Pantheon Report

Generated at 2018-10-26 04:53:02 (UTC).

Data path: AWS Brazil 2 on `ens5` (*local*) →Colombia on `p4p1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.
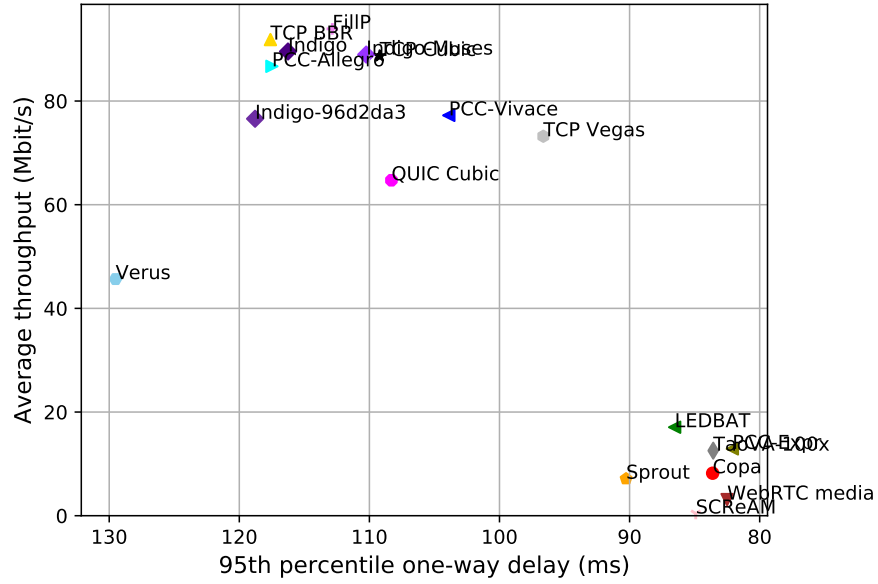
```
System info:
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```
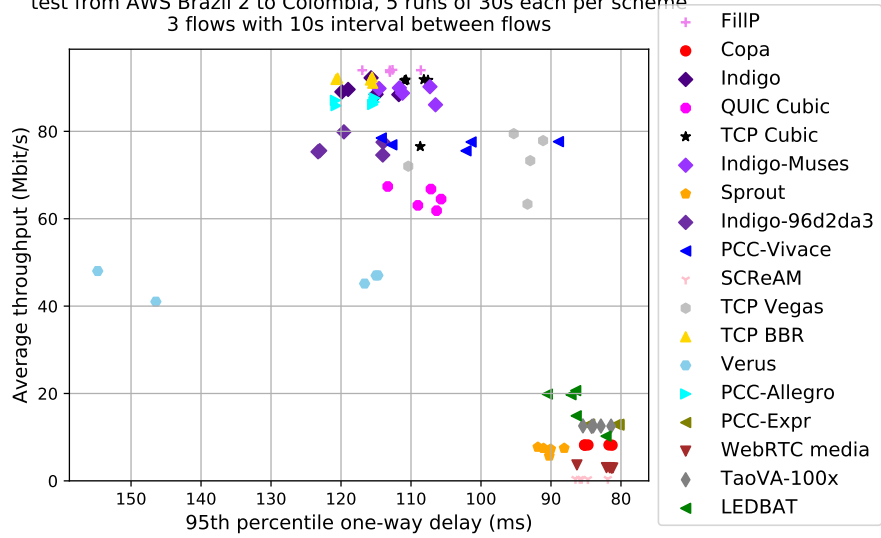
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 2 to Colombia, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from AWS Brazil 2 to Colombia, 5 runs of 30s each per scheme
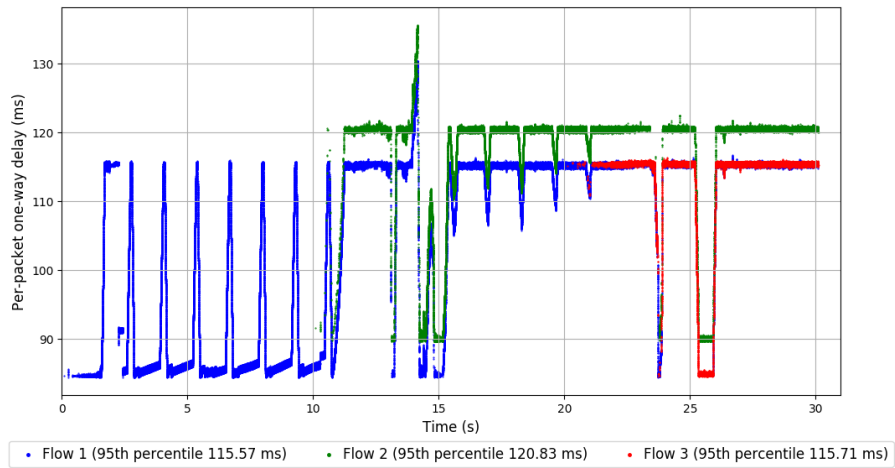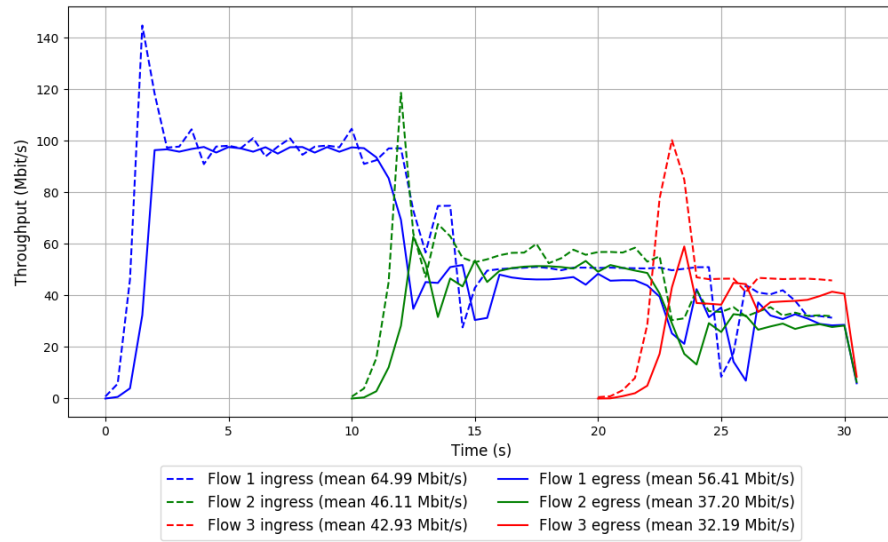## 3 flows with 10s interval between flows

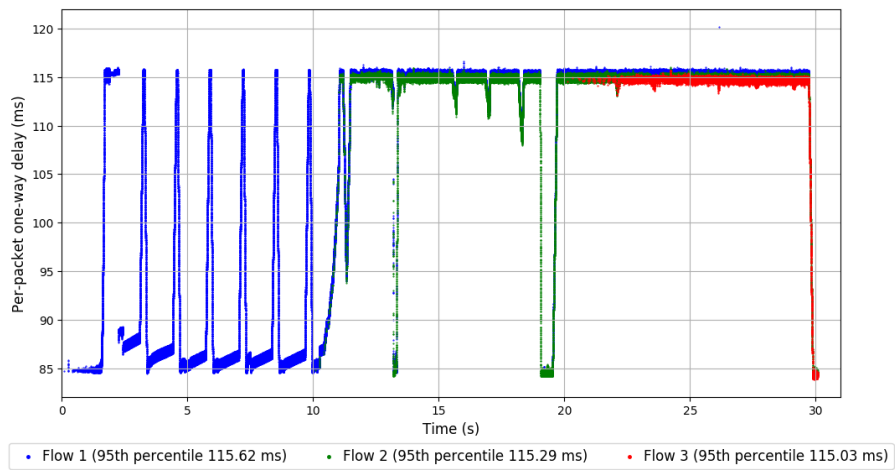| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	55.99	37.97	32.00	115.36	117.57	115.24	13.20	19.64	26.52
Copa	5	0.00	10.40	3.85	83.88	83.76	82.66	98.26	73.32	75.42
TCP Cubic	5	70.15	14.81	26.09	109.44	110.35	105.27	0.83	0.55	0.46
FillP	5	54.70	42.73	32.64	111.76	112.87	111.77	15.25	28.69	28.35
Indigo	5	58.84	31.13	31.38	114.39	114.72	116.85	8.20	18.92	31.06
Indigo-96d2da3	5	46.60	33.86	23.95	118.68	116.50	118.30	57.18	58.94	59.93
LEDBAT	5	10.69	7.50	4.25	85.02	84.90	85.90	0.13	0.07	0.08
Indigo-Muses	5	70.59	20.10	15.76	110.51	110.36	107.96	3.28	1.13	1.21
PCC-Allegro	5	79.49	7.31	7.14	117.49	116.60	115.43	3.22	4.29	6.16
PCC-Expr	5	8.24	5.01	4.01	82.10	82.11	82.12	57.36	43.48	44.17
QUIC Cubic	5	43.53	26.43	11.15	109.27	105.58	103.78	1.33	0.61	0.52
SCReAM	5	0.21	0.22	0.22	82.91	83.75	82.70	0.11	0.15	0.08
Sprout	5	3.57	3.86	3.02	89.95	90.07	89.83	0.14	0.37	0.29
TaoVA-100x	5	7.37	5.33	4.95	90.61	82.70	82.70	38.42	63.57	79.48
TCP Vegas	5	41.38	28.42	38.77	95.58	100.12	99.05	1.34	0.76	1.83
Verus	5	24.47	24.86	15.57	122.44	130.06	113.61	27.57	41.44	26.45
PCC-Vivace	5	68.03	10.67	6.38	103.99	103.15	101.90	0.31	0.37	0.49
WebRTC media	5	1.86	1.03	0.23	82.38	82.46	83.04	0.17	0.05	0.08

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-26 03:10:14
End at: 2018-10-26 03:10:44
Local clock offset: -7.145 ms
Remote clock offset: -1.952 ms


# Below is generated by plot.py at 2018-10-26 04:45:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.89 Mbit/s
95th percentile per-packet one-way delay: 120.705 ms
Loss rate: 16.37%
-- Flow 1:
Average throughput: 56.41 Mbit/s
95th percentile per-packet one-way delay: 115.573 ms
Loss rate: 13.11%
-- Flow 2:
Average throughput: 37.20 Mbit/s
95th percentile per-packet one-way delay: 120.826 ms
Loss rate: 19.23%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 115.714 ms
Loss rate: 25.03%
```
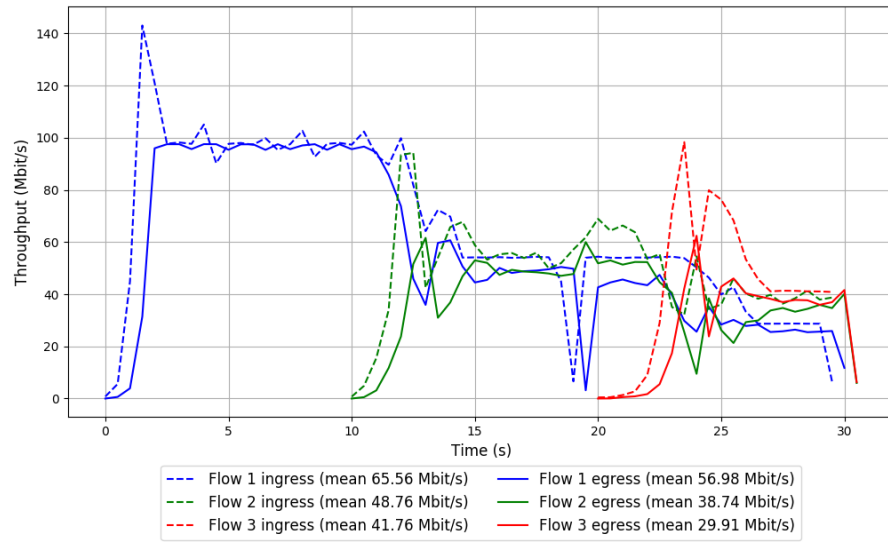
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-10-26 03:32:54
End at: 2018-10-26 03:33:24
Local clock offset: -7.326 ms
Remote clock offset: -3.609 ms


# Below is generated by plot.py at 2018-10-26 04:45:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.44 Mbit/s
95th percentile per-packet one-way delay: 115.566 ms
Loss rate: 17.20%
-- Flow 1:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 115.619 ms
Loss rate: 13.09%
-- Flow 2:
Average throughput: 38.74 Mbit/s
95th percentile per-packet one-way delay: 115.294 ms
Loss rate: 20.56%
-- Flow 3:
Average throughput: 29.91 Mbit/s
95th percentile per-packet one-way delay: 115.033 ms
Loss rate: 28.61%
```
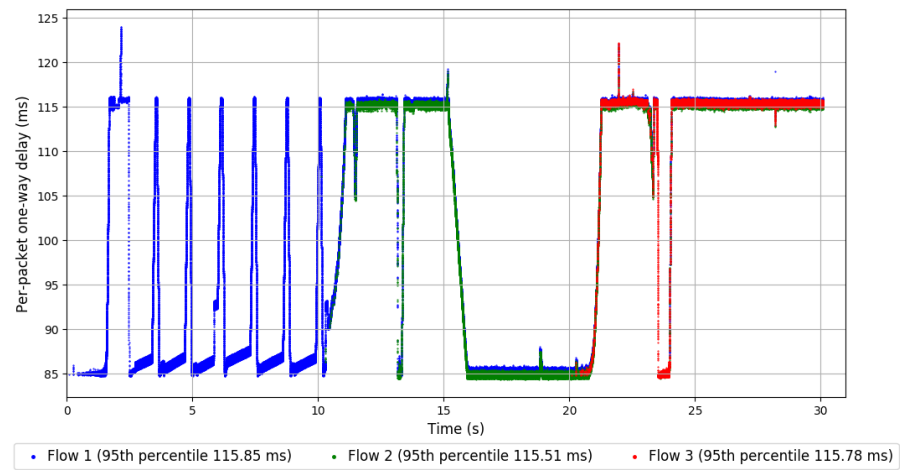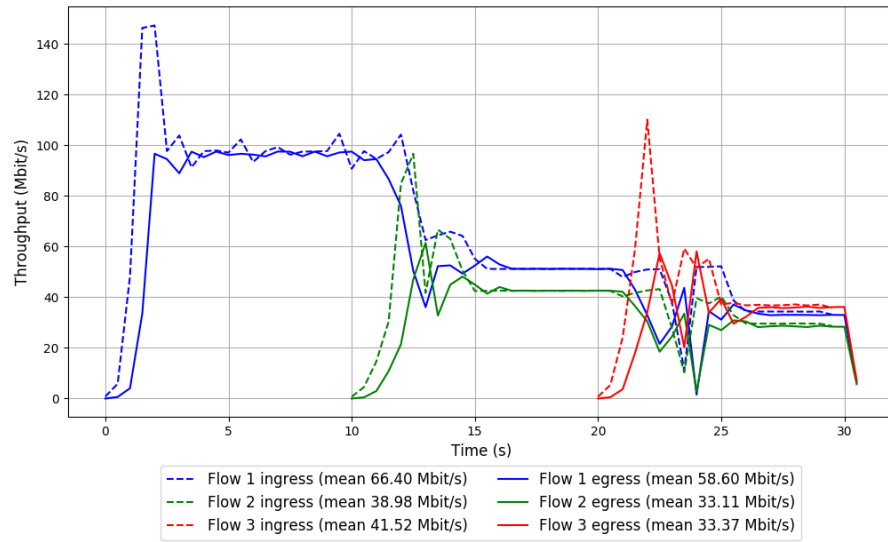
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-26 03:55:34
End at: 2018-10-26 03:56:04
Local clock offset: -6.875 ms
Remote clock offset: -1.526 ms


# Below is generated by plot.py at 2018-10-26 04:45:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.75 Mbit/s
95th percentile per-packet one-way delay: 115.802 ms
Loss rate: 13.49%
-- Flow 1:
Average throughput: 58.60 Mbit/s
95th percentile per-packet one-way delay: 115.854 ms
Loss rate: 11.65%
-- Flow 2:
Average throughput: 33.11 Mbit/s
95th percentile per-packet one-way delay: 115.507 ms
Loss rate: 15.04%
-- Flow 3:
Average throughput: 33.37 Mbit/s
95th percentile per-packet one-way delay: 115.781 ms
Loss rate: 19.40%
```
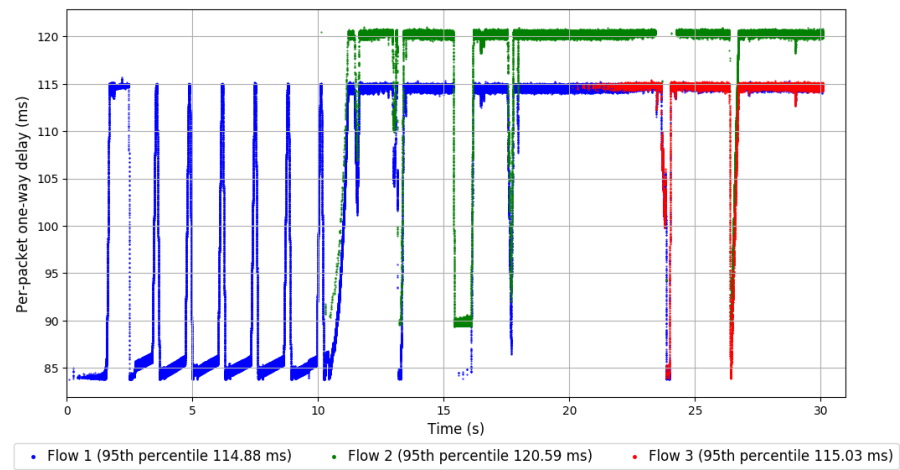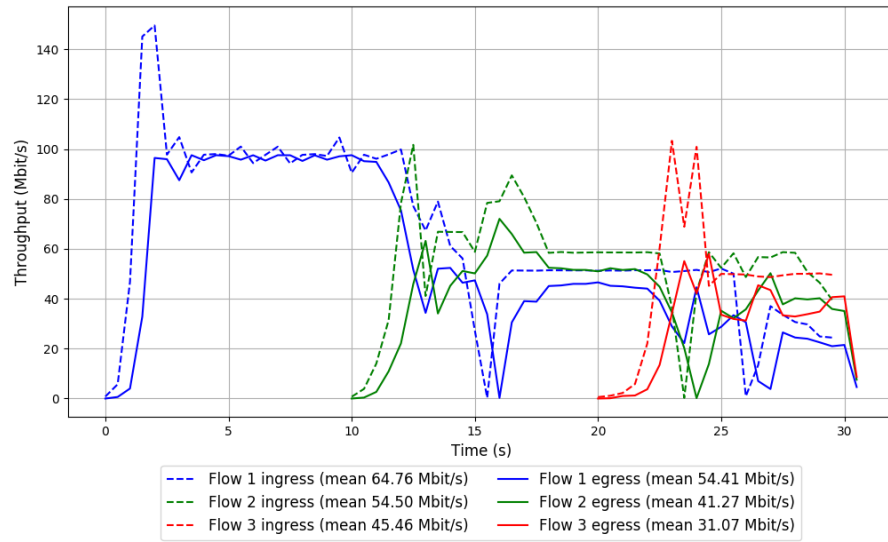
Run 3: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 66.40 Mbit/s) —— Flow 1 egress (mean 58.60 Mbit/s)
- - - Flow 2 ingress (mean 38.98 Mbit/s) —— Flow 2 egress (mean 33.11 Mbit/s)
- - - Flow 3 ingress (mean 41.52 Mbit/s) —— Flow 3 egress (mean 33.37 Mbit/s)

- Flow 1 (95th percentile 115.85 ms)   - Flow 2 (95th percentile 115.51 ms)   - Flow 3 (95th percentile 115.78 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-26 04:18:29
End at: 2018-10-26 04:18:59
Local clock offset: -1.61 ms
Remote clock offset: -2.359 ms


# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 120.488 ms
Loss rate: 20.58%
-- Flow 1:
Average throughput: 54.41 Mbit/s
95th percentile per-packet one-way delay: 114.884 ms
Loss rate: 15.90%
-- Flow 2:
Average throughput: 41.27 Mbit/s
95th percentile per-packet one-way delay: 120.595 ms
Loss rate: 24.31%
-- Flow 3:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 115.035 ms
Loss rate: 31.64%
```
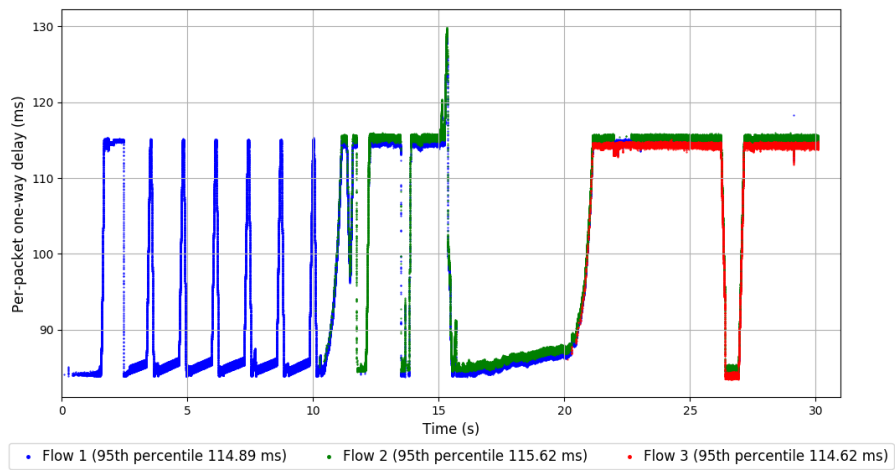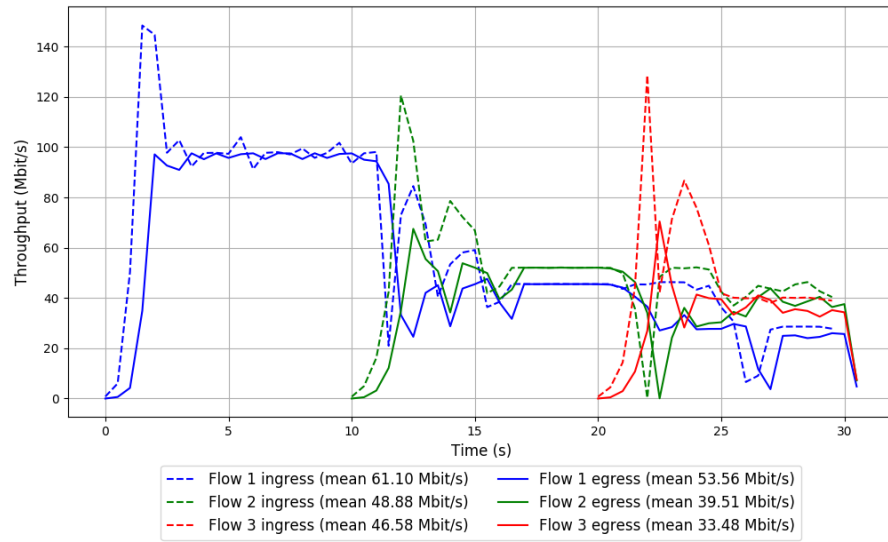
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-10-26 04:41:13
End at: 2018-10-26 04:41:43
Local clock offset: -1.093 ms
Remote clock offset: -0.774 ms

# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.03 Mbit/s
95th percentile per-packet one-way delay: 115.475 ms
Loss rate: 16.51%
-- Flow 1:
Average throughput: 53.56 Mbit/s
95th percentile per-packet one-way delay: 114.889 ms
Loss rate: 12.26%
-- Flow 2:
Average throughput: 39.51 Mbit/s
95th percentile per-packet one-way delay: 115.620 ms
Loss rate: 19.08%
-- Flow 3:
Average throughput: 33.48 Mbit/s
95th percentile per-packet one-way delay: 114.622 ms
Loss rate: 27.91%
```
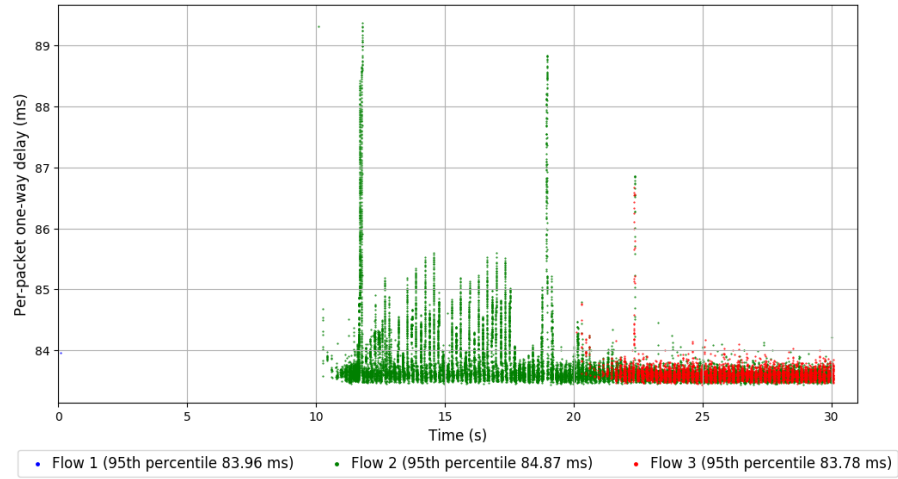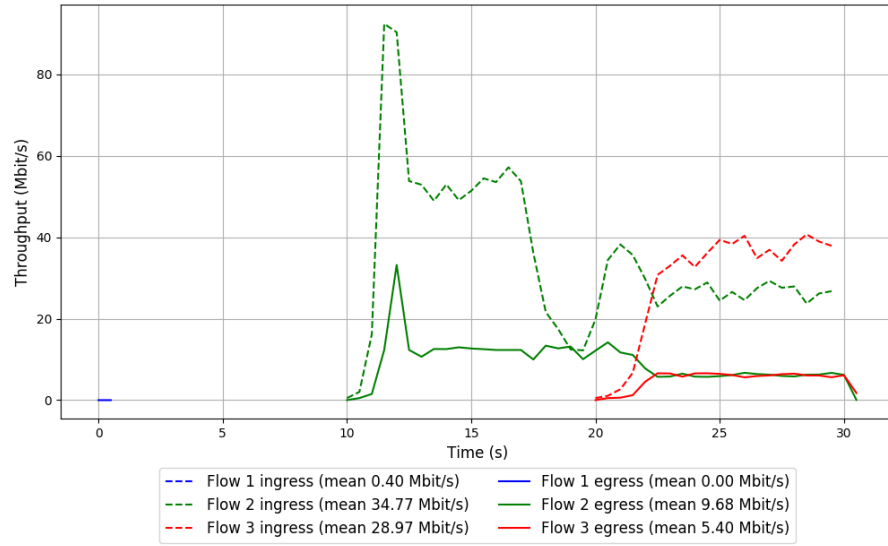
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 61.10 Mbit/s) — — — Flow 1 egress (mean 53.56 Mbit/s)
Flow 2 ingress (mean 48.88 Mbit/s) — — — Flow 2 egress (mean 39.51 Mbit/s)
Flow 3 ingress (mean 46.58 Mbit/s) — — — Flow 3 egress (mean 33.48 Mbit/s)

Flow 1 (95th percentile 114.89 ms)   Flow 2 (95th percentile 115.62 ms)   Flow 3 (95th percentile 114.62 ms)
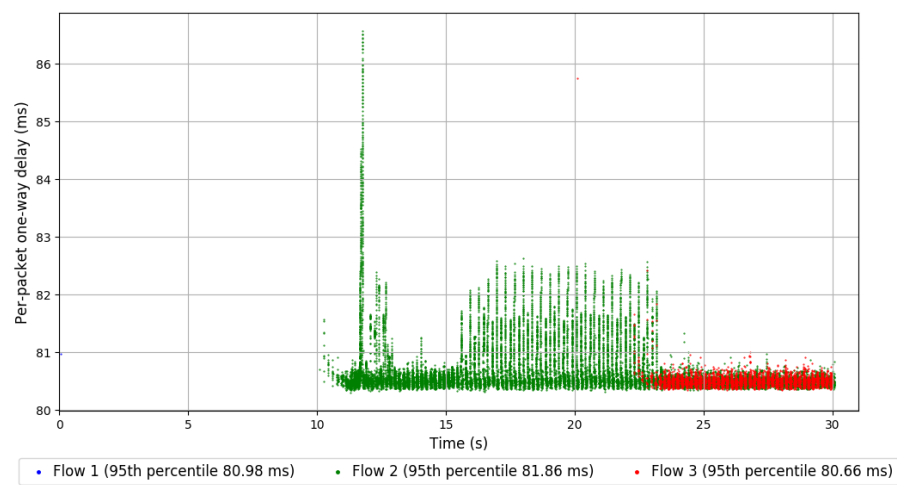
```
Run 1: Statistics of Copa

Start at: 2018-10-26 02:55:09
End at: 2018-10-26 02:55:39
Local clock offset: -7.538 ms
Remote clock offset: -1.881 ms


# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 84.717 ms
Loss rate: 74.88%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 83.963 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 84.871 ms
Loss rate: 72.18%
-- Flow 3:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 83.785 ms
Loss rate: 81.37%
```
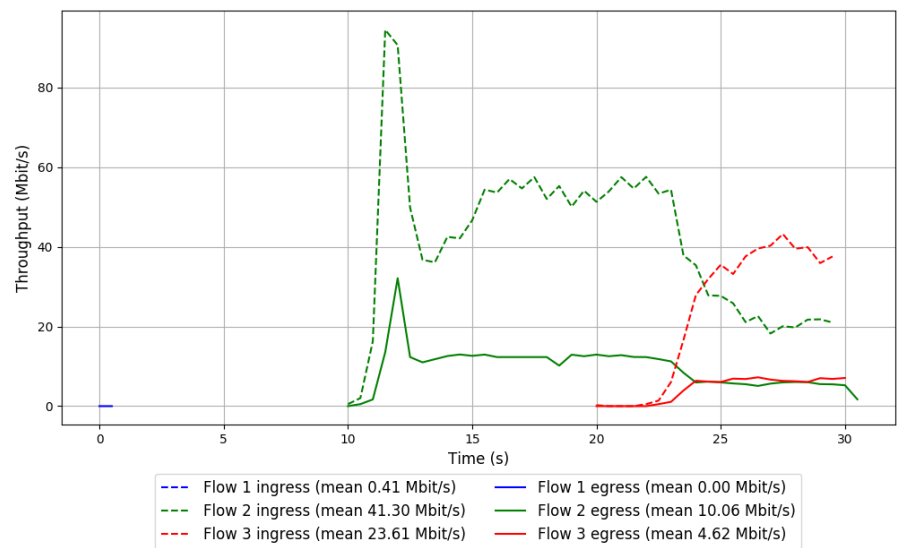
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 0.40 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 34.77 Mbit/s)   Flow 2 egress (mean 9.68 Mbit/s)
Flow 3 ingress (mean 28.97 Mbit/s)   Flow 3 egress (mean 5.40 Mbit/s)

Flow 1 (95th percentile 83.96 ms)   Flow 2 (95th percentile 84.87 ms)   Flow 3 (95th percentile 83.78 ms)

```
Run 2: Statistics of Copa

Start at: 2018-10-26 03:17:51
End at: 2018-10-26 03:18:21
Local clock offset: -7.037 ms
Remote clock offset: -6.078 ms


# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 81.714 ms
Loss rate: 76.71%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 80.980 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 81.856 ms
Loss rate: 75.65%
-- Flow 3:
Average throughput: 4.62 Mbit/s
95th percentile per-packet one-way delay: 80.659 ms
Loss rate: 80.44%
```
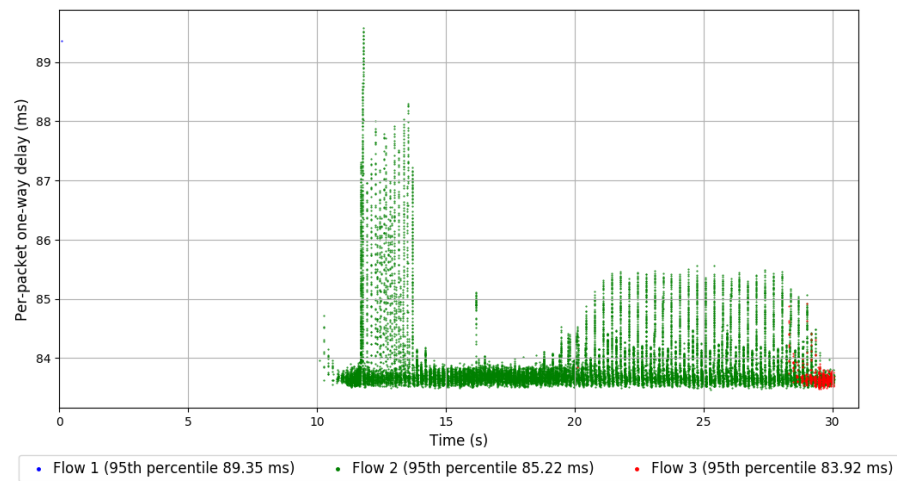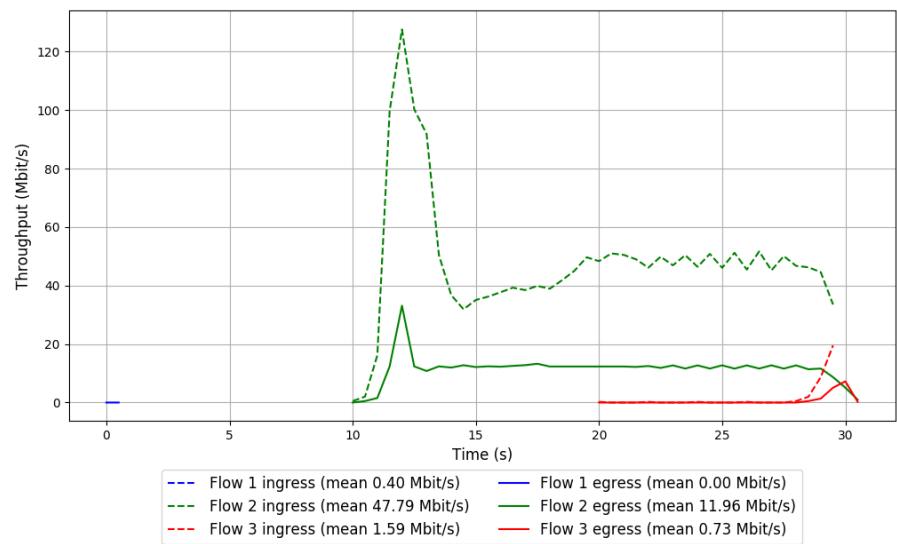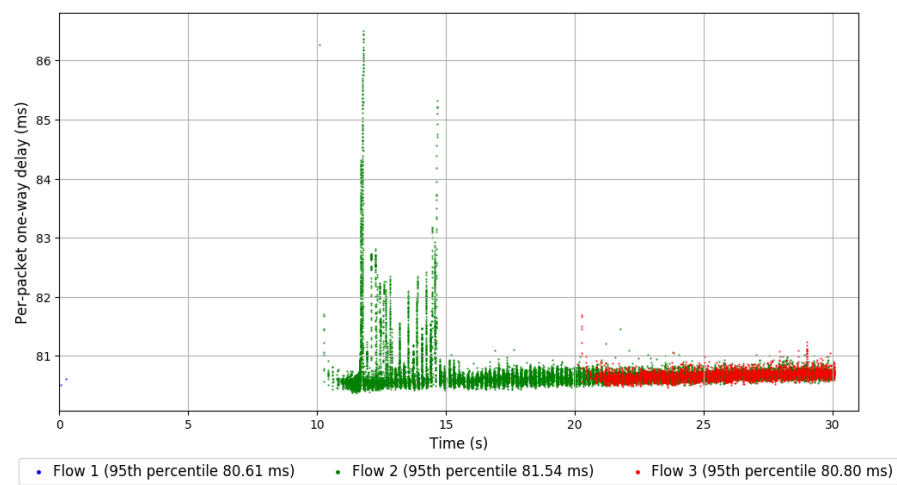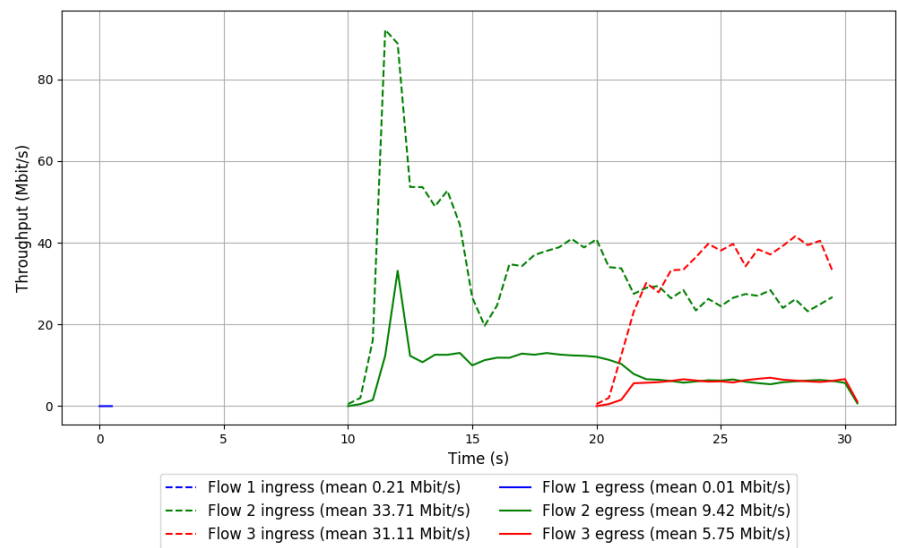
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 0.41 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 41.30 Mbit/s)   Flow 2 egress (mean 10.06 Mbit/s)
Flow 3 ingress (mean 23.61 Mbit/s)   Flow 3 egress (mean 4.62 Mbit/s)

Flow 1 (95th percentile 80.98 ms)   Flow 2 (95th percentile 81.86 ms)   Flow 3 (95th percentile 80.66 ms)

```
Run 3: Statistics of Copa

Start at: 2018-10-26 03:40:31
End at: 2018-10-26 03:41:01
Local clock offset: -6.893 ms
Remote clock offset: -2.75 ms


# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 85.204 ms
Loss rate: 74.63%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 89.354 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 85.225 ms
Loss rate: 74.97%
-- Flow 3:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 83.915 ms
Loss rate: 54.37%
```
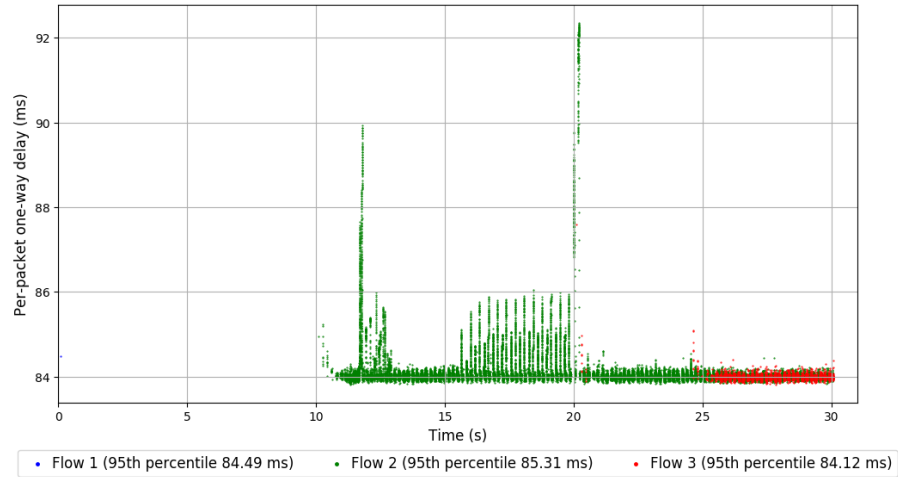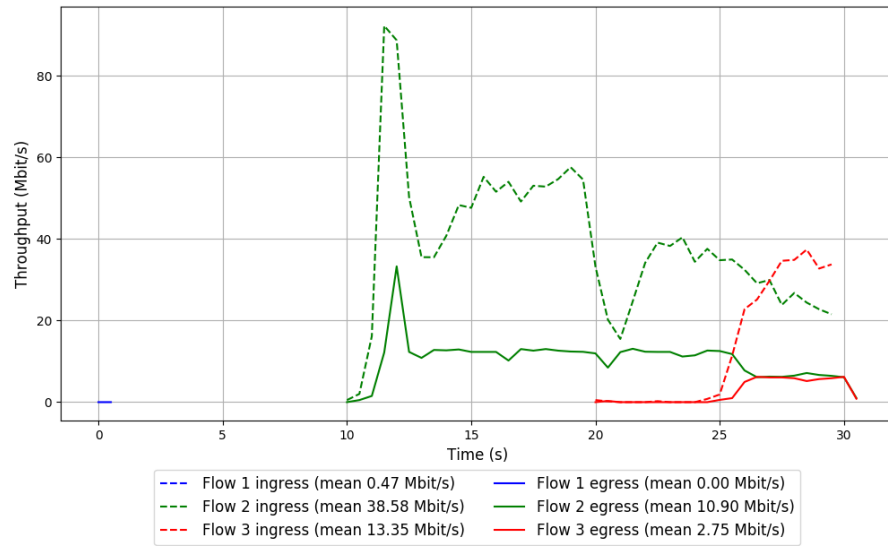
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 0.40 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ---
Flow 2 ingress (mean 47.79 Mbit/s) --- Flow 2 egress (mean 11.96 Mbit/s) ---
Flow 3 ingress (mean 1.59 Mbit/s) --- Flow 3 egress (mean 0.73 Mbit/s) ---

