Pantheon Report

Generated at 2018-08-22 06:21:01 (UTC).

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

Repeated the test of 17 congestion control schemes 10 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.
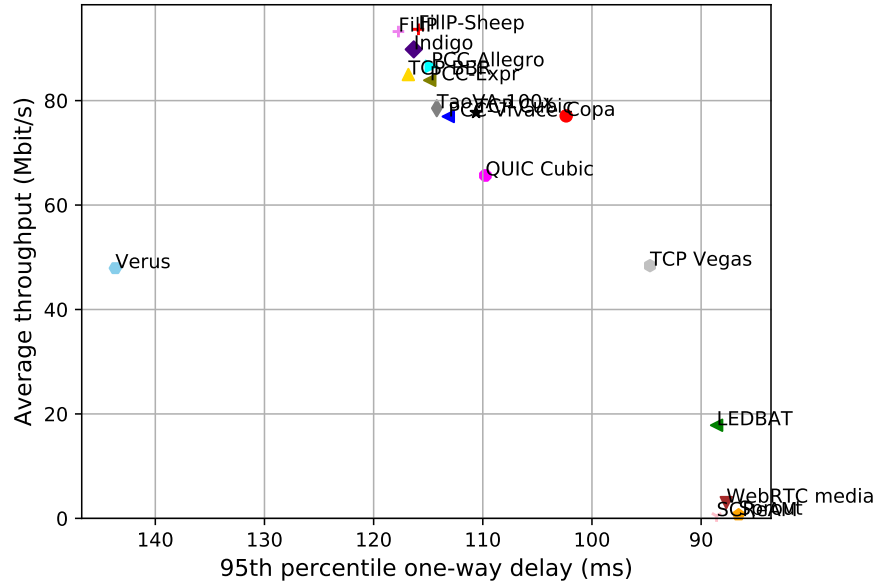
```
System info:
Linux 4.15.0-1017-aws
net.core.default_qdisc = fq_codel
net.core.rmem_default = 16777216
net.core.rmem_max = 33554432
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304

Git summary:
branch: master @ 7719b900495aa706f8452ab7d4a94dd562e9296e
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```
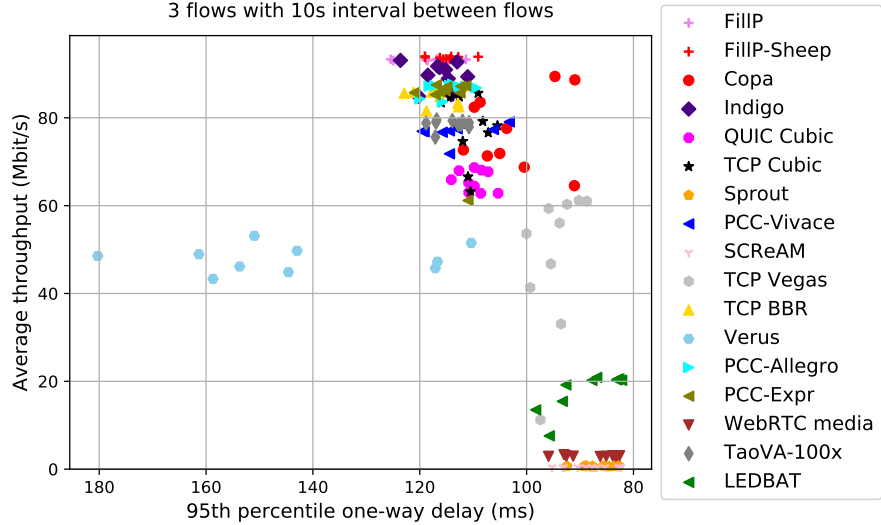
test from AWS Brazil 2 to Colombia, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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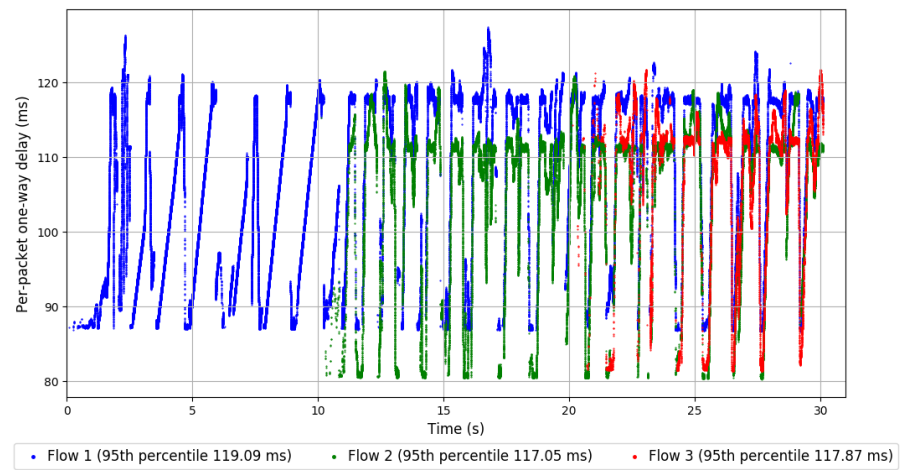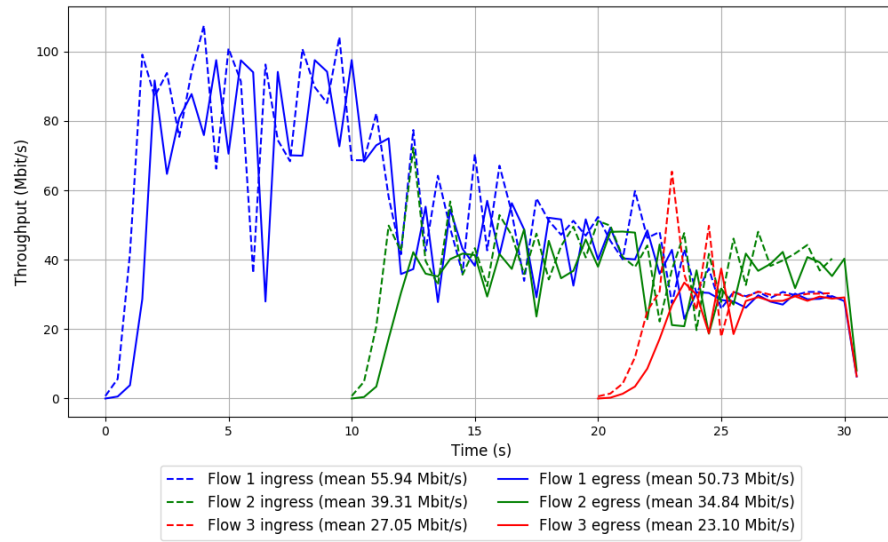3 flows with 10s interval between flows

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	10	53.47	35.46	24.05	114.58	116.75	115.38	8.59	12.02	14.81
Copa	10	56.16	25.35	12.19	103.00	100.94	98.95	1.47	0.69	0.46
TCP Cubic	10	44.54	37.70	24.21	108.87	112.45	110.55	0.49	0.76	1.24
FillP	10	59.85	37.51	25.49	117.60	115.97	116.70	17.14	19.20	19.37
FillP-Sheep	10	55.83	40.32	33.33	113.40	113.99	113.48	15.20	26.66	29.46
Indigo	10	60.27	30.82	28.28	113.96	117.99	114.44	7.47	14.66	32.17
LEDBAT	10	11.27	7.86	4.08	88.05	86.96	88.74	0.05	0.05	0.14
PCC-Allegro	10	75.36	12.88	8.02	114.55	114.92	115.88	2.95	4.45	5.73
PCC-Expr	10	70.75	15.88	7.83	114.42	113.39	114.88	3.67	3.66	4.76
QUIC Cubic	10	46.18	22.16	14.62	109.69	107.80	107.60	0.98	0.83	0.46
SCReAM	10	0.22	0.22	0.22	87.08	86.63	87.69	0.00	0.03	0.03
Sprout	10	0.35	0.33	0.40	84.69	85.32	87.26	0.00	0.01	0.02
TaoVA-100x	10	50.18	31.91	21.53	113.86	114.09	114.52	4.26	8.54	9.72
TCP Vegas	10	21.33	25.66	30.00	93.84	96.41	93.64	0.66	0.61	1.28
Verus	10	26.76	24.75	15.77	129.82	144.63	125.39	38.99	57.19	35.71
PCC-Vivace	10	64.41	15.07	7.65	113.35	111.69	110.06	0.40	0.68	0.46
WebRTC media	10	1.77	1.03	0.23	86.49	87.44	87.76	0.01	0.01	0.04

```
Run 1: Statistics of TCP BBR

Start at: 2018-08-22 02:41:28
End at: 2018-08-22 02:41:58
Local clock offset: -10.079 ms
Remote clock offset: 2.01 ms


# Below is generated by plot.py at 2018-08-22 06:01:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.59 Mbit/s
95th percentile per-packet one-way delay: 118.744 ms
Loss rate: 10.38%
-- Flow 1:
Average throughput: 50.73 Mbit/s
95th percentile per-packet one-way delay: 119.090 ms
Loss rate: 9.23%
-- Flow 2:
Average throughput: 34.84 Mbit/s
95th percentile per-packet one-way delay: 117.052 ms
Loss rate: 11.40%
-- Flow 3:
Average throughput: 23.10 Mbit/s
95th percentile per-packet one-way delay: 117.868 ms
Loss rate: 14.59%
```
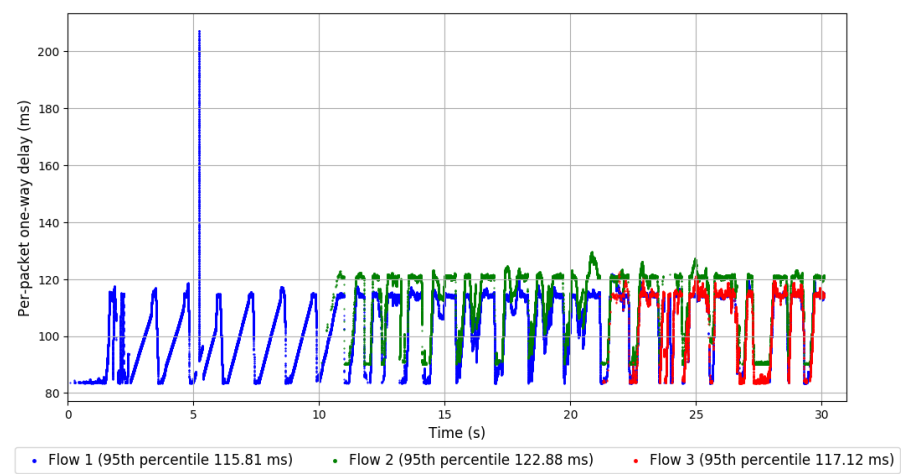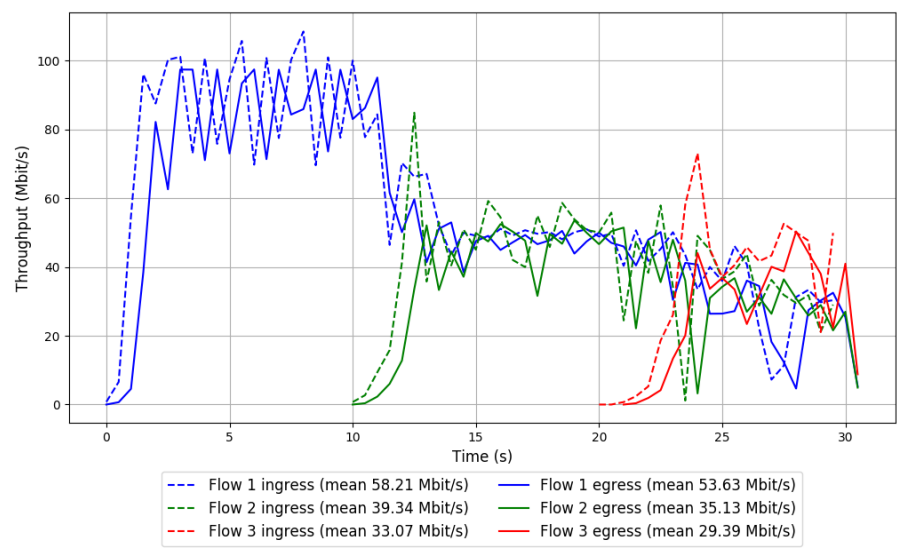
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 55.94 Mbit/s) --- Flow 1 egress (mean 50.73 Mbit/s)
Flow 2 ingress (mean 39.31 Mbit/s) --- Flow 2 egress (mean 34.84 Mbit/s)
Flow 3 ingress (mean 27.05 Mbit/s) --- Flow 3 egress (mean 23.10 Mbit/s)

Flow 1 (95th percentile 119.09 ms)   Flow 2 (95th percentile 117.05 ms)   Flow 3 (95th percentile 117.87 ms)

5

```
Run 2: Statistics of TCP BBR

Start at: 2018-08-22 03:02:35
End at: 2018-08-22 03:03:05
Local clock offset: -17.47 ms
Remote clock offset: 5.324 ms


# Below is generated by plot.py at 2018-08-22 06:01:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.81 Mbit/s
95th percentile per-packet one-way delay: 121.166 ms
Loss rate: 9.97%
-- Flow 1:
Average throughput: 53.63 Mbit/s
95th percentile per-packet one-way delay: 115.812 ms
Loss rate: 7.78%
-- Flow 2:
Average throughput: 35.13 Mbit/s
95th percentile per-packet one-way delay: 122.884 ms
Loss rate: 10.59%
-- Flow 3:
Average throughput: 29.39 Mbit/s
95th percentile per-packet one-way delay: 117.124 ms
Loss rate: 20.12%
```
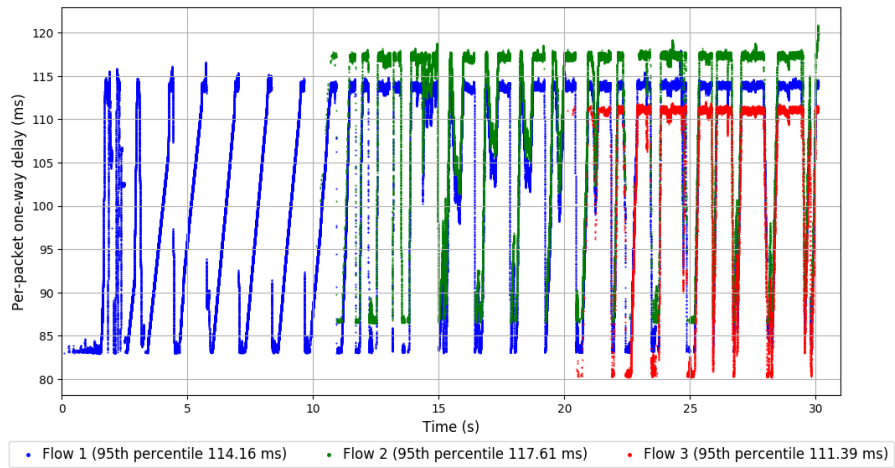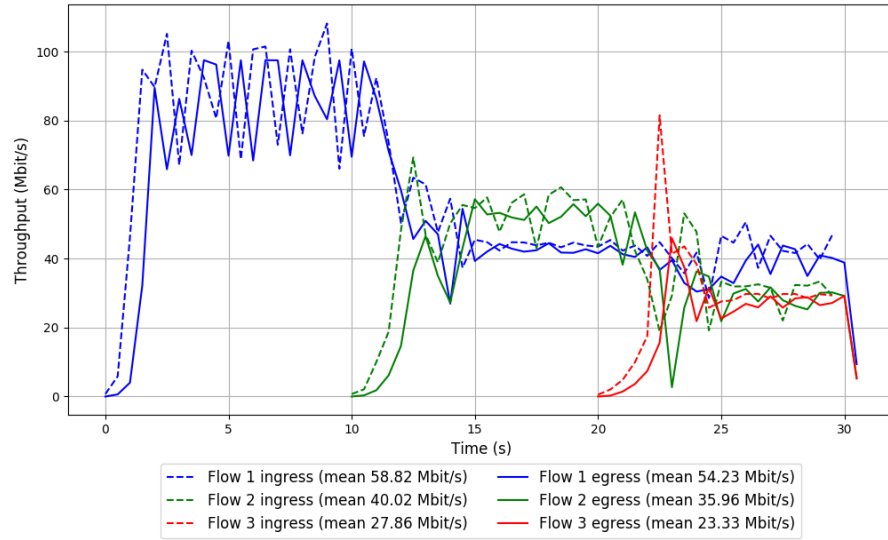
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.21 Mbit/s) --- Flow 1 egress (mean 53.63 Mbit/s)
Flow 2 ingress (mean 39.34 Mbit/s) --- Flow 2 egress (mean 35.13 Mbit/s)
Flow 3 ingress (mean 33.07 Mbit/s) --- Flow 3 egress (mean 29.39 Mbit/s)

Flow 1 (95th percentile 115.81 ms)   Flow 2 (95th percentile 122.88 ms)   Flow 3 (95th percentile 117.12 ms)

7

```
Run 3: Statistics of TCP BBR

Start at: 2018-08-22 03:23:43
End at: 2018-08-22 03:24:13
Local clock offset: -4.299 ms
Remote clock offset: 3.104 ms


# Below is generated by plot.py at 2018-08-22 06:01:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.94 Mbit/s
95th percentile per-packet one-way delay: 117.408 ms
Loss rate: 9.21%
-- Flow 1:
Average throughput: 54.23 Mbit/s
95th percentile per-packet one-way delay: 114.161 ms
Loss rate: 7.71%
-- Flow 2:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 117.612 ms
Loss rate: 10.06%
-- Flow 3:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 111.386 ms
Loss rate: 16.29%
```
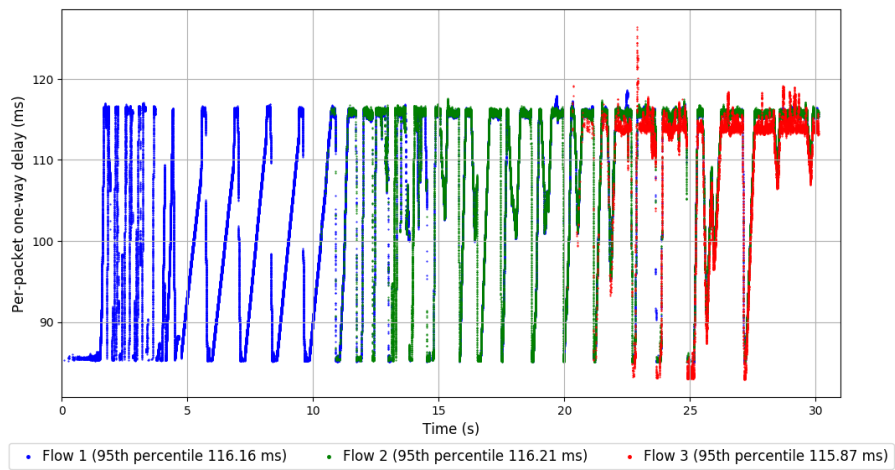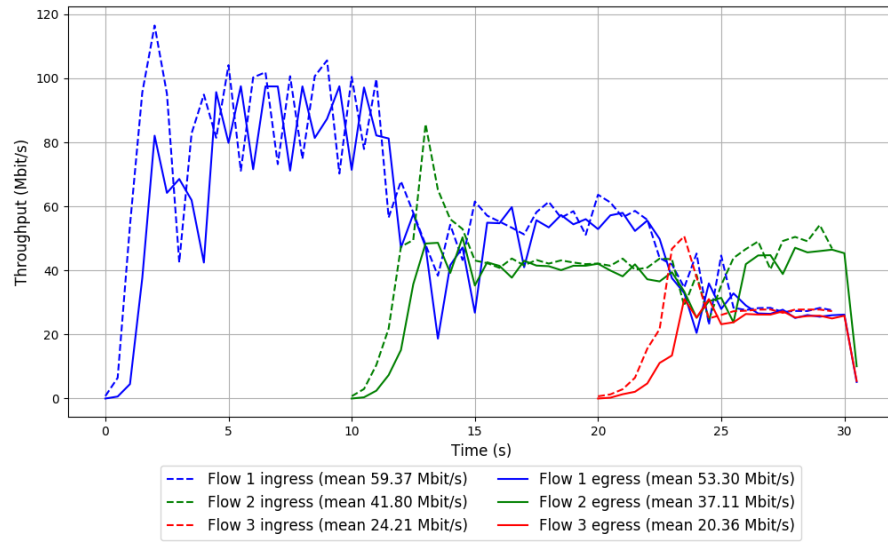
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.82 Mbit/s) ---- Flow 1 egress (mean 54.23 Mbit/s) ——
Flow 2 ingress (mean 40.02 Mbit/s) ---- Flow 2 egress (mean 35.96 Mbit/s) ——
Flow 3 ingress (mean 27.86 Mbit/s) ---- Flow 3 egress (mean 23.33 Mbit/s) ——

Flow 1 (95th percentile 114.16 ms)   Flow 2 (95th percentile 117.61 ms)   Flow 3 (95th percentile 111.39 ms)

9

```
Run 4: Statistics of TCP BBR

Start at: 2018-08-22 03:44:53
End at: 2018-08-22 03:45:23
Local clock offset: -1.606 ms
Remote clock offset: 16.23 ms


# Below is generated by plot.py at 2018-08-22 06:01:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.80 Mbit/s
95th percentile per-packet one-way delay: 116.177 ms
Loss rate: 10.90%
-- Flow 1:
Average throughput: 53.30 Mbit/s
95th percentile per-packet one-way delay: 116.155 ms
Loss rate: 10.14%
-- Flow 2:
Average throughput: 37.11 Mbit/s
95th percentile per-packet one-way delay: 116.209 ms
Loss rate: 11.14%
-- Flow 3:
Average throughput: 20.36 Mbit/s
95th percentile per-packet one-way delay: 115.866 ms
Loss rate: 15.74%
```
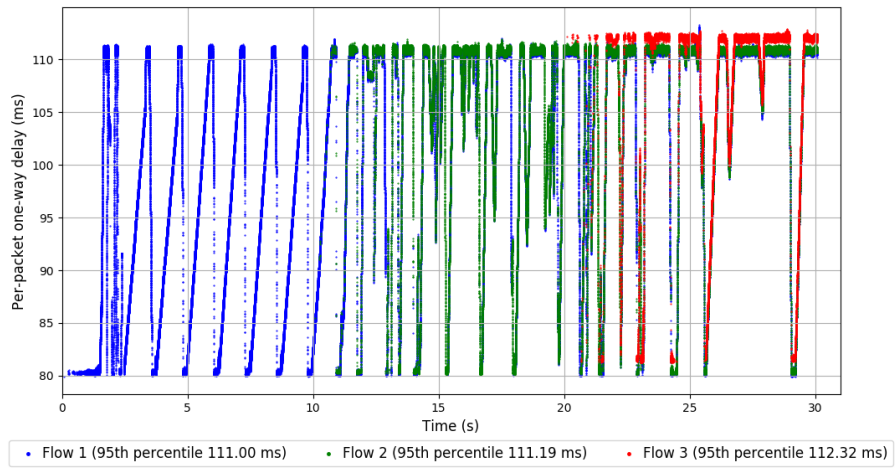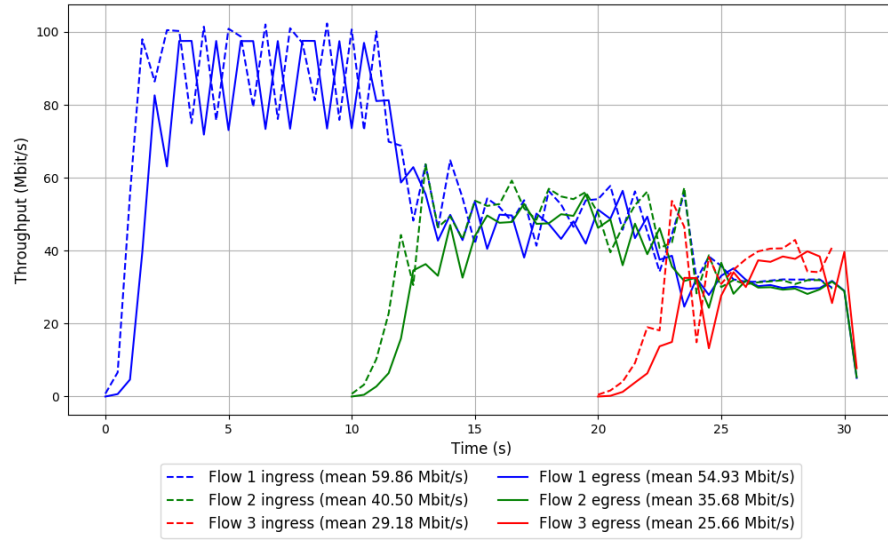
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 59.37 Mbit/s) — — — Flow 1 egress (mean 53.30 Mbit/s)
Flow 2 ingress (mean 41.80 Mbit/s) — — — Flow 2 egress (mean 37.11 Mbit/s)
Flow 3 ingress (mean 24.21 Mbit/s) — — — Flow 3 egress (mean 20.36 Mbit/s)

Flow 1 (95th percentile 116.16 ms)   Flow 2 (95th percentile 116.21 ms)   Flow 3 (95th percentile 115.87 ms)

11

```
Run 5: Statistics of TCP BBR

Start at: 2018-08-22 04:06:06
End at: 2018-08-22 04:06:36
Local clock offset: -2.074 ms
Remote clock offset: 20.01 ms


# Below is generated by plot.py at 2018-08-22 06:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.24 Mbit/s
95th percentile per-packet one-way delay: 111.935 ms
Loss rate: 9.57%
-- Flow 1:
Average throughput: 54.93 Mbit/s
95th percentile per-packet one-way delay: 110.998 ms
Loss rate: 8.15%
-- Flow 2:
Average throughput: 35.68 Mbit/s
95th percentile per-packet one-way delay: 111.191 ms
Loss rate: 11.81%
-- Flow 3:
Average throughput: 25.66 Mbit/s
95th percentile per-packet one-way delay: 112.318 ms
Loss rate: 12.07%
```
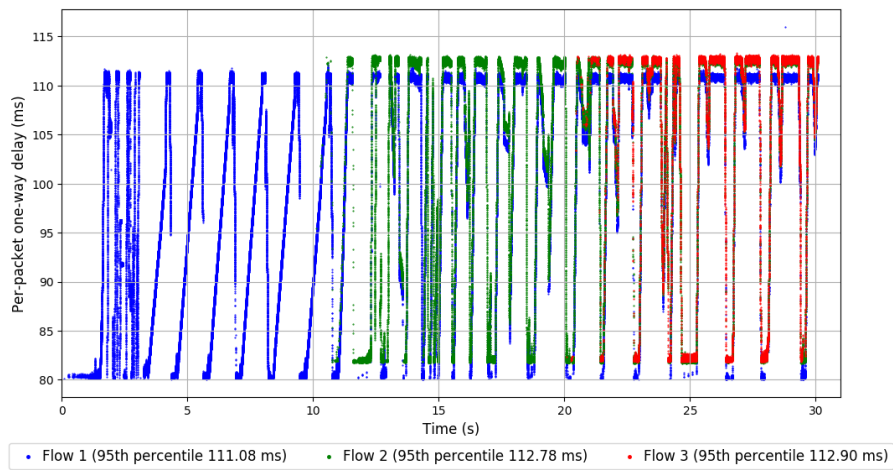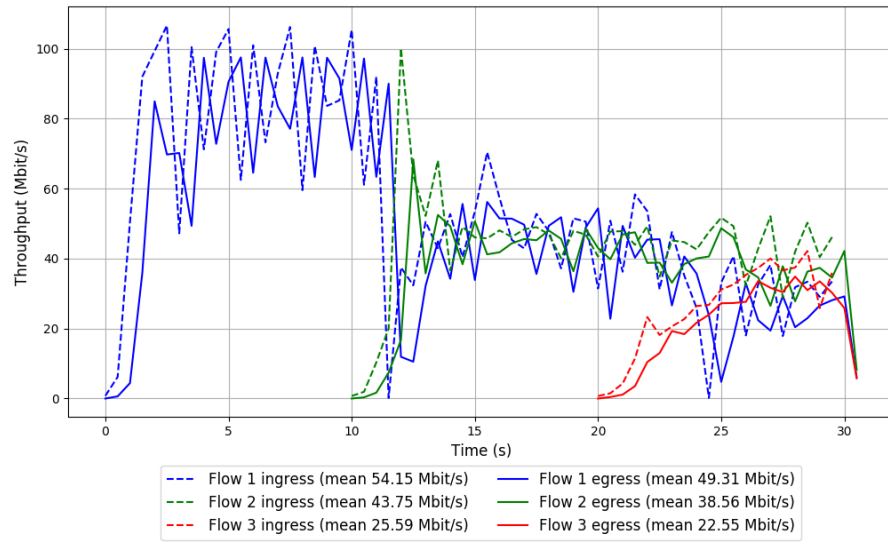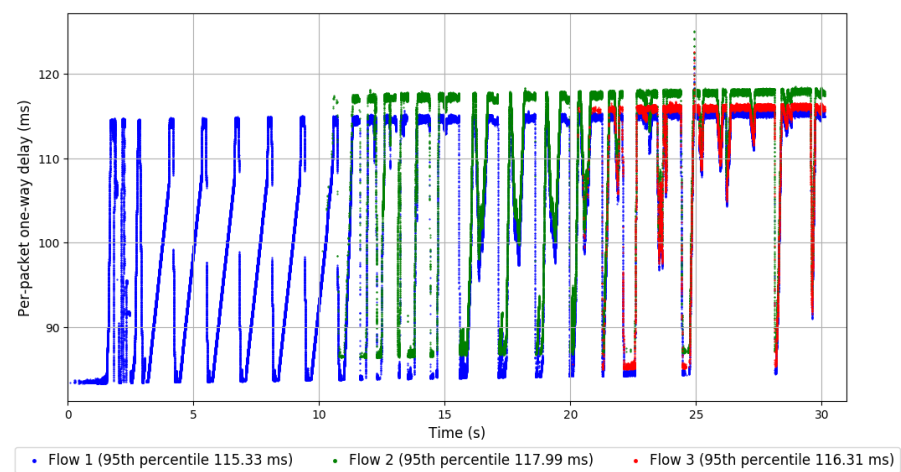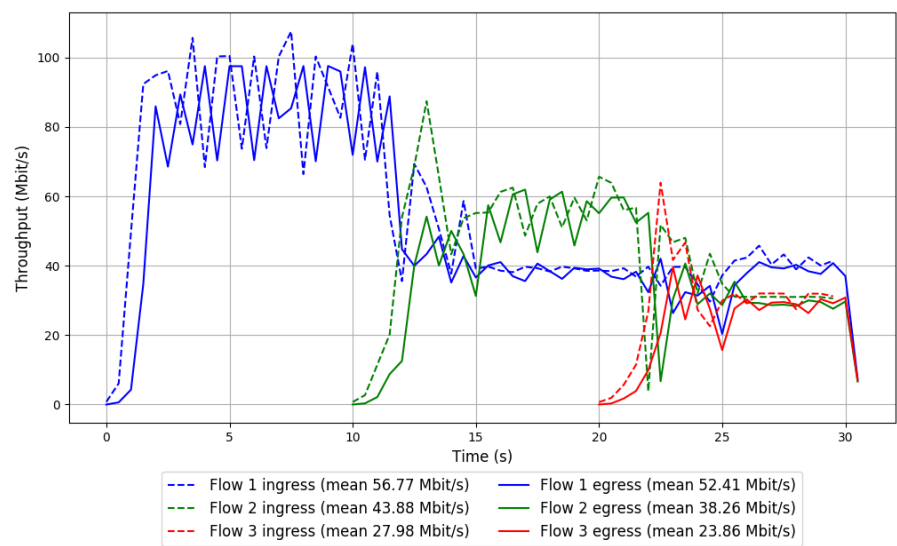
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 59.86 Mbit/s) --- Flow 1 egress (mean 54.93 Mbit/s)
Flow 2 ingress (mean 40.50 Mbit/s) --- Flow 2 egress (mean 35.68 Mbit/s)
Flow 3 ingress (mean 29.18 Mbit/s) --- Flow 3 egress (mean 25.66 Mbit/s)

Flow 1 (95th percentile 111.00 ms)   Flow 2 (95th percentile 111.19 ms)   Flow 3 (95th percentile 112.32 ms)

```
Run 6: Statistics of TCP BBR

Start at: 2018-08-22 04:27:17
End at: 2018-08-22 04:27:47
Local clock offset: -5.517 ms
Remote clock offset: 25.28 ms

# Below is generated by plot.py at 2018-08-22 06:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.51 Mbit/s
95th percentile per-packet one-way delay: 112.710 ms
Loss rate: 10.04%
-- Flow 1:
Average throughput: 49.31 Mbit/s
95th percentile per-packet one-way delay: 111.076 ms
Loss rate: 8.85%
-- Flow 2:
Average throughput: 38.56 Mbit/s
95th percentile per-packet one-way delay: 112.781 ms
Loss rate: 11.79%
-- Flow 3:
Average throughput: 22.55 Mbit/s
95th percentile per-packet one-way delay: 112.904 ms
Loss rate: 11.65%
```
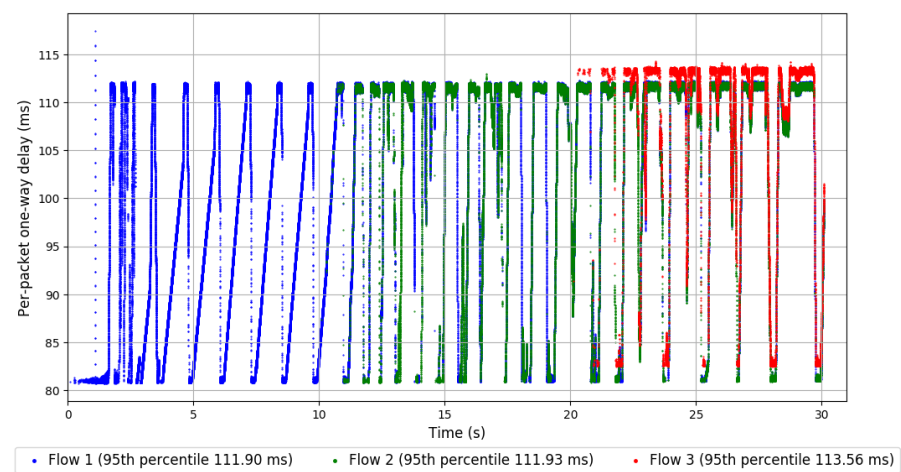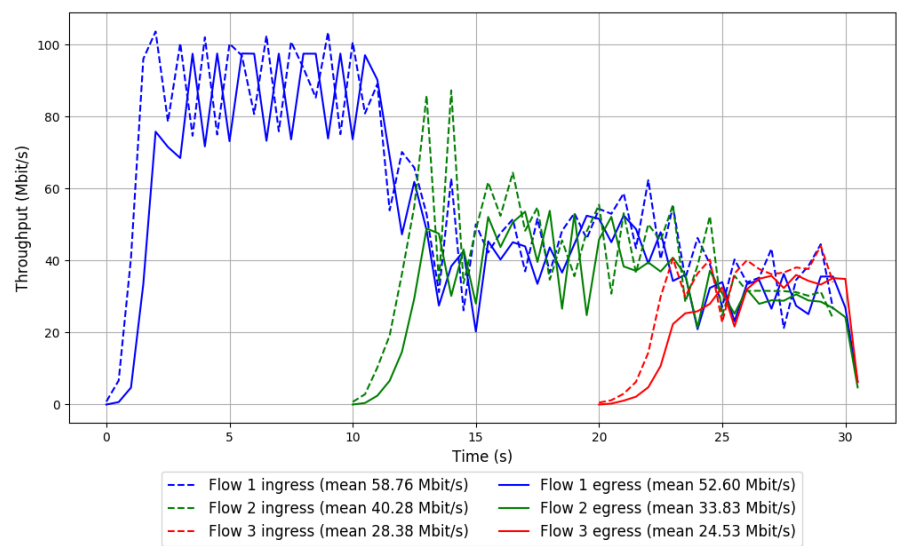
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 54.15 Mbit/s) --- Flow 1 egress (mean 49.31 Mbit/s)
Flow 2 ingress (mean 43.75 Mbit/s) --- Flow 2 egress (mean 38.56 Mbit/s)
Flow 3 ingress (mean 25.59 Mbit/s) --- Flow 3 egress (mean 22.55 Mbit/s)

Flow 1 (95th percentile 111.08 ms)   Flow 2 (95th percentile 112.78 ms)   Flow 3 (95th percentile 112.90 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2018-08-22 04:48:29
End at: 2018-08-22 04:48:59
Local clock offset: -5.49 ms
Remote clock offset: 22.395 ms


# Below is generated by plot.py at 2018-08-22 06:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.85 Mbit/s
95th percentile per-packet one-way delay: 117.734 ms
Loss rate: 9.83%
-- Flow 1:
Average throughput: 52.41 Mbit/s
95th percentile per-packet one-way delay: 115.327 ms
Loss rate: 7.59%
-- Flow 2:
Average throughput: 38.26 Mbit/s
95th percentile per-packet one-way delay: 117.988 ms
Loss rate: 12.73%
-- Flow 3:
Average throughput: 23.86 Mbit/s
95th percentile per-packet one-way delay: 116.311 ms
Loss rate: 14.46%
```
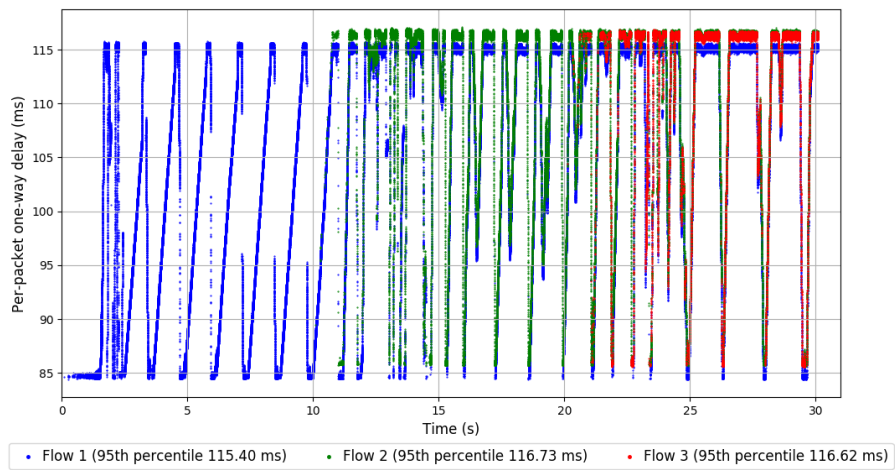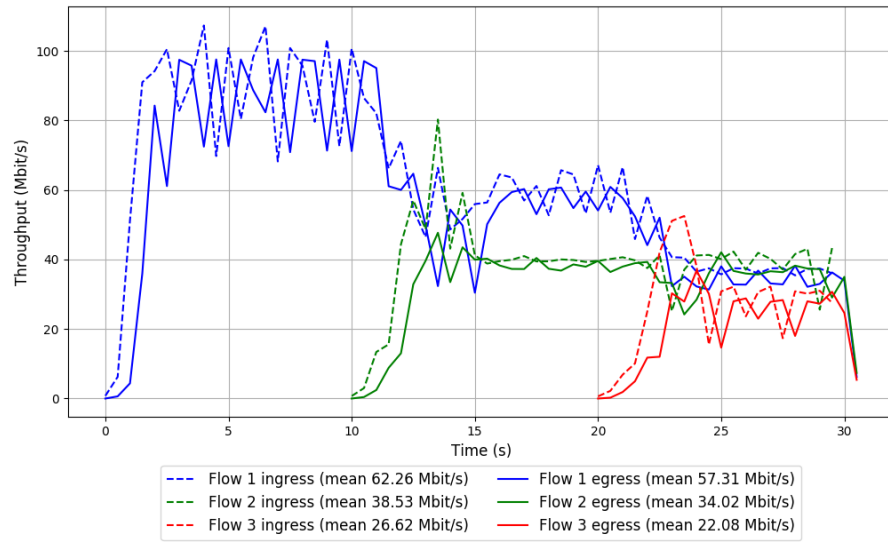
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 56.77 Mbit/s) --- Flow 1 egress (mean 52.41 Mbit/s)
Flow 2 ingress (mean 43.88 Mbit/s) --- Flow 2 egress (mean 38.26 Mbit/s)
Flow 3 ingress (mean 27.98 Mbit/s) --- Flow 3 egress (mean 23.86 Mbit/s)

Flow 1 (95th percentile 115.33 ms) • Flow 2 (95th percentile 117.99 ms) • Flow 3 (95th percentile 116.31 ms)

17

```
Run 8: Statistics of TCP BBR

Start at: 2018-08-22 05:09:46
End at: 2018-08-22 05:10:16
Local clock offset: -3.936 ms
Remote clock offset: -2.628 ms


# Below is generated by plot.py at 2018-08-22 06:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.30 Mbit/s
95th percentile per-packet one-way delay: 112.842 ms
Loss rate: 12.29%
-- Flow 1:
Average throughput: 52.60 Mbit/s
95th percentile per-packet one-way delay: 111.901 ms
Loss rate: 10.43%
-- Flow 2:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 111.927 ms
Loss rate: 15.96%
-- Flow 3:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 113.556 ms
Loss rate: 13.50%
```
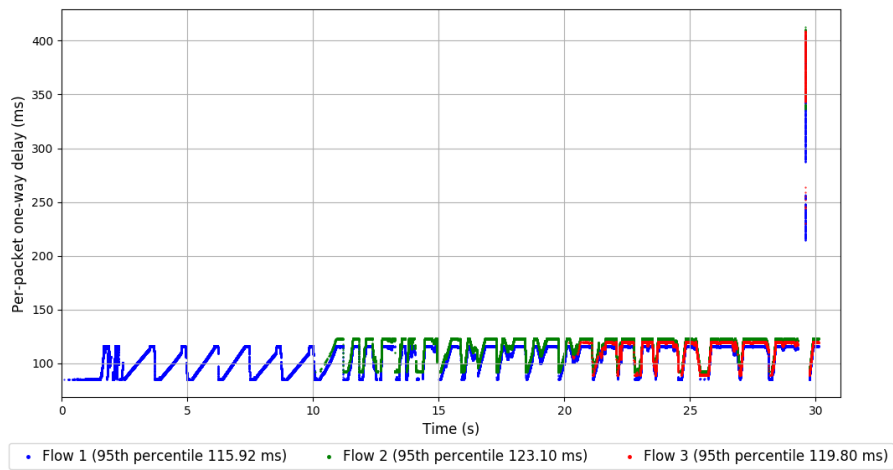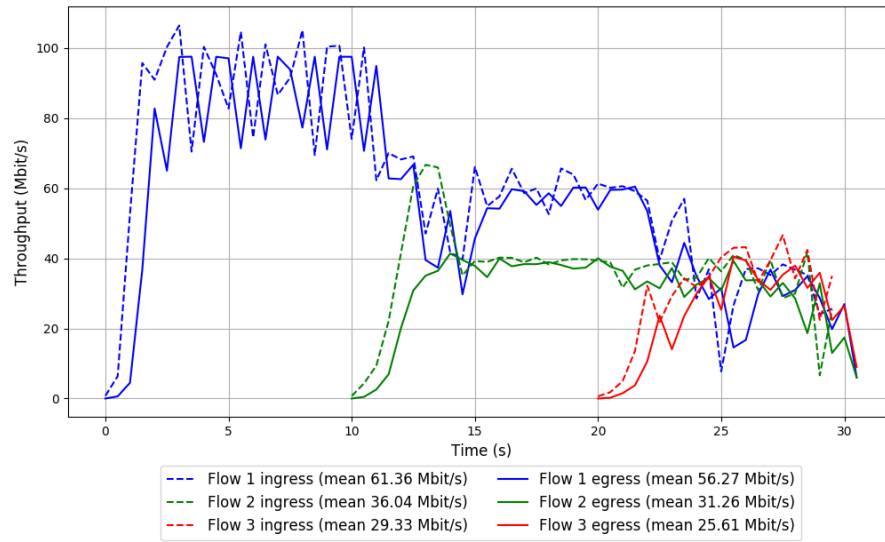
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.76 Mbit/s)   Flow 1 egress (mean 52.60 Mbit/s)
Flow 2 ingress (mean 40.28 Mbit/s)   Flow 2 egress (mean 33.83 Mbit/s)
Flow 3 ingress (mean 28.38 Mbit/s)   Flow 3 egress (mean 24.53 Mbit/s)

Flow 1 (95th percentile 111.90 ms)   Flow 2 (95th percentile 111.93 ms)   Flow 3 (95th percentile 113.56 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2018-08-22 05:30:53
End at: 2018-08-22 05:31:23
Local clock offset: -5.251 ms
Remote clock offset: 1.018 ms


# Below is generated by plot.py at 2018-08-22 06:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.31 Mbit/s
95th percentile per-packet one-way delay: 116.564 ms
Loss rate: 9.68%
-- Flow 1:
Average throughput: 57.31 Mbit/s
95th percentile per-packet one-way delay: 115.396 ms
Loss rate: 7.86%
-- Flow 2:
Average throughput: 34.02 Mbit/s
95th percentile per-packet one-way delay: 116.726 ms
Loss rate: 11.59%
-- Flow 3:
Average throughput: 22.08 Mbit/s
95th percentile per-packet one-way delay: 116.625 ms
Loss rate: 16.98%
```
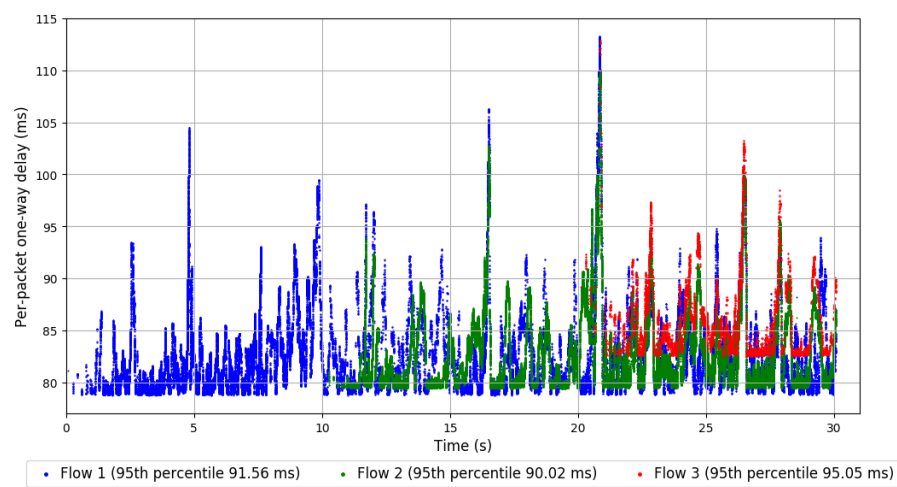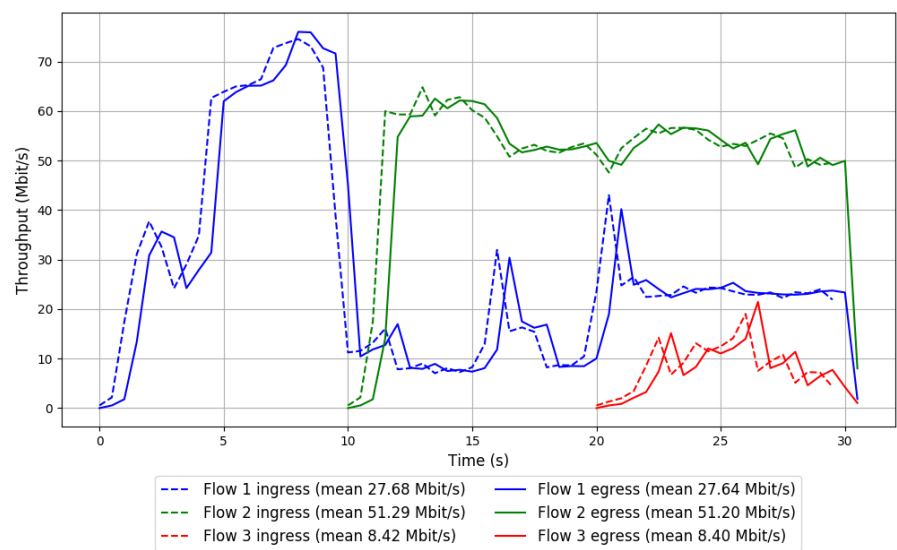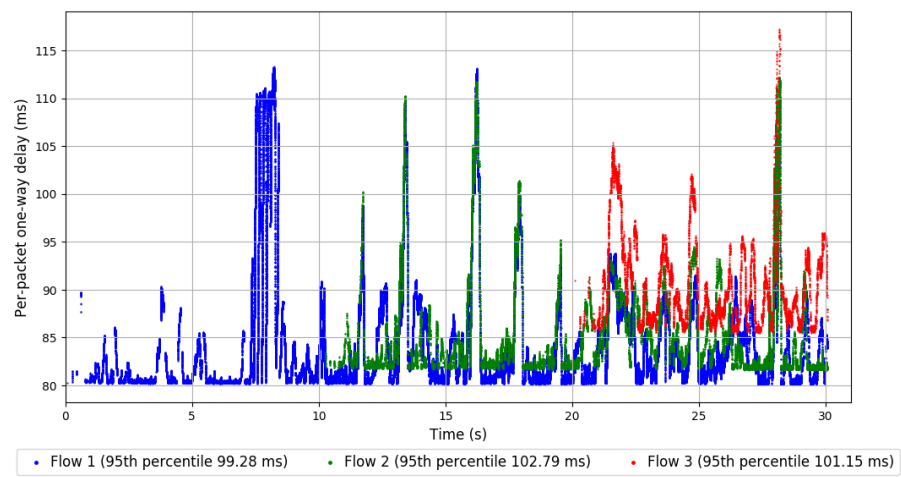
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 62.26 Mbit/s) — — — Flow 1 egress (mean 57.31 Mbit/s)
Flow 2 ingress (mean 38.53 Mbit/s) — — — Flow 2 egress (mean 34.02 Mbit/s)
Flow 3 ingress (mean 26.62 Mbit/s) — — — Flow 3 egress (mean 22.08 Mbit/s)

Flow 1 (95th percentile 115.40 ms) · Flow 2 (95th percentile 116.73 ms) · Flow 3 (95th percentile 116.62 ms)
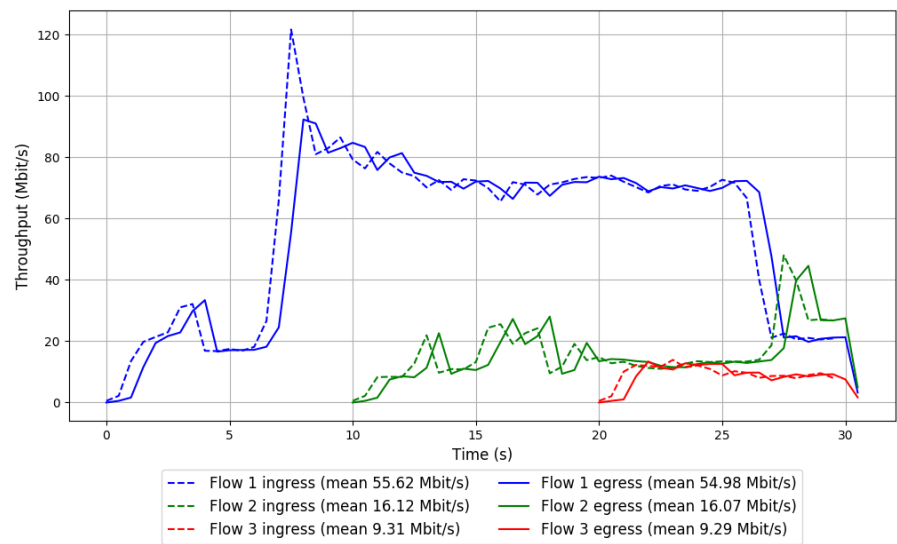
21

```
Run 10: Statistics of TCP BBR

Start at: 2018-08-22 05:52:03
End at: 2018-08-22 05:52:33
Local clock offset: -5.656 ms
Remote clock offset: 1.233 ms


# Below is generated by plot.py at 2018-08-22 06:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.60 Mbit/s
95th percentile per-packet one-way delay: 122.906 ms
Loss rate: 9.92%
-- Flow 1:
Average throughput: 56.27 Mbit/s
95th percentile per-packet one-way delay: 115.924 ms
Loss rate: 8.20%
-- Flow 2:
Average throughput: 31.26 Mbit/s
95th percentile per-packet one-way delay: 123.100 ms
Loss rate: 13.16%
-- Flow 3:
Average throughput: 25.61 Mbit/s
95th percentile per-packet one-way delay: 119.799 ms
Loss rate: 12.72%
```

Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 61.36 Mbit/s) --- Flow 1 egress (mean 56.27 Mbit/s)
Flow 2 ingress (mean 36.04 Mbit/s) --- Flow 2 egress (mean 31.26 Mbit/s)
Flow 3 ingress (mean 29.33 Mbit/s) --- Flow 3 egress (mean 25.61 Mbit/s)

Flow 1 (95th percentile 115.92 ms) Flow 2 (95th percentile 123.10 ms) Flow 3 (95th percentile 119.80 ms)

23

```
Run 1: Statistics of Copa

Start at: 2018-08-22 02:31:25
End at: 2018-08-22 02:31:55
Local clock offset: -3.93 ms
Remote clock offset: 2.978 ms


# Below is generated by plot.py at 2018-08-22 06:03:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.55 Mbit/s
95th percentile per-packet one-way delay: 91.060 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 27.64 Mbit/s
95th percentile per-packet one-way delay: 91.561 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 51.20 Mbit/s
95th percentile per-packet one-way delay: 90.021 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 95.052 ms
Loss rate: 0.23%
```
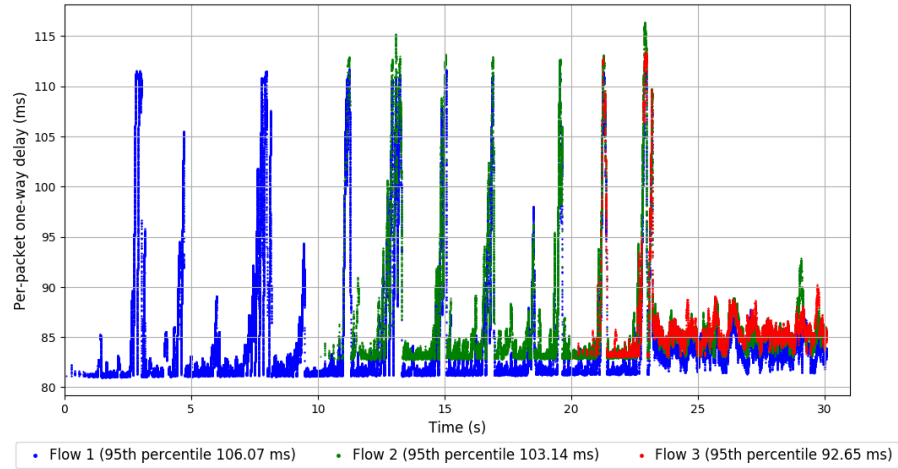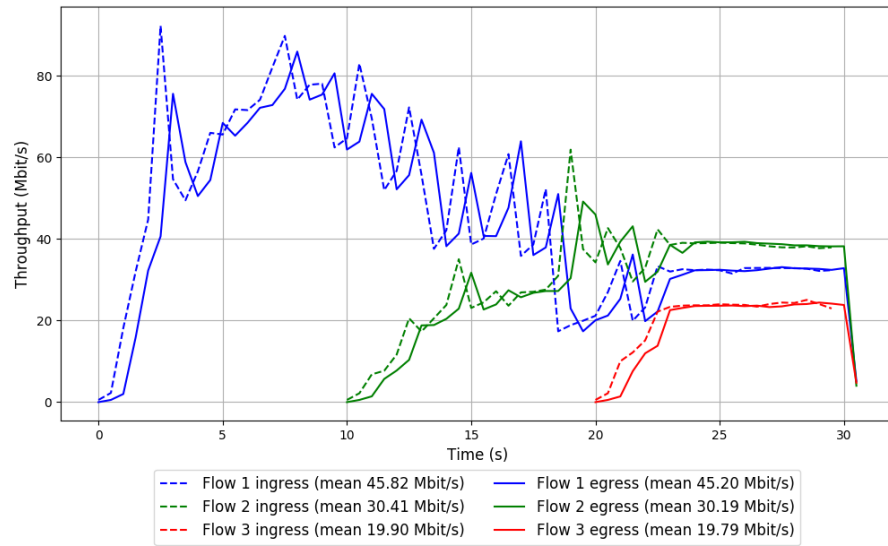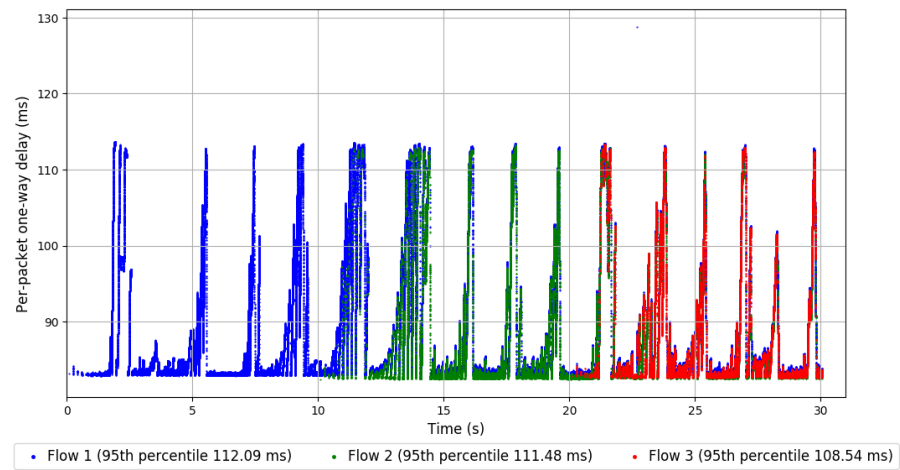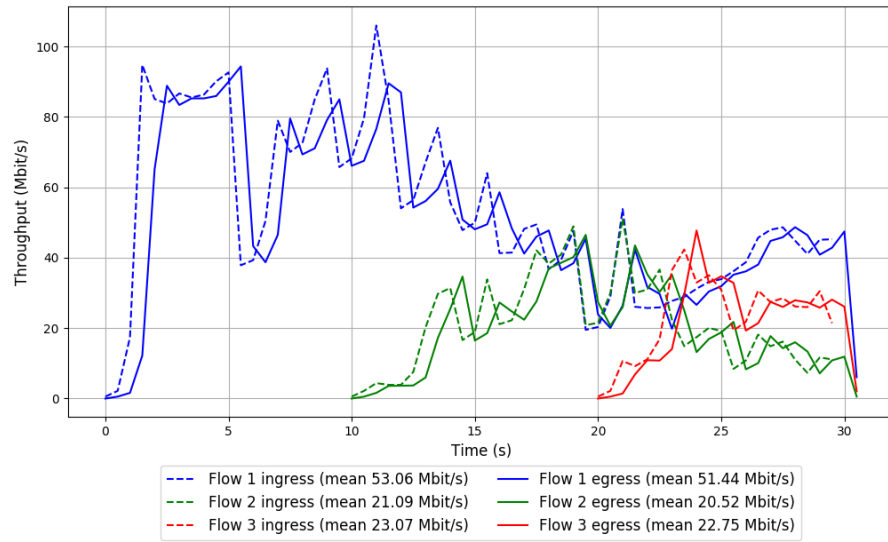
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 27.68 Mbit/s) --- Flow 1 egress (mean 27.64 Mbit/s)
Flow 2 ingress (mean 51.29 Mbit/s) --- Flow 2 egress (mean 51.20 Mbit/s)
Flow 3 ingress (mean 8.42 Mbit/s) --- Flow 3 egress (mean 8.40 Mbit/s)

Flow 1 (95th percentile 91.56 ms)   Flow 2 (95th percentile 90.02 ms)   Flow 3 (95th percentile 95.05 ms)

```
Run 2: Statistics of Copa

Start at: 2018-08-22 02:52:30
End at: 2018-08-22 02:53:00
Local clock offset: -15.959 ms
Remote clock offset: 1.524 ms


# Below is generated by plot.py at 2018-08-22 06:03:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.76 Mbit/s
95th percentile per-packet one-way delay: 100.440 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 54.98 Mbit/s
95th percentile per-packet one-way delay: 99.279 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 16.07 Mbit/s
95th percentile per-packet one-way delay: 102.790 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 9.29 Mbit/s
95th percentile per-packet one-way delay: 101.147 ms
Loss rate: 0.28%
```
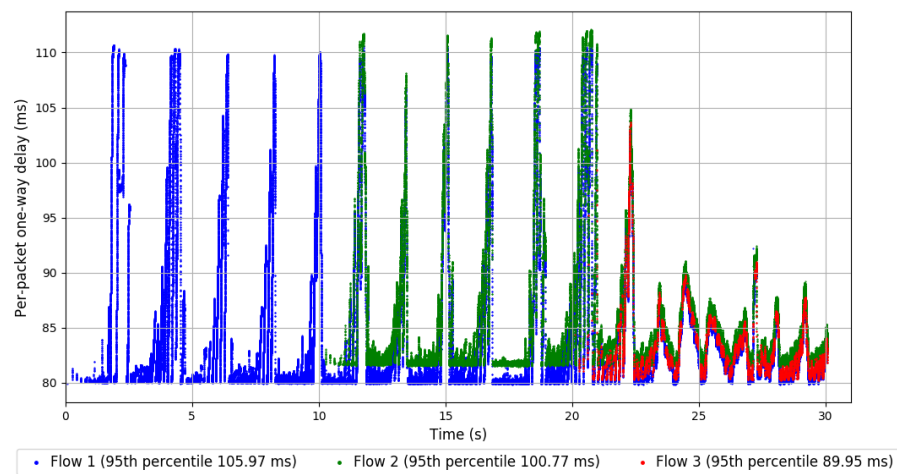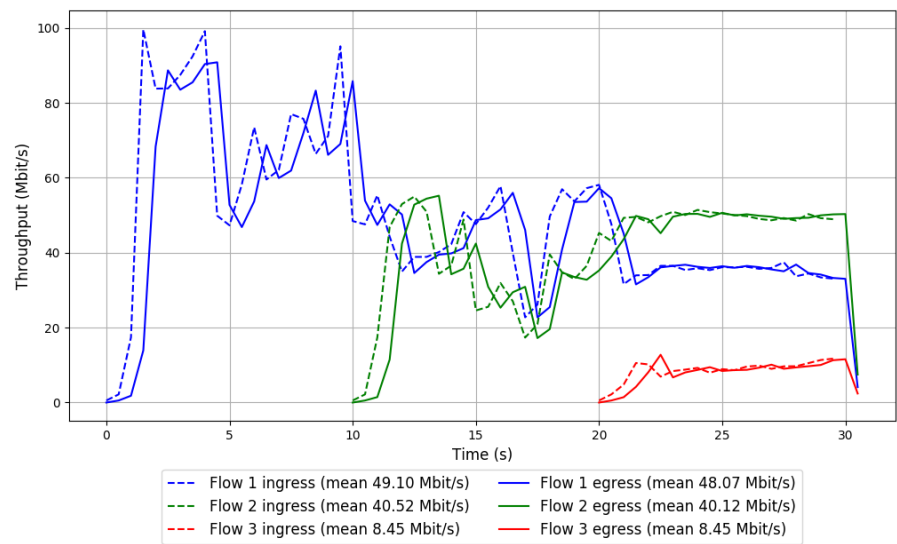
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-08-22 03:13:39
End at: 2018-08-22 03:14:09
Local clock offset: -9.95 ms
Remote clock offset: 3.754 ms

# Below is generated by plot.py at 2018-08-22 06:03:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.89 Mbit/s
95th percentile per-packet one-way delay: 105.029 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 106.068 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 30.19 Mbit/s
95th percentile per-packet one-way delay: 103.144 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 19.79 Mbit/s
95th percentile per-packet one-way delay: 92.654 ms
Loss rate: 0.54%
```
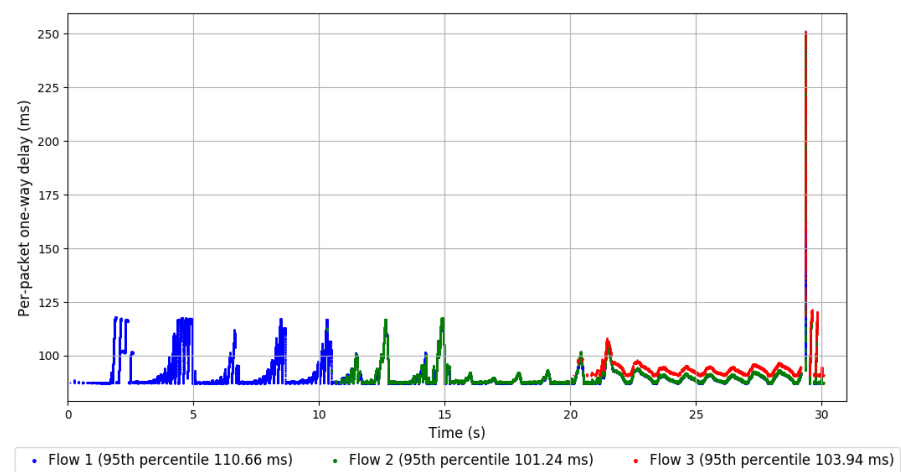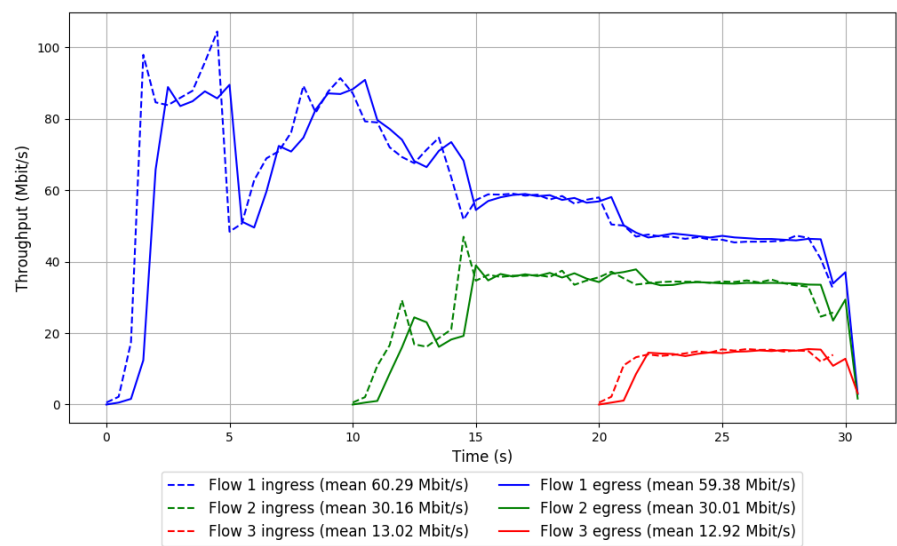
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-08-22 03:34:48
End at: 2018-08-22 03:35:18
Local clock offset: -1.71 ms
Remote clock offset: 4.47 ms


# Below is generated by plot.py at 2018-08-22 06:03:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.68 Mbit/s
95th percentile per-packet one-way delay: 111.837 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 51.44 Mbit/s
95th percentile per-packet one-way delay: 112.088 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 20.52 Mbit/s
95th percentile per-packet one-way delay: 111.482 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 22.75 Mbit/s
95th percentile per-packet one-way delay: 108.542 ms
Loss rate: 1.38%
```
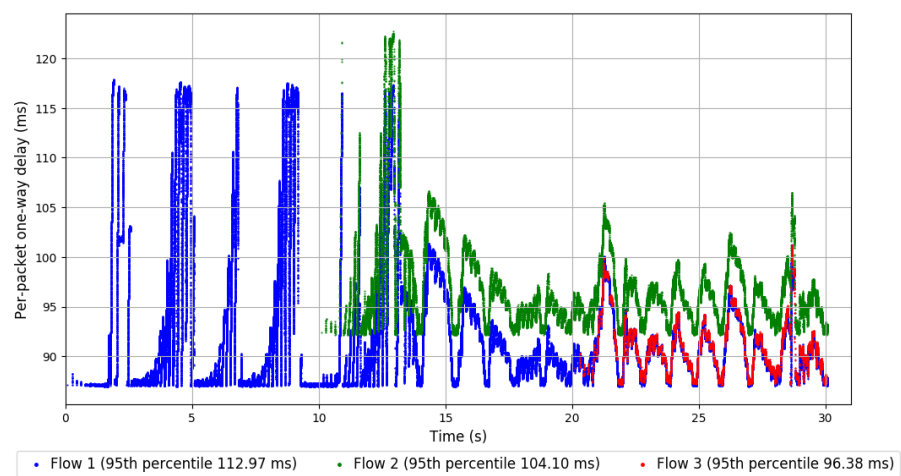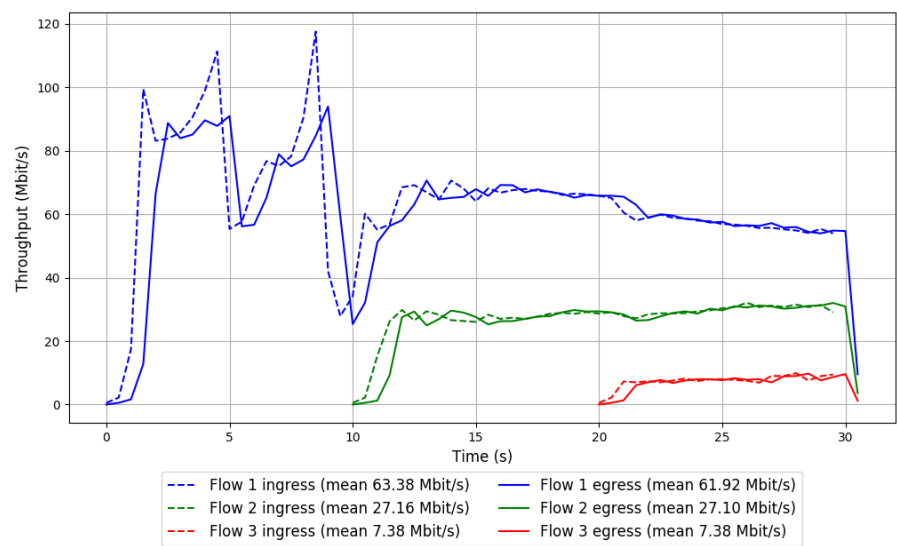
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 53.06 Mbit/s) --- Flow 1 egress (mean 51.44 Mbit/s)
Flow 2 ingress (mean 21.09 Mbit/s) --- Flow 2 egress (mean 20.52 Mbit/s)
Flow 3 ingress (mean 23.07 Mbit/s) --- Flow 3 egress (mean 22.75 Mbit/s)

Flow 1 (95th percentile 112.09 ms)　　Flow 2 (95th percentile 111.48 ms)　　Flow 3 (95th percentile 108.54 ms)

```
Run 5: Statistics of Copa

Start at: 2018-08-22 03:56:00
End at: 2018-08-22 03:56:30
Local clock offset: -1.681 ms
Remote clock offset: 18.177 ms


# Below is generated by plot.py at 2018-08-22 06:03:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.59 Mbit/s
95th percentile per-packet one-way delay: 103.731 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 48.07 Mbit/s
95th percentile per-packet one-way delay: 105.969 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 40.12 Mbit/s
95th percentile per-packet one-way delay: 100.765 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 89.951 ms
Loss rate: 0.00%
```
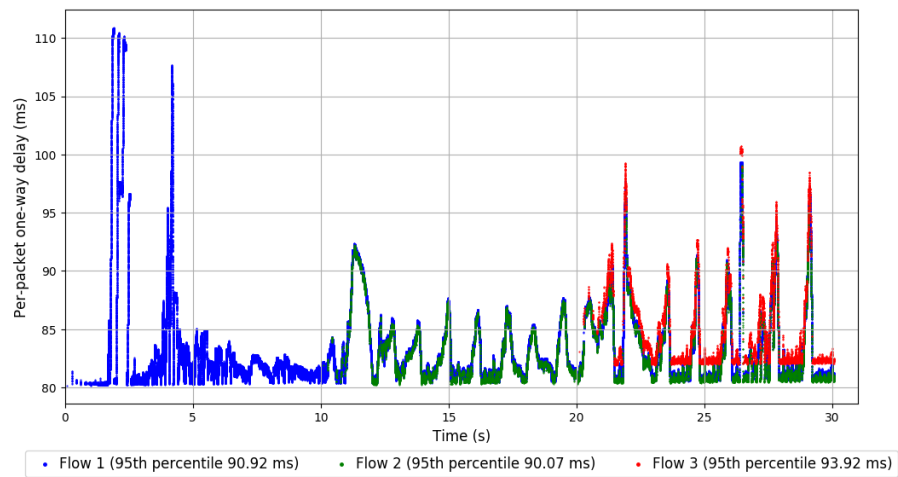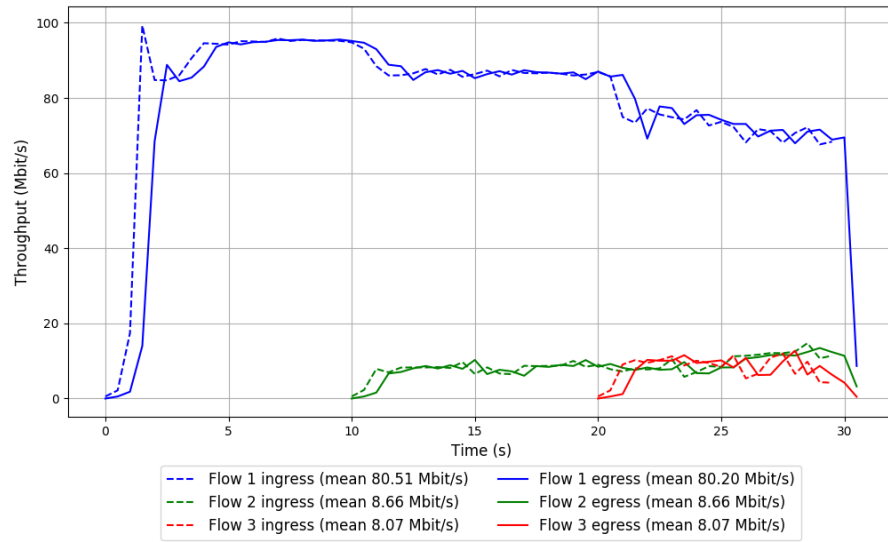
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 49.10 Mbit/s) --- Flow 1 egress (mean 48.07 Mbit/s)
Flow 2 ingress (mean 40.52 Mbit/s) --- Flow 2 egress (mean 40.12 Mbit/s)
Flow 3 ingress (mean 8.45 Mbit/s) --- Flow 3 egress (mean 8.45 Mbit/s)

Flow 1 (95th percentile 105.97 ms)   Flow 2 (95th percentile 100.77 ms)   Flow 3 (95th percentile 89.95 ms)

33

```
Run 6: Statistics of Copa

Start at: 2018-08-22 04:17:12
End at: 2018-08-22 04:17:42
Local clock offset: -5.254 ms
Remote clock offset: 28.263 ms


# Below is generated by plot.py at 2018-08-22 06:03:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.55 Mbit/s
95th percentile per-packet one-way delay: 108.701 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 59.38 Mbit/s
95th percentile per-packet one-way delay: 110.658 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 30.01 Mbit/s
95th percentile per-packet one-way delay: 101.240 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 12.92 Mbit/s
95th percentile per-packet one-way delay: 103.935 ms
Loss rate: 0.81%
```
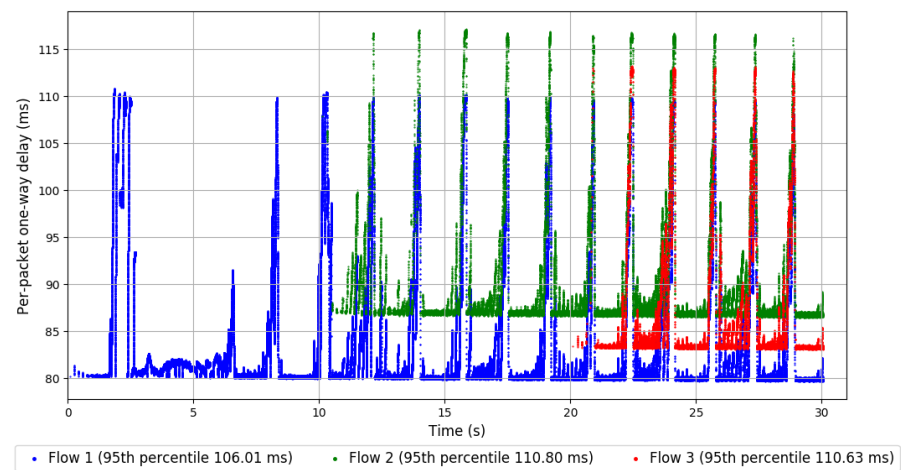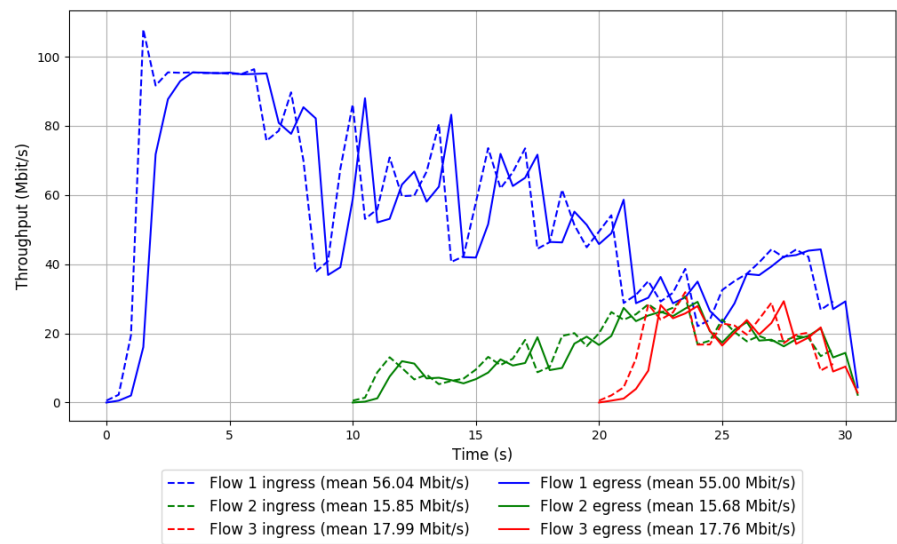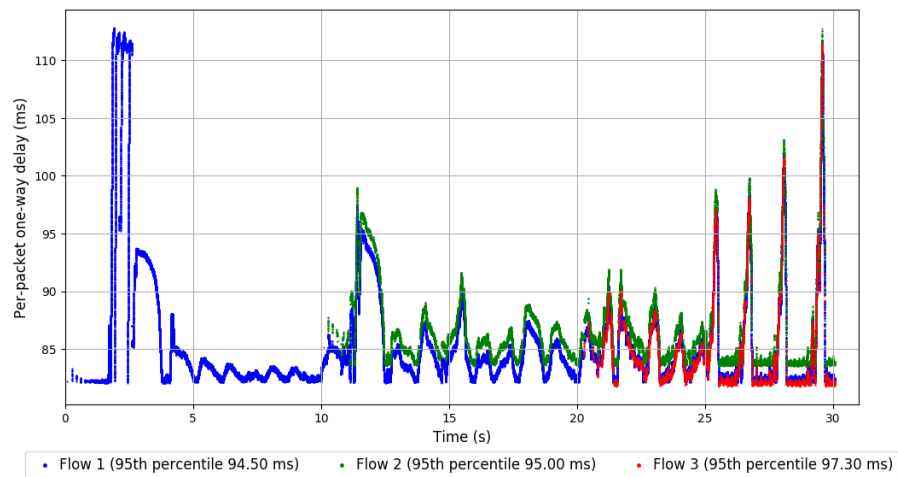
Run 6: Report of Copa — Data Link

Flow 1 ingress (mean 60.29 Mbit/s) — Flow 1 egress (mean 59.38 Mbit/s)
Flow 2 ingress (mean 30.16 Mbit/s) — Flow 2 egress (mean 30.01 Mbit/s)
Flow 3 ingress (mean 13.02 Mbit/s) — Flow 3 egress (mean 12.92 Mbit/s)

Flow 1 (95th percentile 110.66 ms)   Flow 2 (95th percentile 101.24 ms)   Flow 3 (95th percentile 103.94 ms)

35

