

## Pantheon Report

Generated at 2018-10-10 08:29:27 (UTC).

Data path: Saudi Arabia on `enp2s0` (*remote*) → AWS India 2 on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

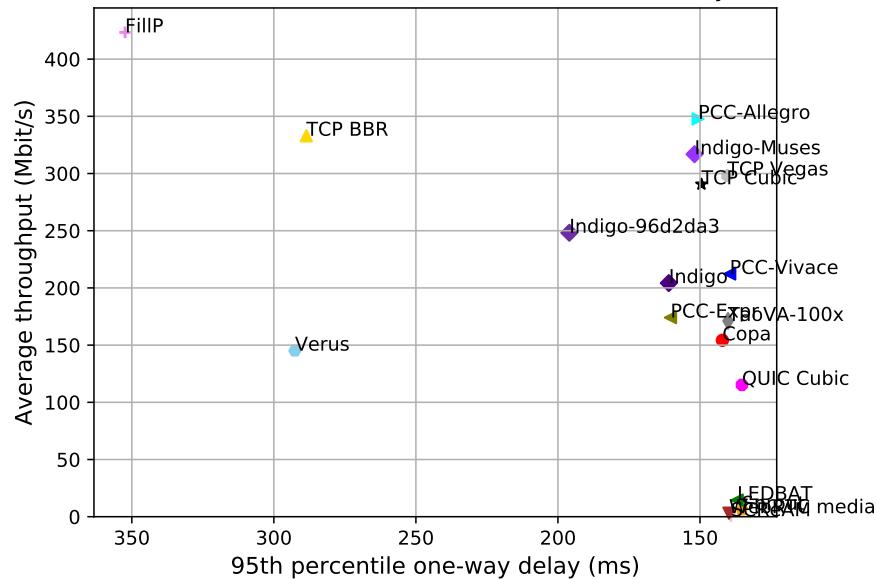
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

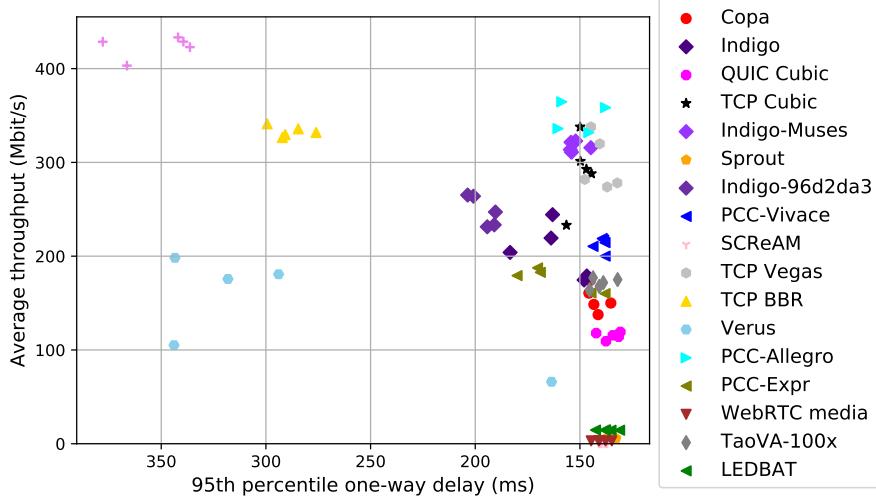
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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 Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



test from Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows



4

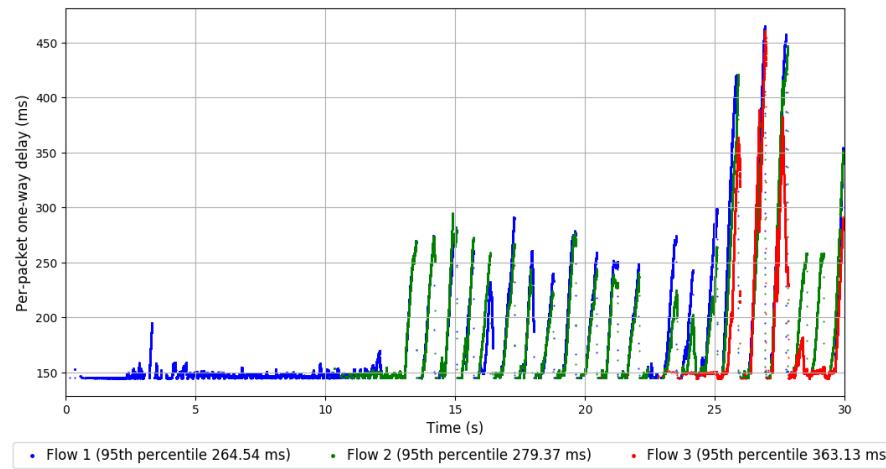
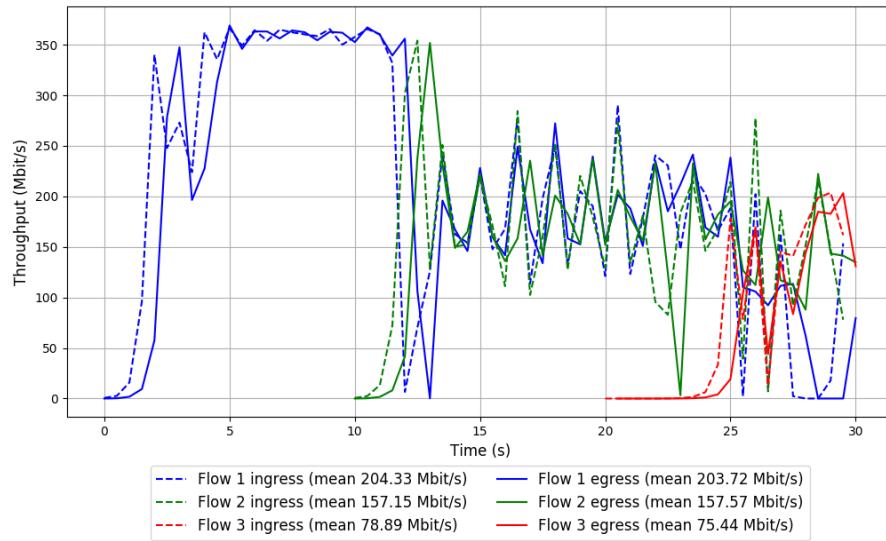
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	206.27	146.66	90.53	261.65	298.76	367.44	0.78	1.28	5.13
Copa	5	106.63	54.12	35.63	141.96	142.72	141.16	0.41	1.57	2.58
TCP Cubic	5	185.68	118.39	80.17	143.63	156.83	177.90	0.54	1.32	3.21
FillP	5	238.42	212.01	154.78	354.13	342.04	310.26	2.64	12.11	26.75
Indigo	5	91.72	113.78	114.35	149.03	160.53	175.03	0.71	1.02	2.30
Indigo-96d2da3	5	146.85	124.08	64.65	192.93	195.93	201.75	1.15	1.14	4.85
LEDBAT	5	9.50	6.16	3.00	135.67	136.59	136.05	1.30	1.95	3.97
Indigo-Muses	5	237.64	93.80	53.42	152.10	148.32	164.65	0.40	1.40	5.07
PCC-Allegro	4	319.84	39.29	5.84	152.46	139.62	139.77	0.62	1.06	1.49
PCC-Expr	5	161.17	16.14	6.76	164.68	141.15	141.41	0.71	1.09	2.22
QUIC Cubic	5	60.18	56.46	53.93	134.72	135.12	135.10	0.59	1.05	2.34
SCReAM	5	0.22	0.22	0.22	138.87	138.47	137.96	0.64	1.04	1.78
Sprout	5	3.26	3.16	2.16	134.97	134.32	134.67	0.71	1.06	3.53
TaoVA-100x	5	104.35	73.02	55.90	139.17	140.41	141.70	0.51	0.72	1.80
TCP Vegas	5	201.43	114.67	63.16	140.45	139.82	151.53	0.42	0.92	2.18
Verus	5	96.23	59.82	54.17	303.71	269.39	238.53	2.95	2.20	1.81
PCC-Vivace	5	179.79	43.82	10.35	139.49	139.65	139.92	1.11	2.02	2.76
WebRTC media	5	1.69	1.03	0.39	139.49	139.19	139.71	0.60	1.17	3.03

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-10 04:40:51
End at: 2018-10-10 04:41:21
Local clock offset: -0.39 ms
Remote clock offset: -47.54 ms

# Below is generated by plot.py at 2018-10-10 08:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.92 Mbit/s
95th percentile per-packet one-way delay: 276.017 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 203.72 Mbit/s
95th percentile per-packet one-way delay: 264.543 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 157.57 Mbit/s
95th percentile per-packet one-way delay: 279.370 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 75.44 Mbit/s
95th percentile per-packet one-way delay: 363.131 ms
Loss rate: 6.24%
```

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

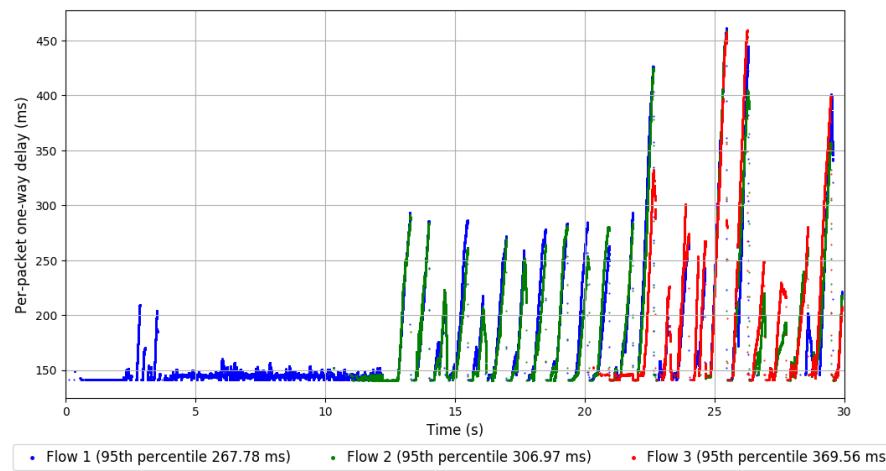
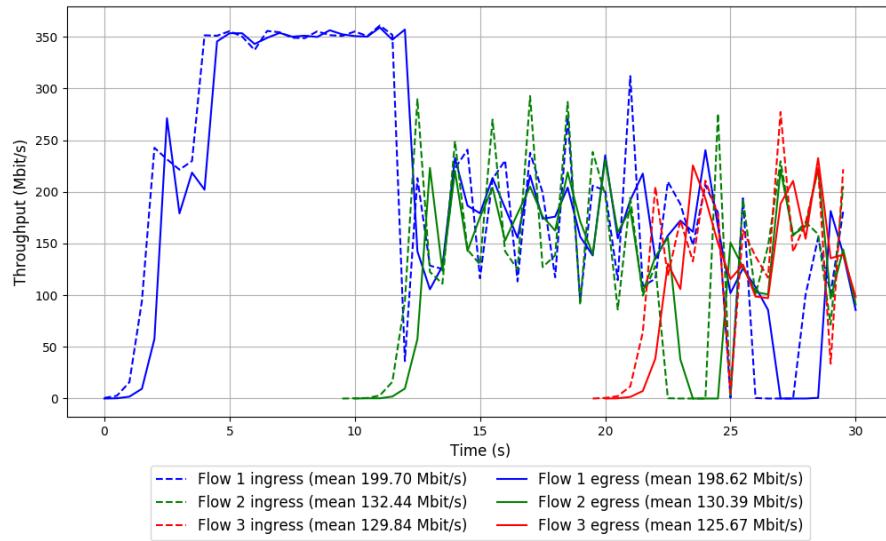


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-10 05:38:50
End at: 2018-10-10 05:39:20
Local clock offset: 0.472 ms
Remote clock offset: -45.206 ms

# Below is generated by plot.py at 2018-10-10 08:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.52 Mbit/s
95th percentile per-packet one-way delay: 292.120 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 198.62 Mbit/s
95th percentile per-packet one-way delay: 267.779 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 130.39 Mbit/s
95th percentile per-packet one-way delay: 306.971 ms
Loss rate: 2.53%
-- Flow 3:
Average throughput: 125.67 Mbit/s
95th percentile per-packet one-way delay: 369.565 ms
Loss rate: 5.10%
```

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

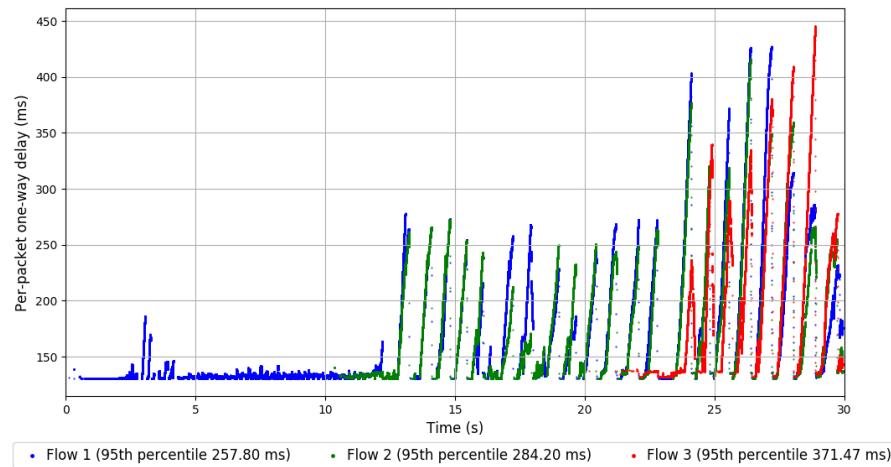
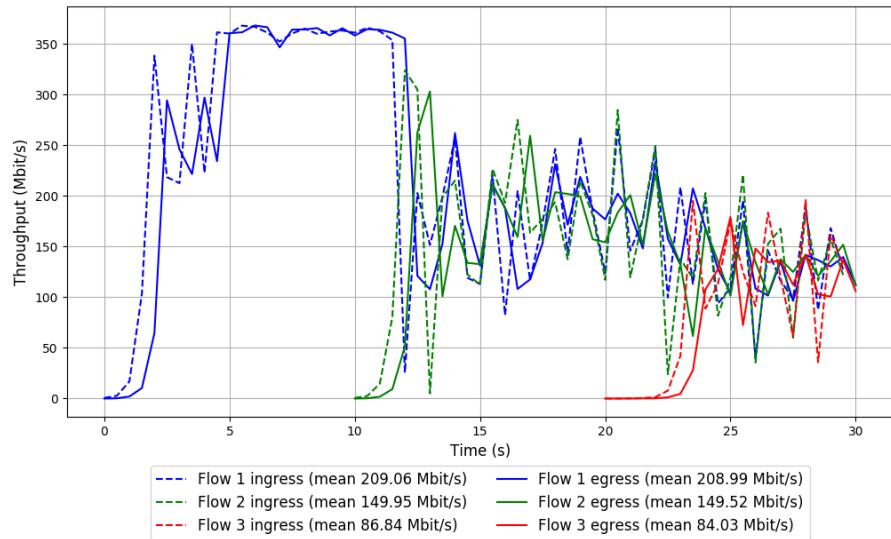


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-10 06:20:02
End at: 2018-10-10 06:20:32
Local clock offset: 1.521 ms
Remote clock offset: -35.4 ms

# Below is generated by plot.py at 2018-10-10 08:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 335.80 Mbit/s
95th percentile per-packet one-way delay: 284.552 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 208.99 Mbit/s
95th percentile per-packet one-way delay: 257.797 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 149.52 Mbit/s
95th percentile per-packet one-way delay: 284.196 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 84.03 Mbit/s
95th percentile per-packet one-way delay: 371.466 ms
Loss rate: 5.19%
```

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

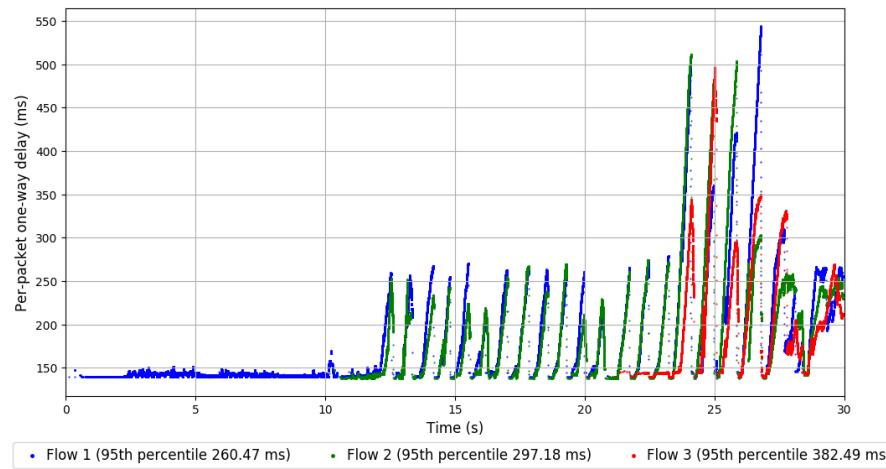
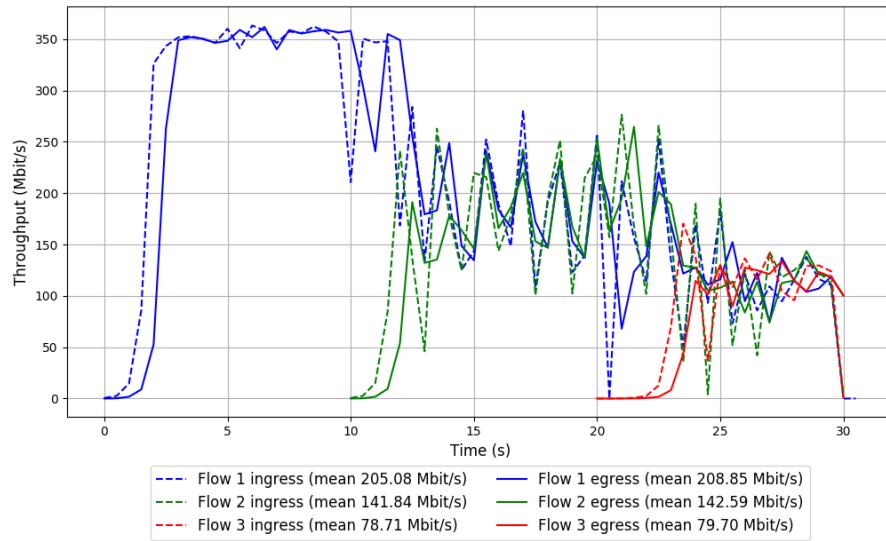


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-10 07:01:02
End at: 2018-10-10 07:01:32
Local clock offset: 2.265 ms
Remote clock offset: -42.219 ms

# Below is generated by plot.py at 2018-10-10 08:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.68 Mbit/s
95th percentile per-packet one-way delay: 290.776 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 208.85 Mbit/s
95th percentile per-packet one-way delay: 260.466 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 142.59 Mbit/s
95th percentile per-packet one-way delay: 297.180 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 79.70 Mbit/s
95th percentile per-packet one-way delay: 382.490 ms
Loss rate: 5.35%
```

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

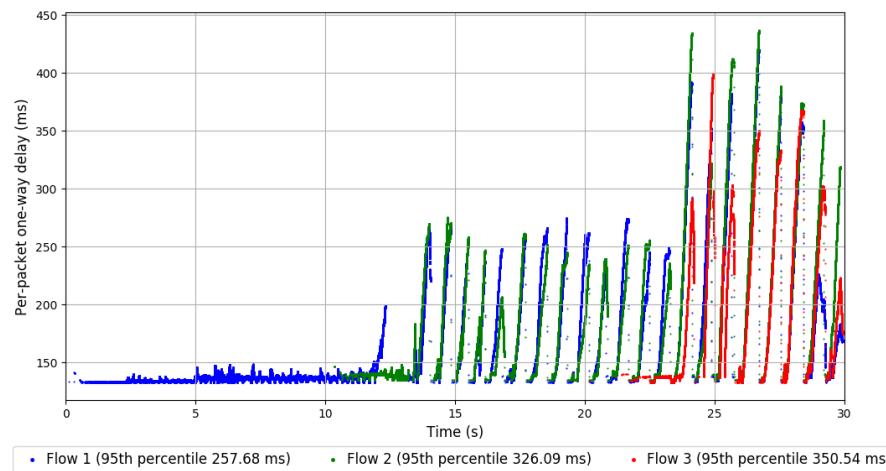
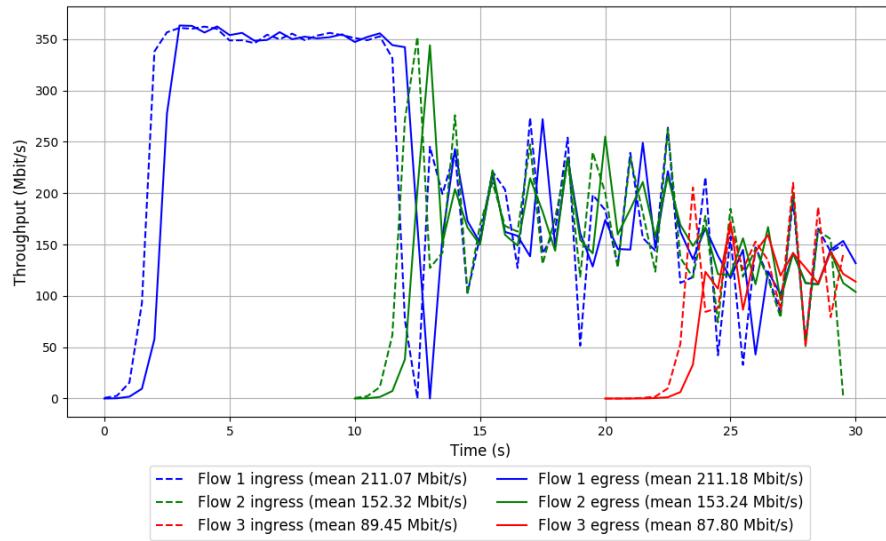


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-10 07:45:51
End at: 2018-10-10 07:46:21
Local clock offset: 2.497 ms
Remote clock offset: -38.705 ms

# Below is generated by plot.py at 2018-10-10 08:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.14 Mbit/s
95th percentile per-packet one-way delay: 299.383 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 211.18 Mbit/s
95th percentile per-packet one-way delay: 257.681 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 153.24 Mbit/s
95th percentile per-packet one-way delay: 326.089 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 87.80 Mbit/s
95th percentile per-packet one-way delay: 350.539 ms
Loss rate: 3.77%
```

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

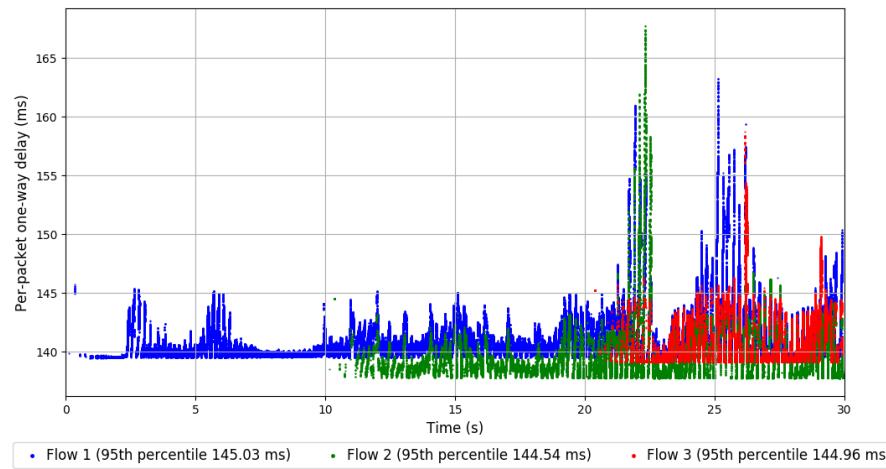
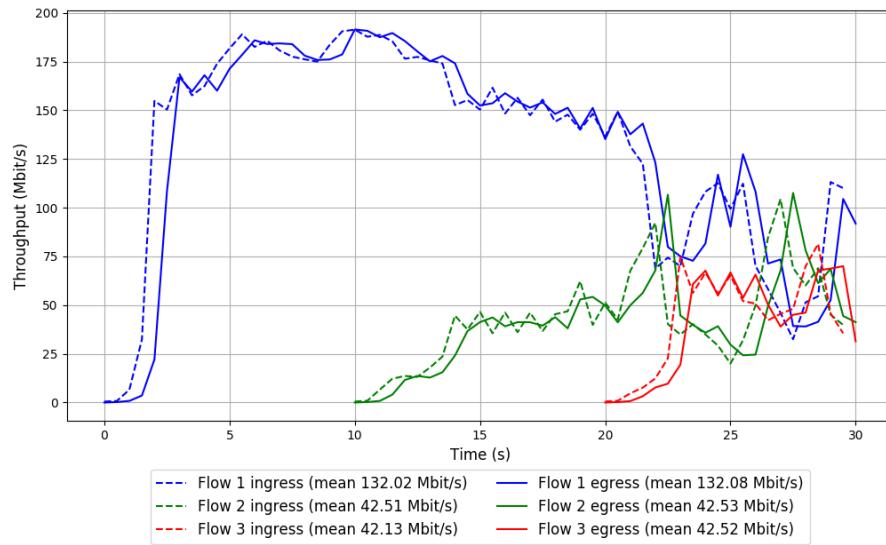


Run 1: Statistics of Copa

```
Start at: 2018-10-10 04:08:54
End at: 2018-10-10 04:09:24
Local clock offset: 1.673 ms
Remote clock offset: -41.904 ms

# Below is generated by plot.py at 2018-10-10 08:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 174.21 Mbit/s
95th percentile per-packet one-way delay: 144.964 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 132.08 Mbit/s
95th percentile per-packet one-way delay: 145.035 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 42.53 Mbit/s
95th percentile per-packet one-way delay: 144.540 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 42.52 Mbit/s
95th percentile per-packet one-way delay: 144.958 ms
Loss rate: 1.17%
```

## Run 1: Report of Copa — Data Link

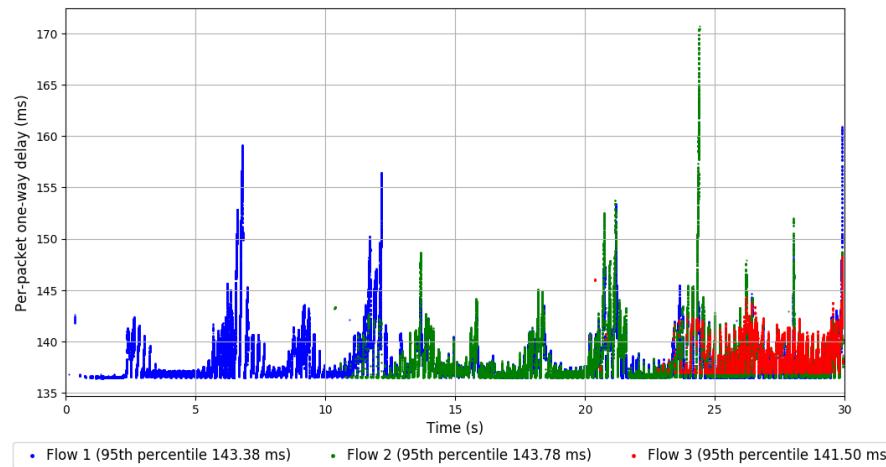
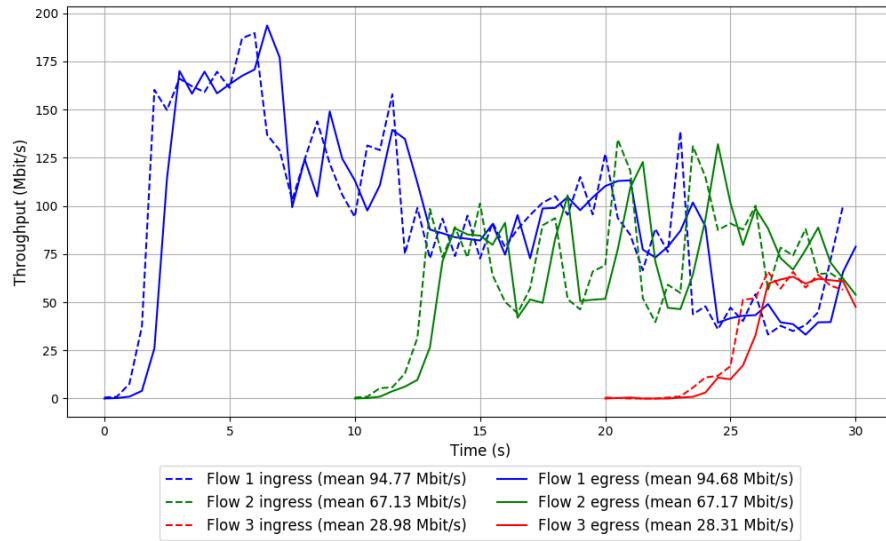


Run 2: Statistics of Copa

```
Start at: 2018-10-10 04:53:57
End at: 2018-10-10 04:54:27
Local clock offset: -0.618 ms
Remote clock offset: -39.208 ms

# Below is generated by plot.py at 2018-10-10 08:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 148.53 Mbit/s
95th percentile per-packet one-way delay: 143.340 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 94.68 Mbit/s
95th percentile per-packet one-way delay: 143.377 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 67.17 Mbit/s
95th percentile per-packet one-way delay: 143.783 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 28.31 Mbit/s
95th percentile per-packet one-way delay: 141.496 ms
Loss rate: 4.17%
```

## Run 2: Report of Copa — Data Link

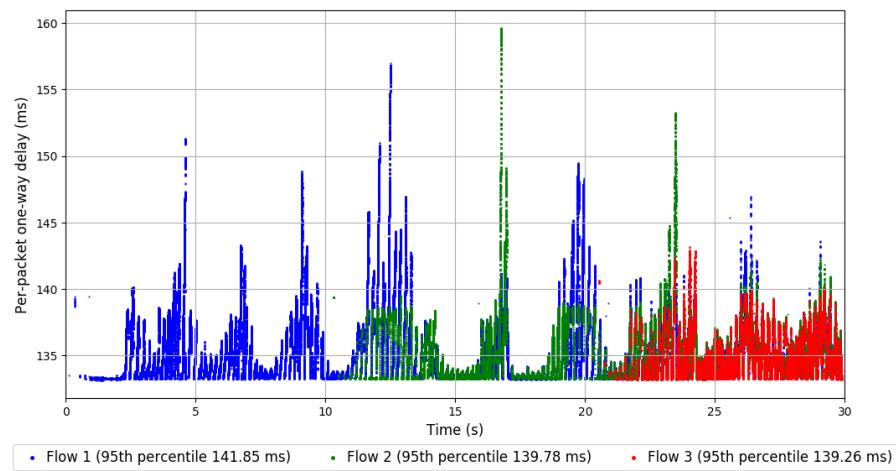
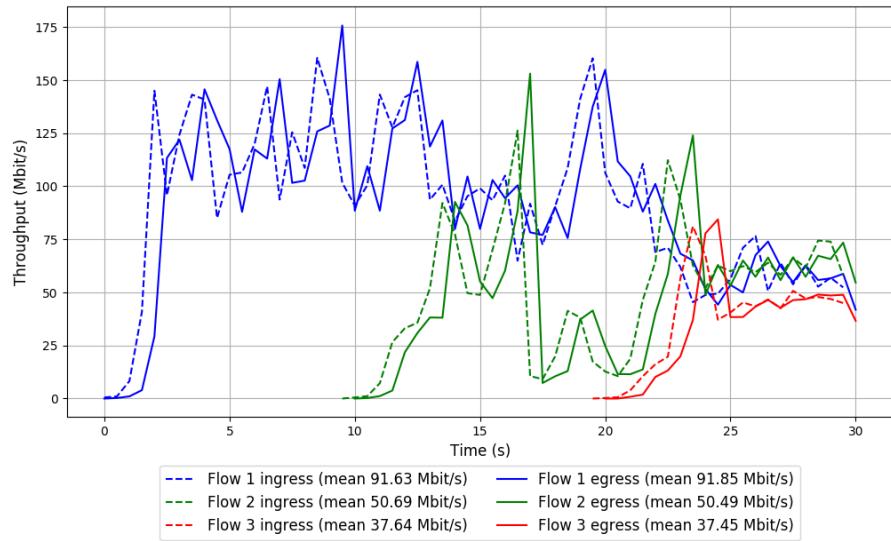


Run 3: Statistics of Copa

```
Start at: 2018-10-10 05:52:00
End at: 2018-10-10 05:52:30
Local clock offset: 2.889 ms
Remote clock offset: -36.801 ms

# Below is generated by plot.py at 2018-10-10 08:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.65 Mbit/s
95th percentile per-packet one-way delay: 141.307 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 91.85 Mbit/s
95th percentile per-packet one-way delay: 141.852 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 50.49 Mbit/s
95th percentile per-packet one-way delay: 139.779 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 37.45 Mbit/s
95th percentile per-packet one-way delay: 139.264 ms
Loss rate: 2.50%
```

### Run 3: Report of Copa — Data Link

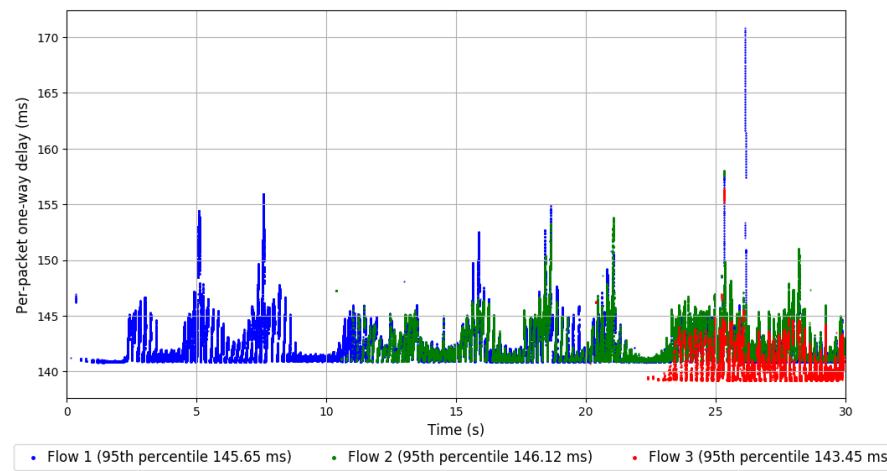
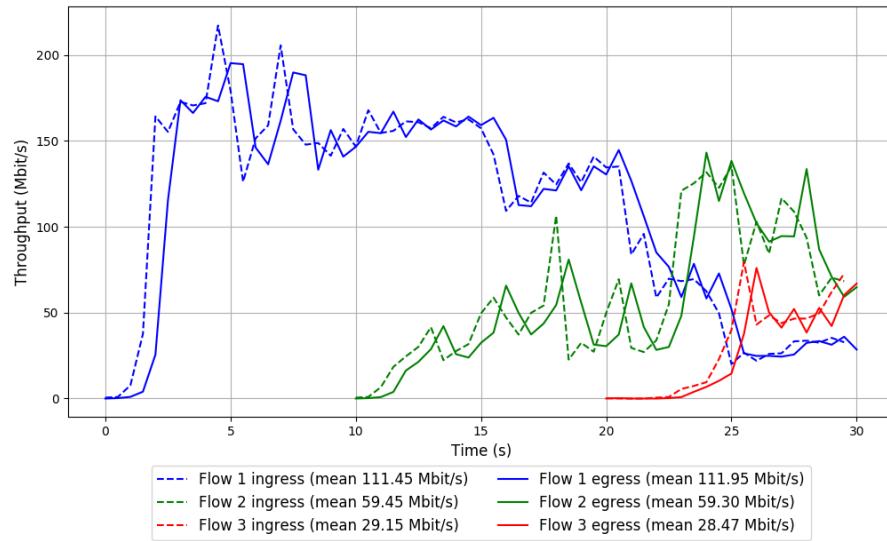


Run 4: Statistics of Copa

```
Start at: 2018-10-10 06:38:48
End at: 2018-10-10 06:39:18
Local clock offset: 1.872 ms
Remote clock offset: -43.817 ms

# Below is generated by plot.py at 2018-10-10 08:07:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.62 Mbit/s
95th percentile per-packet one-way delay: 145.721 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 111.95 Mbit/s
95th percentile per-packet one-way delay: 145.648 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 59.30 Mbit/s
95th percentile per-packet one-way delay: 146.117 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 28.47 Mbit/s
95th percentile per-packet one-way delay: 143.446 ms
Loss rate: 4.24%
```

## Run 4: Report of Copa — Data Link

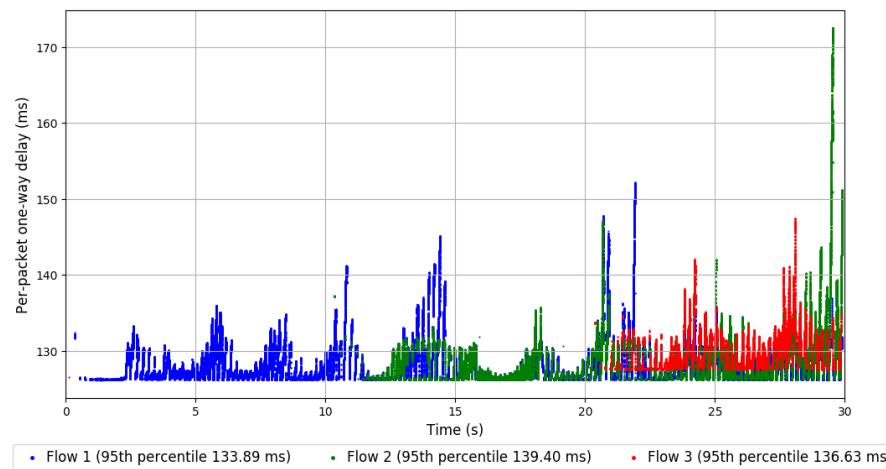
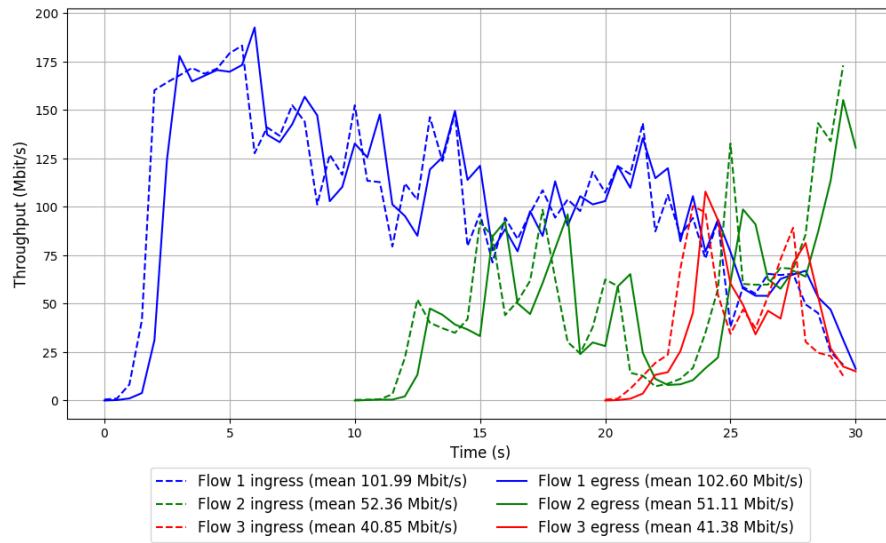


Run 5: Statistics of Copa

