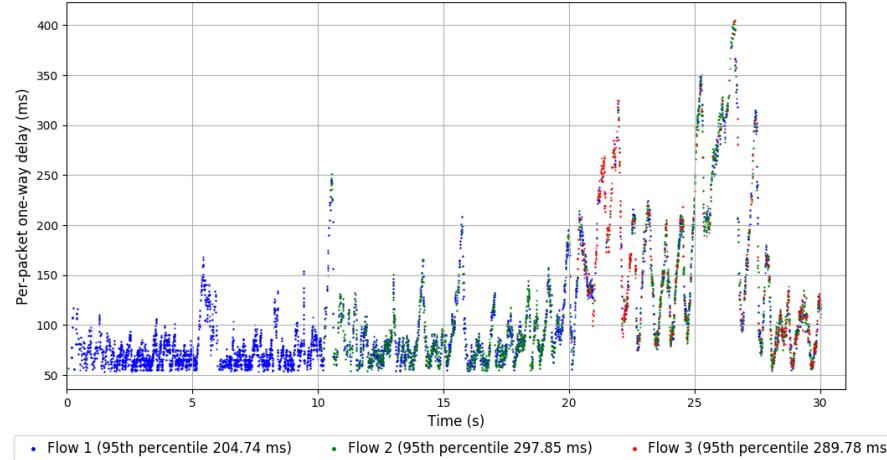
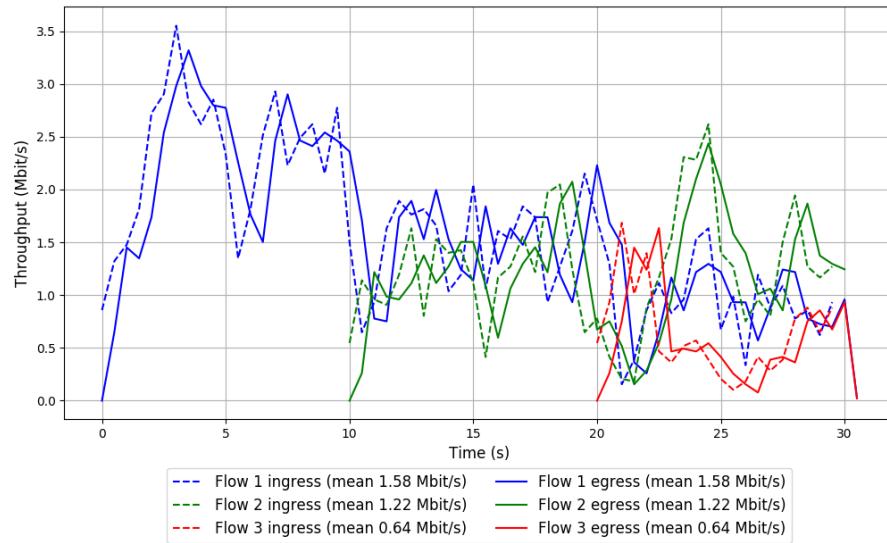


Run 2: Statistics of Copa

```
Start at: 2018-08-01 06:37:02
End at: 2018-08-01 06:37:32
Local clock offset: 0.455 ms
Remote clock offset: 0.967 ms

# Below is generated by plot.py at 2018-08-01 07:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.61 Mbit/s
95th percentile per-packet one-way delay: 259.401 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 204.744 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 297.853 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 289.782 ms
Loss rate: 0.27%
```

Run 2: Report of Copa — Data Link

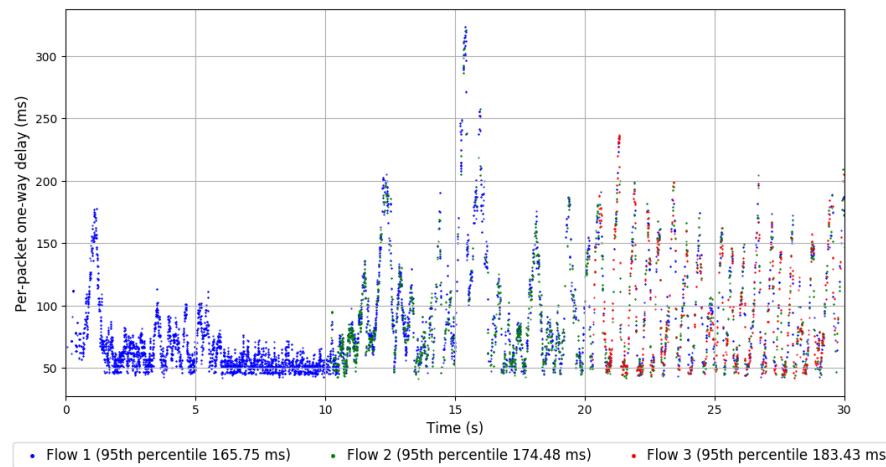
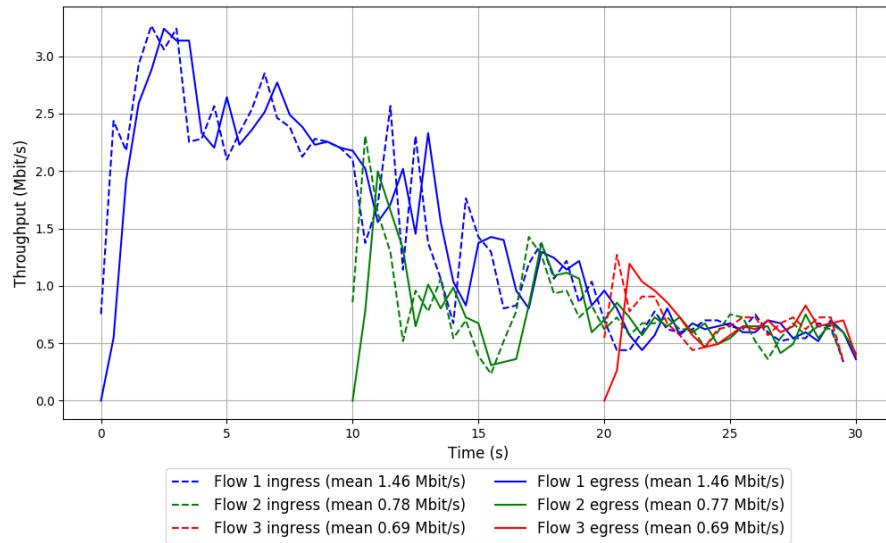


Run 3: Statistics of Copa

```
Start at: 2018-08-01 06:55:47
End at: 2018-08-01 06:56:17
Local clock offset: 1.011 ms
Remote clock offset: -7.149 ms

# Below is generated by plot.py at 2018-08-01 07:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 170.441 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 165.754 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 174.477 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 183.427 ms
Loss rate: 0.57%
```

Run 3: Report of Copa — Data Link

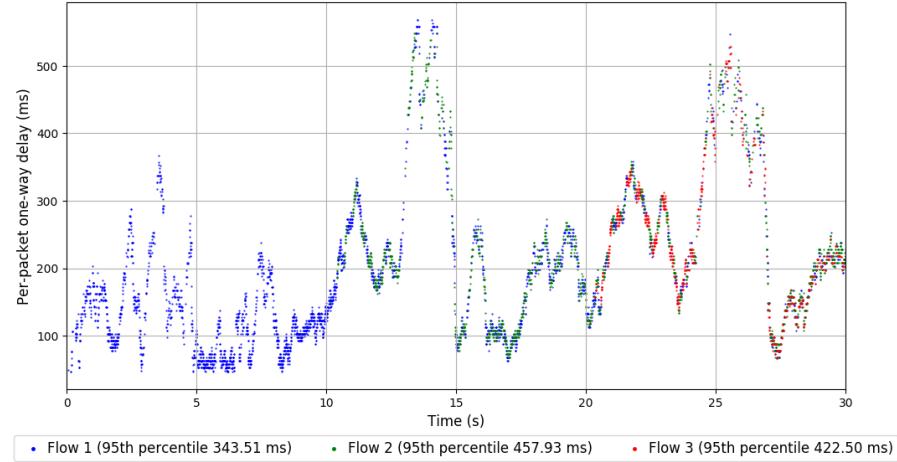
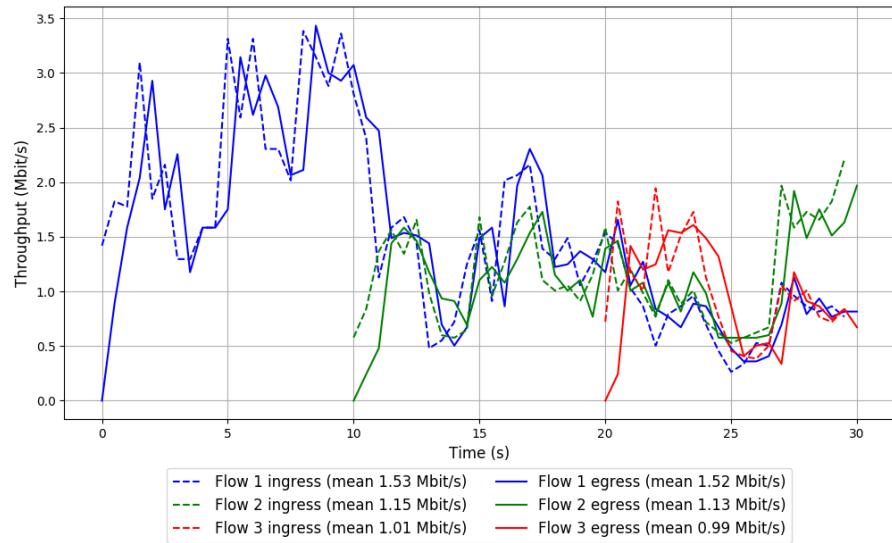


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-08-01 06:31:29
End at: 2018-08-01 06:31:59
Local clock offset: -0.634 ms
Remote clock offset: -6.892 ms

# Below is generated by plot.py at 2018-08-01 07:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 418.100 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 343.513 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 457.928 ms
Loss rate: 2.56%
-- Flow 3:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 422.501 ms
Loss rate: 2.87%
```

Run 1: Report of TCP Cubic — Data Link

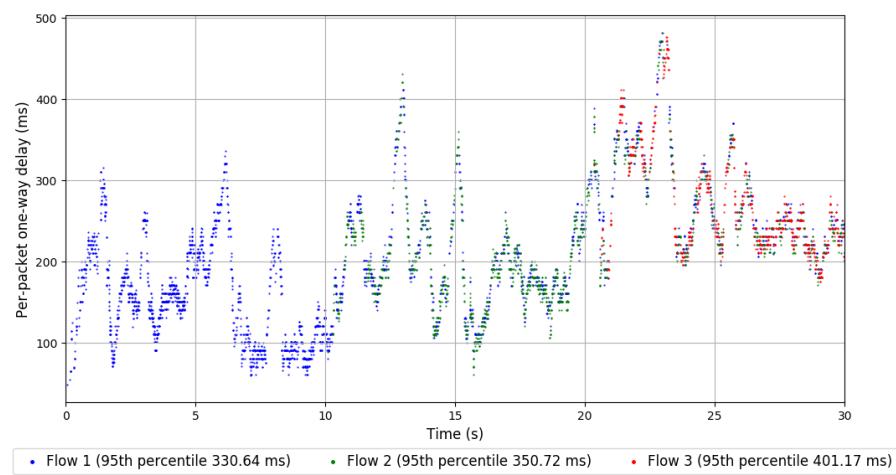
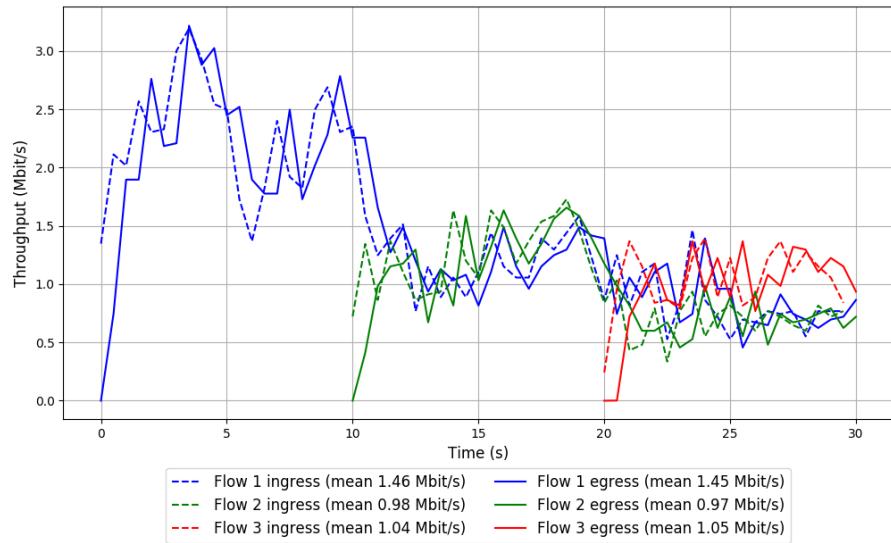


Run 2: Statistics of TCP Cubic

```
Start at: 2018-08-01 06:50:18
End at: 2018-08-01 06:50:48
Local clock offset: 1.821 ms
Remote clock offset: -7.057 ms

# Below is generated by plot.py at 2018-08-01 07:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 350.755 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 330.645 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 350.724 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 401.167 ms
Loss rate: 2.44%
```

Run 2: Report of TCP Cubic — Data Link

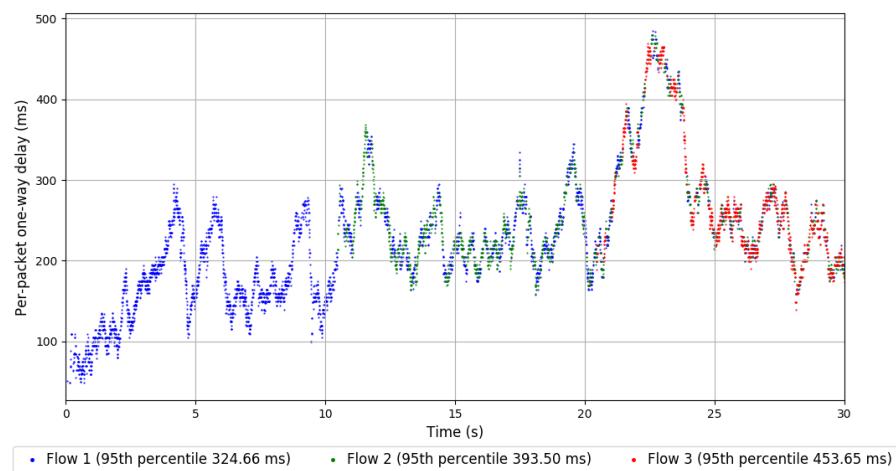
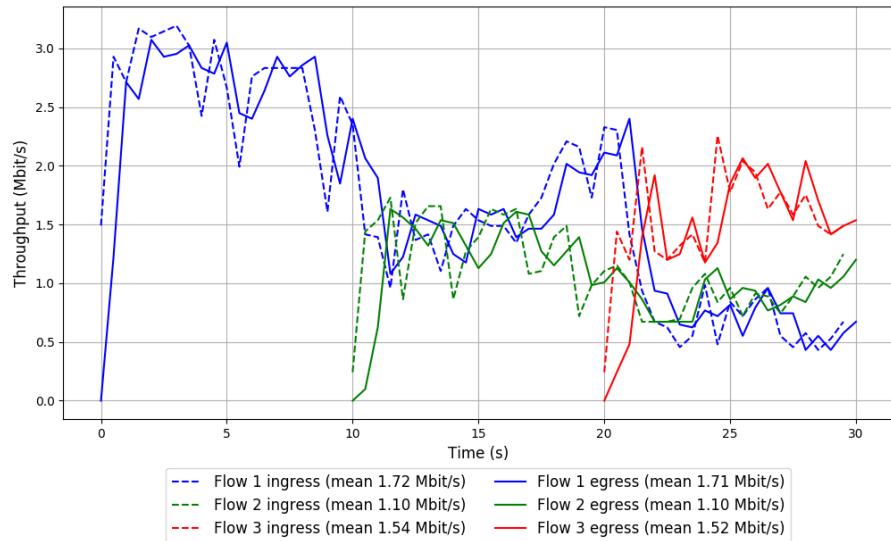


Run 3: Statistics of TCP Cubic

```
Start at: 2018-08-01 07:08:53
End at: 2018-08-01 07:09:23
Local clock offset: 0.695 ms
Remote clock offset: -4.417 ms

# Below is generated by plot.py at 2018-08-01 07:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 384.687 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 324.664 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 393.495 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 453.650 ms
Loss rate: 2.28%
```

Run 3: Report of TCP Cubic — Data Link

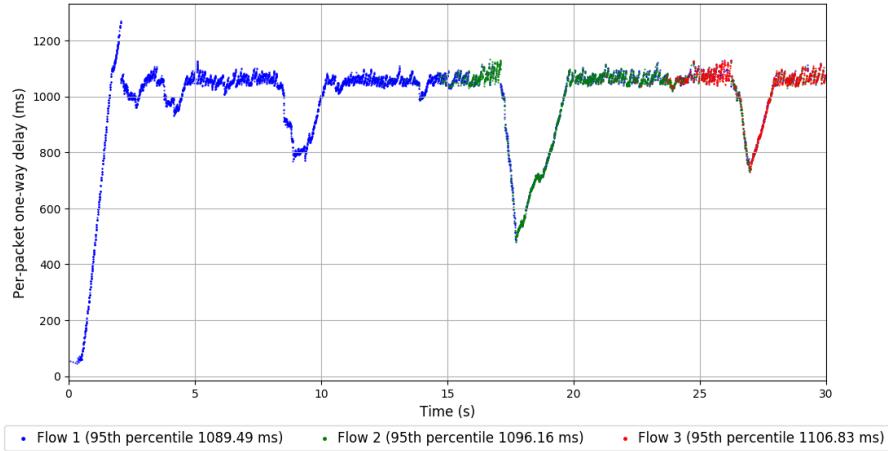
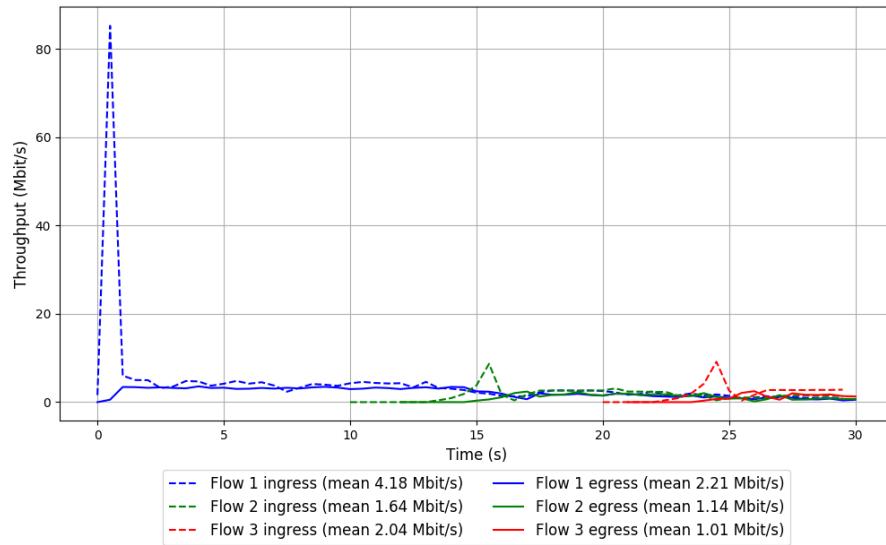


