

## Pantheon Report

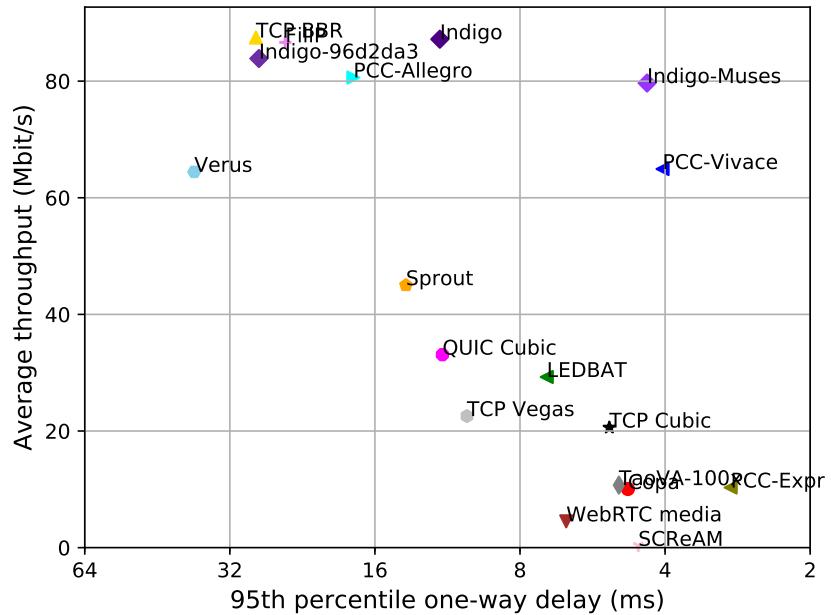
Generated at 2018-11-30 01:40:50 (UTC).  
Data path: AWS India 1 on `ens5 (local)` → India on `em1 (remote)`.  
Repeated the test of 18 congestion control schemes 5 times.  
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.  
NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:  
Linux 4.15.0-1027-aws  
`net.core.default_qdisc = fq`  
`net.core.rmem_default = 16777216`  
`net.core.rmem_max = 536870912`  
`net.core.wmem_default = 16777216`  
`net.core.wmem_max = 536870912`  
`net.ipv4.tcp_rmem = 4096 16777216 536870912`  
`net.ipv4.tcp_wmem = 4096 16777216 536870912`

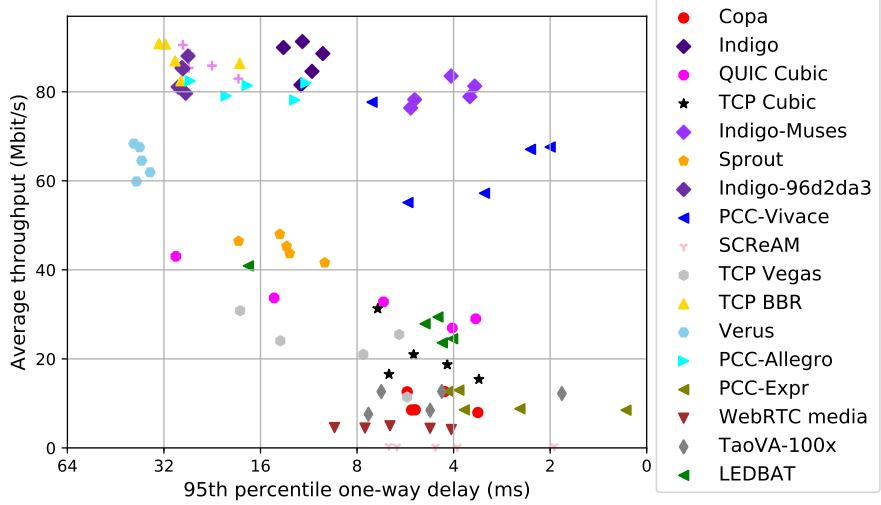
Git summary:  
branch: `muses @ 794ca3866981572cb73700a276691acf79c60f2b`  
`third_party/fillp @ d6da1459332fceef56963885d7eba17e6a32d4519`  
`third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4`  
`third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d`  
`third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95`  
`third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf`  
`third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a`  
`third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd`  
`third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1`  
`M receiver/src/buffer.h`  
`M receiver/src/core.cpp`  
`M sender/src/buffer.h`  
`M sender/src/core.cpp`  
`third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab`  
`third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42`  
`third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2`  
`M src/ScreamClient`  
`M src/ScreamServer`  
`third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26`  
`M src/examples/cellsim.cc`  
`M src/examples/sproutbt2.cc`  
`M src/network/sproutconn.cc`  
`third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494`  
`M src/verus.hpp`  
`M tools/plot.py`

third\_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4  
third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS India 1 to India, 5 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, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows



↳

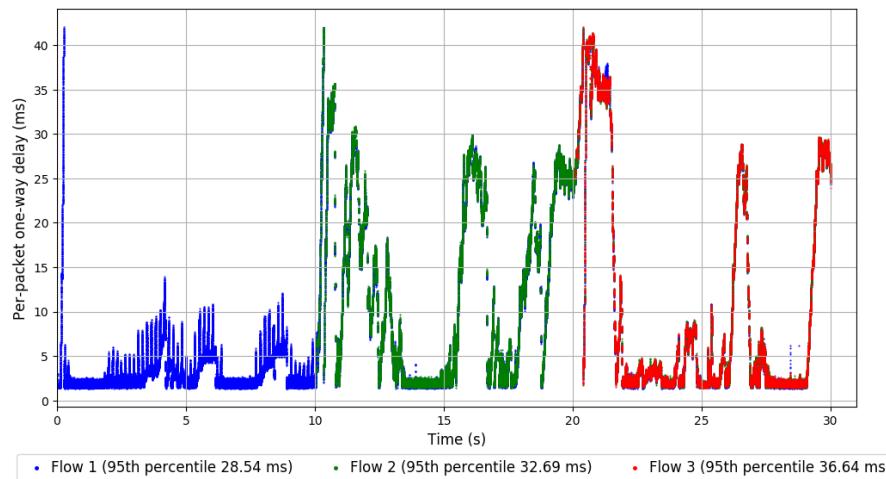
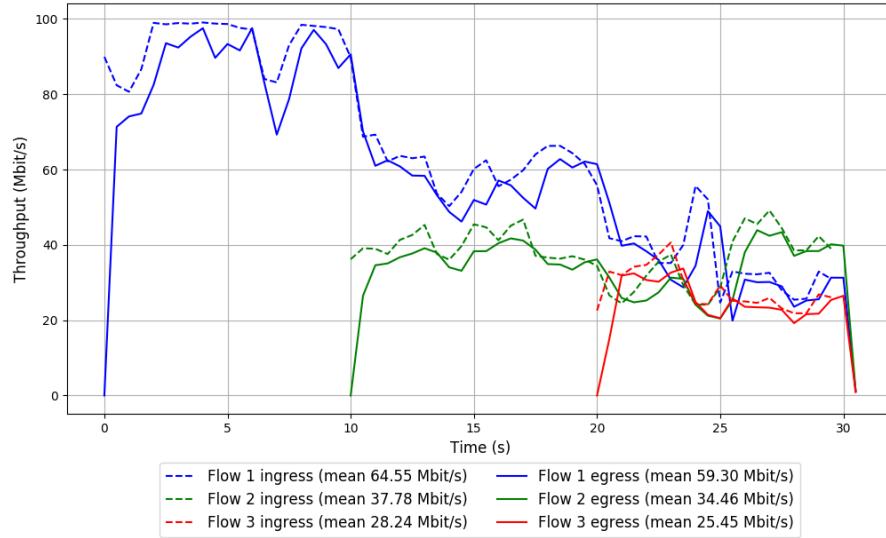
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	53.54	36.12	29.70	26.11	29.78	29.27	9.84	10.93	12.32
Copa	5	4.17	8.11	1.49	4.64	5.30	4.39	87.32	72.52	82.52
TCP Cubic	5	11.18	8.89	10.50	4.83	4.39	5.48	0.69	0.81	0.82
FillP	5	49.59	41.27	29.02	22.47	28.43	18.68	25.84	36.03	44.07
Indigo	5	51.86	37.40	34.24	10.76	12.15	13.67	10.01	11.46	17.62
Indigo-96d2da3	5	52.05	33.52	32.28	27.87	26.79	25.77	37.72	44.30	46.73
LEDBAT	5	16.32	13.68	11.55	5.96	7.22	8.14	0.90	1.13	1.47
Indigo-Muses	5	50.90	27.57	31.78	4.00	4.44	4.86	7.94	7.99	8.01
PCC-Allegro	5	74.66	3.75	10.51	17.31	20.75	18.95	9.23	8.86	9.00
PCC-Expr	5	3.11	7.88	6.07	3.30	2.92	2.89	67.33	33.95	20.99
QUIC Cubic	5	17.71	15.83	14.80	10.89	13.30	10.35	2.93	2.64	3.00
SCReAM	5	0.14	0.18	0.17	4.11	4.36	3.90	1.18	0.63	1.55
Sprout	5	22.72	22.77	21.65	13.57	13.11	14.97	3.22	4.08	5.25
TaoVA-100x	5	4.36	6.88	6.37	4.59	5.64	5.54	91.61	89.04	93.06
TCP Vegas	5	12.13	10.99	9.59	9.22	12.53	12.65	1.61	1.20	2.10
Verus	5	40.82	26.39	21.13	36.60	38.32	39.23	29.74	41.85	46.70
PCC-Vivace	5	43.82	24.64	14.32	3.56	3.99	3.74	8.00	8.34	8.52
WebRTC media	5	2.55	1.54	0.43	6.06	6.82	6.04	0.98	0.85	0.93

Run 1: Statistics of TCP BBR

```
Start at: 2018-11-29 23:53:28
End at: 2018-11-29 23:53:58
Local clock offset: 0.716 ms
Remote clock offset: -5.648 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.71 Mbit/s
95th percentile per-packet one-way delay: 31.668 ms
Loss rate: 8.40%
-- Flow 1:
Average throughput: 59.30 Mbit/s
95th percentile per-packet one-way delay: 28.542 ms
Loss rate: 8.07%
-- Flow 2:
Average throughput: 34.46 Mbit/s
95th percentile per-packet one-way delay: 32.691 ms
Loss rate: 8.69%
-- Flow 3:
Average throughput: 25.45 Mbit/s
95th percentile per-packet one-way delay: 36.642 ms
Loss rate: 9.91%
```

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

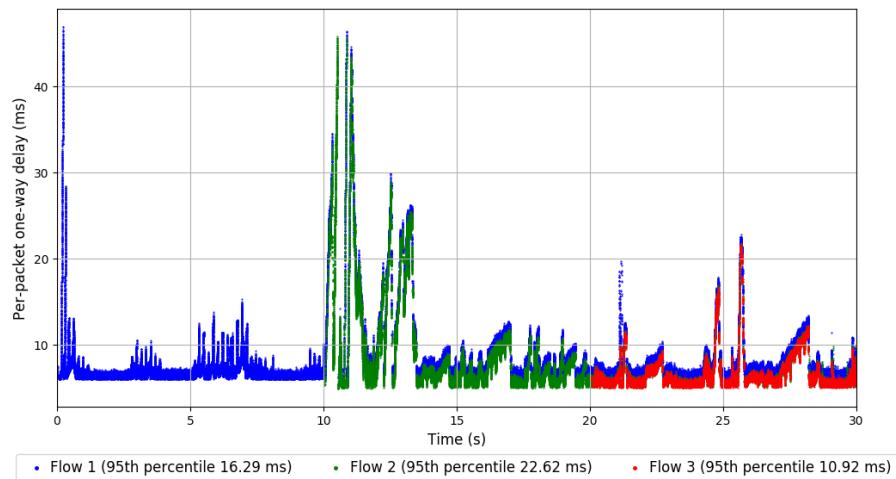
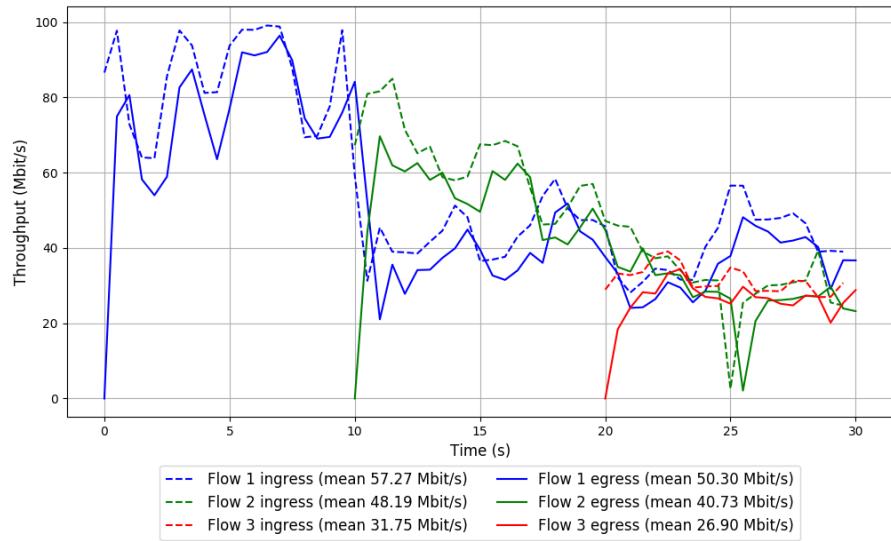


Run 2: Statistics of TCP BBR

```
Start at: 2018-11-30 00:14:26
End at: 2018-11-30 00:14:56
Local clock offset: -2.215 ms
Remote clock offset: -4.33 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.39 Mbit/s
95th percentile per-packet one-way delay: 18.573 ms
Loss rate: 13.56%
-- Flow 1:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 16.285 ms
Loss rate: 12.17%
-- Flow 2:
Average throughput: 40.73 Mbit/s
95th percentile per-packet one-way delay: 22.618 ms
Loss rate: 15.47%
-- Flow 3:
Average throughput: 26.90 Mbit/s
95th percentile per-packet one-way delay: 10.921 ms
Loss rate: 15.27%
```

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

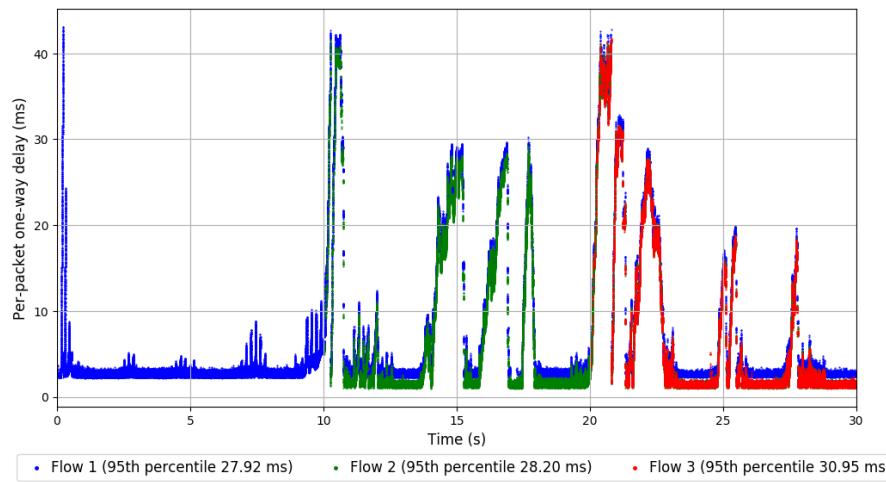
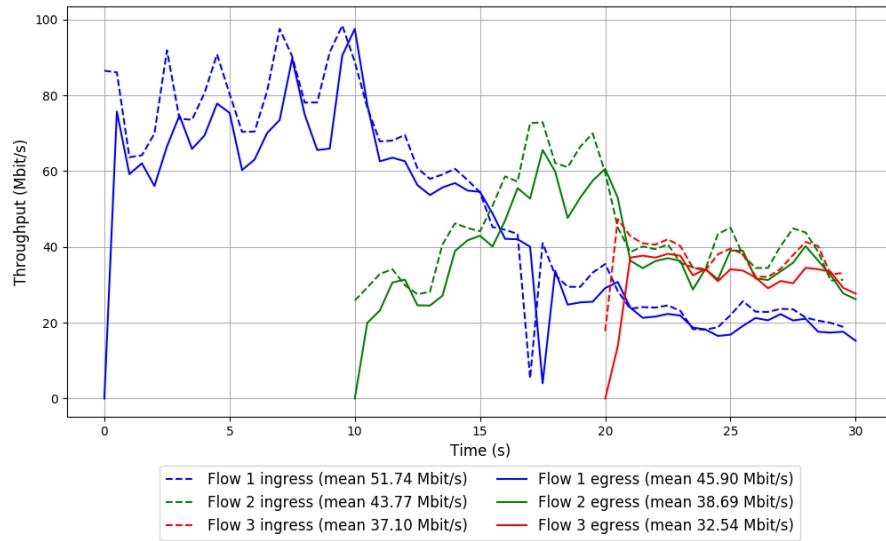


Run 3: Statistics of TCP BBR

```
Start at: 2018-11-30 00:35:31
End at: 2018-11-30 00:36:01
Local clock offset: 4.049 ms
Remote clock offset: -4.766 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.48 Mbit/s
95th percentile per-packet one-way delay: 28.330 ms
Loss rate: 11.53%
-- Flow 1:
Average throughput: 45.90 Mbit/s
95th percentile per-packet one-way delay: 27.920 ms
Loss rate: 11.30%
-- Flow 2:
Average throughput: 38.69 Mbit/s
95th percentile per-packet one-way delay: 28.197 ms
Loss rate: 11.62%
-- Flow 3:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 30.947 ms
Loss rate: 12.32%
```

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

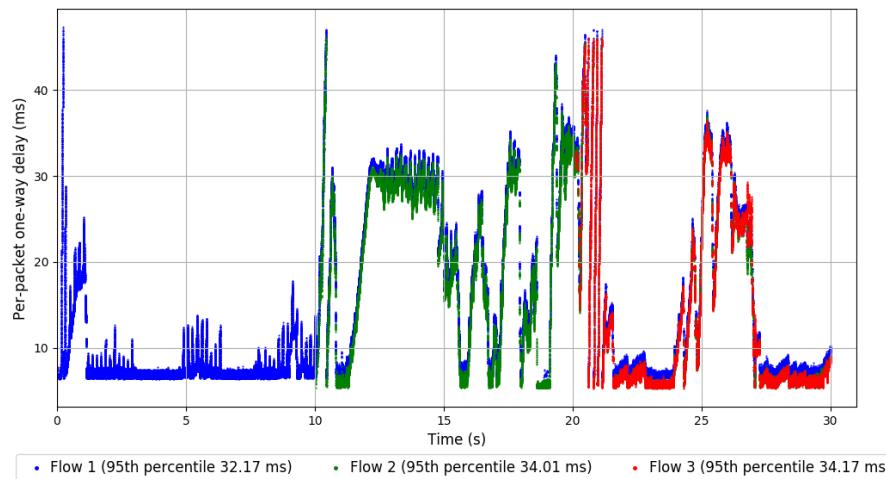
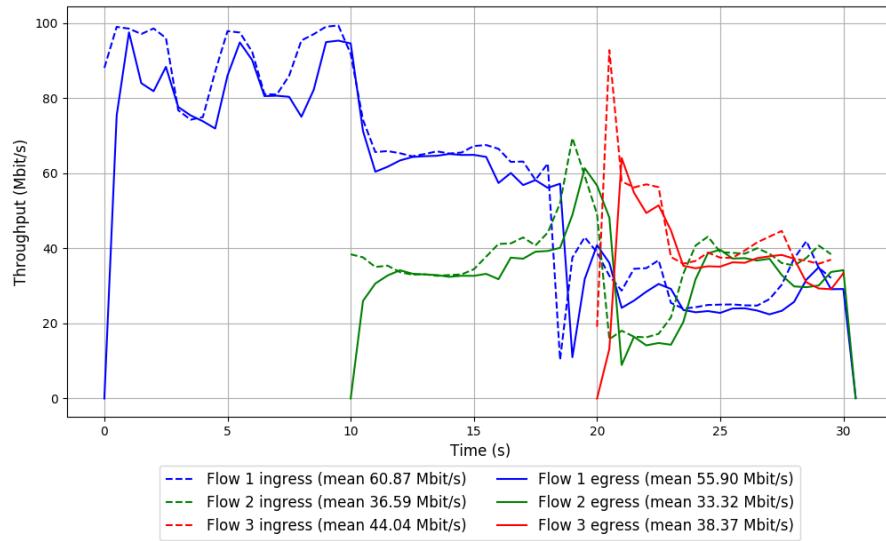


Run 4: Statistics of TCP BBR

```
Start at: 2018-11-30 00:56:22
End at: 2018-11-30 00:56:52
Local clock offset: 0.465 ms
Remote clock offset: -4.161 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.84 Mbit/s
95th percentile per-packet one-way delay: 33.154 ms
Loss rate: 9.07%
-- Flow 1:
Average throughput: 55.90 Mbit/s
95th percentile per-packet one-way delay: 32.167 ms
Loss rate: 8.15%
-- Flow 2:
Average throughput: 33.32 Mbit/s
95th percentile per-packet one-way delay: 34.010 ms
Loss rate: 8.93%
-- Flow 3:
Average throughput: 38.37 Mbit/s
95th percentile per-packet one-way delay: 34.174 ms
Loss rate: 13.07%
```

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

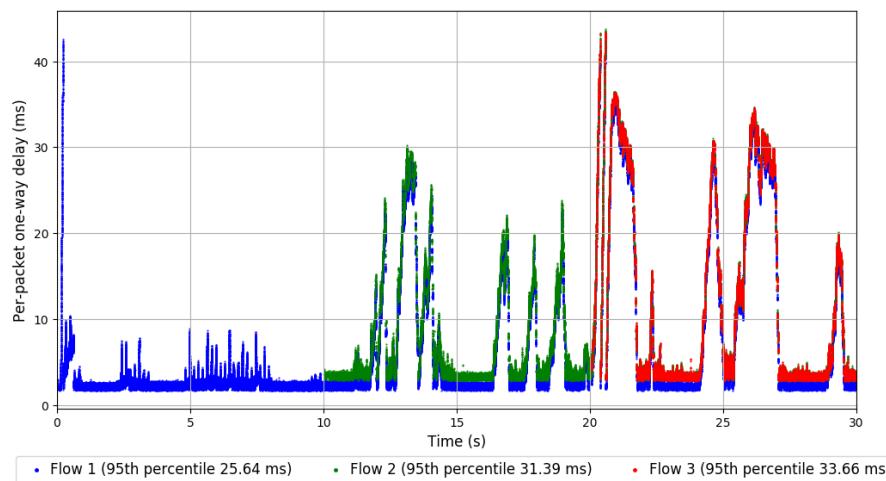
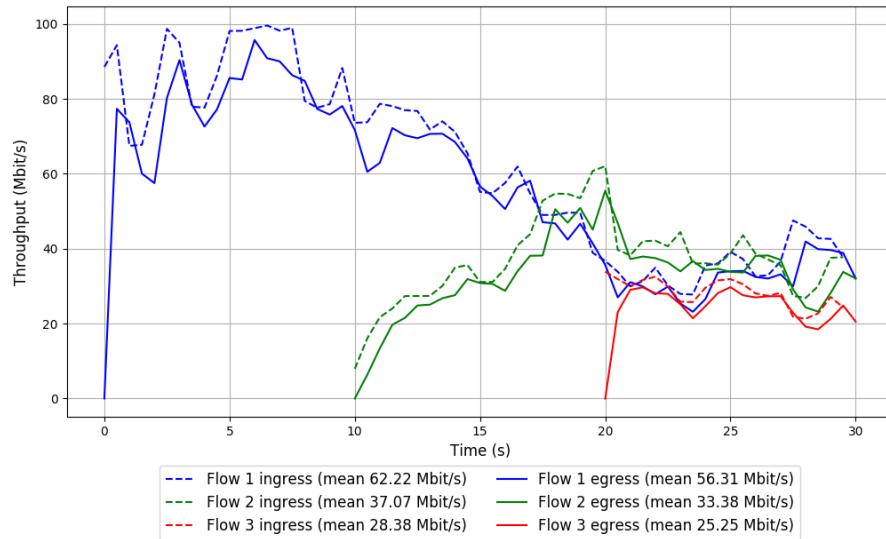


Run 5: Statistics of TCP BBR

```
Start at: 2018-11-30 01:17:21
End at: 2018-11-30 01:17:51
Local clock offset: 2.841 ms
Remote clock offset: -5.287 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.94 Mbit/s
95th percentile per-packet one-way delay: 29.540 ms
Loss rate: 9.77%
-- Flow 1:
Average throughput: 56.31 Mbit/s
95th percentile per-packet one-way delay: 25.643 ms
Loss rate: 9.49%
-- Flow 2:
Average throughput: 33.38 Mbit/s
95th percentile per-packet one-way delay: 31.395 ms
Loss rate: 9.96%
-- Flow 3:
Average throughput: 25.25 Mbit/s
95th percentile per-packet one-way delay: 33.658 ms
Loss rate: 11.05%
```

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

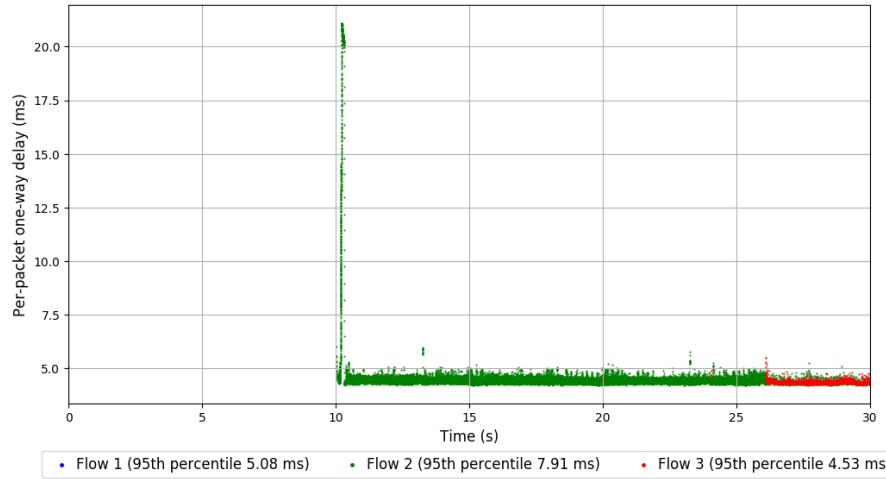
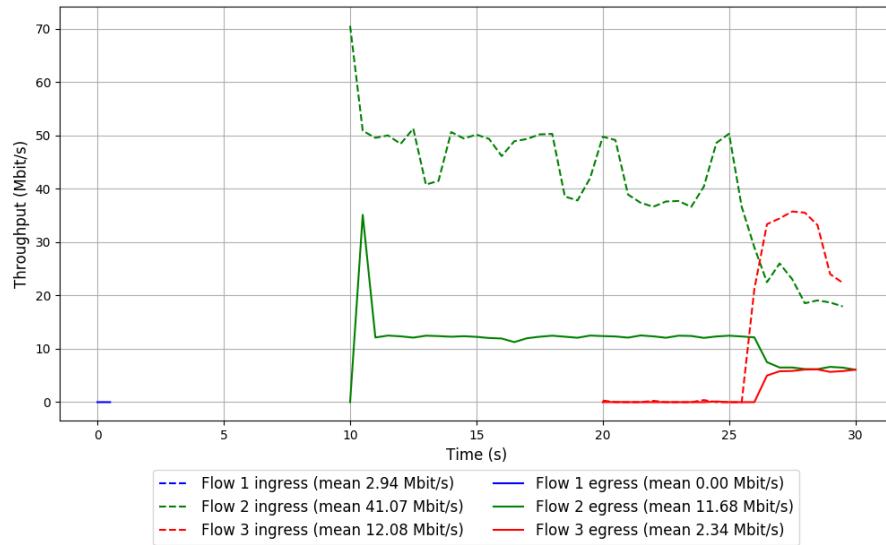


Run 1: Statistics of Copa

```
Start at: 2018-11-29 23:51:13
End at: 2018-11-29 23:51:43
Local clock offset: -1.642 ms
Remote clock offset: -5.265 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 5.268 ms
Loss rate: 72.72%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5.077 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 7.911 ms
Loss rate: 71.56%
-- Flow 3:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 4.525 ms
Loss rate: 80.65%
```

## Run 1: Report of Copa — Data Link

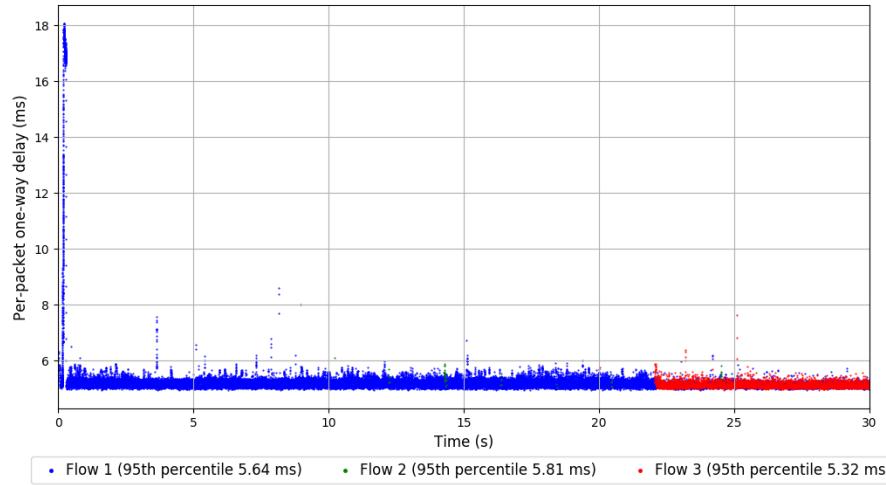
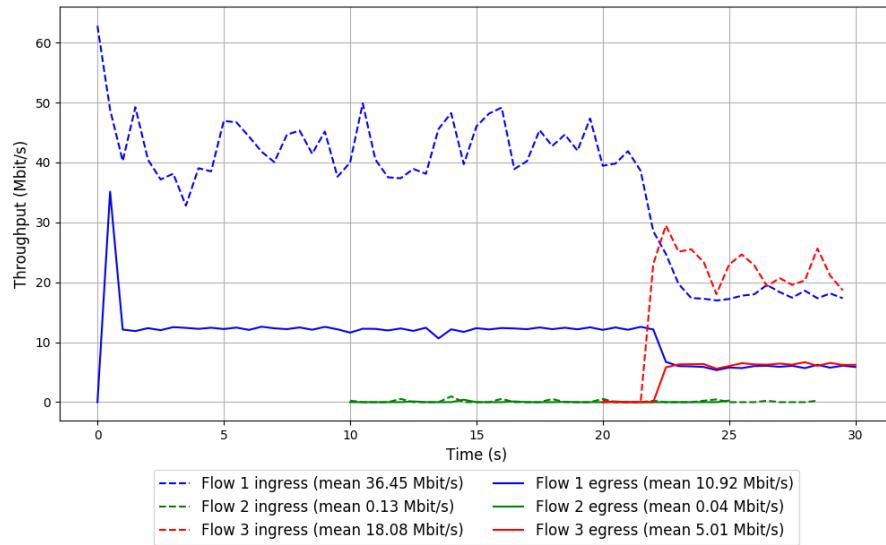


Run 2: Statistics of Copa

```
Start at: 2018-11-30 00:12:11
End at: 2018-11-30 00:12:41
Local clock offset: -2.441 ms
Remote clock offset: -4.597 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 5.583 ms
Loss rate: 70.38%
-- Flow 1:
Average throughput: 10.92 Mbit/s
95th percentile per-packet one-way delay: 5.639 ms
Loss rate: 70.05%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 5.809 ms
Loss rate: 77.48%
-- Flow 3:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 5.324 ms
Loss rate: 72.30%
```

## Run 2: Report of Copa — Data Link

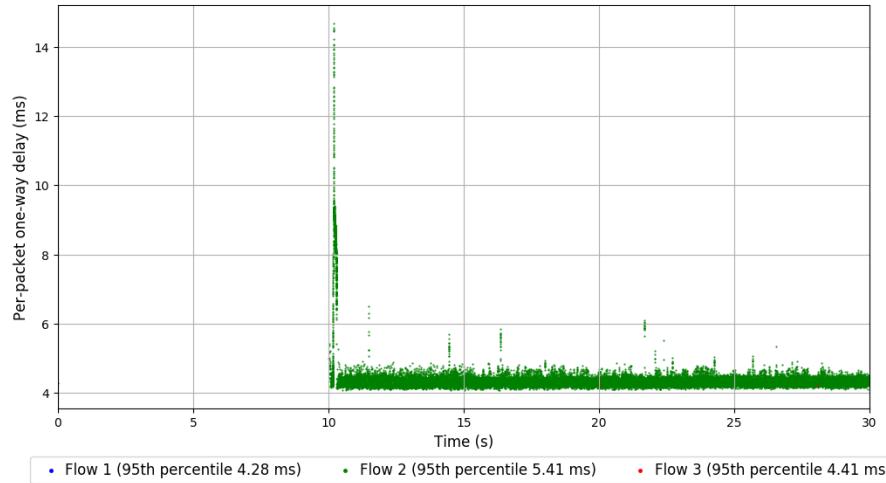
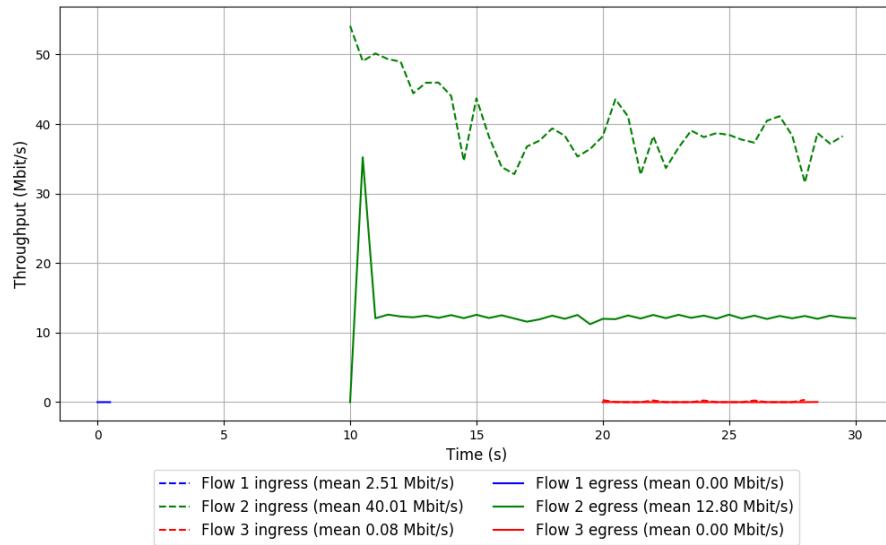


Run 3: Statistics of Copa

```
Start at: 2018-11-30 00:33:15
End at: 2018-11-30 00:33:45
Local clock offset: 0.981 ms
Remote clock offset: -4.642 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 5.409 ms
Loss rate: 68.04%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.280 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 12.80 Mbit/s
95th percentile per-packet one-way delay: 5.409 ms
Loss rate: 68.02%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.407 ms
Loss rate: 96.28%
```

### Run 3: Report of Copa — Data Link

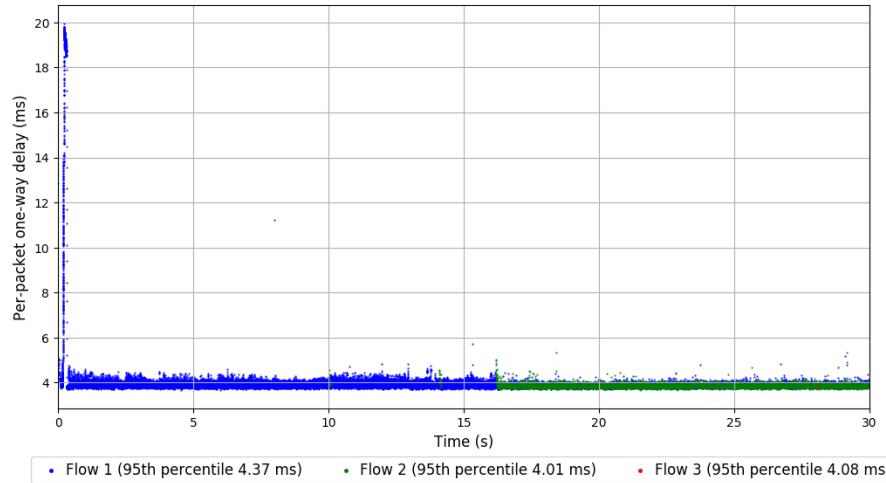
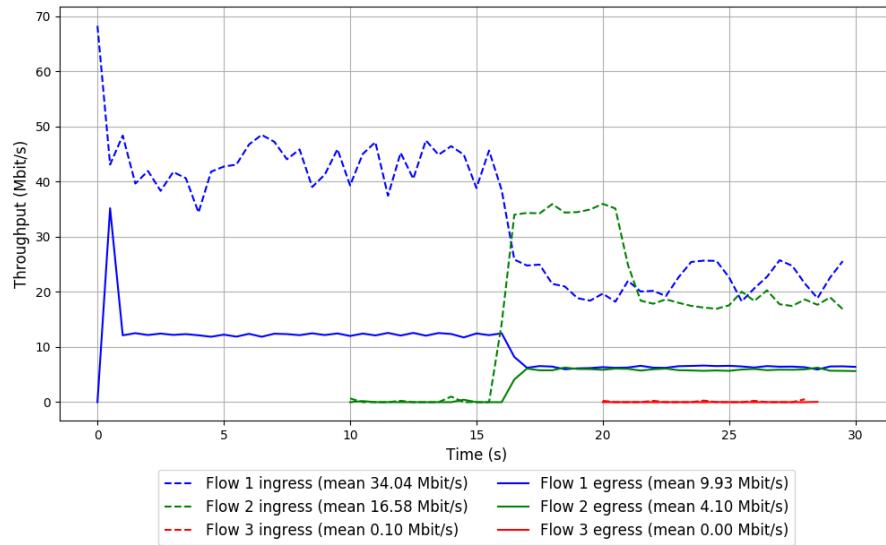


Run 4: Statistics of Copa

```
Start at: 2018-11-30 00:54:06
End at: 2018-11-30 00:54:36
Local clock offset: 1.807 ms
Remote clock offset: -4.446 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 4.268 ms
Loss rate: 71.94%
-- Flow 1:
Average throughput: 9.93 Mbit/s
95th percentile per-packet one-way delay: 4.368 ms
Loss rate: 70.84%
-- Flow 2:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 4.013 ms
Loss rate: 75.28%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.084 ms
Loss rate: 95.19%
```

## Run 4: Report of Copa — Data Link

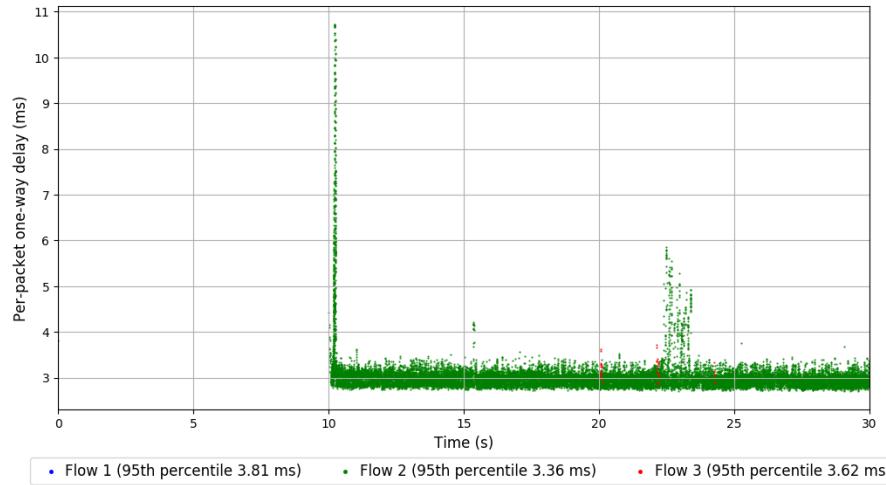
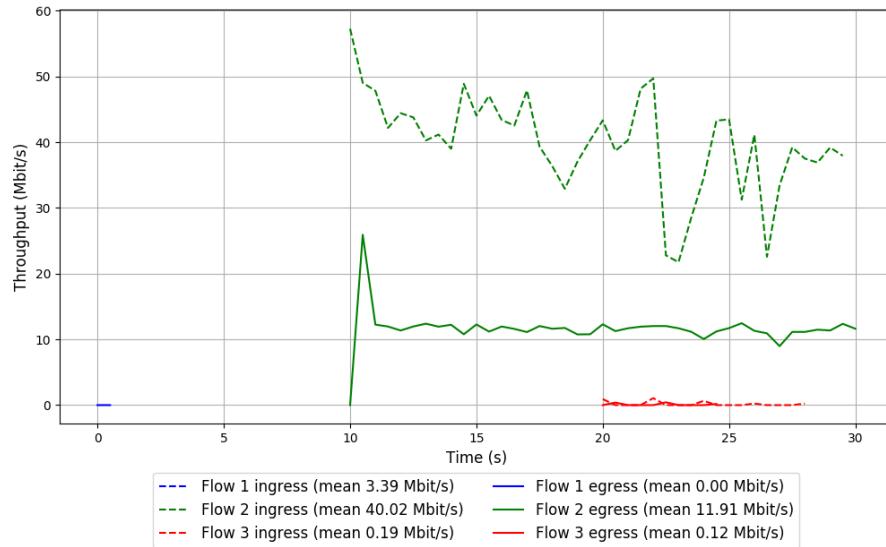