```
Start at: 2018-10-10 07:19:47
End at: 2018-10-10 07:20:17
Local clock offset: -0.851 ms
Remote clock offset: -33.837 ms

# Below is generated by plot.py at 2018-10-10 08:07:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 150.01 Mbit/s
95th percentile per-packet one-way delay: 135.241 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 102.60 Mbit/s
95th percentile per-packet one-way delay: 133.894 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 51.11 Mbit/s
95th percentile per-packet one-way delay: 139.404 ms
Loss rate: 3.35%
-- Flow 3:
Average throughput: 41.38 Mbit/s
95th percentile per-packet one-way delay: 136.634 ms
Loss rate: 0.80%
```

## Run 5: Report of Copa — Data Link

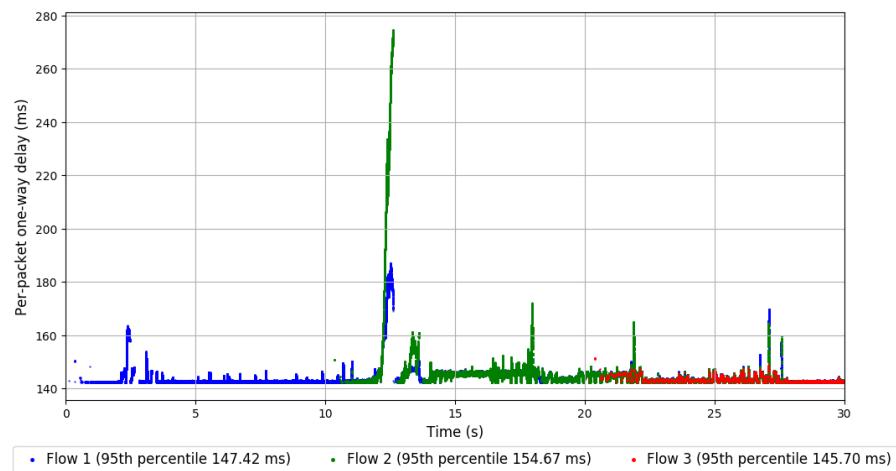
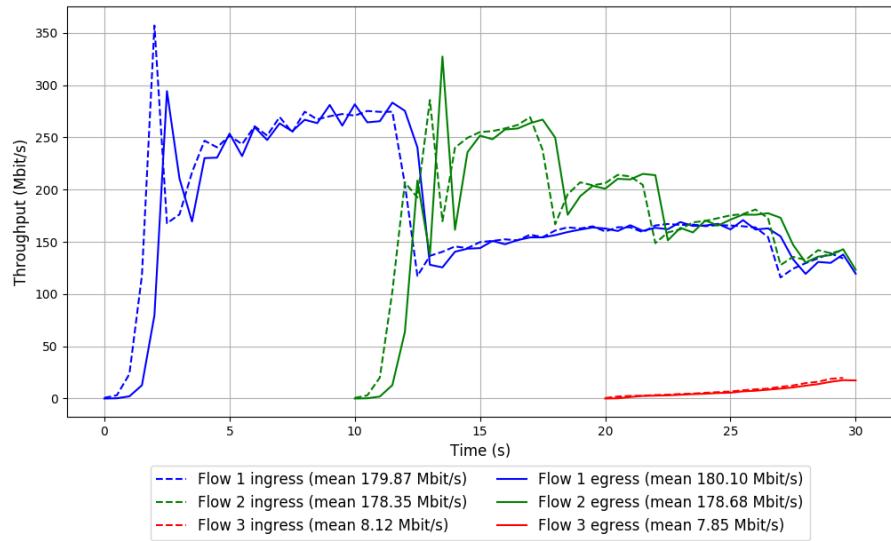


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-10 04:21:24
End at: 2018-10-10 04:21:54
Local clock offset: 3.946 ms
Remote clock offset: -42.905 ms

# Below is generated by plot.py at 2018-10-10 08:07:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.30 Mbit/s
95th percentile per-packet one-way delay: 149.749 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 180.10 Mbit/s
95th percentile per-packet one-way delay: 147.422 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 178.68 Mbit/s
95th percentile per-packet one-way delay: 154.672 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 145.702 ms
Loss rate: 5.15%
```

Run 1: Report of TCP Cubic — Data Link

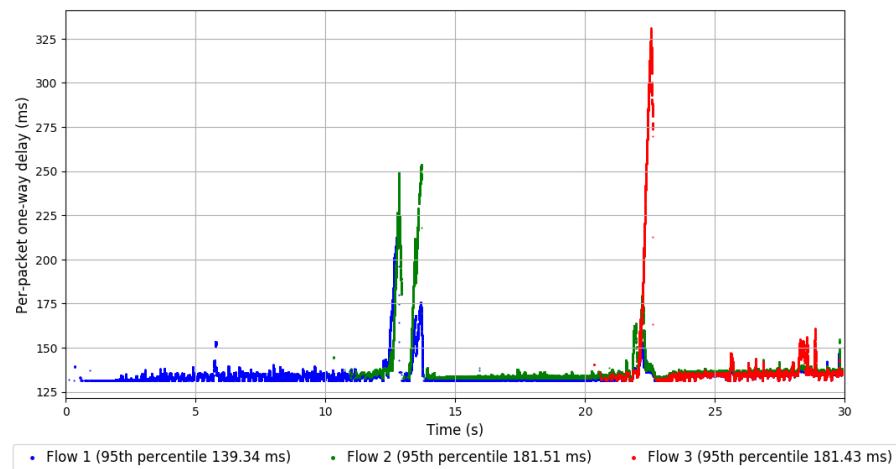
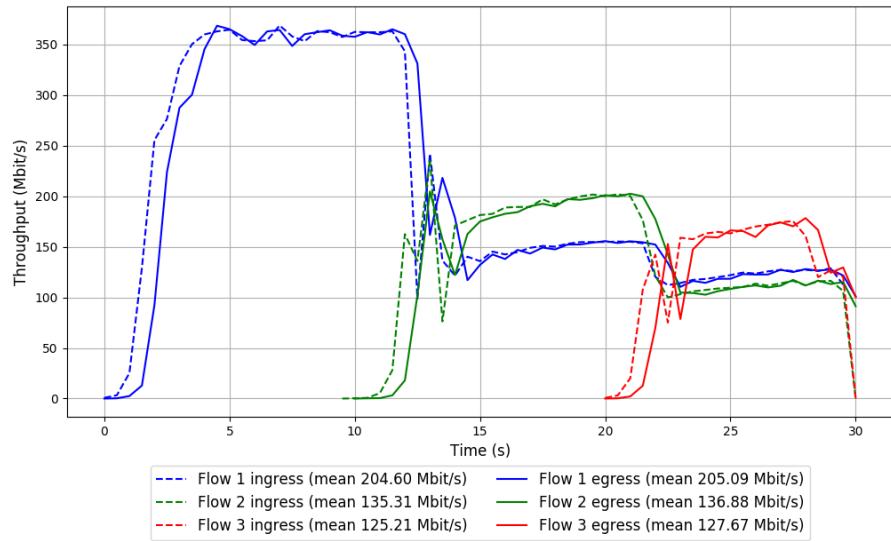


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-10 05:23:11
End at: 2018-10-10 05:23:41
Local clock offset: -0.312 ms
Remote clock offset: -37.517 ms

# Below is generated by plot.py at 2018-10-10 08:08:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.88 Mbit/s
95th percentile per-packet one-way delay: 149.903 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 205.09 Mbit/s
95th percentile per-packet one-way delay: 139.342 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 136.88 Mbit/s
95th percentile per-packet one-way delay: 181.513 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 127.67 Mbit/s
95th percentile per-packet one-way delay: 181.425 ms
Loss rate: 2.11%
```

Run 2: Report of TCP Cubic — Data Link

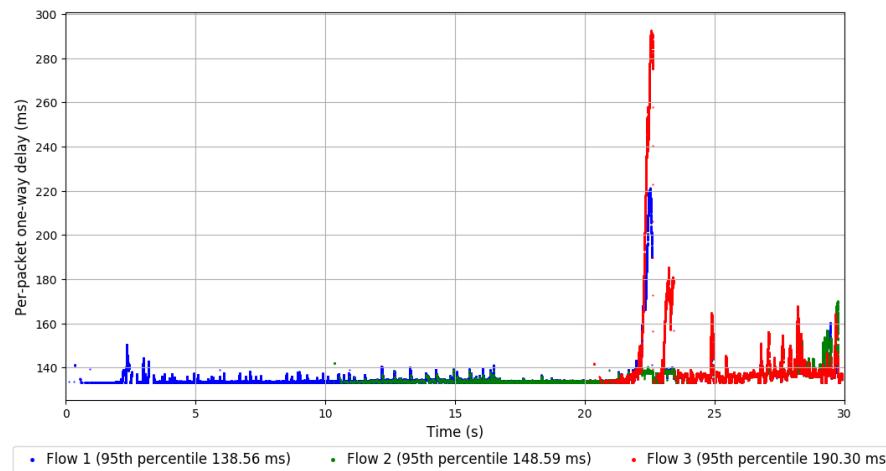
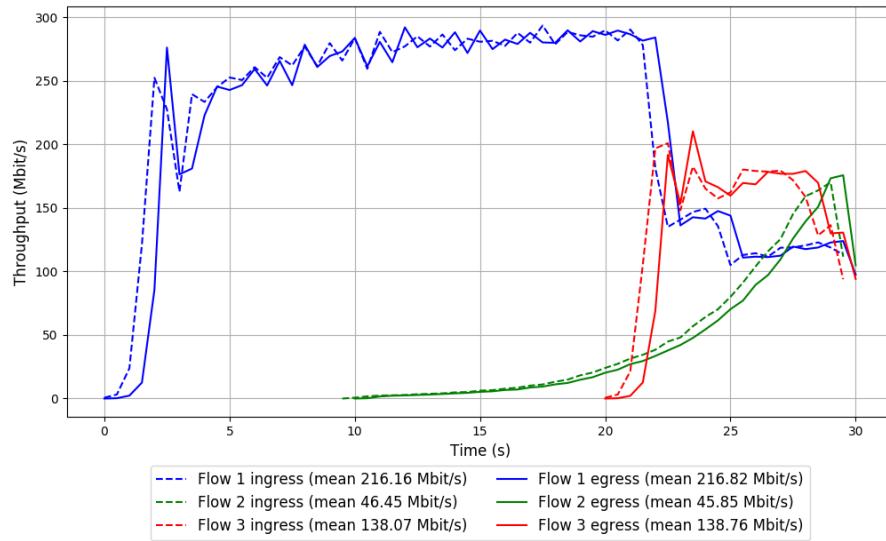


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-10 06:10:06
End at: 2018-10-10 06:10:36
Local clock offset: -1.712 ms
Remote clock offset: -40.108 ms

# Below is generated by plot.py at 2018-10-10 08:08:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.79 Mbit/s
95th percentile per-packet one-way delay: 146.884 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 216.82 Mbit/s
95th percentile per-packet one-way delay: 138.555 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 45.85 Mbit/s
95th percentile per-packet one-way delay: 148.590 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 138.76 Mbit/s
95th percentile per-packet one-way delay: 190.296 ms
Loss rate: 1.46%
```

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

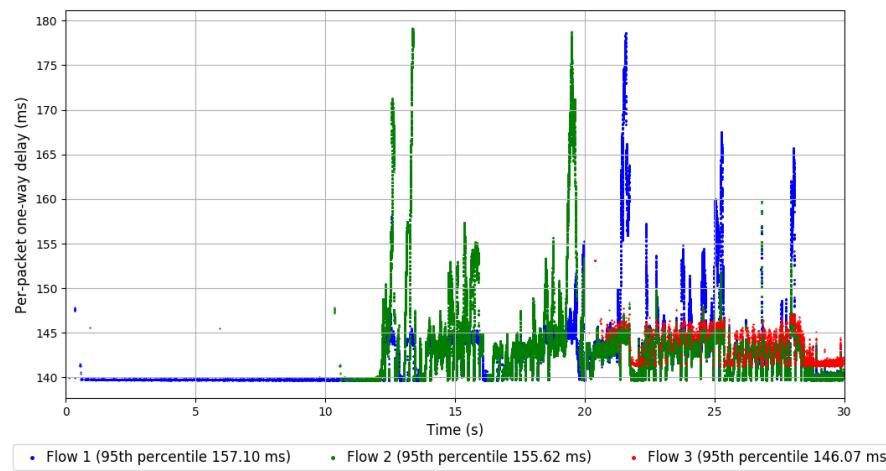
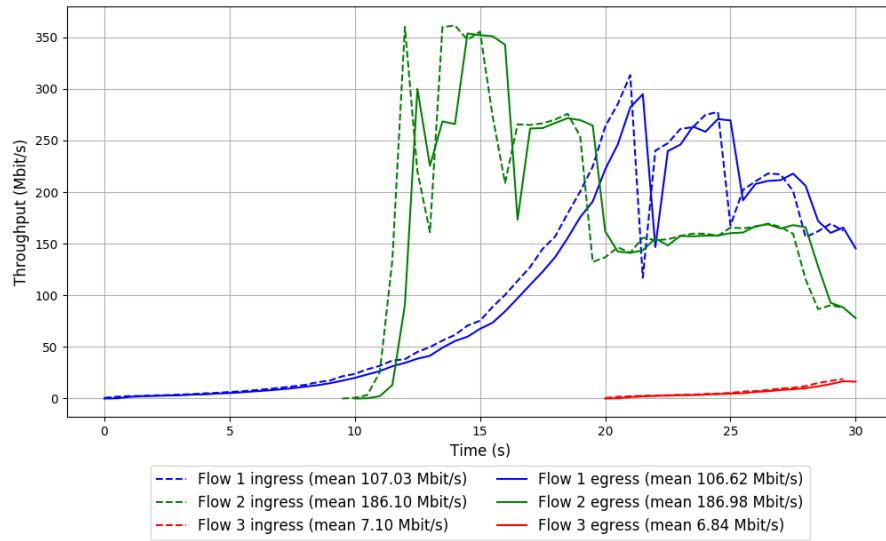


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-10 06:51:00
End at: 2018-10-10 06:51:30
Local clock offset: 1.76 ms
Remote clock offset: -44.383 ms

# Below is generated by plot.py at 2018-10-10 08:08:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.07 Mbit/s
95th percentile per-packet one-way delay: 156.437 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 106.62 Mbit/s
95th percentile per-packet one-way delay: 157.101 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 186.98 Mbit/s
95th percentile per-packet one-way delay: 155.621 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 146.071 ms
Loss rate: 5.49%
```

Run 4: Report of TCP Cubic — Data Link

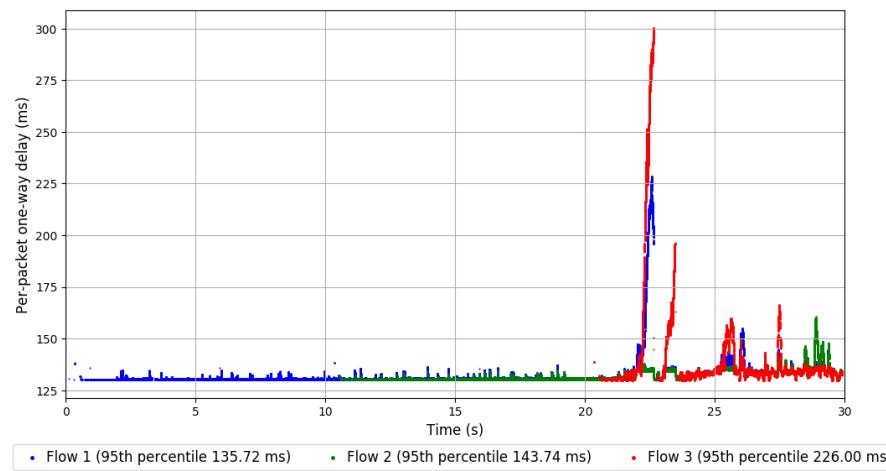
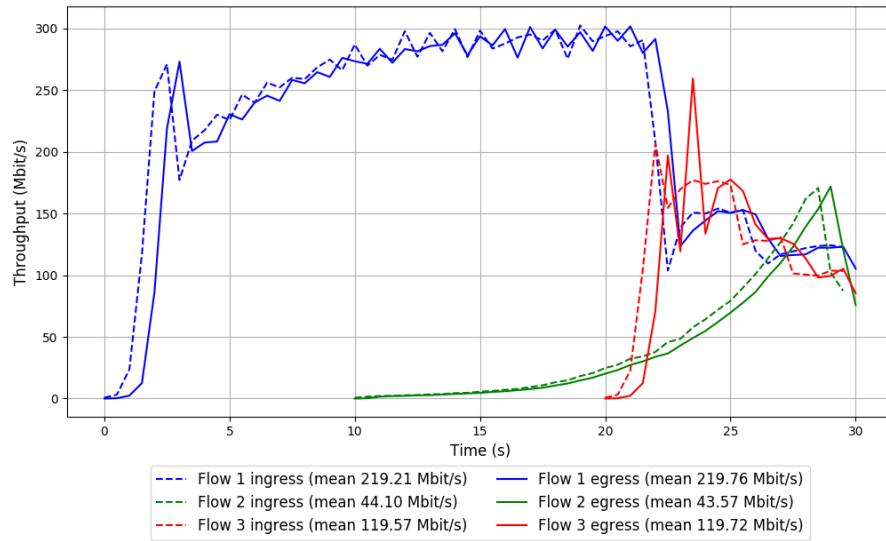


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-10 07:32:21
End at: 2018-10-10 07:32:51
Local clock offset: 2.035 ms
Remote clock offset: -33.676 ms

# Below is generated by plot.py at 2018-10-10 08:08:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.99 Mbit/s
95th percentile per-packet one-way delay: 144.473 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 219.76 Mbit/s
95th percentile per-packet one-way delay: 135.720 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 43.57 Mbit/s
95th percentile per-packet one-way delay: 143.741 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 119.72 Mbit/s
95th percentile per-packet one-way delay: 226.003 ms
Loss rate: 1.84%
```

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

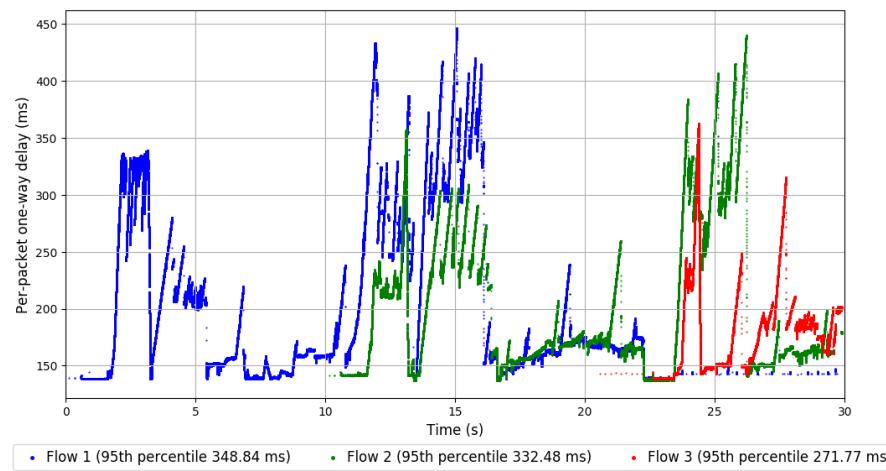
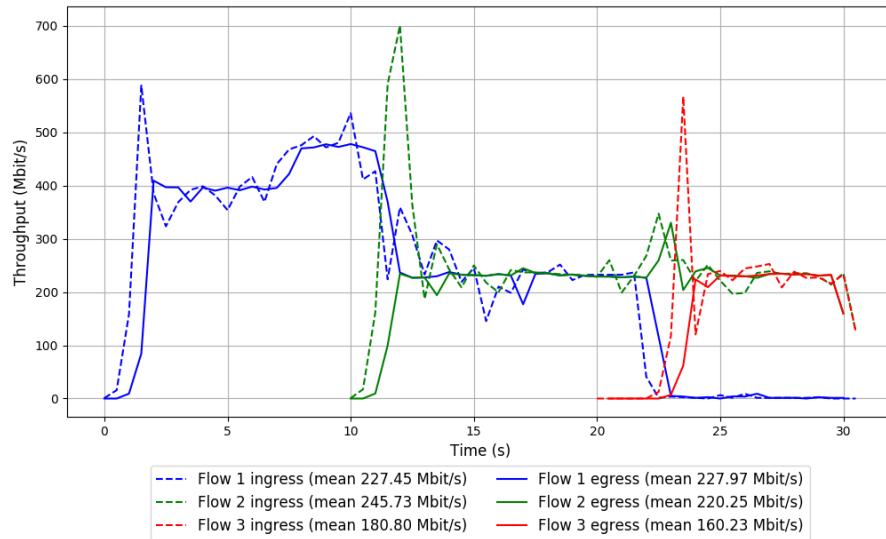


```
Run 1: Statistics of FillP

Start at: 2018-10-10 04:14:50
End at: 2018-10-10 04:15:20
Local clock offset: 1.727 ms
Remote clock offset: -41.664 ms

# Below is generated by plot.py at 2018-10-10 08:10:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 422.93 Mbit/s
95th percentile per-packet one-way delay: 336.284 ms
Loss rate: 9.66%
-- Flow 1:
Average throughput: 227.97 Mbit/s
95th percentile per-packet one-way delay: 348.844 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 220.25 Mbit/s
95th percentile per-packet one-way delay: 332.480 ms
Loss rate: 14.80%
-- Flow 3:
Average throughput: 160.23 Mbit/s
95th percentile per-packet one-way delay: 271.771 ms
Loss rate: 20.20%
```

Run 1: Report of FillP — Data Link

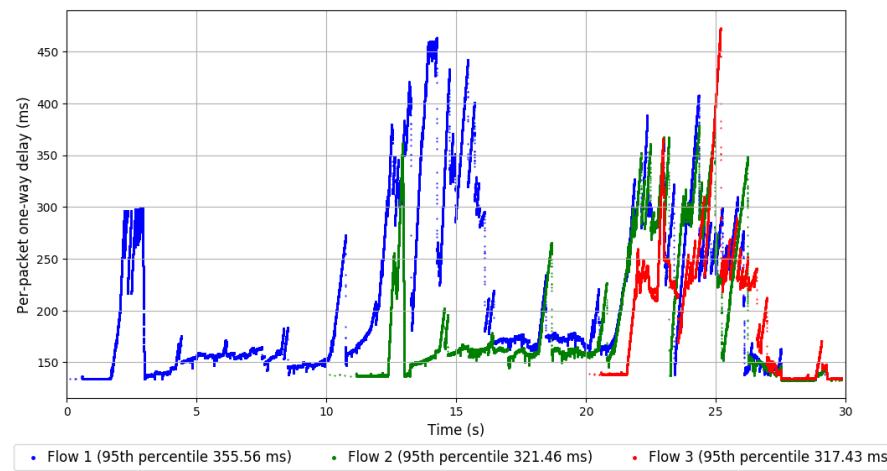
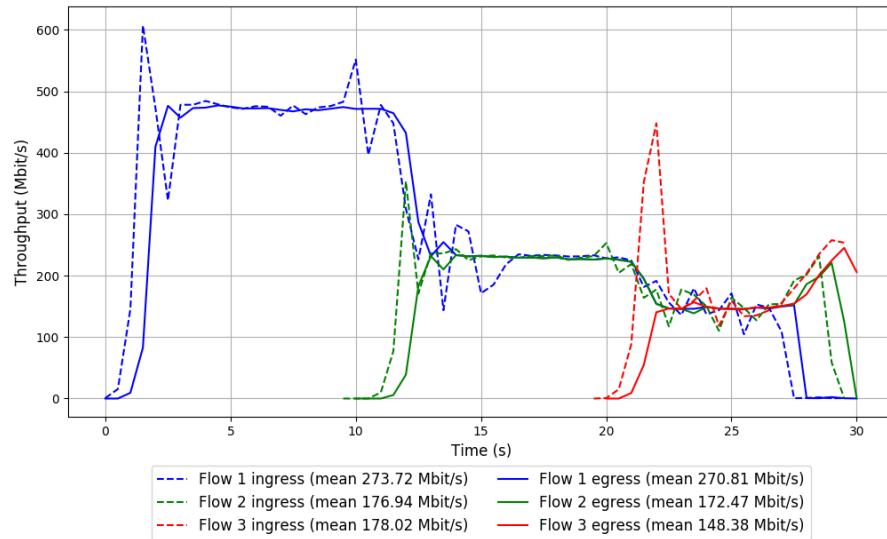


Run 2: Statistics of FillP

```
Start at: 2018-10-10 05:10:44
End at: 2018-10-10 05:11:14
Local clock offset: -3.393 ms
Remote clock offset: -41.648 ms

# Below is generated by plot.py at 2018-10-10 08:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.34 Mbit/s
95th percentile per-packet one-way delay: 341.938 ms
Loss rate: 4.35%
-- Flow 1:
Average throughput: 270.81 Mbit/s
95th percentile per-packet one-way delay: 355.560 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 172.47 Mbit/s
95th percentile per-packet one-way delay: 321.465 ms
Loss rate: 3.32%
-- Flow 3:
Average throughput: 148.38 Mbit/s
95th percentile per-packet one-way delay: 317.430 ms
Loss rate: 18.31%
```

## Run 2: Report of FillP — Data Link

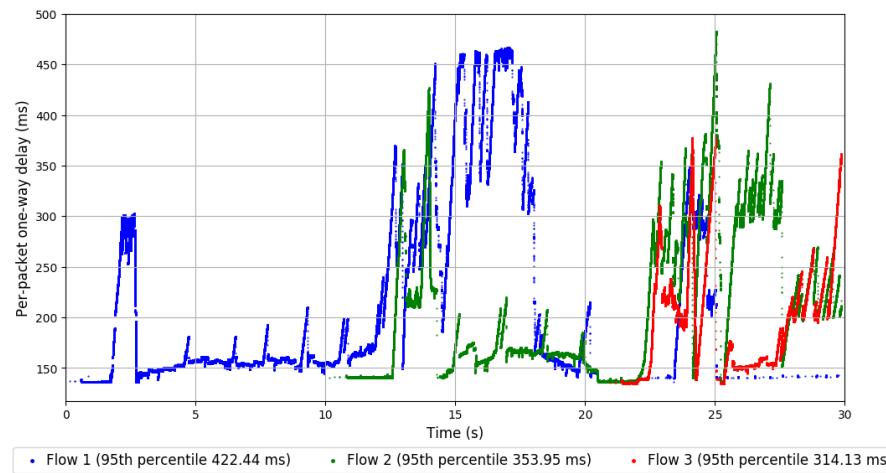
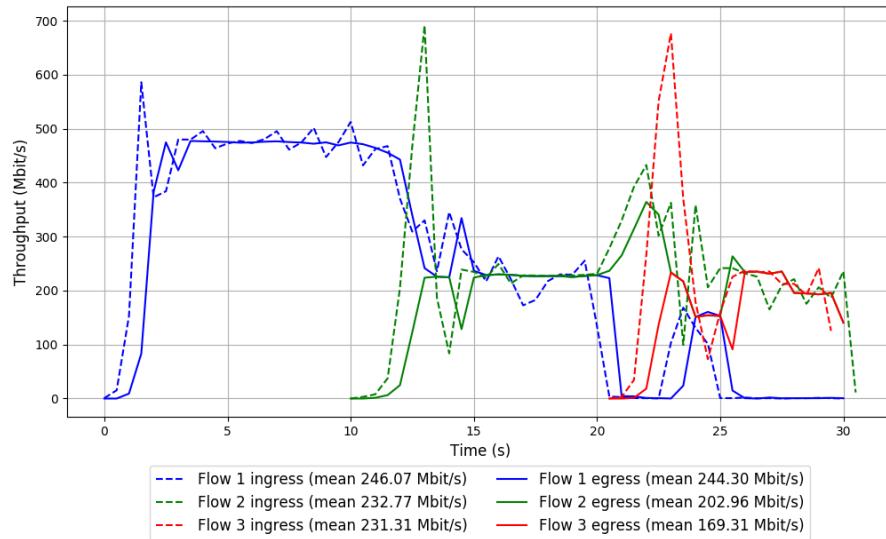


Run 3: Statistics of FillP

```
Start at: 2018-10-10 06:03:13
End at: 2018-10-10 06:03:43
Local clock offset: 0.608 ms
Remote clock offset: -40.734 ms

# Below is generated by plot.py at 2018-10-10 08:13:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 428.66 Mbit/s
95th percentile per-packet one-way delay: 377.933 ms
Loss rate: 10.88%
-- Flow 1:
Average throughput: 244.30 Mbit/s
95th percentile per-packet one-way delay: 422.439 ms
Loss rate: 2.37%
-- Flow 2:
Average throughput: 202.96 Mbit/s
95th percentile per-packet one-way delay: 353.949 ms
Loss rate: 16.18%
-- Flow 3:
Average throughput: 169.31 Mbit/s
95th percentile per-packet one-way delay: 314.128 ms
Loss rate: 28.75%
```

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

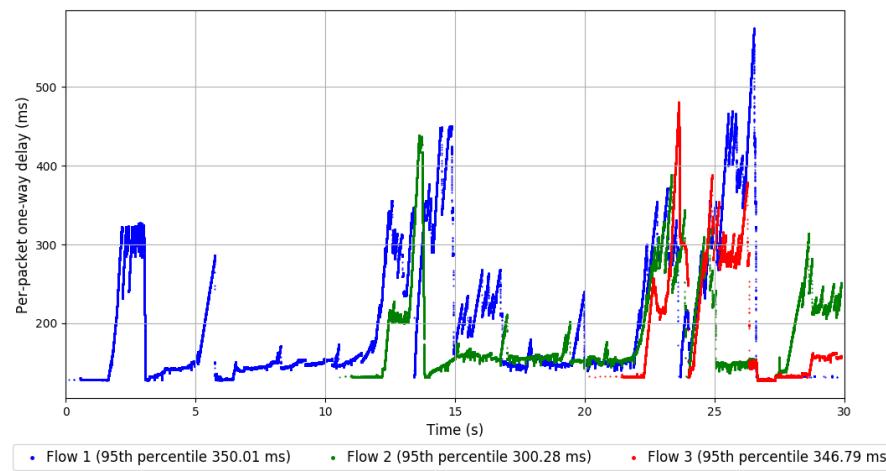
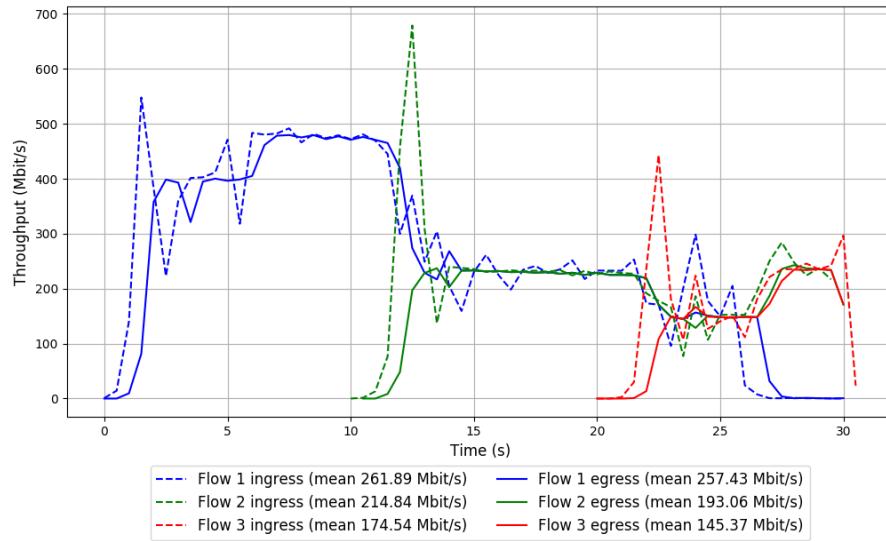


Run 4: Statistics of FillP

```
Start at: 2018-10-10 06:44:40
End at: 2018-10-10 06:45:10
Local clock offset: 1.595 ms
Remote clock offset: -30.995 ms

# Below is generated by plot.py at 2018-10-10 08:13:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 428.76 Mbit/s
95th percentile per-packet one-way delay: 339.415 ms
Loss rate: 8.33%
-- Flow 1:
Average throughput: 257.43 Mbit/s
95th percentile per-packet one-way delay: 350.012 ms
Loss rate: 3.33%
-- Flow 2:
Average throughput: 193.06 Mbit/s
95th percentile per-packet one-way delay: 300.282 ms
Loss rate: 11.24%
-- Flow 3:
Average throughput: 145.37 Mbit/s
95th percentile per-packet one-way delay: 346.794 ms
Loss rate: 23.16%
```

## Run 4: Report of FillP — Data Link

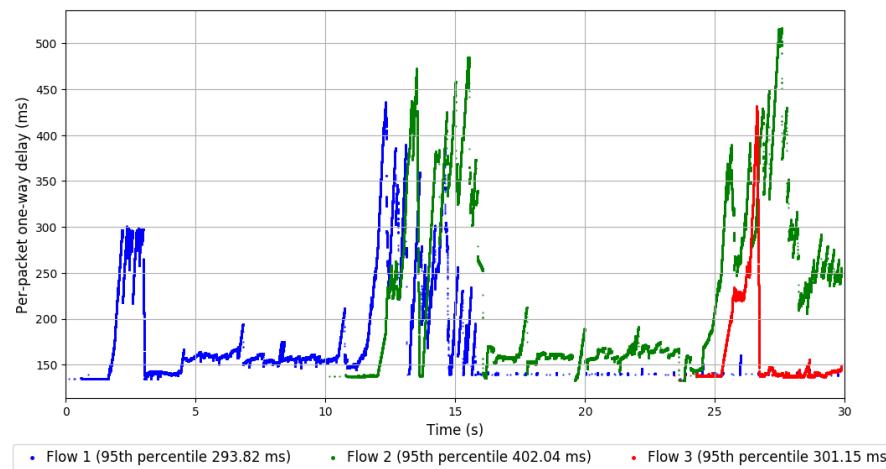
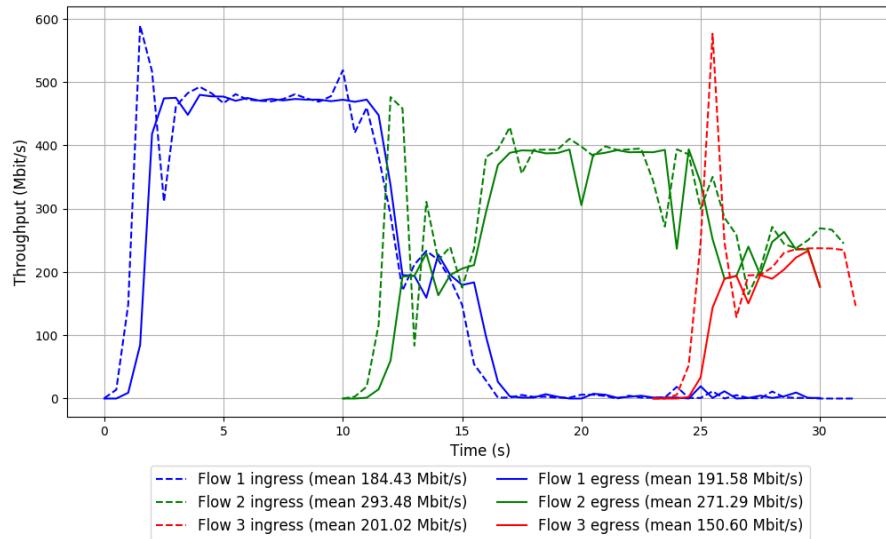


Run 5: Statistics of FillP

```
Start at: 2018-10-10 07:25:31
End at: 2018-10-10 07:26:01
Local clock offset: 2.497 ms
Remote clock offset: -37.41 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.22 Mbit/s
95th percentile per-packet one-way delay: 366.373 ms
Loss rate: 13.29%
-- Flow 1:
Average throughput: 191.58 Mbit/s
95th percentile per-packet one-way delay: 293.819 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 271.29 Mbit/s
95th percentile per-packet one-way delay: 402.039 ms
Loss rate: 14.99%
-- Flow 3:
Average throughput: 150.60 Mbit/s
95th percentile per-packet one-way delay: 301.154 ms
Loss rate: 43.33%
```