```
Run 1: Statistics of FillP

Start at: 2018-08-01 06:15:00
End at: 2018-08-01 06:15:30
Local clock offset: 1.751 ms
Remote clock offset: -8.125 ms

# Below is generated by plot.py at 2018-08-01 07:09:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 1093.241 ms
Loss rate: 46.64%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 1089.492 ms
Loss rate: 47.32%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 1096.163 ms
Loss rate: 38.38%
-- Flow 3:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 1106.833 ms
Loss rate: 55.78%
```

Run 1: Report of FillP — Data Link

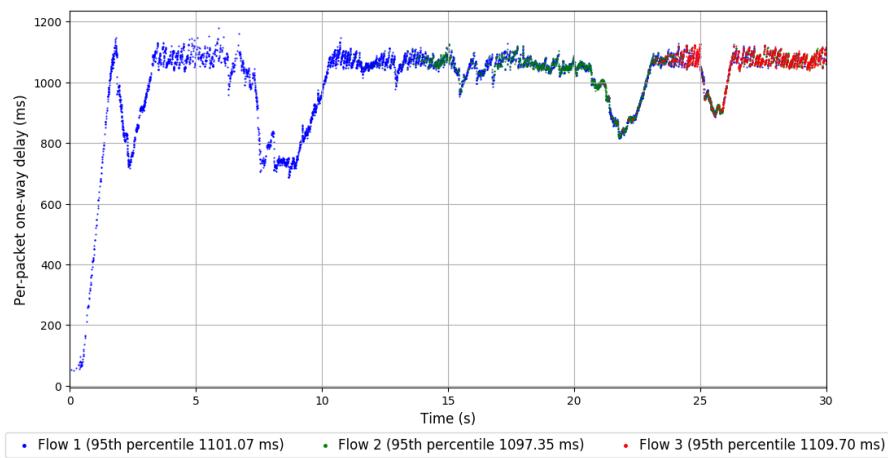
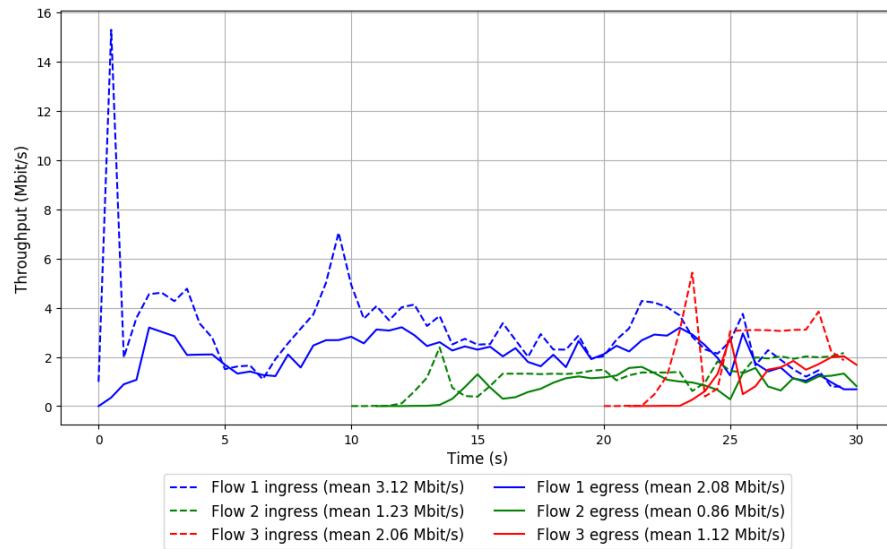


Run 2: Statistics of FillP

```
Start at: 2018-08-01 06:33:43
End at: 2018-08-01 06:34:13
Local clock offset: 0.992 ms
Remote clock offset: -0.87 ms

# Below is generated by plot.py at 2018-08-01 07:09:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 1102.396 ms
Loss rate: 35.91%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 1101.074 ms
Loss rate: 33.18%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 1097.351 ms
Loss rate: 33.87%
-- Flow 3:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 1109.696 ms
Loss rate: 50.80%
```

Run 2: Report of FillP — Data Link

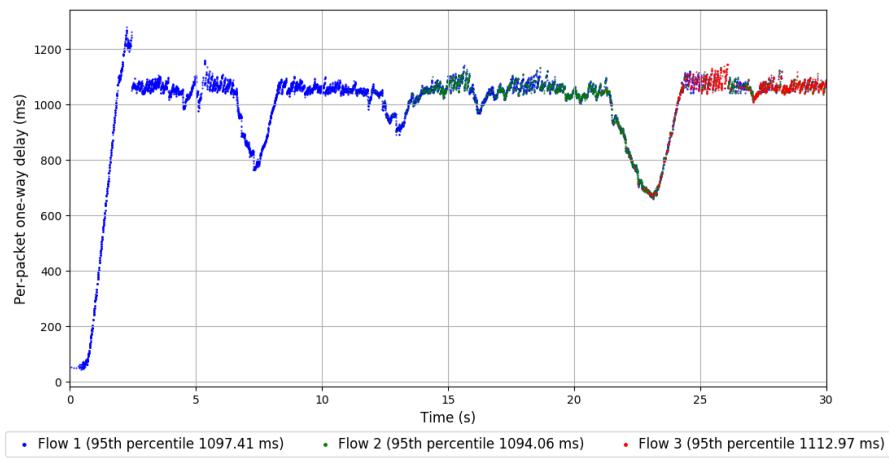
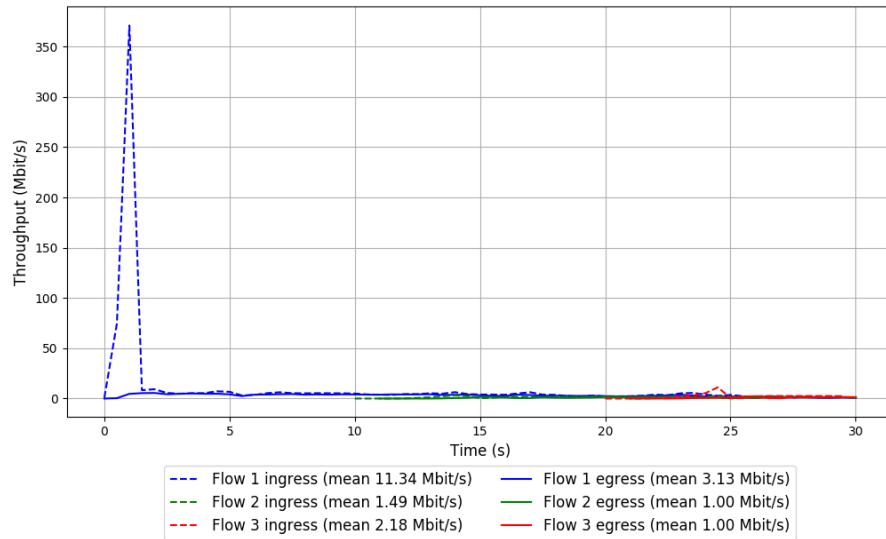


Run 3: Statistics of FillP

```
Start at: 2018-08-01 06:52:29
End at: 2018-08-01 06:52:59
Local clock offset: 2.191 ms
Remote clock offset: -4.079 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 1098.621 ms
Loss rate: 68.94%
-- Flow 1:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 1097.413 ms
Loss rate: 72.42%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 1094.058 ms
Loss rate: 36.17%
-- Flow 3:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 1112.967 ms
Loss rate: 59.09%
```

Run 3: Report of FillP — Data Link

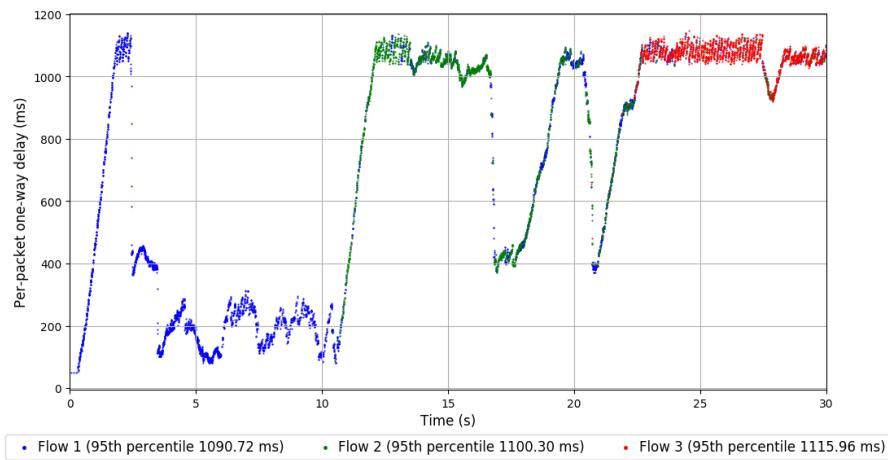
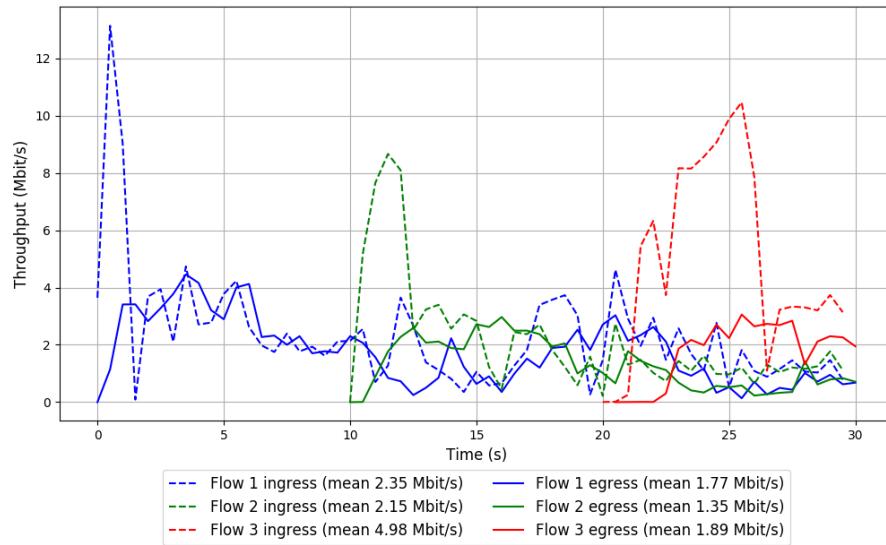


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-08-01 06:17:11
End at: 2018-08-01 06:17:41
Local clock offset: 0.973 ms
Remote clock offset: -9.076 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 1102.870 ms
Loss rate: 40.22%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 1090.723 ms
Loss rate: 24.60%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 1100.300 ms
Loss rate: 37.92%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 1115.959 ms
Loss rate: 64.43%
```

Run 1: Report of FillP-Sheep — Data Link

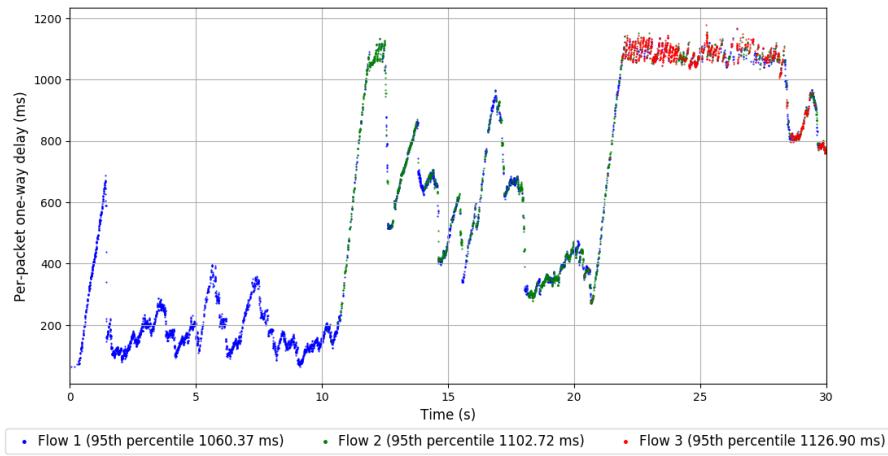
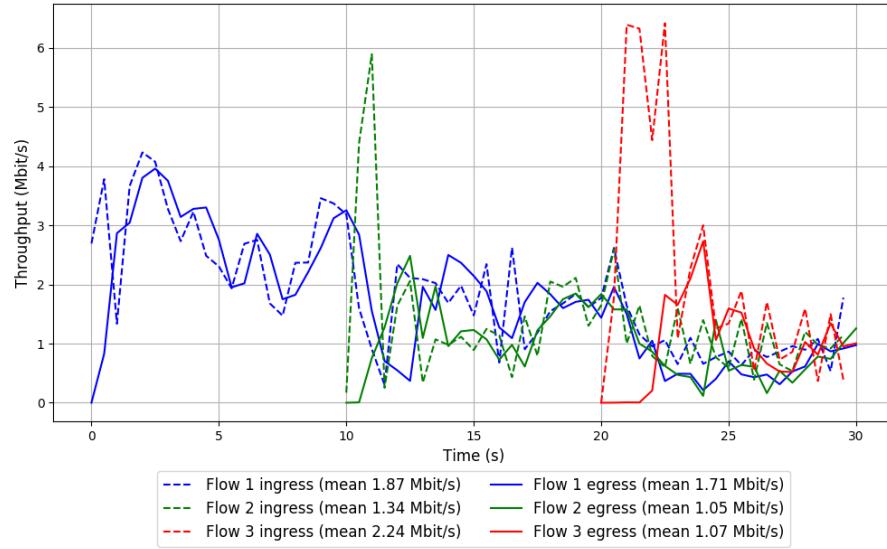


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-08-01 06:35:56
End at: 2018-08-01 06:36:26
Local clock offset: 0.872 ms
Remote clock offset: 5.919 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 1103.645 ms
Loss rate: 21.40%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 1060.368 ms
Loss rate: 8.48%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 1102.722 ms
Loss rate: 22.20%
-- Flow 3:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 1126.898 ms
Loss rate: 53.34%
```

Run 2: Report of FillP-Sheep — Data Link

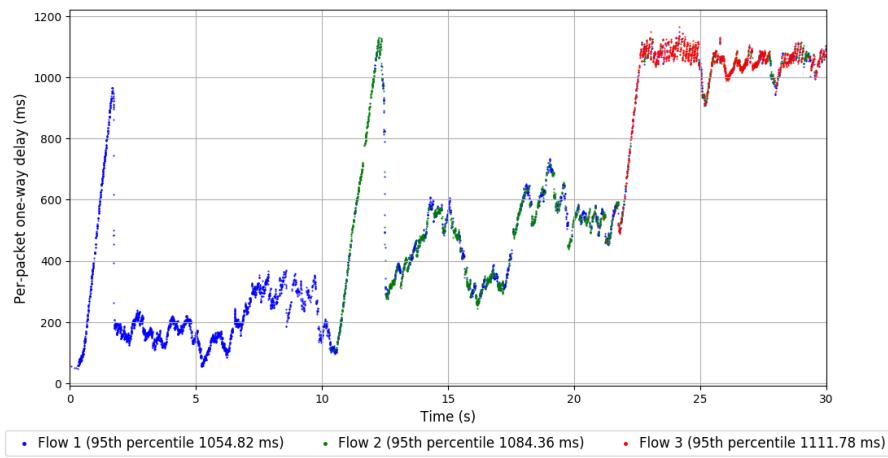
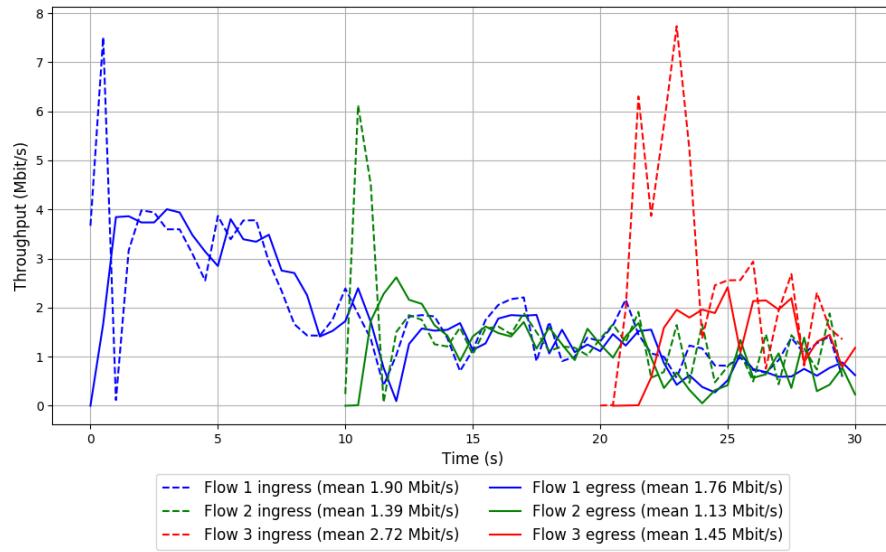


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-08-01 06:54:42
End at: 2018-08-01 06:55:12
Local clock offset: 1.35 ms
Remote clock offset: -3.848 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 1085.615 ms
Loss rate: 20.74%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 1054.817 ms
Loss rate: 7.54%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 1084.359 ms
Loss rate: 19.74%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 1111.777 ms
Loss rate: 49.51%
```

Run 3: Report of FillP-Sheep — Data Link

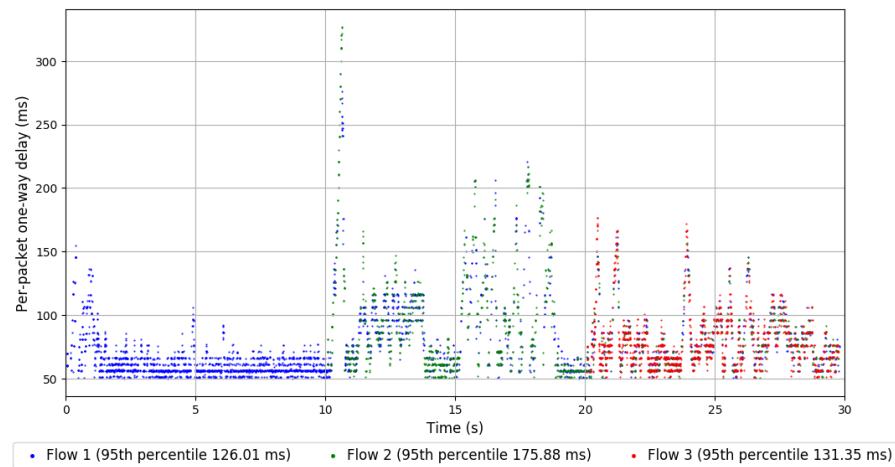
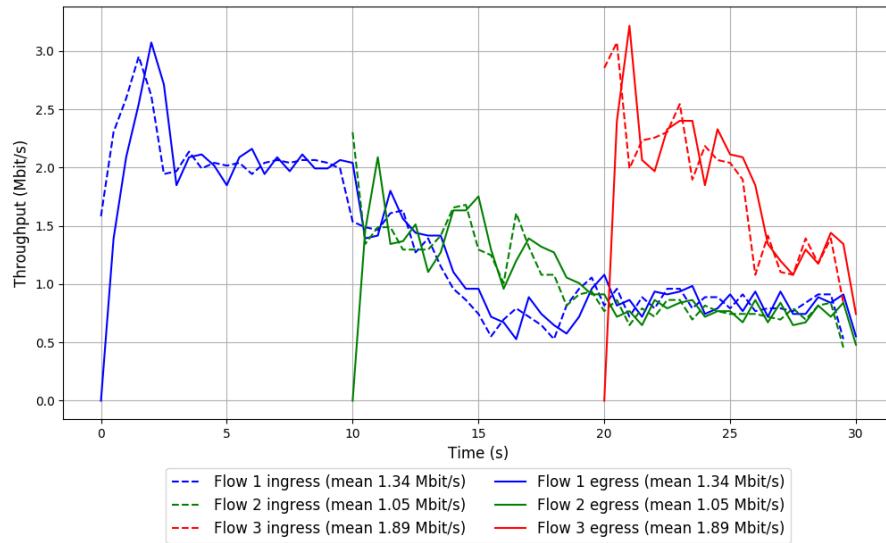