Flow 1 (95th percentile 89.35 ms) • Flow 2 (95th percentile 85.22 ms) • Flow 3 (95th percentile 83.92 ms)

```
Run 4: Statistics of Copa

Start at: 2018-10-26 04:03:13
End at: 2018-10-26 04:03:43
Local clock offset: -6.107 ms
Remote clock offset: -6.061 ms


# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 81.273 ms
Loss rate: 75.06%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 80.615 ms
Loss rate: 96.71%
-- Flow 2:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 81.538 ms
Loss rate: 72.08%
-- Flow 3:
Average throughput: 5.75 Mbit/s
95th percentile per-packet one-way delay: 80.802 ms
Loss rate: 81.50%
```
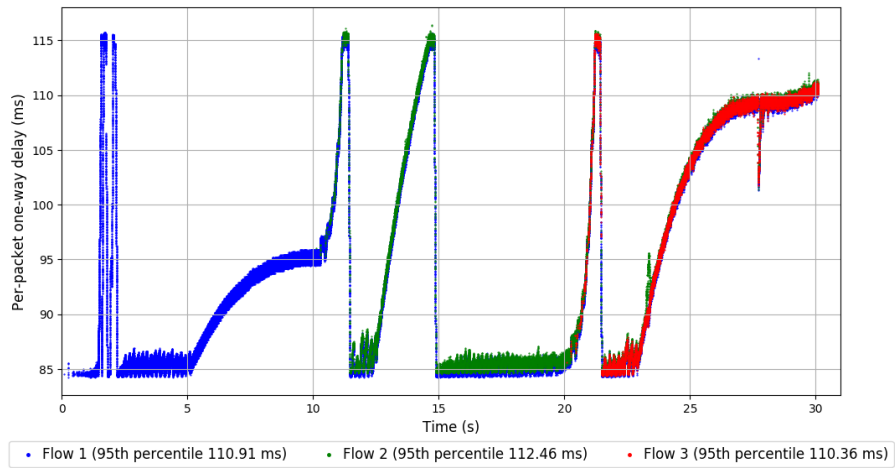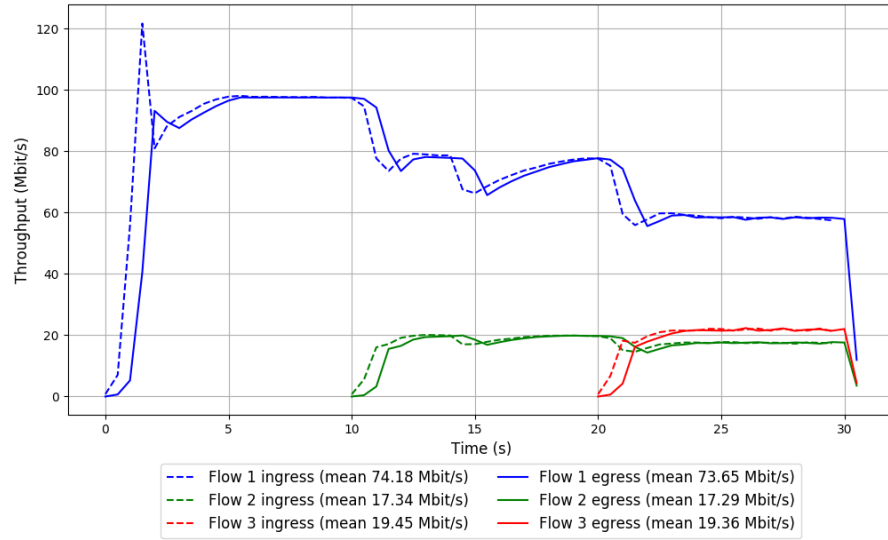
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 33.71 Mbit/s) --- Flow 2 egress (mean 9.42 Mbit/s)
Flow 3 ingress (mean 31.11 Mbit/s) --- Flow 3 egress (mean 5.75 Mbit/s)

Flow 1 (95th percentile 80.61 ms) • Flow 2 (95th percentile 81.54 ms) • Flow 3 (95th percentile 80.80 ms)

```
Run 5: Statistics of Copa

Start at: 2018-10-26 04:26:08
End at: 2018-10-26 04:26:38
Local clock offset: -0.767 ms
Remote clock offset: -1.477 ms


# Below is generated by plot.py at 2018-10-26 04:45:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 85.169 ms
Loss rate: 72.88%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 84.486 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 85.310 ms
Loss rate: 71.74%
-- Flow 3:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 84.123 ms
Loss rate: 79.44%
```
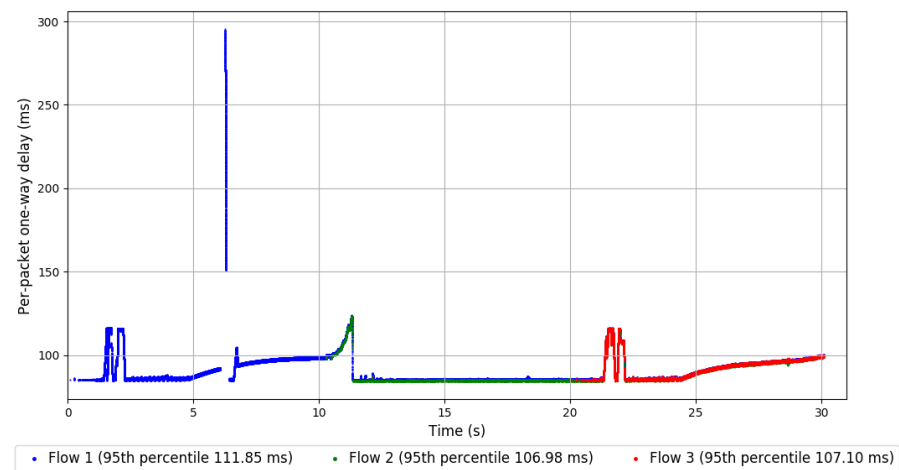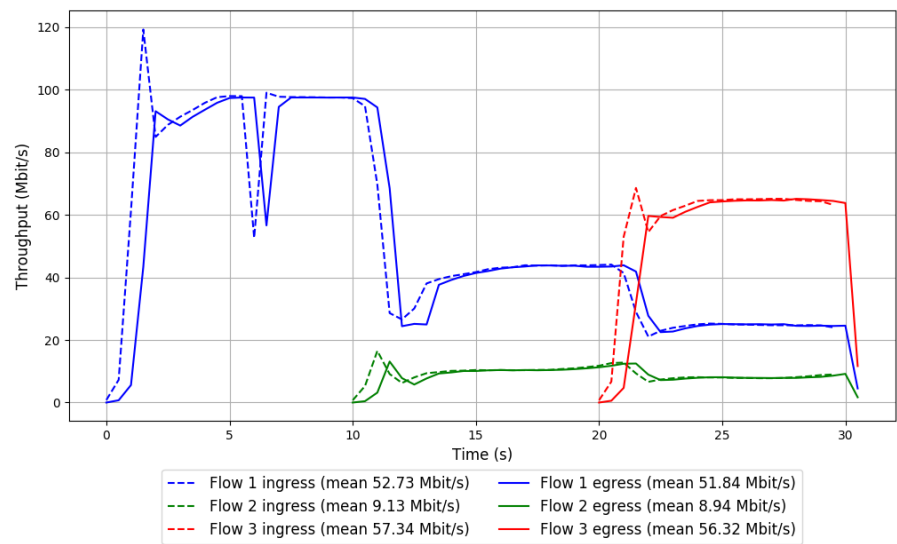
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-26 02:52:34
End at: 2018-10-26 02:53:04
Local clock offset: -7.252 ms
Remote clock offset: -1.257 ms


# Below is generated by plot.py at 2018-10-26 04:45:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.62 Mbit/s
95th percentile per-packet one-way delay: 110.919 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 73.65 Mbit/s
95th percentile per-packet one-way delay: 110.913 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 17.29 Mbit/s
95th percentile per-packet one-way delay: 112.458 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 19.36 Mbit/s
95th percentile per-packet one-way delay: 110.355 ms
Loss rate: 0.23%
```
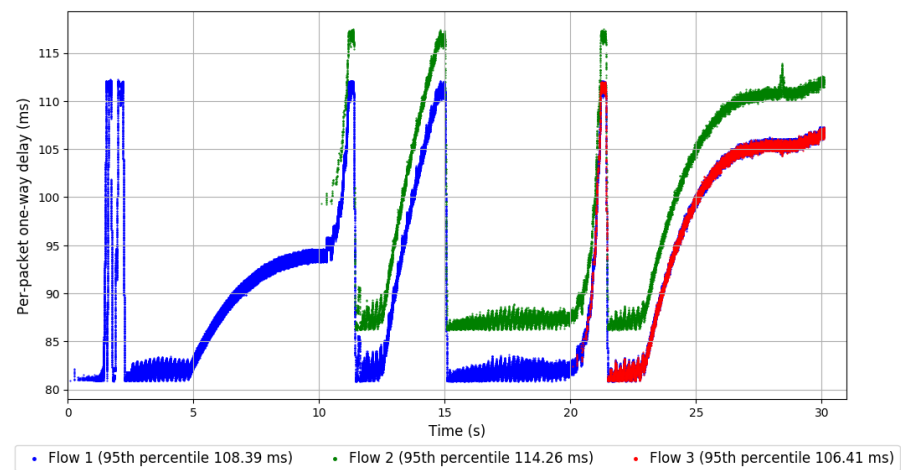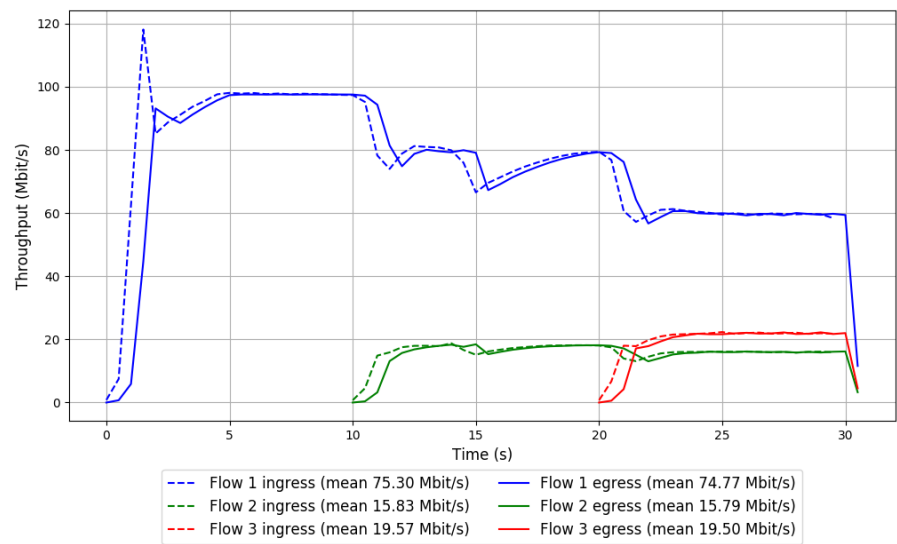
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-26 03:15:17
End at: 2018-10-26 03:15:47
Local clock offset: -7.087 ms
Remote clock offset: -2.11 ms

# Below is generated by plot.py at 2018-10-26 04:45:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.54 Mbit/s
95th percentile per-packet one-way delay: 108.678 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 51.84 Mbit/s
95th percentile per-packet one-way delay: 111.850 ms
Loss rate: 1.63%
-- Flow 2:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 106.977 ms
Loss rate: 2.08%
-- Flow 3:
Average throughput: 56.32 Mbit/s
95th percentile per-packet one-way delay: 107.103 ms
Loss rate: 1.64%
```
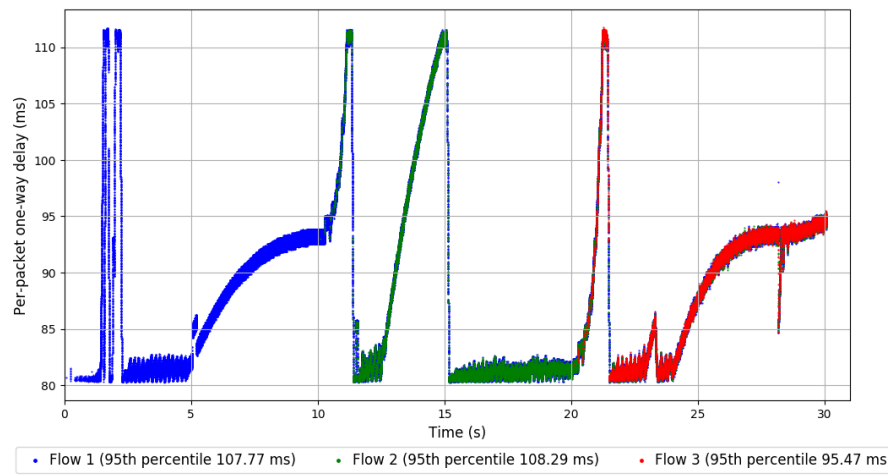
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 03:37:56
End at: 2018-10-26 03:38:26
Local clock offset: -6.918 ms
Remote clock offset: -5.994 ms


# Below is generated by plot.py at 2018-10-26 04:46:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.78 Mbit/s
95th percentile per-packet one-way delay: 110.717 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 74.77 Mbit/s
95th percentile per-packet one-way delay: 108.390 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 15.79 Mbit/s
95th percentile per-packet one-way delay: 114.258 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 19.50 Mbit/s
95th percentile per-packet one-way delay: 106.408 ms
Loss rate: 0.11%
```
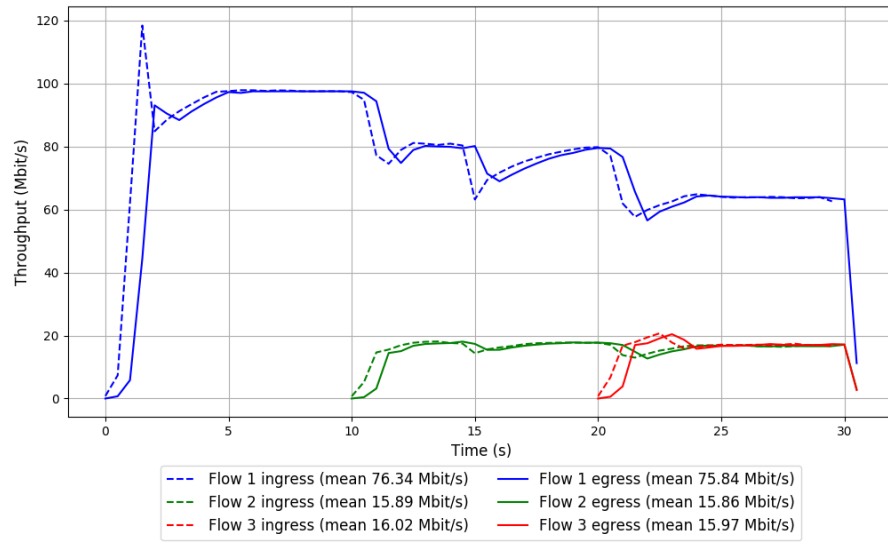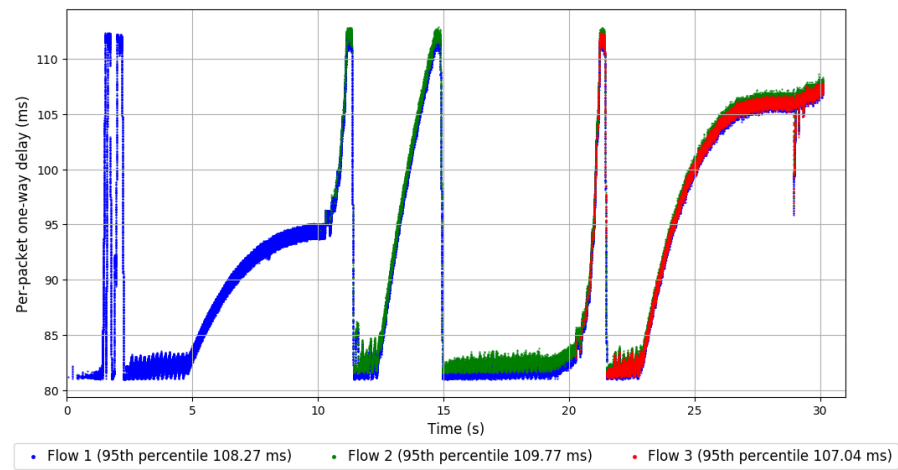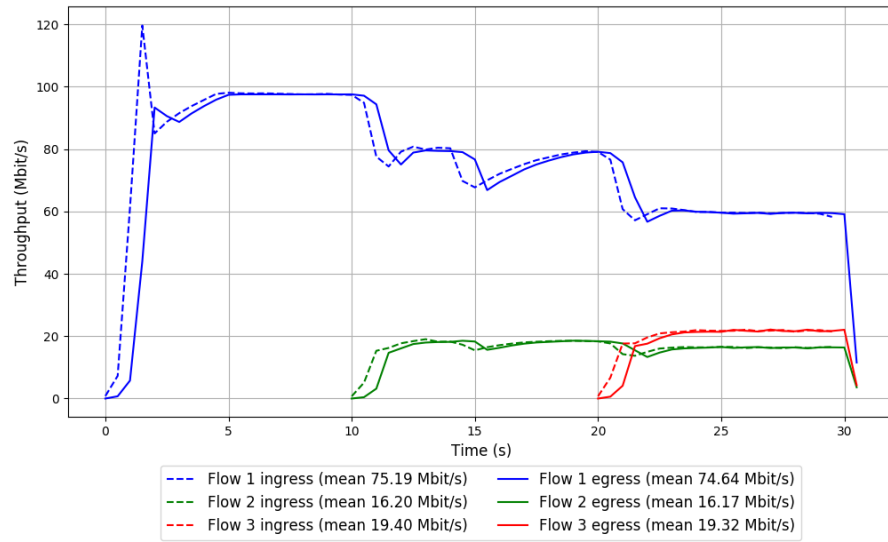
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 75.30 Mbit/s) --- Flow 1 egress (mean 74.77 Mbit/s)
Flow 2 ingress (mean 15.83 Mbit/s) --- Flow 2 egress (mean 15.79 Mbit/s)
Flow 3 ingress (mean 19.57 Mbit/s) --- Flow 3 egress (mean 19.50 Mbit/s)

Flow 1 (95th percentile 108.39 ms) • Flow 2 (95th percentile 114.26 ms) • Flow 3 (95th percentile 106.41 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 04:00:36
End at: 2018-10-26 04:01:06
Local clock offset: -6.962 ms
Remote clock offset: -6.01 ms


# Below is generated by plot.py at 2018-10-26 04:46:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.71 Mbit/s
95th percentile per-packet one-way delay: 107.582 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 75.84 Mbit/s
95th percentile per-packet one-way delay: 107.768 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 15.86 Mbit/s
95th percentile per-packet one-way delay: 108.290 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 95.470 ms
Loss rate: 0.16%
```
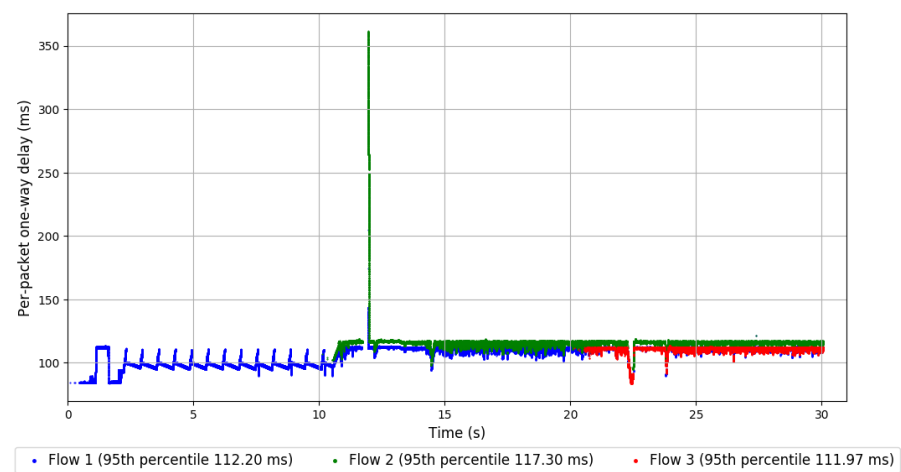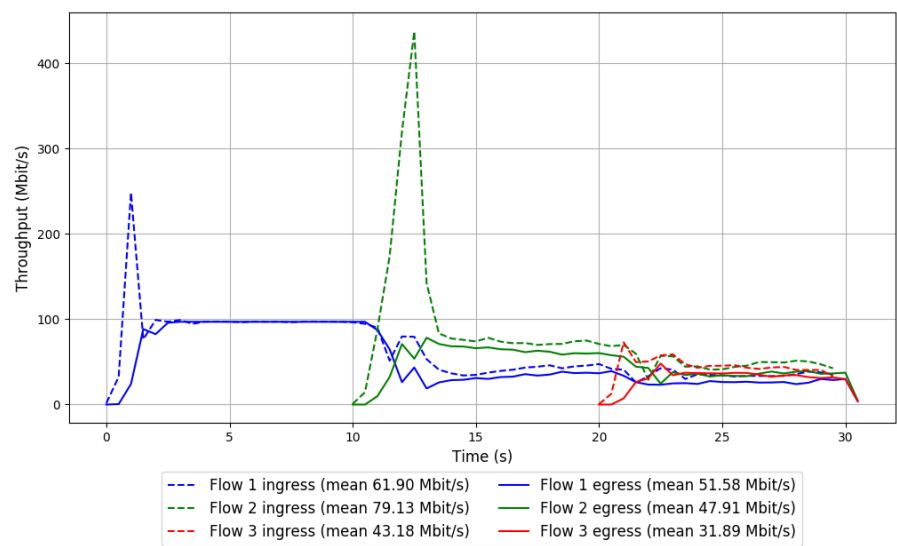
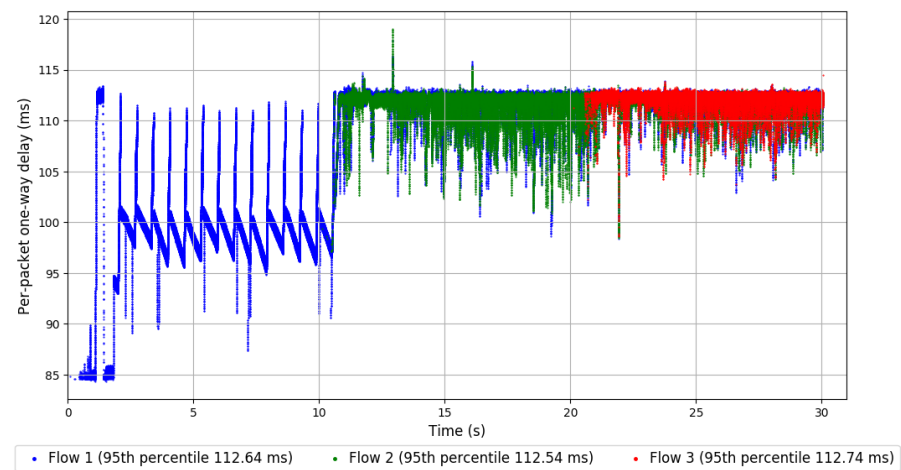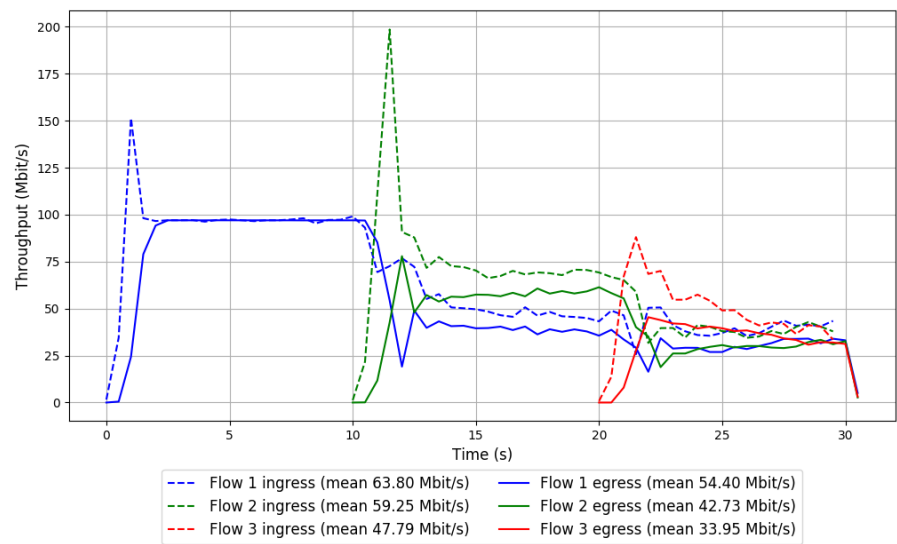# Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 04:23:33
End at: 2018-10-26 04:24:03
Local clock offset: -1.005 ms
Remote clock offset: -4.964 ms


# Below is generated by plot.py at 2018-10-26 04:46:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.85 Mbit/s
95th percentile per-packet one-way delay: 108.155 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 74.64 Mbit/s
95th percentile per-packet one-way delay: 108.268 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 16.17 Mbit/s
95th percentile per-packet one-way delay: 109.770 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 19.32 Mbit/s
95th percentile per-packet one-way delay: 107.038 ms
Loss rate: 0.17%
```

Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 75.19 Mbit/s) — Flow 1 egress (mean 74.64 Mbit/s)
Flow 2 ingress (mean 16.20 Mbit/s) — Flow 2 egress (mean 16.17 Mbit/s)
Flow 3 ingress (mean 19.40 Mbit/s) — Flow 3 egress (mean 19.32 Mbit/s)

Flow 1 (95th percentile 108.27 ms) · Flow 2 (95th percentile 109.77 ms) · Flow 3 (95th percentile 107.04 ms)

```
Run 1: Statistics of FillP

Start at: 2018-10-26 02:53:51
End at: 2018-10-26 02:54:21
Local clock offset: -7.35 ms
Remote clock offset: -1.716 ms


# Below is generated by plot.py at 2018-10-26 04:47:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 116.958 ms
Loss rate: 26.99%
-- Flow 1:
Average throughput: 51.58 Mbit/s
95th percentile per-packet one-way delay: 112.203 ms
Loss rate: 16.60%
-- Flow 2:
Average throughput: 47.91 Mbit/s
95th percentile per-packet one-way delay: 117.299 ms
Loss rate: 39.43%
-- Flow 3:
Average throughput: 31.89 Mbit/s
95th percentile per-packet one-way delay: 111.970 ms
Loss rate: 26.14%
```
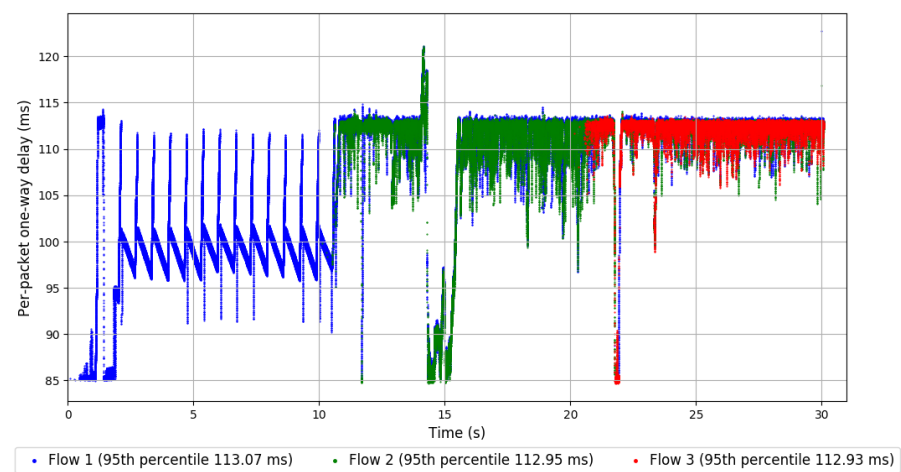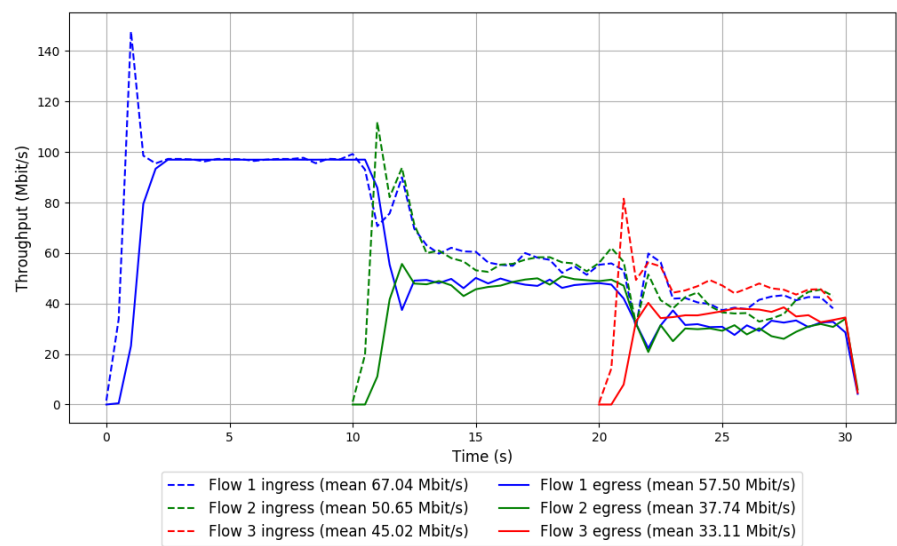
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-10-26 03:16:33
End at: 2018-10-26 03:17:03
Local clock offset: -7.021 ms
Remote clock offset: -2.174 ms


# Below is generated by plot.py at 2018-10-26 04:47:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.07 Mbit/s
95th percentile per-packet one-way delay: 112.644 ms
Loss rate: 20.92%
-- Flow 1:
Average throughput: 54.40 Mbit/s
95th percentile per-packet one-way delay: 112.642 ms
Loss rate: 14.66%
-- Flow 2:
Average throughput: 42.73 Mbit/s
95th percentile per-packet one-way delay: 112.536 ms
Loss rate: 27.84%
-- Flow 3:
Average throughput: 33.95 Mbit/s
95th percentile per-packet one-way delay: 112.736 ms
Loss rate: 28.93%
```
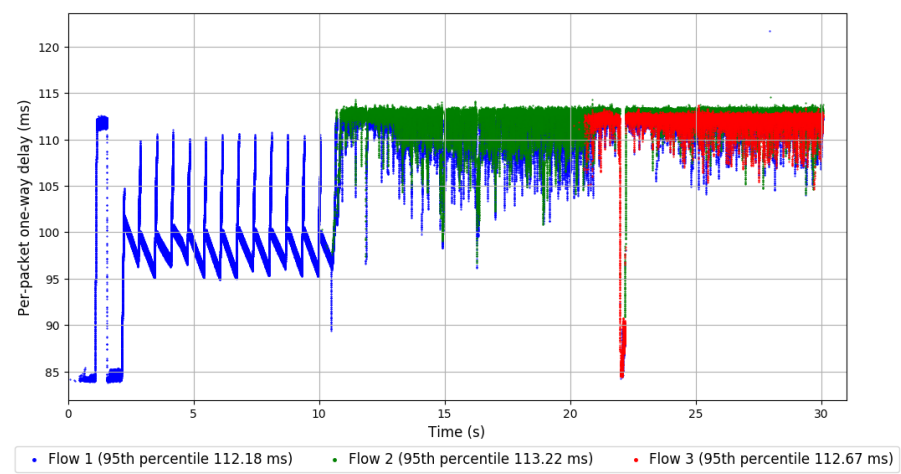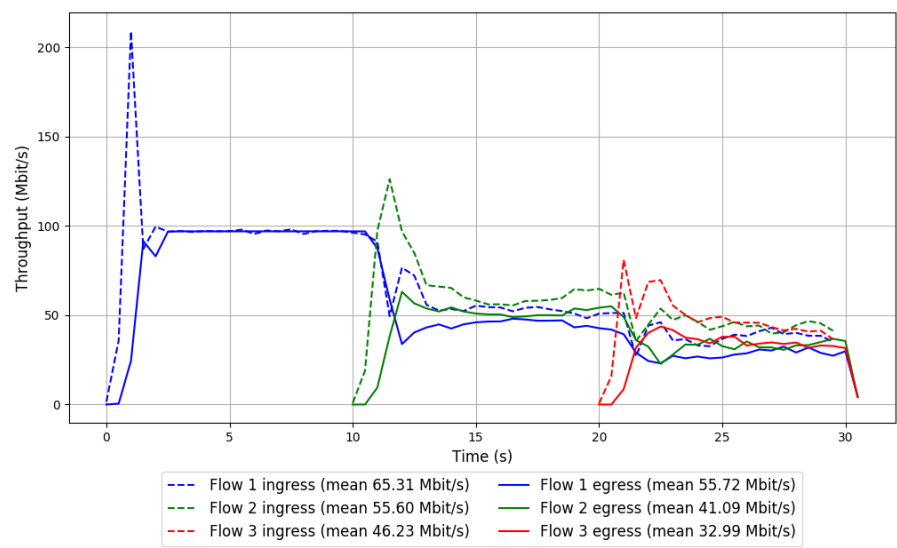
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-10-26 03:39:14
End at: 2018-10-26 03:39:44
Local clock offset: -6.934 ms
Remote clock offset: -2.086 ms


# Below is generated by plot.py at 2018-10-26 04:47:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 113.018 ms
Loss rate: 19.03%
-- Flow 1:
Average throughput: 57.50 Mbit/s
95th percentile per-packet one-way delay: 113.068 ms
Loss rate: 14.16%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 112.948 ms
Loss rate: 25.43%
-- Flow 3:
Average throughput: 33.11 Mbit/s
95th percentile per-packet one-way delay: 112.926 ms
Loss rate: 26.45%
```
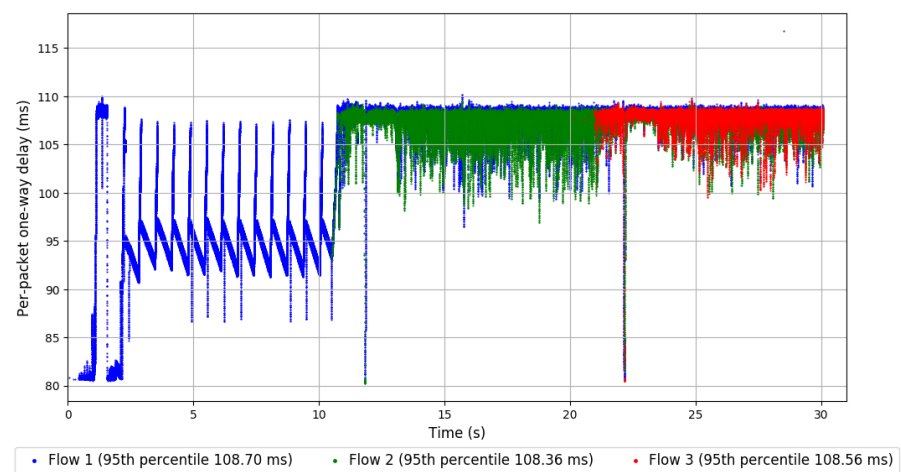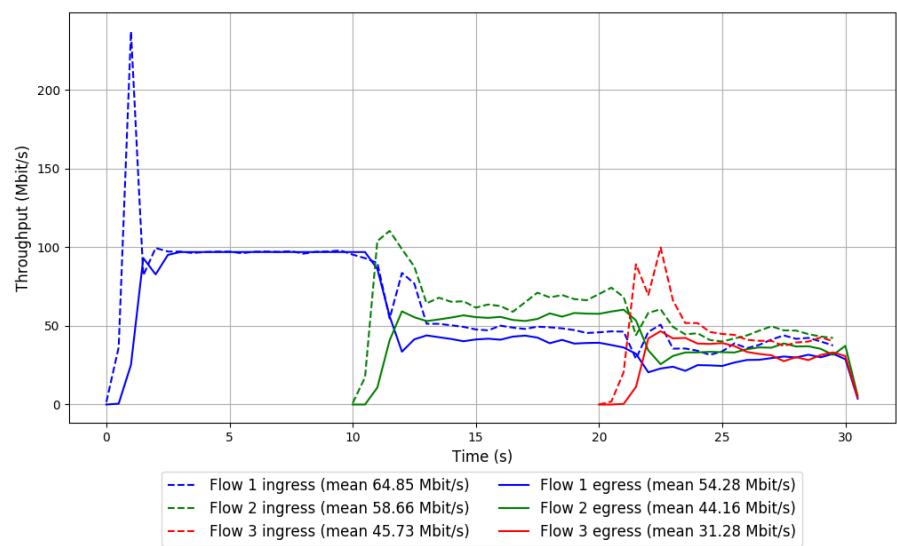
Run 3: Report of FillP — Data Link

- - - Flow 1 ingress (mean 67.04 Mbit/s)   —— Flow 1 egress (mean 57.50 Mbit/s)
- - - Flow 2 ingress (mean 50.65 Mbit/s)   —— Flow 2 egress (mean 37.74 Mbit/s)
- - - Flow 3 ingress (mean 45.02 Mbit/s)   —— Flow 3 egress (mean 33.11 Mbit/s)

• Flow 1 (95th percentile 113.07 ms)   • Flow 2 (95th percentile 112.95 ms)   • Flow 3 (95th percentile 112.93 ms)

40

```
Run 4: Statistics of FillP

Start at: 2018-10-26 04:01:53
End at: 2018-10-26 04:02:23
Local clock offset: -6.892 ms
Remote clock offset: -2.457 ms


# Below is generated by plot.py at 2018-10-26 04:47:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 113.031 ms
Loss rate: 20.02%
-- Flow 1:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 112.183 ms
Loss rate: 14.60%
-- Flow 2:
Average throughput: 41.09 Mbit/s
95th percentile per-packet one-way delay: 113.220 ms
Loss rate: 26.04%
-- Flow 3:
Average throughput: 32.99 Mbit/s
95th percentile per-packet one-way delay: 112.671 ms
Loss rate: 28.62%
```
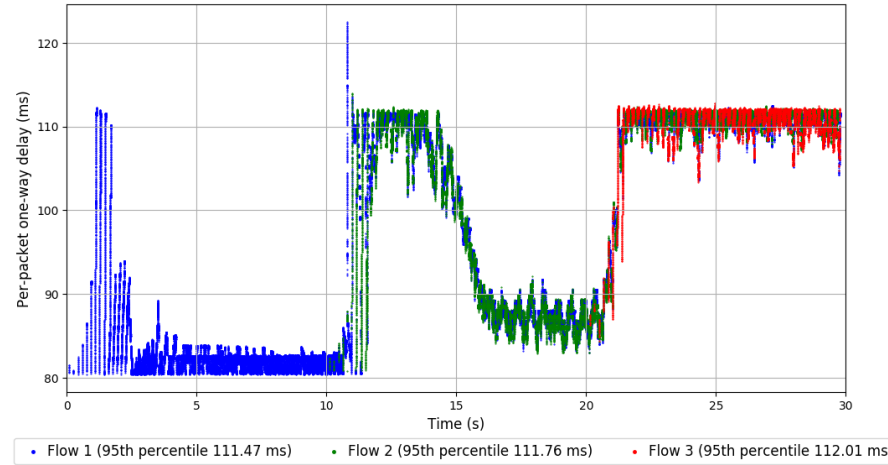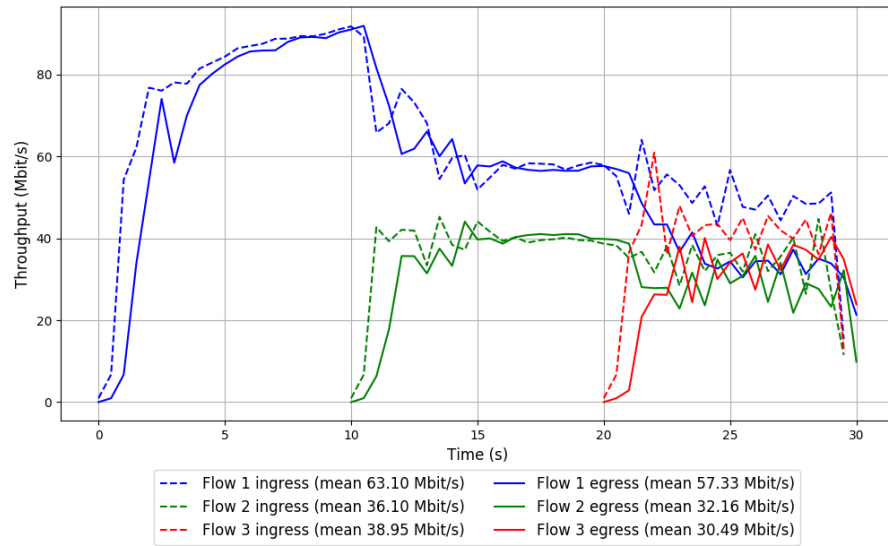
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-10-26 04:24:50
End at: 2018-10-26 04:25:20
Local clock offset: -0.942 ms
Remote clock offset: -5.356 ms


# Below is generated by plot.py at 2018-10-26 04:47:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 108.596 ms
Loss rate: 20.97%
-- Flow 1:
Average throughput: 54.28 Mbit/s
95th percentile per-packet one-way delay: 108.696 ms
Loss rate: 16.23%
-- Flow 2:
Average throughput: 44.16 Mbit/s
95th percentile per-packet one-way delay: 108.365 ms
Loss rate: 24.72%
-- Flow 3:
Average throughput: 31.28 Mbit/s
95th percentile per-packet one-way delay: 108.557 ms
Loss rate: 31.60%
```