```
Run 7: Statistics of Copa

Start at: 2018-08-22 04:38:23
End at: 2018-08-22 04:38:53
Local clock offset: -7.16 ms
Remote clock offset: 31.318 ms


# Below is generated by plot.py at 2018-08-22 06:04:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.41 Mbit/s
95th percentile per-packet one-way delay: 109.787 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 61.92 Mbit/s
95th percentile per-packet one-way delay: 112.974 ms
Loss rate: 2.31%
-- Flow 2:
Average throughput: 27.10 Mbit/s
95th percentile per-packet one-way delay: 104.100 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 96.384 ms
Loss rate: 0.00%
```
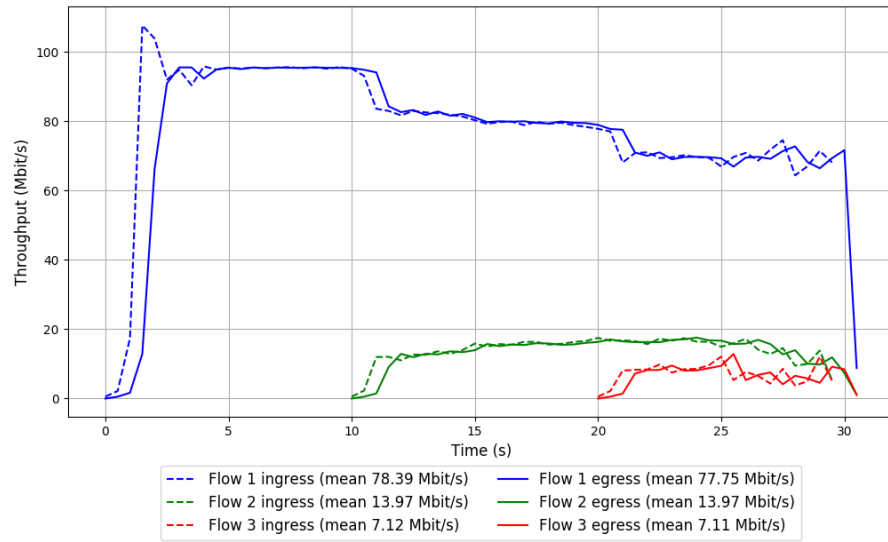
Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2018-08-22 04:59:35
End at: 2018-08-22 05:00:05
Local clock offset: -3.254 ms
Remote clock offset: 4.254 ms

# Below is generated by plot.py at 2018-08-22 06:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.65 Mbit/s
95th percentile per-packet one-way delay: 90.967 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 80.20 Mbit/s
95th percentile per-packet one-way delay: 90.922 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 90.072 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 93.918 ms
Loss rate: 0.00%
```
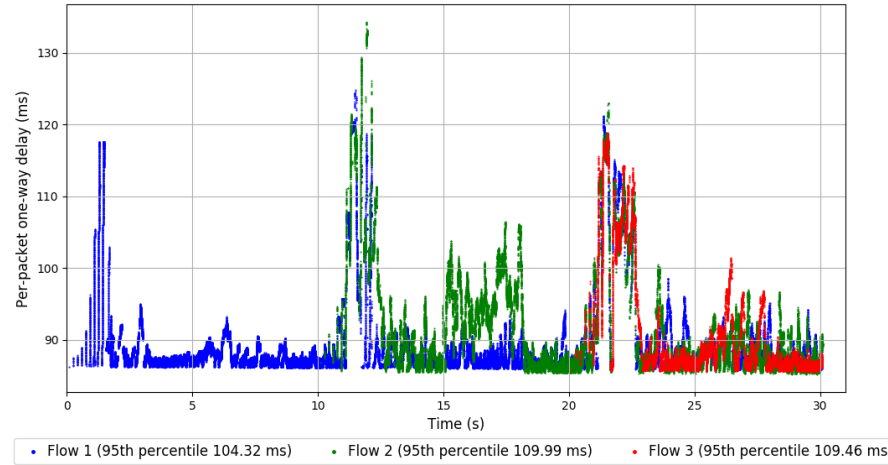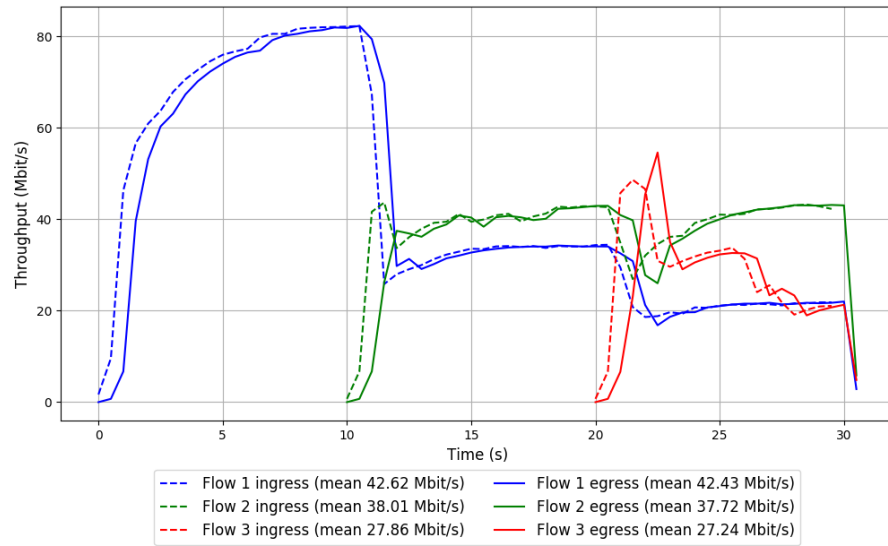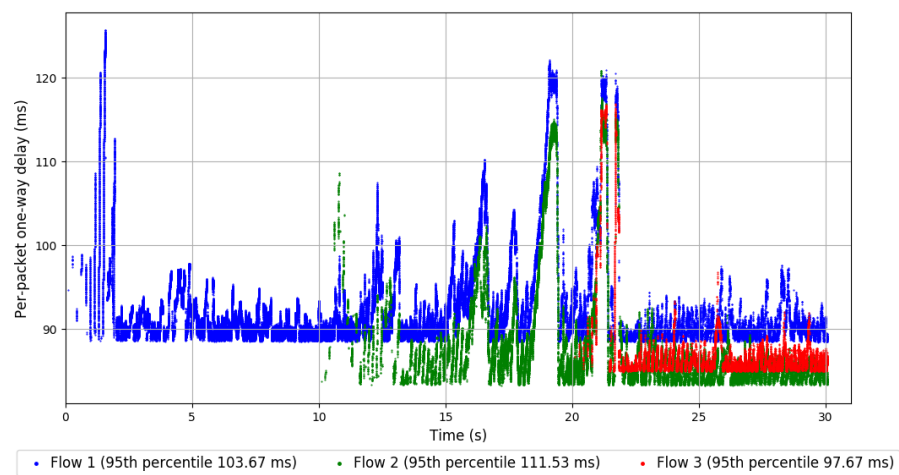
Run 8: Report of Copa — Data Link

- - - Flow 1 ingress (mean 80.51 Mbit/s)   —— Flow 1 egress (mean 80.20 Mbit/s)
- - - Flow 2 ingress (mean 8.66 Mbit/s)   —— Flow 2 egress (mean 8.66 Mbit/s)
- - - Flow 3 ingress (mean 8.07 Mbit/s)   —— Flow 3 egress (mean 8.07 Mbit/s)

• Flow 1 (95th percentile 90.92 ms)   • Flow 2 (95th percentile 90.07 ms)   • Flow 3 (95th percentile 93.92 ms)

```
Run 9: Statistics of Copa

Start at: 2018-08-22 05:20:51
End at: 2018-08-22 05:21:21
Local clock offset: -4.451 ms
Remote clock offset: -6.448 ms


# Below is generated by plot.py at 2018-08-22 06:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.33 Mbit/s
95th percentile per-packet one-way delay: 107.356 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 55.00 Mbit/s
95th percentile per-packet one-way delay: 106.011 ms
Loss rate: 1.86%
-- Flow 2:
Average throughput: 15.68 Mbit/s
95th percentile per-packet one-way delay: 110.803 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 17.76 Mbit/s
95th percentile per-packet one-way delay: 110.629 ms
Loss rate: 1.28%
```
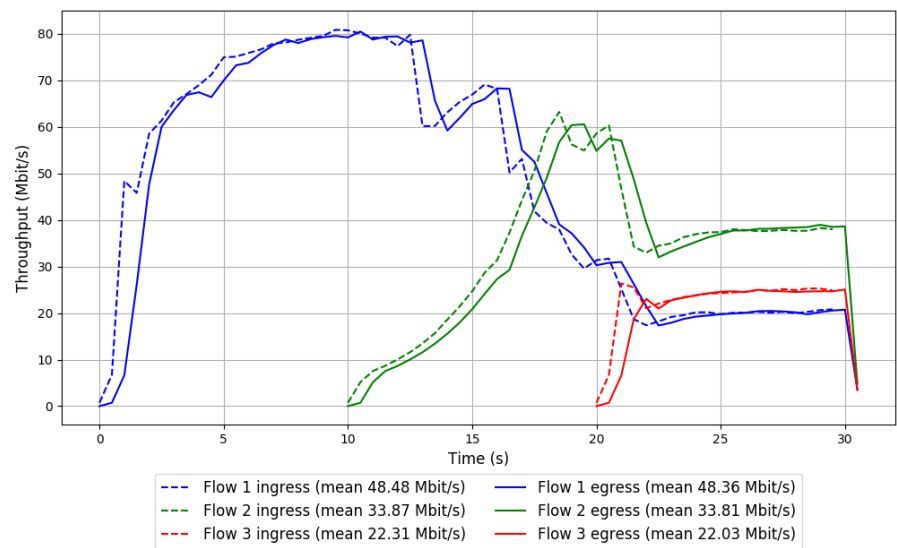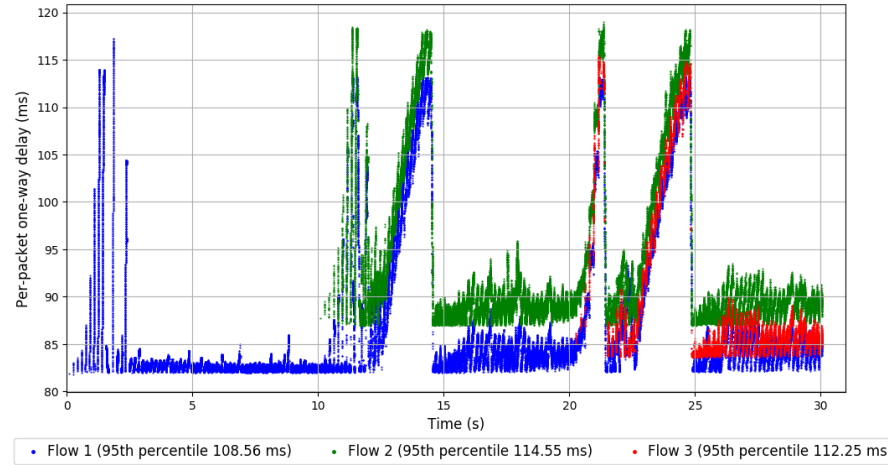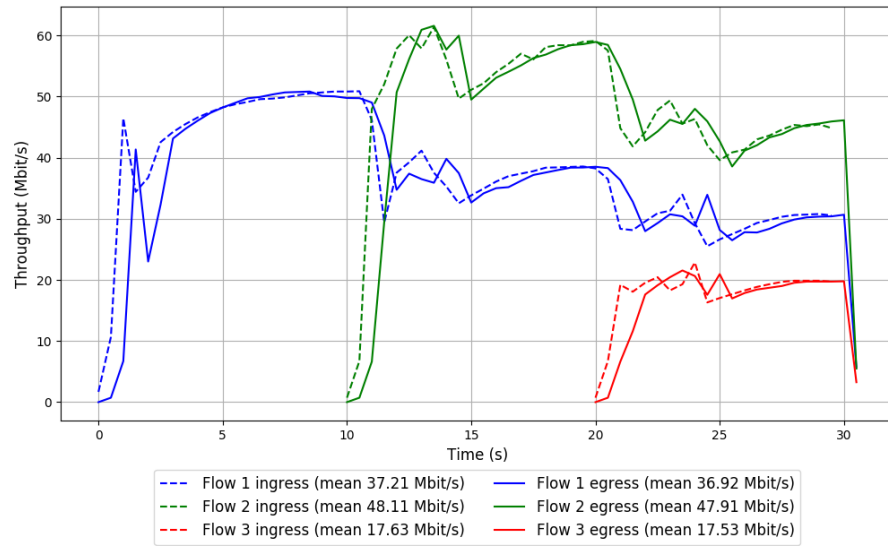
Run 9: Report of Copa — Data Link

Flow 1 ingress (mean 56.04 Mbit/s)   Flow 1 egress (mean 55.00 Mbit/s)
Flow 2 ingress (mean 15.85 Mbit/s)   Flow 2 egress (mean 15.68 Mbit/s)
Flow 3 ingress (mean 17.99 Mbit/s)   Flow 3 egress (mean 17.76 Mbit/s)

Flow 1 (95th percentile 106.01 ms)   Flow 2 (95th percentile 110.80 ms)   Flow 3 (95th percentile 110.63 ms)

41

```
Run 10: Statistics of Copa

Start at: 2018-08-22 05:41:58
End at: 2018-08-22 05:42:28
Local clock offset: -5.388 ms
Remote clock offset: -2.581 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.42 Mbit/s
95th percentile per-packet one-way delay: 94.698 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 77.75 Mbit/s
95th percentile per-packet one-way delay: 94.500 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 13.97 Mbit/s
95th percentile per-packet one-way delay: 95.005 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 97.296 ms
Loss rate: 0.09%
```
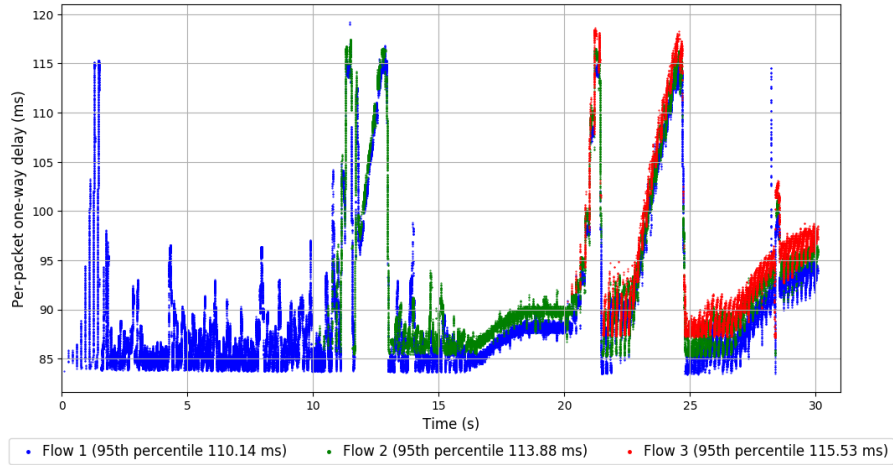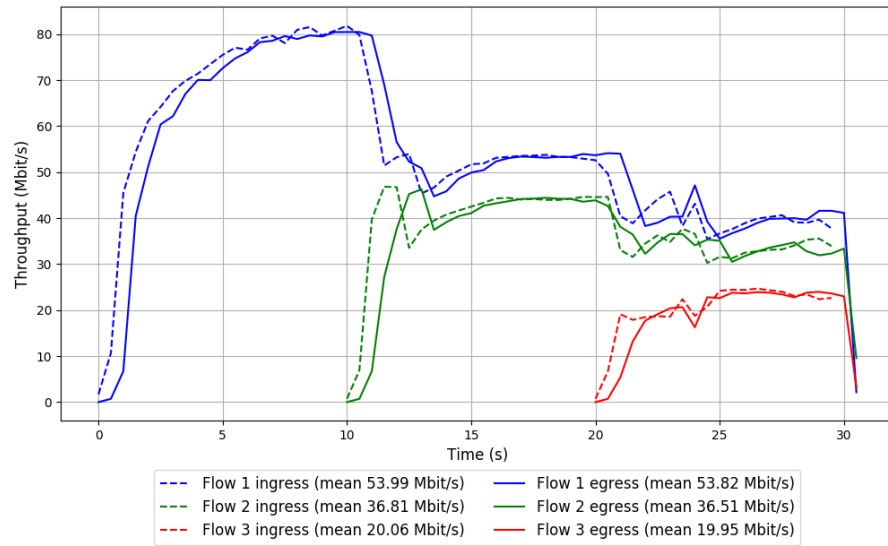
Run 10: Report of Copa — Data Link

43

```
Run 1: Statistics of TCP Cubic

Start at: 2018-08-22 02:38:57
End at: 2018-08-22 02:39:27
Local clock offset: -6.607 ms
Remote clock offset: 7.191 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.61 Mbit/s
95th percentile per-packet one-way delay: 107.183 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 42.43 Mbit/s
95th percentile per-packet one-way delay: 104.318 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 37.72 Mbit/s
95th percentile per-packet one-way delay: 109.994 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 27.24 Mbit/s
95th percentile per-packet one-way delay: 109.464 ms
Loss rate: 2.23%
```

Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 42.62 Mbit/s)   Flow 1 egress (mean 42.43 Mbit/s)
Flow 2 ingress (mean 38.01 Mbit/s)   Flow 2 egress (mean 37.72 Mbit/s)
Flow 3 ingress (mean 27.86 Mbit/s)   Flow 3 egress (mean 27.24 Mbit/s)

Flow 1 (95th percentile 104.32 ms)   Flow 2 (95th percentile 109.99 ms)   Flow 3 (95th percentile 109.46 ms)
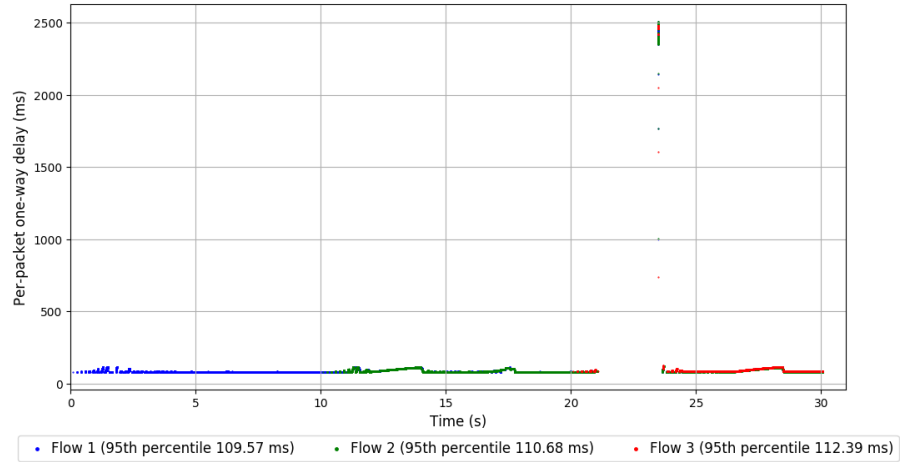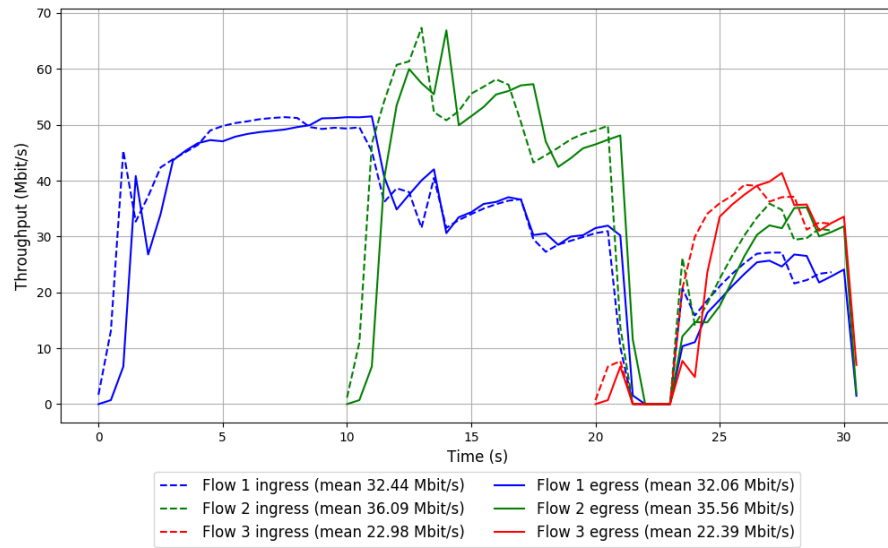
```
Run 2: Statistics of TCP Cubic

Start at: 2018-08-22 03:00:06
End at: 2018-08-22 03:00:36
Local clock offset: -17.041 ms
Remote clock offset: 5.449 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.21 Mbit/s
95th percentile per-packet one-way delay: 105.451 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 48.36 Mbit/s
95th percentile per-packet one-way delay: 103.673 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 33.81 Mbit/s
95th percentile per-packet one-way delay: 111.528 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 22.03 Mbit/s
95th percentile per-packet one-way delay: 97.674 ms
Loss rate: 1.28%
```
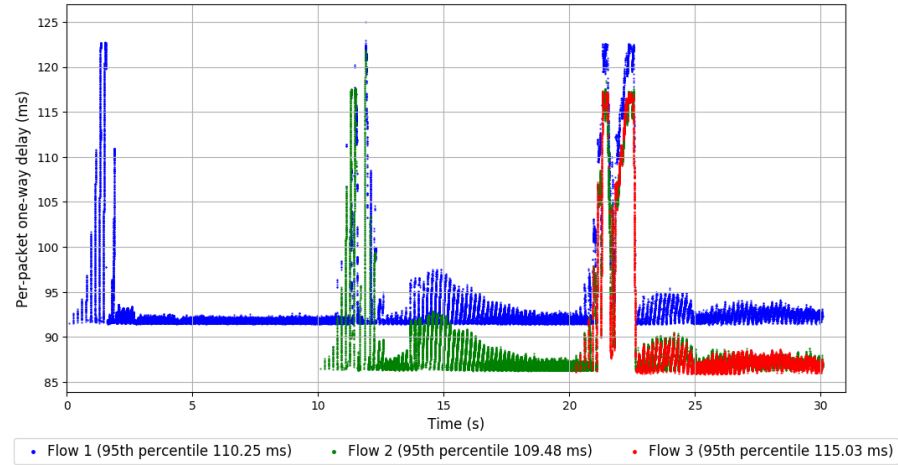
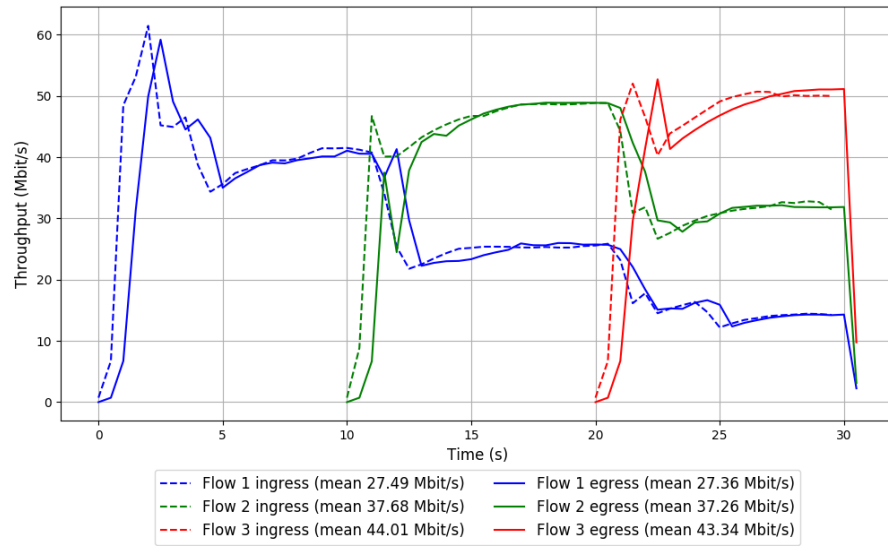Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-08-22 03:21:13
End at: 2018-08-22 03:21:43
Local clock offset: -6.154 ms
Remote clock offset: 4.195 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.65 Mbit/s
95th percentile per-packet one-way delay: 111.955 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 36.92 Mbit/s
95th percentile per-packet one-way delay: 108.564 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 47.91 Mbit/s
95th percentile per-packet one-way delay: 114.551 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 17.53 Mbit/s
95th percentile per-packet one-way delay: 112.252 ms
Loss rate: 0.58%
```
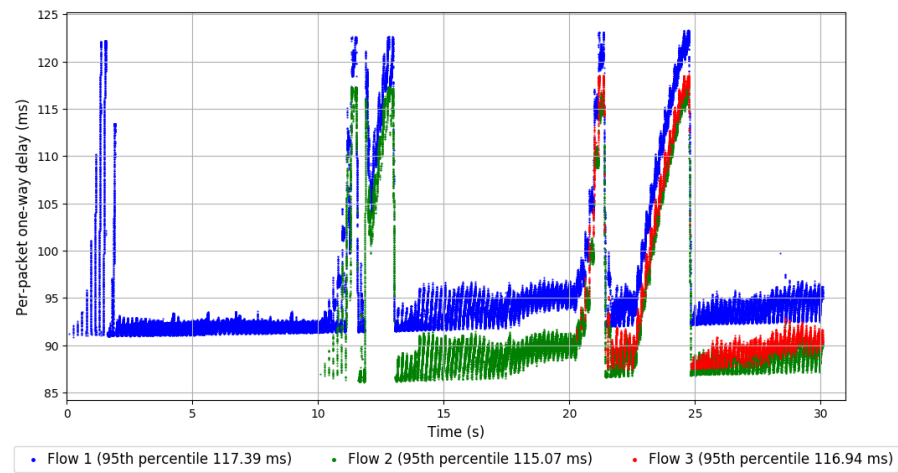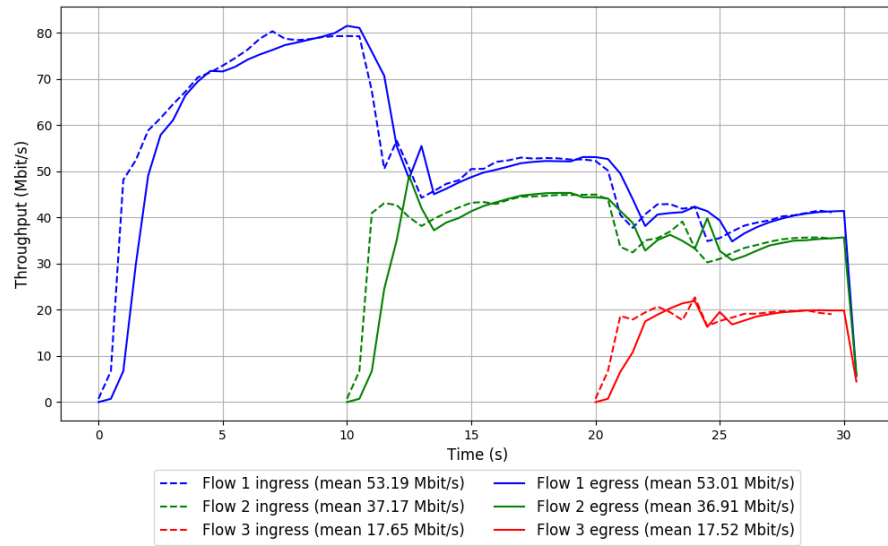
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 37.21 Mbit/s) --- Flow 1 egress (mean 36.92 Mbit/s)
Flow 2 ingress (mean 48.11 Mbit/s) --- Flow 2 egress (mean 47.91 Mbit/s)
Flow 3 ingress (mean 17.63 Mbit/s) --- Flow 3 egress (mean 17.53 Mbit/s)

Flow 1 (95th percentile 108.56 ms)   Flow 2 (95th percentile 114.55 ms)   Flow 3 (95th percentile 112.25 ms)

49

```
Run 4: Statistics of TCP Cubic

Start at: 2018-08-22 03:42:22
End at: 2018-08-22 03:42:52
Local clock offset: -2.932 ms
Remote clock offset: 12.929 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.77 Mbit/s
95th percentile per-packet one-way delay: 112.583 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 53.82 Mbit/s
95th percentile per-packet one-way delay: 110.142 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 36.51 Mbit/s
95th percentile per-packet one-way delay: 113.880 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 115.535 ms
Loss rate: 0.46%
```
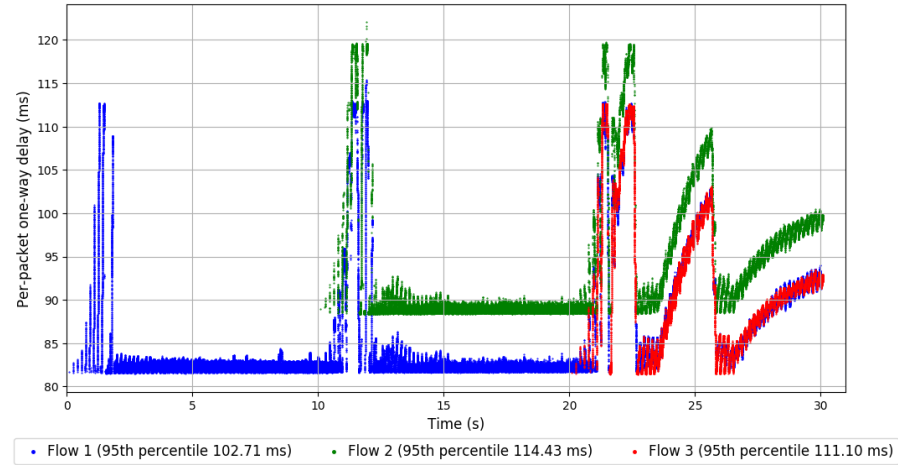
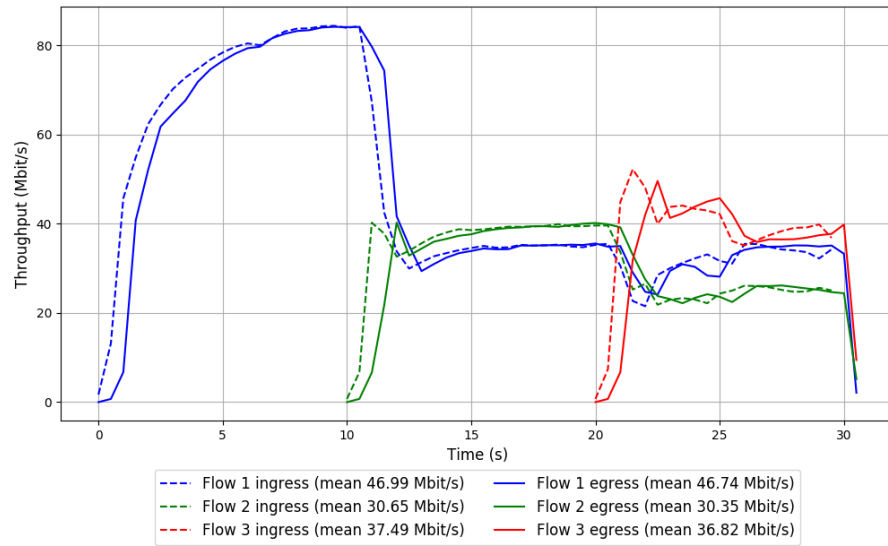Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-08-22 04:03:37
End at: 2018-08-22 04:04:07
Local clock offset: -2.135 ms
Remote clock offset: 20.365 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.18 Mbit/s
95th percentile per-packet one-way delay: 110.495 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 32.06 Mbit/s
95th percentile per-packet one-way delay: 109.572 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 35.56 Mbit/s
95th percentile per-packet one-way delay: 110.678 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 22.39 Mbit/s
95th percentile per-packet one-way delay: 112.388 ms
Loss rate: 2.59%
```

Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2018-08-22 04:24:47
End at: 2018-08-22 04:25:17
Local clock offset: -6.189 ms
Remote clock offset: 28.658 ms


# Below is generated by plot.py at 2018-08-22 06:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.58 Mbit/s
95th percentile per-packet one-way delay: 110.978 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 27.36 Mbit/s
95th percentile per-packet one-way delay: 110.251 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 37.26 Mbit/s
95th percentile per-packet one-way delay: 109.484 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 115.028 ms
Loss rate: 1.51%
```
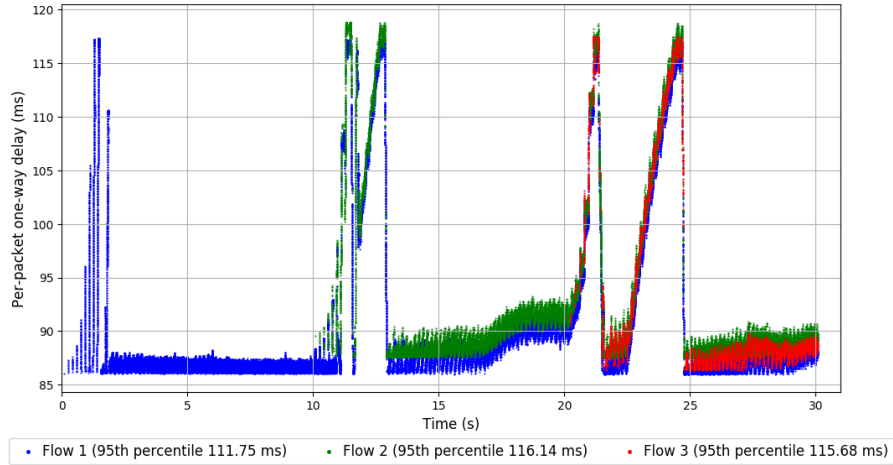
Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2018-08-22 04:45:59
End at: 2018-08-22 04:46:29
Local clock offset: -5.774 ms
Remote clock offset: 31.498 ms


# Below is generated by plot.py at 2018-08-22 06:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.43 Mbit/s
95th percentile per-packet one-way delay: 115.976 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 53.01 Mbit/s
95th percentile per-packet one-way delay: 117.394 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 36.91 Mbit/s
95th percentile per-packet one-way delay: 115.070 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 17.52 Mbit/s
95th percentile per-packet one-way delay: 116.941 ms
Loss rate: 0.76%
```
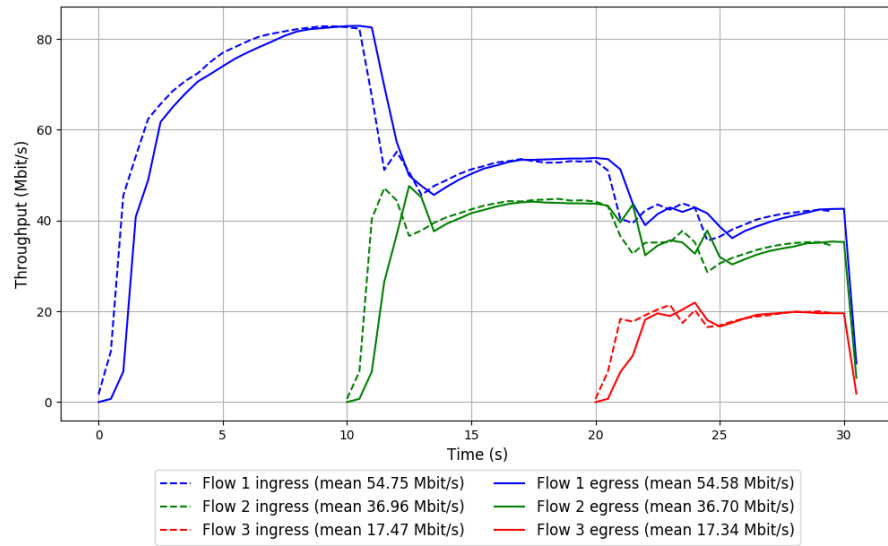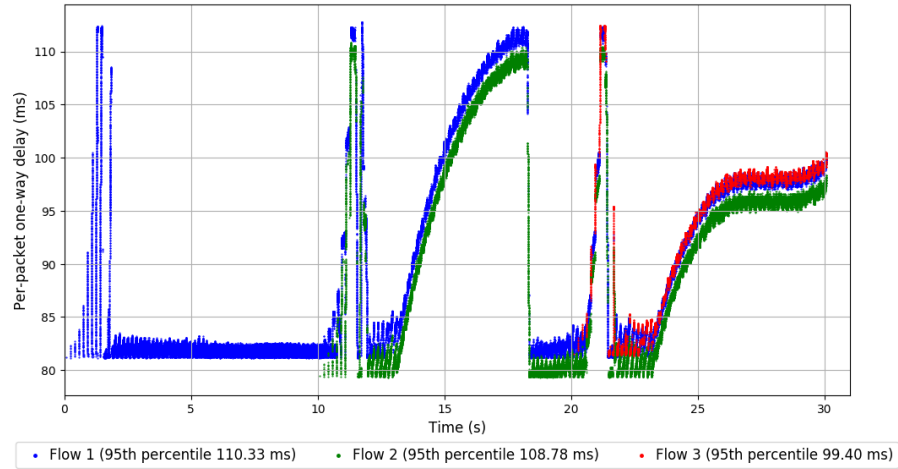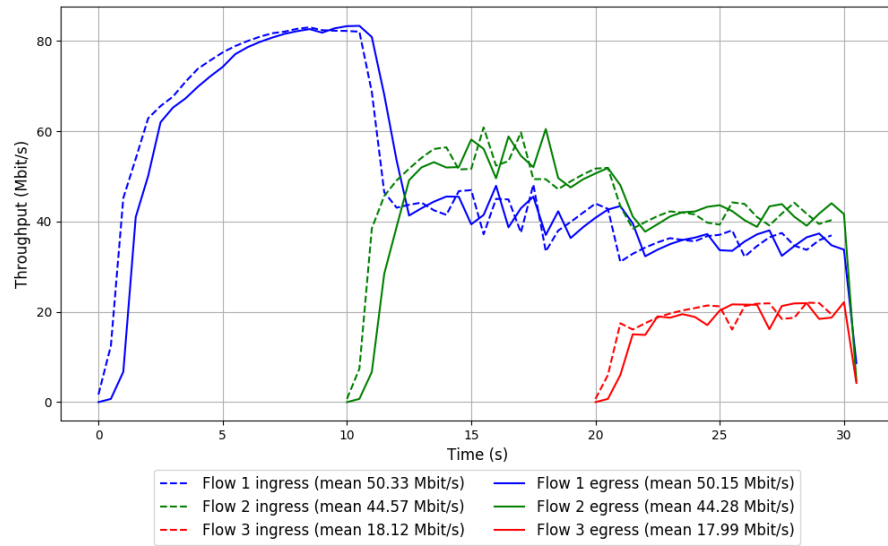
Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2018-08-22 05:07:16
End at: 2018-08-22 05:07:46
Local clock offset: -4.476 ms
Remote clock offset: -1.364 ms


# Below is generated by plot.py at 2018-08-22 06:05:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.20 Mbit/s
95th percentile per-packet one-way delay: 108.212 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 46.74 Mbit/s
95th percentile per-packet one-way delay: 102.708 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 30.35 Mbit/s
95th percentile per-packet one-way delay: 114.433 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 36.82 Mbit/s
95th percentile per-packet one-way delay: 111.097 ms
Loss rate: 1.69%
```

Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-08-22 05:28:25
End at: 2018-08-22 05:28:55
Local clock offset: -5.167 ms
Remote clock offset: 2.602 ms

# Below is generated by plot.py at 2018-08-22 06:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.80 Mbit/s
95th percentile per-packet one-way delay: 114.235 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 54.58 Mbit/s
95th percentile per-packet one-way delay: 111.745 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 36.70 Mbit/s
95th percentile per-packet one-way delay: 116.144 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 17.34 Mbit/s
95th percentile per-packet one-way delay: 115.681 ms
Loss rate: 0.83%
```
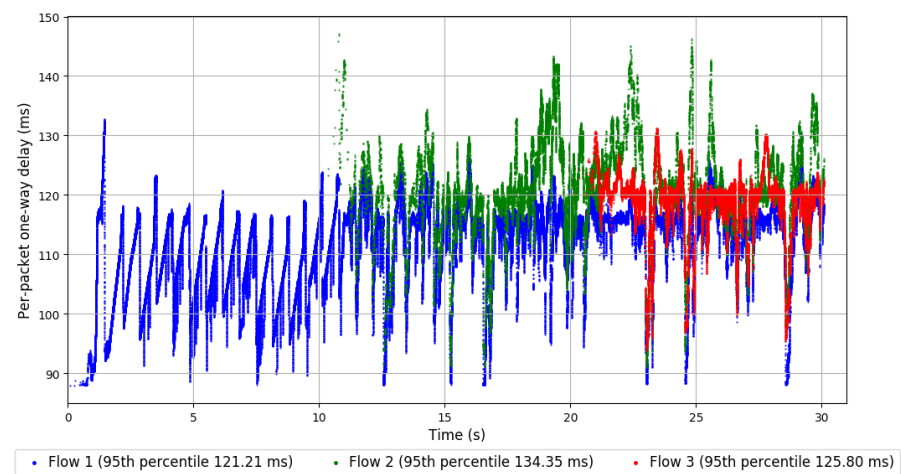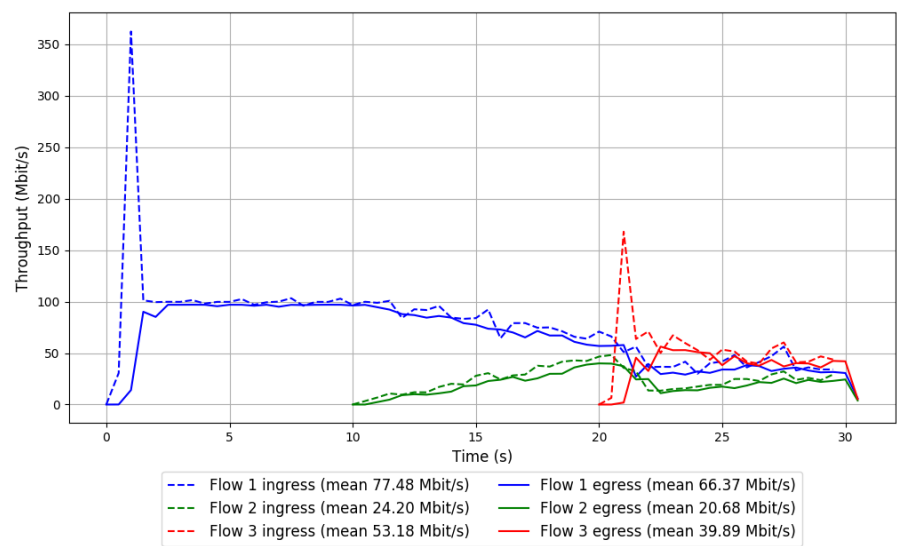
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2018-08-22 05:49:34
End at: 2018-08-22 05:50:04
Local clock offset: -4.79 ms
Remote clock offset: -3.287 ms


# Below is generated by plot.py at 2018-08-22 06:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.62 Mbit/s
95th percentile per-packet one-way delay: 109.086 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 110.329 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 44.28 Mbit/s
95th percentile per-packet one-way delay: 108.783 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 17.99 Mbit/s
95th percentile per-packet one-way delay: 99.404 ms
Loss rate: 0.52%
```
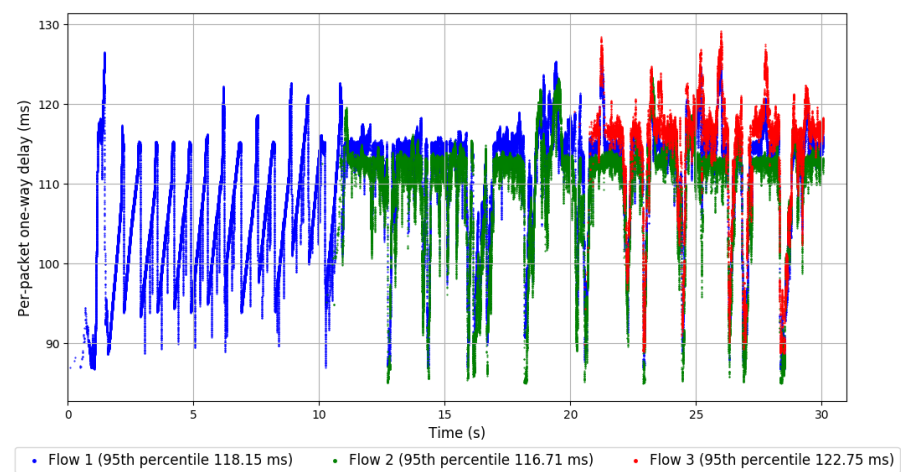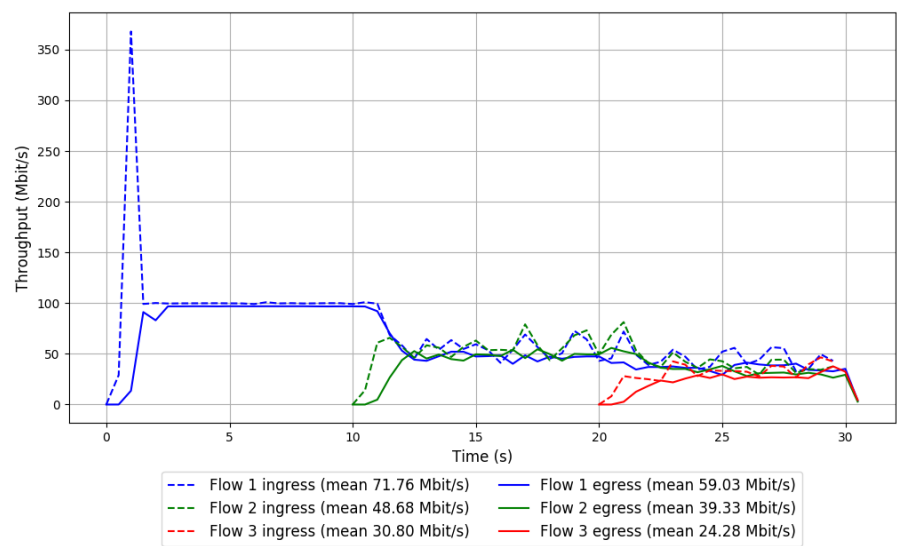
Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-08-22 02:30:09
End at: 2018-08-22 02:30:39
Local clock offset: -4.712 ms
Remote clock offset: 9.104 ms

# Below is generated by plot.py at 2018-08-22 06:06:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.33 Mbit/s
95th percentile per-packet one-way delay: 125.433 ms
Loss rate: 16.00%
-- Flow 1:
Average throughput: 66.37 Mbit/s
95th percentile per-packet one-way delay: 121.206 ms
Loss rate: 14.25%
-- Flow 2:
Average throughput: 20.68 Mbit/s
95th percentile per-packet one-way delay: 134.352 ms
Loss rate: 14.56%
-- Flow 3:
Average throughput: 39.89 Mbit/s
95th percentile per-packet one-way delay: 125.799 ms
Loss rate: 25.02%
```
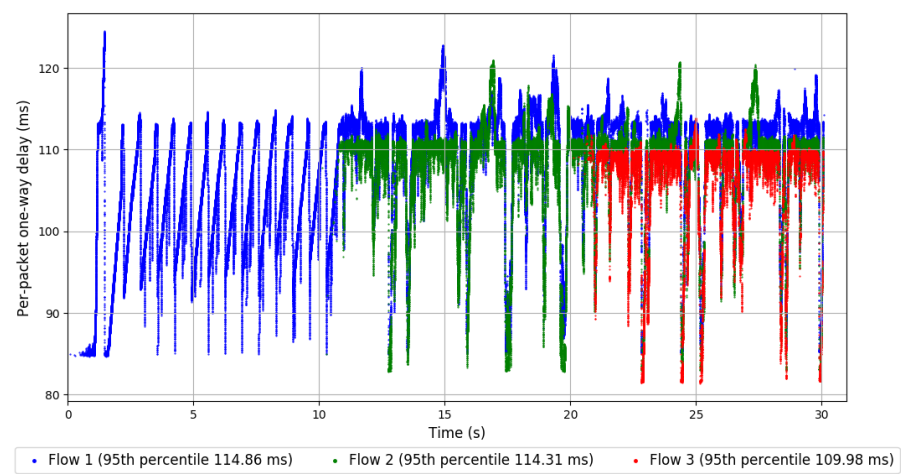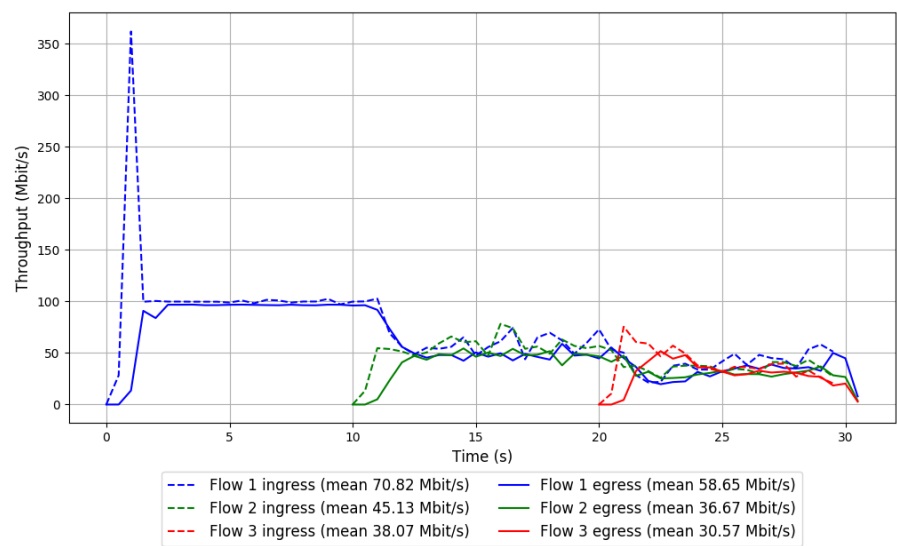
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-08-22 02:51:15
End at: 2018-08-22 02:51:45
Local clock offset: -13.99 ms
Remote clock offset: 6.474 ms


# Below is generated by plot.py at 2018-08-22 06:06:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.21 Mbit/s
95th percentile per-packet one-way delay: 118.797 ms
Loss rate: 18.42%
-- Flow 1:
Average throughput: 59.03 Mbit/s
95th percentile per-packet one-way delay: 118.146 ms
Loss rate: 17.66%
-- Flow 2:
Average throughput: 39.33 Mbit/s
95th percentile per-packet one-way delay: 116.713 ms
Loss rate: 19.22%
-- Flow 3:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 122.748 ms
Loss rate: 21.20%
```
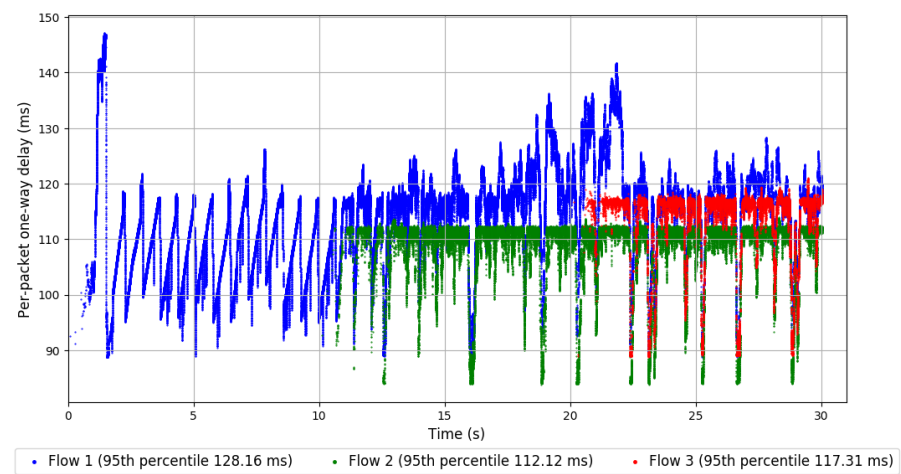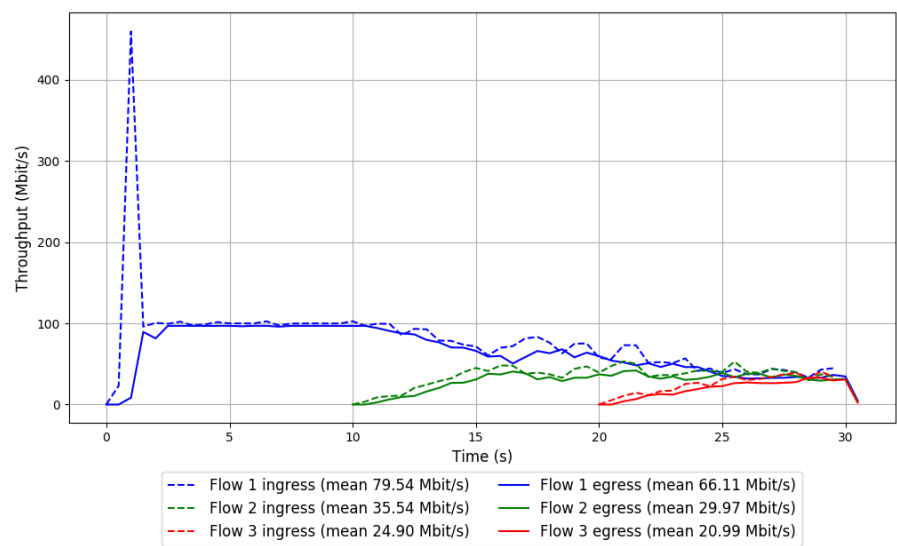
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 71.76 Mbit/s) — — — Flow 1 egress (mean 59.03 Mbit/s)
Flow 2 ingress (mean 48.68 Mbit/s) — — — Flow 2 egress (mean 39.33 Mbit/s)
Flow 3 ingress (mean 30.80 Mbit/s) — — — Flow 3 egress (mean 24.28 Mbit/s)

Flow 1 (95th percentile 118.15 ms)　　Flow 2 (95th percentile 116.71 ms)　　Flow 3 (95th percentile 122.75 ms)
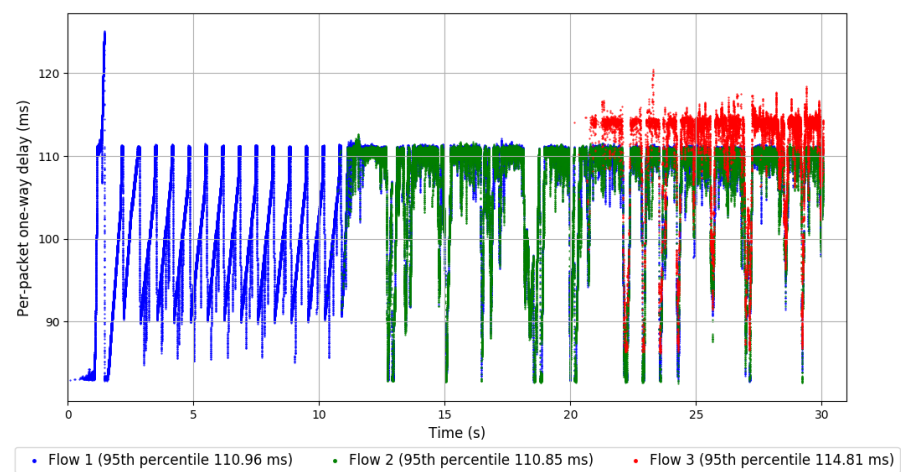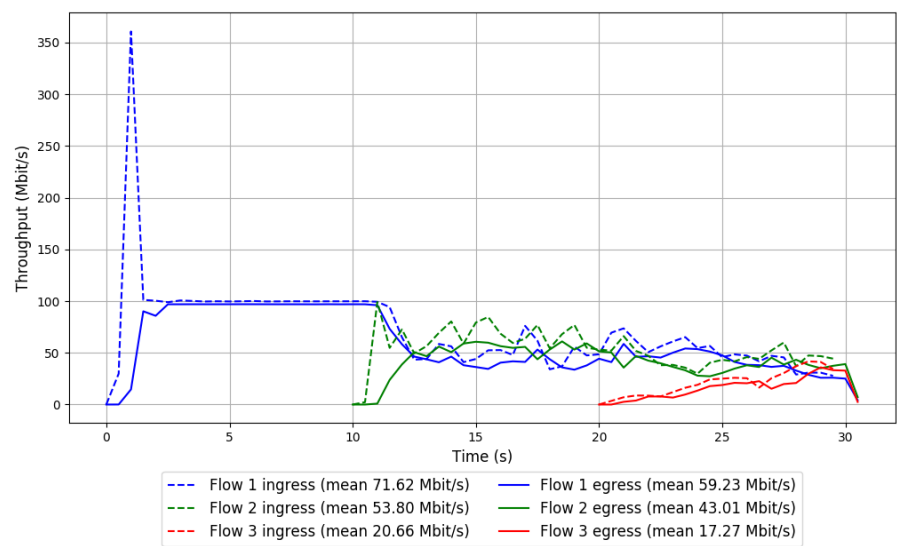
67

```
Run 3: Statistics of FillP

Start at: 2018-08-22 03:12:23
End at: 2018-08-22 03:12:53
Local clock offset: -10.278 ms
Remote clock offset: 2.518 ms


# Below is generated by plot.py at 2018-08-22 06:06:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.17 Mbit/s
95th percentile per-packet one-way delay: 114.437 ms
Loss rate: 17.83%
-- Flow 1:
Average throughput: 58.65 Mbit/s
95th percentile per-packet one-way delay: 114.855 ms
Loss rate: 17.11%
-- Flow 2:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 114.307 ms
Loss rate: 18.73%
-- Flow 3:
Average throughput: 30.57 Mbit/s
95th percentile per-packet one-way delay: 109.985 ms
Loss rate: 19.70%
```
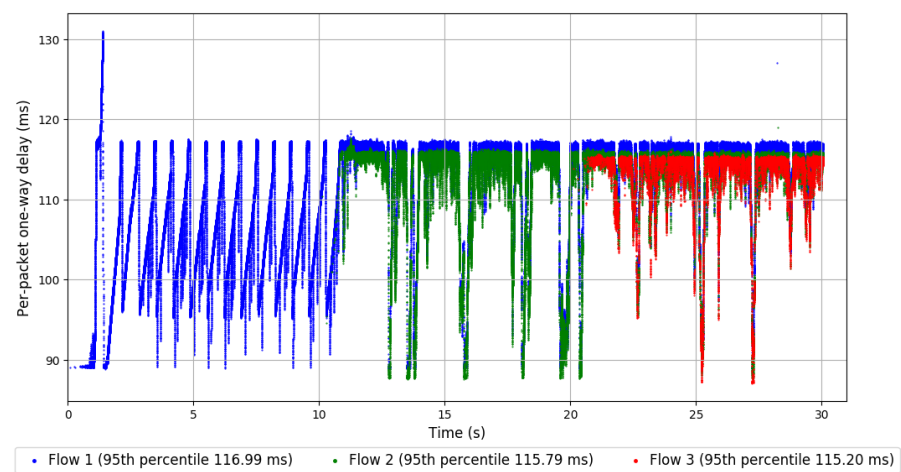
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 70.82 Mbit/s) — Flow 1 egress (mean 58.65 Mbit/s)
Flow 2 ingress (mean 45.13 Mbit/s) — Flow 2 egress (mean 36.67 Mbit/s)
Flow 3 ingress (mean 38.07 Mbit/s) — Flow 3 egress (mean 30.57 Mbit/s)

Flow 1 (95th percentile 114.86 ms)   Flow 2 (95th percentile 114.31 ms)   Flow 3 (95th percentile 109.98 ms)

69

```
Run 4: Statistics of FillP

Start at: 2018-08-22 03:33:33
End at: 2018-08-22 03:34:03
Local clock offset: -1.881 ms
Remote clock offset: 7.277 ms


# Below is generated by plot.py at 2018-08-22 06:06:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.02 Mbit/s
95th percentile per-packet one-way delay: 124.934 ms
Loss rate: 16.48%
-- Flow 1:
Average throughput: 66.11 Mbit/s
95th percentile per-packet one-way delay: 128.157 ms
Loss rate: 16.82%
-- Flow 2:
Average throughput: 29.97 Mbit/s
95th percentile per-packet one-way delay: 112.123 ms
Loss rate: 15.59%
-- Flow 3:
Average throughput: 20.99 Mbit/s
95th percentile per-packet one-way delay: 117.311 ms
Loss rate: 15.72%
```
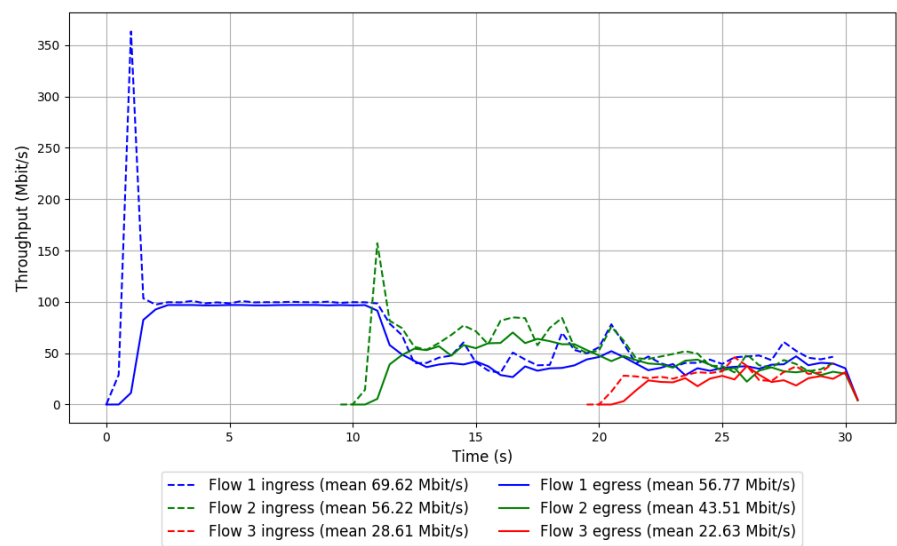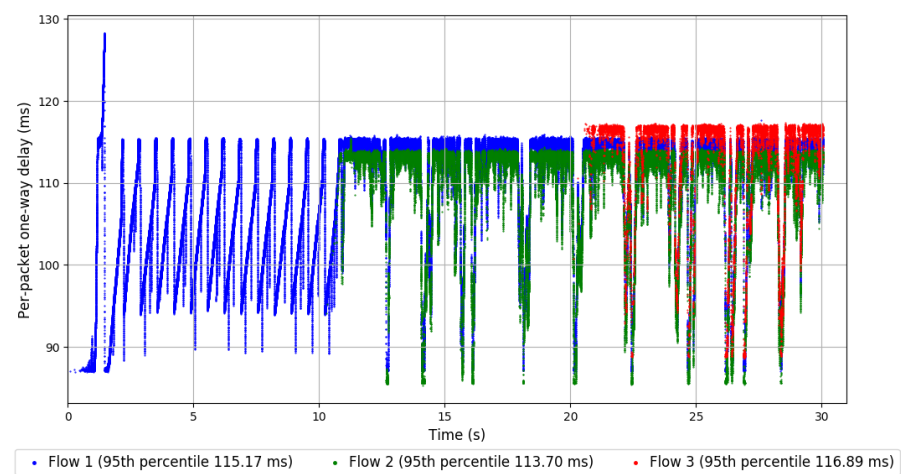
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-08-22 03:54:45
End at: 2018-08-22 03:55:15
Local clock offset: -3.265 ms
Remote clock offset: 17.644 ms


# Below is generated by plot.py at 2018-08-22 06:06:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 111.351 ms
Loss rate: 18.29%
-- Flow 1:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 110.959 ms
Loss rate: 17.22%
-- Flow 2:
Average throughput: 43.01 Mbit/s
95th percentile per-packet one-way delay: 110.854 ms
Loss rate: 20.79%
-- Flow 3:
Average throughput: 17.27 Mbit/s
95th percentile per-packet one-way delay: 114.814 ms
Loss rate: 16.44%
```
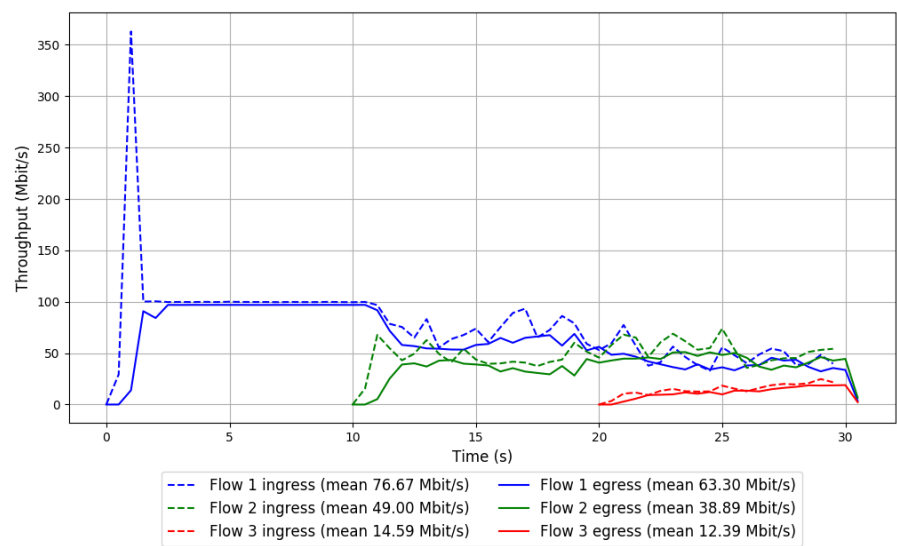
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 71.62 Mbit/s)   Flow 1 egress (mean 59.23 Mbit/s)
Flow 2 ingress (mean 53.80 Mbit/s)   Flow 2 egress (mean 43.01 Mbit/s)
Flow 3 ingress (mean 20.66 Mbit/s)   Flow 3 egress (mean 17.27 Mbit/s)

Flow 1 (95th percentile 110.96 ms)   Flow 2 (95th percentile 110.85 ms)   Flow 3 (95th percentile 114.81 ms)

```
Run 6: Statistics of FillP

Start at: 2018-08-22 04:15:57
End at: 2018-08-22 04:16:27
Local clock offset: -4.993 ms
Remote clock offset: 28.189 ms

# Below is generated by plot.py at 2018-08-22 06:06:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.24 Mbit/s
95th percentile per-packet one-way delay: 116.894 ms
Loss rate: 19.94%
-- Flow 1:
Average throughput: 56.77 Mbit/s
95th percentile per-packet one-way delay: 116.989 ms
Loss rate: 18.39%
-- Flow 2:
Average throughput: 43.51 Mbit/s
95th percentile per-packet one-way delay: 115.791 ms
Loss rate: 22.59%
-- Flow 3:
Average throughput: 22.63 Mbit/s
95th percentile per-packet one-way delay: 115.197 ms
Loss rate: 20.91%
```
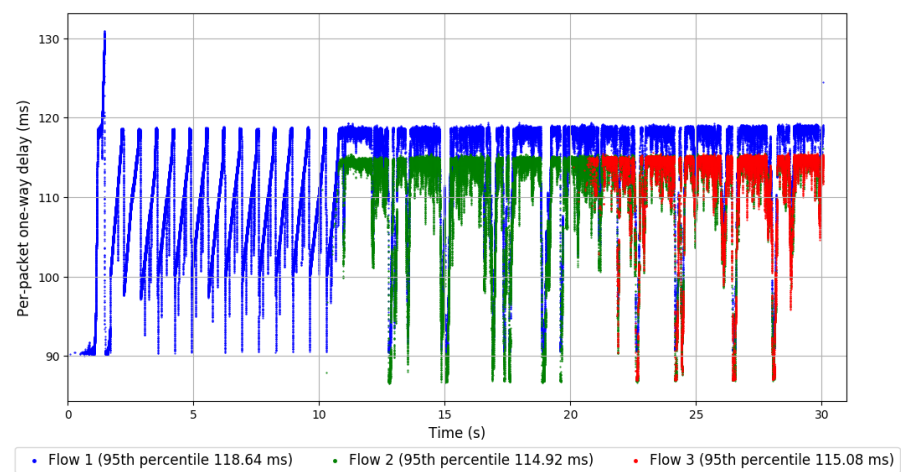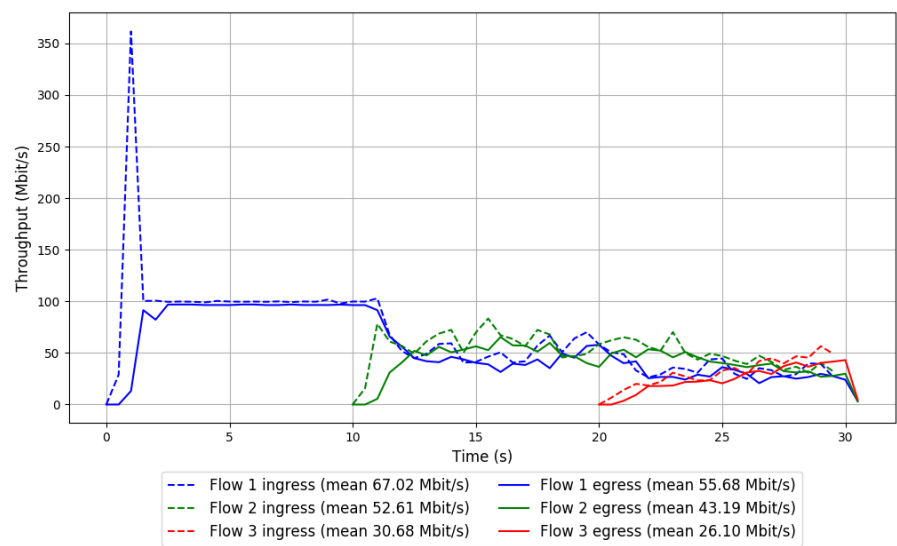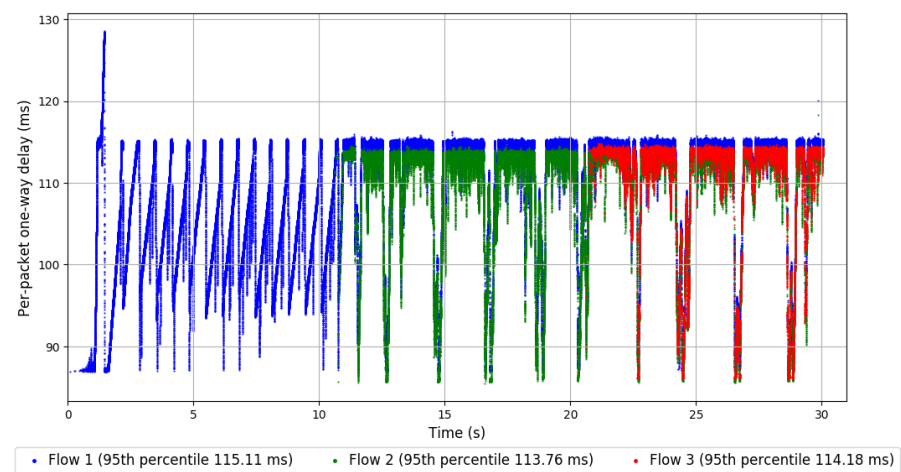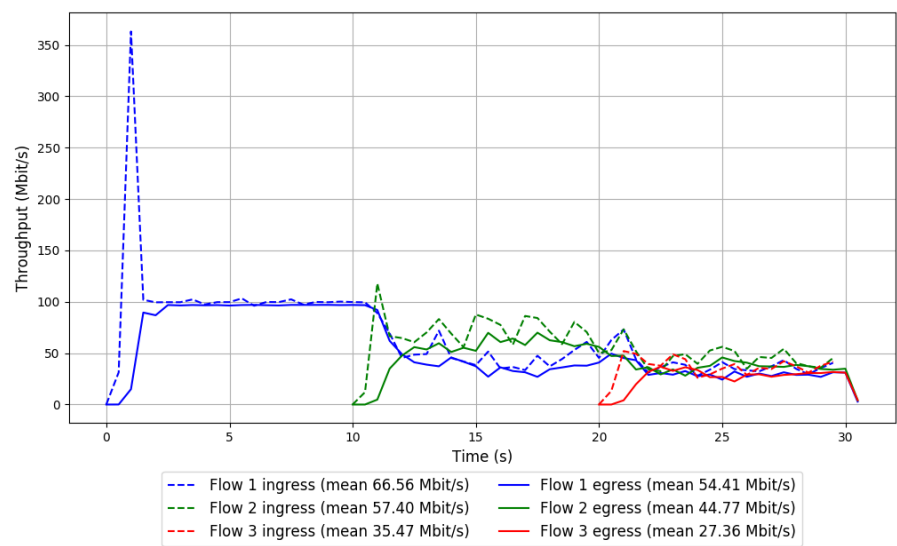
Run 6: Report of FillP — Data Link

```
Run 7: Statistics of FillP

Start at: 2018-08-22 04:37:07
End at: 2018-08-22 04:37:37
Local clock offset: -7.41 ms
Remote clock offset: 31.021 ms


# Below is generated by plot.py at 2018-08-22 06:06:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 115.237 ms
Loss rate: 18.20%
-- Flow 1:
Average throughput: 63.30 Mbit/s
95th percentile per-packet one-way delay: 115.172 ms
Loss rate: 17.38%
-- Flow 2:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 113.697 ms
Loss rate: 20.60%
-- Flow 3:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 116.886 ms
Loss rate: 14.97%
```

Run 7: Report of FillP — Data Link

Flow 1 ingress (mean 76.67 Mbit/s) — Flow 1 egress (mean 63.30 Mbit/s)
Flow 2 ingress (mean 49.00 Mbit/s) — Flow 2 egress (mean 38.89 Mbit/s)
Flow 3 ingress (mean 14.59 Mbit/s) — Flow 3 egress (mean 12.39 Mbit/s)

Flow 1 (95th percentile 115.17 ms)   Flow 2 (95th percentile 113.70 ms)   Flow 3 (95th percentile 116.89 ms)

```
Run 8: Statistics of FillP

Start at: 2018-08-22 04:58:19
End at: 2018-08-22 04:58:49
Local clock offset: -4.081 ms
Remote clock offset: 9.439 ms


# Below is generated by plot.py at 2018-08-22 06:07:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.05 Mbit/s
95th percentile per-packet one-way delay: 118.524 ms
Loss rate: 16.99%
-- Flow 1:
Average throughput: 55.68 Mbit/s
95th percentile per-packet one-way delay: 118.636 ms
Loss rate: 16.83%
-- Flow 2:
Average throughput: 43.19 Mbit/s
95th percentile per-packet one-way delay: 114.916 ms
Loss rate: 17.88%
-- Flow 3:
Average throughput: 26.10 Mbit/s
95th percentile per-packet one-way delay: 115.077 ms
Loss rate: 14.93%
```
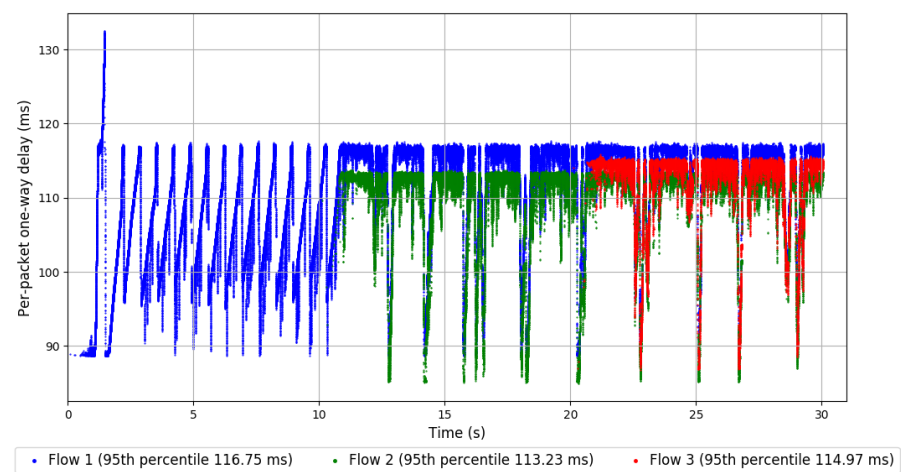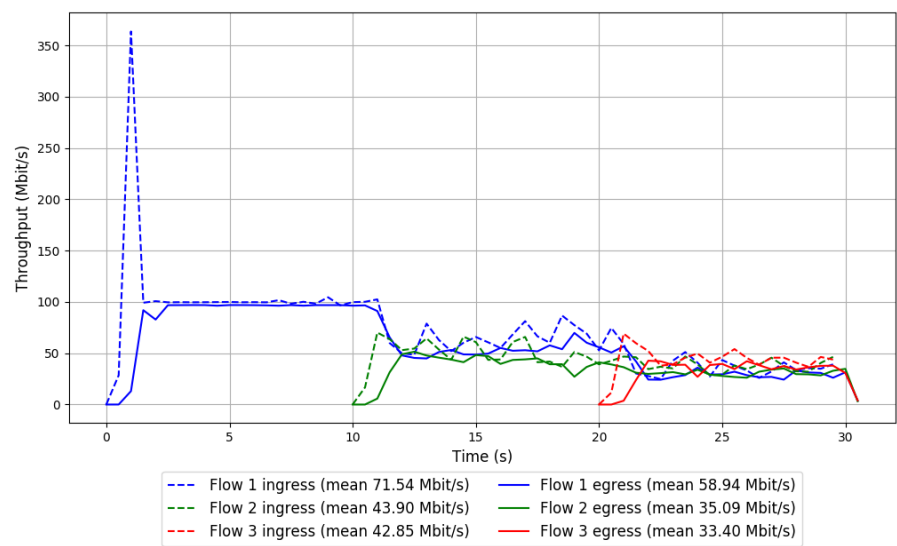
Run 8: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 67.02 Mbit/s)   —— Flow 1 egress (mean 55.68 Mbit/s)
- - - - Flow 2 ingress (mean 52.61 Mbit/s)   —— Flow 2 egress (mean 43.19 Mbit/s)
- - - - Flow 3 ingress (mean 30.68 Mbit/s)   —— Flow 3 egress (mean 26.10 Mbit/s)

- Flow 1 (95th percentile 118.64 ms)   • Flow 2 (95th percentile 114.92 ms)   • Flow 3 (95th percentile 115.08 ms)