Run 1: Statistics of Indigo

```
Start at: 2018-08-01 06:27:05
End at: 2018-08-01 06:27:35
Local clock offset: 0.836 ms
Remote clock offset: -0.498 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 140.834 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 126.010 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 175.883 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 131.352 ms
Loss rate: 0.52%
```

Run 1: Report of Indigo — Data Link

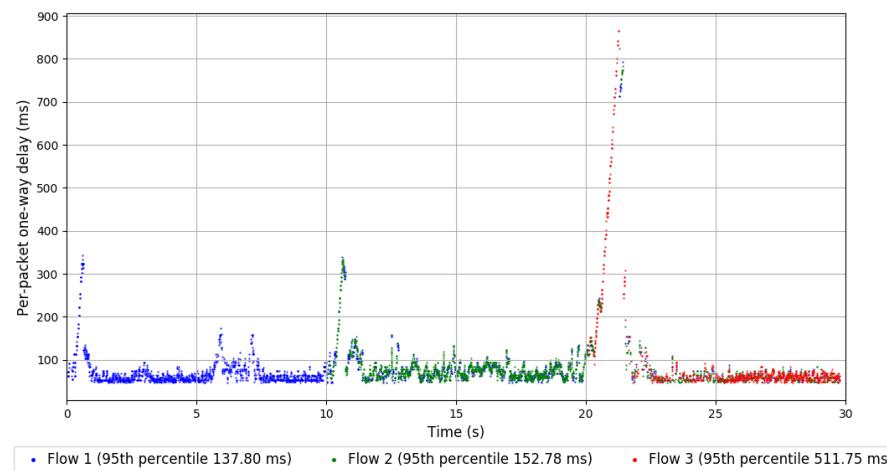
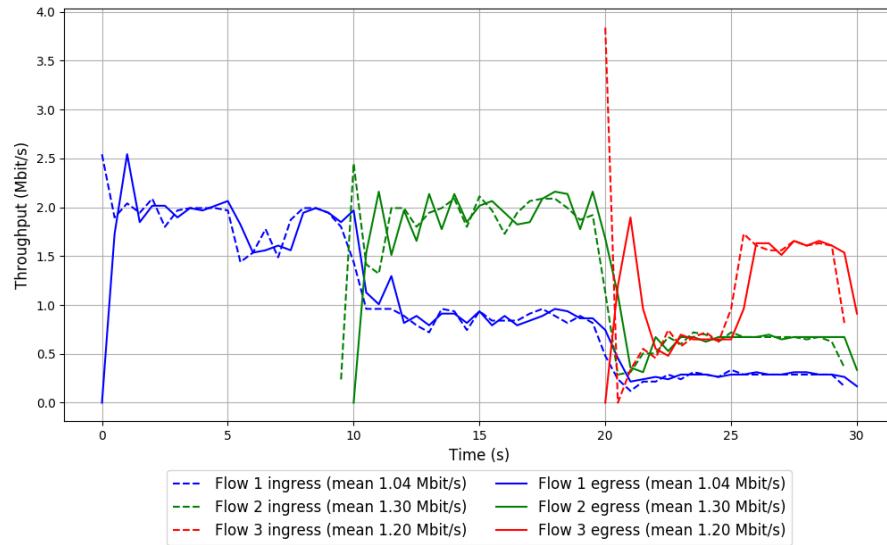


Run 2: Statistics of Indigo

```
Start at: 2018-08-01 06:45:57
End at: 2018-08-01 06:46:27
Local clock offset: 0.306 ms
Remote clock offset: -4.5 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 213.660 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 137.799 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 152.784 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 511.750 ms
Loss rate: 0.72%
```

Run 2: Report of Indigo — Data Link

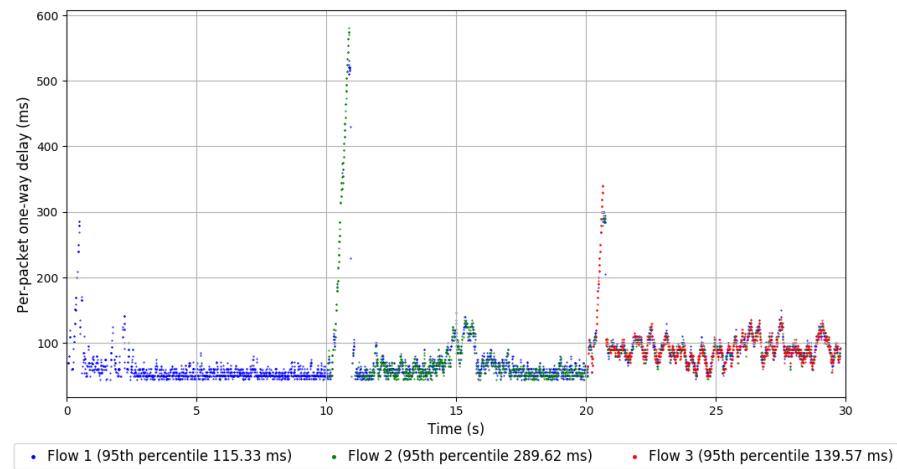
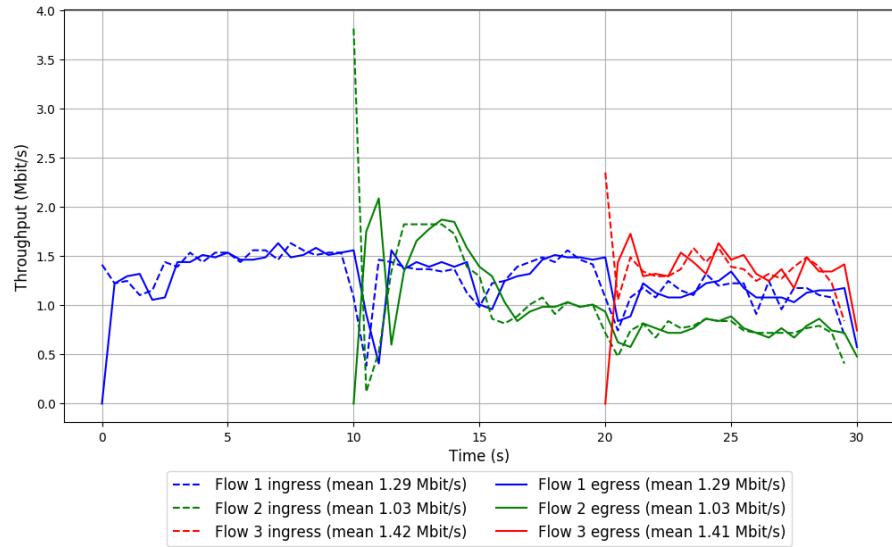


Run 3: Statistics of Indigo

```
Start at: 2018-08-01 07:04:32
End at: 2018-08-01 07:05:02
Local clock offset: 1.481 ms
Remote clock offset: -6.489 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 129.568 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 115.328 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 289.618 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 139.571 ms
Loss rate: 1.12%
```

Run 3: Report of Indigo — Data Link

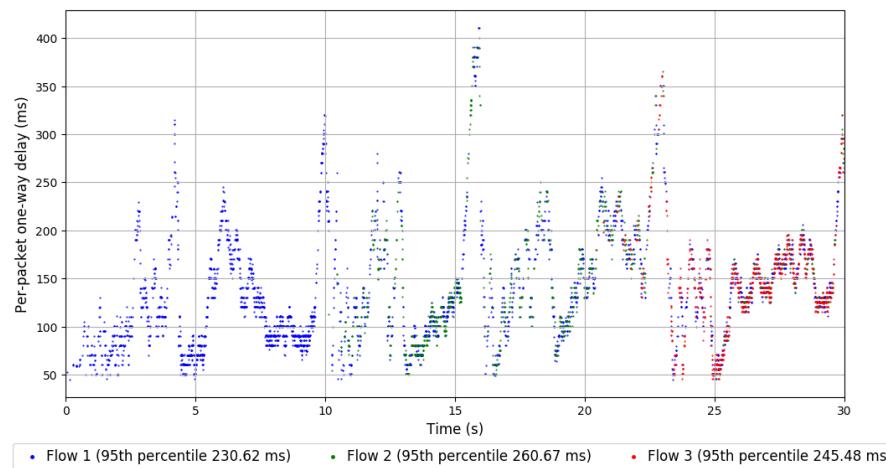
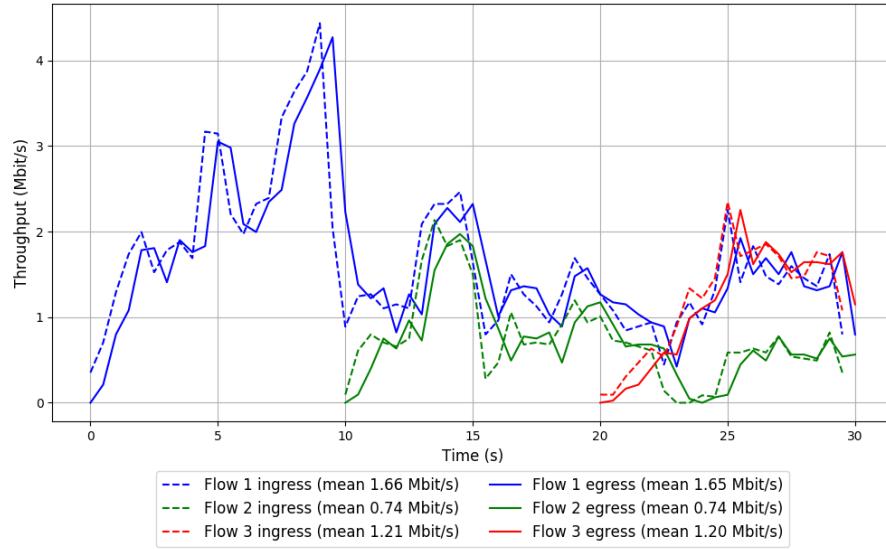


```
Run 1: Statistics of LEDBAT

Start at: 2018-08-01 06:28:12
End at: 2018-08-01 06:28:42
Local clock offset: -0.357 ms
Remote clock offset: -8.11 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 235.825 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 230.620 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 260.671 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 245.479 ms
Loss rate: 1.57%
```

Run 1: Report of LEDBAT — Data Link

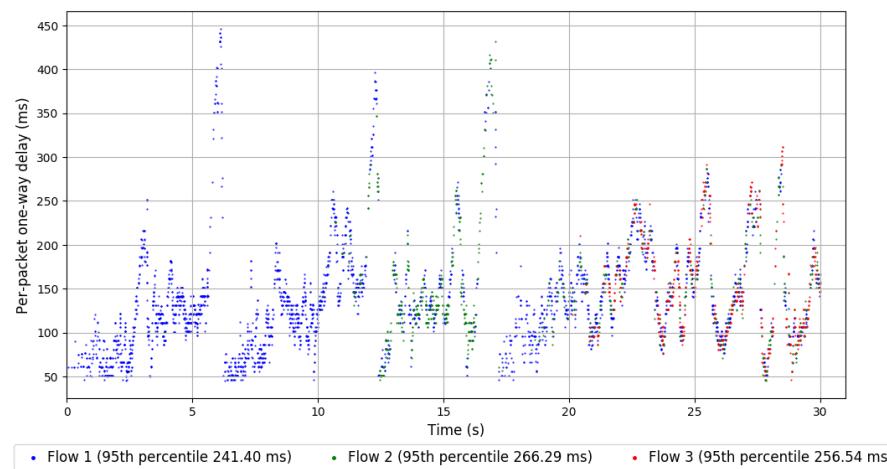
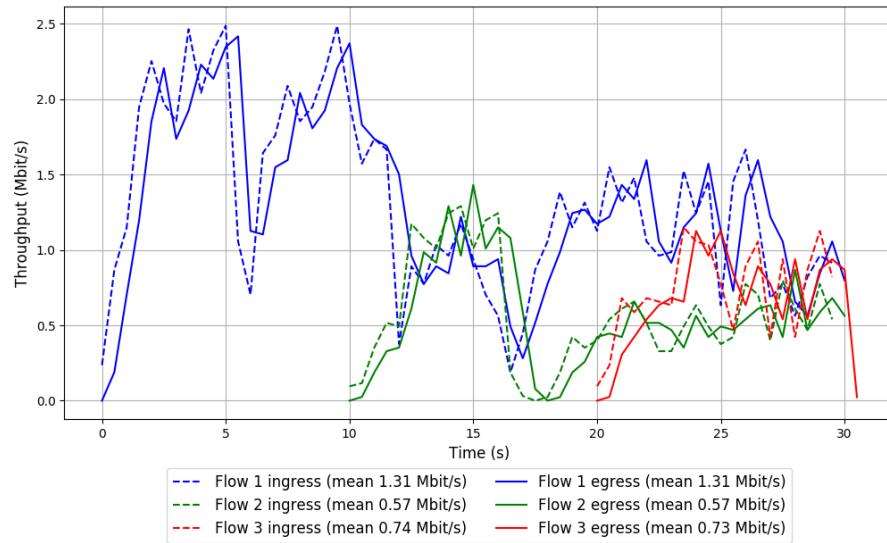


Run 2: Statistics of LEDBAT

```
Start at: 2018-08-01 06:47:02
End at: 2018-08-01 06:47:32
Local clock offset: 1.93 ms
Remote clock offset: -5.492 ms

# Below is generated by plot.py at 2018-08-01 07:09:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 255.623 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 241.397 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 266.285 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 256.536 ms
Loss rate: 1.77%
```

Run 2: Report of LEDBAT — Data Link

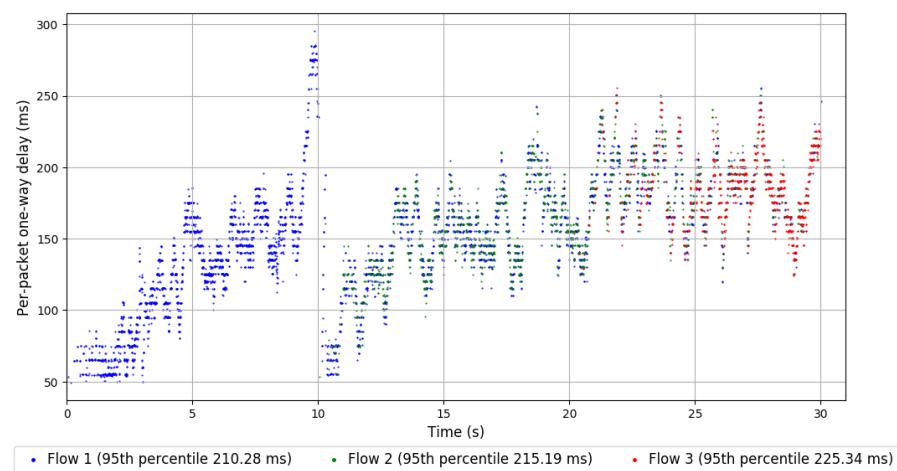
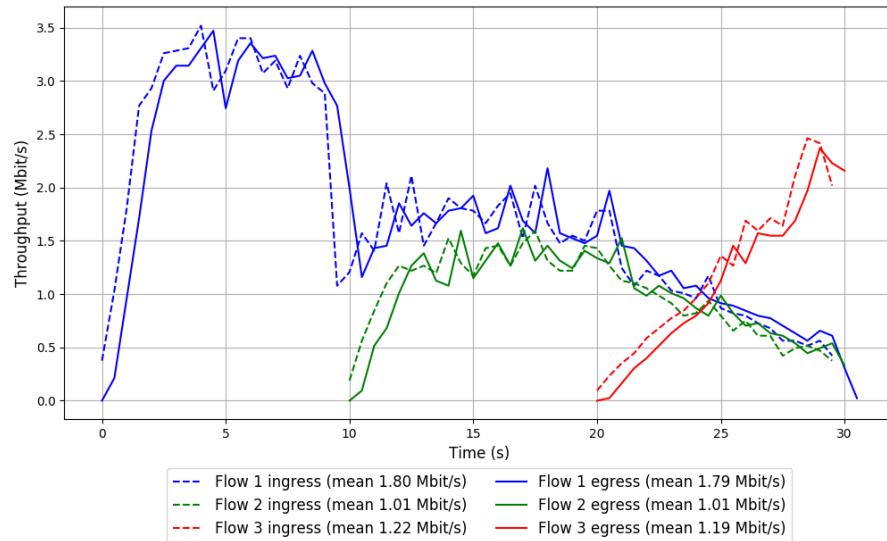


Run 3: Statistics of LEDBAT

```
Start at: 2018-08-01 07:05:37
End at: 2018-08-01 07:06:07
Local clock offset: -0.957 ms
Remote clock offset: -4.357 ms

# Below is generated by plot.py at 2018-08-01 07:09:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 215.284 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 210.276 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 215.188 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 225.338 ms
Loss rate: 3.76%
```