Run 5: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-10-26 03:06:25
End at: 2018-10-26 03:06:55
Local clock offset: -7.377 ms
Remote clock offset: -5.55 ms


# Below is generated by plot.py at 2018-10-26 04:47:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.42 Mbit/s
95th percentile per-packet one-way delay: 111.741 ms
Loss rate: 11.04%
-- Flow 1:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 111.472 ms
Loss rate: 9.05%
-- Flow 2:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 111.759 ms
Loss rate: 10.77%
-- Flow 3:
Average throughput: 30.49 Mbit/s
95th percentile per-packet one-way delay: 112.010 ms
Loss rate: 21.52%
```
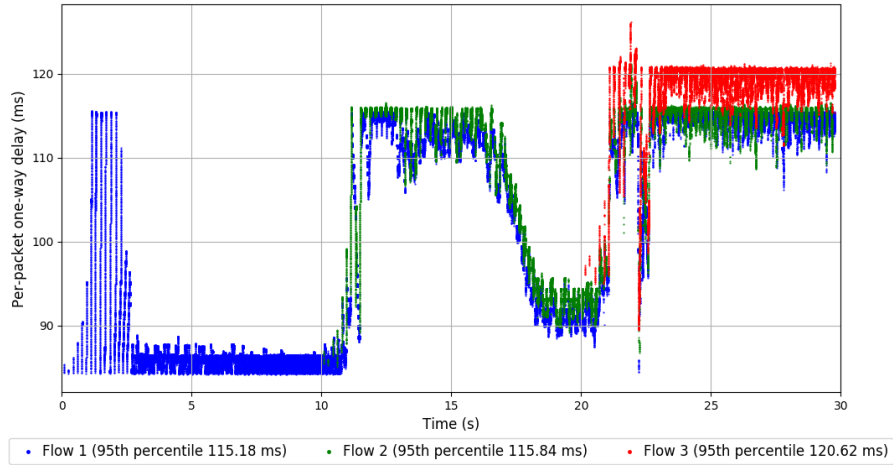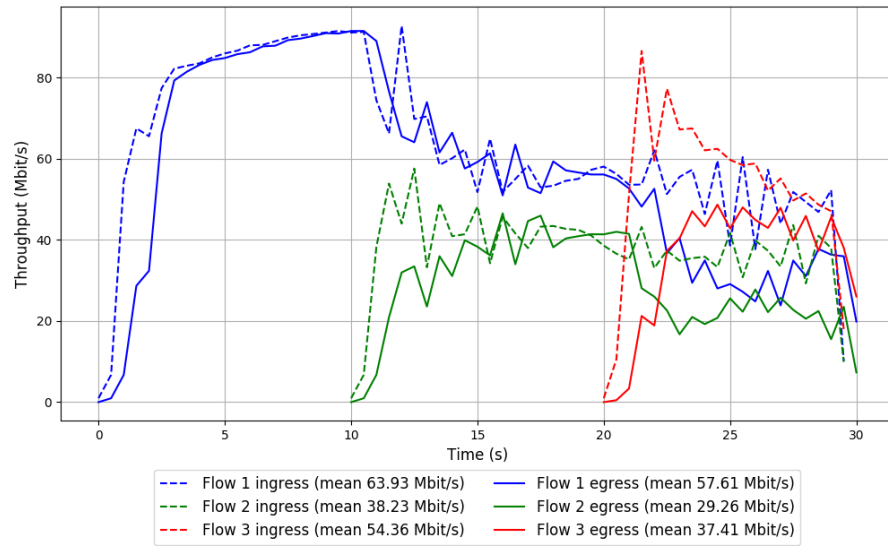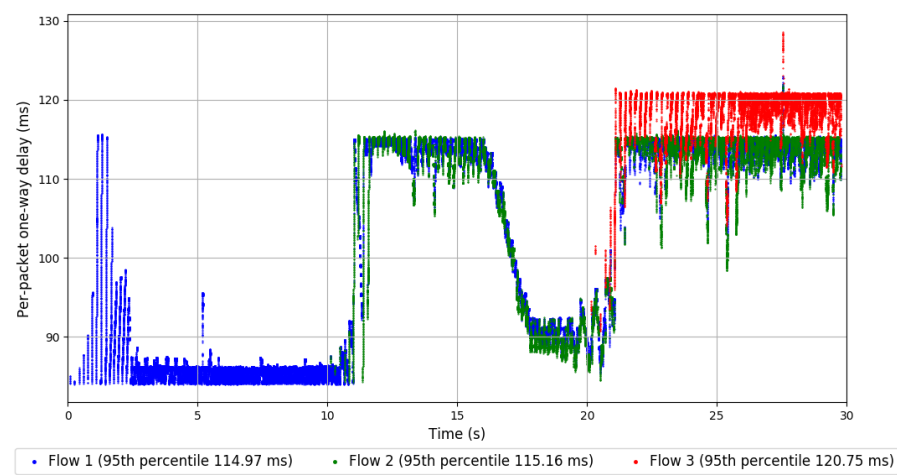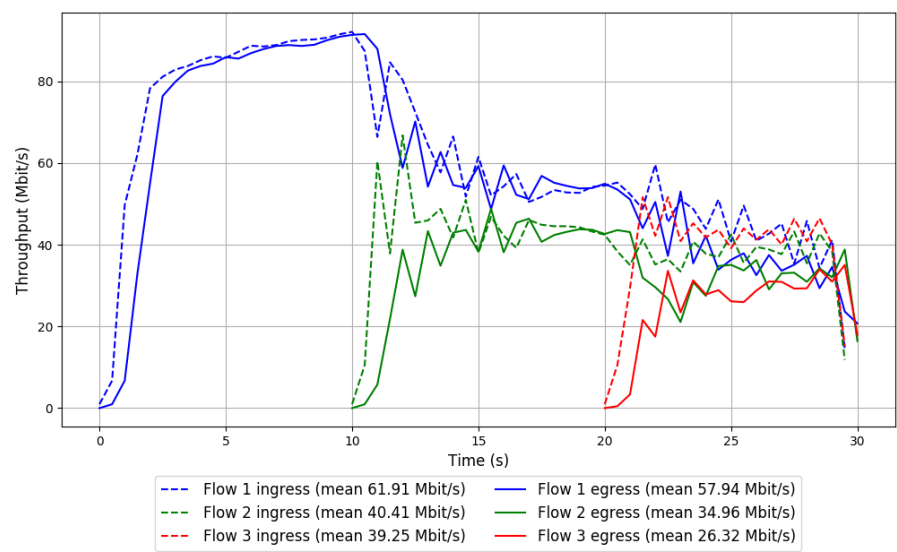
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-10-26 03:29:06
End at: 2018-10-26 03:29:36
Local clock offset: -7.24 ms
Remote clock offset: -3.12 ms

# Below is generated by plot.py at 2018-10-26 04:47:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.05 Mbit/s
95th percentile per-packet one-way delay: 119.875 ms
Loss rate: 16.50%
-- Flow 1:
Average throughput: 57.61 Mbit/s
95th percentile per-packet one-way delay: 115.177 ms
Loss rate: 9.79%
-- Flow 2:
Average throughput: 29.26 Mbit/s
95th percentile per-packet one-way delay: 115.845 ms
Loss rate: 23.35%
-- Flow 3:
Average throughput: 37.41 Mbit/s
95th percentile per-packet one-way delay: 120.619 ms
Loss rate: 31.05%
```
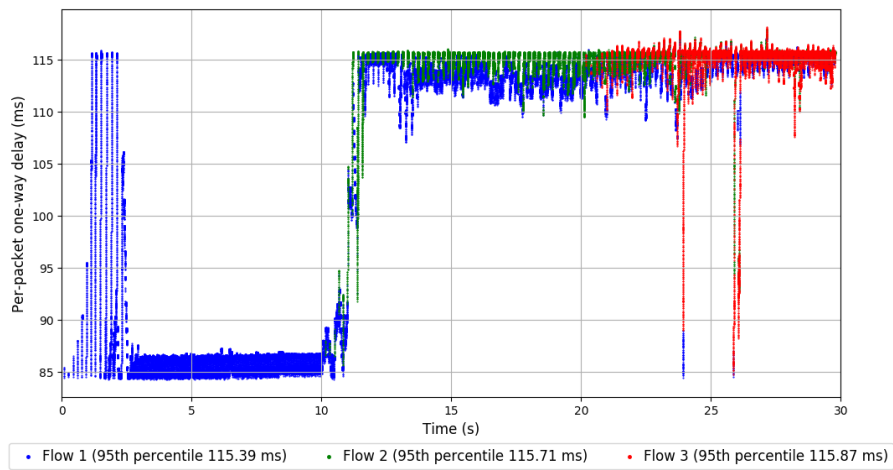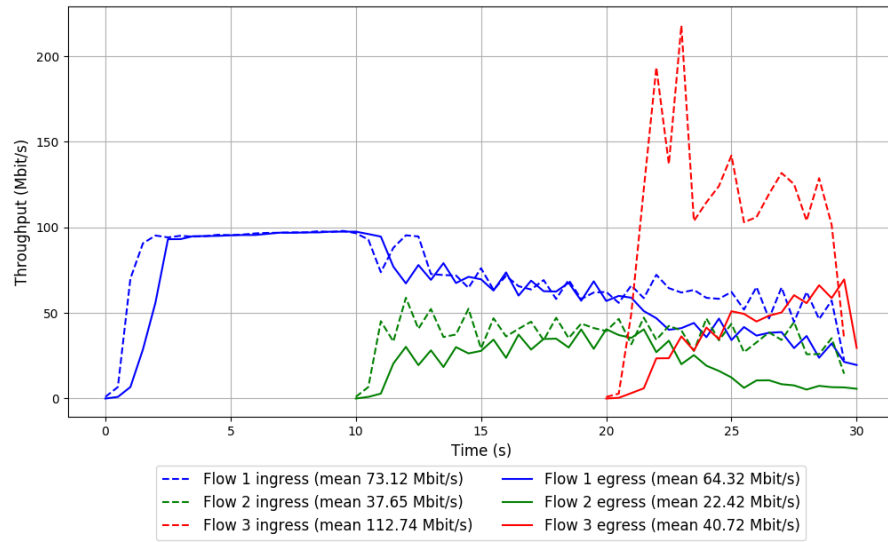
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 63.93 Mbit/s)   Flow 1 egress (mean 57.61 Mbit/s)
Flow 2 ingress (mean 38.23 Mbit/s)   Flow 2 egress (mean 29.26 Mbit/s)
Flow 3 ingress (mean 54.36 Mbit/s)   Flow 3 egress (mean 37.41 Mbit/s)

Flow 1 (95th percentile 115.18 ms)   Flow 2 (95th percentile 115.84 ms)   Flow 3 (95th percentile 120.62 ms)

```
Run 3: Statistics of Indigo

Start at: 2018-10-26 03:51:45
End at: 2018-10-26 03:52:15
Local clock offset: -6.868 ms
Remote clock offset: -1.824 ms


# Below is generated by plot.py at 2018-10-26 04:47:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.60 Mbit/s
95th percentile per-packet one-way delay: 118.984 ms
Loss rate: 11.51%
-- Flow 1:
Average throughput: 57.94 Mbit/s
95th percentile per-packet one-way delay: 114.965 ms
Loss rate: 6.32%
-- Flow 2:
Average throughput: 34.96 Mbit/s
95th percentile per-packet one-way delay: 115.163 ms
Loss rate: 13.36%
-- Flow 3:
Average throughput: 26.32 Mbit/s
95th percentile per-packet one-way delay: 120.754 ms
Loss rate: 32.82%
```

Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-10-26 04:14:39
End at: 2018-10-26 04:15:09
Local clock offset: -2.281 ms
Remote clock offset: -2.359 ms


# Below is generated by plot.py at 2018-10-26 04:48:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 115.701 ms
Loss rate: 31.30%
-- Flow 1:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 115.393 ms
Loss rate: 11.95%
-- Flow 2:
Average throughput: 22.42 Mbit/s
95th percentile per-packet one-way delay: 115.706 ms
Loss rate: 40.36%
-- Flow 3:
Average throughput: 40.72 Mbit/s
95th percentile per-packet one-way delay: 115.873 ms
Loss rate: 63.88%
```
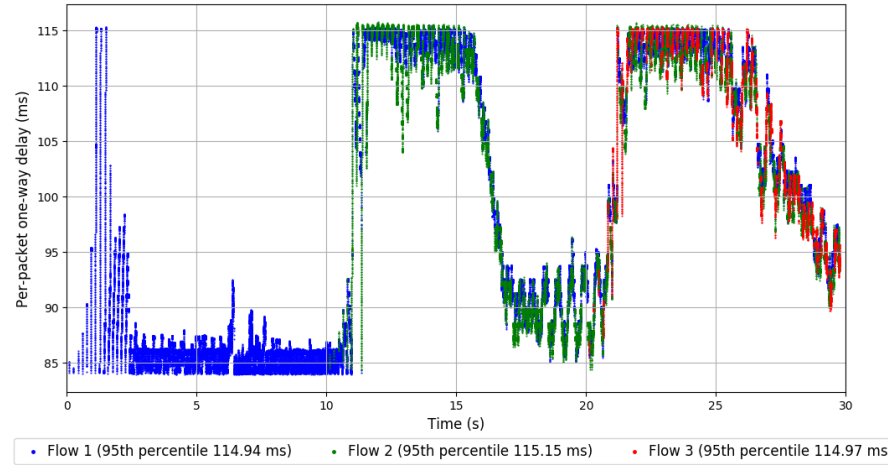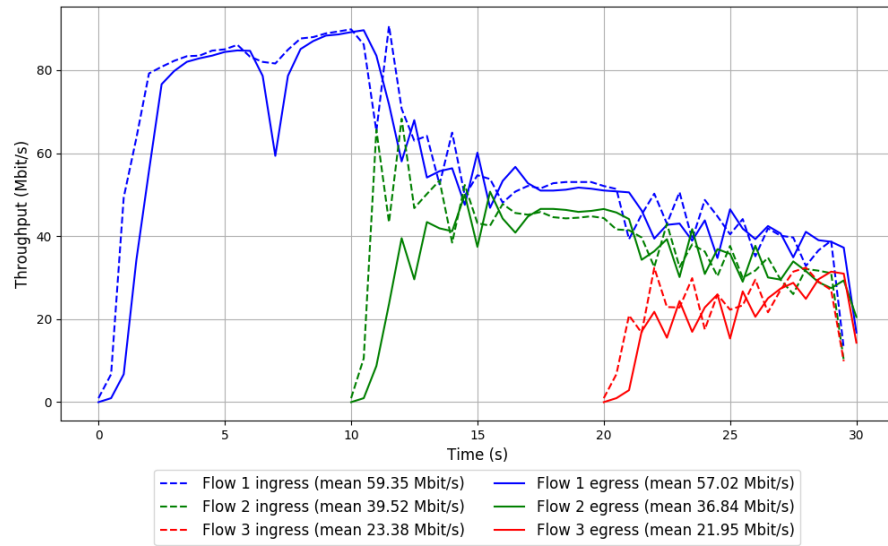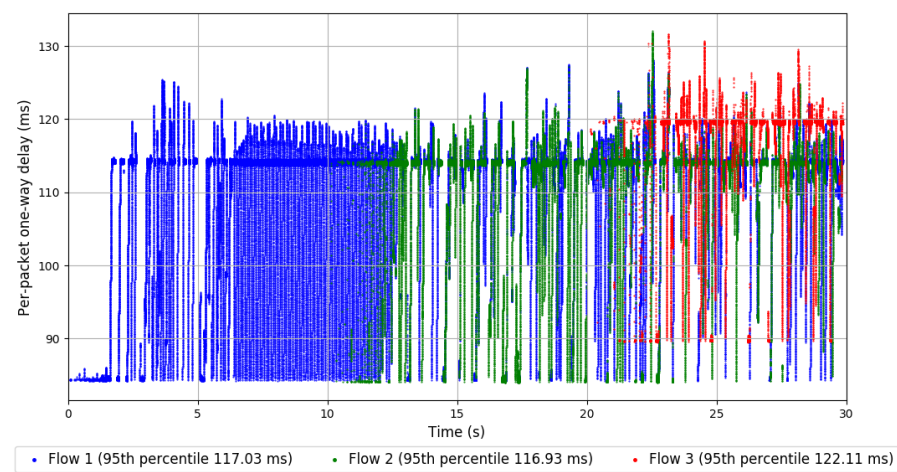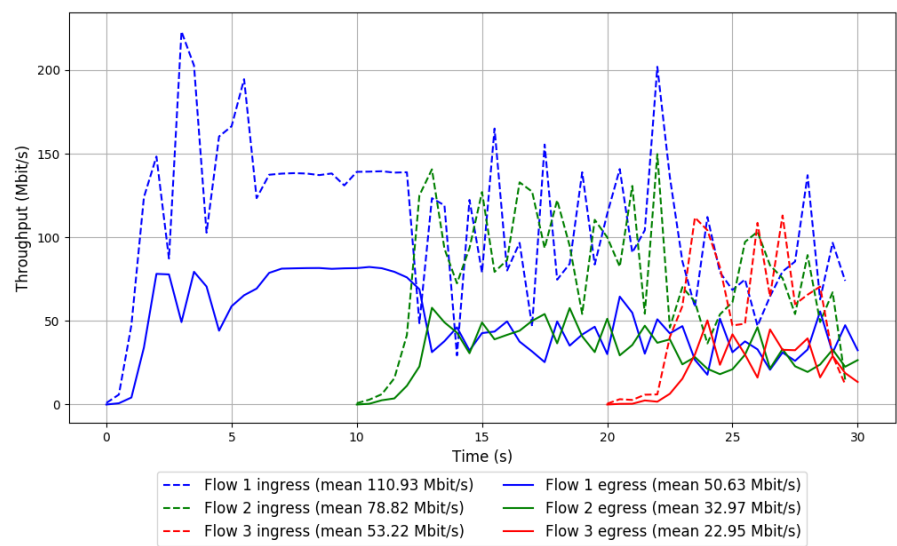
Run 4: Report of Indigo — Data Link

- - - - Flow 1 ingress (mean 73.12 Mbit/s)   —— Flow 1 egress (mean 64.32 Mbit/s)
- - - - Flow 2 ingress (mean 37.65 Mbit/s)   —— Flow 2 egress (mean 22.42 Mbit/s)
- - - - Flow 3 ingress (mean 112.74 Mbit/s)   —— Flow 3 egress (mean 40.72 Mbit/s)

- Flow 1 (95th percentile 115.39 ms)   • Flow 2 (95th percentile 115.71 ms)   • Flow 3 (95th percentile 115.87 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-10-26 04:37:21
End at: 2018-10-26 04:37:51
Local clock offset: -1.049 ms
Remote clock offset: -0.64 ms

# Below is generated by plot.py at 2018-10-26 04:48:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.47 Mbit/s
95th percentile per-packet one-way delay: 114.986 ms
Loss rate: 4.87%
-- Flow 1:
Average throughput: 57.02 Mbit/s
95th percentile per-packet one-way delay: 114.941 ms
Loss rate: 3.90%
-- Flow 2:
Average throughput: 36.84 Mbit/s
95th percentile per-packet one-way delay: 115.149 ms
Loss rate: 6.74%
-- Flow 3:
Average throughput: 21.95 Mbit/s
95th percentile per-packet one-way delay: 114.970 ms
Loss rate: 6.01%
```

Run 5: Report of Indigo — Data Link

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

Start at: 2018-10-26 02:58:49
End at: 2018-10-26 02:59:19
Local clock offset: -7.772 ms
Remote clock offset: -1.714 ms


# Below is generated by plot.py at 2018-10-26 04:48:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.89 Mbit/s
95th percentile per-packet one-way delay: 119.587 ms
Loss rate: 55.68%
-- Flow 1:
Average throughput: 50.63 Mbit/s
95th percentile per-packet one-way delay: 117.029 ms
Loss rate: 54.31%
-- Flow 2:
Average throughput: 32.97 Mbit/s
95th percentile per-packet one-way delay: 116.931 ms
Loss rate: 58.17%
-- Flow 3:
Average throughput: 22.95 Mbit/s
95th percentile per-packet one-way delay: 122.110 ms
Loss rate: 56.90%
```
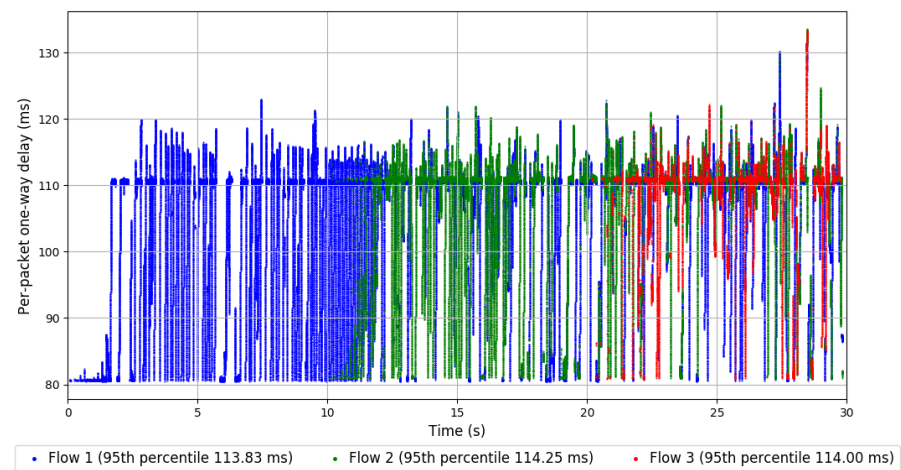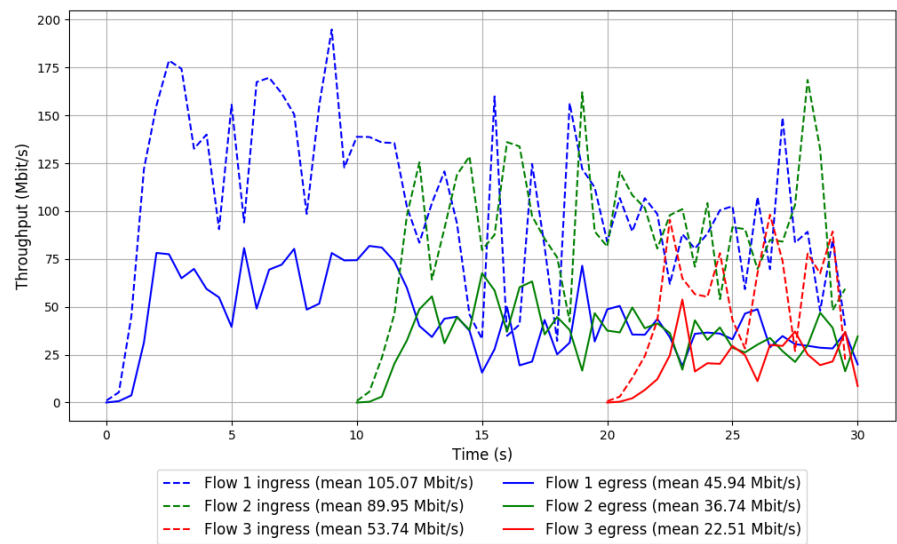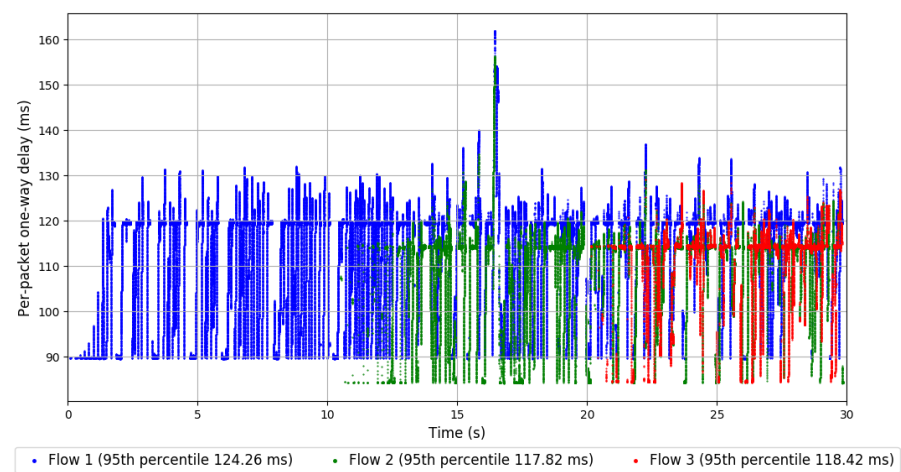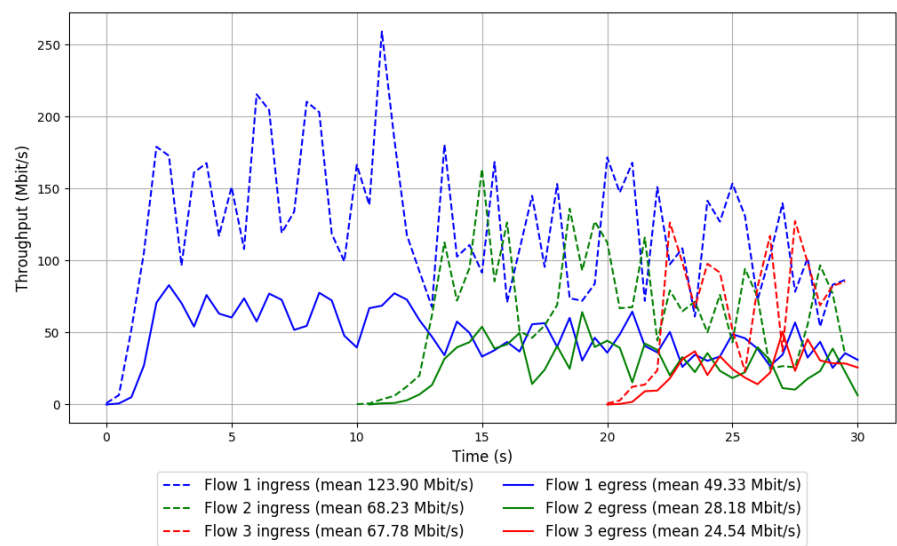
Run 1: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 110.93 Mbit/s) ---- Flow 1 egress (mean 50.63 Mbit/s) ——
Flow 2 ingress (mean 78.82 Mbit/s) ---- Flow 2 egress (mean 32.97 Mbit/s) ——
Flow 3 ingress (mean 53.22 Mbit/s) ---- Flow 3 egress (mean 22.95 Mbit/s) ——

• Flow 1 (95th percentile 117.03 ms)   • Flow 2 (95th percentile 116.93 ms)   • Flow 3 (95th percentile 122.11 ms)

```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 03:21:30
End at: 2018-10-26 03:22:00
Local clock offset: -7.192 ms
Remote clock offset: -6.236 ms


# Below is generated by plot.py at 2018-10-26 04:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.52 Mbit/s
95th percentile per-packet one-way delay: 113.995 ms
Loss rate: 57.39%
-- Flow 1:
Average throughput: 45.94 Mbit/s
95th percentile per-packet one-way delay: 113.829 ms
Loss rate: 56.27%
-- Flow 2:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 114.255 ms
Loss rate: 59.15%
-- Flow 3:
Average throughput: 22.51 Mbit/s
95th percentile per-packet one-way delay: 114.001 ms
Loss rate: 58.12%
```
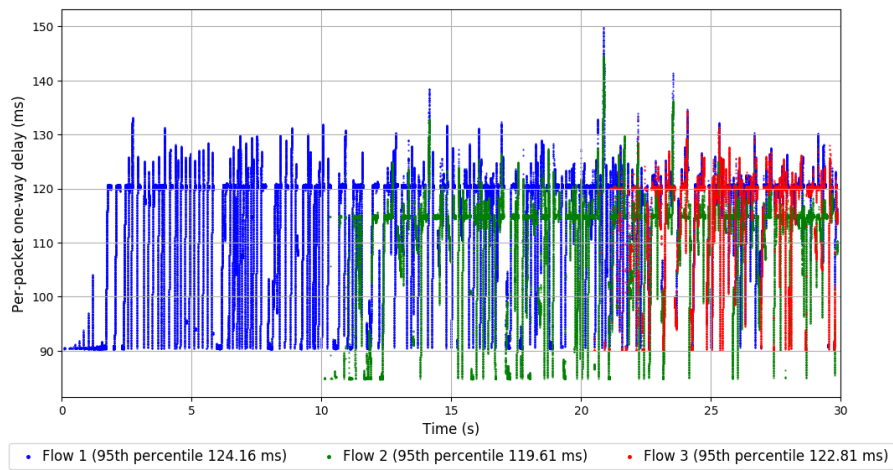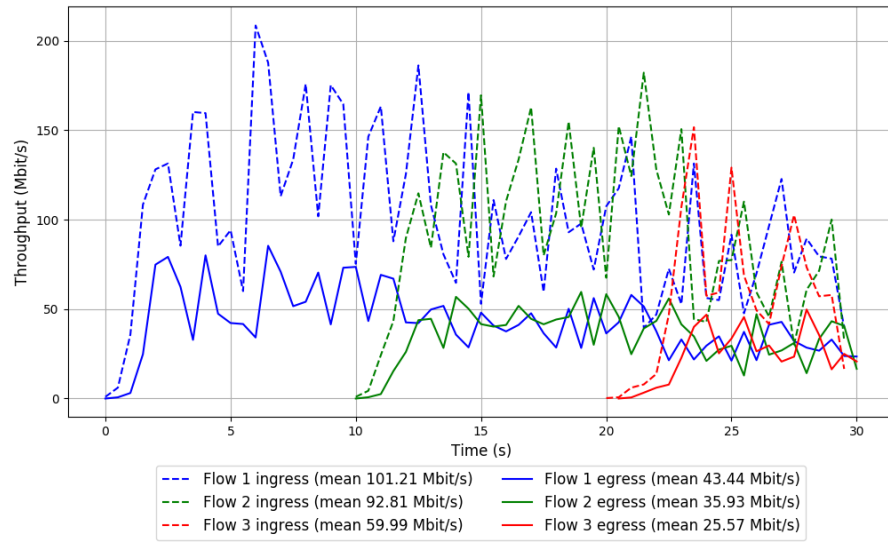
Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-26 03:44:11
End at: 2018-10-26 03:44:41
Local clock offset: -6.917 ms
Remote clock offset: -2.102 ms


# Below is generated by plot.py at 2018-10-26 04:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.57 Mbit/s
95th percentile per-packet one-way delay: 123.049 ms
Loss rate: 60.24%
-- Flow 1:
Average throughput: 49.33 Mbit/s
95th percentile per-packet one-way delay: 124.261 ms
Loss rate: 60.15%
-- Flow 2:
Average throughput: 28.18 Mbit/s
95th percentile per-packet one-way delay: 117.816 ms
Loss rate: 58.76%
-- Flow 3:
Average throughput: 24.54 Mbit/s
95th percentile per-packet one-way delay: 118.418 ms
Loss rate: 63.78%
```
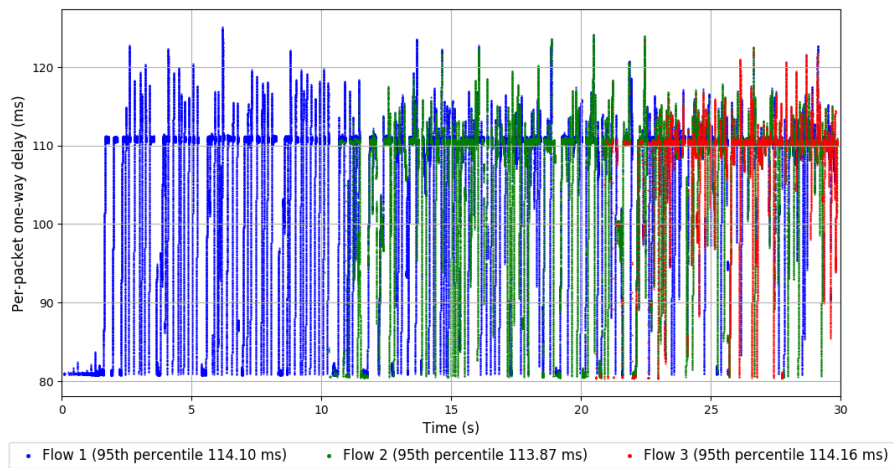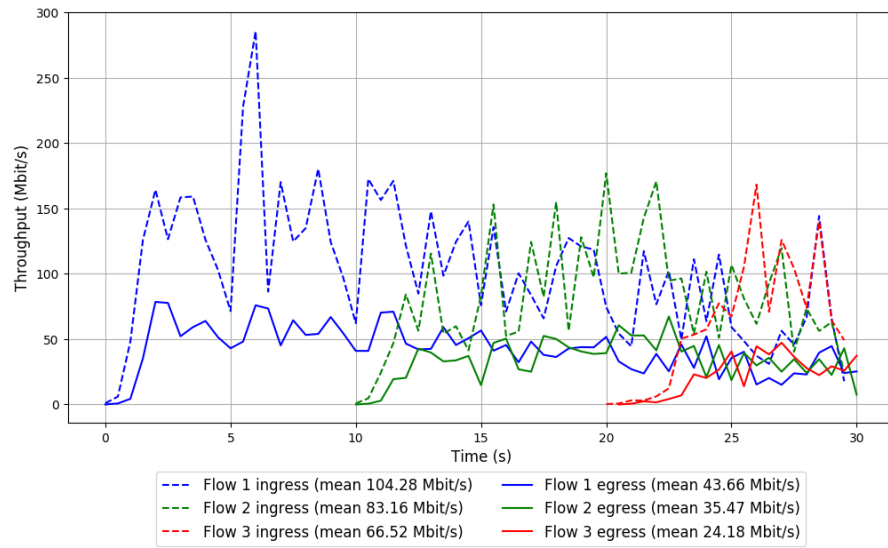
Run 3: Report of Indigo-96d2da3 — Data Link

```
Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-26 04:06:56
End at: 2018-10-26 04:07:26
Local clock offset: -4.284 ms
Remote clock offset: -1.84 ms


# Below is generated by plot.py at 2018-10-26 04:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.33 Mbit/s
95th percentile per-packet one-way delay: 123.283 ms
Loss rate: 58.50%
-- Flow 1:
Average throughput: 43.44 Mbit/s
95th percentile per-packet one-way delay: 124.161 ms
Loss rate: 57.06%
-- Flow 2:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 119.609 ms
Loss rate: 61.24%
-- Flow 3:
Average throughput: 25.57 Mbit/s
95th percentile per-packet one-way delay: 122.812 ms
Loss rate: 57.28%
```
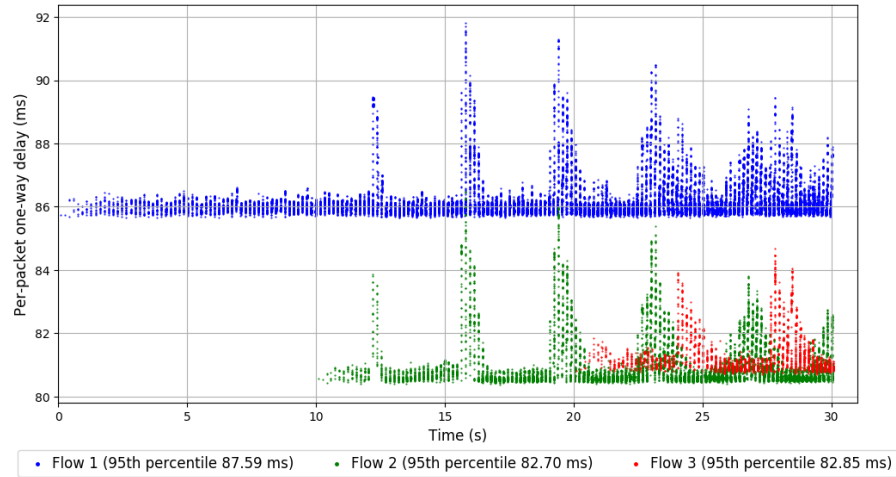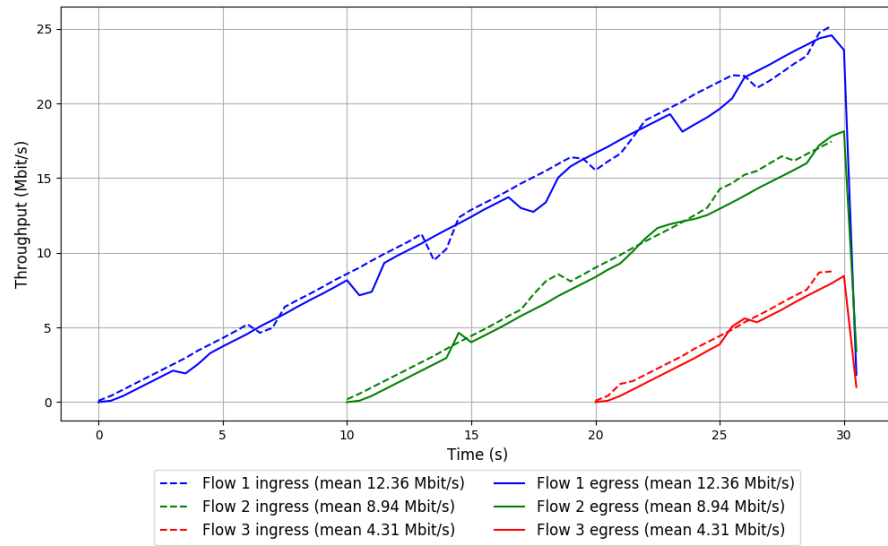
Run 4: Report of Indigo-96d2da3 — Data Link

```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 04:29:47
End at: 2018-10-26 04:30:17
Local clock offset: -0.553 ms
Remote clock offset: -4.921 ms


# Below is generated by plot.py at 2018-10-26 04:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.58 Mbit/s
95th percentile per-packet one-way delay: 114.034 ms
Loss rate: 58.50%
-- Flow 1:
Average throughput: 43.66 Mbit/s
95th percentile per-packet one-way delay: 114.102 ms
Loss rate: 58.10%
-- Flow 2:
Average throughput: 35.47 Mbit/s
95th percentile per-packet one-way delay: 113.867 ms
Loss rate: 57.36%
-- Flow 3:
Average throughput: 24.18 Mbit/s
95th percentile per-packet one-way delay: 114.155 ms
Loss rate: 63.57%
```

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

```
Run 1: Statistics of LEDBAT

Start at: 2018-10-26 03:03:55
End at: 2018-10-26 03:04:25
Local clock offset: -7.767 ms
Remote clock offset: -5.774 ms


# Below is generated by plot.py at 2018-10-26 04:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.72 Mbit/s
95th percentile per-packet one-way delay: 87.140 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 87.586 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 82.705 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 82.853 ms
Loss rate: 0.03%
```
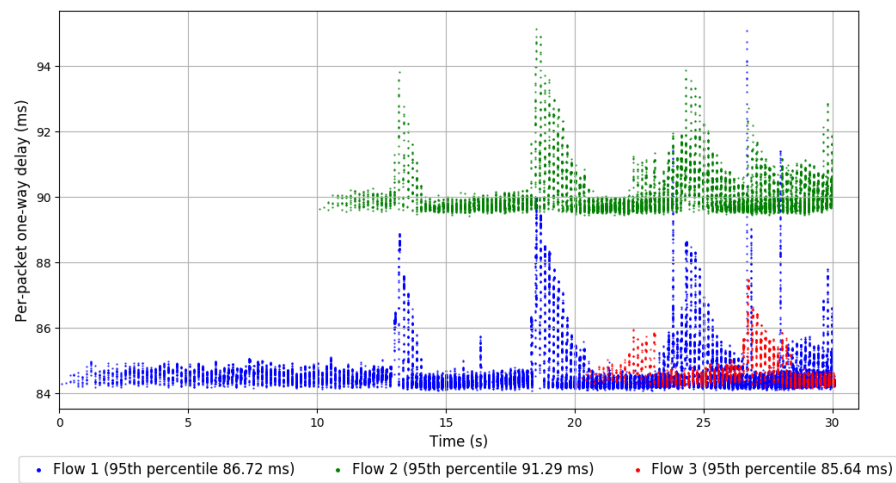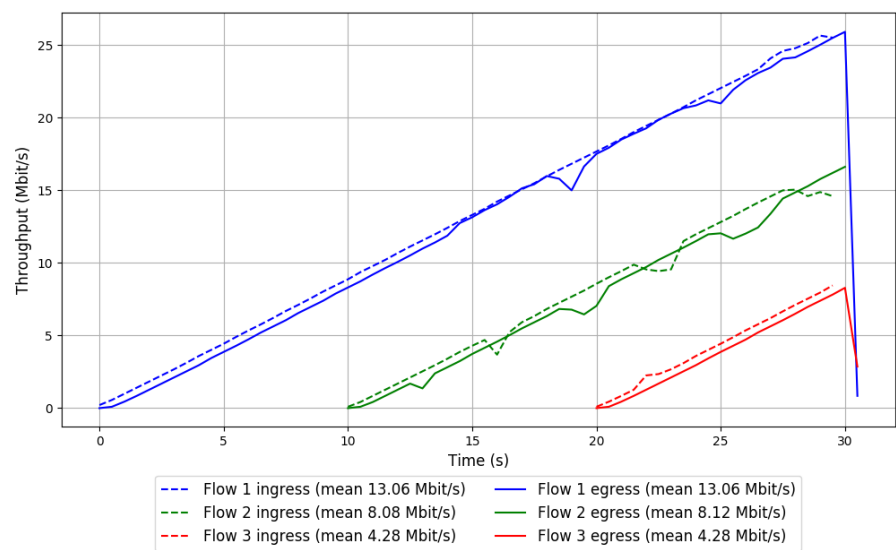
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-26 03:26:35
End at: 2018-10-26 03:27:05
Local clock offset: -7.167 ms
Remote clock offset: -3.05 ms