## Run 5: Report of FillP — Data Link

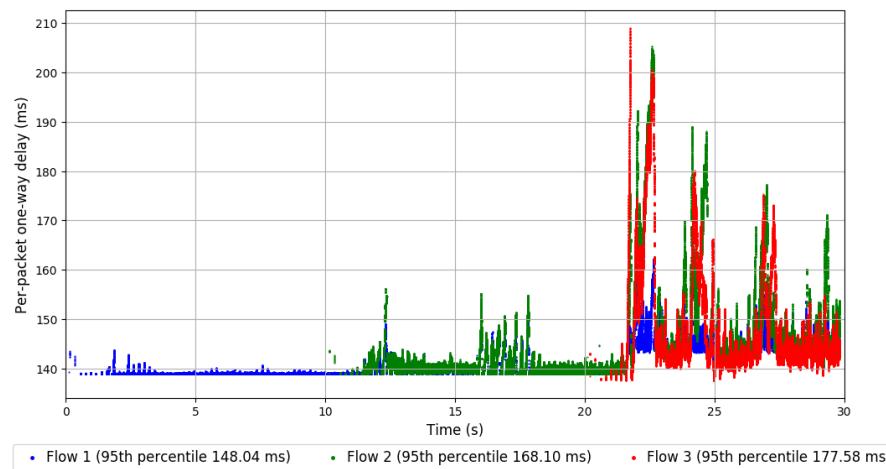
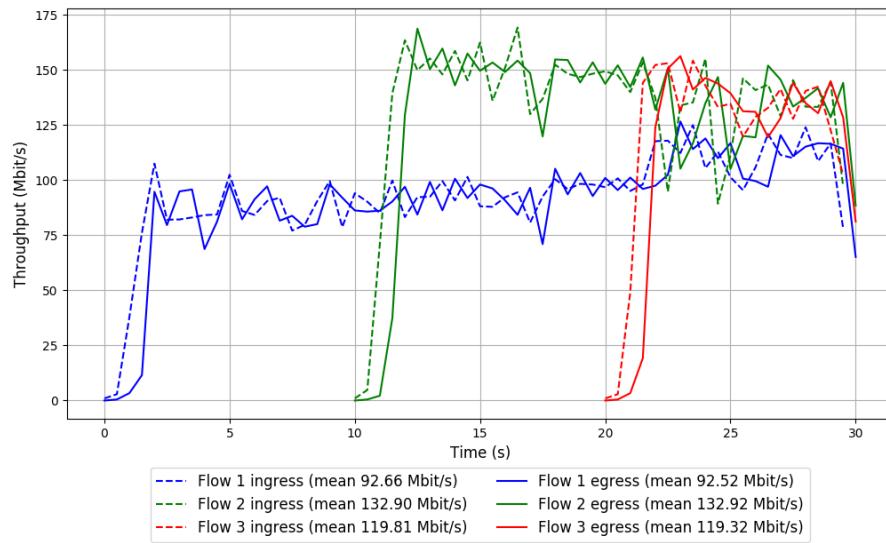


Run 1: Statistics of Indigo

```
Start at: 2018-10-10 04:27:07
End at: 2018-10-10 04:27:37
Local clock offset: 1.007 ms
Remote clock offset: -42.093 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.34 Mbit/s
95th percentile per-packet one-way delay: 163.780 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 92.52 Mbit/s
95th percentile per-packet one-way delay: 148.041 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 132.92 Mbit/s
95th percentile per-packet one-way delay: 168.097 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 119.32 Mbit/s
95th percentile per-packet one-way delay: 177.579 ms
Loss rate: 2.46%
```

Run 1: Report of Indigo — Data Link

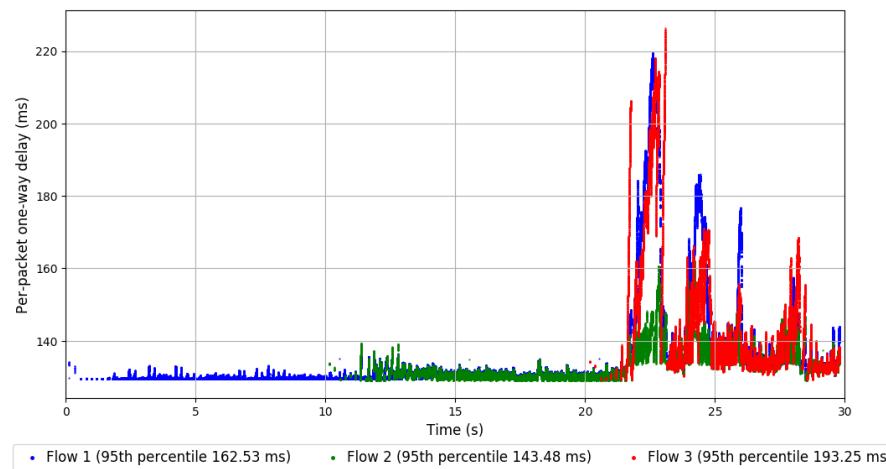
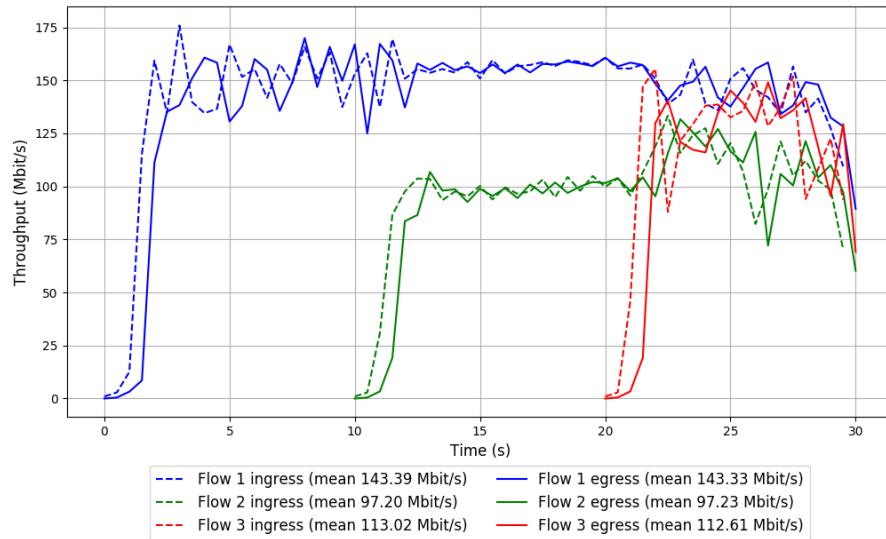


Run 2: Statistics of Indigo

```
Start at: 2018-10-10 05:34:32
End at: 2018-10-10 05:35:02
Local clock offset: 1.212 ms
Remote clock offset: -32.833 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.28 Mbit/s
95th percentile per-packet one-way delay: 163.068 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 143.33 Mbit/s
95th percentile per-packet one-way delay: 162.530 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 143.477 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 112.61 Mbit/s
95th percentile per-packet one-way delay: 193.254 ms
Loss rate: 2.38%
```

## Run 2: Report of Indigo — Data Link

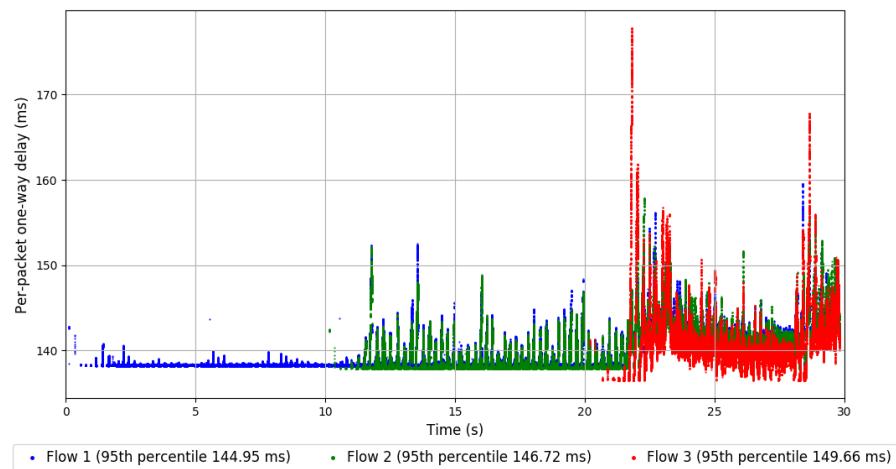
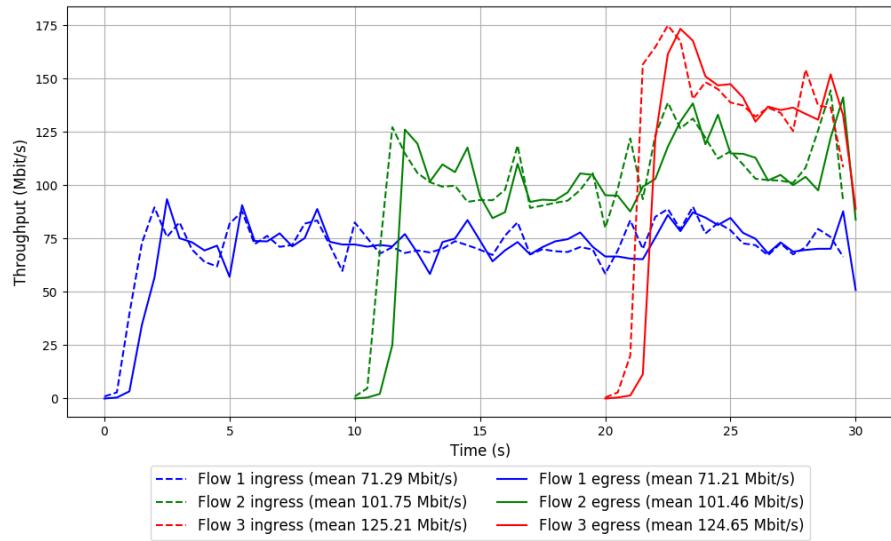


Run 3: Statistics of Indigo

```
Start at: 2018-10-10 06:15:56
End at: 2018-10-10 06:16:26
Local clock offset: 1.114 ms
Remote clock offset: -41.803 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.89 Mbit/s
95th percentile per-packet one-way delay: 146.704 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 71.21 Mbit/s
95th percentile per-packet one-way delay: 144.946 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 101.46 Mbit/s
95th percentile per-packet one-way delay: 146.722 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 124.65 Mbit/s
95th percentile per-packet one-way delay: 149.662 ms
Loss rate: 2.49%
```

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

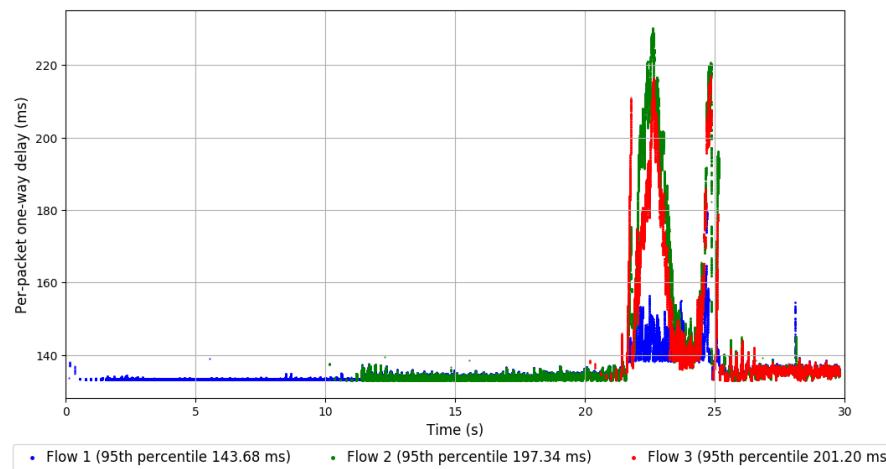
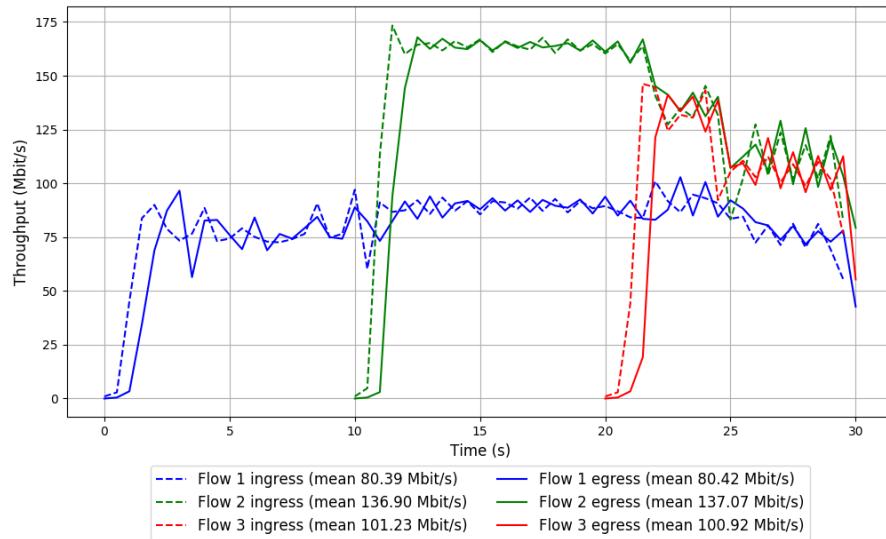


Run 4: Statistics of Indigo

```
Start at: 2018-10-10 06:56:48
End at: 2018-10-10 06:57:18
Local clock offset: -0.719 ms
Remote clock offset: -38.949 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 204.00 Mbit/s
95th percentile per-packet one-way delay: 183.354 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 80.42 Mbit/s
95th percentile per-packet one-way delay: 143.677 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 137.07 Mbit/s
95th percentile per-packet one-way delay: 197.339 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 100.92 Mbit/s
95th percentile per-packet one-way delay: 201.202 ms
Loss rate: 2.21%
```

## Run 4: Report of Indigo — Data Link

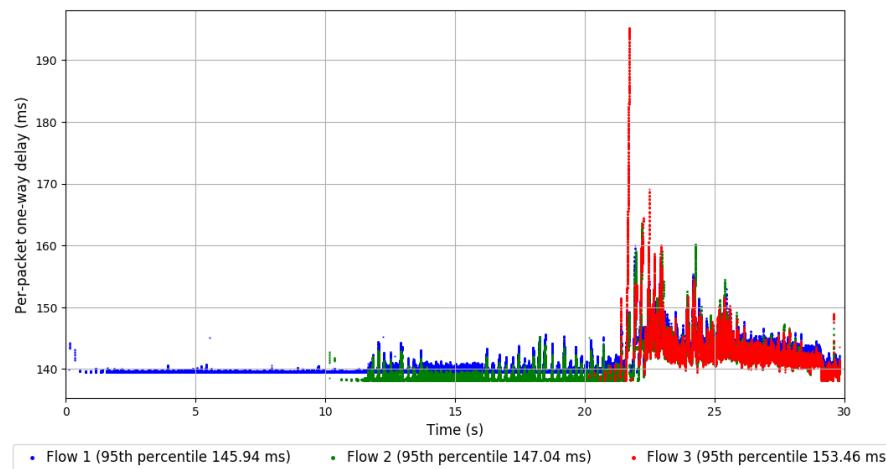
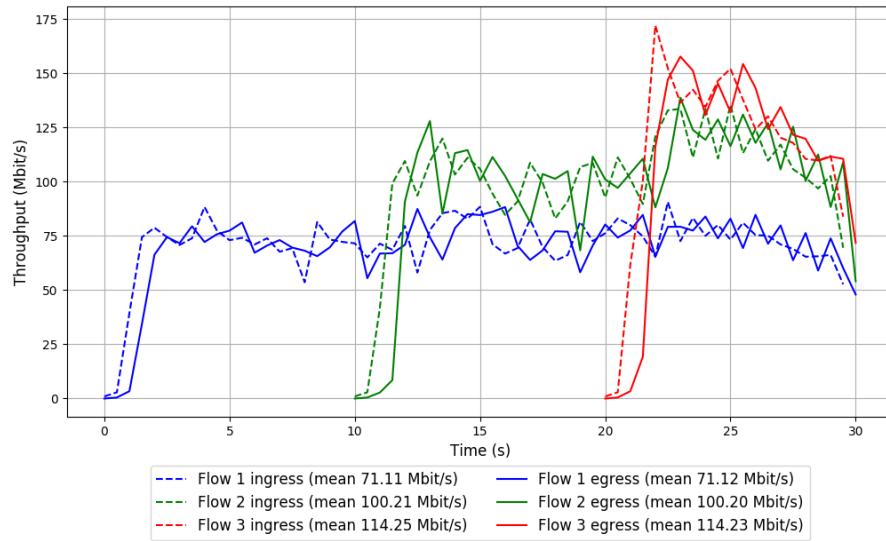


Run 5: Statistics of Indigo

```
Start at: 2018-10-10 07:38:00
End at: 2018-10-10 07:38:30
Local clock offset: 2.244 ms
Remote clock offset: -43.589 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 174.62 Mbit/s
95th percentile per-packet one-way delay: 148.008 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 71.12 Mbit/s
95th percentile per-packet one-way delay: 145.944 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 100.20 Mbit/s
95th percentile per-packet one-way delay: 147.039 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 114.23 Mbit/s
95th percentile per-packet one-way delay: 153.457 ms
Loss rate: 1.96%
```

## Run 5: Report of Indigo — Data Link

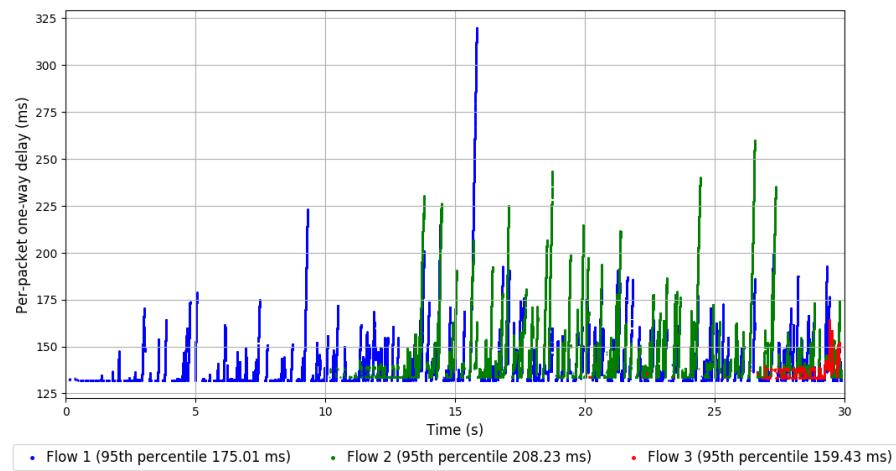
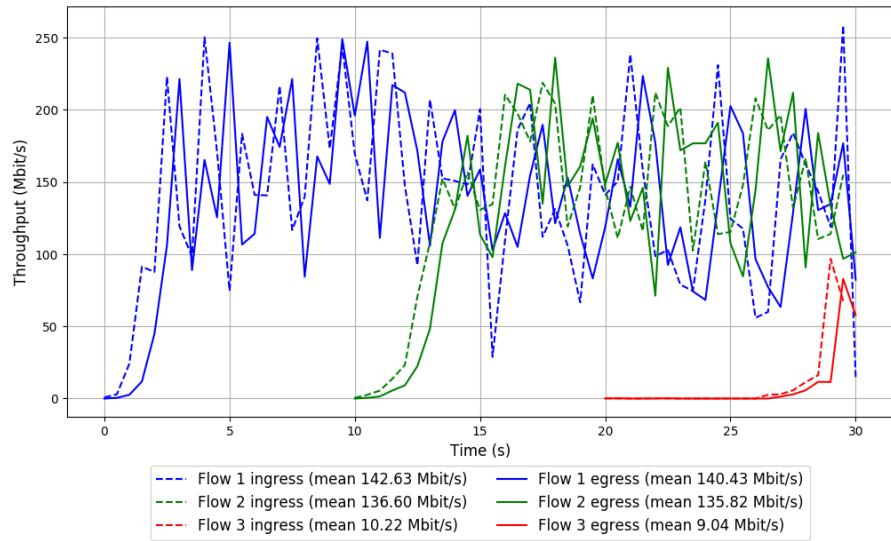


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-10-10 04:48:26
End at: 2018-10-10 04:48:56
Local clock offset: -1.462 ms
Remote clock offset: -36.943 ms

# Below is generated by plot.py at 2018-10-10 08:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.40 Mbit/s
95th percentile per-packet one-way delay: 190.919 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 140.43 Mbit/s
95th percentile per-packet one-way delay: 175.015 ms
Loss rate: 2.46%
-- Flow 2:
Average throughput: 135.82 Mbit/s
95th percentile per-packet one-way delay: 208.233 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 159.433 ms
Loss rate: 14.45%
```

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

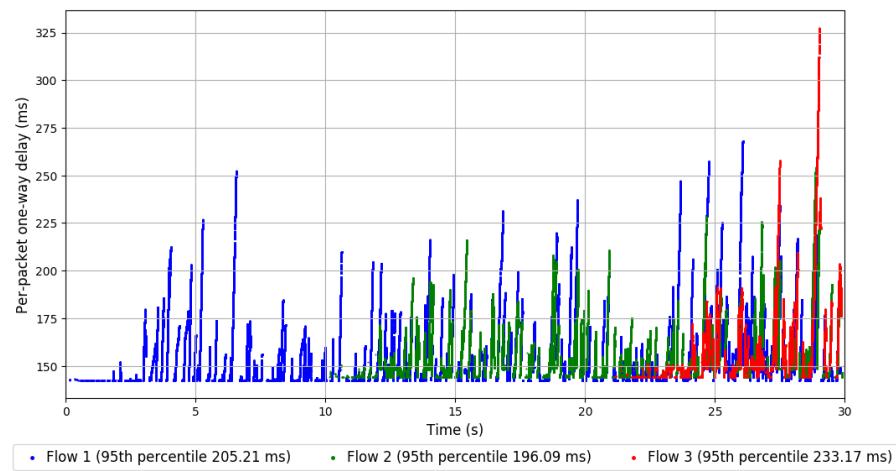
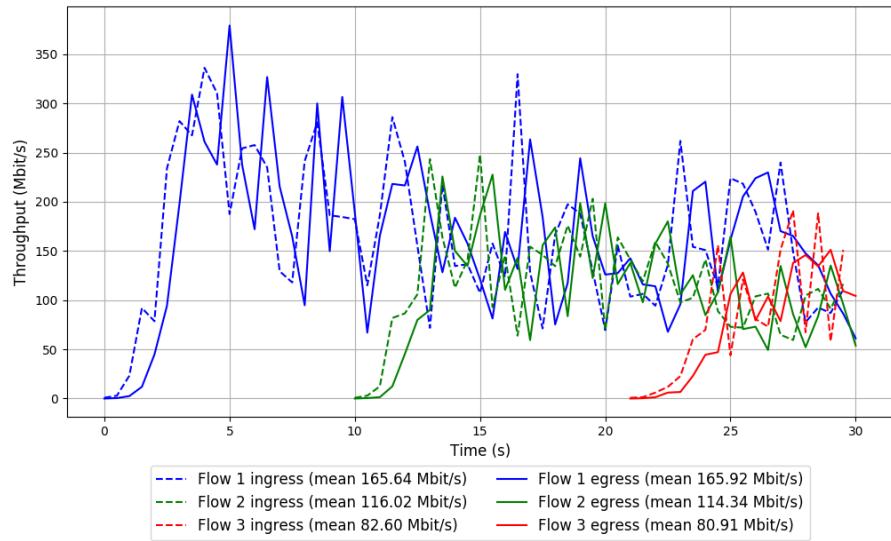


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-10 05:46:24
End at: 2018-10-10 05:46:54
Local clock offset: 0.782 ms
Remote clock offset: -47.948 ms

# Below is generated by plot.py at 2018-10-10 08:14:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 265.19 Mbit/s
95th percentile per-packet one-way delay: 203.636 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 165.92 Mbit/s
95th percentile per-packet one-way delay: 205.210 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 114.34 Mbit/s
95th percentile per-packet one-way delay: 196.085 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 80.91 Mbit/s
95th percentile per-packet one-way delay: 233.173 ms
Loss rate: 3.22%
```

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

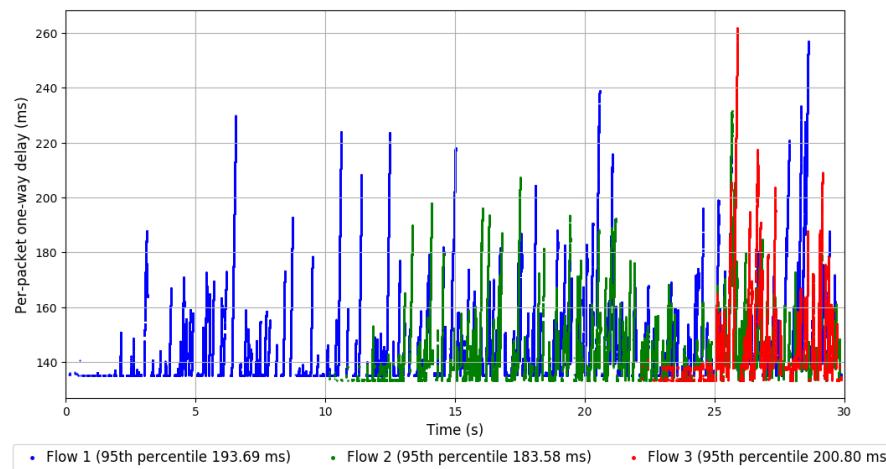
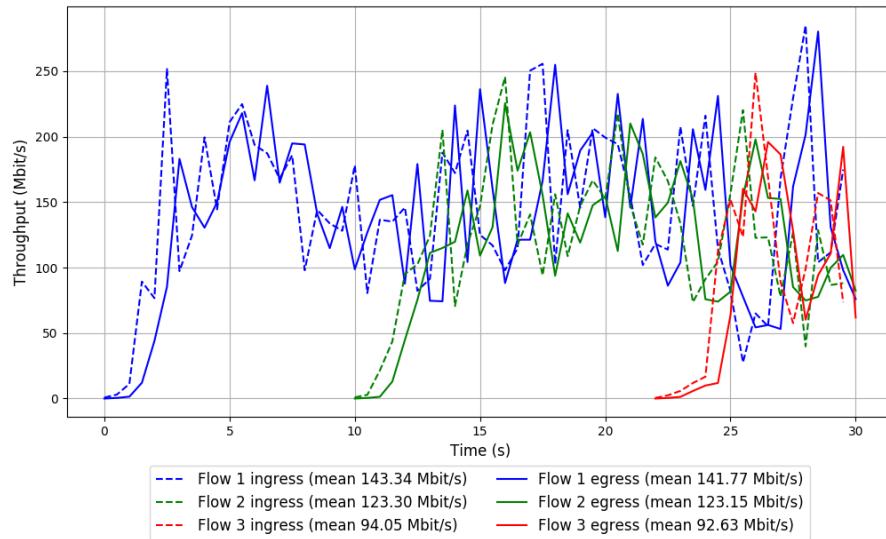


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-10 06:33:11
End at: 2018-10-10 06:33:41
Local clock offset: 1.695 ms
Remote clock offset: -38.157 ms

# Below is generated by plot.py at 2018-10-10 08:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 247.11 Mbit/s
95th percentile per-packet one-way delay: 190.357 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 141.77 Mbit/s
95th percentile per-packet one-way delay: 193.693 ms
Loss rate: 1.73%
-- Flow 2:
Average throughput: 123.15 Mbit/s
95th percentile per-packet one-way delay: 183.580 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 92.63 Mbit/s
95th percentile per-packet one-way delay: 200.801 ms
Loss rate: 3.06%
```

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

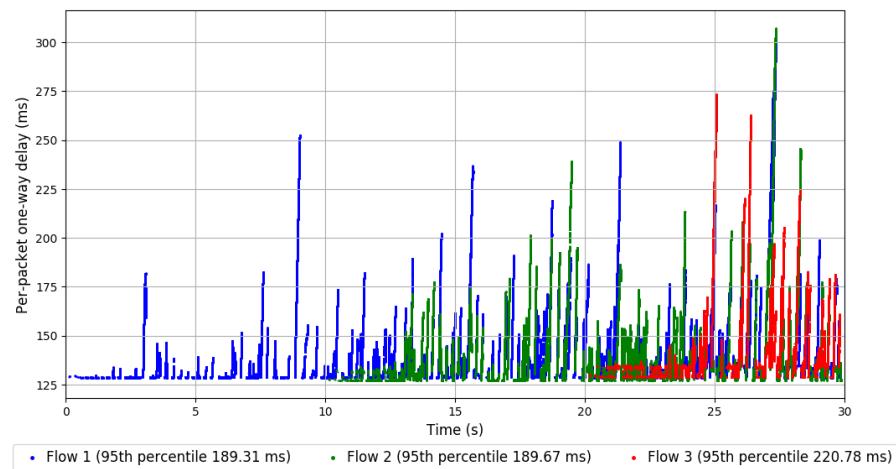
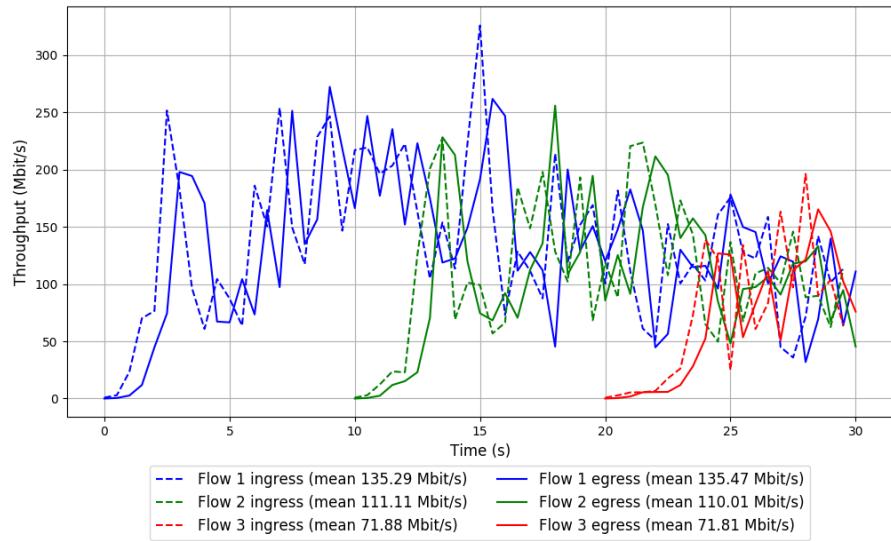


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-10 07:14:18
End at: 2018-10-10 07:14:48
Local clock offset: 2.363 ms
Remote clock offset: -31.466 ms

# Below is generated by plot.py at 2018-10-10 08:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 231.33 Mbit/s
95th percentile per-packet one-way delay: 194.254 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 135.47 Mbit/s
95th percentile per-packet one-way delay: 189.312 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 110.01 Mbit/s
95th percentile per-packet one-way delay: 189.669 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 71.81 Mbit/s
95th percentile per-packet one-way delay: 220.778 ms
Loss rate: 2.10%
```

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

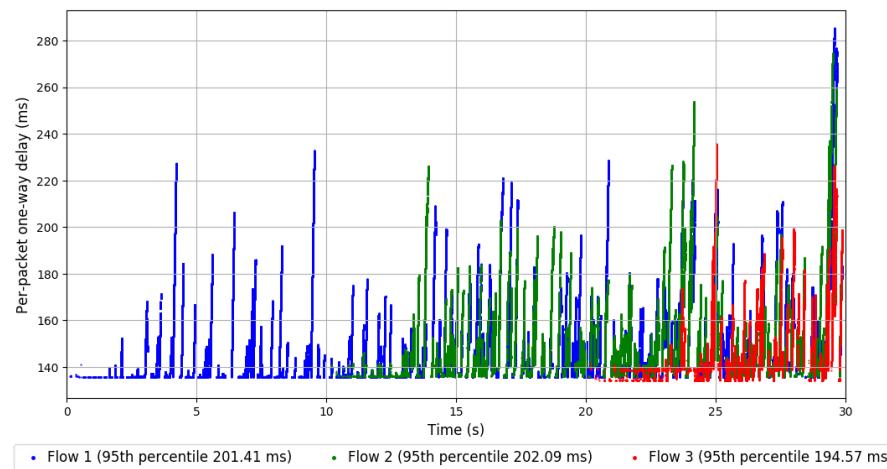
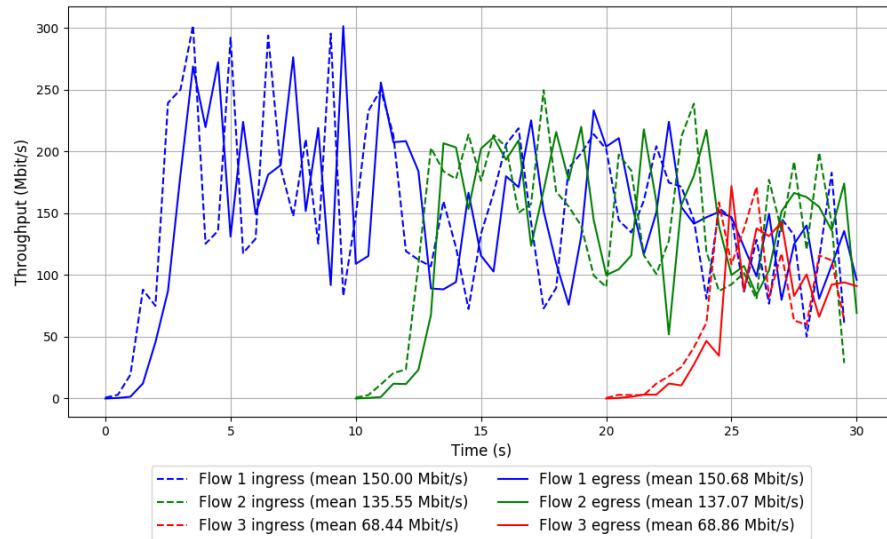


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-10 07:53:31
End at: 2018-10-10 07:54:01
Local clock offset: 2.459 ms
Remote clock offset: -40.501 ms

# Below is generated by plot.py at 2018-10-10 08:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.95 Mbit/s
95th percentile per-packet one-way delay: 200.842 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 150.68 Mbit/s
95th percentile per-packet one-way delay: 201.405 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 137.07 Mbit/s
95th percentile per-packet one-way delay: 202.090 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 68.86 Mbit/s
95th percentile per-packet one-way delay: 194.566 ms
Loss rate: 1.43%
```

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

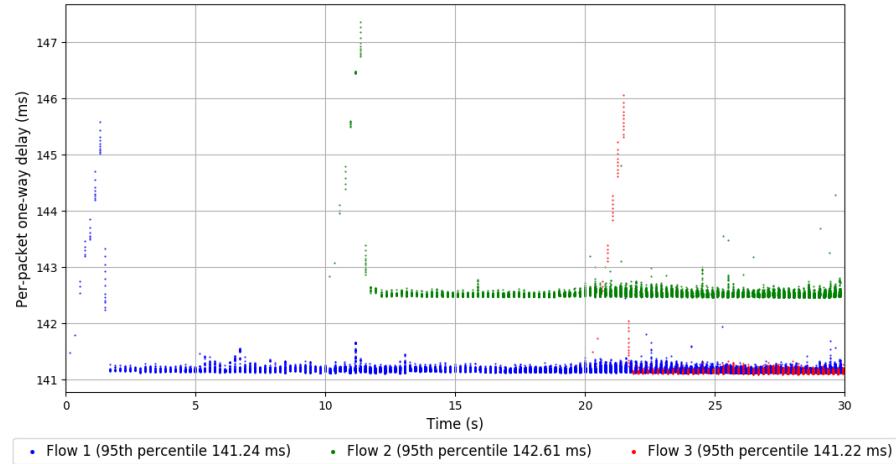
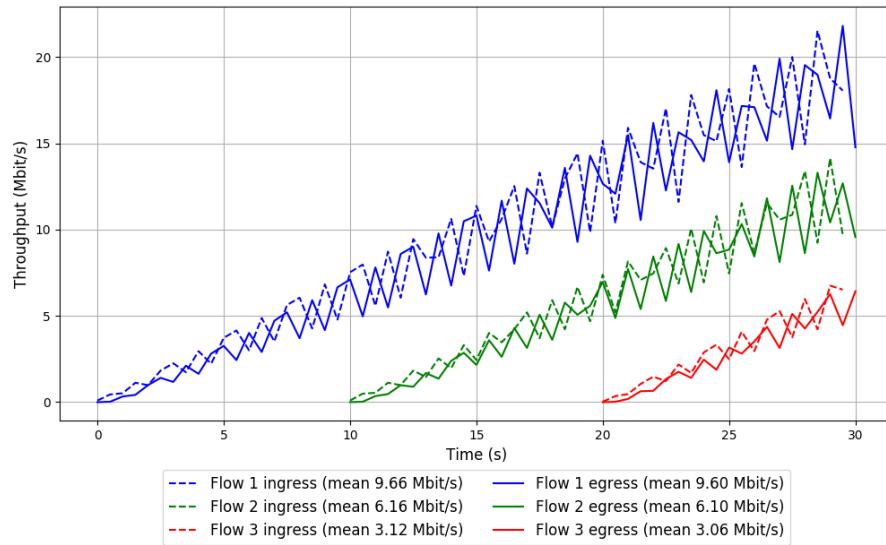


Run 1: Statistics of LEDBAT

```
Start at: 2018-10-10 04:13:29
End at: 2018-10-10 04:13:59
Local clock offset: 3.891 ms
Remote clock offset: -43.26 ms

# Below is generated by plot.py at 2018-10-10 08:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.60 Mbit/s
95th percentile per-packet one-way delay: 142.556 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 141.242 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 142.612 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 141.220 ms
Loss rate: 3.89%
```

## Run 1: Report of LEDBAT — Data Link

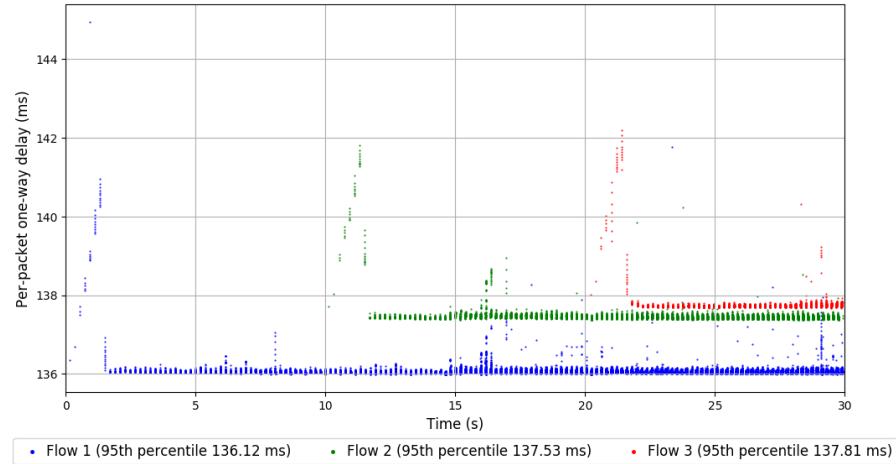
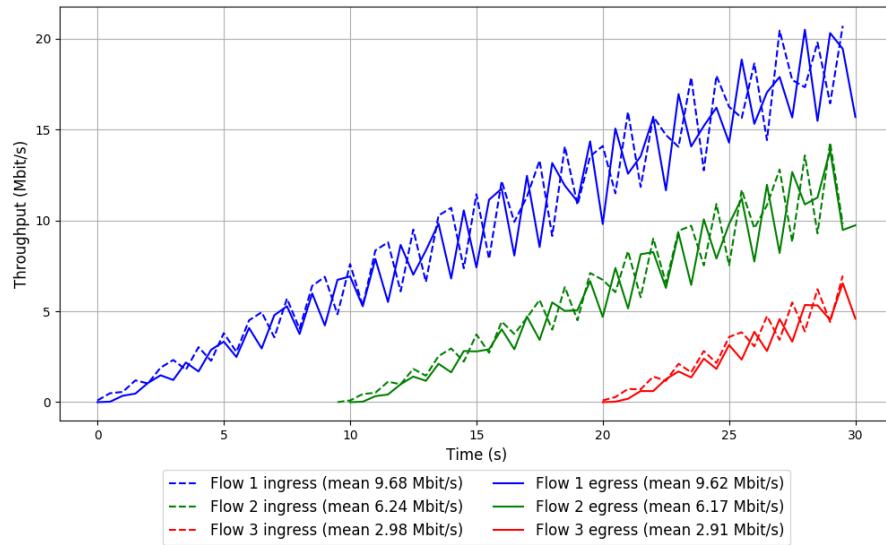


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-10 05:03:52
End at: 2018-10-10 05:04:22
Local clock offset: 2.028 ms
Remote clock offset: -39.041 ms

# Below is generated by plot.py at 2018-10-10 08:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 137.714 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 136.125 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.17 Mbit/s
95th percentile per-packet one-way delay: 137.526 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 137.815 ms
Loss rate: 4.03%
```