Run 5: Statistics of Copa

```
Start at: 2018-11-30 01:15:06
End at: 2018-11-30 01:15:36
Local clock offset: 2.843 ms
Remote clock offset: -4.445 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.95 Mbit/s
95th percentile per-packet one-way delay: 3.360 ms
Loss rate: 70.24%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3.814 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 11.91 Mbit/s
95th percentile per-packet one-way delay: 3.358 ms
Loss rate: 70.24%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 3.621 ms
Loss rate: 68.17%
```

## Run 5: Report of Copa — Data Link

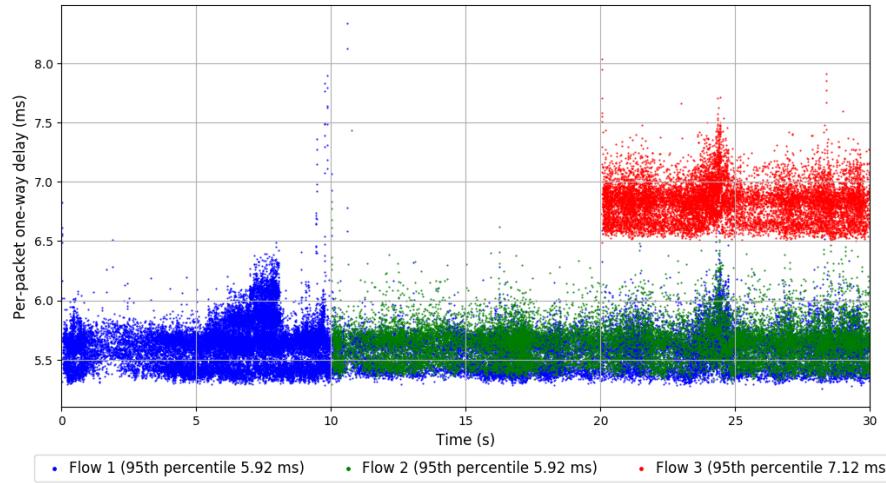
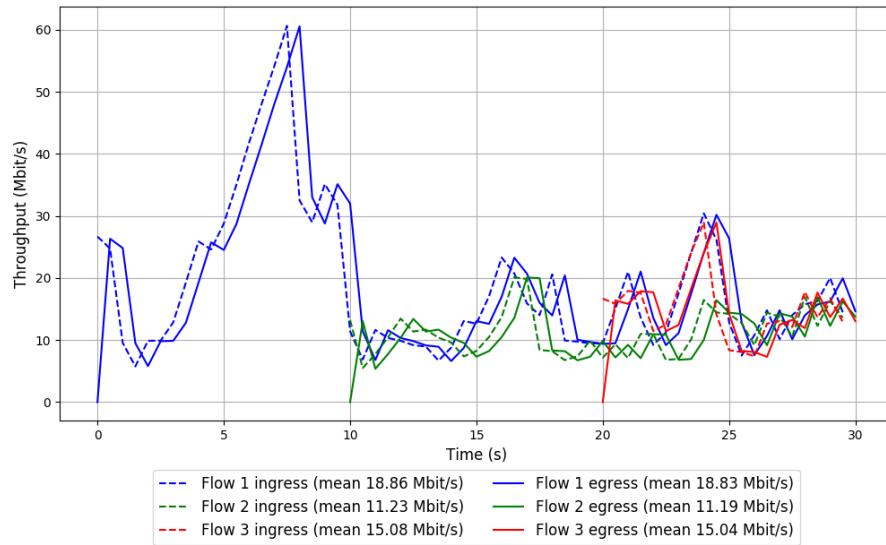


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-11-29 23:58:10
End at: 2018-11-29 23:58:40
Local clock offset: -2.797 ms
Remote clock offset: -5.029 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.29 Mbit/s
95th percentile per-packet one-way delay: 6.894 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 18.83 Mbit/s
95th percentile per-packet one-way delay: 5.924 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 11.19 Mbit/s
95th percentile per-packet one-way delay: 5.918 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 15.04 Mbit/s
95th percentile per-packet one-way delay: 7.125 ms
Loss rate: 0.21%
```

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

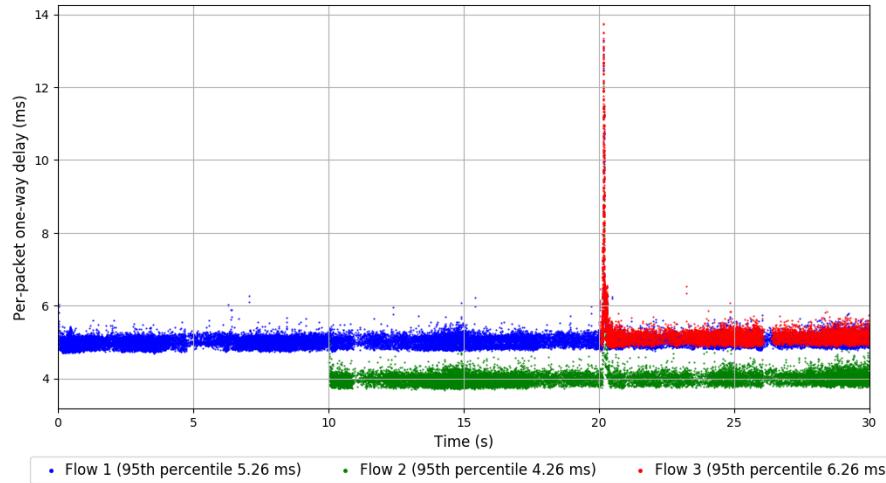
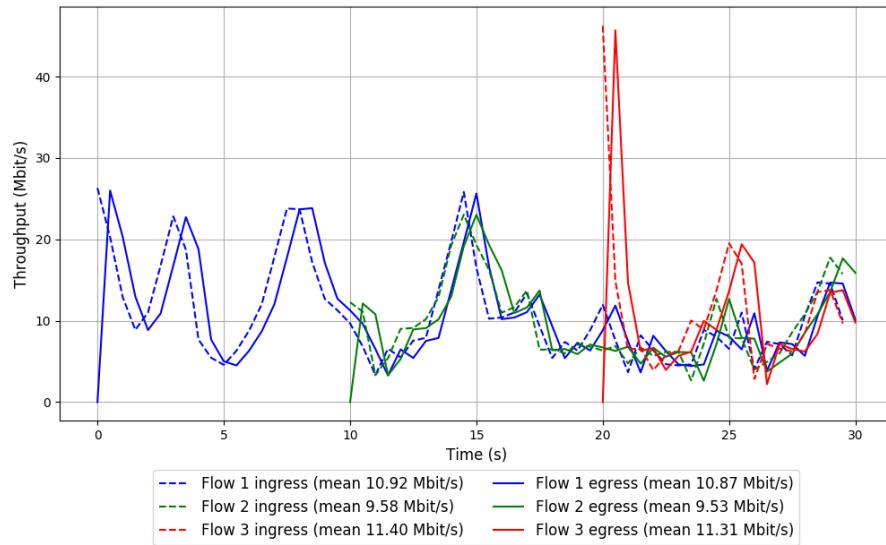


Run 2: Statistics of TCP Cubic

```
Start at: 2018-11-30 00:19:09
End at: 2018-11-30 00:19:39
Local clock offset: -0.104 ms
Remote clock offset: -4.694 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.98 Mbit/s
95th percentile per-packet one-way delay: 5.329 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 5.261 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 9.53 Mbit/s
95th percentile per-packet one-way delay: 4.261 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 11.31 Mbit/s
95th percentile per-packet one-way delay: 6.265 ms
Loss rate: 0.80%
```

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

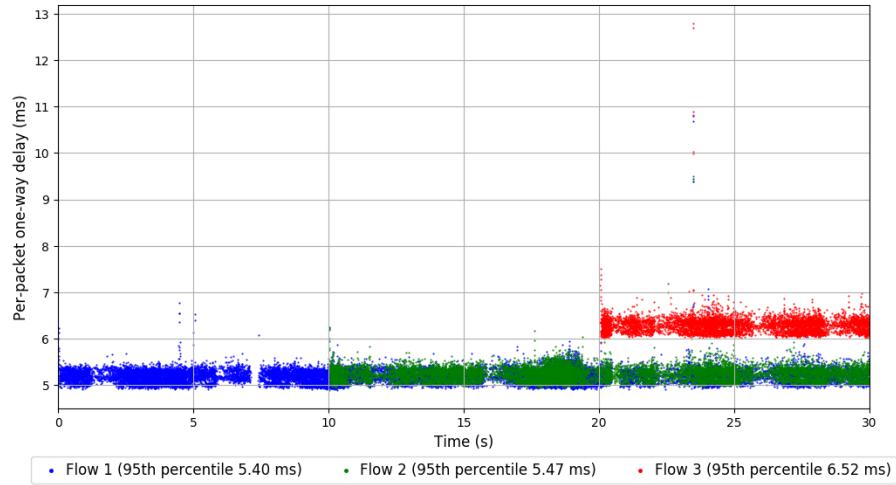
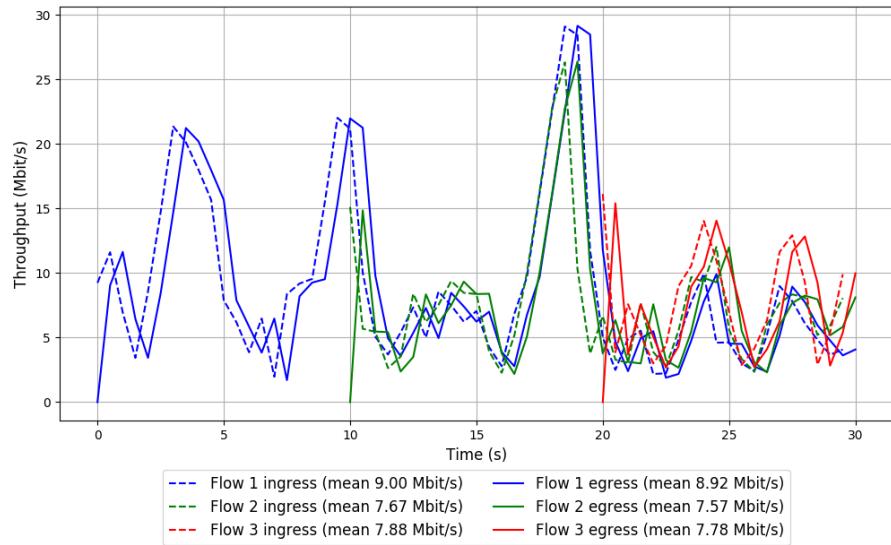


Run 3: Statistics of TCP Cubic

```
Start at: 2018-11-30 00:40:16
End at: 2018-11-30 00:40:46
Local clock offset: -0.14 ms
Remote clock offset: -5.315 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.55 Mbit/s
95th percentile per-packet one-way delay: 6.359 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 8.92 Mbit/s
95th percentile per-packet one-way delay: 5.397 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 5.471 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 6.517 ms
Loss rate: 1.31%
```

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

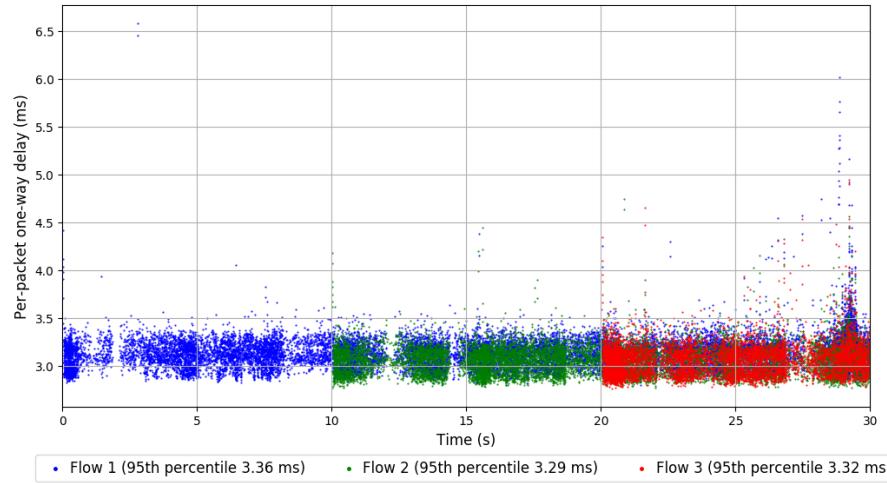
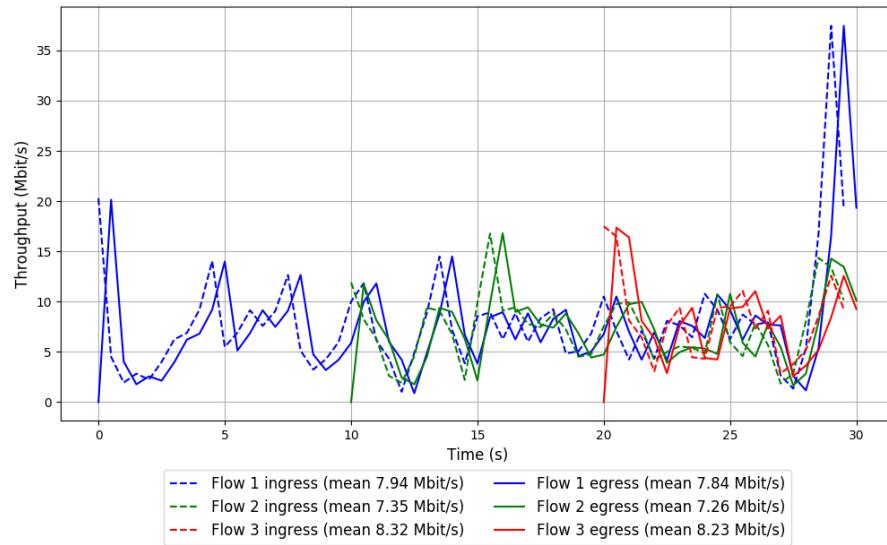


Run 4: Statistics of TCP Cubic

```
Start at: 2018-11-30 01:01:06
End at: 2018-11-30 01:01:36
Local clock offset: 2.373 ms
Remote clock offset: -4.748 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.42 Mbit/s
95th percentile per-packet one-way delay: 3.336 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 3.360 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 3.287 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 3.323 ms
Loss rate: 1.13%
```

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

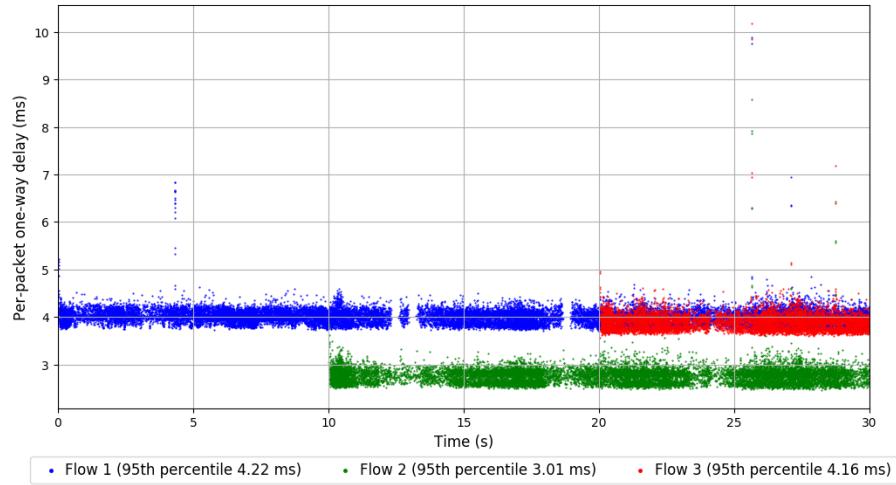
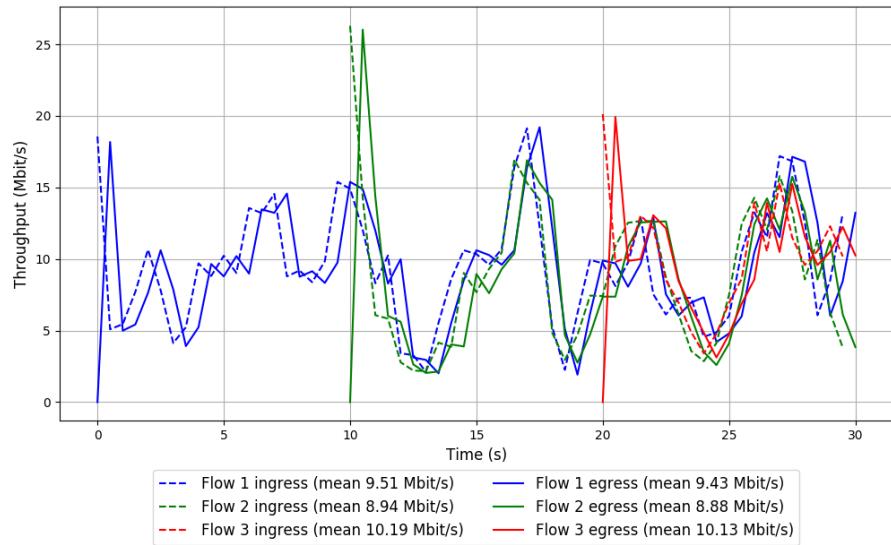


Run 5: Statistics of TCP Cubic

```
Start at: 2018-11-30 01:22:07
End at: 2018-11-30 01:22:37
Local clock offset: 1.78 ms
Remote clock offset: -5.045 ms

# Below is generated by plot.py at 2018-11-30 01:34:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.71 Mbit/s
95th percentile per-packet one-way delay: 4.185 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 9.43 Mbit/s
95th percentile per-packet one-way delay: 4.225 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 3.011 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 10.13 Mbit/s
95th percentile per-packet one-way delay: 4.156 ms
Loss rate: 0.65%
```

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

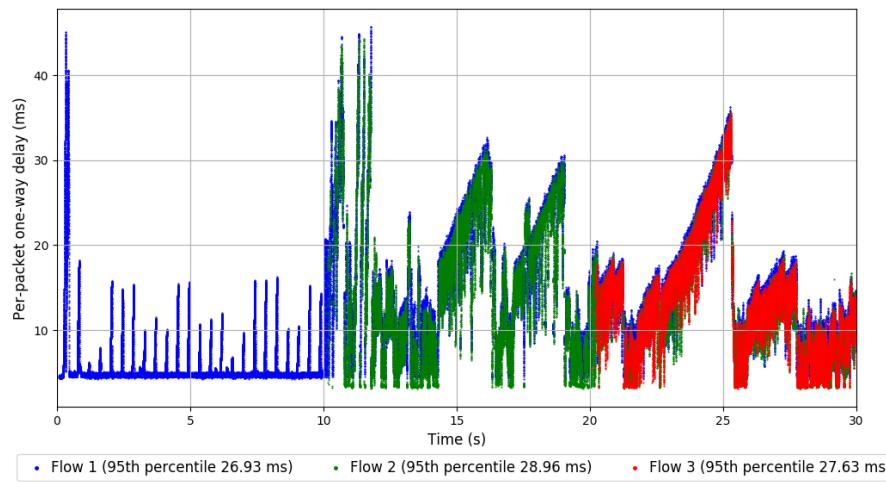
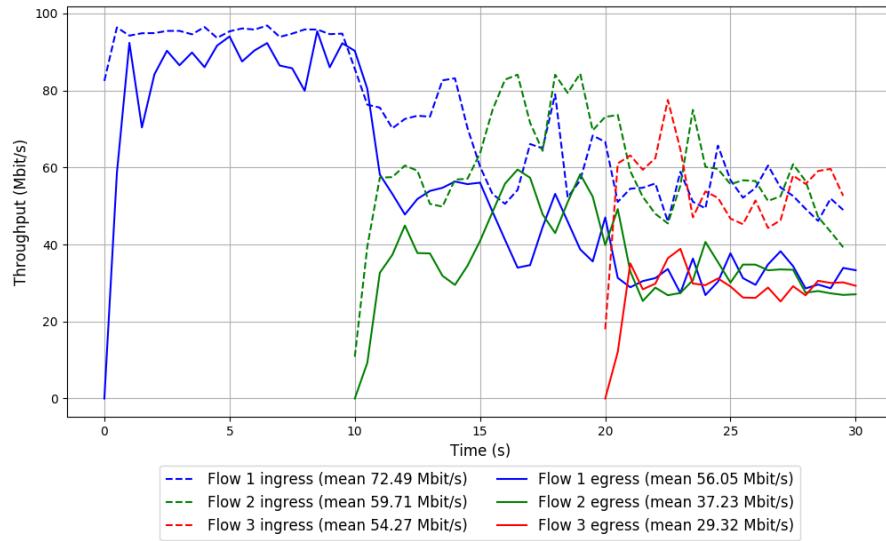


```
Run 1: Statistics of FillP

Start at: 2018-11-29 23:48:56
End at: 2018-11-29 23:49:26
Local clock offset: 0.316 ms
Remote clock offset: -4.367 ms

# Below is generated by plot.py at 2018-11-30 01:35:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.52 Mbit/s
95th percentile per-packet one-way delay: 27.933 ms
Loss rate: 30.45%
-- Flow 1:
Average throughput: 56.05 Mbit/s
95th percentile per-packet one-way delay: 26.926 ms
Loss rate: 22.66%
-- Flow 2:
Average throughput: 37.23 Mbit/s
95th percentile per-packet one-way delay: 28.956 ms
Loss rate: 37.64%
-- Flow 3:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 27.634 ms
Loss rate: 45.96%
```

### Run 1: Report of FillP — Data Link

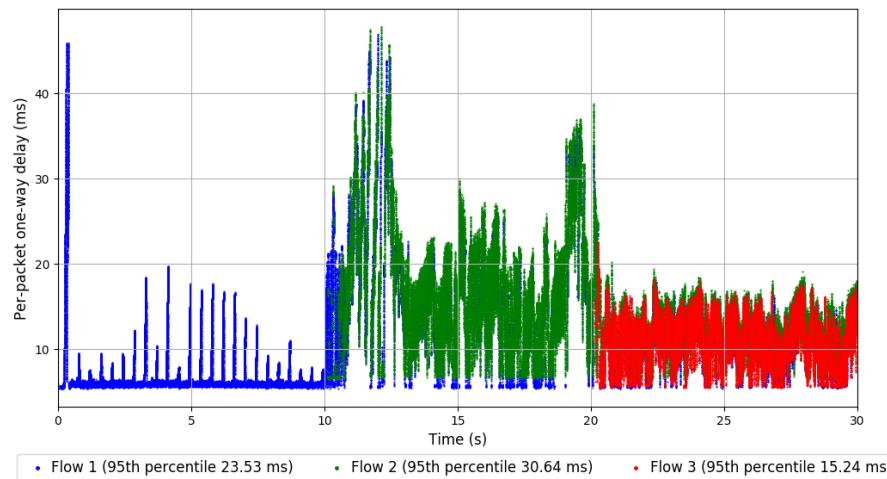
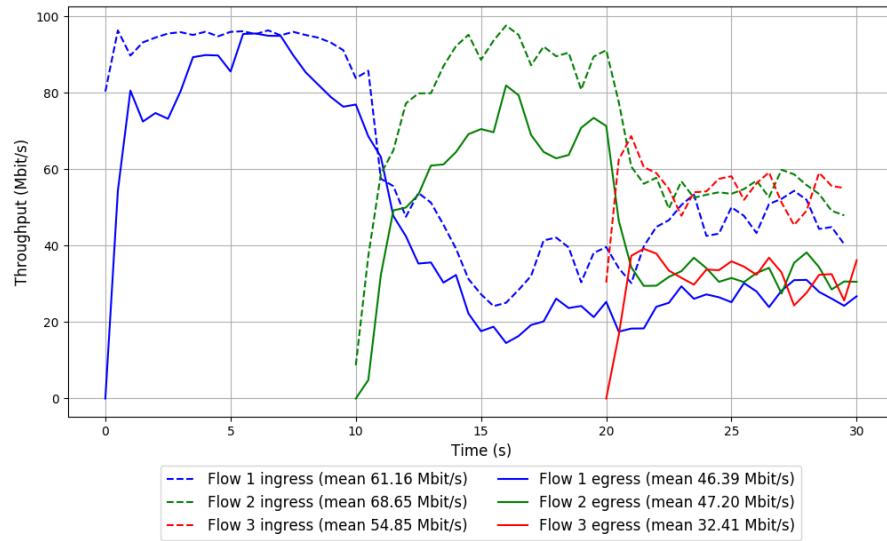


Run 2: Statistics of FillP

```
Start at: 2018-11-30 00:09:53
End at: 2018-11-30 00:10:23
Local clock offset: -3.734 ms
Remote clock offset: -5.32 ms

# Below is generated by plot.py at 2018-11-30 01:35:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.55 Mbit/s
95th percentile per-packet one-way delay: 26.627 ms
Loss rate: 29.16%
-- Flow 1:
Average throughput: 46.39 Mbit/s
95th percentile per-packet one-way delay: 23.530 ms
Loss rate: 24.13%
-- Flow 2:
Average throughput: 47.20 Mbit/s
95th percentile per-packet one-way delay: 30.640 ms
Loss rate: 31.22%
-- Flow 3:
Average throughput: 32.41 Mbit/s
95th percentile per-packet one-way delay: 15.241 ms
Loss rate: 40.88%
```

## Run 2: Report of FillP — Data Link

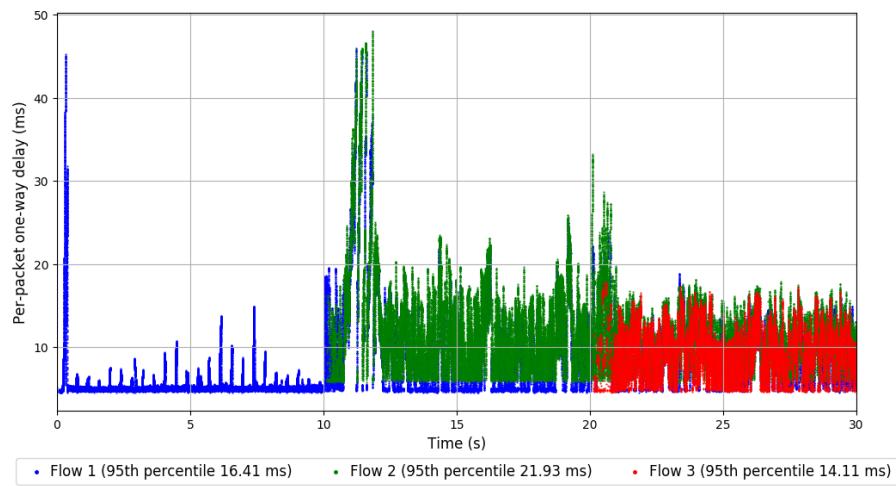
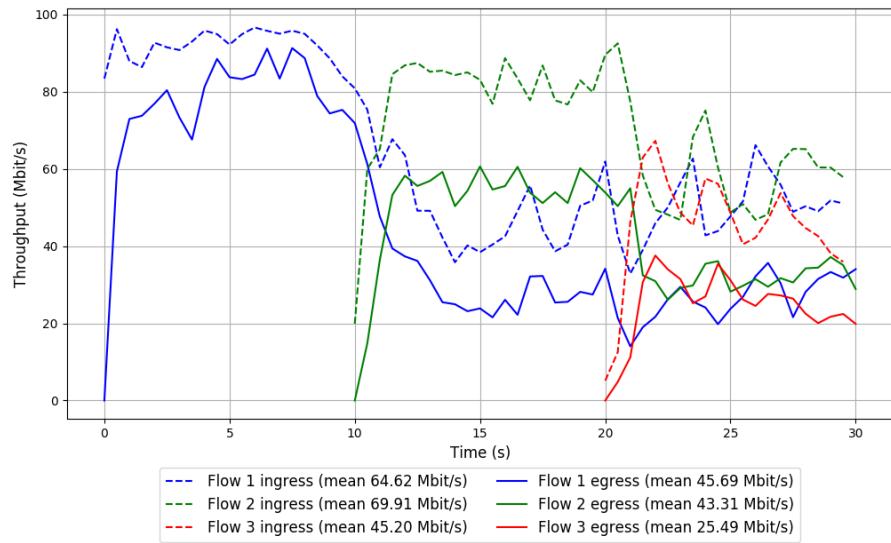


Run 3: Statistics of FillP

```
Start at: 2018-11-30 00:30:53
End at: 2018-11-30 00:31:23
Local clock offset: 0.236 ms
Remote clock offset: -4.503 ms

# Below is generated by plot.py at 2018-11-30 01:35:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.94 Mbit/s
95th percentile per-packet one-way delay: 18.744 ms
Loss rate: 34.23%
-- Flow 1:
Average throughput: 45.69 Mbit/s
95th percentile per-packet one-way delay: 16.415 ms
Loss rate: 29.30%
-- Flow 2:
Average throughput: 43.31 Mbit/s
95th percentile per-packet one-way delay: 21.926 ms
Loss rate: 38.04%
-- Flow 3:
Average throughput: 25.49 Mbit/s
95th percentile per-packet one-way delay: 14.108 ms
Loss rate: 43.63%
```

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

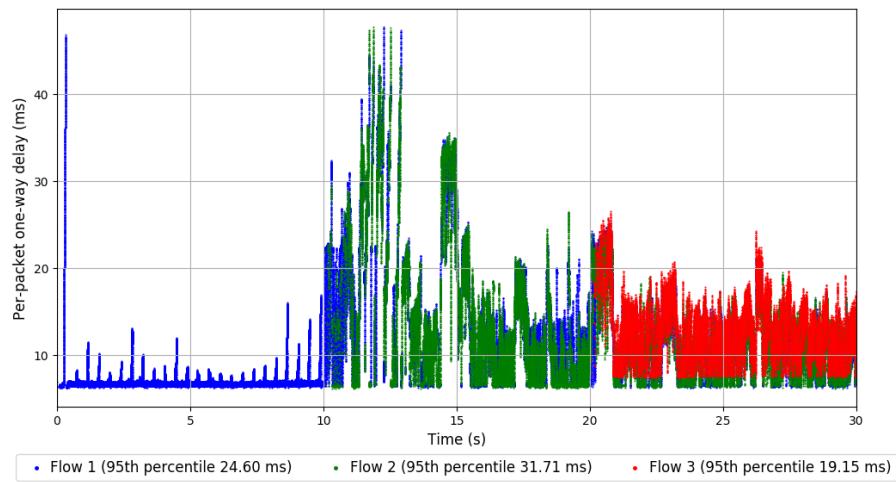
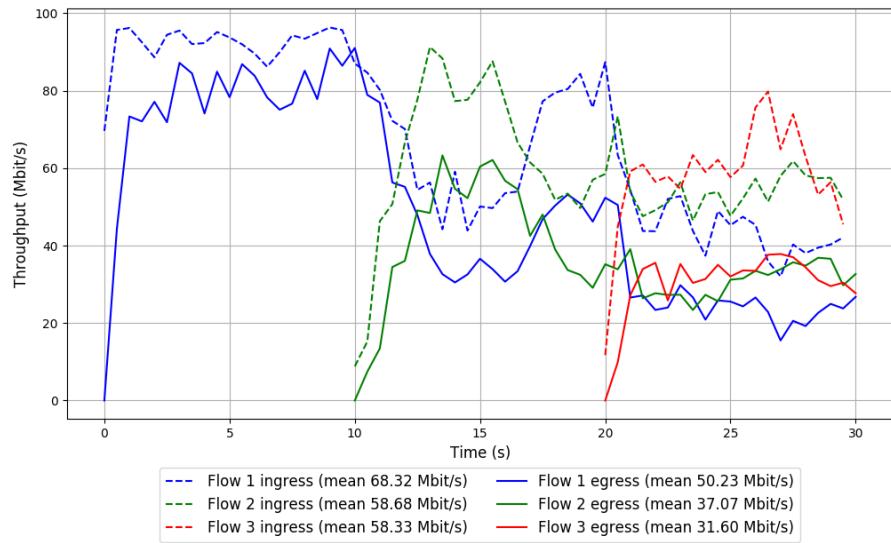


Run 4: Statistics of FillP

```
Start at: 2018-11-30 00:51:49
End at: 2018-11-30 00:52:19
Local clock offset: -0.789 ms
Remote clock offset: -4.374 ms

# Below is generated by plot.py at 2018-11-30 01:35:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.36 Mbit/s
95th percentile per-packet one-way delay: 26.795 ms
Loss rate: 32.62%
-- Flow 1:
Average throughput: 50.23 Mbit/s
95th percentile per-packet one-way delay: 24.603 ms
Loss rate: 26.47%
-- Flow 2:
Average throughput: 37.07 Mbit/s
95th percentile per-packet one-way delay: 31.711 ms
Loss rate: 36.83%
-- Flow 3:
Average throughput: 31.60 Mbit/s
95th percentile per-packet one-way delay: 19.154 ms
Loss rate: 45.80%
```

Run 4: Report of FillP — Data Link

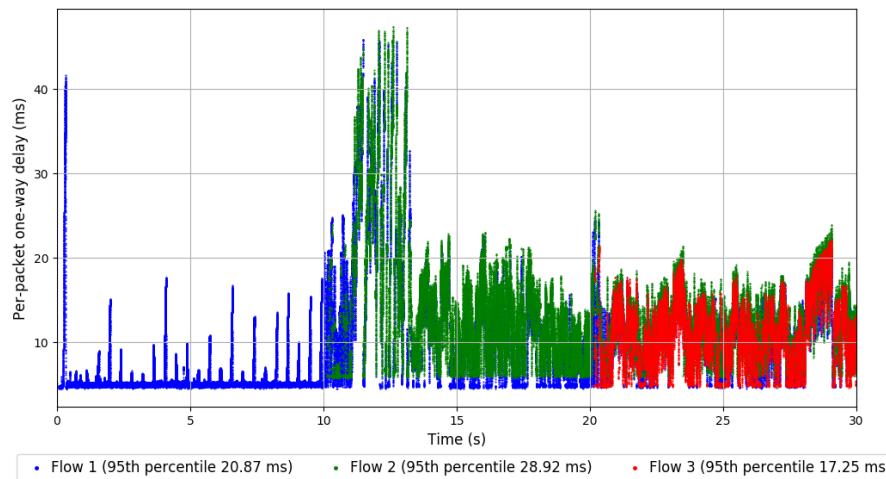
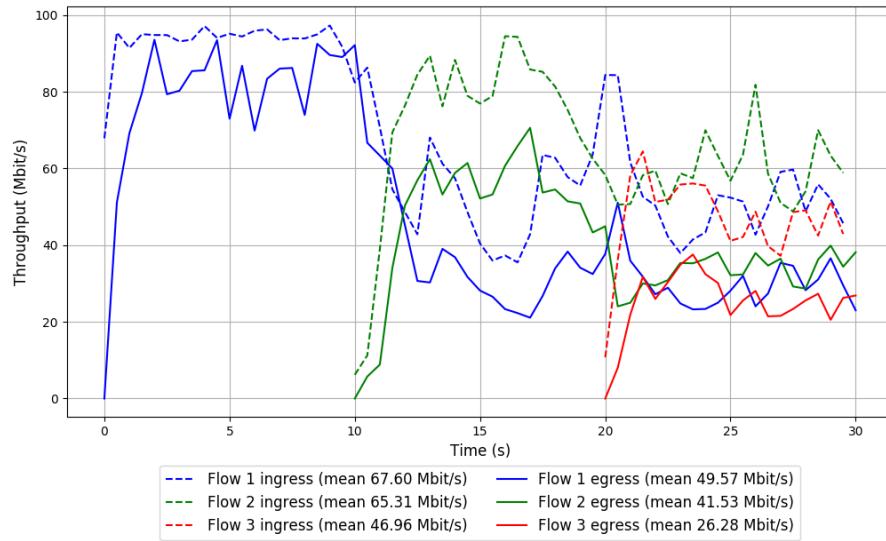


Run 5: Statistics of FillP

```
Start at: 2018-11-30 01:12:43
End at: 2018-11-30 01:13:13
Local clock offset: 1.135 ms
Remote clock offset: -4.179 ms

# Below is generated by plot.py at 2018-11-30 01:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 22.664 ms
Loss rate: 32.15%
-- Flow 1:
Average throughput: 49.57 Mbit/s
95th percentile per-packet one-way delay: 20.866 ms
Loss rate: 26.66%
-- Flow 2:
Average throughput: 41.53 Mbit/s
95th percentile per-packet one-way delay: 28.916 ms
Loss rate: 36.40%
-- Flow 3:
Average throughput: 26.28 Mbit/s
95th percentile per-packet one-way delay: 17.251 ms
Loss rate: 44.09%
```

### Run 5: Report of FillP — Data Link

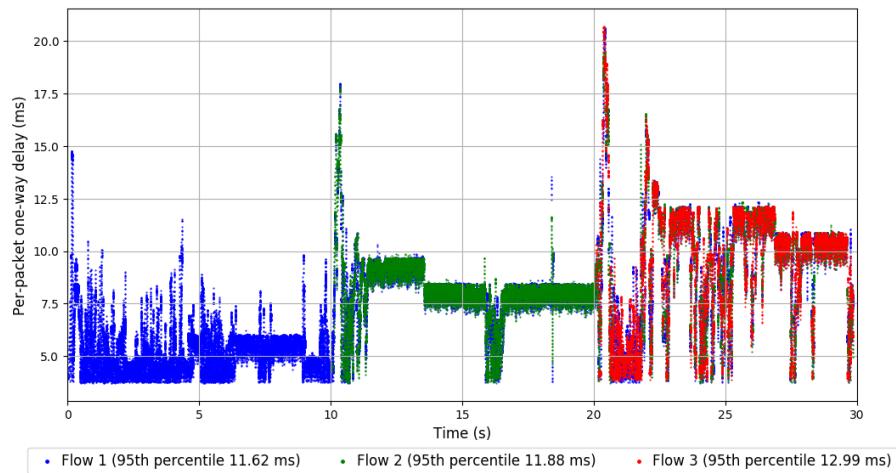
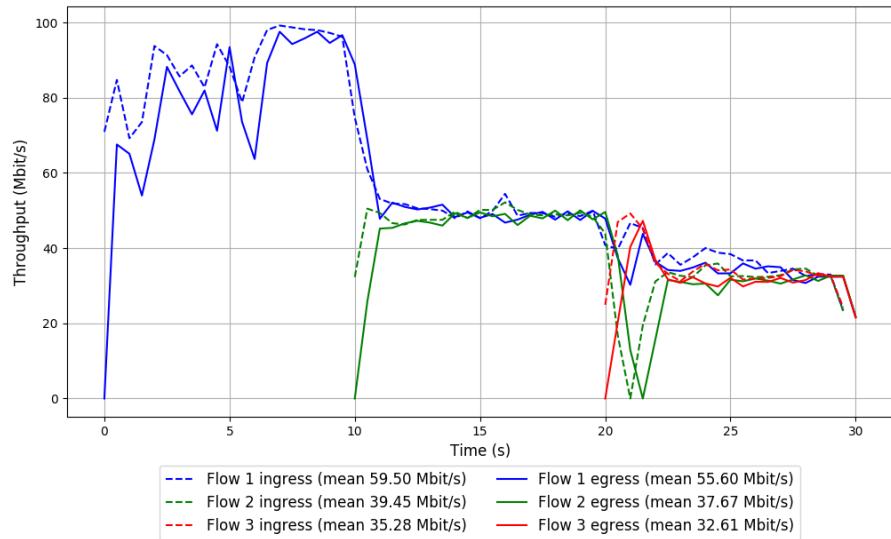


Run 1: Statistics of Indigo