# Below is generated by plot.py at 2018-10-26 04:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.85 Mbit/s
95th percentile per-packet one-way delay: 90.533 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 13.06 Mbit/s
95th percentile per-packet one-way delay: 86.717 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 91.292 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 85.643 ms
Loss rate: 0.00%
```
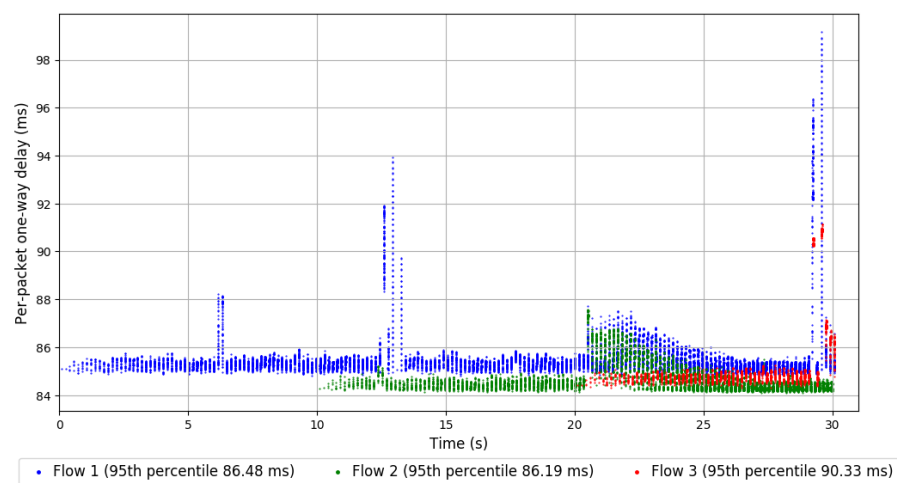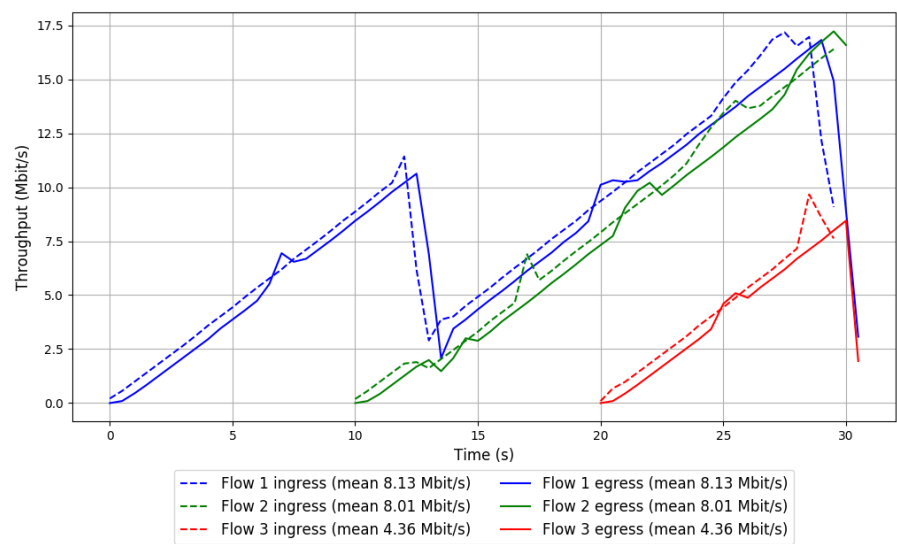
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-26 03:49:16
End at: 2018-10-26 03:49:46
Local clock offset: -6.803 ms
Remote clock offset: -1.619 ms

# Below is generated by plot.py at 2018-10-26 04:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.89 Mbit/s
95th percentile per-packet one-way delay: 86.400 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 86.479 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 86.185 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 90.328 ms
Loss rate: 0.00%
```
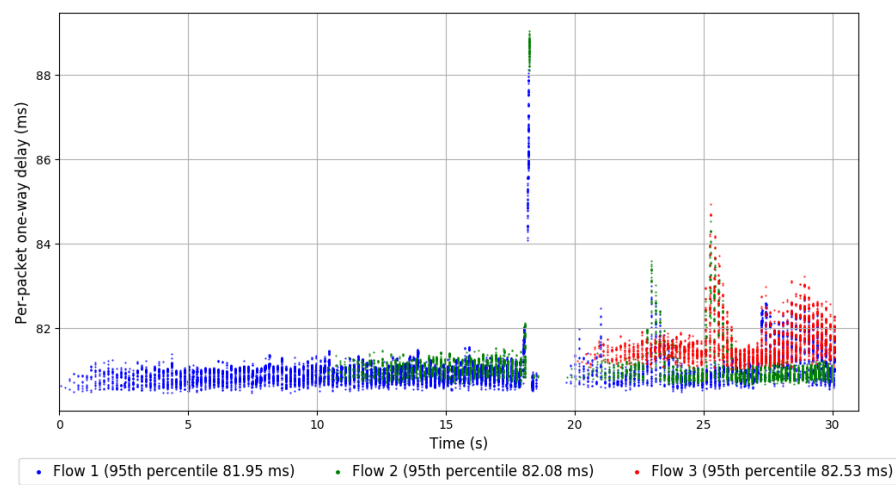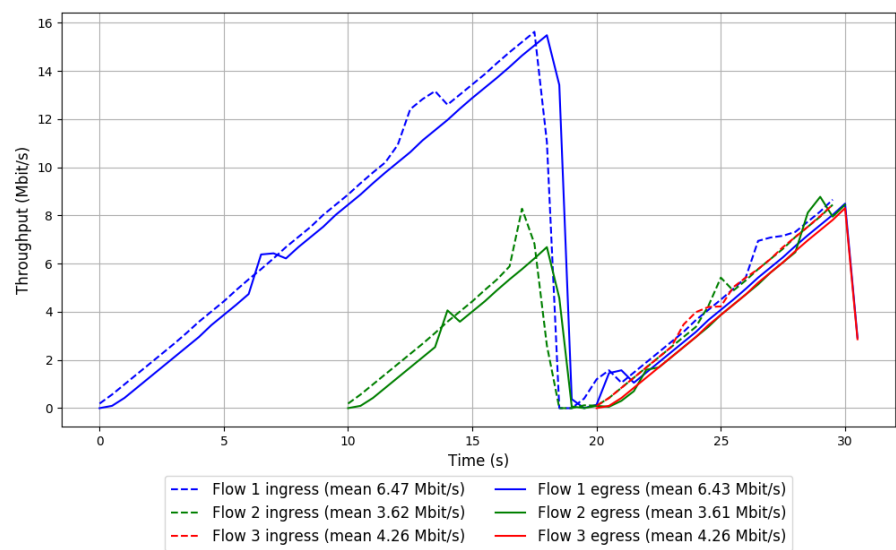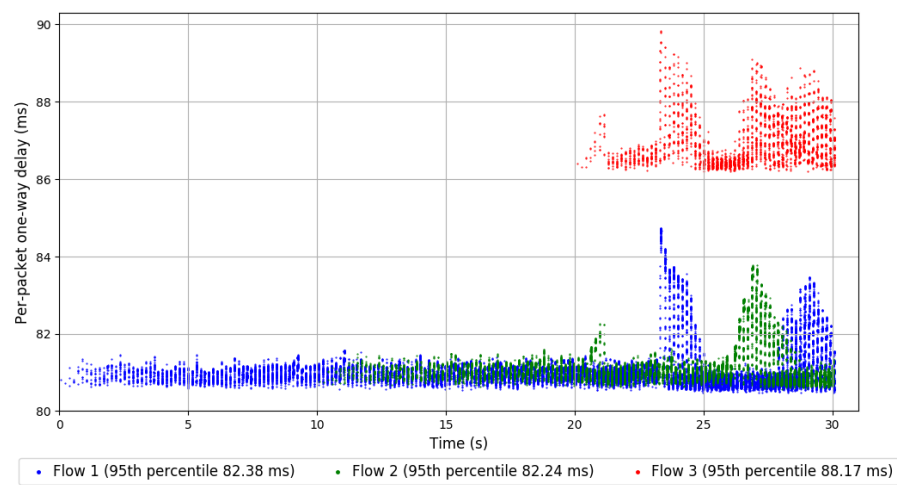
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 8.13 Mbit/s)   Flow 1 egress (mean 8.13 Mbit/s)
Flow 2 ingress (mean 8.01 Mbit/s)   Flow 2 egress (mean 8.01 Mbit/s)
Flow 3 ingress (mean 4.36 Mbit/s)   Flow 3 egress (mean 4.36 Mbit/s)

Flow 1 (95th percentile 86.48 ms)   Flow 2 (95th percentile 86.19 ms)   Flow 3 (95th percentile 90.33 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-26 04:12:10
End at: 2018-10-26 04:12:40
Local clock offset: -2.887 ms
Remote clock offset: -6.14 ms

# Below is generated by plot.py at 2018-10-26 04:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.24 Mbit/s
95th percentile per-packet one-way delay: 82.138 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 81.950 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 82.080 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 82.530 ms
Loss rate: 0.00%
```
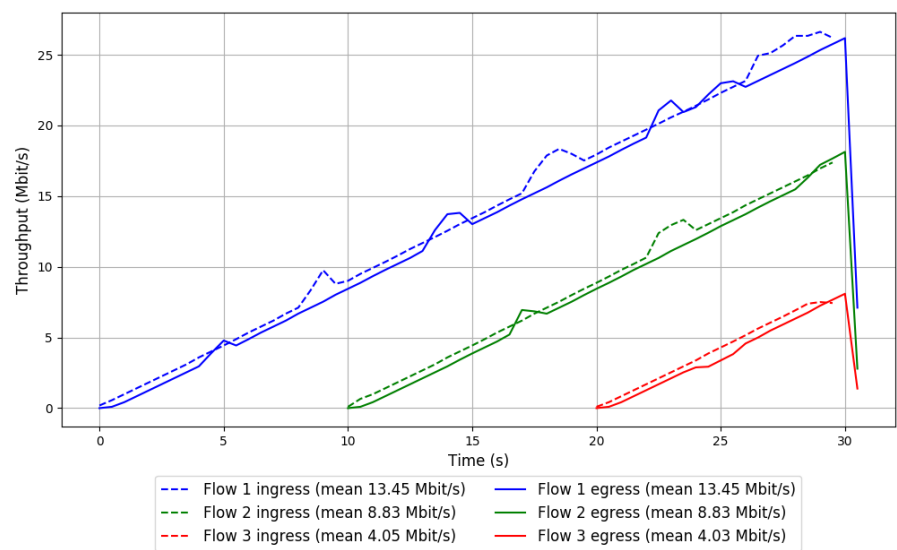
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-26 04:34:52
End at: 2018-10-26 04:35:22
Local clock offset: -0.869 ms
Remote clock offset: -4.263 ms

# Below is generated by plot.py at 2018-10-26 04:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.66 Mbit/s
95th percentile per-packet one-way delay: 86.470 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 13.45 Mbit/s
95th percentile per-packet one-way delay: 82.377 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 82.239 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 88.167 ms
Loss rate: 0.38%
```
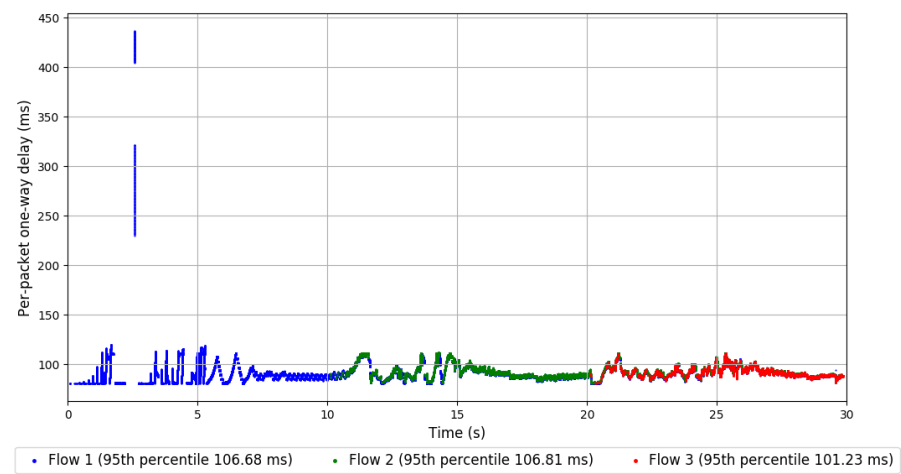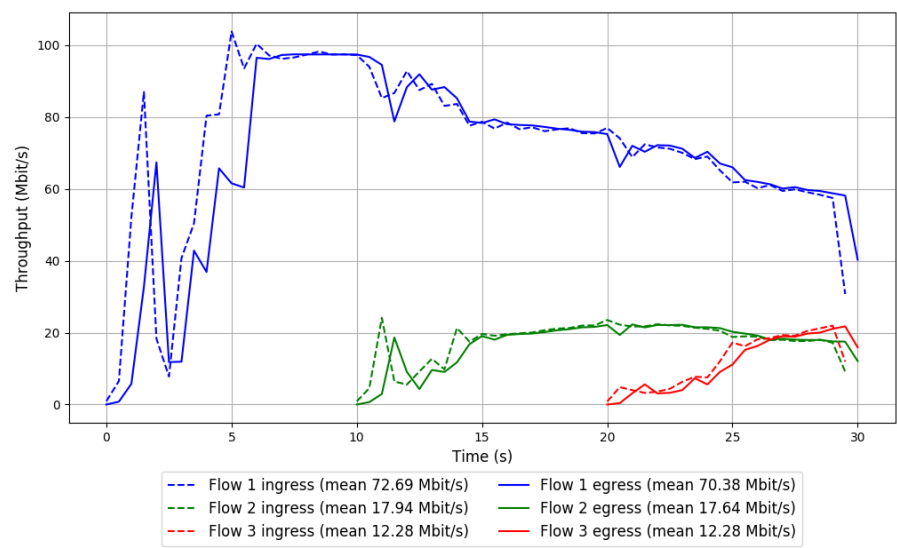
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-26 03:00:08
End at: 2018-10-26 03:00:38
Local clock offset: -7.918 ms
Remote clock offset: -5.499 ms


# Below is generated by plot.py at 2018-10-26 04:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.09 Mbit/s
95th percentile per-packet one-way delay: 106.499 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 70.38 Mbit/s
95th percentile per-packet one-way delay: 106.678 ms
Loss rate: 3.15%
-- Flow 2:
Average throughput: 17.64 Mbit/s
95th percentile per-packet one-way delay: 106.807 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 101.227 ms
Loss rate: 0.09%
```

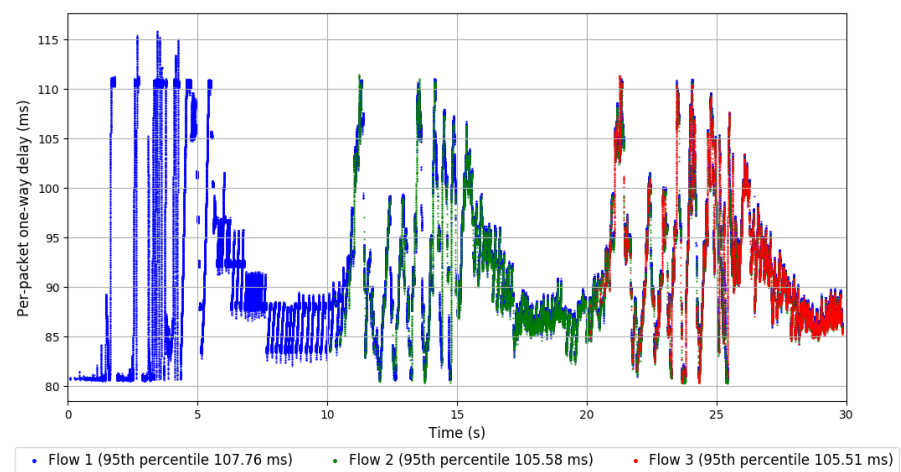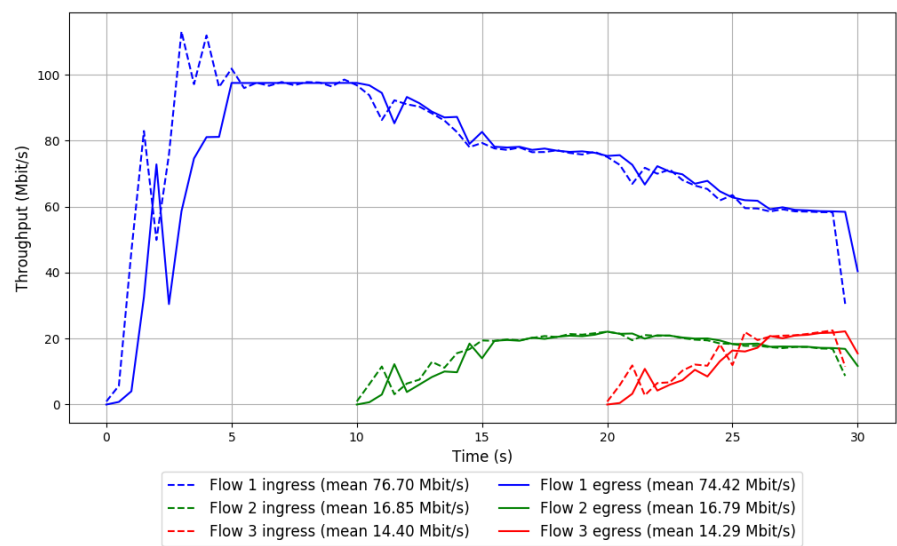Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-26 03:22:49
End at: 2018-10-26 03:23:19
Local clock offset: -7.161 ms
Remote clock offset: -6.558 ms

# Below is generated by plot.py at 2018-10-26 04:49:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.22 Mbit/s
95th percentile per-packet one-way delay: 107.291 ms
Loss rate: 2.54%
-- Flow 1:
Average throughput: 74.42 Mbit/s
95th percentile per-packet one-way delay: 107.762 ms
Loss rate: 2.96%
-- Flow 2:
Average throughput: 16.79 Mbit/s
95th percentile per-packet one-way delay: 105.578 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 14.29 Mbit/s
95th percentile per-packet one-way delay: 105.510 ms
Loss rate: 0.80%
```

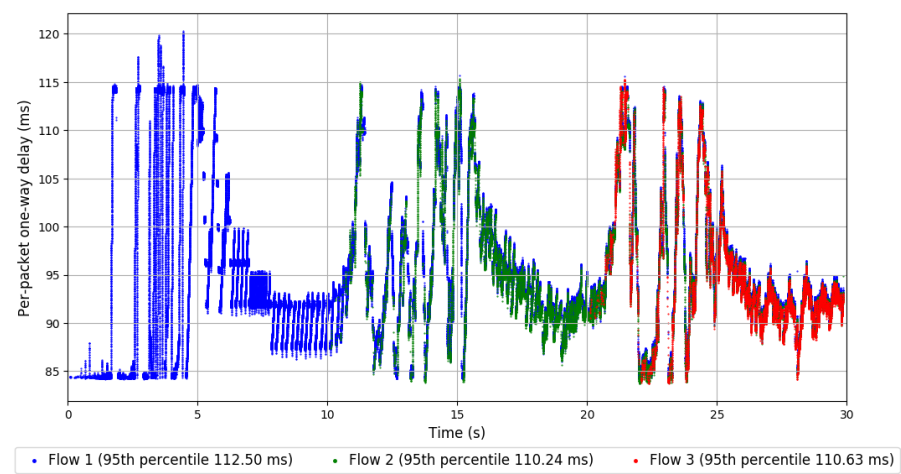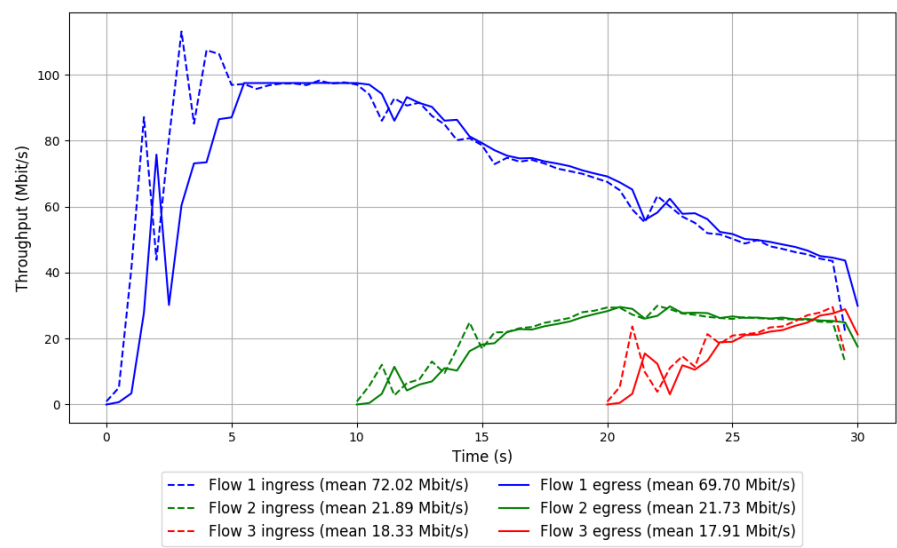Run 2: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 76.70 Mbit/s) — Flow 1 egress (mean 74.42 Mbit/s)
Flow 2 ingress (mean 16.85 Mbit/s) — Flow 2 egress (mean 16.79 Mbit/s)
Flow 3 ingress (mean 14.40 Mbit/s) — Flow 3 egress (mean 14.29 Mbit/s)

Flow 1 (95th percentile 107.76 ms)   Flow 2 (95th percentile 105.58 ms)   Flow 3 (95th percentile 105.51 ms)

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-26 03:45:29
End at: 2018-10-26 03:45:59
Local clock offset: -6.854 ms
Remote clock offset: -2.438 ms

# Below is generated by plot.py at 2018-10-26 04:49:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.95 Mbit/s
95th percentile per-packet one-way delay: 111.659 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 69.70 Mbit/s
95th percentile per-packet one-way delay: 112.499 ms
Loss rate: 3.20%
-- Flow 2:
Average throughput: 21.73 Mbit/s
95th percentile per-packet one-way delay: 110.237 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 17.91 Mbit/s
95th percentile per-packet one-way delay: 110.627 ms
Loss rate: 2.25%
```

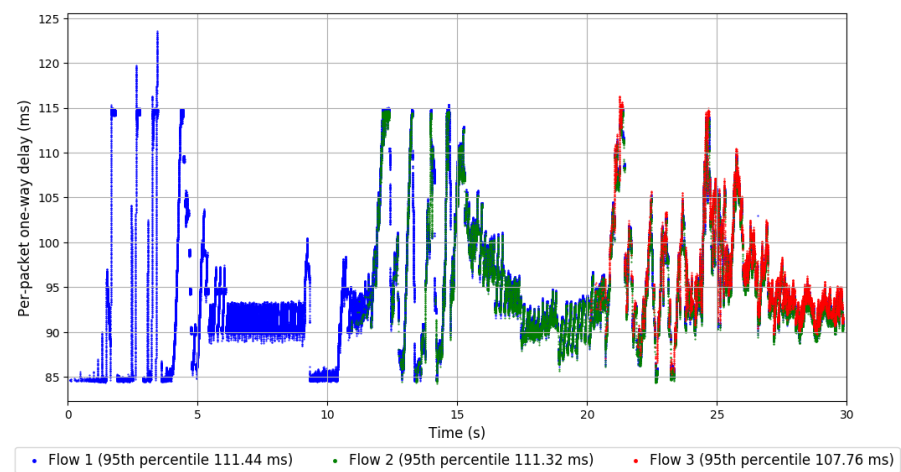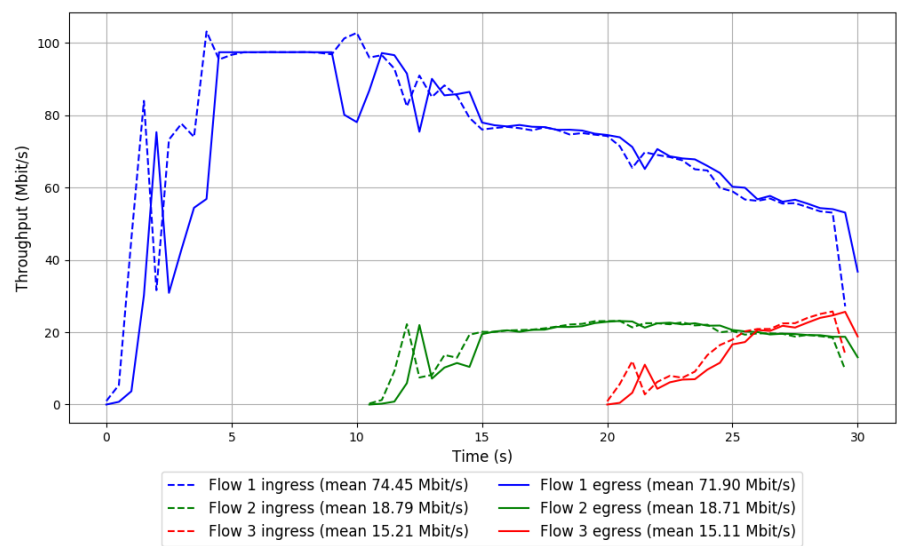Run 3: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 72.02 Mbit/s) —— Flow 1 egress (mean 69.70 Mbit/s)
Flow 2 ingress (mean 21.89 Mbit/s) —— Flow 2 egress (mean 21.73 Mbit/s)
Flow 3 ingress (mean 18.33 Mbit/s) —— Flow 3 egress (mean 17.91 Mbit/s)

Flow 1 (95th percentile 112.50 ms)   Flow 2 (95th percentile 110.24 ms)   Flow 3 (95th percentile 110.63 ms)

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 04:08:19
End at: 2018-10-26 04:08:49
Local clock offset: -3.931 ms
Remote clock offset: -2.362 ms


# Below is generated by plot.py at 2018-10-26 04:49:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.75 Mbit/s
95th percentile per-packet one-way delay: 111.215 ms
Loss rate: 2.85%
-- Flow 1:
Average throughput: 71.90 Mbit/s
95th percentile per-packet one-way delay: 111.444 ms
Loss rate: 3.40%
-- Flow 2:
Average throughput: 18.71 Mbit/s
95th percentile per-packet one-way delay: 111.320 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 15.11 Mbit/s
95th percentile per-packet one-way delay: 107.760 ms
Loss rate: 0.61%
```

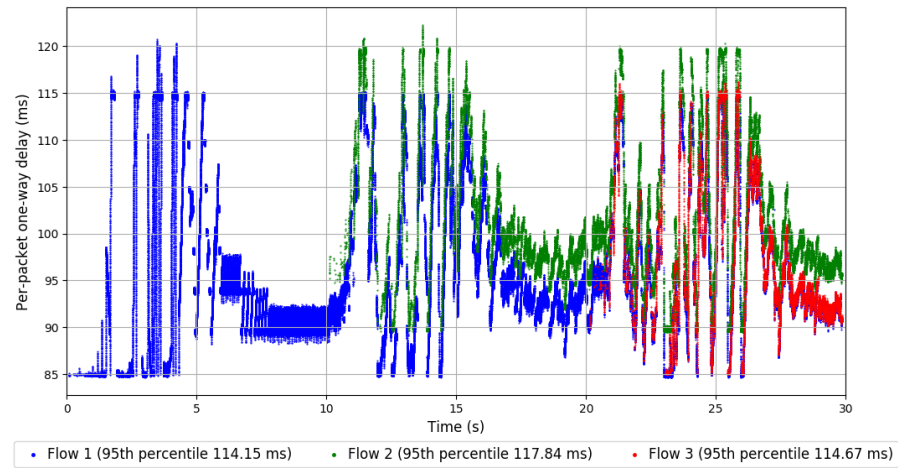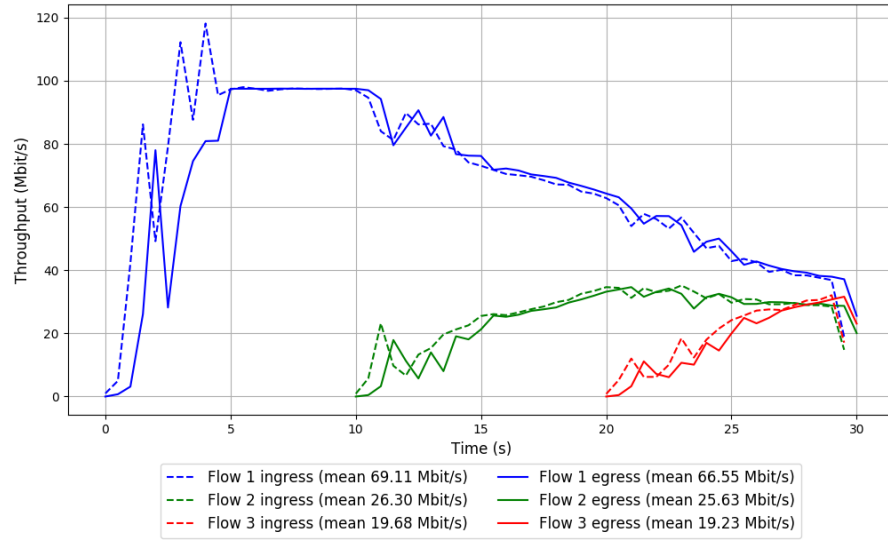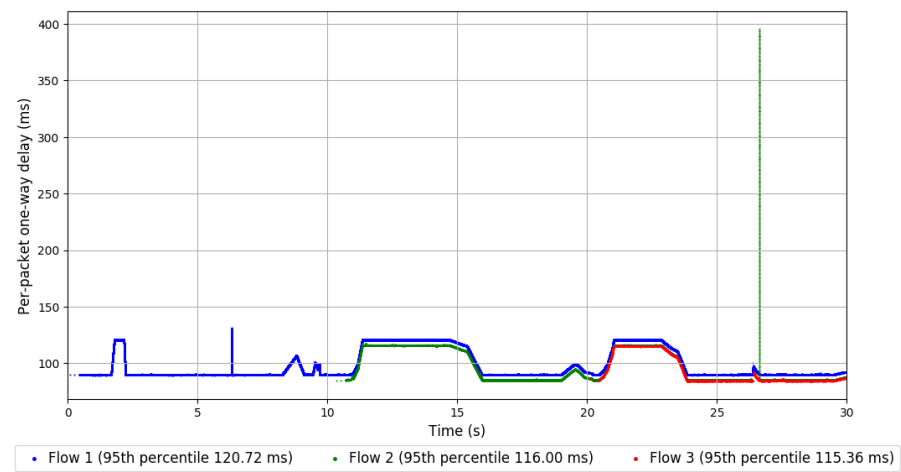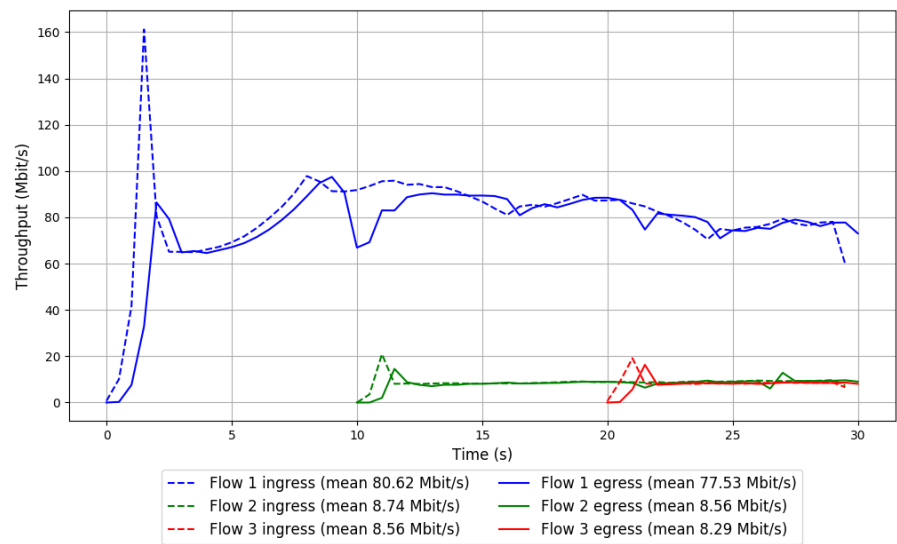Run 4: Report of Indigo-Muses — Data Link

- - - Flow 1 ingress (mean 74.45 Mbit/s) ——— Flow 1 egress (mean 71.90 Mbit/s)
- - - Flow 2 ingress (mean 18.79 Mbit/s) ——— Flow 2 egress (mean 18.71 Mbit/s)
- - - Flow 3 ingress (mean 15.21 Mbit/s) ——— Flow 3 egress (mean 15.11 Mbit/s)

• Flow 1 (95th percentile 111.44 ms)   • Flow 2 (95th percentile 111.32 ms)   • Flow 3 (95th percentile 107.76 ms)

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 04:31:05
End at: 2018-10-26 04:31:35
Local clock offset: -0.387 ms
Remote clock offset: -0.772 ms


# Below is generated by plot.py at 2018-10-26 04:49:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.81 Mbit/s
95th percentile per-packet one-way delay: 114.566 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 66.55 Mbit/s
95th percentile per-packet one-way delay: 114.152 ms
Loss rate: 3.70%
-- Flow 2:
Average throughput: 25.63 Mbit/s
95th percentile per-packet one-way delay: 117.843 ms
Loss rate: 2.55%
-- Flow 3:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 114.665 ms
Loss rate: 2.30%
```

Run 5: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 69.11 Mbit/s) --- Flow 1 egress (mean 66.55 Mbit/s)
Flow 2 ingress (mean 26.30 Mbit/s) --- Flow 2 egress (mean 25.63 Mbit/s)
Flow 3 ingress (mean 19.68 Mbit/s) --- Flow 3 egress (mean 19.23 Mbit/s)

Flow 1 (95th percentile 114.15 ms) --- Flow 2 (95th percentile 117.84 ms) --- Flow 3 (95th percentile 114.67 ms)
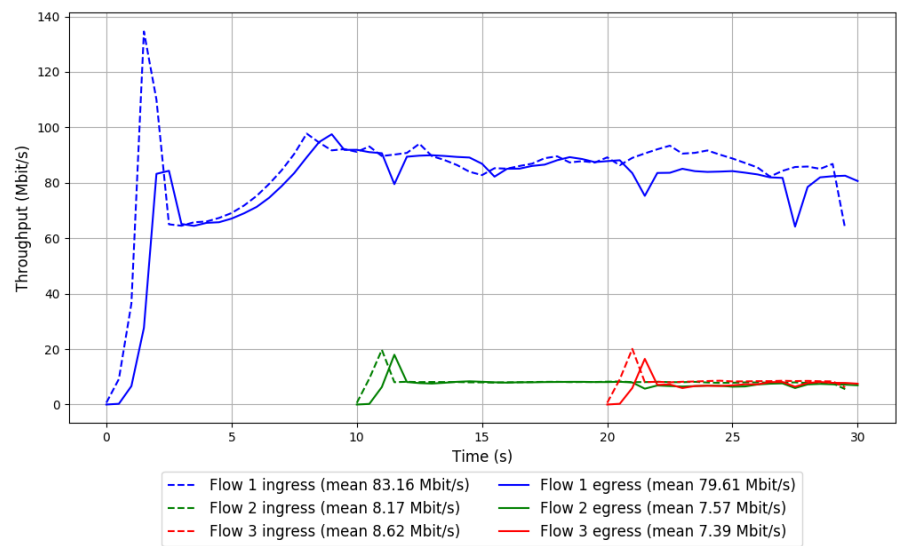
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-26 02:51:18
End at: 2018-10-26 02:51:48
Local clock offset: -7.152 ms
Remote clock offset: -1.236 ms


# Below is generated by plot.py at 2018-10-26 04:49:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 120.709 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 77.53 Mbit/s
95th percentile per-packet one-way delay: 120.717 ms
Loss rate: 3.84%
-- Flow 2:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 115.998 ms
Loss rate: 3.31%
-- Flow 3:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 115.361 ms
Loss rate: 3.18%
```
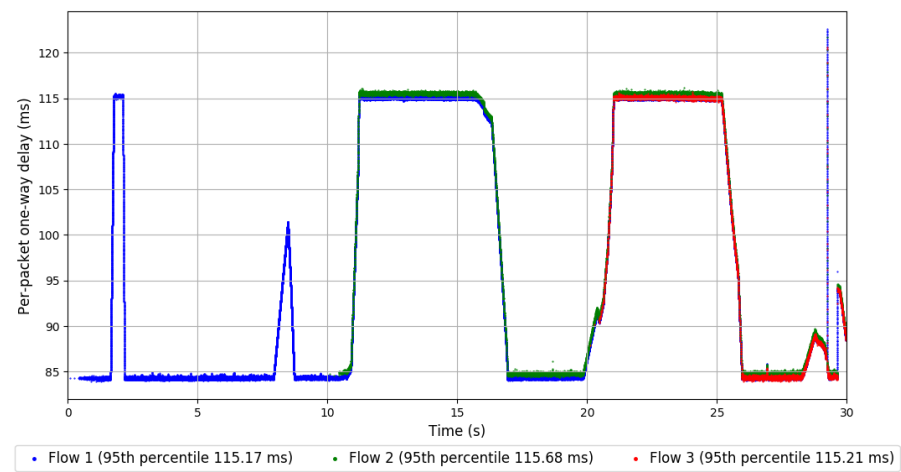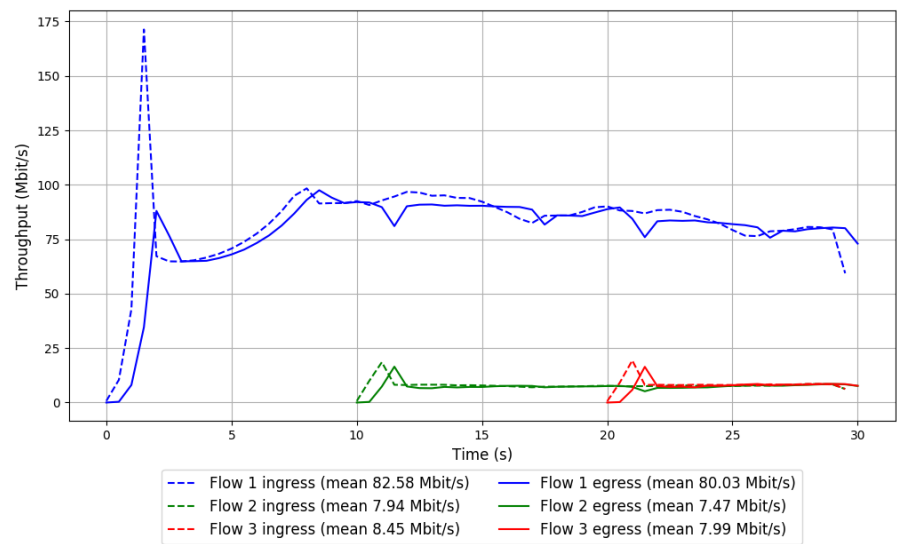
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-26 03:14:01
End at: 2018-10-26 03:14:31
Local clock offset: -7.045 ms
Remote clock offset: -2.239 ms