## Run 2: Report of LEDBAT — Data Link

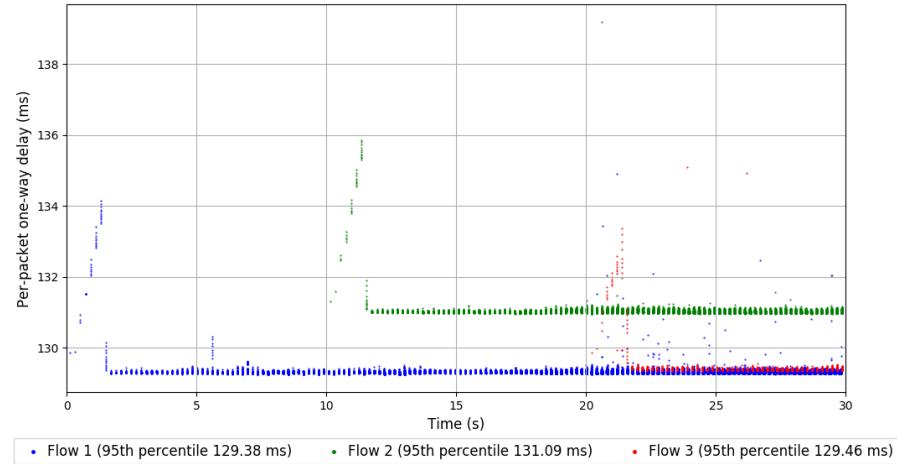
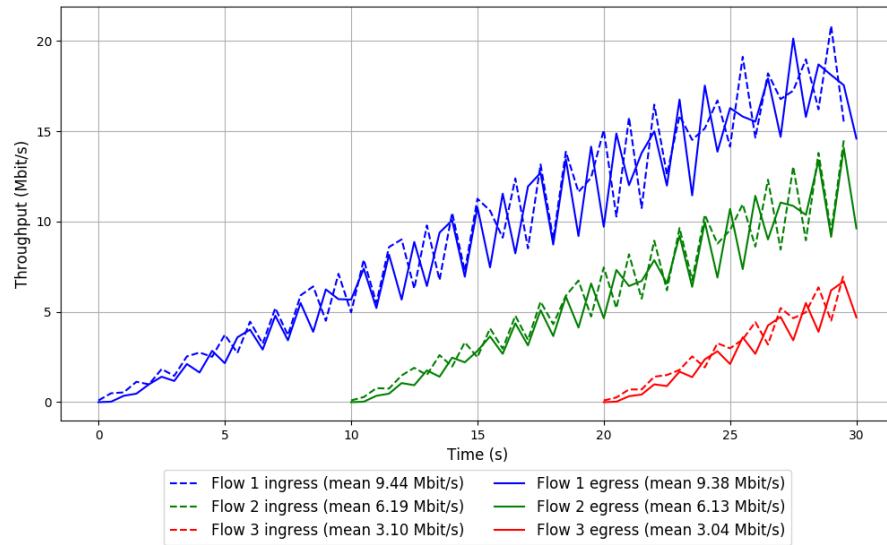


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-10 06:01:52
End at: 2018-10-10 06:02:22
Local clock offset: 0.691 ms
Remote clock offset: -35.142 ms

# Below is generated by plot.py at 2018-10-10 08:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.41 Mbit/s
95th percentile per-packet one-way delay: 131.052 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 9.38 Mbit/s
95th percentile per-packet one-way delay: 129.375 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 131.093 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 129.456 ms
Loss rate: 3.96%
```

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

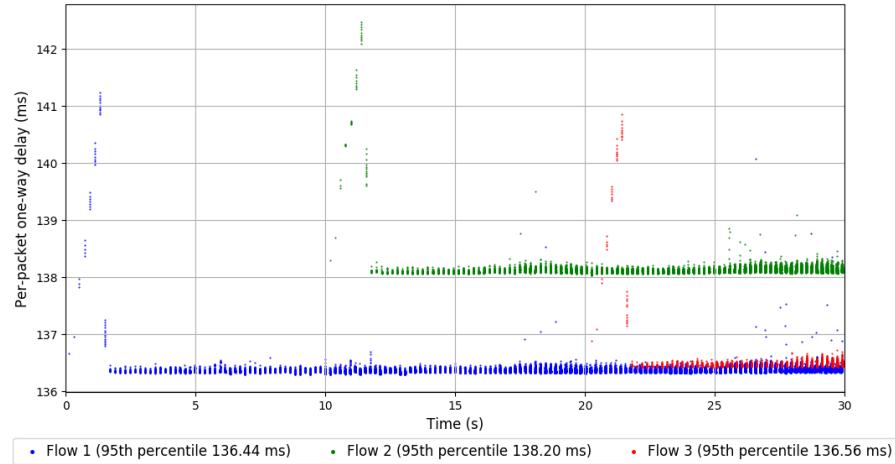
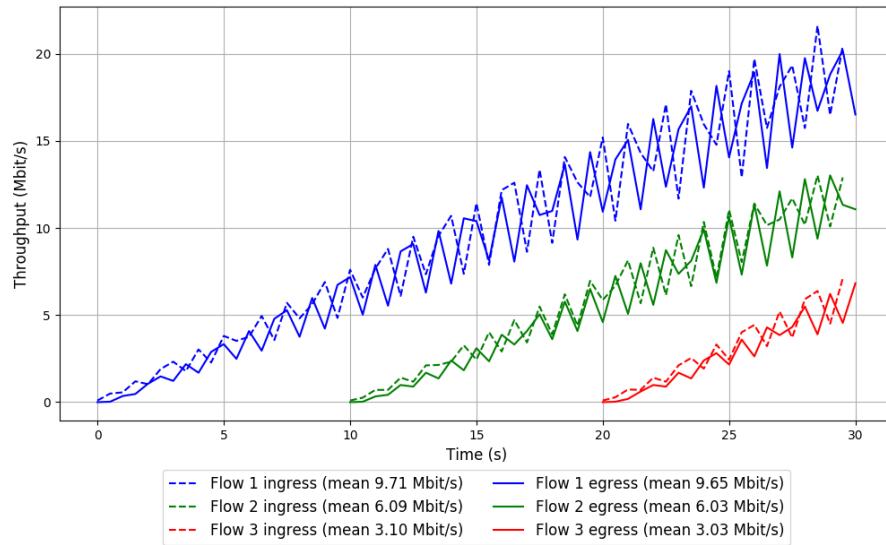


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-10 06:43:19
End at: 2018-10-10 06:43:49
Local clock offset: 1.43 ms
Remote clock offset: -41.43 ms

# Below is generated by plot.py at 2018-10-10 08:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.63 Mbit/s
95th percentile per-packet one-way delay: 138.156 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 136.438 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.03 Mbit/s
95th percentile per-packet one-way delay: 138.201 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 136.563 ms
Loss rate: 3.95%
```

Run 4: Report of LEDBAT — Data Link

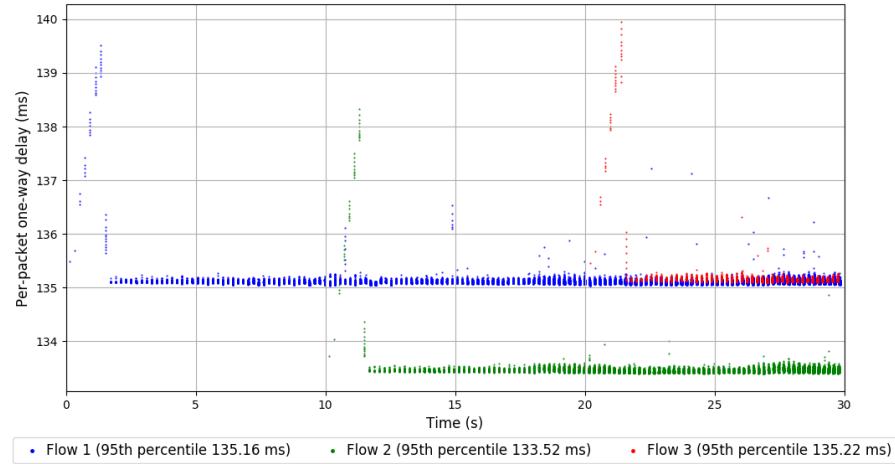
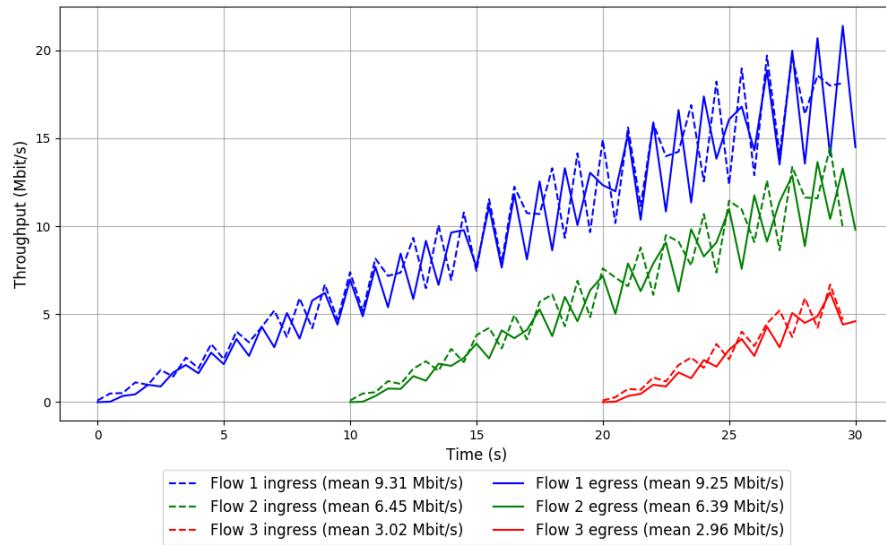


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-10 07:24:10
End at: 2018-10-10 07:24:40
Local clock offset: 3.031 ms
Remote clock offset: -37.126 ms

# Below is generated by plot.py at 2018-10-10 08:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.43 Mbit/s
95th percentile per-packet one-way delay: 135.162 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 135.162 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 133.519 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 135.218 ms
Loss rate: 4.03%
```

Run 5: Report of LEDBAT — Data Link

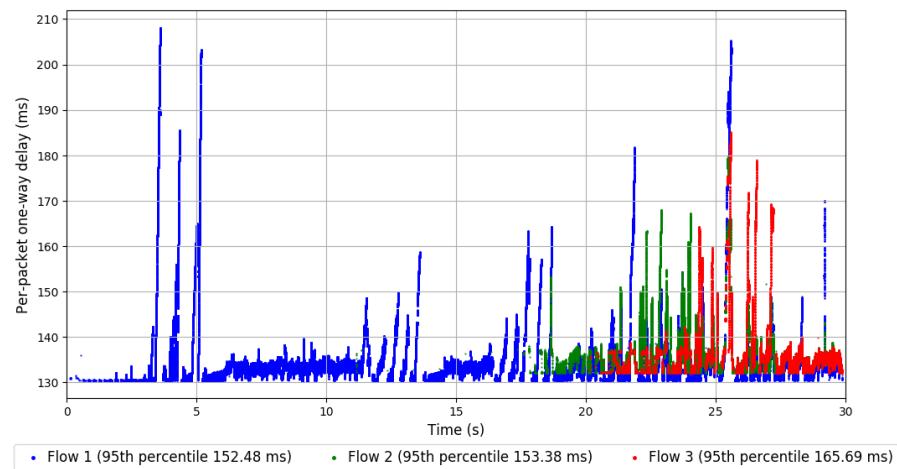
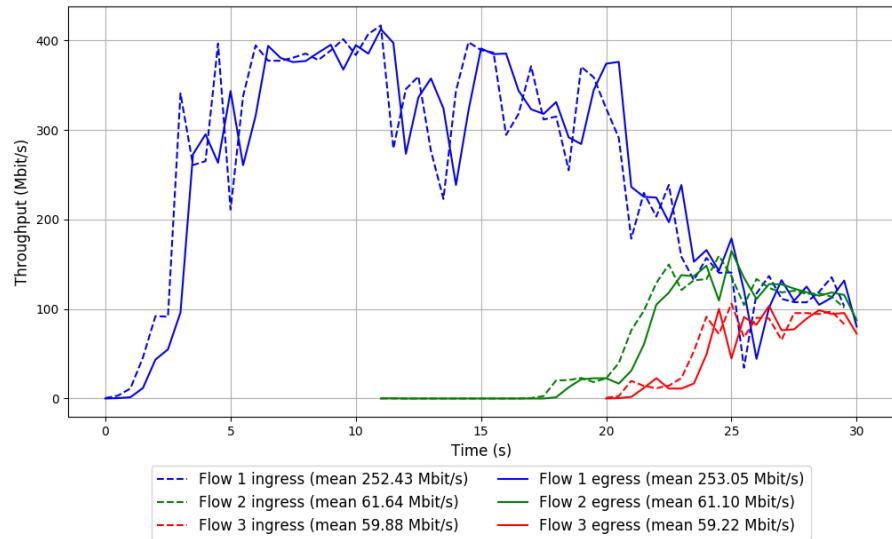


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-10 04:44:53
End at: 2018-10-10 04:45:23
Local clock offset: -0.549 ms
Remote clock offset: -34.682 ms

# Below is generated by plot.py at 2018-10-10 08:17:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.89 Mbit/s
95th percentile per-packet one-way delay: 154.016 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 253.05 Mbit/s
95th percentile per-packet one-way delay: 152.481 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 61.10 Mbit/s
95th percentile per-packet one-way delay: 153.379 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 165.690 ms
Loss rate: 3.11%
```

Run 1: Report of Indigo-Muses — Data Link

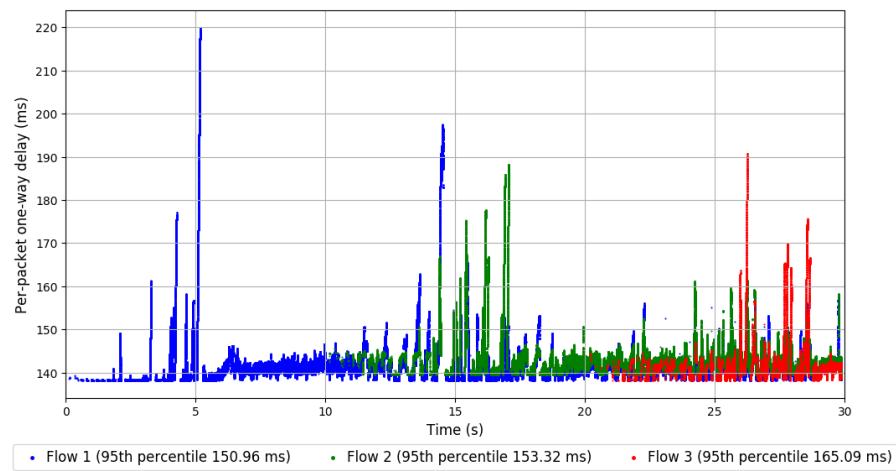
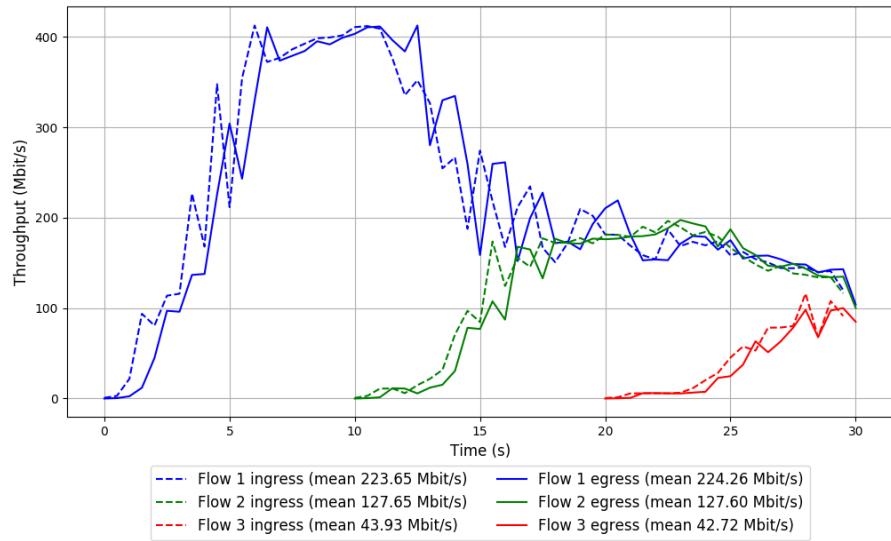


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-10 05:42:49
End at: 2018-10-10 05:43:19
Local clock offset: 0.611 ms
Remote clock offset: -43.995 ms

# Below is generated by plot.py at 2018-10-10 08:17:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.79 Mbit/s
95th percentile per-packet one-way delay: 152.042 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 224.26 Mbit/s
95th percentile per-packet one-way delay: 150.964 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 127.60 Mbit/s
95th percentile per-packet one-way delay: 153.323 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 42.72 Mbit/s
95th percentile per-packet one-way delay: 165.087 ms
Loss rate: 4.69%
```

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

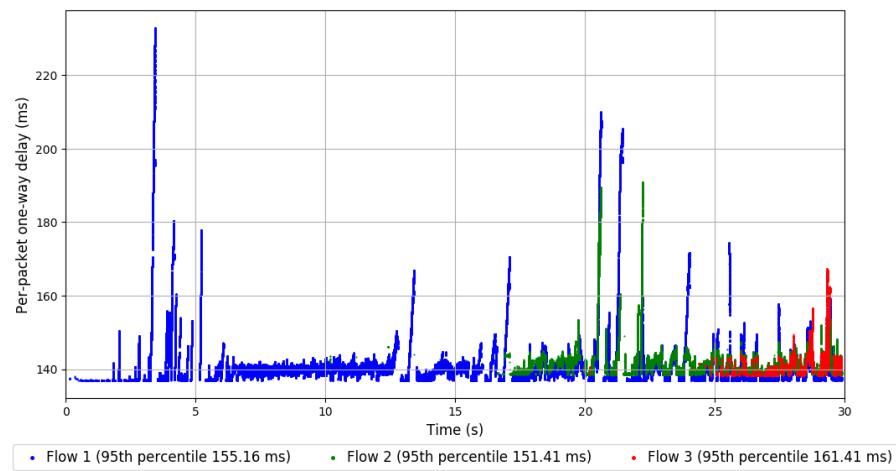
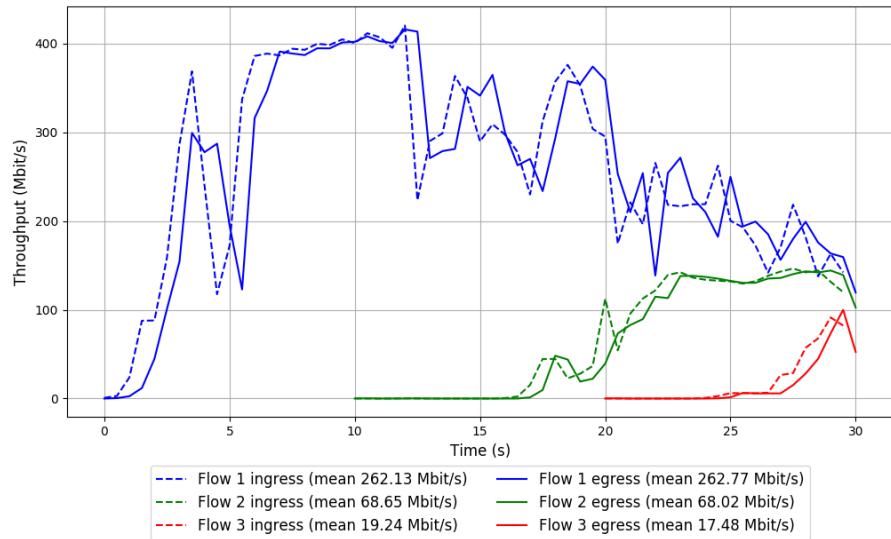


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-10 06:24:06
End at: 2018-10-10 06:24:36
Local clock offset: 2.997 ms
Remote clock offset: -40.294 ms

# Below is generated by plot.py at 2018-10-10 08:17:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.56 Mbit/s
95th percentile per-packet one-way delay: 154.583 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 262.77 Mbit/s
95th percentile per-packet one-way delay: 155.156 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 68.02 Mbit/s
95th percentile per-packet one-way delay: 151.409 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 17.48 Mbit/s
95th percentile per-packet one-way delay: 161.410 ms
Loss rate: 11.14%
```

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

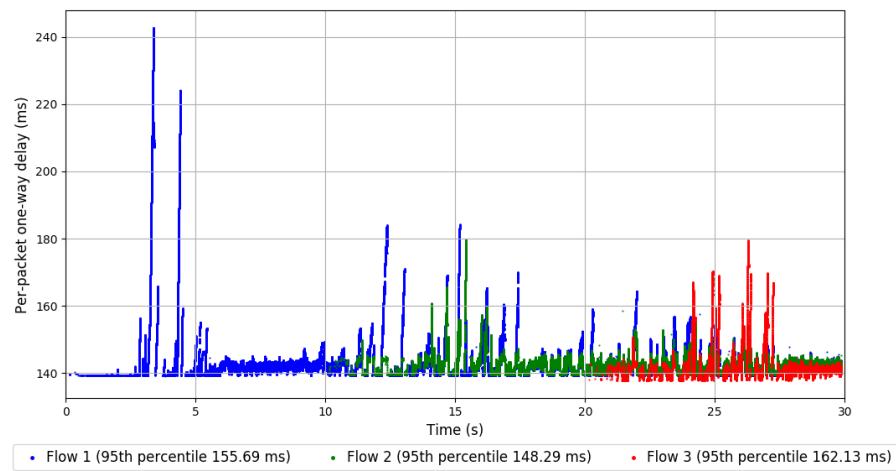
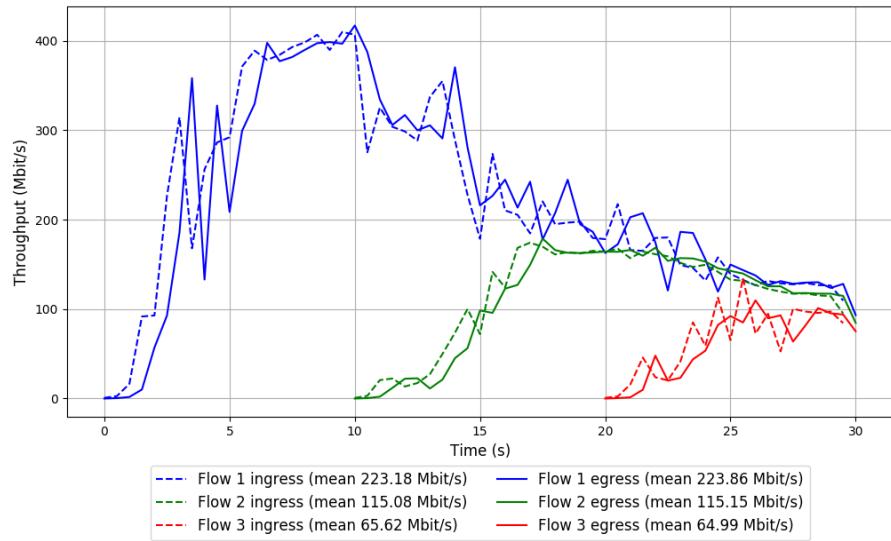


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-10 07:10:41
End at: 2018-10-10 07:11:11
Local clock offset: 2.335 ms
Remote clock offset: -42.05 ms

# Below is generated by plot.py at 2018-10-10 08:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.50 Mbit/s
95th percentile per-packet one-way delay: 154.250 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 223.86 Mbit/s
95th percentile per-packet one-way delay: 155.695 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 115.15 Mbit/s
95th percentile per-packet one-way delay: 148.287 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 64.99 Mbit/s
95th percentile per-packet one-way delay: 162.129 ms
Loss rate: 2.96%
```

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

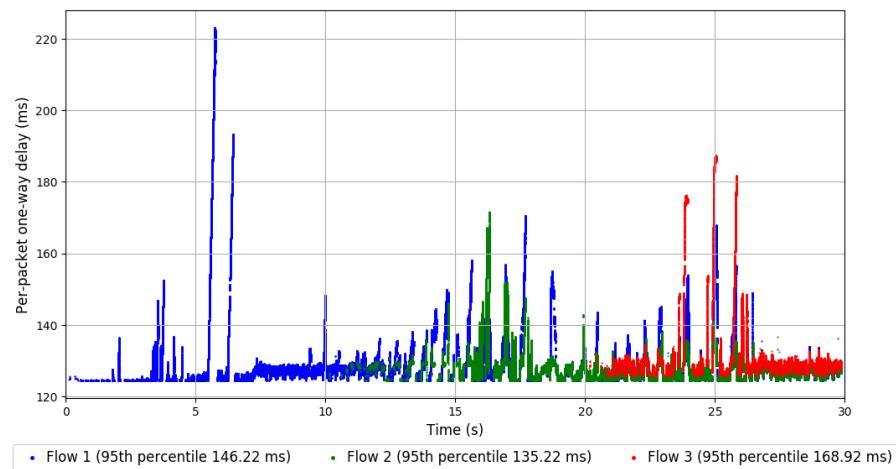
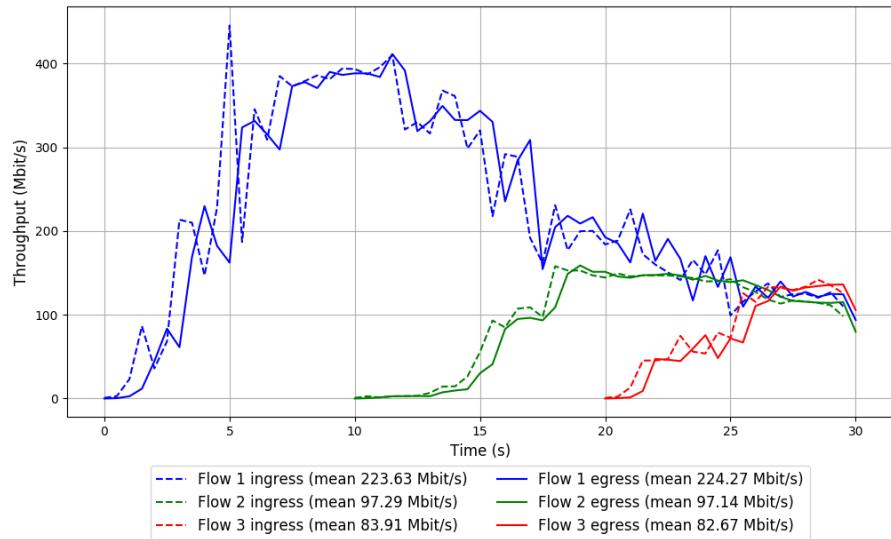


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-10 07:49:57
End at: 2018-10-10 07:50:27
Local clock offset: 0.178 ms
Remote clock offset: -32.852 ms

# Below is generated by plot.py at 2018-10-10 08:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.69 Mbit/s
95th percentile per-packet one-way delay: 144.762 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 224.27 Mbit/s
95th percentile per-packet one-way delay: 146.219 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 135.225 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 82.67 Mbit/s
95th percentile per-packet one-way delay: 168.916 ms
Loss rate: 3.45%
```

## Run 5: Report of Indigo-Muses — Data Link

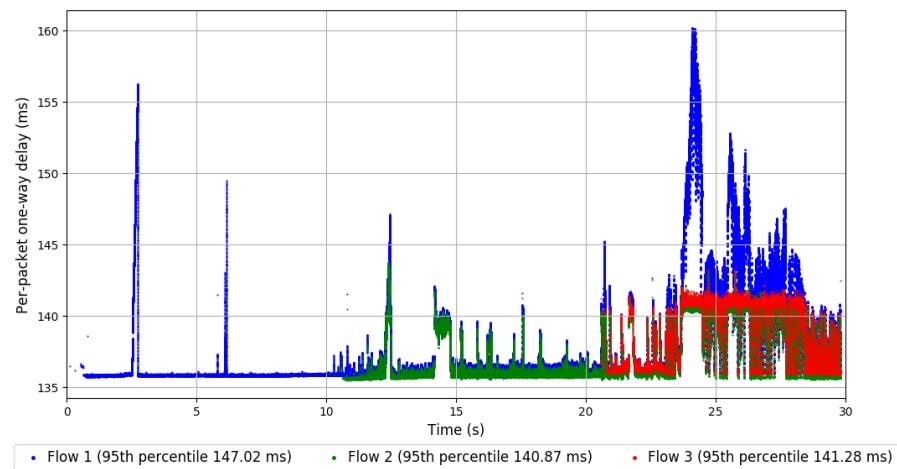
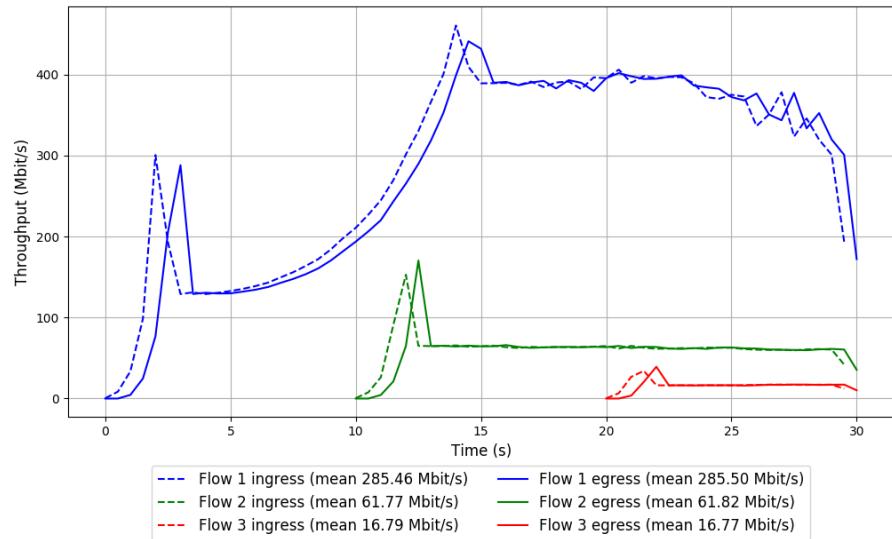


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-10 04:29:13
End at: 2018-10-10 04:29:43
Local clock offset: 0.603 ms
Remote clock offset: -38.723 ms

# Below is generated by plot.py at 2018-10-10 08:19:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.88 Mbit/s
95th percentile per-packet one-way delay: 145.729 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 285.50 Mbit/s
95th percentile per-packet one-way delay: 147.016 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 61.82 Mbit/s
95th percentile per-packet one-way delay: 140.873 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 16.77 Mbit/s
95th percentile per-packet one-way delay: 141.281 ms
Loss rate: 2.06%
```

Run 1: Report of PCC-Allegro — Data Link

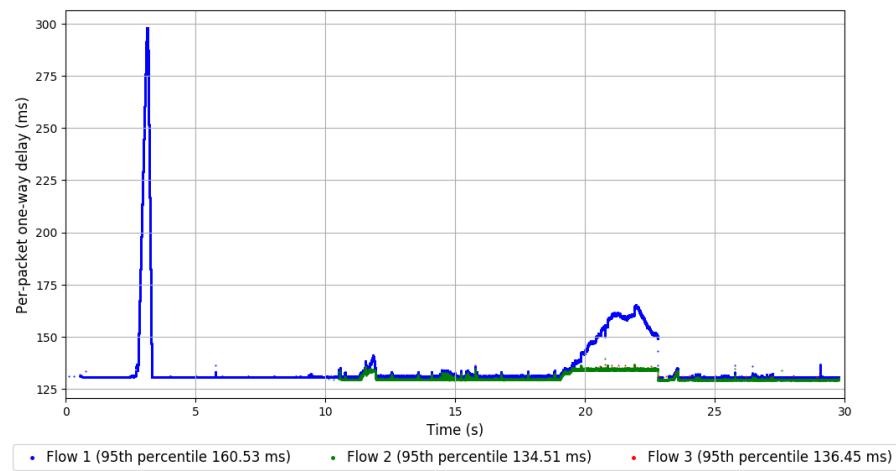
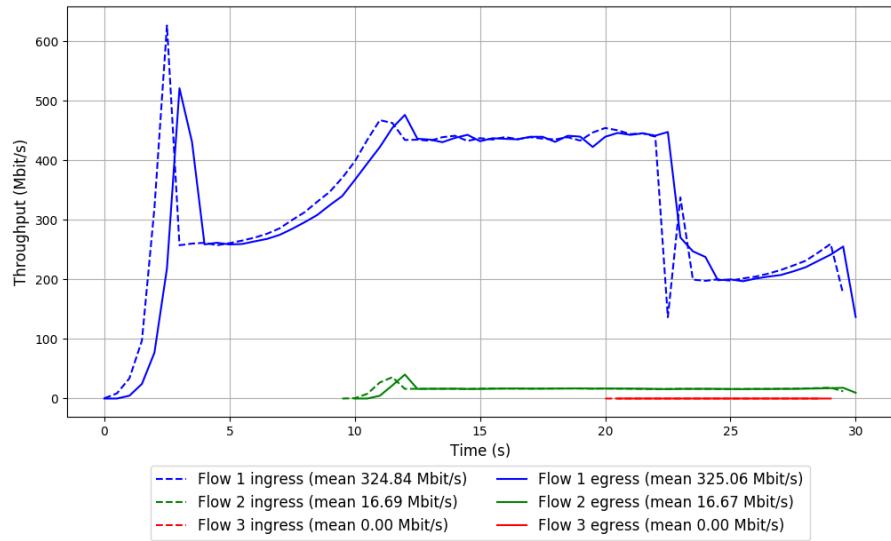


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-10 05:36:46
End at: 2018-10-10 05:37:16
Local clock offset: 1.056 ms
Remote clock offset: -34.564 ms

# Below is generated by plot.py at 2018-10-10 08:19:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.11 Mbit/s
95th percentile per-packet one-way delay: 160.462 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 325.06 Mbit/s
95th percentile per-packet one-way delay: 160.528 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 16.67 Mbit/s
95th percentile per-packet one-way delay: 134.510 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 136.446 ms
Loss rate: 0.00%
```

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

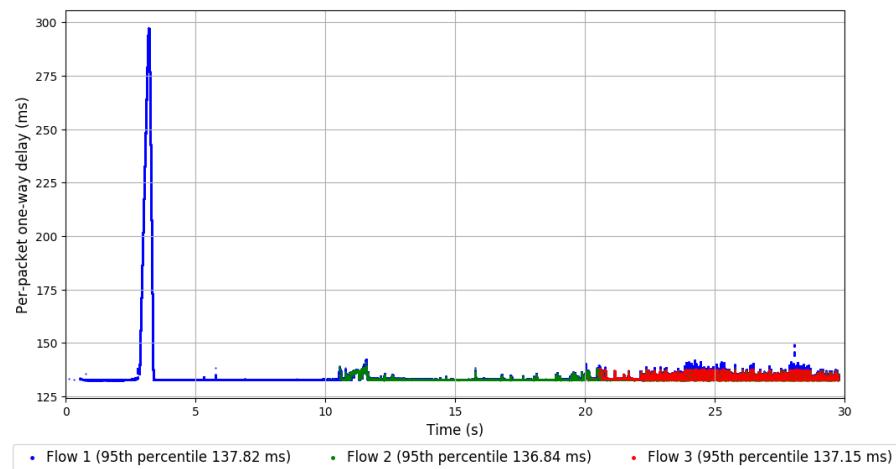
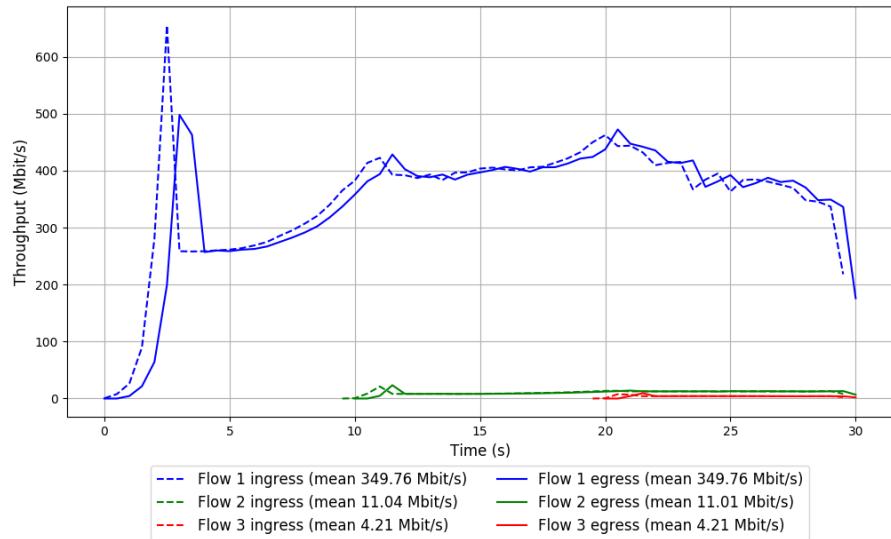