79

```
Run 9: Statistics of FillP

Start at: 2018-08-22 05:19:35
End at: 2018-08-22 05:20:05
Local clock offset: -4.37 ms
Remote clock offset: -1.555 ms


# Below is generated by plot.py at 2018-08-22 06:07:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 114.999 ms
Loss rate: 19.88%
-- Flow 1:
Average throughput: 54.41 Mbit/s
95th percentile per-packet one-way delay: 115.105 ms
Loss rate: 18.18%
-- Flow 2:
Average throughput: 44.77 Mbit/s
95th percentile per-packet one-way delay: 113.762 ms
Loss rate: 21.93%
-- Flow 3:
Average throughput: 27.36 Mbit/s
95th percentile per-packet one-way delay: 114.182 ms
Loss rate: 22.82%
```
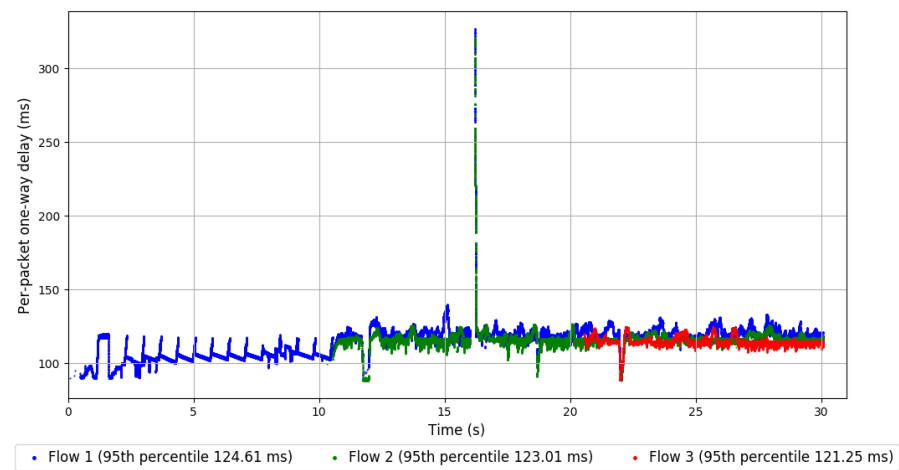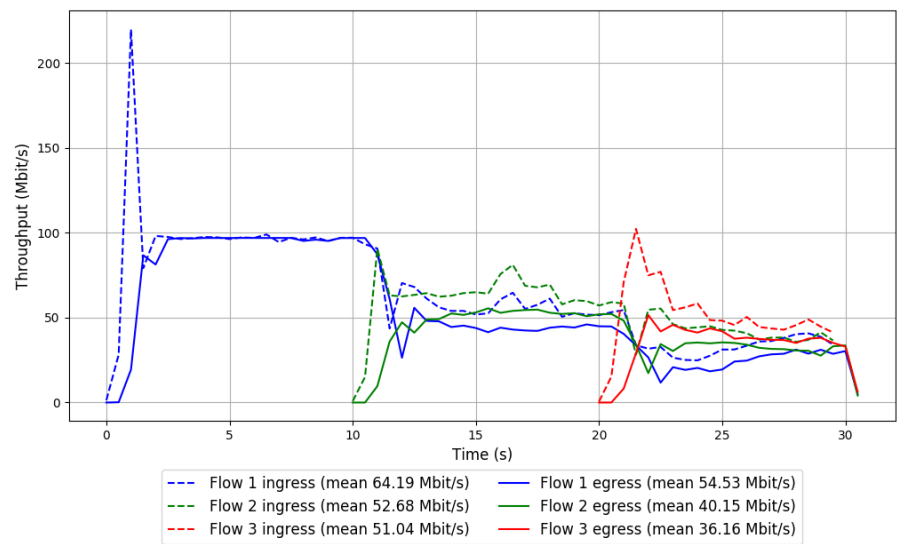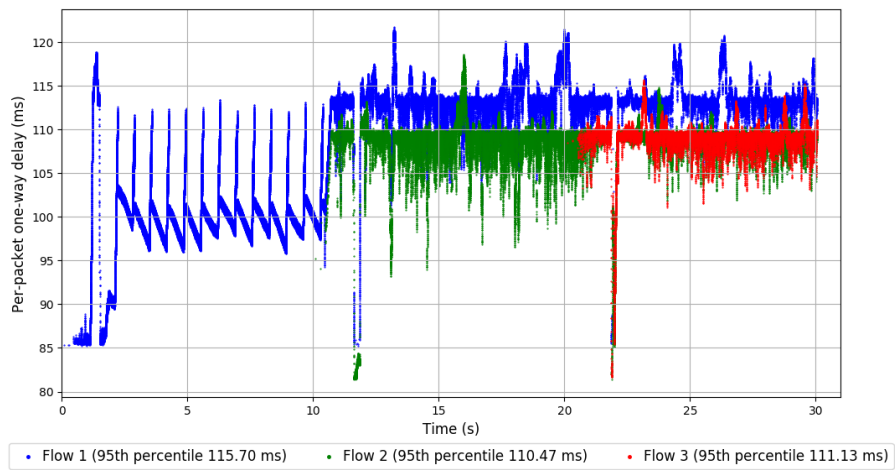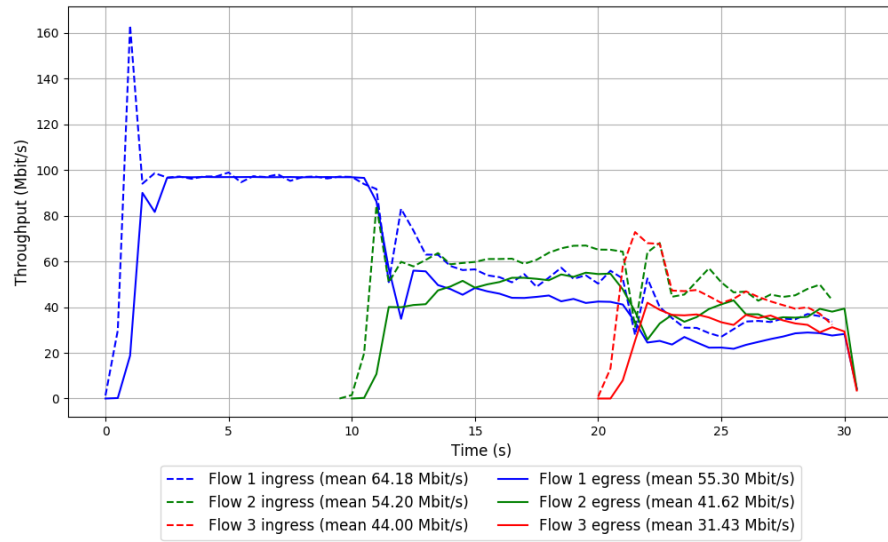
Run 9: Report of FillP — Data Link

- - - Flow 1 ingress (mean 66.56 Mbit/s) —— Flow 1 egress (mean 54.41 Mbit/s)
- - - Flow 2 ingress (mean 57.40 Mbit/s) —— Flow 2 egress (mean 44.77 Mbit/s)
- - - Flow 3 ingress (mean 35.47 Mbit/s) —— Flow 3 egress (mean 27.36 Mbit/s)

• Flow 1 (95th percentile 115.11 ms)   • Flow 2 (95th percentile 113.76 ms)   • Flow 3 (95th percentile 114.18 ms)

```
Run 10: Statistics of FillP

Start at: 2018-08-22 05:40:43
End at: 2018-08-22 05:41:13
Local clock offset: -4.637 ms
Remote clock offset: 3.415 ms


# Below is generated by plot.py at 2018-08-22 06:07:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.34 Mbit/s
95th percentile per-packet one-way delay: 116.679 ms
Loss rate: 18.75%
-- Flow 1:
Average throughput: 58.94 Mbit/s
95th percentile per-packet one-way delay: 116.755 ms
Loss rate: 17.55%
-- Flow 2:
Average throughput: 35.09 Mbit/s
95th percentile per-packet one-way delay: 113.226 ms
Loss rate: 20.07%
-- Flow 3:
Average throughput: 33.40 Mbit/s
95th percentile per-packet one-way delay: 114.968 ms
Loss rate: 22.04%
```
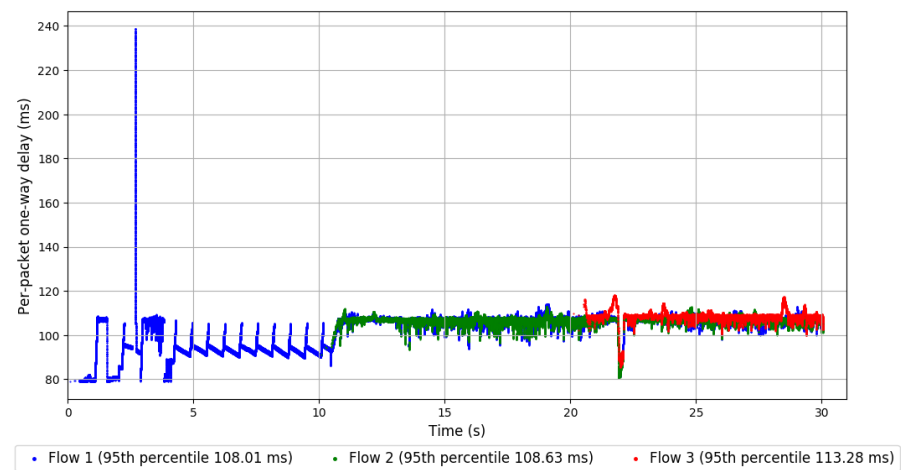
Run 10: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-08-22 02:33:57
End at: 2018-08-22 02:34:27
Local clock offset: -4.642 ms
Remote clock offset: 7.453 ms


# Below is generated by plot.py at 2018-08-22 06:07:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.23 Mbit/s
95th percentile per-packet one-way delay: 123.645 ms
Loss rate: 19.68%
-- Flow 1:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 124.606 ms
Loss rate: 14.97%
-- Flow 2:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 123.010 ms
Loss rate: 23.73%
-- Flow 3:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 121.252 ms
Loss rate: 29.15%
```
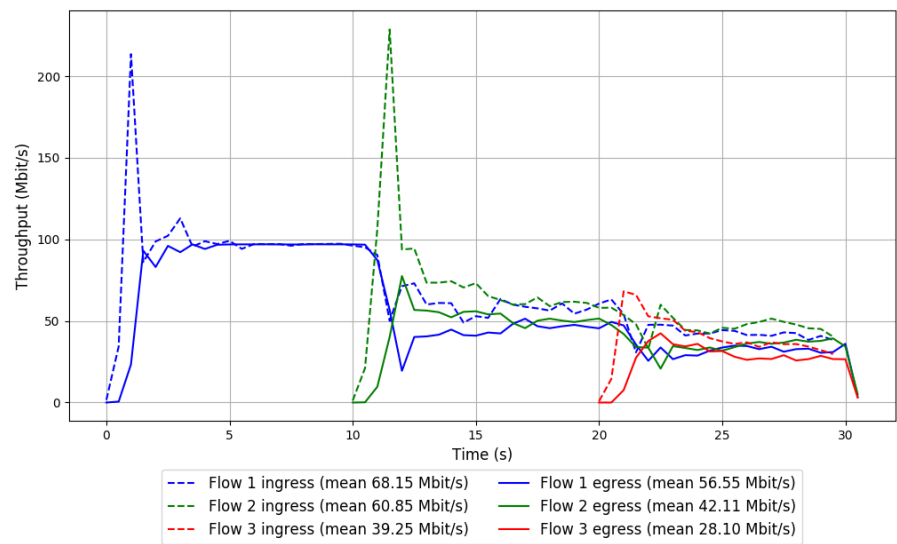
Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 64.19 Mbit/s) --- Flow 1 egress (mean 54.53 Mbit/s)
Flow 2 ingress (mean 52.68 Mbit/s) --- Flow 2 egress (mean 40.15 Mbit/s)
Flow 3 ingress (mean 51.04 Mbit/s) --- Flow 3 egress (mean 36.16 Mbit/s)

Flow 1 (95th percentile 124.61 ms)   Flow 2 (95th percentile 123.01 ms)   Flow 3 (95th percentile 121.25 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-08-22 02:55:05
End at: 2018-08-22 02:55:35
Local clock offset: -15.102 ms
Remote clock offset: 2.684 ms


# Below is generated by plot.py at 2018-08-22 06:07:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.45 Mbit/s
95th percentile per-packet one-way delay: 114.396 ms
Loss rate: 18.60%
-- Flow 1:
Average throughput: 55.30 Mbit/s
95th percentile per-packet one-way delay: 115.704 ms
Loss rate: 13.77%
-- Flow 2:
Average throughput: 41.62 Mbit/s
95th percentile per-packet one-way delay: 110.470 ms
Loss rate: 23.15%
-- Flow 3:
Average throughput: 31.43 Mbit/s
95th percentile per-packet one-way delay: 111.130 ms
Loss rate: 28.57%
```
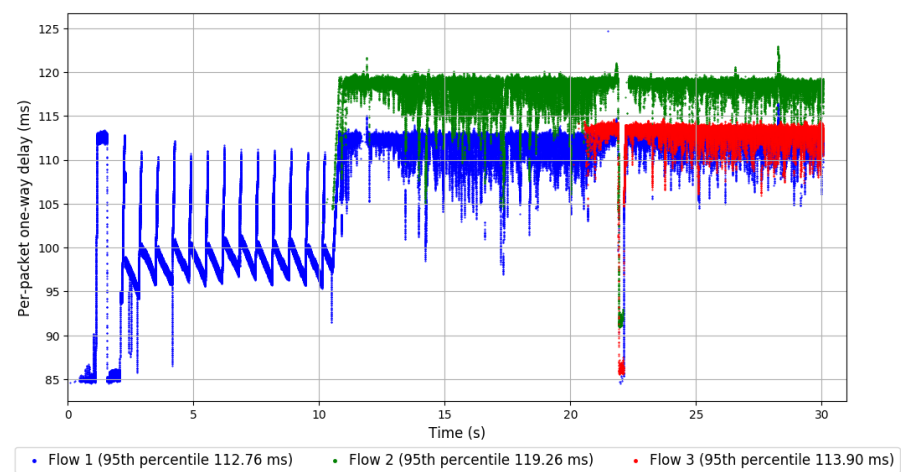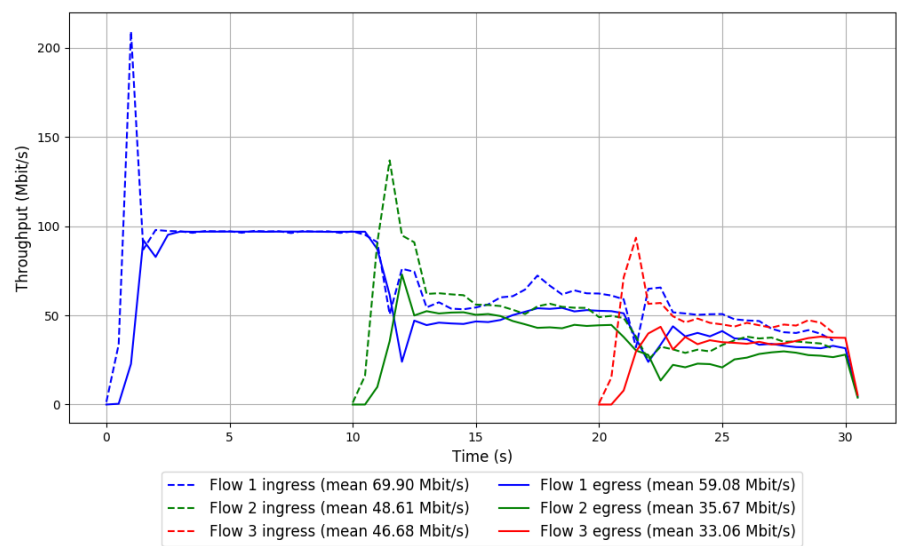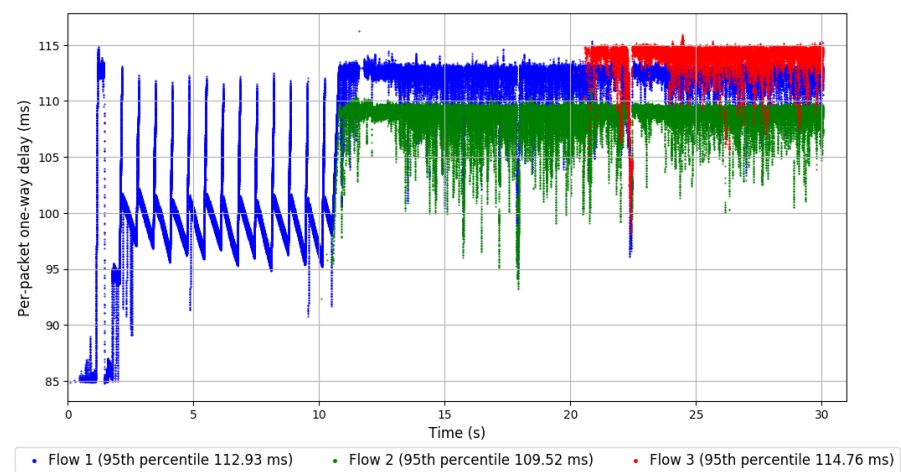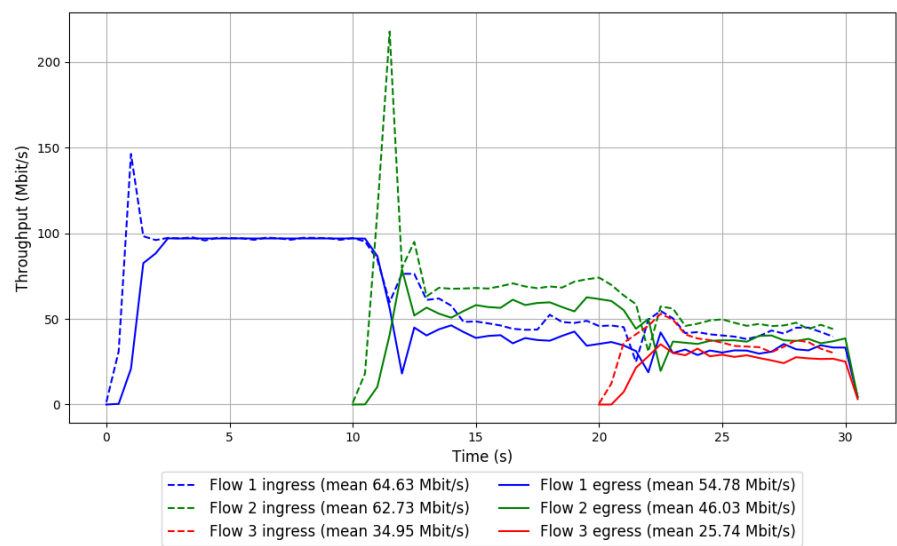
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 64.18 Mbit/s) — Flow 1 egress (mean 55.30 Mbit/s)
Flow 2 ingress (mean 54.20 Mbit/s) — Flow 2 egress (mean 41.62 Mbit/s)
Flow 3 ingress (mean 44.00 Mbit/s) — Flow 3 egress (mean 31.43 Mbit/s)

Flow 1 (95th percentile 115.70 ms) · Flow 2 (95th percentile 110.47 ms) · Flow 3 (95th percentile 111.13 ms)

87

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-08-22 03:16:12
End at: 2018-08-22 03:16:42
Local clock offset: -7.249 ms
Remote clock offset: 2.849 ms


# Below is generated by plot.py at 2018-08-22 06:08:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.91 Mbit/s
95th percentile per-packet one-way delay: 109.061 ms
Loss rate: 22.78%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 108.013 ms
Loss rate: 16.95%
-- Flow 2:
Average throughput: 42.11 Mbit/s
95th percentile per-packet one-way delay: 108.626 ms
Loss rate: 30.75%
-- Flow 3:
Average throughput: 28.10 Mbit/s
95th percentile per-packet one-way delay: 113.280 ms
Loss rate: 28.44%
```

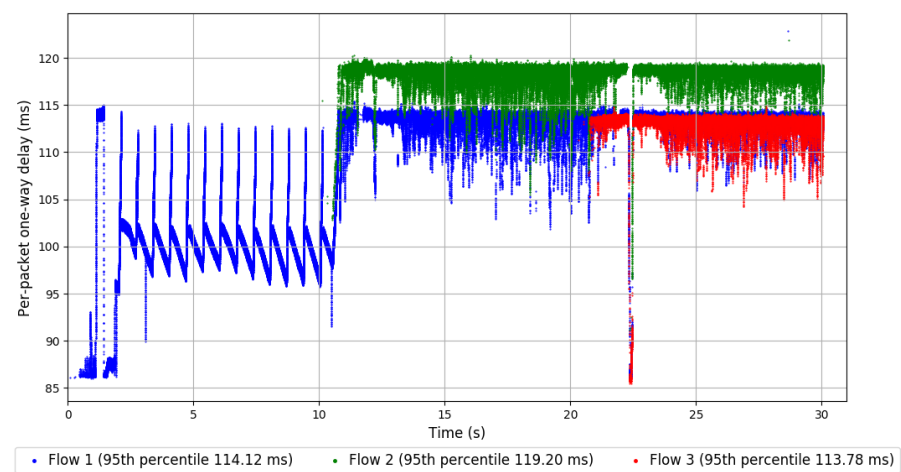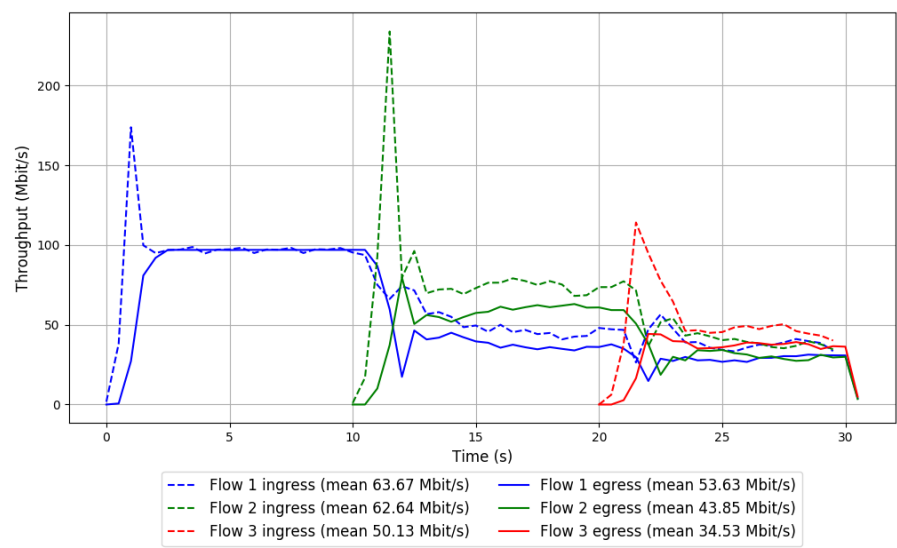Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 68.15 Mbit/s) --- Flow 1 egress (mean 56.55 Mbit/s)
Flow 2 ingress (mean 60.85 Mbit/s) --- Flow 2 egress (mean 42.11 Mbit/s)
Flow 3 ingress (mean 39.25 Mbit/s) --- Flow 3 egress (mean 28.10 Mbit/s)

Flow 1 (95th percentile 108.01 ms) • Flow 2 (95th percentile 108.63 ms) • Flow 3 (95th percentile 113.28 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-08-22 03:37:21
End at: 2018-08-22 03:37:51
Local clock offset: -2.08 ms
Remote clock offset: 7.33 ms


# Below is generated by plot.py at 2018-08-22 06:08:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.77 Mbit/s
95th percentile per-packet one-way delay: 119.001 ms
Loss rate: 20.28%
-- Flow 1:
Average throughput: 59.08 Mbit/s
95th percentile per-packet one-way delay: 112.757 ms
Loss rate: 15.40%
-- Flow 2:
Average throughput: 35.67 Mbit/s
95th percentile per-packet one-way delay: 119.256 ms
Loss rate: 26.56%
-- Flow 3:
Average throughput: 33.06 Mbit/s
95th percentile per-packet one-way delay: 113.903 ms
Loss rate: 29.15%
```

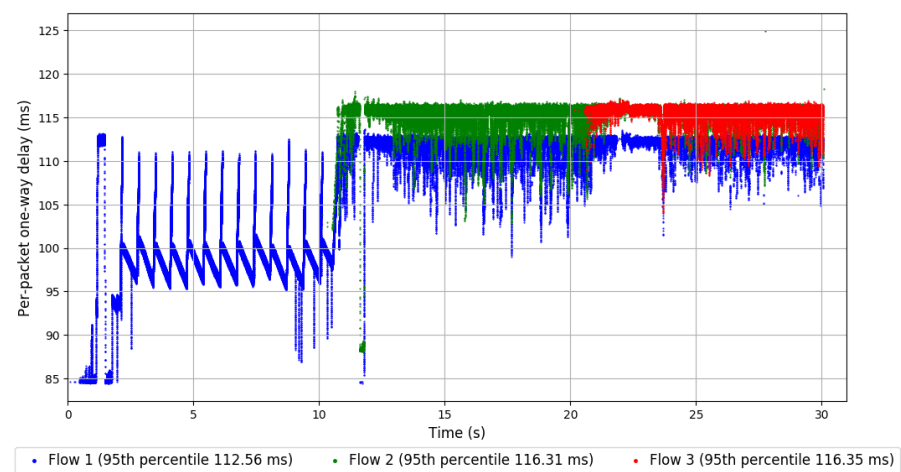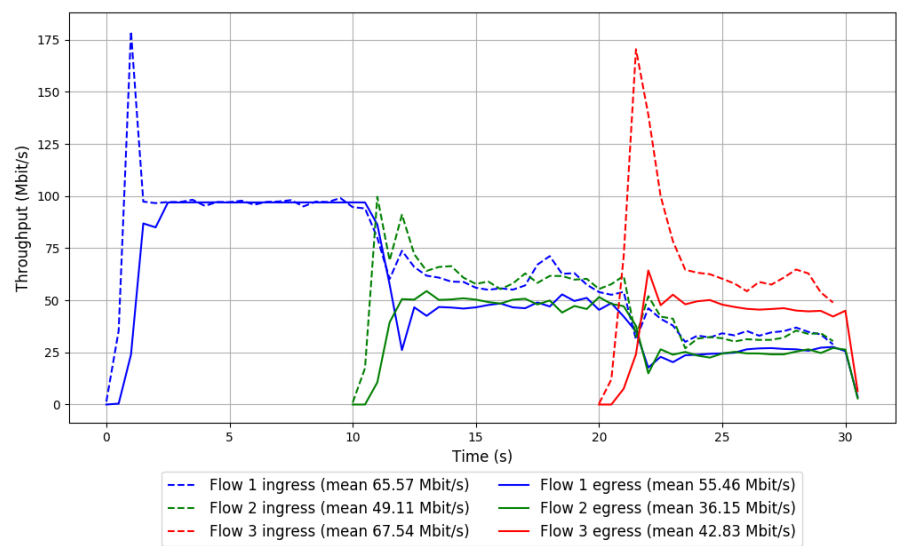Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 69.90 Mbit/s) --- Flow 1 egress (mean 59.08 Mbit/s)
Flow 2 ingress (mean 48.61 Mbit/s) --- Flow 2 egress (mean 35.67 Mbit/s)
Flow 3 ingress (mean 46.68 Mbit/s) --- Flow 3 egress (mean 33.06 Mbit/s)

Flow 1 (95th percentile 112.76 ms)   Flow 2 (95th percentile 119.26 ms)   Flow 3 (95th percentile 113.90 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-08-22 03:58:35
End at: 2018-08-22 03:59:05
Local clock offset: -1.592 ms
Remote clock offset: 18.878 ms


# Below is generated by plot.py at 2018-08-22 06:08:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.95 Mbit/s
95th percentile per-packet one-way delay: 114.114 ms
Loss rate: 20.30%
-- Flow 1:
Average throughput: 54.78 Mbit/s
95th percentile per-packet one-way delay: 112.930 ms
Loss rate: 15.16%
-- Flow 2:
Average throughput: 46.03 Mbit/s
95th percentile per-packet one-way delay: 109.516 ms
Loss rate: 26.57%
-- Flow 3:
Average throughput: 25.74 Mbit/s
95th percentile per-packet one-way delay: 114.763 ms
Loss rate: 26.40%
```
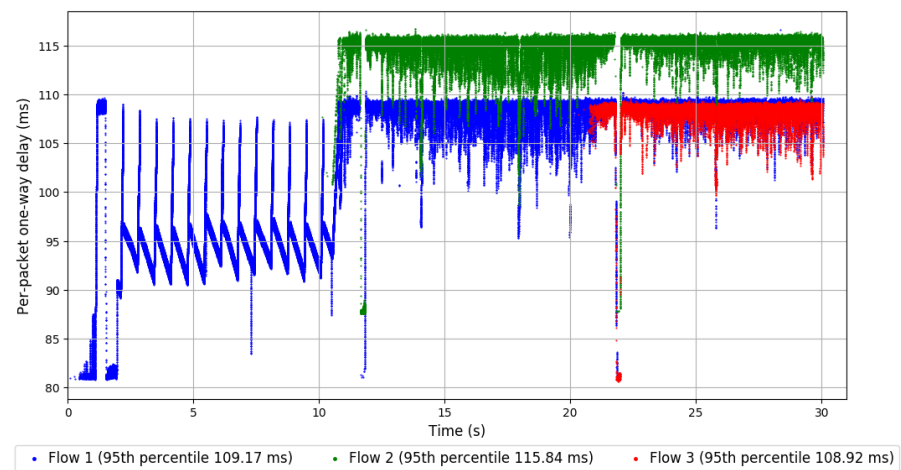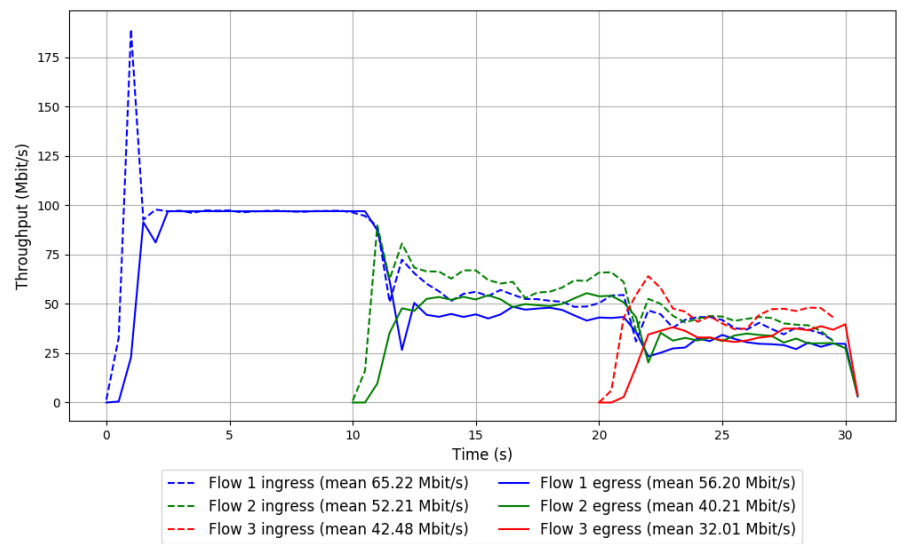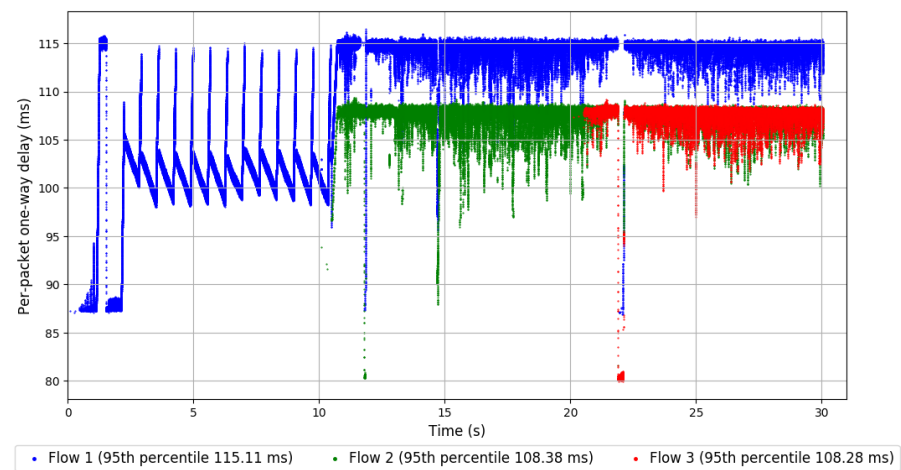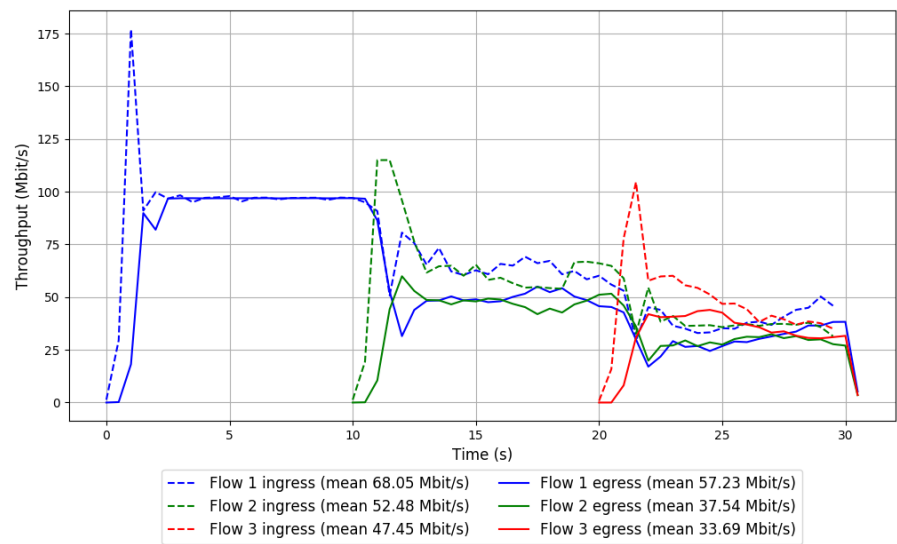
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 64.63 Mbit/s)   Flow 1 egress (mean 54.78 Mbit/s)
Flow 2 ingress (mean 62.73 Mbit/s)   Flow 2 egress (mean 46.03 Mbit/s)
Flow 3 ingress (mean 34.95 Mbit/s)   Flow 3 egress (mean 25.74 Mbit/s)

Flow 1 (95th percentile 112.93 ms)   Flow 2 (95th percentile 109.52 ms)   Flow 3 (95th percentile 114.76 ms)

```
Run 6: Statistics of FillP-Sheep

Start at: 2018-08-22 04:19:47
End at: 2018-08-22 04:20:17
Local clock offset: -6.467 ms
Remote clock offset: 26.693 ms


# Below is generated by plot.py at 2018-08-22 06:08:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.00 Mbit/s
95th percentile per-packet one-way delay: 119.035 ms
Loss rate: 22.89%
-- Flow 1:
Average throughput: 53.63 Mbit/s
95th percentile per-packet one-way delay: 114.116 ms
Loss rate: 15.70%
-- Flow 2:
Average throughput: 43.85 Mbit/s
95th percentile per-packet one-way delay: 119.201 ms
Loss rate: 30.02%
-- Flow 3:
Average throughput: 34.53 Mbit/s
95th percentile per-packet one-way delay: 113.781 ms
Loss rate: 32.53%
```

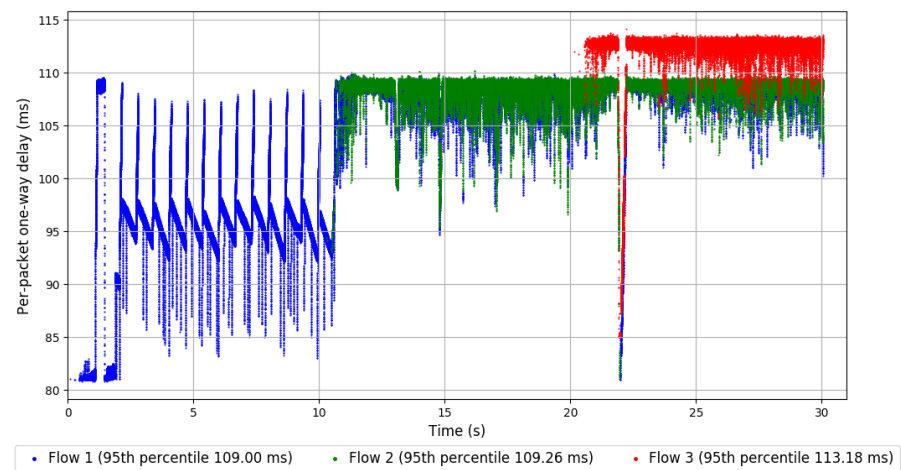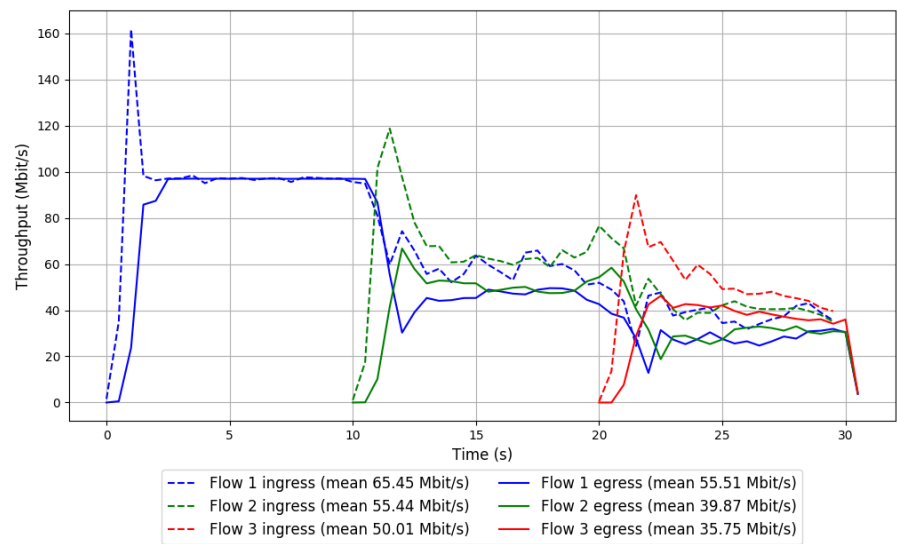Run 6: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 63.67 Mbit/s)   Flow 1 egress (mean 53.63 Mbit/s)
Flow 2 ingress (mean 62.64 Mbit/s)   Flow 2 egress (mean 43.85 Mbit/s)
Flow 3 ingress (mean 50.13 Mbit/s)   Flow 3 egress (mean 34.53 Mbit/s)

Flow 1 (95th percentile 114.12 ms)   Flow 2 (95th percentile 119.20 ms)   Flow 3 (95th percentile 113.78 ms)

```
Run 7: Statistics of FillP-Sheep

Start at: 2018-08-22 04:40:57
End at: 2018-08-22 04:41:27
Local clock offset: -5.822 ms
Remote clock offset: 31.797 ms


# Below is generated by plot.py at 2018-08-22 06:08:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.68 Mbit/s
95th percentile per-packet one-way delay: 116.229 ms
Loss rate: 22.27%
-- Flow 1:
Average throughput: 55.46 Mbit/s
95th percentile per-packet one-way delay: 112.565 ms
Loss rate: 15.34%
-- Flow 2:
Average throughput: 36.15 Mbit/s
95th percentile per-packet one-way delay: 116.308 ms
Loss rate: 26.33%
-- Flow 3:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 116.352 ms
Loss rate: 36.61%
```
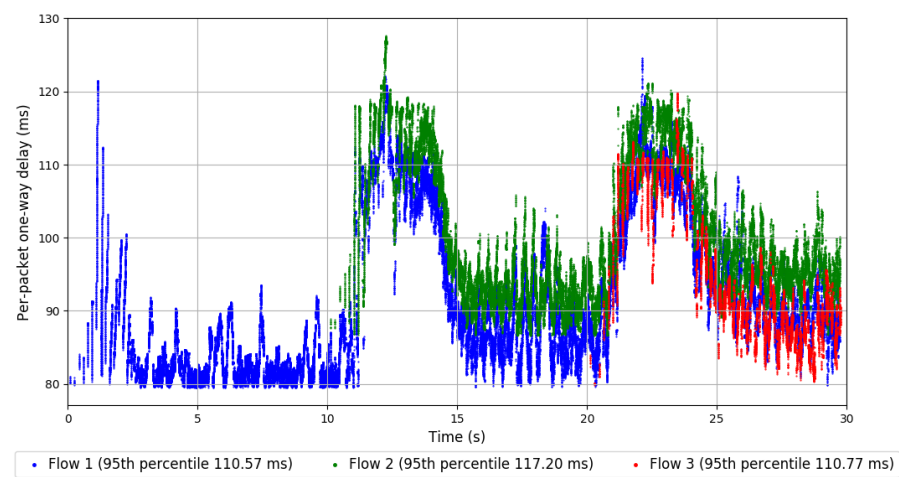
Run 7: Report of FillP-Sheep — Data Link

- Flow 1 ingress (mean 65.57 Mbit/s)
- Flow 1 egress (mean 55.46 Mbit/s)
- Flow 2 ingress (mean 49.11 Mbit/s)
- Flow 2 egress (mean 36.15 Mbit/s)
- Flow 3 ingress (mean 67.54 Mbit/s)
- Flow 3 egress (mean 42.83 Mbit/s)

- Flow 1 (95th percentile 112.56 ms)
- Flow 2 (95th percentile 116.31 ms)
- Flow 3 (95th percentile 116.35 ms)

```
Run 8: Statistics of FillP-Sheep

Start at: 2018-08-22 05:02:12
End at: 2018-08-22 05:02:42
Local clock offset: -3.951 ms
Remote clock offset: 1.879 ms


# Below is generated by plot.py at 2018-08-22 06:09:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.33 Mbit/s
95th percentile per-packet one-way delay: 115.641 ms
Loss rate: 18.09%
-- Flow 1:
Average throughput: 56.20 Mbit/s
95th percentile per-packet one-way delay: 109.165 ms
Loss rate: 13.75%
-- Flow 2:
Average throughput: 40.21 Mbit/s
95th percentile per-packet one-way delay: 115.838 ms
Loss rate: 22.96%
-- Flow 3:
Average throughput: 32.01 Mbit/s
95th percentile per-packet one-way delay: 108.923 ms
Loss rate: 26.16%
```
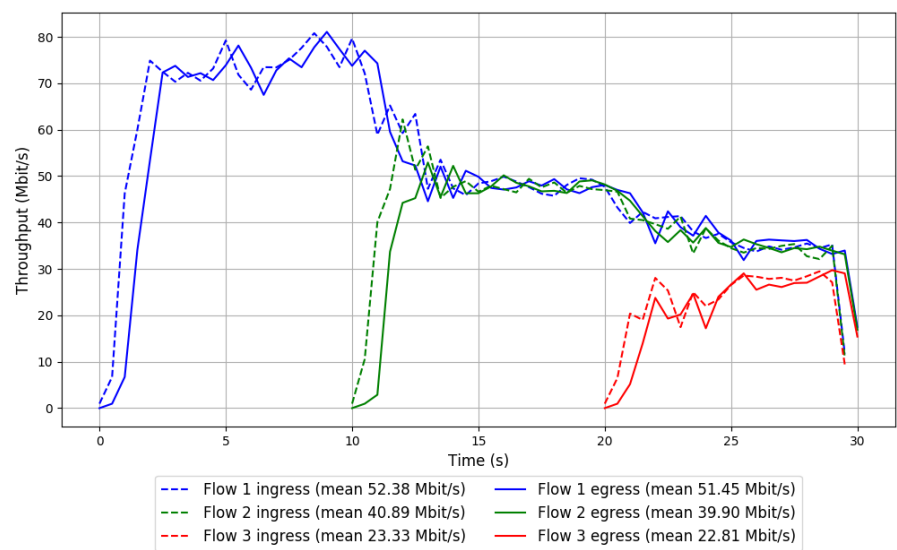
Run 8: Report of FillP-Sheep — Data Link
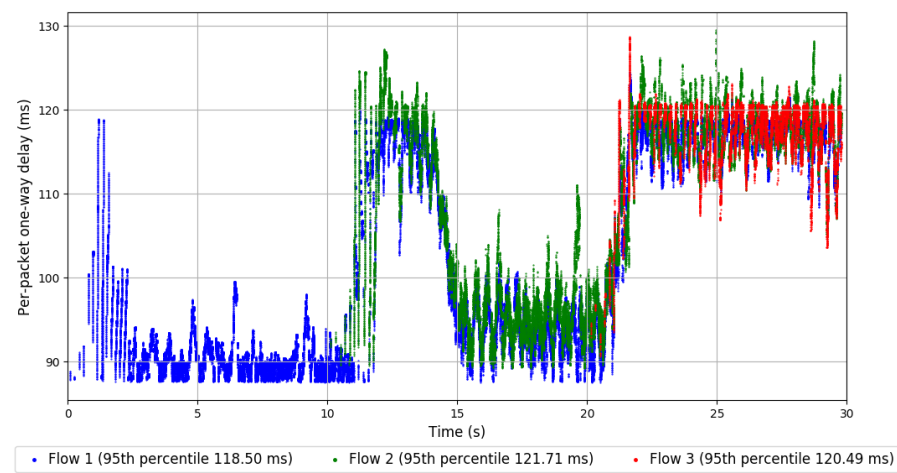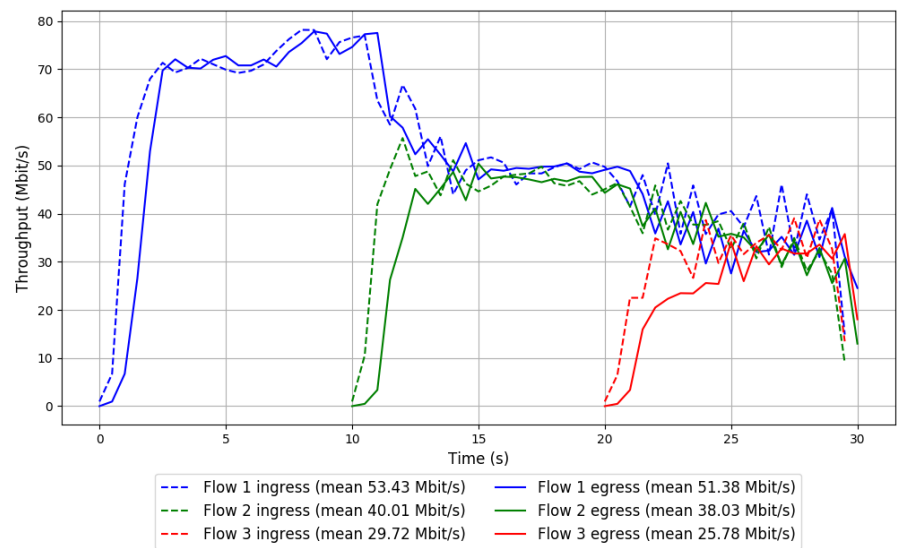

Flow 1 ingress (mean 65.22 Mbit/s) --- Flow 1 egress (mean 56.20 Mbit/s)
Flow 2 ingress (mean 52.21 Mbit/s) --- Flow 2 egress (mean 40.21 Mbit/s)
Flow 3 ingress (mean 42.48 Mbit/s) --- Flow 3 egress (mean 32.01 Mbit/s)

Flow 1 (95th percentile 109.17 ms) Flow 2 (95th percentile 115.84 ms) Flow 3 (95th percentile 108.92 ms)

99

```
Run 9: Statistics of FillP-Sheep

Start at: 2018-08-22 05:23:24
End at: 2018-08-22 05:23:54
Local clock offset: -4.485 ms
Remote clock offset: -4.446 ms


# Below is generated by plot.py at 2018-08-22 06:09:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.39 Mbit/s
95th percentile per-packet one-way delay: 115.030 ms
Loss rate: 21.29%
-- Flow 1:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 115.112 ms
Loss rate: 15.85%
-- Flow 2:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 108.382 ms
Loss rate: 28.43%
-- Flow 3:
Average throughput: 33.69 Mbit/s
95th percentile per-packet one-way delay: 108.282 ms
Loss rate: 28.99%
```
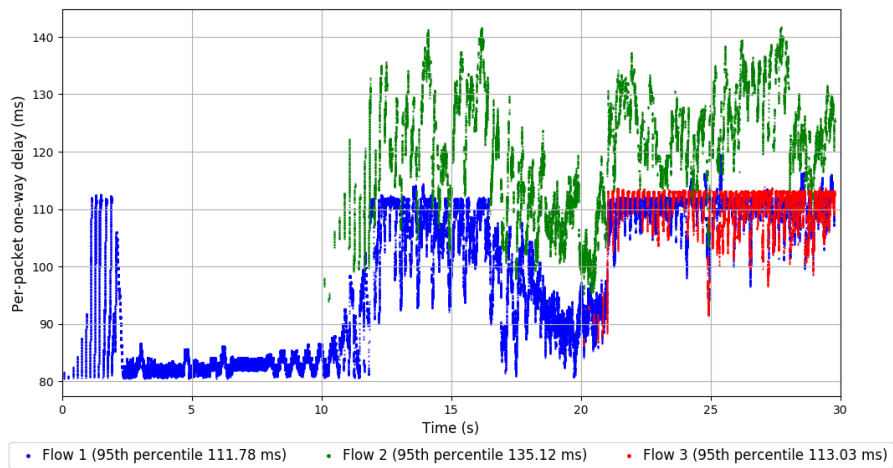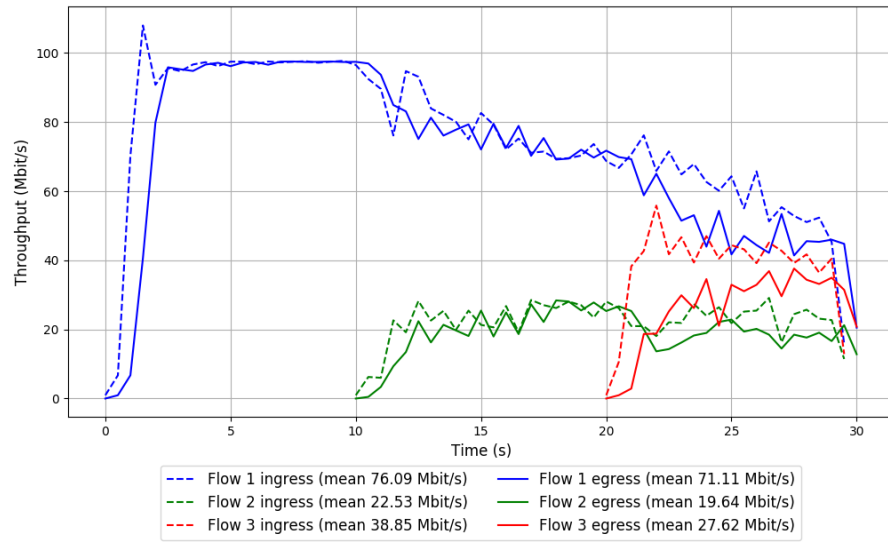
Run 9: Report of FillP-Sheep — Data Link

```
Run 10: Statistics of FillP-Sheep

Start at: 2018-08-22 05:44:33
End at: 2018-08-22 05:45:03
Local clock offset: -4.689 ms
Remote clock offset: -2.748 ms


# Below is generated by plot.py at 2018-08-22 06:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.86 Mbit/s
95th percentile per-packet one-way delay: 112.787 ms
Loss rate: 21.00%
-- Flow 1:
Average throughput: 55.51 Mbit/s
95th percentile per-packet one-way delay: 109.002 ms
Loss rate: 15.10%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 109.261 ms
Loss rate: 28.05%
-- Flow 3:
Average throughput: 35.75 Mbit/s
95th percentile per-packet one-way delay: 113.176 ms
Loss rate: 28.57%
```
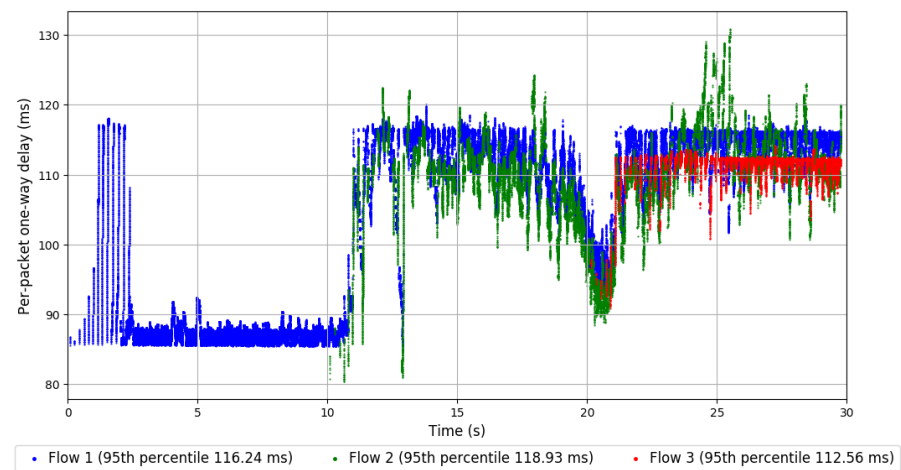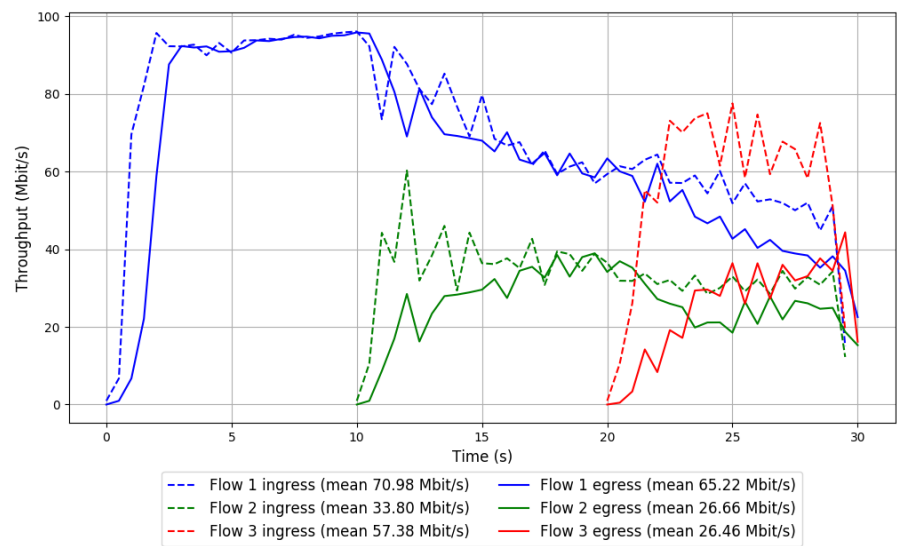
Run 10: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 65.45 Mbit/s) --- Flow 1 egress (mean 55.51 Mbit/s)
Flow 2 ingress (mean 55.44 Mbit/s) --- Flow 2 egress (mean 39.87 Mbit/s)
Flow 3 ingress (mean 50.01 Mbit/s) --- Flow 3 egress (mean 35.75 Mbit/s)

Flow 1 (95th percentile 109.00 ms)   Flow 2 (95th percentile 109.26 ms)   Flow 3 (95th percentile 113.18 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-08-22 02:35:13
End at: 2018-08-22 02:35:43
Local clock offset: -4.6 ms
Remote clock offset: 2.45 ms


# Below is generated by plot.py at 2018-08-22 06:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.26 Mbit/s
95th percentile per-packet one-way delay: 114.117 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 51.45 Mbit/s
95th percentile per-packet one-way delay: 110.569 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 39.90 Mbit/s
95th percentile per-packet one-way delay: 117.204 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 22.81 Mbit/s
95th percentile per-packet one-way delay: 110.774 ms
Loss rate: 2.18%
```
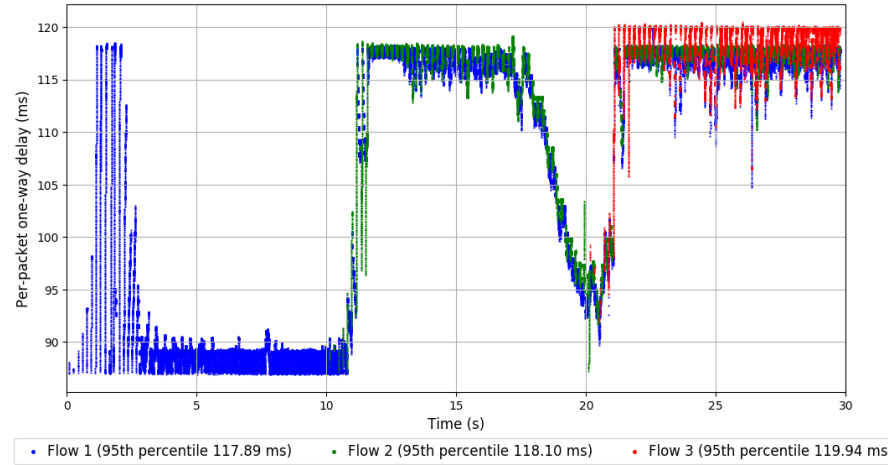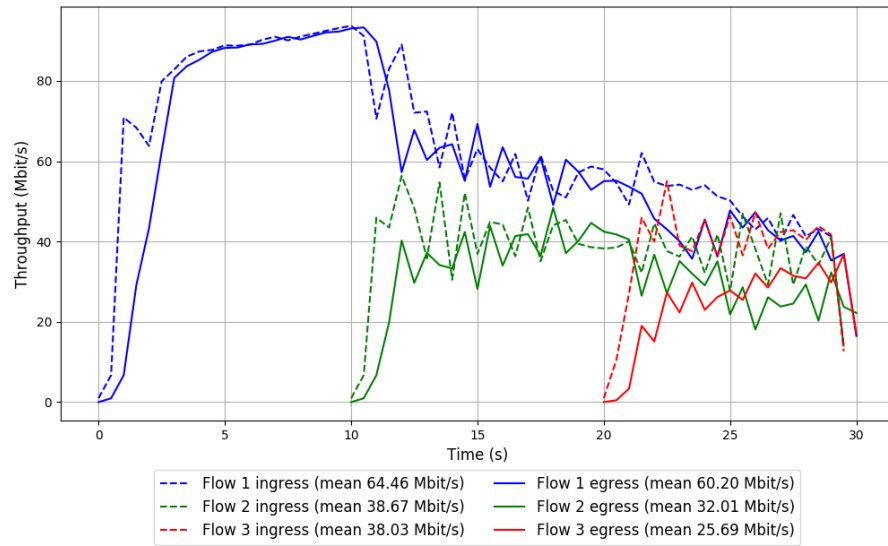
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-08-22 02:56:21
End at: 2018-08-22 02:56:51
Local clock offset: -17.017 ms
Remote clock offset: 5.453 ms

# Below is generated by plot.py at 2018-08-22 06:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.89 Mbit/s
95th percentile per-packet one-way delay: 120.215 ms
Loss rate: 5.06%
-- Flow 1:
Average throughput: 51.38 Mbit/s
95th percentile per-packet one-way delay: 118.505 ms
Loss rate: 3.74%
-- Flow 2:
Average throughput: 38.03 Mbit/s
95th percentile per-packet one-way delay: 121.711 ms
Loss rate: 4.82%
-- Flow 3:
Average throughput: 25.78 Mbit/s
95th percentile per-packet one-way delay: 120.492 ms
Loss rate: 13.04%
```
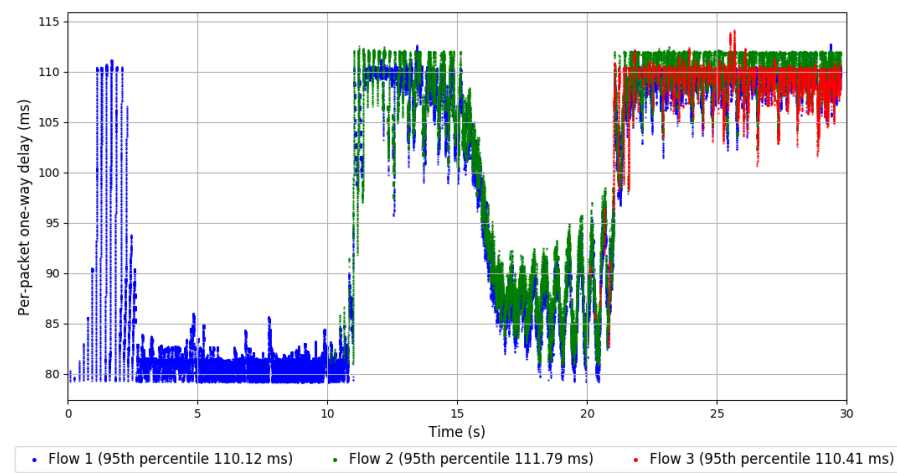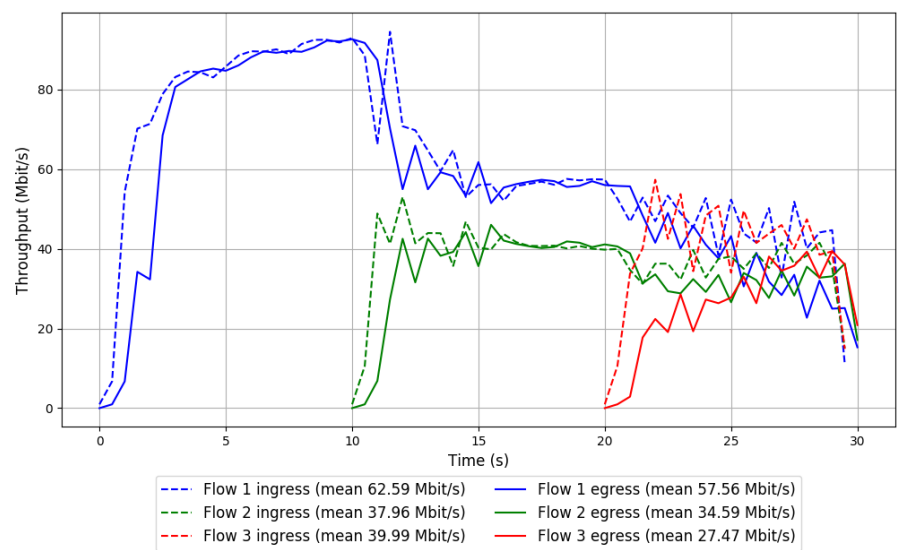
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-08-22 03:17:28
End at: 2018-08-22 03:17:58
Local clock offset: -6.352 ms
Remote clock offset: 4.029 ms


# Below is generated by plot.py at 2018-08-22 06:09:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.07 Mbit/s
95th percentile per-packet one-way delay: 123.612 ms
Loss rate: 10.07%
-- Flow 1:
Average throughput: 71.11 Mbit/s
95th percentile per-packet one-way delay: 111.777 ms
Loss rate: 6.45%
-- Flow 2:
Average throughput: 19.64 Mbit/s
95th percentile per-packet one-way delay: 135.122 ms
Loss rate: 12.76%
-- Flow 3:
Average throughput: 27.62 Mbit/s
95th percentile per-packet one-way delay: 113.025 ms
Loss rate: 28.71%
```
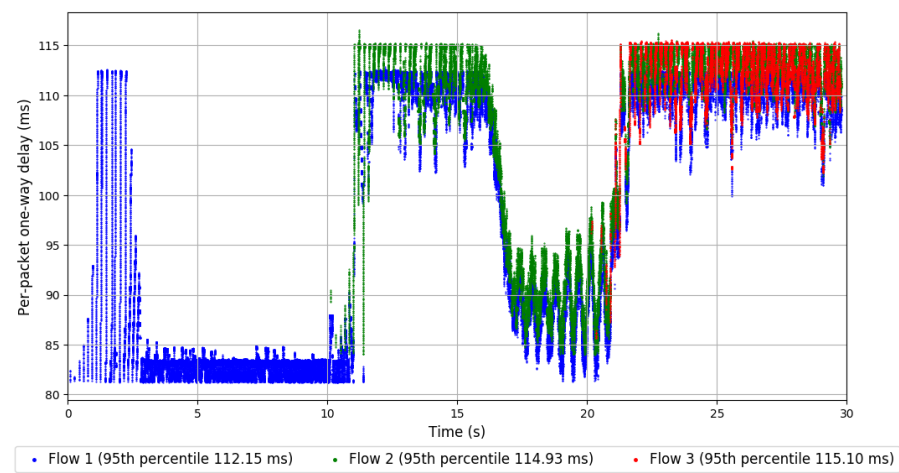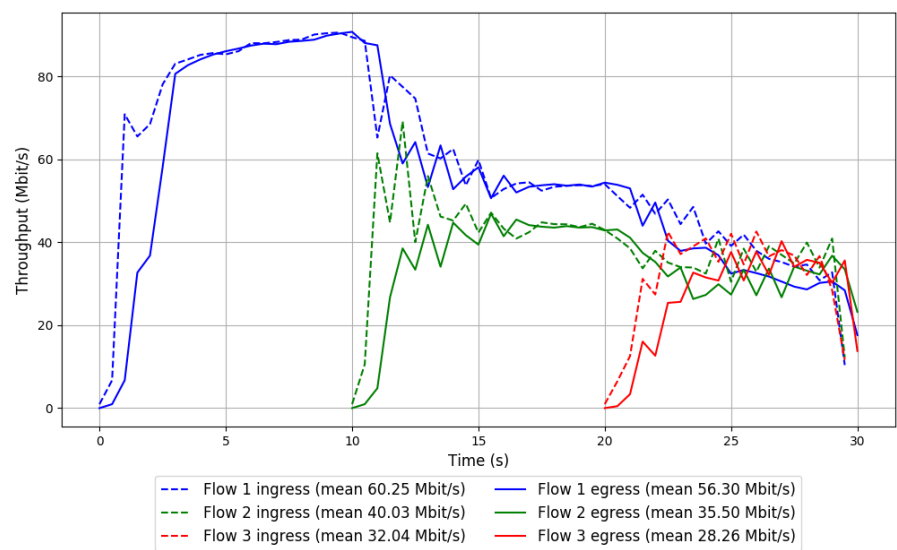
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-08-22 03:38:37
End at: 2018-08-22 03:39:07
Local clock offset: -1.591 ms
Remote clock offset: 5.544 ms


# Below is generated by plot.py at 2018-08-22 06:09:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.46 Mbit/s
95th percentile per-packet one-way delay: 116.291 ms
Loss rate: 18.23%
-- Flow 1:
Average throughput: 65.22 Mbit/s
95th percentile per-packet one-way delay: 116.242 ms
Loss rate: 8.05%
-- Flow 2:
Average throughput: 26.66 Mbit/s
95th percentile per-packet one-way delay: 118.927 ms
Loss rate: 20.98%
-- Flow 3:
Average throughput: 26.46 Mbit/s
95th percentile per-packet one-way delay: 112.559 ms
Loss rate: 53.82%
```
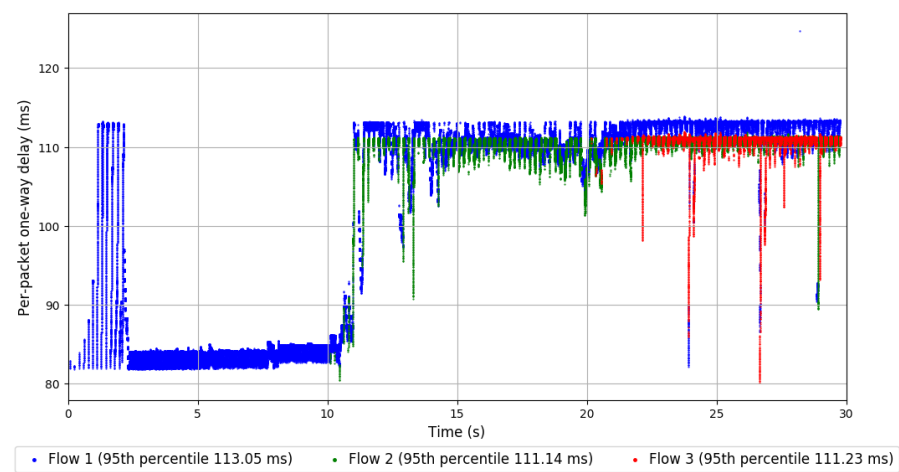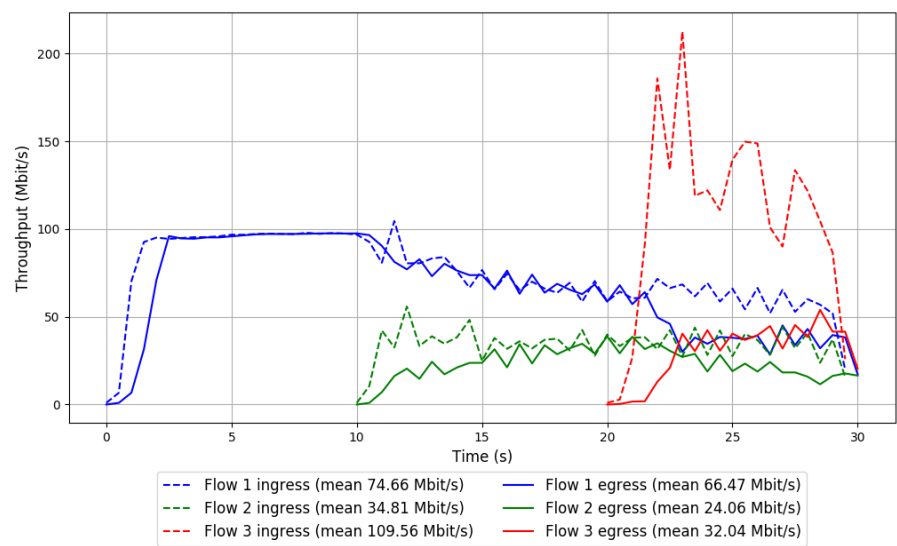
Run 4: Report of Indigo — Data Link

- - - - Flow 1 ingress (mean 70.98 Mbit/s)   —— Flow 1 egress (mean 65.22 Mbit/s)
- - - - Flow 2 ingress (mean 33.80 Mbit/s)   —— Flow 2 egress (mean 26.66 Mbit/s)
- - - - Flow 3 ingress (mean 57.38 Mbit/s)   —— Flow 3 egress (mean 26.46 Mbit/s)

- Flow 1 (95th percentile 116.24 ms)   • Flow 2 (95th percentile 118.93 ms)   • Flow 3 (95th percentile 112.56 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-08-22 03:59:51
End at: 2018-08-22 04:00:21
Local clock offset: -3.071 ms
Remote clock offset: 23.368 ms


# Below is generated by plot.py at 2018-08-22 06:10:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.70 Mbit/s
95th percentile per-packet one-way delay: 118.483 ms
Loss rate: 12.27%
-- Flow 1:
Average throughput: 60.20 Mbit/s
95th percentile per-packet one-way delay: 117.891 ms
Loss rate: 6.53%
-- Flow 2:
Average throughput: 32.01 Mbit/s
95th percentile per-packet one-way delay: 118.102 ms
Loss rate: 17.10%
-- Flow 3:
Average throughput: 25.69 Mbit/s
95th percentile per-packet one-way delay: 119.942 ms
Loss rate: 32.29%
```

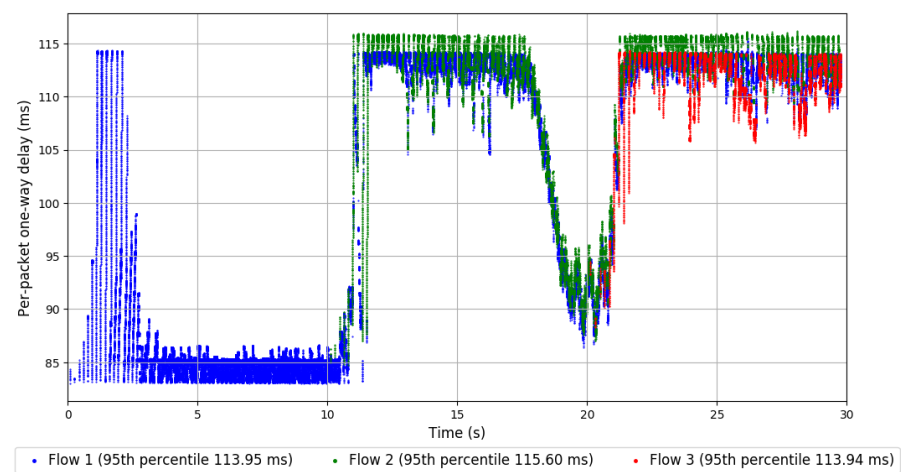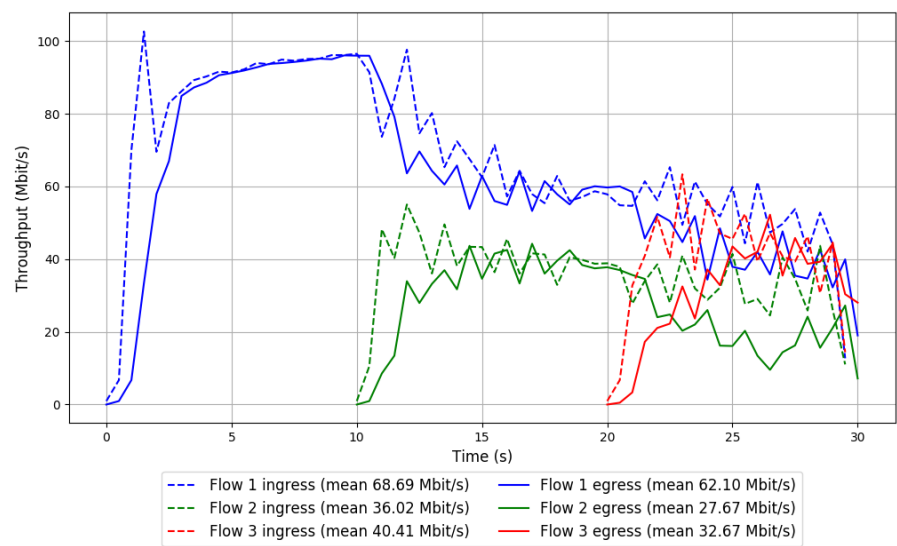# Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2018-08-22 04:21:03
End at: 2018-08-22 04:21:33
Local clock offset: -5.813 ms
Remote clock offset: 22.904 ms


# Below is generated by plot.py at 2018-08-22 06:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.36 Mbit/s
95th percentile per-packet one-way delay: 111.031 ms
Loss rate: 11.13%
-- Flow 1:
Average throughput: 57.56 Mbit/s
95th percentile per-packet one-way delay: 110.123 ms
Loss rate: 7.94%
-- Flow 2:
Average throughput: 34.59 Mbit/s
95th percentile per-packet one-way delay: 111.794 ms
Loss rate: 8.75%
-- Flow 3:
Average throughput: 27.47 Mbit/s
95th percentile per-packet one-way delay: 110.414 ms
Loss rate: 31.18%
```

Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2018-08-22 04:42:13
End at: 2018-08-22 04:42:43
Local clock offset: -5.508 ms
Remote clock offset: 28.052 ms

# Below is generated by plot.py at 2018-08-22 06:10:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.91 Mbit/s
95th percentile per-packet one-way delay: 114.663 ms
Loss rate: 8.31%
-- Flow 1:
Average throughput: 56.30 Mbit/s
95th percentile per-packet one-way delay: 112.149 ms
Loss rate: 6.46%
-- Flow 2:
Average throughput: 35.50 Mbit/s
95th percentile per-packet one-way delay: 114.931 ms
Loss rate: 11.21%
-- Flow 3:
Average throughput: 28.26 Mbit/s
95th percentile per-packet one-way delay: 115.104 ms
Loss rate: 11.66%
```
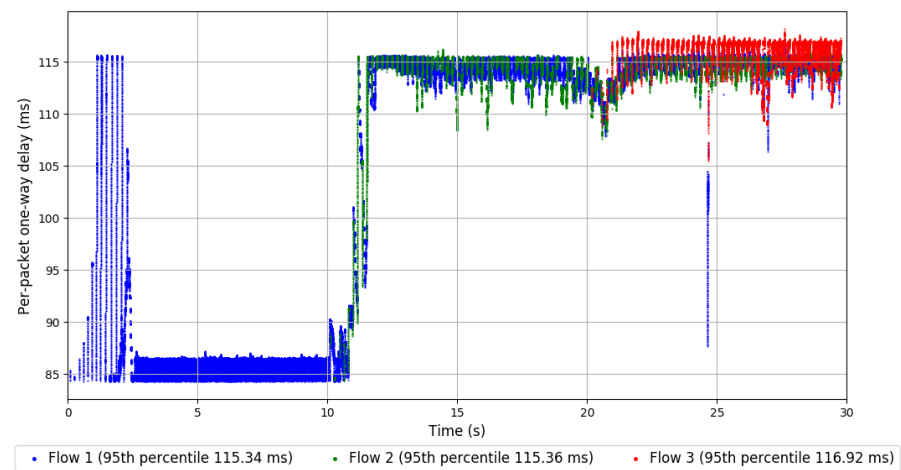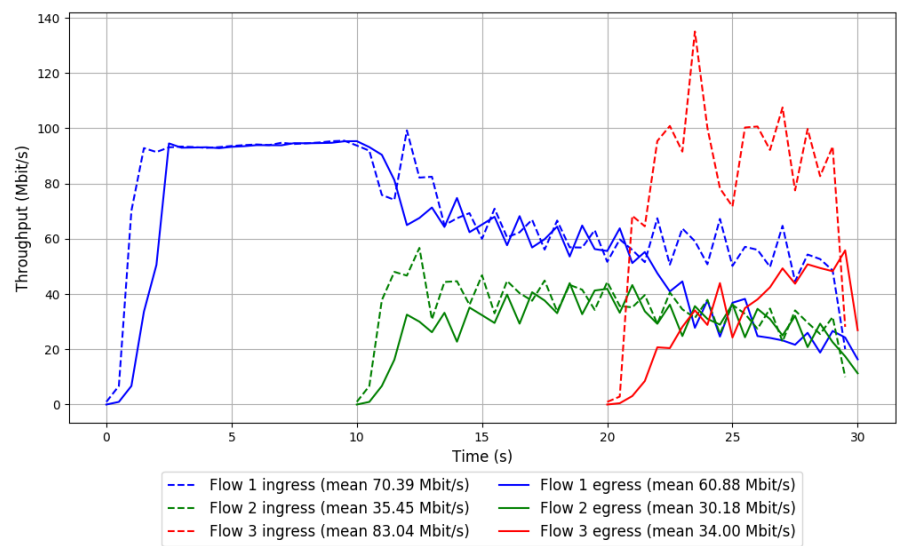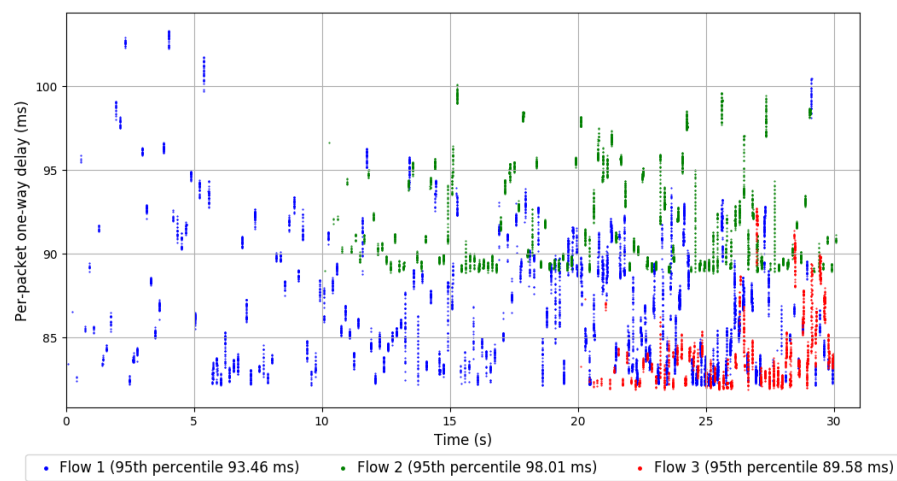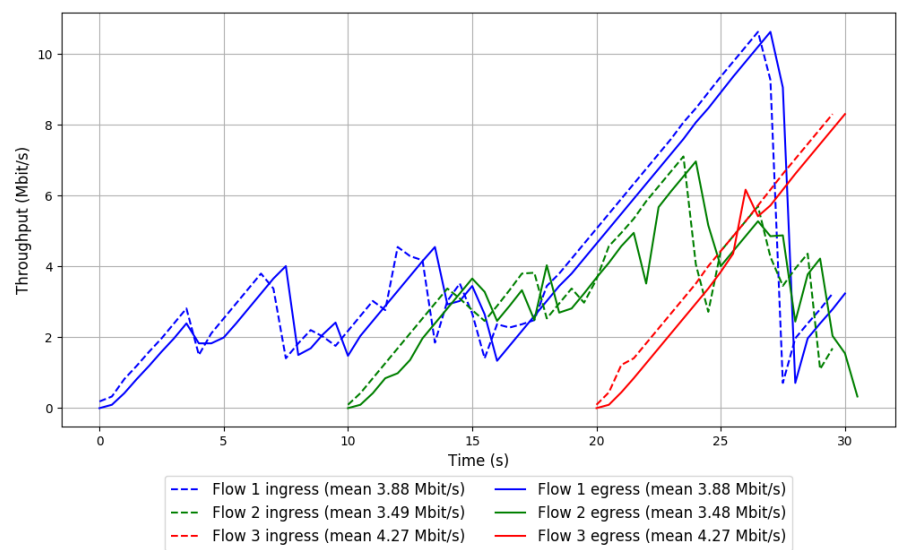
Run 7: Report of Indigo — Data Link