# Below is generated by plot.py at 2018-10-26 04:49:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.09 Mbit/s
95th percentile per-packet one-way delay: 120.795 ms
Loss rate: 4.68%
-- Flow 1:
Average throughput: 79.61 Mbit/s
95th percentile per-packet one-way delay: 120.801 ms
Loss rate: 4.20%
-- Flow 2:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 120.592 ms
Loss rate: 7.30%
-- Flow 3:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 115.718 ms
Loss rate: 13.90%
```
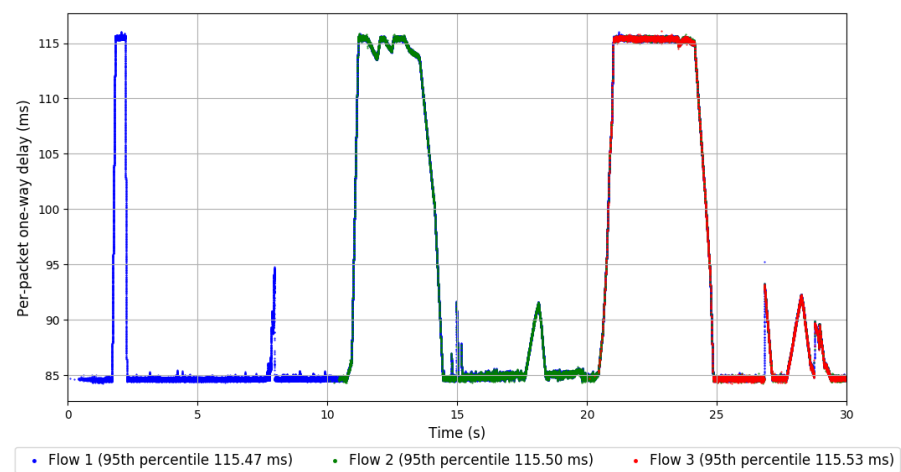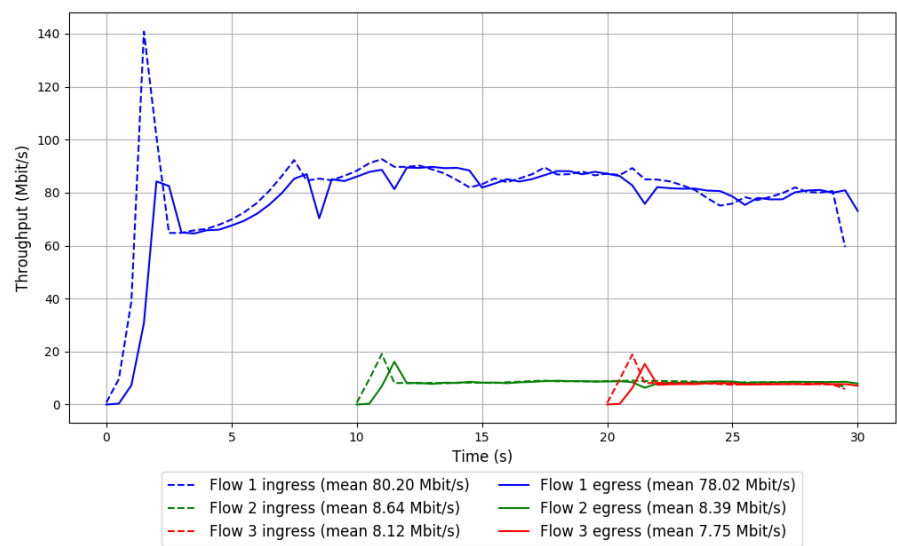
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-26 03:36:40
End at: 2018-10-26 03:37:10
Local clock offset: -6.967 ms
Remote clock offset: -2.481 ms


# Below is generated by plot.py at 2018-10-26 04:50:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.63 Mbit/s
95th percentile per-packet one-way delay: 115.206 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 80.03 Mbit/s
95th percentile per-packet one-way delay: 115.169 ms
Loss rate: 3.07%
-- Flow 2:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 115.681 ms
Loss rate: 5.85%
-- Flow 3:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 115.209 ms
Loss rate: 5.47%
```
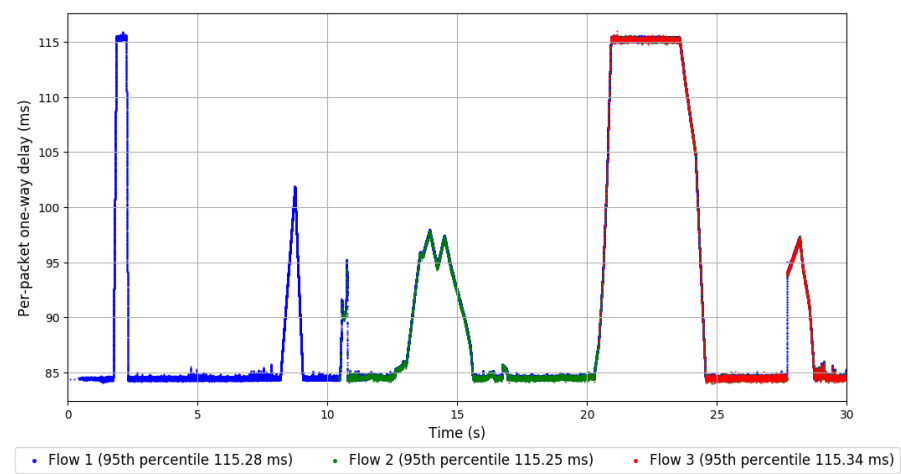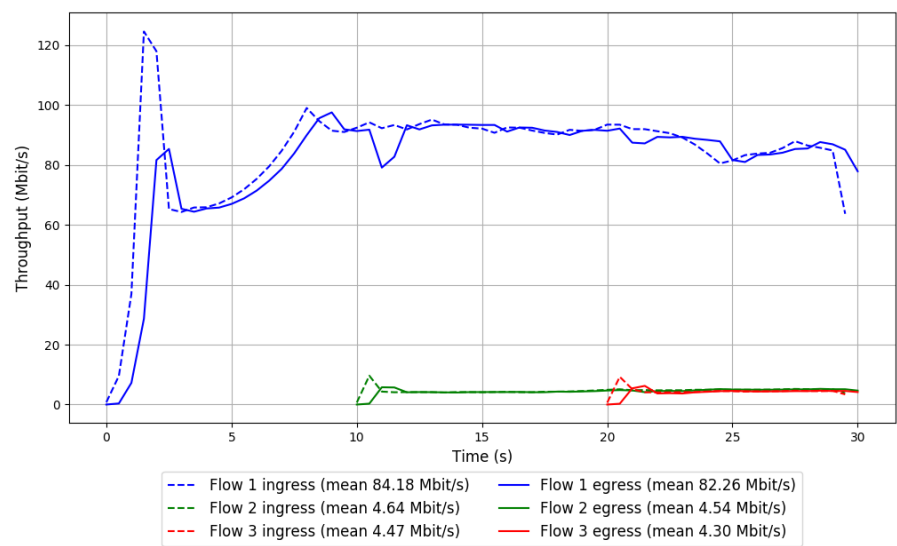
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 82.58 Mbit/s)   Flow 1 egress (mean 80.03 Mbit/s)
Flow 2 ingress (mean 7.94 Mbit/s)   Flow 2 egress (mean 7.47 Mbit/s)
Flow 3 ingress (mean 8.45 Mbit/s)   Flow 3 egress (mean 7.99 Mbit/s)

Flow 1 (95th percentile 115.17 ms)   Flow 2 (95th percentile 115.68 ms)   Flow 3 (95th percentile 115.21 ms)

90

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 03:59:20
End at: 2018-10-26 03:59:50
Local clock offset: -7.059 ms
Remote clock offset: -1.733 ms


# Below is generated by plot.py at 2018-10-26 04:50:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.16 Mbit/s
95th percentile per-packet one-way delay: 115.471 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 78.02 Mbit/s
95th percentile per-packet one-way delay: 115.465 ms
Loss rate: 2.72%
-- Flow 2:
Average throughput: 8.39 Mbit/s
95th percentile per-packet one-way delay: 115.501 ms
Loss rate: 2.89%
-- Flow 3:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 115.530 ms
Loss rate: 4.55%
```

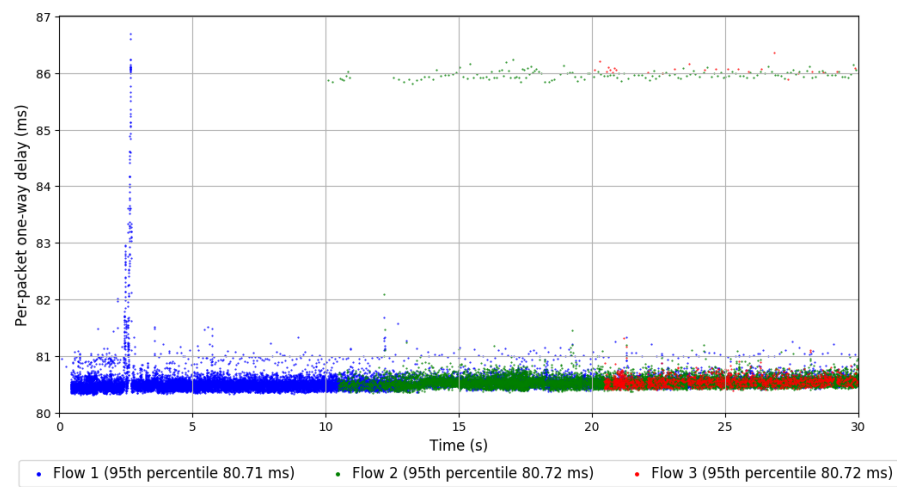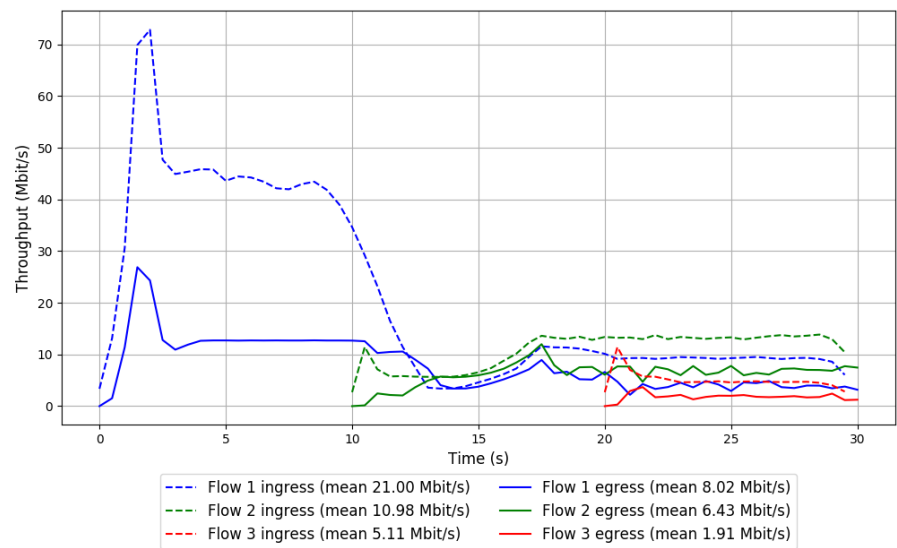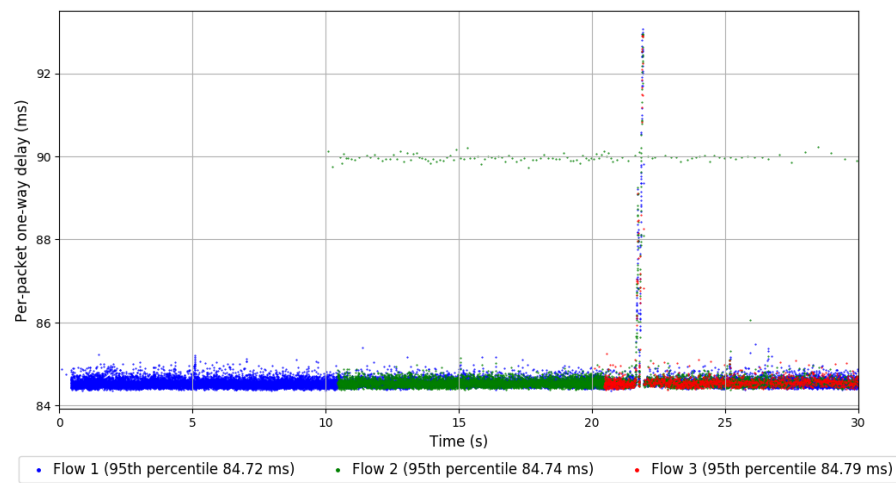Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-26 04:22:17
End at: 2018-10-26 04:22:47
Local clock offset: -1.139 ms
Remote clock offset: -1.767 ms


# Below is generated by plot.py at 2018-10-26 04:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.70 Mbit/s
95th percentile per-packet one-way delay: 115.283 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 82.26 Mbit/s
95th percentile per-packet one-way delay: 115.282 ms
Loss rate: 2.27%
-- Flow 2:
Average throughput: 4.54 Mbit/s
95th percentile per-packet one-way delay: 115.252 ms
Loss rate: 2.11%
-- Flow 3:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 115.343 ms
Loss rate: 3.69%
```

Run 5: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 84.18 Mbit/s) —— Flow 1 egress (mean 82.26 Mbit/s)
- - - Flow 2 ingress (mean 4.64 Mbit/s) —— Flow 2 egress (mean 4.54 Mbit/s)
- - - Flow 3 ingress (mean 4.47 Mbit/s) —— Flow 3 egress (mean 4.30 Mbit/s)

• Flow 1 (95th percentile 115.28 ms)   • Flow 2 (95th percentile 115.25 ms)   • Flow 3 (95th percentile 115.34 ms)
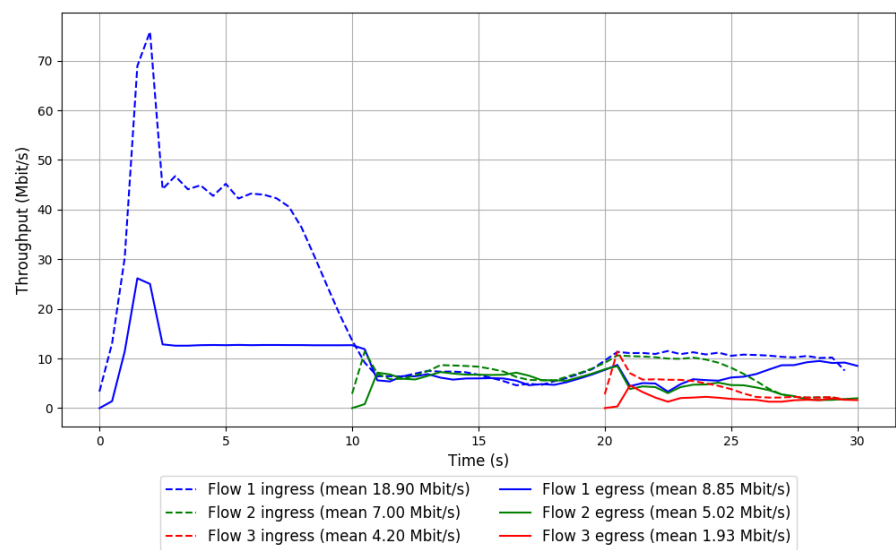
```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-26 03:01:25
End at: 2018-10-26 03:01:55
Local clock offset: -8.106 ms
Remote clock offset: -5.489 ms


# Below is generated by plot.py at 2018-10-26 04:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.92 Mbit/s
95th percentile per-packet one-way delay: 80.714 ms
Loss rate: 56.90%
-- Flow 1:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 80.708 ms
Loss rate: 61.81%
-- Flow 2:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 80.719 ms
Loss rate: 41.44%
-- Flow 3:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 80.722 ms
Loss rate: 62.72%
```

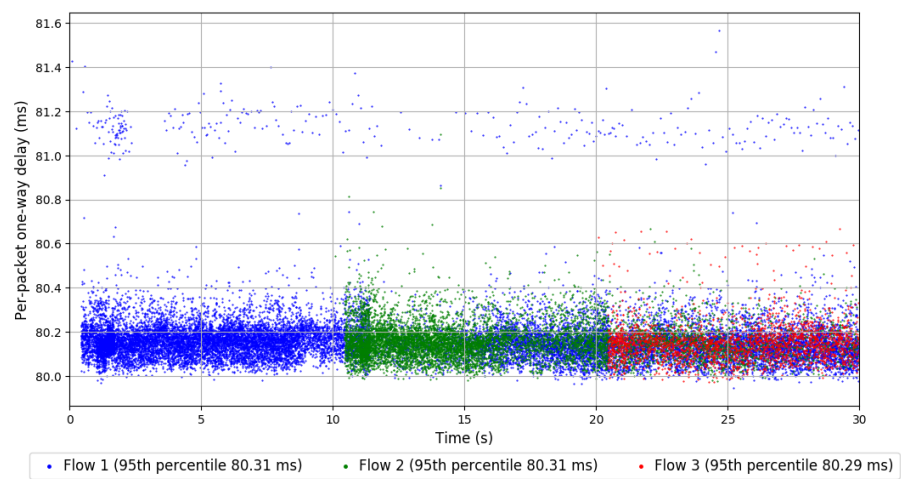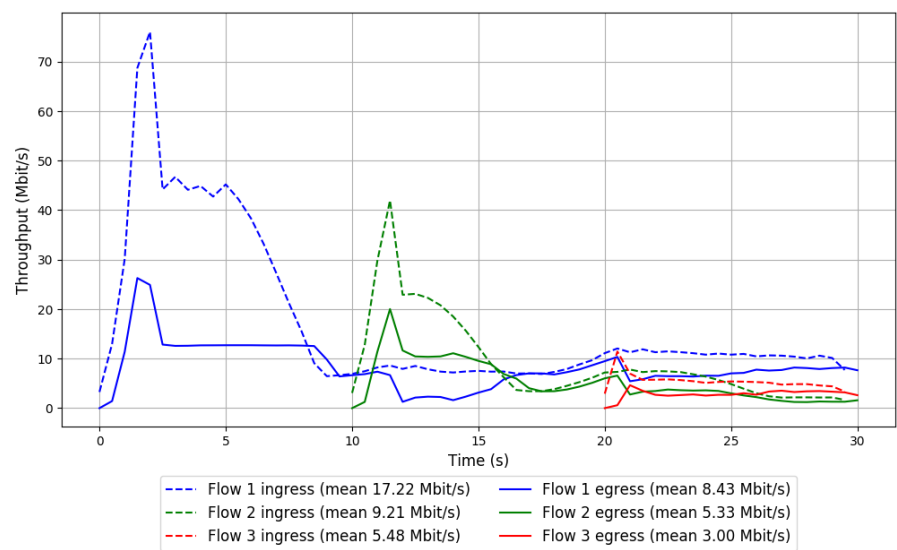Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-26 03:24:06
End at: 2018-10-26 03:24:36
Local clock offset: -7.194 ms
Remote clock offset: -2.368 ms

# Below is generated by plot.py at 2018-10-26 04:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 84.729 ms
Loss rate: 48.57%
-- Flow 1:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 84.720 ms
Loss rate: 53.16%
-- Flow 2:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 84.744 ms
Loss rate: 28.35%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 84.791 ms
Loss rate: 53.99%
```
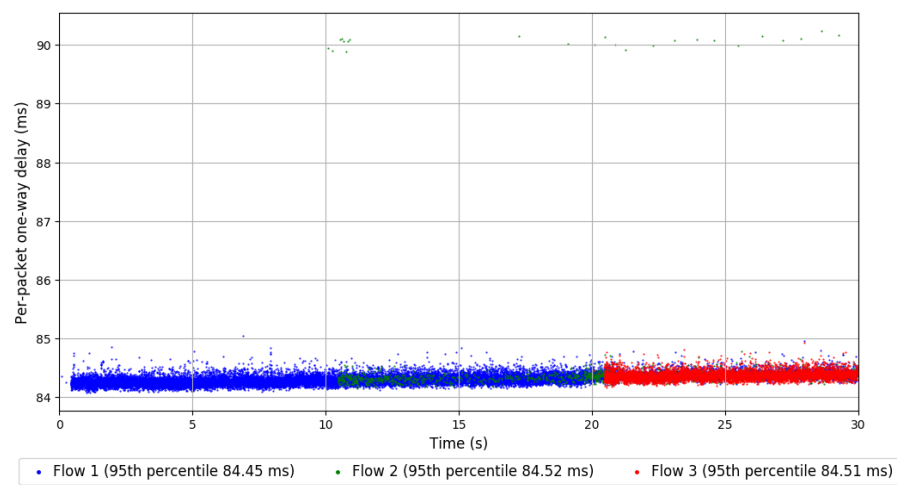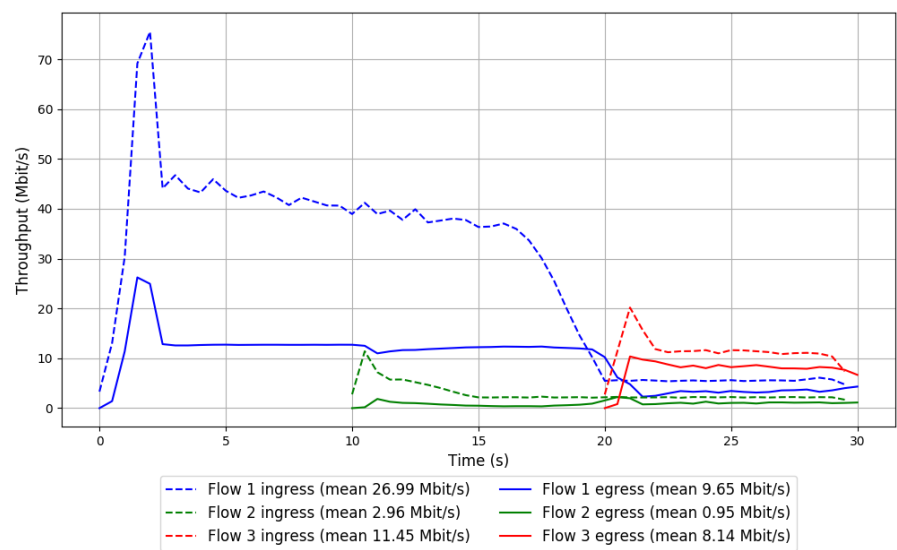
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-26 03:46:46
End at: 2018-10-26 03:47:16
Local clock offset: -6.776 ms
Remote clock offset: -5.659 ms


# Below is generated by plot.py at 2018-10-26 04:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 80.305 ms
Loss rate: 48.46%
-- Flow 1:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 80.306 ms
Loss rate: 51.03%
-- Flow 2:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 80.306 ms
Loss rate: 42.18%
-- Flow 3:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 80.293 ms
Loss rate: 45.30%
```

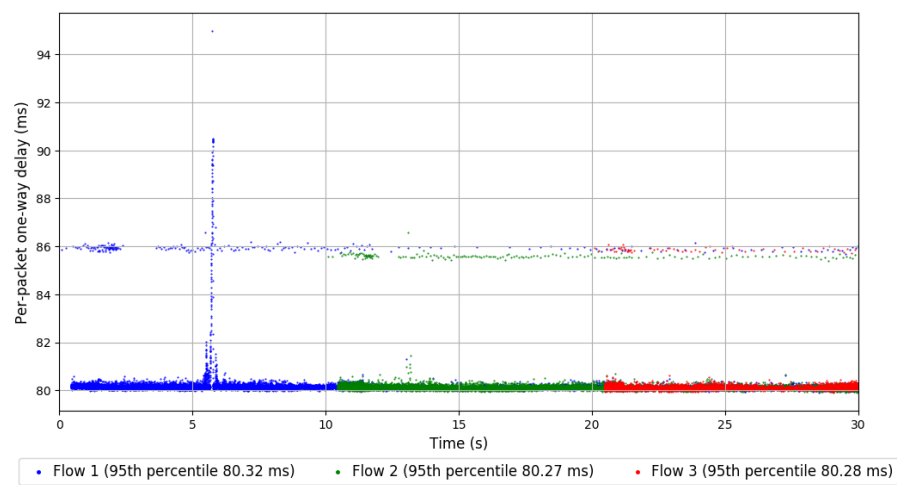Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 04:09:40
End at: 2018-10-26 04:10:10
Local clock offset: -3.483 ms
Remote clock offset: -2.359 ms


# Below is generated by plot.py at 2018-10-26 04:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 84.470 ms
Loss rate: 60.40%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 84.451 ms
Loss rate: 64.26%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 84.520 ms
Loss rate: 67.93%
-- Flow 3:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 84.511 ms
Loss rate: 28.94%
```

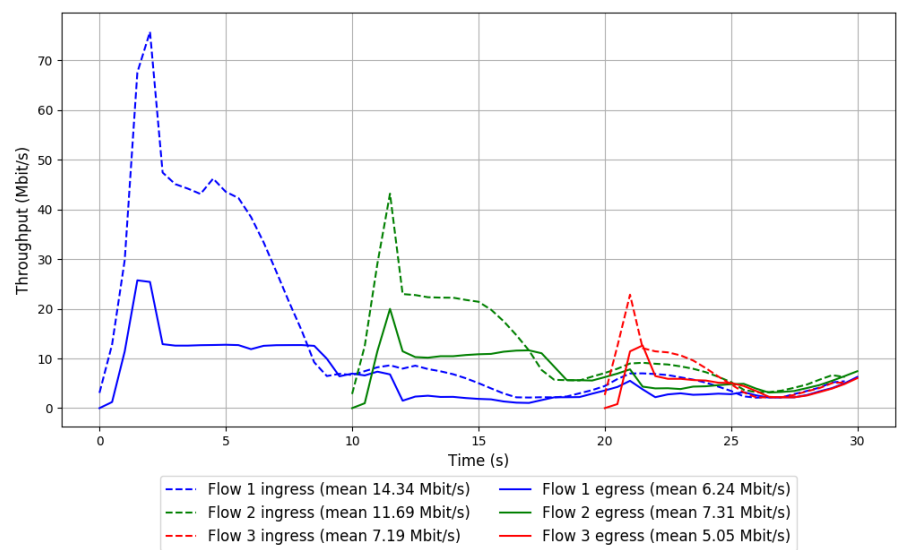Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-26 04:32:22
End at: 2018-10-26 04:32:52
Local clock offset: -0.528 ms
Remote clock offset: -4.845 ms


# Below is generated by plot.py at 2018-10-26 04:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 80.293 ms
Loss rate: 47.91%
-- Flow 1:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 80.320 ms
Loss rate: 56.53%
-- Flow 2:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 80.267 ms
Loss rate: 37.51%
-- Flow 3:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 80.283 ms
Loss rate: 29.88%
```
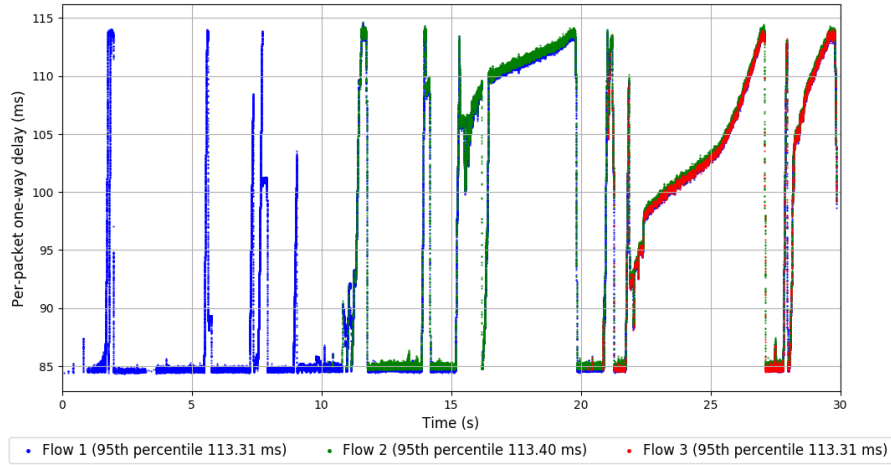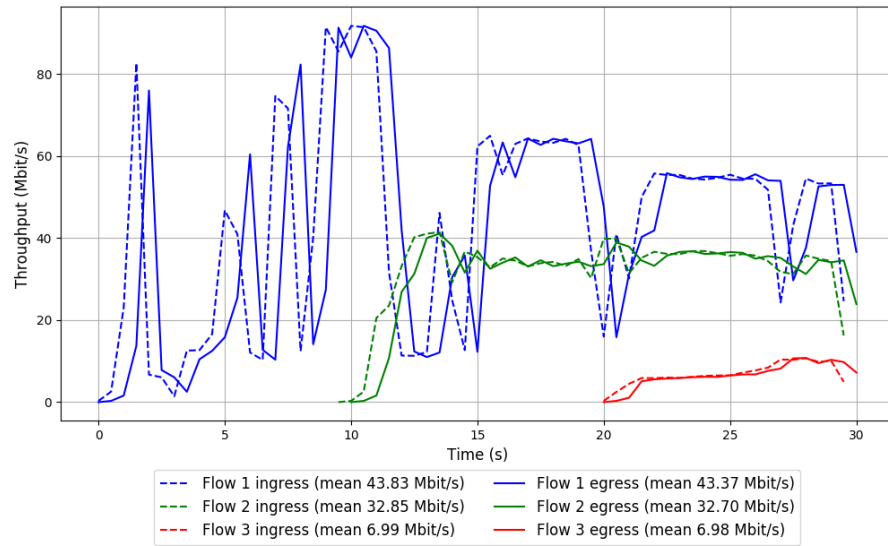
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-26 03:02:39
End at: 2018-10-26 03:03:09
Local clock offset: -7.95 ms
Remote clock offset: -1.87 ms


# Below is generated by plot.py at 2018-10-26 04:50:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.38 Mbit/s
95th percentile per-packet one-way delay: 113.326 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 43.37 Mbit/s
95th percentile per-packet one-way delay: 113.307 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 32.70 Mbit/s
95th percentile per-packet one-way delay: 113.404 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 113.313 ms
Loss rate: 0.00%
```
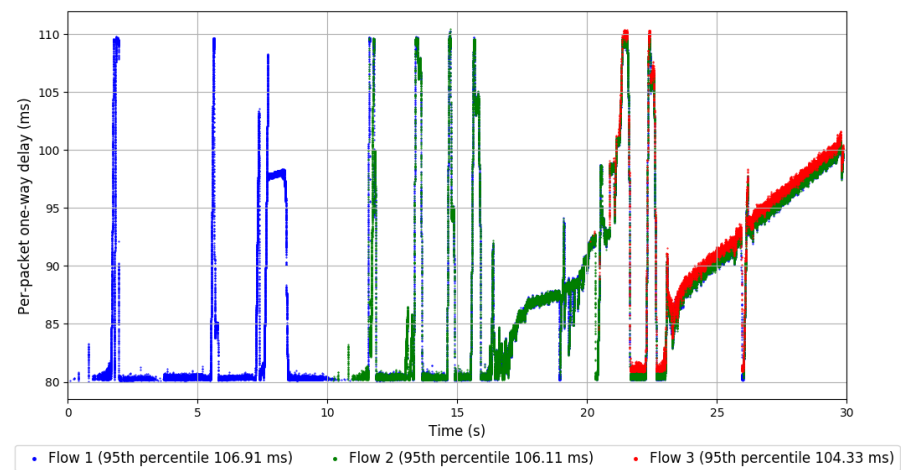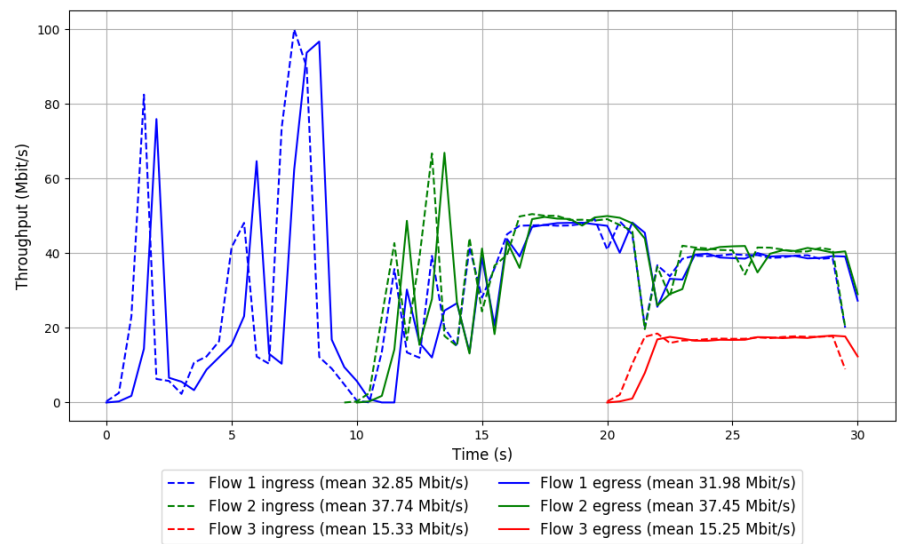
Run 1: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 43.83 Mbit/s) —— Flow 1 egress (mean 43.37 Mbit/s)
- - - Flow 2 ingress (mean 32.85 Mbit/s) —— Flow 2 egress (mean 32.70 Mbit/s)
- - - Flow 3 ingress (mean 6.99 Mbit/s) —— Flow 3 egress (mean 6.98 Mbit/s)

• Flow 1 (95th percentile 113.31 ms)   • Flow 2 (95th percentile 113.40 ms)   • Flow 3 (95th percentile 113.31 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-26 03:25:20
End at: 2018-10-26 03:25:50
Local clock offset: -7.218 ms
Remote clock offset: -6.708 ms


# Below is generated by plot.py at 2018-10-26 04:50:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.85 Mbit/s
95th percentile per-packet one-way delay: 106.344 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 31.98 Mbit/s
95th percentile per-packet one-way delay: 106.908 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 37.45 Mbit/s
95th percentile per-packet one-way delay: 106.105 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 15.25 Mbit/s
95th percentile per-packet one-way delay: 104.330 ms
Loss rate: 0.47%
```

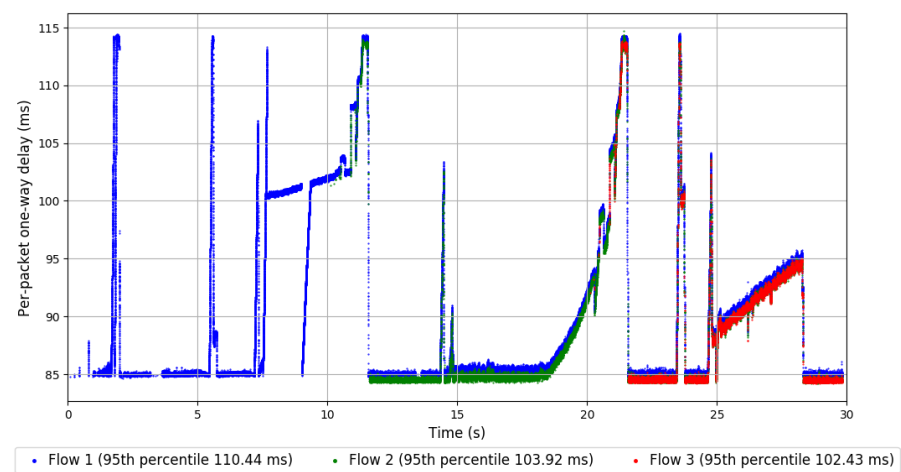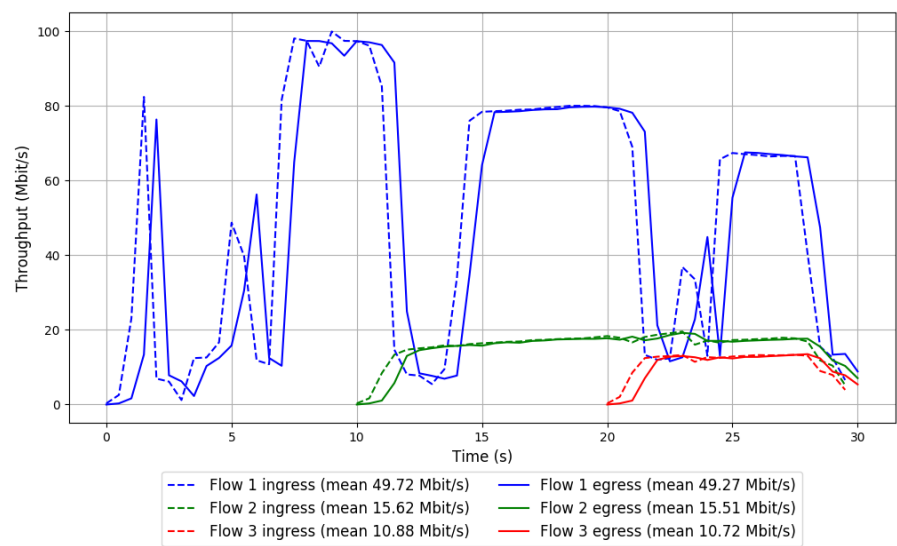Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 03:48:00
End at: 2018-10-26 03:48:30
Local clock offset: -6.787 ms
Remote clock offset: -1.435 ms


# Below is generated by plot.py at 2018-10-26 04:51:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.06 Mbit/s
95th percentile per-packet one-way delay: 109.019 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 49.27 Mbit/s
95th percentile per-packet one-way delay: 110.439 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 15.51 Mbit/s
95th percentile per-packet one-way delay: 103.915 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 10.72 Mbit/s
95th percentile per-packet one-way delay: 102.428 ms
Loss rate: 1.60%
```

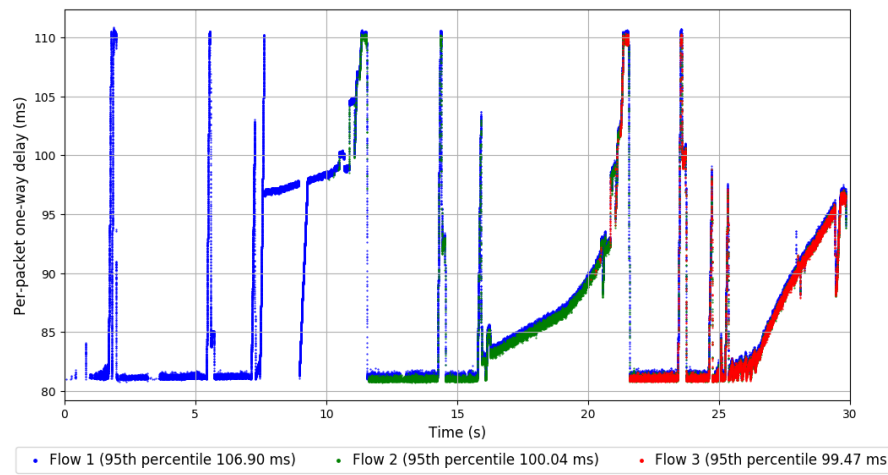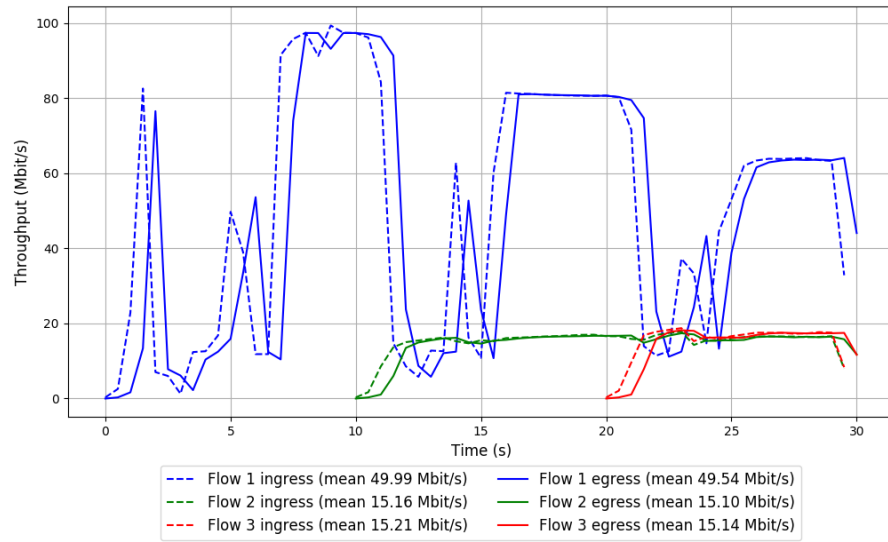# Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.72 Mbit/s) --- Flow 1 egress (mean 49.27 Mbit/s)
Flow 2 ingress (mean 15.62 Mbit/s) --- Flow 2 egress (mean 15.51 Mbit/s)
Flow 3 ingress (mean 10.88 Mbit/s) --- Flow 3 egress (mean 10.72 Mbit/s)

Flow 1 (95th percentile 110.44 ms) · Flow 2 (95th percentile 103.92 ms) · Flow 3 (95th percentile 102.43 ms)
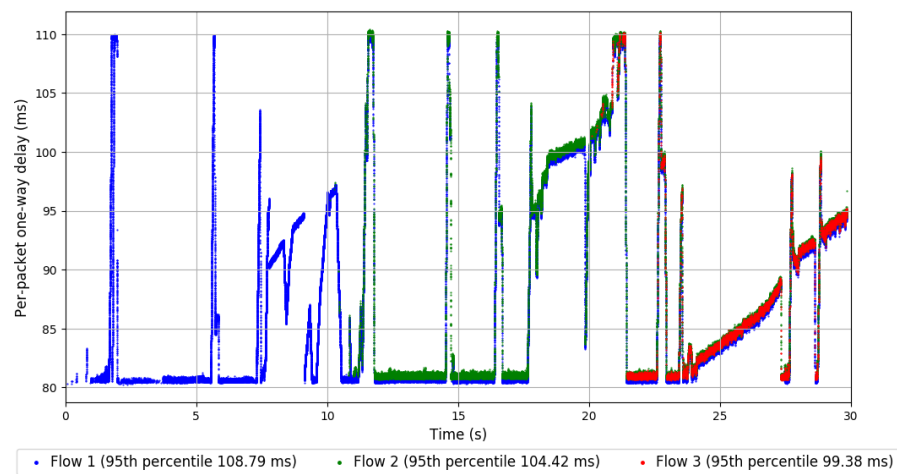
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 04:10:53
End at: 2018-10-26 04:11:23
Local clock offset: -3.142 ms
Remote clock offset: -5.899 ms


# Below is generated by plot.py at 2018-10-26 04:51:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.49 Mbit/s
95th percentile per-packet one-way delay: 105.699 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 49.54 Mbit/s
95th percentile per-packet one-way delay: 106.901 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 15.10 Mbit/s
95th percentile per-packet one-way delay: 100.044 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 15.14 Mbit/s
95th percentile per-packet one-way delay: 99.472 ms
Loss rate: 0.44%
```