Run 3: Report of LEDBAT — Data Link

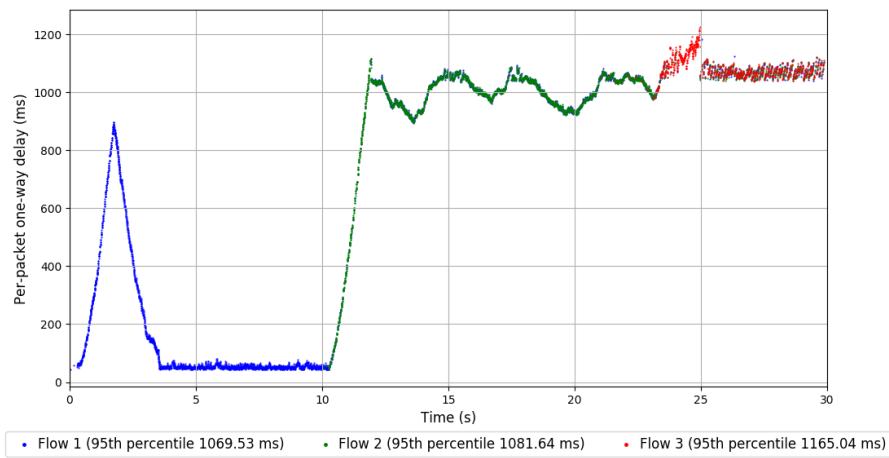
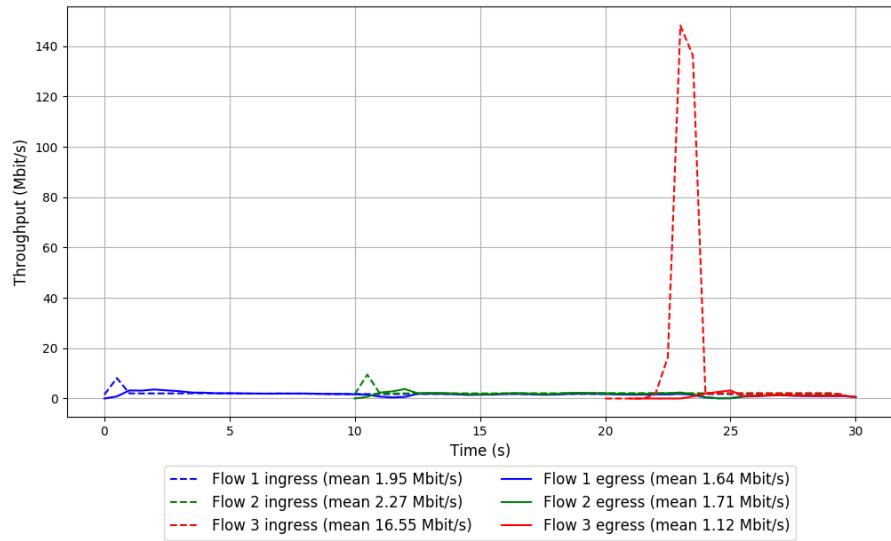


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-08-01 06:24:52
End at: 2018-08-01 06:25:22
Local clock offset: 1.471 ms
Remote clock offset: -6.772 ms

# Below is generated by plot.py at 2018-08-01 07:09:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 1093.131 ms
Loss rate: 65.20%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 1069.527 ms
Loss rate: 15.85%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 1081.642 ms
Loss rate: 24.86%
-- Flow 3:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 1165.035 ms
Loss rate: 93.94%
```

Run 1: Report of PCC-Allegro — Data Link

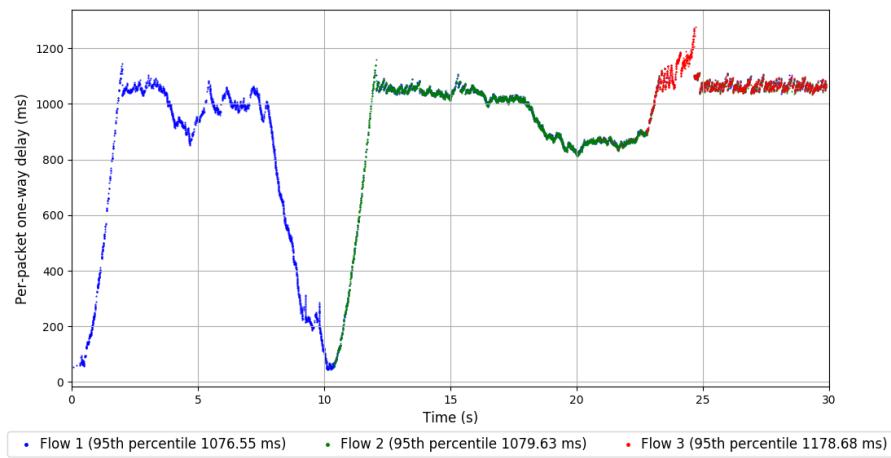
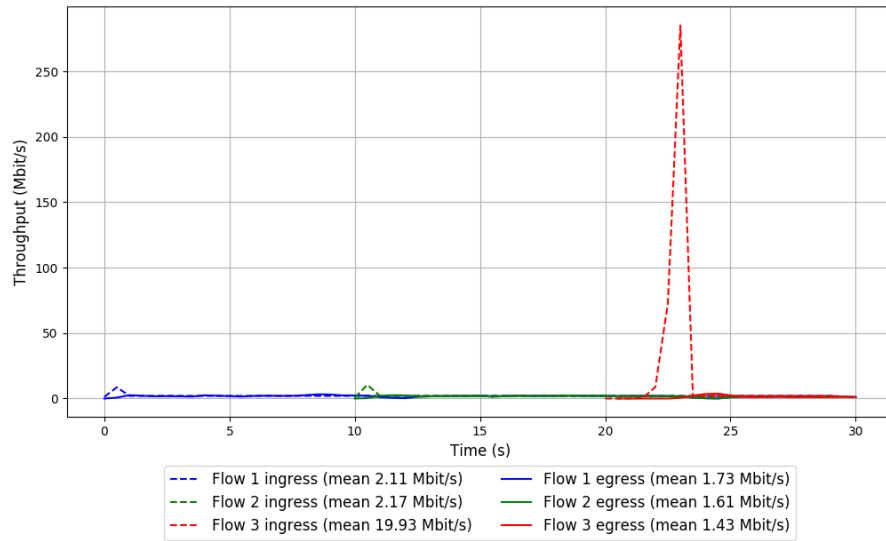


```
Run 2: Statistics of PCC-Allegro
```

```
Start at: 2018-08-01 06:43:45
End at: 2018-08-01 06:44:15
Local clock offset: 0.576 ms
Remote clock offset: -7.629 ms

# Below is generated by plot.py at 2018-08-01 07:09:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 1097.664 ms
Loss rate: 68.20%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 1076.549 ms
Loss rate: 18.34%
-- Flow 2:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 1079.633 ms
Loss rate: 26.12%
-- Flow 3:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 1178.683 ms
Loss rate: 93.44%
```

Run 2: Report of PCC-Allegro — Data Link

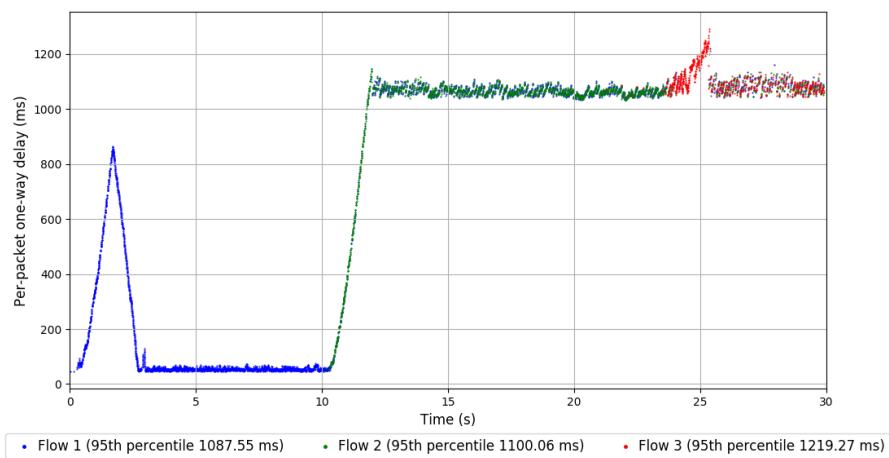
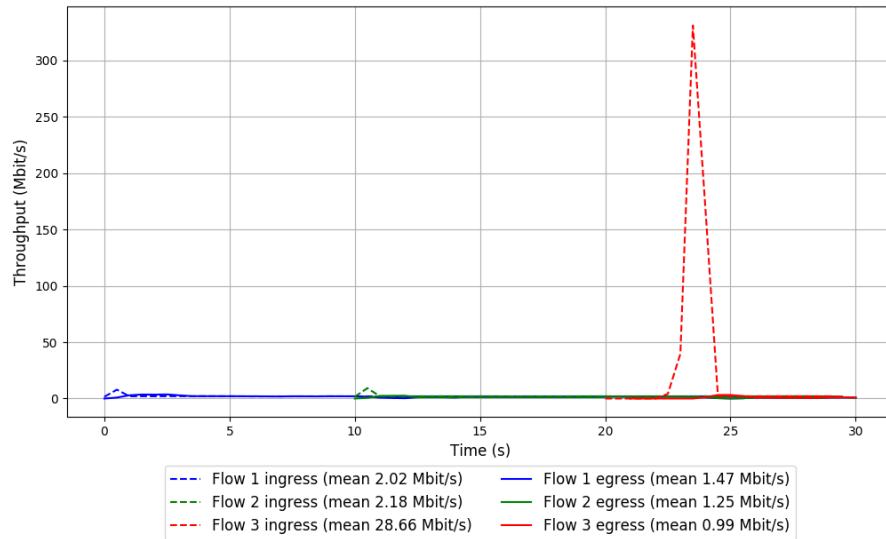


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-08-01 07:02:21
End at: 2018-08-01 07:02:51
Local clock offset: 0.488 ms
Remote clock offset: -4.095 ms

# Below is generated by plot.py at 2018-08-01 07:09:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 1110.057 ms
Loss rate: 80.09%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 1087.545 ms
Loss rate: 27.76%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 1100.062 ms
Loss rate: 42.84%
-- Flow 3:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 1219.270 ms
Loss rate: 97.00%
```

Run 3: Report of PCC-Allegro — Data Link

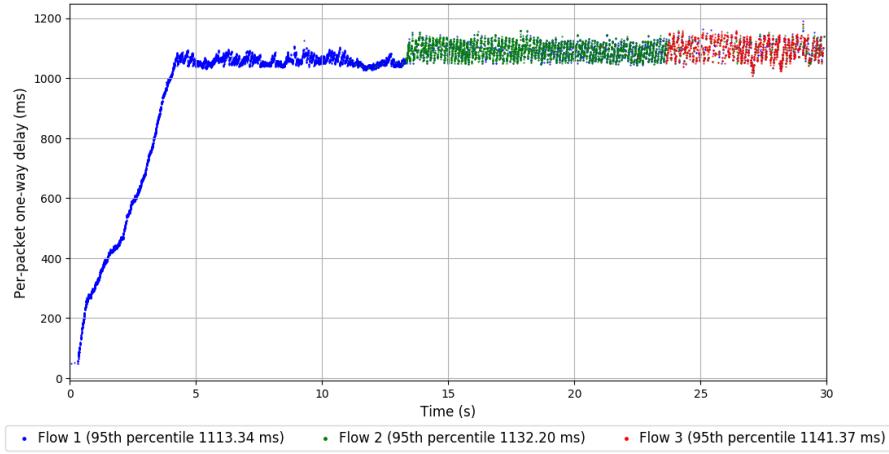
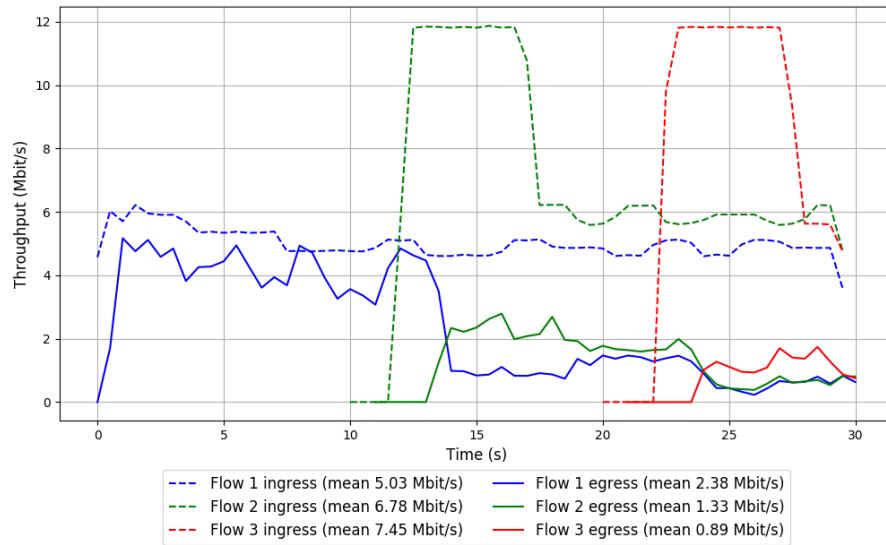


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-08-01 06:19:23
End at: 2018-08-01 06:19:53
Local clock offset: 1.547 ms
Remote clock offset: -7.155 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 1126.281 ms
Loss rate: 71.05%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 1113.335 ms
Loss rate: 52.70%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 1132.196 ms
Loss rate: 81.47%
-- Flow 3:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 1141.372 ms
Loss rate: 89.45%
```

Run 1: Report of PCC-Expr — Data Link

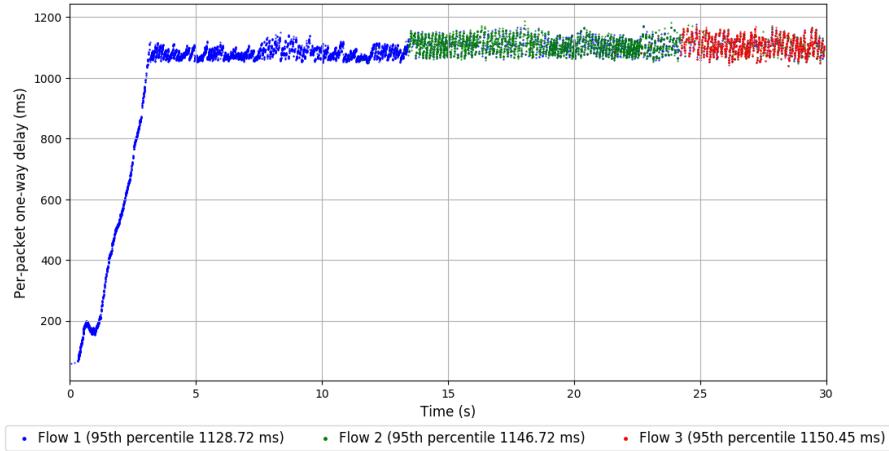
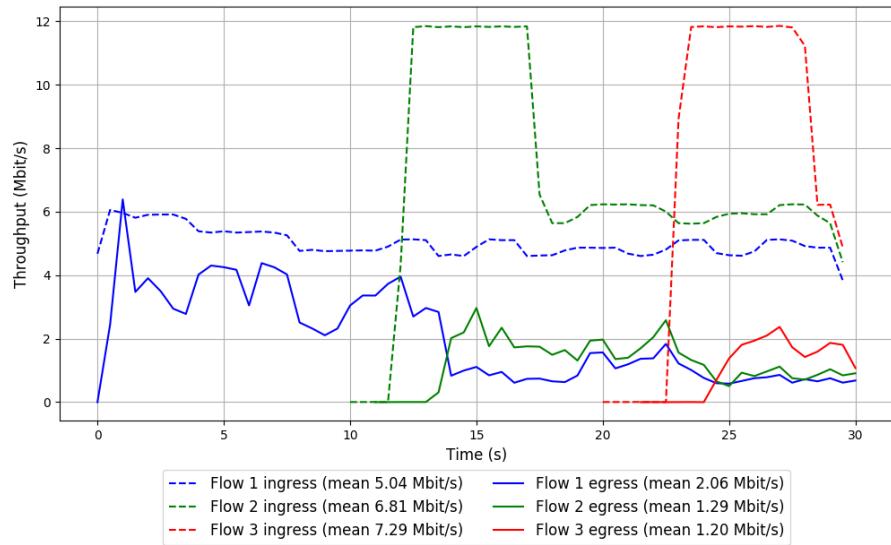


Run 2: Statistics of PCC-Expr

```
Start at: 2018-08-01 06:38:09
End at: 2018-08-01 06:38:39
Local clock offset: 0.403 ms
Remote clock offset: 7.828 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 1139.611 ms
Loss rate: 73.25%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 1128.724 ms
Loss rate: 59.08%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 1146.718 ms
Loss rate: 82.10%
-- Flow 3:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 1150.446 ms
Loss rate: 86.25%
```

Run 2: Report of PCC-Expr — Data Link

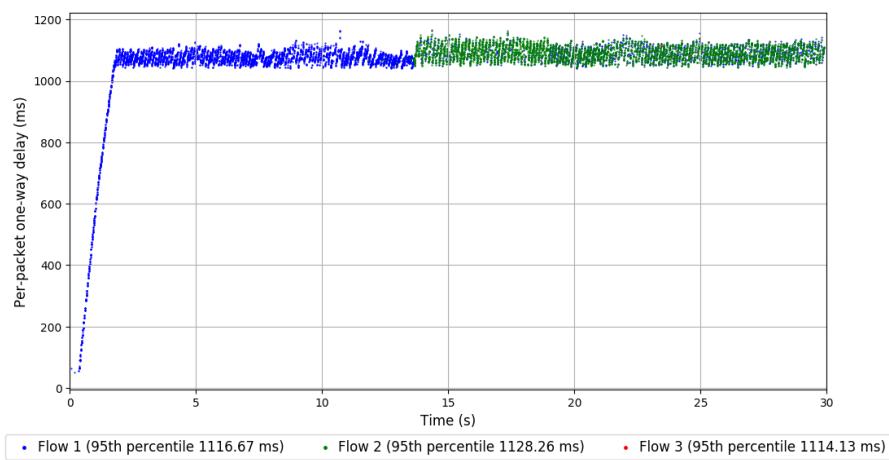
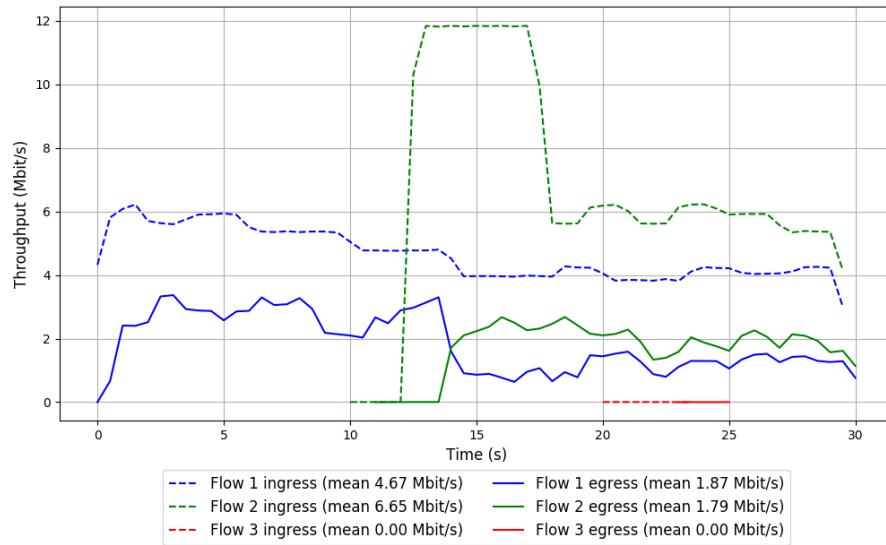


Run 3: Statistics of PCC-Expr