Flow 1 ingress (mean 60.25 Mbit/s) — — — Flow 1 egress (mean 56.30 Mbit/s)
Flow 2 ingress (mean 40.03 Mbit/s) — — — Flow 2 egress (mean 35.50 Mbit/s)
Flow 3 ingress (mean 32.04 Mbit/s) — — — Flow 3 egress (mean 28.26 Mbit/s)

Flow 1 (95th percentile 112.15 ms)   Flow 2 (95th percentile 114.93 ms)   Flow 3 (95th percentile 115.10 ms)

```
Run 8: Statistics of Indigo

Start at: 2018-08-22 05:03:28
End at: 2018-08-22 05:03:58
Local clock offset: -3.826 ms
Remote clock offset: -0.023 ms

# Below is generated by plot.py at 2018-08-22 06:10:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.73 Mbit/s
95th percentile per-packet one-way delay: 113.005 ms
Loss rate: 30.29%
-- Flow 1:
Average throughput: 66.47 Mbit/s
95th percentile per-packet one-way delay: 113.054 ms
Loss rate: 10.88%
-- Flow 2:
Average throughput: 24.06 Mbit/s
95th percentile per-packet one-way delay: 111.138 ms
Loss rate: 30.78%
-- Flow 3:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 111.233 ms
Loss rate: 70.76%
```

Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2018-08-22 05:24:40
End at: 2018-08-22 05:25:10
Local clock offset: -4.478 ms
Remote clock offset: -1.064 ms


# Below is generated by plot.py at 2018-08-22 06:10:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 115.178 ms
Loss rate: 13.74%
-- Flow 1:
Average throughput: 62.10 Mbit/s
95th percentile per-packet one-way delay: 113.953 ms
Loss rate: 9.51%
-- Flow 2:
Average throughput: 27.67 Mbit/s
95th percentile per-packet one-way delay: 115.602 ms
Loss rate: 23.08%
-- Flow 3:
Average throughput: 32.67 Mbit/s
95th percentile per-packet one-way delay: 113.935 ms
Loss rate: 19.01%
```
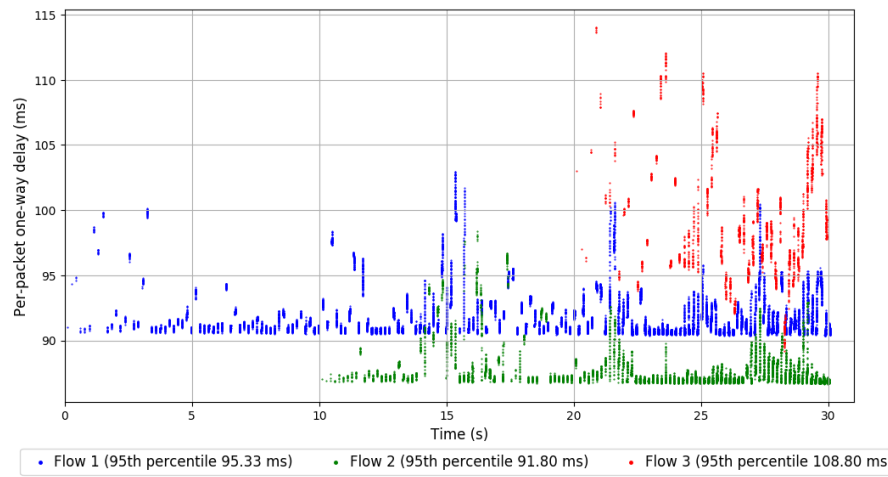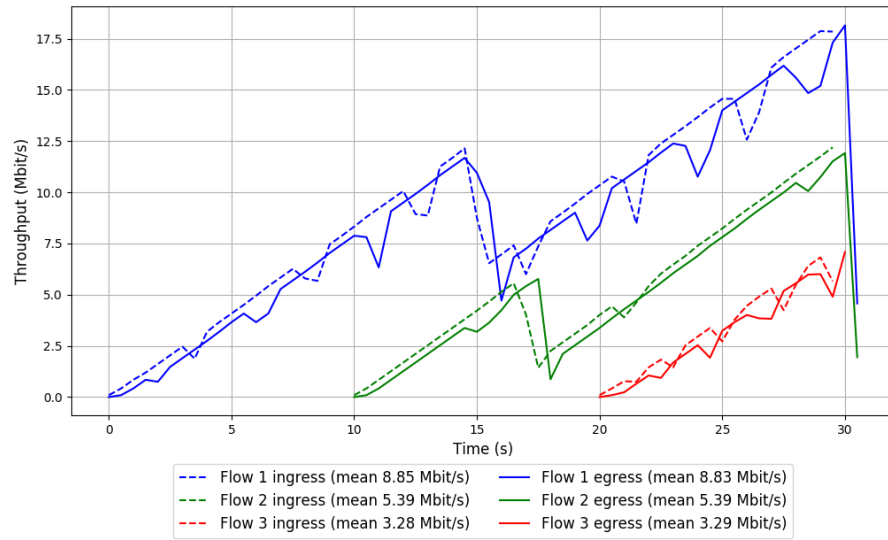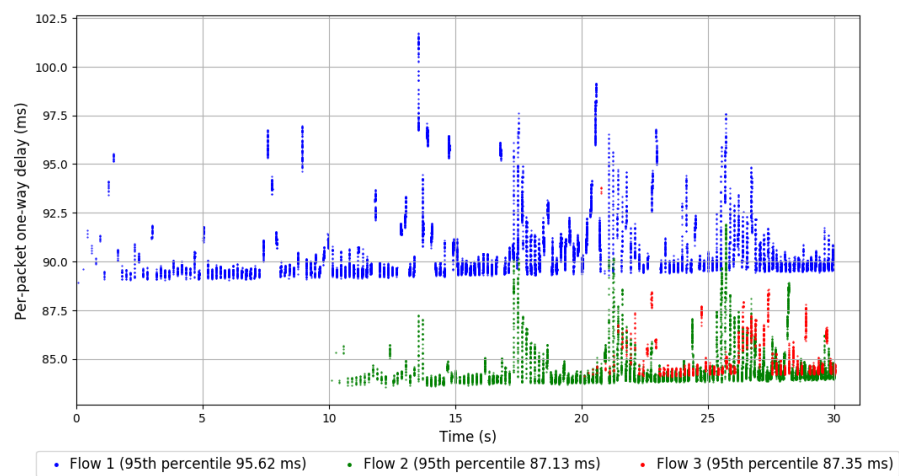
Run 9: Report of Indigo — Data Link

Flow 1 ingress (mean 68.69 Mbit/s)   Flow 1 egress (mean 62.10 Mbit/s)
Flow 2 ingress (mean 36.02 Mbit/s)   Flow 2 egress (mean 27.67 Mbit/s)
Flow 3 ingress (mean 40.41 Mbit/s)   Flow 3 egress (mean 32.67 Mbit/s)

Flow 1 (95th percentile 113.95 ms)   Flow 2 (95th percentile 115.60 ms)   Flow 3 (95th percentile 113.94 ms)
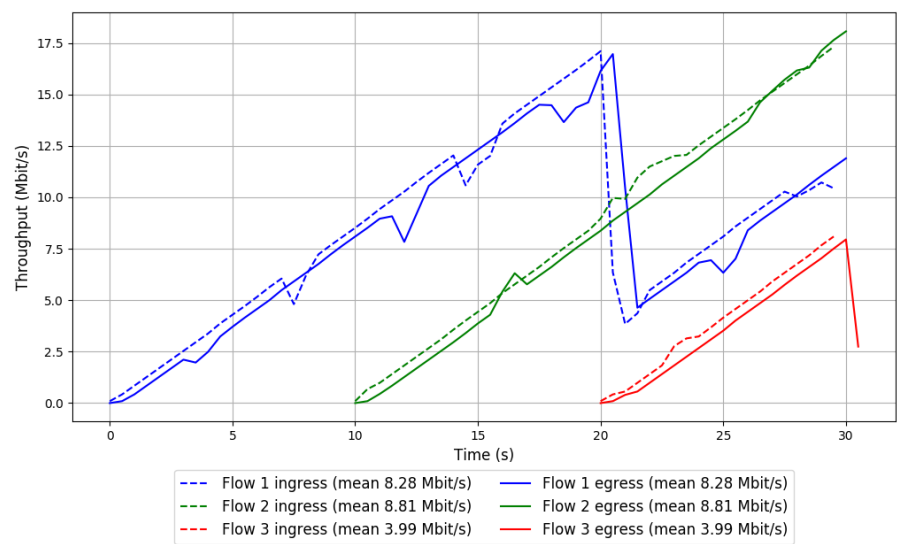
```
Run 10: Statistics of Indigo

Start at: 2018-08-22 05:45:49
End at: 2018-08-22 05:46:19
Local clock offset: -4.72 ms
Remote clock offset: 1.896 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.76 Mbit/s
95th percentile per-packet one-way delay: 116.655 ms
Loss rate: 23.82%
-- Flow 1:
Average throughput: 60.88 Mbit/s
95th percentile per-packet one-way delay: 115.337 ms
Loss rate: 13.41%
-- Flow 2:
Average throughput: 30.18 Mbit/s
95th percentile per-packet one-way delay: 115.356 ms
Loss rate: 14.74%
-- Flow 3:
Average throughput: 34.00 Mbit/s
95th percentile per-packet one-way delay: 116.922 ms
Loss rate: 59.03%
```

Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-08-22 02:27:43
End at: 2018-08-22 02:28:13
Local clock offset: -3.967 ms
Remote clock offset: 6.29 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 95.772 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 93.457 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 98.007 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 89.579 ms
Loss rate: 0.00%
```
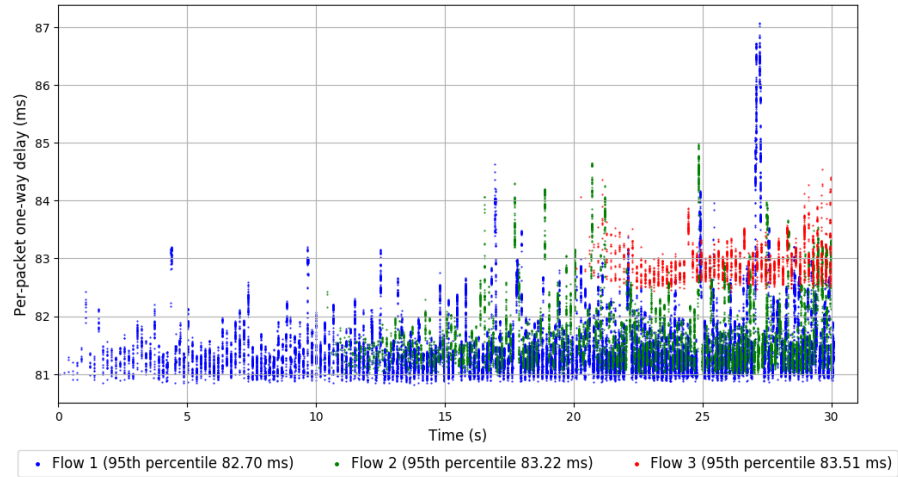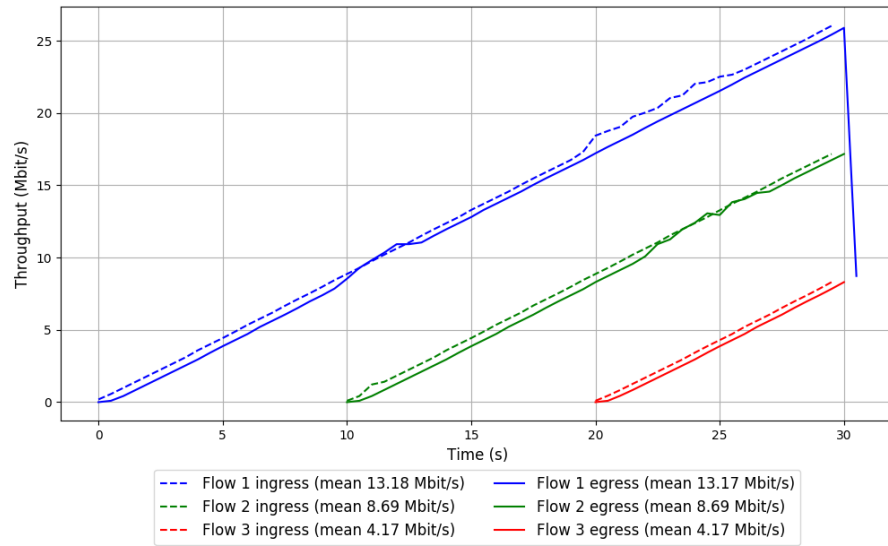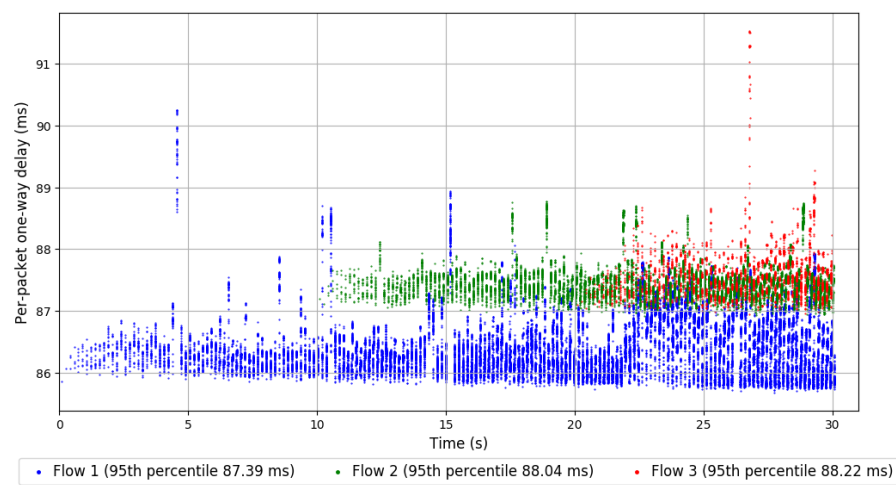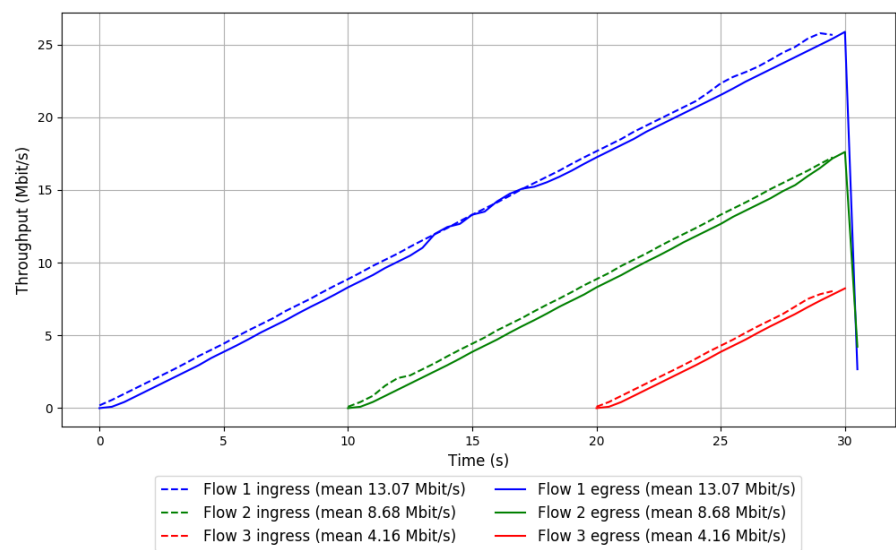
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-08-22 02:48:49
End at: 2018-08-22 02:49:19
Local clock offset: -12.99 ms
Remote clock offset: 6.687 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.49 Mbit/s
95th percentile per-packet one-way delay: 98.308 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 95.325 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 91.802 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 108.798 ms
Loss rate: 1.36%
```
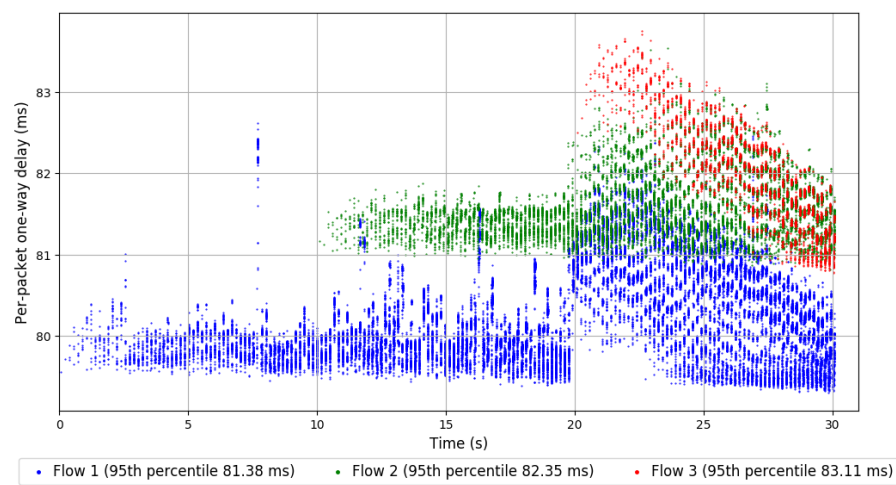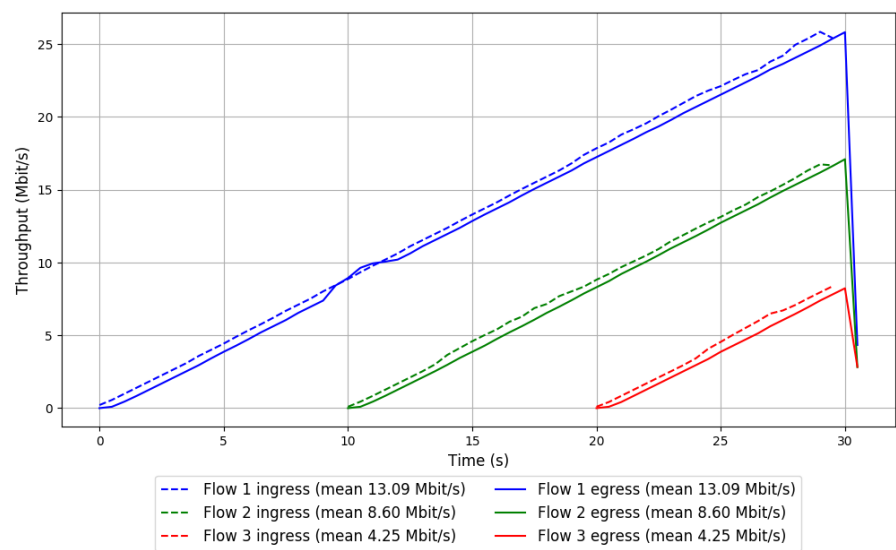
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 8.85 Mbit/s) ---   Flow 1 egress (mean 8.83 Mbit/s) ——
Flow 2 ingress (mean 5.39 Mbit/s) ---   Flow 2 egress (mean 5.39 Mbit/s) ——
Flow 3 ingress (mean 3.28 Mbit/s) ---   Flow 3 egress (mean 3.29 Mbit/s) ——

Flow 1 (95th percentile 95.33 ms)   • Flow 2 (95th percentile 91.80 ms)   • Flow 3 (95th percentile 108.80 ms)

127

```
Run 3: Statistics of LEDBAT

Start at: 2018-08-22 03:09:57
End at: 2018-08-22 03:10:27
Local clock offset: -14.724 ms
Remote clock offset: 3.382 ms

# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.44 Mbit/s
95th percentile per-packet one-way delay: 93.323 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 95.622 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 8.81 Mbit/s
95th percentile per-packet one-way delay: 87.127 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 87.352 ms
Loss rate: 0.03%
```
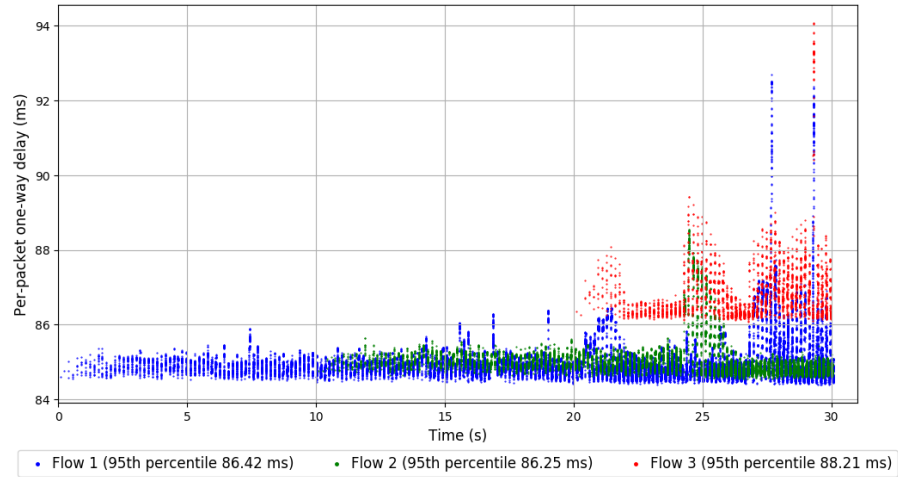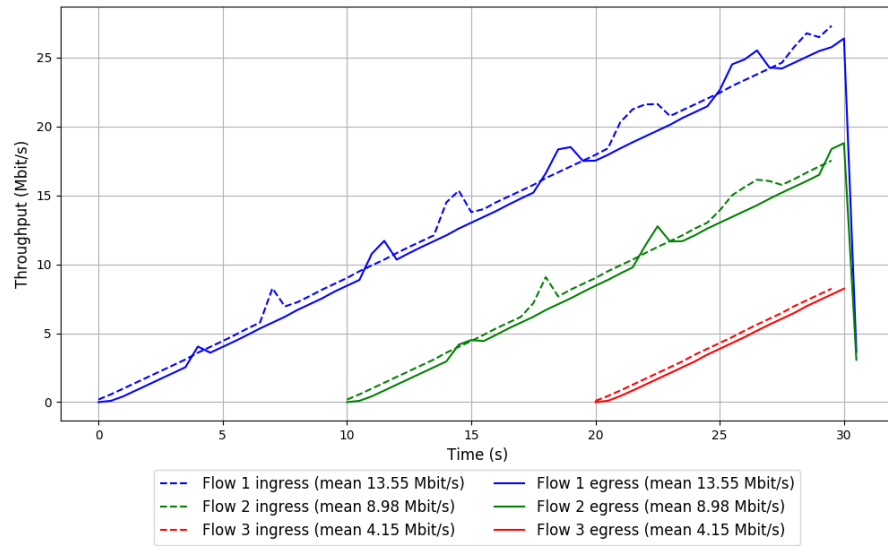
Run 3: Report of LEDBAT — Data Link

129

```
Run 4: Statistics of LEDBAT

Start at: 2018-08-22 03:31:06
End at: 2018-08-22 03:31:36
Local clock offset: -2.414 ms
Remote clock offset: 4.272 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.31 Mbit/s
95th percentile per-packet one-way delay: 83.149 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.17 Mbit/s
95th percentile per-packet one-way delay: 82.701 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 83.220 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 83.506 ms
Loss rate: 0.00%
```

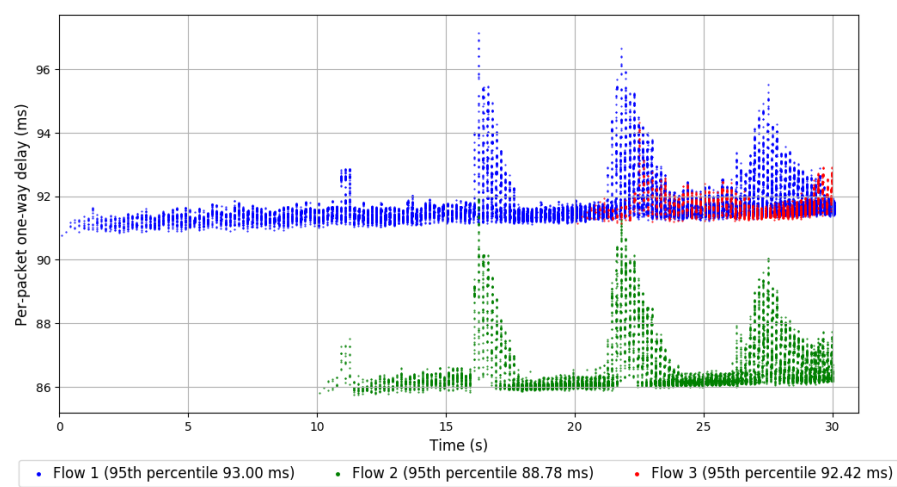# Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-08-22 03:52:18
End at: 2018-08-22 03:52:48
Local clock offset: -2.524 ms
Remote clock offset: 21.637 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.21 Mbit/s
95th percentile per-packet one-way delay: 87.778 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.07 Mbit/s
95th percentile per-packet one-way delay: 87.386 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.68 Mbit/s
95th percentile per-packet one-way delay: 88.044 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.16 Mbit/s
95th percentile per-packet one-way delay: 88.223 ms
Loss rate: 0.00%
```
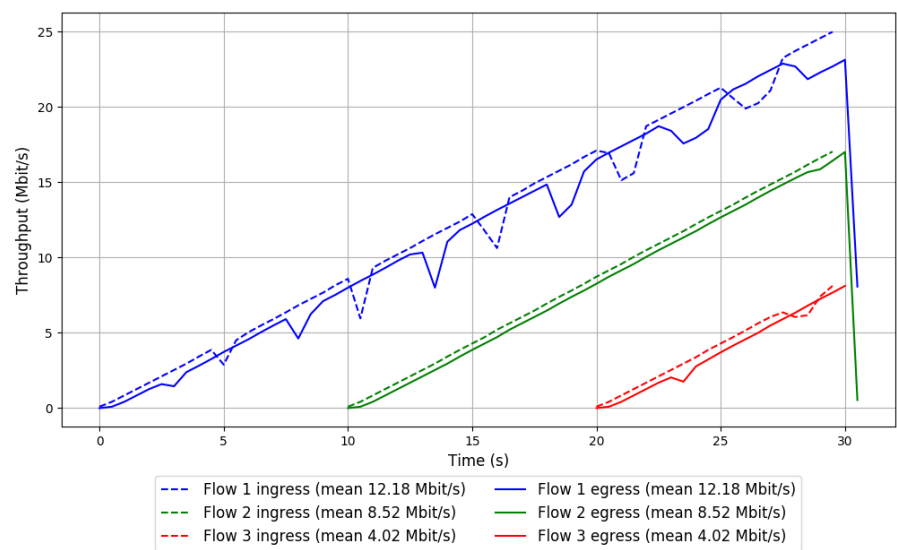
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2018-08-22 04:13:30
End at: 2018-08-22 04:14:00
Local clock offset: -4.408 ms
Remote clock offset: 21.585 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.23 Mbit/s
95th percentile per-packet one-way delay: 82.217 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 13.09 Mbit/s
95th percentile per-packet one-way delay: 81.381 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 82.354 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 83.106 ms
Loss rate: 0.00%
```
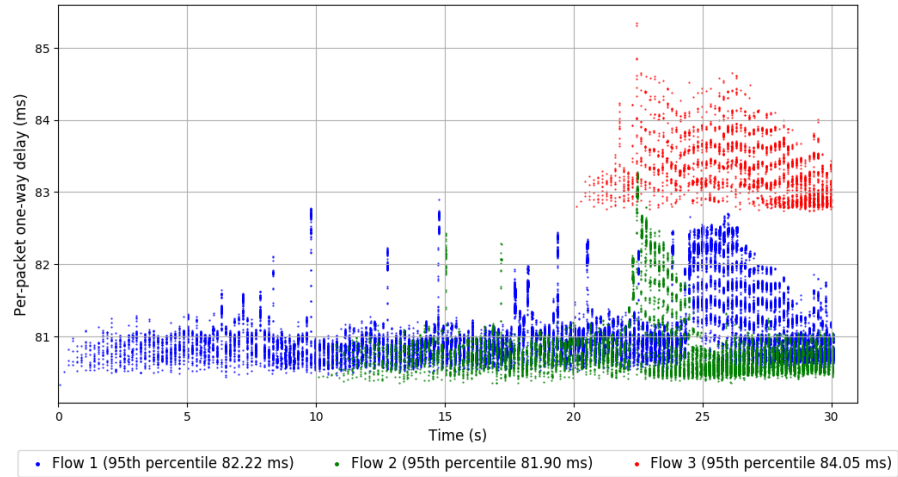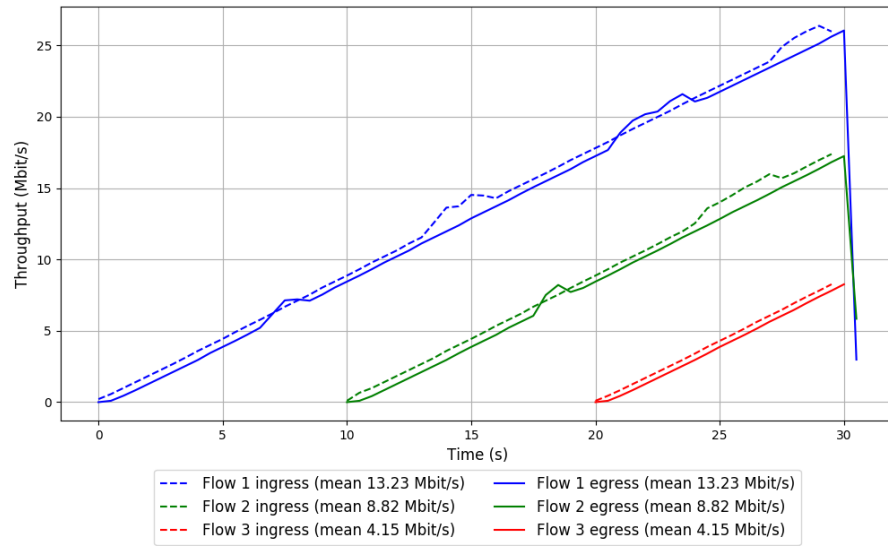
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-08-22 04:34:41
End at: 2018-08-22 04:35:11
Local clock offset: -6.566 ms
Remote clock offset: 30.606 ms

# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.88 Mbit/s
95th percentile per-packet one-way delay: 86.877 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.55 Mbit/s
95th percentile per-packet one-way delay: 86.415 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.98 Mbit/s
95th percentile per-packet one-way delay: 86.249 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 88.210 ms
Loss rate: 0.00%
```
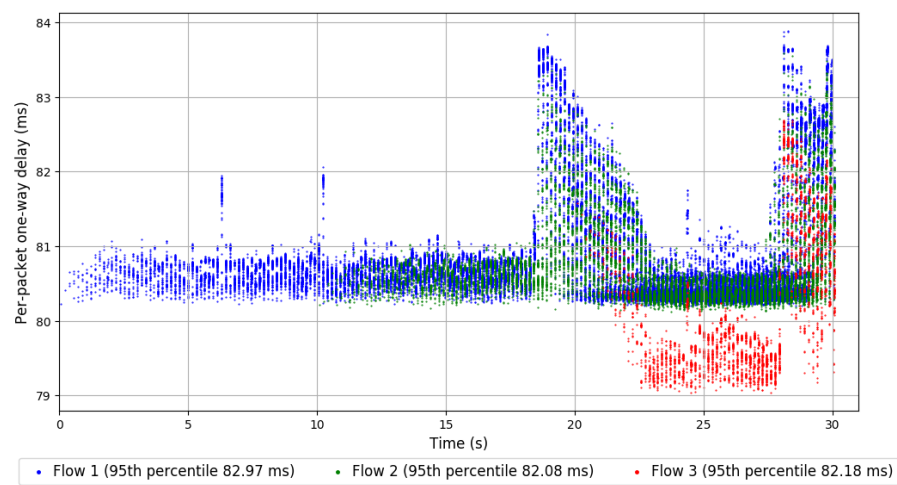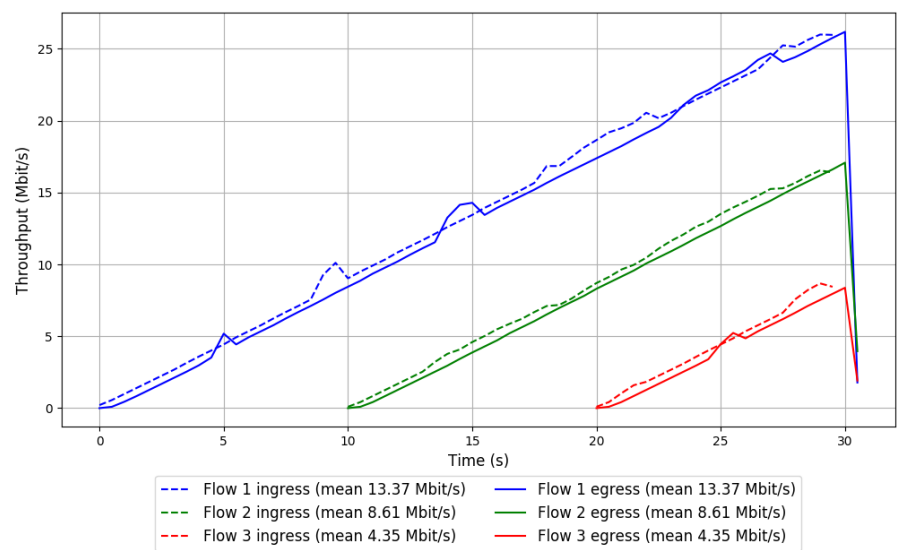
Run 7: Report of LEDBAT — Data Link

Flow 1 ingress (mean 13.55 Mbit/s)   Flow 1 egress (mean 13.55 Mbit/s)
Flow 2 ingress (mean 8.98 Mbit/s)   Flow 2 egress (mean 8.98 Mbit/s)
Flow 3 ingress (mean 4.15 Mbit/s)   Flow 3 egress (mean 4.15 Mbit/s)

Flow 1 (95th percentile 86.42 ms)   Flow 2 (95th percentile 86.25 ms)   Flow 3 (95th percentile 88.21 ms)

```
Run 8: Statistics of LEDBAT

Start at: 2018-08-22 04:55:53
End at: 2018-08-22 04:56:23
Local clock offset: -4.249 ms
Remote clock offset: 11.195 ms

# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.17 Mbit/s
95th percentile per-packet one-way delay: 92.651 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.18 Mbit/s
95th percentile per-packet one-way delay: 92.997 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.52 Mbit/s
95th percentile per-packet one-way delay: 88.778 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 92.418 ms
Loss rate: 0.00%
```
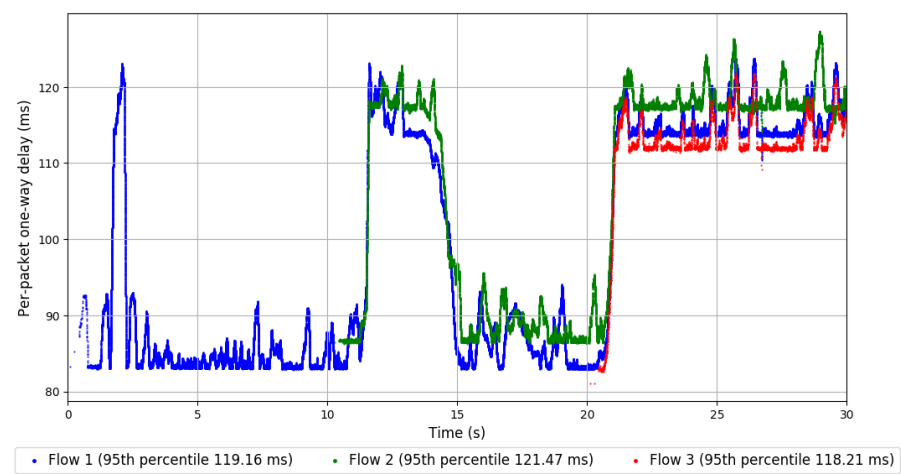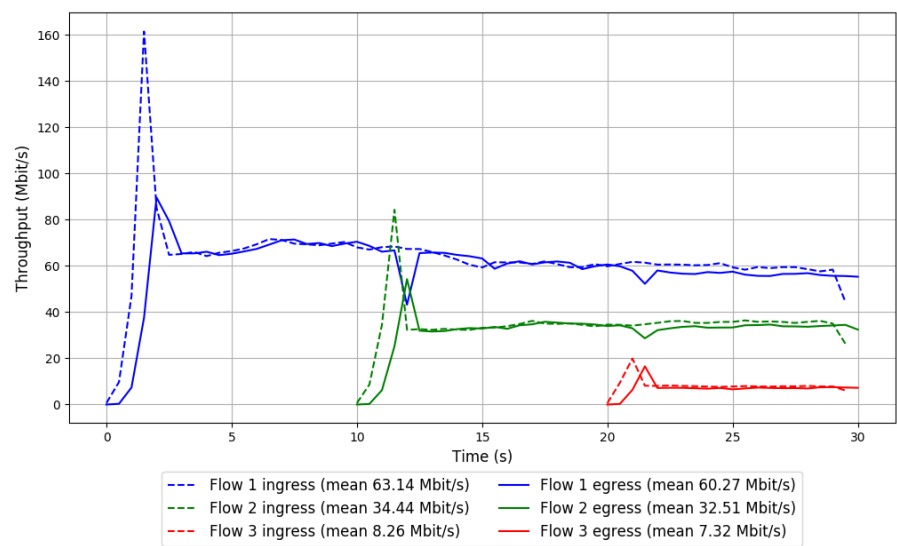
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2018-08-22 05:17:09
End at: 2018-08-22 05:17:39
Local clock offset: -4.313 ms
Remote clock offset: -5.701 ms


# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.47 Mbit/s
95th percentile per-packet one-way delay: 83.025 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.23 Mbit/s
95th percentile per-packet one-way delay: 82.223 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 81.903 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 84.050 ms
Loss rate: 0.00%
```

Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2018-08-22 05:38:17
End at: 2018-08-22 05:38:47
Local clock offset: -3.688 ms
Remote clock offset: -2.329 ms

# Below is generated by plot.py at 2018-08-22 06:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.55 Mbit/s
95th percentile per-packet one-way delay: 82.719 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 13.37 Mbit/s
95th percentile per-packet one-way delay: 82.968 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 82.080 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 82.178 ms
Loss rate: 0.03%
```
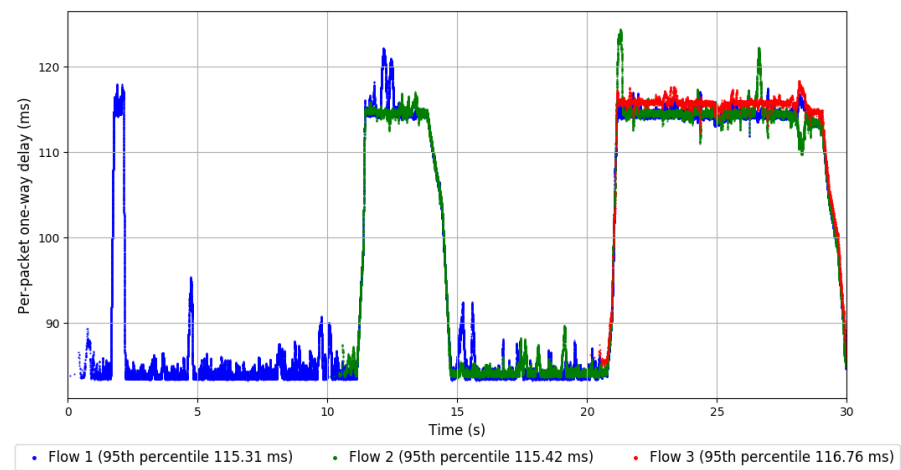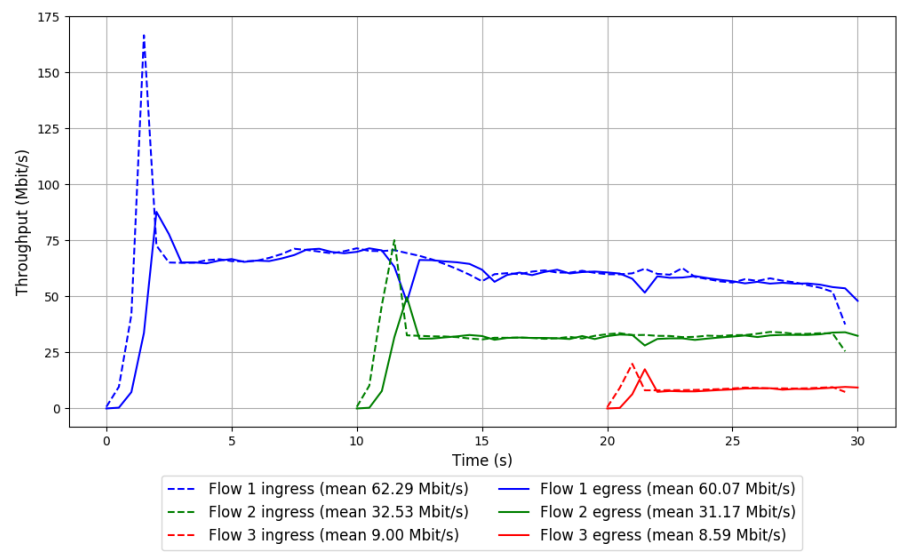
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-22 02:45:06
End at: 2018-08-22 02:45:36
Local clock offset: -11.065 ms
Remote clock offset: 2.968 ms


# Below is generated by plot.py at 2018-08-22 06:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.32 Mbit/s
95th percentile per-packet one-way delay: 119.991 ms
Loss rate: 4.92%
-- Flow 1:
Average throughput: 60.27 Mbit/s
95th percentile per-packet one-way delay: 119.163 ms
Loss rate: 4.45%
-- Flow 2:
Average throughput: 32.51 Mbit/s
95th percentile per-packet one-way delay: 121.469 ms
Loss rate: 5.46%
-- Flow 3:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 118.210 ms
Loss rate: 11.15%
```
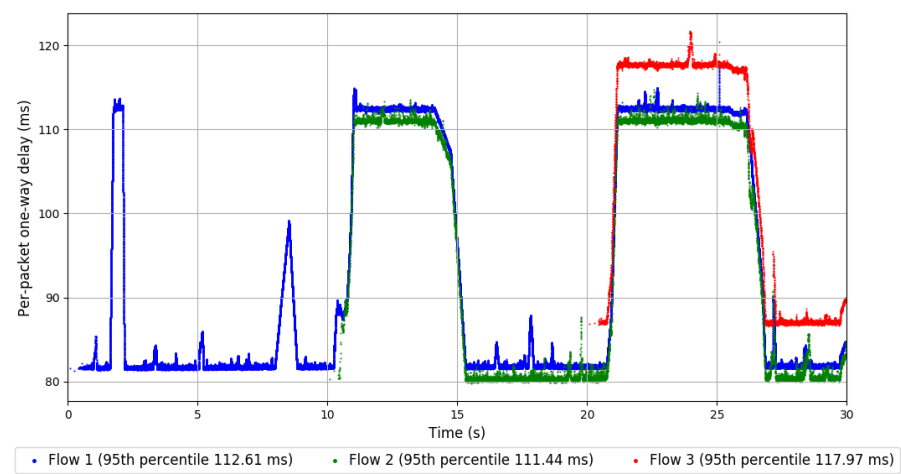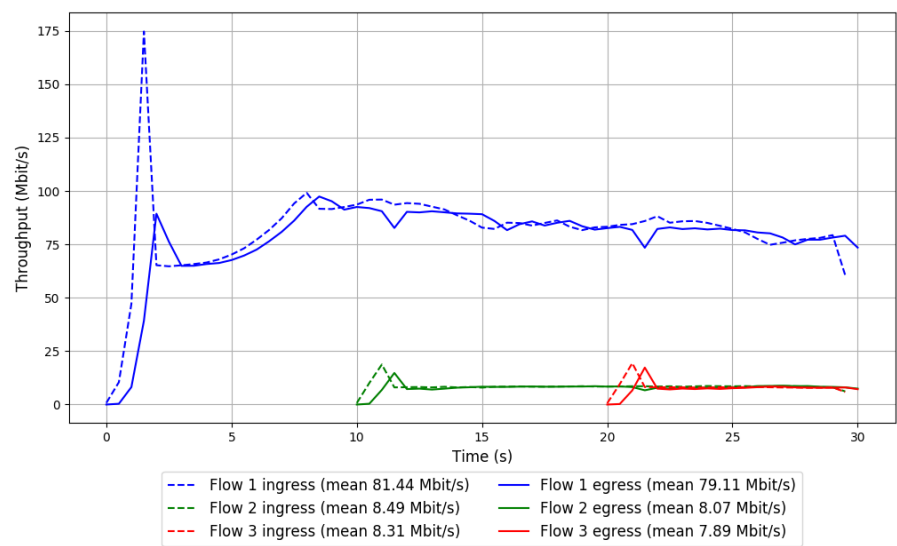
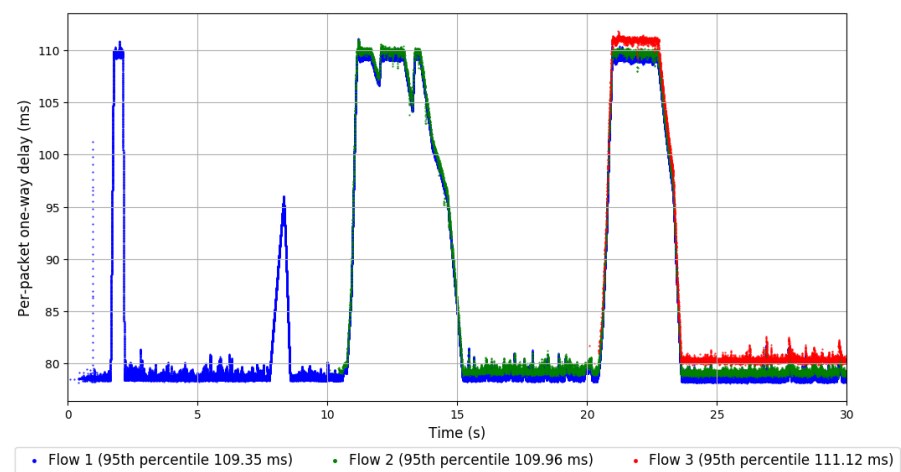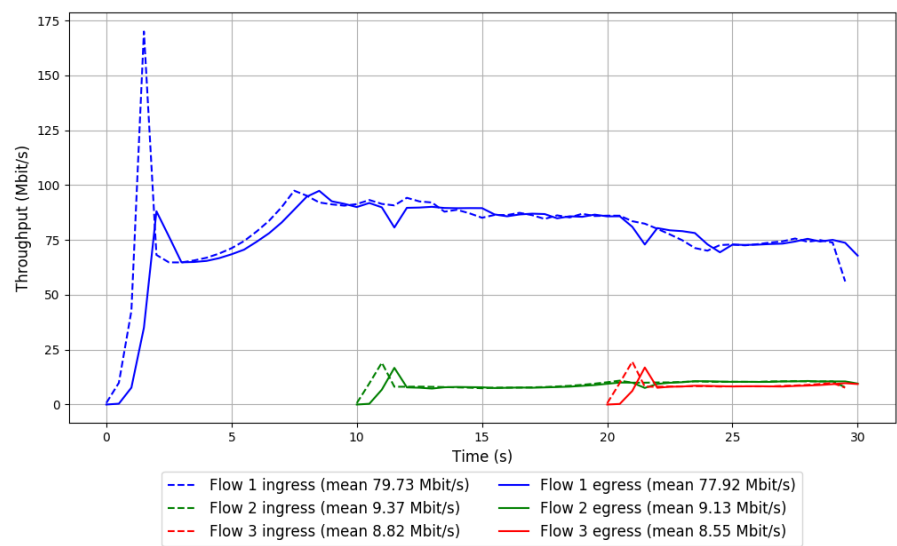Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-08-22 03:06:12
End at: 2018-08-22 03:06:42
Local clock offset: -18.018 ms
Remote clock offset: 5.774 ms


# Below is generated by plot.py at 2018-08-22 06:11:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.63 Mbit/s
95th percentile per-packet one-way delay: 115.728 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 60.07 Mbit/s
95th percentile per-packet one-way delay: 115.305 ms
Loss rate: 3.55%
-- Flow 2:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 115.425 ms
Loss rate: 4.18%
-- Flow 3:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 116.758 ms
Loss rate: 4.58%
```
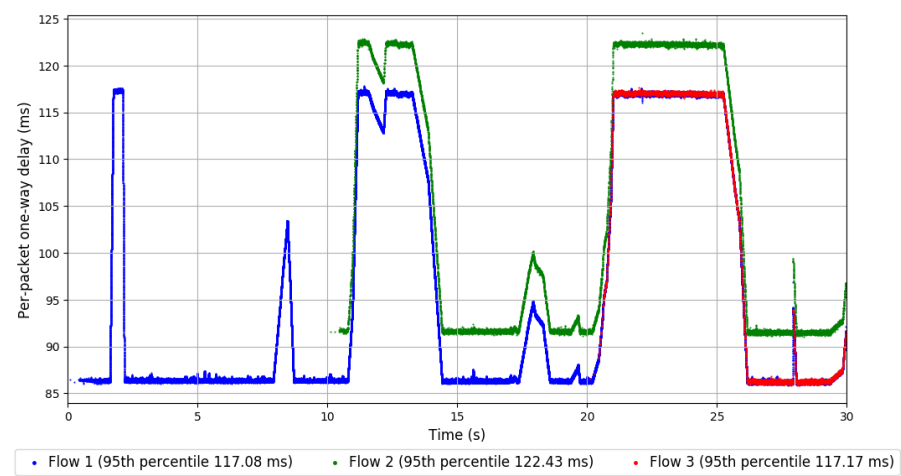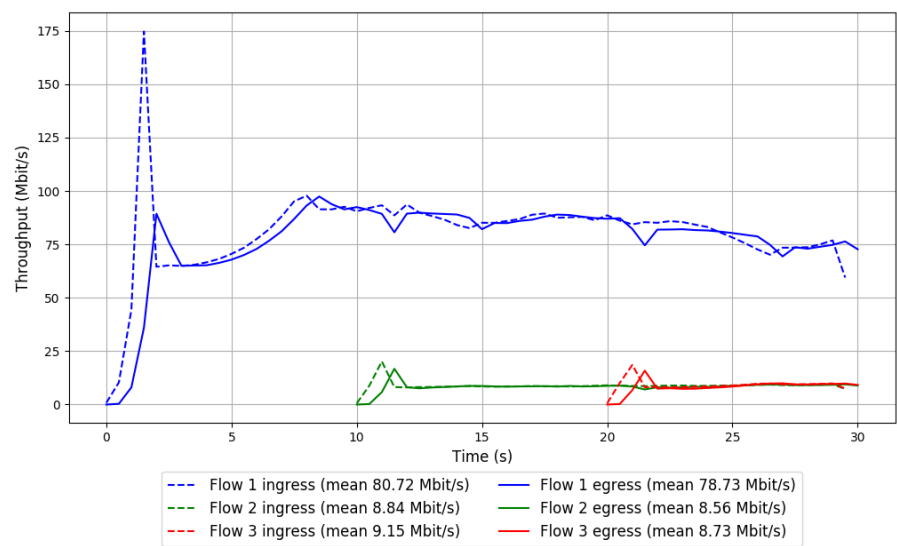
Run 2: Report of PCC-Allegro — Data Link

- Flow 1 ingress (mean 62.29 Mbit/s)
- Flow 1 egress (mean 60.07 Mbit/s)
- Flow 2 ingress (mean 32.53 Mbit/s)
- Flow 2 egress (mean 31.17 Mbit/s)
- Flow 3 ingress (mean 9.00 Mbit/s)
- Flow 3 egress (mean 8.59 Mbit/s)

- Flow 1 (95th percentile 115.31 ms)
- Flow 2 (95th percentile 115.42 ms)
- Flow 3 (95th percentile 116.76 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-08-22 03:27:20
End at: 2018-08-22 03:27:50
Local clock offset: -3.317 ms
Remote clock offset: 3.271 ms


# Below is generated by plot.py at 2018-08-22 06:11:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.08 Mbit/s
95th percentile per-packet one-way delay: 112.643 ms
Loss rate: 3.05%
-- Flow 1:
Average throughput: 79.11 Mbit/s
95th percentile per-packet one-way delay: 112.607 ms
Loss rate: 2.86%
-- Flow 2:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 111.445 ms
Loss rate: 4.89%
-- Flow 3:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 117.975 ms
Loss rate: 5.16%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 81.44 Mbit/s)   Flow 1 egress (mean 79.11 Mbit/s)
Flow 2 ingress (mean 8.49 Mbit/s)   Flow 2 egress (mean 8.07 Mbit/s)
Flow 3 ingress (mean 8.31 Mbit/s)   Flow 3 egress (mean 7.89 Mbit/s)

Flow 1 (95th percentile 112.61 ms)   Flow 2 (95th percentile 111.44 ms)   Flow 3 (95th percentile 117.97 ms)

149

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-08-22 03:48:31
End at: 2018-08-22 03:49:01
Local clock offset: -1.752 ms
Remote clock offset: 13.669 ms


# Below is generated by plot.py at 2018-08-22 06:11:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.80 Mbit/s
95th percentile per-packet one-way delay: 109.413 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 77.92 Mbit/s
95th percentile per-packet one-way delay: 109.349 ms
Loss rate: 2.27%
-- Flow 2:
Average throughput: 9.13 Mbit/s
95th percentile per-packet one-way delay: 109.961 ms
Loss rate: 2.50%
-- Flow 3:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 111.124 ms
Loss rate: 3.09%
```
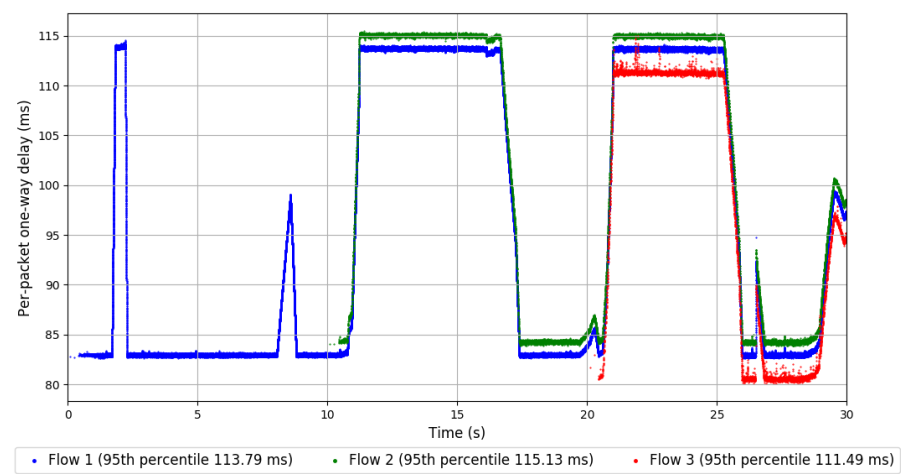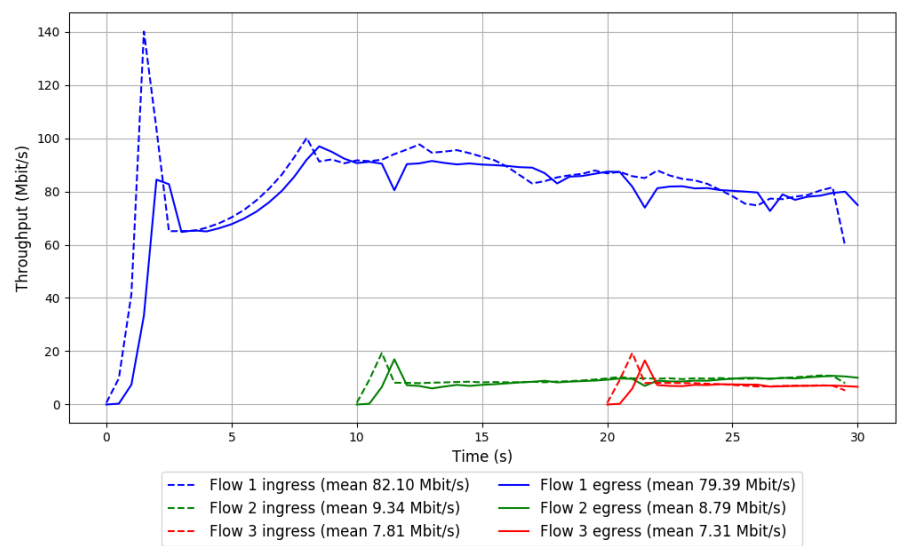
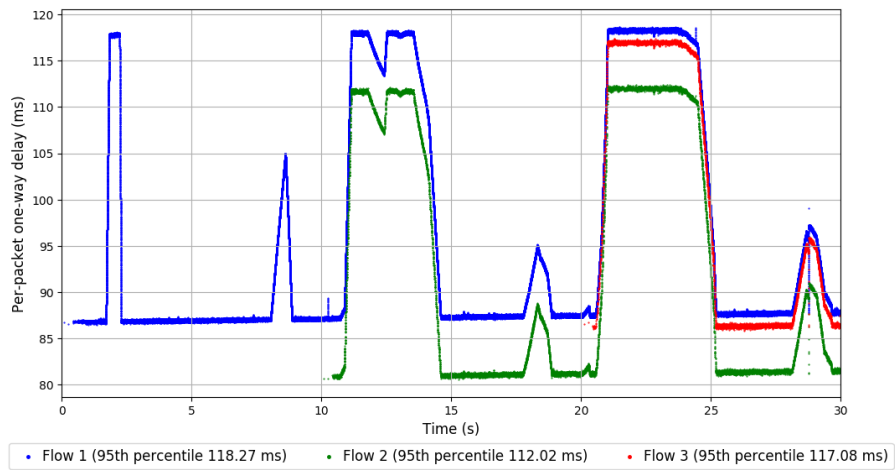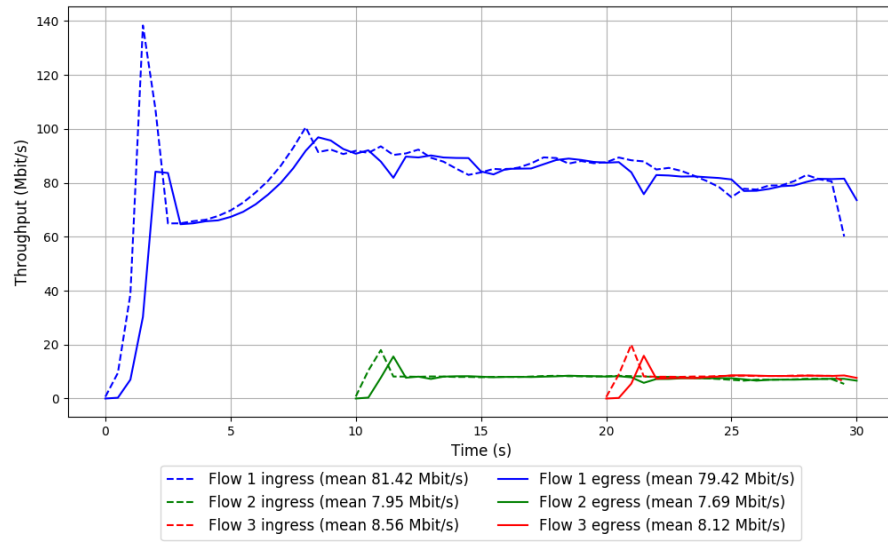## Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-08-22 04:09:44
End at: 2018-08-22 04:10:14
Local clock offset: -3.248 ms
Remote clock offset: 25.856 ms


# Below is generated by plot.py at 2018-08-22 06:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.30 Mbit/s
95th percentile per-packet one-way delay: 117.155 ms
Loss rate: 2.58%
-- Flow 1:
Average throughput: 78.73 Mbit/s
95th percentile per-packet one-way delay: 117.082 ms
Loss rate: 2.46%
-- Flow 2:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 122.428 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 117.173 ms
Loss rate: 4.60%
```
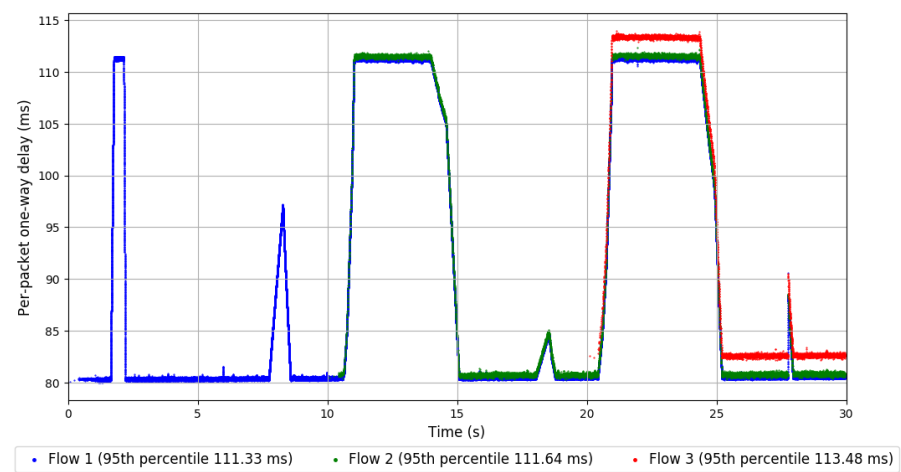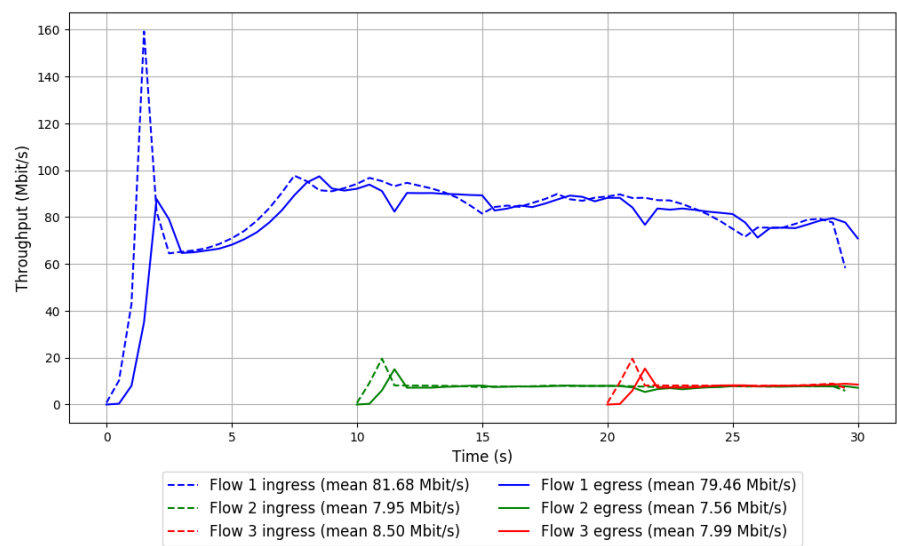
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 80.72 Mbit/s) --- Flow 1 egress (mean 78.73 Mbit/s)
Flow 2 ingress (mean 8.84 Mbit/s) --- Flow 2 egress (mean 8.56 Mbit/s)
Flow 3 ingress (mean 9.15 Mbit/s) --- Flow 3 egress (mean 8.73 Mbit/s)

Flow 1 (95th percentile 117.08 ms) · Flow 2 (95th percentile 122.43 ms) · Flow 3 (95th percentile 117.17 ms)

```
Run 6: Statistics of PCC-Allegro

Start at: 2018-08-22 04:30:54
End at: 2018-08-22 04:31:24
Local clock offset: -6.452 ms
Remote clock offset: 26.01 ms


# Below is generated by plot.py at 2018-08-22 06:11:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.65 Mbit/s
95th percentile per-packet one-way delay: 113.844 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 79.39 Mbit/s
95th percentile per-packet one-way delay: 113.792 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 115.128 ms
Loss rate: 5.93%
-- Flow 3:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 111.491 ms
Loss rate: 6.19%
```

Run 6: Report of PCC-Allegro — Data Link

```
Run 7: Statistics of PCC-Allegro

Start at: 2018-08-22 04:52:07
End at: 2018-08-22 04:52:37
Local clock offset: -4.413 ms
Remote clock offset: 12.954 ms


# Below is generated by plot.py at 2018-08-22 06:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.21 Mbit/s
95th percentile per-packet one-way delay: 118.252 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 79.42 Mbit/s
95th percentile per-packet one-way delay: 118.265 ms
Loss rate: 2.47%
-- Flow 2:
Average throughput: 7.69 Mbit/s
95th percentile per-packet one-way delay: 112.022 ms
Loss rate: 3.28%
-- Flow 3:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 117.080 ms
Loss rate: 5.10%
```
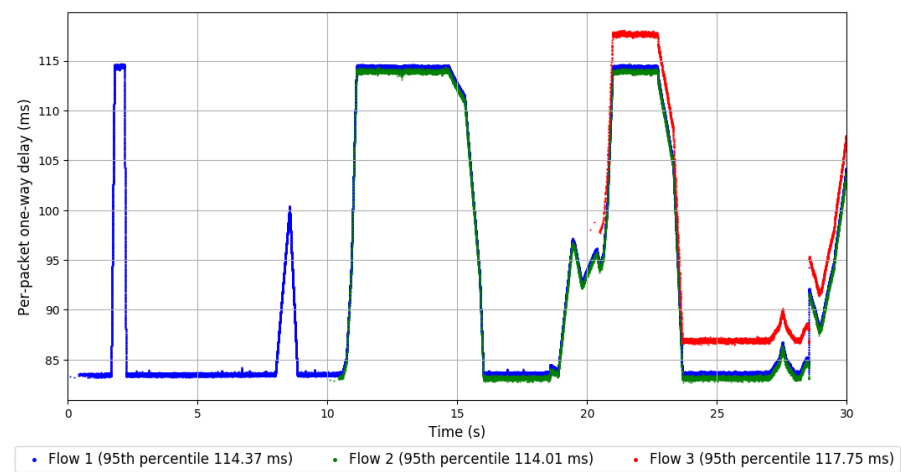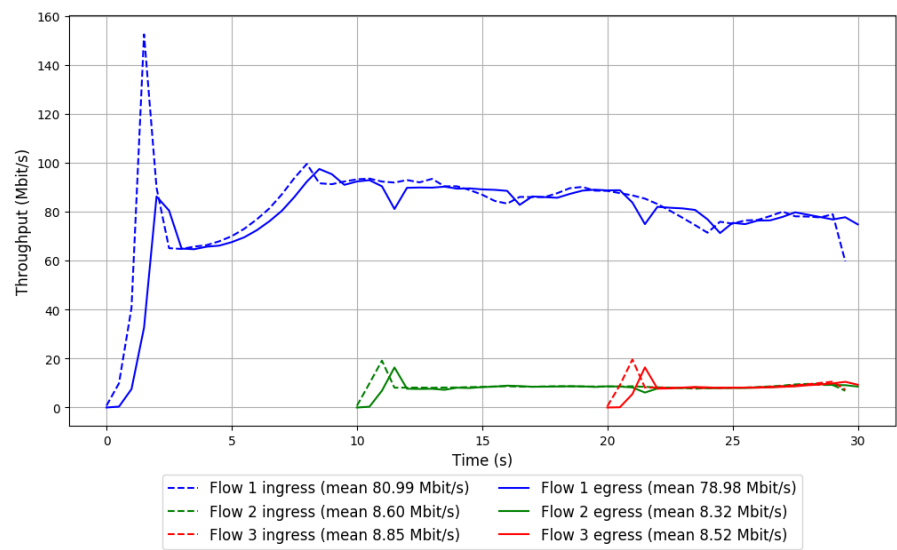
Run 7: Report of PCC-Allegro — Data Link

```
Run 8: Statistics of PCC-Allegro

Start at: 2018-08-22 05:13:23
End at: 2018-08-22 05:13:53
Local clock offset: -5.013 ms
Remote clock offset: -5.186 ms


# Below is generated by plot.py at 2018-08-22 06:11:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.12 Mbit/s
95th percentile per-packet one-way delay: 111.373 ms
Loss rate: 2.95%
-- Flow 1:
Average throughput: 79.46 Mbit/s
95th percentile per-packet one-way delay: 111.330 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 111.635 ms
Loss rate: 4.96%
-- Flow 3:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 113.479 ms
Loss rate: 6.01%
```
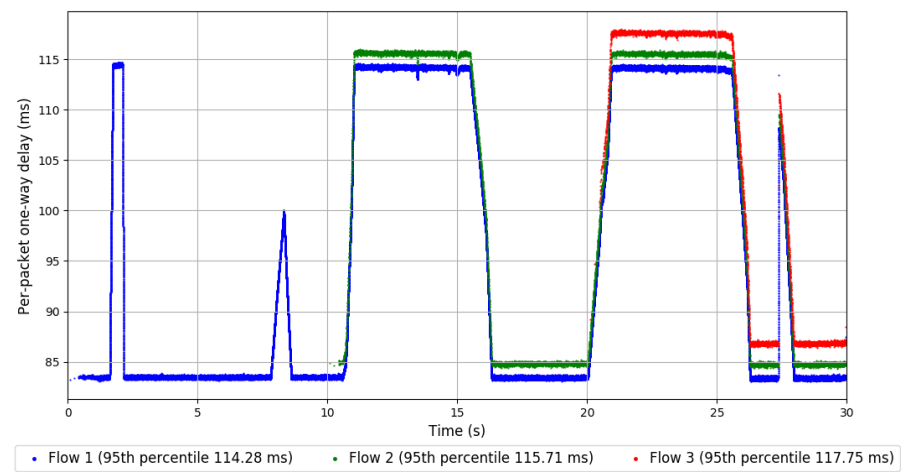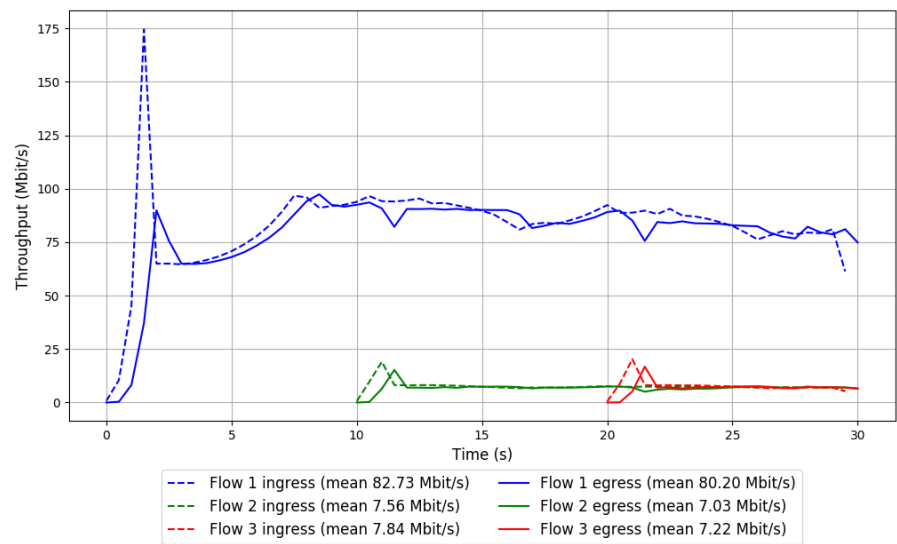
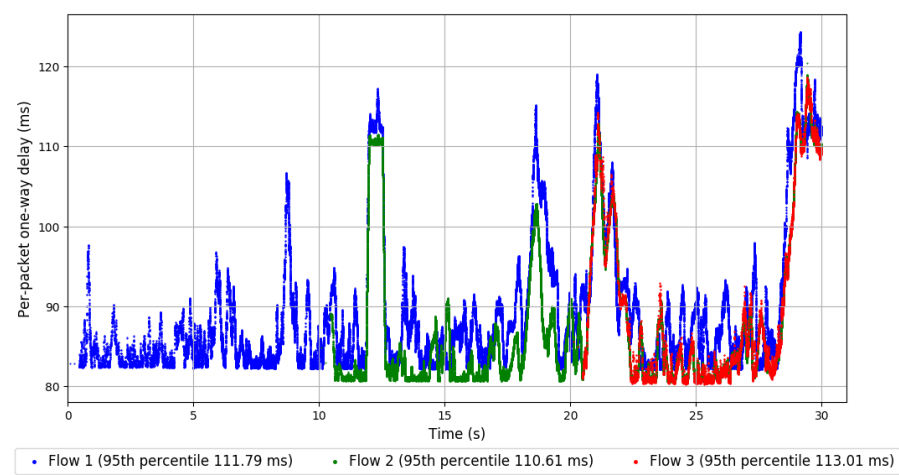Run 8: Report of PCC-Allegro — Data Link

```
Run 9: Statistics of PCC-Allegro

Start at: 2018-08-22 05:34:31
End at: 2018-08-22 05:35:01
Local clock offset: -4.461 ms
Remote clock offset: 1.37 ms


# Below is generated by plot.py at 2018-08-22 06:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.33 Mbit/s
95th percentile per-packet one-way delay: 114.375 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 78.98 Mbit/s
95th percentile per-packet one-way delay: 114.371 ms
Loss rate: 2.41%
-- Flow 2:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 114.009 ms
Loss rate: 3.14%
-- Flow 3:
Average throughput: 8.52 Mbit/s
95th percentile per-packet one-way delay: 117.755 ms
Loss rate: 3.58%
```
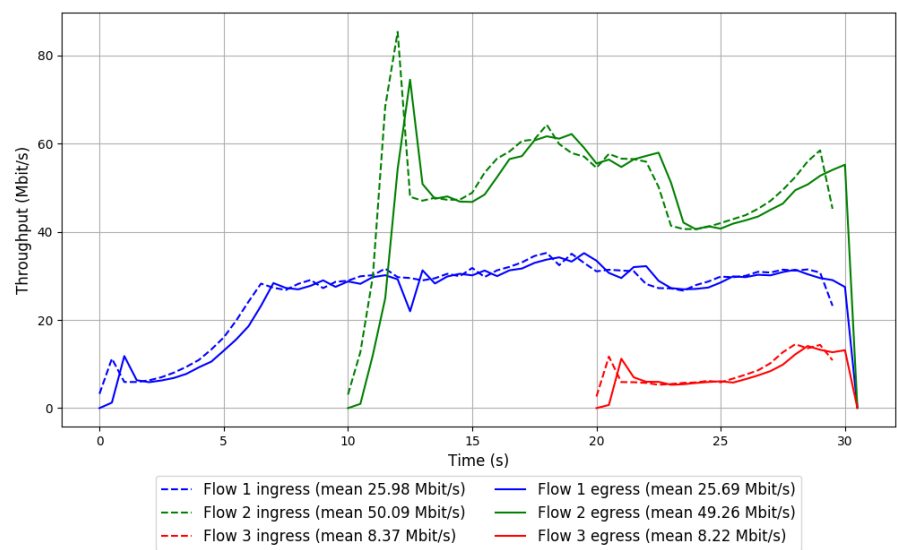
Run 9: Report of PCC-Allegro — Data Link

```
Run 10: Statistics of PCC-Allegro

Start at: 2018-08-22 05:55:39
End at: 2018-08-22 05:56:10
Local clock offset: -4.855 ms
Remote clock offset: 0.568 ms


# Below is generated by plot.py at 2018-08-22 06:12:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.25 Mbit/s
95th percentile per-packet one-way delay: 114.395 ms
Loss rate: 3.40%
-- Flow 1:
Average throughput: 80.20 Mbit/s
95th percentile per-packet one-way delay: 114.281 ms
Loss rate: 3.04%
-- Flow 2:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 115.714 ms
Loss rate: 6.98%
-- Flow 3:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 117.745 ms
Loss rate: 7.81%
```