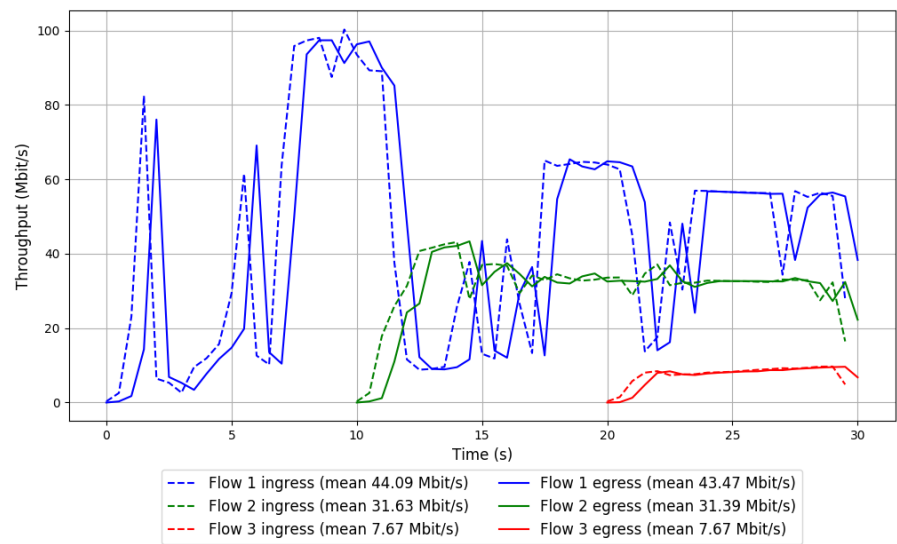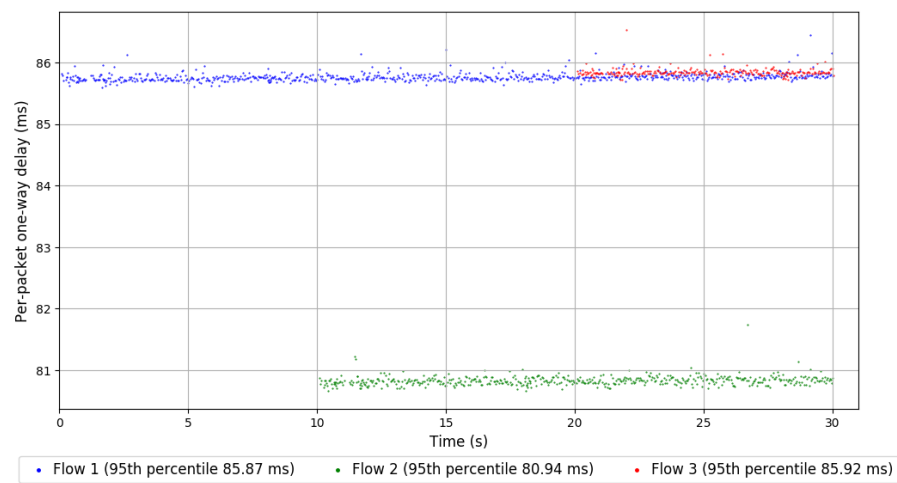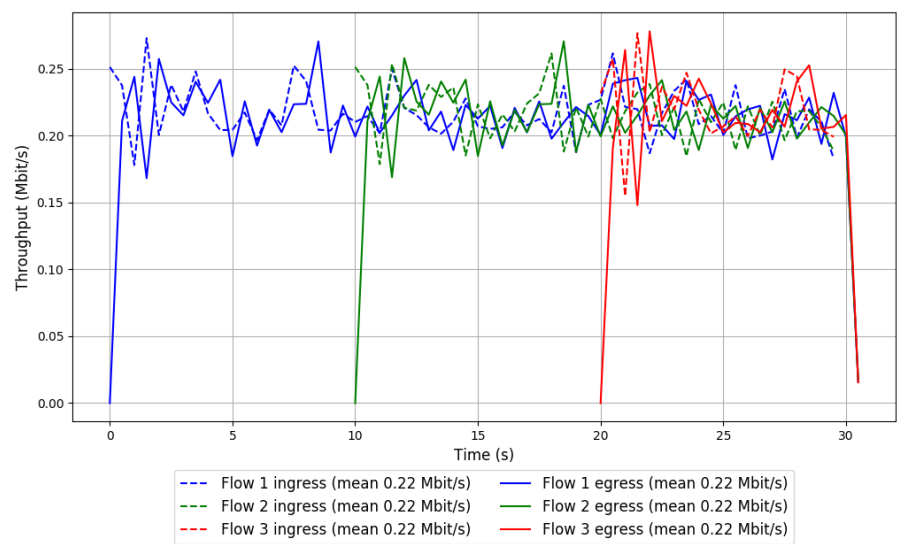Run 4: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 49.99 Mbit/s) ——— Flow 1 egress (mean 49.54 Mbit/s)
- - - Flow 2 ingress (mean 15.16 Mbit/s) ——— Flow 2 egress (mean 15.10 Mbit/s)
- - - Flow 3 ingress (mean 15.21 Mbit/s) ——— Flow 3 egress (mean 15.14 Mbit/s)

- Flow 1 (95th percentile 106.90 ms)   - Flow 2 (95th percentile 100.04 ms)   - Flow 3 (95th percentile 99.47 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 04:33:36
End at: 2018-10-26 04:34:06
Local clock offset: -0.648 ms
Remote clock offset: -4.371 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.79 Mbit/s
95th percentile per-packet one-way delay: 107.151 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 43.47 Mbit/s
95th percentile per-packet one-way delay: 108.793 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 31.39 Mbit/s
95th percentile per-packet one-way delay: 104.417 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 99.375 ms
Loss rate: 0.11%
```

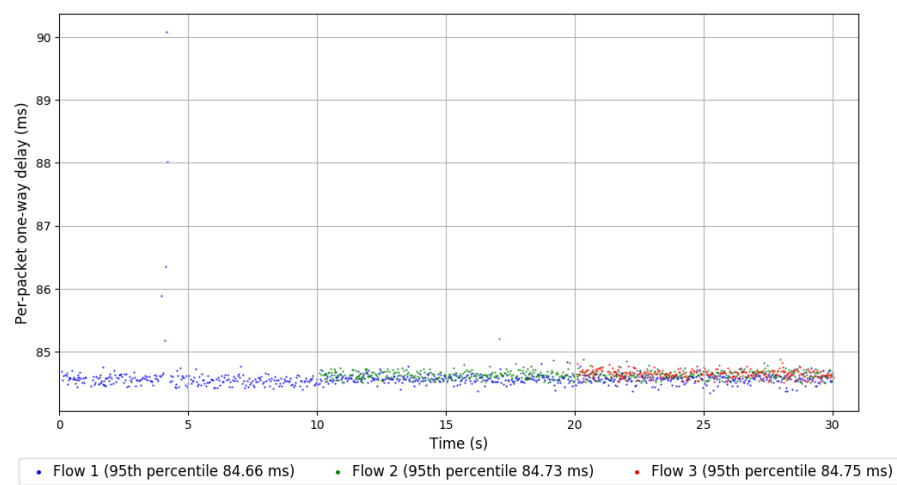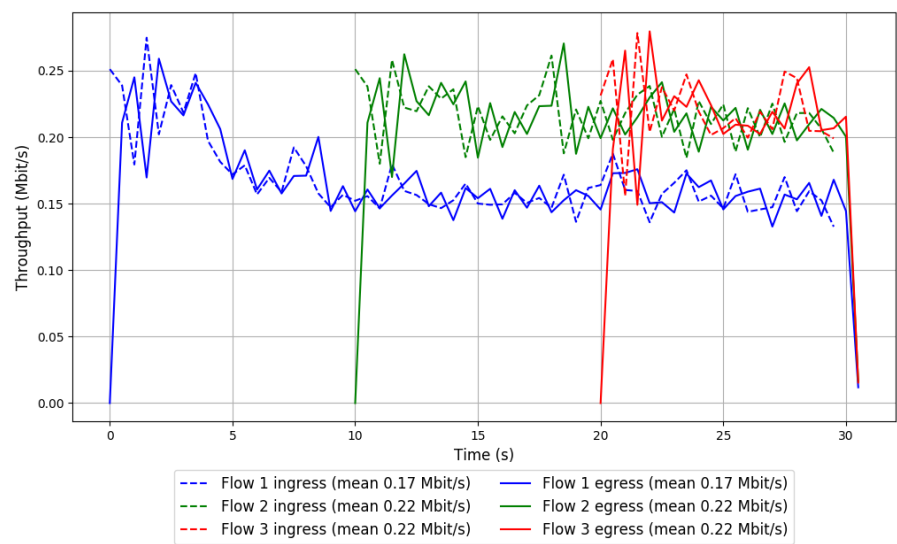# Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2018-10-26 03:07:44
End at: 2018-10-26 03:08:14
Local clock offset: -7.278 ms
Remote clock offset: -5.845 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 85.879 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.873 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 80.939 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.924 ms
Loss rate: 0.00%
```
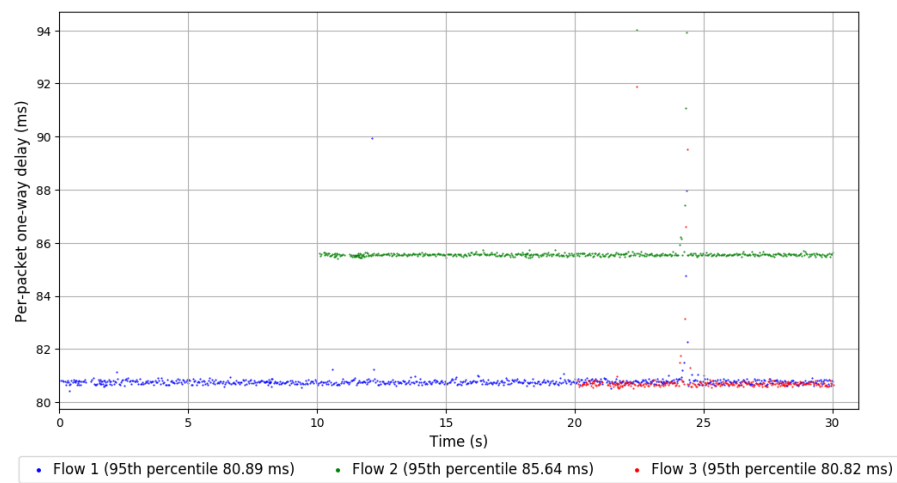
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-10-26 03:30:24
End at: 2018-10-26 03:30:54
Local clock offset: -7.407 ms
Remote clock offset: -3.035 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 84.723 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 84.659 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.728 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.751 ms
Loss rate: 0.00%
```
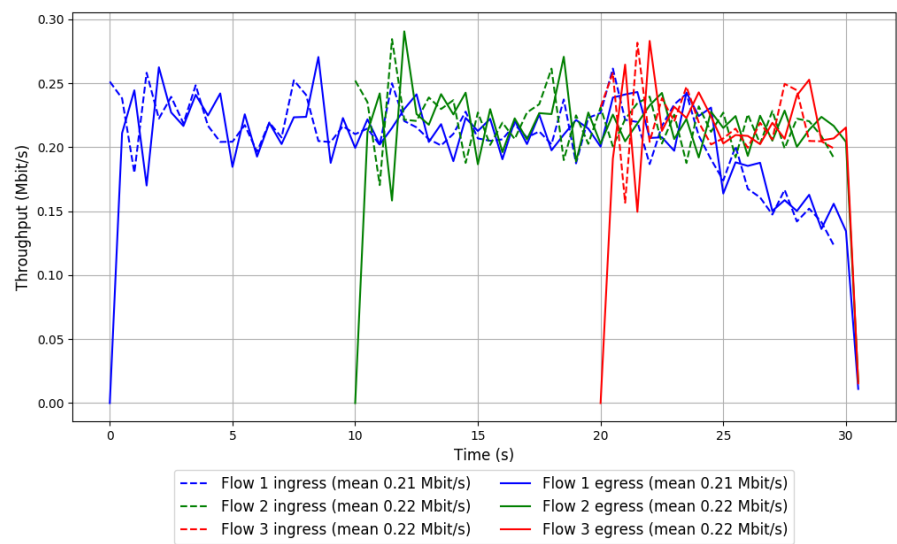
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-10-26 03:53:04
End at: 2018-10-26 03:53:34
Local clock offset: -6.908 ms
Remote clock offset: -5.697 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 85.603 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 80.885 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.642 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 80.819 ms
Loss rate: 0.00%
```
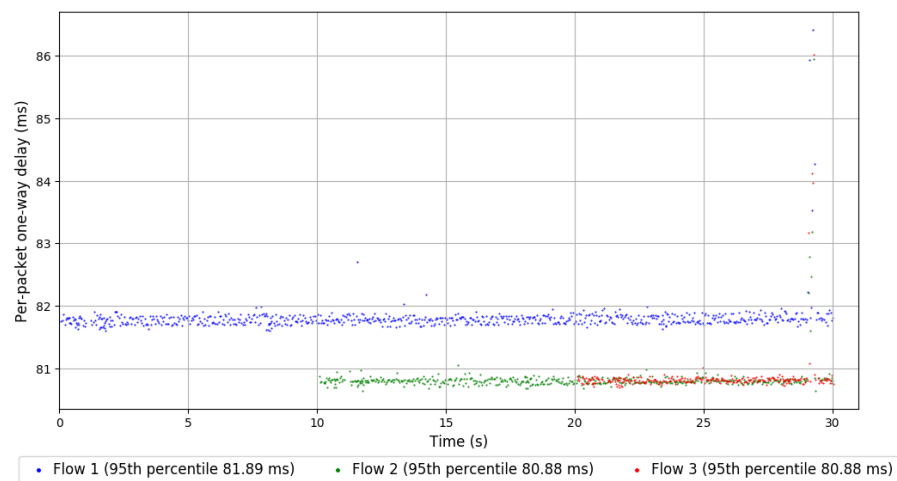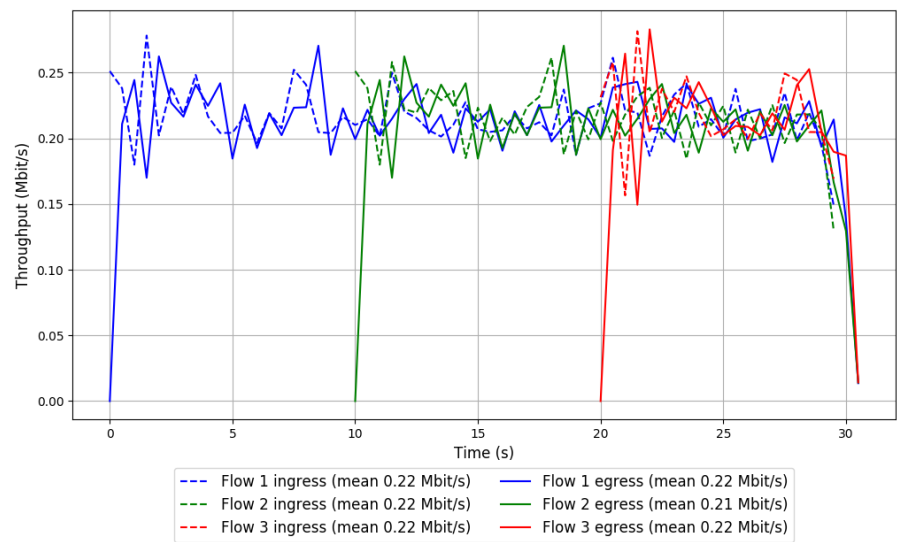
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-10-26 04:15:59
End at: 2018-10-26 04:16:29
Local clock offset: -1.982 ms
Remote clock offset: -5.644 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 81.876 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.895 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 80.881 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 80.881 ms
Loss rate: 0.39%
```
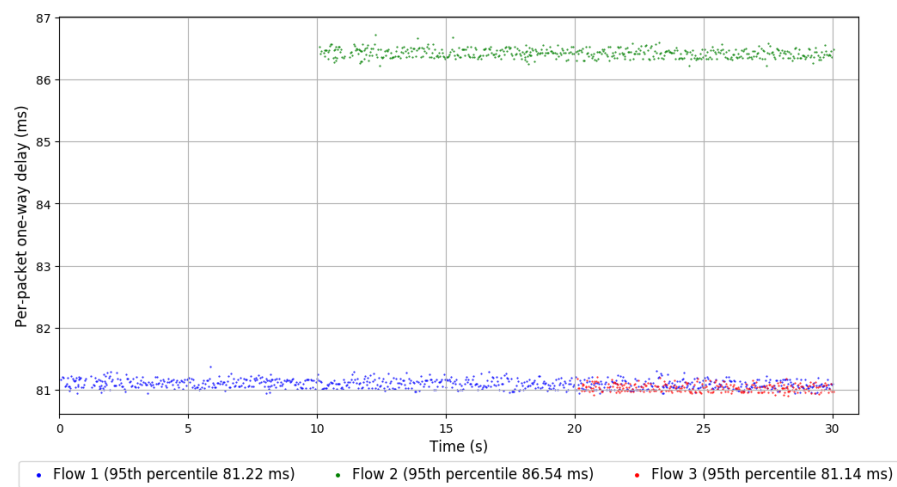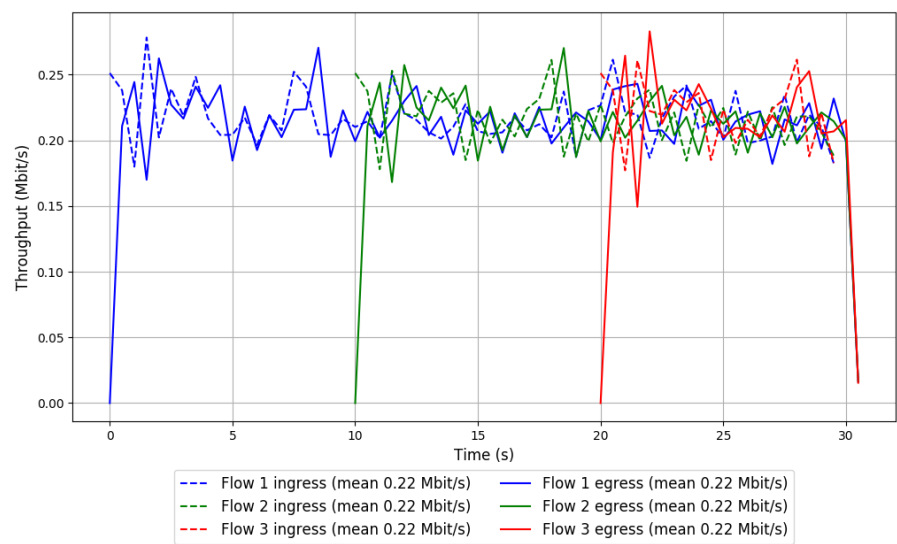
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-10-26 04:38:40
End at: 2018-10-26 04:39:10
Local clock offset: -1.116 ms
Remote clock offset: -3.986 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.499 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.219 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.539 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.136 ms
Loss rate: 0.00%
```
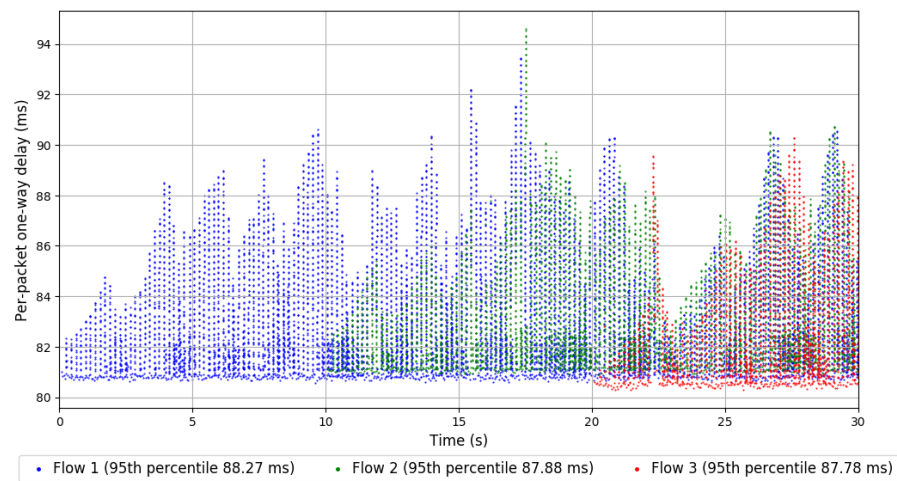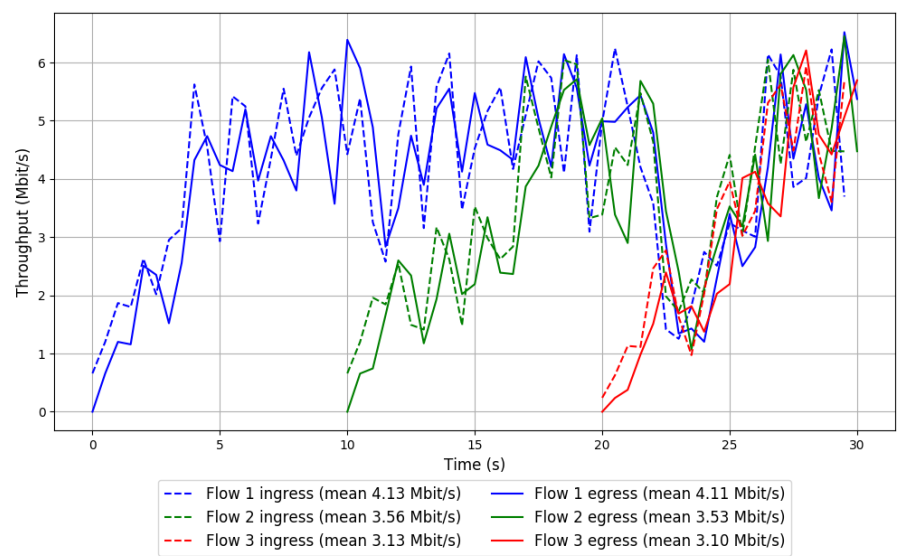
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-10-26 02:50:06
End at: 2018-10-26 02:50:36
Local clock offset: -7.026 ms
Remote clock offset: -4.676 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.49 Mbit/s
95th percentile per-packet one-way delay: 88.110 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 88.272 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 87.881 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 87.783 ms
Loss rate: 0.92%
```
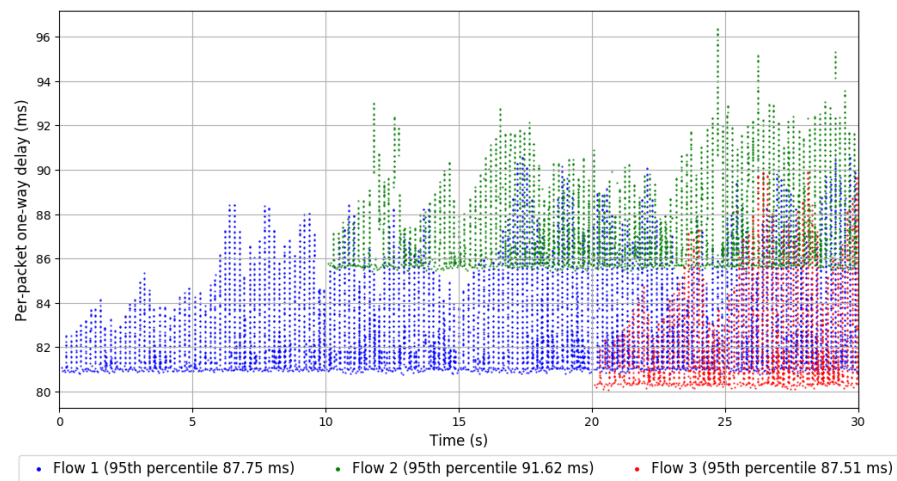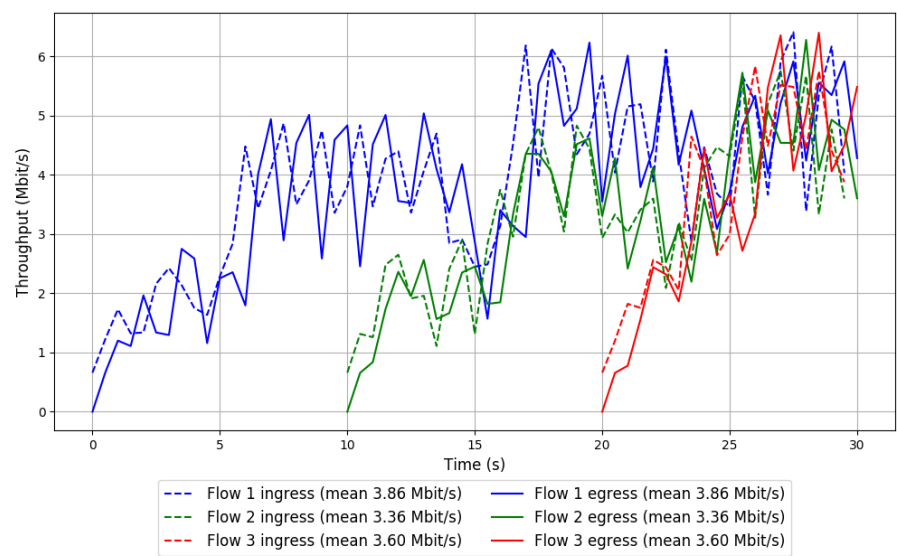
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-10-26 03:12:48
End at: 2018-10-26 03:13:18
Local clock offset: -7.071 ms
Remote clock offset: -6.107 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 90.049 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 87.747 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 91.623 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 87.509 ms
Loss rate: 0.00%
```
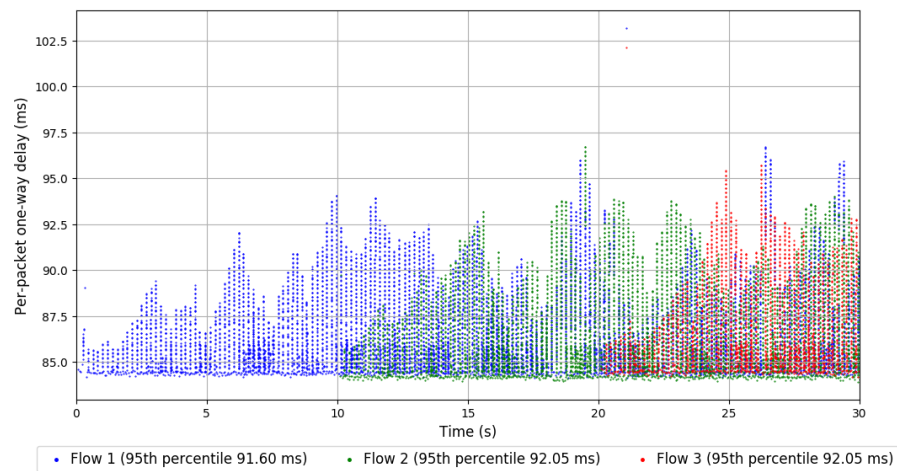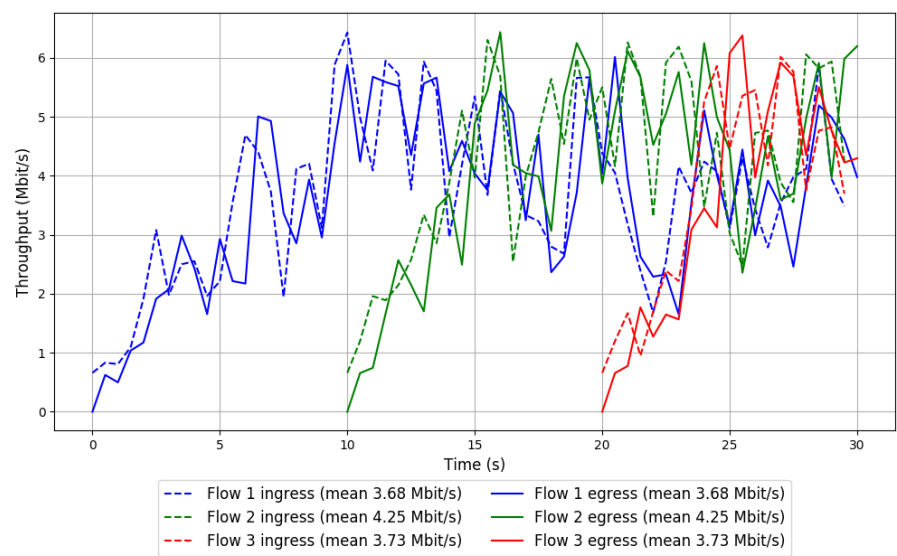
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-26 03:35:28
End at: 2018-10-26 03:35:58
Local clock offset: -7.043 ms
Remote clock offset: -2.826 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 91.871 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 91.604 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 92.051 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.73 Mbit/s
95th percentile per-packet one-way delay: 92.050 ms
Loss rate: 0.00%
```
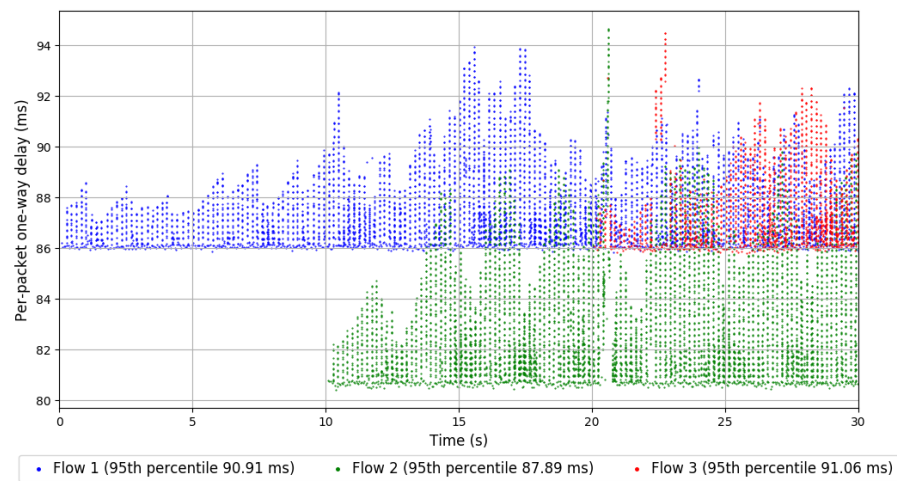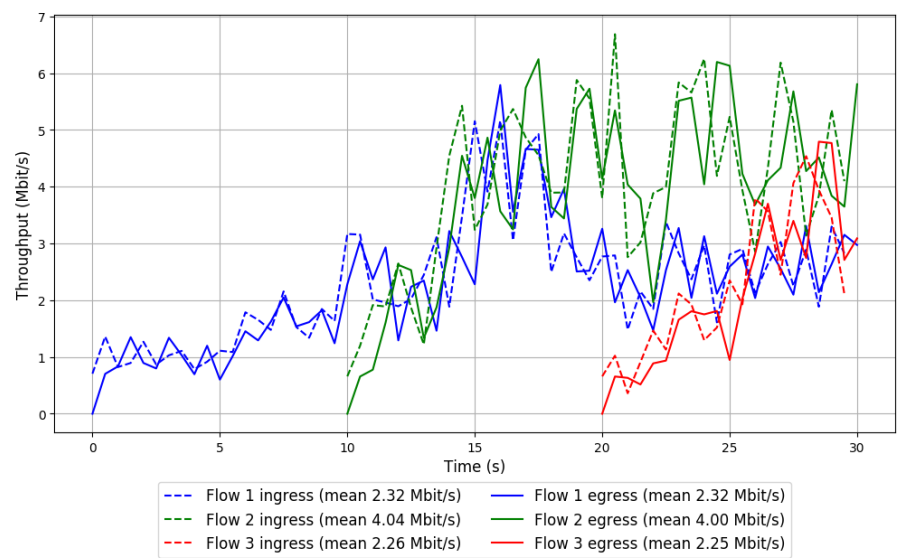
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-26 03:58:07
End at: 2018-10-26 03:58:37
Local clock offset: -7.038 ms
Remote clock offset: -5.44 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 90.241 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 90.913 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 87.890 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 91.058 ms
Loss rate: 0.53%
```
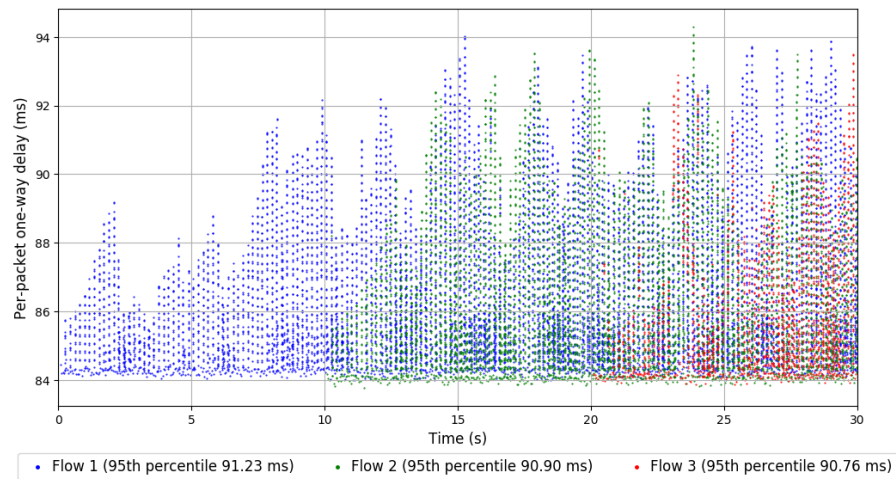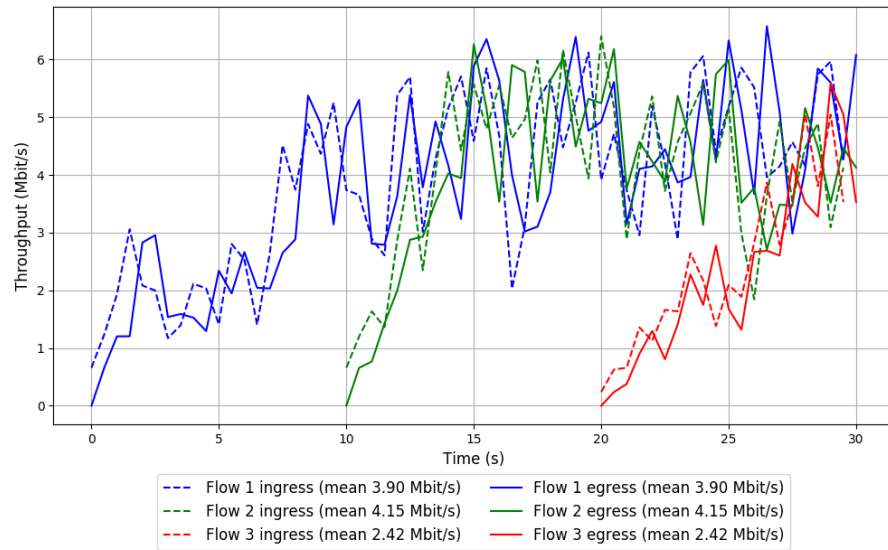
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-10-26 04:21:05
End at: 2018-10-26 04:21:35
Local clock offset: -1.272 ms
Remote clock offset: -2.016 ms


# Below is generated by plot.py at 2018-10-26 04:51:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 91.064 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 91.227 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 90.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 90.756 ms
Loss rate: 0.00%
```
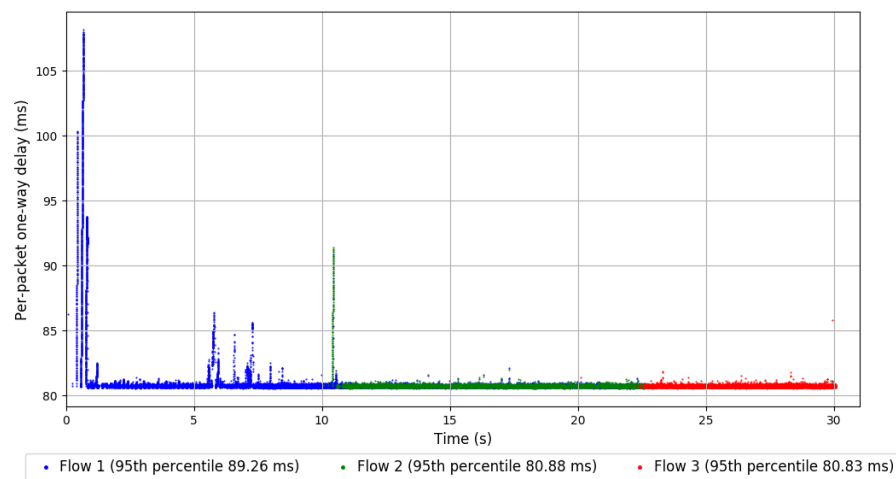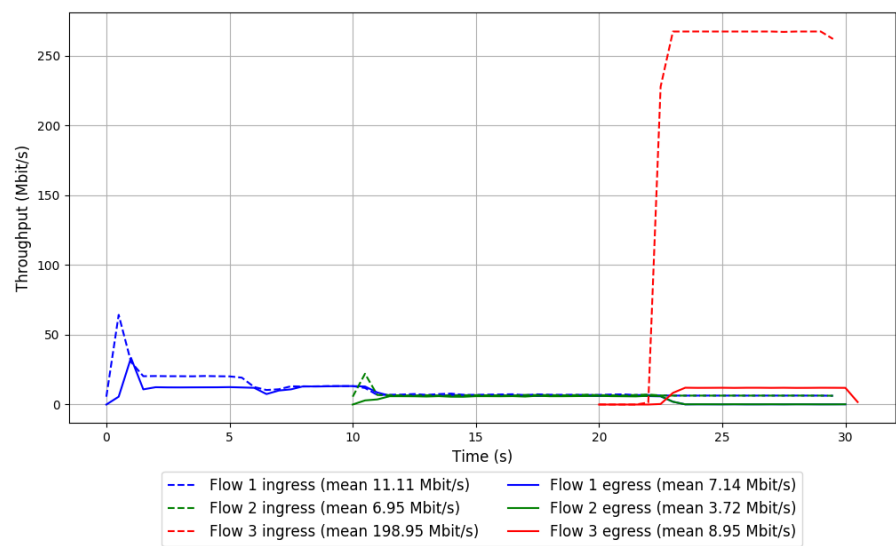
Run 5: Report of Sprout — Data Link

```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-26 02:56:22
End at: 2018-10-26 02:56:52
Local clock offset: -7.654 ms
Remote clock offset: -4.891 ms


# Below is generated by plot.py at 2018-10-26 04:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 82.865 ms
Loss rate: 84.67%
-- Flow 1:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 89.256 ms
Loss rate: 35.95%
-- Flow 2:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 80.882 ms
Loss rate: 46.74%
-- Flow 3:
Average throughput: 8.95 Mbit/s
95th percentile per-packet one-way delay: 80.835 ms
Loss rate: 95.50%
```

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

Flow 1 ingress (mean 11.11 Mbit/s) --- Flow 1 egress (mean 7.14 Mbit/s)
Flow 2 ingress (mean 6.95 Mbit/s) --- Flow 2 egress (mean 3.72 Mbit/s)
Flow 3 ingress (mean 198.95 Mbit/s) --- Flow 3 egress (mean 8.95 Mbit/s)

Flow 1 (95th percentile 89.26 ms)   Flow 2 (95th percentile 80.88 ms)   Flow 3 (95th percentile 80.83 ms)
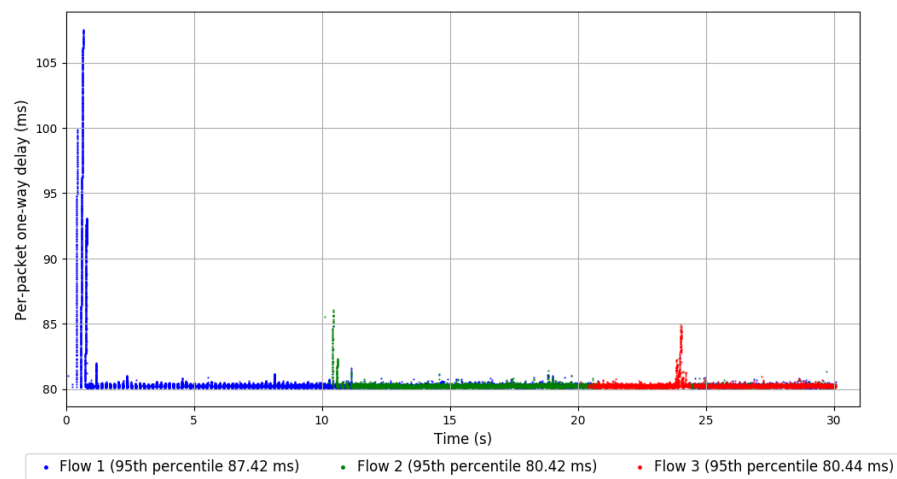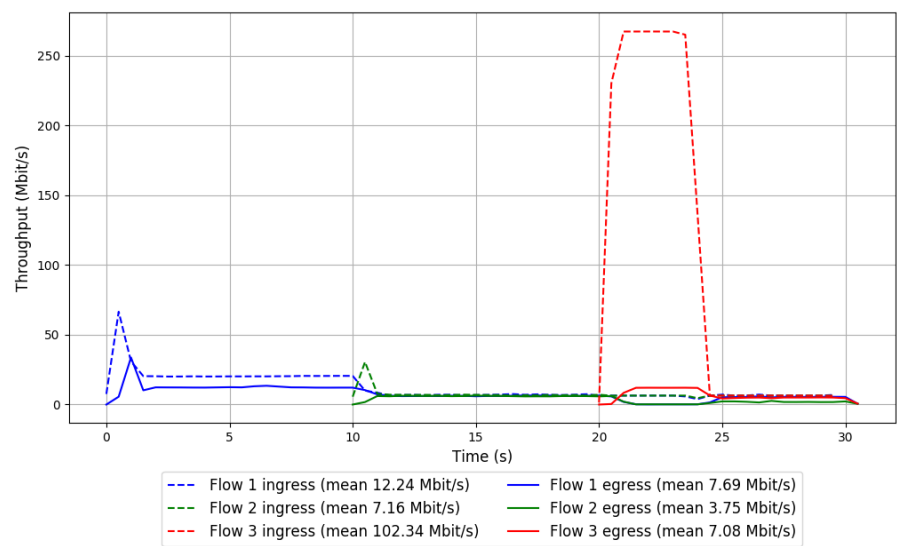
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-10-26 03:19:04
End at: 2018-10-26 03:19:34
Local clock offset: -7.03 ms
Remote clock offset: -6.401 ms


# Below is generated by plot.py at 2018-10-26 04:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.54 Mbit/s
95th percentile per-packet one-way delay: 81.410 ms
Loss rate: 75.43%
-- Flow 1:
Average throughput: 7.69 Mbit/s
95th percentile per-packet one-way delay: 87.415 ms
Loss rate: 37.21%
-- Flow 2:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 80.421 ms
Loss rate: 47.63%
-- Flow 3:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 80.439 ms
Loss rate: 93.08%
```