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-10 06:17:54
End at: 2018-10-10 06:18:24
Local clock offset: 1.374 ms
Remote clock offset: -36.414 ms

# Below is generated by plot.py at 2018-10-10 08:20:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.42 Mbit/s
95th percentile per-packet one-way delay: 137.755 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 349.76 Mbit/s
95th percentile per-packet one-way delay: 137.816 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 11.01 Mbit/s
95th percentile per-packet one-way delay: 136.842 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 137.145 ms
Loss rate: 1.84%
```

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

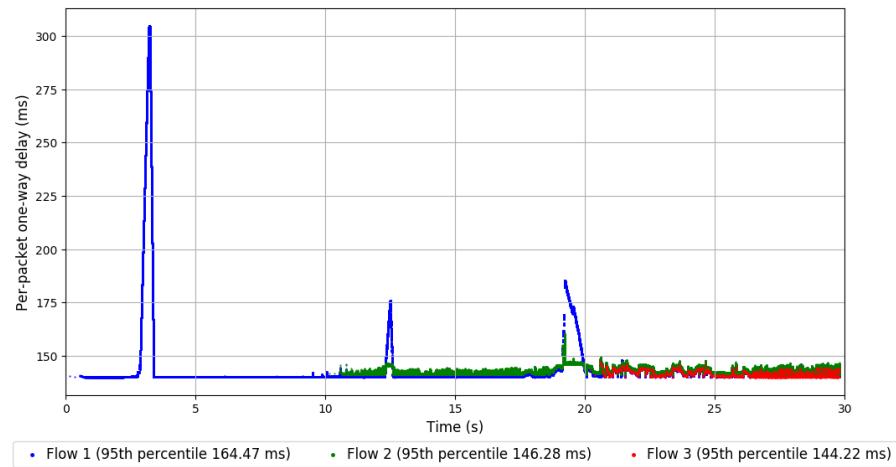
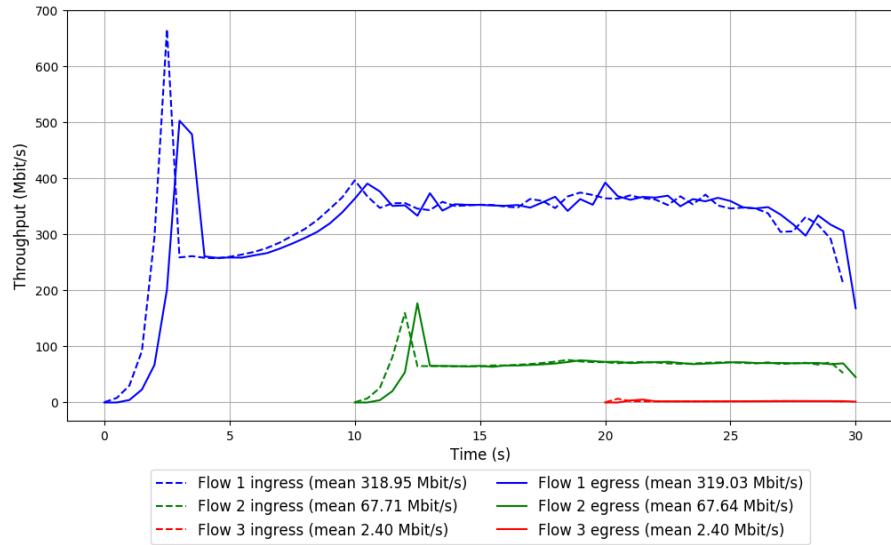


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-10 06:58:53
End at: 2018-10-10 06:59:23
Local clock offset: -0.283 ms
Remote clock offset: -46.934 ms

# Below is generated by plot.py at 2018-10-10 08:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 364.59 Mbit/s
95th percentile per-packet one-way delay: 158.664 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 319.03 Mbit/s
95th percentile per-packet one-way delay: 164.469 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 67.64 Mbit/s
95th percentile per-packet one-way delay: 146.275 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 144.224 ms
Loss rate: 2.04%
```

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



Run 5: Statistics of PCC-Allegro

/home/ubuntu/pantheon/data/2018-10-10T04-06-Saudi-Arabia-to-AWS-India-2-5-runs-3-flows/pcc\_s

Run 5: Report of PCC-Allegro — Data Link

Figure is missing

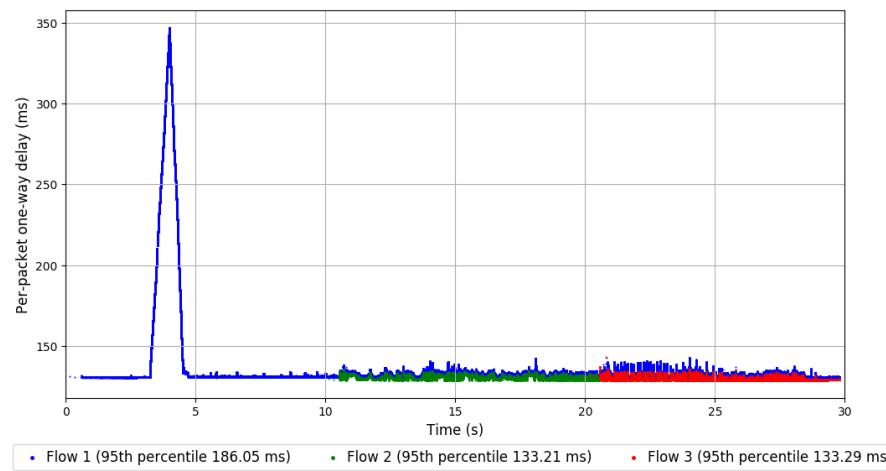
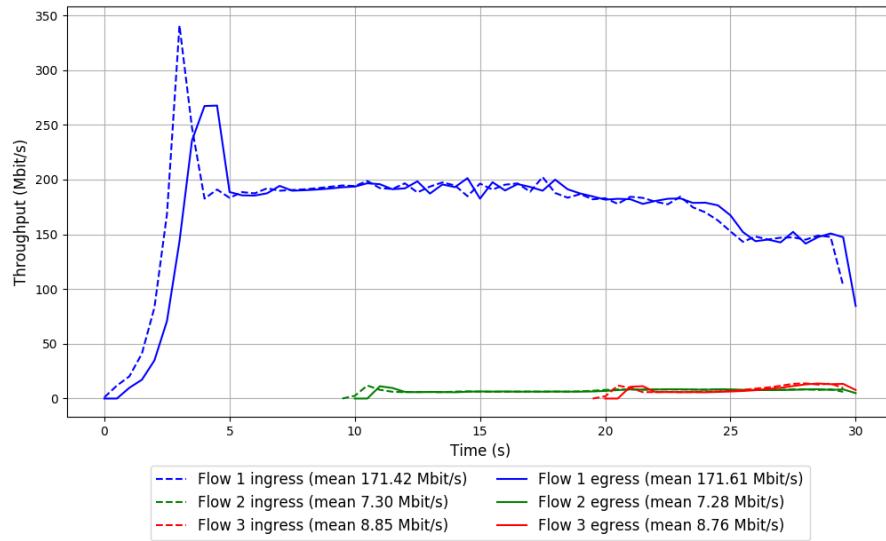
Figure is missing

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

```
Start at: 2018-10-10 04:17:22
End at: 2018-10-10 04:17:52
Local clock offset: 2.633 ms
Remote clock offset: -32.539 ms

# Below is generated by plot.py at 2018-10-10 08:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.28 Mbit/s
95th percentile per-packet one-way delay: 180.030 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 171.61 Mbit/s
95th percentile per-packet one-way delay: 186.050 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 133.207 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 133.293 ms
Loss rate: 3.09%
```

Run 1: Report of PCC-Expr — Data Link

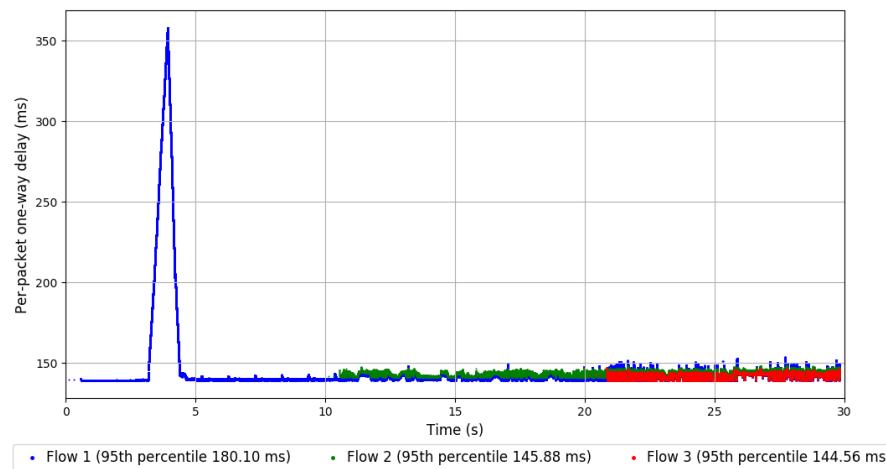
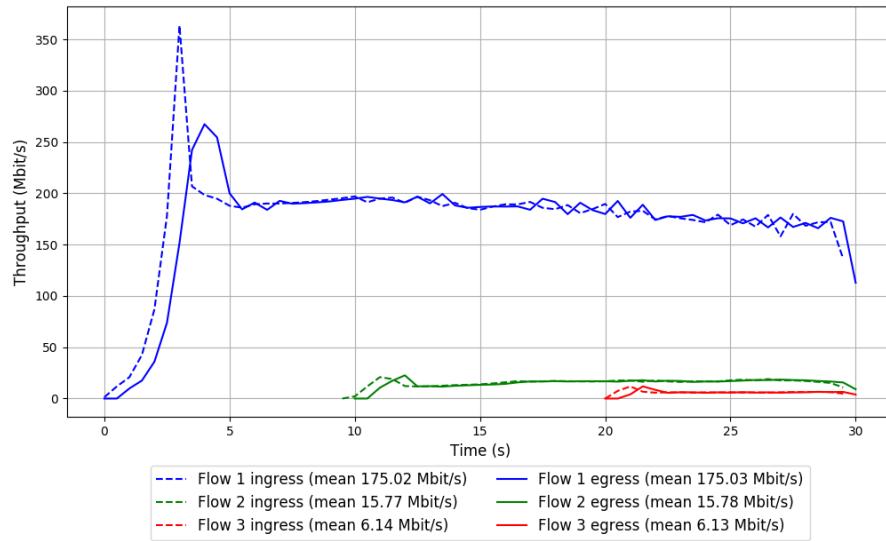


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-10 05:13:18
End at: 2018-10-10 05:13:48
Local clock offset: 2.144 ms
Remote clock offset: -42.733 ms

# Below is generated by plot.py at 2018-10-10 08:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.49 Mbit/s
95th percentile per-packet one-way delay: 170.259 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 175.03 Mbit/s
95th percentile per-packet one-way delay: 180.099 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 15.78 Mbit/s
95th percentile per-packet one-way delay: 145.884 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 144.564 ms
Loss rate: 2.12%
```

Run 2: Report of PCC-Expr — Data Link

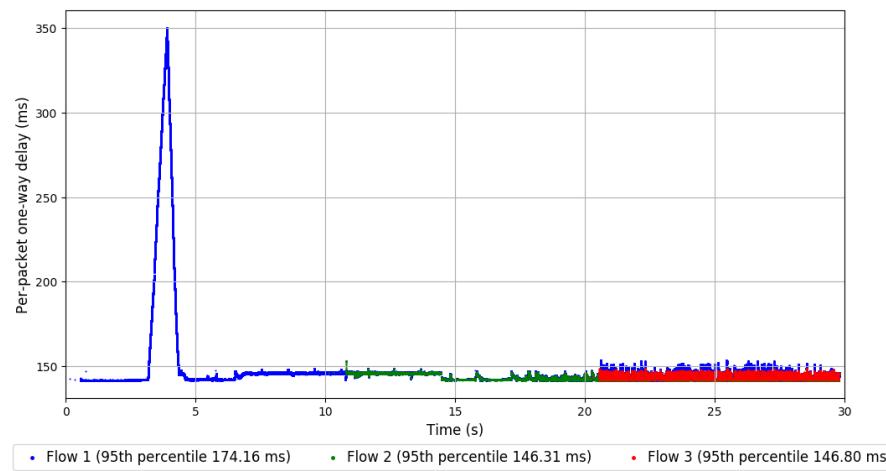
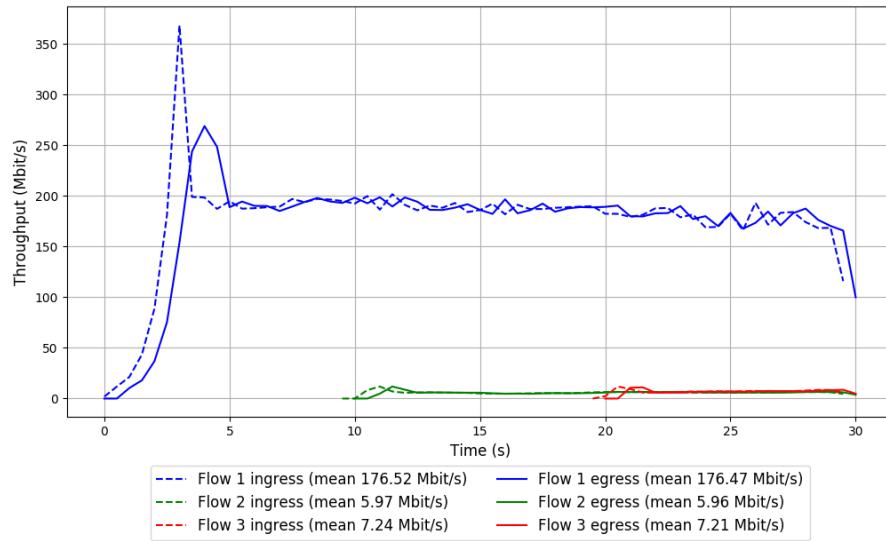


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-10 06:05:47
End at: 2018-10-10 06:06:17
Local clock offset: -0.918 ms
Remote clock offset: -47.71 ms

# Below is generated by plot.py at 2018-10-10 08:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.77 Mbit/s
95th percentile per-packet one-way delay: 168.936 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 176.47 Mbit/s
95th percentile per-packet one-way delay: 174.163 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 146.314 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 146.798 ms
Loss rate: 2.50%
```

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

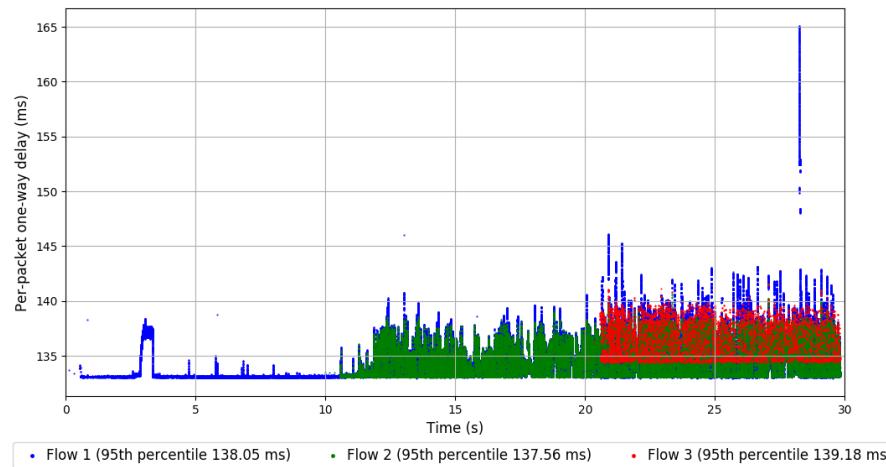
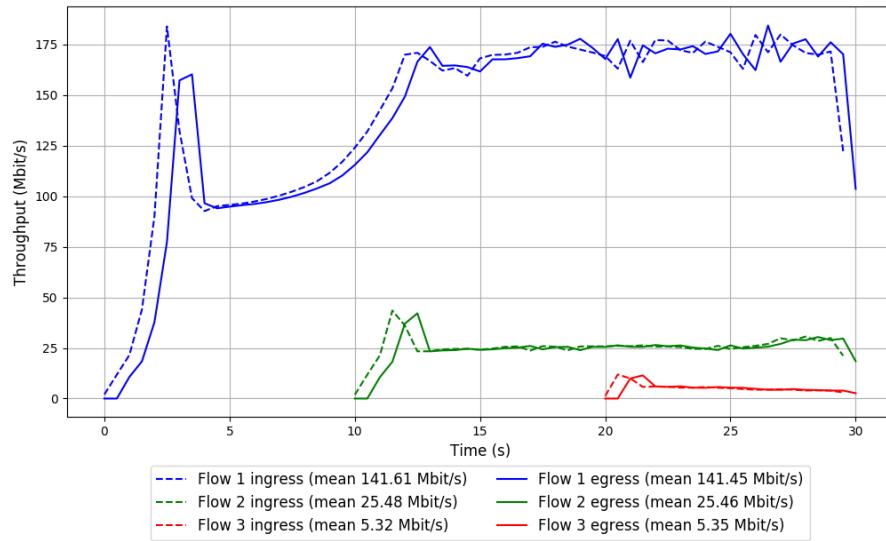


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-10 06:47:13
End at: 2018-10-10 06:47:43
Local clock offset: 2.312 ms
Remote clock offset: -37.233 ms

# Below is generated by plot.py at 2018-10-10 08:21:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.07 Mbit/s
95th percentile per-packet one-way delay: 138.004 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 141.45 Mbit/s
95th percentile per-packet one-way delay: 138.047 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 25.46 Mbit/s
95th percentile per-packet one-way delay: 137.561 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 139.182 ms
Loss rate: 1.40%
```

Run 4: Report of PCC-Expr — Data Link

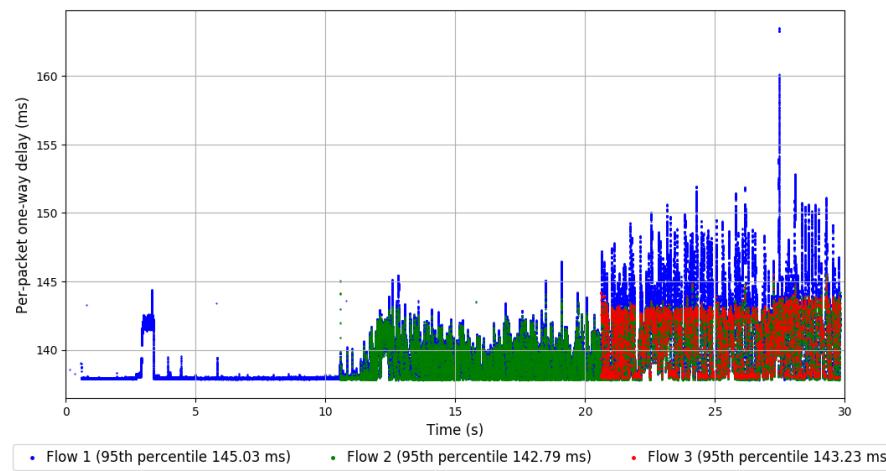
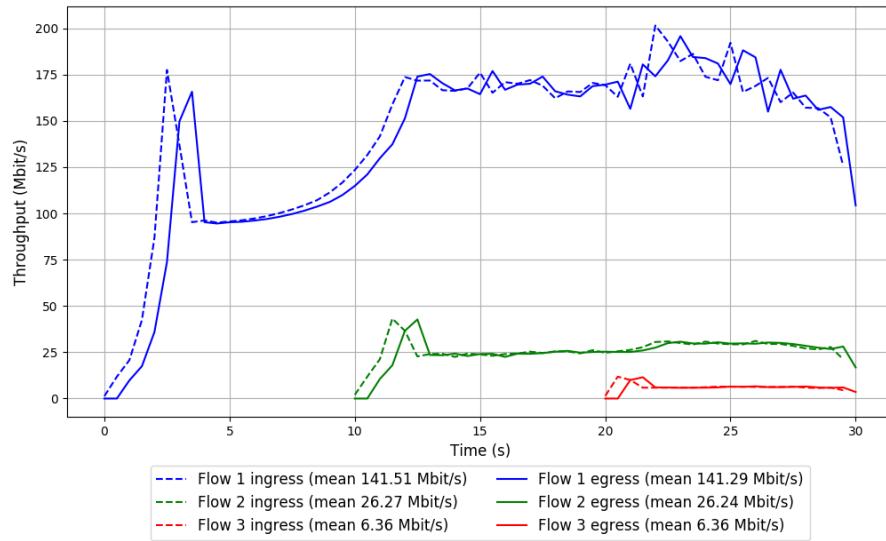


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-10 07:28:08
End at: 2018-10-10 07:28:38
Local clock offset: 2.296 ms
Remote clock offset: -42.679 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.76 Mbit/s
95th percentile per-packet one-way delay: 144.710 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 141.29 Mbit/s
95th percentile per-packet one-way delay: 145.027 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 26.24 Mbit/s
95th percentile per-packet one-way delay: 142.788 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 143.227 ms
Loss rate: 1.99%
```

Run 5: Report of PCC-Expr — Data Link

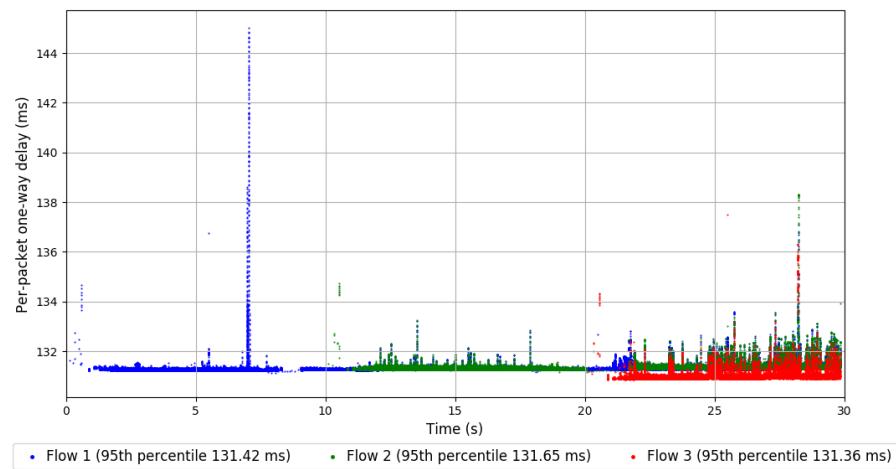
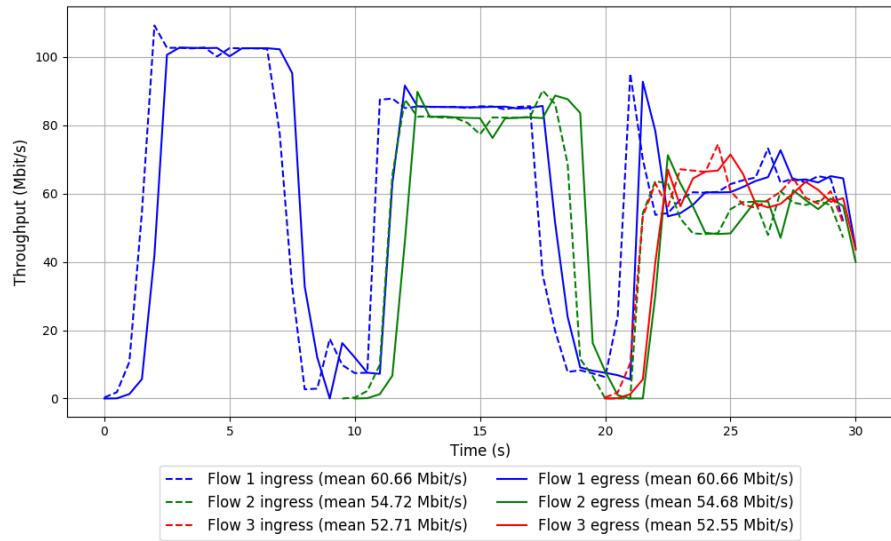


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-10 04:43:11
End at: 2018-10-10 04:43:41
Local clock offset: -0.294 ms
Remote clock offset: -33.726 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.10 Mbit/s
95th percentile per-packet one-way delay: 131.482 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 60.66 Mbit/s
95th percentile per-packet one-way delay: 131.423 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 54.68 Mbit/s
95th percentile per-packet one-way delay: 131.651 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 52.55 Mbit/s
95th percentile per-packet one-way delay: 131.363 ms
Loss rate: 2.35%
```

Run 1: Report of QUIC Cubic — Data Link

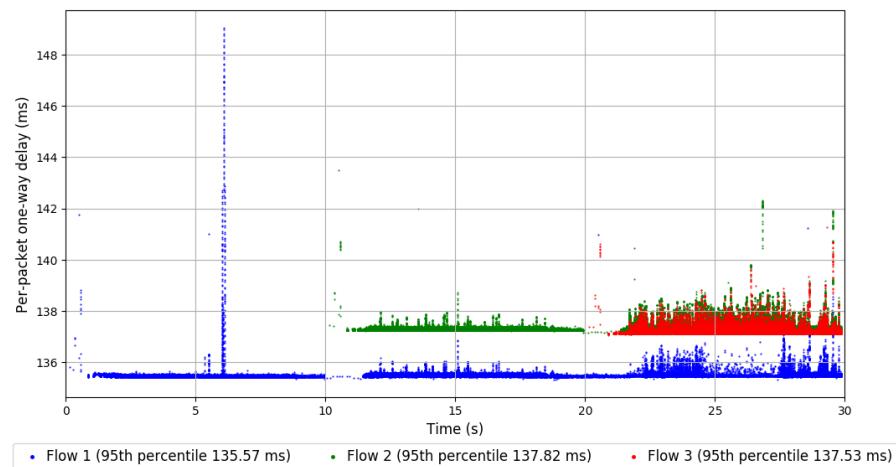
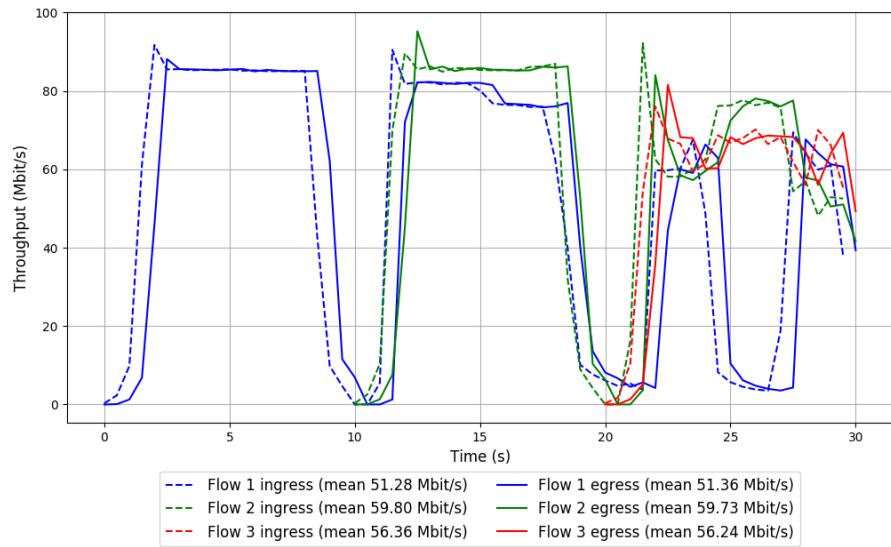


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-10 05:41:10
End at: 2018-10-10 05:41:40
Local clock offset: 0.407 ms
Remote clock offset: -41.489 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.32 Mbit/s
95th percentile per-packet one-way delay: 137.567 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 51.36 Mbit/s
95th percentile per-packet one-way delay: 135.567 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 59.73 Mbit/s
95th percentile per-packet one-way delay: 137.816 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 56.24 Mbit/s
95th percentile per-packet one-way delay: 137.528 ms
Loss rate: 2.17%
```

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

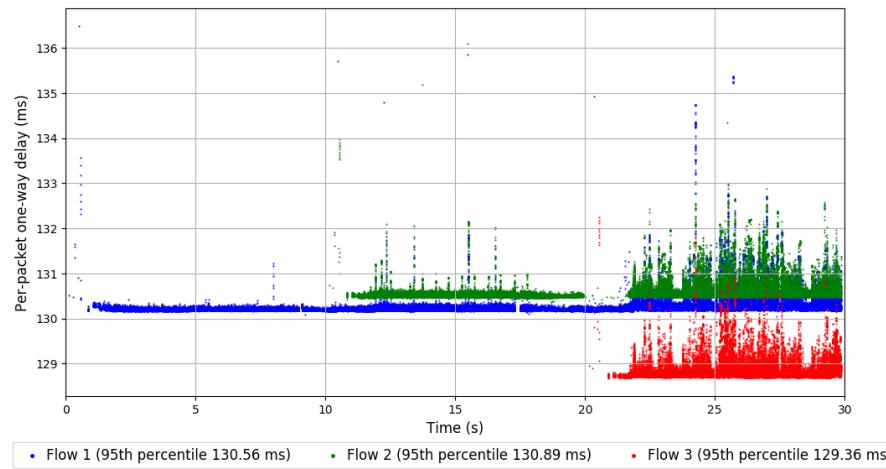
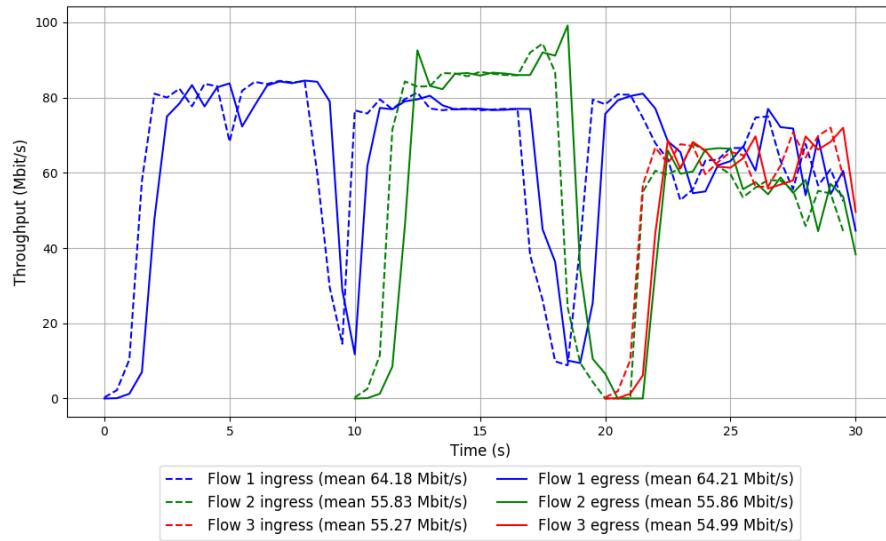


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-10 06:22:23
End at: 2018-10-10 06:22:53
Local clock offset: 1.955 ms
Remote clock offset: -33.201 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.22 Mbit/s
95th percentile per-packet one-way delay: 130.665 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 64.21 Mbit/s
95th percentile per-packet one-way delay: 130.556 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 55.86 Mbit/s
95th percentile per-packet one-way delay: 130.891 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 54.99 Mbit/s
95th percentile per-packet one-way delay: 129.362 ms
Loss rate: 2.52%
```

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

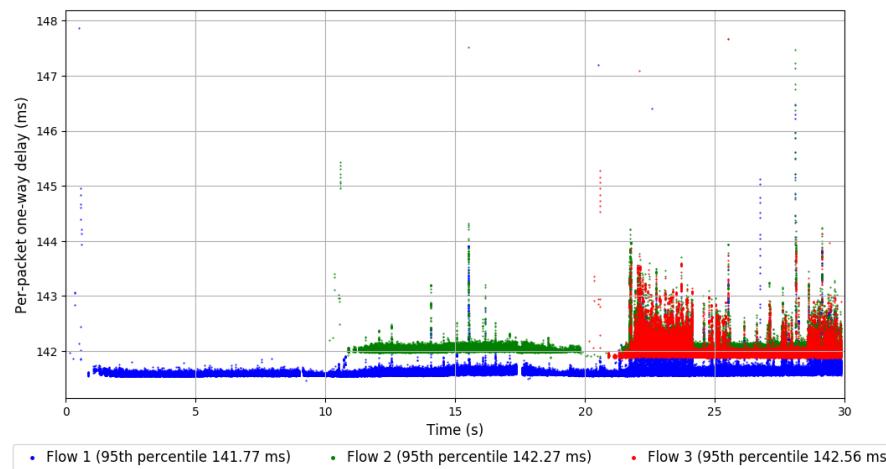
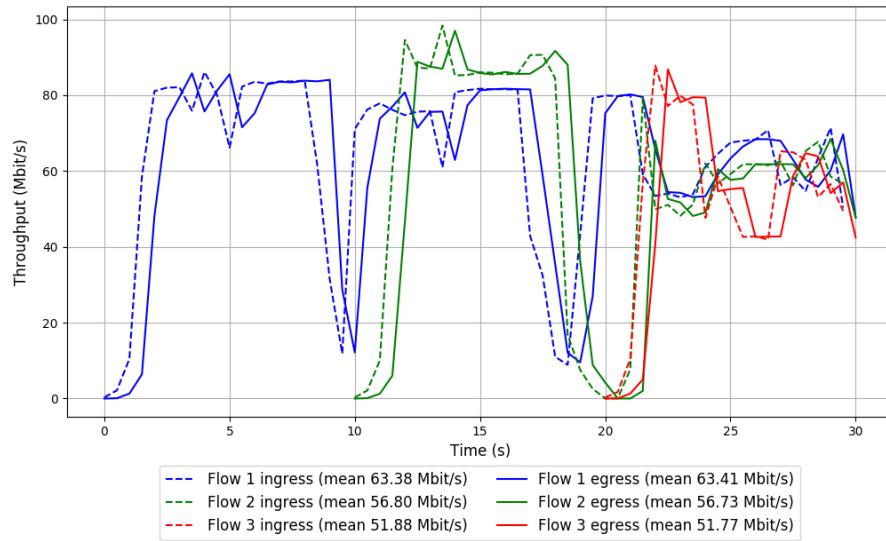


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-10 07:03:23
End at: 2018-10-10 07:03:53
Local clock offset: -0.11 ms
Remote clock offset: -46.912 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.96 Mbit/s
95th percentile per-packet one-way delay: 142.227 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 63.41 Mbit/s
95th percentile per-packet one-way delay: 141.767 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 56.73 Mbit/s
95th percentile per-packet one-way delay: 142.270 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 51.77 Mbit/s
95th percentile per-packet one-way delay: 142.558 ms
Loss rate: 2.22%
```

Run 4: Report of QUIC Cubic — Data Link

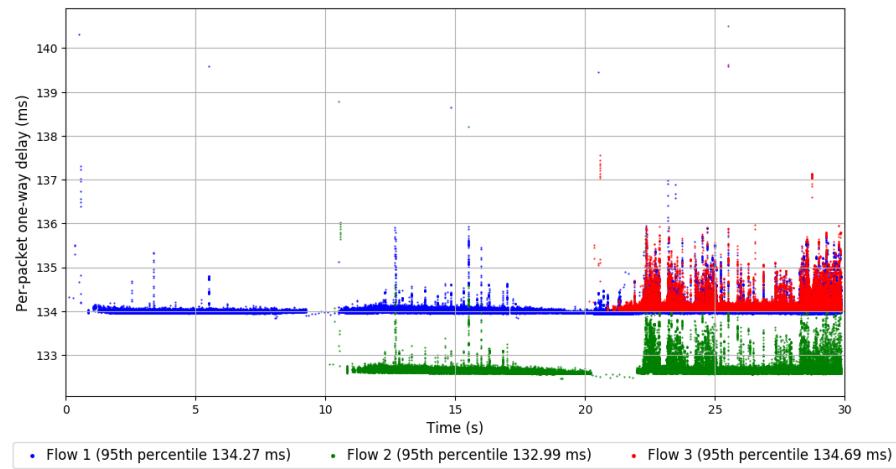
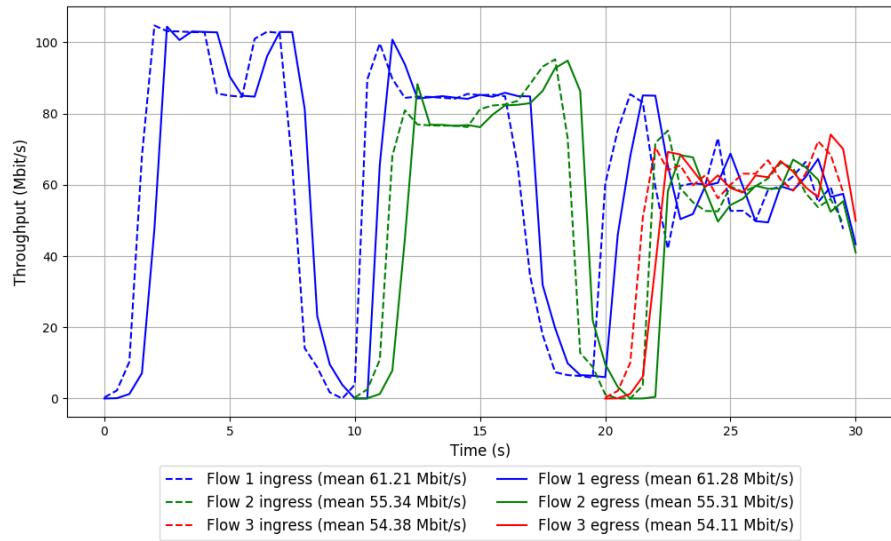