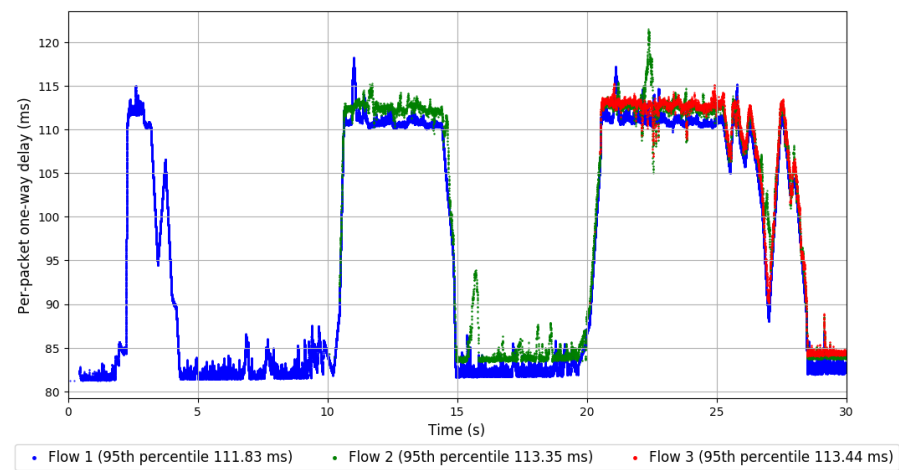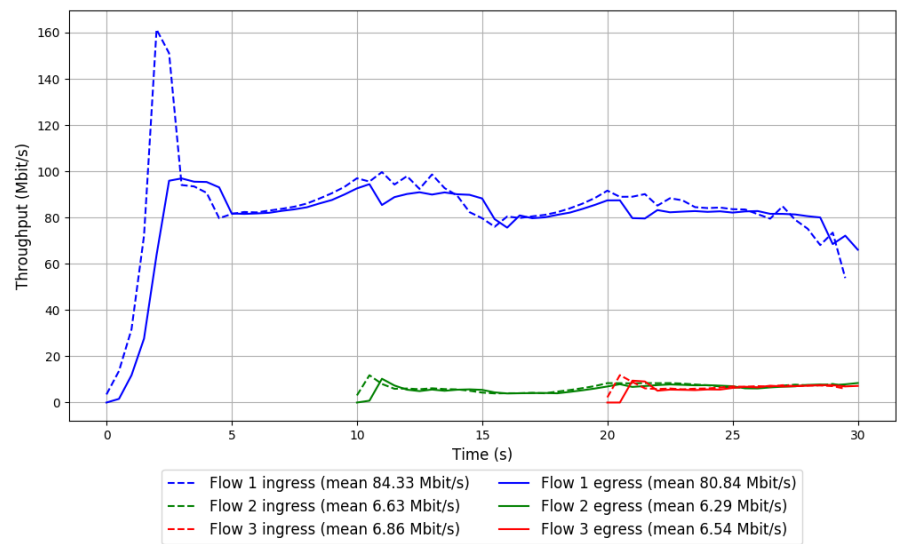## Run 10: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-08-22 02:46:20
End at: 2018-08-22 02:46:50
Local clock offset: -12.503 ms
Remote clock offset: 2.977 ms


# Below is generated by plot.py at 2018-08-22 06:12:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.18 Mbit/s
95th percentile per-packet one-way delay: 110.970 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 25.69 Mbit/s
95th percentile per-packet one-way delay: 111.788 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 49.26 Mbit/s
95th percentile per-packet one-way delay: 110.606 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 113.008 ms
Loss rate: 1.52%
```
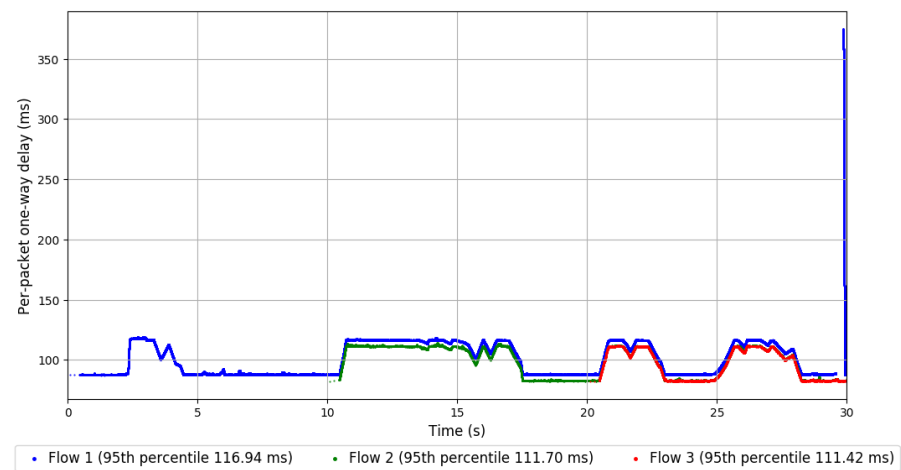
Run 1: Report of PCC-Expr — Data Link

- - - - Flow 1 ingress (mean 25.98 Mbit/s)   —— Flow 1 egress (mean 25.69 Mbit/s)
- - - - Flow 2 ingress (mean 50.09 Mbit/s)   —— Flow 2 egress (mean 49.26 Mbit/s)
- - - - Flow 3 ingress (mean 8.37 Mbit/s)   —— Flow 3 egress (mean 8.22 Mbit/s)

• Flow 1 (95th percentile 111.79 ms)   • Flow 2 (95th percentile 110.61 ms)   • Flow 3 (95th percentile 113.01 ms)

165

```
Run 2: Statistics of PCC-Expr

Start at: 2018-08-22 03:07:26
End at: 2018-08-22 03:07:56
Local clock offset: -18.855 ms
Remote clock offset: 2.056 ms

# Below is generated by plot.py at 2018-08-22 06:13:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.17 Mbit/s
95th percentile per-packet one-way delay: 112.322 ms
Loss rate: 4.21%
-- Flow 1:
Average throughput: 80.84 Mbit/s
95th percentile per-packet one-way delay: 111.833 ms
Loss rate: 4.14%
-- Flow 2:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 113.351 ms
Loss rate: 5.13%
-- Flow 3:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 113.435 ms
Loss rate: 4.81%
```
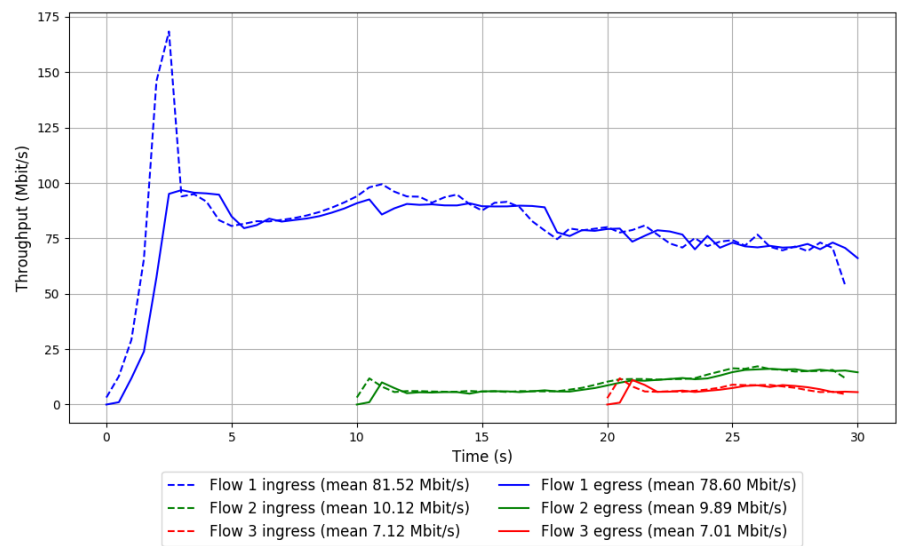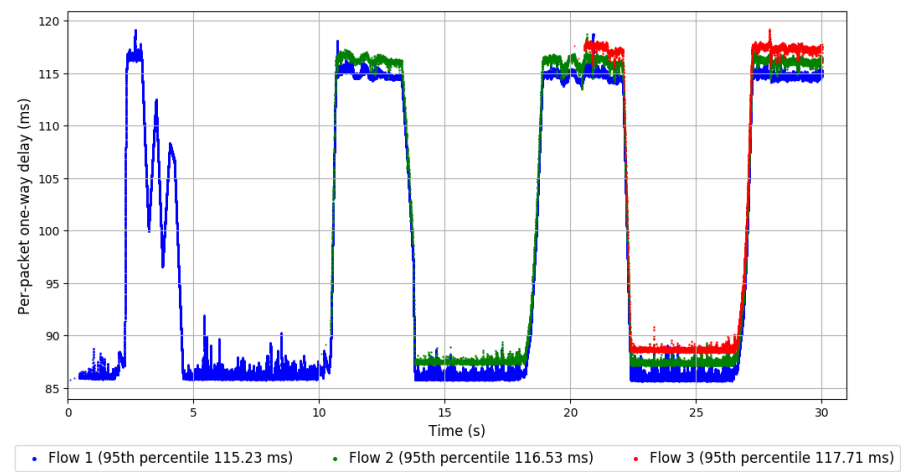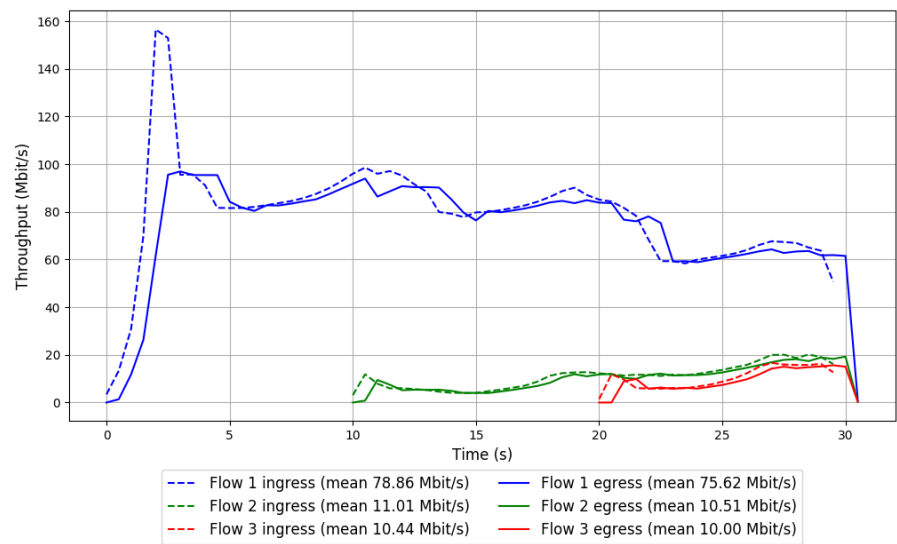
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-08-22 03:28:34
End at: 2018-08-22 03:29:04
Local clock offset: -2.924 ms
Remote clock offset: 4.372 ms


# Below is generated by plot.py at 2018-08-22 06:13:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.49 Mbit/s
95th percentile per-packet one-way delay: 116.910 ms
Loss rate: 3.44%
-- Flow 1:
Average throughput: 78.60 Mbit/s
95th percentile per-packet one-way delay: 116.942 ms
Loss rate: 3.59%
-- Flow 2:
Average throughput: 9.89 Mbit/s
95th percentile per-packet one-way delay: 111.701 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 111.425 ms
Loss rate: 1.52%
```
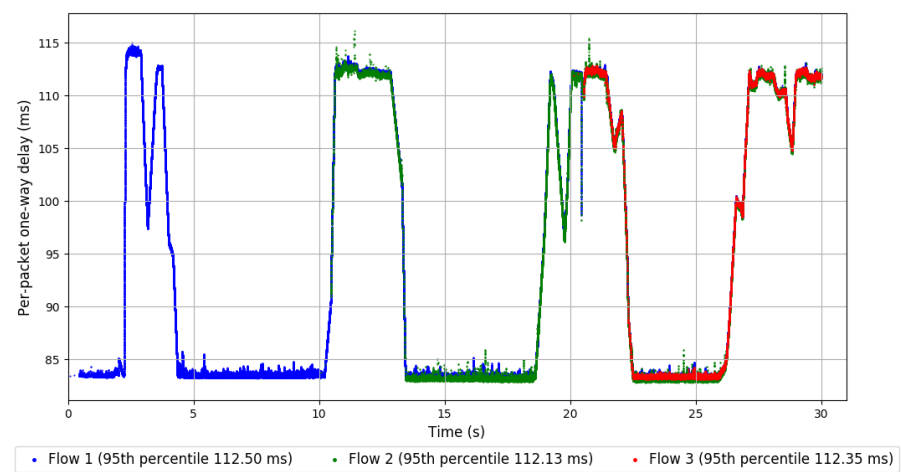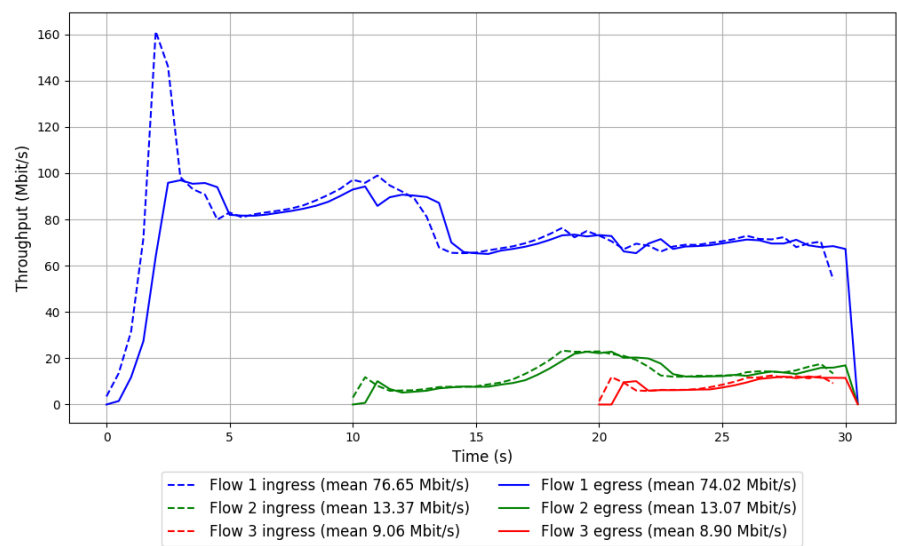
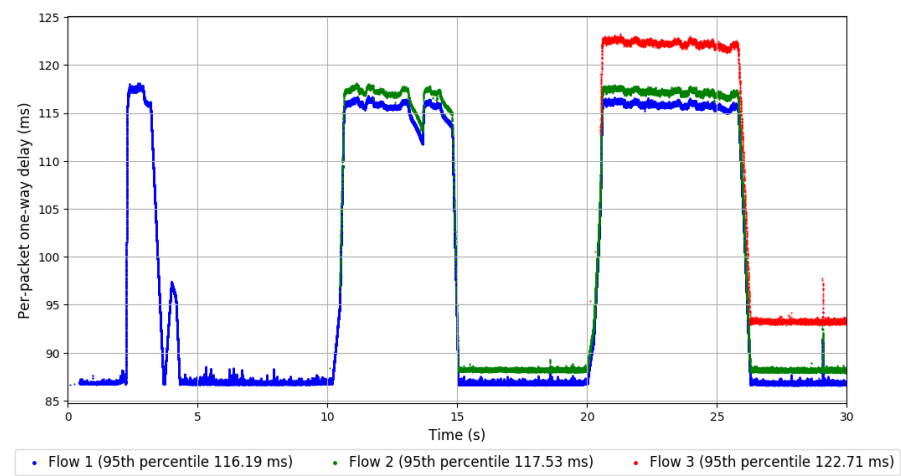## Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-08-22 03:49:45
End at: 2018-08-22 03:50:15
Local clock offset: -3.303 ms
Remote clock offset: 19.375 ms


# Below is generated by plot.py at 2018-08-22 06:13:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.91 Mbit/s
95th percentile per-packet one-way delay: 116.234 ms
Loss rate: 4.06%
-- Flow 1:
Average throughput: 75.62 Mbit/s
95th percentile per-packet one-way delay: 115.226 ms
Loss rate: 4.01%
-- Flow 2:
Average throughput: 10.51 Mbit/s
95th percentile per-packet one-way delay: 116.529 ms
Loss rate: 4.40%
-- Flow 3:
Average throughput: 10.00 Mbit/s
95th percentile per-packet one-way delay: 117.707 ms
Loss rate: 4.30%
```

Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 78.86 Mbit/s) --- Flow 1 egress (mean 75.62 Mbit/s)
Flow 2 ingress (mean 11.01 Mbit/s) --- Flow 2 egress (mean 10.51 Mbit/s)
Flow 3 ingress (mean 10.44 Mbit/s) --- Flow 3 egress (mean 10.00 Mbit/s)

Flow 1 (95th percentile 115.23 ms) ・ Flow 2 (95th percentile 116.53 ms) ・ Flow 3 (95th percentile 117.71 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-08-22 04:10:58
End at: 2018-08-22 04:11:28
Local clock offset: -3.654 ms
Remote clock offset: 24.886 ms


# Below is generated by plot.py at 2018-08-22 06:13:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.66 Mbit/s
95th percentile per-packet one-way delay: 112.460 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 74.02 Mbit/s
95th percentile per-packet one-way delay: 112.505 ms
Loss rate: 3.33%
-- Flow 2:
Average throughput: 13.07 Mbit/s
95th percentile per-packet one-way delay: 112.127 ms
Loss rate: 2.11%
-- Flow 3:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 112.352 ms
Loss rate: 1.74%
```
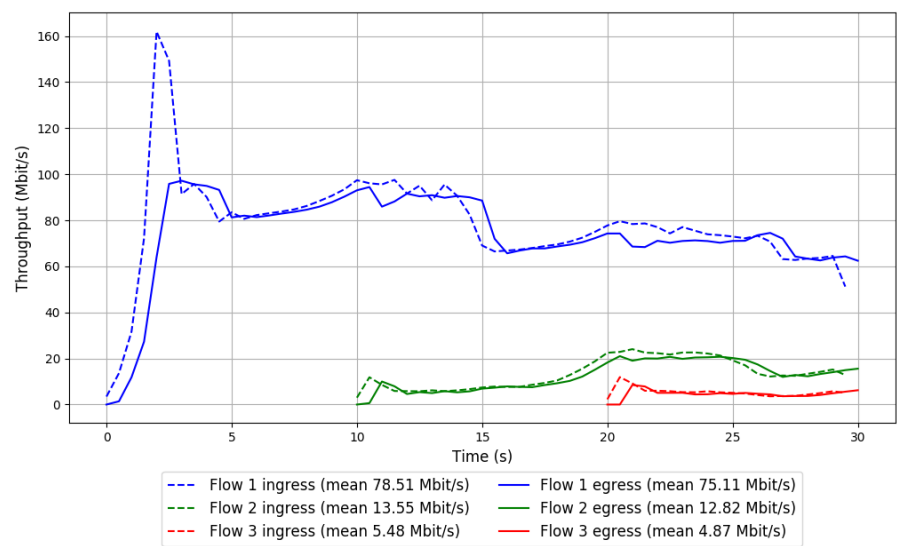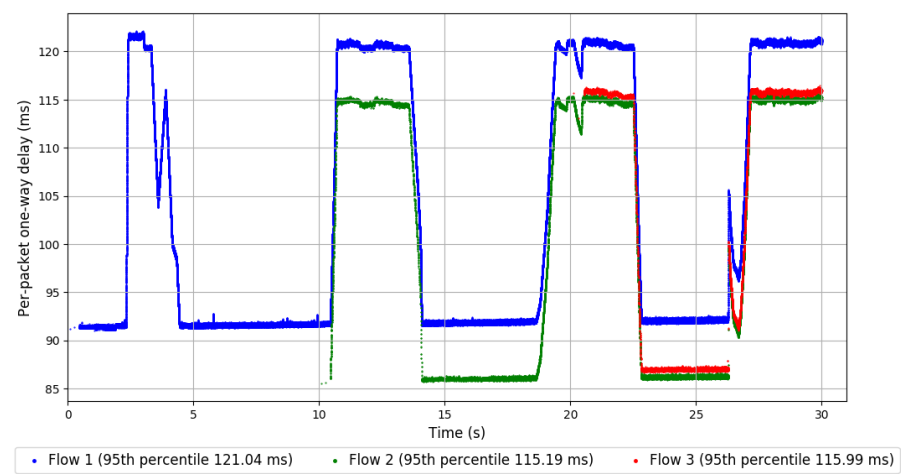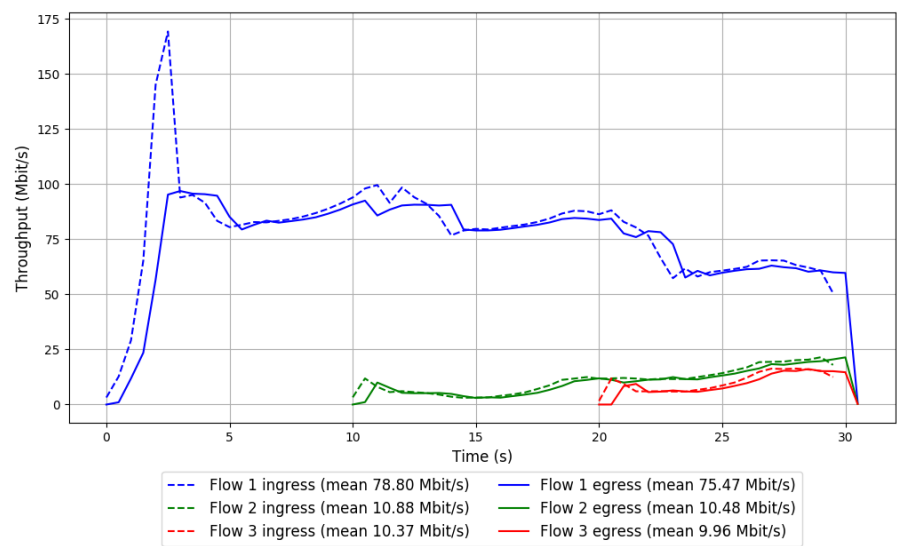
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 76.65 Mbit/s)   Flow 1 egress (mean 74.02 Mbit/s)
Flow 2 ingress (mean 13.37 Mbit/s)   Flow 2 egress (mean 13.07 Mbit/s)
Flow 3 ingress (mean 9.06 Mbit/s)   Flow 3 egress (mean 8.90 Mbit/s)

Flow 1 (95th percentile 112.50 ms)   Flow 2 (95th percentile 112.13 ms)   Flow 3 (95th percentile 112.35 ms)
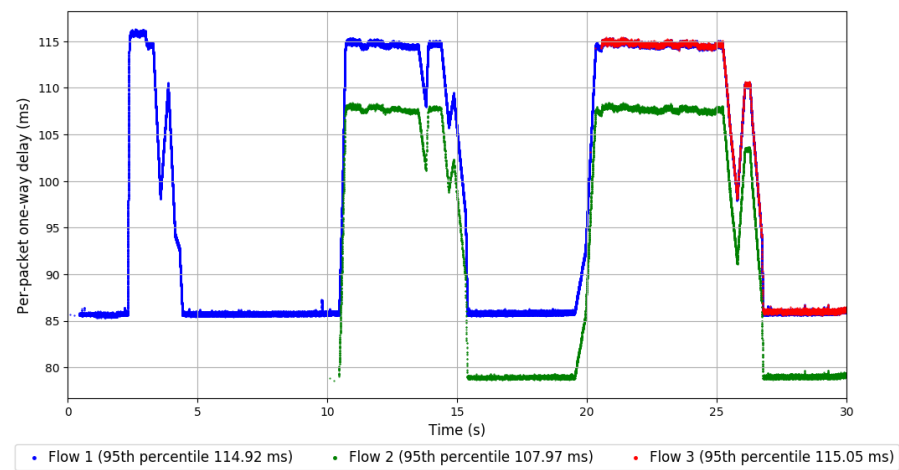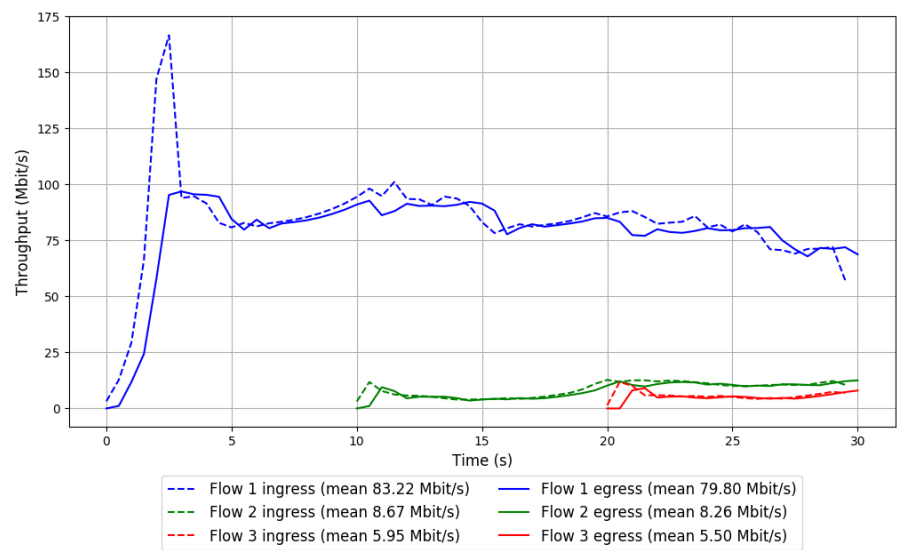
```
Run 6: Statistics of PCC-Expr

Start at: 2018-08-22 04:32:09
End at: 2018-08-22 04:32:39
Local clock offset: -7.335 ms
Remote clock offset: 31.118 ms

# Below is generated by plot.py at 2018-08-22 06:13:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.25 Mbit/s
95th percentile per-packet one-way delay: 117.122 ms
Loss rate: 4.57%
-- Flow 1:
Average throughput: 75.11 Mbit/s
95th percentile per-packet one-way delay: 116.192 ms
Loss rate: 4.33%
-- Flow 2:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 117.532 ms
Loss rate: 5.36%
-- Flow 3:
Average throughput: 4.87 Mbit/s
95th percentile per-packet one-way delay: 122.711 ms
Loss rate: 11.22%
```

Run 6: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 78.51 Mbit/s) — Flow 1 egress (mean 75.11 Mbit/s)
Flow 2 ingress (mean 13.55 Mbit/s) — Flow 2 egress (mean 12.82 Mbit/s)
Flow 3 ingress (mean 5.48 Mbit/s) — Flow 3 egress (mean 4.87 Mbit/s)

Flow 1 (95th percentile 116.19 ms) • Flow 2 (95th percentile 117.53 ms) • Flow 3 (95th percentile 122.71 ms)

```
Run 7: Statistics of PCC-Expr

Start at: 2018-08-22 04:53:21
End at: 2018-08-22 04:53:51
Local clock offset: -5.106 ms
Remote clock offset: 14.587 ms


# Below is generated by plot.py at 2018-08-22 06:14:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 121.020 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 75.47 Mbit/s
95th percentile per-packet one-way delay: 121.043 ms
Loss rate: 4.14%
-- Flow 2:
Average throughput: 10.48 Mbit/s
95th percentile per-packet one-way delay: 115.190 ms
Loss rate: 3.53%
-- Flow 3:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 115.994 ms
Loss rate: 3.95%
```
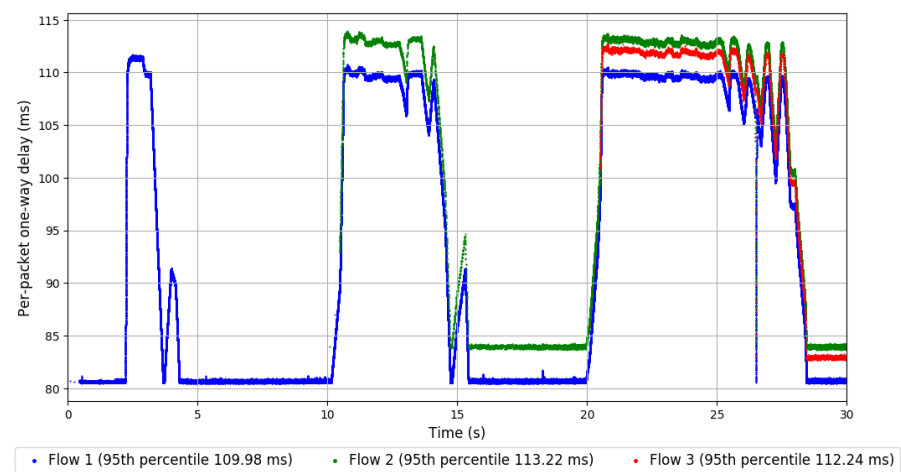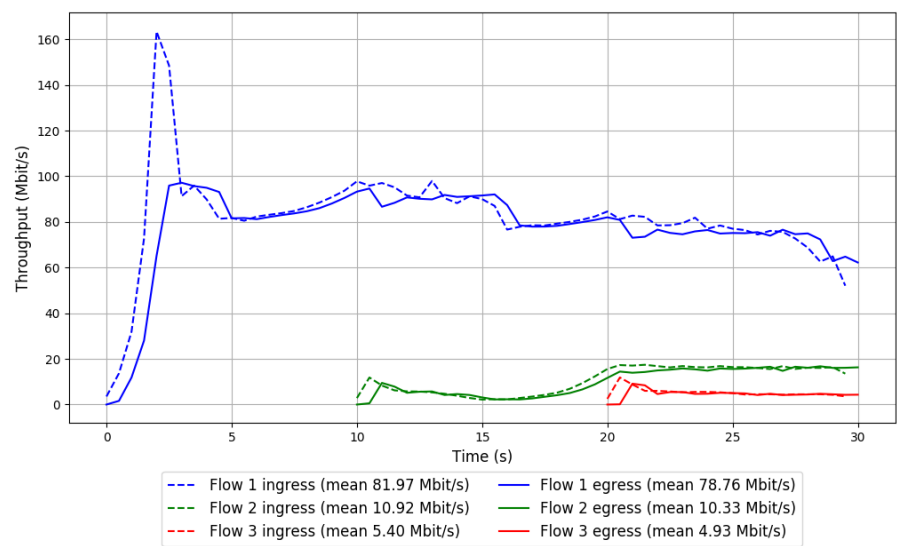
Run 7: Report of PCC-Expr — Data Link

```
Run 8: Statistics of PCC-Expr

Start at: 2018-08-22 05:14:37
End at: 2018-08-22 05:15:07
Local clock offset: -3.456 ms
Remote clock offset: -5.762 ms


# Below is generated by plot.py at 2018-08-22 06:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.10 Mbit/s
95th percentile per-packet one-way delay: 114.919 ms
Loss rate: 4.25%
-- Flow 1:
Average throughput: 79.80 Mbit/s
95th percentile per-packet one-way delay: 114.925 ms
Loss rate: 4.13%
-- Flow 2:
Average throughput: 8.26 Mbit/s
95th percentile per-packet one-way delay: 107.975 ms
Loss rate: 4.74%
-- Flow 3:
Average throughput: 5.50 Mbit/s
95th percentile per-packet one-way delay: 115.049 ms
Loss rate: 7.81%
```
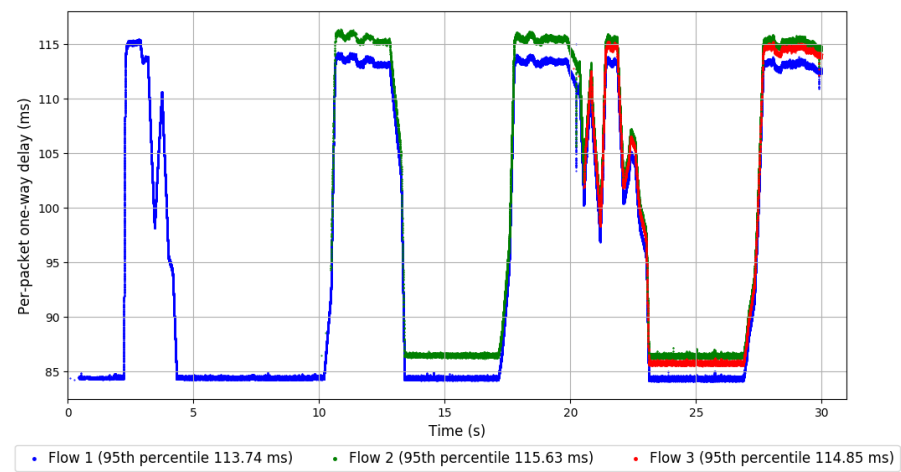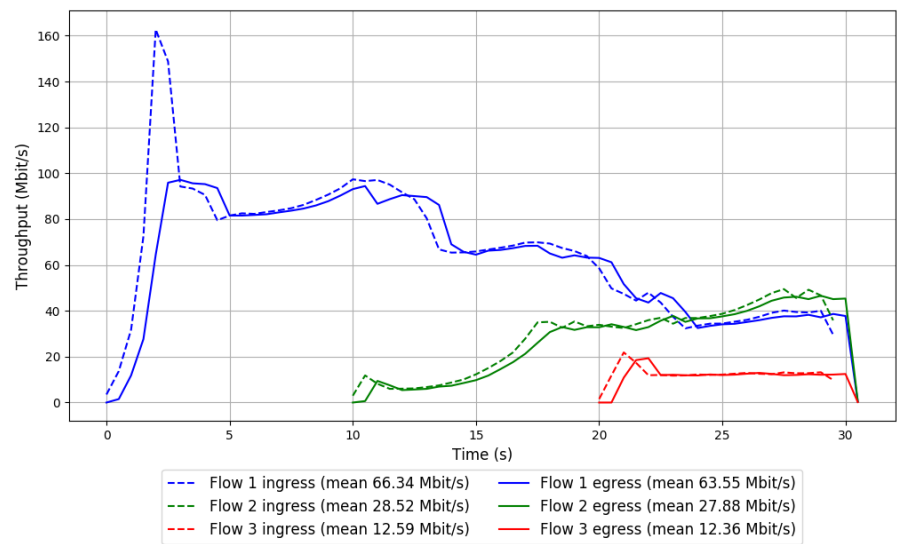
Run 8: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 83.22 Mbit/s)
- Flow 1 egress (mean 79.80 Mbit/s)
- Flow 2 ingress (mean 8.67 Mbit/s)
- Flow 2 egress (mean 8.26 Mbit/s)
- Flow 3 ingress (mean 5.95 Mbit/s)
- Flow 3 egress (mean 5.50 Mbit/s)

- Flow 1 (95th percentile 114.92 ms)
- Flow 2 (95th percentile 107.97 ms)
- Flow 3 (95th percentile 115.05 ms)

```
Run 9: Statistics of PCC-Expr

Start at: 2018-08-22 05:35:45
End at: 2018-08-22 05:36:15
Local clock offset: -4.38 ms
Remote clock offset: -1.312 ms


# Below is generated by plot.py at 2018-08-22 06:14:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.25 Mbit/s
95th percentile per-packet one-way delay: 111.395 ms
Loss rate: 4.13%
-- Flow 1:
Average throughput: 78.76 Mbit/s
95th percentile per-packet one-way delay: 109.977 ms
Loss rate: 3.92%
-- Flow 2:
Average throughput: 10.33 Mbit/s
95th percentile per-packet one-way delay: 113.223 ms
Loss rate: 5.38%
-- Flow 3:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 112.237 ms
Loss rate: 8.88%
```
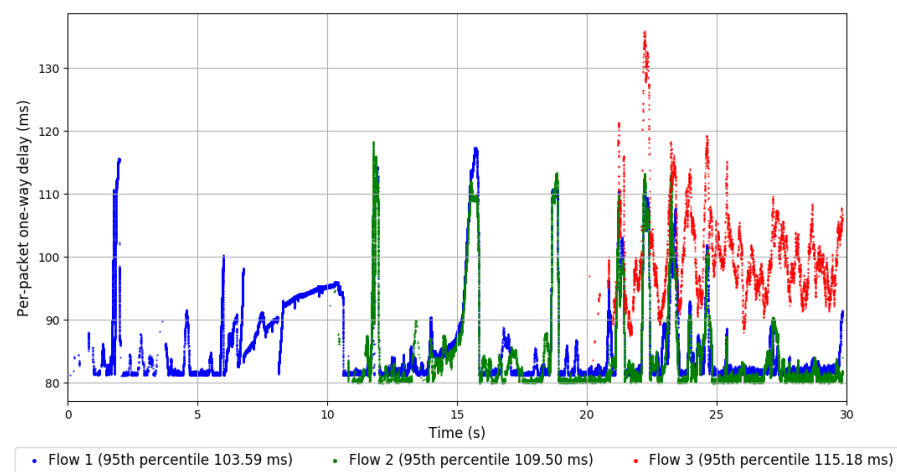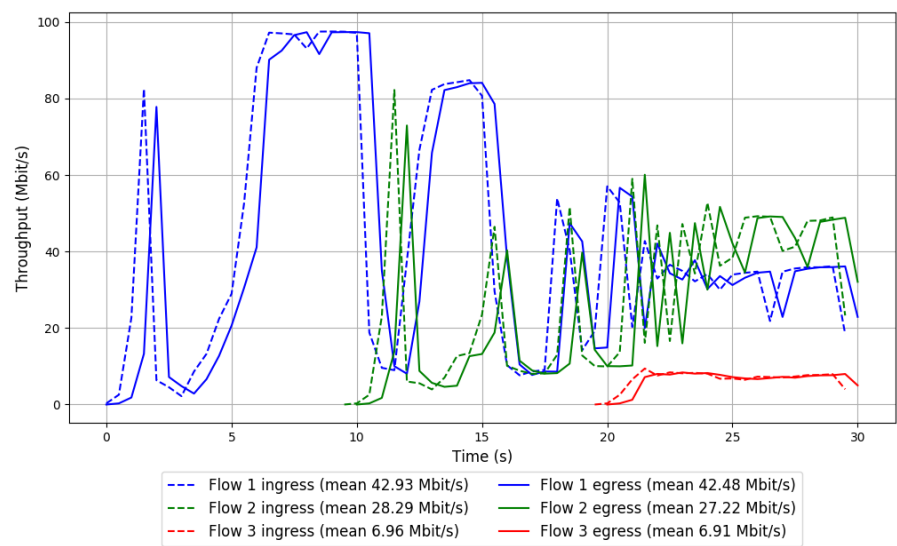
Run 9: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 81.97 Mbit/s) ---- Flow 1 egress (mean 78.76 Mbit/s)
Flow 2 ingress (mean 10.92 Mbit/s) ---- Flow 2 egress (mean 10.33 Mbit/s)
Flow 3 ingress (mean 5.40 Mbit/s) ---- Flow 3 egress (mean 4.93 Mbit/s)

Flow 1 (95th percentile 109.98 ms)   Flow 2 (95th percentile 113.22 ms)   Flow 3 (95th percentile 112.24 ms)
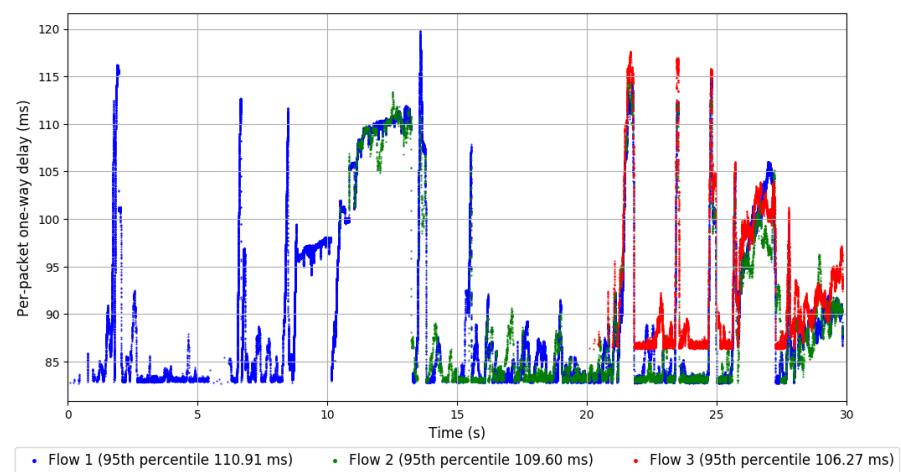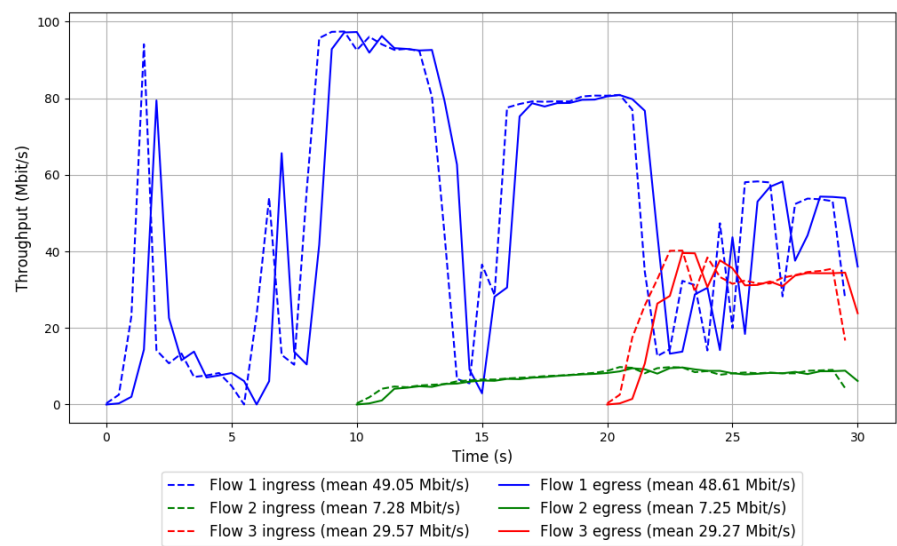
```
Run 10: Statistics of PCC-Expr

Start at: 2018-08-22 05:56:53
End at: 2018-08-22 05:57:23
Local clock offset: -4.844 ms
Remote clock offset: 2.087 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 115.255 ms
Loss rate: 3.58%
-- Flow 1:
Average throughput: 63.55 Mbit/s
95th percentile per-packet one-way delay: 113.741 ms
Loss rate: 4.11%
-- Flow 2:
Average throughput: 27.88 Mbit/s
95th percentile per-packet one-way delay: 115.631 ms
Loss rate: 2.10%
-- Flow 3:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 114.852 ms
Loss rate: 1.82%
```

Run 10: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 66.34 Mbit/s)   Flow 1 egress (mean 63.55 Mbit/s)
Flow 2 ingress (mean 28.52 Mbit/s)   Flow 2 egress (mean 27.88 Mbit/s)
Flow 3 ingress (mean 12.59 Mbit/s)   Flow 3 egress (mean 12.36 Mbit/s)

Flow 1 (95th percentile 113.74 ms)   Flow 2 (95th percentile 115.63 ms)   Flow 3 (95th percentile 114.85 ms)
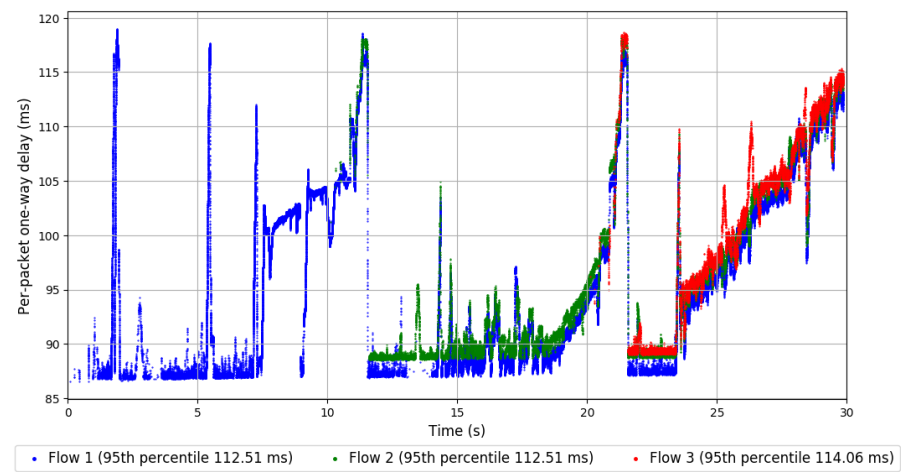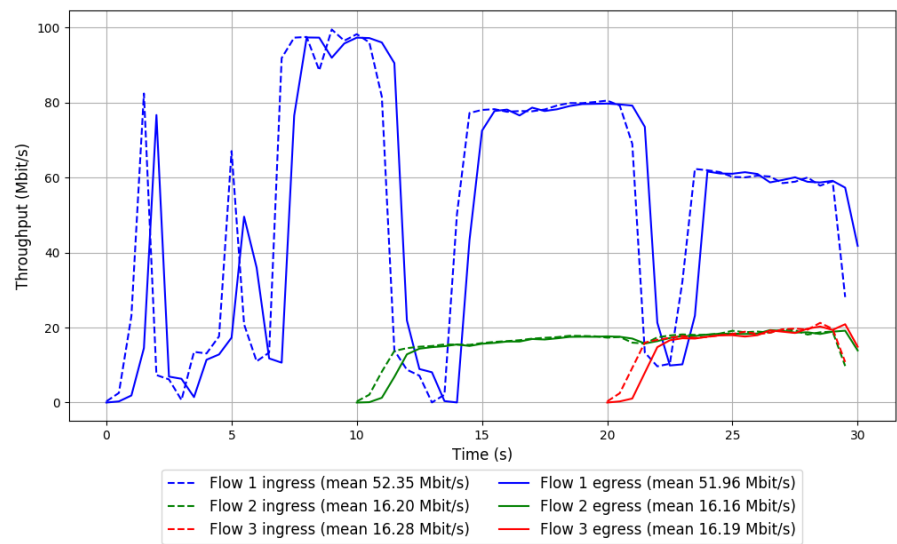
183

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-22 02:28:54
End at: 2018-08-22 02:29:24
Local clock offset: -4.724 ms
Remote clock offset: 3.035 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.80 Mbit/s
95th percentile per-packet one-way delay: 108.589 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 42.48 Mbit/s
95th percentile per-packet one-way delay: 103.587 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 27.22 Mbit/s
95th percentile per-packet one-way delay: 109.503 ms
Loss rate: 3.81%
-- Flow 3:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 115.180 ms
Loss rate: 0.78%
```

Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 42.93 Mbit/s) Flow 1 egress (mean 42.48 Mbit/s)
Flow 2 ingress (mean 28.29 Mbit/s) Flow 2 egress (mean 27.22 Mbit/s)
Flow 3 ingress (mean 6.96 Mbit/s) Flow 3 egress (mean 6.91 Mbit/s)

Flow 1 (95th percentile 103.59 ms) Flow 2 (95th percentile 109.50 ms) Flow 3 (95th percentile 115.18 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-08-22 02:50:00
End at: 2018-08-22 02:50:30
Local clock offset: -14.988 ms
Remote clock offset: 2.785 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.00 Mbit/s
95th percentile per-packet one-way delay: 110.838 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 48.61 Mbit/s
95th percentile per-packet one-way delay: 110.912 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 109.597 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 29.27 Mbit/s
95th percentile per-packet one-way delay: 106.270 ms
Loss rate: 0.99%
```
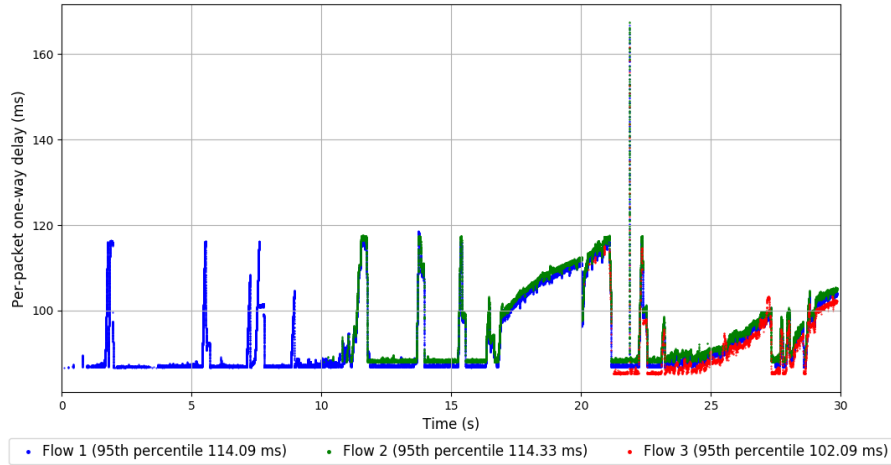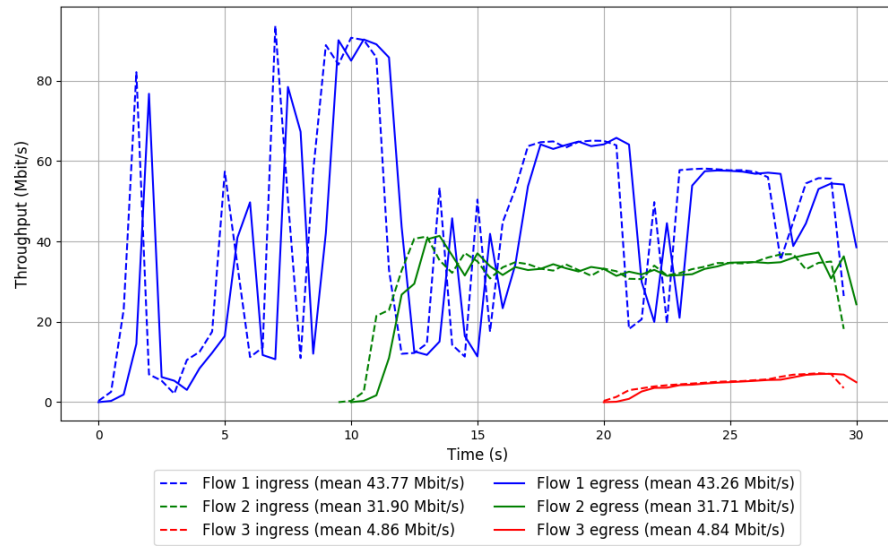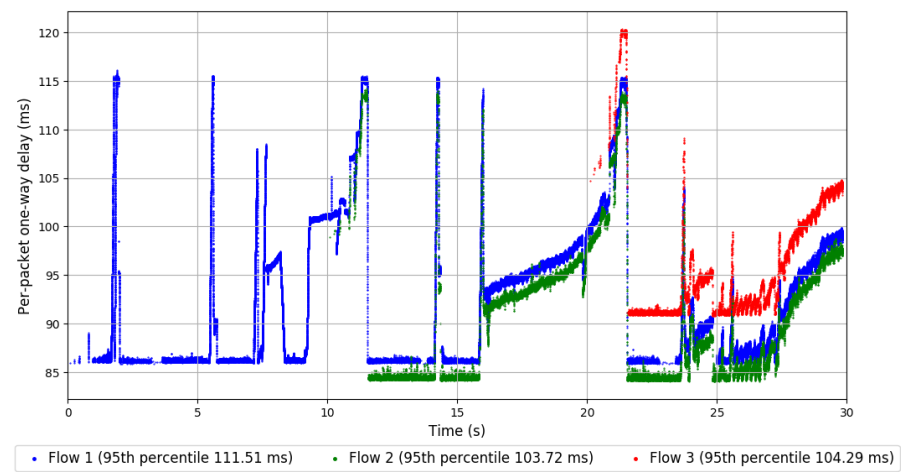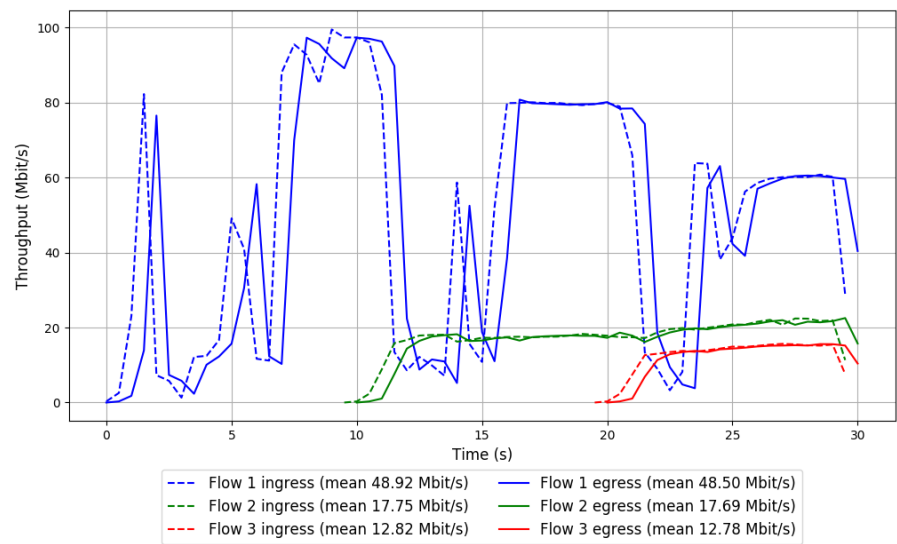
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.05 Mbit/s) Flow 1 egress (mean 48.61 Mbit/s)
Flow 2 ingress (mean 7.28 Mbit/s) Flow 2 egress (mean 7.25 Mbit/s)
Flow 3 ingress (mean 29.57 Mbit/s) Flow 3 egress (mean 29.27 Mbit/s)

Flow 1 (95th percentile 110.91 ms) Flow 2 (95th percentile 109.60 ms) Flow 3 (95th percentile 106.27 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-08-22 03:11:09
End at: 2018-08-22 03:11:39
Local clock offset: -13.243 ms
Remote clock offset: 8.555 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.97 Mbit/s
95th percentile per-packet one-way delay: 112.653 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 51.96 Mbit/s
95th percentile per-packet one-way delay: 112.507 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 16.16 Mbit/s
95th percentile per-packet one-way delay: 112.506 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 16.19 Mbit/s
95th percentile per-packet one-way delay: 114.064 ms
Loss rate: 0.35%
```

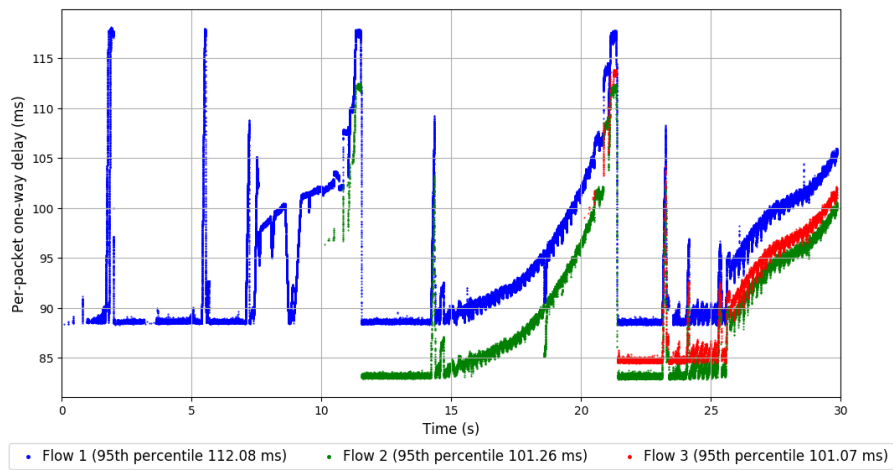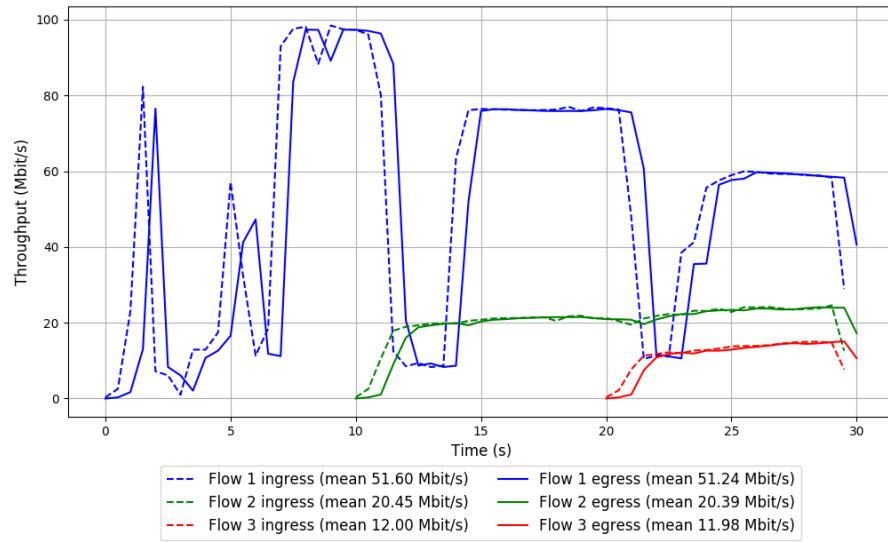Run 3: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 52.35 Mbit/s)   —— Flow 1 egress (mean 51.96 Mbit/s)
- - - Flow 2 ingress (mean 16.20 Mbit/s)   —— Flow 2 egress (mean 16.16 Mbit/s)
- - - Flow 3 ingress (mean 16.28 Mbit/s)   —— Flow 3 egress (mean 16.19 Mbit/s)

• Flow 1 (95th percentile 112.51 ms)   • Flow 2 (95th percentile 112.51 ms)   • Flow 3 (95th percentile 114.06 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-08-22 03:32:18
End at: 2018-08-22 03:32:48
Local clock offset: -2.136 ms
Remote clock offset: 8.244 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.91 Mbit/s
95th percentile per-packet one-way delay: 114.096 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 43.26 Mbit/s
95th percentile per-packet one-way delay: 114.087 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 31.71 Mbit/s
95th percentile per-packet one-way delay: 114.331 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 4.84 Mbit/s
95th percentile per-packet one-way delay: 102.091 ms
Loss rate: 0.48%
```
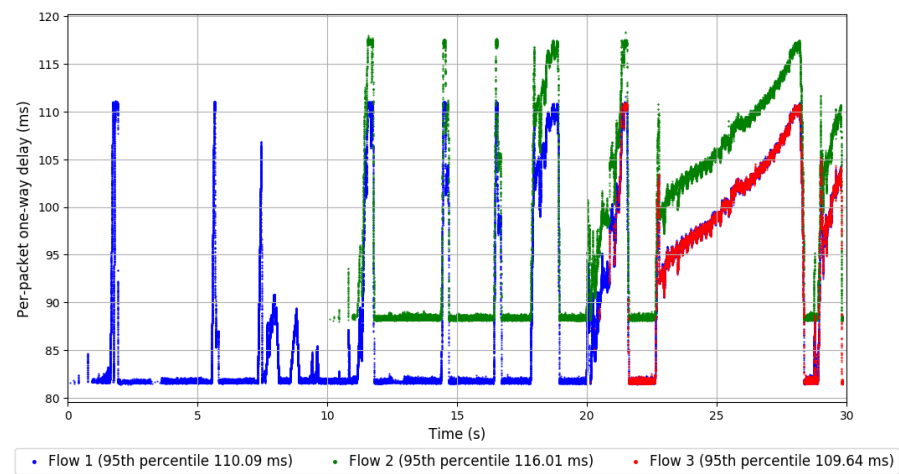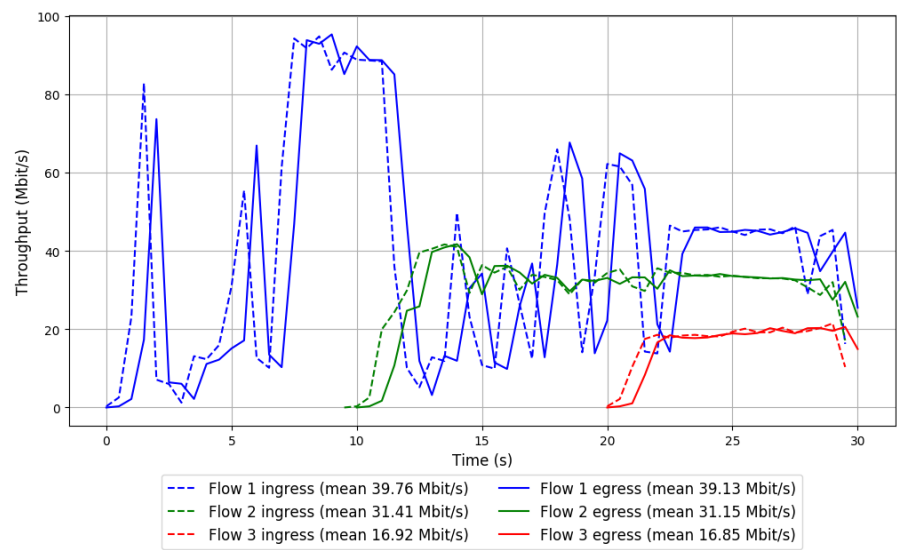
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-08-22 03:53:30
End at: 2018-08-22 03:54:00
Local clock offset: -2.511 ms
Remote clock offset: 20.942 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.42 Mbit/s
95th percentile per-packet one-way delay: 109.767 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 48.50 Mbit/s
95th percentile per-packet one-way delay: 111.514 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 17.69 Mbit/s
95th percentile per-packet one-way delay: 103.722 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 12.78 Mbit/s
95th percentile per-packet one-way delay: 104.290 ms
Loss rate: 0.37%
```
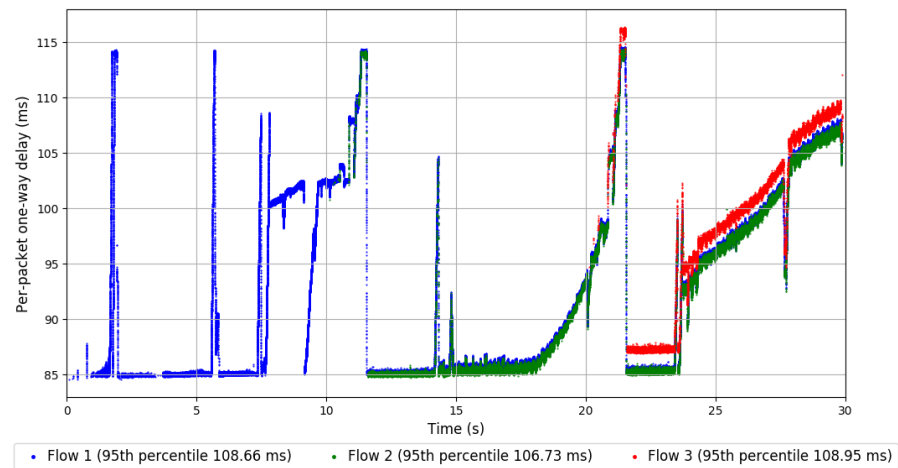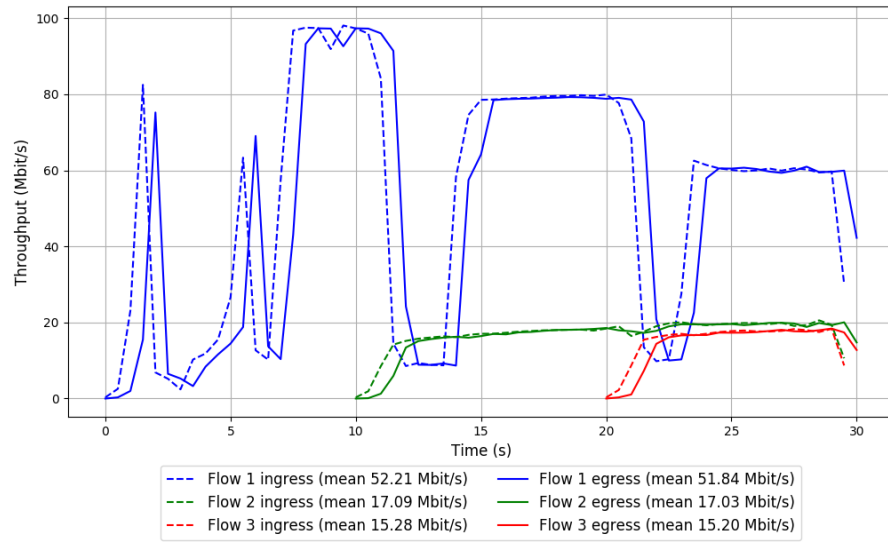
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 48.92 Mbit/s) --- Flow 1 egress (mean 48.50 Mbit/s)
Flow 2 ingress (mean 17.75 Mbit/s) --- Flow 2 egress (mean 17.69 Mbit/s)
Flow 3 ingress (mean 12.82 Mbit/s) --- Flow 3 egress (mean 12.78 Mbit/s)

Flow 1 (95th percentile 111.51 ms)   Flow 2 (95th percentile 103.72 ms)   Flow 3 (95th percentile 104.29 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-08-22 04:14:42
End at: 2018-08-22 04:15:12
Local clock offset: -4.328 ms
Remote clock offset: 25.716 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.68 Mbit/s
95th percentile per-packet one-way delay: 109.801 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 51.24 Mbit/s
95th percentile per-packet one-way delay: 112.084 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 20.39 Mbit/s
95th percentile per-packet one-way delay: 101.260 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 11.98 Mbit/s
95th percentile per-packet one-way delay: 101.066 ms
Loss rate: 0.11%
```

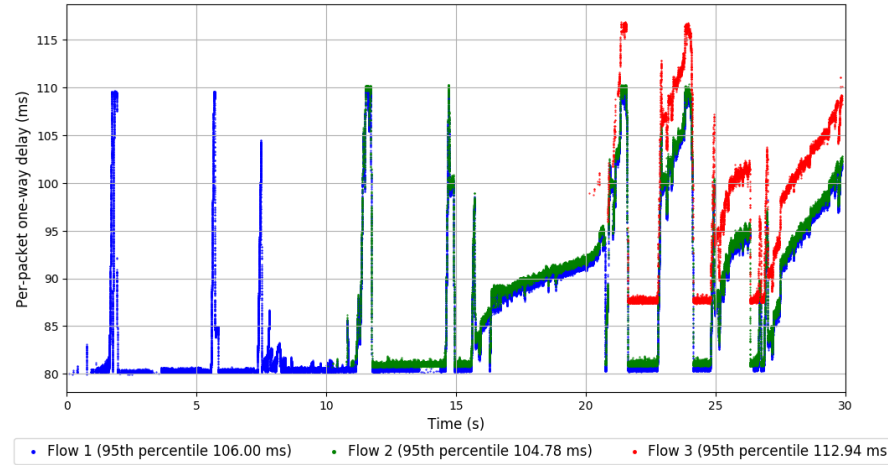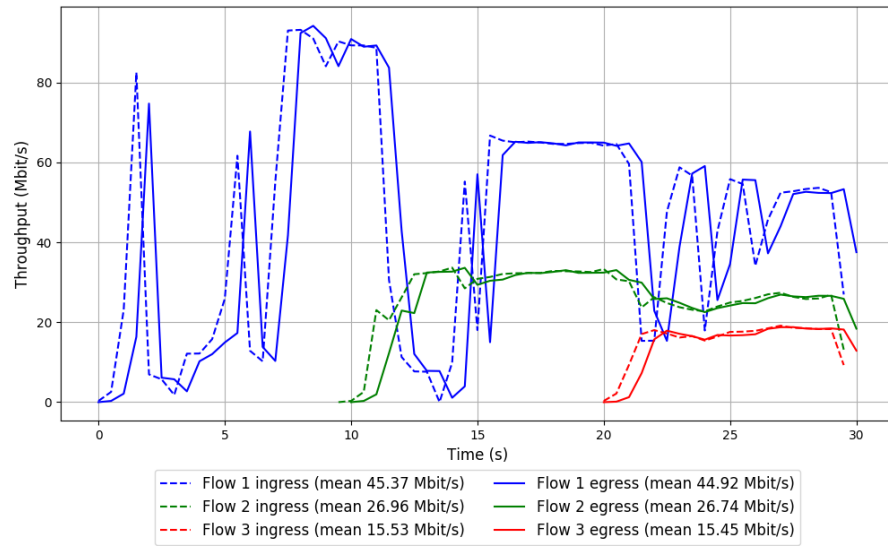# Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 51.60 Mbit/s) Flow 1 egress (mean 51.24 Mbit/s)
Flow 2 ingress (mean 20.45 Mbit/s) Flow 2 egress (mean 20.39 Mbit/s)
Flow 3 ingress (mean 12.00 Mbit/s) Flow 3 egress (mean 11.98 Mbit/s)

Flow 1 (95th percentile 112.08 ms) Flow 2 (95th percentile 101.26 ms) Flow 3 (95th percentile 101.07 ms)

```
Run 7: Statistics of QUIC Cubic

Start at: 2018-08-22 04:35:53
End at: 2018-08-22 04:36:23
Local clock offset: -7.446 ms
Remote clock offset: 26.916 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.24 Mbit/s
95th percentile per-packet one-way delay: 110.864 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 39.13 Mbit/s
95th percentile per-packet one-way delay: 110.087 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 31.15 Mbit/s
95th percentile per-packet one-way delay: 116.008 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 16.85 Mbit/s
95th percentile per-packet one-way delay: 109.641 ms
Loss rate: 0.44%
```
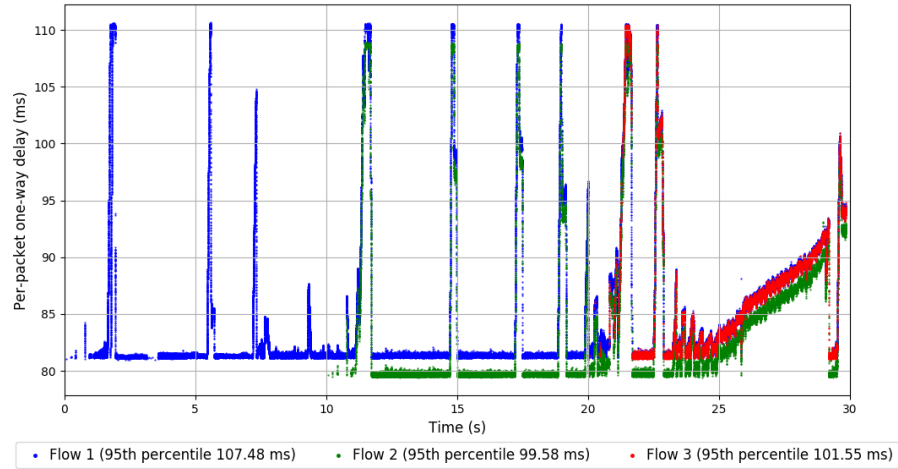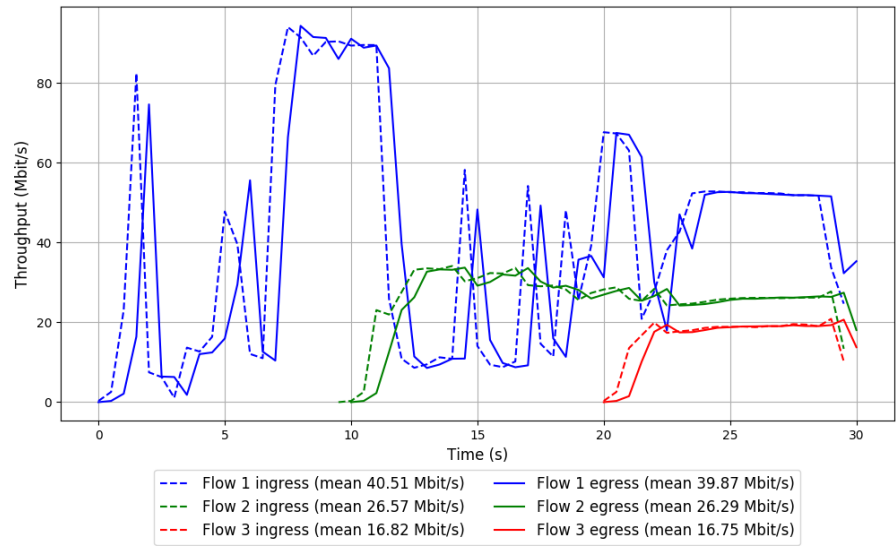
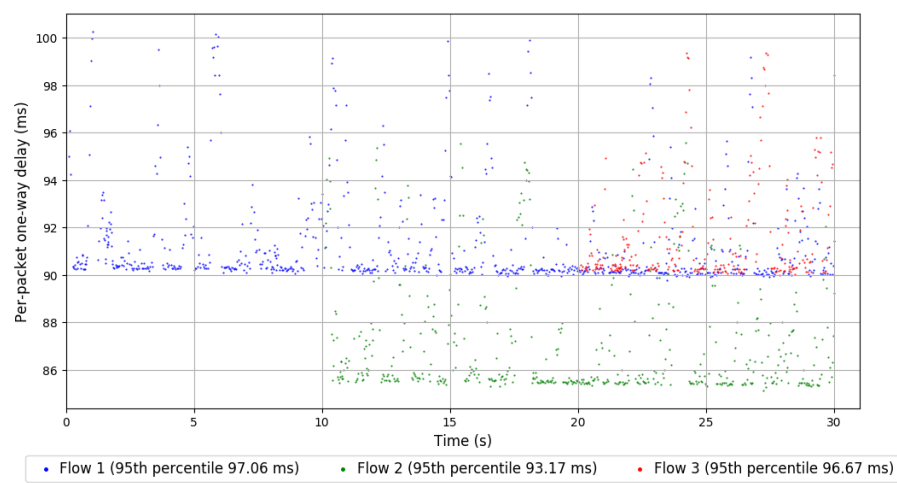Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-08-22 04:57:05
End at: 2018-08-22 04:57:35
Local clock offset: -3.373 ms
Remote clock offset: 9.678 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.09 Mbit/s
95th percentile per-packet one-way delay: 108.462 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 51.84 Mbit/s
95th percentile per-packet one-way delay: 108.660 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 17.03 Mbit/s
95th percentile per-packet one-way delay: 106.733 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 15.20 Mbit/s
95th percentile per-packet one-way delay: 108.946 ms
Loss rate: 0.37%
```

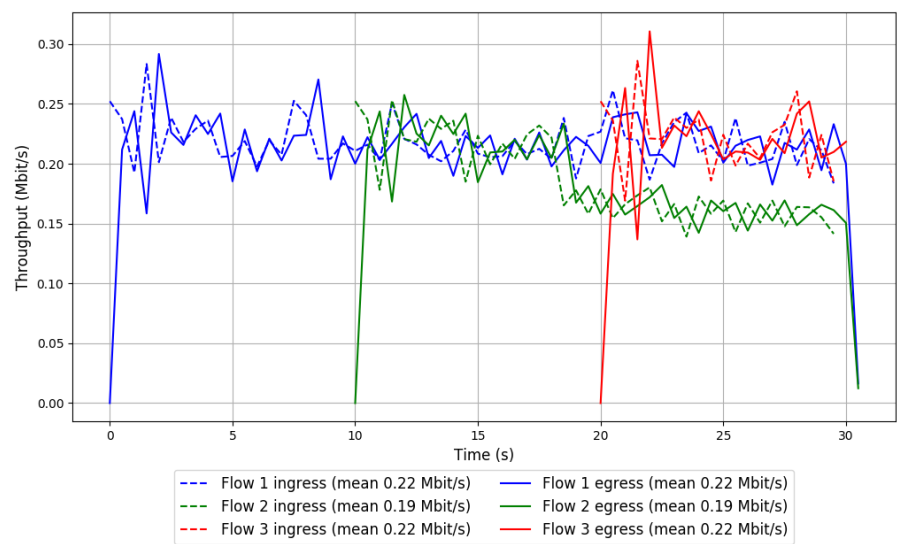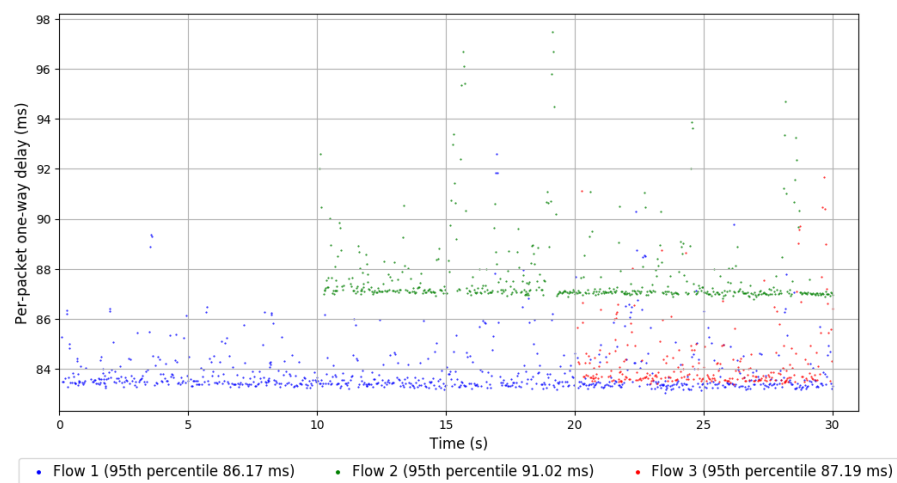Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 52.21 Mbit/s)   Flow 1 egress (mean 51.84 Mbit/s)
Flow 2 ingress (mean 17.09 Mbit/s)   Flow 2 egress (mean 17.03 Mbit/s)
Flow 3 ingress (mean 15.28 Mbit/s)   Flow 3 egress (mean 15.20 Mbit/s)

Flow 1 (95th percentile 108.66 ms)   Flow 2 (95th percentile 106.73 ms)   Flow 3 (95th percentile 108.95 ms)

199

```
Run 9: Statistics of QUIC Cubic

Start at: 2018-08-22 05:18:21
End at: 2018-08-22 05:18:51
Local clock offset: -5.114 ms
Remote clock offset: -7.049 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.73 Mbit/s
95th percentile per-packet one-way delay: 107.206 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 44.92 Mbit/s
95th percentile per-packet one-way delay: 105.996 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 26.74 Mbit/s
95th percentile per-packet one-way delay: 104.778 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 15.45 Mbit/s
95th percentile per-packet one-way delay: 112.940 ms
Loss rate: 0.46%
```

Run 9: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 45.37 Mbit/s) --- Flow 1 egress (mean 44.92 Mbit/s)
Flow 2 ingress (mean 26.96 Mbit/s) --- Flow 2 egress (mean 26.74 Mbit/s)
Flow 3 ingress (mean 15.53 Mbit/s) --- Flow 3 egress (mean 15.45 Mbit/s)

Flow 1 (95th percentile 106.00 ms) • Flow 2 (95th percentile 104.78 ms) • Flow 3 (95th percentile 112.94 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-08-22 05:39:29
End at: 2018-08-22 05:39:59
Local clock offset: -4.579 ms
Remote clock offset: -2.44 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.82 Mbit/s
95th percentile per-packet one-way delay: 105.334 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 107.483 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 26.29 Mbit/s
95th percentile per-packet one-way delay: 99.577 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 16.75 Mbit/s
95th percentile per-packet one-way delay: 101.546 ms
Loss rate: 0.26%
```

Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 40.51 Mbit/s) ...... Flow 1 egress (mean 39.87 Mbit/s)
Flow 2 ingress (mean 26.57 Mbit/s) ...... Flow 2 egress (mean 26.29 Mbit/s)
Flow 3 ingress (mean 16.82 Mbit/s) ...... Flow 3 egress (mean 16.75 Mbit/s)