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

Flow 1 ingress (mean 12.24 Mbit/s) --- Flow 1 egress (mean 7.69 Mbit/s)
Flow 2 ingress (mean 7.16 Mbit/s) --- Flow 2 egress (mean 3.75 Mbit/s)
Flow 3 ingress (mean 102.34 Mbit/s) --- Flow 3 egress (mean 7.08 Mbit/s)

Flow 1 (95th percentile 87.42 ms) • Flow 2 (95th percentile 80.42 ms) • Flow 3 (95th percentile 80.44 ms)
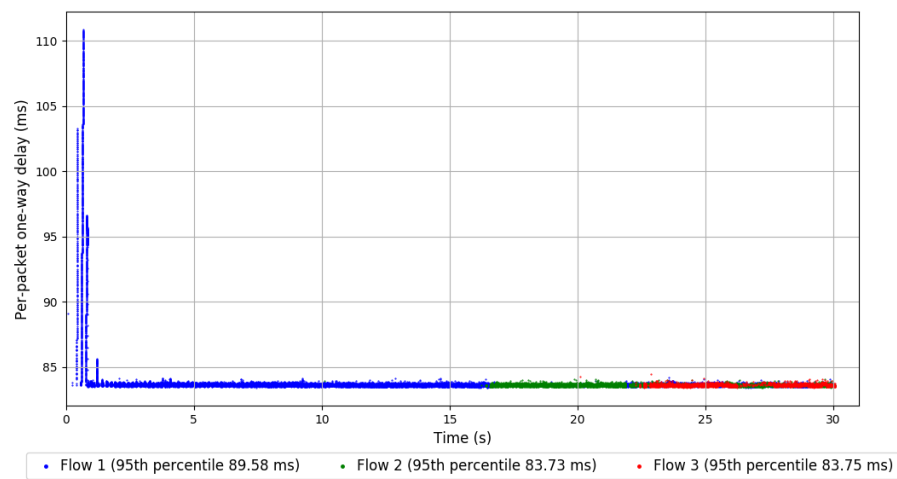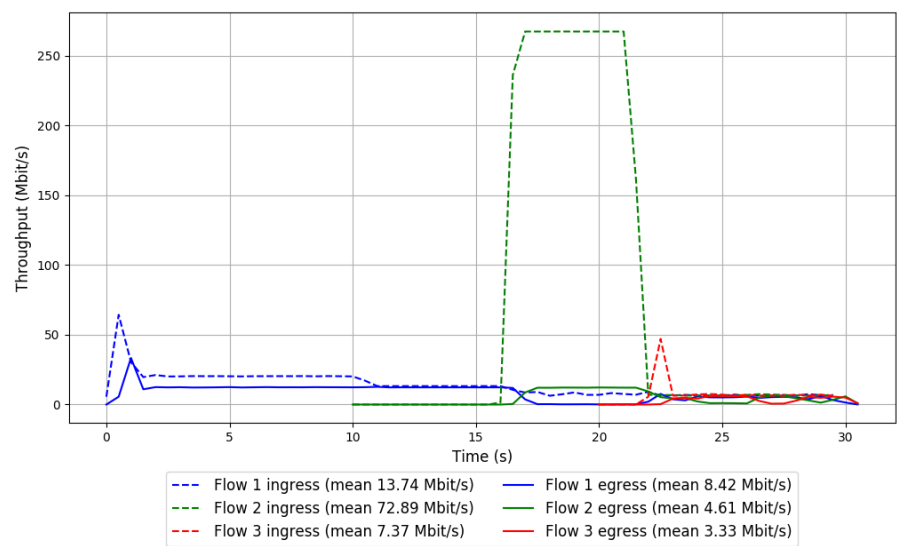
```
Run 3: Statistics of TaoVA-100x

Start at: 2018-10-26 03:41:45
End at: 2018-10-26 03:42:15
Local clock offset: -6.811 ms
Remote clock offset: -2.641 ms


# Below is generated by plot.py at 2018-10-26 04:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 83.961 ms
Loss rate: 80.55%
-- Flow 1:
Average throughput: 8.42 Mbit/s
95th percentile per-packet one-way delay: 89.575 ms
Loss rate: 38.73%
-- Flow 2:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 83.727 ms
Loss rate: 93.68%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 83.751 ms
Loss rate: 54.79%
```

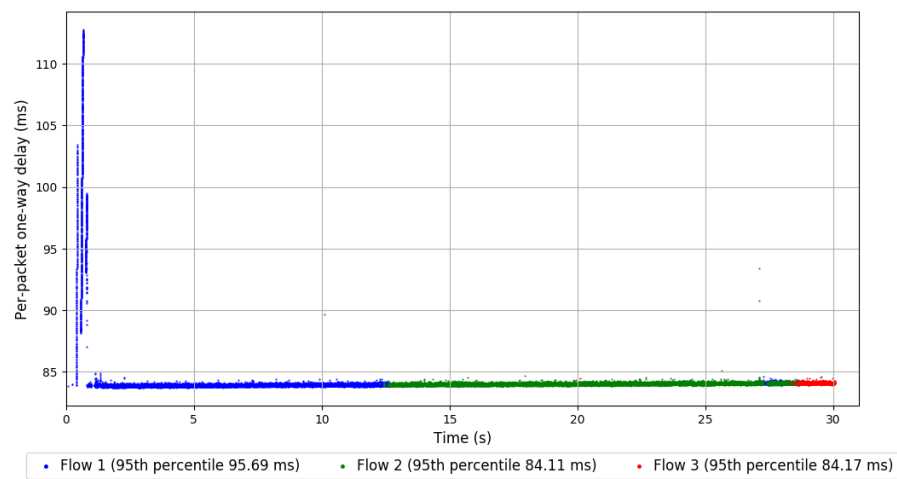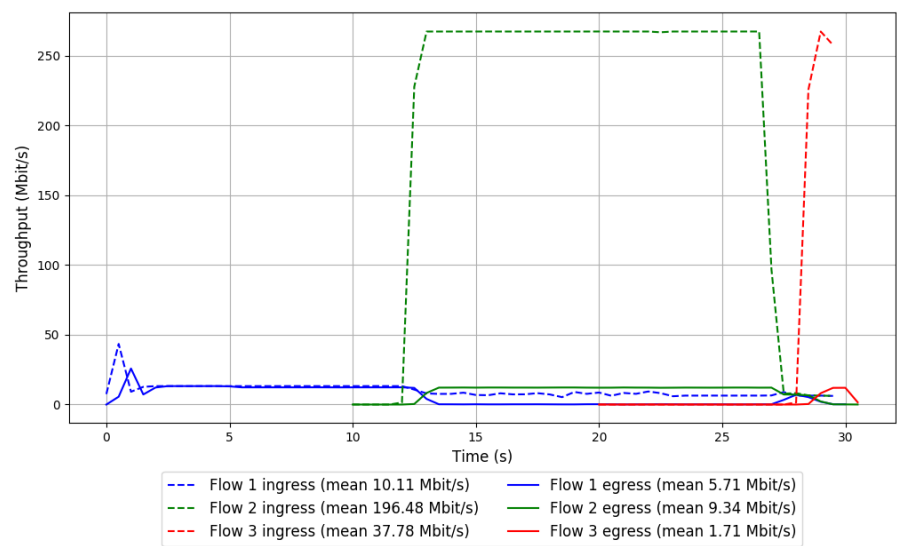Run 3: Report of TaoVA-100x — Data Link

```
Run 4: Statistics of TaoVA-100x

Start at: 2018-10-26 04:04:27
End at: 2018-10-26 04:04:57
Local clock offset: -5.365 ms
Remote clock offset: -2.612 ms

# Below is generated by plot.py at 2018-10-26 04:51:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 84.183 ms
Loss rate: 91.88%
-- Flow 1:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 95.692 ms
Loss rate: 43.70%
-- Flow 2:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 84.111 ms
Loss rate: 95.26%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 84.170 ms
Loss rate: 95.47%
```

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

- - - - Flow 1 ingress (mean 10.11 Mbit/s)   ——— Flow 1 egress (mean 5.71 Mbit/s)
- - - - Flow 2 ingress (mean 196.48 Mbit/s)   ——— Flow 2 egress (mean 9.34 Mbit/s)
- - - - Flow 3 ingress (mean 37.78 Mbit/s)   ——— Flow 3 egress (mean 1.71 Mbit/s)

• Flow 1 (95th percentile 95.69 ms)   • Flow 2 (95th percentile 84.11 ms)   • Flow 3 (95th percentile 84.17 ms)
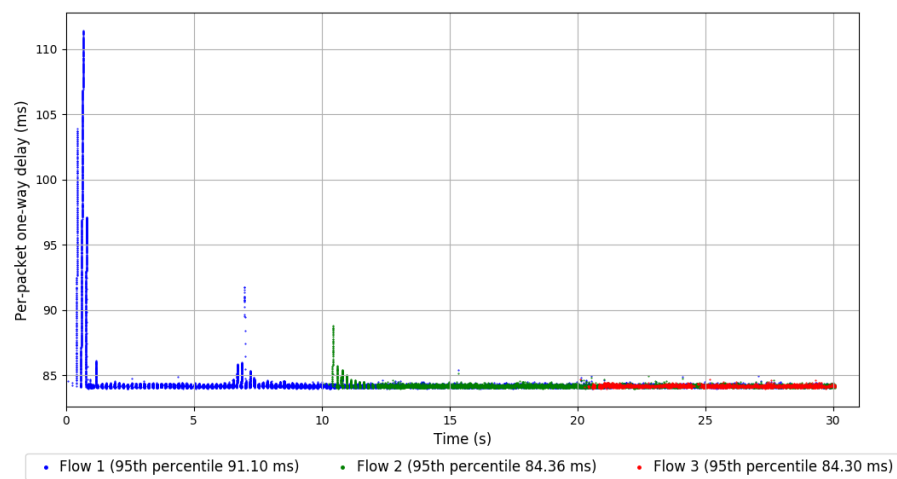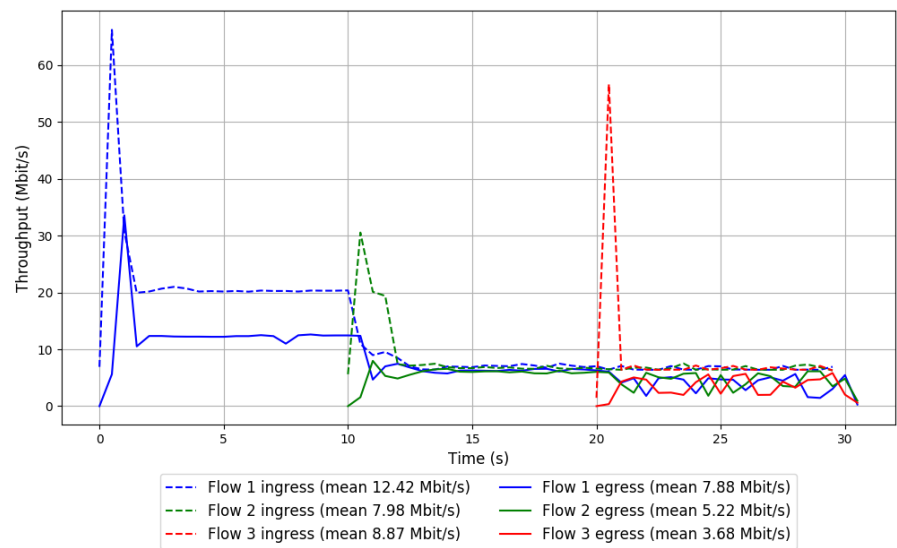
142

```
Run 5: Statistics of TaoVA-100x

Start at: 2018-10-26 04:27:21
End at: 2018-10-26 04:27:51
Local clock offset: -0.802 ms
Remote clock offset: -1.381 ms

# Below is generated by plot.py at 2018-10-26 04:51:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 85.437 ms
Loss rate: 39.15%
-- Flow 1:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 91.098 ms
Loss rate: 36.50%
-- Flow 2:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 84.359 ms
Loss rate: 34.56%
-- Flow 3:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 84.302 ms
Loss rate: 58.58%
```

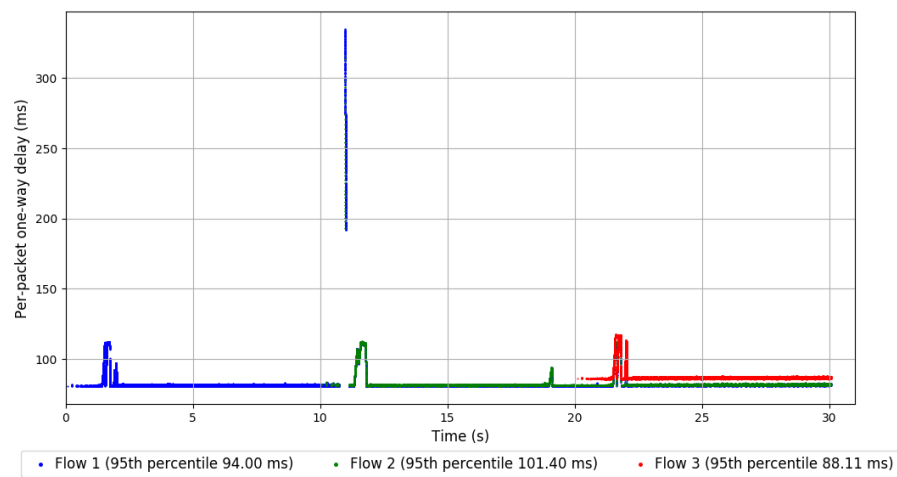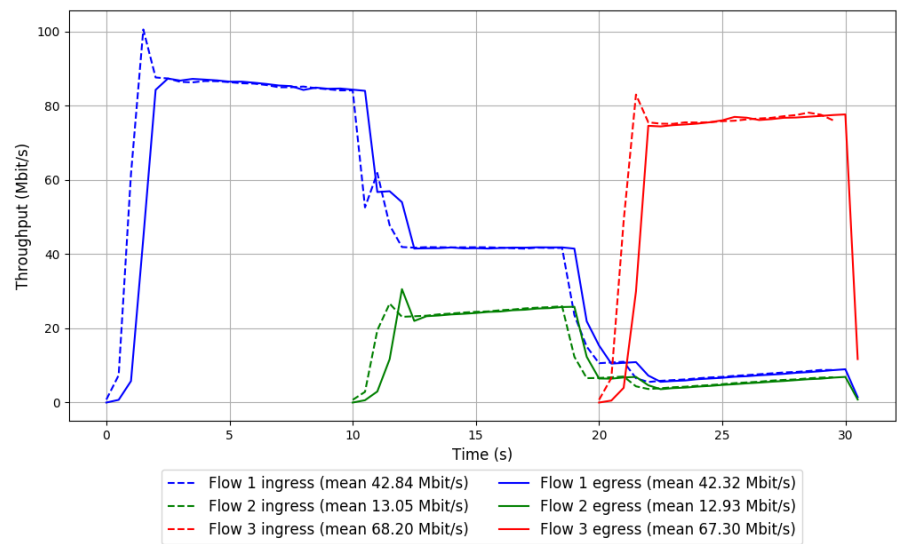Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-26 03:05:09
End at: 2018-10-26 03:05:39
Local clock offset: -7.55 ms
Remote clock offset: -5.841 ms


# Below is generated by plot.py at 2018-10-26 04:51:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.30 Mbit/s
95th percentile per-packet one-way delay: 92.963 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 42.32 Mbit/s
95th percentile per-packet one-way delay: 93.999 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 12.93 Mbit/s
95th percentile per-packet one-way delay: 101.402 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 67.30 Mbit/s
95th percentile per-packet one-way delay: 88.107 ms
Loss rate: 1.37%
```

Run 1: Report of TCP Vegas — Data Link

- - - - Flow 1 ingress (mean 42.84 Mbit/s) ——— Flow 1 egress (mean 42.32 Mbit/s)
- - - - Flow 2 ingress (mean 13.05 Mbit/s) ——— Flow 2 egress (mean 12.93 Mbit/s)
- - - - Flow 3 ingress (mean 68.20 Mbit/s) ——— Flow 3 egress (mean 67.30 Mbit/s)

• Flow 1 (95th percentile 94.00 ms) • Flow 2 (95th percentile 101.40 ms) • Flow 3 (95th percentile 88.11 ms)
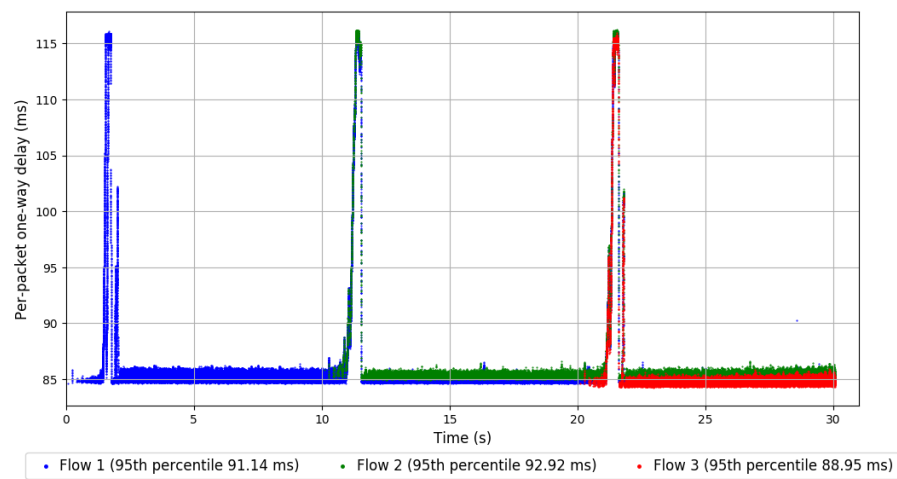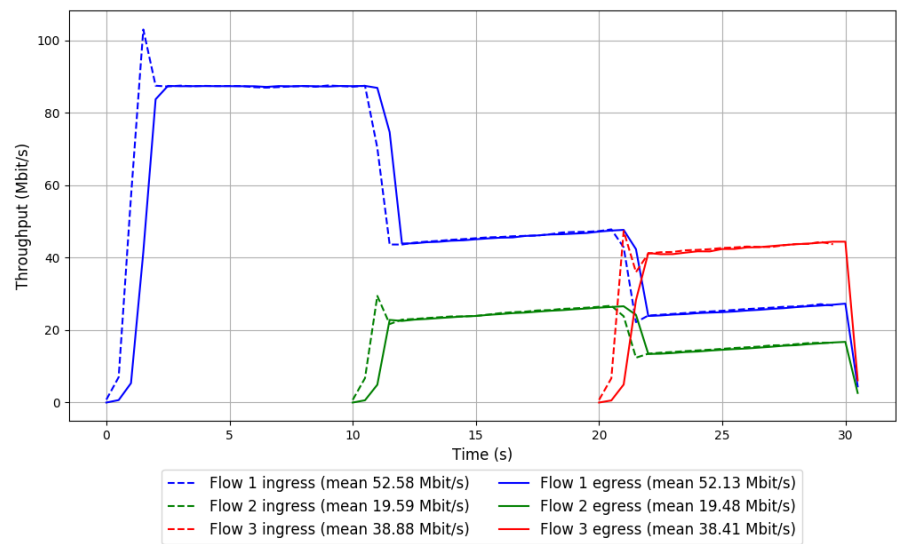
```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 03:27:49
End at: 2018-10-26 03:28:19
Local clock offset: -7.206 ms
Remote clock offset: -2.612 ms


# Below is generated by plot.py at 2018-10-26 04:52:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.88 Mbit/s
95th percentile per-packet one-way delay: 91.126 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 52.13 Mbit/s
95th percentile per-packet one-way delay: 91.137 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 19.48 Mbit/s
95th percentile per-packet one-way delay: 92.917 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 88.950 ms
Loss rate: 1.20%
```

Run 2: Report of TCP Vegas — Data Link

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```
Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 03:50:29
End at: 2018-10-26 03:50:59
Local clock offset: -6.805 ms
Remote clock offset: -2.04 ms


# Below is generated by plot.py at 2018-10-26 04:52:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.47 Mbit/s
95th percentile per-packet one-way delay: 95.319 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 48.14 Mbit/s
95th percentile per-packet one-way delay: 93.676 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 18.20 Mbit/s
95th percentile per-packet one-way delay: 101.151 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 95.883 ms
Loss rate: 1.60%
```
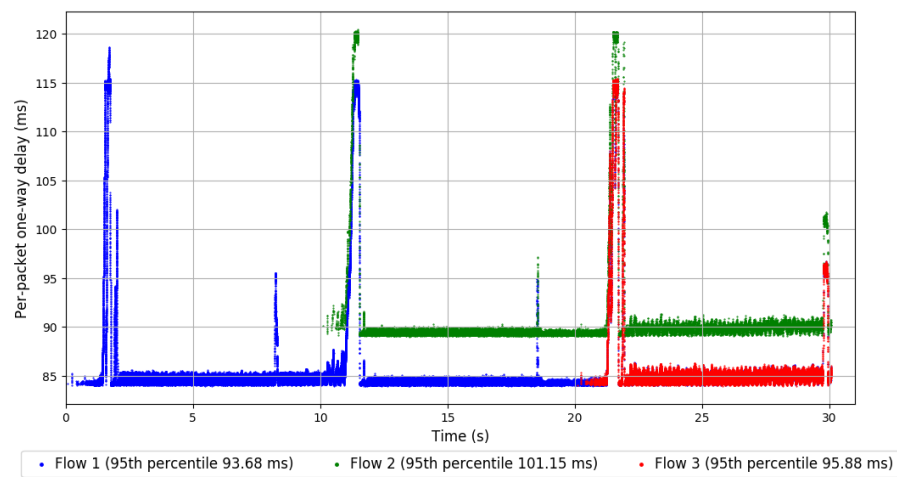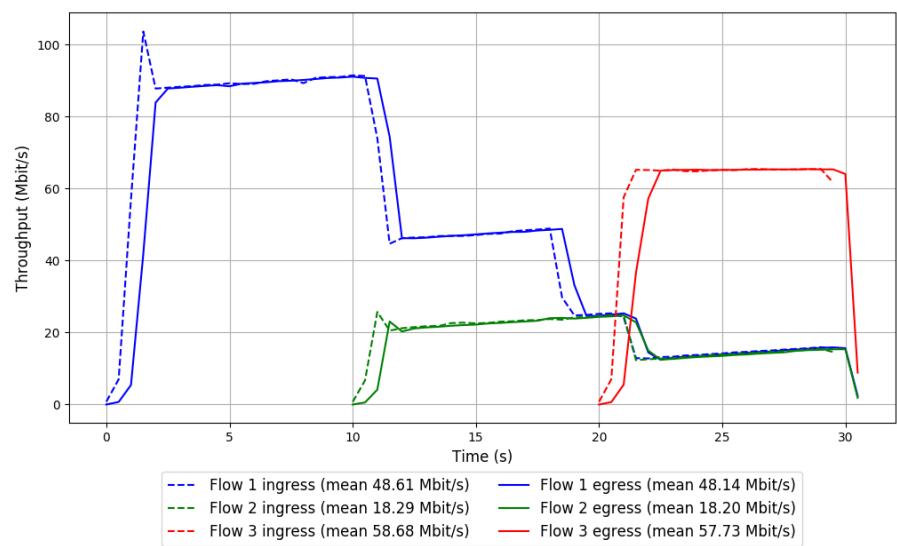
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 04:13:23
End at: 2018-10-26 04:13:53
Local clock offset: -2.576 ms
Remote clock offset: -2.06 ms

# Below is generated by plot.py at 2018-10-26 04:52:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.02 Mbit/s
95th percentile per-packet one-way delay: 110.391 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 19.21 Mbit/s
95th percentile per-packet one-way delay: 109.433 ms
Loss rate: 2.45%
-- Flow 2:
Average throughput: 70.34 Mbit/s
95th percentile per-packet one-way delay: 110.361 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 17.86 Mbit/s
95th percentile per-packet one-way delay: 111.053 ms
Loss rate: 0.00%
```
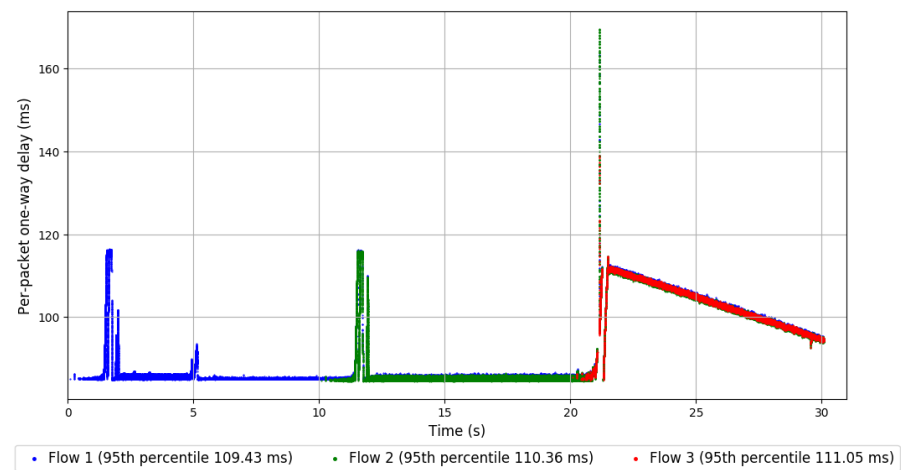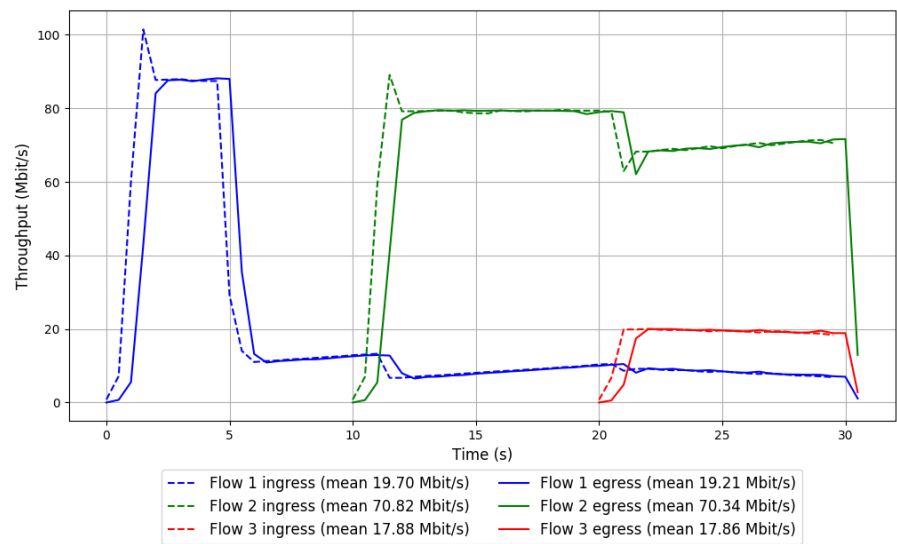
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 19.70 Mbit/s)   Flow 1 egress (mean 19.21 Mbit/s)
Flow 2 ingress (mean 70.82 Mbit/s)   Flow 2 egress (mean 70.34 Mbit/s)
Flow 3 ingress (mean 17.88 Mbit/s)   Flow 3 egress (mean 17.86 Mbit/s)

Flow 1 (95th percentile 109.43 ms)   Flow 2 (95th percentile 110.36 ms)   Flow 3 (95th percentile 111.05 ms)
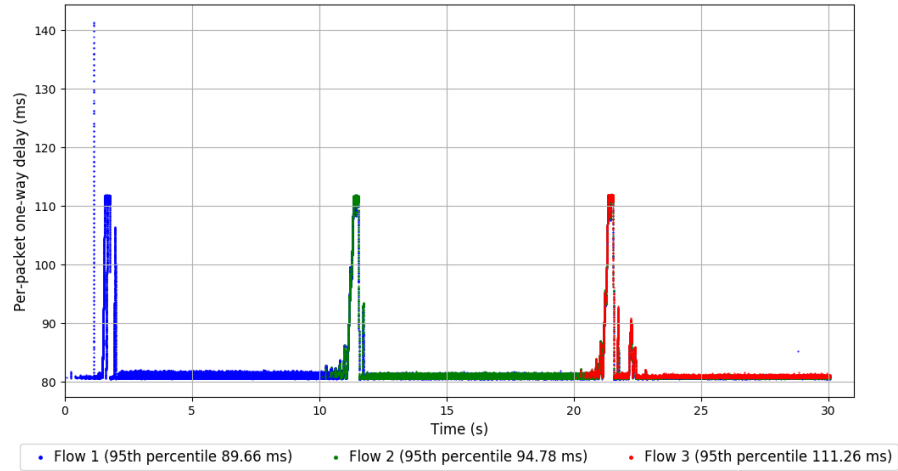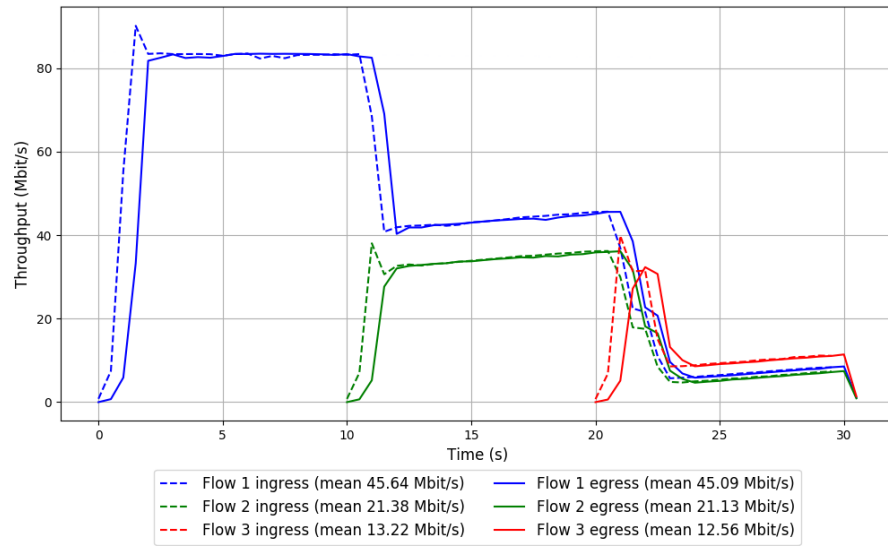
```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 04:36:06
End at: 2018-10-26 04:36:36
Local clock offset: -0.951 ms
Remote clock offset: -4.209 ms


# Below is generated by plot.py at 2018-10-26 04:52:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.34 Mbit/s
95th percentile per-packet one-way delay: 93.358 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 45.09 Mbit/s
95th percentile per-packet one-way delay: 89.664 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 21.13 Mbit/s
95th percentile per-packet one-way delay: 94.779 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 111.258 ms
Loss rate: 4.98%
```

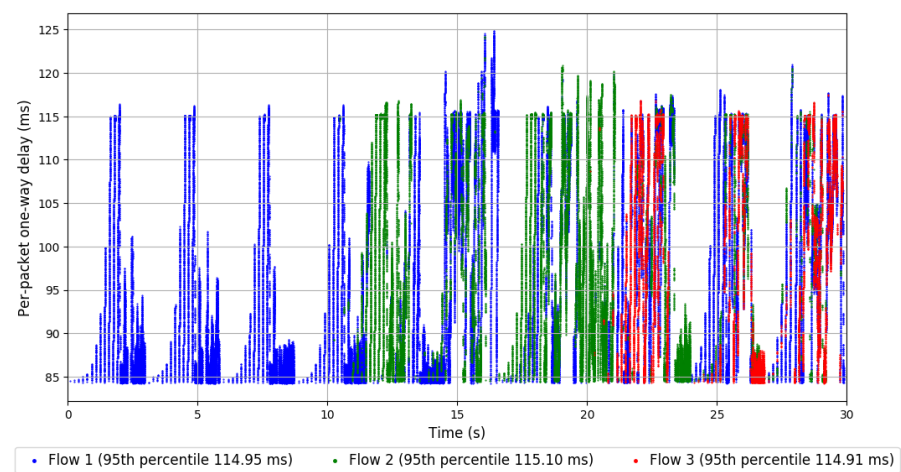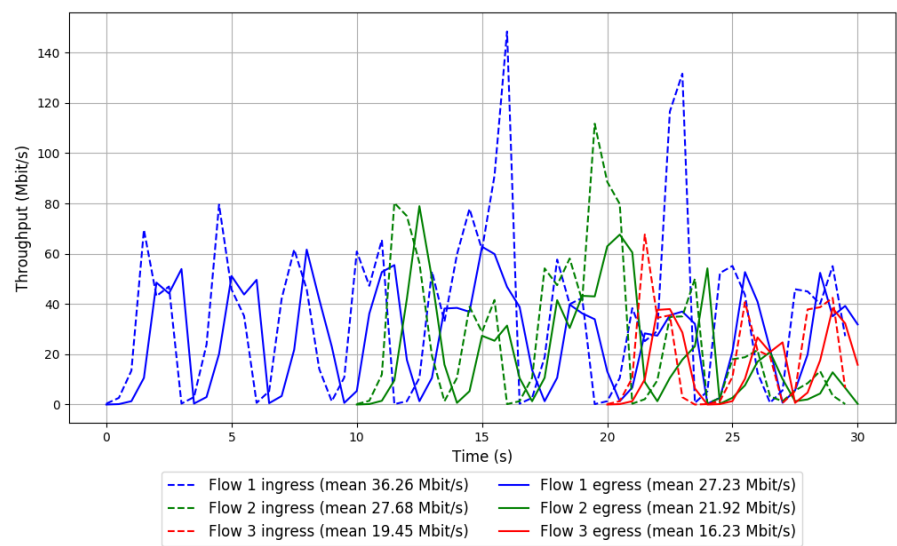## Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-10-26 03:11:33
End at: 2018-10-26 03:12:03
Local clock offset: -7.101 ms
Remote clock offset: -2.266 ms


# Below is generated by plot.py at 2018-10-26 04:52:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.00 Mbit/s
95th percentile per-packet one-way delay: 114.988 ms
Loss rate: 22.78%
-- Flow 1:
Average throughput: 27.23 Mbit/s
95th percentile per-packet one-way delay: 114.946 ms
Loss rate: 24.88%
-- Flow 2:
Average throughput: 21.92 Mbit/s
95th percentile per-packet one-way delay: 115.098 ms
Loss rate: 20.74%
-- Flow 3:
Average throughput: 16.23 Mbit/s
95th percentile per-packet one-way delay: 114.909 ms
Loss rate: 16.58%
```
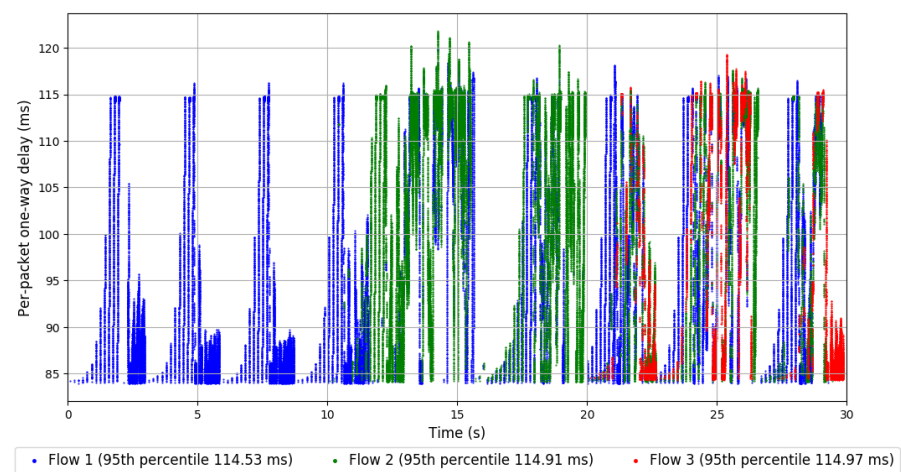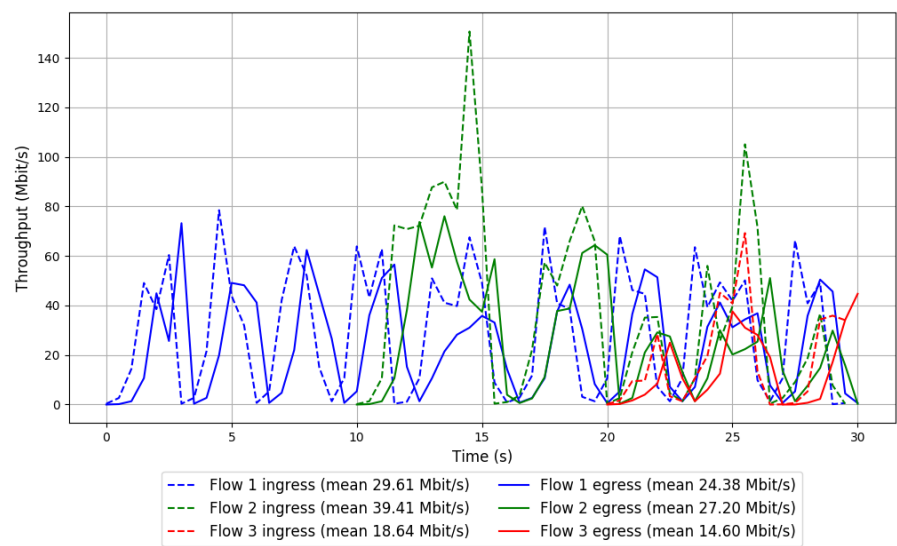
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-10-26 03:34:12
End at: 2018-10-26 03:34:42
Local clock offset: -7.189 ms
Remote clock offset: -2.936 ms


# Below is generated by plot.py at 2018-10-26 04:52:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.04 Mbit/s
95th percentile per-packet one-way delay: 114.734 ms
Loss rate: 23.66%
-- Flow 1:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 114.527 ms
Loss rate: 17.64%
-- Flow 2:
Average throughput: 27.20 Mbit/s
95th percentile per-packet one-way delay: 114.909 ms
Loss rate: 30.97%
-- Flow 3:
Average throughput: 14.60 Mbit/s
95th percentile per-packet one-way delay: 114.974 ms
Loss rate: 21.65%
```

Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 29.61 Mbit/s) --- Flow 1 egress (mean 24.38 Mbit/s)
Flow 2 ingress (mean 39.41 Mbit/s) --- Flow 2 egress (mean 27.20 Mbit/s)
Flow 3 ingress (mean 18.64 Mbit/s) --- Flow 3 egress (mean 14.60 Mbit/s)

Flow 1 (95th percentile 114.53 ms)　Flow 2 (95th percentile 114.91 ms)　Flow 3 (95th percentile 114.97 ms)
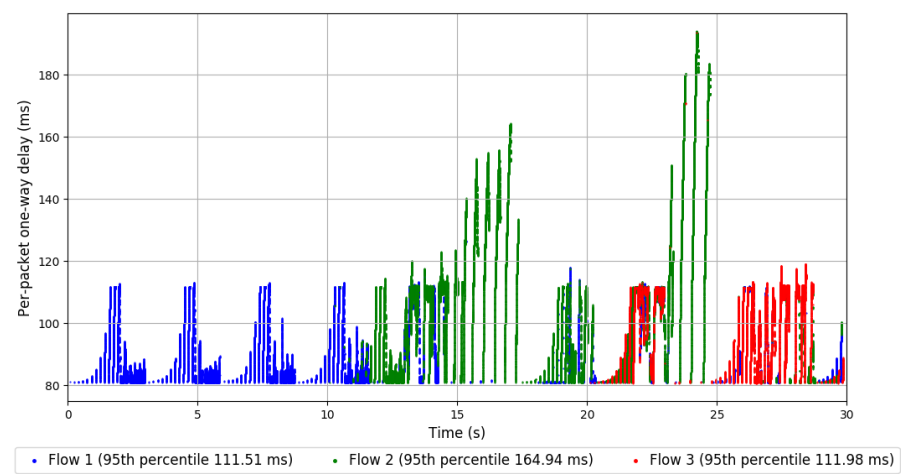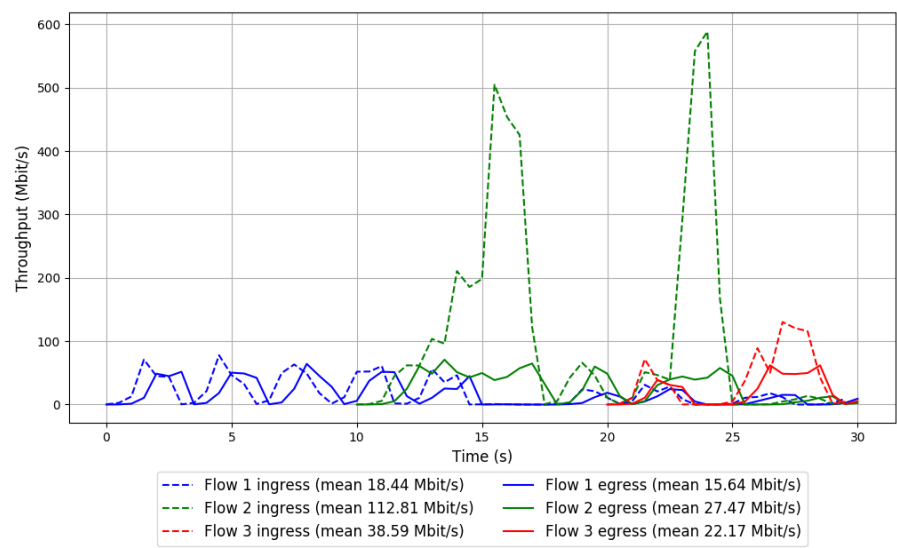
```
Run 3: Statistics of Verus