```
Start at: 2018-11-29 23:54:40
End at: 2018-11-29 23:55:10
Local clock offset: 0.311 ms
Remote clock offset: -4.744 ms

# Below is generated by plot.py at 2018-11-30 01:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 11.846 ms
Loss rate: 6.11%
-- Flow 1:
Average throughput: 55.60 Mbit/s
95th percentile per-packet one-way delay: 11.623 ms
Loss rate: 6.53%
-- Flow 2:
Average throughput: 37.67 Mbit/s
95th percentile per-packet one-way delay: 11.884 ms
Loss rate: 4.50%
-- Flow 3:
Average throughput: 32.61 Mbit/s
95th percentile per-packet one-way delay: 12.994 ms
Loss rate: 7.60%
```

## Run 1: Report of Indigo — Data Link

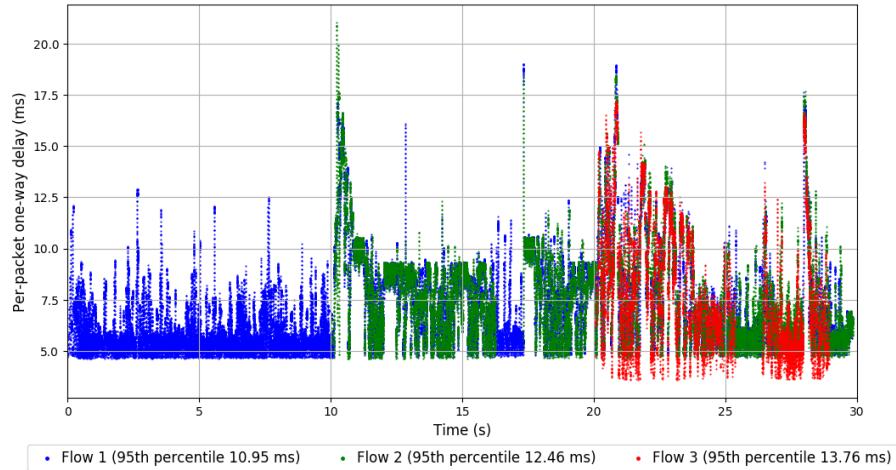
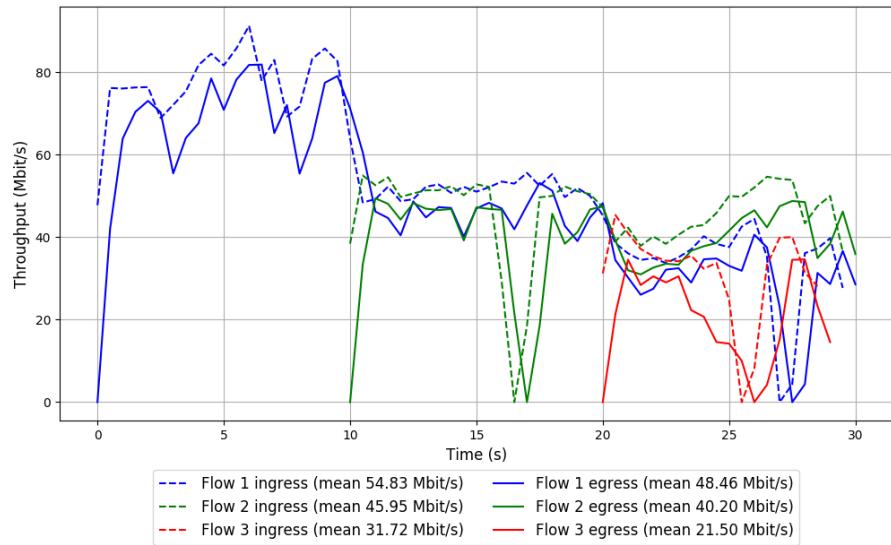


Run 2: Statistics of Indigo

```
Start at: 2018-11-30 00:15:40
End at: 2018-11-30 00:16:10
Local clock offset: -1.479 ms
Remote clock offset: -5.365 ms

# Below is generated by plot.py at 2018-11-30 01:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.55 Mbit/s
95th percentile per-packet one-way delay: 11.970 ms
Loss rate: 13.99%
-- Flow 1:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 10.953 ms
Loss rate: 11.62%
-- Flow 2:
Average throughput: 40.20 Mbit/s
95th percentile per-packet one-way delay: 12.455 ms
Loss rate: 12.51%
-- Flow 3:
Average throughput: 21.50 Mbit/s
95th percentile per-packet one-way delay: 13.757 ms
Loss rate: 32.41%
```

## Run 2: Report of Indigo — Data Link

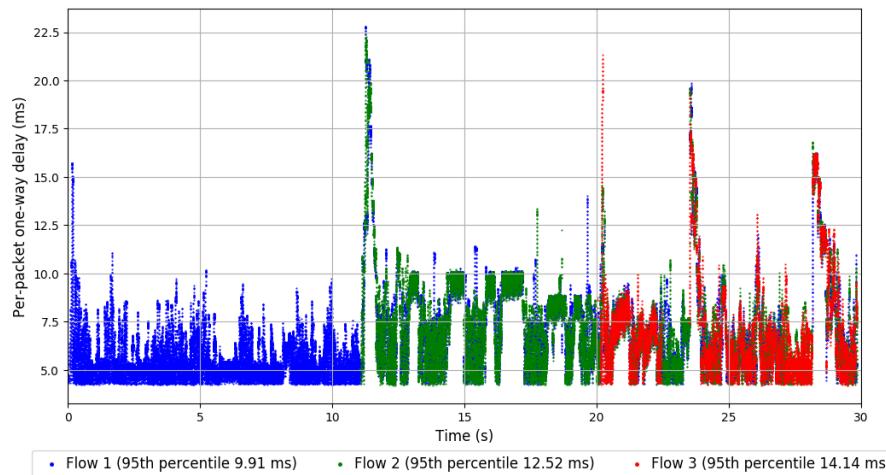
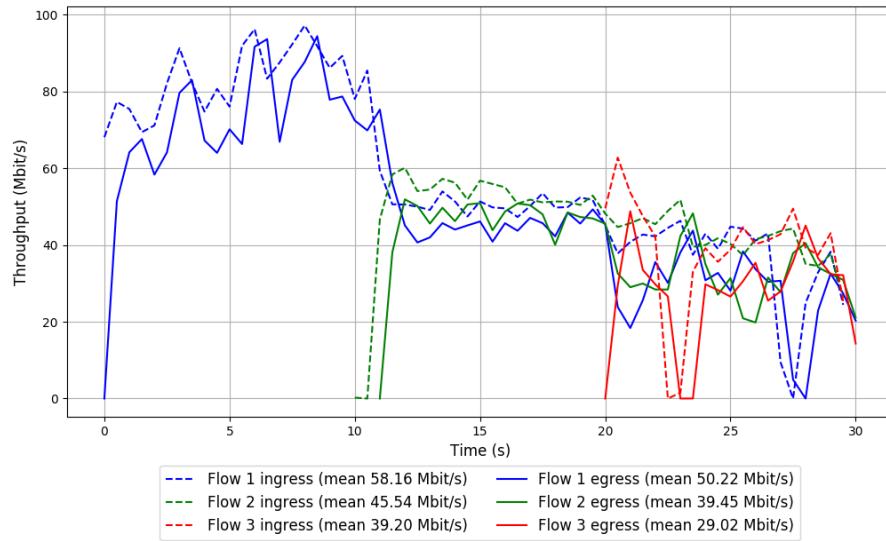


Run 3: Statistics of Indigo

```
Start at: 2018-11-30 00:36:45
End at: 2018-11-30 00:37:15
Local clock offset: 2.073 ms
Remote clock offset: -4.782 ms

# Below is generated by plot.py at 2018-11-30 01:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.59 Mbit/s
95th percentile per-packet one-way delay: 11.056 ms
Loss rate: 16.43%
-- Flow 1:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 9.909 ms
Loss rate: 13.64%
-- Flow 2:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 12.516 ms
Loss rate: 17.74%
-- Flow 3:
Average throughput: 29.02 Mbit/s
95th percentile per-packet one-way delay: 14.140 ms
Loss rate: 25.96%
```

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

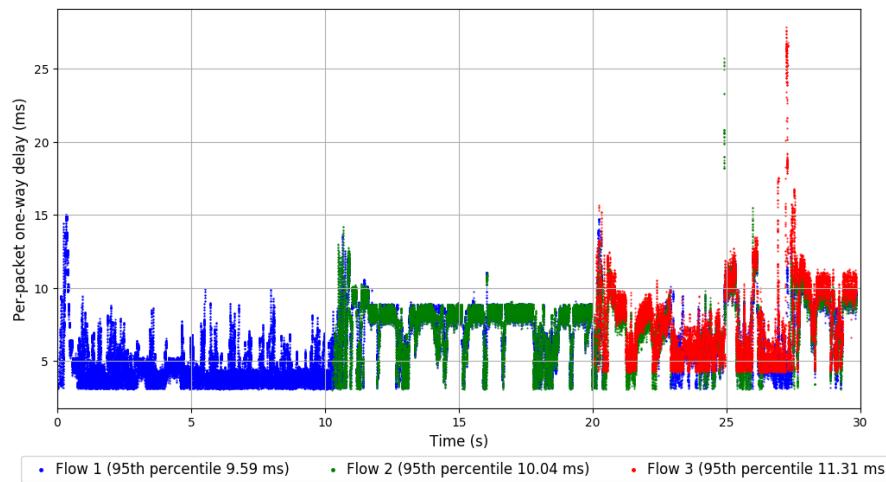
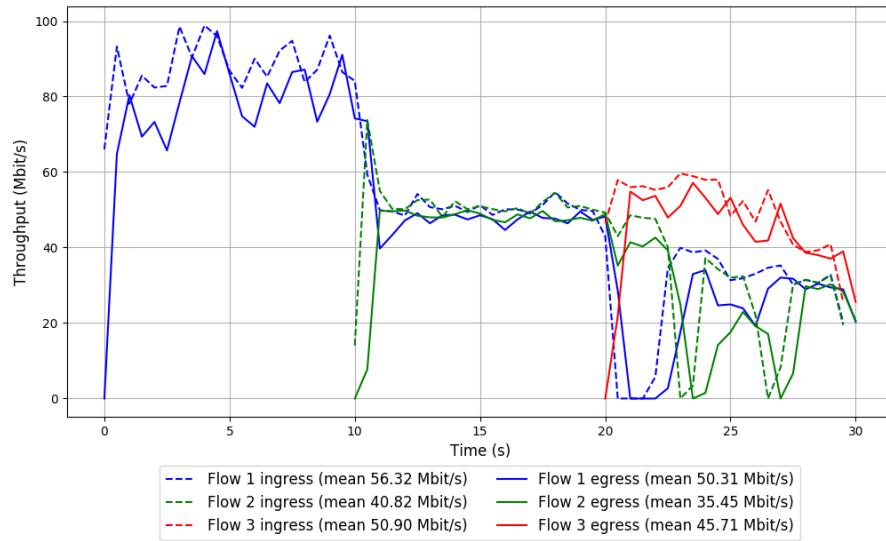


Run 4: Statistics of Indigo

```
Start at: 2018-11-30 00:57:37
End at: 2018-11-30 00:58:07
Local clock offset: 1.628 ms
Remote clock offset: -5.211 ms

# Below is generated by plot.py at 2018-11-30 01:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.58 Mbit/s
95th percentile per-packet one-way delay: 10.228 ms
Loss rate: 11.24%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 9.585 ms
Loss rate: 10.66%
-- Flow 2:
Average throughput: 35.45 Mbit/s
95th percentile per-packet one-way delay: 10.038 ms
Loss rate: 13.13%
-- Flow 3:
Average throughput: 45.71 Mbit/s
95th percentile per-packet one-way delay: 11.313 ms
Loss rate: 10.16%
```

## Run 4: Report of Indigo — Data Link

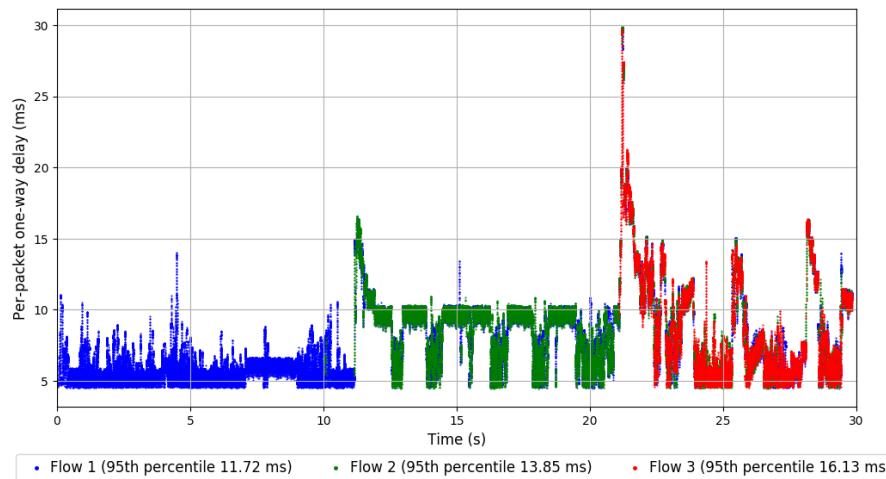
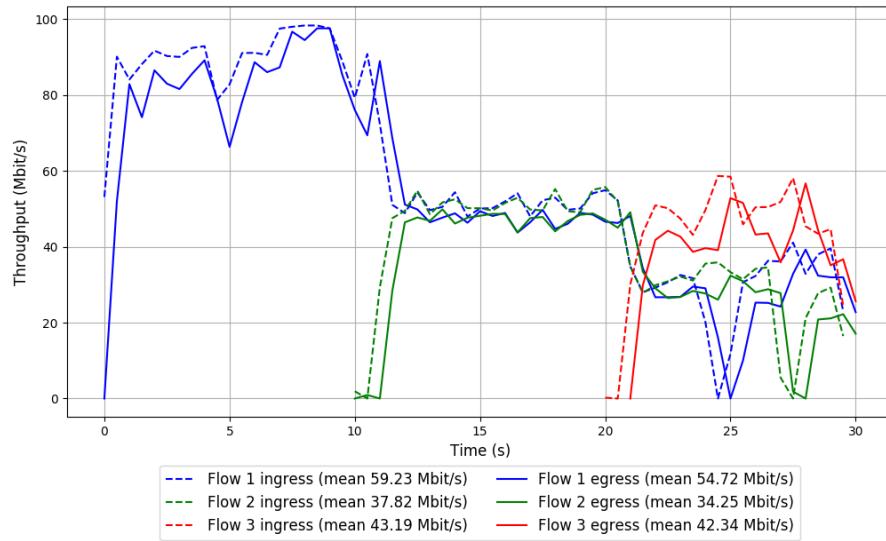


Run 5: Statistics of Indigo

```
Start at: 2018-11-30 01:18:34
End at: 2018-11-30 01:19:04
Local clock offset: 0.842 ms
Remote clock offset: -4.327 ms

# Below is generated by plot.py at 2018-11-30 01:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.94 Mbit/s
95th percentile per-packet one-way delay: 13.572 ms
Loss rate: 8.69%
-- Flow 1:
Average throughput: 54.72 Mbit/s
95th percentile per-packet one-way delay: 11.718 ms
Loss rate: 7.60%
-- Flow 2:
Average throughput: 34.25 Mbit/s
95th percentile per-packet one-way delay: 13.846 ms
Loss rate: 9.41%
-- Flow 3:
Average throughput: 42.34 Mbit/s
95th percentile per-packet one-way delay: 16.130 ms
Loss rate: 11.96%
```

## Run 5: Report of Indigo — Data Link

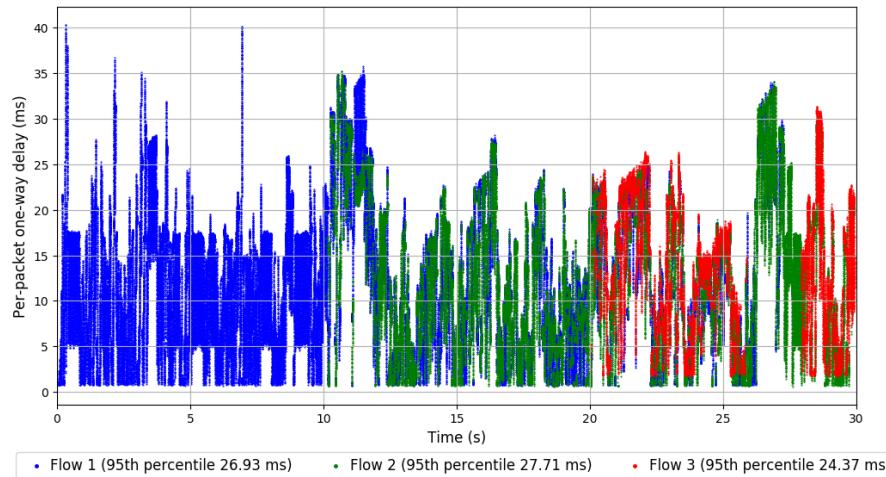
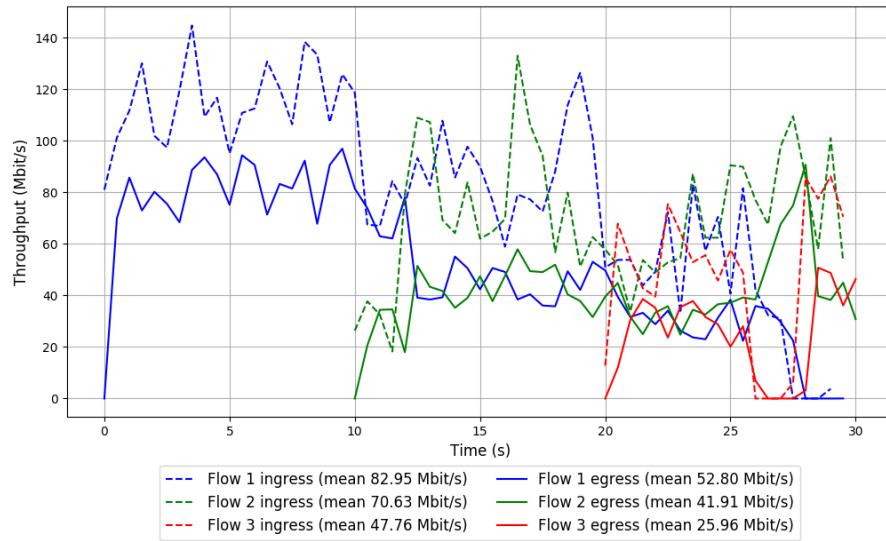


```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-29 23:59:18
End at: 2018-11-29 23:59:48
Local clock offset: -1.383 ms
Remote clock offset: -8.193 ms

# Below is generated by plot.py at 2018-11-30 01:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.03 Mbit/s
95th percentile per-packet one-way delay: 26.922 ms
Loss rate: 38.80%
-- Flow 1:
Average throughput: 52.80 Mbit/s
95th percentile per-packet one-way delay: 26.925 ms
Loss rate: 36.40%
-- Flow 2:
Average throughput: 41.91 Mbit/s
95th percentile per-packet one-way delay: 27.711 ms
Loss rate: 40.69%
-- Flow 3:
Average throughput: 25.96 Mbit/s
95th percentile per-packet one-way delay: 24.367 ms
Loss rate: 45.56%
```

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

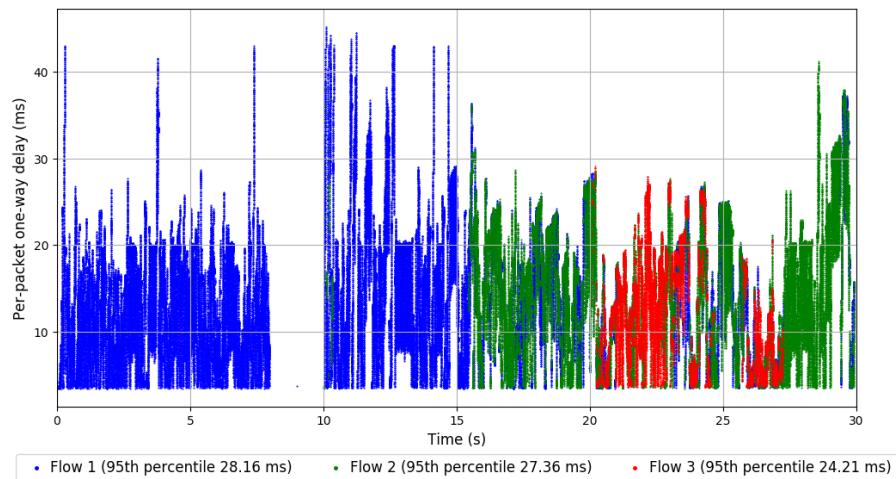
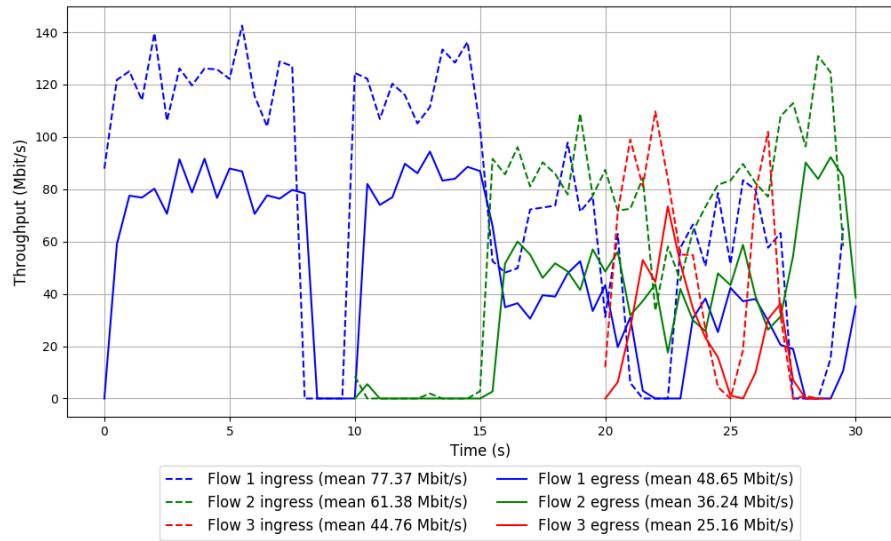


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 00:20:17
End at: 2018-11-30 00:20:47
Local clock offset: 0.602 ms
Remote clock offset: -4.351 ms

# Below is generated by plot.py at 2018-11-30 01:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.67 Mbit/s
95th percentile per-packet one-way delay: 27.374 ms
Loss rate: 39.65%
-- Flow 1:
Average throughput: 48.65 Mbit/s
95th percentile per-packet one-way delay: 28.157 ms
Loss rate: 37.09%
-- Flow 2:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 27.363 ms
Loss rate: 40.93%
-- Flow 3:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 24.213 ms
Loss rate: 50.10%
```

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

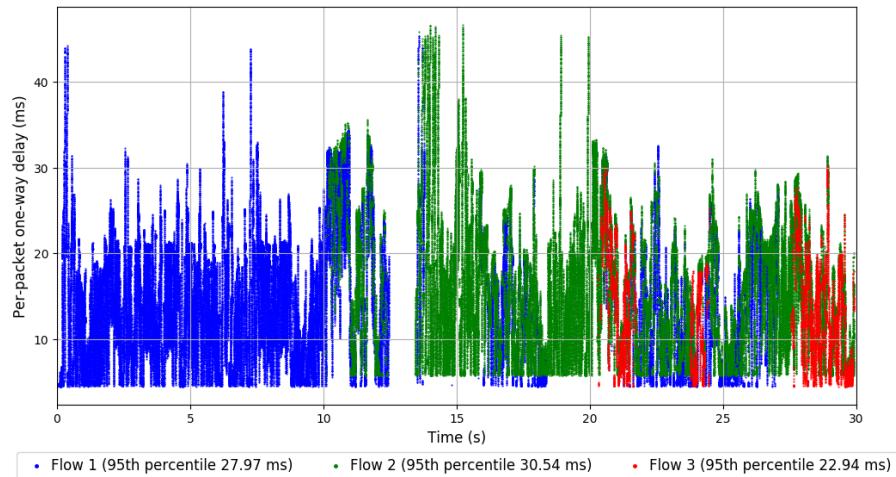
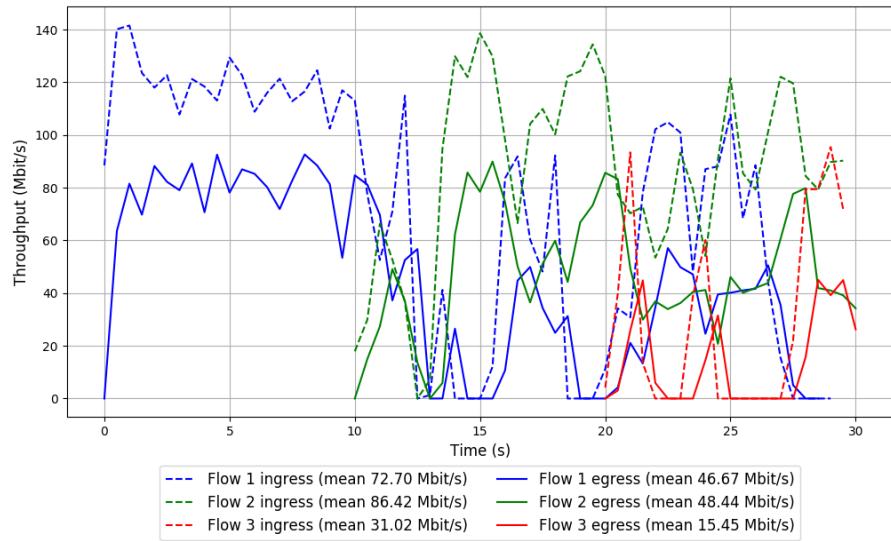


```
Run 3: Statistics of Indigo-96d2da3
```

```
Start at: 2018-11-30 00:41:23
End at: 2018-11-30 00:41:53
Local clock offset: 1.542 ms
Remote clock offset: -4.01 ms

# Below is generated by plot.py at 2018-11-30 01:36:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.08 Mbit/s
95th percentile per-packet one-way delay: 28.893 ms
Loss rate: 41.36%
-- Flow 1:
Average throughput: 46.67 Mbit/s
95th percentile per-packet one-way delay: 27.968 ms
Loss rate: 37.97%
-- Flow 2:
Average throughput: 48.44 Mbit/s
95th percentile per-packet one-way delay: 30.542 ms
Loss rate: 43.98%
-- Flow 3:
Average throughput: 15.45 Mbit/s
95th percentile per-packet one-way delay: 22.944 ms
Loss rate: 50.34%
```

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

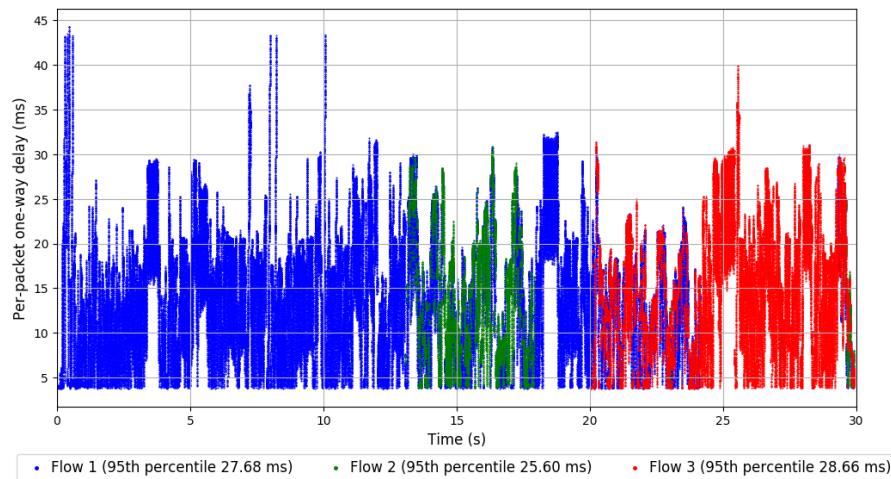
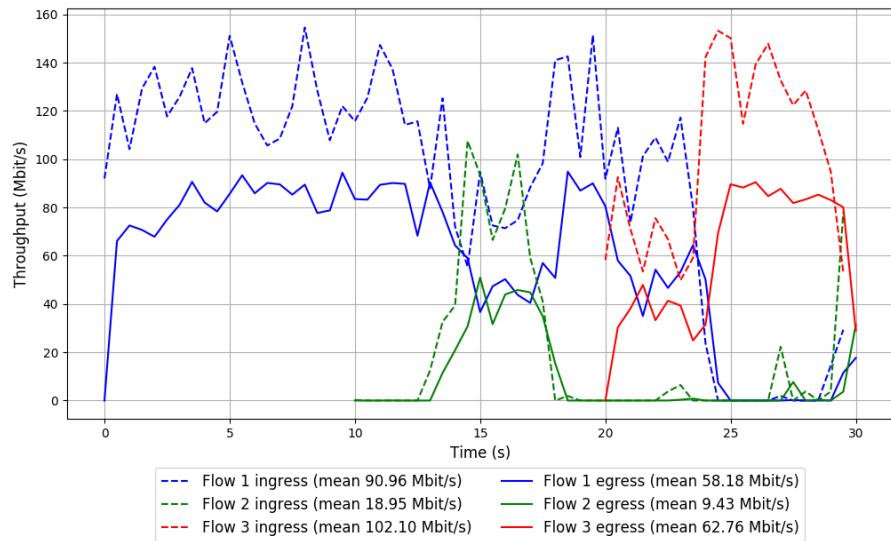


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 01:02:13
End at: 2018-11-30 01:02:43
Local clock offset: 1.407 ms
Remote clock offset: -4.712 ms

# Below is generated by plot.py at 2018-11-30 01:36:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 27.947 ms
Loss rate: 37.97%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 27.677 ms
Loss rate: 36.04%
-- Flow 2:
Average throughput: 9.43 Mbit/s
95th percentile per-packet one-way delay: 25.597 ms
Loss rate: 50.29%
-- Flow 3:
Average throughput: 62.76 Mbit/s
95th percentile per-packet one-way delay: 28.658 ms
Loss rate: 38.58%
```

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

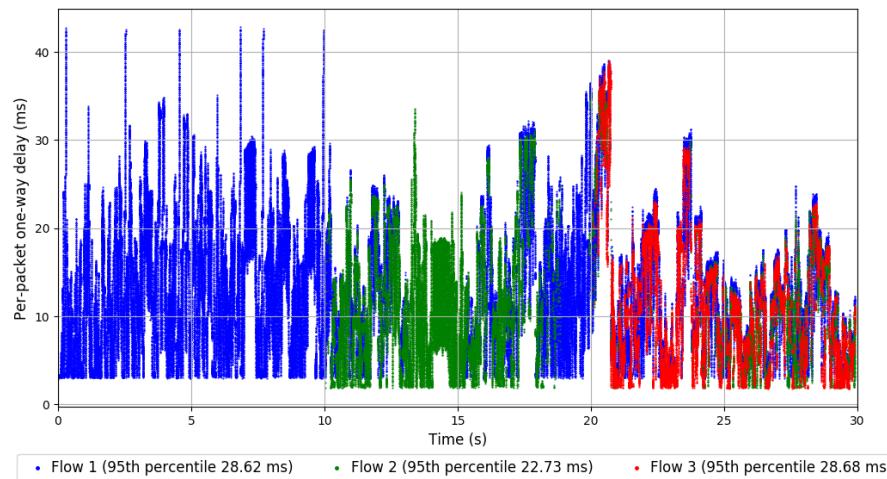
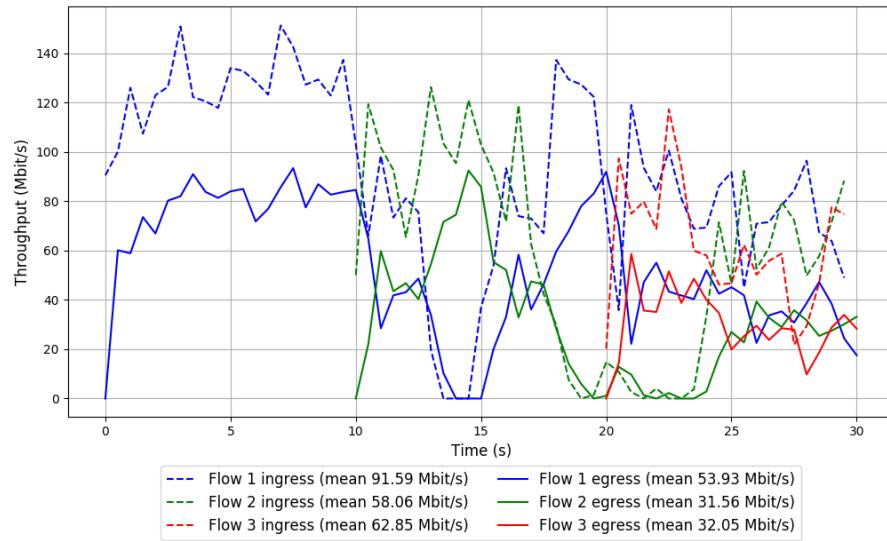


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 01:23:14
End at: 2018-11-30 01:23:44
Local clock offset: 3.594 ms
Remote clock offset: -3.782 ms

# Below is generated by plot.py at 2018-11-30 01:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 28.118 ms
Loss rate: 43.35%
-- Flow 1:
Average throughput: 53.93 Mbit/s
95th percentile per-packet one-way delay: 28.625 ms
Loss rate: 41.10%
-- Flow 2:
Average throughput: 31.56 Mbit/s
95th percentile per-packet one-way delay: 22.725 ms
Loss rate: 45.62%
-- Flow 3:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 28.677 ms
Loss rate: 49.07%
```

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

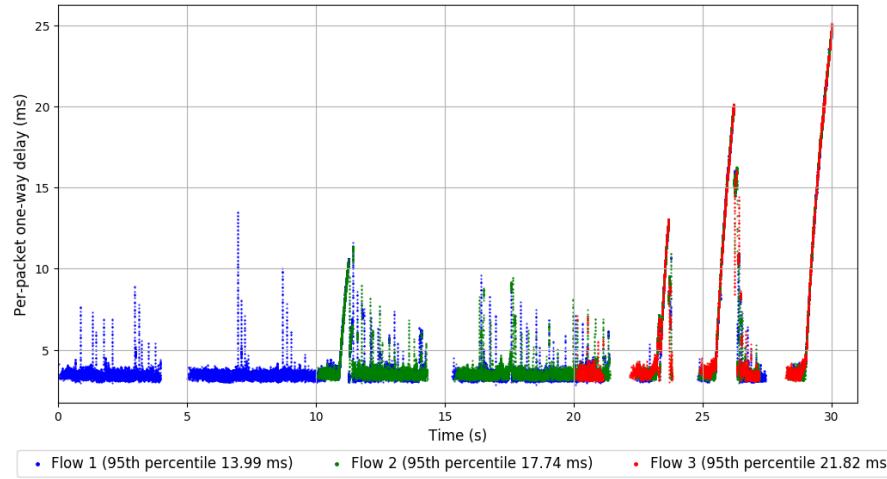
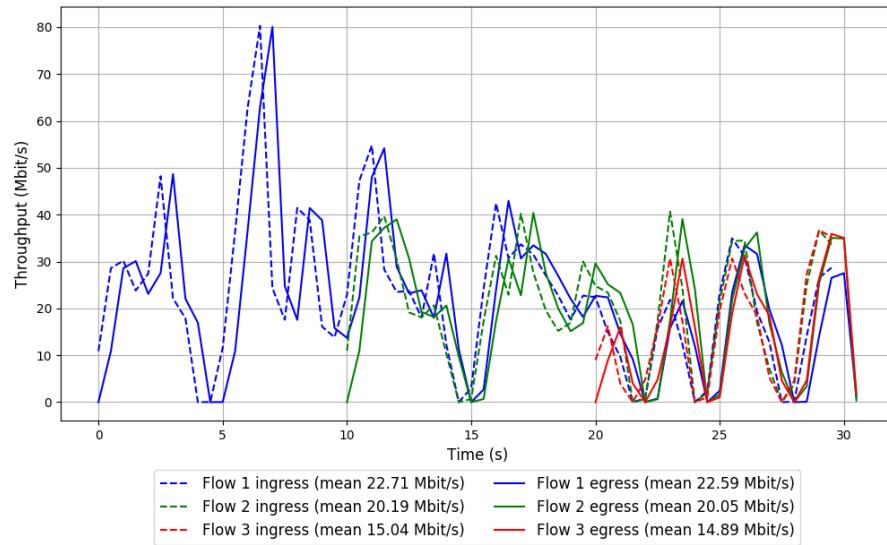


Run 1: Statistics of LEDBAT

```
Start at: 2018-11-30 00:04:00
End at: 2018-11-30 00:04:30
Local clock offset: -0.595 ms
Remote clock offset: -4.838 ms

# Below is generated by plot.py at 2018-11-30 01:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.90 Mbit/s
95th percentile per-packet one-way delay: 17.454 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 22.59 Mbit/s
95th percentile per-packet one-way delay: 13.994 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 20.05 Mbit/s
95th percentile per-packet one-way delay: 17.741 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 14.89 Mbit/s
95th percentile per-packet one-way delay: 21.818 ms
Loss rate: 0.74%
```

## Run 1: Report of LEDBAT — Data Link

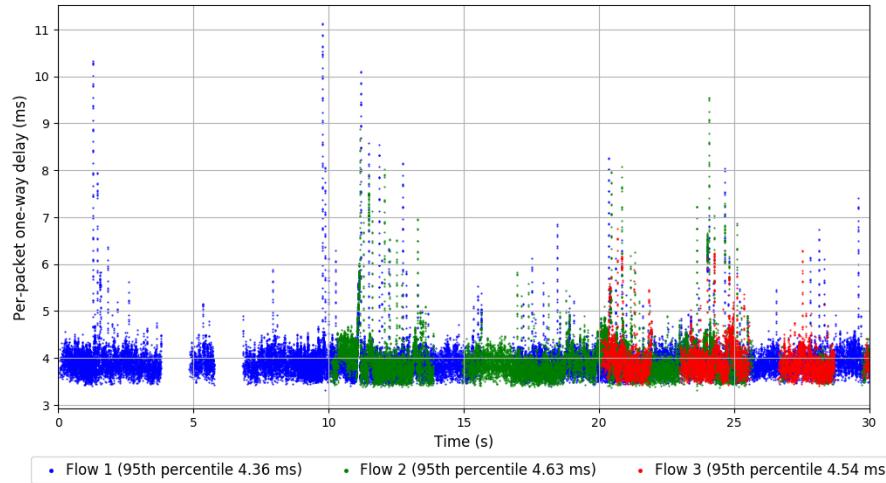
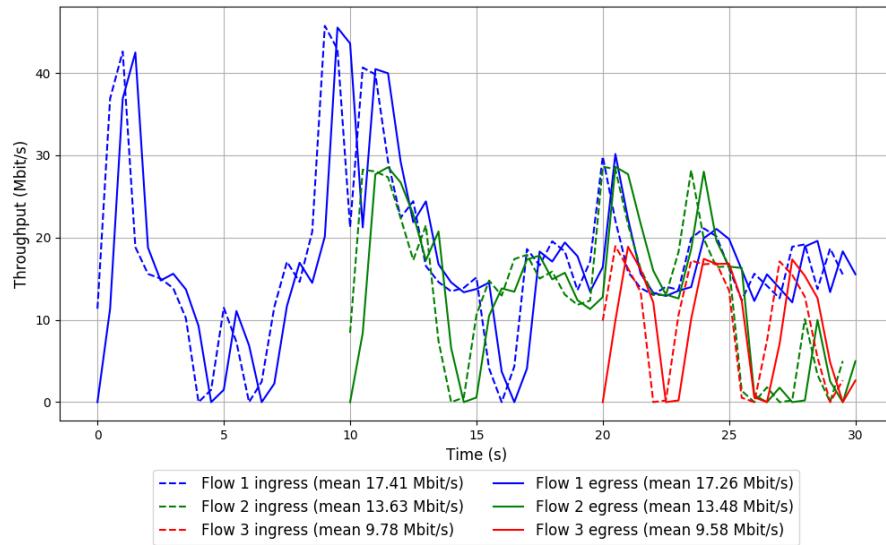