Flow 1 (95th percentile 107.48 ms)   Flow 2 (95th percentile 99.58 ms)   Flow 3 (95th percentile 101.55 ms)
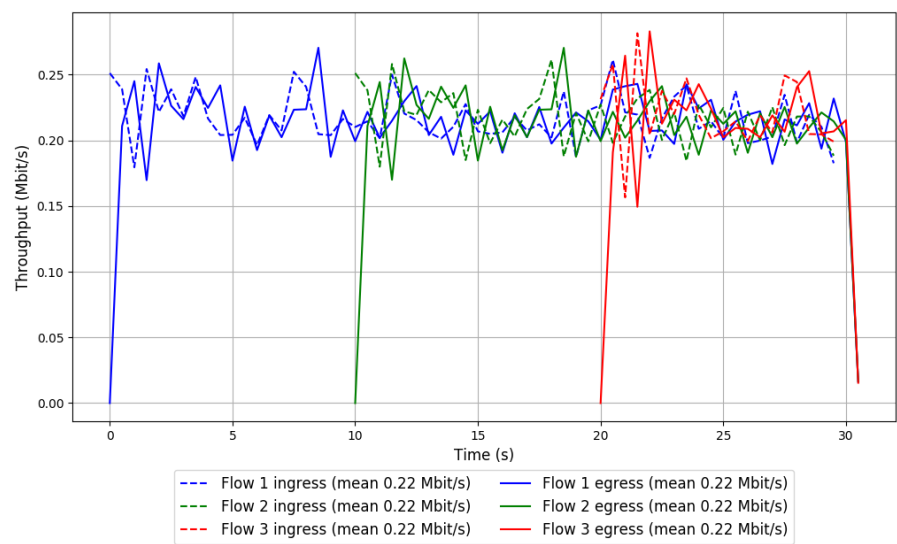
203

```
Run 1: Statistics of SCReAM

Start at: 2018-08-22 02:42:44
End at: 2018-08-22 02:43:14
Local clock offset: -10.201 ms
Remote clock offset: 7.706 ms

# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 95.220 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 97.060 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 93.172 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 96.666 ms
Loss rate: 0.35%
```
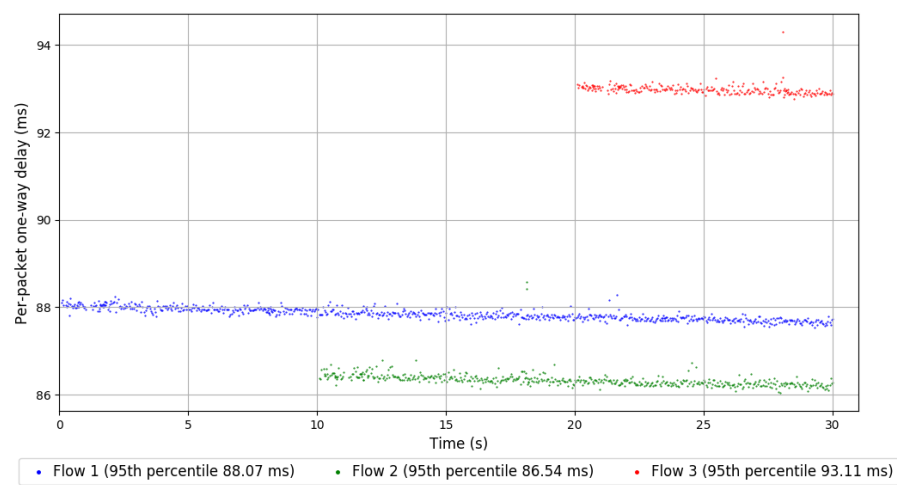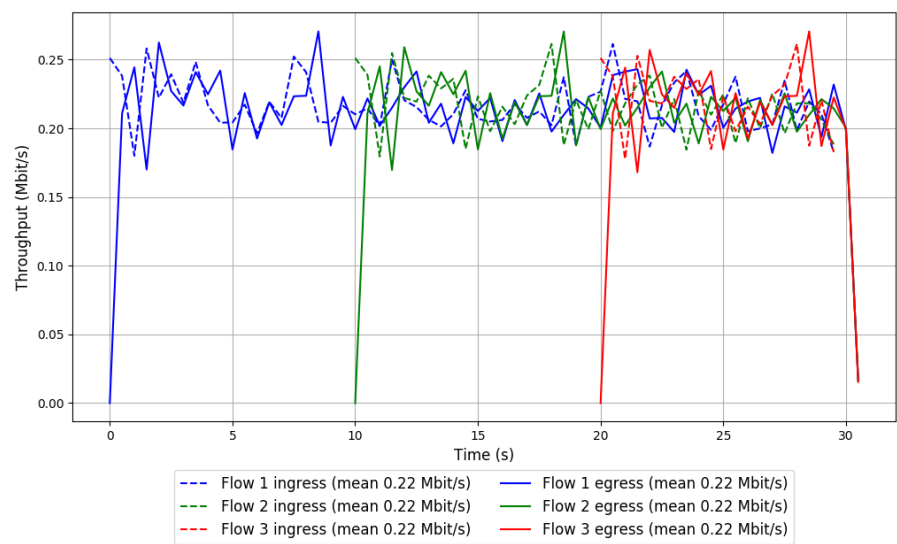
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s)   Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.19 Mbit/s)   Flow 2 egress (mean 0.19 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)   Flow 3 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 97.06 ms)   Flow 2 (95th percentile 93.17 ms)   Flow 3 (95th percentile 96.67 ms)

205

```
Run 2: Statistics of SCReAM

Start at: 2018-08-22 03:03:51
End at: 2018-08-22 03:04:21
Local clock offset: -17.729 ms
Remote clock offset: 5.352 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 88.895 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.167 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.023 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.189 ms
Loss rate: 0.00%
```
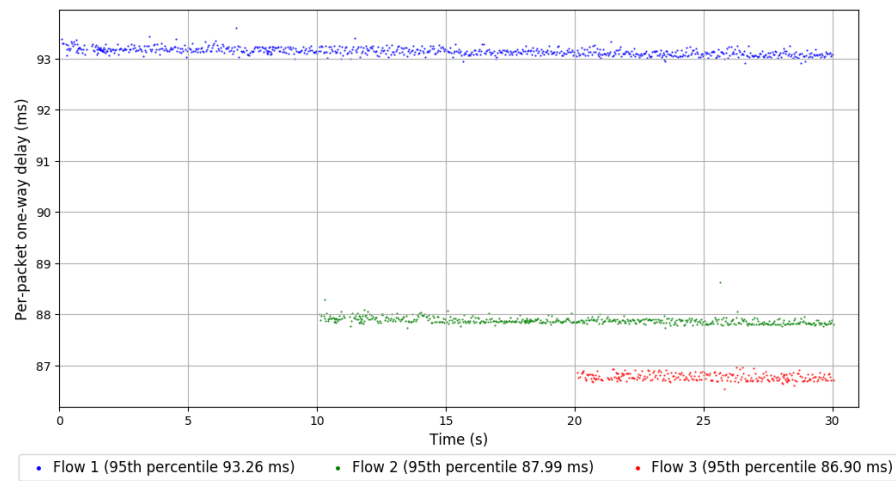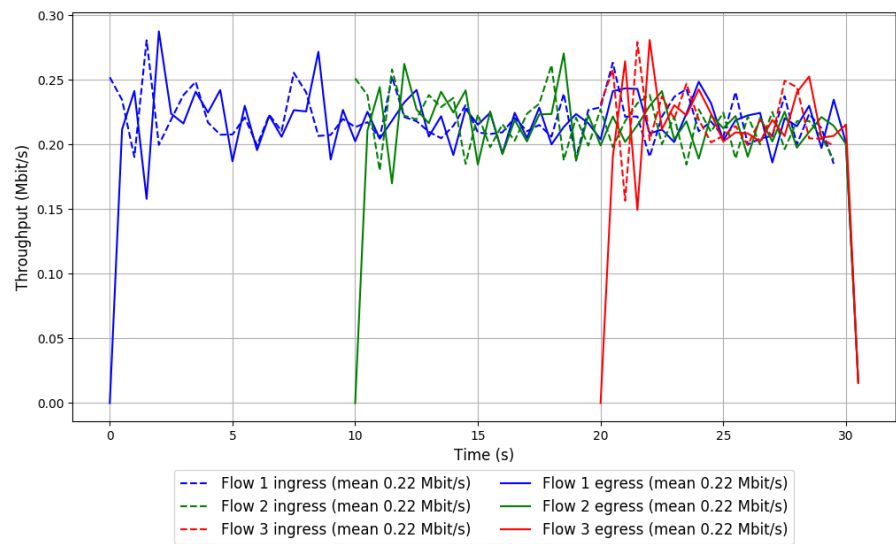
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-08-22 03:24:59
End at: 2018-08-22 03:25:29
Local clock offset: -4.708 ms
Remote clock offset: 3.11 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 82.387 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.564 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.355 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.778 ms
Loss rate: 0.00%
```
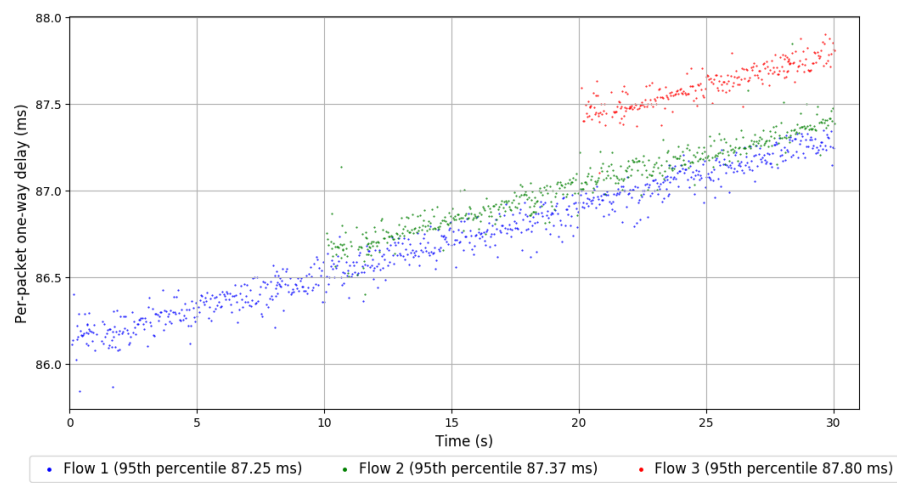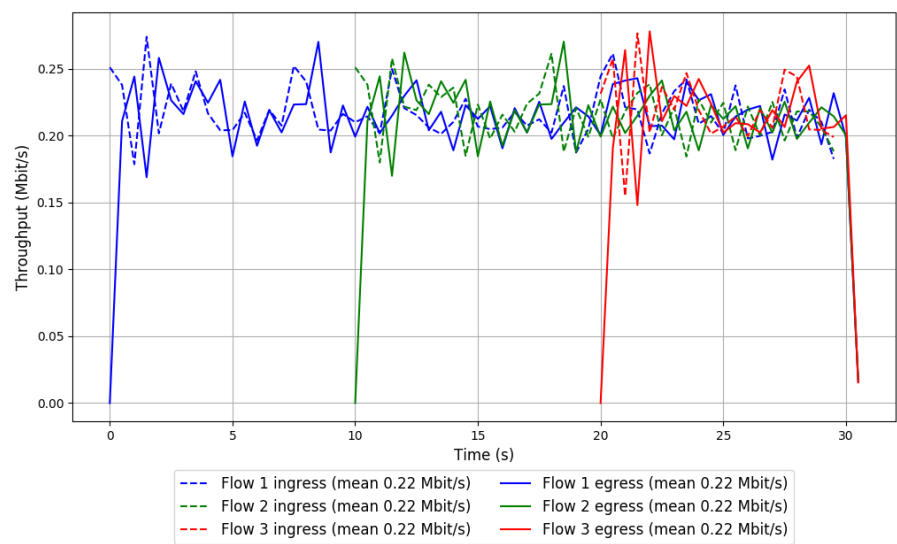
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-08-22 03:46:09
End at: 2018-08-22 03:46:39
Local clock offset: -2.435 ms
Remote clock offset: 15.973 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 85.327 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.150 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.394 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.241 ms
Loss rate: 0.00%
```
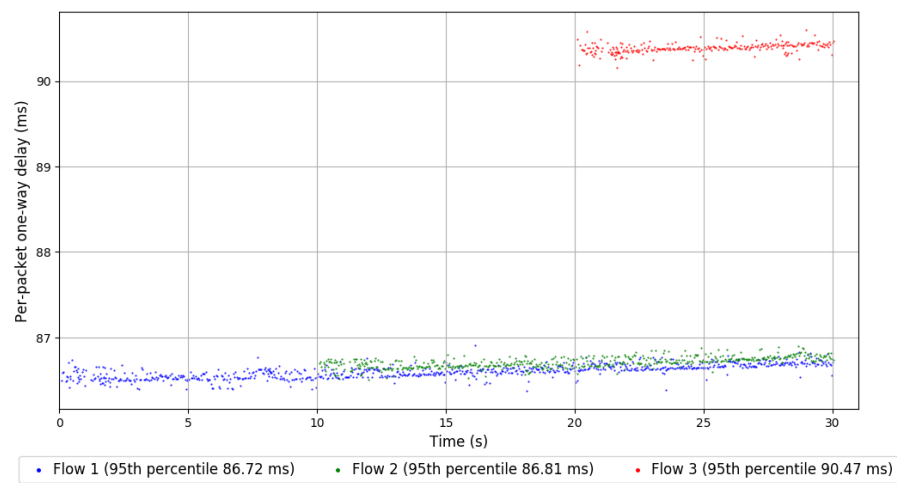
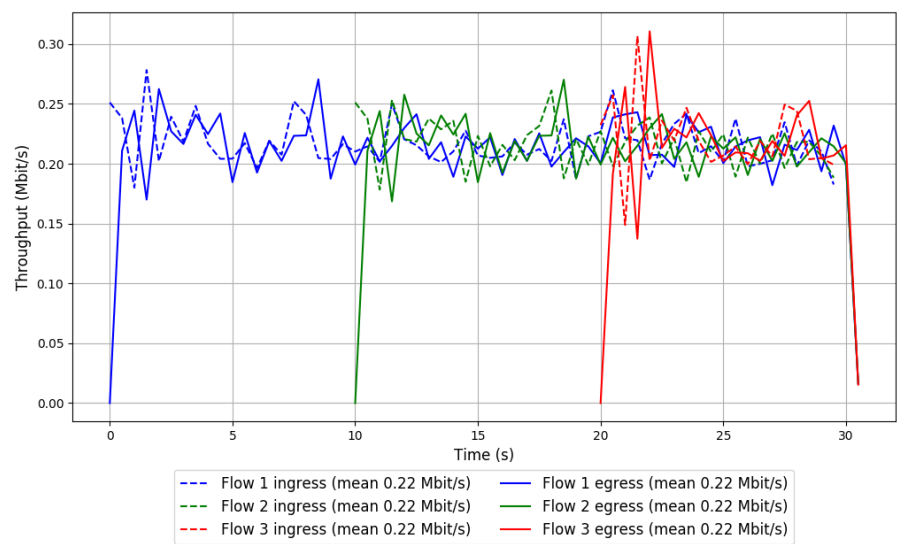# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-08-22 04:07:22
End at: 2018-08-22 04:07:52
Local clock offset: -2.916 ms
Remote clock offset: 26.342 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 93.007 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.074 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: 93.108 ms
Loss rate: 0.00%
```
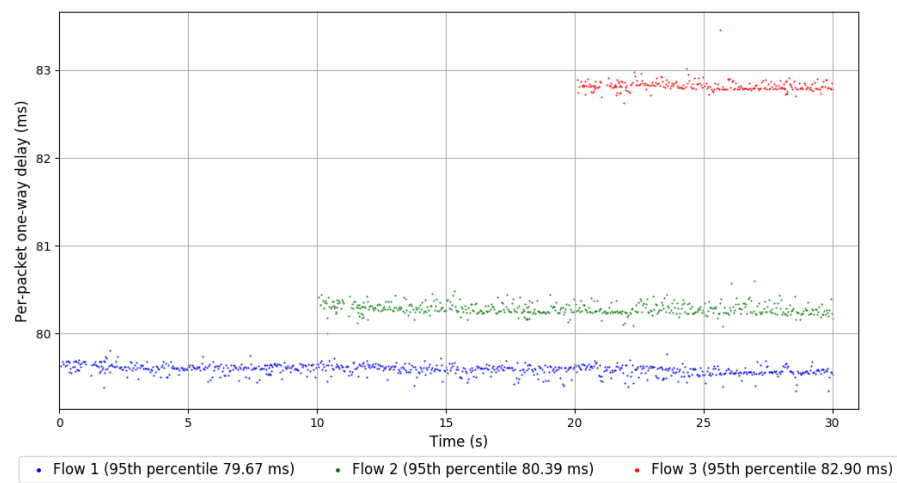
Run 5: Report of SCReAM — Data Link

213

```
Run 6: Statistics of SCReAM

Start at: 2018-08-22 04:28:33
End at: 2018-08-22 04:29:03
Local clock offset: -7.124 ms
Remote clock offset: 30.458 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 93.238 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.990 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.896 ms
Loss rate: 0.00%
```
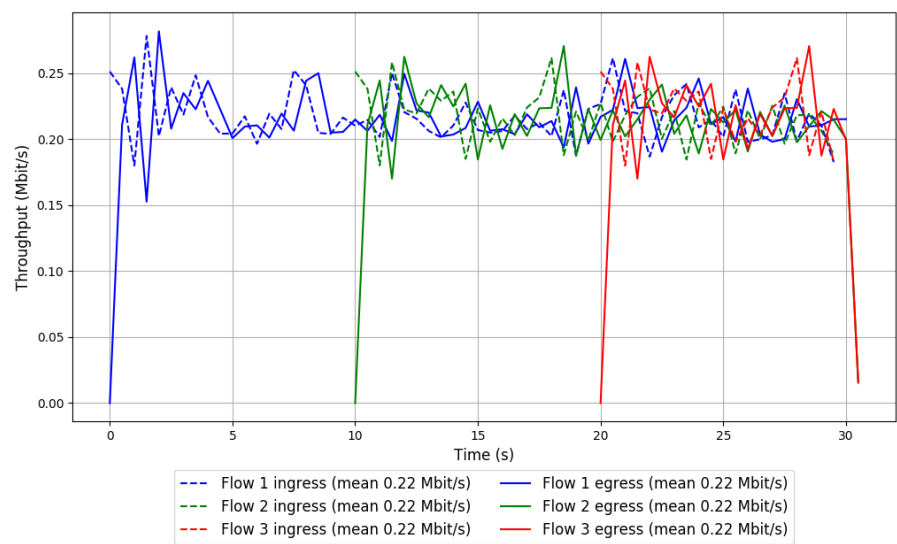
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-08-22 04:49:46
End at: 2018-08-22 04:50:16
Local clock offset: -5.388 ms
Remote clock offset: 21.393 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 87.690 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.250 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.373 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.799 ms
Loss rate: 0.00%
```
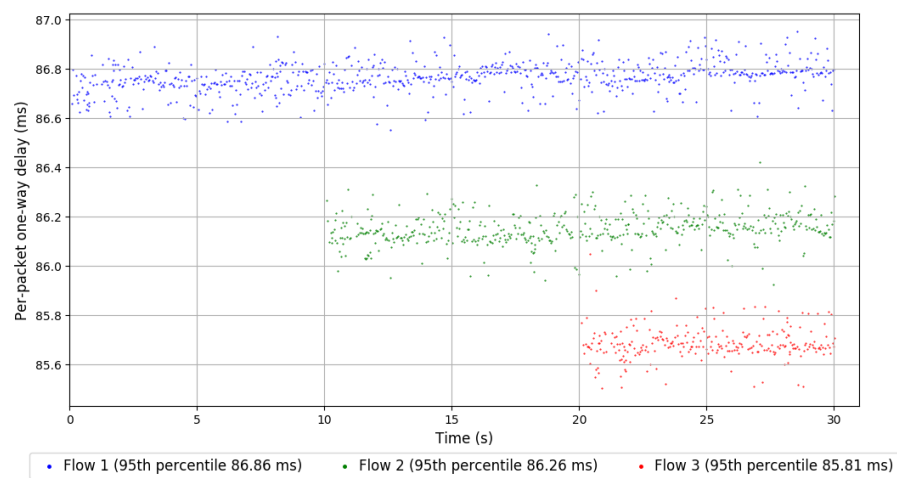
Run 7: Report of SCReAM — Data Link

217

```
Run 8: Statistics of SCReAM

Start at: 2018-08-22 05:11:02
End at: 2018-08-22 05:11:32
Local clock offset: -4.031 ms
Remote clock offset: 0.807 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 90.416 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.720 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.811 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.473 ms
Loss rate: 0.00%
```
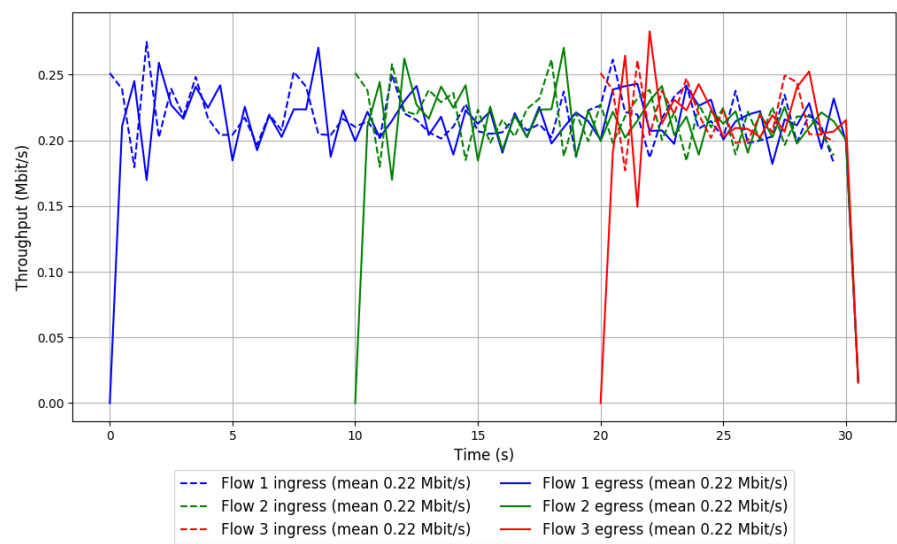
Run 8: Report of SCReAM — Data Link

219

```
Run 9: Statistics of SCReAM

Start at: 2018-08-22 05:32:09
End at: 2018-08-22 05:32:39
Local clock offset: -4.409 ms
Remote clock offset: -2.608 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 82.838 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 79.672 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 80.393 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.903 ms
Loss rate: 0.00%
```
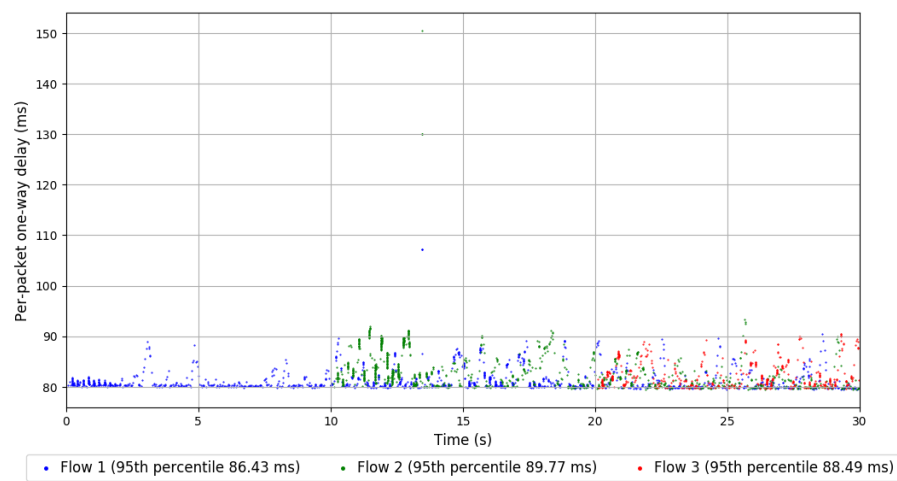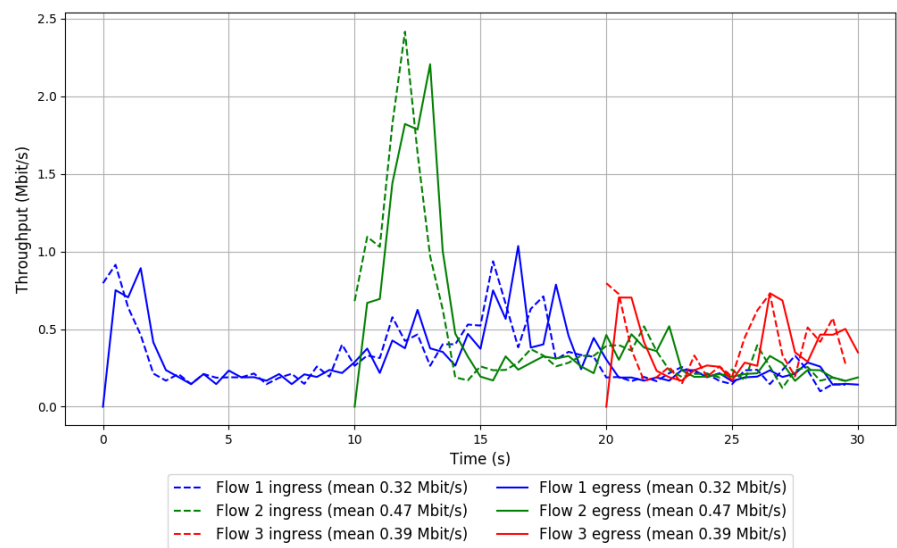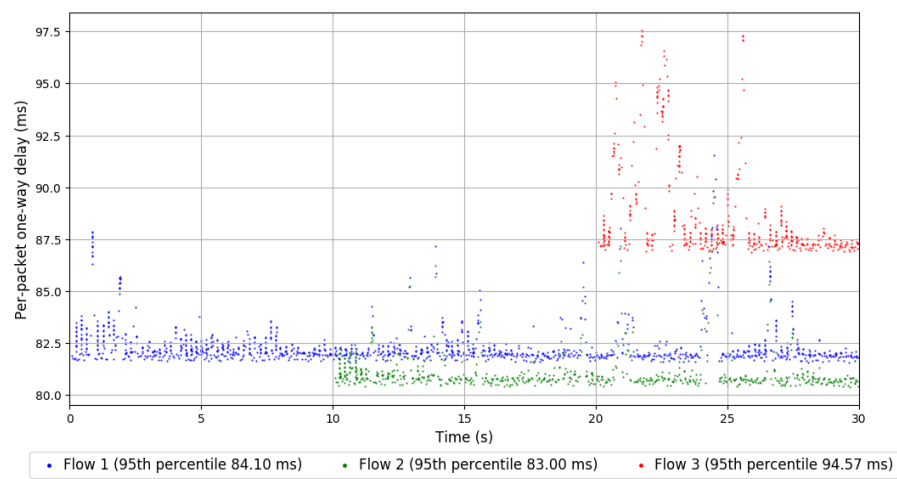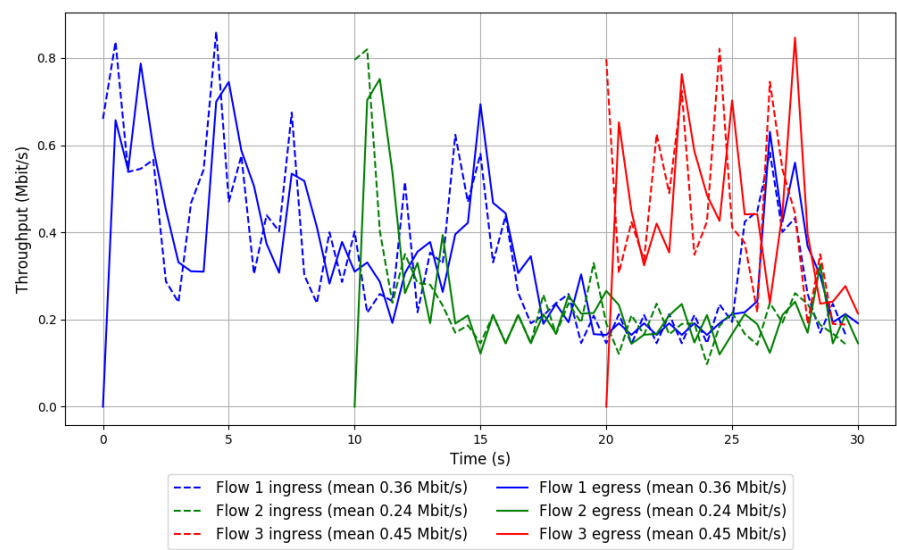
Run 9: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s)   Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)   Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)   Flow 3 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 79.67 ms)   Flow 2 (95th percentile 80.39 ms)   Flow 3 (95th percentile 82.90 ms)

```
Run 10: Statistics of SCReAM

Start at: 2018-08-22 05:53:18
End at: 2018-08-22 05:53:48
Local clock offset: -5.617 ms
Remote clock offset: 1.132 ms

# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.836 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.865 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.258 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.807 ms
Loss rate: 0.00%
```

Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-08-22 02:37:47
End at: 2018-08-22 02:38:17
Local clock offset: -5.304 ms
Remote clock offset: 3.266 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 88.847 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 86.428 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 89.772 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 88.493 ms
Loss rate: 0.00%
```
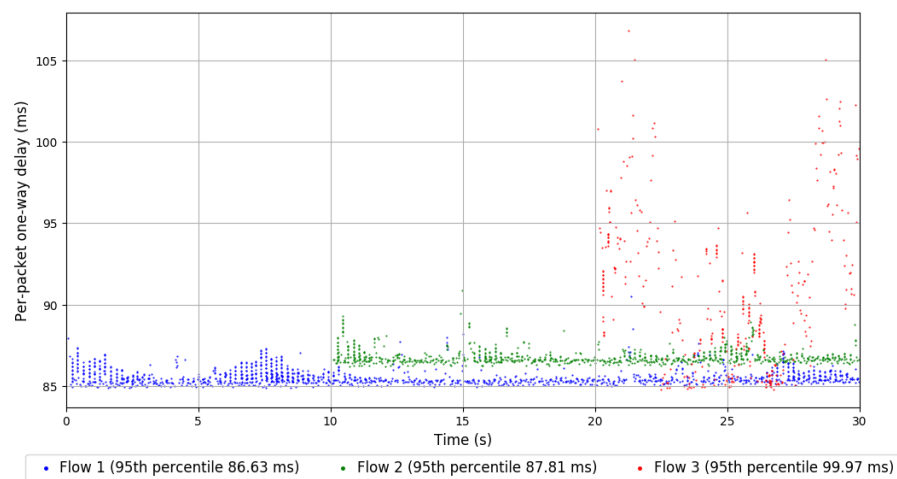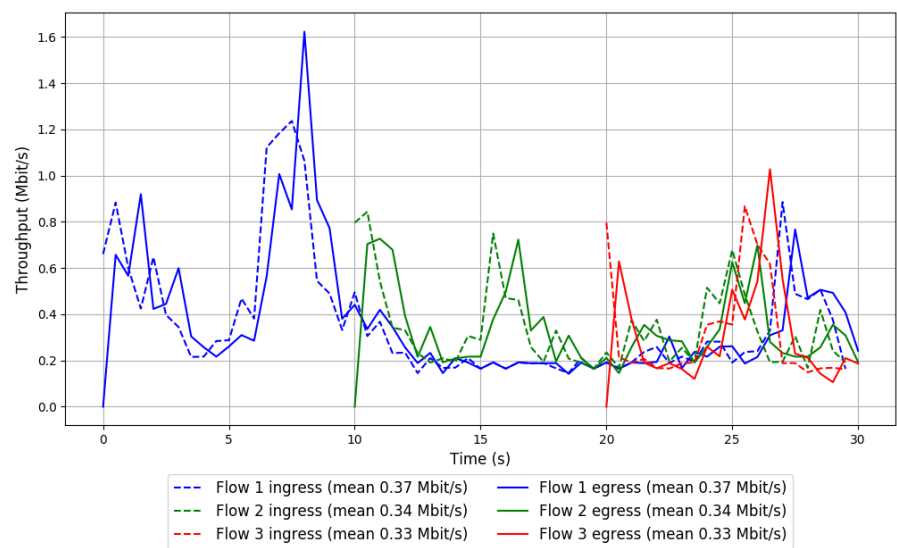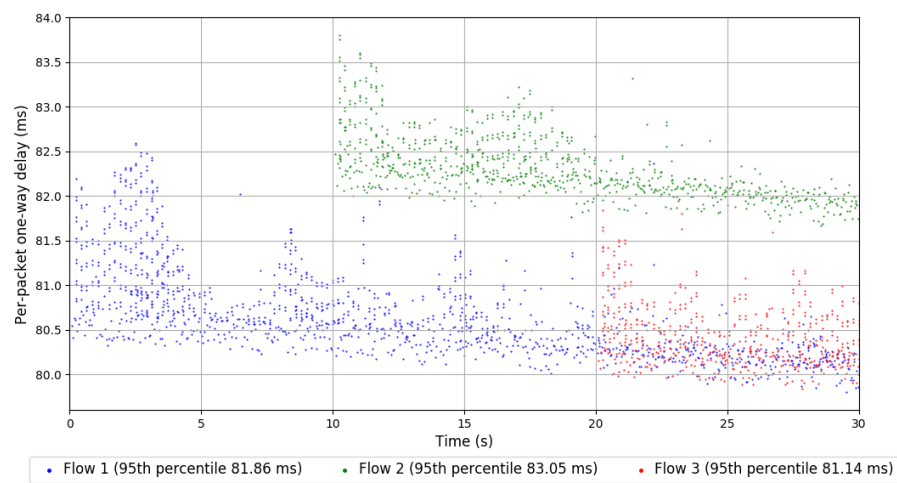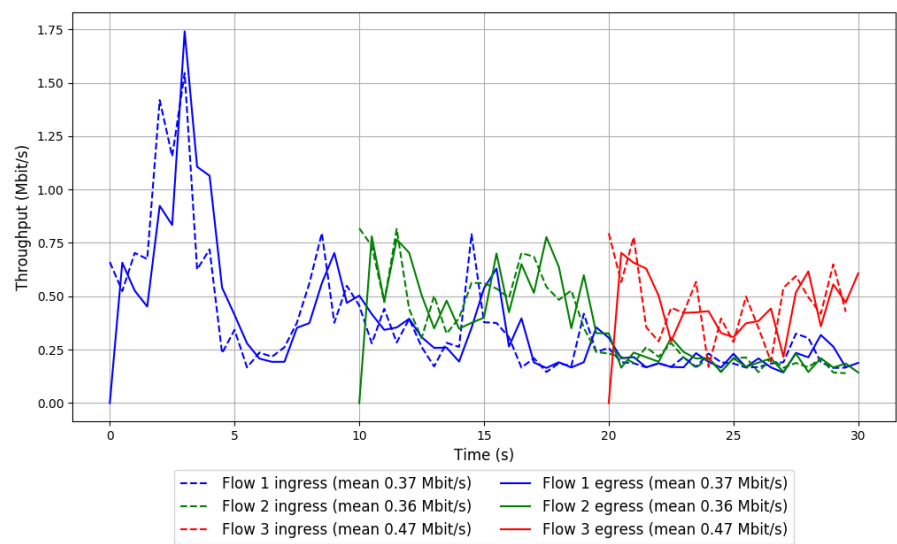
Run 1: Report of Sprout — Data Link

225

```
Run 2: Statistics of Sprout

Start at: 2018-08-22 02:58:55
End at: 2018-08-22 02:59:25
Local clock offset: -17.518 ms
Remote clock offset: 1.525 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 89.238 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 84.097 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 82.998 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 94.569 ms
Loss rate: 0.17%
```
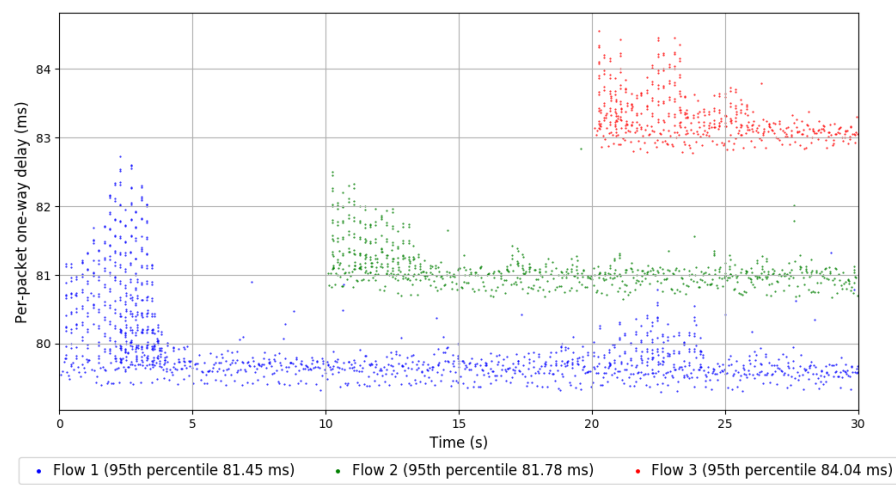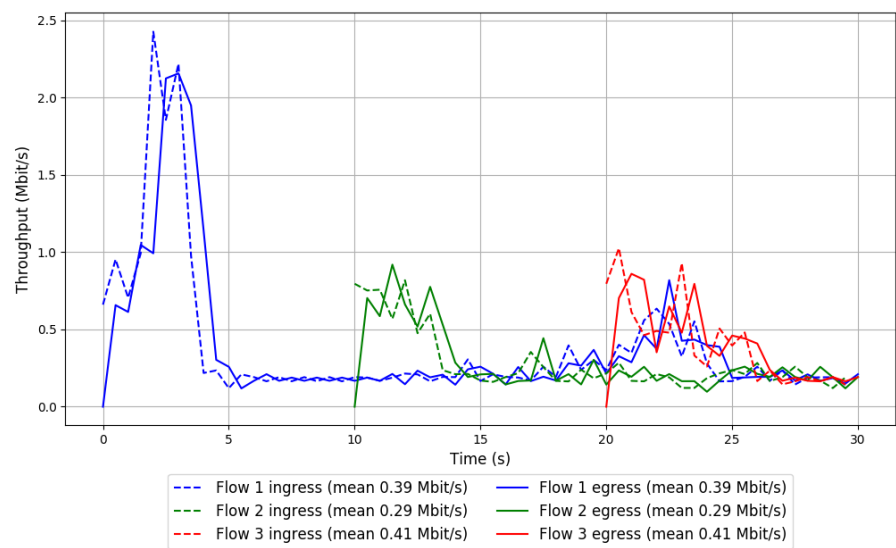
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-08-22 03:20:02
End at: 2018-08-22 03:20:32
Local clock offset: -5.804 ms
Remote clock offset: 7.951 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 92.434 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 86.627 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 87.808 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 99.975 ms
Loss rate: 0.00%
```
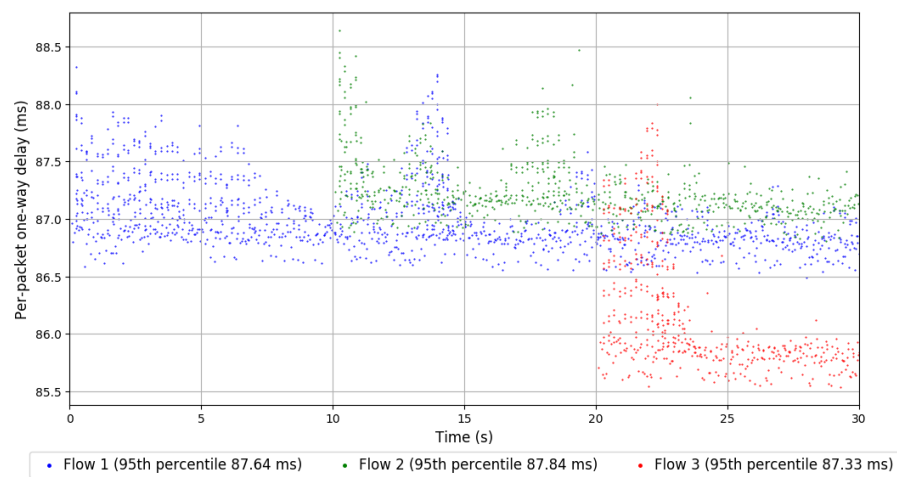
Run 3: Report of Sprout — Data Link

229

```
Run 4: Statistics of Sprout

Start at: 2018-08-22 03:41:12
End at: 2018-08-22 03:41:42
Local clock offset: -2.039 ms
Remote clock offset: 7.492 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 82.695 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 81.858 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 83.048 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 81.141 ms
Loss rate: 0.00%
```
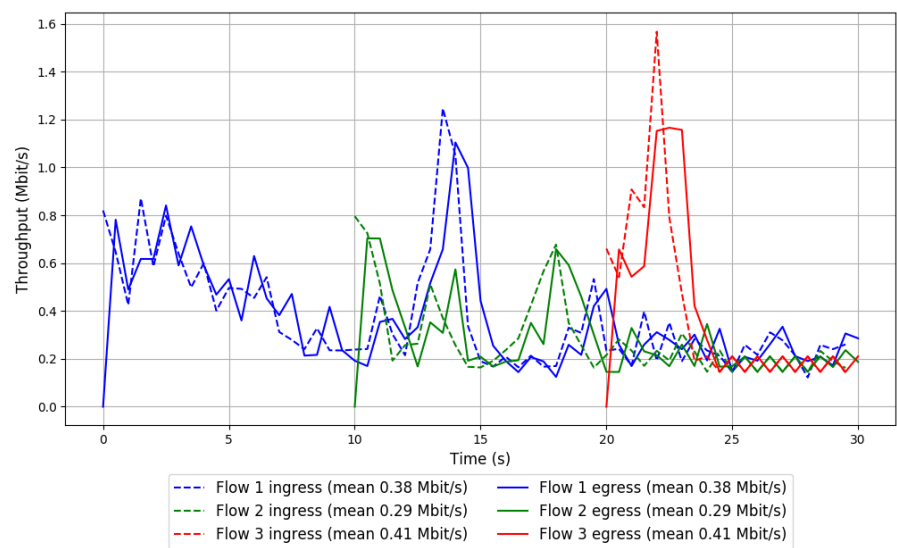
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-08-22 04:02:27
End at: 2018-08-22 04:02:57
Local clock offset: -2.202 ms
Remote clock offset: 18.945 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 83.421 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 81.453 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 81.778 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 84.044 ms
Loss rate: 0.00%
```
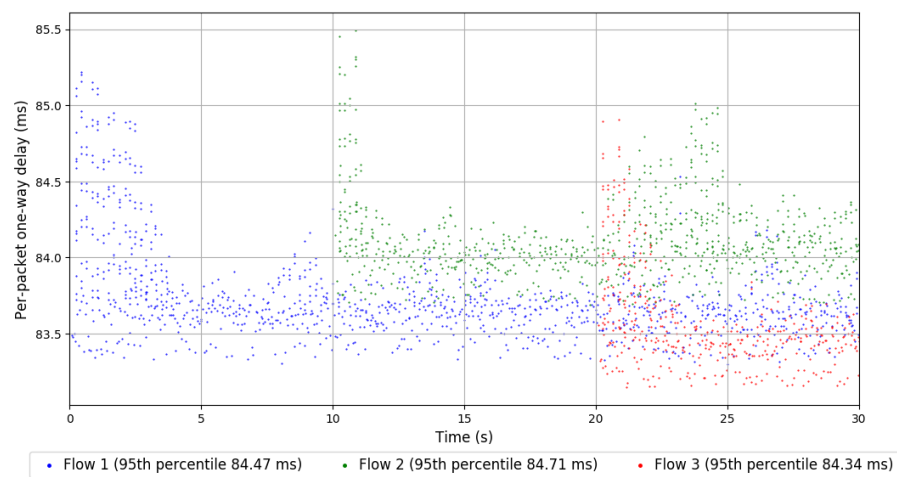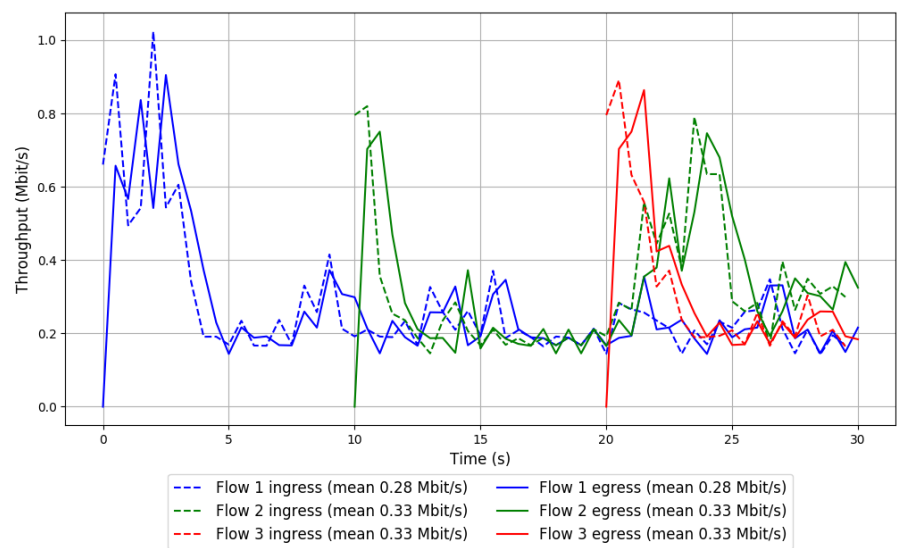
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2018-08-22 04:23:37
End at: 2018-08-22 04:24:07
Local clock offset: -6.865 ms
Remote clock offset: 28.4 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 87.668 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 87.640 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 87.838 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 87.329 ms
Loss rate: 0.00%
```
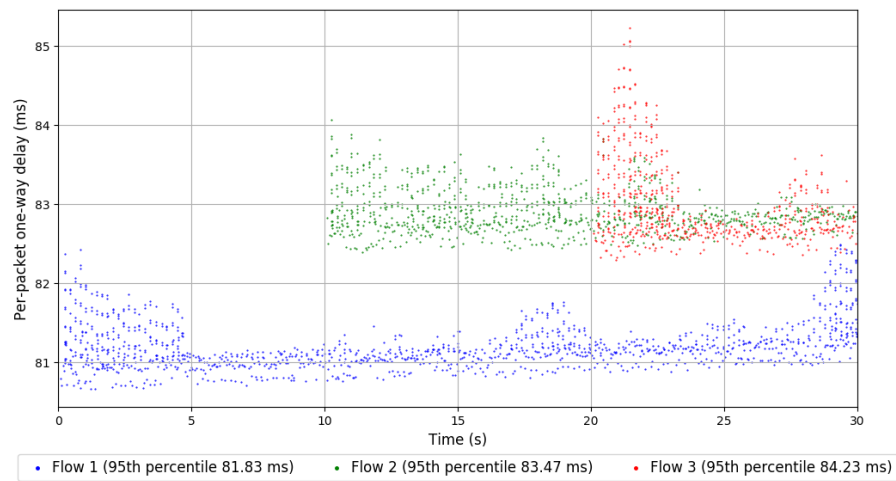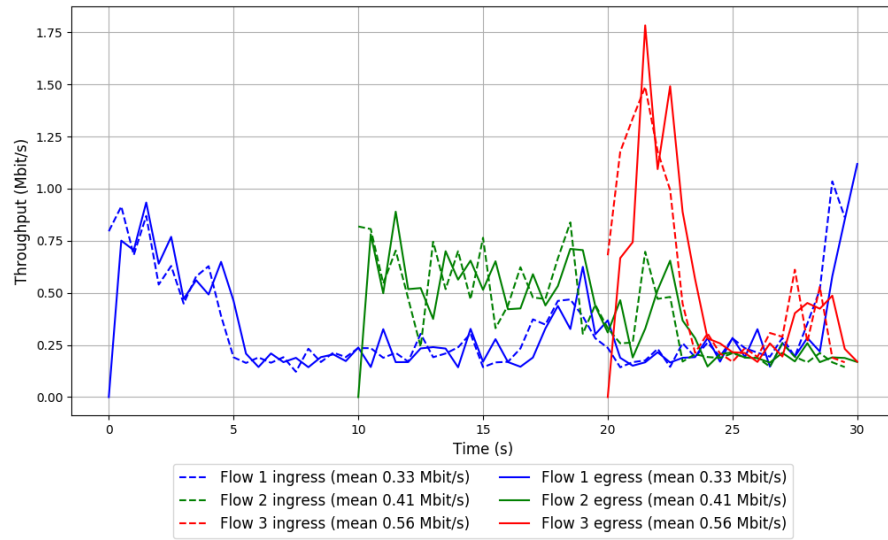
Run 6: Report of Sprout — Data Link

235

```
Run 7: Statistics of Sprout

Start at: 2018-08-22 04:44:48
End at: 2018-08-22 04:45:18
Local clock offset: -5.157 ms
Remote clock offset: 31.265 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 84.572 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 84.472 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 84.706 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 84.338 ms
Loss rate: 0.00%
```
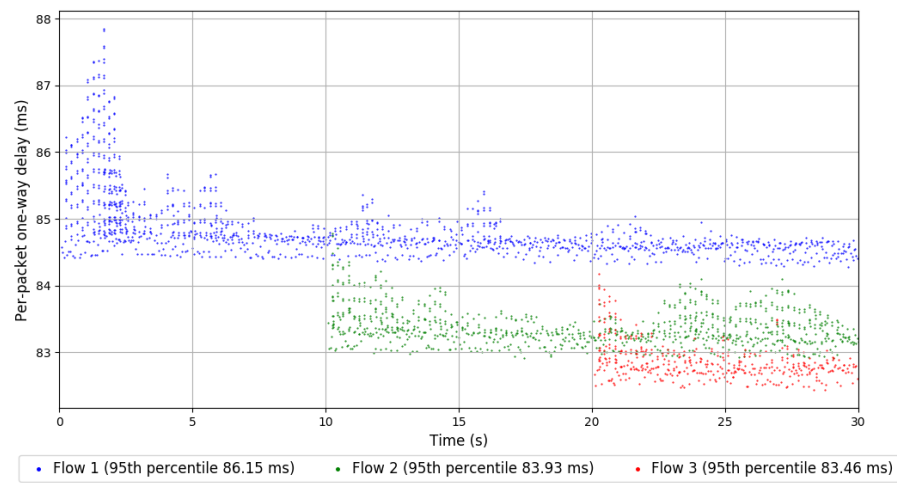
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2018-08-22 05:06:05
End at: 2018-08-22 05:06:35
Local clock offset: -3.732 ms
Remote clock offset: -0.665 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 83.528 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 81.835 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 83.468 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 84.226 ms
Loss rate: 0.00%
```

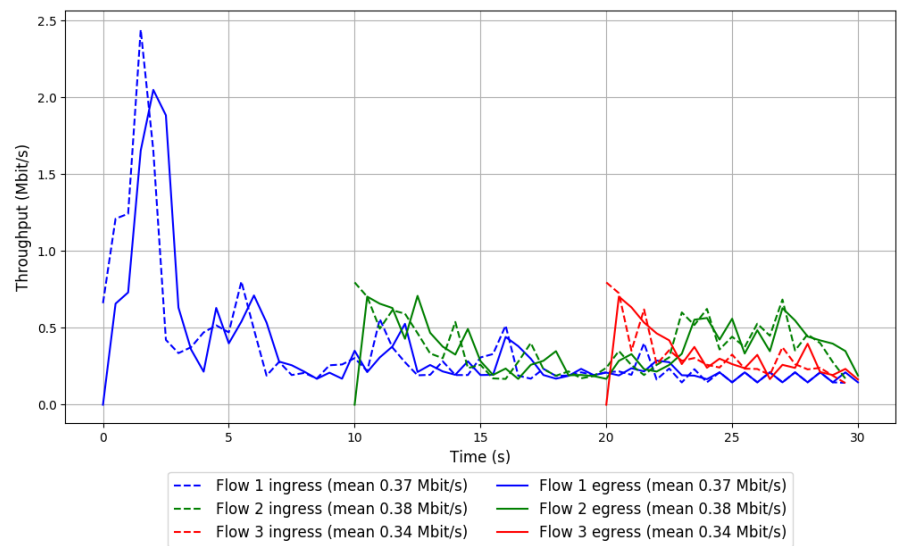Run 8: Report of Sprout — Data Link

239

```
Run 9: Statistics of Sprout

Start at: 2018-08-22 05:27:14
End at: 2018-08-22 05:27:44
Local clock offset: -5.199 ms
Remote clock offset: -2.597 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 85.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 86.150 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 83.929 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 83.462 ms
Loss rate: 0.00%
```
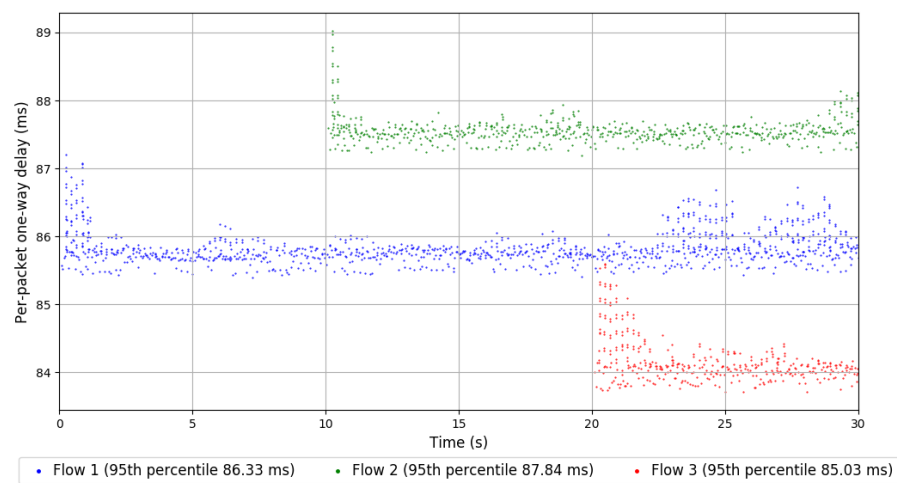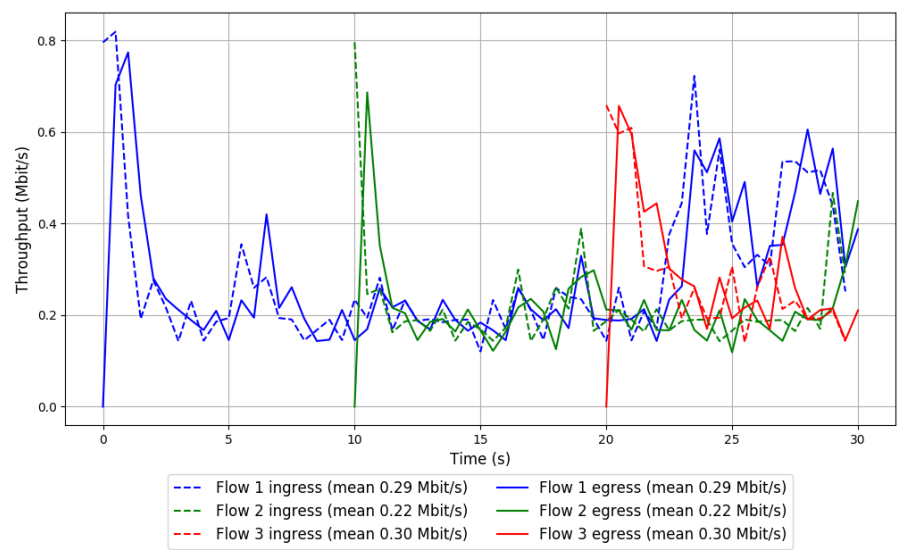
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-08-22 05:48:23
End at: 2018-08-22 05:48:53
Local clock offset: -4.763 ms
Remote clock offset: -2.06 ms


# Below is generated by plot.py at 2018-08-22 06:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 87.643 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 86.329 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.839 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 85.027 ms
Loss rate: 0.00%
```

Run 10: Report of Sprout — Data Link

243

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

Start at: 2018-08-22 02:36:29
End at: 2018-08-22 02:36:59
Local clock offset: -5.32 ms
Remote clock offset: 2.231 ms


# Below is generated by plot.py at 2018-08-22 06:17:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.47 Mbit/s
95th percentile per-packet one-way delay: 112.767 ms
Loss rate: 5.57%
-- Flow 1:
Average throughput: 51.45 Mbit/s
95th percentile per-packet one-way delay: 110.824 ms
Loss rate: 4.11%
-- Flow 2:
Average throughput: 35.66 Mbit/s
95th percentile per-packet one-way delay: 114.434 ms
Loss rate: 7.68%
-- Flow 3:
Average throughput: 9.79 Mbit/s
95th percentile per-packet one-way delay: 118.918 ms
Loss rate: 11.95%
```
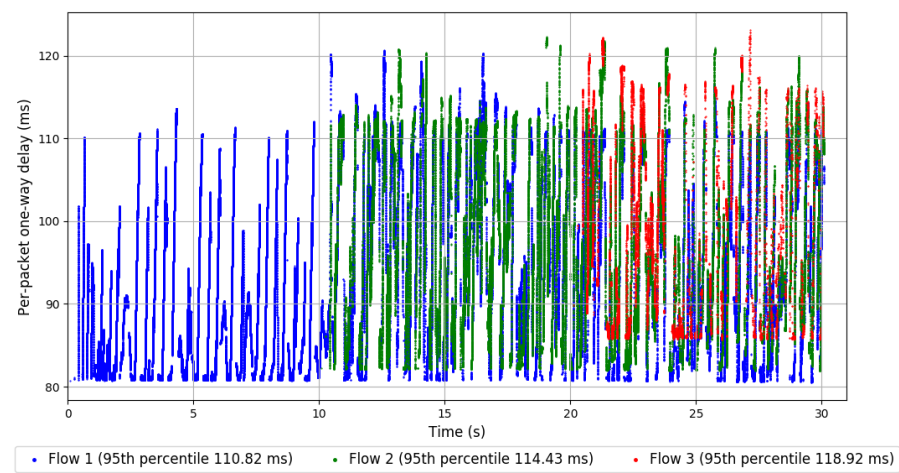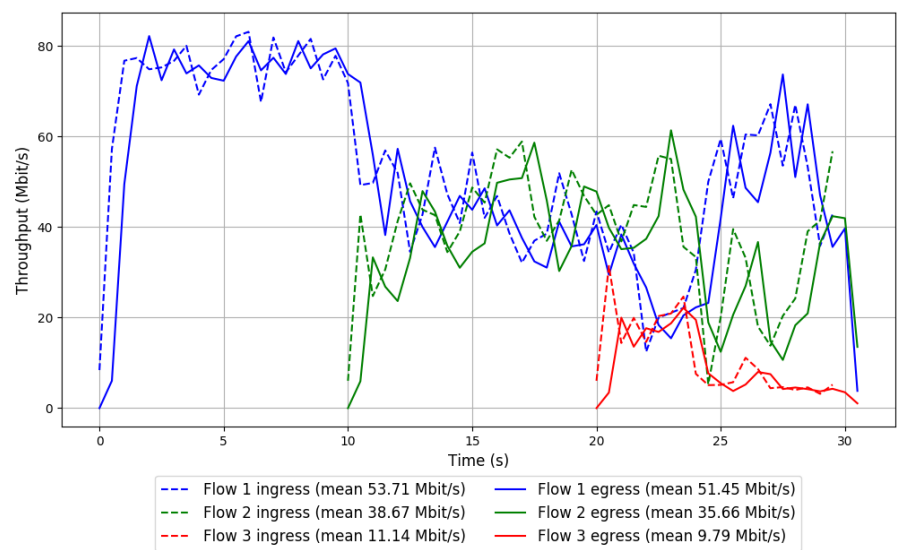
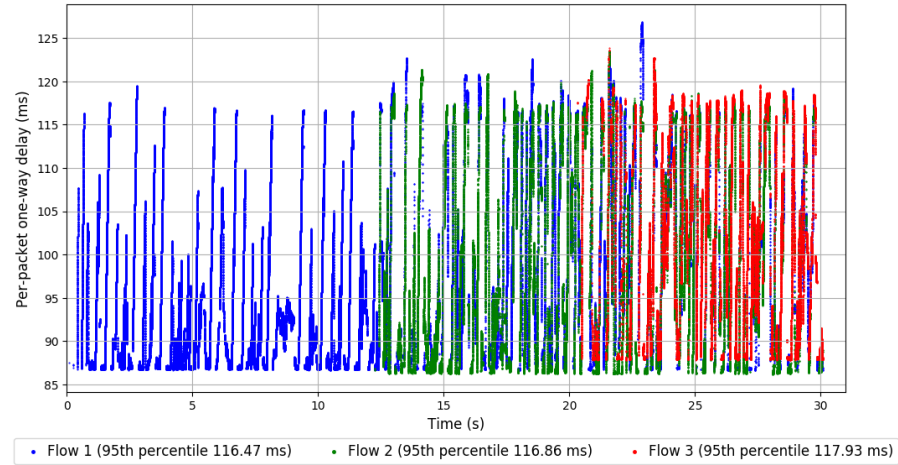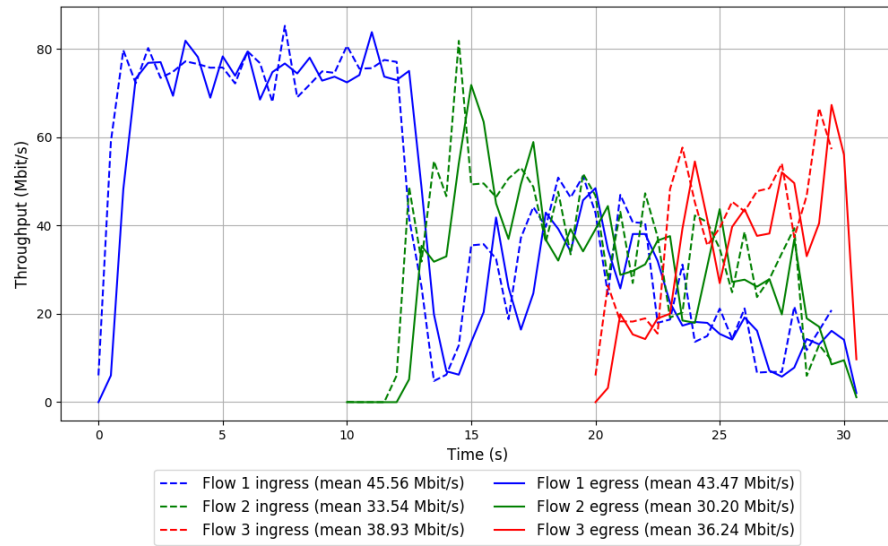# Run 1: Report of TaoVA-100x — Data Link

245

```
Run 2: Statistics of TaoVA-100x

Start at: 2018-08-22 02:57:37
End at: 2018-08-22 02:58:08
Local clock offset: -17.249 ms
Remote clock offset: 7.586 ms

# Below is generated by plot.py at 2018-08-22 06:17:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.61 Mbit/s
95th percentile per-packet one-way delay: 117.079 ms
Loss rate: 6.47%
-- Flow 1:
Average throughput: 43.47 Mbit/s
95th percentile per-packet one-way delay: 116.471 ms
Loss rate: 4.58%
-- Flow 2:
Average throughput: 30.20 Mbit/s
95th percentile per-packet one-way delay: 116.864 ms
Loss rate: 9.95%
-- Flow 3:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 117.928 ms
Loss rate: 7.08%
```
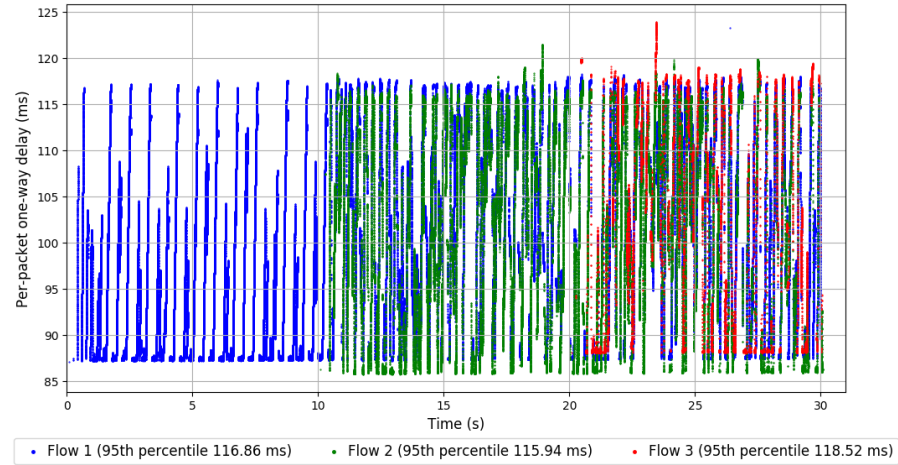
Run 2: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 45.56 Mbit/s)
- Flow 1 egress (mean 43.47 Mbit/s)
- Flow 2 ingress (mean 33.54 Mbit/s)
- Flow 2 egress (mean 30.20 Mbit/s)
- Flow 3 ingress (mean 38.93 Mbit/s)
- Flow 3 egress (mean 36.24 Mbit/s)

- Flow 1 (95th percentile 116.47 ms)
- Flow 2 (95th percentile 116.86 ms)
- Flow 3 (95th percentile 117.93 ms)

```
Run 3: Statistics of TaoVA-100x

Start at: 2018-08-22 03:18:45
End at: 2018-08-22 03:19:15
Local clock offset: -7.256 ms
Remote clock offset: 7.986 ms


# Below is generated by plot.py at 2018-08-22 06:17:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.53 Mbit/s
95th percentile per-packet one-way delay: 116.833 ms
Loss rate: 5.90%
-- Flow 1:
Average throughput: 52.70 Mbit/s
95th percentile per-packet one-way delay: 116.865 ms
Loss rate: 4.25%
-- Flow 2:
Average throughput: 34.32 Mbit/s
95th percentile per-packet one-way delay: 115.941 ms
Loss rate: 8.60%
-- Flow 3:
Average throughput: 12.15 Mbit/s
95th percentile per-packet one-way delay: 118.518 ms
Loss rate: 11.02%
```
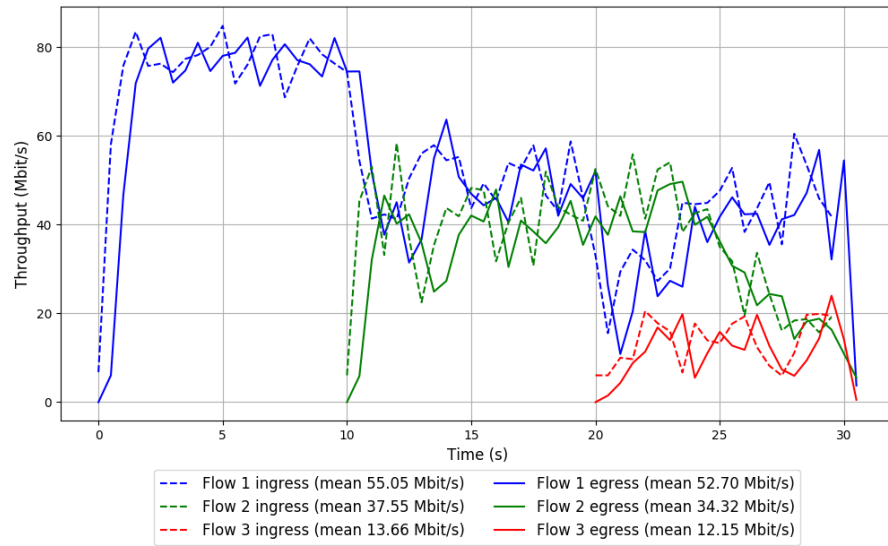
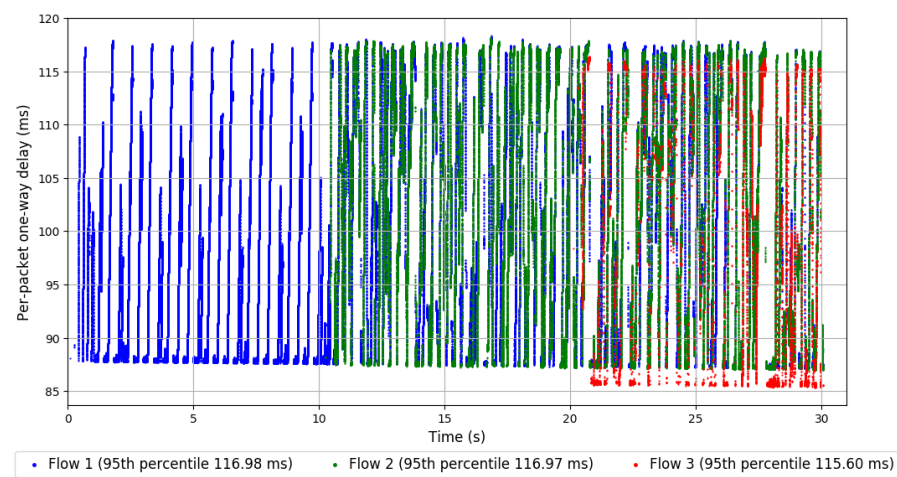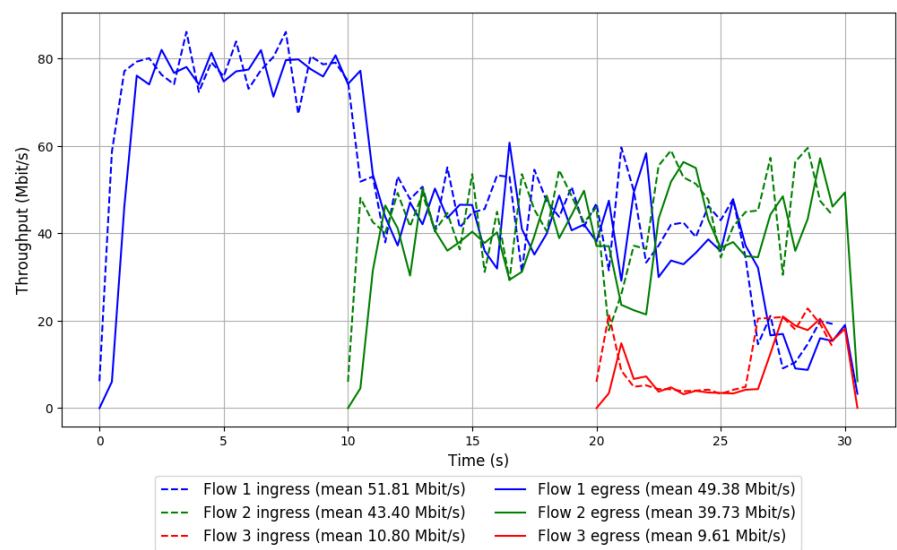Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 55.05 Mbit/s)   Flow 1 egress (mean 52.70 Mbit/s)
Flow 2 ingress (mean 37.55 Mbit/s)   Flow 2 egress (mean 34.32 Mbit/s)
Flow 3 ingress (mean 13.66 Mbit/s)   Flow 3 egress (mean 12.15 Mbit/s)

Flow 1 (95th percentile 116.86 ms)   Flow 2 (95th percentile 115.94 ms)   Flow 3 (95th percentile 118.52 ms)

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

Start at: 2018-08-22 03:39:54
End at: 2018-08-22 03:40:24
Local clock offset: -2.653 ms
Remote clock offset: 12.108 ms

# Below is generated by plot.py at 2018-08-22 06:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.01 Mbit/s
95th percentile per-packet one-way delay: 116.961 ms
Loss rate: 6.30%
-- Flow 1:
Average throughput: 49.38 Mbit/s
95th percentile per-packet one-way delay: 116.985 ms
Loss rate: 4.69%
-- Flow 2:
Average throughput: 39.73 Mbit/s
95th percentile per-packet one-way delay: 116.973 ms
Loss rate: 8.57%
-- Flow 3:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 115.599 ms
Loss rate: 11.20%
```

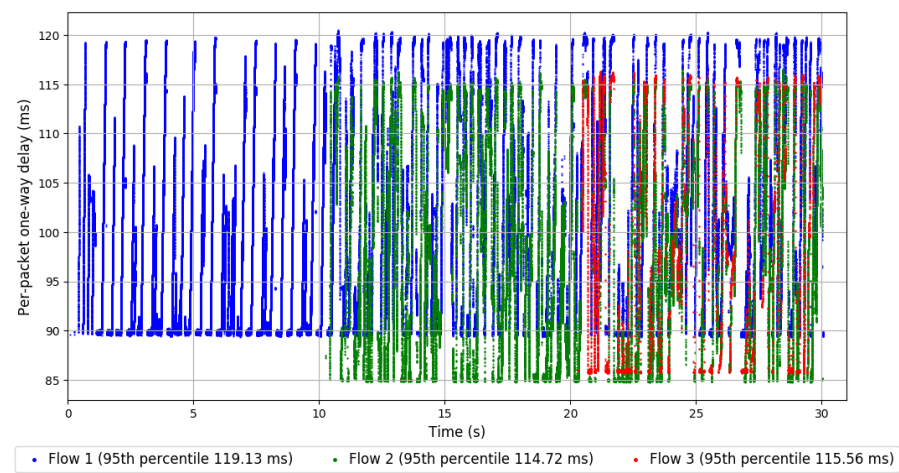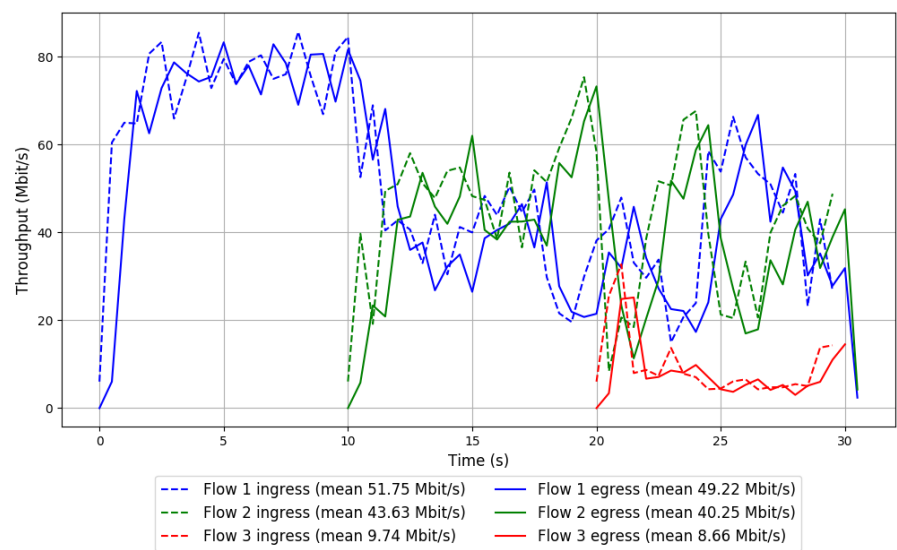Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 51.81 Mbit/s) — — —   Flow 1 egress (mean 49.38 Mbit/s)
Flow 2 ingress (mean 43.40 Mbit/s) — — —   Flow 2 egress (mean 39.73 Mbit/s)
Flow 3 ingress (mean 10.80 Mbit/s) — — —   Flow 3 egress (mean 9.61 Mbit/s)

Flow 1 (95th percentile 116.98 ms)   Flow 2 (95th percentile 116.97 ms)   Flow 3 (95th percentile 115.60 ms)

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

Start at: 2018-08-22 04:01:08
End at: 2018-08-22 04:01:38
Local clock offset: -3.091 ms
Remote clock offset: 22.528 ms


# Below is generated by plot.py at 2018-08-22 06:17:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.80 Mbit/s
95th percentile per-packet one-way delay: 118.814 ms
Loss rate: 6.13%
-- Flow 1:
Average throughput: 49.22 Mbit/s
95th percentile per-packet one-way delay: 119.126 ms
Loss rate: 4.90%
-- Flow 2:
Average throughput: 40.25 Mbit/s
95th percentile per-packet one-way delay: 114.715 ms
Loss rate: 7.79%
-- Flow 3:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 115.562 ms
Loss rate: 11.07%
```

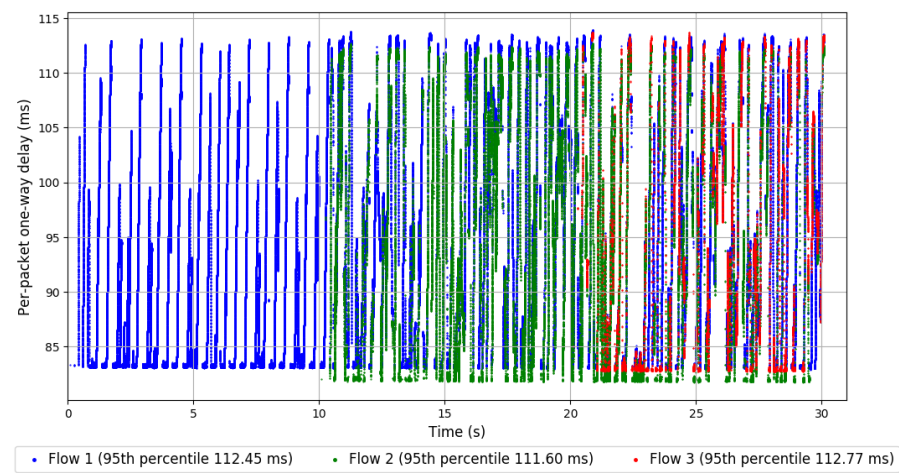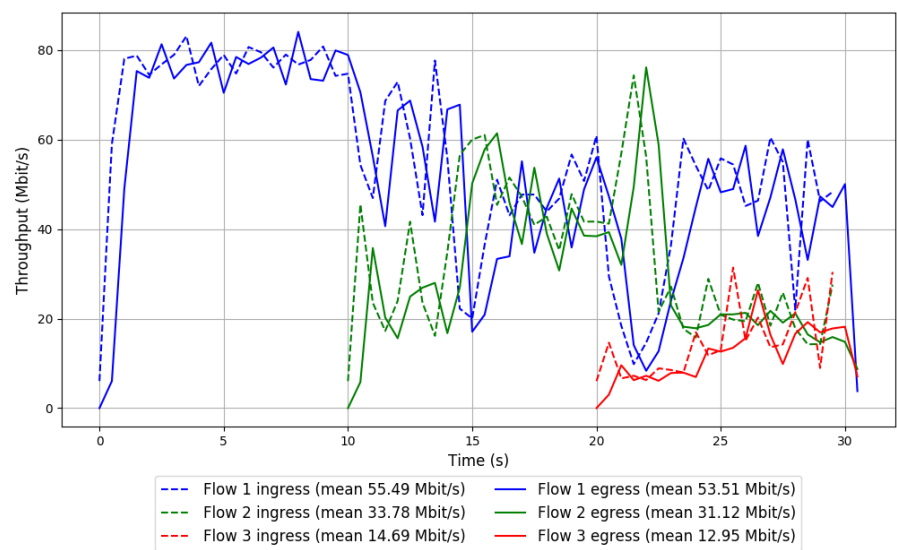# Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 51.75 Mbit/s) Flow 1 egress (mean 49.22 Mbit/s)
Flow 2 ingress (mean 43.63 Mbit/s) Flow 2 egress (mean 40.25 Mbit/s)
Flow 3 ingress (mean 9.74 Mbit/s)   Flow 3 egress (mean 8.66 Mbit/s)

Flow 1 (95th percentile 119.13 ms) Flow 2 (95th percentile 114.72 ms) Flow 3 (95th percentile 115.56 ms)
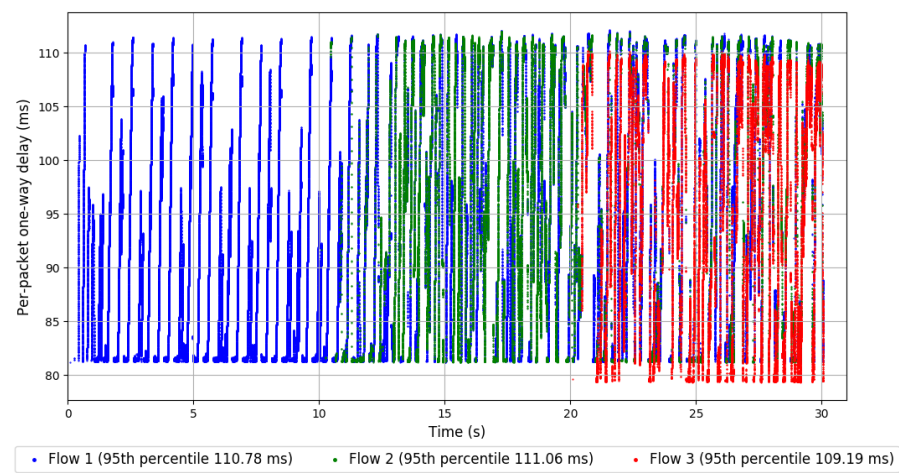
253