```
Start at: 2018-08-01 06:56:53
End at: 2018-08-01 06:57:23
Local clock offset: 0.246 ms
Remote clock offset: -4.989 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 1122.377 ms
Loss rate: 67.27%
-- Flow 1:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 1116.672 ms
Loss rate: 60.09%
-- Flow 2:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 1128.262 ms
Loss rate: 74.85%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1114.128 ms
Loss rate: 83.22%
```

Run 3: Report of PCC-Expr — Data Link

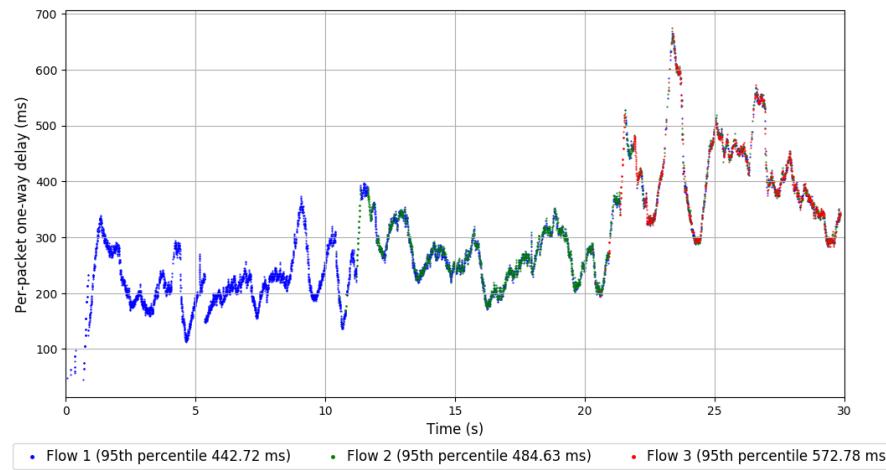
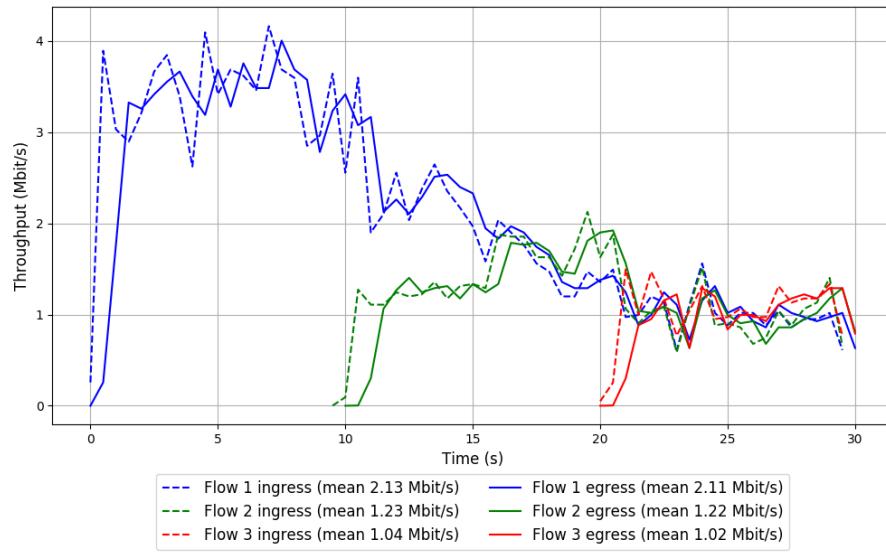


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-01 06:20:29
End at: 2018-08-01 06:20:59
Local clock offset: 2.425 ms
Remote clock offset: -5.165 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 474.683 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 442.723 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 484.628 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 572.779 ms
Loss rate: 4.66%
```

Run 1: Report of QUIC Cubic — Data Link

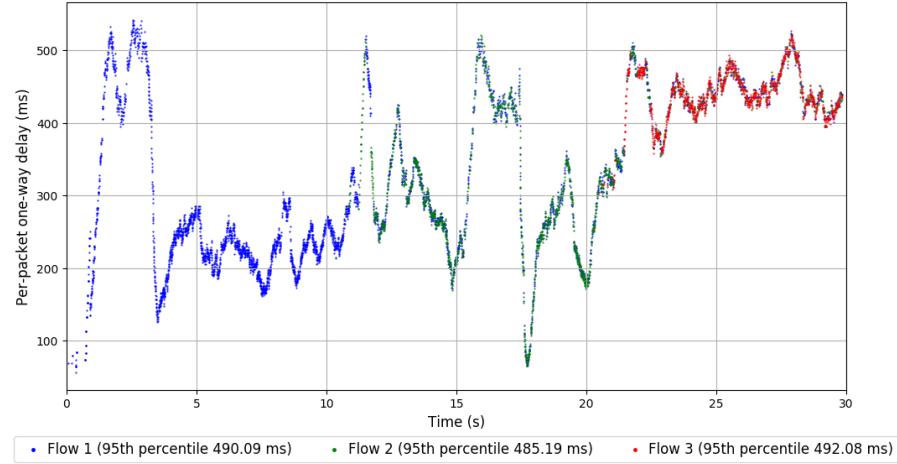
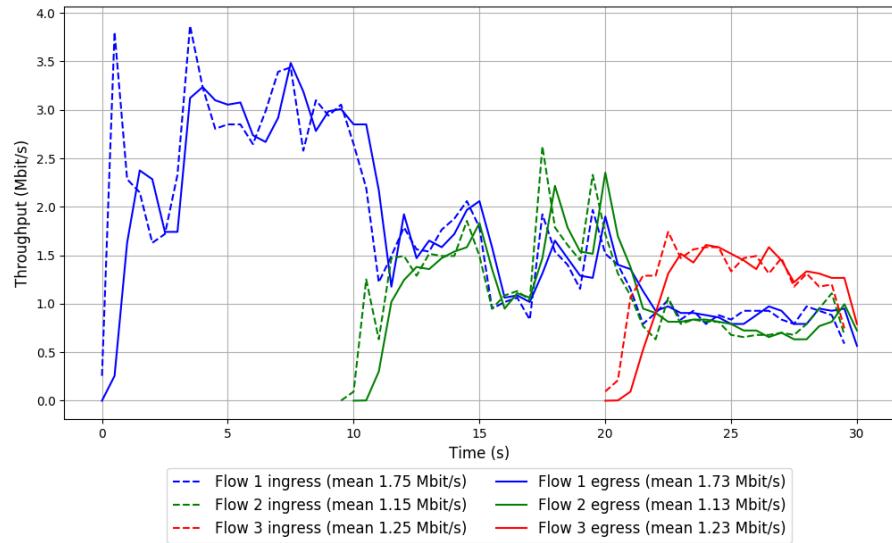


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-08-01 06:39:17
End at: 2018-08-01 06:39:47
Local clock offset: 1.148 ms
Remote clock offset: 5.579 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 489.325 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 490.093 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 485.190 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 492.082 ms
Loss rate: 4.33%
```

Run 2: Report of QUIC Cubic — Data Link

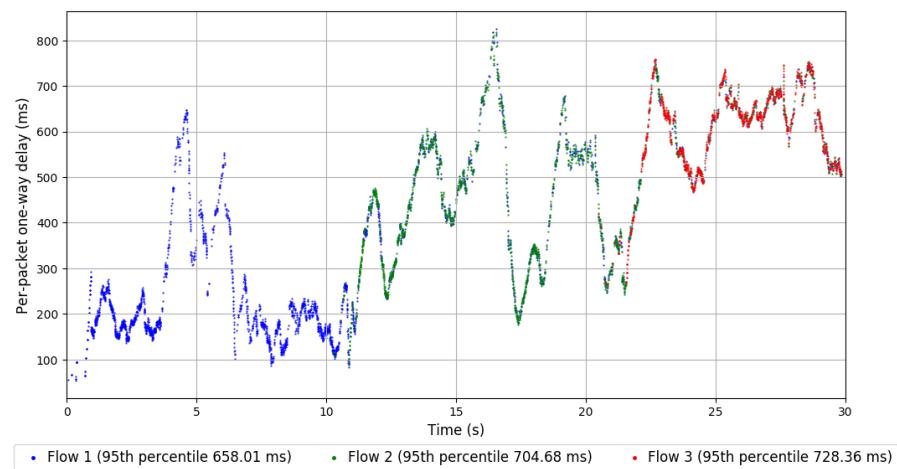
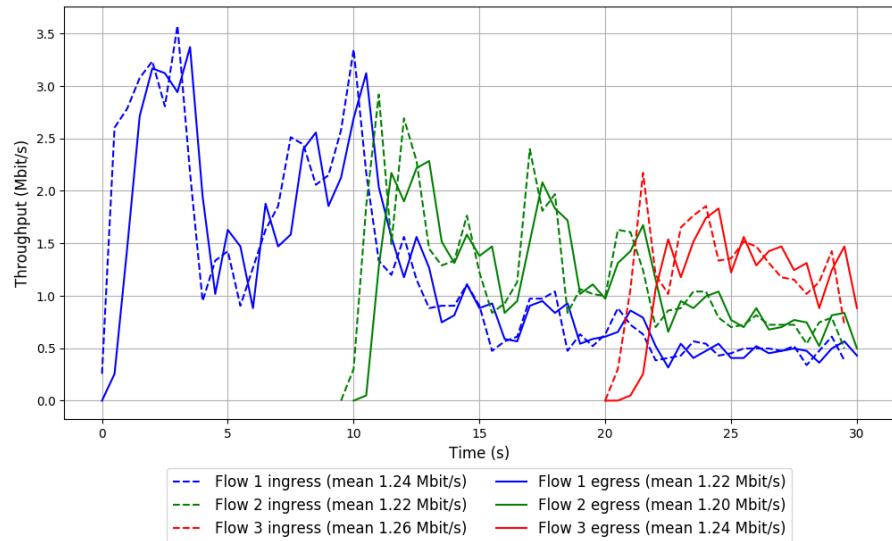


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-08-01 06:57:59
End at: 2018-08-01 06:58:29
Local clock offset: 0.442 ms
Remote clock offset: -3.944 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 698.831 ms
Loss rate: 2.68%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 658.006 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 704.678 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 728.359 ms
Loss rate: 5.97%
```

Run 3: Report of QUIC Cubic — Data Link

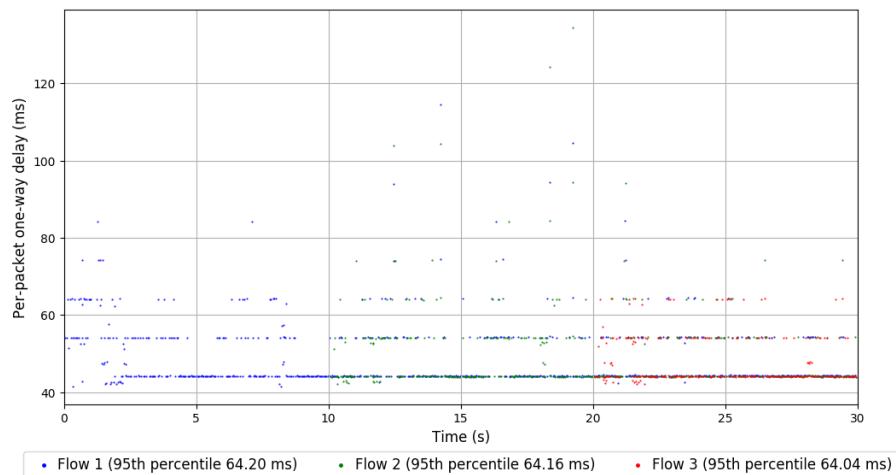
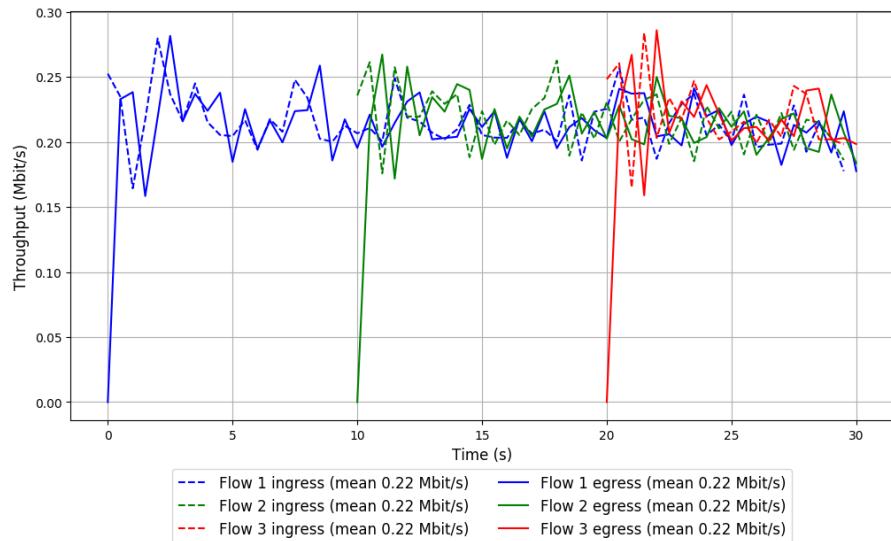


```
Run 1: Statistics of SCReAM

Start at: 2018-08-01 06:29:17
End at: 2018-08-01 06:29:47
Local clock offset: 1.989 ms
Remote clock offset: -8.659 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 64.186 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.201 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.158 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.040 ms
Loss rate: 0.35%
```

Run 1: Report of SCReAM — Data Link

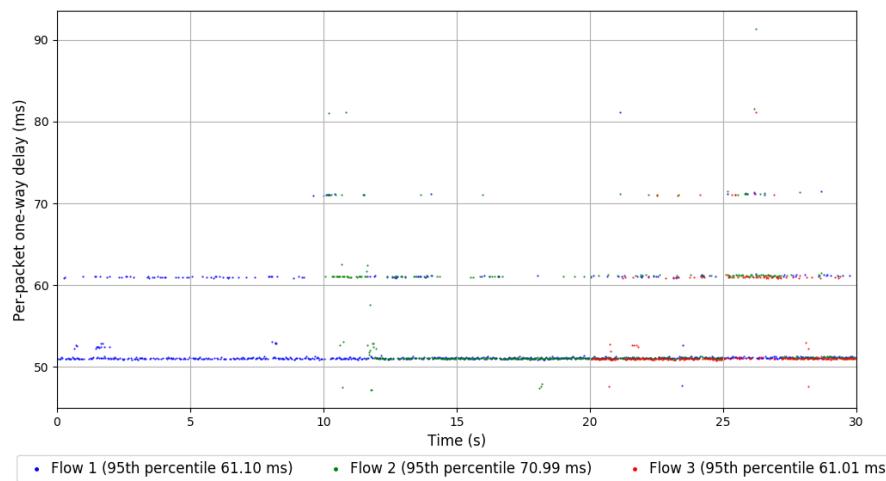
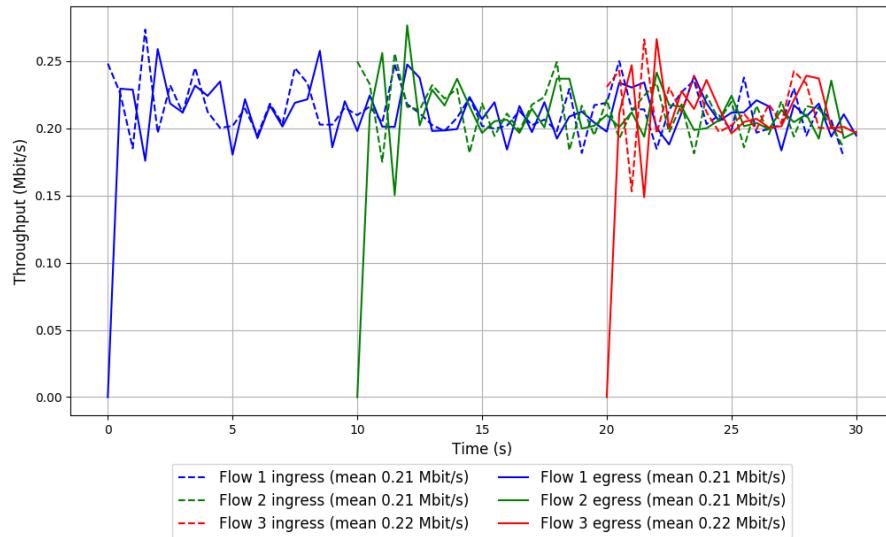


Run 2: Statistics of SCReAM

```
Start at: 2018-08-01 06:48:08
End at: 2018-08-01 06:48:38
Local clock offset: -1.282 ms
Remote clock offset: -7.482 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 61.192 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 61.100 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 70.993 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.006 ms
Loss rate: 0.35%
```

Run 2: Report of SCReAM — Data Link

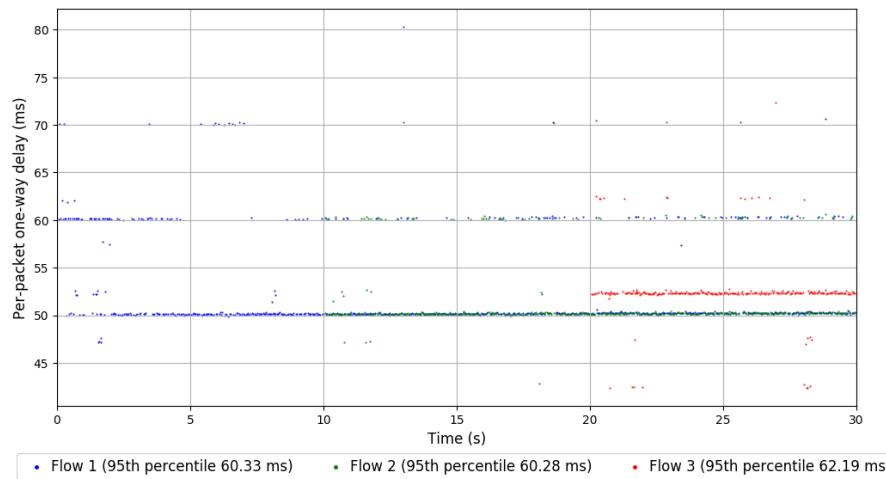
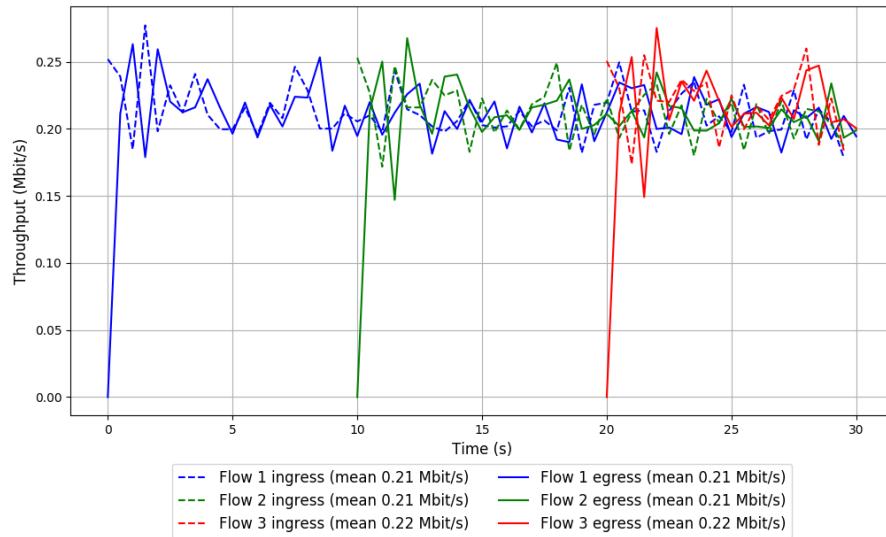