Run 2: Statistics of LEDBAT

```
Start at: 2018-11-30 00:24:57
End at: 2018-11-30 00:25:27
Local clock offset: 0.449 ms
Remote clock offset: -5.21 ms

# Below is generated by plot.py at 2018-11-30 01:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.41 Mbit/s
95th percentile per-packet one-way delay: 4.477 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 17.26 Mbit/s
95th percentile per-packet one-way delay: 4.357 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 13.48 Mbit/s
95th percentile per-packet one-way delay: 4.633 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 4.542 ms
Loss rate: 2.04%
```

## Run 2: Report of LEDBAT — Data Link

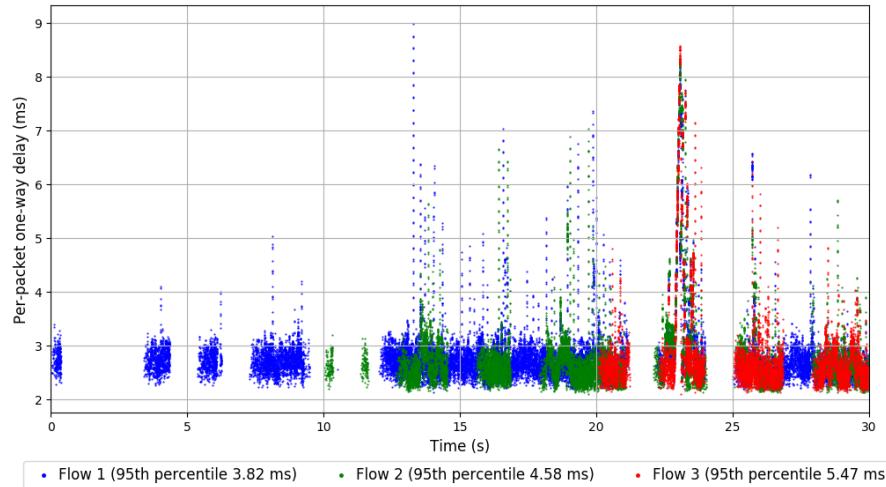
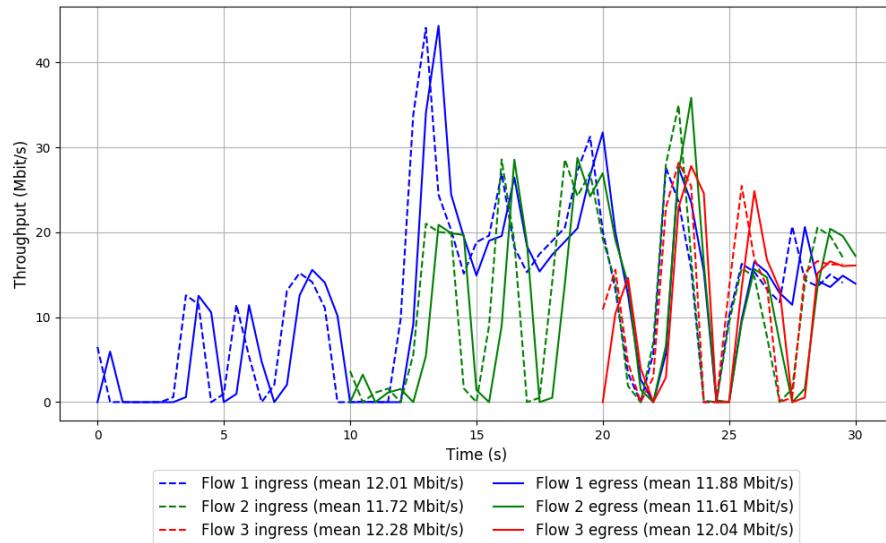


Run 3: Statistics of LEDBAT

```
Start at: 2018-11-30 00:45:58
End at: 2018-11-30 00:46:28
Local clock offset: 3.144 ms
Remote clock offset: -4.789 ms

# Below is generated by plot.py at 2018-11-30 01:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.61 Mbit/s
95th percentile per-packet one-way delay: 4.337 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 3.822 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 4.577 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 5.472 ms
Loss rate: 1.95%
```

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

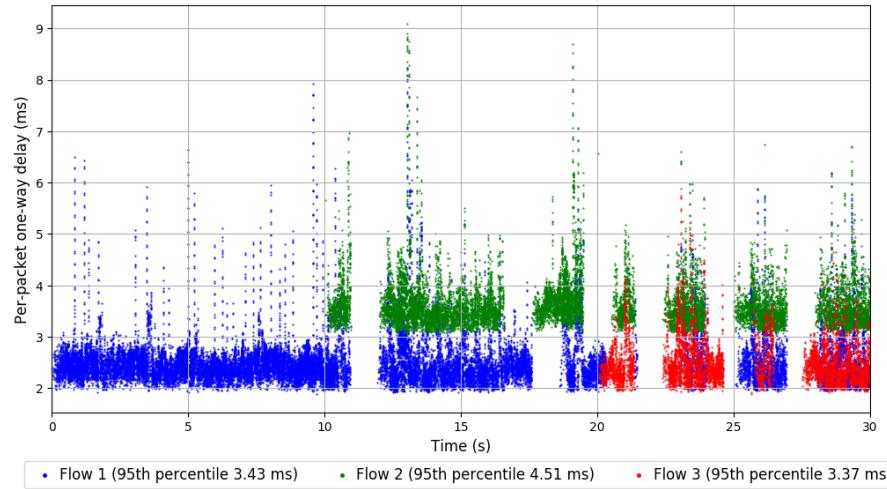
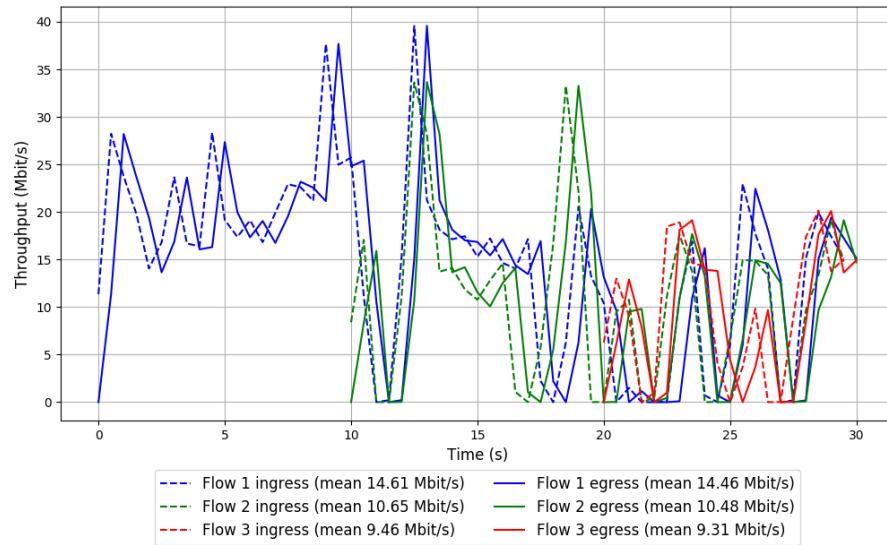


Run 4: Statistics of LEDBAT

```
Start at: 2018-11-30 01:06:54
End at: 2018-11-30 01:07:24
Local clock offset: 3.982 ms
Remote clock offset: -4.012 ms

# Below is generated by plot.py at 2018-11-30 01:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 4.027 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 14.46 Mbit/s
95th percentile per-packet one-way delay: 3.431 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 10.48 Mbit/s
95th percentile per-packet one-way delay: 4.511 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 9.31 Mbit/s
95th percentile per-packet one-way delay: 3.367 ms
Loss rate: 1.62%
```

## Run 4: Report of LEDBAT — Data Link

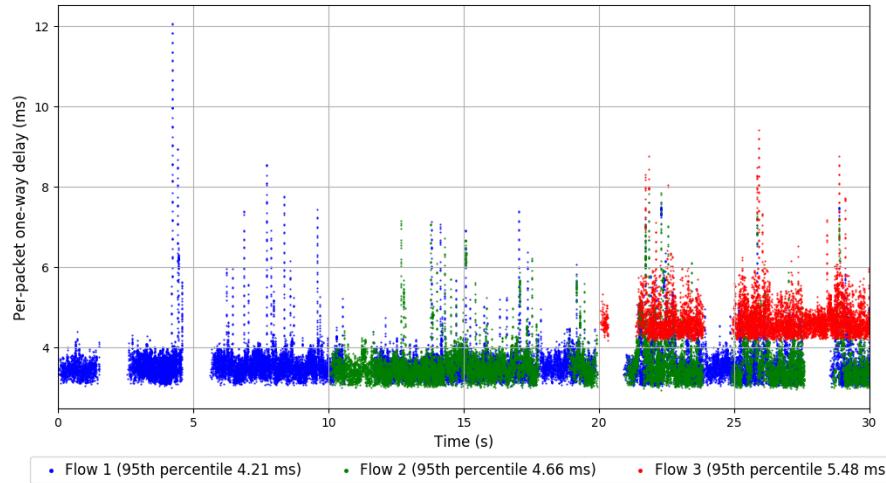
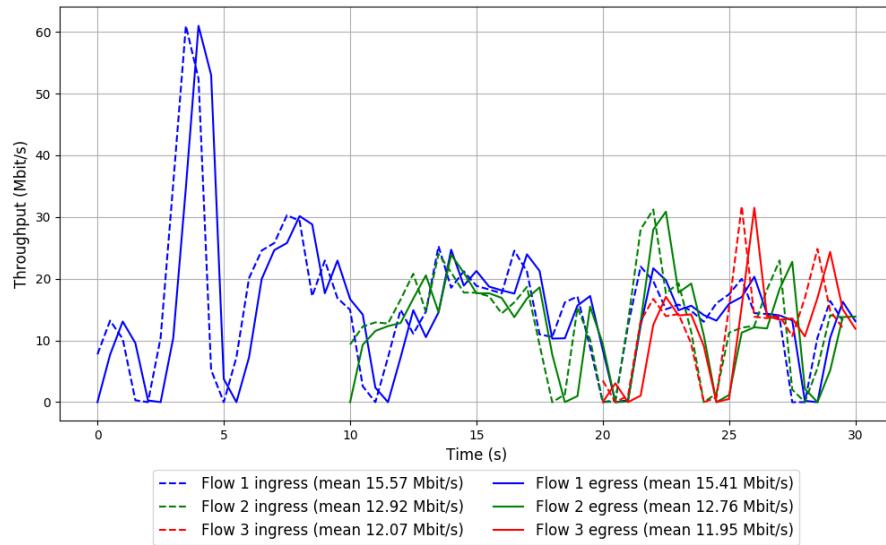


Run 5: Statistics of LEDBAT

```
Start at: 2018-11-30 01:27:54
End at: 2018-11-30 01:28:24
Local clock offset: 1.927 ms
Remote clock offset: -3.977 ms

# Below is generated by plot.py at 2018-11-30 01:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.89 Mbit/s
95th percentile per-packet one-way delay: 4.909 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 15.41 Mbit/s
95th percentile per-packet one-way delay: 4.206 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 4.657 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 5.481 ms
Loss rate: 0.99%
```

Run 5: Report of LEDBAT — Data Link

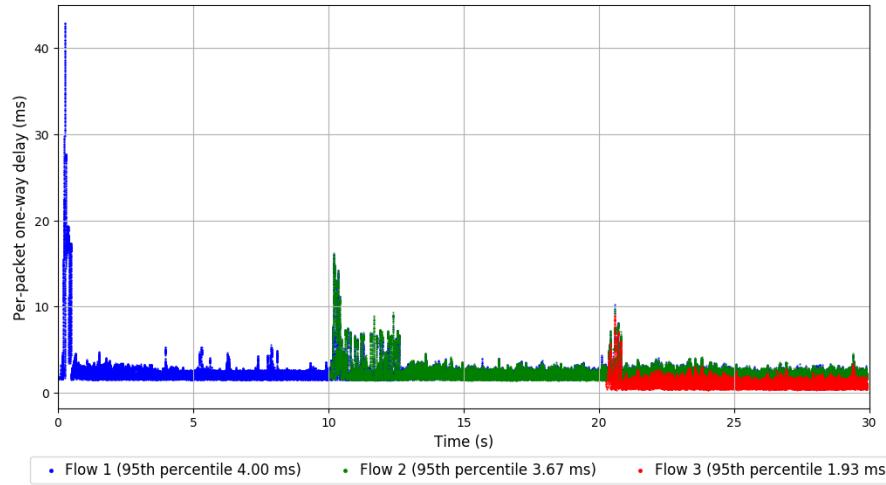
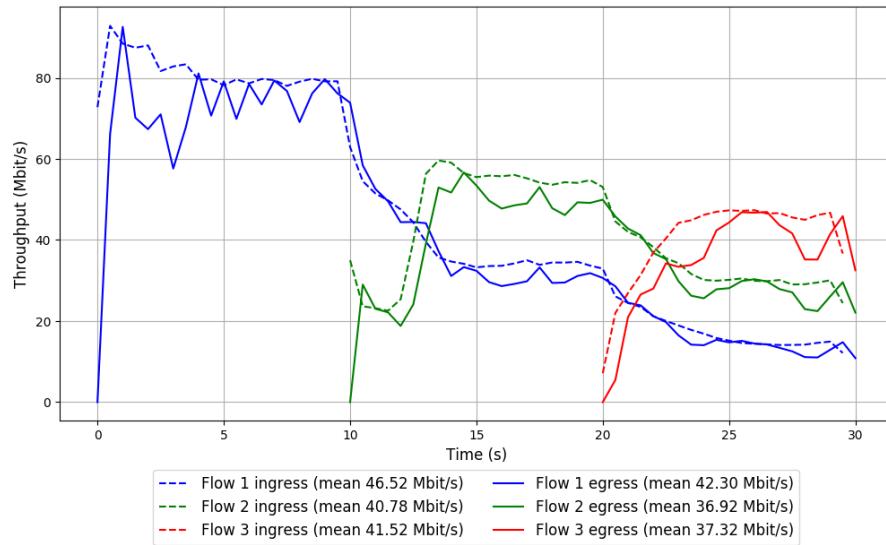


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-11-29 23:47:46
End at: 2018-11-29 23:48:16
Local clock offset: 2.383 ms
Remote clock offset: -5.343 ms

# Below is generated by plot.py at 2018-11-30 01:37:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.90 Mbit/s
95th percentile per-packet one-way delay: 3.558 ms
Loss rate: 9.36%
-- Flow 1:
Average throughput: 42.30 Mbit/s
95th percentile per-packet one-way delay: 3.995 ms
Loss rate: 9.07%
-- Flow 2:
Average throughput: 36.92 Mbit/s
95th percentile per-packet one-way delay: 3.666 ms
Loss rate: 9.48%
-- Flow 3:
Average throughput: 37.32 Mbit/s
95th percentile per-packet one-way delay: 1.931 ms
Loss rate: 10.14%
```

## Run 1: Report of Indigo-Muses — Data Link

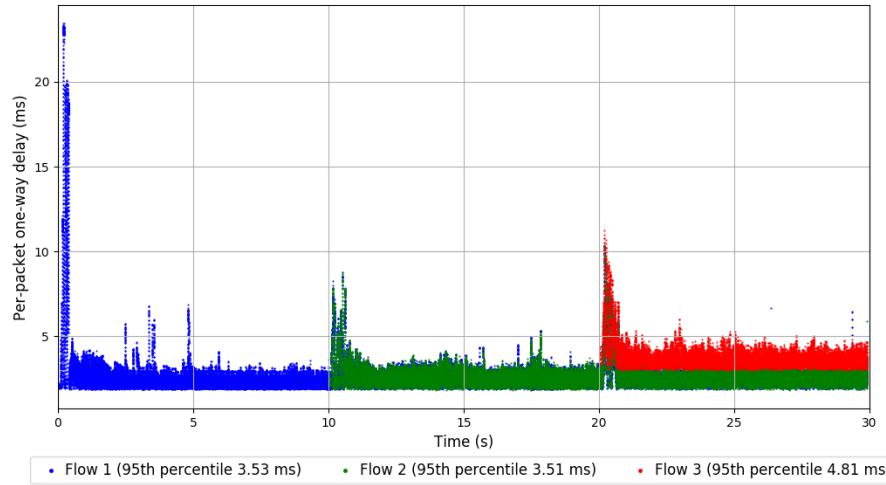
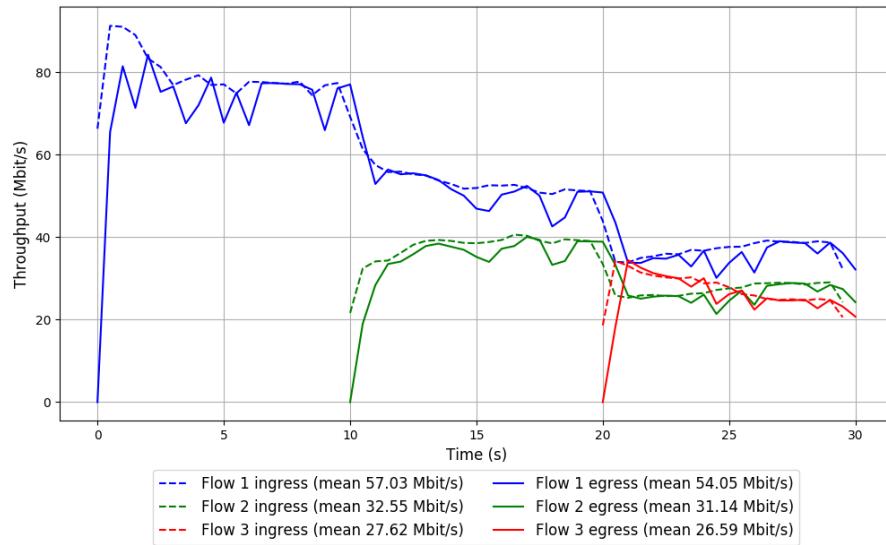


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-11-30 00:08:42
End at: 2018-11-30 00:09:12
Local clock offset: 0.445 ms
Remote clock offset: -4.866 ms

# Below is generated by plot.py at 2018-11-30 01:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.54 Mbit/s
95th percentile per-packet one-way delay: 4.071 ms
Loss rate: 4.85%
-- Flow 1:
Average throughput: 54.05 Mbit/s
95th percentile per-packet one-way delay: 3.530 ms
Loss rate: 5.21%
-- Flow 2:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 3.511 ms
Loss rate: 4.34%
-- Flow 3:
Average throughput: 26.59 Mbit/s
95th percentile per-packet one-way delay: 4.806 ms
Loss rate: 3.75%
```

## Run 2: Report of Indigo-Muses — Data Link

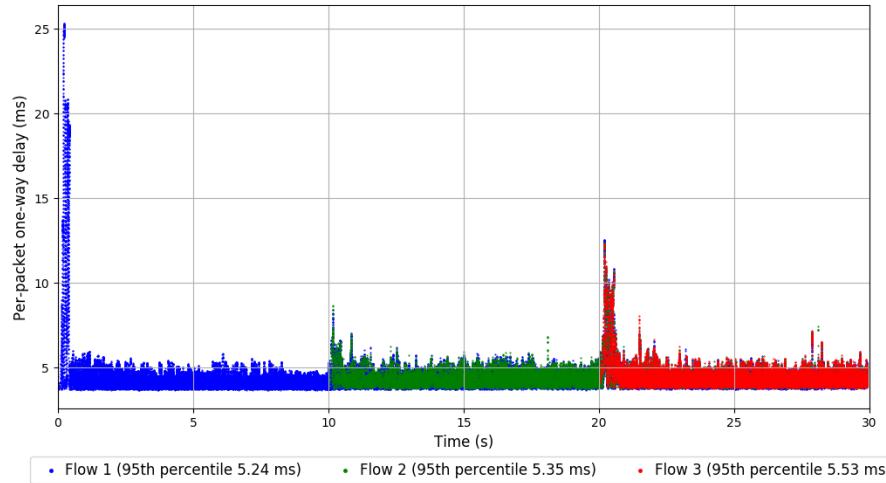
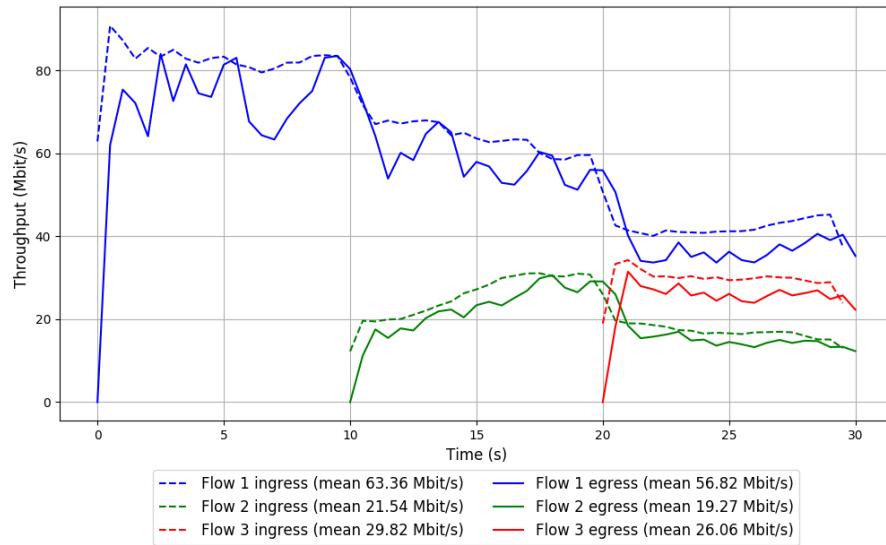


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-11-30 00:29:38
End at: 2018-11-30 00:30:08
Local clock offset: 3.03 ms
Remote clock offset: -3.831 ms

# Below is generated by plot.py at 2018-11-30 01:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.25 Mbit/s
95th percentile per-packet one-way delay: 5.289 ms
Loss rate: 10.61%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 5.243 ms
Loss rate: 10.31%
-- Flow 2:
Average throughput: 19.27 Mbit/s
95th percentile per-packet one-way delay: 5.353 ms
Loss rate: 10.58%
-- Flow 3:
Average throughput: 26.06 Mbit/s
95th percentile per-packet one-way delay: 5.526 ms
Loss rate: 12.62%
```

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

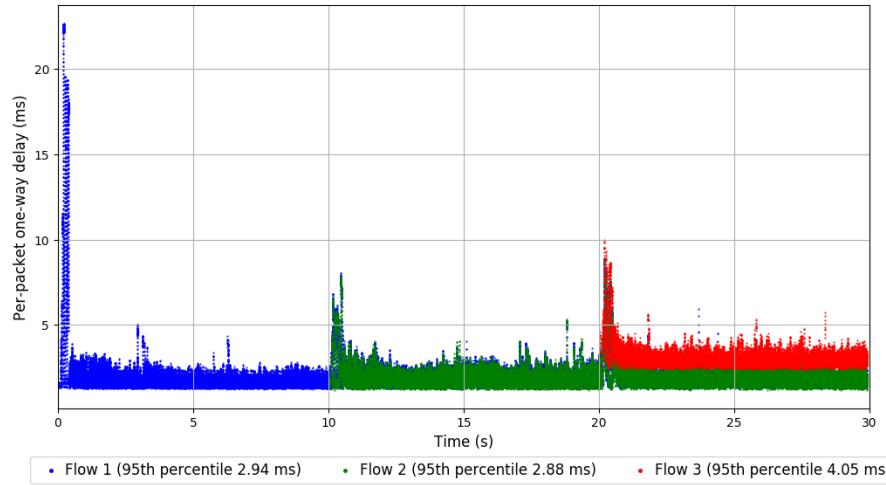
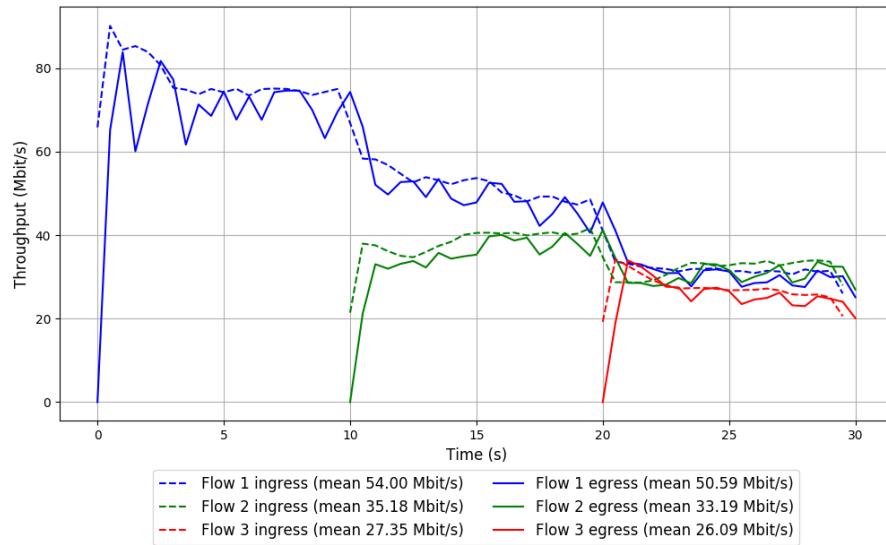


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-11-30 00:50:38
End at: 2018-11-30 00:51:08
Local clock offset: 4.348 ms
Remote clock offset: -4.434 ms

# Below is generated by plot.py at 2018-11-30 01:37:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.29 Mbit/s
95th percentile per-packet one-way delay: 3.437 ms
Loss rate: 5.96%
-- Flow 1:
Average throughput: 50.59 Mbit/s
95th percentile per-packet one-way delay: 2.935 ms
Loss rate: 6.31%
-- Flow 2:
Average throughput: 33.19 Mbit/s
95th percentile per-packet one-way delay: 2.875 ms
Loss rate: 5.68%
-- Flow 3:
Average throughput: 26.09 Mbit/s
95th percentile per-packet one-way delay: 4.051 ms
Loss rate: 4.59%
```

## Run 4: Report of Indigo-Muses — Data Link

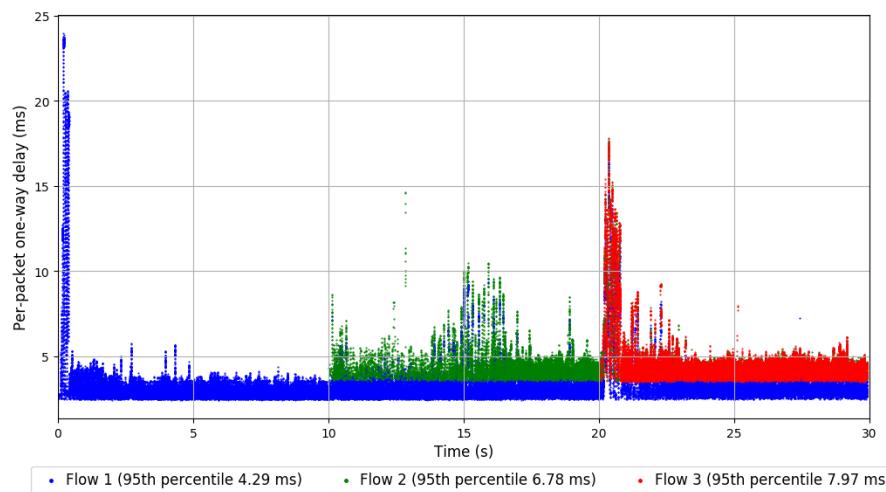
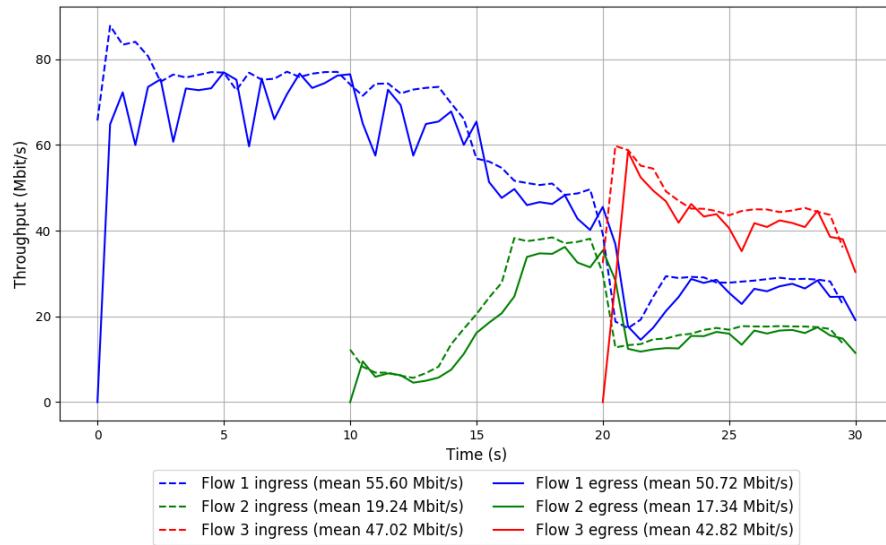


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-11-30 01:11:31
End at: 2018-11-30 01:12:02
Local clock offset: 2.665 ms
Remote clock offset: -4.962 ms

# Below is generated by plot.py at 2018-11-30 01:37:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.38 Mbit/s
95th percentile per-packet one-way delay: 5.442 ms
Loss rate: 8.98%
-- Flow 1:
Average throughput: 50.72 Mbit/s
95th percentile per-packet one-way delay: 4.289 ms
Loss rate: 8.78%
-- Flow 2:
Average throughput: 17.34 Mbit/s
95th percentile per-packet one-way delay: 6.782 ms
Loss rate: 9.88%
-- Flow 3:
Average throughput: 42.82 Mbit/s
95th percentile per-packet one-way delay: 7.970 ms
Loss rate: 8.93%
```

Run 5: Report of Indigo-Muses — Data Link

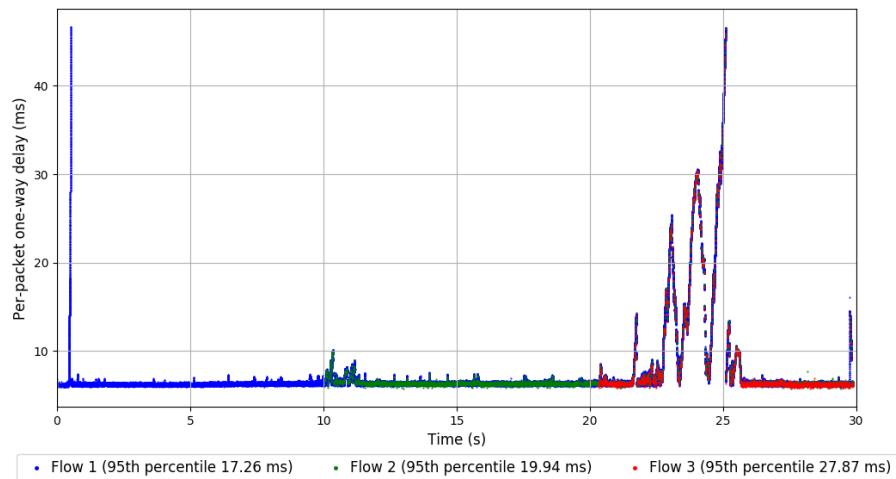
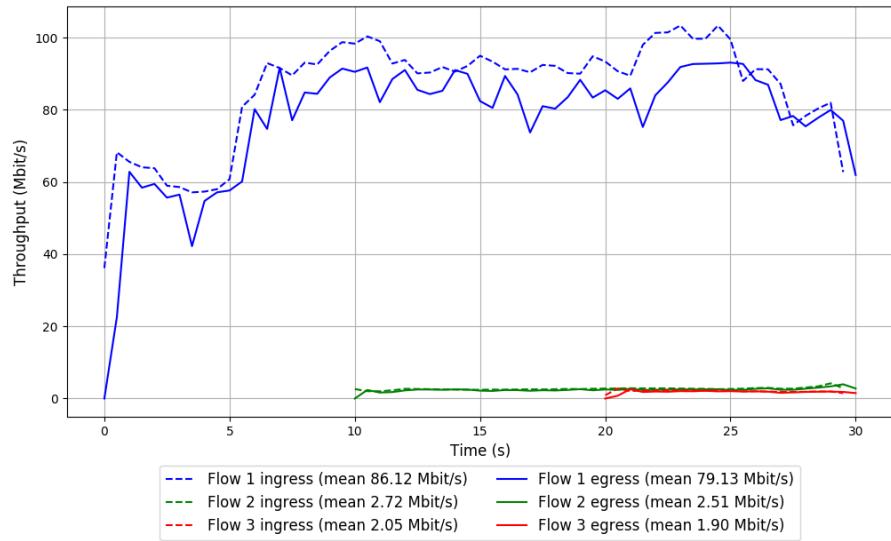


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-11-30 00:01:43
End at: 2018-11-30 00:02:13
Local clock offset: -2.874 ms
Remote clock offset: -4.278 ms

# Below is generated by plot.py at 2018-11-30 01:37:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.42 Mbit/s
95th percentile per-packet one-way delay: 17.604 ms
Loss rate: 8.11%
-- Flow 1:
Average throughput: 79.13 Mbit/s
95th percentile per-packet one-way delay: 17.257 ms
Loss rate: 8.12%
-- Flow 2:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 19.938 ms
Loss rate: 7.67%
-- Flow 3:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 27.866 ms
Loss rate: 7.69%
```

## Run 1: Report of PCC-Allegro — Data Link

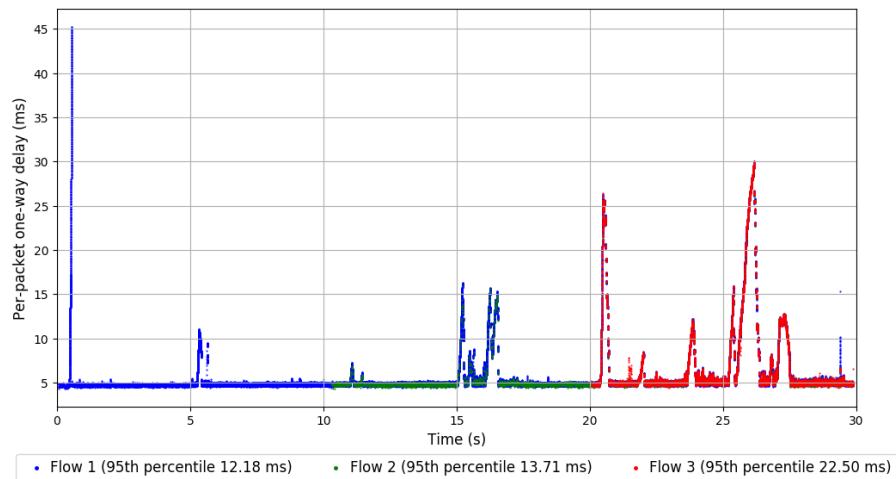
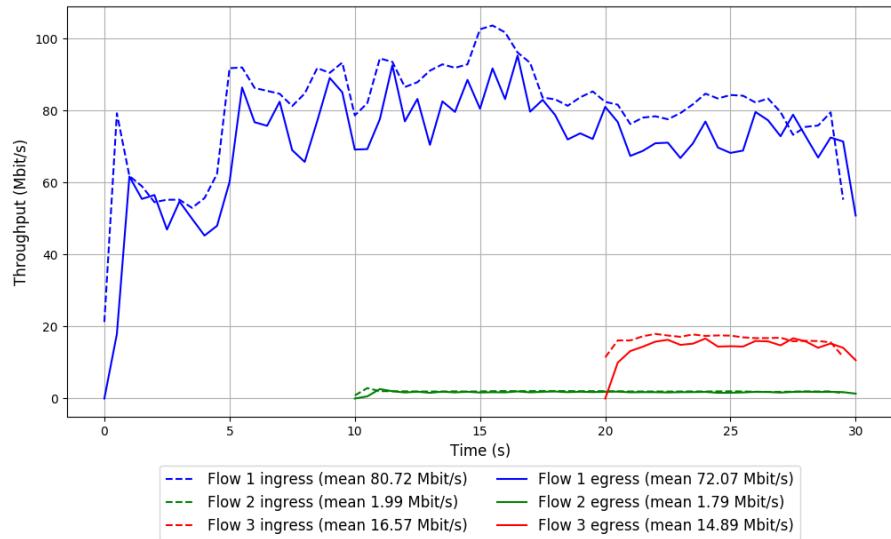


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-11-30 00:22:41
End at: 2018-11-30 00:23:11
Local clock offset: 0.741 ms
Remote clock offset: -4.647 ms

# Below is generated by plot.py at 2018-11-30 01:38:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 12.520 ms
Loss rate: 10.68%
-- Flow 1:
Average throughput: 72.07 Mbit/s
95th percentile per-packet one-way delay: 12.183 ms
Loss rate: 10.72%
-- Flow 2:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 13.708 ms
Loss rate: 10.15%
-- Flow 3:
Average throughput: 14.89 Mbit/s
95th percentile per-packet one-way delay: 22.501 ms
Loss rate: 10.15%
```

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

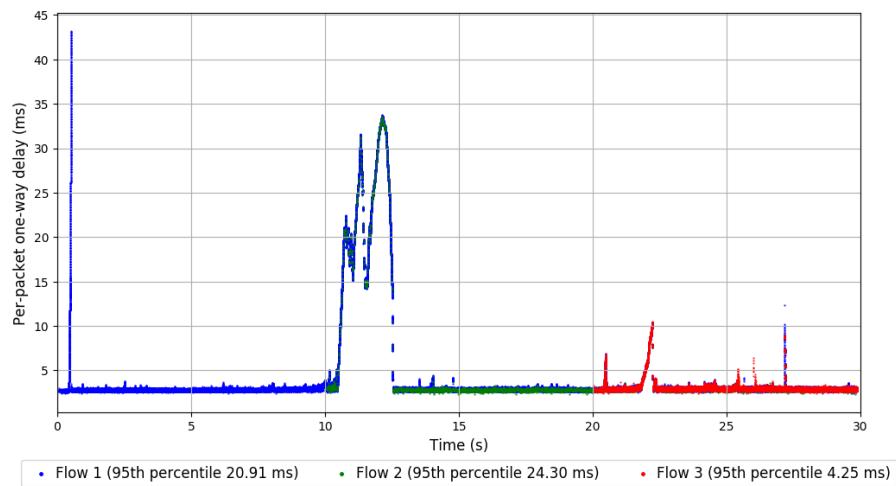
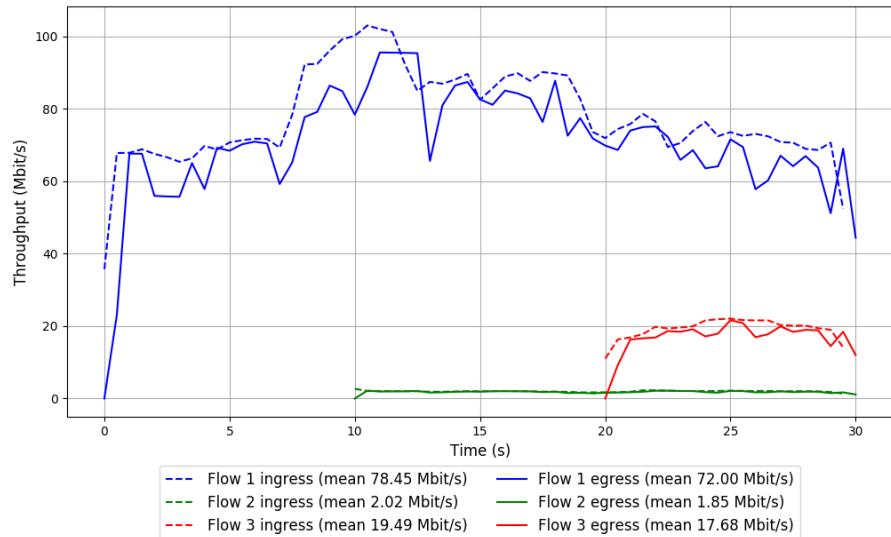


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-11-30 00:43:42
End at: 2018-11-30 00:44:12
Local clock offset: 3.393 ms
Remote clock offset: -4.285 ms

# Below is generated by plot.py at 2018-11-30 01:38:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.06 Mbit/s
95th percentile per-packet one-way delay: 20.480 ms
Loss rate: 8.30%
-- Flow 1:
Average throughput: 72.00 Mbit/s
95th percentile per-packet one-way delay: 20.908 ms
Loss rate: 8.22%
-- Flow 2:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 24.296 ms
Loss rate: 8.08%
-- Flow 3:
Average throughput: 17.68 Mbit/s
95th percentile per-packet one-way delay: 4.246 ms
Loss rate: 9.31%
```