```
Run 6: Statistics of TaoVA-100x

Start at: 2018-08-22 04:22:19
End at: 2018-08-22 04:22:49
Local clock offset: -6.692 ms
Remote clock offset: 24.392 ms

# Below is generated by plot.py at 2018-08-22 06:17:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.56 Mbit/s
95th percentile per-packet one-way delay: 112.245 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 53.51 Mbit/s
95th percentile per-packet one-way delay: 112.447 ms
Loss rate: 3.48%
-- Flow 2:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 111.602 ms
Loss rate: 7.75%
-- Flow 3:
Average throughput: 12.95 Mbit/s
95th percentile per-packet one-way delay: 112.770 ms
Loss rate: 11.61%
```

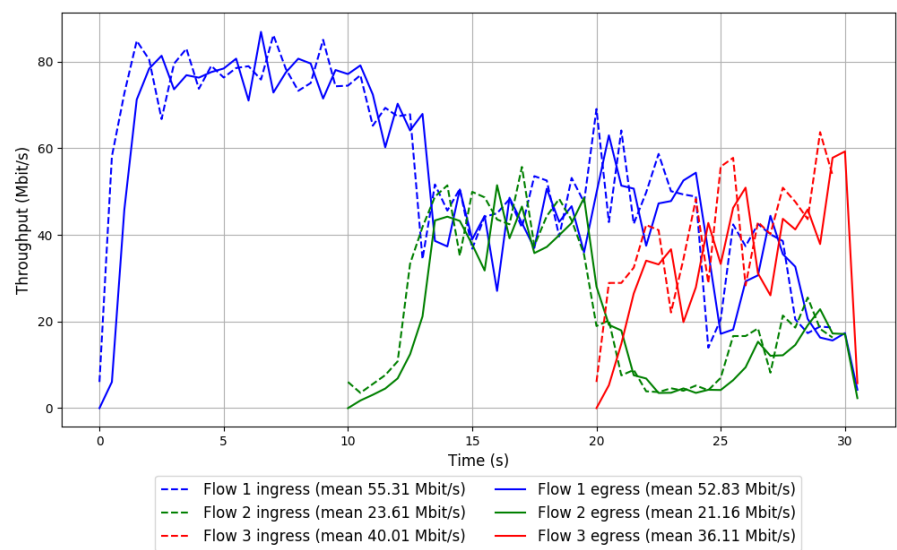# Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 55.49 Mbit/s) Flow 1 egress (mean 53.51 Mbit/s)
Flow 2 ingress (mean 33.78 Mbit/s) Flow 2 egress (mean 31.12 Mbit/s)
Flow 3 ingress (mean 14.69 Mbit/s) Flow 3 egress (mean 12.95 Mbit/s)

Flow 1 (95th percentile 112.45 ms) Flow 2 (95th percentile 111.60 ms) Flow 3 (95th percentile 112.77 ms)

255

```
Run 7: Statistics of TaoVA-100x

Start at: 2018-08-22 04:43:30
End at: 2018-08-22 04:44:00
Local clock offset: -5.33 ms
Remote clock offset: 27.132 ms

# Below is generated by plot.py at 2018-08-22 06:17:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.90 Mbit/s
95th percentile per-packet one-way delay: 110.774 ms
Loss rate: 6.42%
-- Flow 1:
Average throughput: 52.83 Mbit/s
95th percentile per-packet one-way delay: 110.780 ms
Loss rate: 4.48%
-- Flow 2:
Average throughput: 21.16 Mbit/s
95th percentile per-packet one-way delay: 111.059 ms
Loss rate: 10.41%
-- Flow 3:
Average throughput: 36.11 Mbit/s
95th percentile per-packet one-way delay: 109.189 ms
Loss rate: 9.76%
```
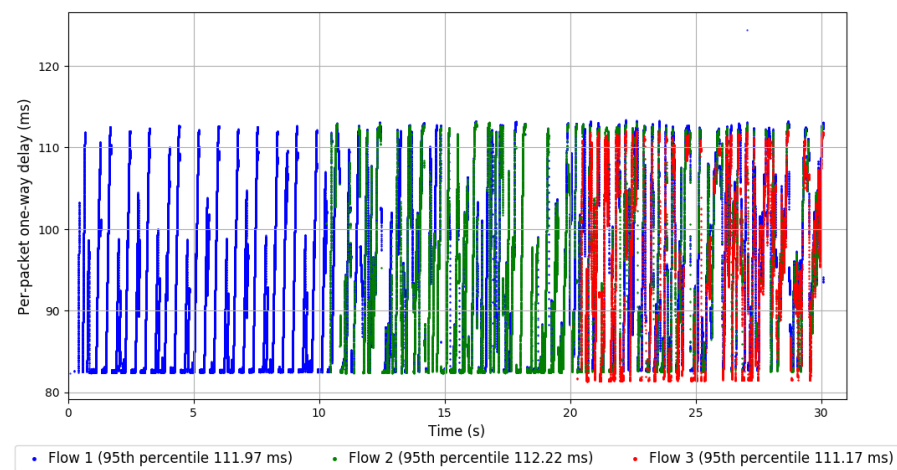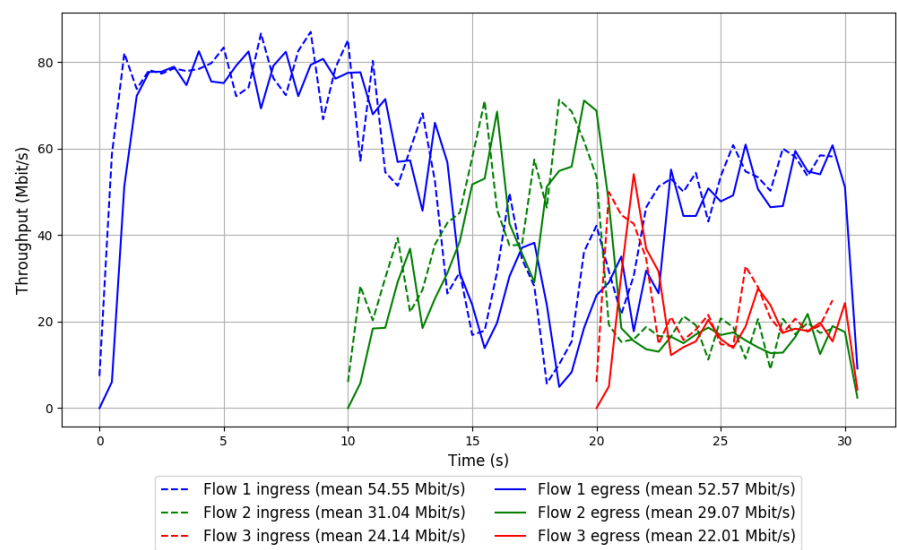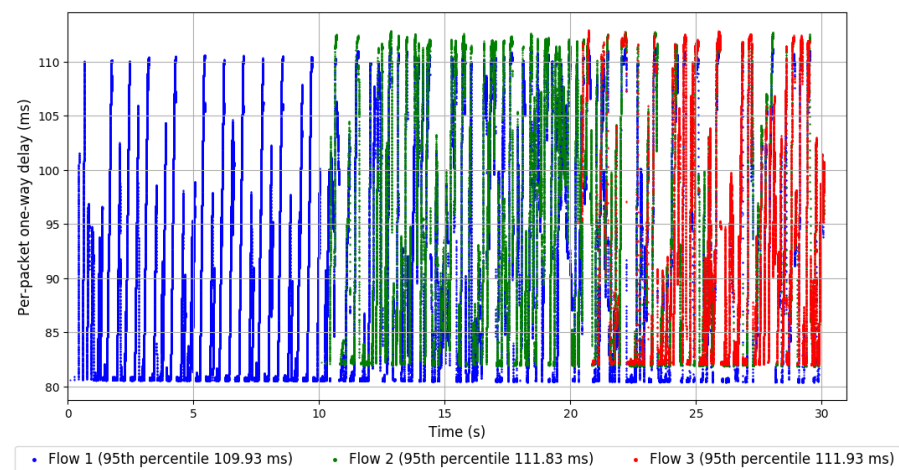
Run 7: Report of TaoVA-100x — Data Link

```
Run 8: Statistics of TaoVA-100x

Start at: 2018-08-22 05:04:47
End at: 2018-08-22 05:05:17
Local clock offset: -3.87 ms
Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2018-08-22 06:17:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.22 Mbit/s
95th percentile per-packet one-way delay: 111.985 ms
Loss rate: 4.74%
-- Flow 1:
Average throughput: 52.57 Mbit/s
95th percentile per-packet one-way delay: 111.967 ms
Loss rate: 3.61%
-- Flow 2:
Average throughput: 29.07 Mbit/s
95th percentile per-packet one-way delay: 112.224 ms
Loss rate: 6.20%
-- Flow 3:
Average throughput: 22.01 Mbit/s
95th percentile per-packet one-way delay: 111.173 ms
Loss rate: 8.62%
```
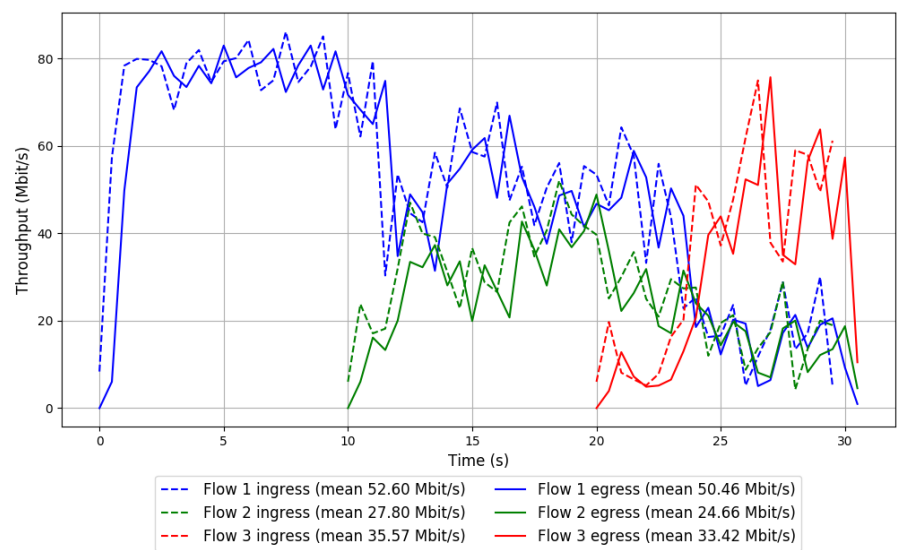
Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 54.55 Mbit/s) --- Flow 1 egress (mean 52.57 Mbit/s)
Flow 2 ingress (mean 31.04 Mbit/s) --- Flow 2 egress (mean 29.07 Mbit/s)
Flow 3 ingress (mean 24.14 Mbit/s) --- Flow 3 egress (mean 22.01 Mbit/s)

Flow 1 (95th percentile 111.97 ms) · Flow 2 (95th percentile 112.22 ms) · Flow 3 (95th percentile 111.17 ms)

259

```
Run 9: Statistics of TaoVA-100x

Start at: 2018-08-22 05:25:57
End at: 2018-08-22 05:26:27
Local clock offset: -4.427 ms
Remote clock offset: -3.065 ms


# Below is generated by plot.py at 2018-08-22 06:18:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.95 Mbit/s
95th percentile per-packet one-way delay: 110.794 ms
Loss rate: 5.91%
-- Flow 1:
Average throughput: 50.46 Mbit/s
95th percentile per-packet one-way delay: 109.928 ms
Loss rate: 4.02%
-- Flow 2:
Average throughput: 24.66 Mbit/s
95th percentile per-packet one-way delay: 111.830 ms
Loss rate: 11.26%
-- Flow 3:
Average throughput: 33.42 Mbit/s
95th percentile per-packet one-way delay: 111.926 ms
Loss rate: 5.94%
```
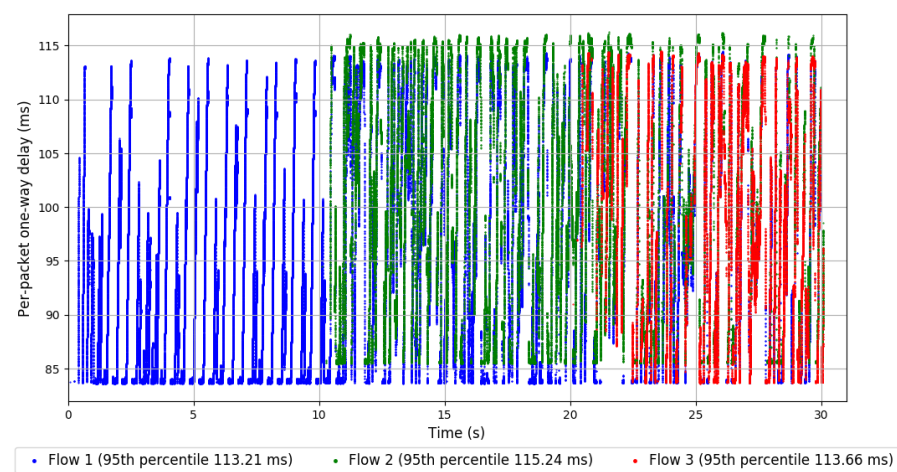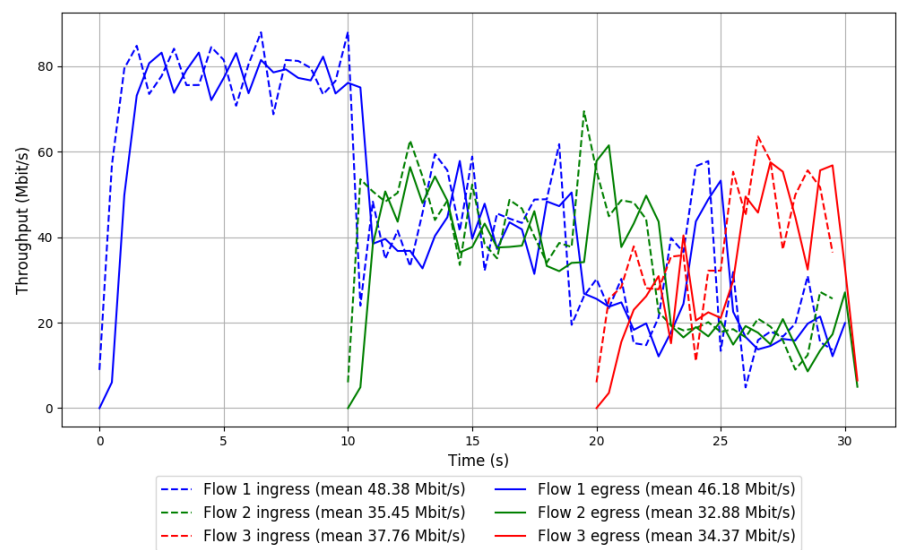
Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 52.60 Mbit/s) --- Flow 1 egress (mean 50.46 Mbit/s)
Flow 2 ingress (mean 27.80 Mbit/s) --- Flow 2 egress (mean 24.66 Mbit/s)
Flow 3 ingress (mean 35.57 Mbit/s) --- Flow 3 egress (mean 33.42 Mbit/s)

Flow 1 (95th percentile 109.93 ms)   Flow 2 (95th percentile 111.83 ms)   Flow 3 (95th percentile 111.93 ms)

```
Run 10: Statistics of TaoVA-100x

Start at: 2018-08-22 05:47:06
End at: 2018-08-22 05:47:36
Local clock offset: -3.972 ms
Remote clock offset: 1.852 ms

# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.35 Mbit/s
95th percentile per-packet one-way delay: 113.903 ms
Loss rate: 5.90%
-- Flow 1:
Average throughput: 46.18 Mbit/s
95th percentile per-packet one-way delay: 113.210 ms
Loss rate: 4.46%
-- Flow 2:
Average throughput: 32.88 Mbit/s
95th percentile per-packet one-way delay: 115.239 ms
Loss rate: 7.24%
-- Flow 3:
Average throughput: 34.37 Mbit/s
95th percentile per-packet one-way delay: 113.661 ms
Loss rate: 8.94%
```
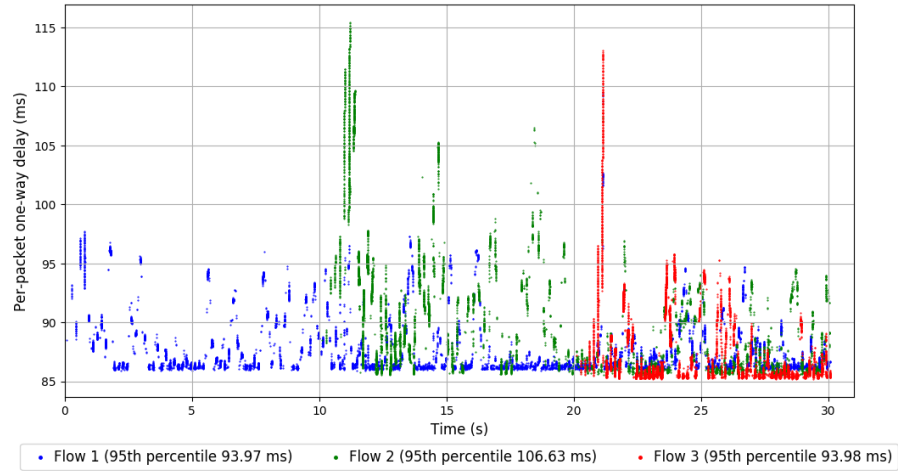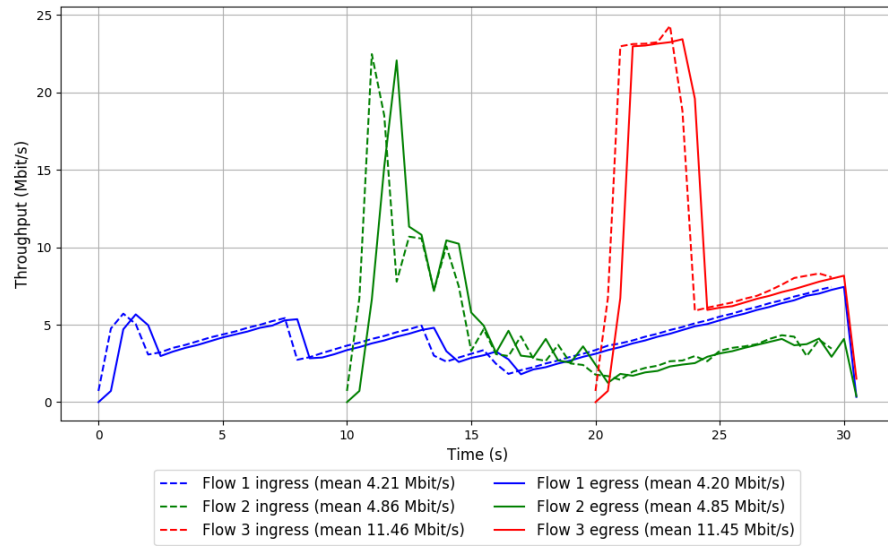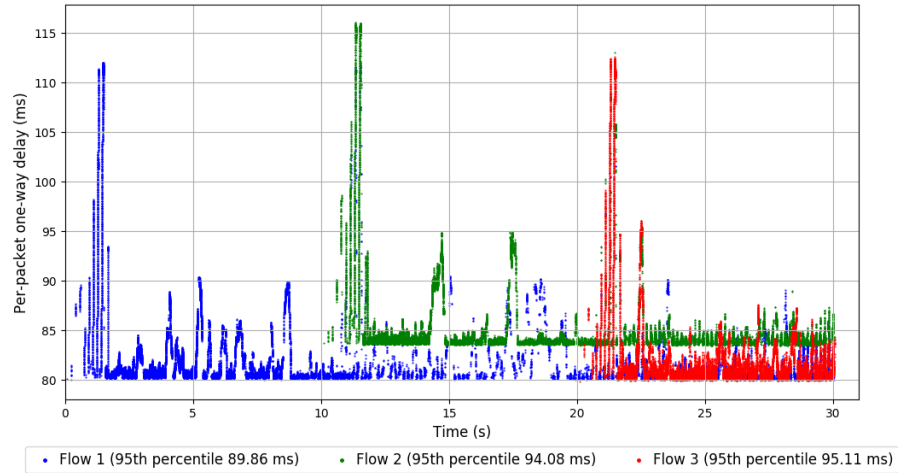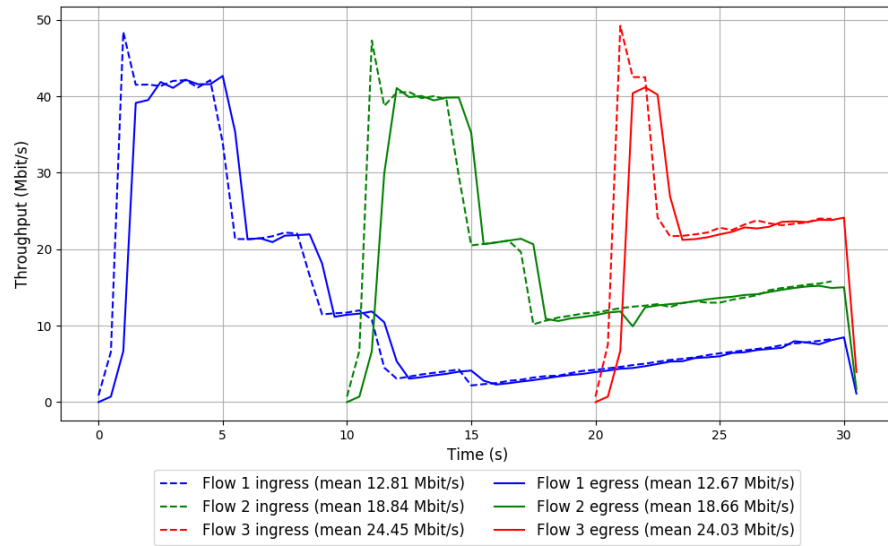
Run 10: Report of TaoVA-100x — Data Link

263

```
Run 1: Statistics of TCP Vegas

Start at: 2018-08-22 02:26:31
End at: 2018-08-22 02:27:01
Local clock offset: -3.966 ms
Remote clock offset: 7.897 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 97.423 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 93.965 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 4.85 Mbit/s
95th percentile per-packet one-way delay: 106.633 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 11.45 Mbit/s
95th percentile per-packet one-way delay: 93.979 ms
Loss rate: 0.07%
```

Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-08-22 02:47:36
End at: 2018-08-22 02:48:06
Local clock offset: -13.978 ms
Remote clock offset: 1.825 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.07 Mbit/s
95th percentile per-packet one-way delay: 93.558 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 89.861 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 18.66 Mbit/s
95th percentile per-packet one-way delay: 94.081 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: 95.109 ms
Loss rate: 1.72%
```
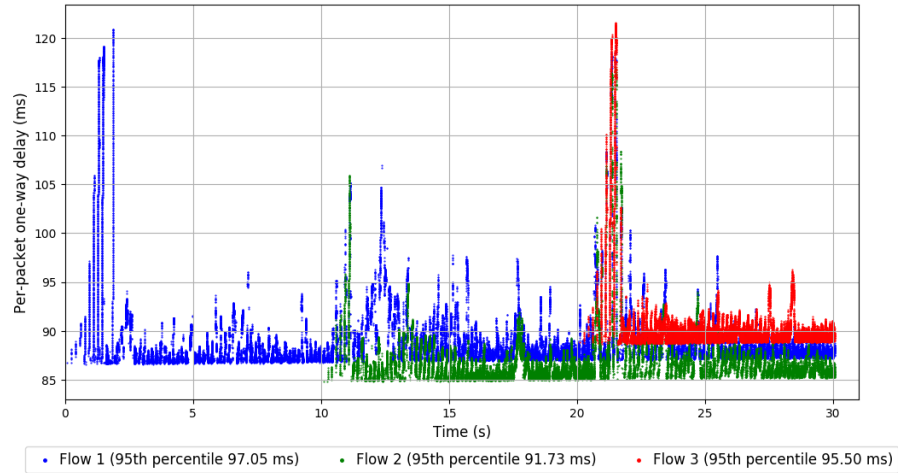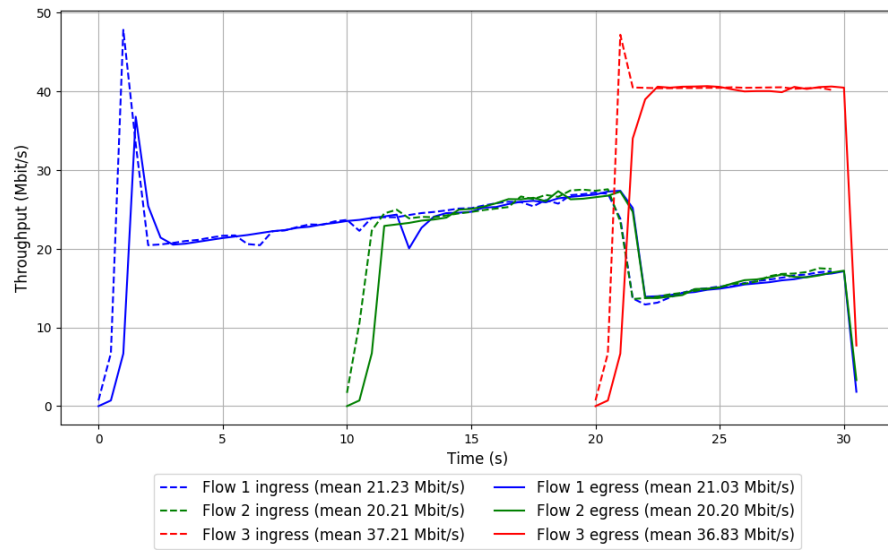
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-08-22 03:08:44
End at: 2018-08-22 03:09:14
Local clock offset: -16.43 ms
Remote clock offset: 6.07 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.73 Mbit/s
95th percentile per-packet one-way delay: 95.471 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 21.03 Mbit/s
95th percentile per-packet one-way delay: 97.047 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 91.734 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 95.504 ms
Loss rate: 1.03%
```
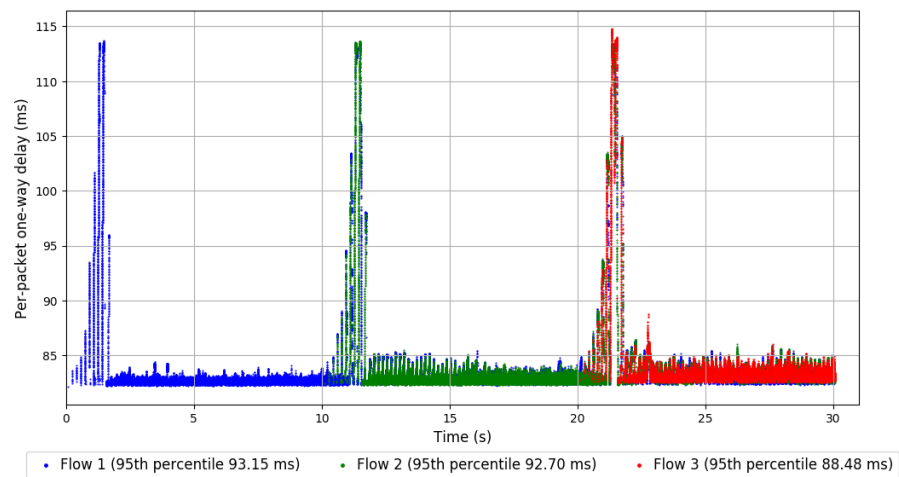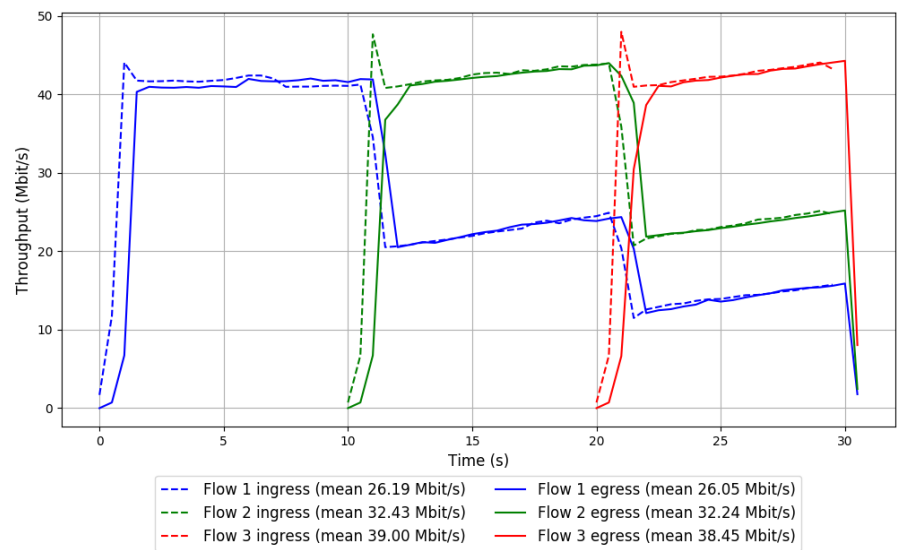
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-08-22 03:29:53
End at: 2018-08-22 03:30:23
Local clock offset: -2.625 ms
Remote clock offset: 4.317 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.30 Mbit/s
95th percentile per-packet one-way delay: 92.416 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 26.05 Mbit/s
95th percentile per-packet one-way delay: 93.146 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 32.24 Mbit/s
95th percentile per-packet one-way delay: 92.705 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 38.45 Mbit/s
95th percentile per-packet one-way delay: 88.476 ms
Loss rate: 1.41%
```

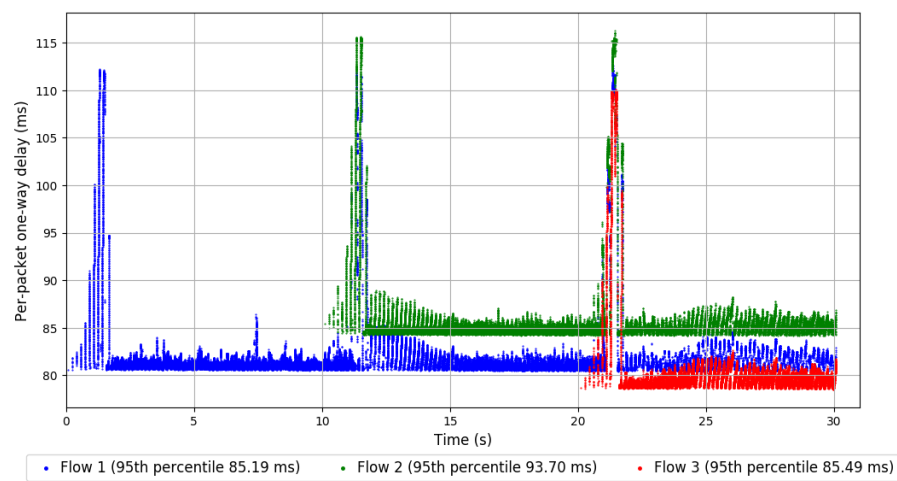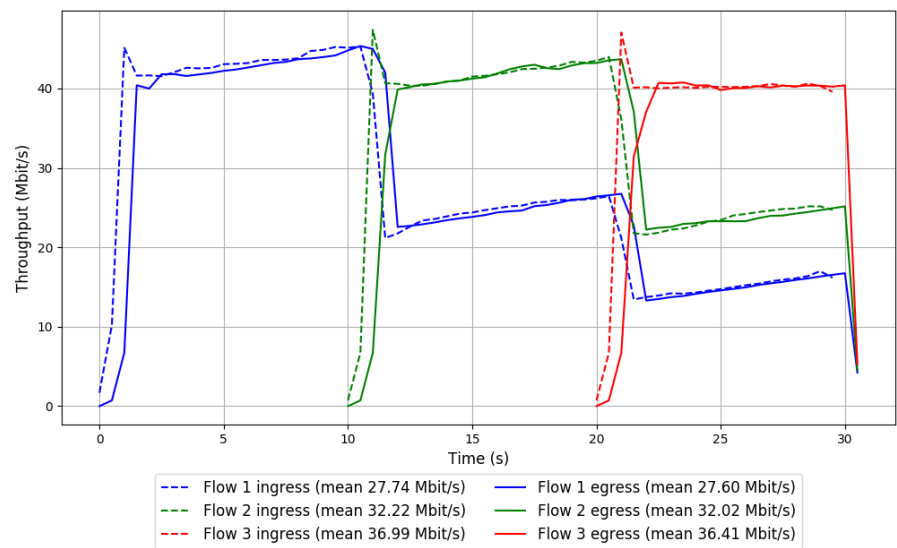Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-08-22 03:51:04
End at: 2018-08-22 03:51:34
Local clock offset: -1.758 ms
Remote clock offset: 15.048 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.04 Mbit/s
95th percentile per-packet one-way delay: 88.734 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 27.60 Mbit/s
95th percentile per-packet one-way delay: 85.185 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 32.02 Mbit/s
95th percentile per-packet one-way delay: 93.705 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 36.41 Mbit/s
95th percentile per-packet one-way delay: 85.490 ms
Loss rate: 1.56%
```
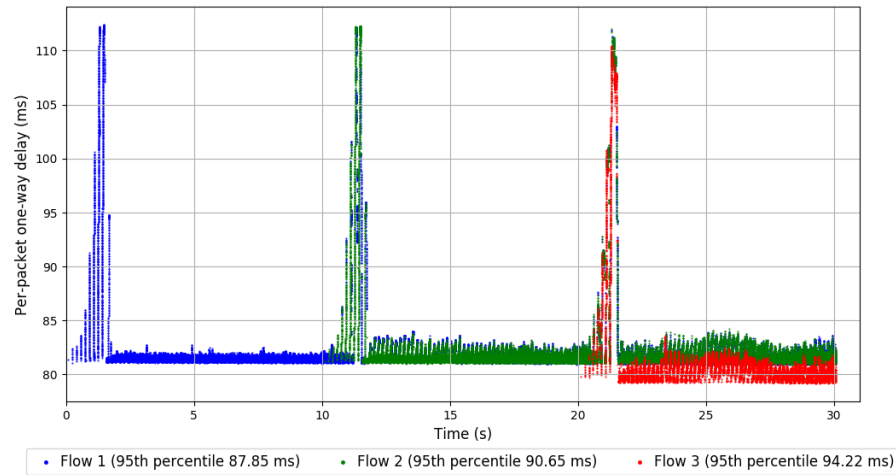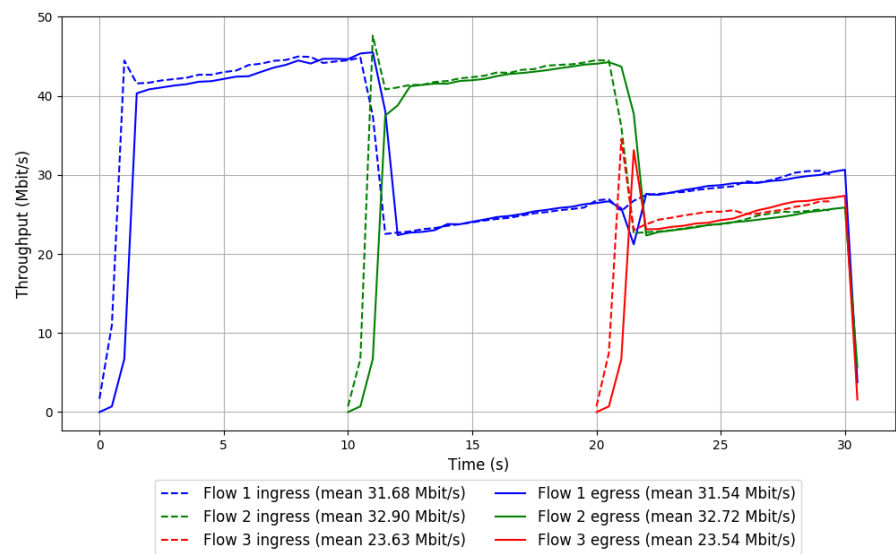
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 27.74 Mbit/s)   Flow 1 egress (mean 27.60 Mbit/s)
Flow 2 ingress (mean 32.22 Mbit/s)   Flow 2 egress (mean 32.02 Mbit/s)
Flow 3 ingress (mean 36.99 Mbit/s)   Flow 3 egress (mean 36.41 Mbit/s)

Flow 1 (95th percentile 85.19 ms)   Flow 2 (95th percentile 93.70 ms)   Flow 3 (95th percentile 85.49 ms)

273

```
Run 6: Statistics of TCP Vegas

Start at: 2018-08-22 04:12:16
End at: 2018-08-22 04:12:46
Local clock offset: -4.092 ms
Remote clock offset: 21.39 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.17 Mbit/s
95th percentile per-packet one-way delay: 90.202 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 87.852 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 32.72 Mbit/s
95th percentile per-packet one-way delay: 90.649 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 23.54 Mbit/s
95th percentile per-packet one-way delay: 94.217 ms
Loss rate: 0.39%
```

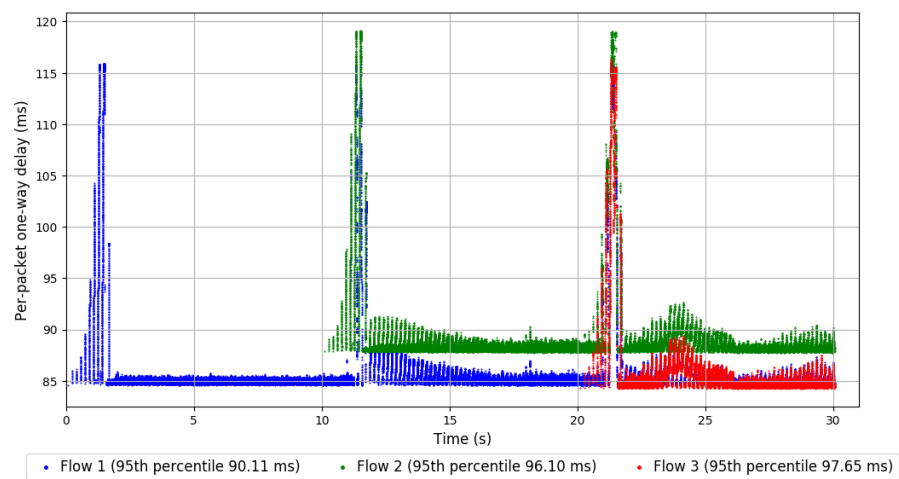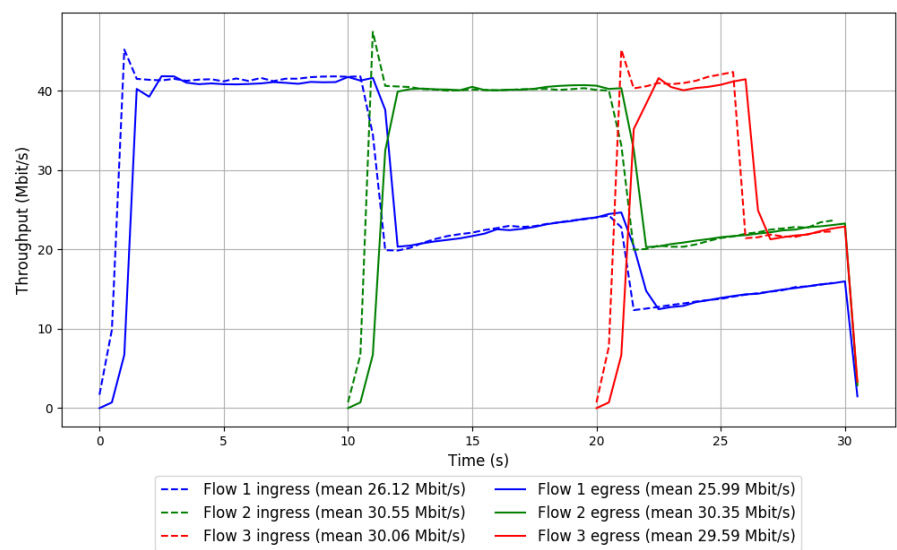Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2018-08-22 04:33:27
End at: 2018-08-22 04:33:57
Local clock offset: -6.534 ms
Remote clock offset: 30.401 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.03 Mbit/s
95th percentile per-packet one-way delay: 93.828 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 25.99 Mbit/s
95th percentile per-packet one-way delay: 90.108 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 30.35 Mbit/s
95th percentile per-packet one-way delay: 96.097 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 97.646 ms
Loss rate: 1.57%
```

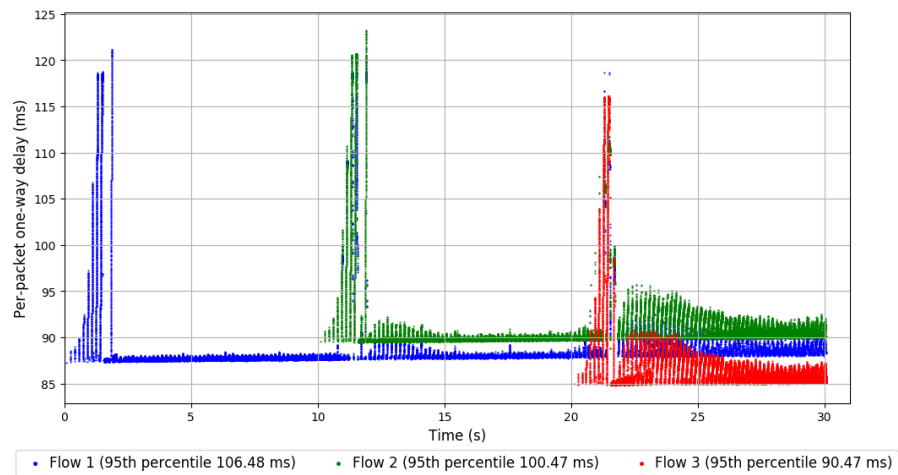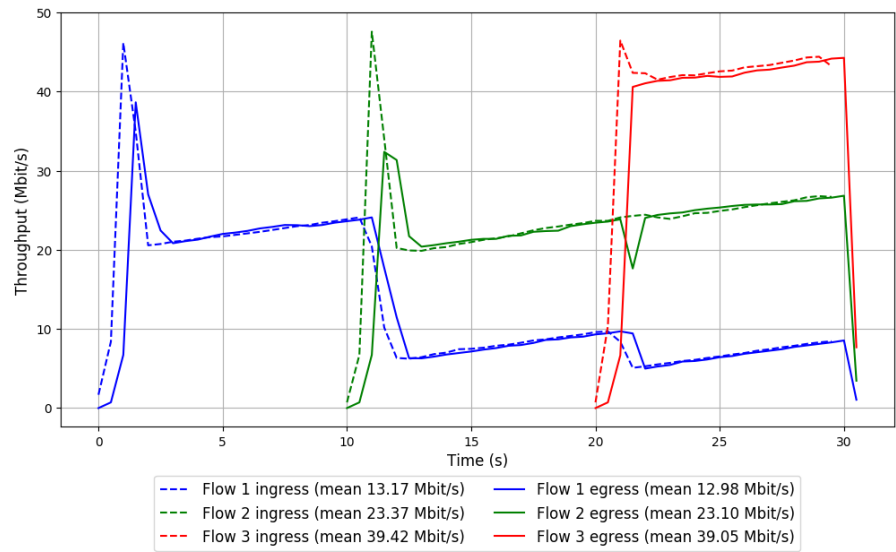Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2018-08-22 04:54:40
End at: 2018-08-22 04:55:10
Local clock offset: -3.495 ms
Remote clock offset: 13.777 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 99.317 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 12.98 Mbit/s
95th percentile per-packet one-way delay: 106.478 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 23.10 Mbit/s
95th percentile per-packet one-way delay: 100.470 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 39.05 Mbit/s
95th percentile per-packet one-way delay: 90.474 ms
Loss rate: 0.95%
```

Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2018-08-22 05:15:56
End at: 2018-08-22 05:16:26
Local clock offset: -3.514 ms
Remote clock offset: -2.45 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.63 Mbit/s
95th percentile per-packet one-way delay: 100.034 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 25.26 Mbit/s
95th percentile per-packet one-way delay: 98.879 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 100.687 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 22.16 Mbit/s
95th percentile per-packet one-way delay: 104.018 ms
Loss rate: 2.78%
```
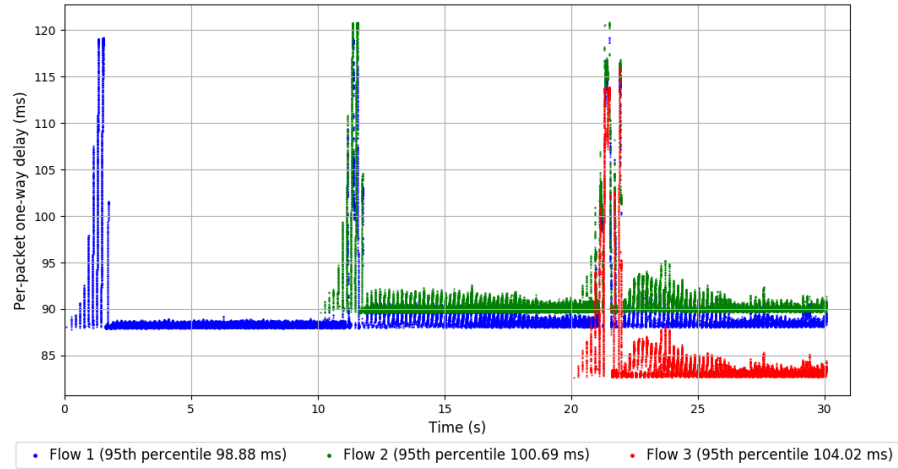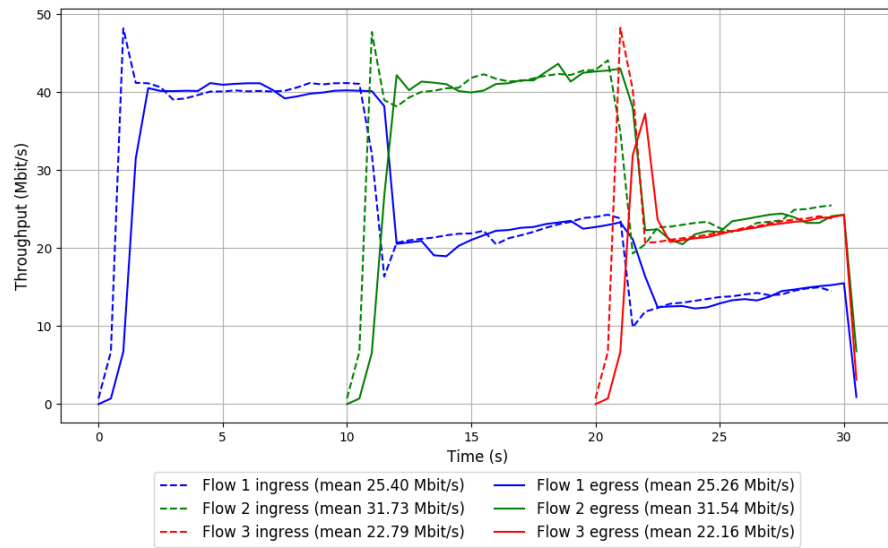
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 25.40 Mbit/s)   Flow 1 egress (mean 25.26 Mbit/s)
Flow 2 ingress (mean 31.73 Mbit/s)   Flow 2 egress (mean 31.54 Mbit/s)
Flow 3 ingress (mean 22.79 Mbit/s)   Flow 3 egress (mean 22.16 Mbit/s)

Flow 1 (95th percentile 98.88 ms)   Flow 2 (95th percentile 100.69 ms)   Flow 3 (95th percentile 104.02 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2018-08-22 05:37:03
End at: 2018-08-22 05:37:33
Local clock offset: -4.378 ms
Remote clock offset: 3.615 ms


# Below is generated by plot.py at 2018-08-22 06:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.36 Mbit/s
95th percentile per-packet one-way delay: 95.864 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 25.95 Mbit/s
95th percentile per-packet one-way delay: 95.902 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 30.95 Mbit/s
95th percentile per-packet one-way delay: 97.301 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 38.49 Mbit/s
95th percentile per-packet one-way delay: 91.528 ms
Loss rate: 1.30%
```
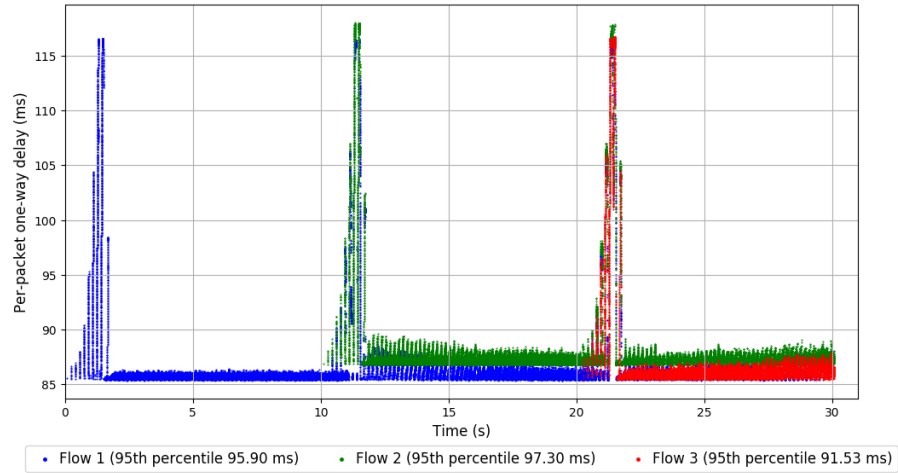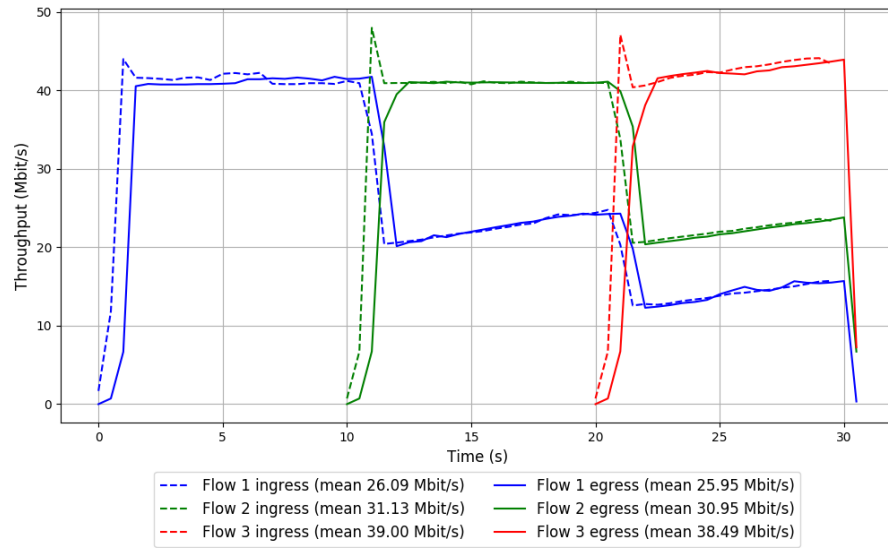
Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-08-22 02:40:12
End at: 2018-08-22 02:40:42
Local clock offset: -7.37 ms
Remote clock offset: 7.088 ms


# Below is generated by plot.py at 2018-08-22 06:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.55 Mbit/s
95th percentile per-packet one-way delay: 180.273 ms
Loss rate: 79.57%
-- Flow 1:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 182.057 ms
Loss rate: 83.05%
-- Flow 2:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 119.026 ms
Loss rate: 49.09%
-- Flow 3:
Average throughput: 15.69 Mbit/s
95th percentile per-packet one-way delay: 122.711 ms
Loss rate: 48.63%
```
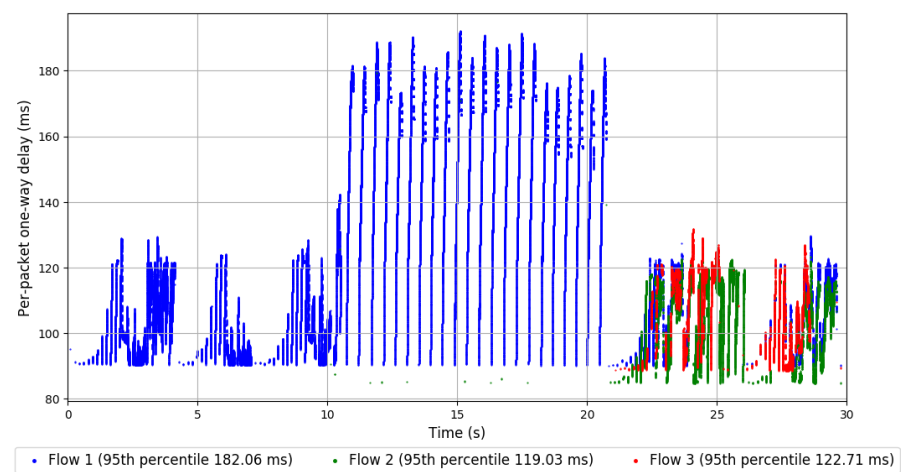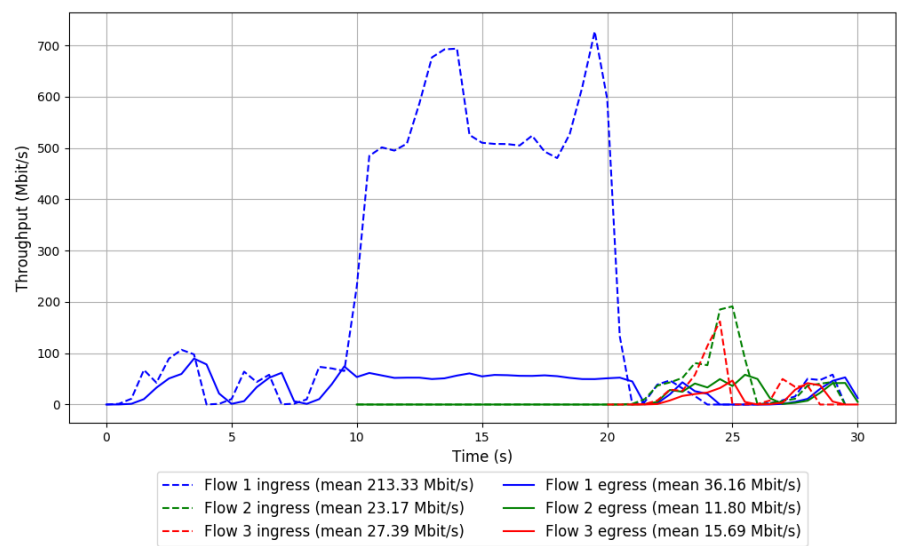
Run 1: Report of Verus — Data Link

- Flow 1 ingress (mean 213.33 Mbit/s)
- Flow 1 egress (mean 36.16 Mbit/s)
- Flow 2 ingress (mean 23.17 Mbit/s)
- Flow 2 egress (mean 11.80 Mbit/s)
- Flow 3 ingress (mean 27.39 Mbit/s)
- Flow 3 egress (mean 15.69 Mbit/s)

- Flow 1 (95th percentile 182.06 ms)
- Flow 2 (95th percentile 119.03 ms)
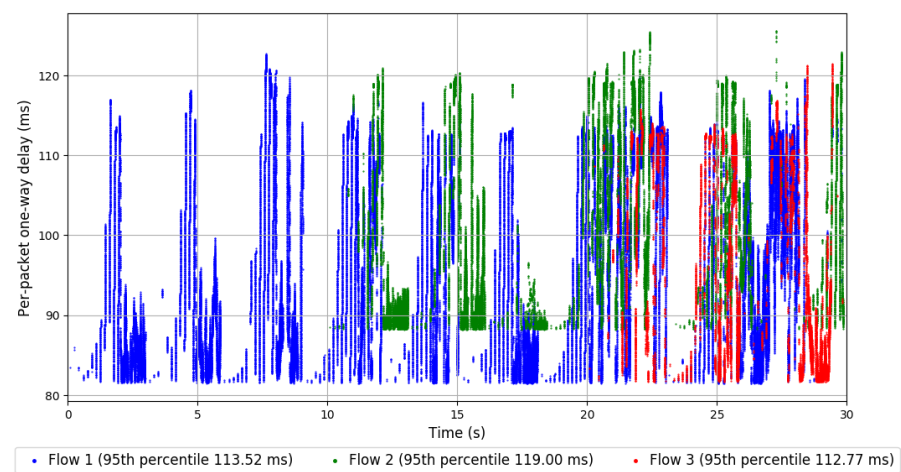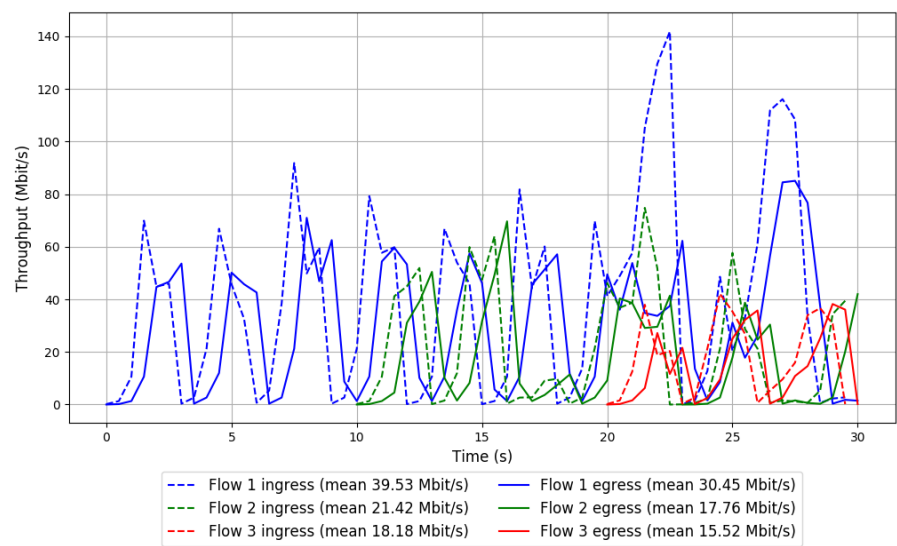- Flow 3 (95th percentile 122.71 ms)

```
Run 2: Statistics of Verus

Start at: 2018-08-22 03:01:21
End at: 2018-08-22 03:01:51
Local clock offset: -18.078 ms
Remote clock offset: 2.536 ms


# Below is generated by plot.py at 2018-08-22 06:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.25 Mbit/s
95th percentile per-packet one-way delay: 116.683 ms
Loss rate: 20.73%
-- Flow 1:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 113.516 ms
Loss rate: 22.96%
-- Flow 2:
Average throughput: 17.76 Mbit/s
95th percentile per-packet one-way delay: 119.005 ms
Loss rate: 17.12%
-- Flow 3:
Average throughput: 15.52 Mbit/s
95th percentile per-packet one-way delay: 112.769 ms
Loss rate: 14.57%
```

Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-08-22 03:22:27
End at: 2018-08-22 03:22:57
Local clock offset: -4.047 ms
Remote clock offset: 9.183 ms


# Below is generated by plot.py at 2018-08-22 06:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.13 Mbit/s
95th percentile per-packet one-way delay: 150.944 ms
Loss rate: 72.74%
-- Flow 1:
Average throughput: 20.58 Mbit/s
95th percentile per-packet one-way delay: 128.208 ms
Loss rate: 65.76%
-- Flow 2:
Average throughput: 38.52 Mbit/s
95th percentile per-packet one-way delay: 154.015 ms
Loss rate: 79.48%
-- Flow 3:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 122.926 ms
Loss rate: 31.93%
```
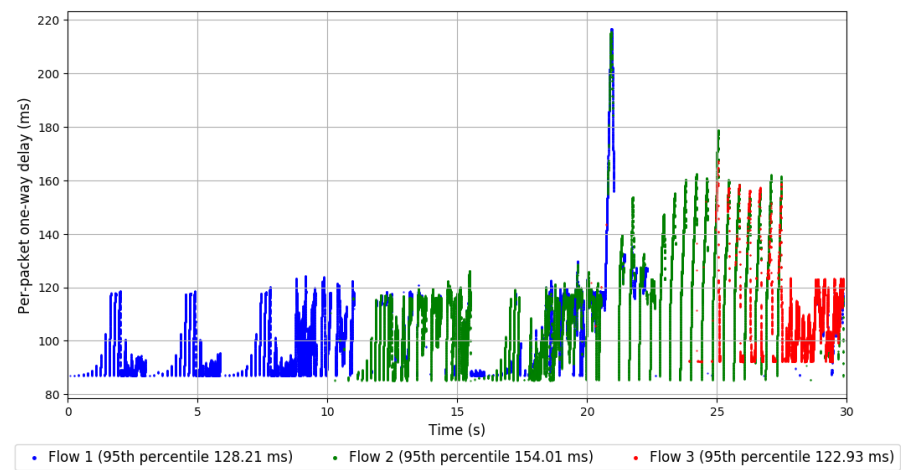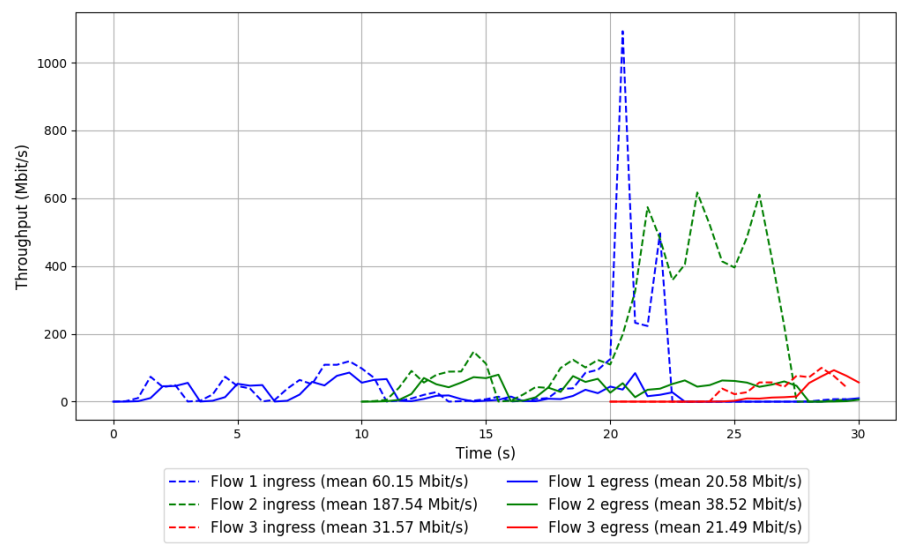
Run 3: Report of Verus — Data Link

- - - Flow 1 ingress (mean 60.15 Mbit/s)   —— Flow 1 egress (mean 20.58 Mbit/s)
- - - Flow 2 ingress (mean 187.54 Mbit/s)   —— Flow 2 egress (mean 38.52 Mbit/s)
- - - Flow 3 ingress (mean 31.57 Mbit/s)   —— Flow 3 egress (mean 21.49 Mbit/s)

- Flow 1 (95th percentile 128.21 ms)   • Flow 2 (95th percentile 154.01 ms)   • Flow 3 (95th percentile 122.93 ms)
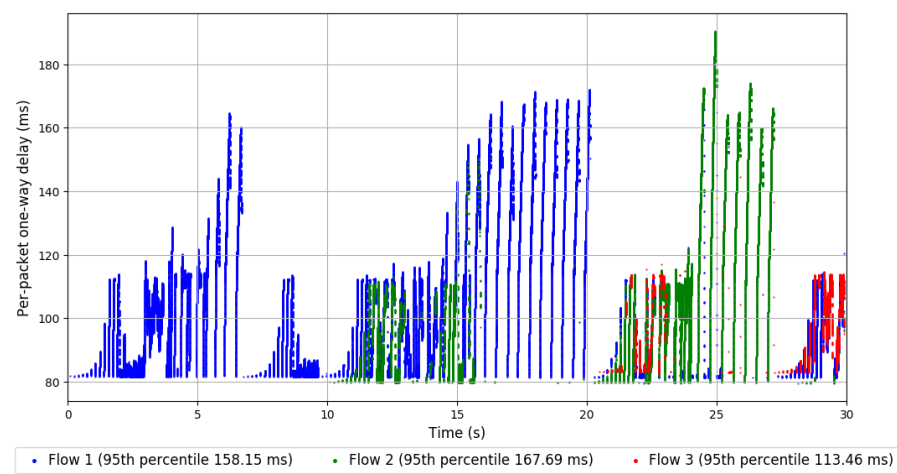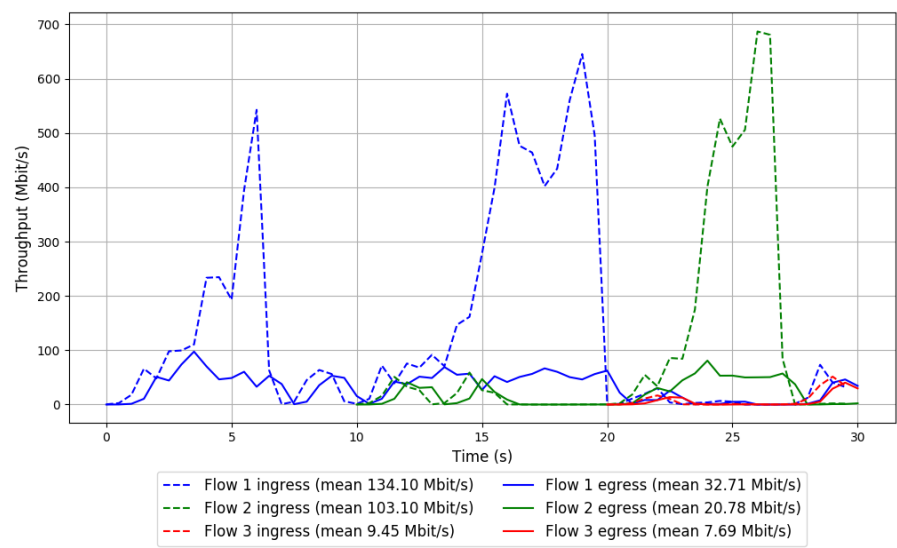
289

```
Run 4: Statistics of Verus

Start at: 2018-08-22 03:43:37
End at: 2018-08-22 03:44:07
Local clock offset: -3.121 ms
Remote clock offset: 9.997 ms


# Below is generated by plot.py at 2018-08-22 06:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.94 Mbit/s
95th percentile per-packet one-way delay: 161.334 ms
Loss rate: 76.17%
-- Flow 1:
Average throughput: 32.71 Mbit/s
95th percentile per-packet one-way delay: 158.149 ms
Loss rate: 75.59%
-- Flow 2:
Average throughput: 20.78 Mbit/s
95th percentile per-packet one-way delay: 167.686 ms
Loss rate: 79.83%
-- Flow 3:
Average throughput: 7.69 Mbit/s
95th percentile per-packet one-way delay: 113.459 ms
Loss rate: 18.52%
```
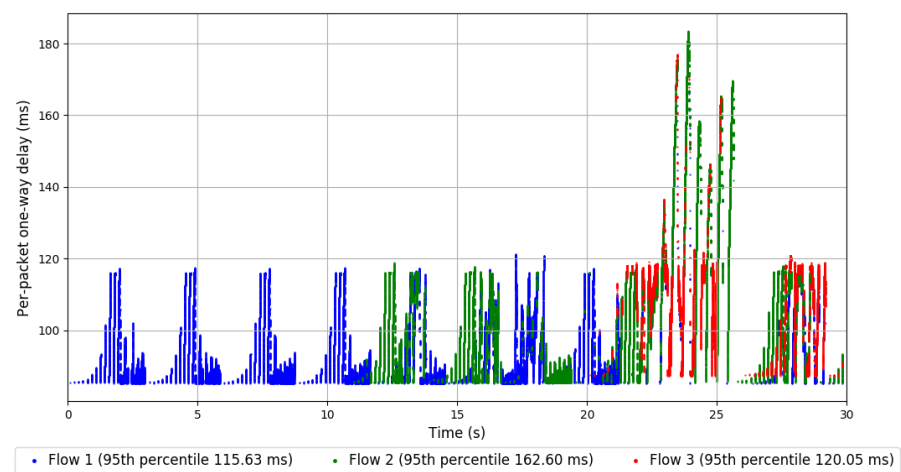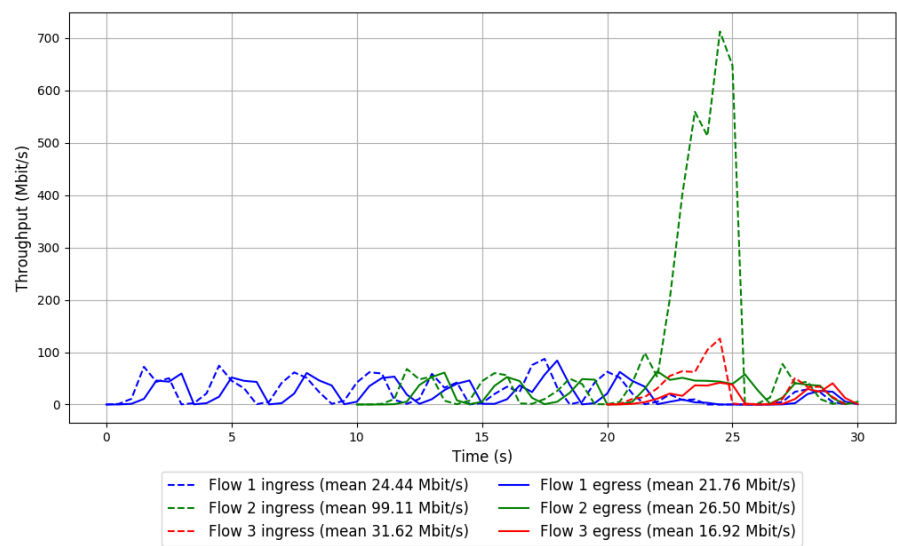
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 134.10 Mbit/s) --- Flow 1 egress (mean 32.71 Mbit/s)
Flow 2 ingress (mean 103.10 Mbit/s) --- Flow 2 egress (mean 20.78 Mbit/s)
Flow 3 ingress (mean 9.45 Mbit/s) --- Flow 3 egress (mean 7.69 Mbit/s)

Flow 1 (95th percentile 158.15 ms) • Flow 2 (95th percentile 167.69 ms) • Flow 3 (95th percentile 113.46 ms)

```
Run 5: Statistics of Verus

Start at: 2018-08-22 04:04:51
End at: 2018-08-22 04:05:21
Local clock offset: -1.301 ms
Remote clock offset: 24.599 ms


# Below is generated by plot.py at 2018-08-22 06:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.85 Mbit/s
95th percentile per-packet one-way delay: 144.584 ms
Loss rate: 55.37%
-- Flow 1:
Average throughput: 21.76 Mbit/s
95th percentile per-packet one-way delay: 115.634 ms
Loss rate: 10.96%
-- Flow 2:
Average throughput: 26.50 Mbit/s
95th percentile per-packet one-way delay: 162.596 ms
Loss rate: 73.27%
-- Flow 3:
Average throughput: 16.92 Mbit/s
95th percentile per-packet one-way delay: 120.050 ms
Loss rate: 46.47%
```
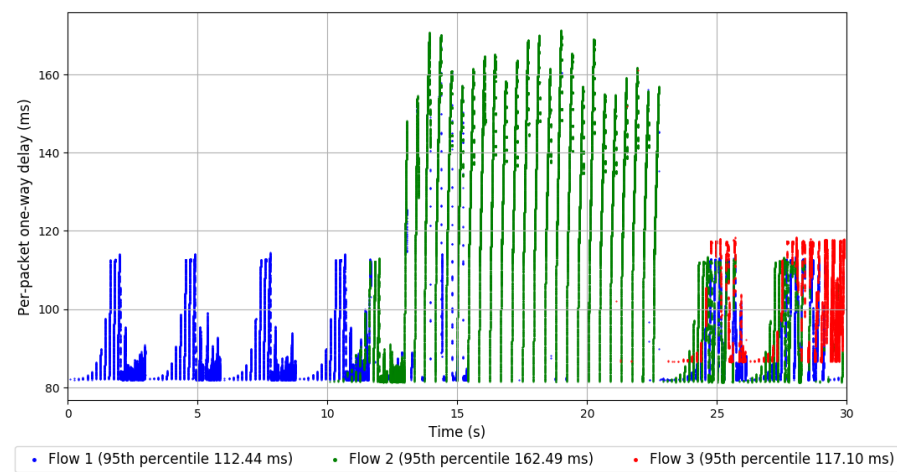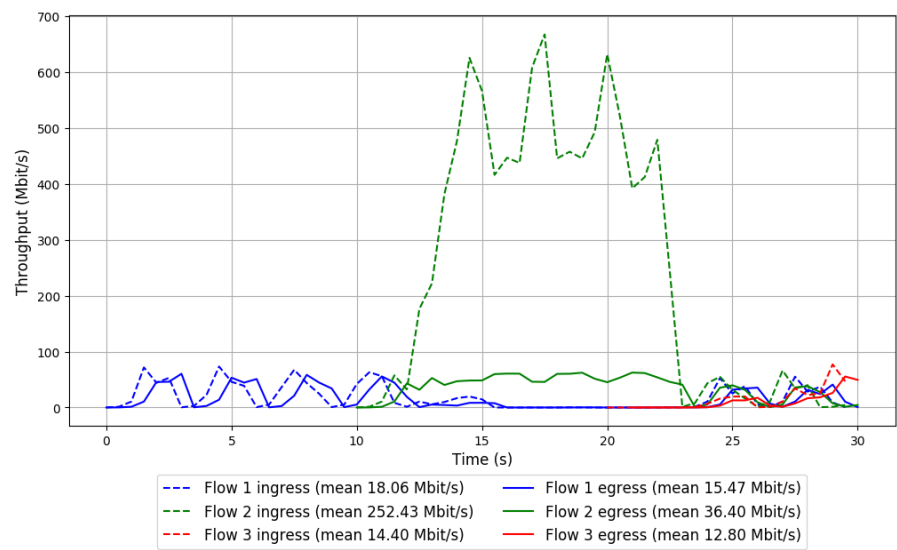
Run 5: Report of Verus — Data Link

- - - - Flow 1 ingress (mean 24.44 Mbit/s) ——— Flow 1 egress (mean 21.76 Mbit/s)
- - - - Flow 2 ingress (mean 99.11 Mbit/s) ——— Flow 2 egress (mean 26.50 Mbit/s)
- - - - Flow 3 ingress (mean 31.62 Mbit/s) ——— Flow 3 egress (mean 16.92 Mbit/s)

- Flow 1 (95th percentile 115.63 ms) • Flow 2 (95th percentile 162.60 ms) • Flow 3 (95th percentile 120.05 ms)

```
Run 6: Statistics of Verus

Start at: 2018-08-22 04:26:01
End at: 2018-08-22 04:26:31
Local clock offset: -5.433 ms
Remote clock offset: 25.059 ms


# Below is generated by plot.py at 2018-08-22 06:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.33 Mbit/s
95th percentile per-packet one-way delay: 158.692 ms
Loss rate: 77.17%
-- Flow 1:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 112.445 ms
Loss rate: 14.29%
-- Flow 2:
Average throughput: 36.40 Mbit/s
95th percentile per-packet one-way delay: 162.492 ms
Loss rate: 85.57%
-- Flow 3:
Average throughput: 12.80 Mbit/s
95th percentile per-packet one-way delay: 117.103 ms
Loss rate: 20.05%
```
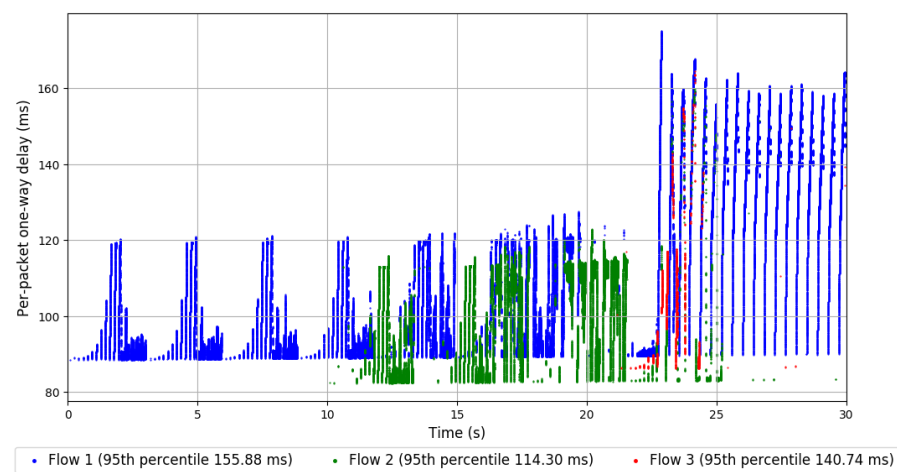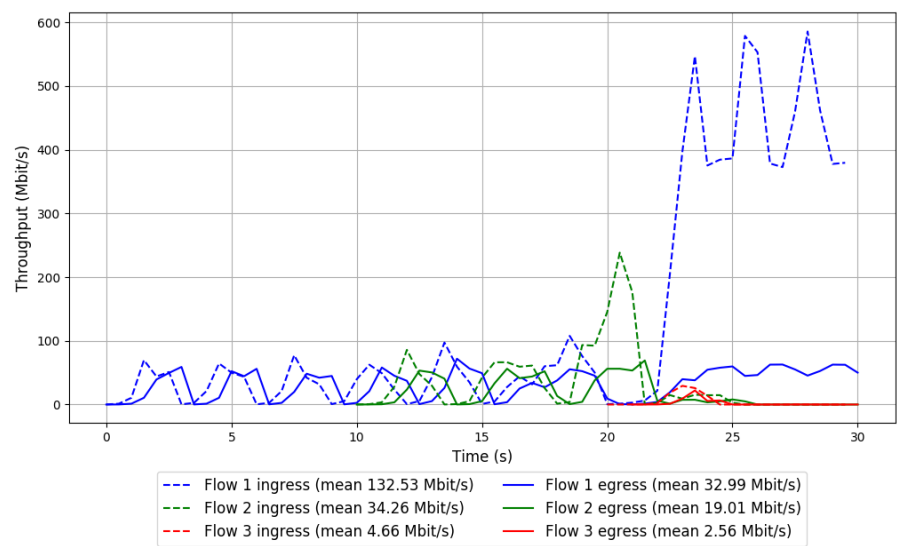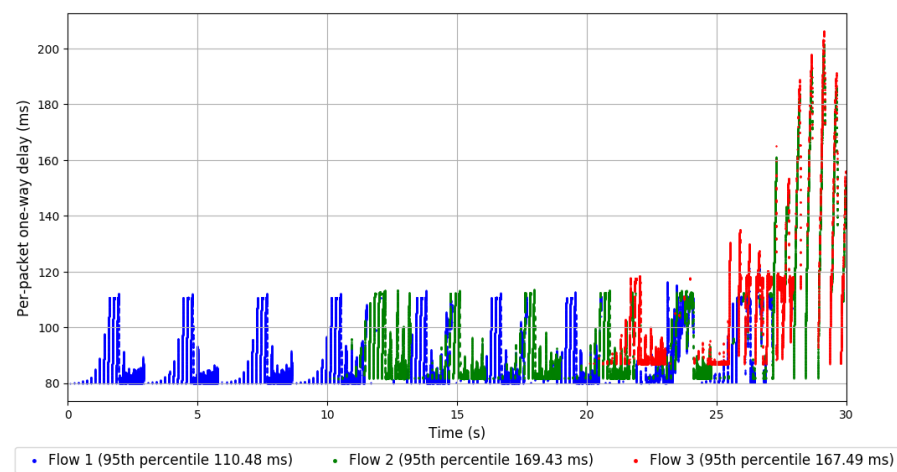
Run 6: Report of Verus — Data Link

Flow 1 ingress (mean 18.06 Mbit/s)   Flow 1 egress (mean 15.47 Mbit/s)
Flow 2 ingress (mean 252.43 Mbit/s)   Flow 2 egress (mean 36.40 Mbit/s)
Flow 3 ingress (mean 14.40 Mbit/s)   Flow 3 egress (mean 12.80 Mbit/s)

Flow 1 (95th percentile 112.44 ms)   Flow 2 (95th percentile 162.49 ms)   Flow 3 (95th percentile 117.10 ms)

295