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-10 07:48:16
End at: 2018-10-10 07:48:46
Local clock offset: 2.449 ms
Remote clock offset: -38.593 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.64 Mbit/s
95th percentile per-packet one-way delay: 134.285 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 61.28 Mbit/s
95th percentile per-packet one-way delay: 134.266 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 55.31 Mbit/s
95th percentile per-packet one-way delay: 132.990 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 54.11 Mbit/s
95th percentile per-packet one-way delay: 134.685 ms
Loss rate: 2.43%
```

Run 5: Report of QUIC Cubic — Data Link

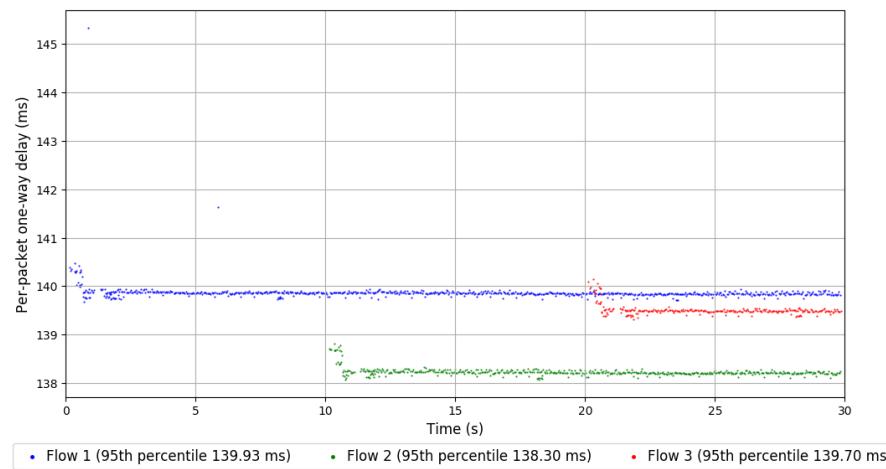
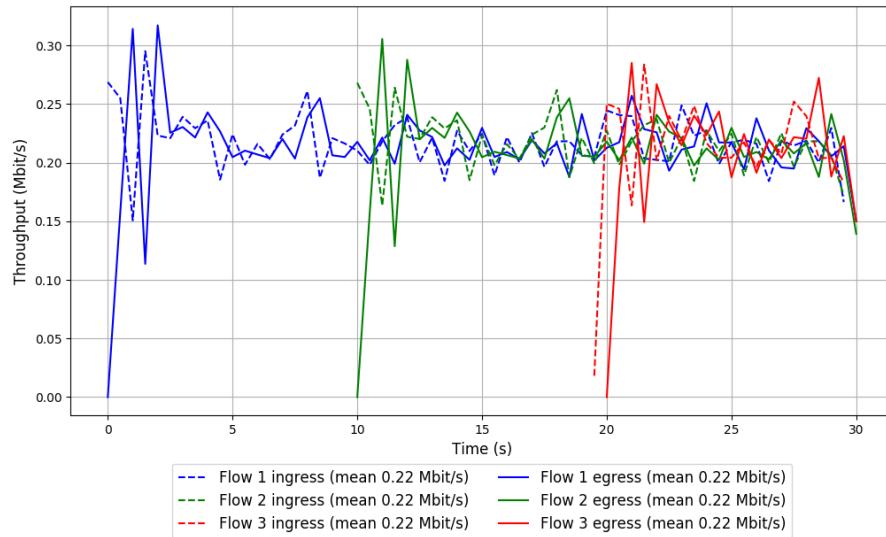


Run 1: Statistics of SCReAM

```
Start at: 2018-10-10 04:07:38
End at: 2018-10-10 04:08:08
Local clock offset: 1.285 ms
Remote clock offset: -42.553 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 139.902 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.927 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.299 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.702 ms
Loss rate: 1.83%
```

Run 1: Report of SCReAM — Data Link

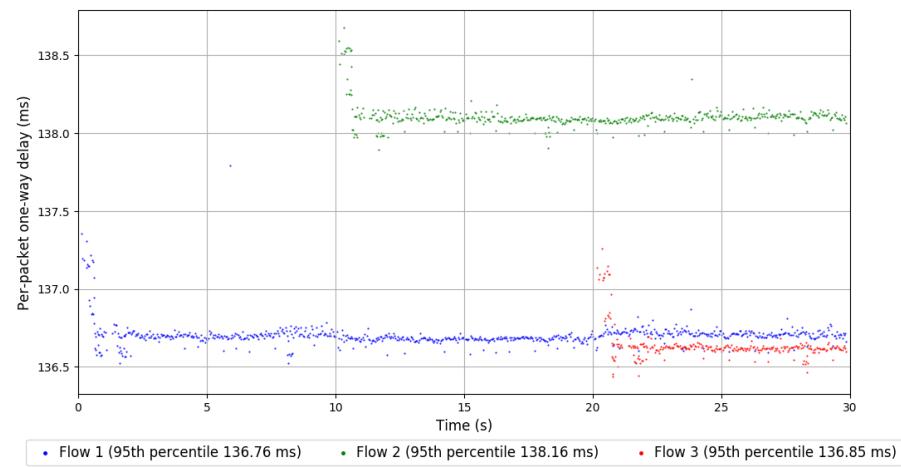
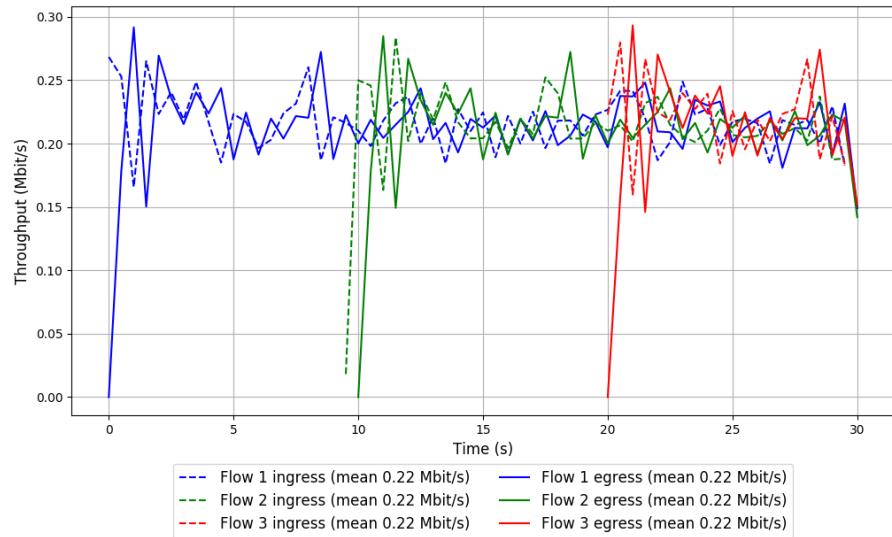


Run 2: Statistics of SCReAM

```
Start at: 2018-10-10 04:52:41
End at: 2018-10-10 04:53:11
Local clock offset: -3.343 ms
Remote clock offset: -43.343 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 138.127 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.760 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.161 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.851 ms
Loss rate: 1.86%
```

## Run 2: Report of SCReAM — Data Link

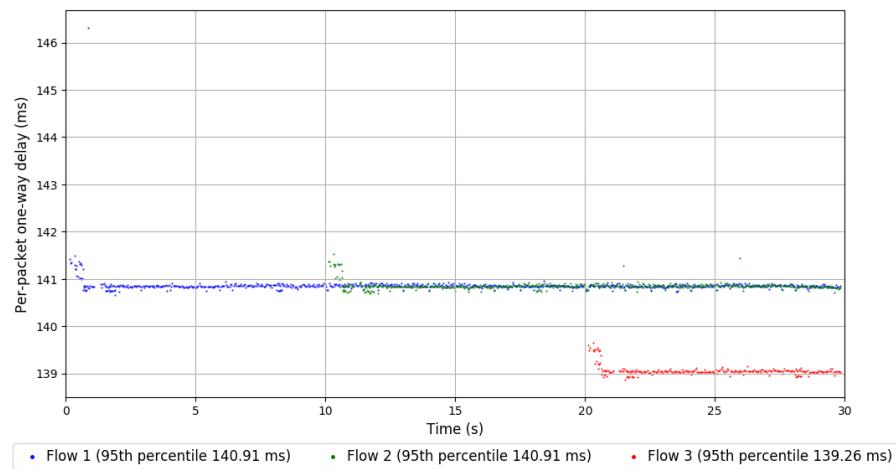
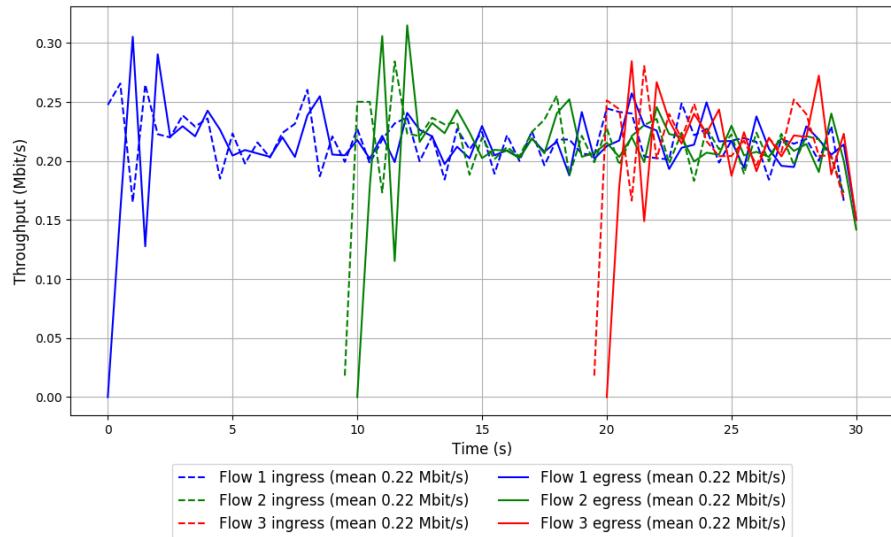


Run 3: Statistics of SCReAM

```
Start at: 2018-10-10 05:50:44
End at: 2018-10-10 05:51:14
Local clock offset: 1.697 ms
Remote clock offset: -43.746 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 140.907 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.909 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.915 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.259 ms
Loss rate: 1.49%
```

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

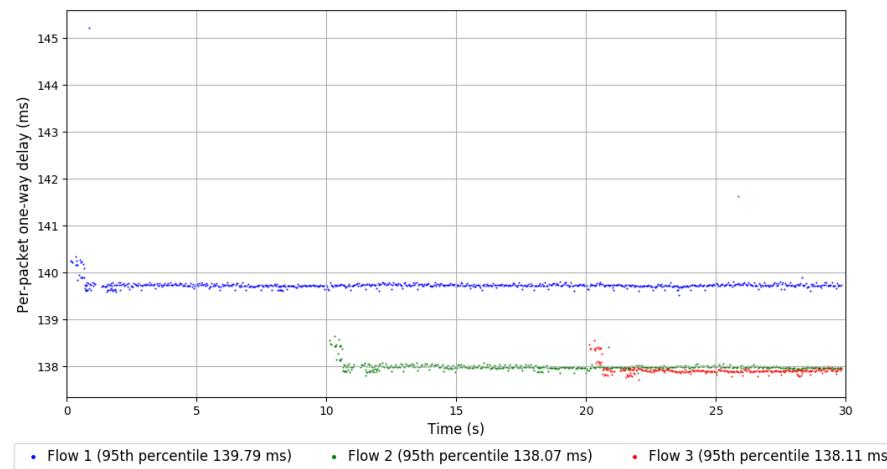
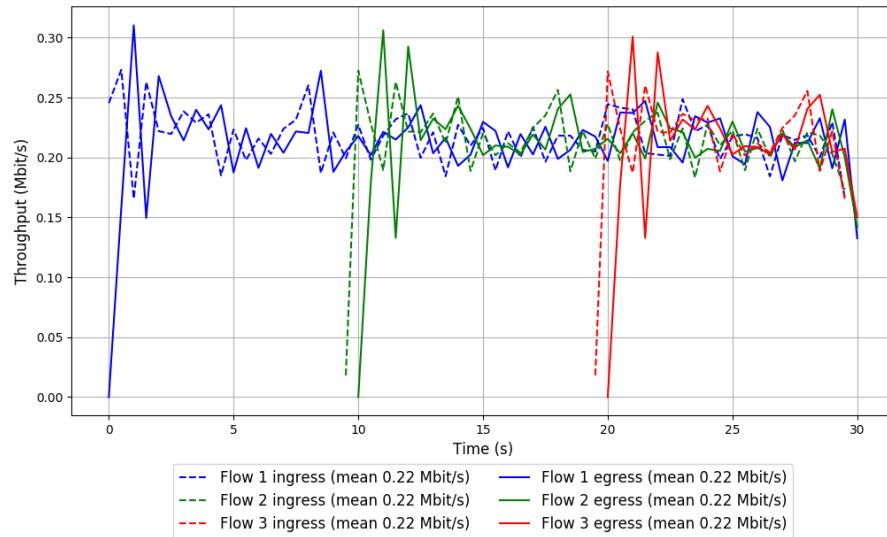


Run 4: Statistics of SCReAM

```
Start at: 2018-10-10 06:37:32
End at: 2018-10-10 06:38:02
Local clock offset: 0.576 ms
Remote clock offset: -43.769 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 139.778 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.789 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.066 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.112 ms
Loss rate: 1.84%
```

Run 4: Report of SCReAM — Data Link

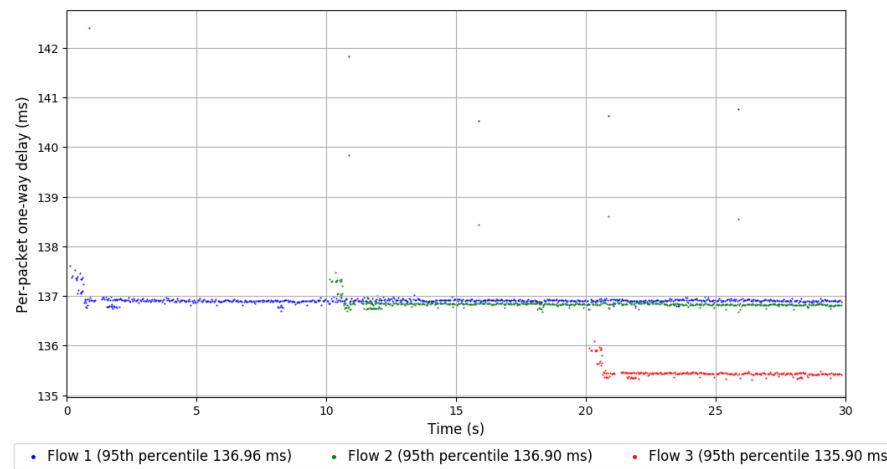
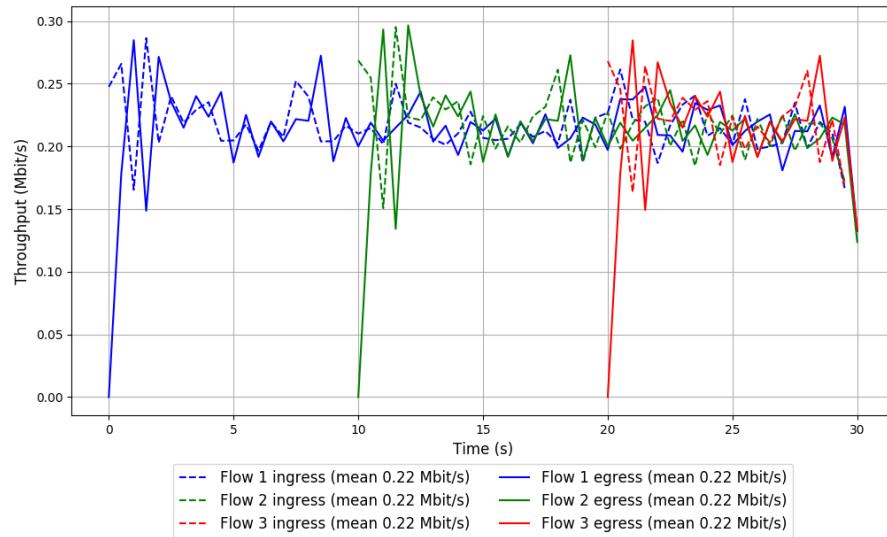


Run 5: Statistics of SCReAM

```
Start at: 2018-10-10 07:18:31
End at: 2018-10-10 07:19:01
Local clock offset: 2.853 ms
Remote clock offset: -39.261 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.952 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.963 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.903 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.896 ms
Loss rate: 1.86%
```

Run 5: Report of SCReAM — Data Link

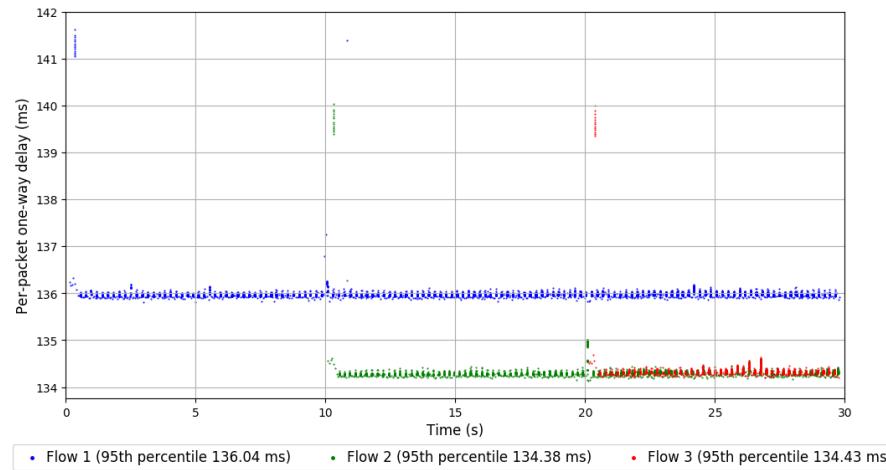
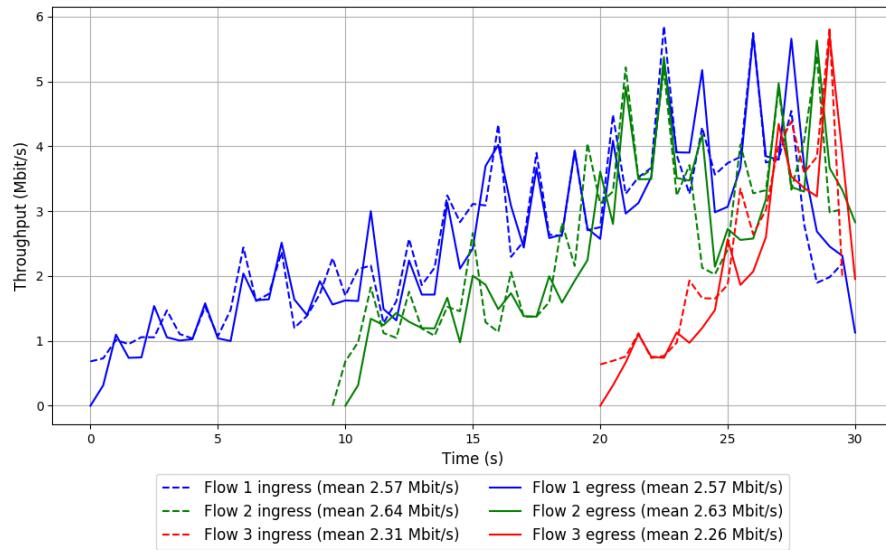


Run 1: Statistics of Sprout

```
Start at: 2018-10-10 04:47:08
End at: 2018-10-10 04:47:38
Local clock offset: -1.012 ms
Remote clock offset: -38.887 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.04 Mbit/s
95th percentile per-packet one-way delay: 136.018 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 136.040 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 134.380 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 134.428 ms
Loss rate: 4.30%
```

## Run 1: Report of Sprout — Data Link

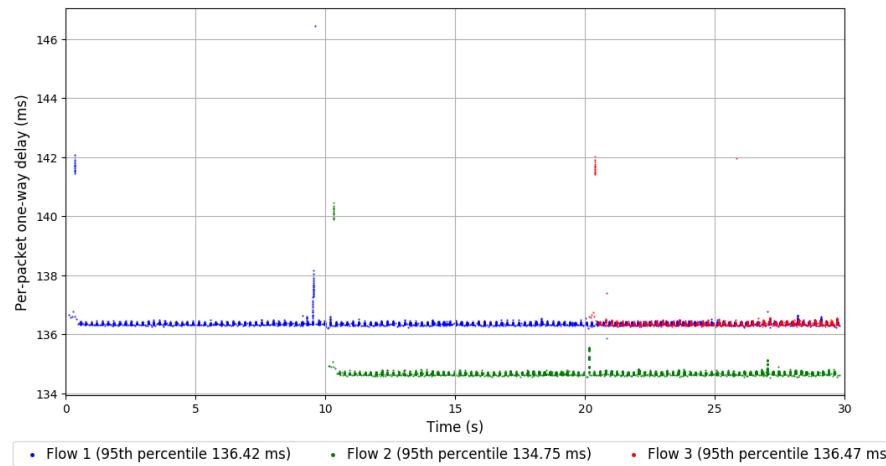
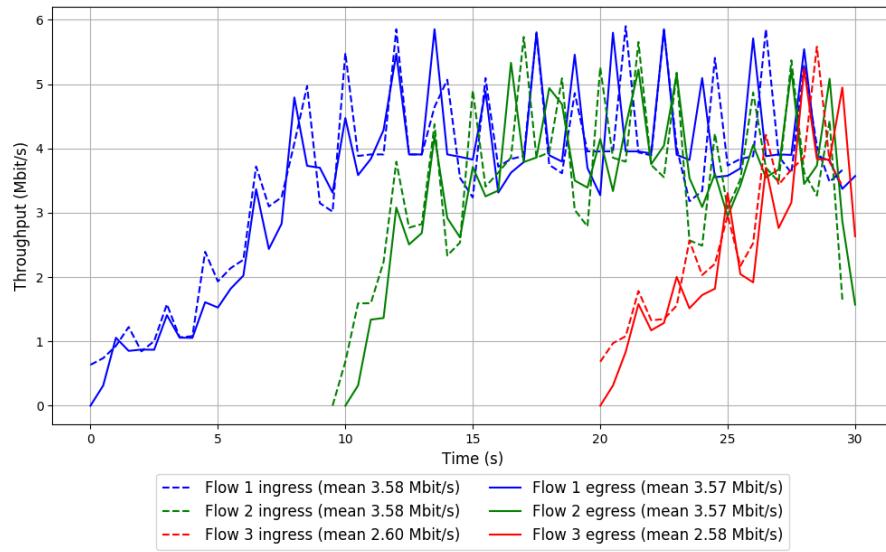


Run 2: Statistics of Sprout

```
Start at: 2018-10-10 05:45:06
End at: 2018-10-10 05:45:36
Local clock offset: 1.478 ms
Remote clock offset: -39.547 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 136.415 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 136.420 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 134.754 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 136.467 ms
Loss rate: 3.07%
```

## Run 2: Report of Sprout — Data Link

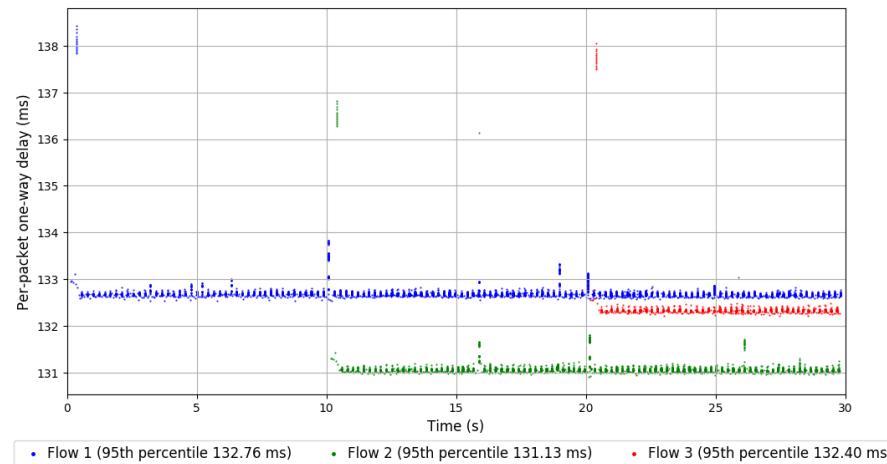
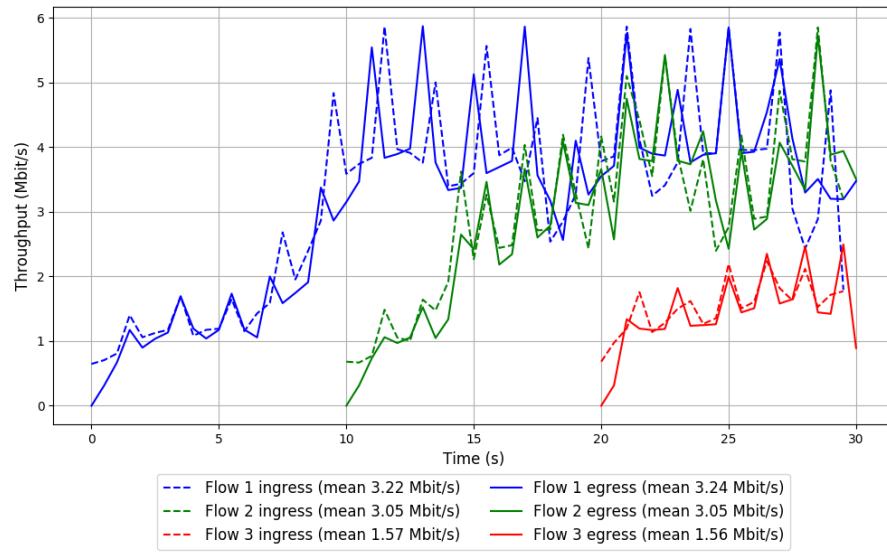


Run 3: Statistics of Sprout

```
Start at: 2018-10-10 06:31:53
End at: 2018-10-10 06:32:23
Local clock offset: -0.261 ms
Remote clock offset: -37.706 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 132.725 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 132.759 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 131.134 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 132.404 ms
Loss rate: 2.86%
```

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

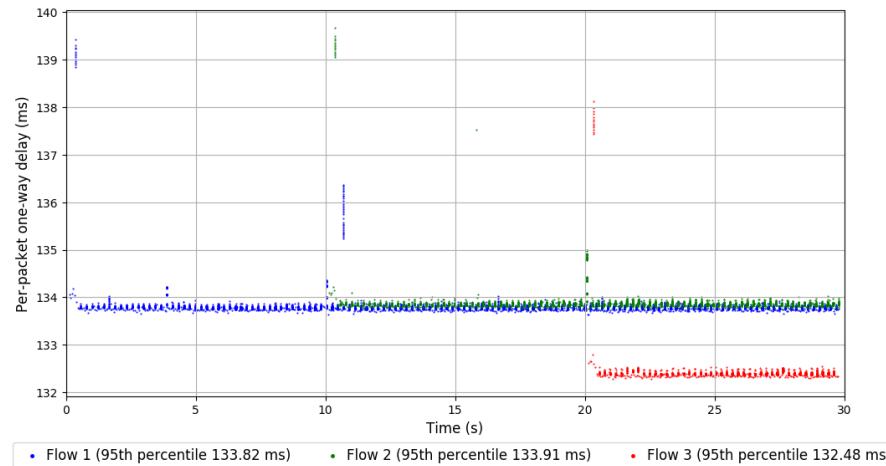
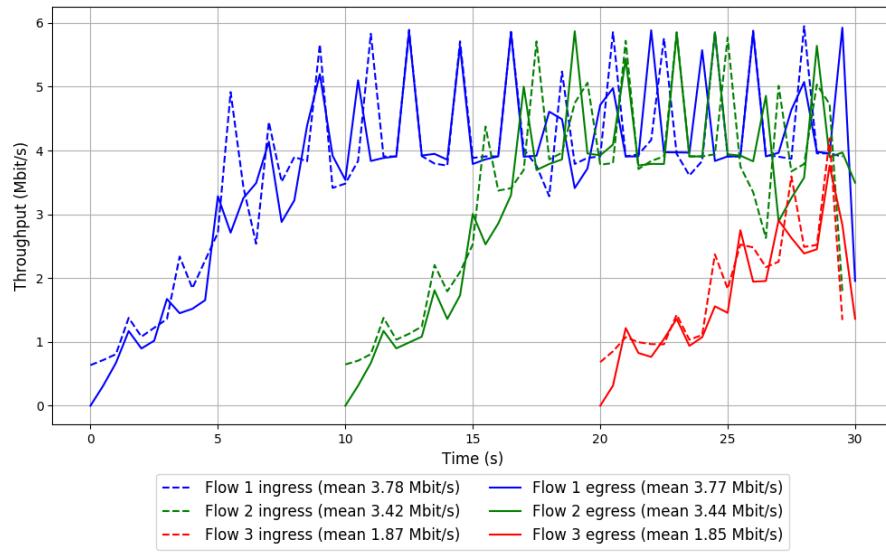


Run 4: Statistics of Sprout

```
Start at: 2018-10-10 07:13:01
End at: 2018-10-10 07:13:31
Local clock offset: -0.057 ms
Remote clock offset: -39.142 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 133.885 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 133.825 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 3.44 Mbit/s
95th percentile per-packet one-way delay: 133.915 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 132.484 ms
Loss rate: 3.63%
```

Run 4: Report of Sprout — Data Link

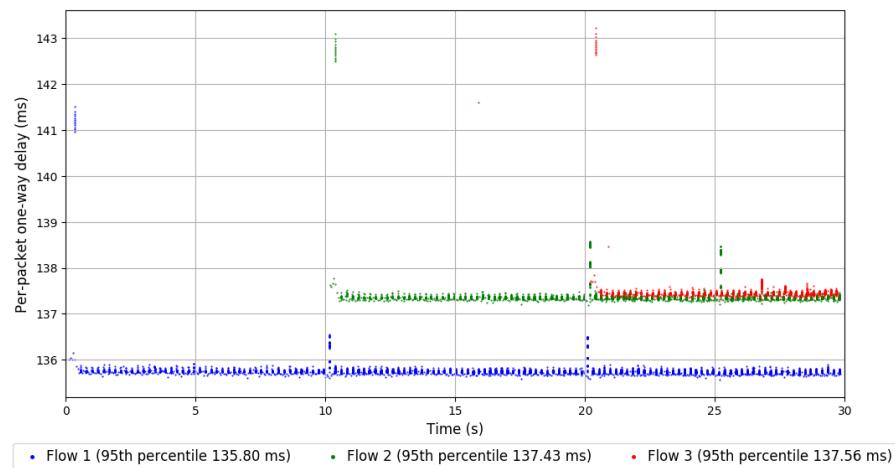
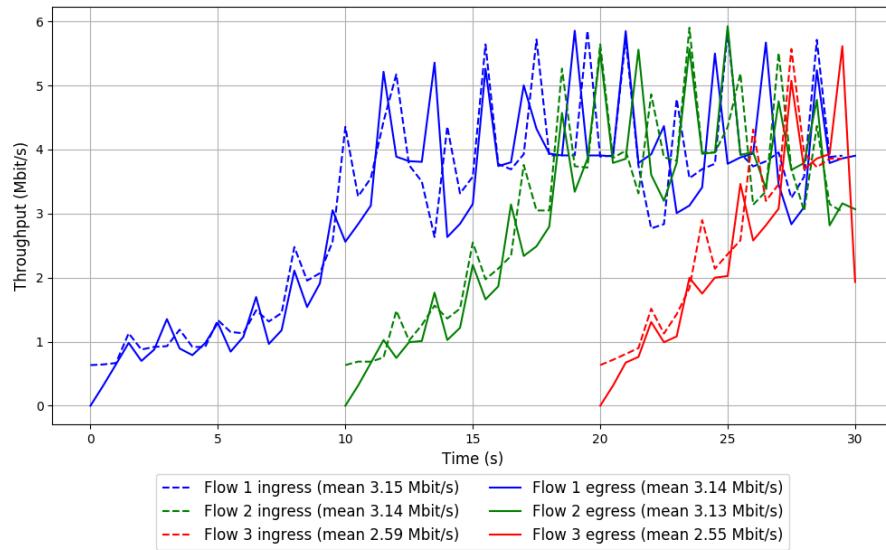


Run 5: Statistics of Sprout

```
Start at: 2018-10-10 07:52:13
End at: 2018-10-10 07:52:43
Local clock offset: 2.42 ms
Remote clock offset: -41.892 ms

# Below is generated by plot.py at 2018-10-10 08:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.03 Mbit/s
95th percentile per-packet one-way delay: 137.464 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 135.804 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 137.431 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 137.555 ms
Loss rate: 3.79%
```

## Run 5: Report of Sprout — Data Link

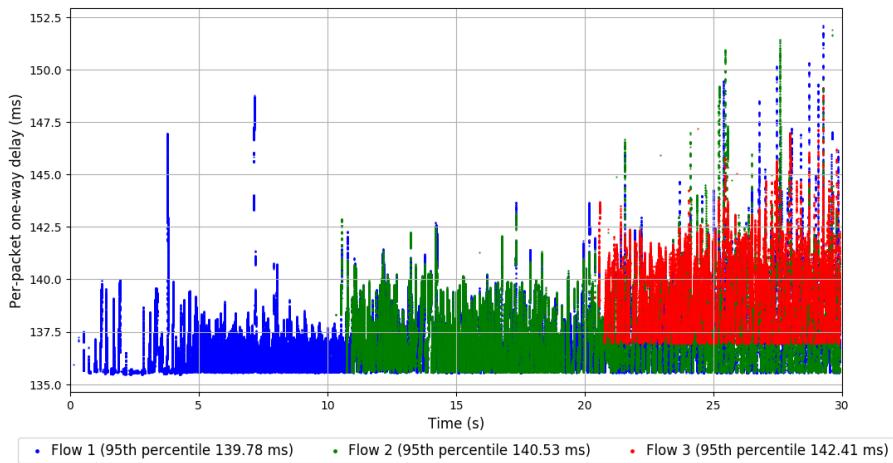
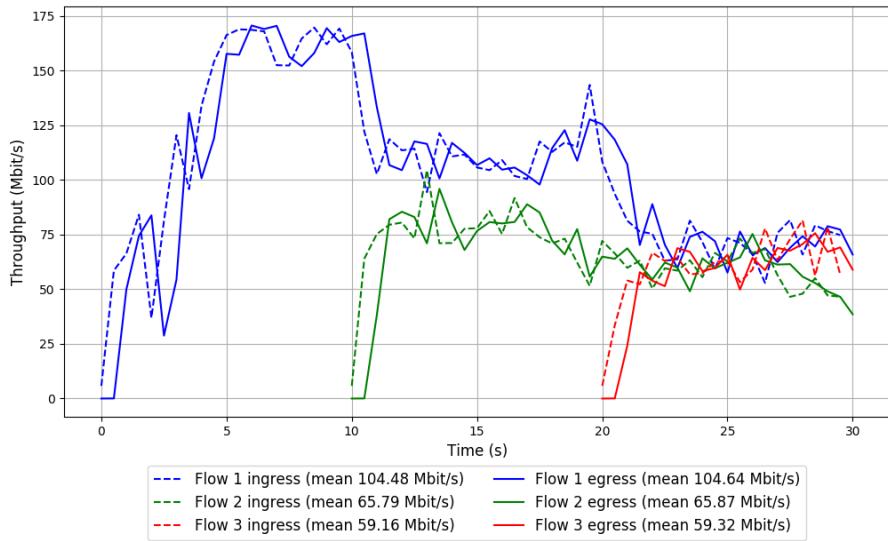


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-10 04:11:13
End at: 2018-10-10 04:11:43
Local clock offset: 1.868 ms
Remote clock offset: -39.614 ms

# Below is generated by plot.py at 2018-10-10 08:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 167.80 Mbit/s
95th percentile per-packet one-way delay: 140.756 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 104.64 Mbit/s
95th percentile per-packet one-way delay: 139.784 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 65.87 Mbit/s
95th percentile per-packet one-way delay: 140.530 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 59.32 Mbit/s
95th percentile per-packet one-way delay: 142.405 ms
Loss rate: 1.73%
```

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

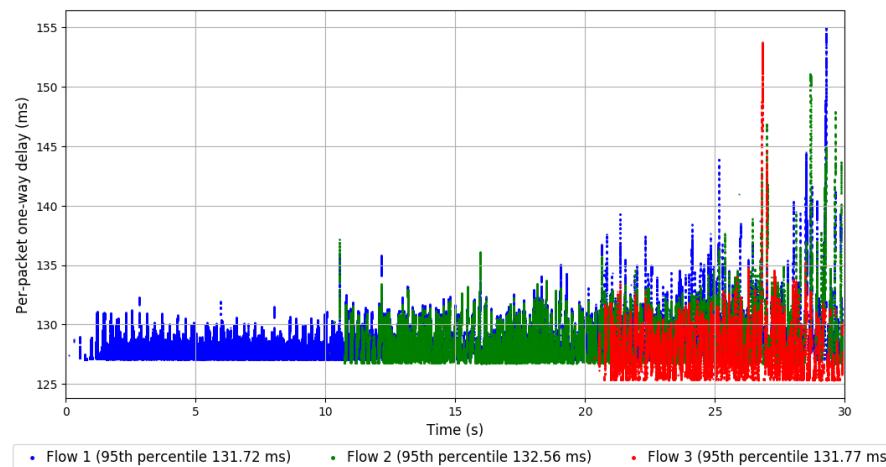
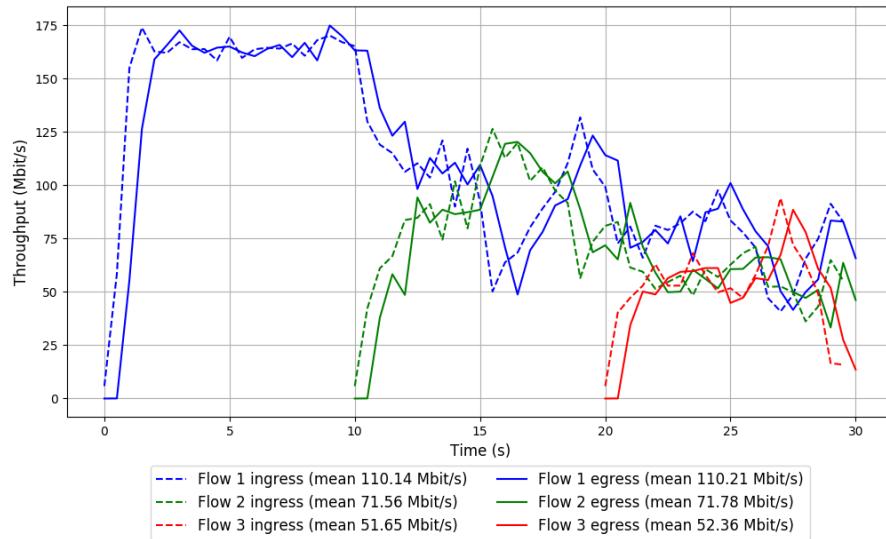