Run 3: Statistics of SCReAM

```
Start at: 2018-08-01 07:06:43
End at: 2018-08-01 07:07:13
Local clock offset: 0.064 ms
Remote clock offset: -6.091 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 60.313 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 60.330 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 60.282 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.192 ms
Loss rate: 0.36%
```

Run 3: Report of SCReAM — Data Link

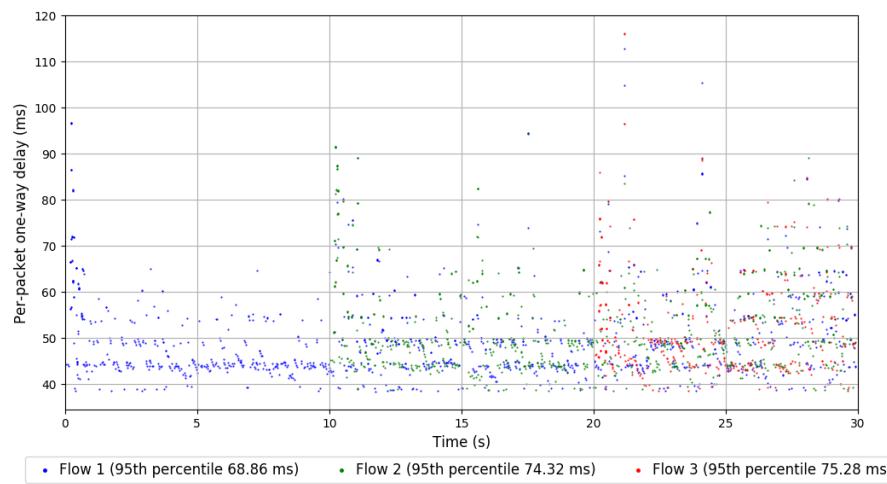
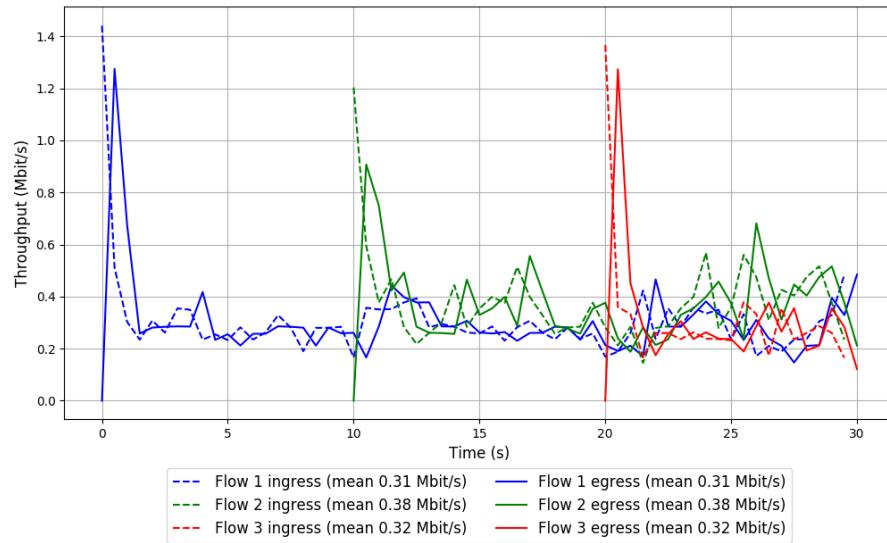


Run 1: Statistics of Sprout

```
Start at: 2018-08-01 06:21:35
End at: 2018-08-01 06:22:05
Local clock offset: 3.09 ms
Remote clock offset: -9.02 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 72.116 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 68.857 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 74.322 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 75.278 ms
Loss rate: 0.69%
```

Run 1: Report of Sprout — Data Link

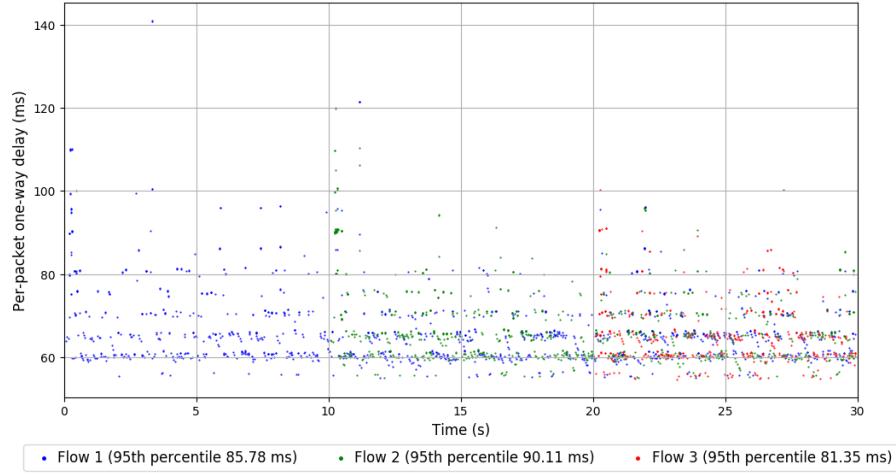
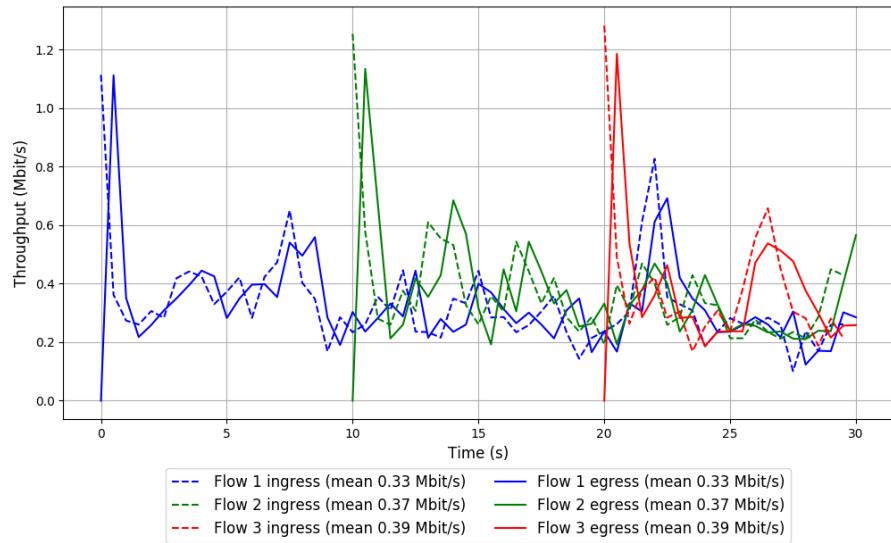


Run 2: Statistics of Sprout

```
Start at: 2018-08-01 06:40:28
End at: 2018-08-01 06:40:58
Local clock offset: 1.02 ms
Remote clock offset: 5.934 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 85.671 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 85.778 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 90.109 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 81.350 ms
Loss rate: 0.02%
```

Run 2: Report of Sprout — Data Link

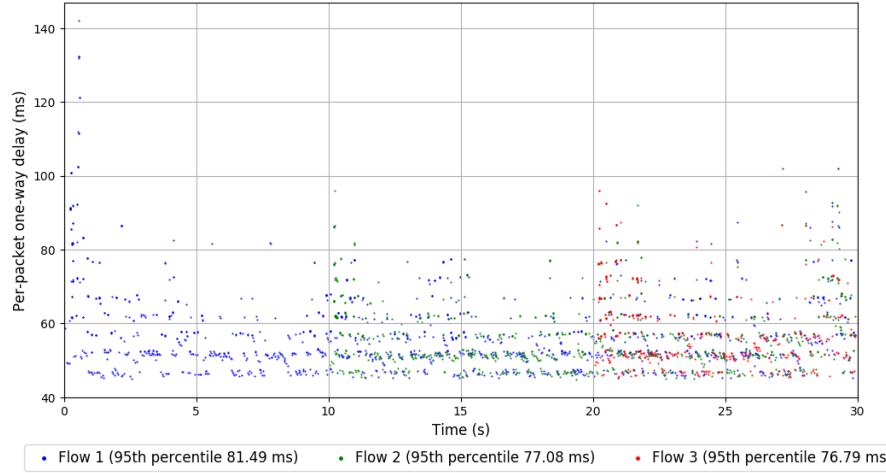
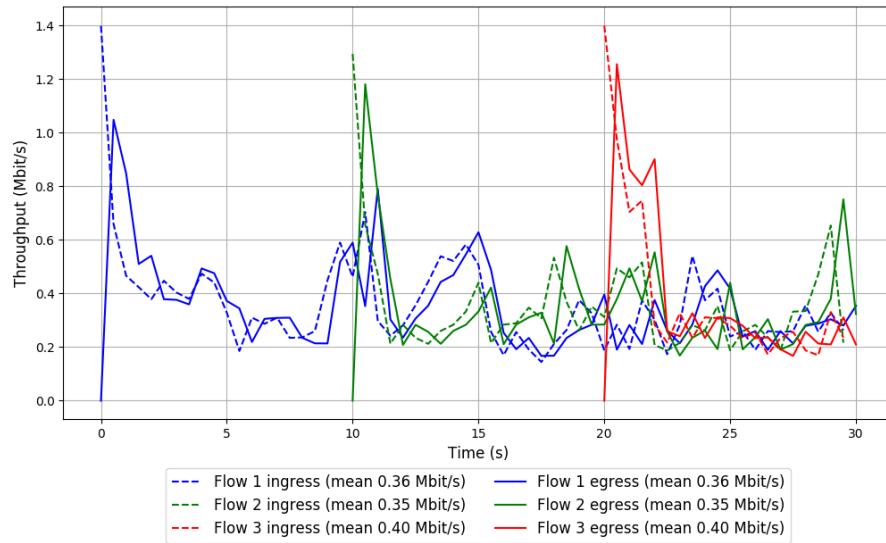


Run 3: Statistics of Sprout

```
Start at: 2018-08-01 06:59:04
End at: 2018-08-01 06:59:34
Local clock offset: 0.377 ms
Remote clock offset: -3.599 ms

# Below is generated by plot.py at 2018-08-01 07:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 77.291 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 81.489 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 77.085 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 76.793 ms
Loss rate: 0.59%
```

Run 3: Report of Sprout — Data Link

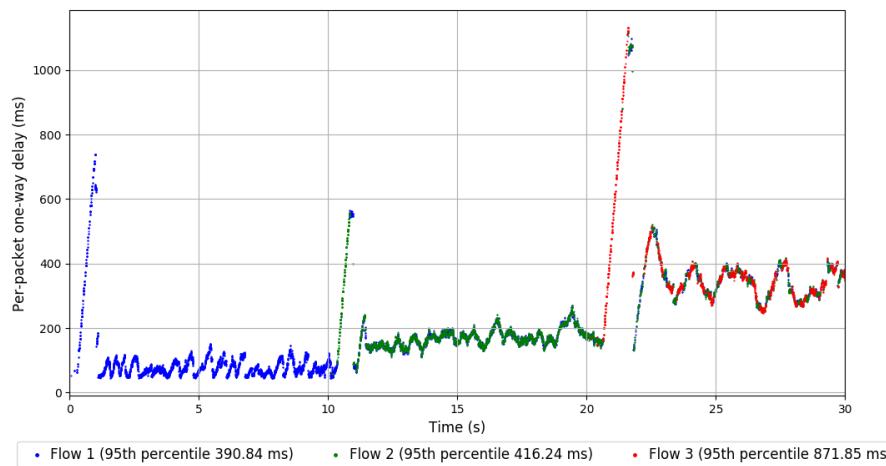
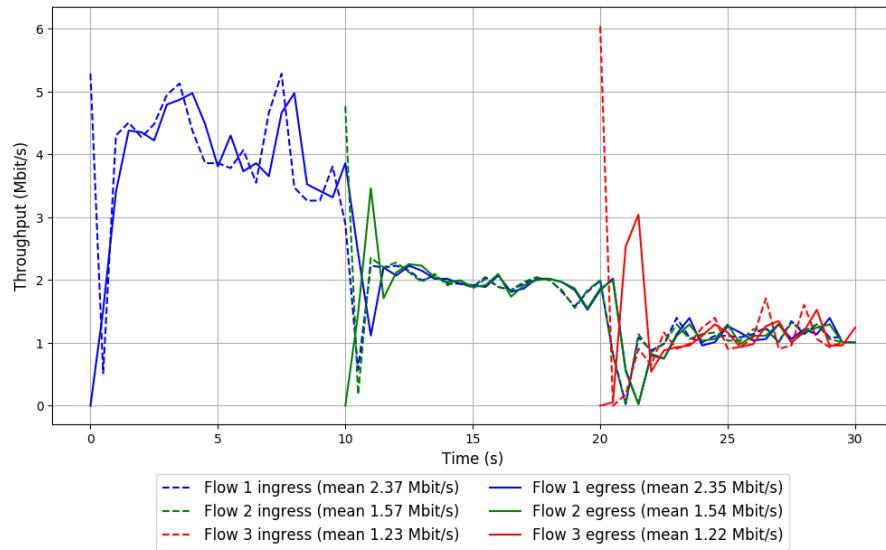


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-08-01 06:13:54
End at: 2018-08-01 06:14:24
Local clock offset: 0.646 ms
Remote clock offset: -7.74 ms

# Below is generated by plot.py at 2018-08-01 07:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 461.514 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 390.843 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 416.235 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 871.850 ms
Loss rate: 2.63%
```

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

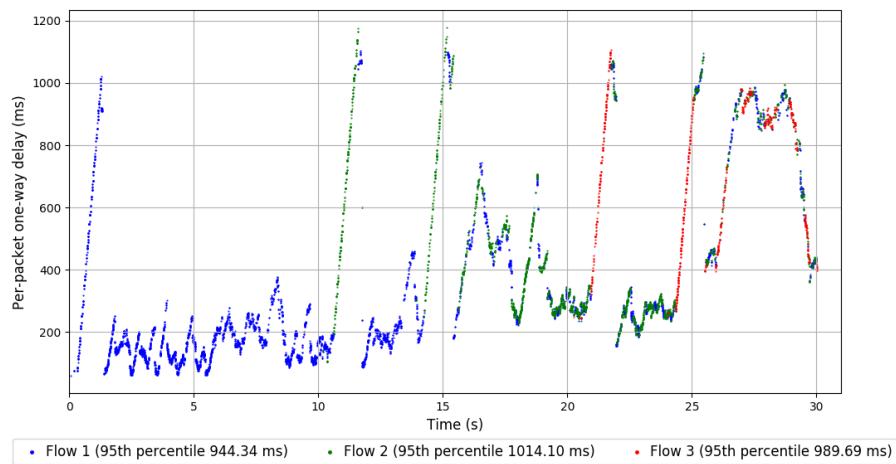
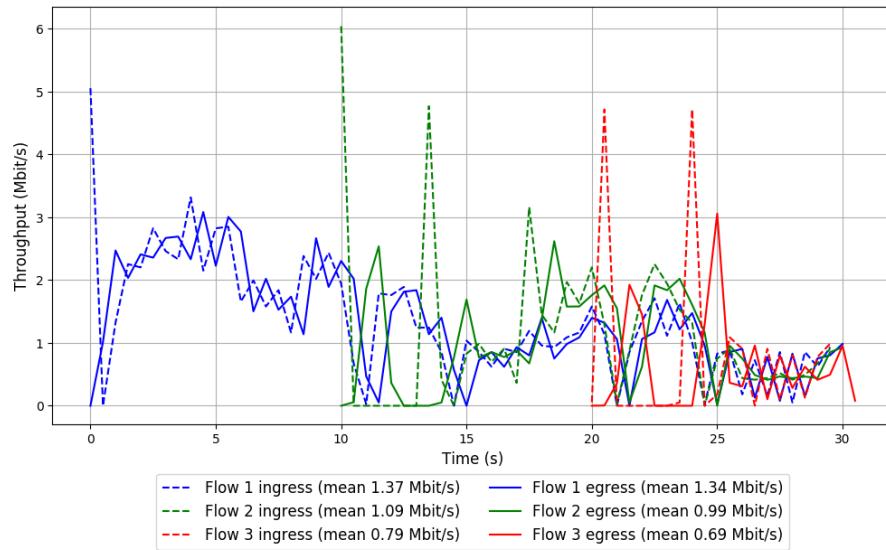


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-08-01 06:32:36
End at: 2018-08-01 06:33:06
Local clock offset: -0.972 ms
Remote clock offset: 5.226 ms

# Below is generated by plot.py at 2018-08-01 07:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 972.945 ms
Loss rate: 5.79%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 944.335 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 1014.101 ms
Loss rate: 10.28%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 989.694 ms
Loss rate: 12.56%
```

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

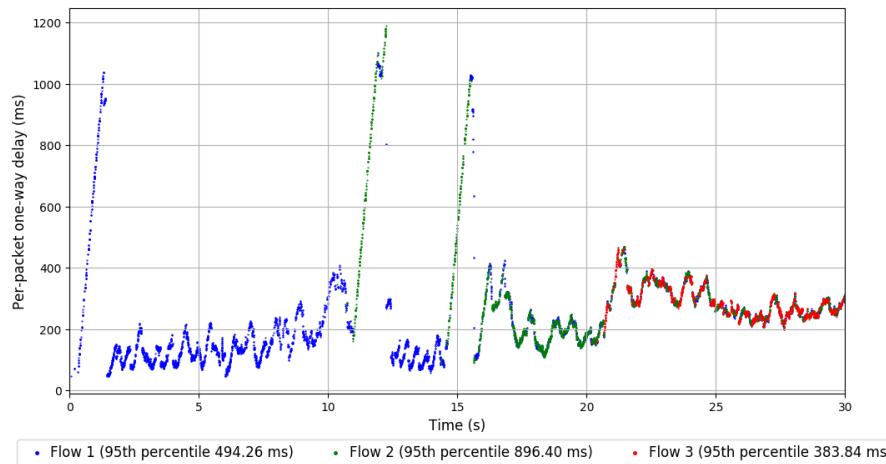
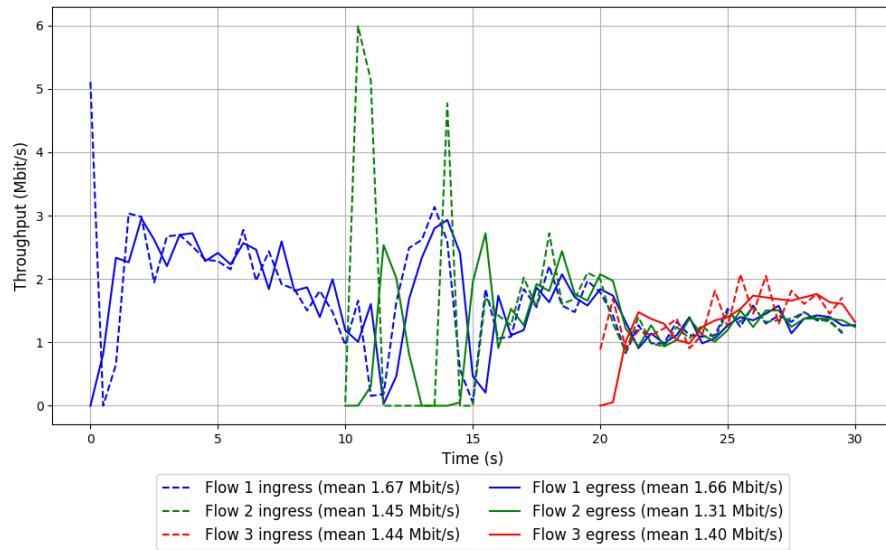