Start at: 2018-10-26 03:56:51
End at: 2018-10-26 03:57:21
Local clock offset: -6.903 ms
Remote clock offset: -5.367 ms


# Below is generated by plot.py at 2018-10-26 04:52:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.02 Mbit/s
95th percentile per-packet one-way delay: 146.450 ms
Loss rate: 61.14%
-- Flow 1:
Average throughput: 15.64 Mbit/s
95th percentile per-packet one-way delay: 111.508 ms
Loss rate: 15.15%
-- Flow 2:
Average throughput: 27.47 Mbit/s
95th percentile per-packet one-way delay: 164.940 ms
Loss rate: 75.63%
-- Flow 3:
Average throughput: 22.17 Mbit/s
95th percentile per-packet one-way delay: 111.984 ms
Loss rate: 42.49%
```
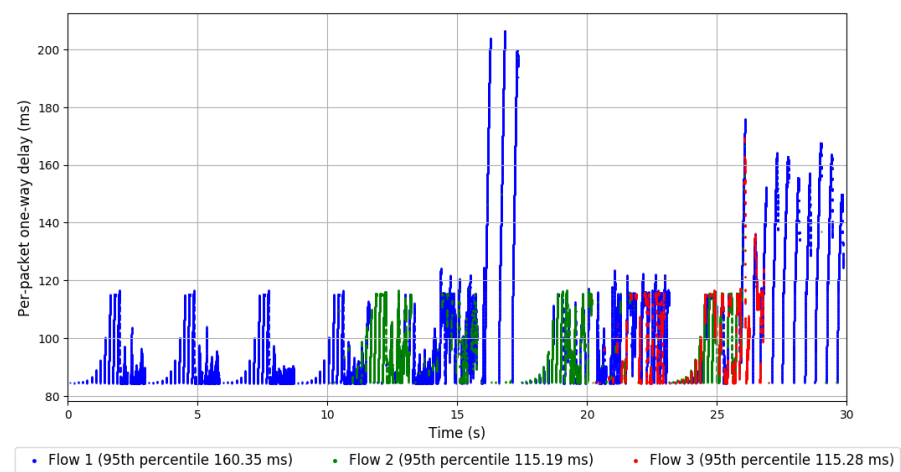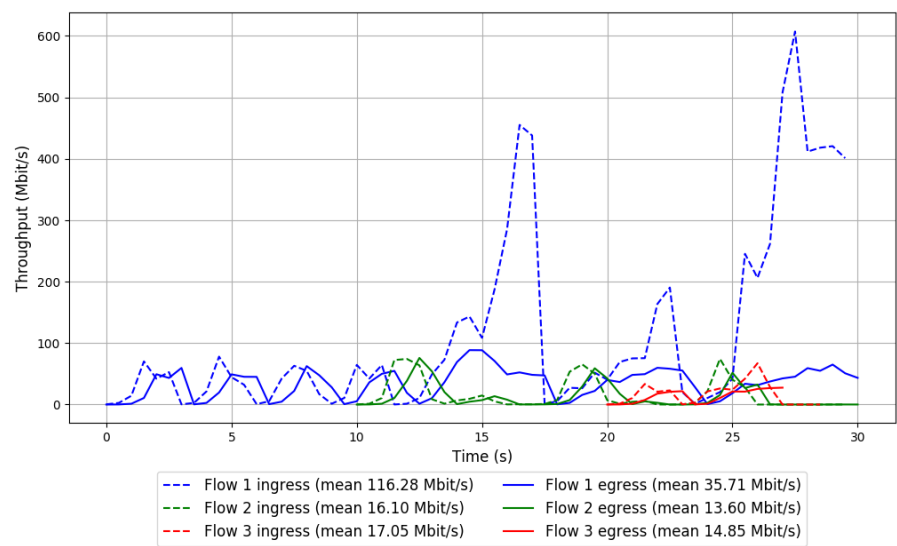
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-26 04:19:48
End at: 2018-10-26 04:20:18
Local clock offset: -1.503 ms
Remote clock offset: -2.081 ms


# Below is generated by plot.py at 2018-10-26 04:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.03 Mbit/s
95th percentile per-packet one-way delay: 154.762 ms
Loss rate: 63.57%
-- Flow 1:
Average throughput: 35.71 Mbit/s
95th percentile per-packet one-way delay: 160.348 ms
Loss rate: 69.25%
-- Flow 2:
Average throughput: 13.60 Mbit/s
95th percentile per-packet one-way delay: 115.193 ms
Loss rate: 16.27%
-- Flow 3:
Average throughput: 14.85 Mbit/s
95th percentile per-packet one-way delay: 115.283 ms
Loss rate: 32.70%
```

Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 116.28 Mbit/s)   Flow 1 egress (mean 35.71 Mbit/s)
Flow 2 ingress (mean 16.10 Mbit/s)   Flow 2 egress (mean 13.60 Mbit/s)
Flow 3 ingress (mean 17.05 Mbit/s)   Flow 3 egress (mean 14.85 Mbit/s)

Flow 1 (95th percentile 160.35 ms)   Flow 2 (95th percentile 115.19 ms)   Flow 3 (95th percentile 115.28 ms)
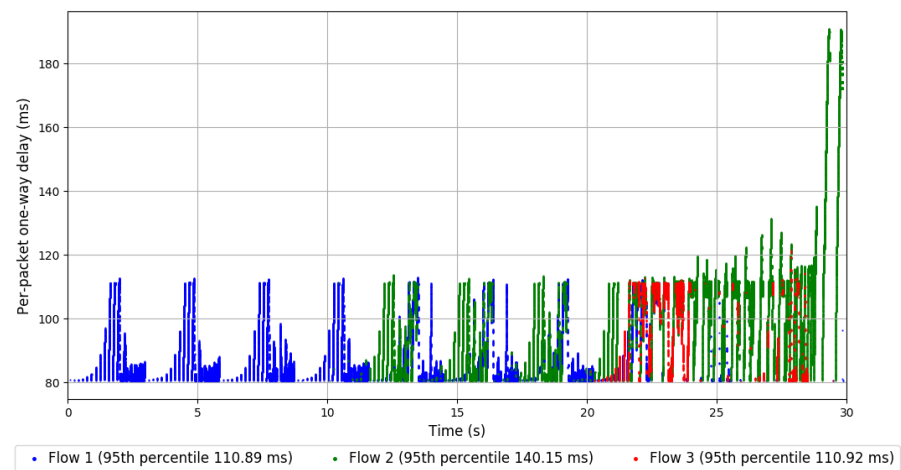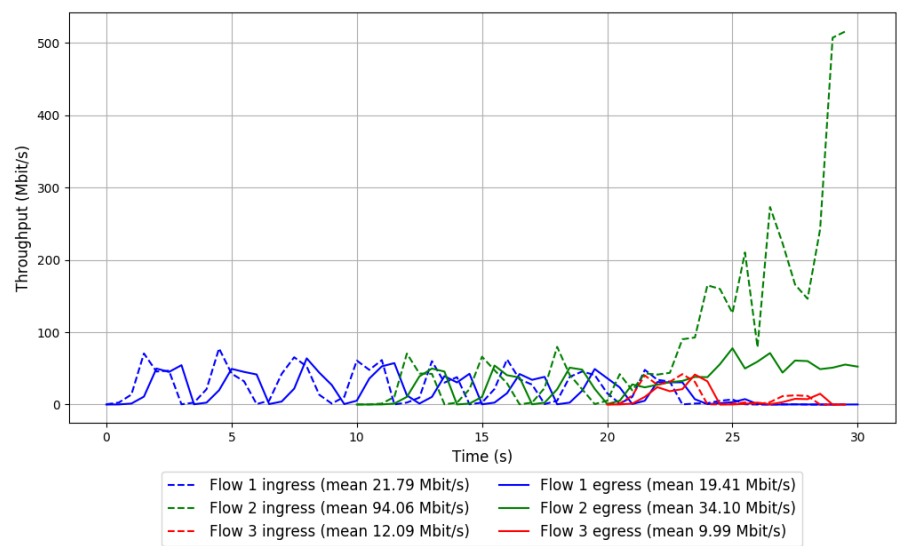
```
Run 5: Statistics of Verus

Start at: 2018-10-26 04:42:37
End at: 2018-10-26 04:43:07
Local clock offset: -1.115 ms
Remote clock offset: -4.199 ms


# Below is generated by plot.py at 2018-10-26 04:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.16 Mbit/s
95th percentile per-packet one-way delay: 116.627 ms
Loss rate: 48.52%
-- Flow 1:
Average throughput: 19.41 Mbit/s
95th percentile per-packet one-way delay: 110.891 ms
Loss rate: 10.94%
-- Flow 2:
Average throughput: 34.10 Mbit/s
95th percentile per-packet one-way delay: 140.153 ms
Loss rate: 63.57%
-- Flow 3:
Average throughput: 9.99 Mbit/s
95th percentile per-packet one-way delay: 110.920 ms
Loss rate: 18.81%
```

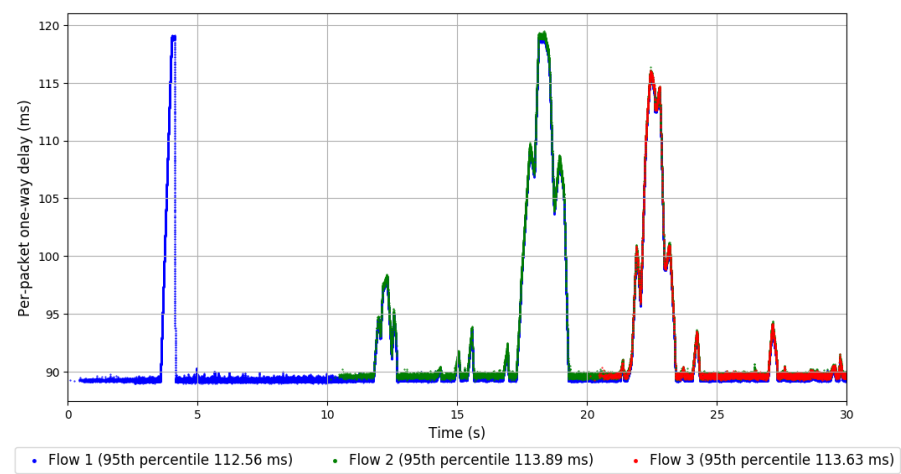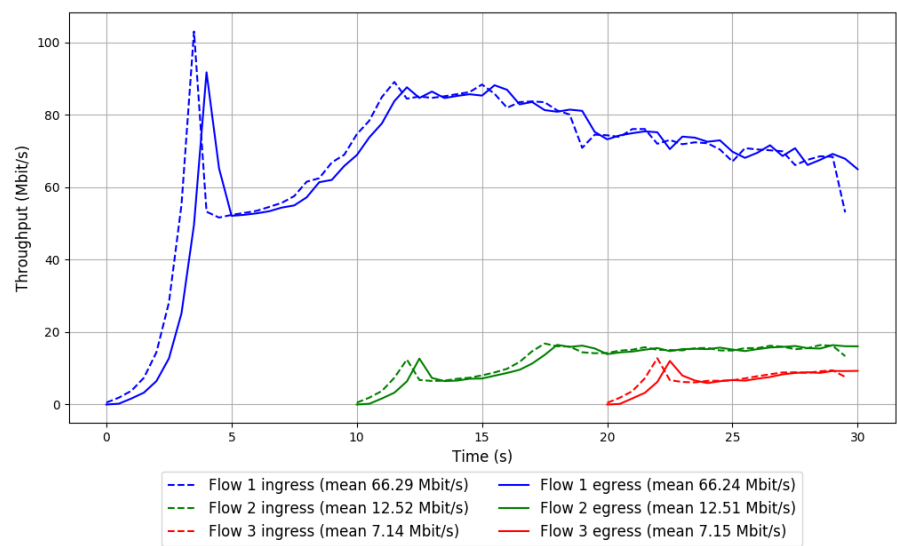## Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-26 03:08:56
End at: 2018-10-26 03:09:26
Local clock offset: -7.279 ms
Remote clock offset: -2.427 ms


# Below is generated by plot.py at 2018-10-26 04:52:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.92 Mbit/s
95th percentile per-packet one-way delay: 112.736 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 66.24 Mbit/s
95th percentile per-packet one-way delay: 112.563 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 113.892 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 113.632 ms
Loss rate: 0.08%
```

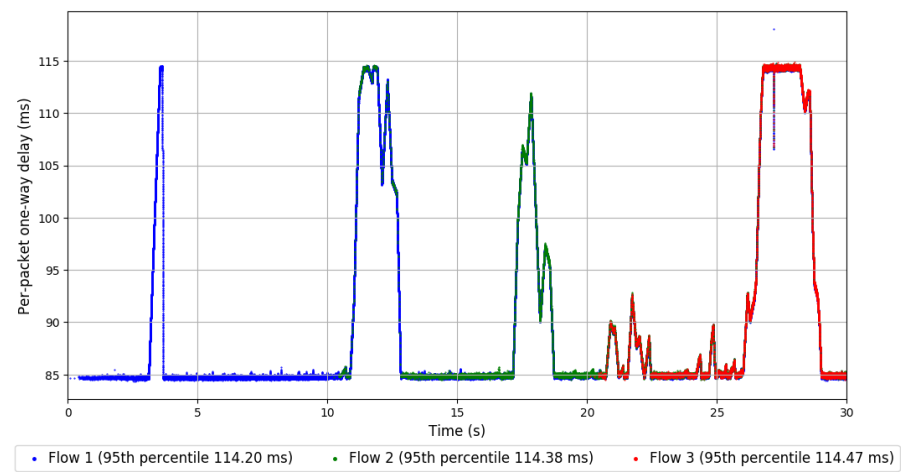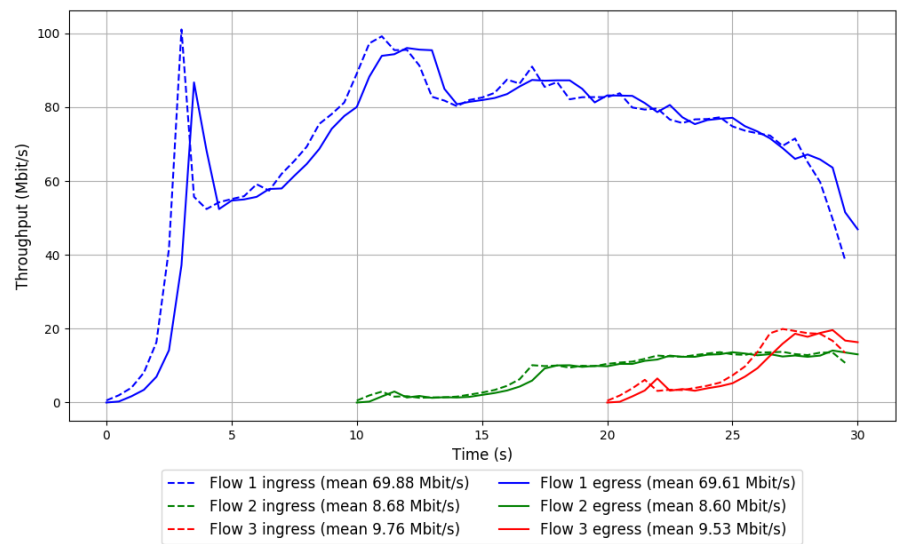# Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-26 03:31:36
End at: 2018-10-26 03:32:06
Local clock offset: -7.33 ms
Remote clock offset: -2.775 ms


# Below is generated by plot.py at 2018-10-26 04:52:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.48 Mbit/s
95th percentile per-packet one-way delay: 114.249 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 69.61 Mbit/s
95th percentile per-packet one-way delay: 114.205 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 114.379 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 9.53 Mbit/s
95th percentile per-packet one-way delay: 114.472 ms
Loss rate: 2.37%
```

Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 69.88 Mbit/s) — Flow 1 egress (mean 69.61 Mbit/s)
Flow 2 ingress (mean 8.68 Mbit/s) — Flow 2 egress (mean 8.60 Mbit/s)
Flow 3 ingress (mean 9.76 Mbit/s) — Flow 3 egress (mean 9.53 Mbit/s)

Flow 1 (95th percentile 114.20 ms)   Flow 2 (95th percentile 114.38 ms)   Flow 3 (95th percentile 114.47 ms)
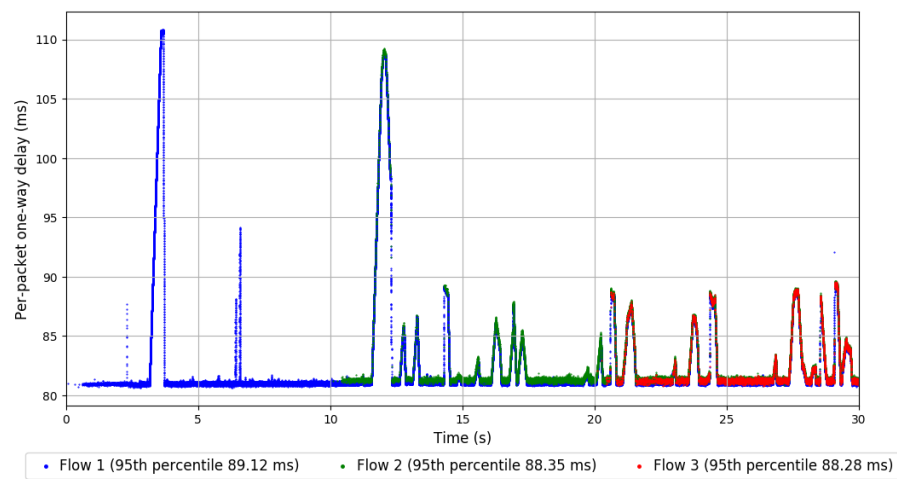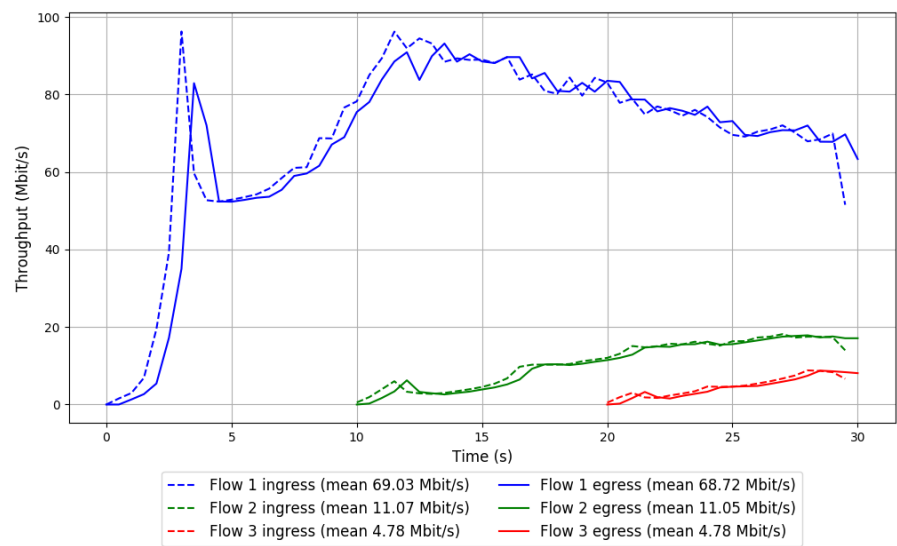
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 03:54:16
End at: 2018-10-26 03:54:46
Local clock offset: -6.961 ms
Remote clock offset: -5.298 ms


# Below is generated by plot.py at 2018-10-26 04:53:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.65 Mbit/s
95th percentile per-packet one-way delay: 88.934 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 68.72 Mbit/s
95th percentile per-packet one-way delay: 89.122 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 88.349 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 88.277 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 69.03 Mbit/s) — Flow 1 egress (mean 68.72 Mbit/s)
Flow 2 ingress (mean 11.07 Mbit/s) — Flow 2 egress (mean 11.05 Mbit/s)
Flow 3 ingress (mean 4.78 Mbit/s) — Flow 3 egress (mean 4.78 Mbit/s)

Flow 1 (95th percentile 89.12 ms)   Flow 2 (95th percentile 88.35 ms)   Flow 3 (95th percentile 88.28 ms)
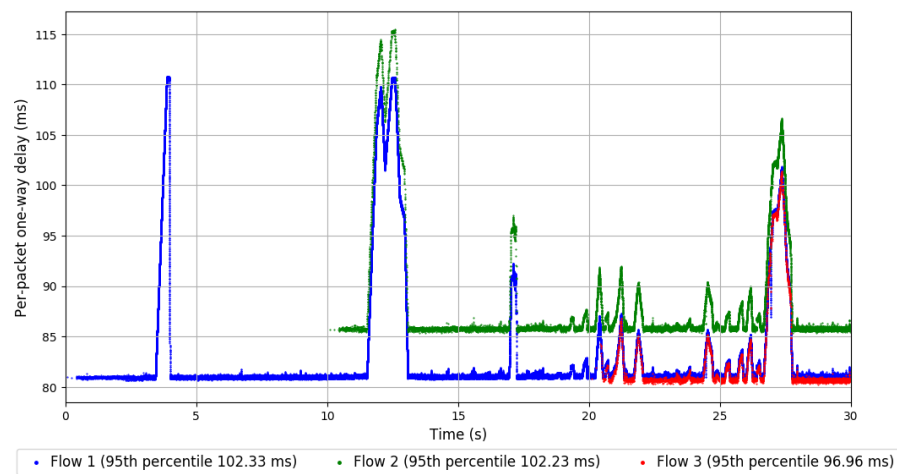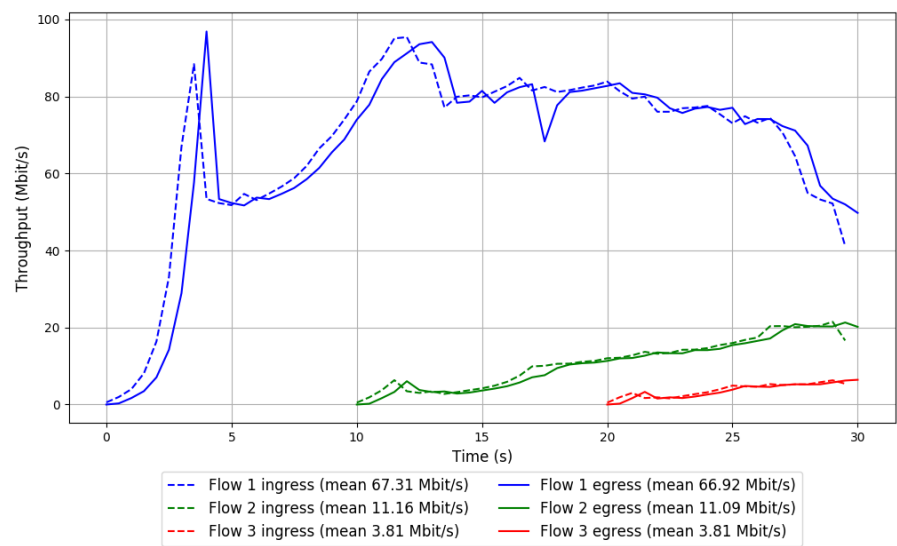
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 04:17:11
End at: 2018-10-26 04:17:41
Local clock offset: -1.786 ms
Remote clock offset: -5.888 ms


# Below is generated by plot.py at 2018-10-26 04:53:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.55 Mbit/s
95th percentile per-packet one-way delay: 102.143 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 66.92 Mbit/s
95th percentile per-packet one-way delay: 102.328 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 102.226 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 96.956 ms
Loss rate: 0.00%
```

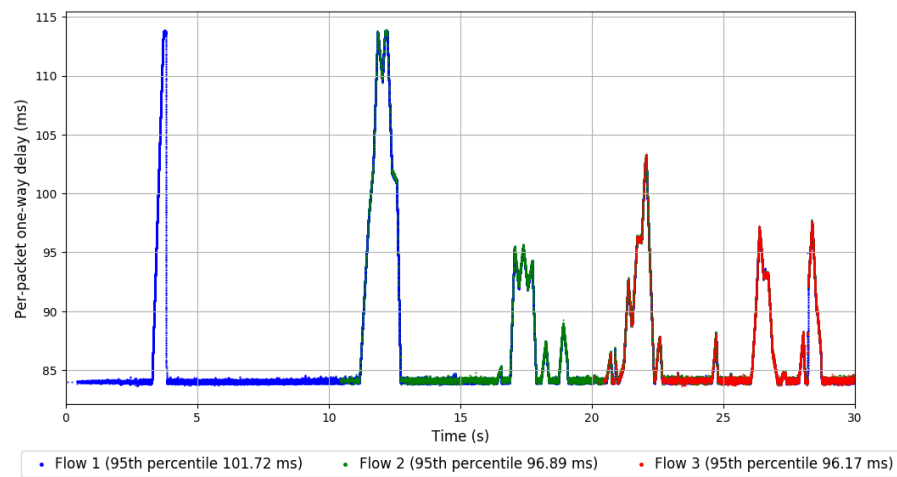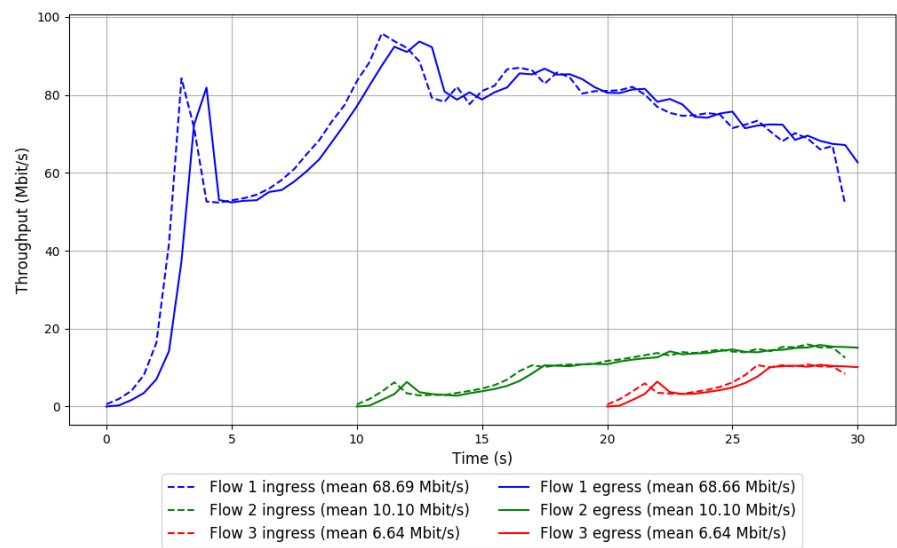# Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 04:39:52
End at: 2018-10-26 04:40:22
Local clock offset: -1.162 ms
Remote clock offset: -0.918 ms


# Below is generated by plot.py at 2018-10-26 04:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.57 Mbit/s
95th percentile per-packet one-way delay: 101.420 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 68.66 Mbit/s
95th percentile per-packet one-way delay: 101.721 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 10.10 Mbit/s
95th percentile per-packet one-way delay: 96.886 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 6.64 Mbit/s
95th percentile per-packet one-way delay: 96.166 ms
Loss rate: 0.00%
```

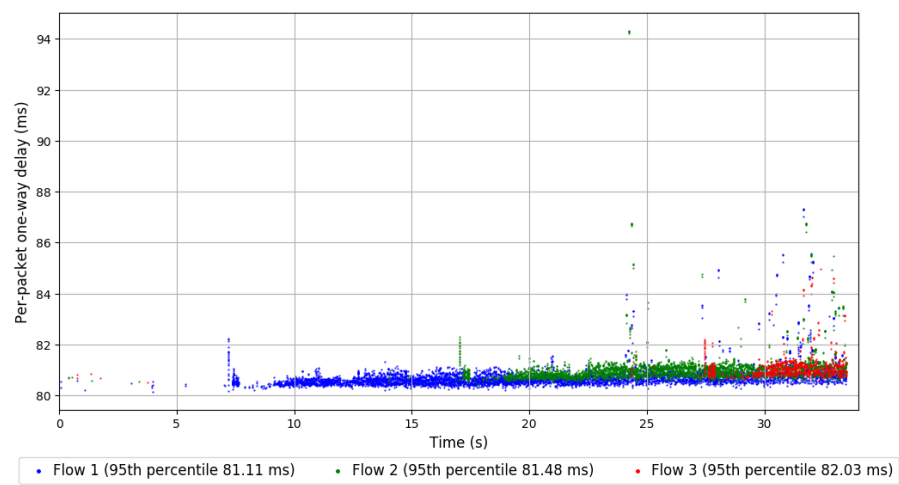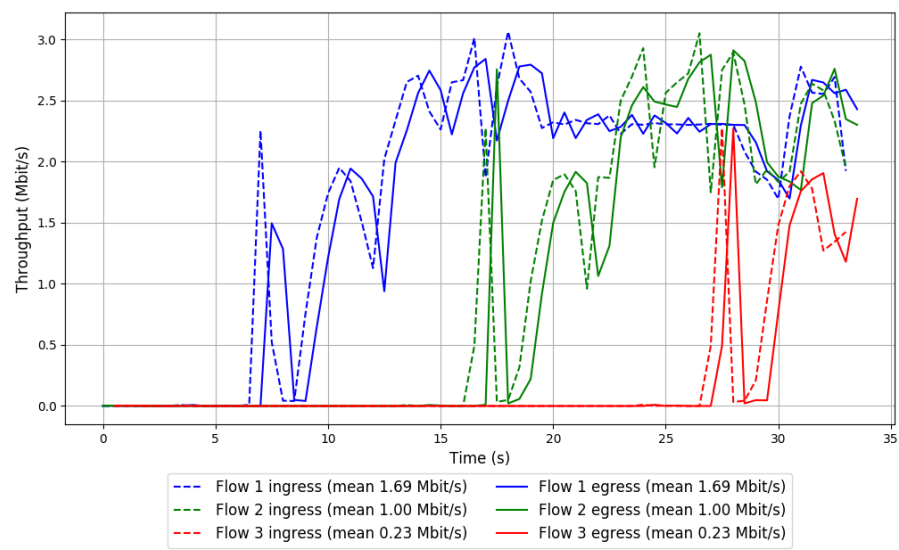Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-10-26 02:57:37
End at: 2018-10-26 02:58:07
Local clock offset: -7.687 ms
Remote clock offset: -5.461 ms

# Below is generated by plot.py at 2018-10-26 04:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 81.360 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 81.109 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 81.482 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 82.028 ms
Loss rate: 0.00%
```

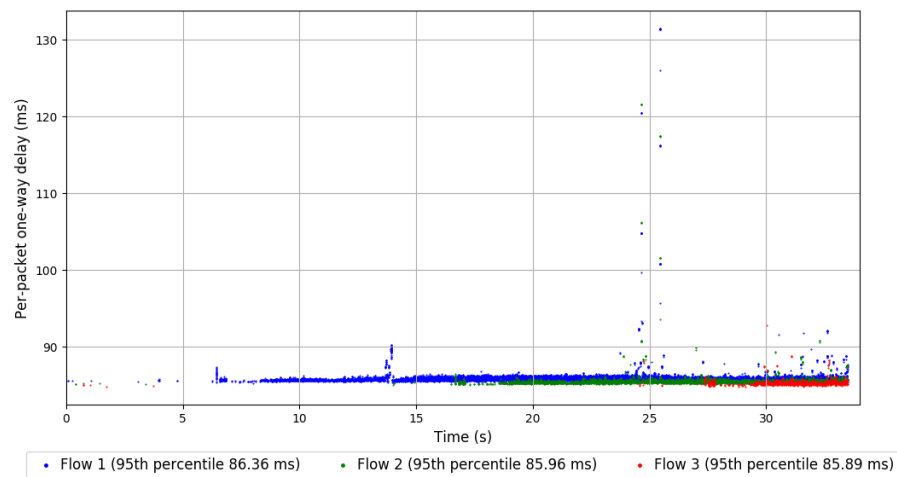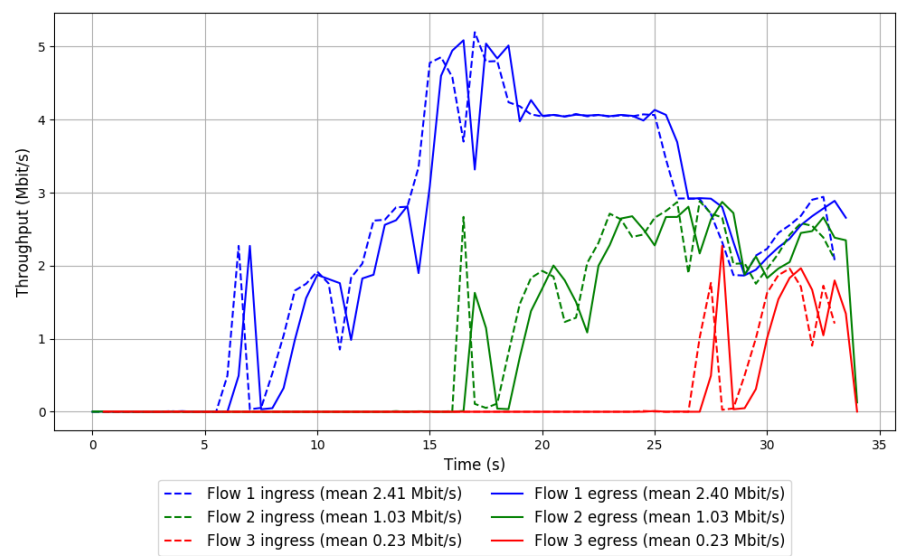Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-10-26 03:20:18
End at: 2018-10-26 03:20:48
Local clock offset: -7.169 ms
Remote clock offset: -2.292 ms


# Below is generated by plot.py at 2018-10-26 04:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 86.294 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 86.357 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 85.958 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 85.888 ms
Loss rate: 0.00%
```

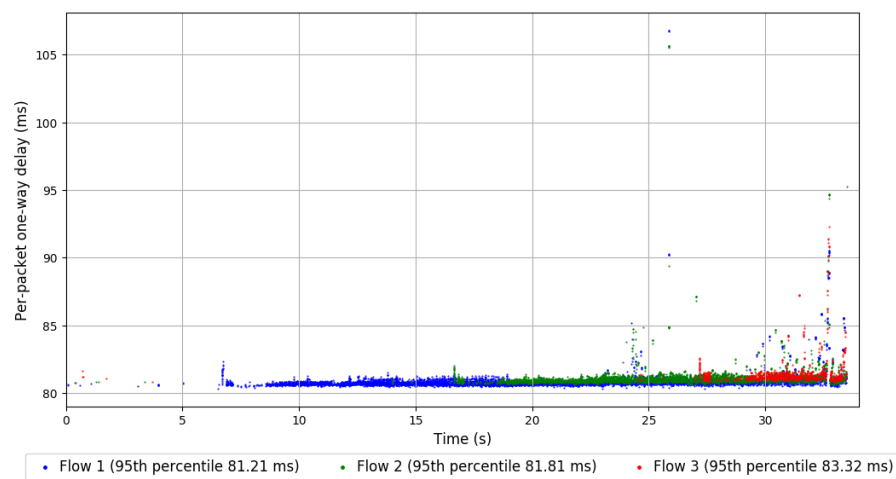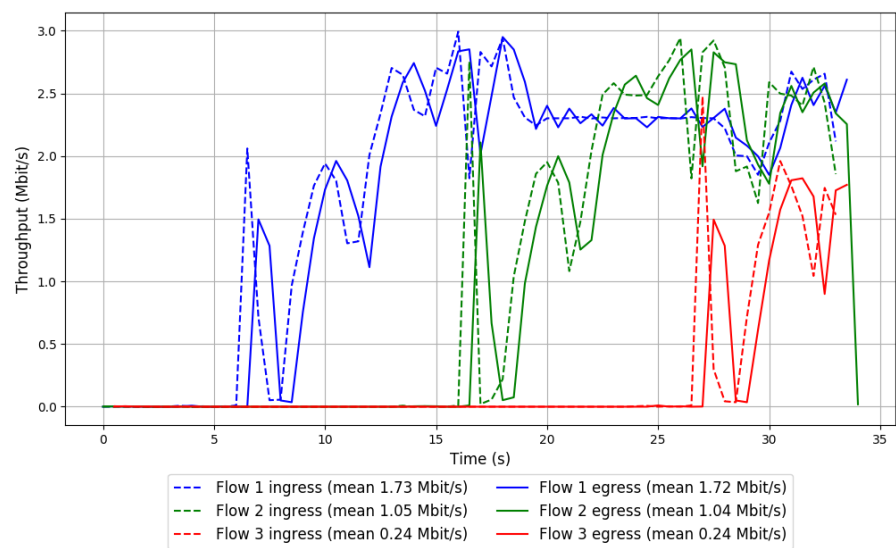Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-26 03:42:59
End at: 2018-10-26 03:43:29
Local clock offset: -6.806 ms
Remote clock offset: -5.548 ms

# Below is generated by plot.py at 2018-10-26 04:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 81.623 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 81.212 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 81.810 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 83.319 ms
Loss rate: 0.40%
```

Run 3: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.73 Mbit/s)
Flow 1 egress (mean 1.72 Mbit/s)
Flow 2 ingress (mean 1.05 Mbit/s)
Flow 2 egress (mean 1.04 Mbit/s)
Flow 3 ingress (mean 0.24 Mbit/s)
Flow 3 egress (mean 0.24 Mbit/s)

Flow 1 (95th percentile 81.21 ms)
Flow 2 (95th percentile 81.81 ms)
Flow 3 (95th percentile 83.32 ms)

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-26 04:05:44
End at: 2018-10-26 04:06:14
Local clock offset: -4.768 ms
Remote clock offset: -5.63 ms

# Below is generated by plot.py at 2018-10-26 04:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 82.065 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 81.976 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 82.107 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 82.860 ms
Loss rate: 0.00%
```
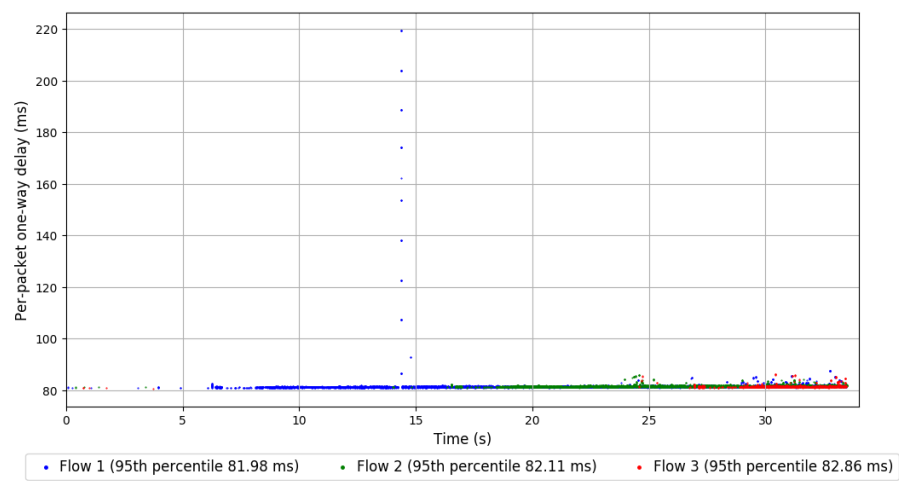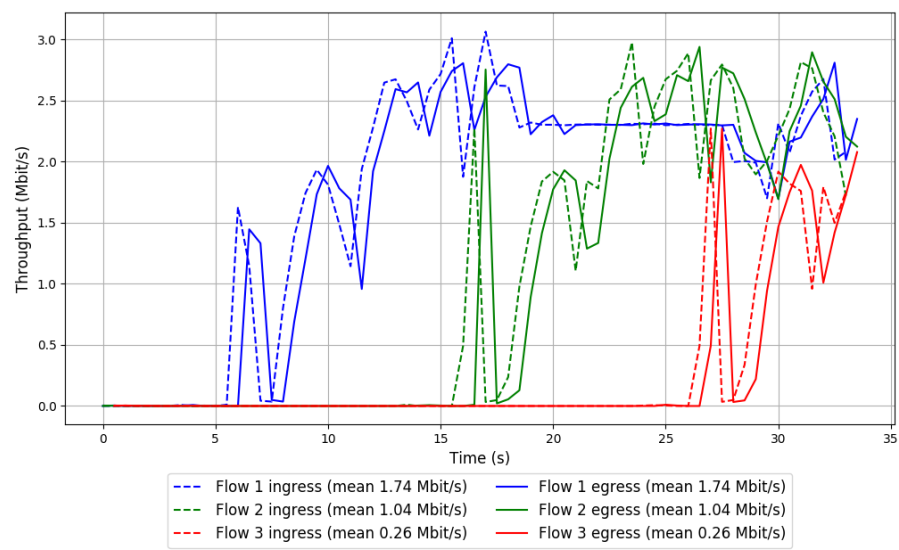
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-26 04:28:35
End at: 2018-10-26 04:29:05
Local clock offset: -0.589 ms
Remote clock offset: -5.148 ms


# Below is generated by plot.py at 2018-10-26 04:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 81.181 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 81.240 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 80.923 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 81.129 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link