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

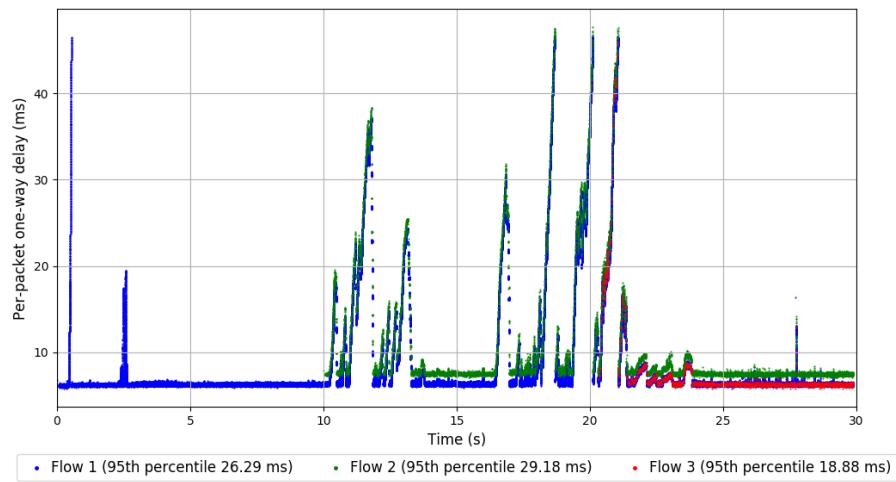
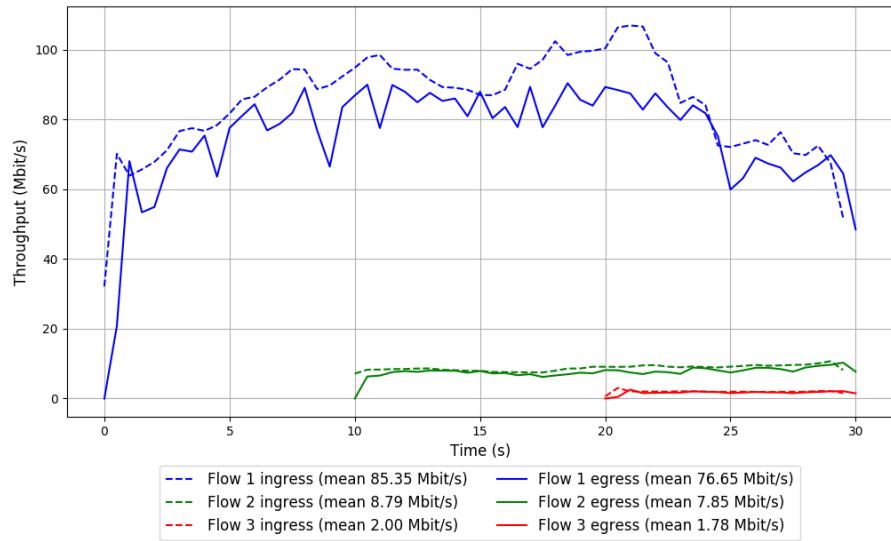


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-11-30 01:04:36
End at: 2018-11-30 01:05:06
Local clock offset: -0.51 ms
Remote clock offset: -4.511 ms

# Below is generated by plot.py at 2018-11-30 01:38:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.46 Mbit/s
95th percentile per-packet one-way delay: 26.520 ms
Loss rate: 10.23%
-- Flow 1:
Average throughput: 76.65 Mbit/s
95th percentile per-packet one-way delay: 26.292 ms
Loss rate: 10.19%
-- Flow 2:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 29.182 ms
Loss rate: 10.70%
-- Flow 3:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 18.884 ms
Loss rate: 11.04%
```

## Run 4: Report of PCC-Allegro — Data Link

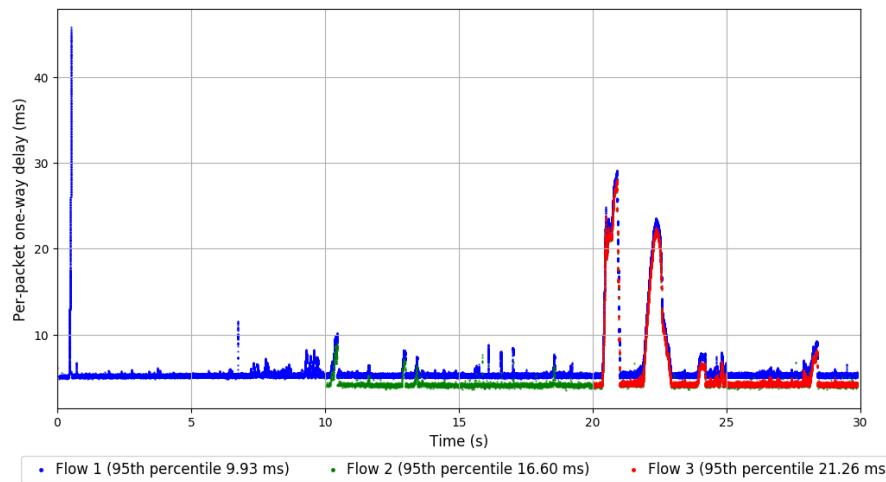
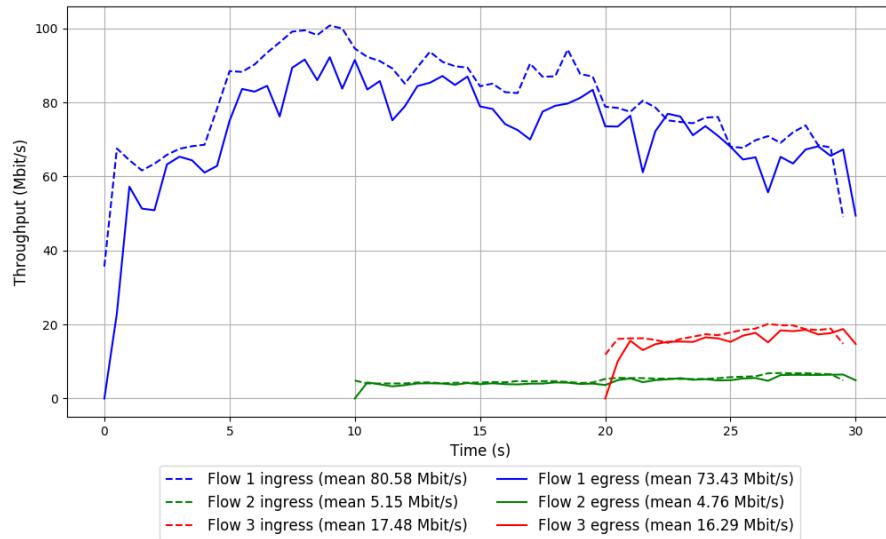


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-11-30 01:25:36
End at: 2018-11-30 01:26:06
Local clock offset: 0.893 ms
Remote clock offset: -4.338 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.97 Mbit/s
95th percentile per-packet one-way delay: 11.549 ms
Loss rate: 8.70%
-- Flow 1:
Average throughput: 73.43 Mbit/s
95th percentile per-packet one-way delay: 9.932 ms
Loss rate: 8.88%
-- Flow 2:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 16.604 ms
Loss rate: 7.71%
-- Flow 3:
Average throughput: 16.29 Mbit/s
95th percentile per-packet one-way delay: 21.262 ms
Loss rate: 6.79%
```

## Run 5: Report of PCC-Allegro — Data Link

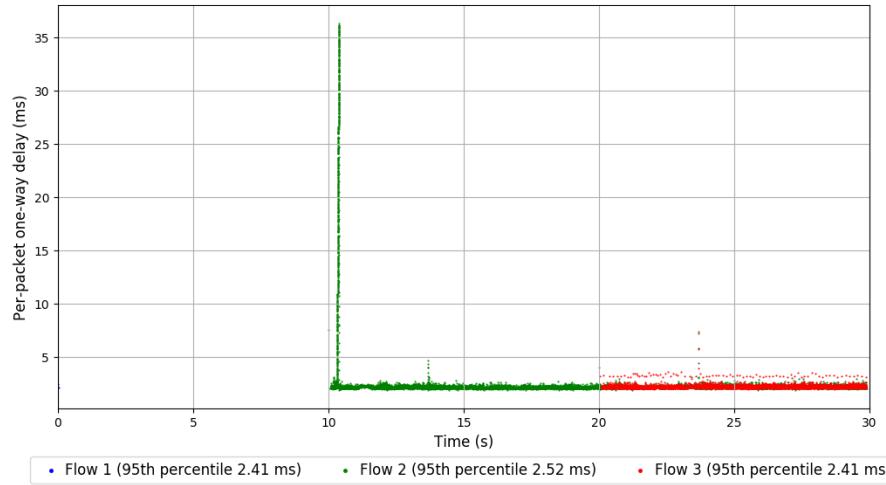
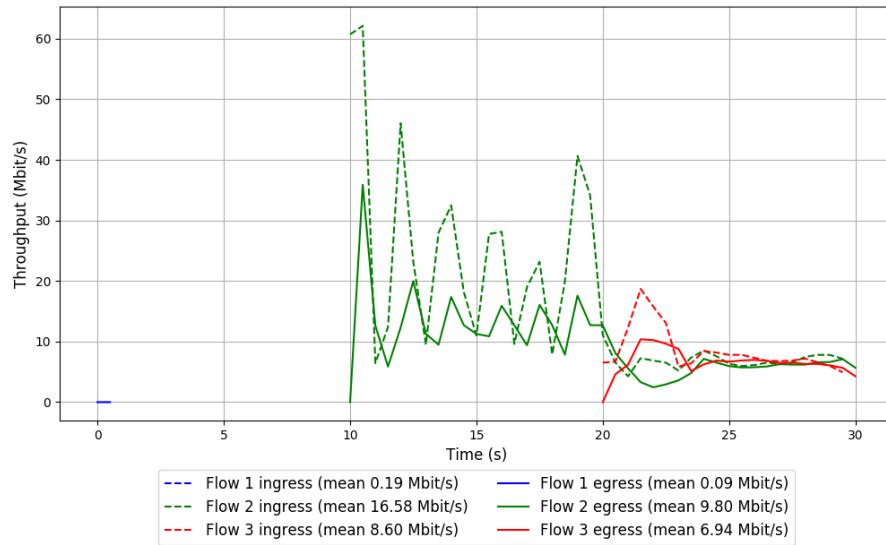


Run 1: Statistics of PCC-Expr

```
Start at: 2018-11-30 00:06:22
End at: 2018-11-30 00:06:52
Local clock offset: 0.015 ms
Remote clock offset: -5.256 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.81 Mbit/s
95th percentile per-packet one-way delay: 2.485 ms
Loss rate: 36.50%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 2.410 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.80 Mbit/s
95th percentile per-packet one-way delay: 2.525 ms
Loss rate: 40.91%
-- Flow 3:
Average throughput: 6.94 Mbit/s
95th percentile per-packet one-way delay: 2.410 ms
Loss rate: 19.38%
```

Run 1: Report of PCC-Expr — Data Link

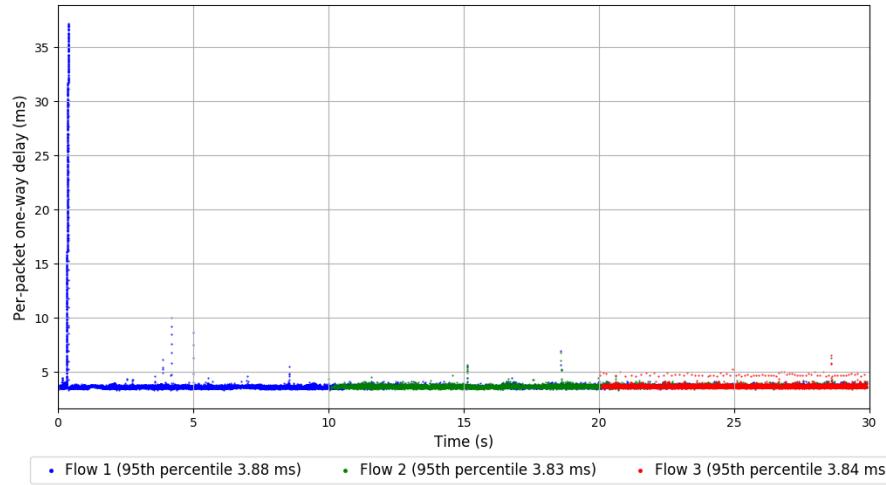
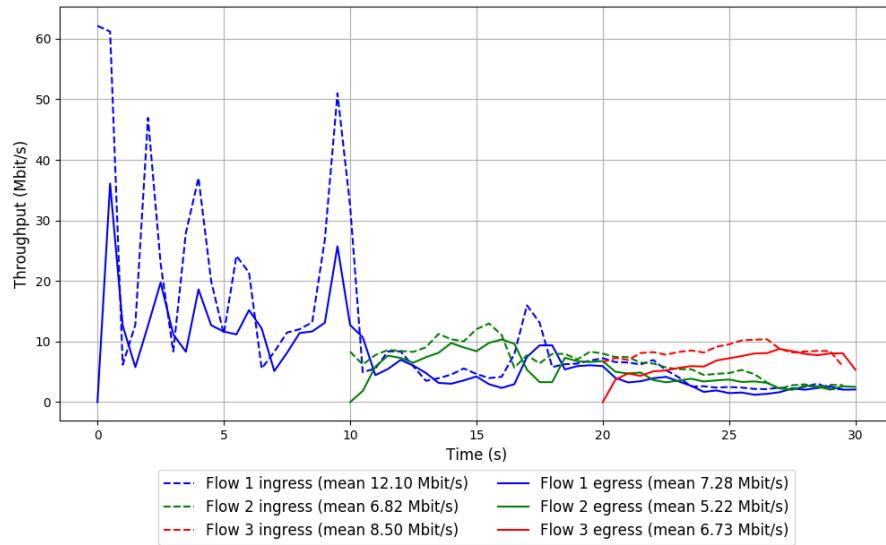


Run 2: Statistics of PCC-Expr

```
Start at: 2018-11-30 00:27:18
End at: 2018-11-30 00:27:48
Local clock offset: 1.28 ms
Remote clock offset: -4.631 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.98 Mbit/s
95th percentile per-packet one-way delay: 3.852 ms
Loss rate: 33.25%
-- Flow 1:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 3.885 ms
Loss rate: 39.79%
-- Flow 2:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 3.829 ms
Loss rate: 23.48%
-- Flow 3:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 3.842 ms
Loss rate: 20.85%
```

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

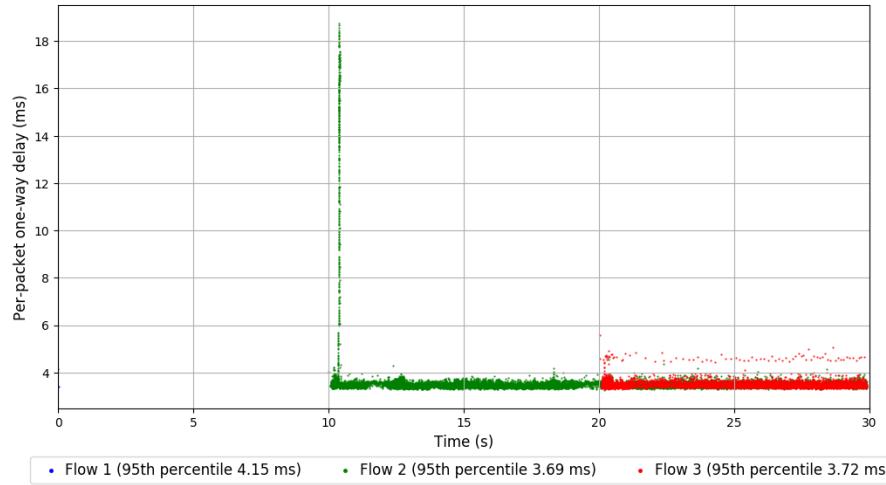
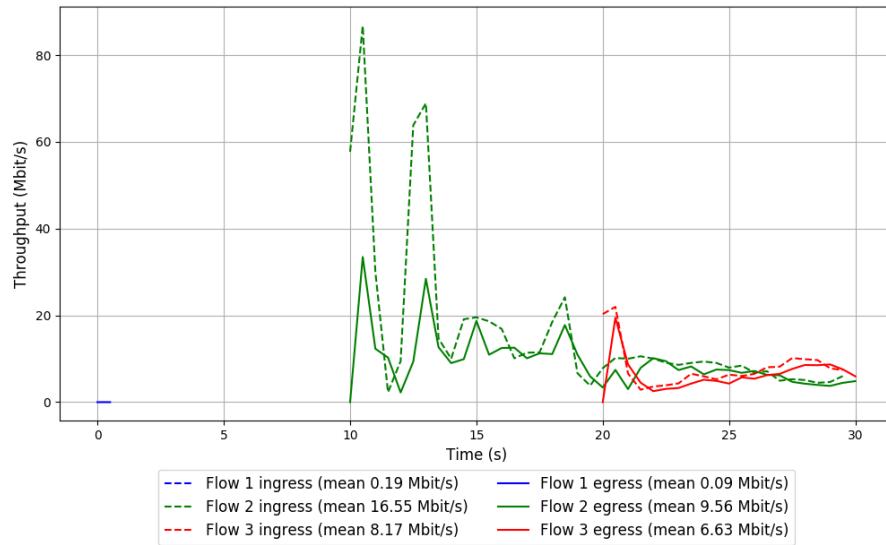


Run 3: Statistics of PCC-Expr

```
Start at: 2018-11-30 00:48:19
End at: 2018-11-30 00:48:49
Local clock offset: 1.326 ms
Remote clock offset: -5.462 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 3.703 ms
Loss rate: 37.67%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 4.151 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 3.694 ms
Loss rate: 42.27%
-- Flow 3:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 3.722 ms
Loss rate: 18.86%
```

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

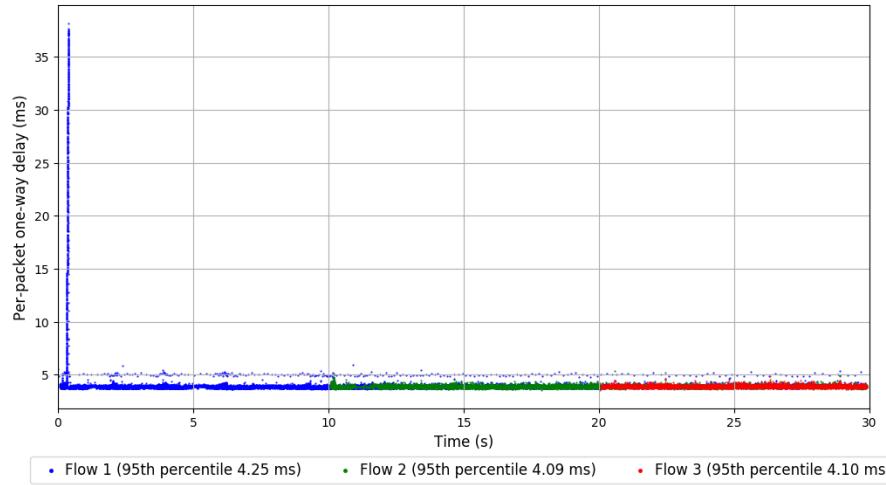
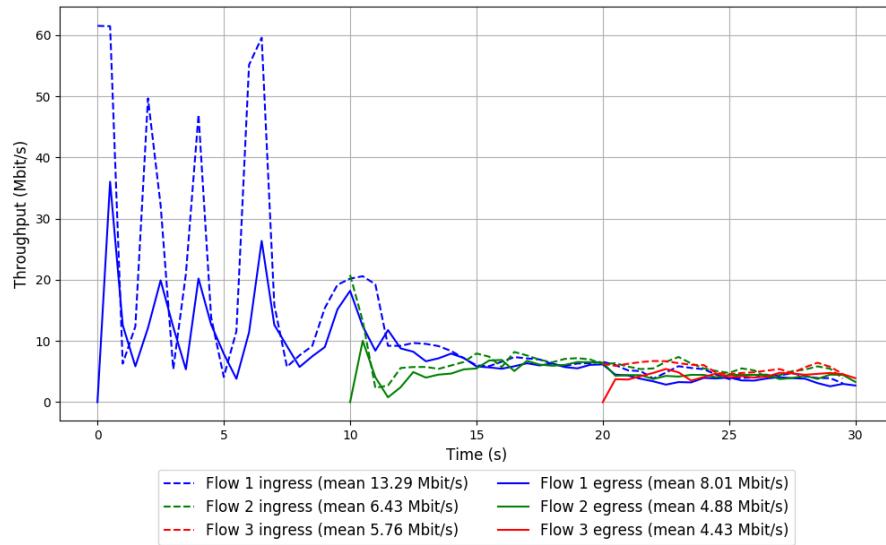


Run 4: Statistics of PCC-Expr

```
Start at: 2018-11-30 01:09:14
End at: 2018-11-30 01:09:44
Local clock offset: 2.301 ms
Remote clock offset: -4.055 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 4.153 ms
Loss rate: 34.67%
-- Flow 1:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 4.249 ms
Loss rate: 39.72%
-- Flow 2:
Average throughput: 4.88 Mbit/s
95th percentile per-packet one-way delay: 4.088 ms
Loss rate: 24.10%
-- Flow 3:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 4.103 ms
Loss rate: 23.12%
```

Run 4: Report of PCC-Expr — Data Link

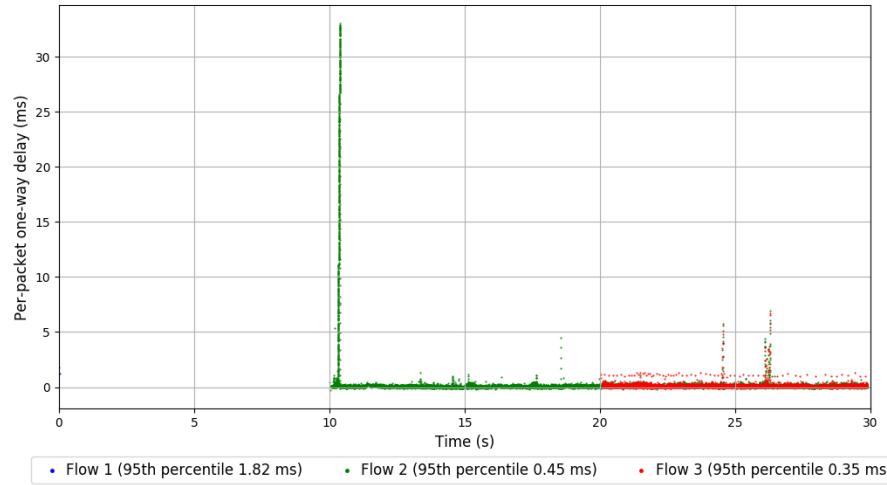
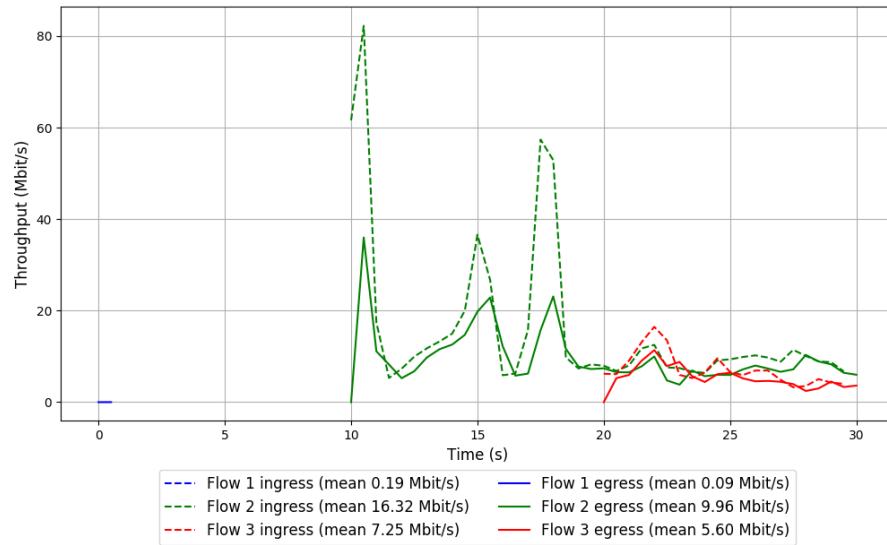


Run 5: Statistics of PCC-Expr

```
Start at: 2018-11-30 01:30:13
End at: 2018-11-30 01:30:43
Local clock offset: 3.867 ms
Remote clock offset: -5.09 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.47 Mbit/s
95th percentile per-packet one-way delay: 0.429 ms
Loss rate: 36.06%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 1.822 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 0.453 ms
Loss rate: 38.99%
-- Flow 3:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 0.351 ms
Loss rate: 22.75%
```

Run 5: Report of PCC-Expr — Data Link

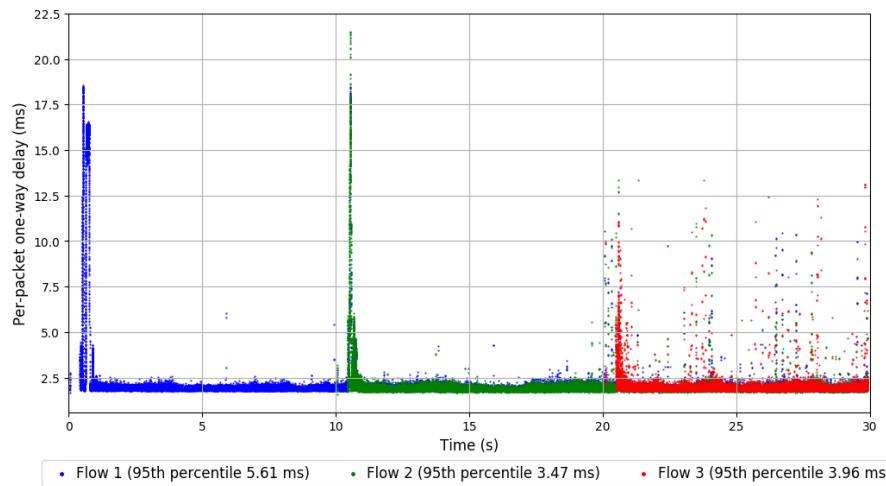
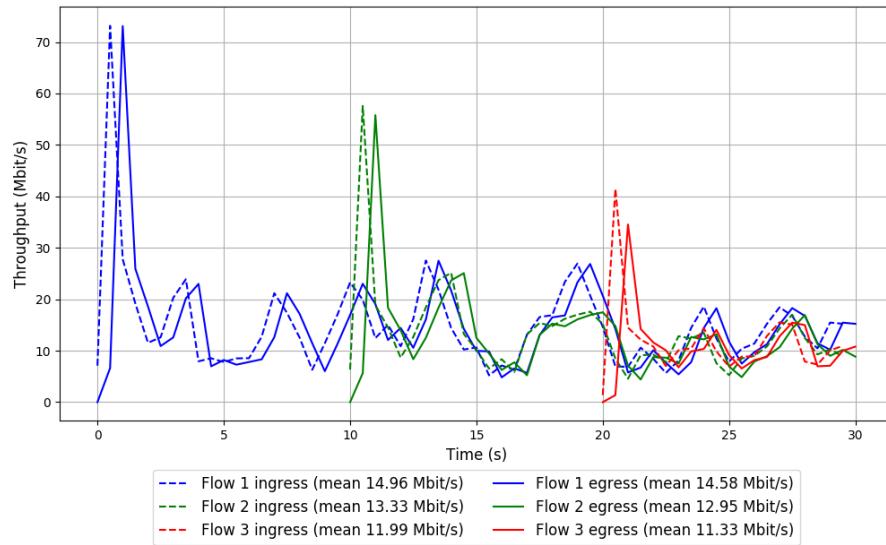


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 00:00:30
End at: 2018-11-30 00:01:00
Local clock offset: 0.614 ms
Remote clock offset: -5.092 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.94 Mbit/s
95th percentile per-packet one-way delay: 4.036 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 14.58 Mbit/s
95th percentile per-packet one-way delay: 5.605 ms
Loss rate: 2.51%
-- Flow 2:
Average throughput: 12.95 Mbit/s
95th percentile per-packet one-way delay: 3.467 ms
Loss rate: 2.84%
-- Flow 3:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 3.958 ms
Loss rate: 5.45%
```

Run 1: Report of QUIC Cubic — Data Link

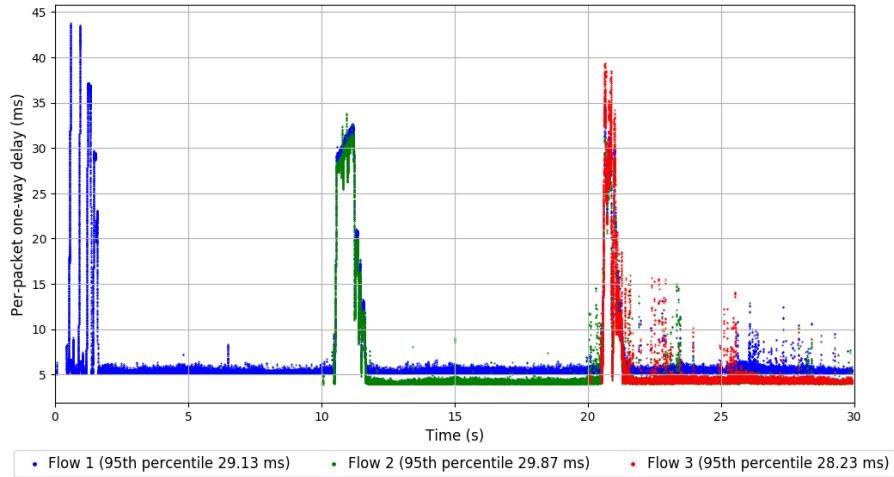
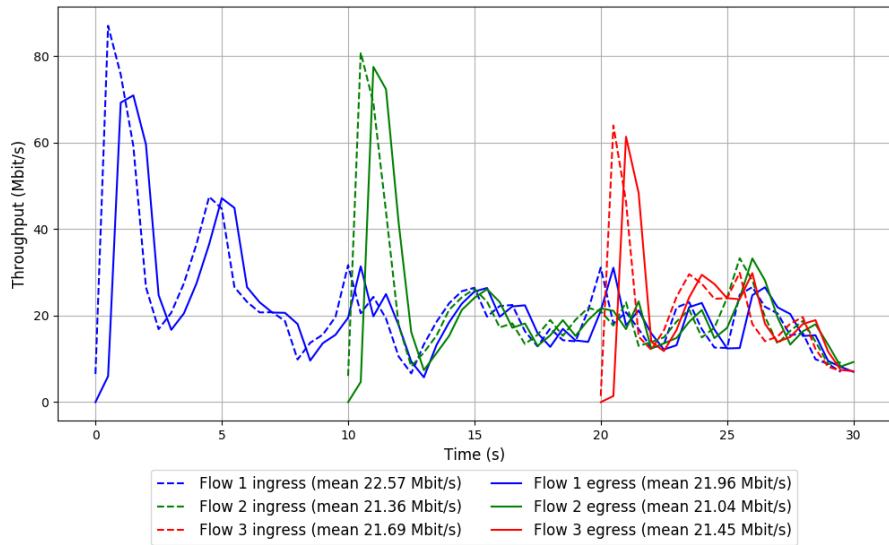


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-11-30 00:21:31
End at: 2018-11-30 00:22:01
Local clock offset: -0.027 ms
Remote clock offset: -4.646 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.03 Mbit/s
95th percentile per-packet one-way delay: 29.374 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 21.96 Mbit/s
95th percentile per-packet one-way delay: 29.131 ms
Loss rate: 2.69%
-- Flow 2:
Average throughput: 21.04 Mbit/s
95th percentile per-packet one-way delay: 29.869 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 21.45 Mbit/s
95th percentile per-packet one-way delay: 28.225 ms
Loss rate: 1.15%
```

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

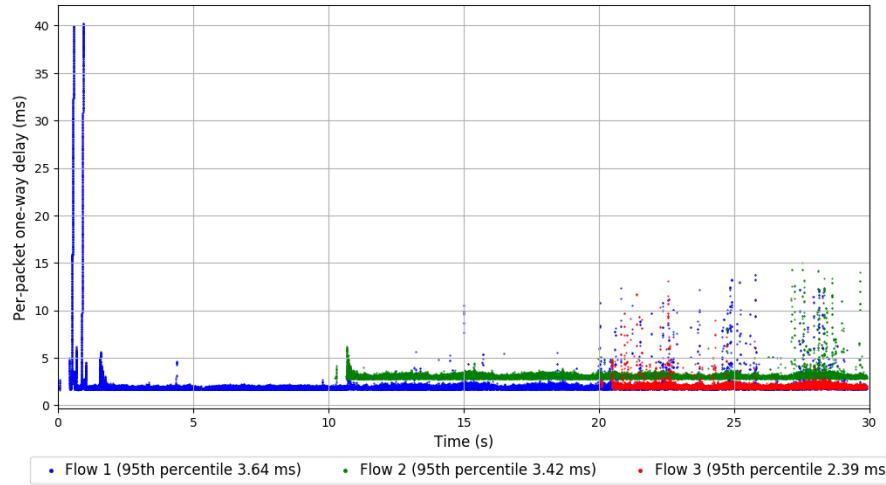
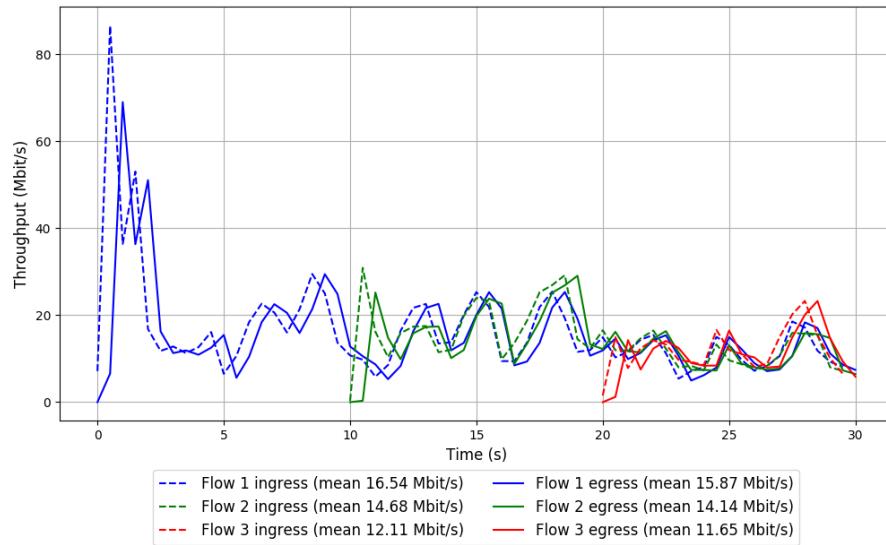


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-11-30 00:42:35
End at: 2018-11-30 00:43:05
Local clock offset: 2.99 ms
Remote clock offset: -5.428 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 3.413 ms
Loss rate: 3.91%
-- Flow 1:
Average throughput: 15.87 Mbit/s
95th percentile per-packet one-way delay: 3.640 ms
Loss rate: 4.09%
-- Flow 2:
Average throughput: 14.14 Mbit/s
95th percentile per-packet one-way delay: 3.419 ms
Loss rate: 3.65%
-- Flow 3:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 2.389 ms
Loss rate: 3.75%
```

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

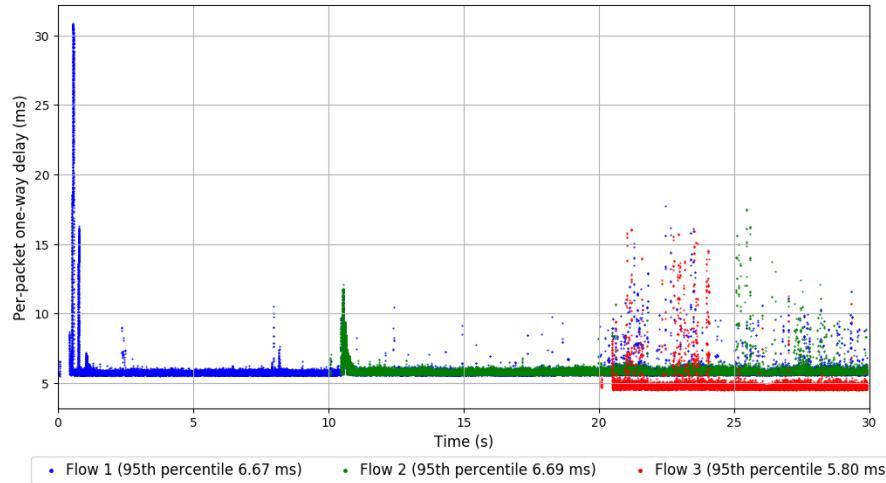
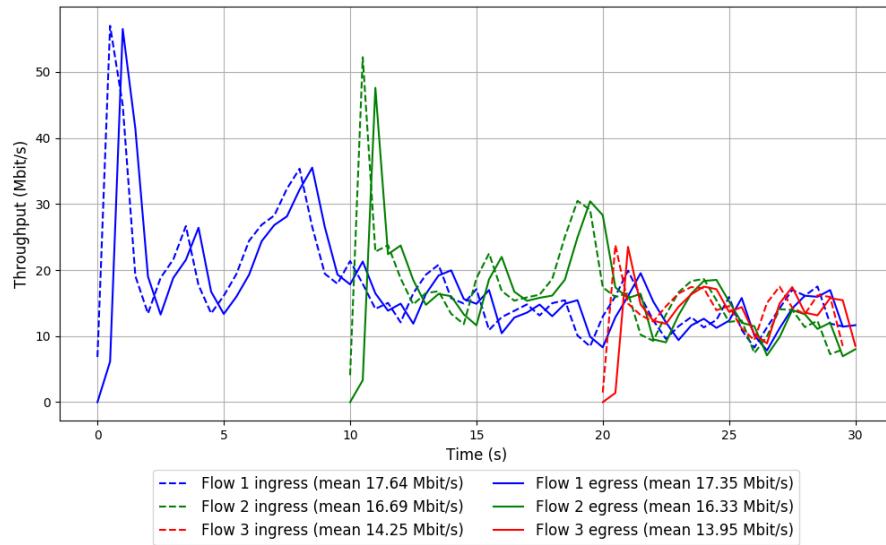


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-11-30 01:03:27
End at: 2018-11-30 01:03:57
Local clock offset: 1.203 ms
Remote clock offset: -4.257 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.81 Mbit/s
95th percentile per-packet one-way delay: 6.617 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 17.35 Mbit/s
95th percentile per-packet one-way delay: 6.675 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 16.33 Mbit/s
95th percentile per-packet one-way delay: 6.686 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 13.95 Mbit/s
95th percentile per-packet one-way delay: 5.797 ms
Loss rate: 2.04%
```

Run 4: Report of QUIC Cubic — Data Link

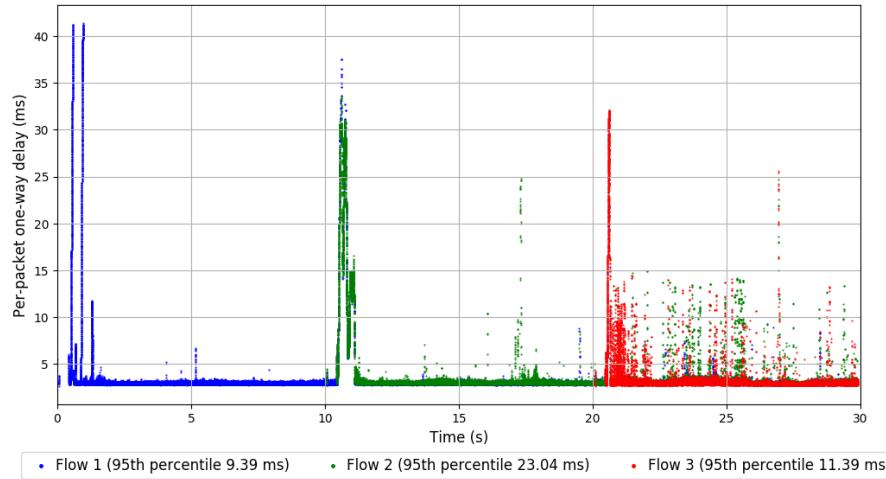
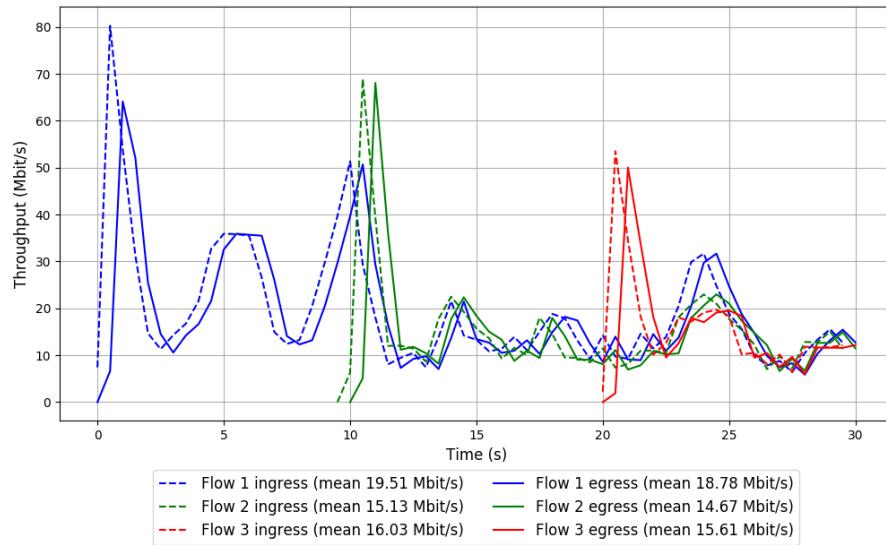