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-08-01 06:51:24
End at: 2018-08-01 06:51:54
Local clock offset: 2.495 ms
Remote clock offset: -4.906 ms

# Below is generated by plot.py at 2018-08-01 07:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 688.078 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 494.260 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 896.401 ms
Loss rate: 10.97%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 383.836 ms
Loss rate: 3.86%
```

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

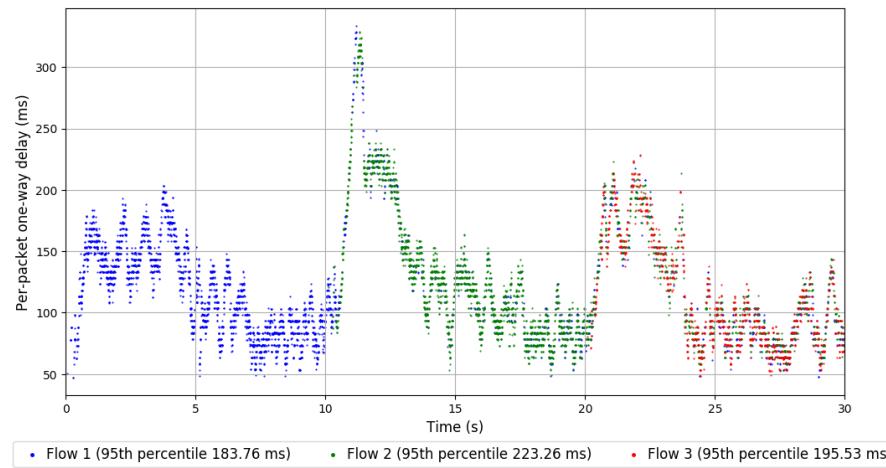
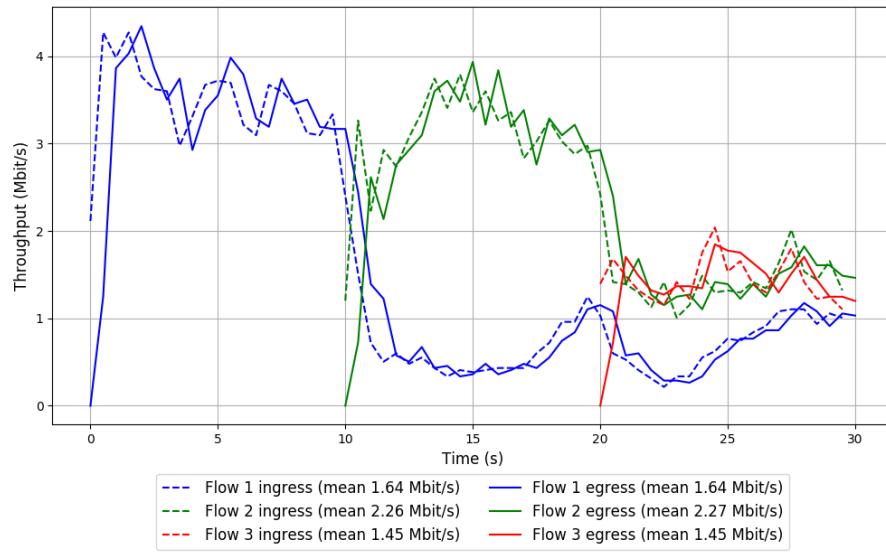


Run 1: Statistics of TCP Vegas

```
Start at: 2018-08-01 06:22:40
End at: 2018-08-01 06:23:10
Local clock offset: 1.02 ms
Remote clock offset: -8.458 ms

# Below is generated by plot.py at 2018-08-01 07:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.63 Mbit/s
95th percentile per-packet one-way delay: 208.520 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 183.758 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 223.258 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 195.534 ms
Loss rate: 0.50%
```

Run 1: Report of TCP Vegas — Data Link

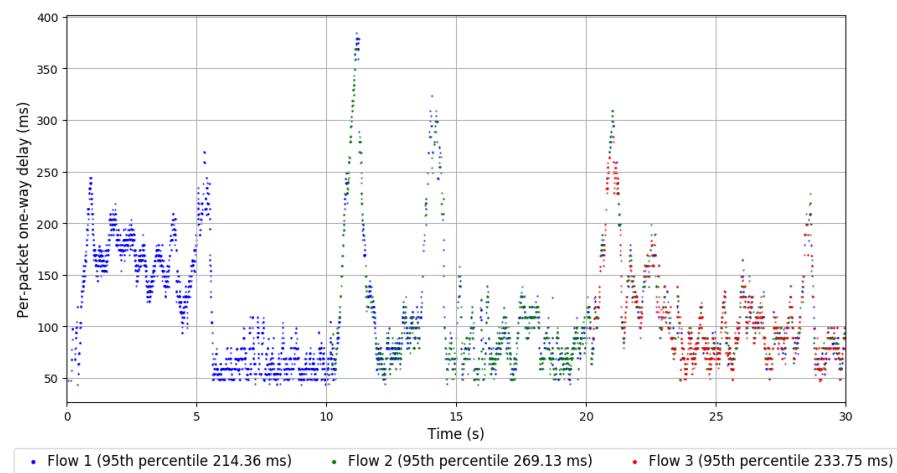
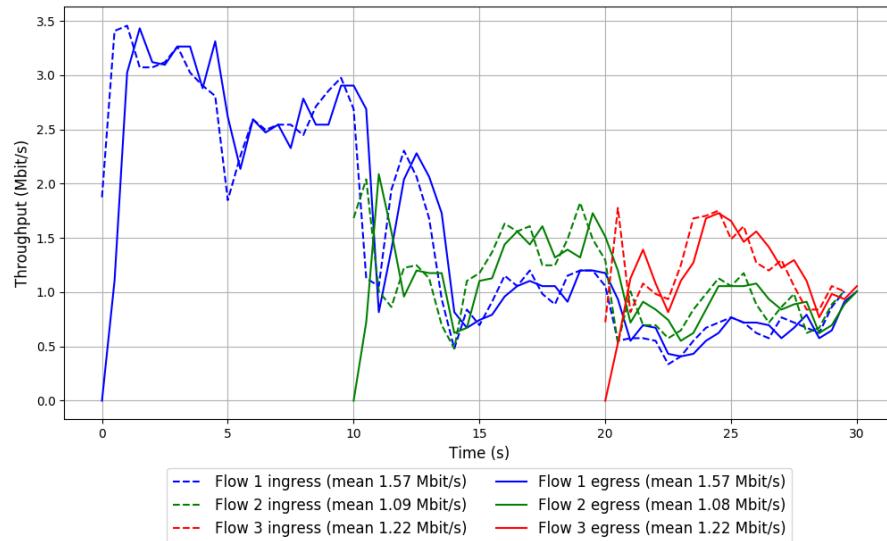


Run 2: Statistics of TCP Vegas

```
Start at: 2018-08-01 06:41:35
End at: 2018-08-01 06:42:05
Local clock offset: 1.276 ms
Remote clock offset: -6.926 ms

# Below is generated by plot.py at 2018-08-01 07:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 229.188 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 214.359 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 269.134 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 233.746 ms
Loss rate: 0.69%
```

Run 2: Report of TCP Vegas — Data Link

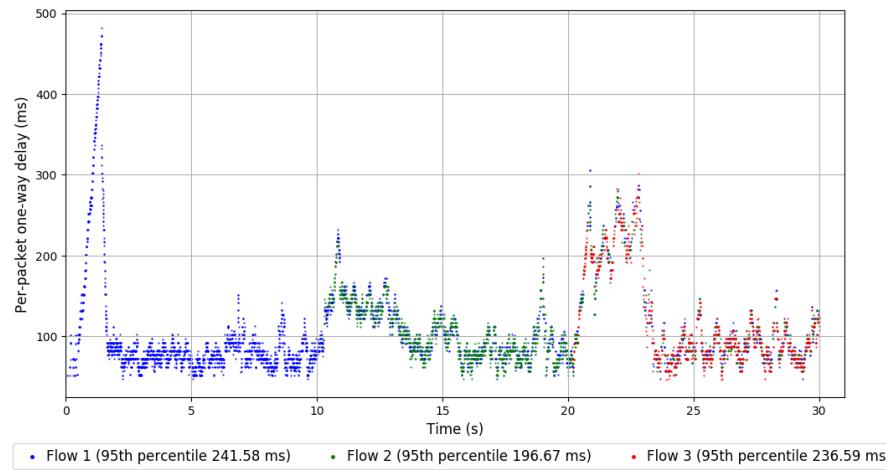
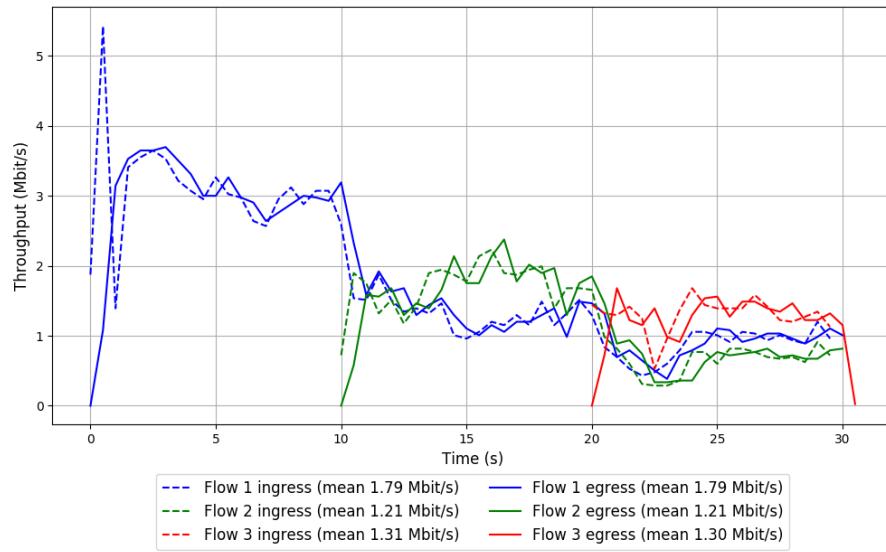


Run 3: Statistics of TCP Vegas

```
Start at: 2018-08-01 07:00:10
End at: 2018-08-01 07:00:40
Local clock offset: 0.492 ms
Remote clock offset: -4.952 ms

# Below is generated by plot.py at 2018-08-01 07:10:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 226.763 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 241.582 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 196.668 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 236.586 ms
Loss rate: 0.74%
```

Run 3: Report of TCP Vegas — Data Link

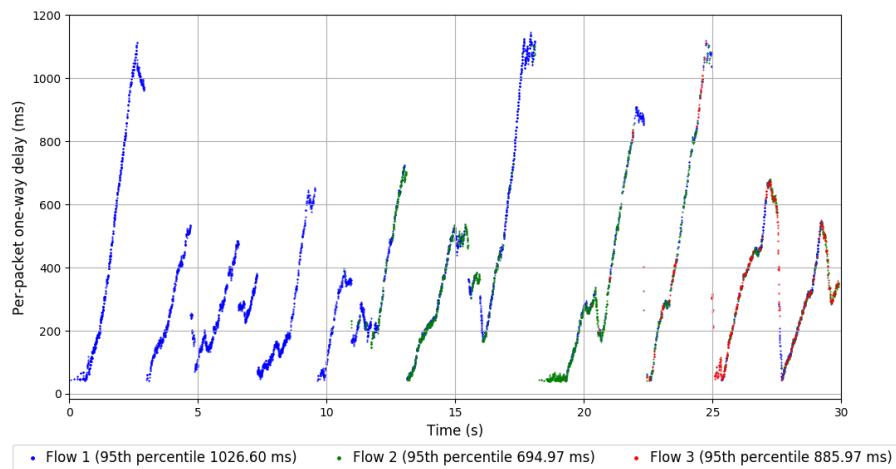
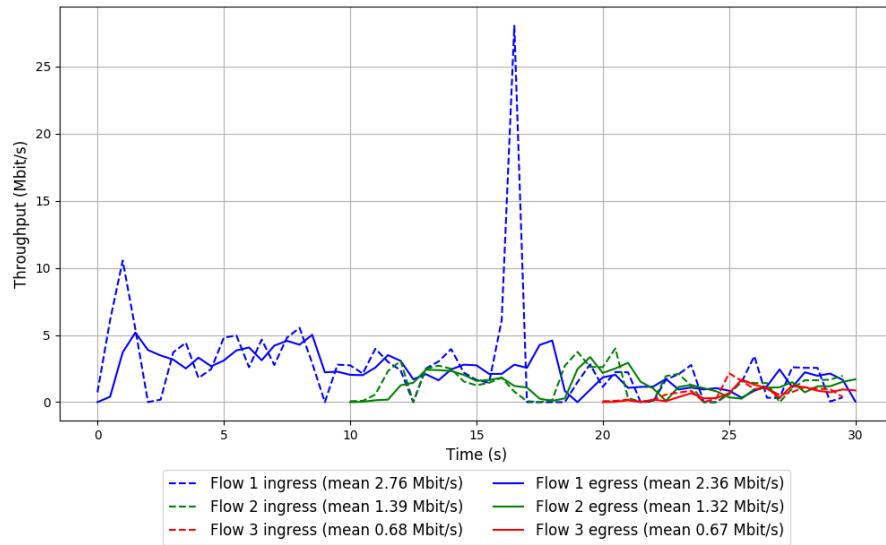


```
Run 1: Statistics of Verus
```

```
Start at: 2018-08-01 06:25:58
End at: 2018-08-01 06:26:28
Local clock offset: 3.275 ms
Remote clock offset: -8.276 ms

# Below is generated by plot.py at 2018-08-01 07:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 983.281 ms
Loss rate: 12.56%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 1026.598 ms
Loss rate: 15.55%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 694.969 ms
Loss rate: 5.62%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 885.965 ms
Loss rate: 4.24%
```

Run 1: Report of Verus — Data Link

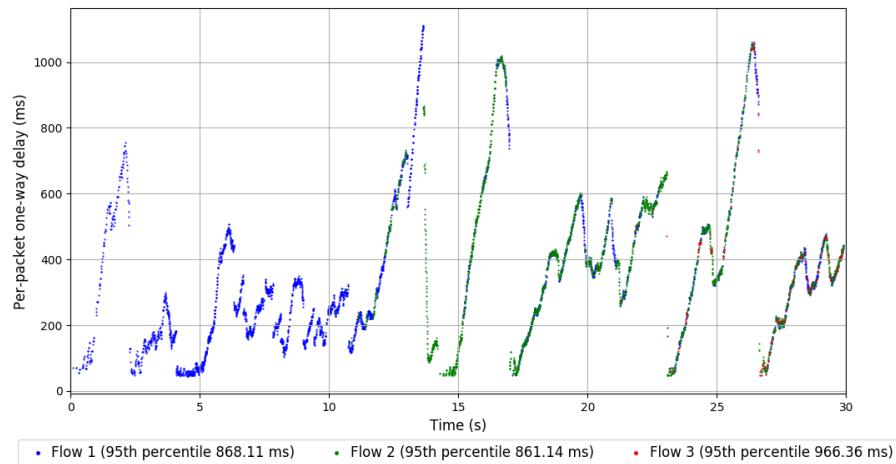
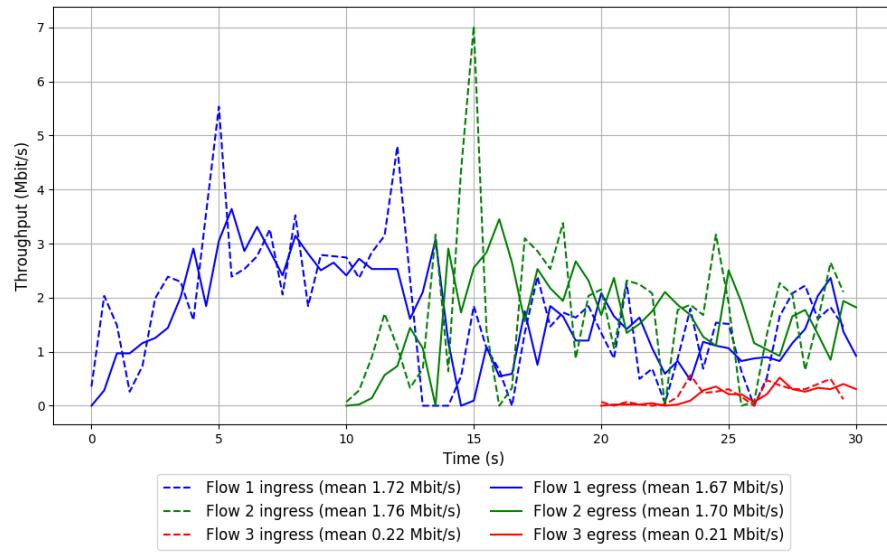


Run 2: Statistics of Verus

```
Start at: 2018-08-01 06:44:51
End at: 2018-08-01 06:45:21
Local clock offset: 0.89 ms
Remote clock offset: -5.307 ms

# Below is generated by plot.py at 2018-08-01 07:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 861.311 ms
Loss rate: 3.90%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 868.110 ms
Loss rate: 3.63%
-- Flow 2:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 861.139 ms
Loss rate: 4.04%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 966.359 ms
Loss rate: 8.11%
```

Run 2: Report of Verus — Data Link

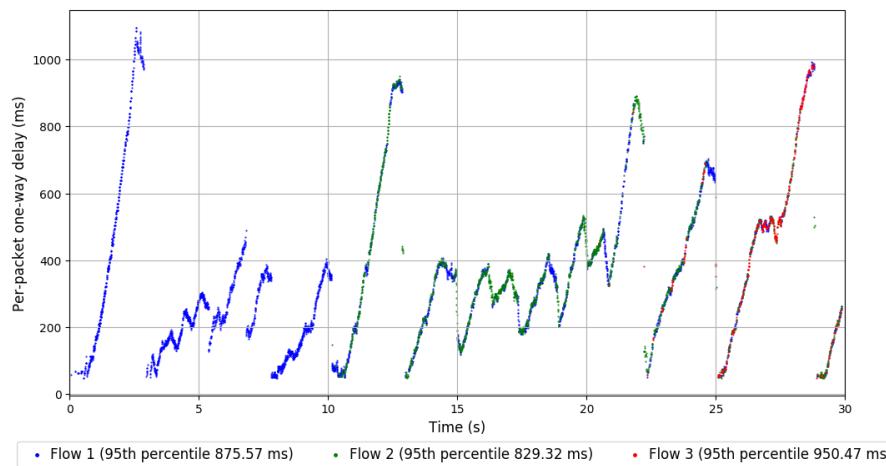
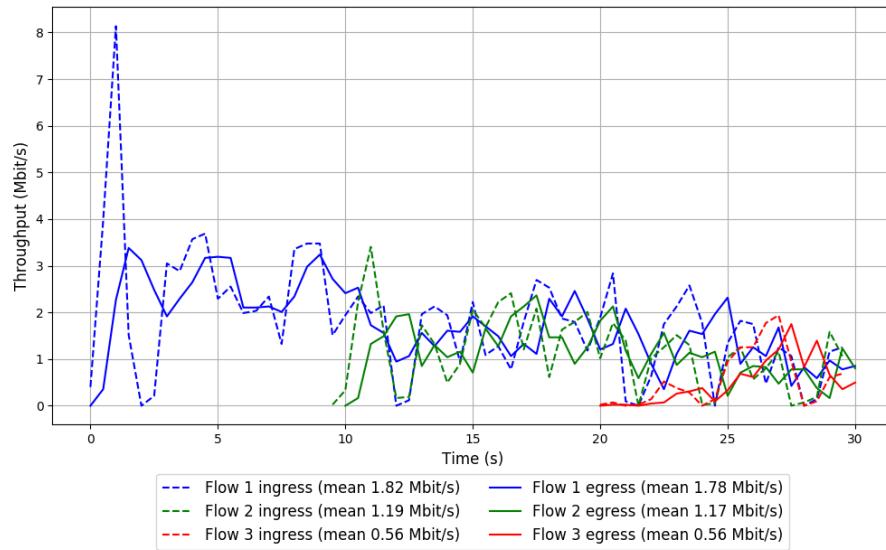


Run 3: Statistics of Verus