```
Run 7: Statistics of Verus

Start at: 2018-08-22 04:47:14
End at: 2018-08-22 04:47:44
Local clock offset: -4.854 ms
Remote clock offset: 25.949 ms


# Below is generated by plot.py at 2018-08-22 06:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.15 Mbit/s
95th percentile per-packet one-way delay: 153.709 ms
Loss rate: 70.50%
-- Flow 1:
Average throughput: 32.99 Mbit/s
95th percentile per-packet one-way delay: 155.881 ms
Loss rate: 75.06%
-- Flow 2:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 114.303 ms
Loss rate: 45.13%
-- Flow 3:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 140.741 ms
Loss rate: 50.42%
```
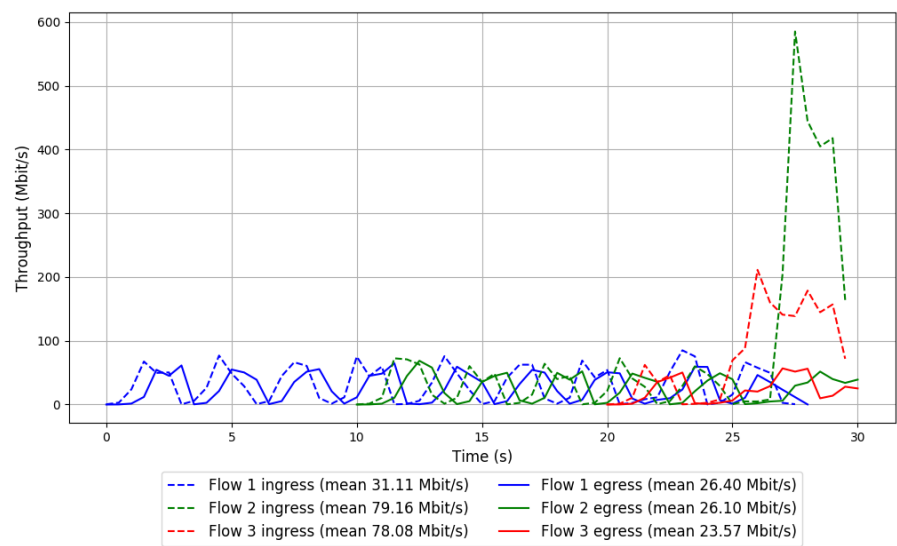
Run 7: Report of Verus — Data Link

Flow 1 ingress (mean 132.53 Mbit/s)   Flow 1 egress (mean 32.99 Mbit/s)
Flow 2 ingress (mean 34.26 Mbit/s)   Flow 2 egress (mean 19.01 Mbit/s)
Flow 3 ingress (mean 4.66 Mbit/s)   Flow 3 egress (mean 2.56 Mbit/s)

Flow 1 (95th percentile 155.88 ms)   Flow 2 (95th percentile 114.30 ms)   Flow 3 (95th percentile 140.74 ms)
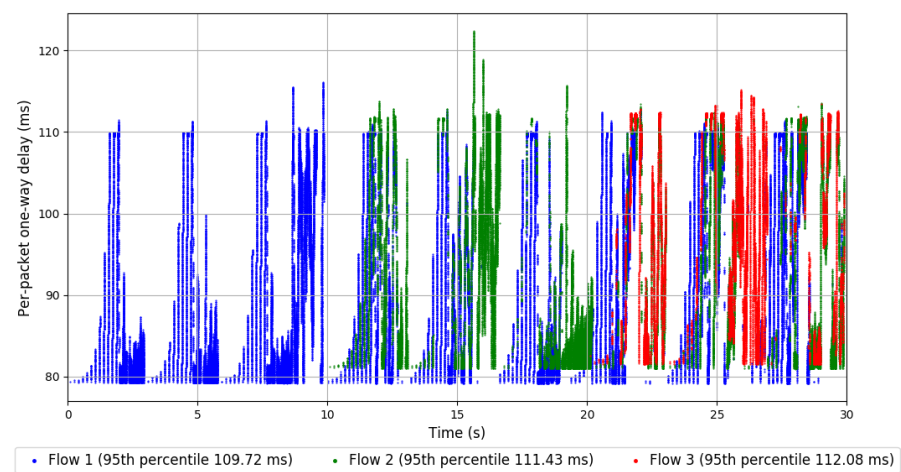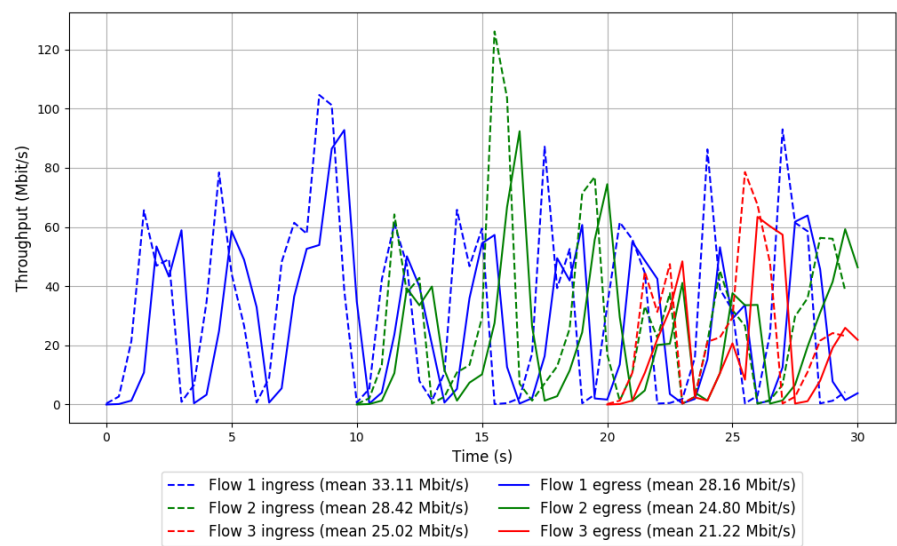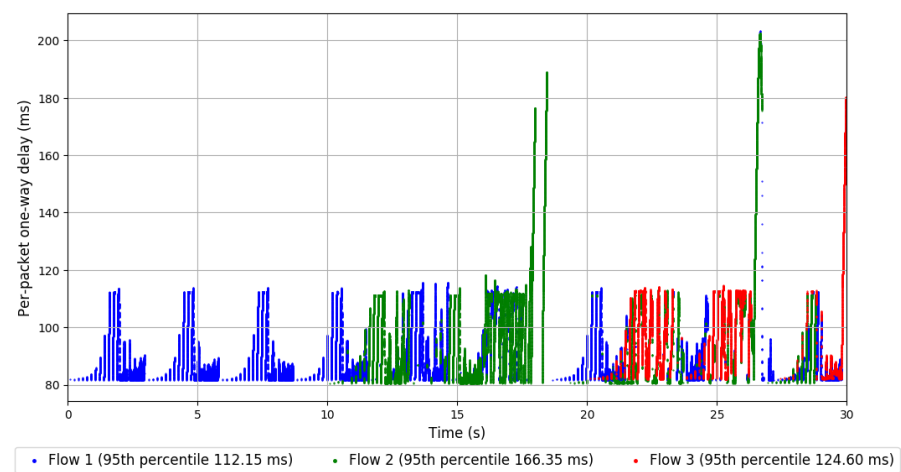
297

```
Run 8: Statistics of Verus

Start at: 2018-08-22 05:08:31
End at: 2018-08-22 05:09:01
Local clock offset: -3.072 ms
Remote clock offset: -2.034 ms


# Below is generated by plot.py at 2018-08-22 06:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.72 Mbit/s
95th percentile per-packet one-way delay: 142.959 ms
Loss rate: 53.62%
-- Flow 1:
Average throughput: 26.40 Mbit/s
95th percentile per-packet one-way delay: 110.478 ms
Loss rate: 15.64%
-- Flow 2:
Average throughput: 26.10 Mbit/s
95th percentile per-packet one-way delay: 169.434 ms
Loss rate: 66.91%
-- Flow 3:
Average throughput: 23.57 Mbit/s
95th percentile per-packet one-way delay: 167.485 ms
Loss rate: 69.61%
```

Run 8: Report of Verus — Data Link

- Flow 1 ingress (mean 31.11 Mbit/s)
- Flow 1 egress (mean 26.40 Mbit/s)
- Flow 2 ingress (mean 79.16 Mbit/s)
- Flow 2 egress (mean 26.10 Mbit/s)
- Flow 3 ingress (mean 78.08 Mbit/s)
- Flow 3 egress (mean 23.57 Mbit/s)

- Flow 1 (95th percentile 110.48 ms)
- Flow 2 (95th percentile 169.43 ms)
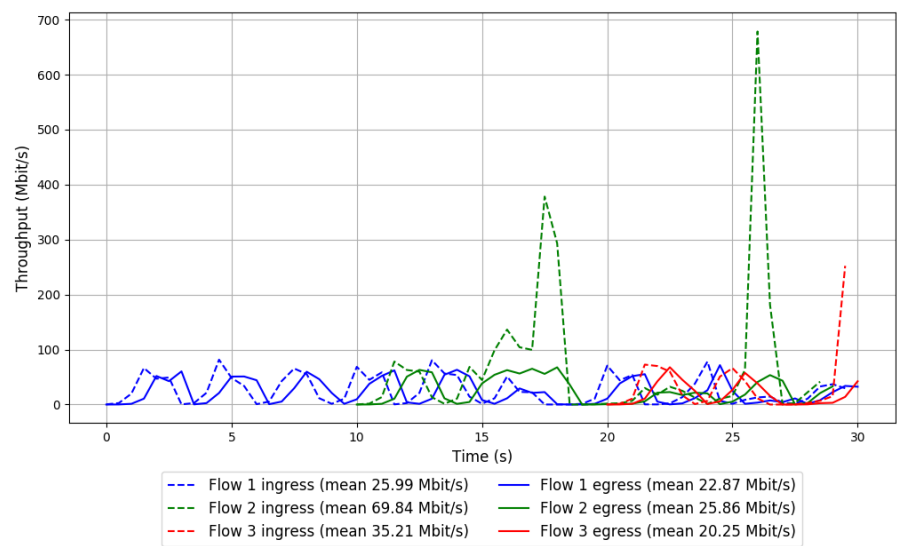- Flow 3 (95th percentile 167.49 ms)

```
Run 9: Statistics of Verus

Start at: 2018-08-22 05:29:39
End at: 2018-08-22 05:30:09
Local clock offset: -4.412 ms
Remote clock offset: -3.037 ms

# Below is generated by plot.py at 2018-08-22 06:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.51 Mbit/s
95th percentile per-packet one-way delay: 110.366 ms
Loss rate: 14.20%
-- Flow 1:
Average throughput: 28.16 Mbit/s
95th percentile per-packet one-way delay: 109.724 ms
Loss rate: 14.89%
-- Flow 2:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 111.426 ms
Loss rate: 12.62%
-- Flow 3:
Average throughput: 21.22 Mbit/s
95th percentile per-packet one-way delay: 112.076 ms
Loss rate: 15.01%
```

Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2018-08-22 05:50:49
End at: 2018-08-22 05:51:19
Local clock offset: -5.578 ms
Remote clock offset: -3.447 ms


# Below is generated by plot.py at 2018-08-22 06:19:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.76 Mbit/s
95th percentile per-packet one-way delay: 117.085 ms
Loss rate: 43.59%
-- Flow 1:
Average throughput: 22.87 Mbit/s
95th percentile per-packet one-way delay: 112.147 ms
Loss rate: 11.74%
-- Flow 2:
Average throughput: 25.86 Mbit/s
95th percentile per-packet one-way delay: 166.354 ms
Loss rate: 62.92%
-- Flow 3:
Average throughput: 20.25 Mbit/s
95th percentile per-packet one-way delay: 124.602 ms
Loss rate: 41.90%
```
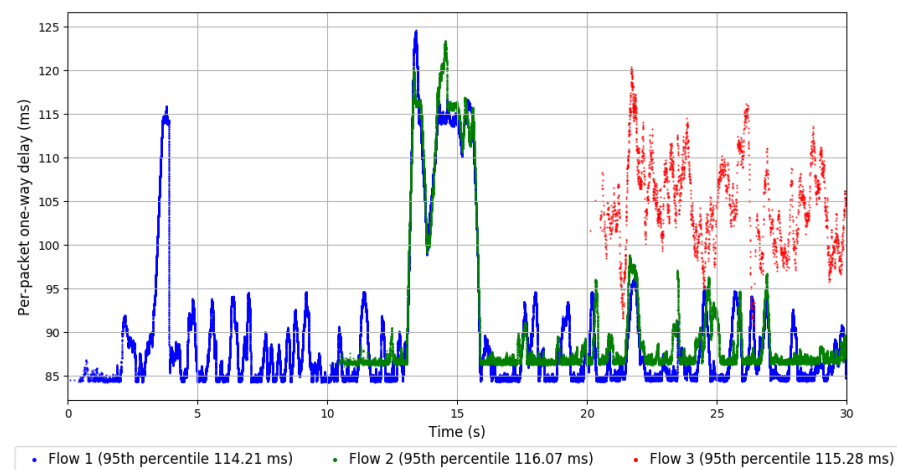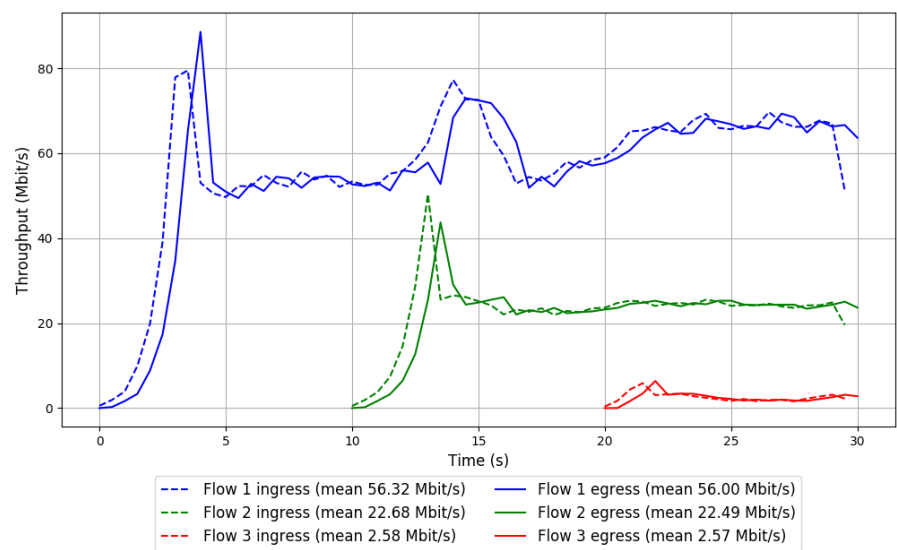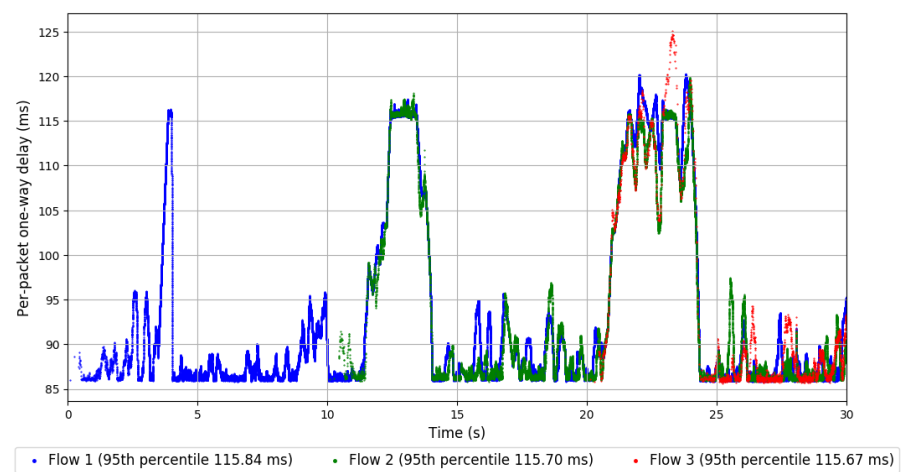
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-08-22 02:32:41
End at: 2018-08-22 02:33:11
Local clock offset: -4.675 ms
Remote clock offset: 5.843 ms

# Below is generated by plot.py at 2018-08-22 06:20:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.80 Mbit/s
95th percentile per-packet one-way delay: 114.436 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 56.00 Mbit/s
95th percentile per-packet one-way delay: 114.208 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 22.49 Mbit/s
95th percentile per-packet one-way delay: 116.071 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 115.284 ms
Loss rate: 0.27%
```
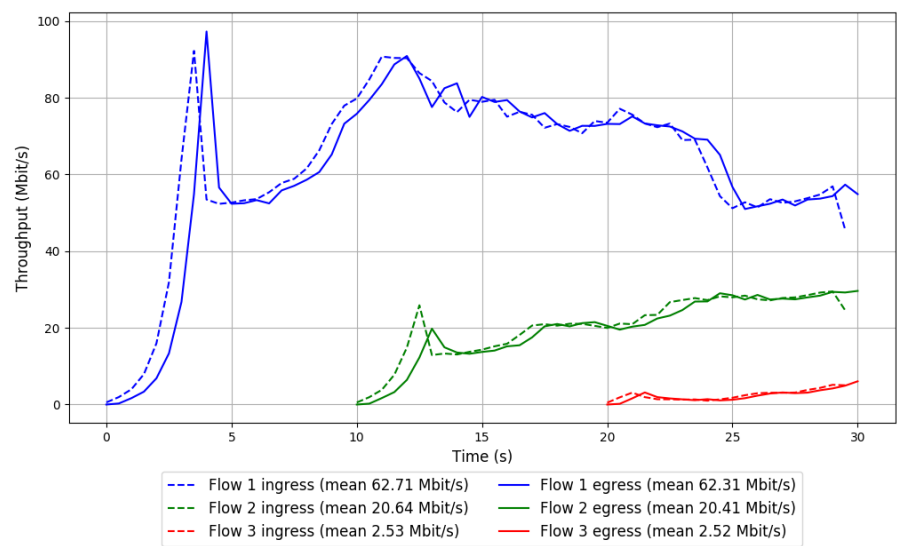
Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 56.32 Mbit/s) --- Flow 1 egress (mean 56.00 Mbit/s)
Flow 2 ingress (mean 22.68 Mbit/s) --- Flow 2 egress (mean 22.49 Mbit/s)
Flow 3 ingress (mean 2.58 Mbit/s) --- Flow 3 egress (mean 2.57 Mbit/s)

Flow 1 (95th percentile 114.21 ms) · Flow 2 (95th percentile 116.07 ms) · Flow 3 (95th percentile 115.28 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-08-22 02:53:48
End at: 2018-08-22 02:54:18
Local clock offset: -15.582 ms
Remote clock offset: 6.574 ms


# Below is generated by plot.py at 2018-08-22 06:20:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.71 Mbit/s
95th percentile per-packet one-way delay: 115.802 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 62.31 Mbit/s
95th percentile per-packet one-way delay: 115.837 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 20.41 Mbit/s
95th percentile per-packet one-way delay: 115.704 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 115.671 ms
Loss rate: 0.38%
```
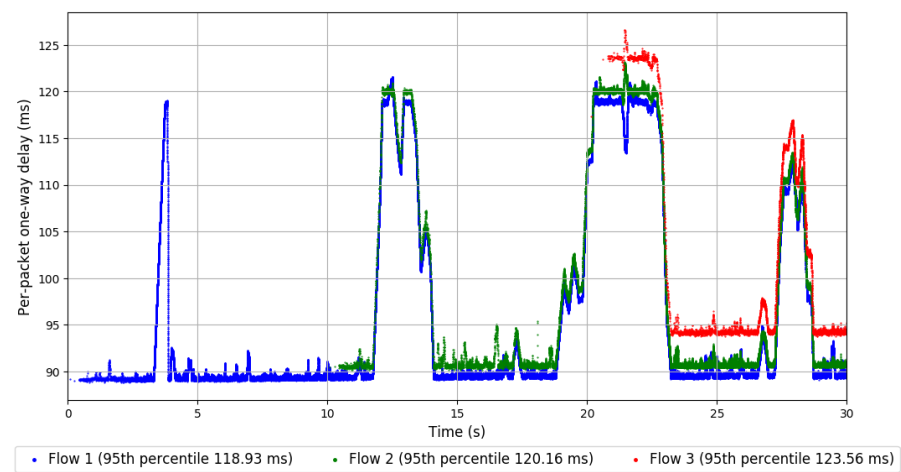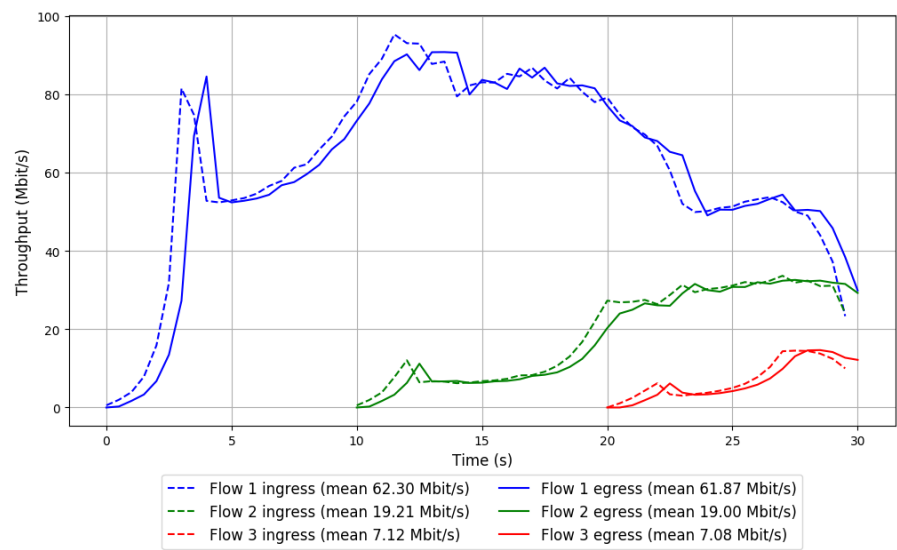
Run 2: Report of PCC-Vivace — Data Link

- Flow 1 ingress (mean 62.71 Mbit/s) — Flow 1 egress (mean 62.31 Mbit/s)
- Flow 2 ingress (mean 20.64 Mbit/s) — Flow 2 egress (mean 20.41 Mbit/s)
- Flow 3 ingress (mean 2.53 Mbit/s)   — Flow 3 egress (mean 2.52 Mbit/s)

- Flow 1 (95th percentile 115.84 ms)   - Flow 2 (95th percentile 115.70 ms)   - Flow 3 (95th percentile 115.67 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-08-22 03:14:56
End at: 2018-08-22 03:15:26
Local clock offset: -9.669 ms
Remote clock offset: 8.822 ms


# Below is generated by plot.py at 2018-08-22 06:20:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.83 Mbit/s
95th percentile per-packet one-way delay: 119.184 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 61.87 Mbit/s
95th percentile per-packet one-way delay: 118.934 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 19.00 Mbit/s
95th percentile per-packet one-way delay: 120.160 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 123.556 ms
Loss rate: 0.85%
```
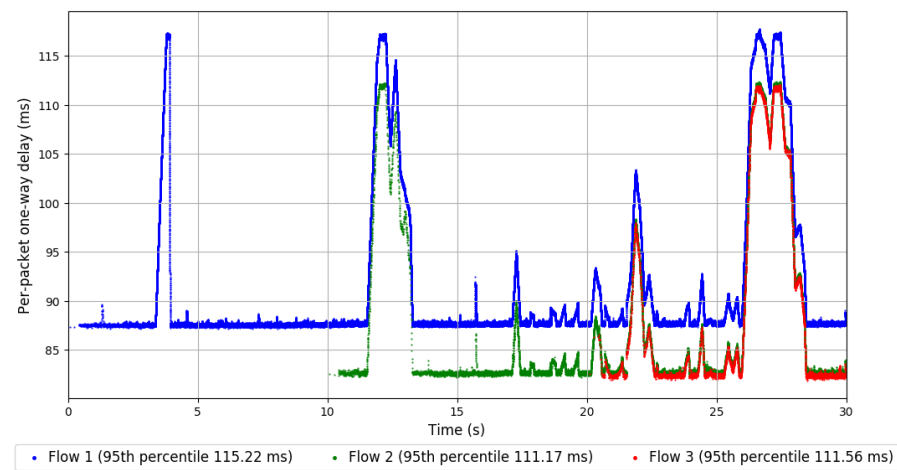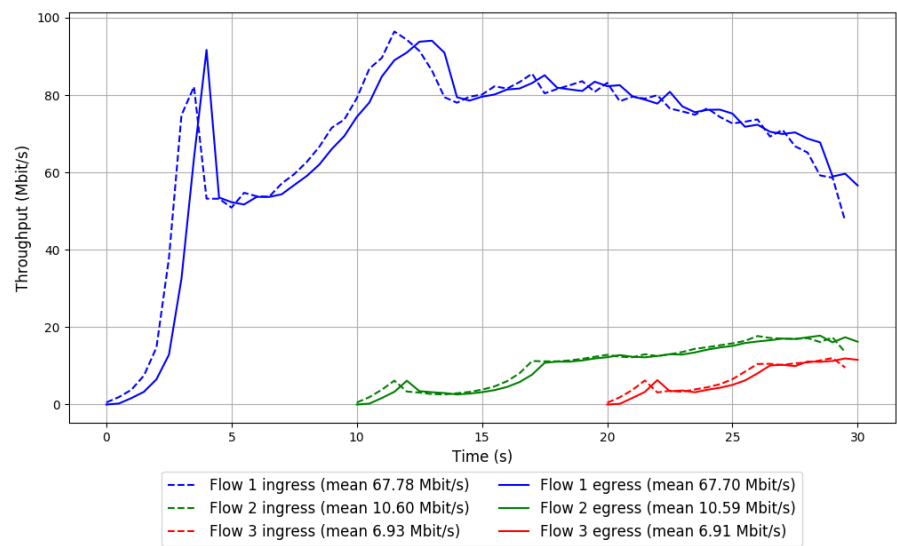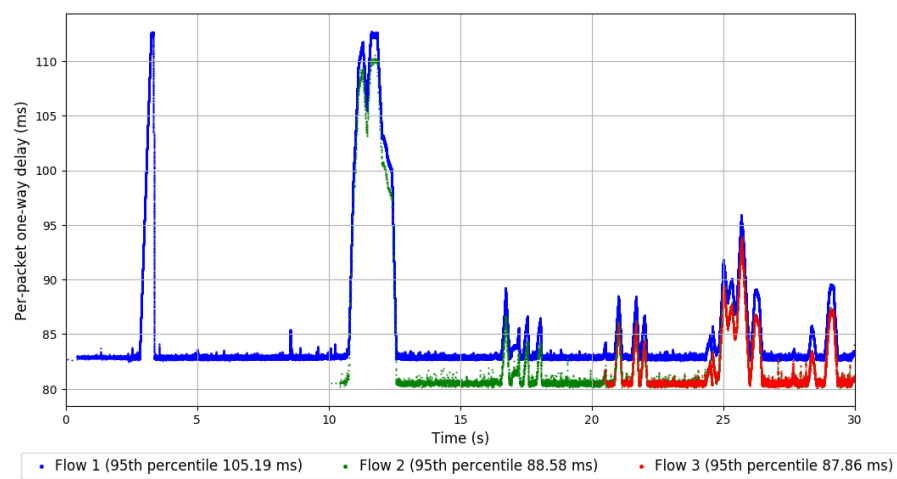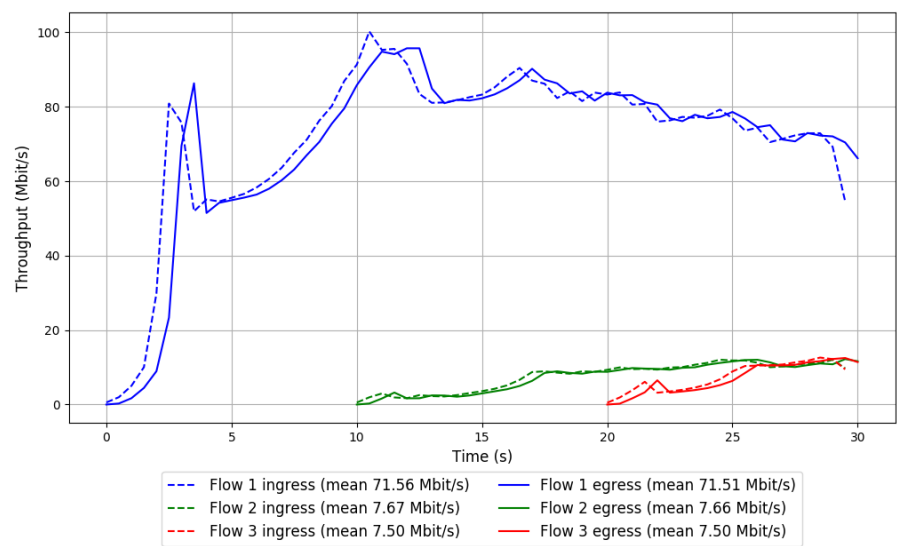
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-08-22 03:36:05
End at: 2018-08-22 03:36:35
Local clock offset: -1.458 ms
Remote clock offset: 4.41 ms


# Below is generated by plot.py at 2018-08-22 06:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 114.445 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 115.221 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 10.59 Mbit/s
95th percentile per-packet one-way delay: 111.165 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 111.561 ms
Loss rate: 0.28%
```
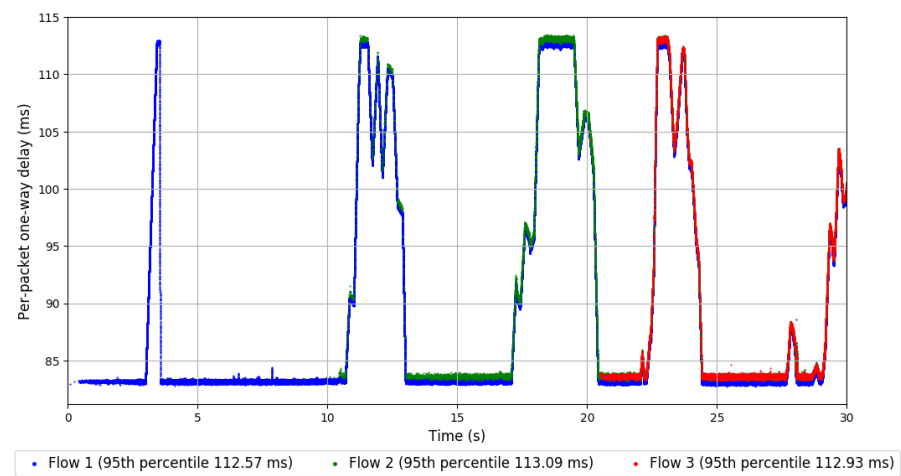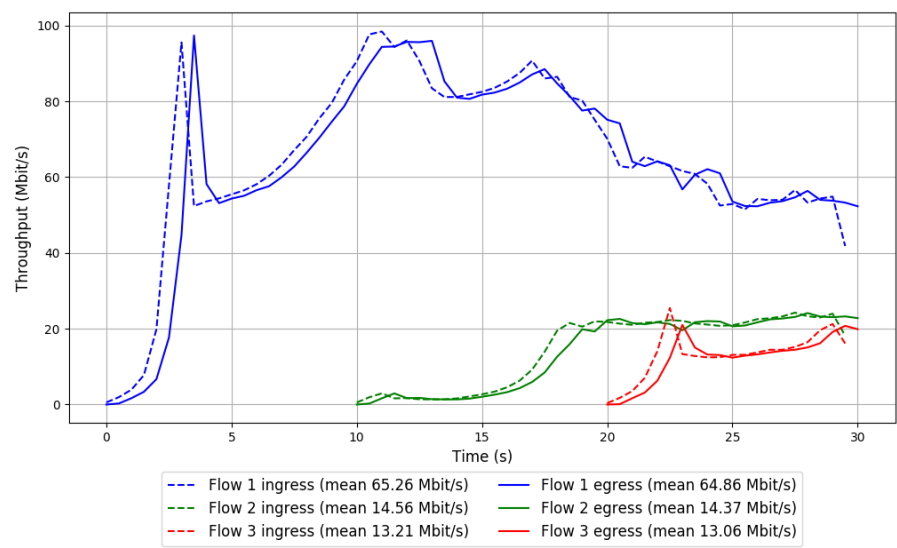
Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 67.78 Mbit/s)   Flow 1 egress (mean 67.70 Mbit/s)
Flow 2 ingress (mean 10.60 Mbit/s)   Flow 2 egress (mean 10.59 Mbit/s)
Flow 3 ingress (mean 6.93 Mbit/s)   Flow 3 egress (mean 6.91 Mbit/s)

Flow 1 (95th percentile 115.22 ms)   Flow 2 (95th percentile 111.17 ms)   Flow 3 (95th percentile 111.56 ms)

311

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-08-22 03:57:18
End at: 2018-08-22 03:57:48
Local clock offset: -2.404 ms
Remote clock offset: 18.535 ms


# Below is generated by plot.py at 2018-08-22 06:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.08 Mbit/s
95th percentile per-packet one-way delay: 103.242 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 71.51 Mbit/s
95th percentile per-packet one-way delay: 105.192 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 88.580 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 87.864 ms
Loss rate: 0.00%
```

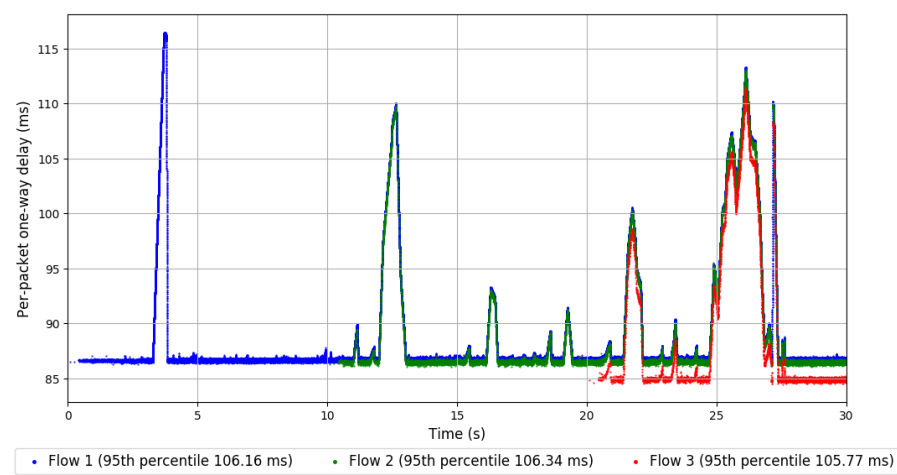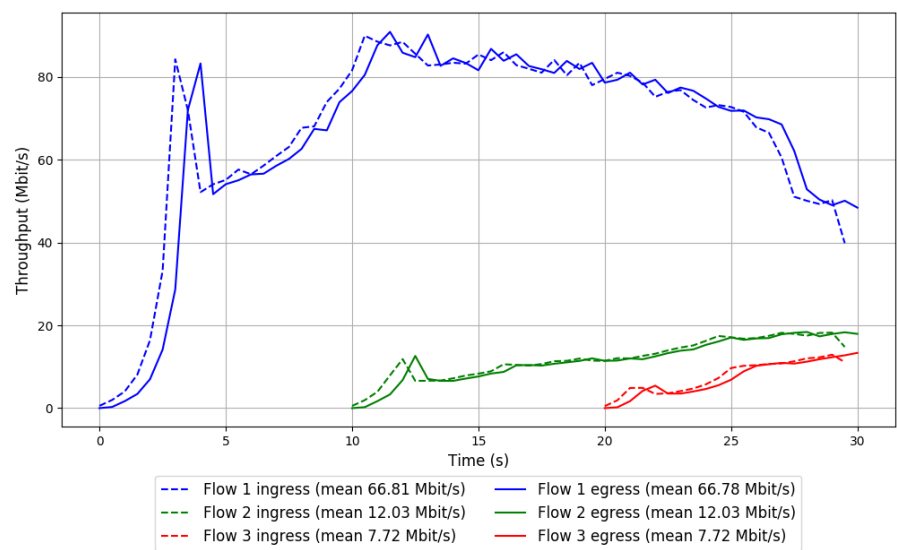## Run 5: Report of PCC-Vivace — Data Link

```
Run 6: Statistics of PCC-Vivace

Start at: 2018-08-22 04:18:30
End at: 2018-08-22 04:19:00
Local clock offset: -6.315 ms
Remote clock offset: 23.622 ms


# Below is generated by plot.py at 2018-08-22 06:20:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.72 Mbit/s
95th percentile per-packet one-way delay: 112.608 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 64.86 Mbit/s
95th percentile per-packet one-way delay: 112.570 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 14.37 Mbit/s
95th percentile per-packet one-way delay: 113.094 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 13.06 Mbit/s
95th percentile per-packet one-way delay: 112.931 ms
Loss rate: 1.20%
```

Run 6: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 65.26 Mbit/s)   Flow 1 egress (mean 64.86 Mbit/s)
Flow 2 ingress (mean 14.56 Mbit/s)   Flow 2 egress (mean 14.37 Mbit/s)
Flow 3 ingress (mean 13.21 Mbit/s)   Flow 3 egress (mean 13.06 Mbit/s)

Flow 1 (95th percentile 112.57 ms)   Flow 2 (95th percentile 113.09 ms)   Flow 3 (95th percentile 112.93 ms)

```
Run 7: Statistics of PCC-Vivace

Start at: 2018-08-22 04:39:41
End at: 2018-08-22 04:40:11
Local clock offset: -6.117 ms
Remote clock offset: 31.519 ms


# Below is generated by plot.py at 2018-08-22 06:20:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.33 Mbit/s
95th percentile per-packet one-way delay: 106.212 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 66.78 Mbit/s
95th percentile per-packet one-way delay: 106.157 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 106.338 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 105.774 ms
Loss rate: 0.00%
```
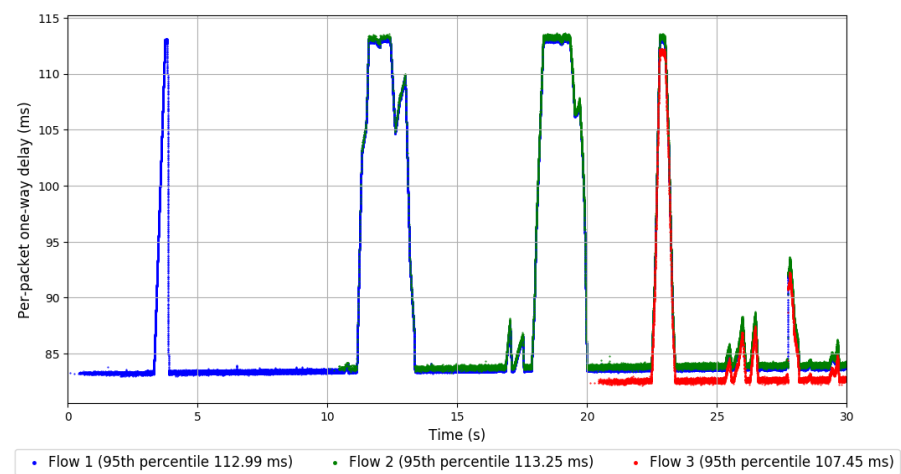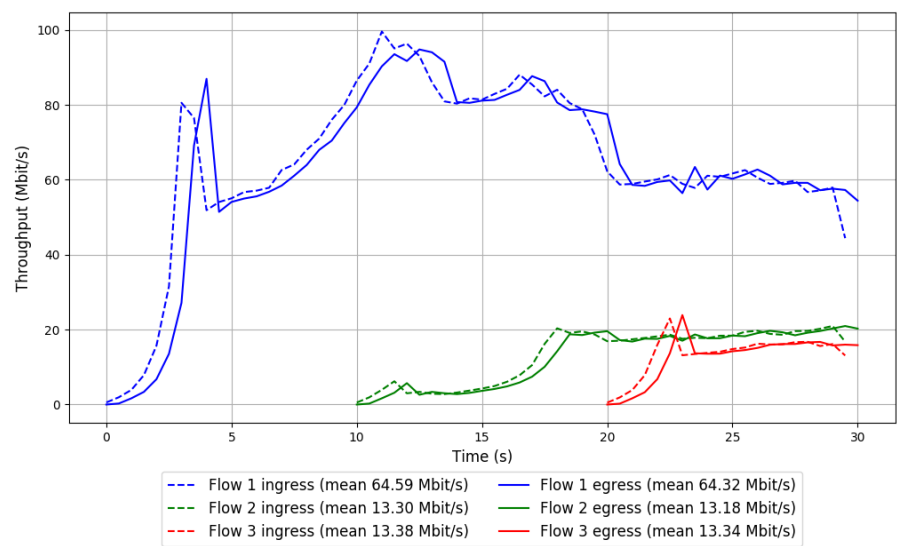
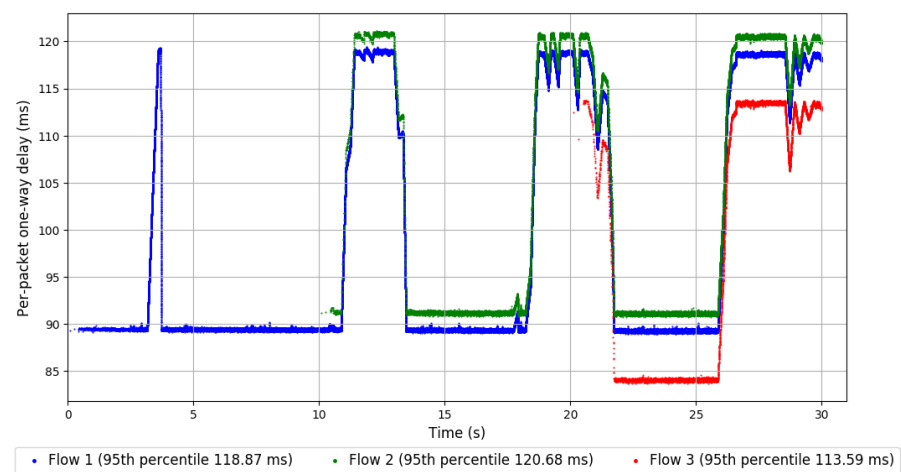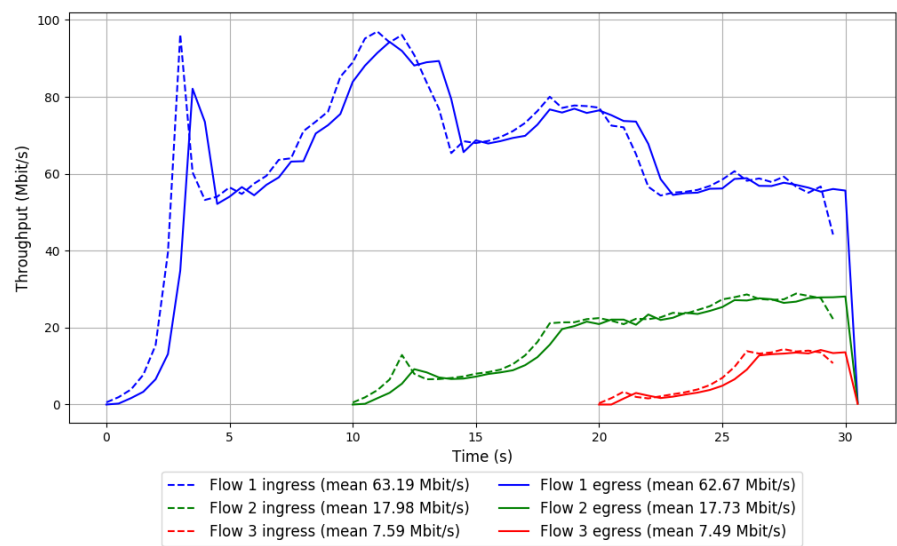Run 7: Report of PCC-Vivace — Data Link

```
Run 8: Statistics of PCC-Vivace

Start at: 2018-08-22 05:00:55
End at: 2018-08-22 05:01:25
Local clock offset: -4.788 ms
Remote clock offset: 2.948 ms


# Below is generated by plot.py at 2018-08-22 06:20:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.49 Mbit/s
95th percentile per-packet one-way delay: 112.997 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 112.990 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 13.18 Mbit/s
95th percentile per-packet one-way delay: 113.248 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 13.34 Mbit/s
95th percentile per-packet one-way delay: 107.452 ms
Loss rate: 0.28%
```

Run 8: Report of PCC-Vivace — Data Link

```
Run 9: Statistics of PCC-Vivace

Start at: 2018-08-22 05:22:08
End at: 2018-08-22 05:22:38
Local clock offset: -4.471 ms
Remote clock offset: -1.444 ms

# Below is generated by plot.py at 2018-08-22 06:20:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.93 Mbit/s
95th percentile per-packet one-way delay: 119.556 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 62.67 Mbit/s
95th percentile per-packet one-way delay: 118.867 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 17.73 Mbit/s
95th percentile per-packet one-way delay: 120.683 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 7.49 Mbit/s
95th percentile per-packet one-way delay: 113.591 ms
Loss rate: 1.27%
```
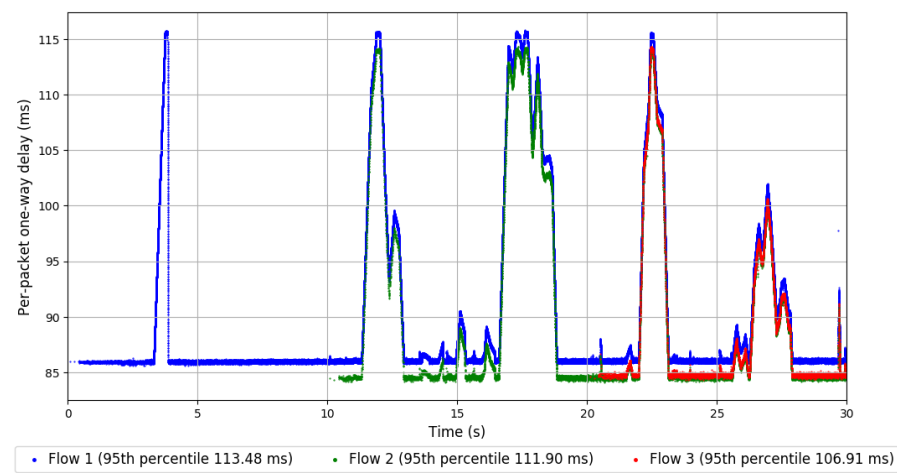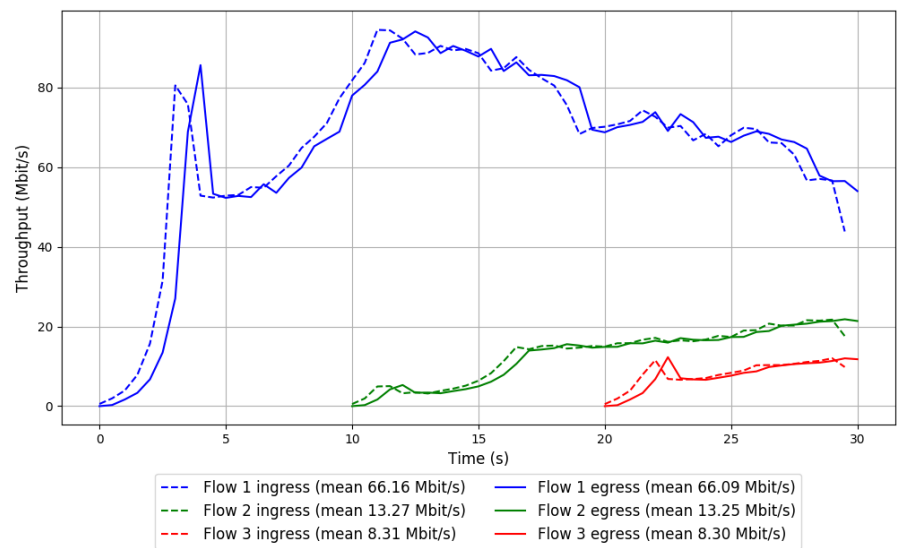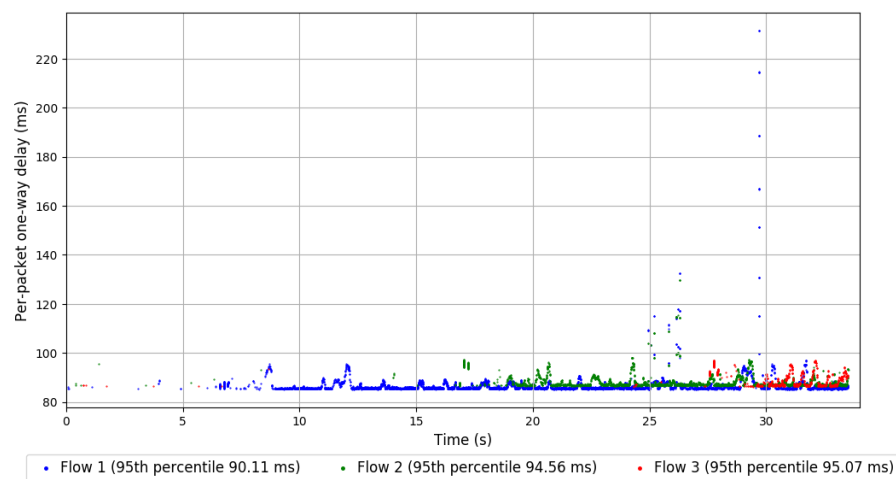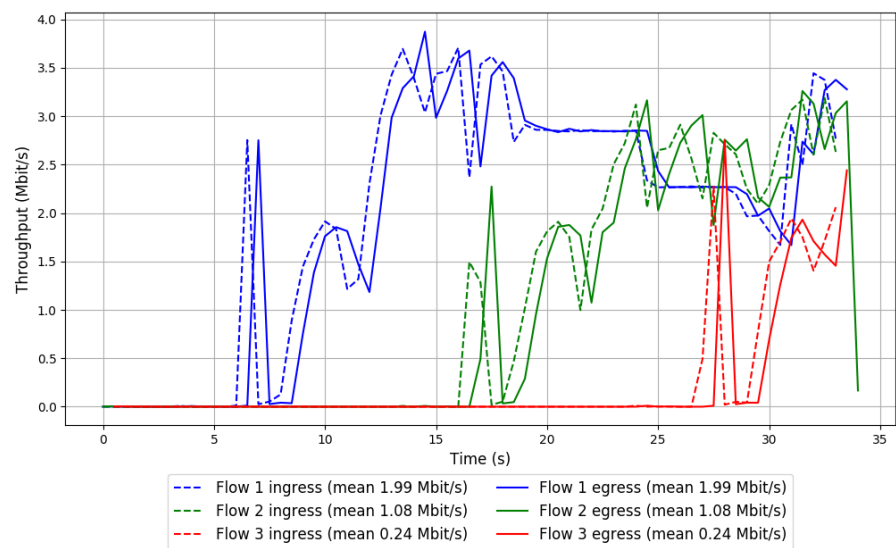
Run 9: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 63.19 Mbit/s) --- Flow 1 egress (mean 62.67 Mbit/s)
Flow 2 ingress (mean 17.98 Mbit/s) --- Flow 2 egress (mean 17.73 Mbit/s)
Flow 3 ingress (mean 7.59 Mbit/s) --- Flow 3 egress (mean 7.49 Mbit/s)

Flow 1 (95th percentile 118.87 ms)   Flow 2 (95th percentile 120.68 ms)   Flow 3 (95th percentile 113.59 ms)

```
Run 10: Statistics of PCC-Vivace

Start at: 2018-08-22 05:43:17
End at: 2018-08-22 05:43:47
Local clock offset: -4.654 ms
Remote clock offset: 2.257 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.65 Mbit/s
95th percentile per-packet one-way delay: 113.146 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 66.09 Mbit/s
95th percentile per-packet one-way delay: 113.483 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 13.25 Mbit/s
95th percentile per-packet one-way delay: 111.904 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 8.30 Mbit/s
95th percentile per-packet one-way delay: 106.914 ms
Loss rate: 0.07%
```
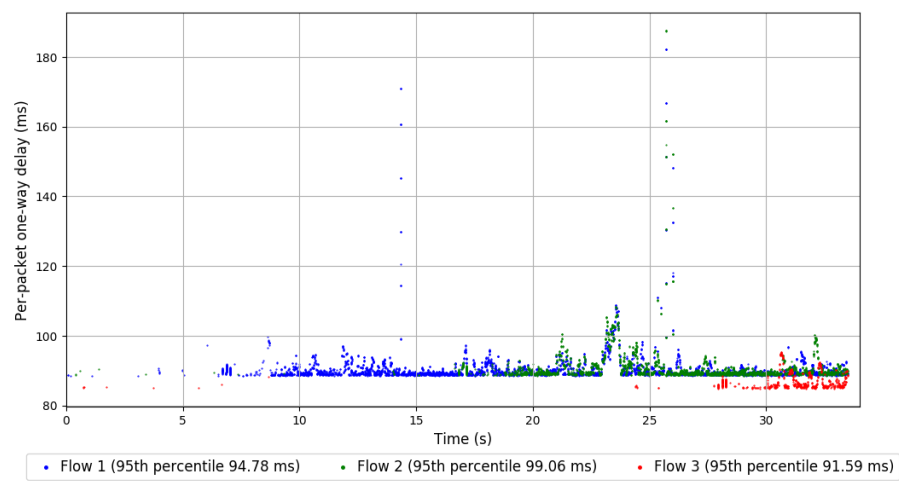
Run 10: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-08-22 02:43:55
End at: 2018-08-22 02:44:25
Local clock offset: -11.004 ms
Remote clock offset: 5.889 ms

# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 92.995 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 90.115 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 94.559 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 95.066 ms
Loss rate: 0.37%
```

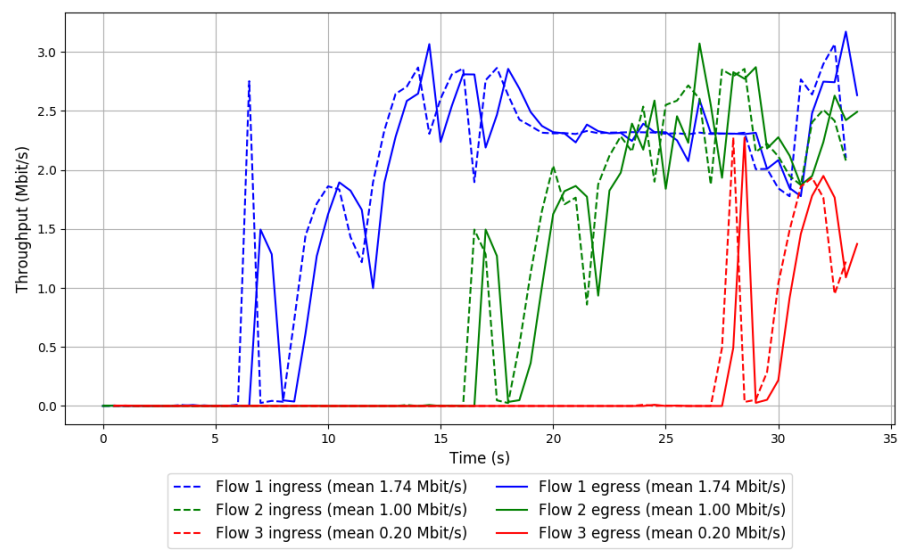Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-08-22 03:05:01
End at: 2018-08-22 03:05:31
Local clock offset: -17.885 ms
Remote clock offset: 5.516 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 95.894 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 94.778 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 99.055 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 91.592 ms
Loss rate: 0.00%
```
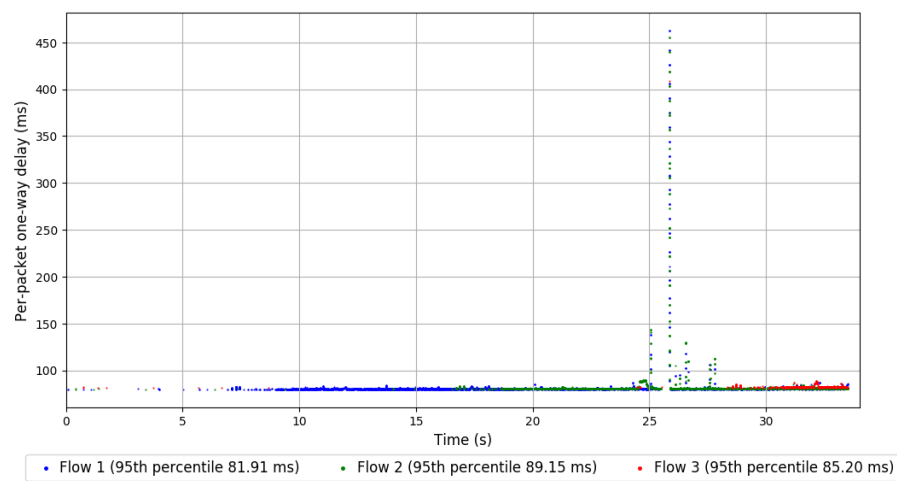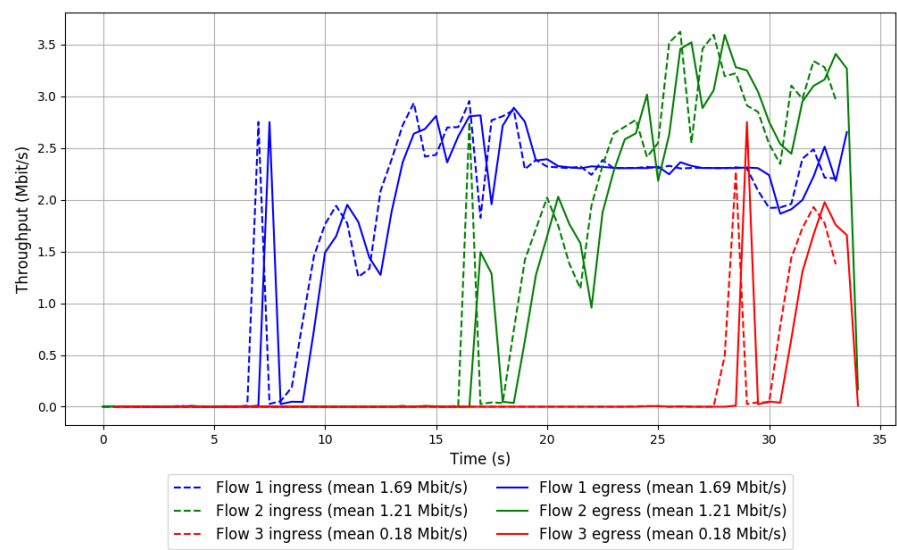
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-08-22 03:26:09
End at: 2018-08-22 03:26:39
Local clock offset: -3.58 ms
Remote clock offset: 3.196 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 83.895 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 81.906 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 89.153 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 85.197 ms
Loss rate: 0.00%
```

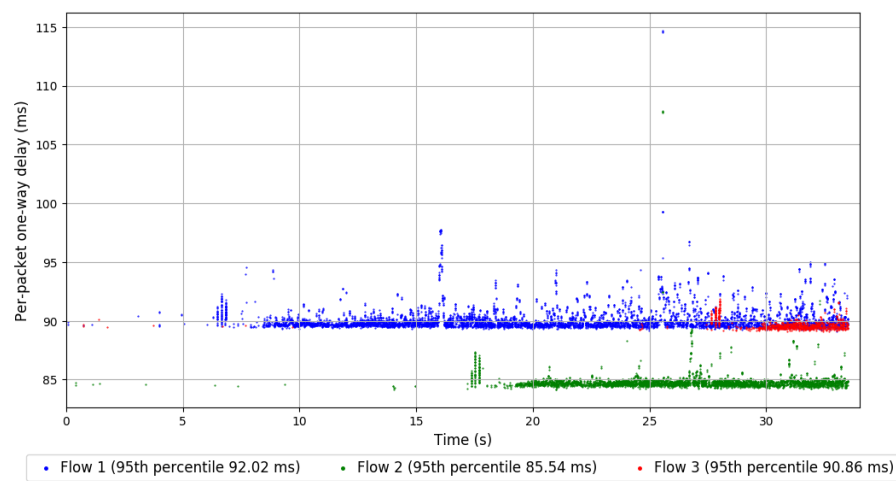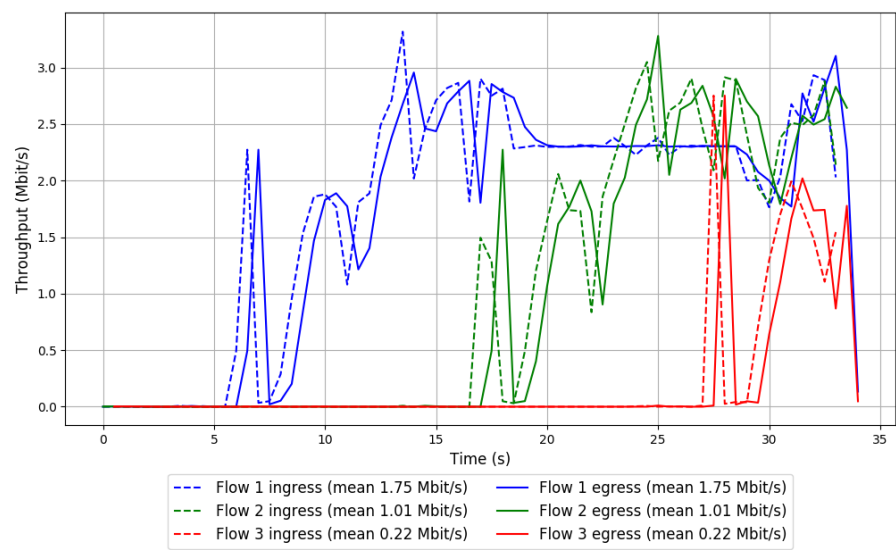Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-08-22 03:47:20
End at: 2018-08-22 03:47:50
Local clock offset: -2.498 ms
Remote clock offset: 17.906 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 91.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 92.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 85.539 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.859 ms
Loss rate: 0.00%
```

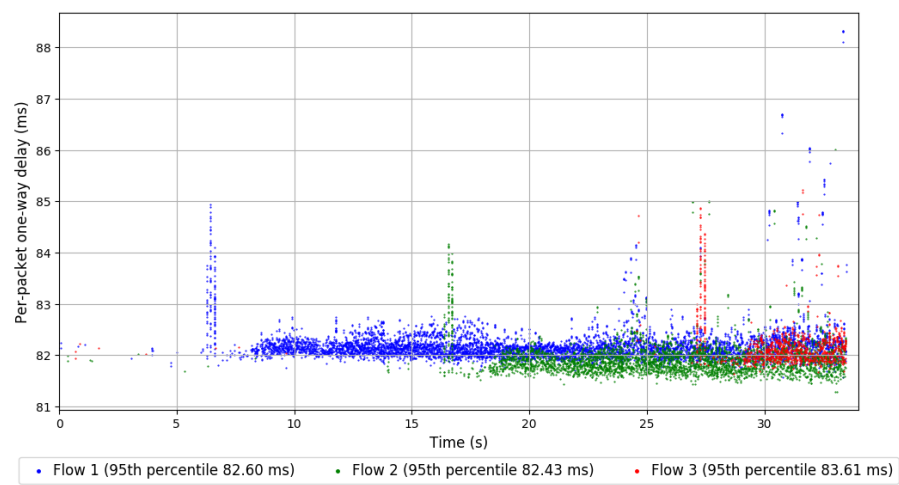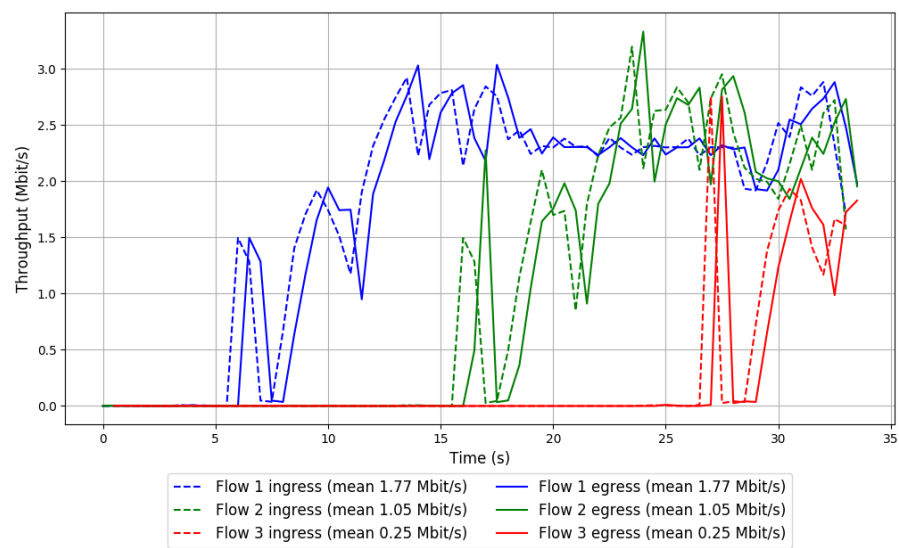Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-08-22 04:08:33
End at: 2018-08-22 04:09:03
Local clock offset: -2.681 ms
Remote clock offset: 21.387 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 82.605 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 82.599 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 82.431 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 83.613 ms
Loss rate: 0.00%
```

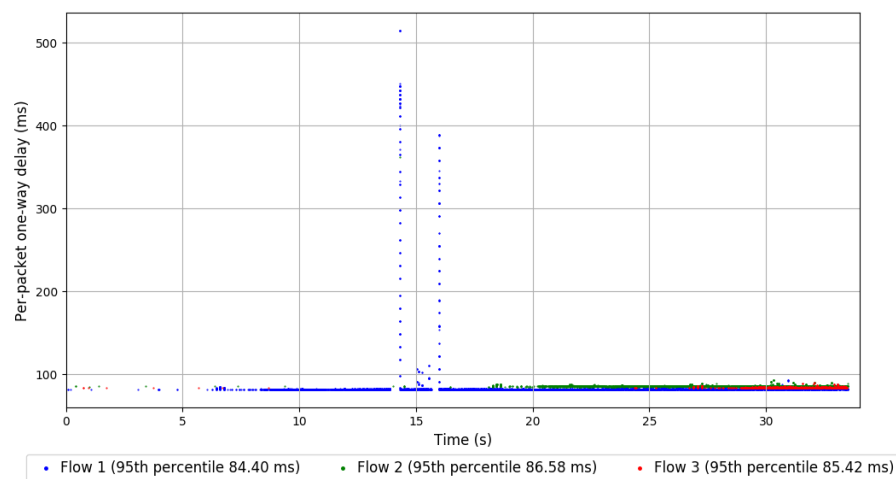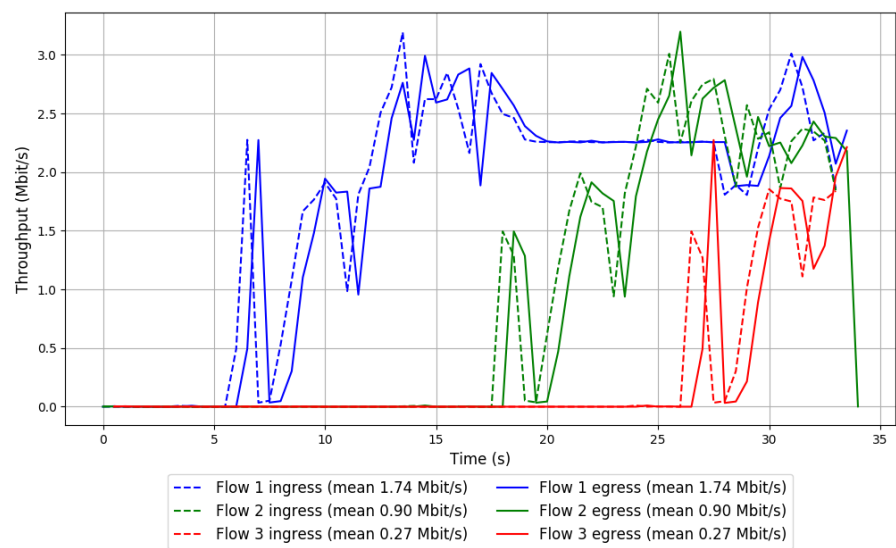Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-08-22 04:29:44
End at: 2018-08-22 04:30:14
Local clock offset: -7.165 ms
Remote clock offset: 24.624 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 86.208 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 84.401 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 86.581 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 85.418 ms
Loss rate: 0.00%
```
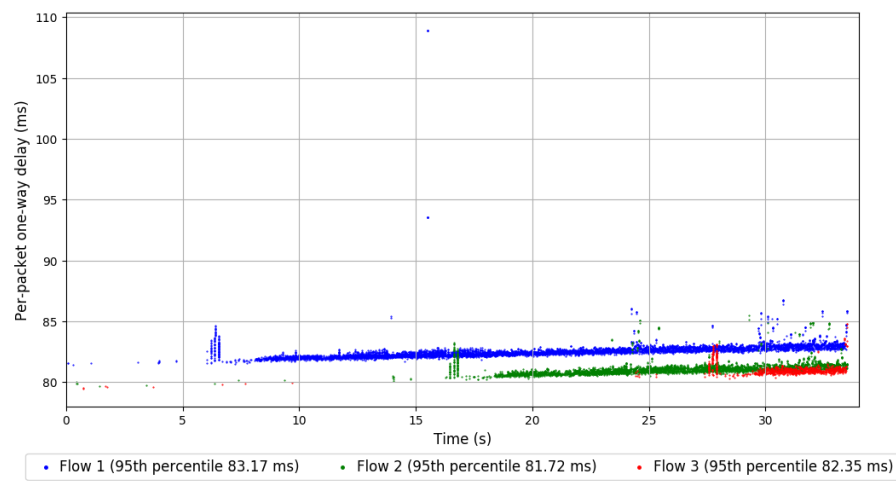
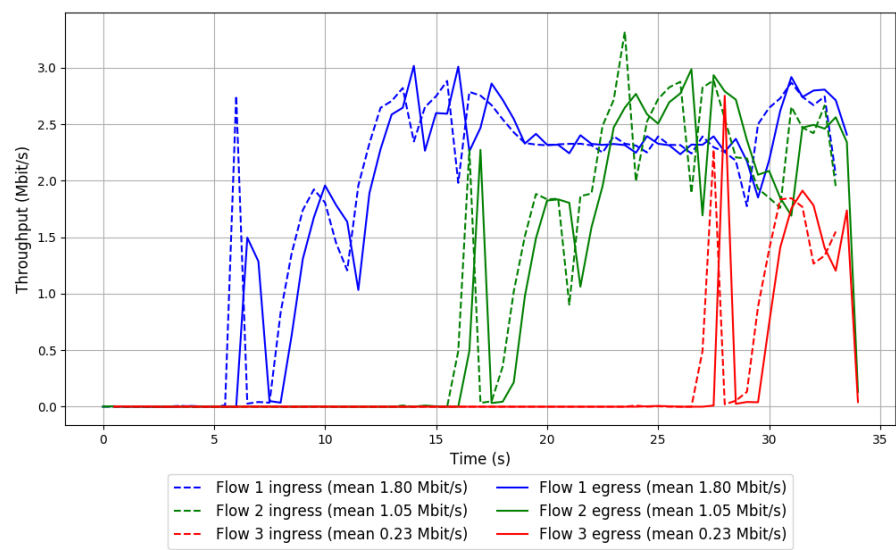Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2018-08-22 04:50:56
End at: 2018-08-22 04:51:26
Local clock offset: -4.519 ms
Remote clock offset: 15.076 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 83.087 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 83.165 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 81.717 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 82.348 ms
Loss rate: 0.00%
```

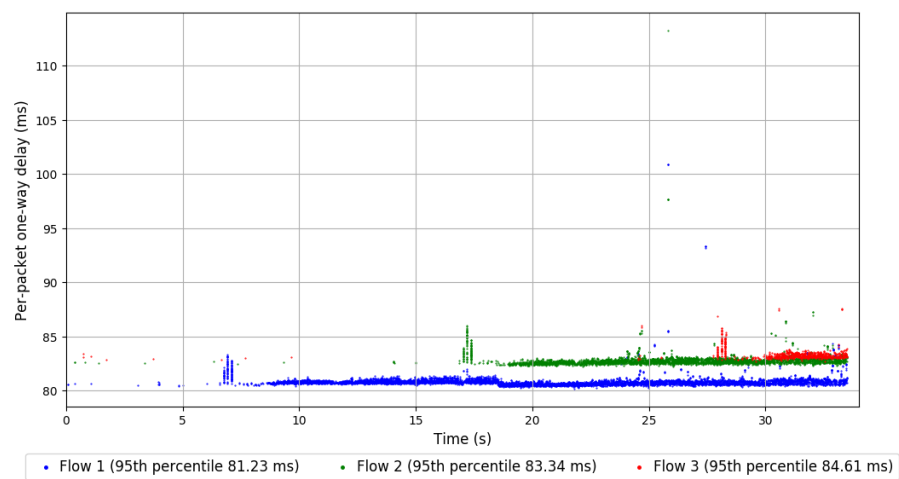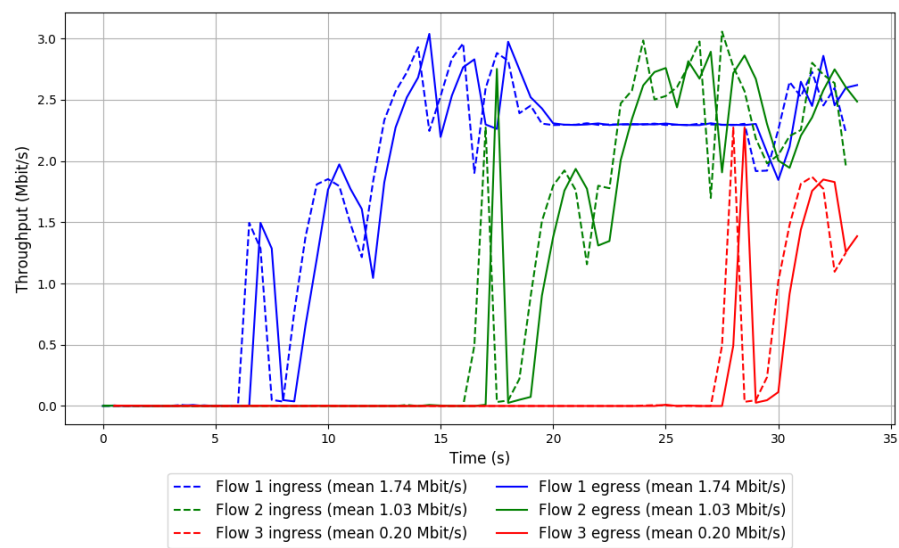Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-08-22 05:12:13
End at: 2018-08-22 05:12:43
Local clock offset: -4.143 ms
Remote clock offset: -3.738 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 83.331 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 81.230 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 83.336 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 84.610 ms
Loss rate: 0.00%
```

Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2018-08-22 05:33:20
End at: 2018-08-22 05:33:50
Local clock offset: -4.394 ms
Remote clock offset: 3.437 ms

# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 92.544 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 89.502 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 87.902 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 94.470 ms
Loss rate: 0.00%
```
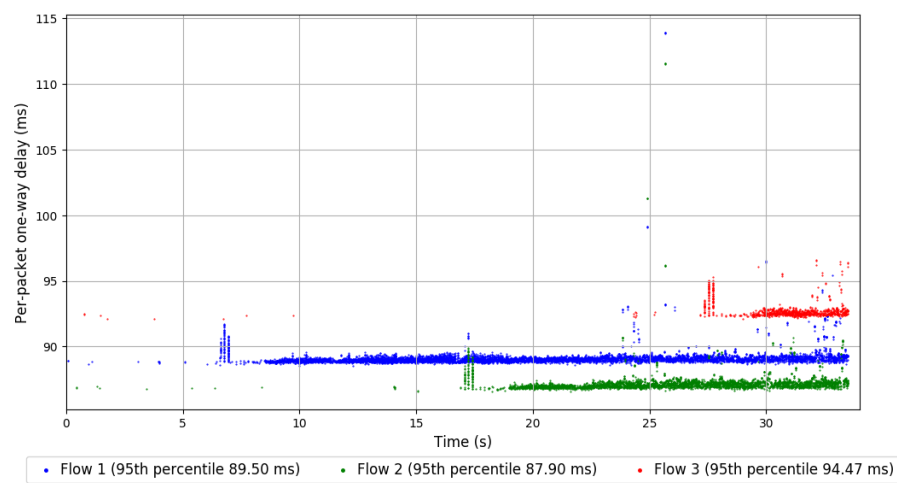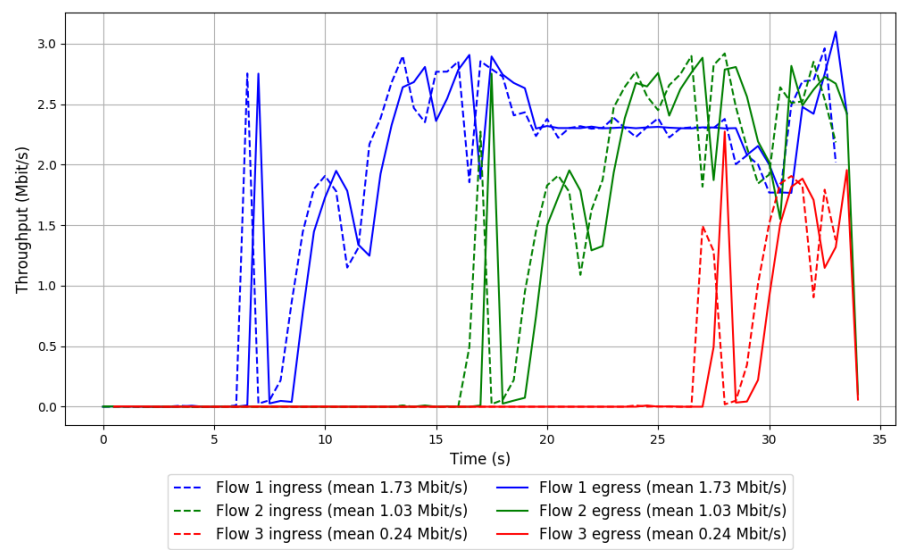
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2018-08-22 05:54:29
End at: 2018-08-22 05:54:59
Local clock offset: -5.675 ms
Remote clock offset: -2.837 ms


# Below is generated by plot.py at 2018-08-22 06:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 85.098 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 85.182 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 84.151 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 84.458 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.72 Mbit/s)   Flow 1 egress (mean 1.72 Mbit/s)
Flow 2 ingress (mean 0.99 Mbit/s)   Flow 2 egress (mean 0.99 Mbit/s)
Flow 3 ingress (mean 0.23 Mbit/s)   Flow 3 egress (mean 0.23 Mbit/s)

Flow 1 (95th percentile 85.18 ms)   Flow 2 (95th percentile 84.15 ms)   Flow 3 (95th percentile 84.46 ms)

343