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-11-30 01:24:27
End at: 2018-11-30 01:24:57
Local clock offset: 1.883 ms
Remote clock offset: -4.481 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: 14.506 ms
Loss rate: 3.36%
-- Flow 1:
Average throughput: 18.78 Mbit/s
95th percentile per-packet one-way delay: 9.392 ms
Loss rate: 3.72%
-- Flow 2:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 23.041 ms
Loss rate: 3.07%
-- Flow 3:
Average throughput: 15.61 Mbit/s
95th percentile per-packet one-way delay: 11.391 ms
Loss rate: 2.60%
```

Run 5: Report of QUIC Cubic — Data Link

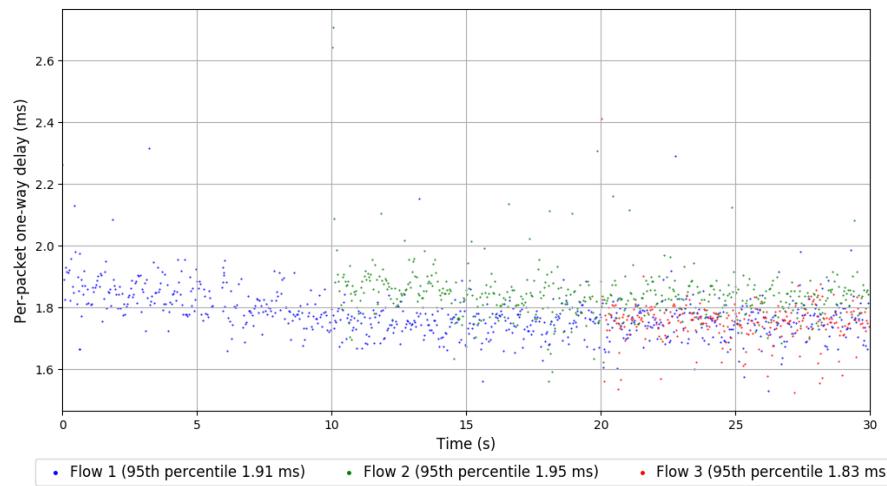
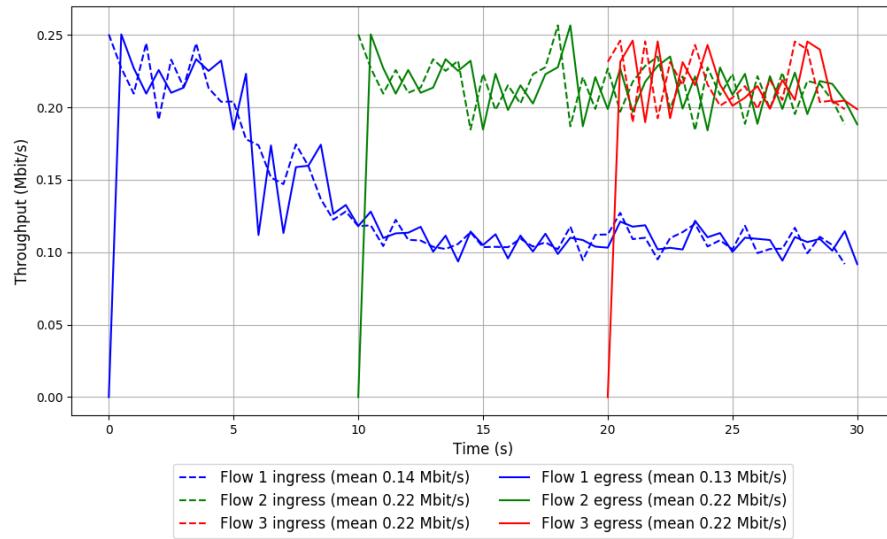


```
Run 1: Statistics of SCReAM

Start at: 2018-11-30 00:02:53
End at: 2018-11-30 00:03:23
Local clock offset: 0.57 ms
Remote clock offset: -5.174 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 1.912 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 1.905 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.950 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.827 ms
Loss rate: 0.00%
```

## Run 1: Report of SCReAM — Data Link

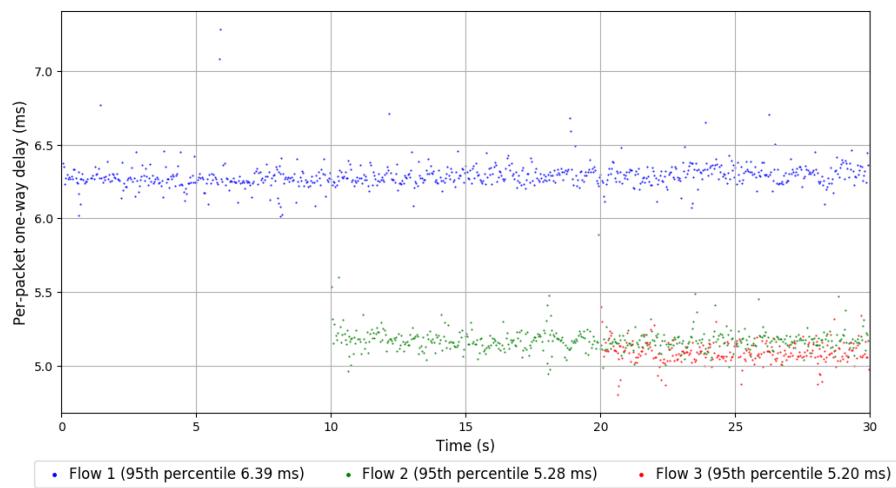
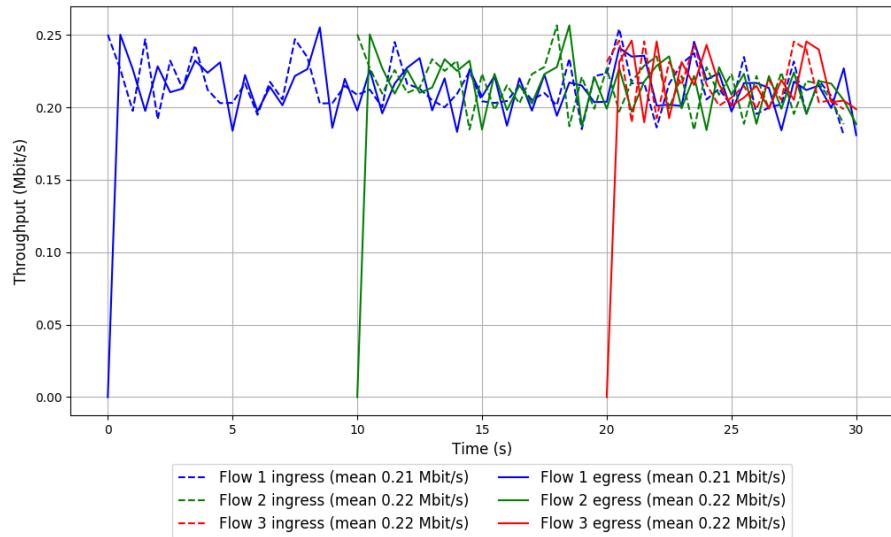


Run 2: Statistics of SCReAM

```
Start at: 2018-11-30 00:23:51
End at: 2018-11-30 00:24:21
Local clock offset: -1.347 ms
Remote clock offset: -5.382 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 6.363 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.391 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 5.277 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 5.202 ms
Loss rate: 0.00%
```

## Run 2: Report of SCReAM — Data Link

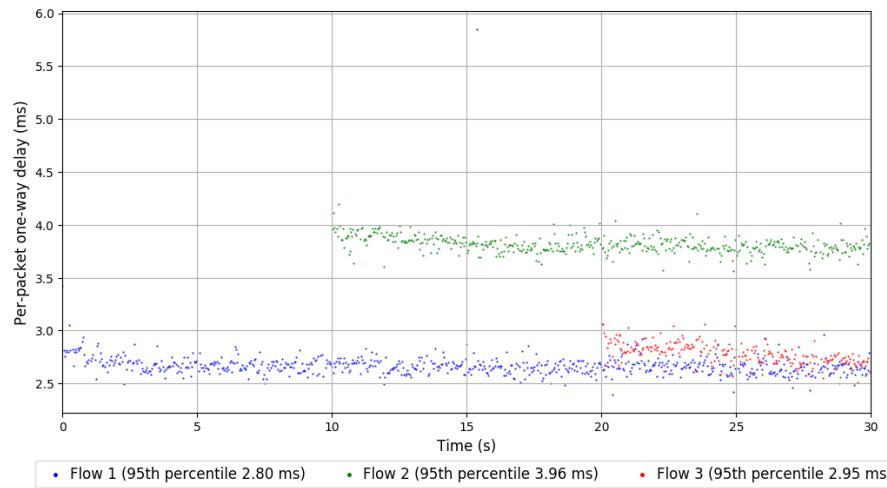
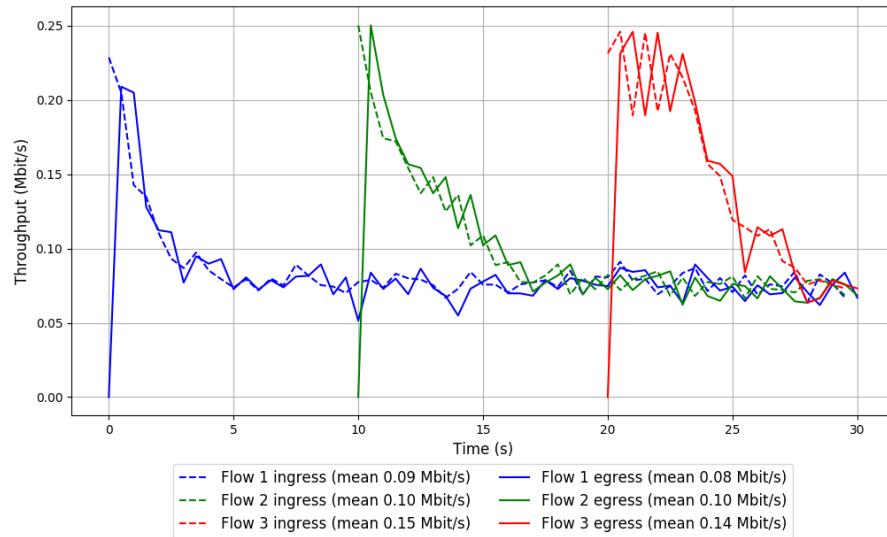


Run 3: Statistics of SCReAM

```
Start at: 2018-11-30 00:44:51
End at: 2018-11-30 00:45:21
Local clock offset: 2.367 ms
Remote clock offset: -5.201 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 3.895 ms
Loss rate: 3.16%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 2.801 ms
Loss rate: 3.28%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 3.958 ms
Loss rate: 2.18%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 2.950 ms
Loss rate: 4.25%
```

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

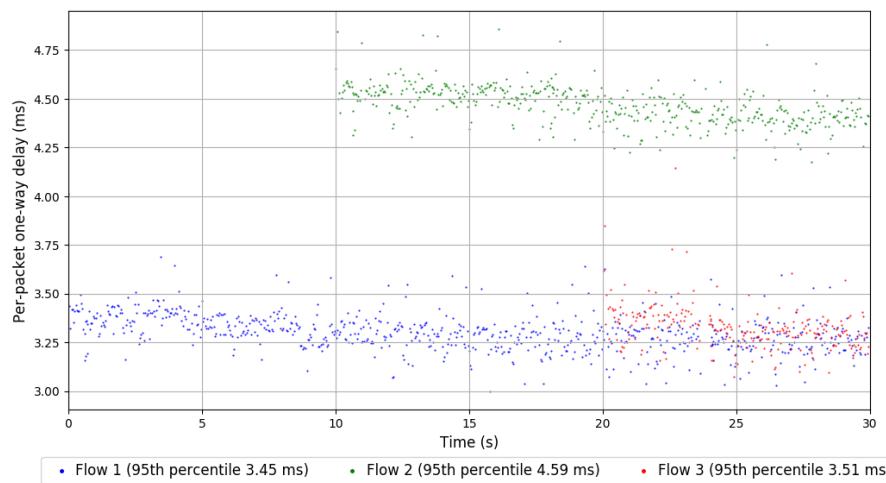
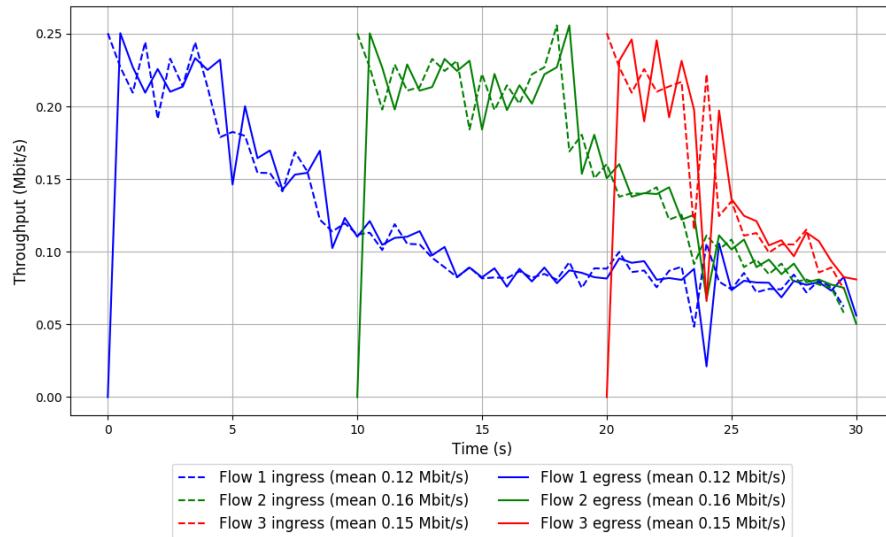


Run 4: Statistics of SCReAM

```
Start at: 2018-11-30 01:05:48
End at: 2018-11-30 01:06:18
Local clock offset: 2.05 ms
Remote clock offset: -4.792 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 4.556 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 3.447 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 4.591 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 3.509 ms
Loss rate: 2.68%
```

Run 4: Report of SCReAM — Data Link

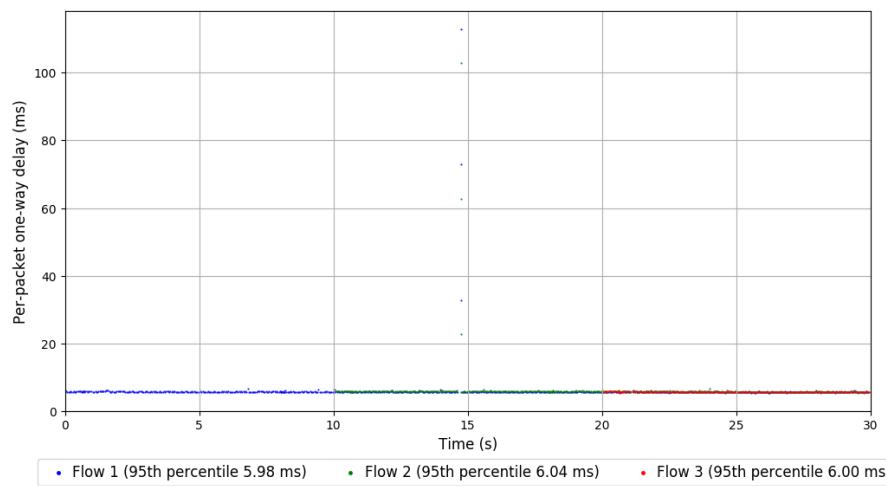
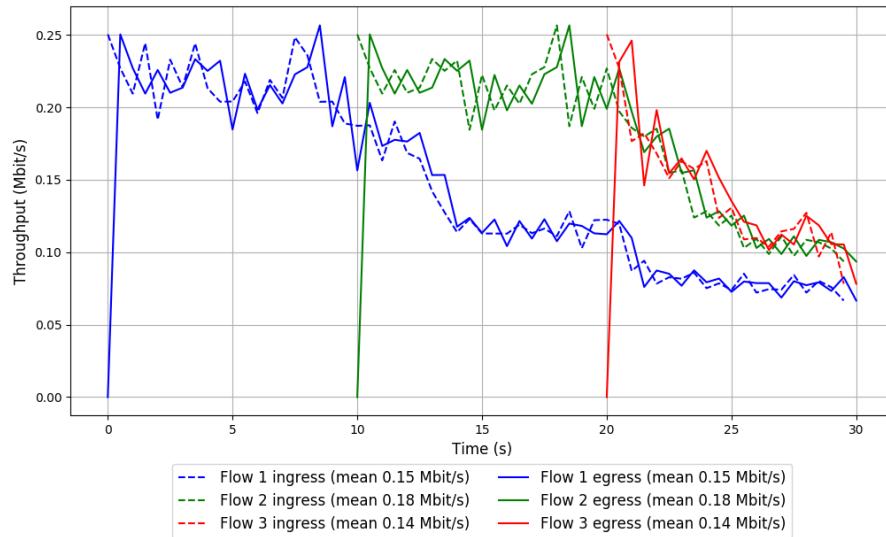


Run 5: Statistics of SCReAM

```
Start at: 2018-11-30 01:26:47
End at: 2018-11-30 01:27:17
Local clock offset: -0.291 ms
Remote clock offset: -3.553 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 6.011 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 5.983 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 6.043 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 5.999 ms
Loss rate: 0.80%
```

Run 5: Report of SCReAM — Data Link

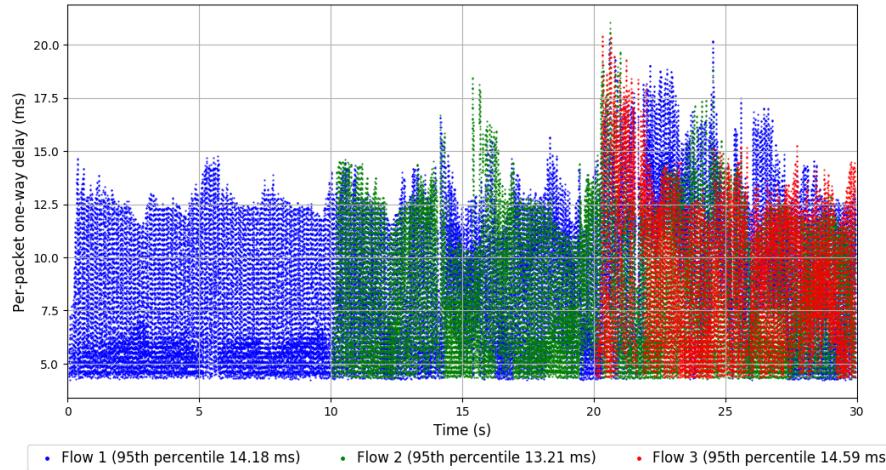
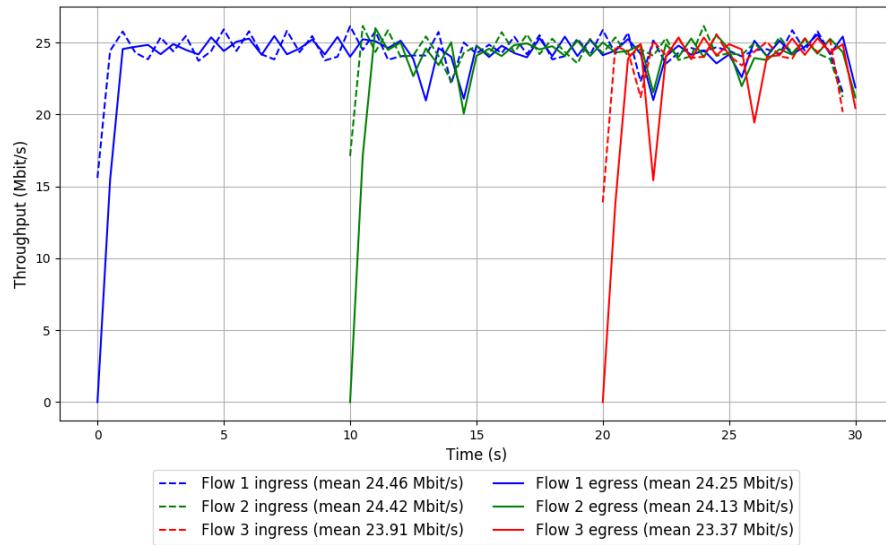


Run 1: Statistics of Sprout

```
Start at: 2018-11-29 23:55:54
End at: 2018-11-29 23:56:24
Local clock offset: -1.267 ms
Remote clock offset: -4.632 ms

# Below is generated by plot.py at 2018-11-30 01:38:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.01 Mbit/s
95th percentile per-packet one-way delay: 13.928 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 14.178 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 24.13 Mbit/s
95th percentile per-packet one-way delay: 13.214 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 14.589 ms
Loss rate: 2.14%
```

## Run 1: Report of Sprout — Data Link

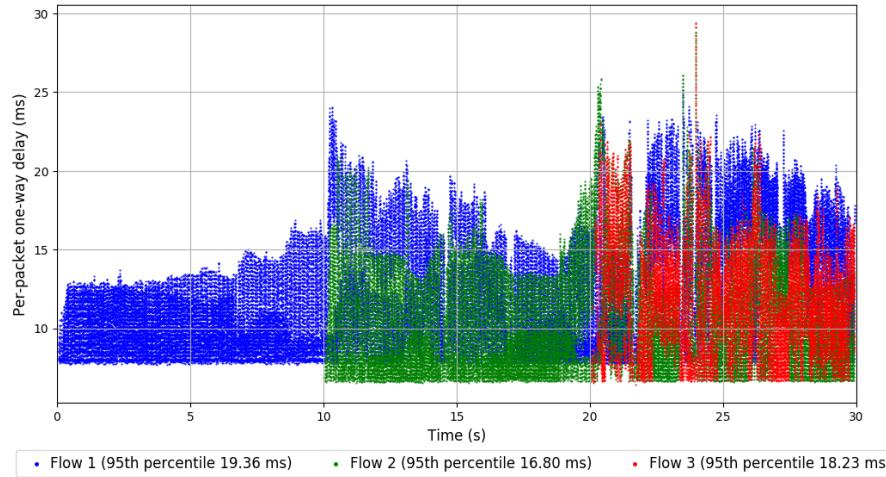
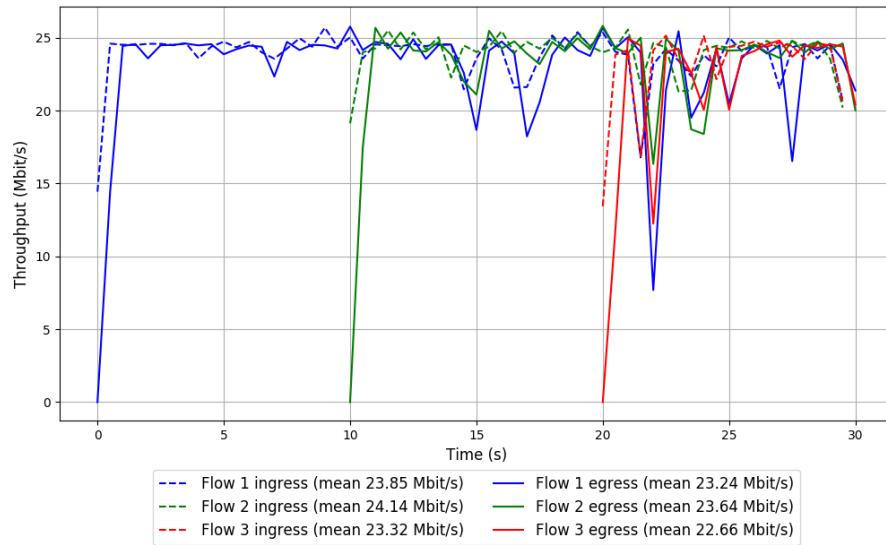


Run 2: Statistics of Sprout

```
Start at: 2018-11-30 00:16:51
End at: 2018-11-30 00:17:21
Local clock offset: -3.456 ms
Remote clock offset: -4.584 ms

# Below is generated by plot.py at 2018-11-30 01:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 18.726 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 23.24 Mbit/s
95th percentile per-packet one-way delay: 19.365 ms
Loss rate: 2.52%
-- Flow 2:
Average throughput: 23.64 Mbit/s
95th percentile per-packet one-way delay: 16.803 ms
Loss rate: 2.03%
-- Flow 3:
Average throughput: 22.66 Mbit/s
95th percentile per-packet one-way delay: 18.228 ms
Loss rate: 2.88%
```

## Run 2: Report of Sprout — Data Link

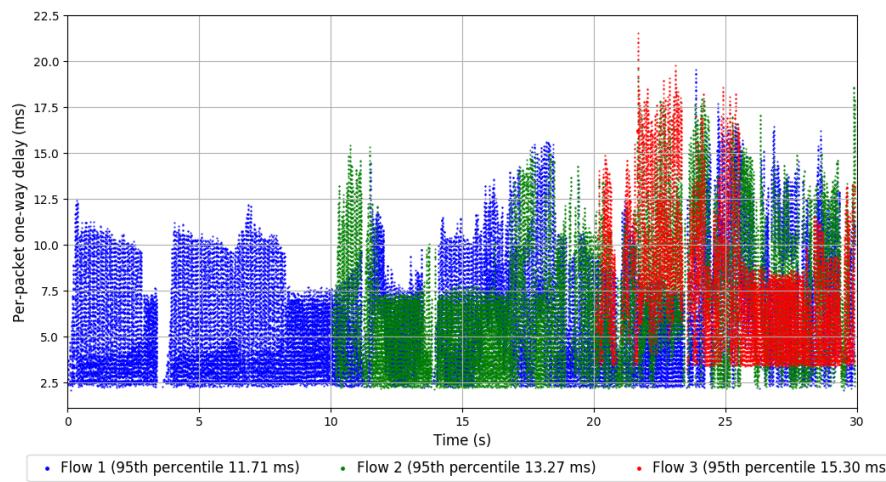
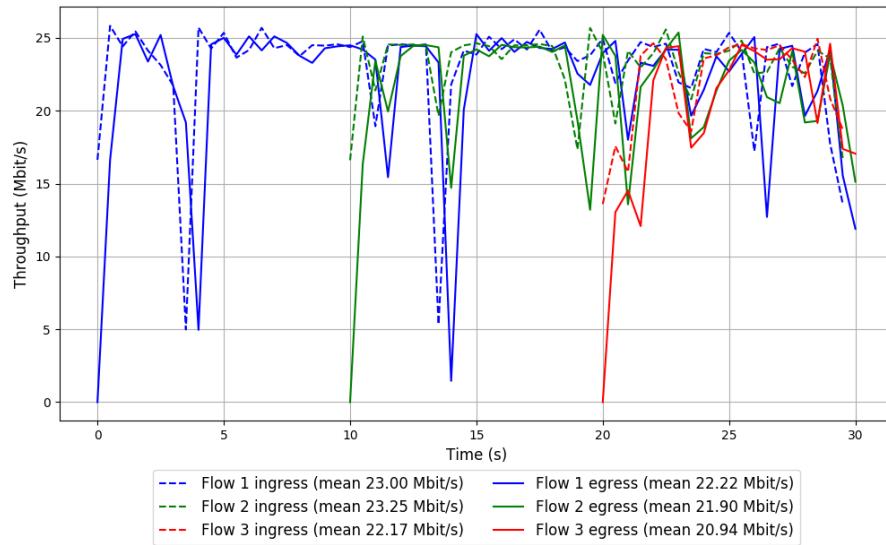


Run 3: Statistics of Sprout

```
Start at: 2018-11-30 00:37:59
End at: 2018-11-30 00:38:29
Local clock offset: 3.478 ms
Remote clock offset: -4.35 ms

# Below is generated by plot.py at 2018-11-30 01:39:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.68 Mbit/s
95th percentile per-packet one-way delay: 12.979 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 22.22 Mbit/s
95th percentile per-packet one-way delay: 11.710 ms
Loss rate: 3.43%
-- Flow 2:
Average throughput: 21.90 Mbit/s
95th percentile per-packet one-way delay: 13.267 ms
Loss rate: 5.77%
-- Flow 3:
Average throughput: 20.94 Mbit/s
95th percentile per-packet one-way delay: 15.299 ms
Loss rate: 5.49%
```

Run 3: Report of Sprout — Data Link

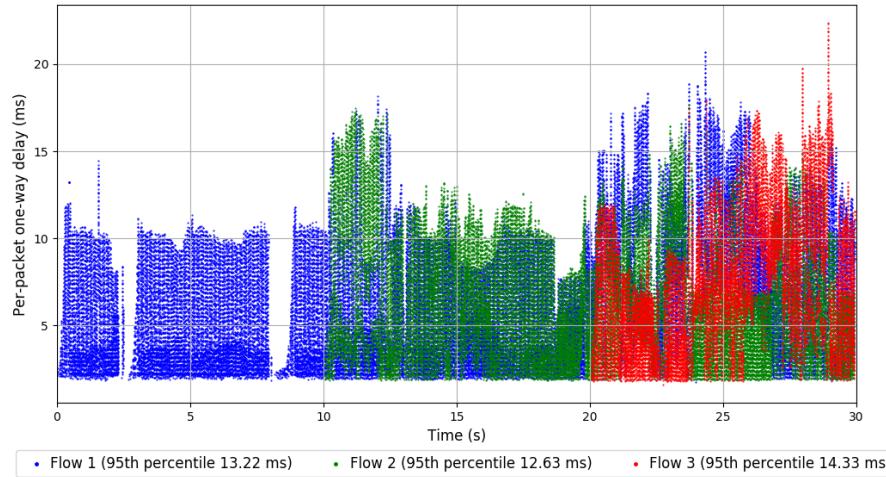
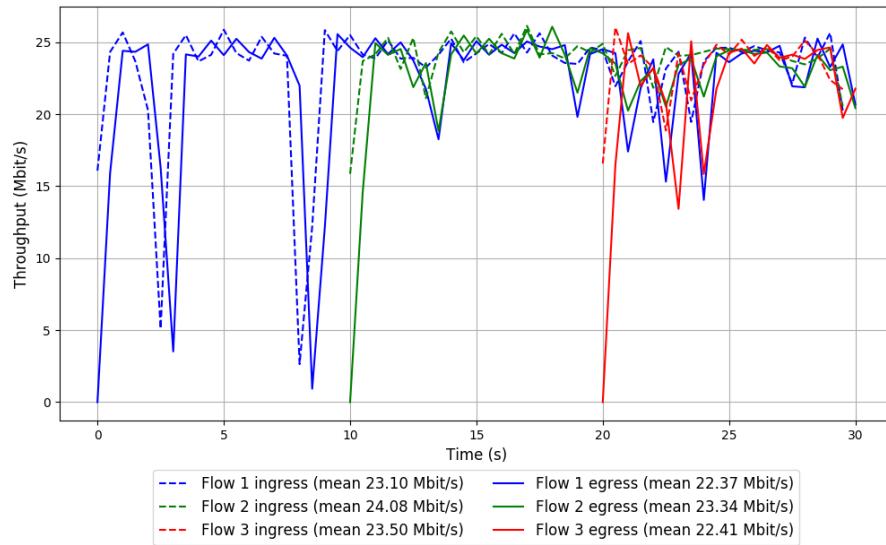


Run 4: Statistics of Sprout

```
Start at: 2018-11-30 00:58:51
End at: 2018-11-30 00:59:21
Local clock offset: 3.896 ms
Remote clock offset: -4.2 ms

# Below is generated by plot.py at 2018-11-30 01:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.31 Mbit/s
95th percentile per-packet one-way delay: 13.268 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 22.37 Mbit/s
95th percentile per-packet one-way delay: 13.216 ms
Loss rate: 3.15%
-- Flow 2:
Average throughput: 23.34 Mbit/s
95th percentile per-packet one-way delay: 12.633 ms
Loss rate: 3.04%
-- Flow 3:
Average throughput: 22.41 Mbit/s
95th percentile per-packet one-way delay: 14.327 ms
Loss rate: 4.54%
```

Run 4: Report of Sprout — Data Link

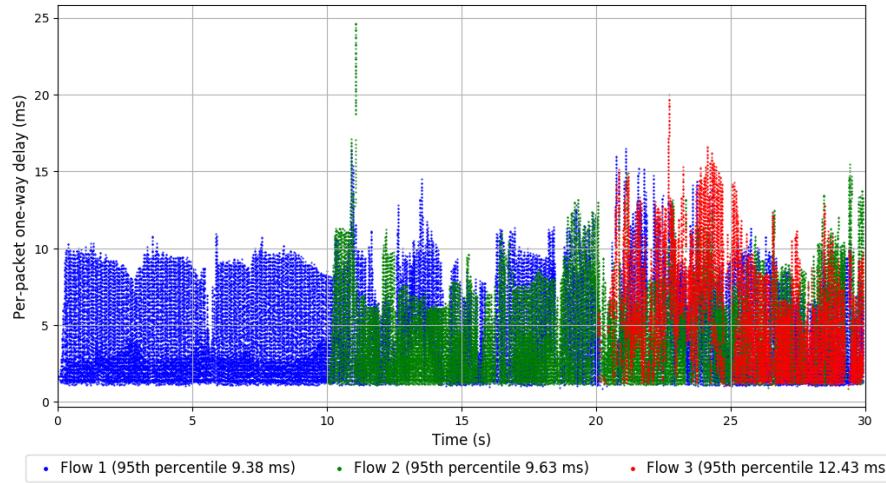
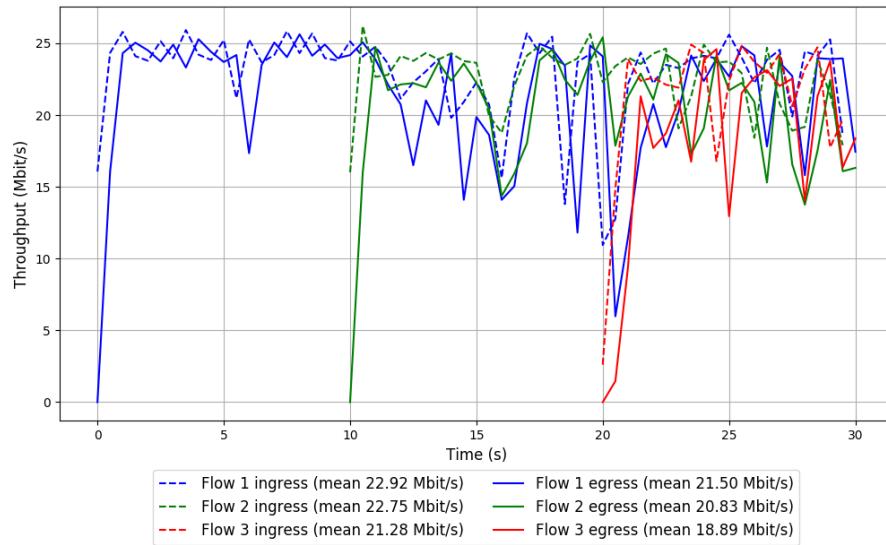


Run 5: Statistics of Sprout

```
Start at: 2018-11-30 01:19:48
End at: 2018-11-30 01:20:18
Local clock offset: 3.516 ms
Remote clock offset: -4.931 ms

# Below is generated by plot.py at 2018-11-30 01:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.61 Mbit/s
95th percentile per-packet one-way delay: 10.088 ms
Loss rate: 7.69%
-- Flow 1:
Average throughput: 21.50 Mbit/s
95th percentile per-packet one-way delay: 9.382 ms
Loss rate: 6.16%
-- Flow 2:
Average throughput: 20.83 Mbit/s
95th percentile per-packet one-way delay: 9.627 ms
Loss rate: 8.38%
-- Flow 3:
Average throughput: 18.89 Mbit/s
95th percentile per-packet one-way delay: 12.429 ms
Loss rate: 11.18%
```

Run 5: Report of Sprout — Data Link

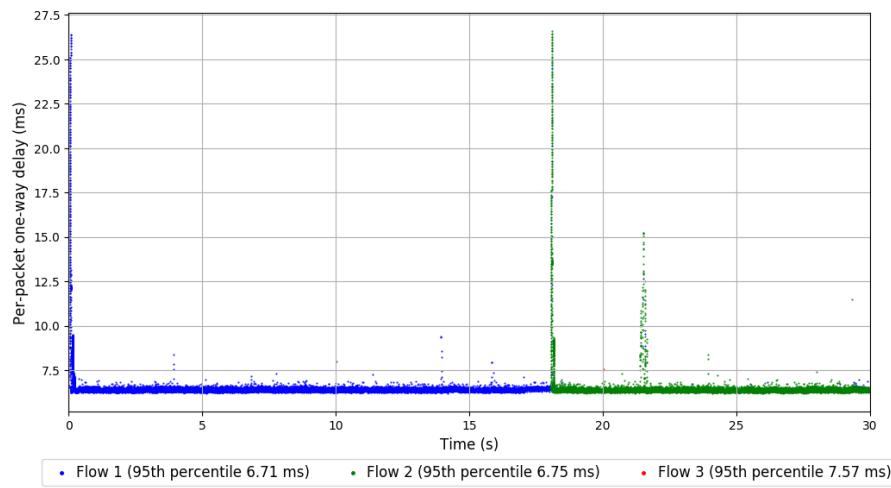
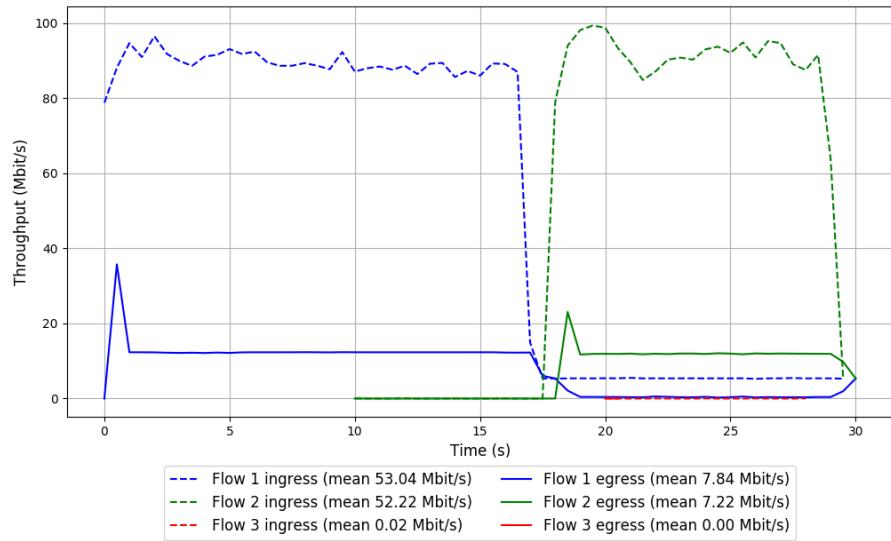


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-11-29 23:57:02
End at: 2018-11-29 23:57:32
Local clock offset: -3.535 ms
Remote clock offset: -4.939 ms

# Below is generated by plot.py at 2018-11-30 01:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 6.723 ms
Loss rate: 85.60%
-- Flow 1:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 6.705 ms
Loss rate: 85.22%
-- Flow 2:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 6.755 ms
Loss rate: 86.18%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7.566 ms
Loss rate: 99.16%
```