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-10 05:01:34
End at: 2018-10-10 05:02:04
Local clock offset: -2.629 ms
Remote clock offset: -32.857 ms

# Below is generated by plot.py at 2018-10-10 08:25:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.03 Mbit/s
95th percentile per-packet one-way delay: 131.983 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 110.21 Mbit/s
95th percentile per-packet one-way delay: 131.717 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 71.78 Mbit/s
95th percentile per-packet one-way delay: 132.558 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 52.36 Mbit/s
95th percentile per-packet one-way delay: 131.772 ms
Loss rate: 0.64%
```

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

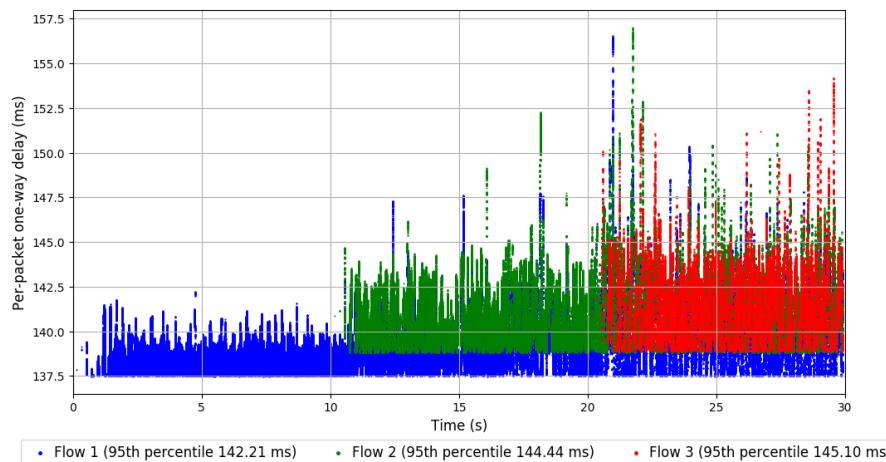
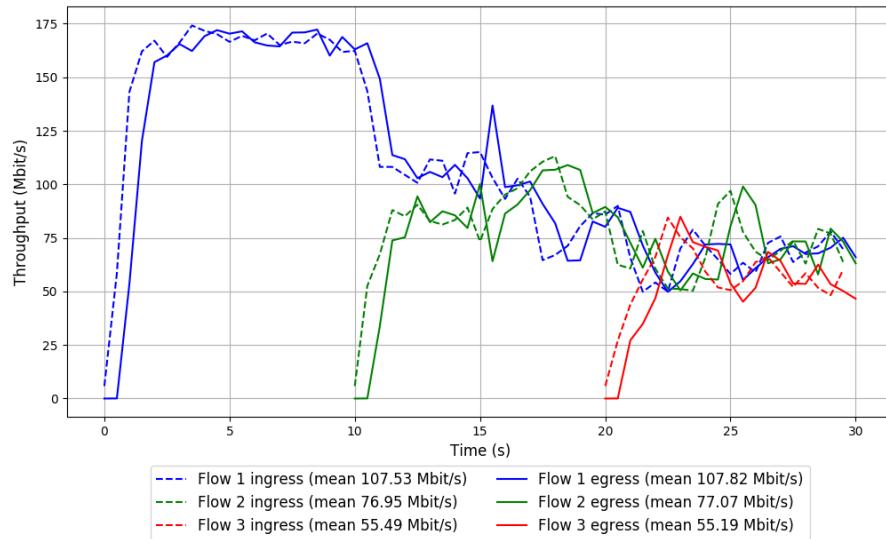


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-10 05:54:05
End at: 2018-10-10 05:54:35
Local clock offset: -1.141 ms
Remote clock offset: -45.098 ms

# Below is generated by plot.py at 2018-10-10 08:25:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.01 Mbit/s
95th percentile per-packet one-way delay: 143.702 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 107.82 Mbit/s
95th percentile per-packet one-way delay: 142.205 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 77.07 Mbit/s
95th percentile per-packet one-way delay: 144.439 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 55.19 Mbit/s
95th percentile per-packet one-way delay: 145.104 ms
Loss rate: 2.46%
```

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

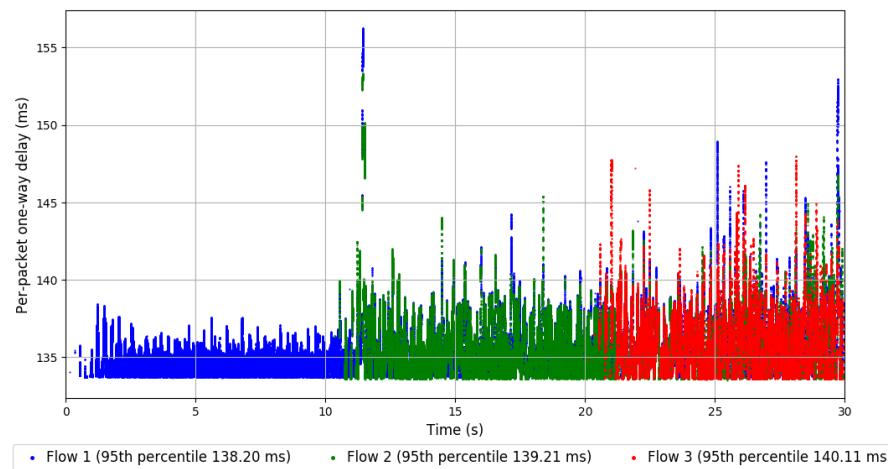
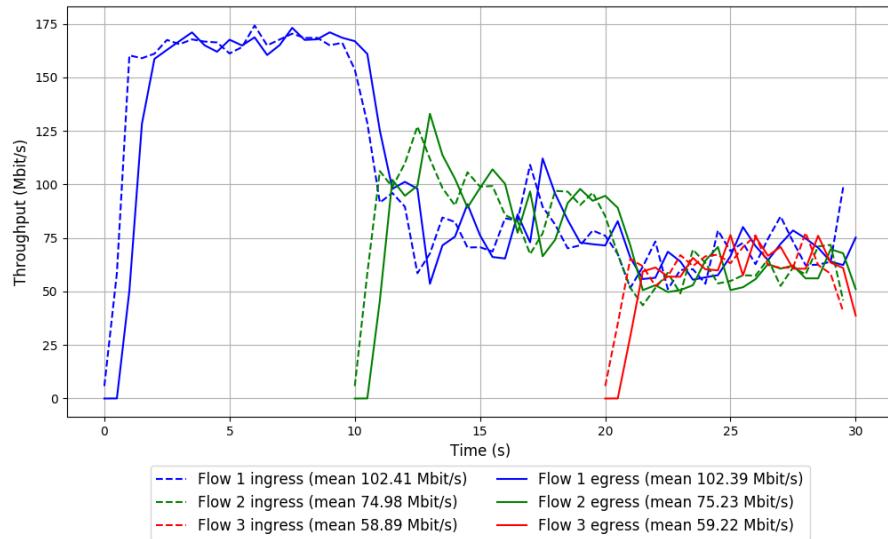


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-10 06:41:02
End at: 2018-10-10 06:41:32
Local clock offset: 1.633 ms
Remote clock offset: -38.497 ms

# Below is generated by plot.py at 2018-10-10 08:25:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.75 Mbit/s
95th percentile per-packet one-way delay: 138.811 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 102.39 Mbit/s
95th percentile per-packet one-way delay: 138.196 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 75.23 Mbit/s
95th percentile per-packet one-way delay: 139.212 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 140.106 ms
Loss rate: 1.40%
```

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

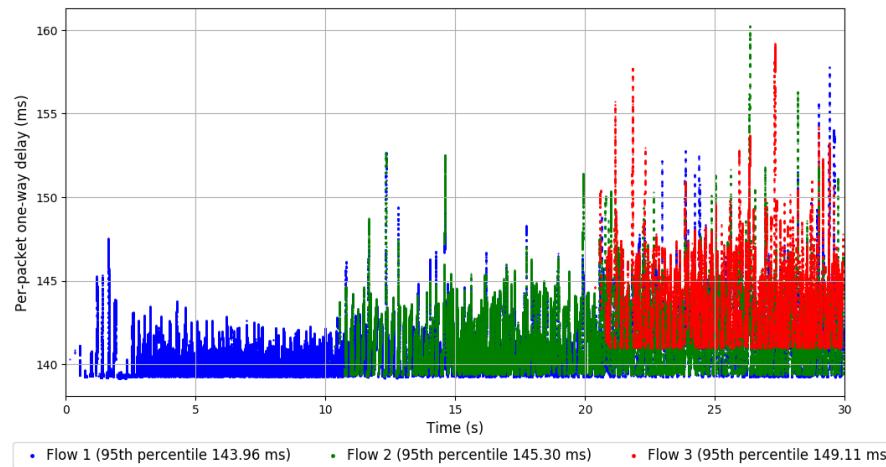
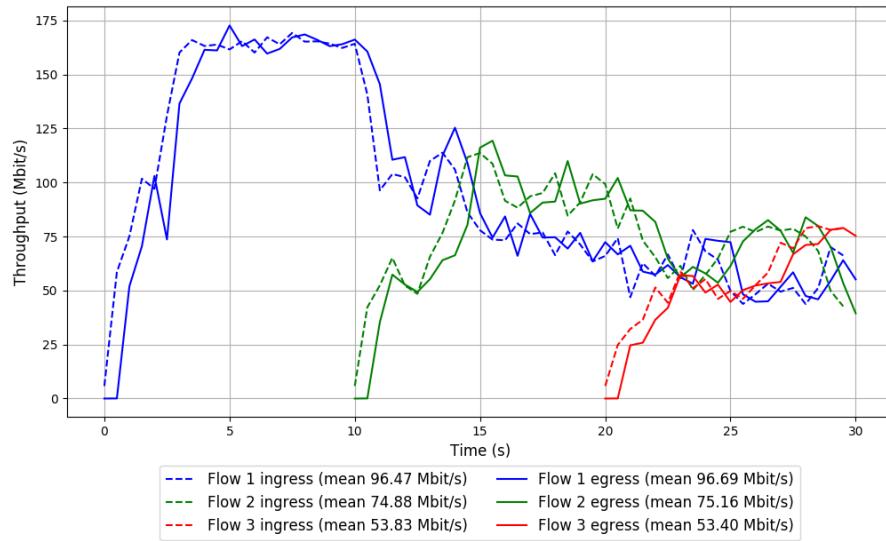


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-10 07:21:56
End at: 2018-10-10 07:22:26
Local clock offset: 2.585 ms
Remote clock offset: -43.501 ms

# Below is generated by plot.py at 2018-10-10 08:25:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.05 Mbit/s
95th percentile per-packet one-way delay: 145.404 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 96.69 Mbit/s
95th percentile per-packet one-way delay: 143.962 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 75.16 Mbit/s
95th percentile per-packet one-way delay: 145.297 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 53.40 Mbit/s
95th percentile per-packet one-way delay: 149.113 ms
Loss rate: 2.75%
```

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

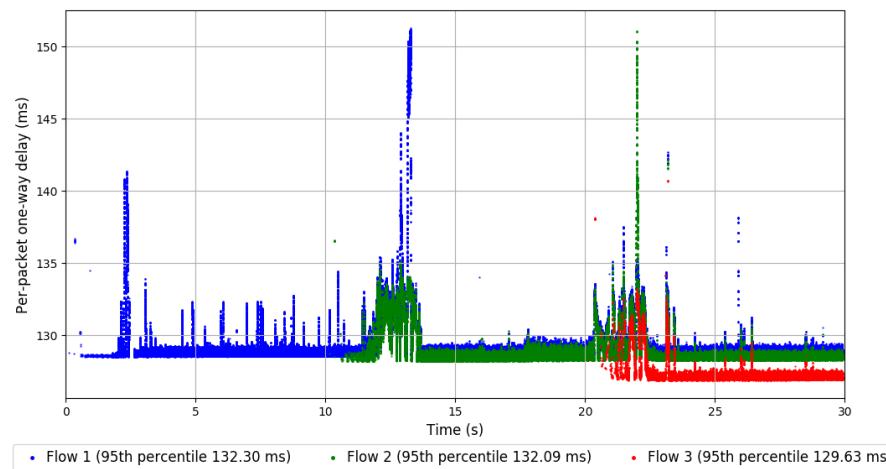
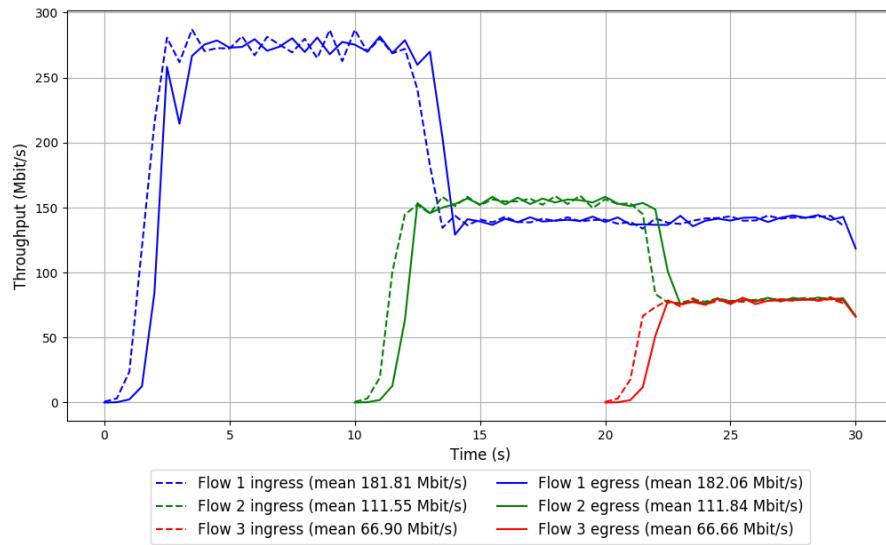


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-10 04:24:56
End at: 2018-10-10 04:25:26
Local clock offset: 1.195 ms
Remote clock offset: -31.657 ms

# Below is generated by plot.py at 2018-10-10 08:25:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 278.11 Mbit/s
95th percentile per-packet one-way delay: 132.148 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 182.06 Mbit/s
95th percentile per-packet one-way delay: 132.300 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 111.84 Mbit/s
95th percentile per-packet one-way delay: 132.090 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 66.66 Mbit/s
95th percentile per-packet one-way delay: 129.628 ms
Loss rate: 2.30%
```

Run 1: Report of TCP Vegas — Data Link

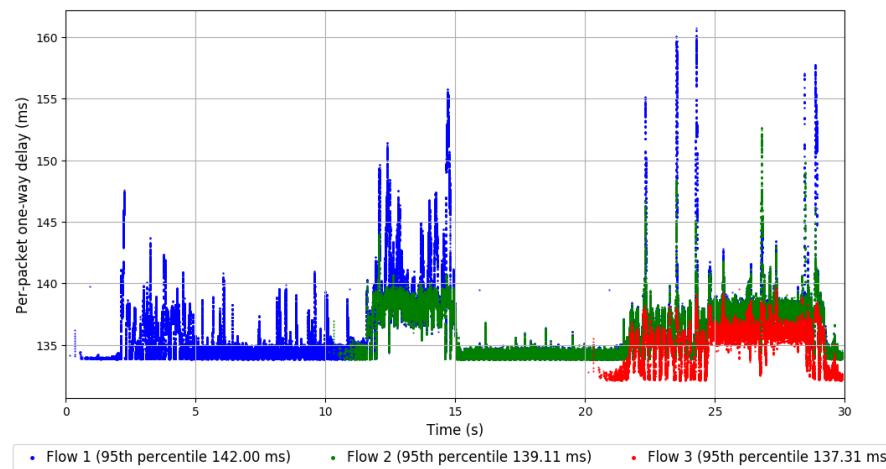
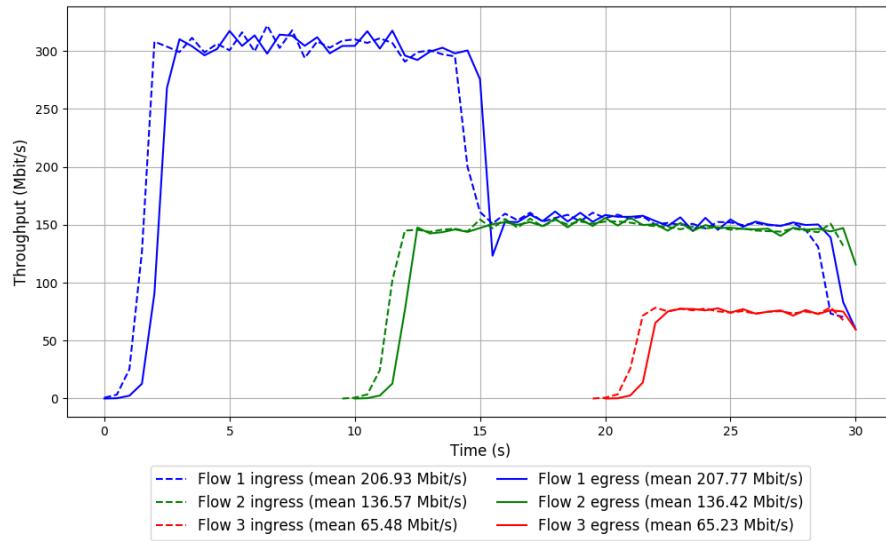


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-10 05:32:15
End at: 2018-10-10 05:32:45
Local clock offset: 2.683 ms
Remote clock offset: -35.674 ms

# Below is generated by plot.py at 2018-10-10 08:26:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.87 Mbit/s
95th percentile per-packet one-way delay: 140.510 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 207.77 Mbit/s
95th percentile per-packet one-way delay: 141.998 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 136.42 Mbit/s
95th percentile per-packet one-way delay: 139.112 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 65.23 Mbit/s
95th percentile per-packet one-way delay: 137.315 ms
Loss rate: 2.29%
```

Run 2: Report of TCP Vegas — Data Link

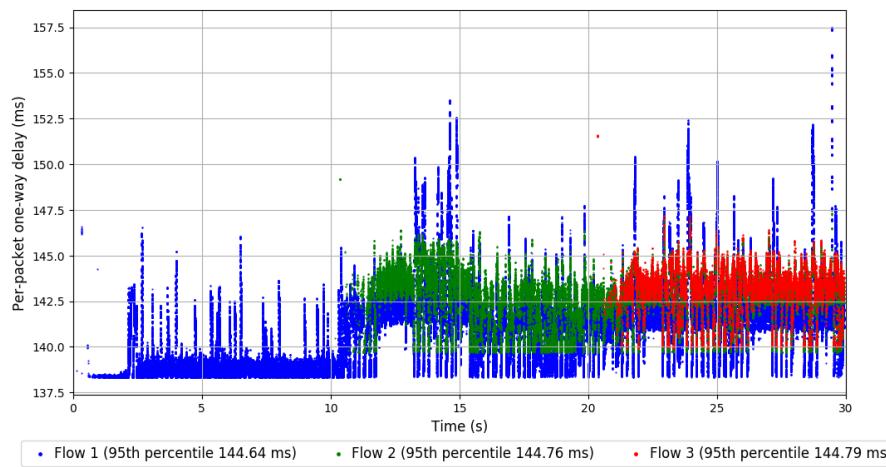
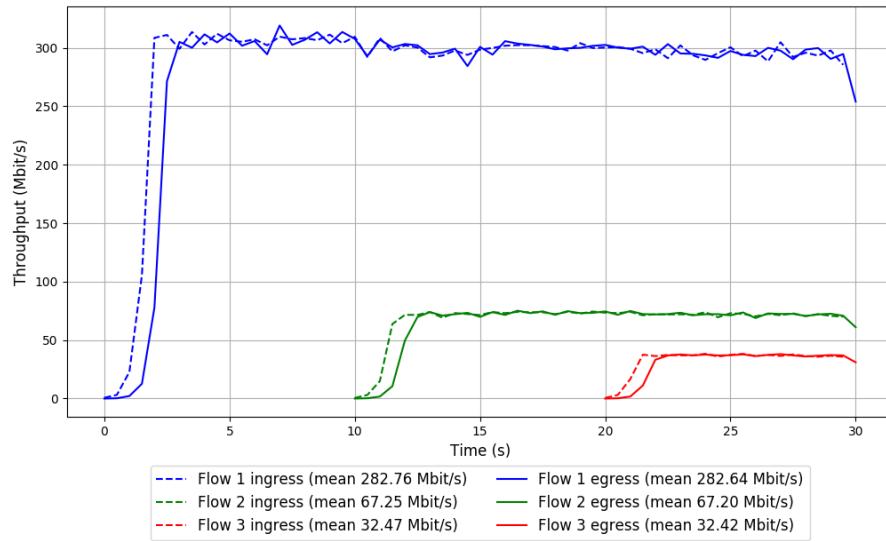


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-10 06:13:36
End at: 2018-10-10 06:14:06
Local clock offset: 1.567 ms
Remote clock offset: -43.22 ms

# Below is generated by plot.py at 2018-10-10 08:26:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.87 Mbit/s
95th percentile per-packet one-way delay: 144.721 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 282.64 Mbit/s
95th percentile per-packet one-way delay: 144.639 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 67.20 Mbit/s
95th percentile per-packet one-way delay: 144.759 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 32.42 Mbit/s
95th percentile per-packet one-way delay: 144.795 ms
Loss rate: 2.20%
```

Run 3: Report of TCP Vegas — Data Link

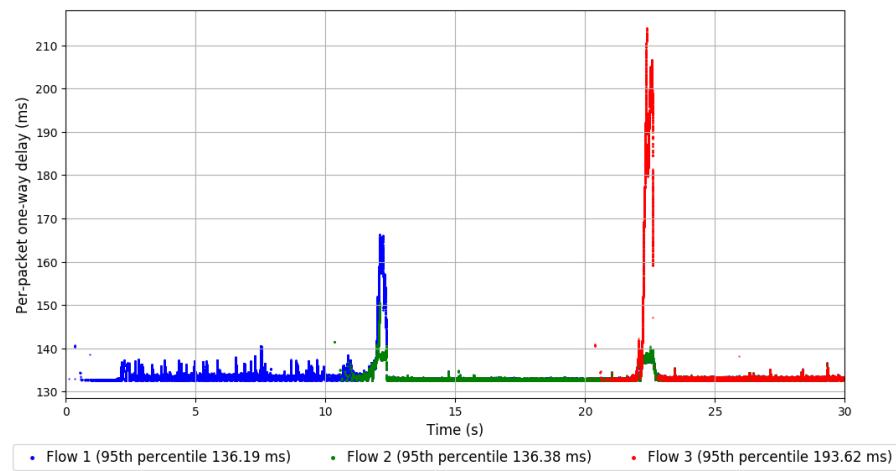
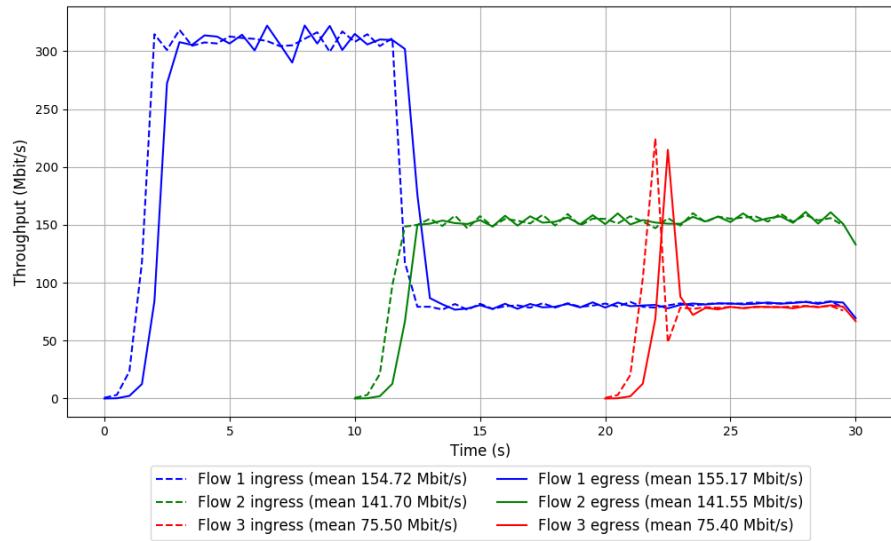


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-10 06:54:17
End at: 2018-10-10 06:54:47
Local clock offset: 3.36 ms
Remote clock offset: -34.134 ms

# Below is generated by plot.py at 2018-10-10 08:28:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 273.86 Mbit/s
95th percentile per-packet one-way delay: 136.992 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 155.17 Mbit/s
95th percentile per-packet one-way delay: 136.185 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 141.55 Mbit/s
95th percentile per-packet one-way delay: 136.381 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 75.40 Mbit/s
95th percentile per-packet one-way delay: 193.619 ms
Loss rate: 2.08%
```

Run 4: Report of TCP Vegas — Data Link

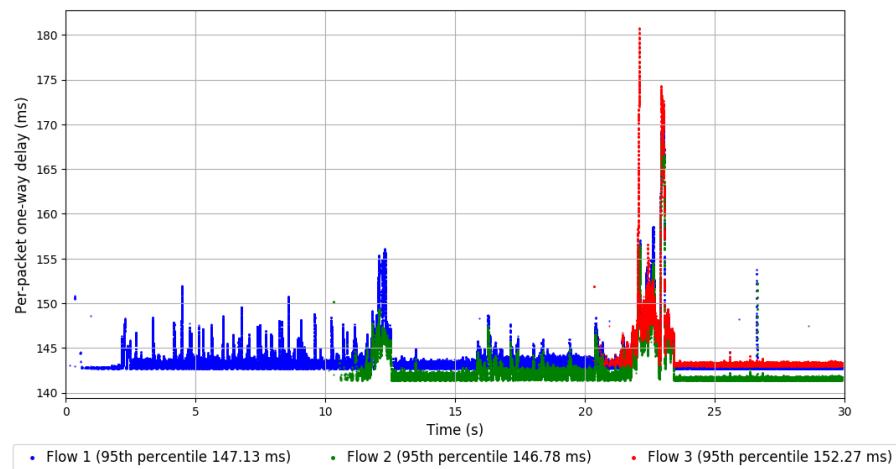
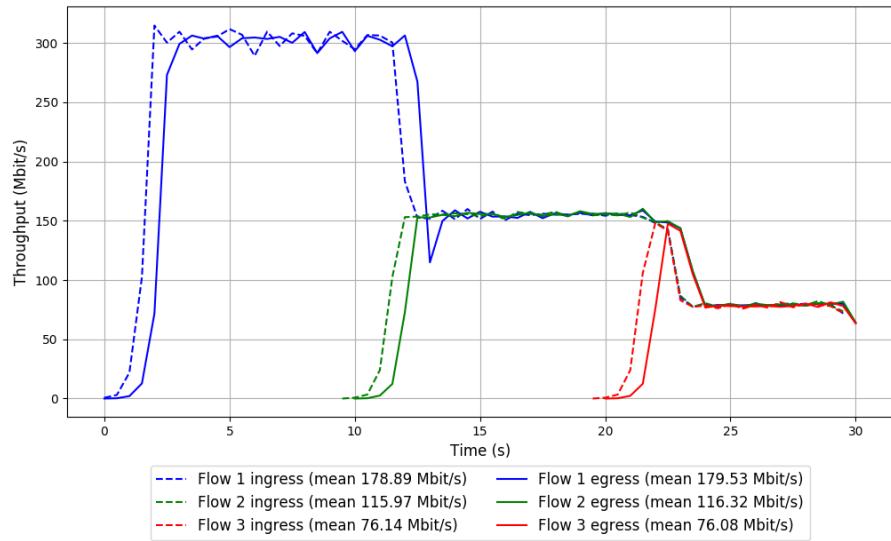


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-10 07:35:50
End at: 2018-10-10 07:36:20
Local clock offset: -1.592 ms
Remote clock offset: -50.499 ms

# Below is generated by plot.py at 2018-10-10 08:28:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 281.83 Mbit/s
95th percentile per-packet one-way delay: 147.671 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 179.53 Mbit/s
95th percentile per-packet one-way delay: 147.129 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 116.32 Mbit/s
95th percentile per-packet one-way delay: 146.777 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 76.08 Mbit/s
95th percentile per-packet one-way delay: 152.274 ms
Loss rate: 2.03%
```

Run 5: Report of TCP Vegas — Data Link

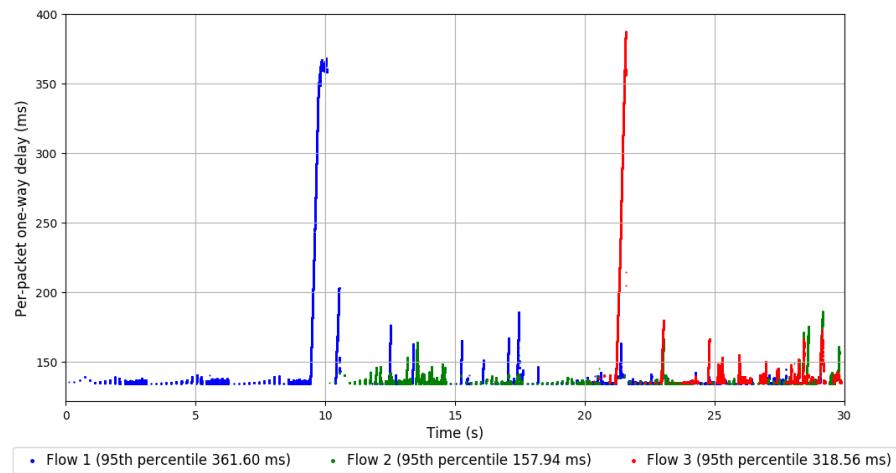
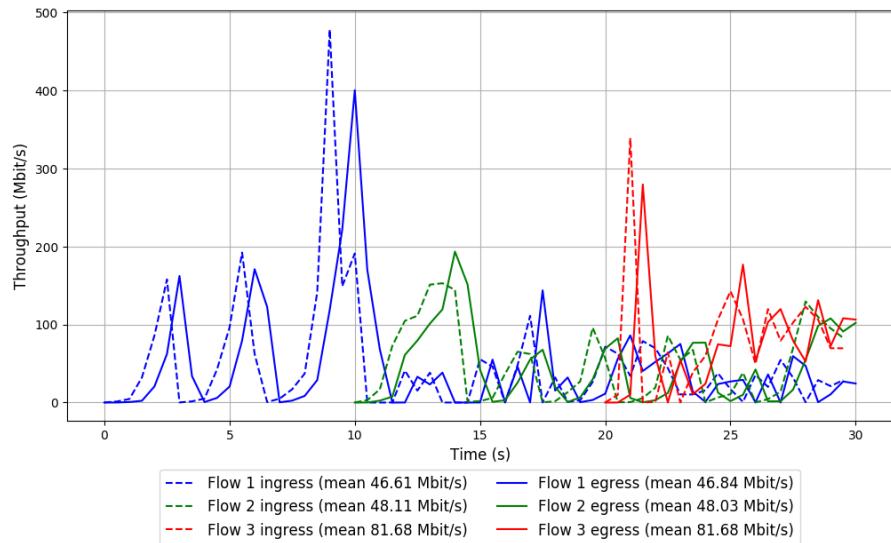


Run 1: Statistics of Verus

```
Start at: 2018-10-10 04:19:42
End at: 2018-10-10 04:20:12
Local clock offset: 2.258 ms
Remote clock offset: -37.273 ms

# Below is generated by plot.py at 2018-10-10 08:28:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.09 Mbit/s
95th percentile per-packet one-way delay: 343.892 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 361.597 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 48.03 Mbit/s
95th percentile per-packet one-way delay: 157.945 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 81.68 Mbit/s
95th percentile per-packet one-way delay: 318.559 ms
Loss rate: 0.01%
```

## Run 1: Report of Verus — Data Link

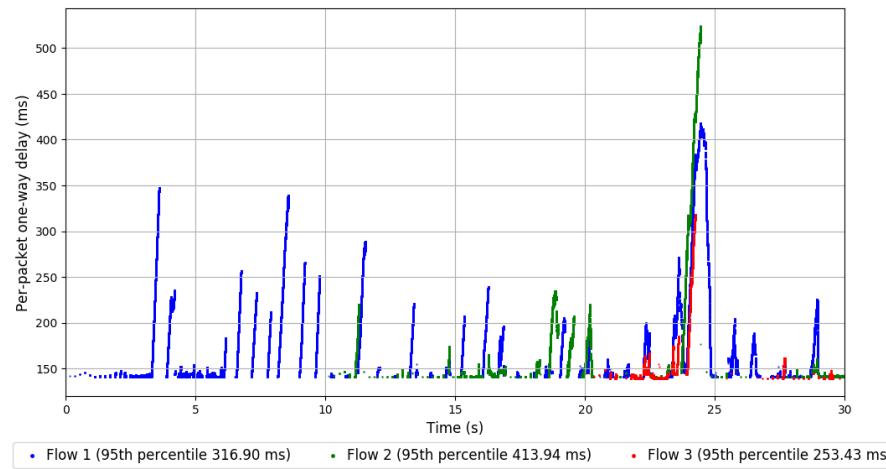
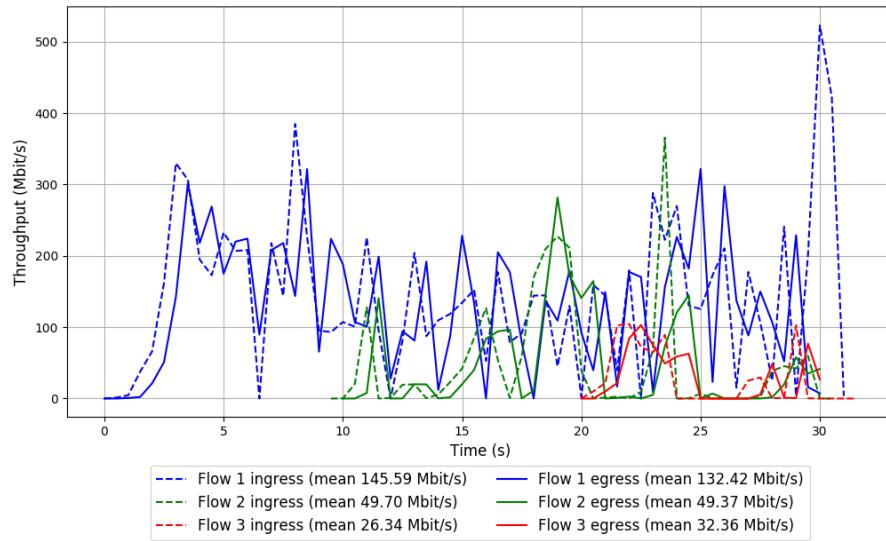


Run 2: Statistics of Verus

```
Start at: 2018-10-10 05:21:07
End at: 2018-10-10 05:21:37
Local clock offset: -2.311 ms
Remote clock offset: -47.373 ms

# Below is generated by plot.py at 2018-10-10 08:28:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.69 Mbit/s
95th percentile per-packet one-way delay: 318.142 ms
Loss rate: 10.88%
-- Flow 1:
Average throughput: 132.42 Mbit/s
95th percentile per-packet one-way delay: 316.904 ms
Loss rate: 12.67%
-- Flow 2:
Average throughput: 49.37 Mbit/s
95th percentile per-packet one-way delay: 413.944 ms
Loss rate: 6.36%
-- Flow 3:
Average throughput: 32.36 Mbit/s
95th percentile per-packet one-way delay: 253.433 ms
Loss rate: 0.08%
```

## Run 2: Report of Verus — Data Link

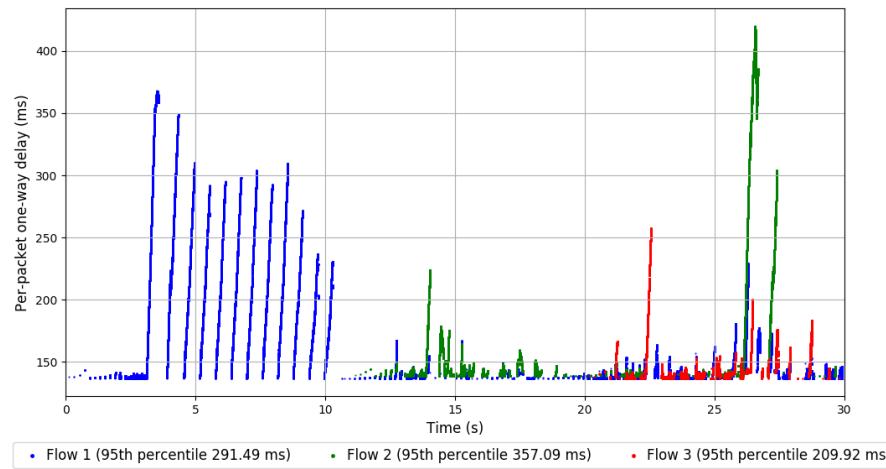
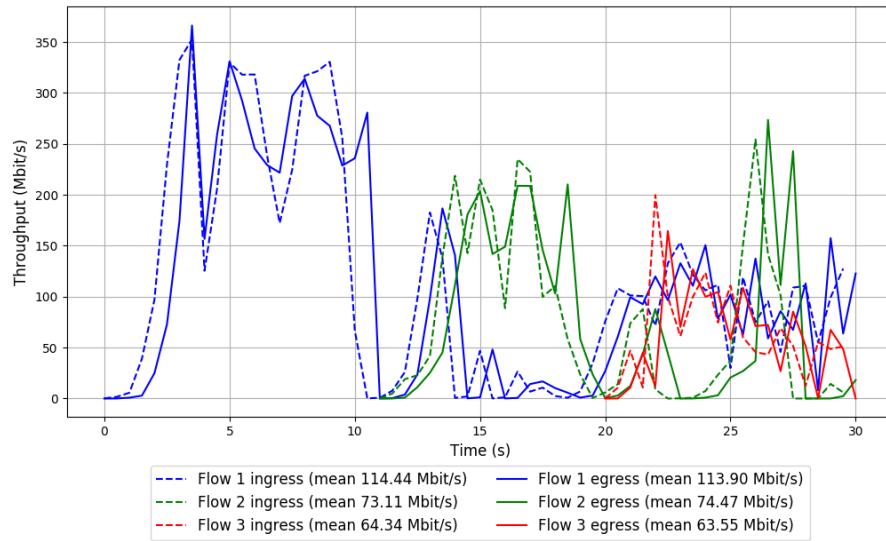


Run 3: Statistics of Verus