```
Start at: 2018-08-01 07:03:26
End at: 2018-08-01 07:03:56
Local clock offset: 0.342 ms
Remote clock offset: -3.853 ms

# Below is generated by plot.py at 2018-08-01 07:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 863.906 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 875.573 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 829.324 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 950.471 ms
Loss rate: 5.33%
```

Run 3: Report of Verus — Data Link

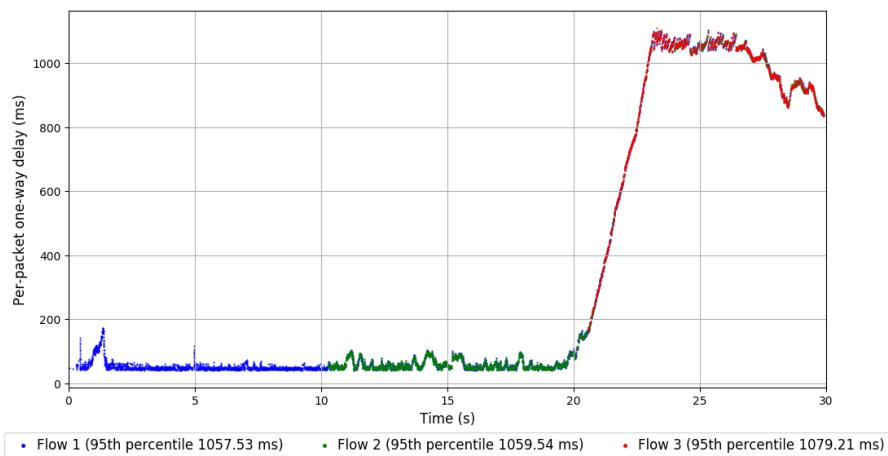
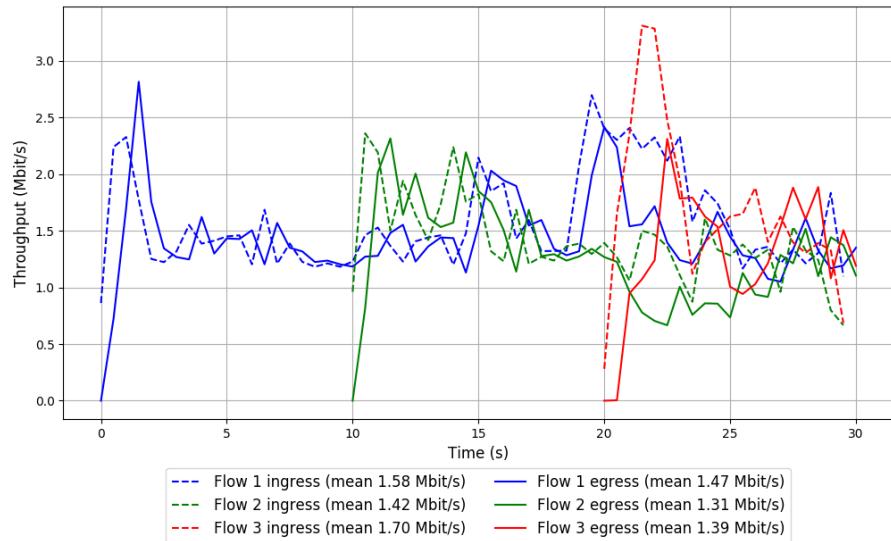


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-08-01 06:23:46
End at: 2018-08-01 06:24:16
Local clock offset: 1.593 ms
Remote clock offset: -8.821 ms

# Below is generated by plot.py at 2018-08-01 07:10:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 1063.709 ms
Loss rate: 9.74%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 1057.532 ms
Loss rate: 7.51%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 1059.544 ms
Loss rate: 7.85%
-- Flow 3:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 1079.211 ms
Loss rate: 19.16%
```

Run 1: Report of PCC-Vivace — Data Link

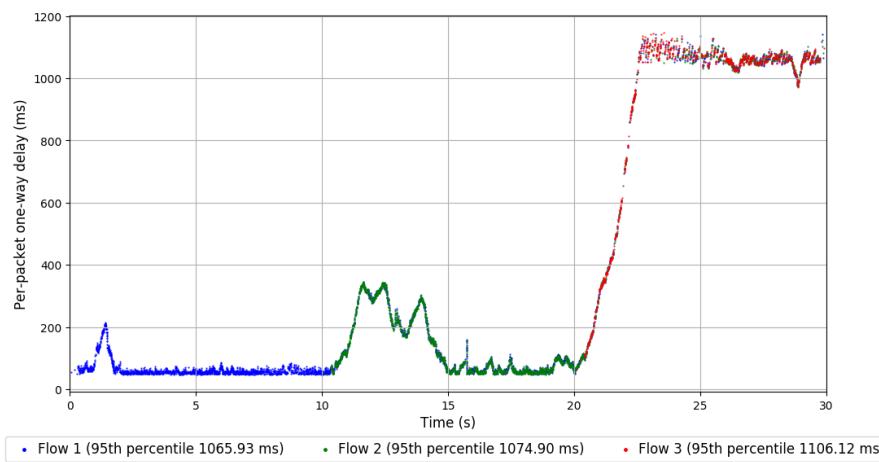
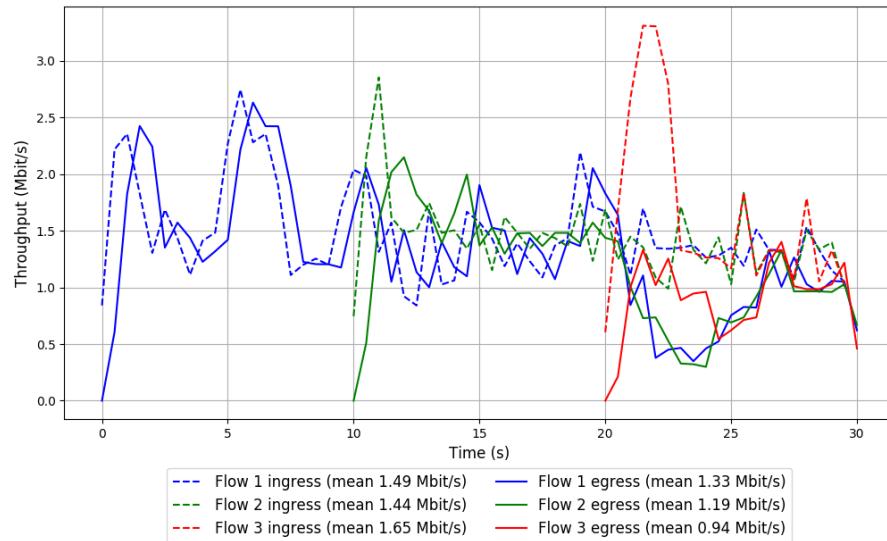


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-08-01 06:42:40
End at: 2018-08-01 06:43:10
Local clock offset: -0.821 ms
Remote clock offset: -4.57 ms

# Below is generated by plot.py at 2018-08-01 07:10:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 1077.527 ms
Loss rate: 19.14%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 1065.929 ms
Loss rate: 11.31%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1074.898 ms
Loss rate: 17.73%
-- Flow 3:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 1106.122 ms
Loss rate: 43.08%
```

Run 2: Report of PCC-Vivace — Data Link

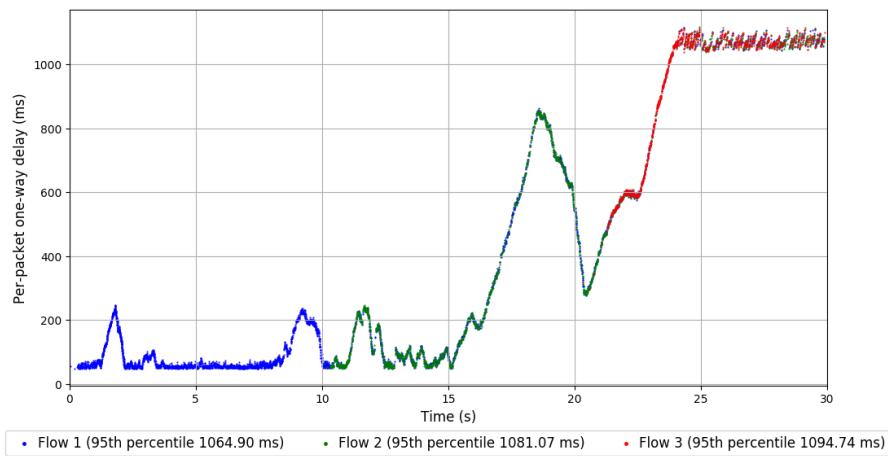
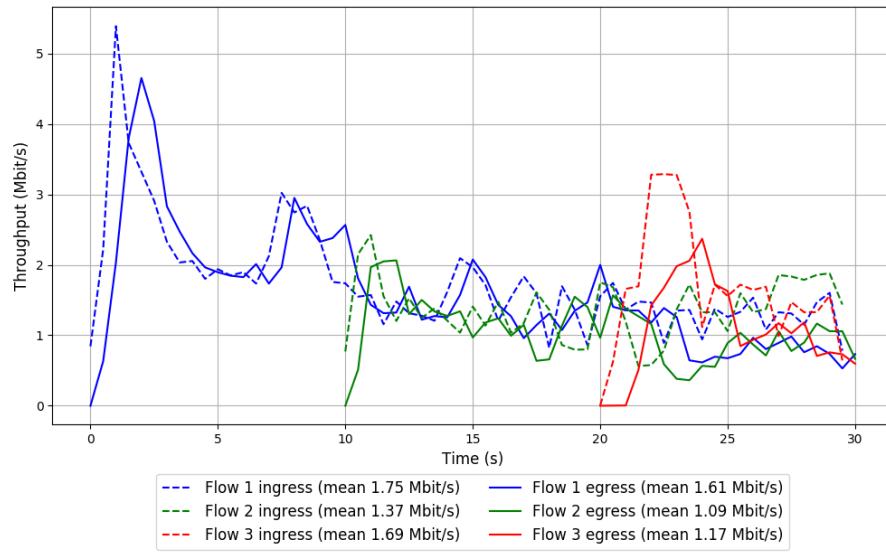


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-08-01 07:01:15
End at: 2018-08-01 07:01:45
Local clock offset: -1.596 ms
Remote clock offset: -4.271 ms

# Below is generated by plot.py at 2018-08-01 07:10:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 1078.688 ms
Loss rate: 16.13%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 1064.904 ms
Loss rate: 8.44%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 1081.071 ms
Loss rate: 20.62%
-- Flow 3:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 1094.738 ms
Loss rate: 32.98%
```

Run 3: Report of PCC-Vivace — Data Link

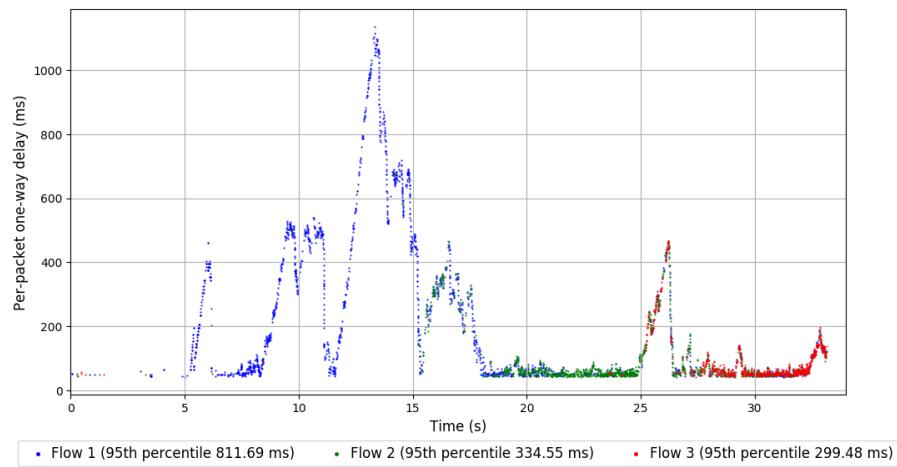
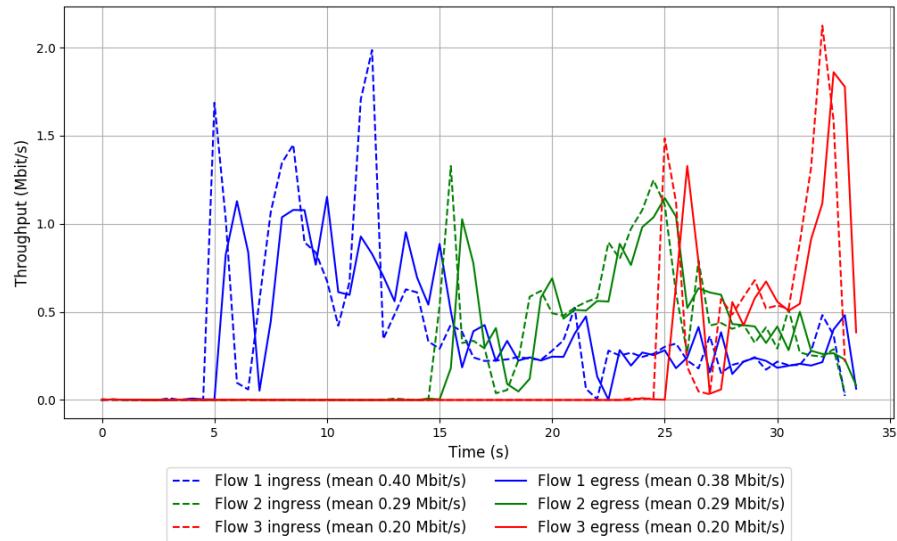


Run 1: Statistics of WebRTC media

```
Start at: 2018-08-01 06:30:23
End at: 2018-08-01 06:30:53
Local clock offset: 1.021 ms
Remote clock offset: -7.872 ms

# Below is generated by plot.py at 2018-08-01 07:10:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 661.950 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 811.694 ms
Loss rate: 3.51%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 334.550 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 299.482 ms
Loss rate: 1.29%
```

Run 1: Report of WebRTC media — Data Link

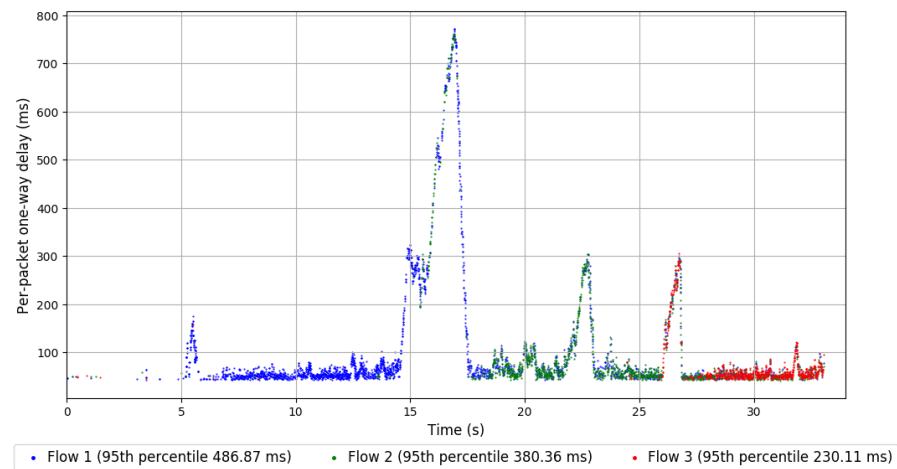
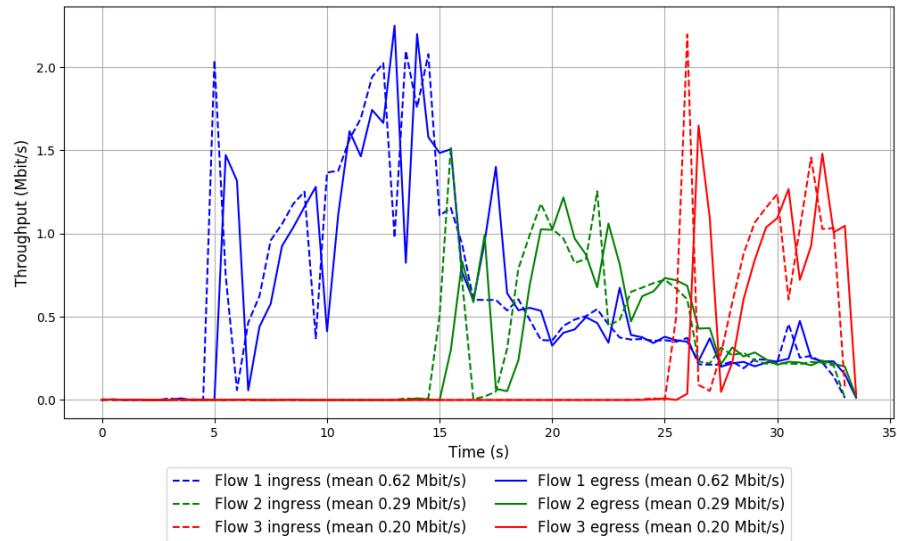


Run 2: Statistics of WebRTC media

```
Start at: 2018-08-01 06:49:13
End at: 2018-08-01 06:49:43
Local clock offset: 1.312 ms
Remote clock offset: -7.413 ms

# Below is generated by plot.py at 2018-08-01 07:10:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 325.512 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 486.872 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 380.359 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 230.114 ms
Loss rate: 1.16%
```

Run 2: Report of WebRTC media — Data Link



```
Run 3: Statistics of WebRTC media

Start at: 2018-08-01 07:07:48
End at: 2018-08-01 07:08:18
Local clock offset: 0.598 ms
Remote clock offset: -5.927 ms

# Below is generated by plot.py at 2018-08-01 07:10:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 260.790 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 231.017 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 268.995 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 272.299 ms
Loss rate: 0.96%
```

Run 3: Report of WebRTC media — Data Link