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

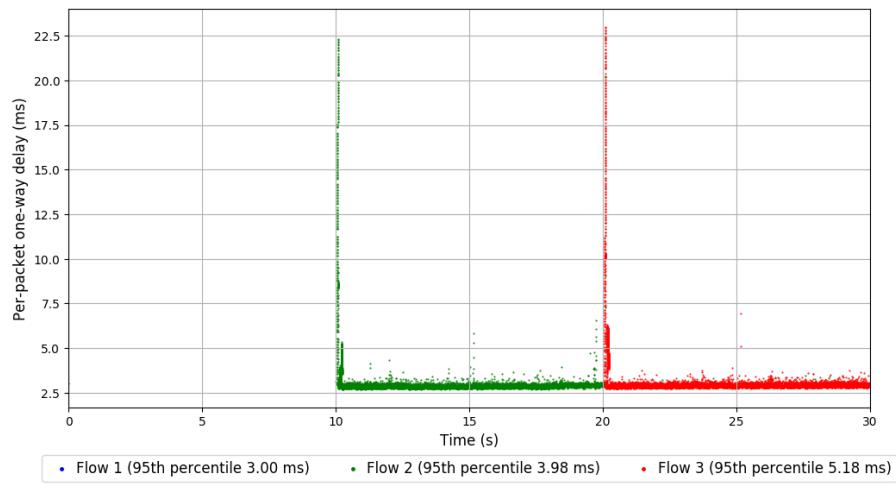
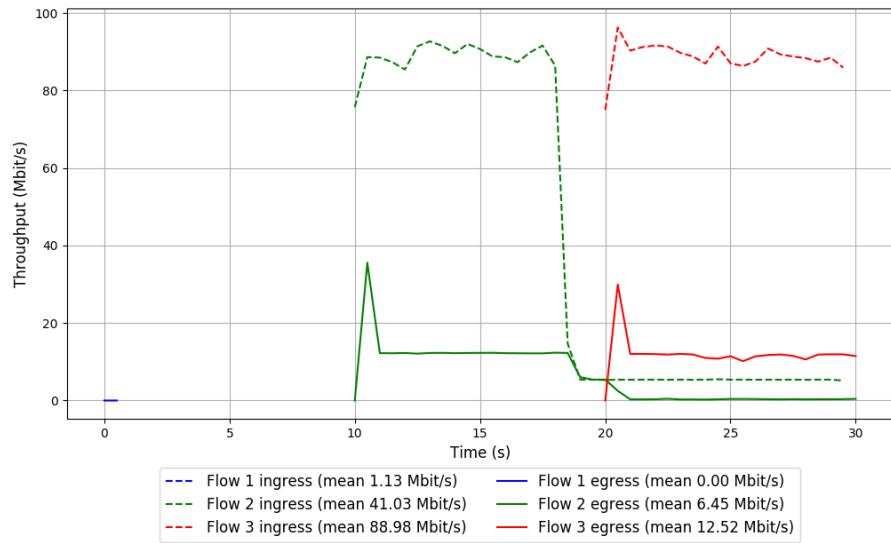


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-11-30 00:18:01
End at: 2018-11-30 00:18:31
Local clock offset: -0.012 ms
Remote clock offset: -5.334 ms

# Below is generated by plot.py at 2018-11-30 01:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 4.733 ms
Loss rate: 85.14%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.997 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 3.980 ms
Loss rate: 84.30%
-- Flow 3:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 5.177 ms
Loss rate: 85.92%
```

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

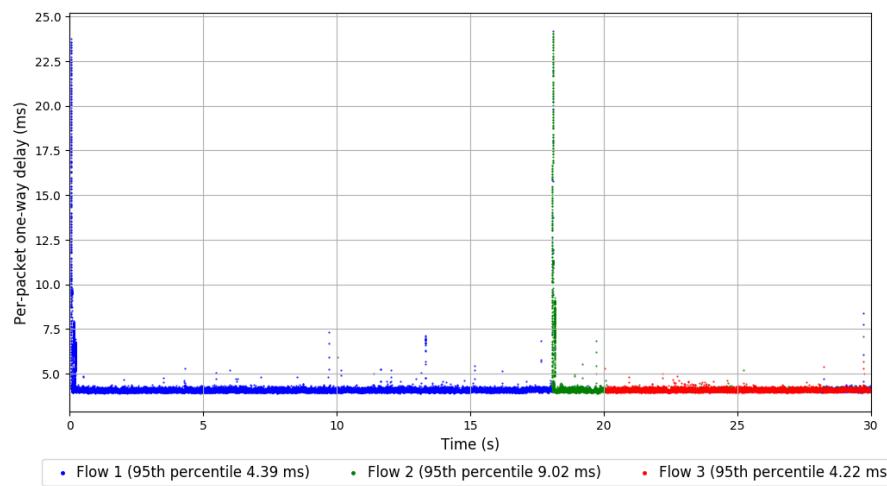
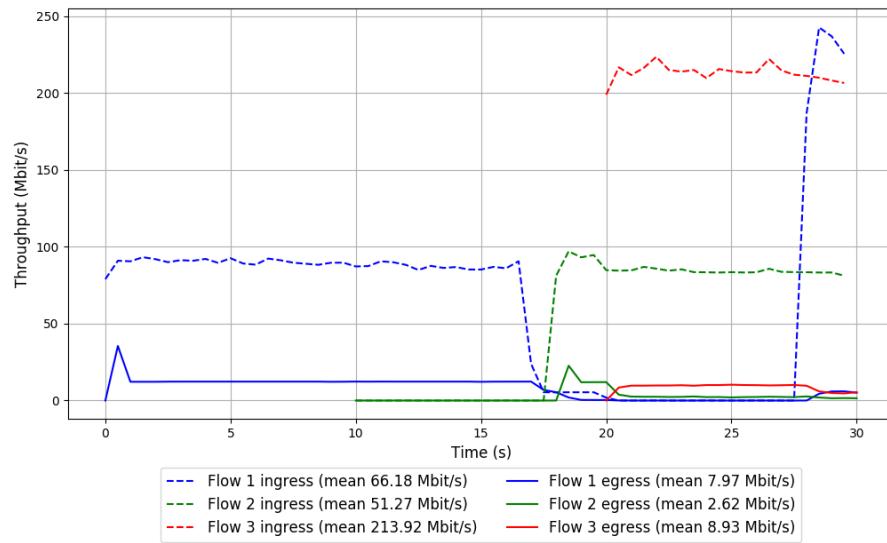


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-11-30 00:39:07
End at: 2018-11-30 00:39:37
Local clock offset: 1.614 ms
Remote clock offset: -4.528 ms

# Below is generated by plot.py at 2018-11-30 01:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 4.353 ms
Loss rate: 92.60%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 4.389 ms
Loss rate: 87.95%
-- Flow 2:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 9.018 ms
Loss rate: 94.90%
-- Flow 3:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 4.216 ms
Loss rate: 95.82%
```

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

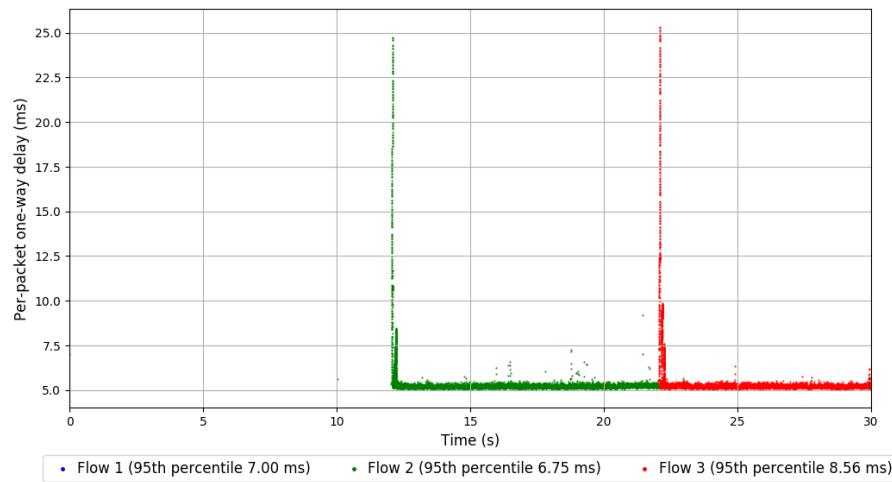
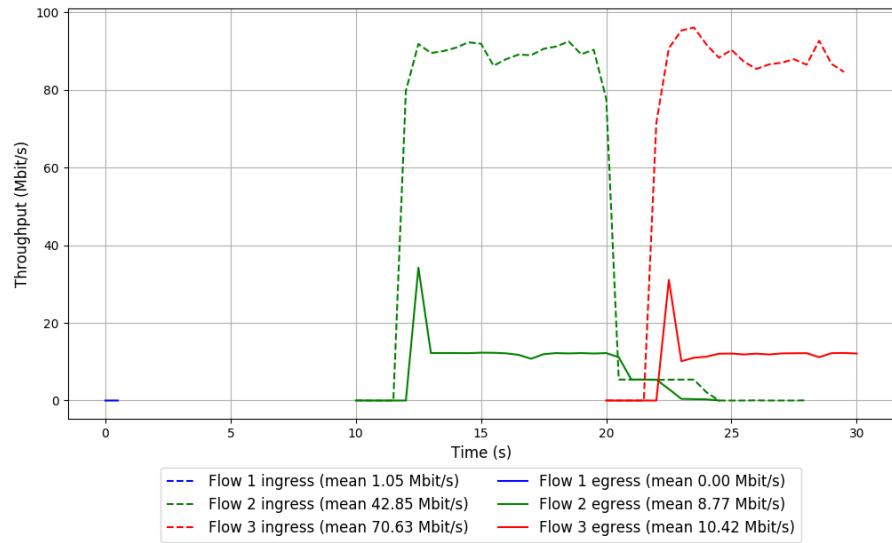


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-11-30 00:59:59
End at: 2018-11-30 01:00:29
Local clock offset: 0.42 ms
Remote clock offset: -4.478 ms

# Below is generated by plot.py at 2018-11-30 01:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 7.373 ms
Loss rate: 84.64%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7.002 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 6.747 ms
Loss rate: 84.08%
-- Flow 3:
Average throughput: 10.42 Mbit/s
95th percentile per-packet one-way delay: 8.557 ms
Loss rate: 85.25%
```

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

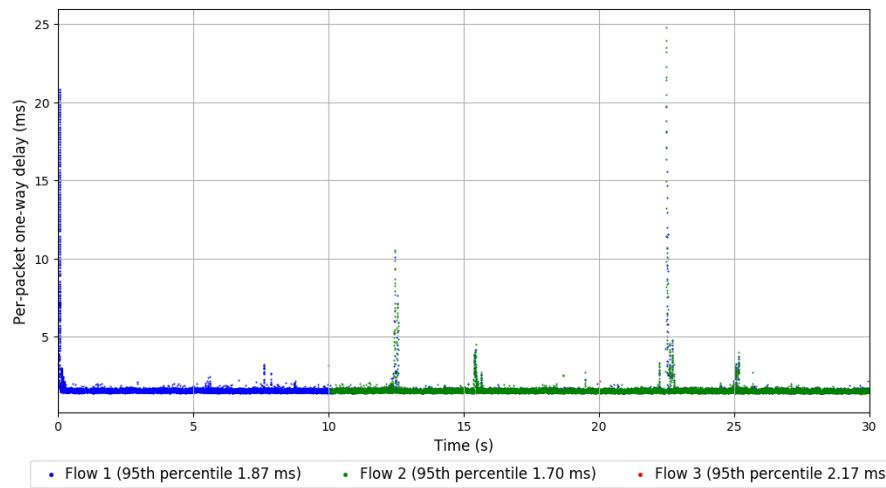
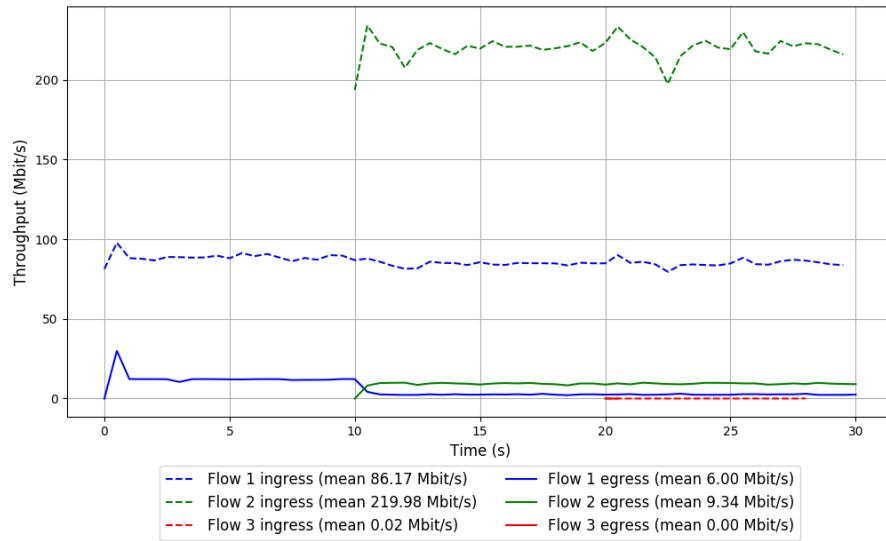


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-11-30 01:20:57
End at: 2018-11-30 01:21:27
Local clock offset: 3.61 ms
Remote clock offset: -4.484 ms

# Below is generated by plot.py at 2018-11-30 01:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 1.757 ms
Loss rate: 94.75%
-- Flow 1:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 1.873 ms
Loss rate: 93.03%
-- Flow 2:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 1.704 ms
Loss rate: 95.76%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.170 ms
Loss rate: 99.16%
```

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

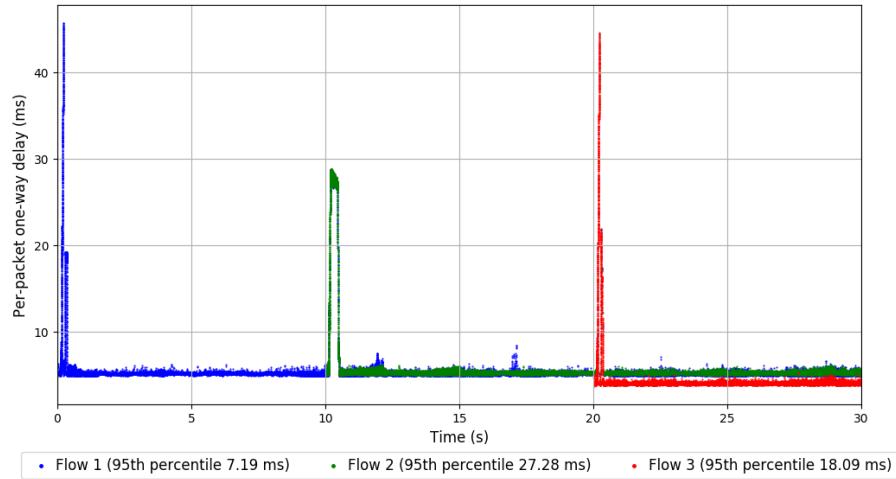
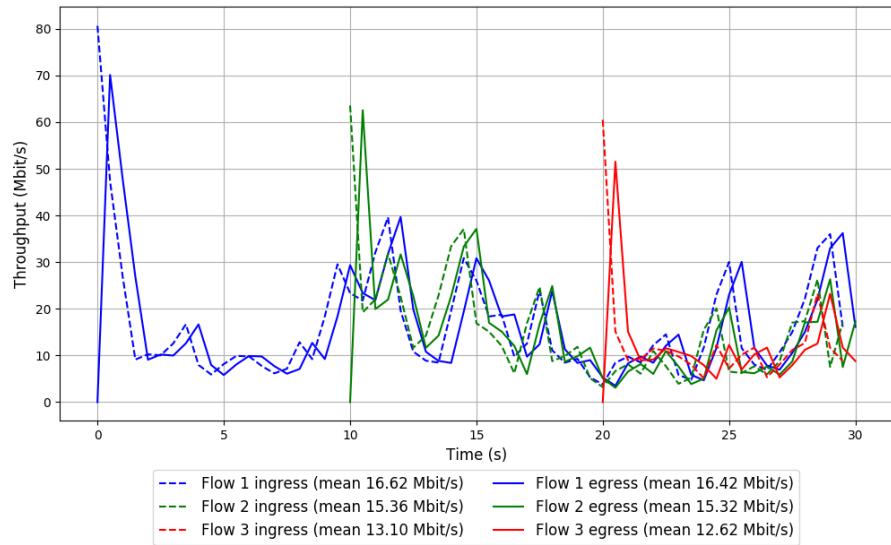


Run 1: Statistics of TCP Vegas

```
Start at: 2018-11-29 23:52:20
End at: 2018-11-29 23:52:50
Local clock offset: -0.988 ms
Remote clock offset: -4.988 ms

# Below is generated by plot.py at 2018-11-30 01:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.82 Mbit/s
95th percentile per-packet one-way delay: 18.518 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 16.42 Mbit/s
95th percentile per-packet one-way delay: 7.189 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 15.32 Mbit/s
95th percentile per-packet one-way delay: 27.281 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 18.085 ms
Loss rate: 3.73%
```

Run 1: Report of TCP Vegas — Data Link

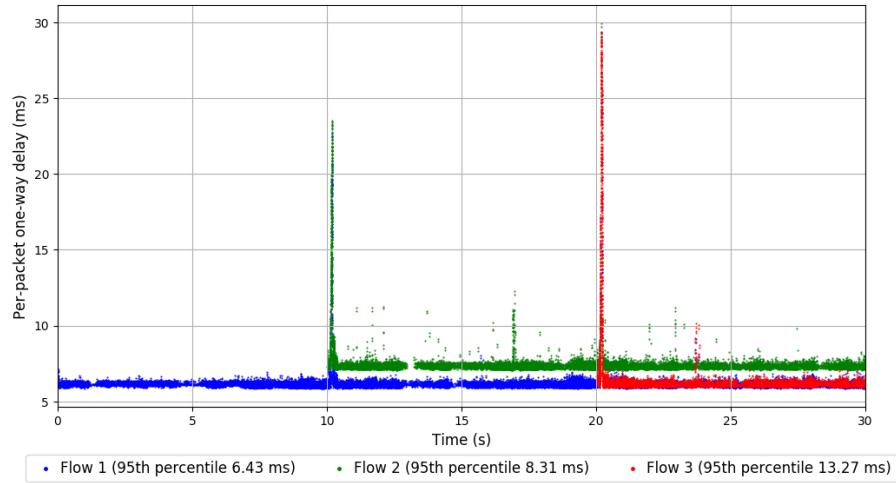
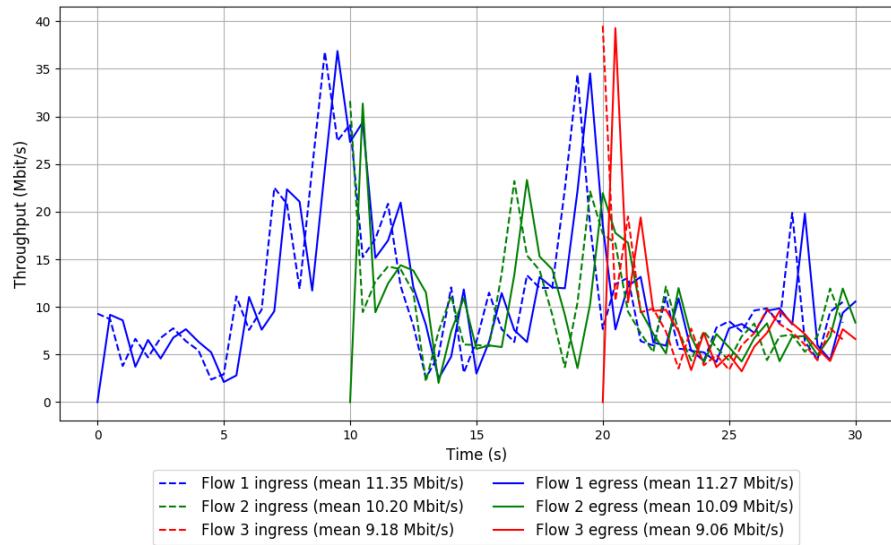


Run 2: Statistics of TCP Vegas

```
Start at: 2018-11-30 00:13:19
End at: 2018-11-30 00:13:49
Local clock offset: -3.637 ms
Remote clock offset: -4.789 ms

# Below is generated by plot.py at 2018-11-30 01:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.01 Mbit/s
95th percentile per-packet one-way delay: 7.649 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 6.428 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 10.09 Mbit/s
95th percentile per-packet one-way delay: 8.308 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 13.270 ms
Loss rate: 1.27%
```

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

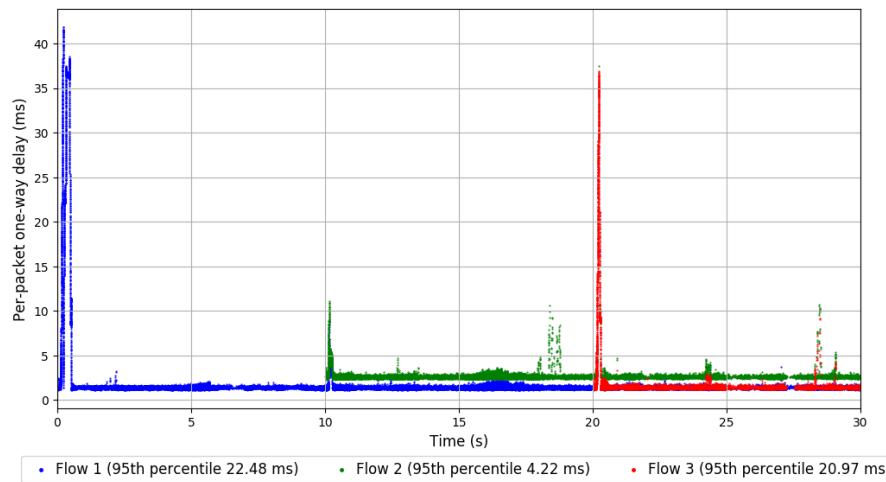
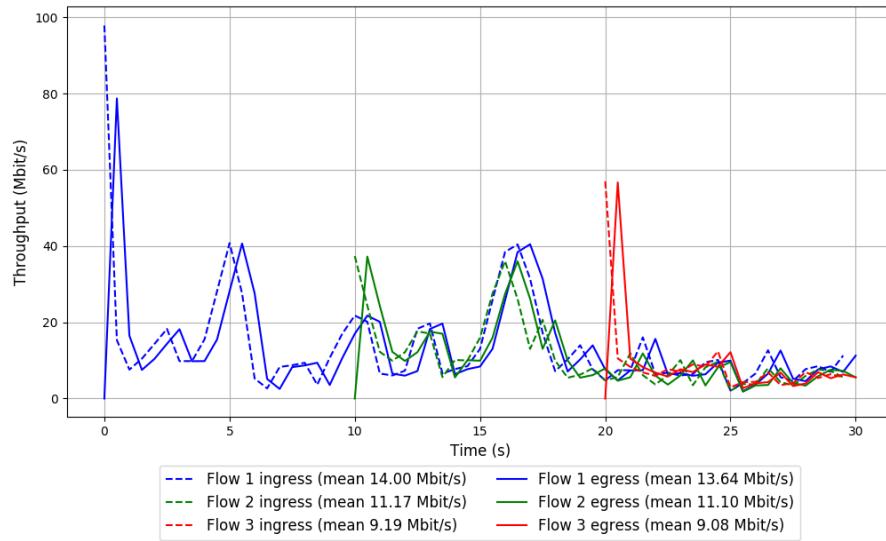


Run 3: Statistics of TCP Vegas

```
Start at: 2018-11-30 00:34:23
End at: 2018-11-30 00:34:53
Local clock offset: 3.589 ms
Remote clock offset: -5.007 ms

# Below is generated by plot.py at 2018-11-30 01:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.06 Mbit/s
95th percentile per-packet one-way delay: 13.880 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 13.64 Mbit/s
95th percentile per-packet one-way delay: 22.485 ms
Loss rate: 2.61%
-- Flow 2:
Average throughput: 11.10 Mbit/s
95th percentile per-packet one-way delay: 4.216 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 9.08 Mbit/s
95th percentile per-packet one-way delay: 20.972 ms
Loss rate: 1.17%
```

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

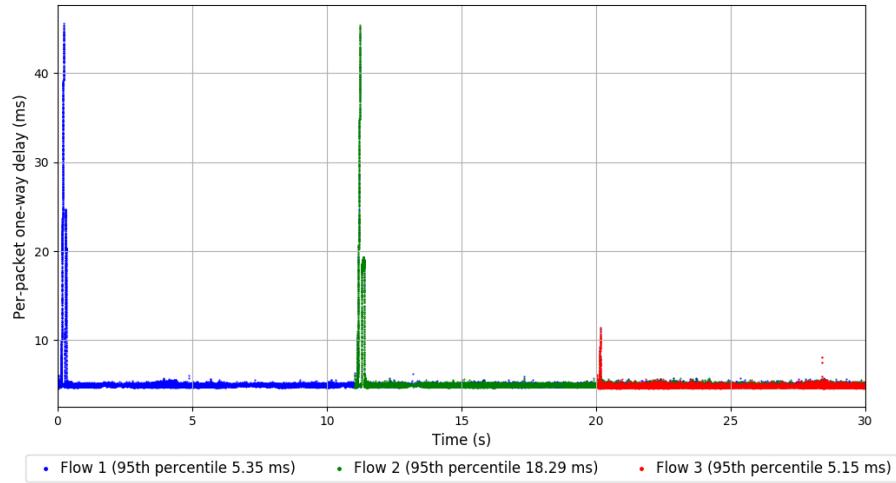
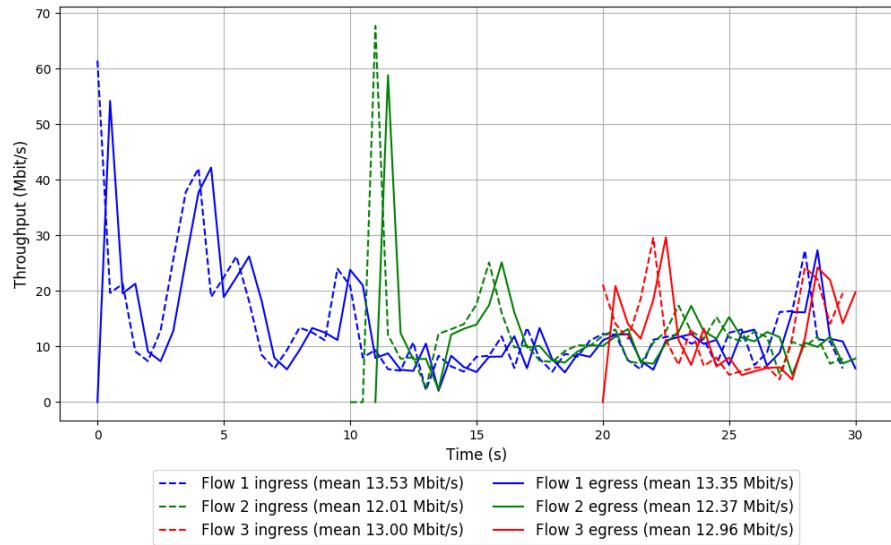


Run 4: Statistics of TCP Vegas

```
Start at: 2018-11-30 00:55:14
End at: 2018-11-30 00:55:44
Local clock offset: 0.851 ms
Remote clock offset: -4.49 ms

# Below is generated by plot.py at 2018-11-30 01:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.48 Mbit/s
95th percentile per-packet one-way delay: 5.911 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 13.35 Mbit/s
95th percentile per-packet one-way delay: 5.351 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 18.289 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 5.154 ms
Loss rate: 0.34%
```

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

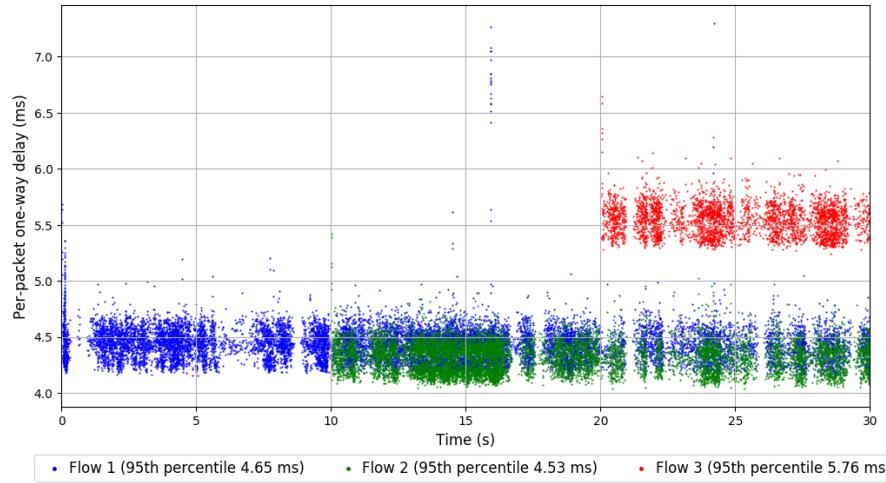
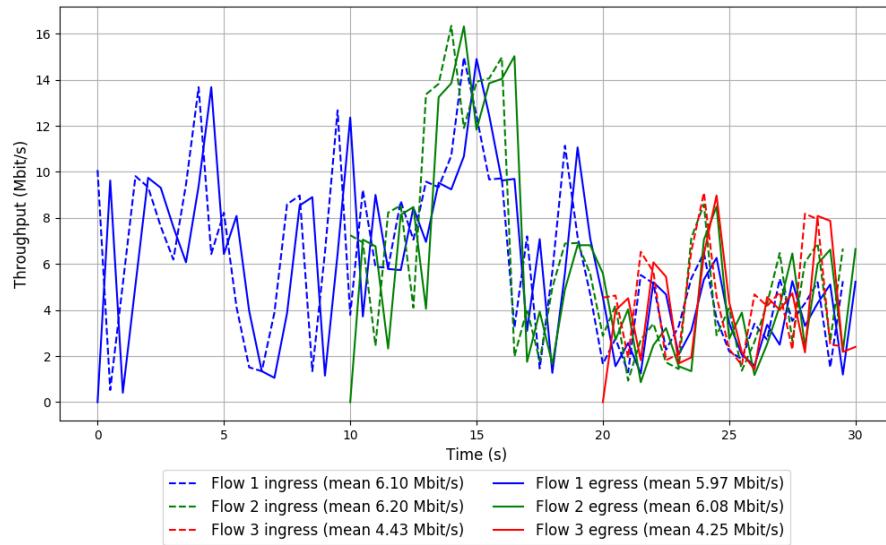


Run 5: Statistics of TCP Vegas

```
Start at: 2018-11-30 01:16:13
End at: 2018-11-30 01:16:43
Local clock offset: 0.947 ms
Remote clock offset: -4.832 ms

# Below is generated by plot.py at 2018-11-30 01:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 5.585 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 5.97 Mbit/s
95th percentile per-packet one-way delay: 4.646 ms
Loss rate: 2.13%
-- Flow 2:
Average throughput: 6.08 Mbit/s
95th percentile per-packet one-way delay: 4.531 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 5.761 ms
Loss rate: 3.97%
```

Run 5: Report of TCP Vegas — Data Link

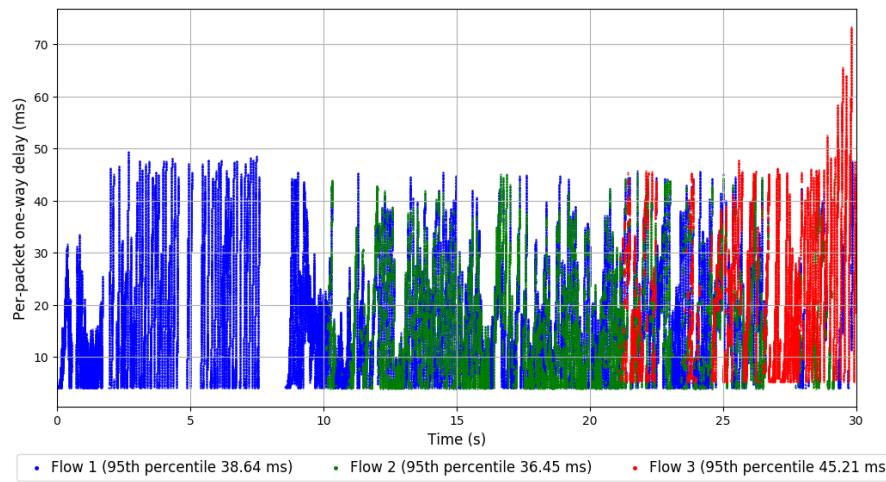
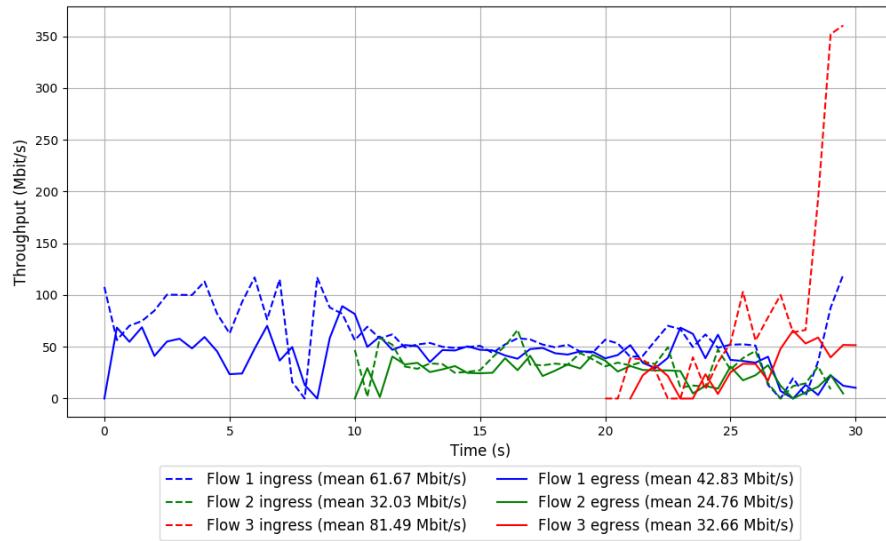


Run 1: Statistics of Verus

```
Start at: 2018-11-30 00:07:29
End at: 2018-11-30 00:07:59
Local clock offset: -2.109 ms
Remote clock offset: -5.324 ms

# Below is generated by plot.py at 2018-11-30 01:40:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.36 Mbit/s
95th percentile per-packet one-way delay: 39.702 ms
Loss rate: 37.30%
-- Flow 1:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 38.636 ms
Loss rate: 30.53%
-- Flow 2:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 36.449 ms
Loss rate: 22.68%
-- Flow 3:
Average throughput: 32.66 Mbit/s
95th percentile per-packet one-way delay: 45.206 ms
Loss rate: 63.89%
```

Run 1: Report of Verus — Data Link

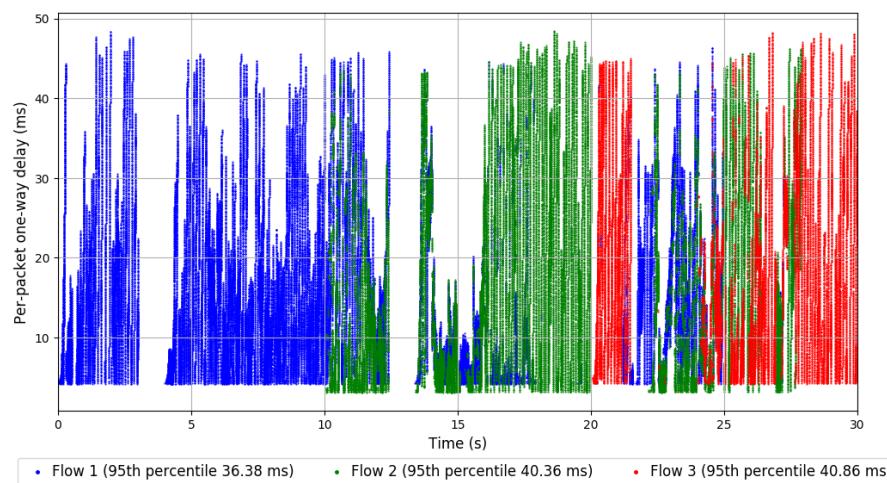
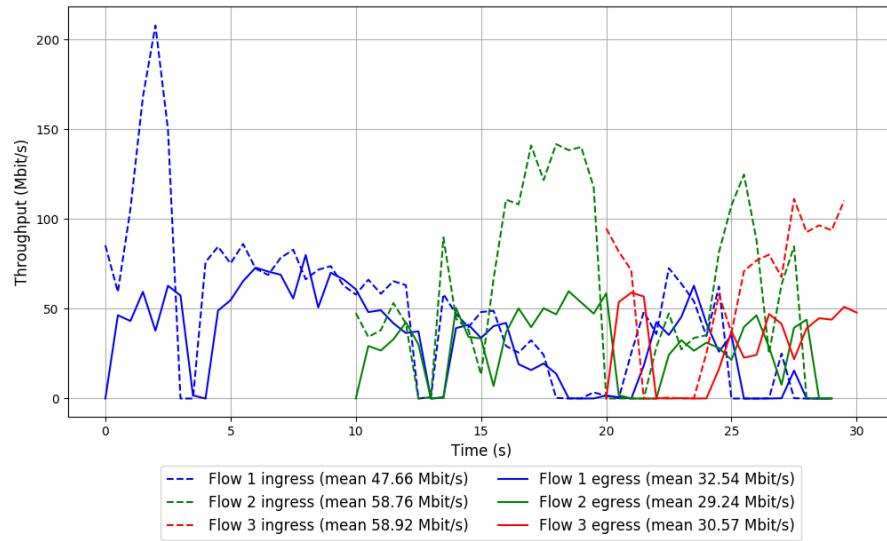


Run 2: Statistics of Verus

```
Start at: 2018-11-30 00:28:25
End at: 2018-11-30 00:28:55
Local clock offset: 1.038 ms
Remote clock offset: -5.31 ms

# Below is generated by plot.py at 2018-11-30 01:40:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.86 Mbit/s
95th percentile per-packet one-way delay: 38.973 ms
Loss rate: 41.84%
-- Flow 1:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 36.381 ms
Loss rate: 32.13%
-- Flow 2:
Average throughput: 29.24 Mbit/s
95th percentile per-packet one-way delay: 40.358 ms
Loss rate: 50.68%
-- Flow 3:
Average throughput: 30.57 Mbit/s
95th percentile per-packet one-way delay: 40.857 ms
Loss rate: 47.94%
```

Run 2: Report of Verus — Data Link

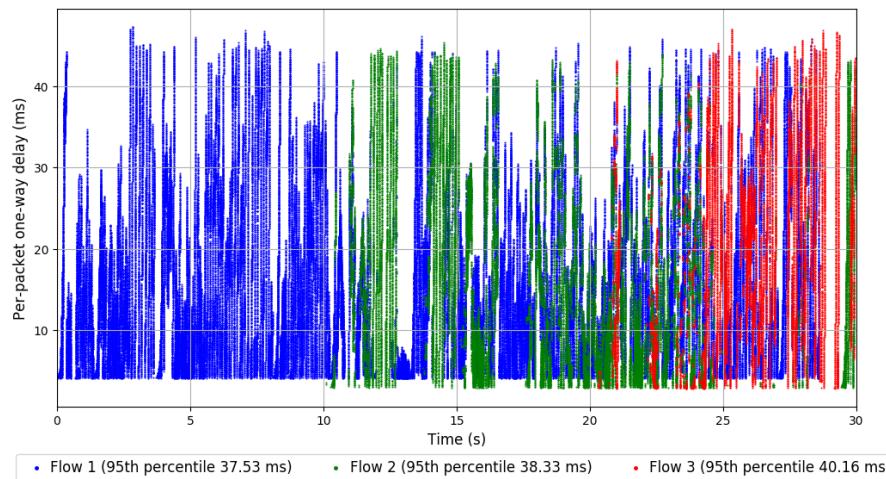
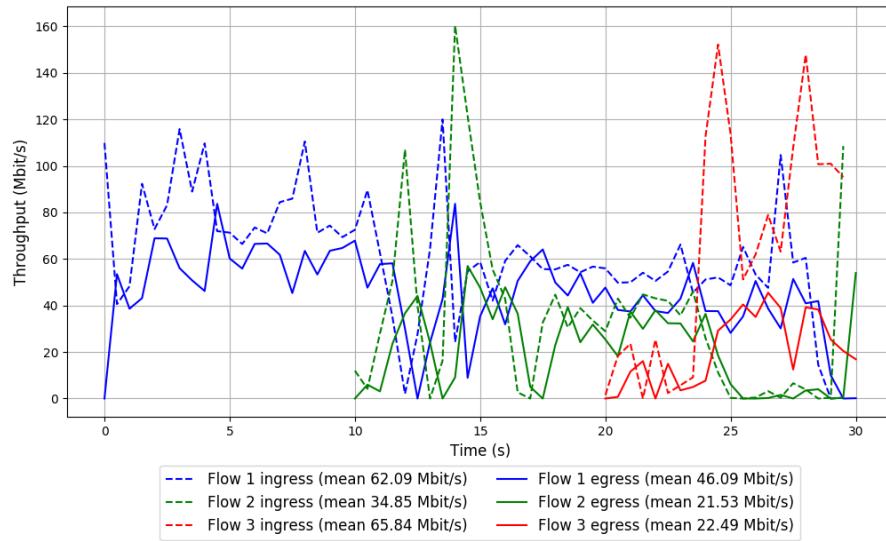