```
Start at: 2018-10-10 06:08:07
End at: 2018-10-10 06:08:37
Local clock offset: 2.586 ms
Remote clock offset: -40.404 ms

# Below is generated by plot.py at 2018-10-10 08:28:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.76 Mbit/s
95th percentile per-packet one-way delay: 293.928 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 113.90 Mbit/s
95th percentile per-packet one-way delay: 291.487 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 74.47 Mbit/s
95th percentile per-packet one-way delay: 357.089 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 63.55 Mbit/s
95th percentile per-packet one-way delay: 209.917 ms
Loss rate: 4.01%
```

Run 3: Report of Verus — Data Link

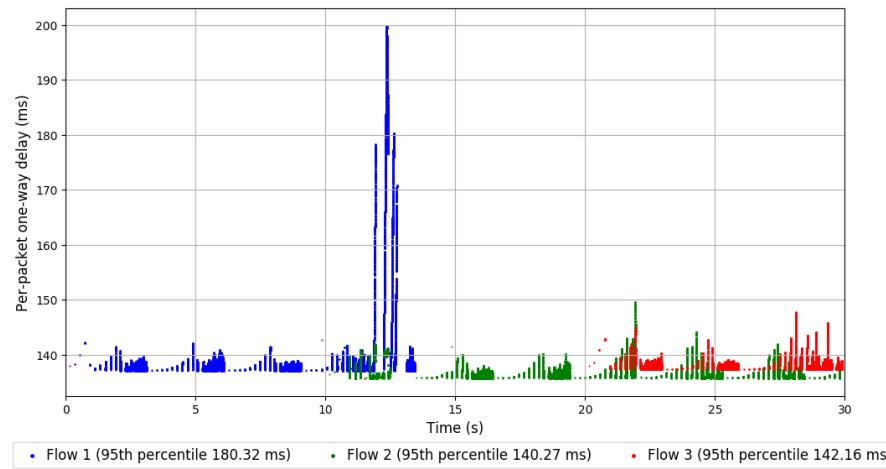
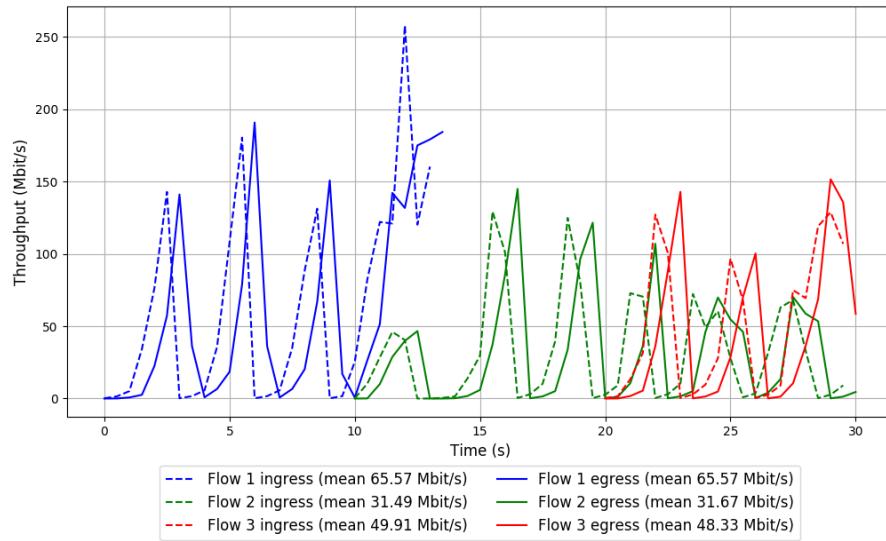


Run 4: Statistics of Verus

```
Start at: 2018-10-10 06:49:26
End at: 2018-10-10 06:49:56
Local clock offset: 1.814 ms
Remote clock offset: -40.407 ms

# Below is generated by plot.py at 2018-10-10 08:28:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.07 Mbit/s
95th percentile per-packet one-way delay: 163.553 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 65.57 Mbit/s
95th percentile per-packet one-way delay: 180.325 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.67 Mbit/s
95th percentile per-packet one-way delay: 140.272 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 48.33 Mbit/s
95th percentile per-packet one-way delay: 142.162 ms
Loss rate: 4.88%
```

Run 4: Report of Verus — Data Link

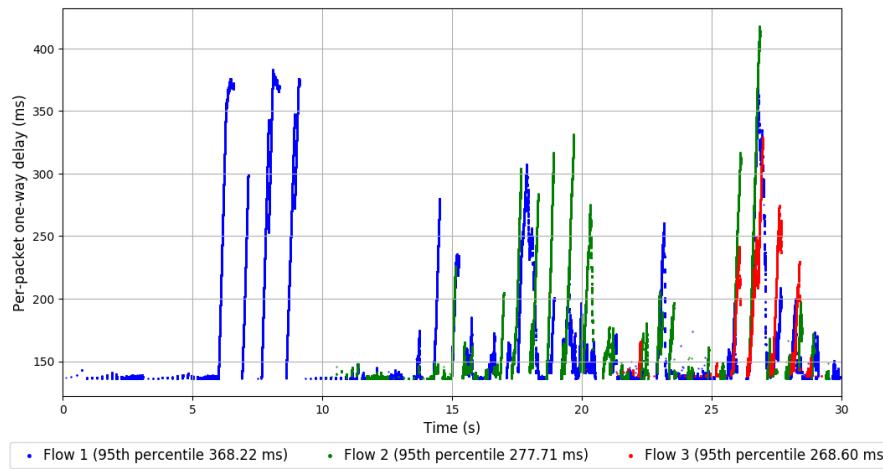
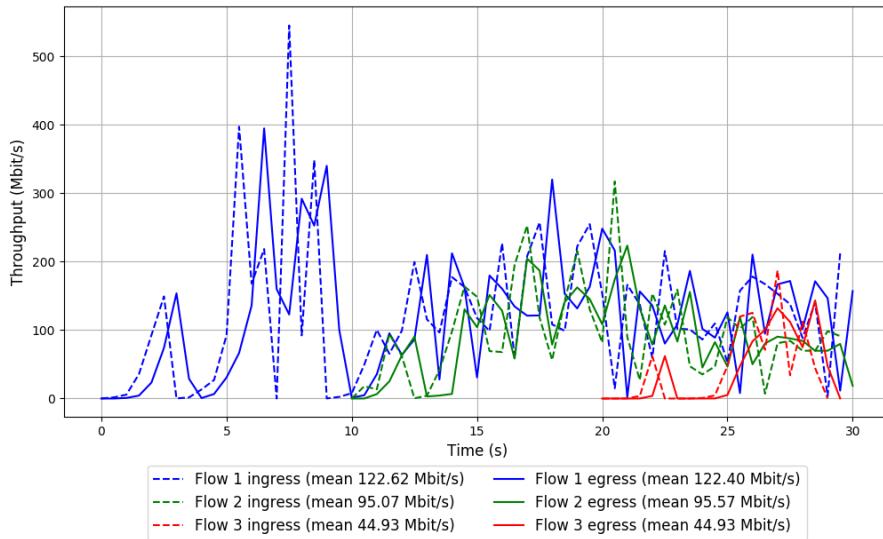


Run 5: Statistics of Verus

```
Start at: 2018-10-10 07:30:20
End at: 2018-10-10 07:30:50
Local clock offset: 2.417 ms
Remote clock offset: -41.177 ms

# Below is generated by plot.py at 2018-10-10 08:28:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.25 Mbit/s
95th percentile per-packet one-way delay: 343.439 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 122.40 Mbit/s
95th percentile per-packet one-way delay: 368.223 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 277.706 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 44.93 Mbit/s
95th percentile per-packet one-way delay: 268.597 ms
Loss rate: 0.07%
```

Run 5: Report of Verus — Data Link

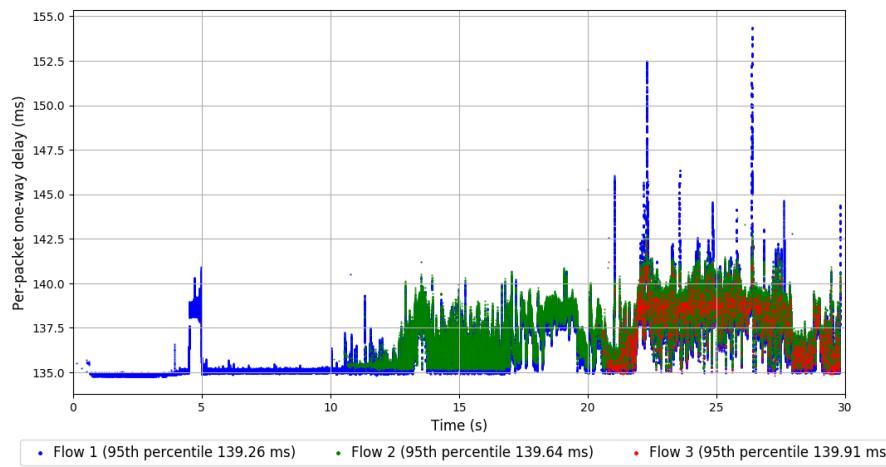
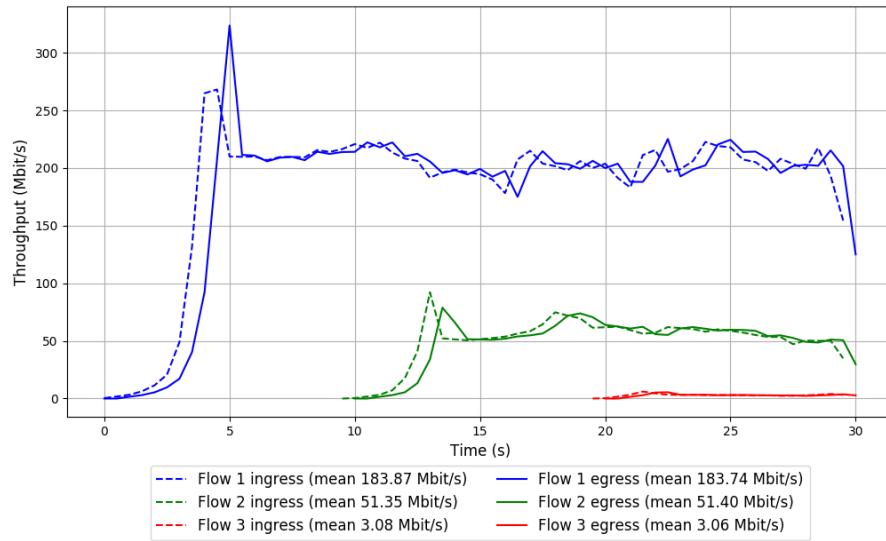


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-10-10 04:50:27
End at: 2018-10-10 04:50:57
Local clock offset: -1.104 ms
Remote clock offset: -38.166 ms

# Below is generated by plot.py at 2018-10-10 08:29:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.81 Mbit/s
95th percentile per-packet one-way delay: 139.365 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 183.74 Mbit/s
95th percentile per-packet one-way delay: 139.263 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 51.40 Mbit/s
95th percentile per-packet one-way delay: 139.639 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 139.908 ms
Loss rate: 2.74%
```

Run 1: Report of PCC-Vivace — Data Link

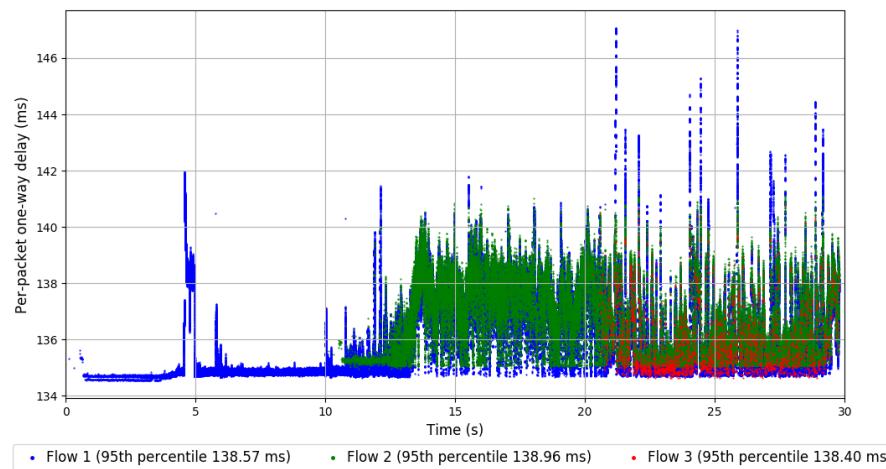
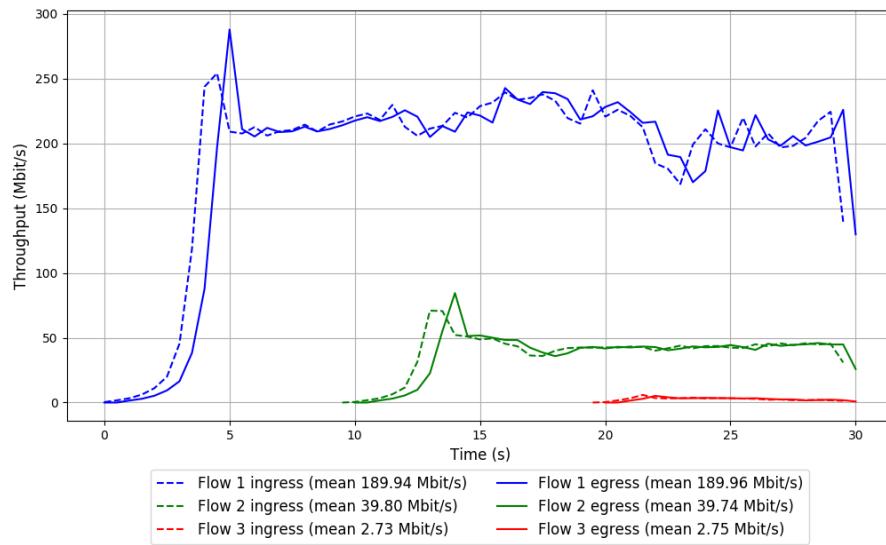


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-10 05:48:29
End at: 2018-10-10 05:48:59
Local clock offset: 1.605 ms
Remote clock offset: -38.21 ms

# Below is generated by plot.py at 2018-10-10 08:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.23 Mbit/s
95th percentile per-packet one-way delay: 138.658 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 189.96 Mbit/s
95th percentile per-packet one-way delay: 138.573 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 39.74 Mbit/s
95th percentile per-packet one-way delay: 138.962 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 138.399 ms
Loss rate: 1.60%
```

Run 2: Report of PCC-Vivace — Data Link

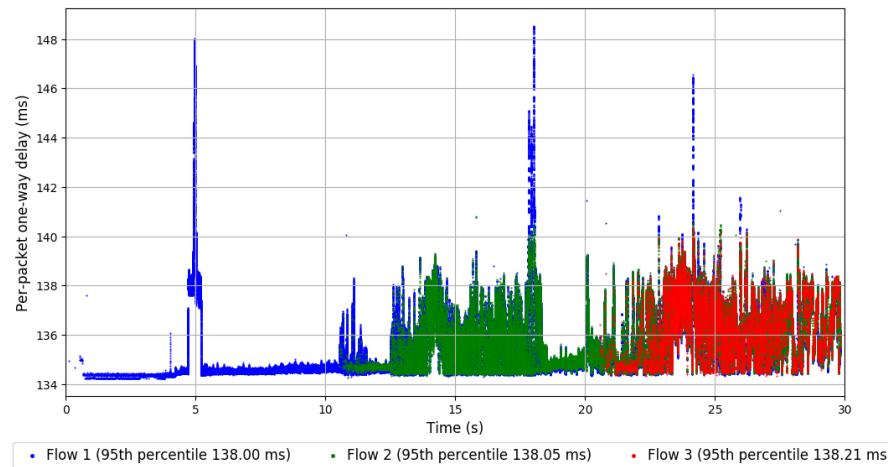
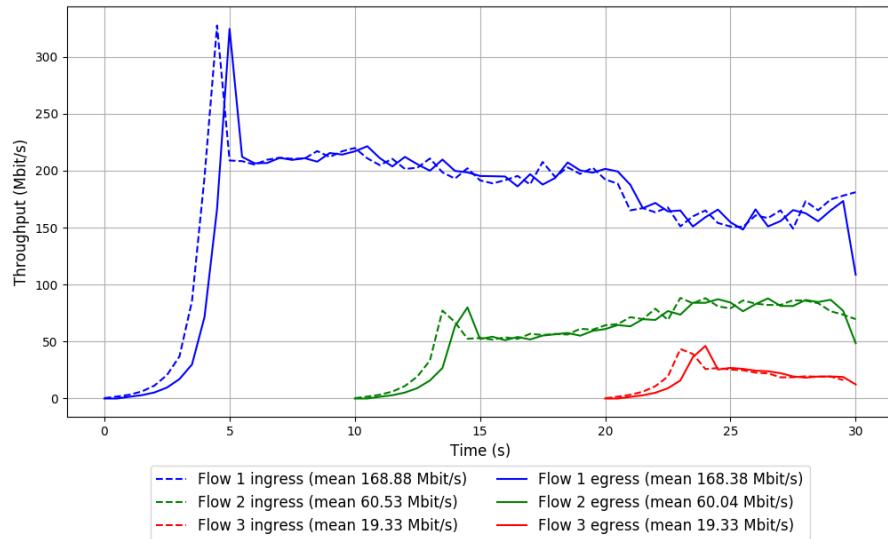


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-10 06:35:16
End at: 2018-10-10 06:35:46
Local clock offset: 1.447 ms
Remote clock offset: -37.767 ms

# Below is generated by plot.py at 2018-10-10 08:29:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.47 Mbit/s
95th percentile per-packet one-way delay: 138.019 ms
Loss rate: 3.22%
-- Flow 1:
Average throughput: 168.38 Mbit/s
95th percentile per-packet one-way delay: 138.000 ms
Loss rate: 2.90%
-- Flow 2:
Average throughput: 60.04 Mbit/s
95th percentile per-packet one-way delay: 138.052 ms
Loss rate: 4.65%
-- Flow 3:
Average throughput: 19.33 Mbit/s
95th percentile per-packet one-way delay: 138.208 ms
Loss rate: 2.46%
```

Run 3: Report of PCC-Vivace — Data Link

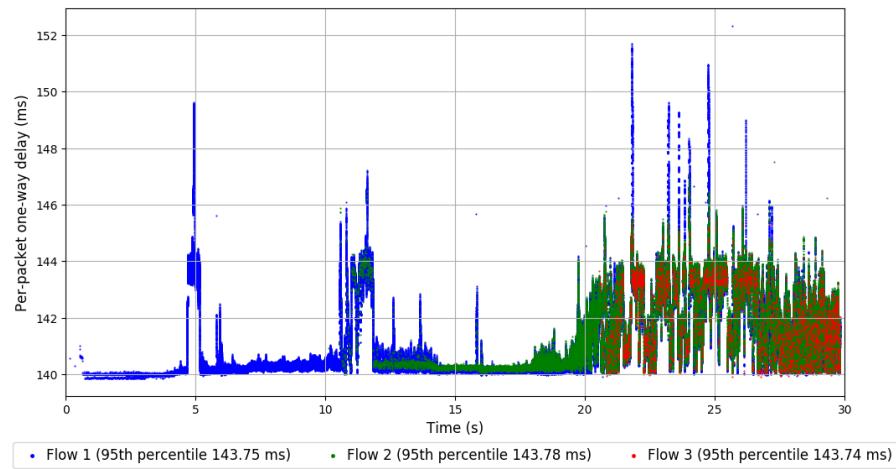
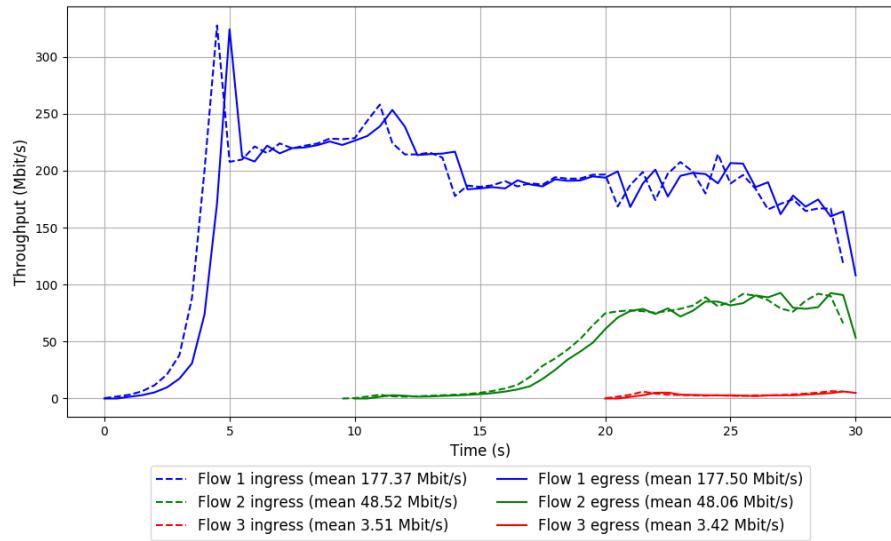


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-10 07:16:18
End at: 2018-10-10 07:16:48
Local clock offset: 3.2 ms
Remote clock offset: -43.508 ms

# Below is generated by plot.py at 2018-10-10 08:29:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.48 Mbit/s
95th percentile per-packet one-way delay: 143.752 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 177.50 Mbit/s
95th percentile per-packet one-way delay: 143.745 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 48.06 Mbit/s
95th percentile per-packet one-way delay: 143.783 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 143.735 ms
Loss rate: 4.59%
```

Run 4: Report of PCC-Vivace — Data Link

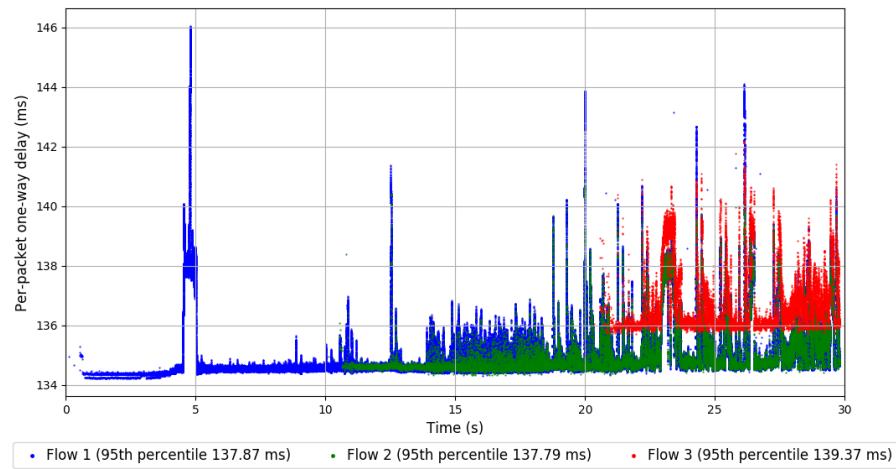
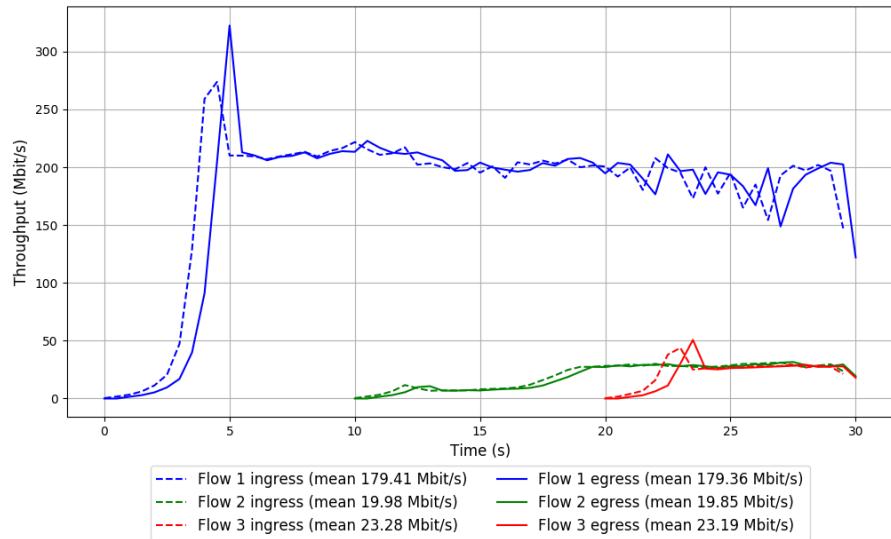


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-10 07:55:36
End at: 2018-10-10 07:56:06
Local clock offset: 1.159 ms
Remote clock offset: -41.531 ms

# Below is generated by plot.py at 2018-10-10 08:29:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.06 Mbit/s
95th percentile per-packet one-way delay: 137.954 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 179.36 Mbit/s
95th percentile per-packet one-way delay: 137.870 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 19.85 Mbit/s
95th percentile per-packet one-way delay: 137.790 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 23.19 Mbit/s
95th percentile per-packet one-way delay: 139.373 ms
Loss rate: 2.40%
```

Run 5: Report of PCC-Vivace — Data Link

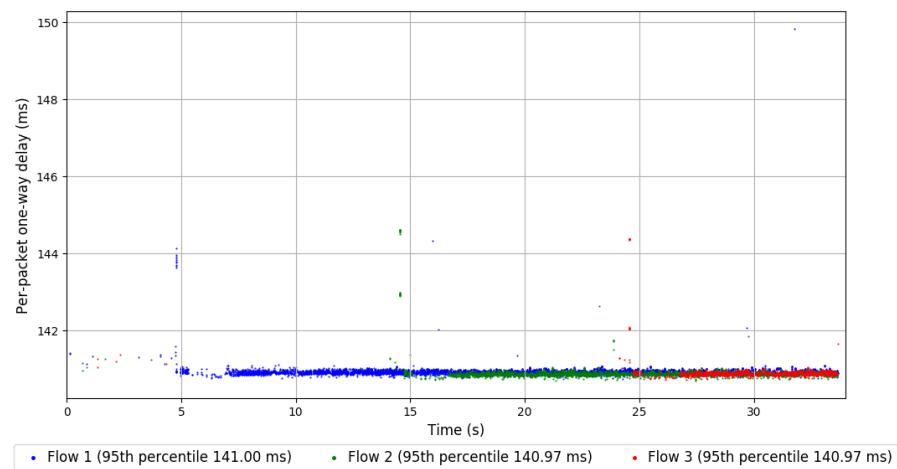
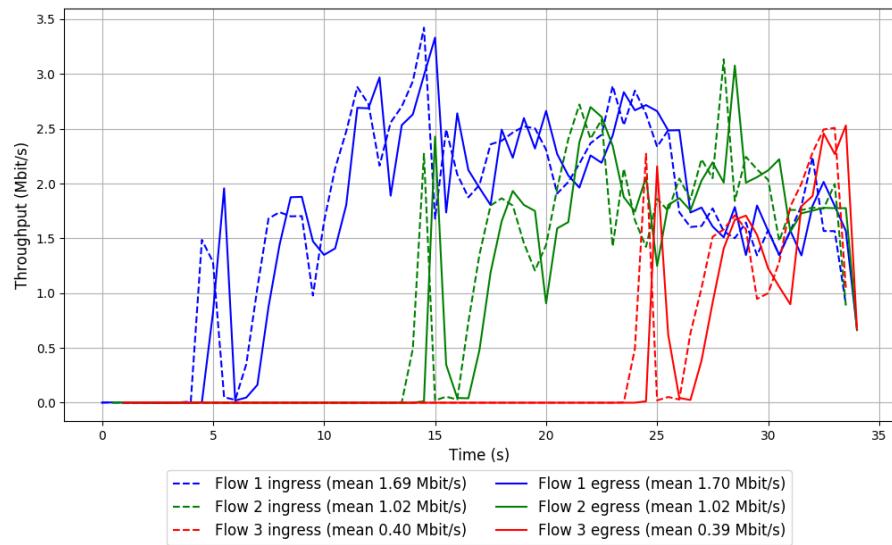


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-10 04:23:39
End at: 2018-10-10 04:24:09
Local clock offset: 2.482 ms
Remote clock offset: -42.91 ms

# Below is generated by plot.py at 2018-10-10 08:29:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 140.995 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 141.003 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 140.965 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 140.970 ms
Loss rate: 3.90%
```

Run 1: Report of WebRTC media — Data Link

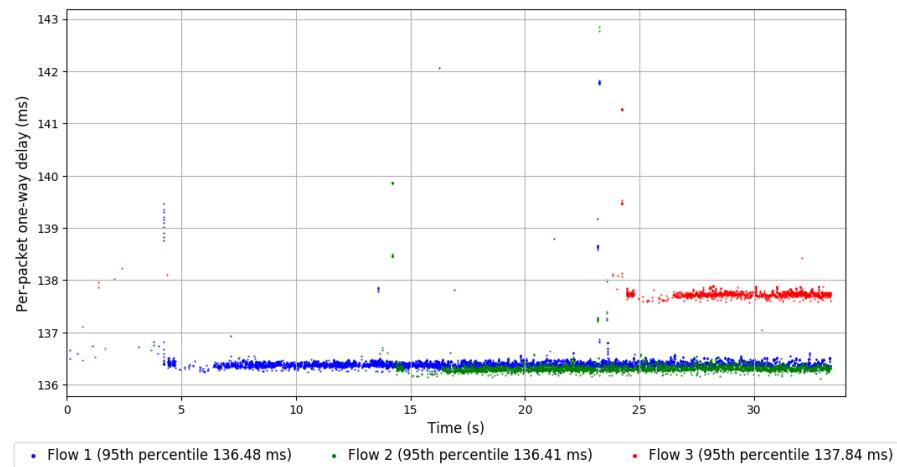
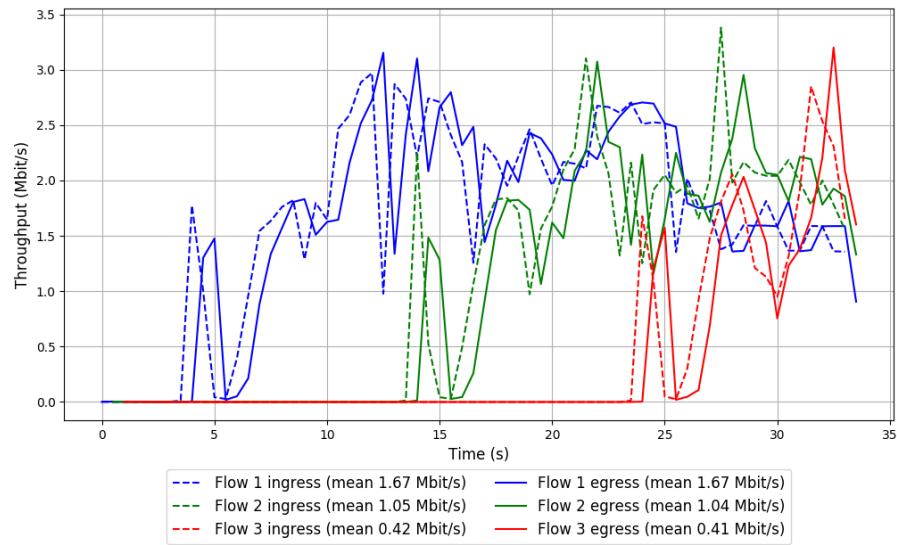


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-10 05:30:56
End at: 2018-10-10 05:31:26
Local clock offset: 2.908 ms
Remote clock offset: -39.637 ms

# Below is generated by plot.py at 2018-10-10 08:29:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 137.745 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 136.478 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 136.408 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 137.842 ms
Loss rate: 2.82%
```

Run 2: Report of WebRTC media — Data Link

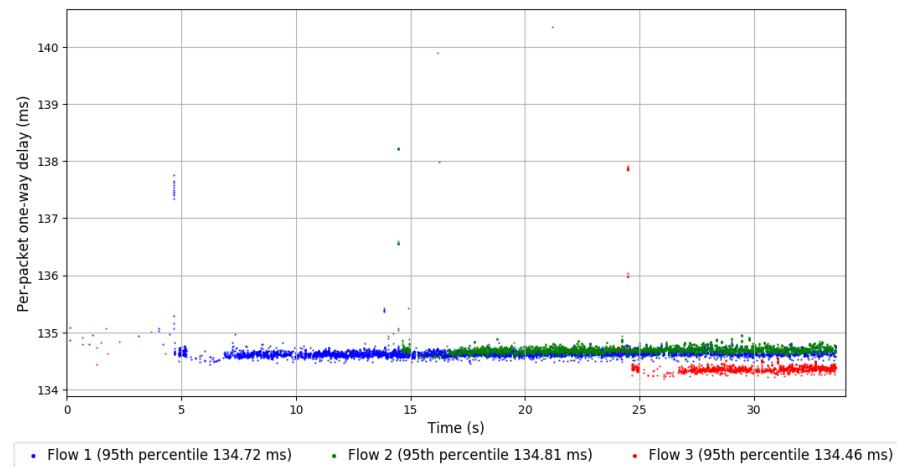
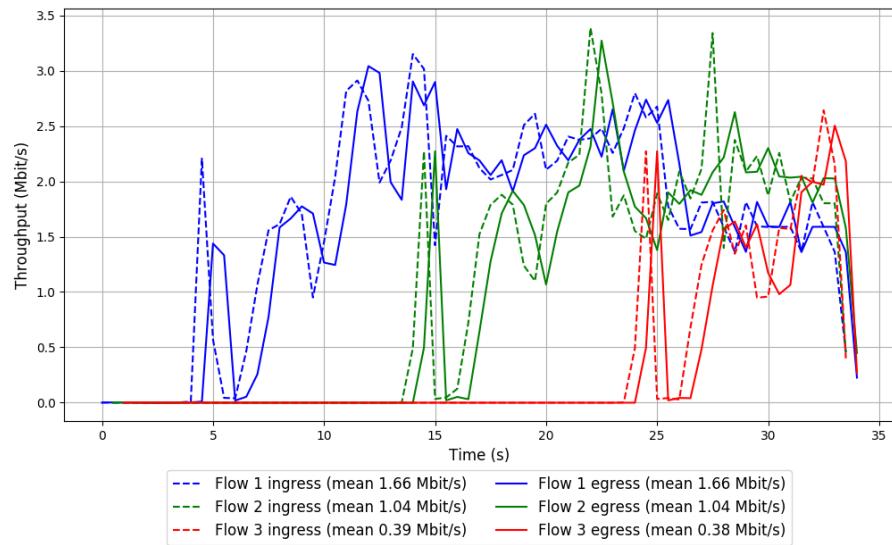


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-10 06:12:19
End at: 2018-10-10 06:12:49
Local clock offset: 1.147 ms
Remote clock offset: -38.296 ms

# Below is generated by plot.py at 2018-10-10 08:29:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 134.762 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 134.716 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 134.805 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 134.460 ms
Loss rate: 2.63%
```

Run 3: Report of WebRTC media — Data Link

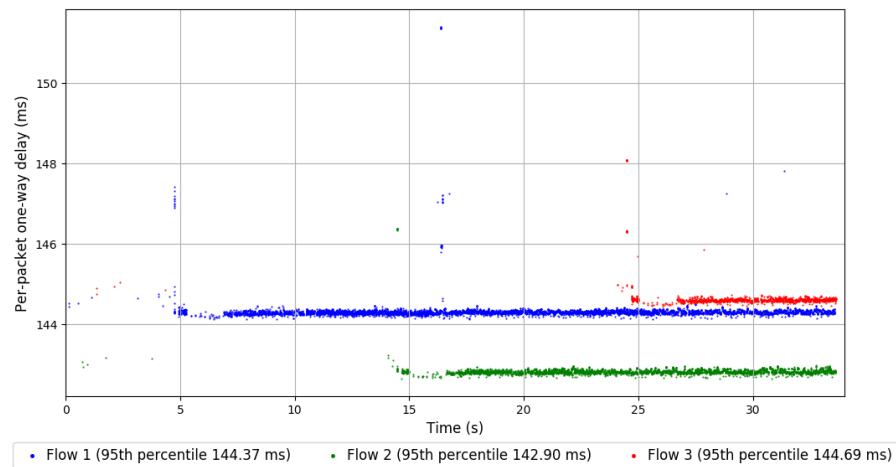
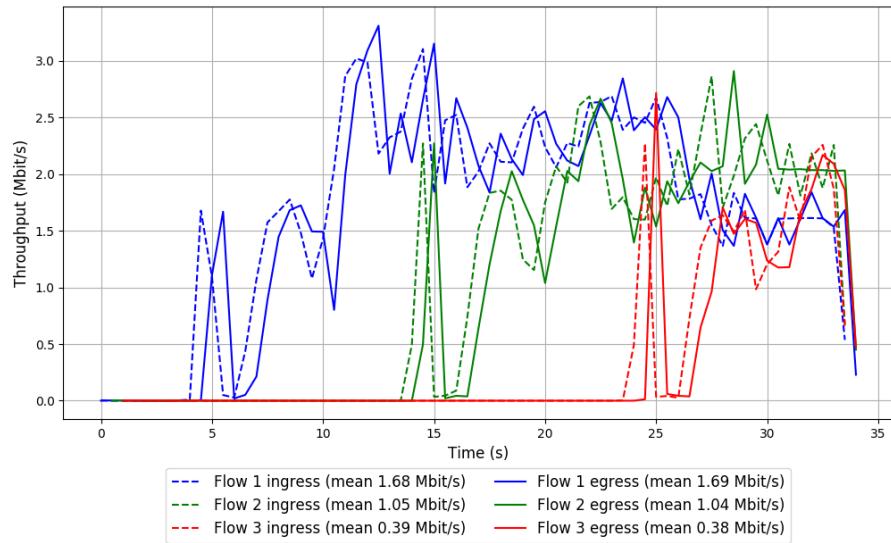


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-10 06:53:00
End at: 2018-10-10 06:53:30
Local clock offset: 2.644 ms
Remote clock offset: -46.725 ms

# Below is generated by plot.py at 2018-10-10 08:29:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 144.607 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 144.370 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 142.903 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 144.688 ms
Loss rate: 2.83%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-10 07:34:33
End at: 2018-10-10 07:35:03
Local clock offset: 2.824 ms
Remote clock offset: -43.687 ms

# Below is generated by plot.py at 2018-10-10 08:29:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 140.870 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 140.867 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 140.883 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 140.577 ms
Loss rate: 2.96%
```

Run 5: Report of WebRTC media — Data Link