Run 3: Statistics of Verus

```
Start at: 2018-11-30 00:49:26
End at: 2018-11-30 00:49:56
Local clock offset: 1.713 ms
Remote clock offset: -5.408 ms

# Below is generated by plot.py at 2018-11-30 01:40:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.55 Mbit/s
95th percentile per-packet one-way delay: 38.135 ms
Loss rate: 36.49%
-- Flow 1:
Average throughput: 46.09 Mbit/s
95th percentile per-packet one-way delay: 37.531 ms
Loss rate: 25.82%
-- Flow 2:
Average throughput: 21.53 Mbit/s
95th percentile per-packet one-way delay: 38.334 ms
Loss rate: 38.18%
-- Flow 3:
Average throughput: 22.49 Mbit/s
95th percentile per-packet one-way delay: 40.163 ms
Loss rate: 65.79%
```

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

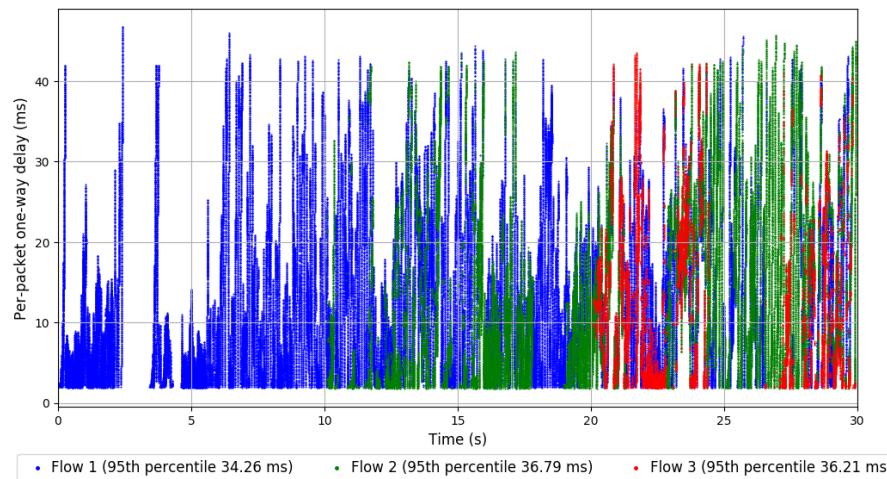
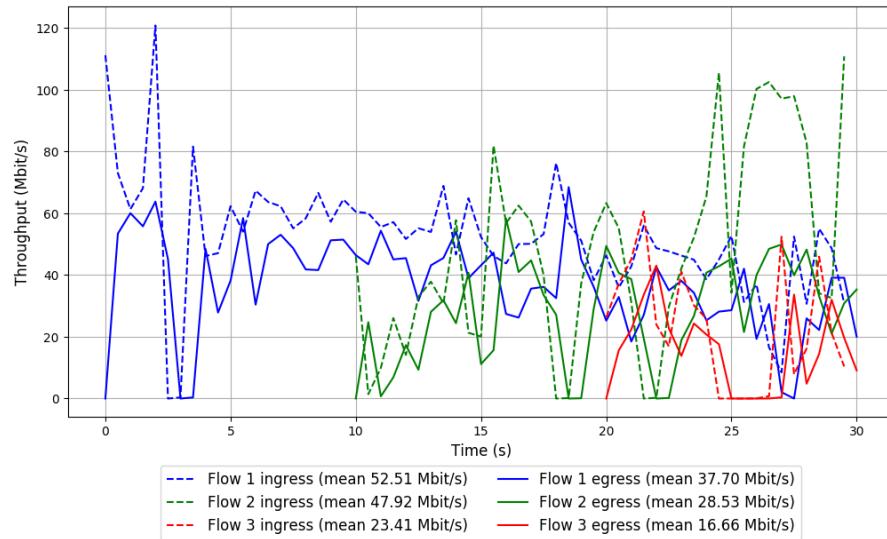


Run 4: Statistics of Verus

```
Start at: 2018-11-30 01:10:21
End at: 2018-11-30 01:10:51
Local clock offset: 3.45 ms
Remote clock offset: -4.738 ms

# Below is generated by plot.py at 2018-11-30 01:40:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.91 Mbit/s
95th percentile per-packet one-way delay: 35.331 ms
Loss rate: 32.61%
-- Flow 1:
Average throughput: 37.70 Mbit/s
95th percentile per-packet one-way delay: 34.255 ms
Loss rate: 28.36%
-- Flow 2:
Average throughput: 28.53 Mbit/s
95th percentile per-packet one-way delay: 36.794 ms
Loss rate: 40.45%
-- Flow 3:
Average throughput: 16.66 Mbit/s
95th percentile per-packet one-way delay: 36.207 ms
Loss rate: 29.04%
```

### Run 4: Report of Verus — Data Link

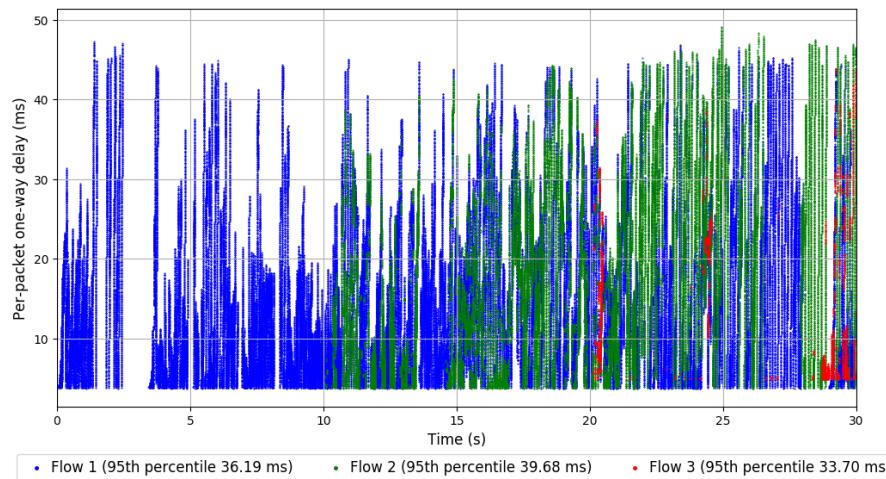
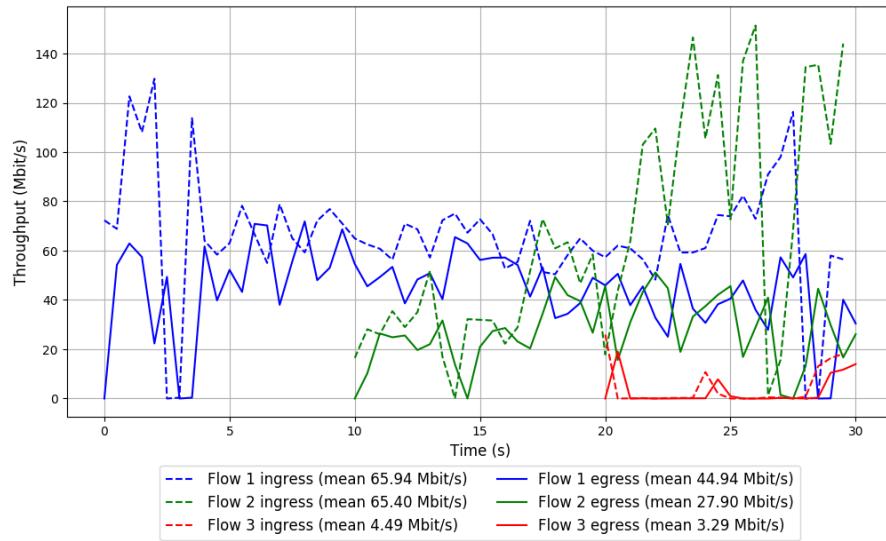


Run 5: Statistics of Verus

```
Start at: 2018-11-30 01:31:20
End at: 2018-11-30 01:31:50
Local clock offset: 1.033 ms
Remote clock offset: -4.051 ms

# Below is generated by plot.py at 2018-11-30 01:40:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.53 Mbit/s
95th percentile per-packet one-way delay: 37.535 ms
Loss rate: 41.78%
-- Flow 1:
Average throughput: 44.94 Mbit/s
95th percentile per-packet one-way delay: 36.187 ms
Loss rate: 31.88%
-- Flow 2:
Average throughput: 27.90 Mbit/s
95th percentile per-packet one-way delay: 39.683 ms
Loss rate: 57.28%
-- Flow 3:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 33.697 ms
Loss rate: 26.86%
```

Run 5: Report of Verus — Data Link

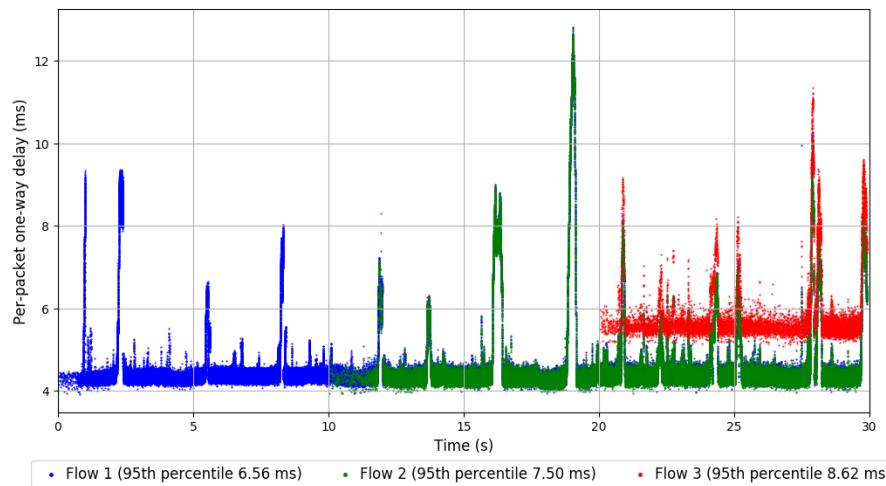
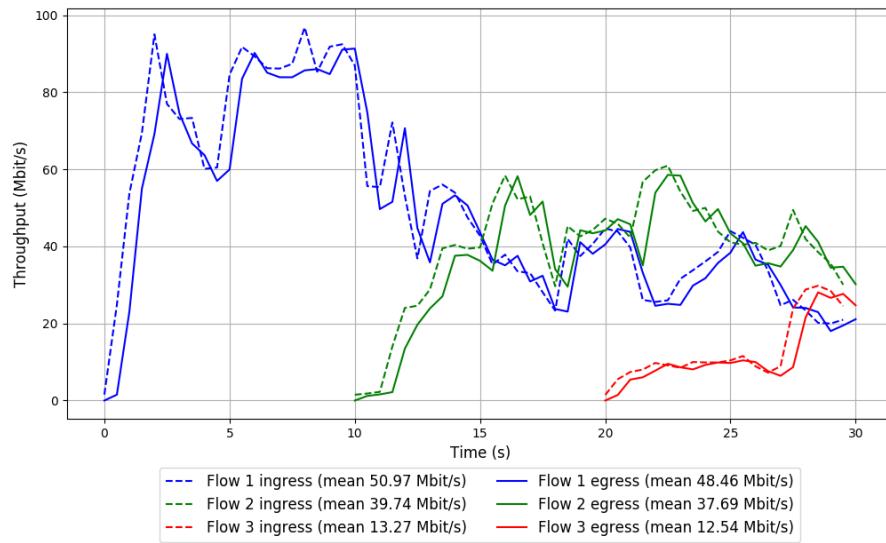


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-11-30 00:05:10
End at: 2018-11-30 00:05:40
Local clock offset: -1.914 ms
Remote clock offset: -5.089 ms

# Below is generated by plot.py at 2018-11-30 01:40:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.66 Mbit/s
95th percentile per-packet one-way delay: 7.186 ms
Loss rate: 5.04%
-- Flow 1:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 6.559 ms
Loss rate: 4.94%
-- Flow 2:
Average throughput: 37.69 Mbit/s
95th percentile per-packet one-way delay: 7.501 ms
Loss rate: 5.15%
-- Flow 3:
Average throughput: 12.54 Mbit/s
95th percentile per-packet one-way delay: 8.617 ms
Loss rate: 5.51%
```

Run 1: Report of PCC-Vivace — Data Link

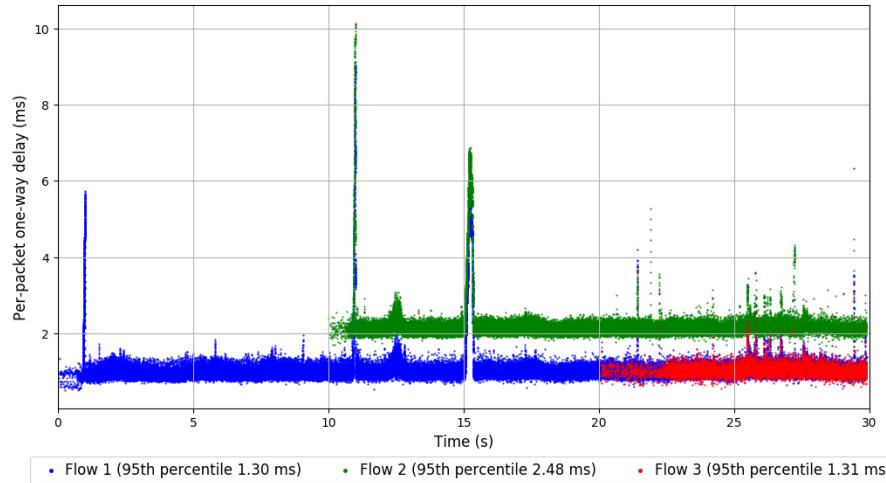
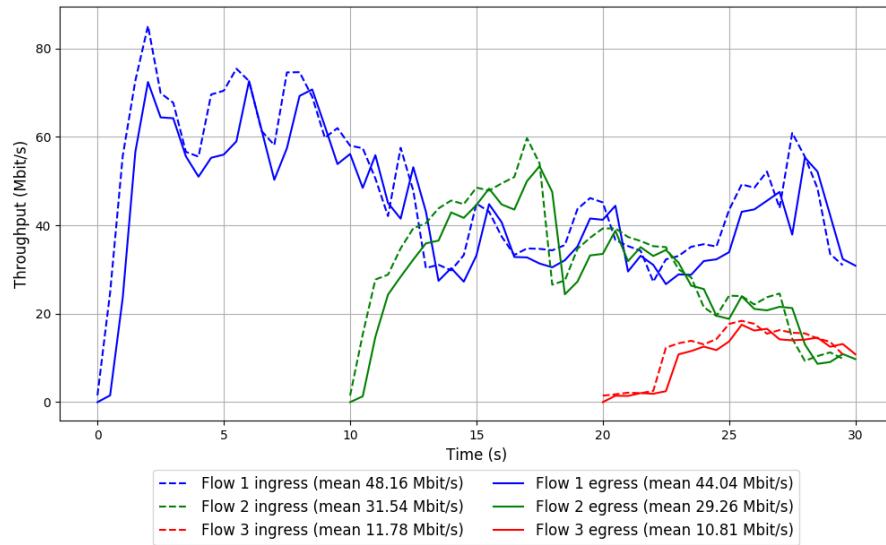


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-11-30 00:26:05
End at: 2018-11-30 00:26:35
Local clock offset: 3.222 ms
Remote clock offset: -5.191 ms

# Below is generated by plot.py at 2018-11-30 01:40:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.07 Mbit/s
95th percentile per-packet one-way delay: 2.303 ms
Loss rate: 8.15%
-- Flow 1:
Average throughput: 44.04 Mbit/s
95th percentile per-packet one-way delay: 1.300 ms
Loss rate: 8.55%
-- Flow 2:
Average throughput: 29.26 Mbit/s
95th percentile per-packet one-way delay: 2.481 ms
Loss rate: 7.23%
-- Flow 3:
Average throughput: 10.81 Mbit/s
95th percentile per-packet one-way delay: 1.310 ms
Loss rate: 8.23%
```

Run 2: Report of PCC-Vivace — Data Link

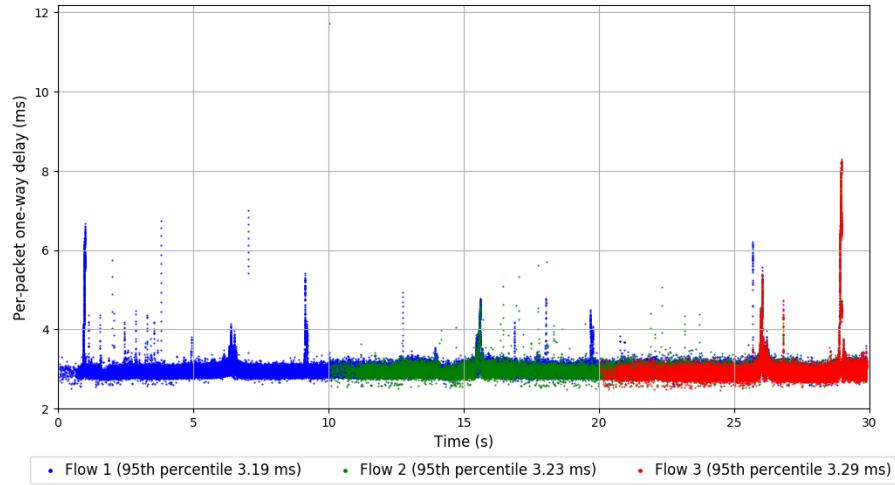
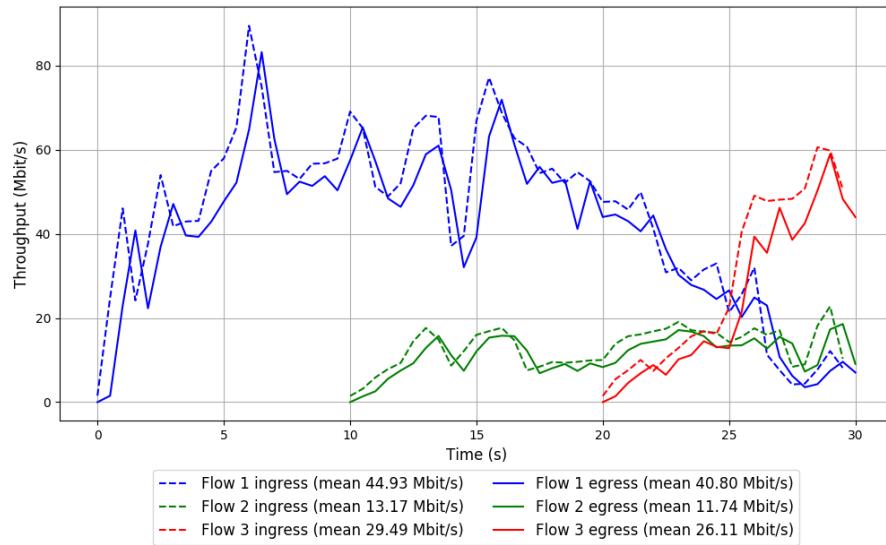


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-11-30 00:47:07
End at: 2018-11-30 00:47:37
Local clock offset: 2.493 ms
Remote clock offset: -4.917 ms

# Below is generated by plot.py at 2018-11-30 01:40:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.22 Mbit/s
95th percentile per-packet one-way delay: 3.205 ms
Loss rate: 9.80%
-- Flow 1:
Average throughput: 40.80 Mbit/s
95th percentile per-packet one-way delay: 3.193 ms
Loss rate: 9.21%
-- Flow 2:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 3.225 ms
Loss rate: 10.92%
-- Flow 3:
Average throughput: 26.11 Mbit/s
95th percentile per-packet one-way delay: 3.289 ms
Loss rate: 11.51%
```

Run 3: Report of PCC-Vivace — Data Link

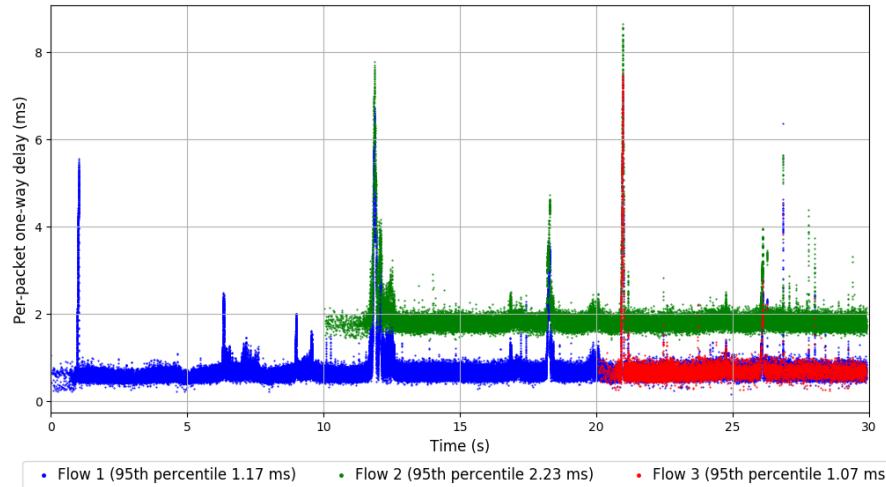
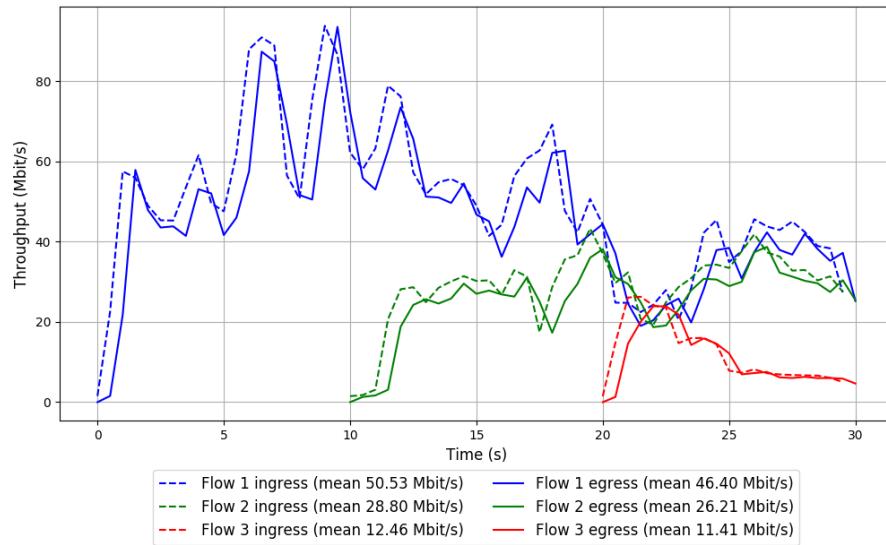


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-11-30 01:08:02
End at: 2018-11-30 01:08:32
Local clock offset: 4.374 ms
Remote clock offset: -5.215 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.60 Mbit/s
95th percentile per-packet one-way delay: 2.000 ms
Loss rate: 8.41%
-- Flow 1:
Average throughput: 46.40 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 8.18%
-- Flow 2:
Average throughput: 26.21 Mbit/s
95th percentile per-packet one-way delay: 2.232 ms
Loss rate: 8.99%
-- Flow 3:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 1.071 ms
Loss rate: 8.46%
```

Run 4: Report of PCC-Vivace — Data Link

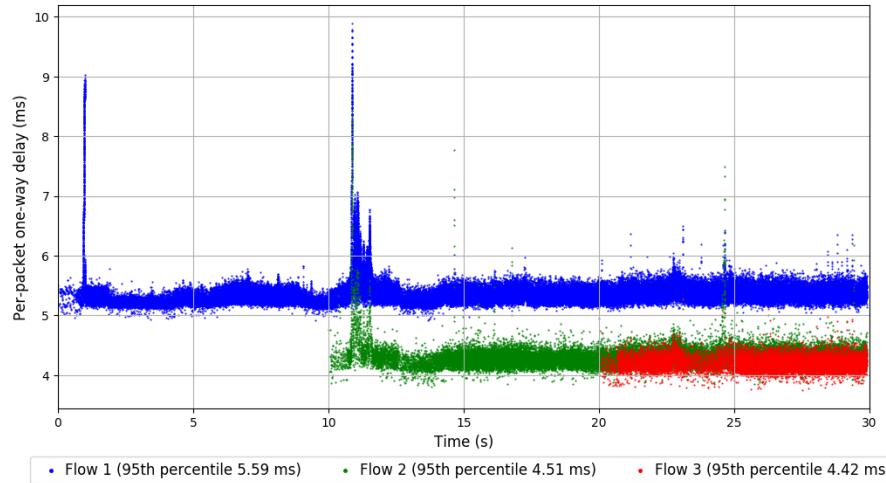
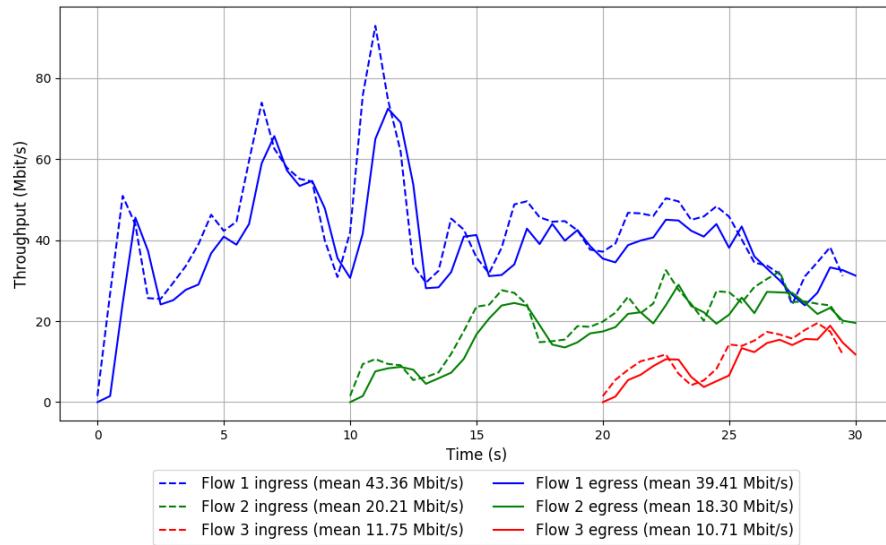


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-11-30 01:29:02
End at: 2018-11-30 01:29:32
Local clock offset: 0.358 ms
Remote clock offset: -4.55 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.12 Mbit/s
95th percentile per-packet one-way delay: 5.551 ms
Loss rate: 9.17%
-- Flow 1:
Average throughput: 39.41 Mbit/s
95th percentile per-packet one-way delay: 5.595 ms
Loss rate: 9.13%
-- Flow 2:
Average throughput: 18.30 Mbit/s
95th percentile per-packet one-way delay: 4.512 ms
Loss rate: 9.42%
-- Flow 3:
Average throughput: 10.71 Mbit/s
95th percentile per-packet one-way delay: 4.419 ms
Loss rate: 8.88%
```

Run 5: Report of PCC-Vivace — Data Link

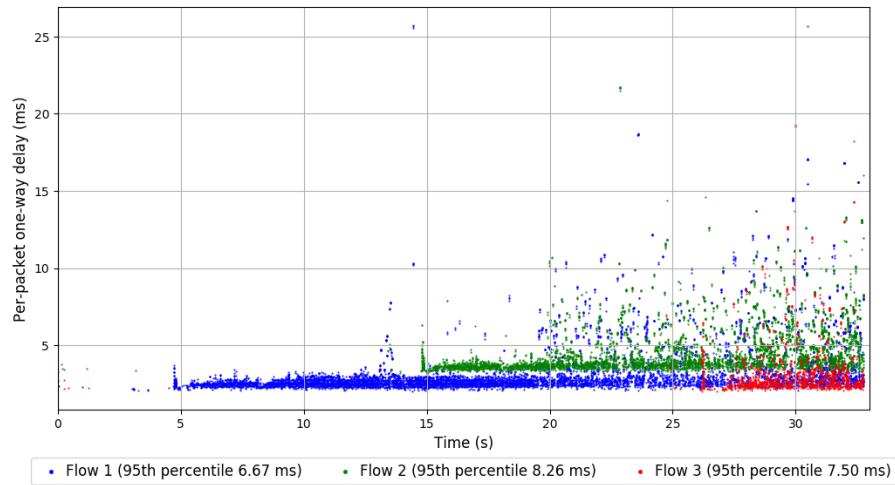
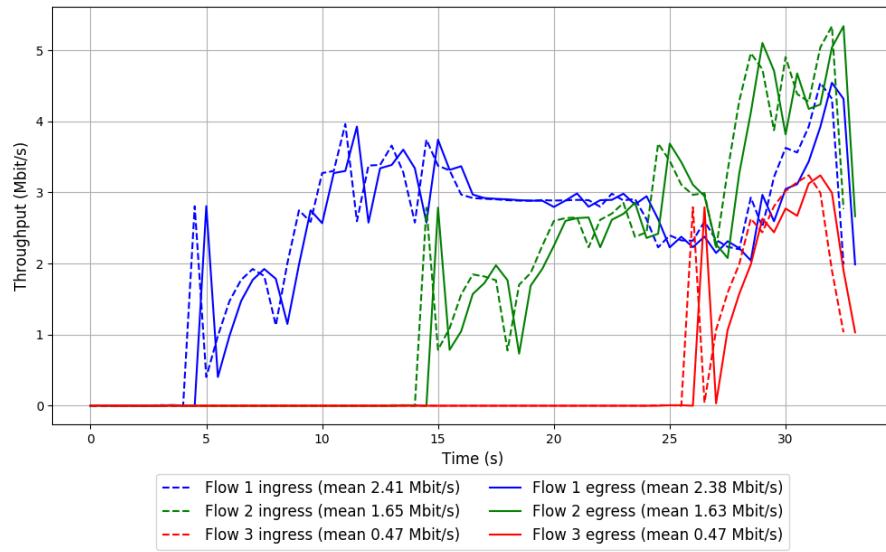


Run 1: Statistics of WebRTC media

```
Start at: 2018-11-29 23:50:06
End at: 2018-11-29 23:50:36
Local clock offset: 0.624 ms
Remote clock offset: -5.087 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 7.556 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 6.675 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 8.258 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 7.497 ms
Loss rate: 1.41%
```

Run 1: Report of WebRTC media — Data Link

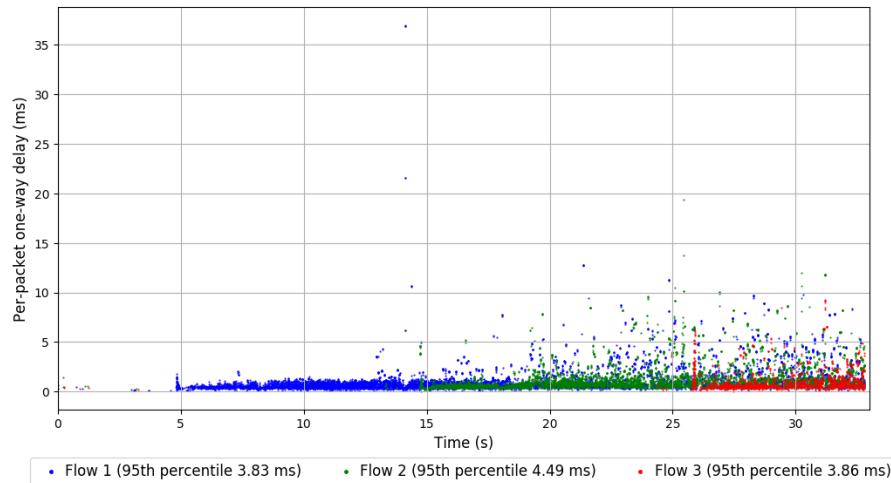
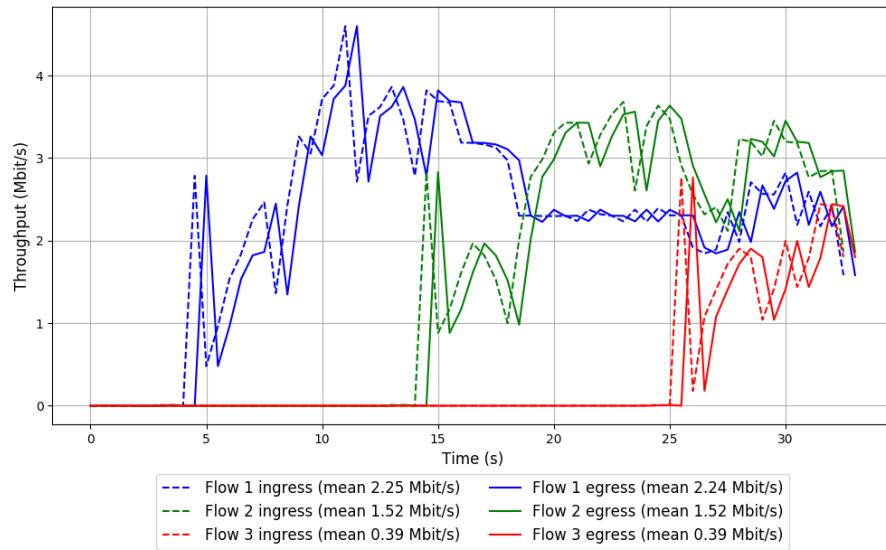


Run 2: Statistics of WebRTC media

```
Start at: 2018-11-30 00:11:05
End at: 2018-11-30 00:11:35
Local clock offset: 1.767 ms
Remote clock offset: -5.03 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 4.066 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 3.831 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 4.486 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 3.863 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

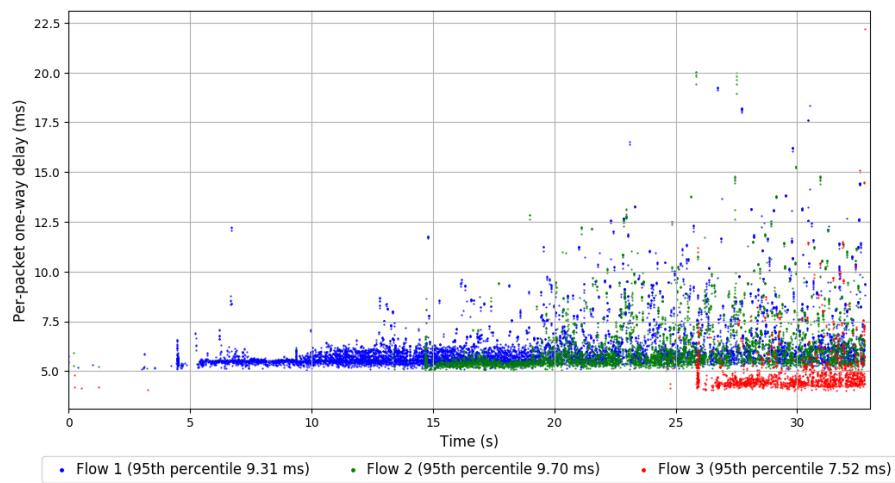
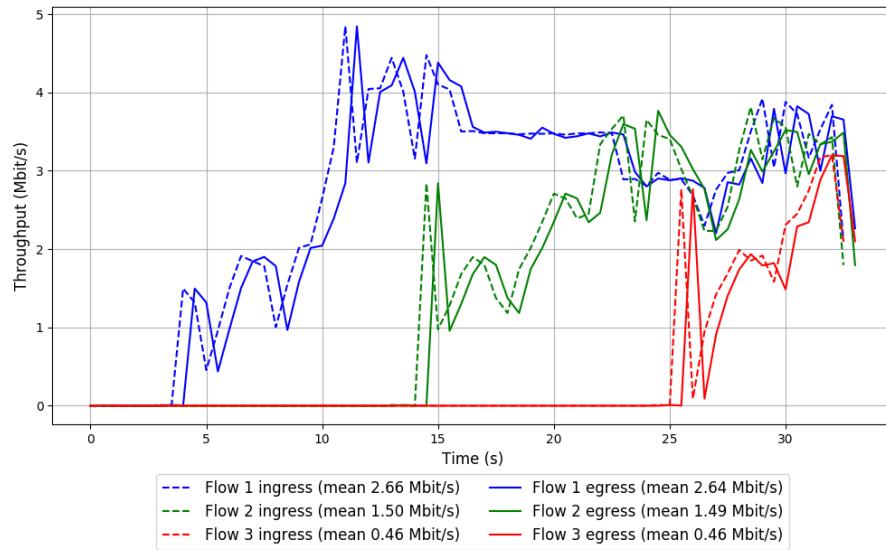


Run 3: Statistics of WebRTC media

```
Start at: 2018-11-30 00:32:08
End at: 2018-11-30 00:32:38
Local clock offset: 1.075 ms
Remote clock offset: -4.461 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.57 Mbit/s
95th percentile per-packet one-way delay: 9.404 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 9.314 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 9.698 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 7.518 ms
Loss rate: 0.96%
```

Run 3: Report of WebRTC media — Data Link

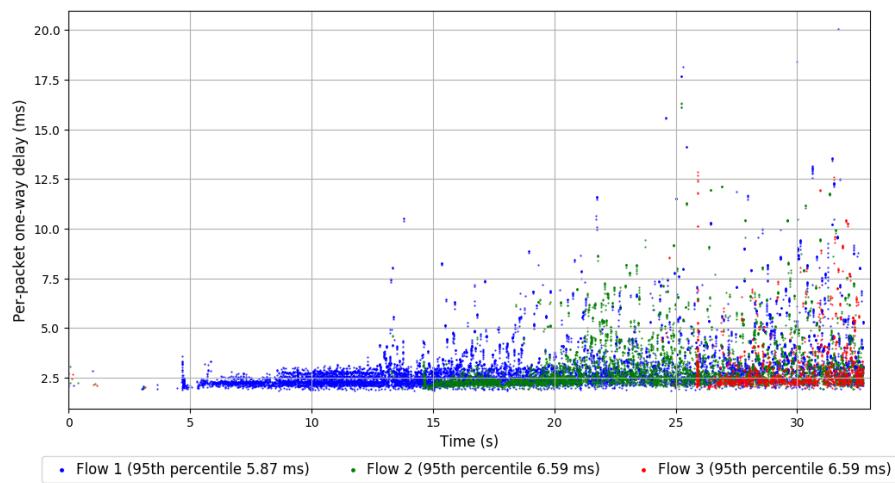
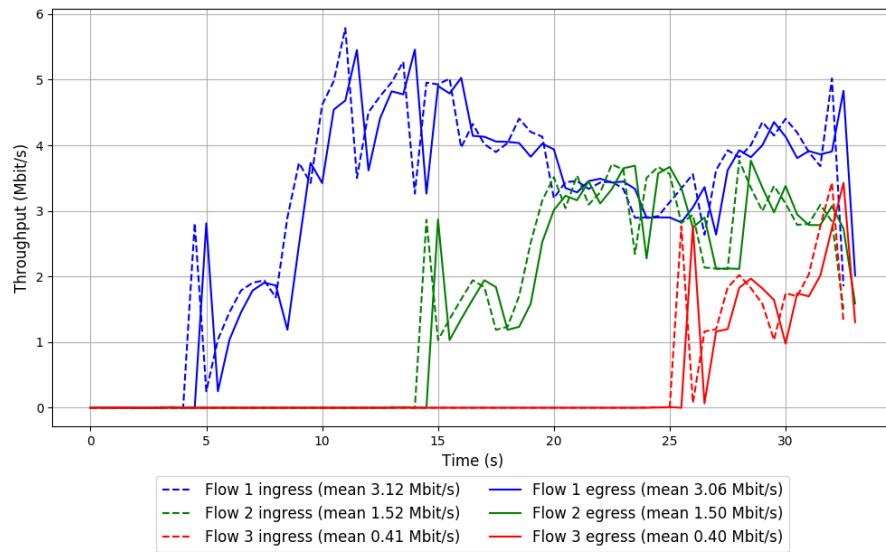


Run 4: Statistics of WebRTC media

```
Start at: 2018-11-30 00:52:59
End at: 2018-11-30 00:53:29
Local clock offset: 3.6 ms
Remote clock offset: -4.282 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 6.315 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 5.869 ms
Loss rate: 1.92%
-- Flow 2:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 6.589 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 6.591 ms
Loss rate: 0.44%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-11-30 01:13:59
End at: 2018-11-30 01:14:29
Local clock offset: -1.649 ms
Remote clock offset: -10.519 ms

# Below is generated by plot.py at 2018-11-30 01:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 4.735 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 4.631 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 5.077 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 4.722 ms
Loss rate: 1.82%
```

Run 5: Report of WebRTC media — Data Link

